# Product Catalogue

**RESIDENTIAL, COMMERCIAL & GOLF IRRIGATION** | *Built on Innovation®*

VOLUME 40

Hunter®



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# PARTNERING FOR SUCCESS

## Helping You Grow Is Our Mission

At Hunter Industries, our main objective is to deliver the irrigation solutions you need most to grow your business. We're grateful to you, our customers, for your partnership and trust over the past four decades. Your support continues to drive our passion for providing industry-leading products, comprehensive educational programs, and exceptional customer service.

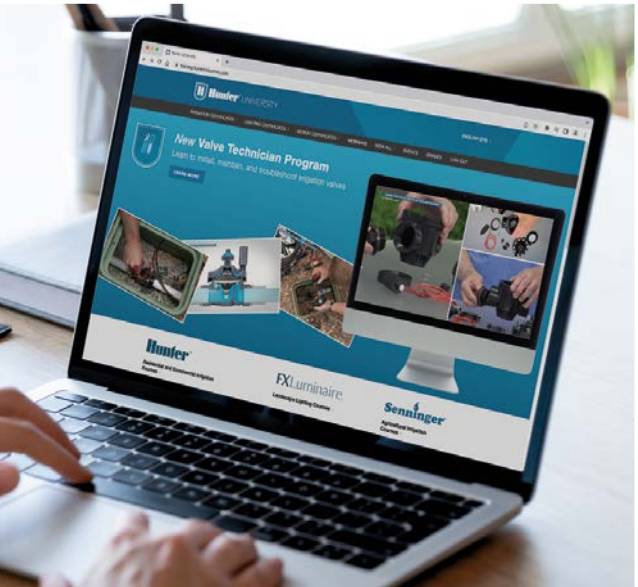
Recent investments in our manufacturing operations have allowed us to expand our production capacities and launch innovative new products that deliver high-level performance, increased water and energy savings, and greater system flexibility — all of which strengthen your business.

Educating your team on our products and industry best practices is key to our mutual success. We've launched many new online courses focusing on irrigation system fundamentals, added time-saving tools to our free business applications, and updated our state-of-the-art customer training center at our corporate headquarters to engage with industry professionals through popular hands-on workshops.

Along with products and education, we continue to invest in the latest technologies that enable us to respond to your needs as quickly as possible. Our world-class customer support and technical support teams are ready to help you the moment you need it.

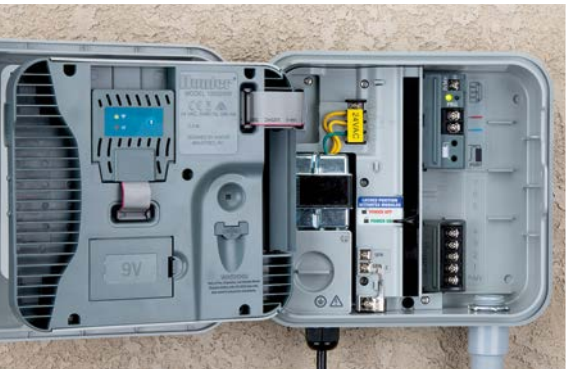
We're proud to be your partner, and we thank you for choosing Hunter Industries.

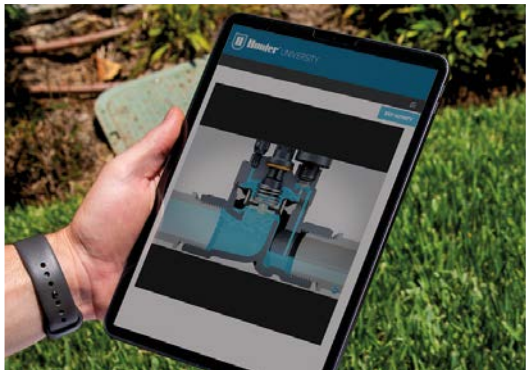

Hunter


Hunter UNIVERSITY
New Valve Technician Program
Learn to install, maintain, and troubleshoot irrigation valves
Hunter
FXLuminaire
Senninger


Micro
TOUGH
MICRO TOUGH SYSTEM SOLUTIONS
Best-in-Class
SOLUTIONS
Hunter
built on innovation

# ADVANCING THE INDUSTRY
## Through Innovation





Everything we do at Hunter Industries is rooted in innovation. From small residential installations to fully automated smart cities, our teams continually develop solutions to help you deliver water as efficiently and sustainably as possible.

That's why we're excited to introduce the latest additions to our cutting-edge lineup: revolutionary Pro High-Efficiency Nozzles (page 76) and the updated Pro-C™ Controller (page 130).

As we continue to explore new ways to innovate, you can expect us to deliver even more industry-leading products, services, and tools in the future to help your business grow.


## Leading the Way Toward Greater Sustainability

As the industry's sustainability leader, we're committed to supporting and improving the communities where we live, work, and play.

We develop products and technologies that enable the efficient use of our natural resources and reduce our environmental footprint.

We believe in the triple bottom line, which focuses on People, Planet, and Profit.

Scan to learn more about our commitment to sustainability!

# REVOLUTIONARY SOLUTIONS
## For the Golf Course and Beyond

*Österåkers Golfklubb, Sweden*

## Hunter® | *Golf Irrigation*

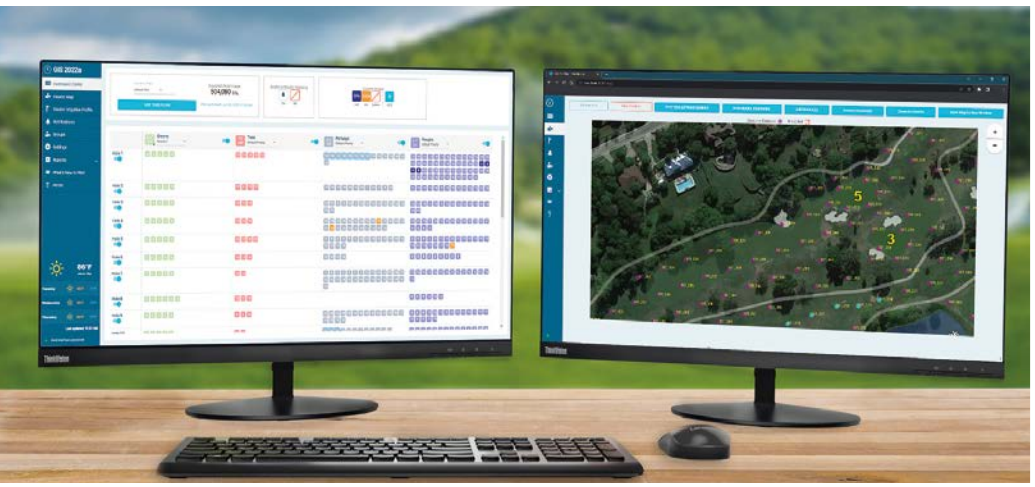
Over the last three decades, Hunter Industries has built a long-standing reputation for innovation in the golf industry. We've invested heavily in research and development, resulting in numerous industry-leading golf irrigation solutions. Our latest innovations include the TTS-800 Series Golf Rotors with a large, future-ready flange compartment and Pilot™ Command Center Software with cloud-based features that help you save time, money, and resources.

While our best-in-class irrigation solutions are renowned on the golf course, they also provide unmatched reliability in applications well beyond fairways and greens. When installed around the perimeter of sports fields, our powerful Hunter Golf rotors ensure healthy turf and increased safety for athletes. Featuring the highest torque output gear drives in the industry and exclusive PressurePort™ Nozzle Technology, these rotors set the standard for water efficiency, distribution uniformity, and long-lasting performance.

# PRODUCTS THAT EXCEED EXPECTATIONS

## On Every Level

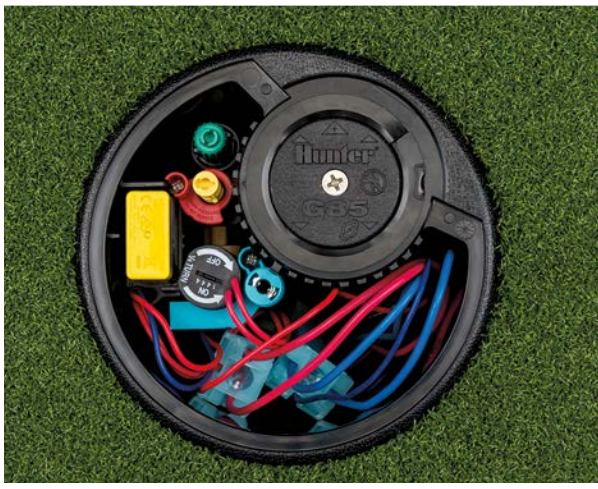
Hunter Golf products continually push the boundaries of innovation to deliver solutions that exceed expectations on every level. With premier products like our Pilot™ Command Center Software and TTS-800 Series Golf Rotors, we have the field-proven tools you need to ensure turf is always ready for play — on the golf course or the sports field.



### Pilot Command Center Software

Our intuitive and flexible irrigation control software continually monitors your system and updates to ensure the most efficient watering cycles based on your turf's daily needs. Cloud database backups and web-based features provide optimised display and functionality. In addition, POGO® visual insight integrations save time and resources with more informed scheduling adjustments using real-time data. These Pilot Cloud features lay the foundation for the future of golf course irrigation control and create more possibilities for third-party integrations and mobile optimisation.

SCAN TO VIEW THE FULL HUNTER GOLF CATALOG.



## TTS-800 Series Golf Rotors

Maximise performance in the field with our top-of-the-line golf rotors. Combining the industry's strongest, high-torque gear drives with the proprietary Filter Sentry™ Mechanism in the inlet valve, they irrigate efficiently without clogging — especially in harsh water conditions. Exclusive PressurePort™ Nozzle Technology saves water and improves playability by optimising individual nozzle pressures for maximum distribution uniformity. Plus, no-dig Total-Top-Serviceability and the largest flange compartment in the industry make routine maintenance easy, ensuring years of reliable operation.

# ROTORS

# ROTORS
# ADVANCED FEATURES

## RELIABLE STRENGTH & DURABILITY

### PRESSURE-REGULATED BODY

Reduce high incoming pressure to prevent misting and allow nozzles to operate at peak efficiency. Lower pressure produces larger water droplets that fight the effects of wind.

PGP™ Ultra Shrub and 10 cm, I-20 10 and 15 cm

### STAINLESS STEEL RISER

For unforgiving soil conditions, unpredictable climates, or heavy foot traffic, stainless steel is the best choice.

Standard on I-40 and I-80
Optional on I-20 and I-25

### DRAIN CHECK VALVE

The Drain Check Valve keeps lines from draining when the system is shut off. This saves water, reduces liability, and prolongs system life.

PGJ, PGP Ultra, I-20, I-25, I-40, I-80, I-90

## VALUE-ADDED OPTIONS

### OPPOSING NOZZLE 360° MODEL

The opposing nozzle design offers excellent water distribution. With primary and secondary nozzles on opposing sides of the turret, streams arc in opposite directions as the sprinkler rotates for outstanding midrange and close-in watering.

I-40, I-80, I-90

## EASY IN-THE-FIELD IDENTIFICATION

### OPTIONAL RECLAIMED WATER ID

Purple caps indicate where non-potable irrigation water is being used.

PGJ, PGP Ultra, I-20, I-25, I-40, I-80, I-90

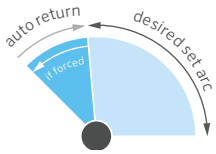
### COLOUR-CODED NOZZLES

Nozzles are easier to differentiate in the field for simple installation and quick organisation.

I-25, I-40, I-80, I-90

## EASY AS-NEEDED ADJUSTMENTS

### AUTOMATIC ARC RETURN & NON-STRIPPABLE DRIVE




This patented feature returns the turret to the original arc regardless of where it is turned. The non-strippable drive mechanism is protected from damage, ensuring protection from vandalism.

PGP Ultra, I-20, I-25, I-40

### FLOSTOP™ CONTROL

FloStop™ Technology stops the flow of water from individual sprinkler heads while the system is running. This is ideal for changing nozzles or turning off specific heads during maintenance and construction.

I-20

### HEADED AND SLOTTED SETSCREW

Use a slotted screwdriver or the Hunter Wrench for easier and simpler adjustments as needed.

PGJ, PGP Ultra, I-20

# ROTOR COMPARISON CHART

| QUICK SPECS | | PGJ | SRM | PGP-ADJ | PGP ULTRA | I-20 | I-25 | I-40 | I-40-ON | I-80 | I-90 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| INLET SIZE | | ½" | ½" | ¾" | ¾" | ¾" | 1" (25 mm) | 1" (25 mm) | 1" (25 mm) | 1½" (40 mm) | 1½" (40 mm) |
| RADIUS | m | 4.3–11.6 | 4.0–9.4 | 6.4–15.8 | 4.9–14.0 | 4.9–14.0 | 11.9–21.6 | 13.1–23.3 | 15.2–23.2 | 19.2–29.6 | 22.3–31.7 |
| FLOW | $m^3$/hr | 0.13–1.23 | 0.08–0.82 | 0.10–3.22 | 0.07–3.23 | 0.07–3.23 | 0.82–7.24 | 1.63–6.84 | 2.75–7.76 | 4.6–13.5 | 6.7–19.0 |
| | l/min | 2.2–20.5 | 1.4–13.7 | 1.7–53.7 | 1.2–53.8 | 1.2–53.8 | 13.6–120.7 | 27.2–114.1 | 45.8–129.4 | 76.5–225.6 | 111.7–317.2 |
| **FEATURES** | | | | | | | | | | | |
| RECOMMENDED PRESSURE RANGE | bar | 1.7–3.8 | 1.7–3.8 | 1.7–4.5 | 1.7–4.5 | 1.7–4.5 | 2.5–7.0 | 2.5–7.0 | 2.5–7.0 | 3.4–6.9 | 5.5–8.0 |
| | kPa | 170–380 | 170–380 | 170–450 | 170–450 | 170–450 | 250–700 | 280–700 | 280–700 | 340–690 | 550–800 |
| OPERATING PRESSURE RANGE | bar | 1.4–7.0 | 1.4–7.0 | 1.4–7.0 | 1.4–7.0 | 1.4–7.0 | 2.5–7.0 | 2.5–7.0 | 2.5–7.0 | 3.4–6.9 | 5.0–8.0 |
| | kPa | 140–700 | 140–700 | 140–700 | 140–700 | 140–700 | 250–700 | 250–700 | 250–700 | 340–690 | 500–800 |
| NOZZLE TRAJECTORY | | 15° | 15° | 25° | 25° | 25° | 25° | 25° | 25° | 25° | 22.5° |
| SPECIFIC NOZZLES | | --- | --- | --- | Optional | Optional | Pre-Installed | Pre-Installed | Pre-Installed | Pre-Installed | Pre-Installed |
| NOZZLE OPTIONS | | 8 | 6 | 27 | 34 | 34 | 11 | 6 | 6 | 21 | 16 |
| WARRANTY | | 2 Years | 1 Year | 2 Years | 5 Years | 5 Years | 5 Years | 5 Years | 5 Years | 5 Years | 5 Years |
| **ADVANCED FEATURES** | | | | | | | | | | | |
| LOW-ANGLE NOZZLE CHOICES | | | | ● | ● | ● | | | | | |
| AUTOMATIC ARC RETURN | | | | | ● | ● | ● | ● | | | |
| NON-STRIPPABLE DRIVE | | | | | ● | ● | ● | ● | | | |
| PART- AND FULL-CIRCLE IN ONE MODEL | | | | | ● | ● | ● | ● | | ● | |
| HEADED AND SLOTTED SETSCREW | | ● | | | ● | ● | | | | | |
| RECLAIMED WATER ID | | ● | | | ● | ● | ● | ● | ● | ● | ● |
| AVAILABLE SHORT RADIUS NOZZLES | | | | | ● | ● | | | | | |
| FLOSTOP™ CONTROL | | | | | | ● | | | | | |
| OPPOSING NOZZLE | | | | | | | | | ● | ● | ● |
| STAINLESS STEEL RISER OPTION | | | | | | ● | ● | ● | ● | ● | |
| OPTIONAL PRESSURE-REGULATED BODY | | | | | ● | ● | | | | | |
| OPTIONAL OR FACTORY-INSTALLED DRAIN CHECK VALVE | | ● (2 m) | | | ● (3 m) | ● (3 m) | ● (3 m) | ● (4.5 m) | ● (4.5 m) | ● (1.5 m) | ● (2 m) |

# PGJ

*Radius:* **4.0 to 10.7 m**
*Flow:* **0.08 to 1.0 m³/hr; 1.4 to 16.7 l/min**

*The highly durable PGJ offers all the benefits of a large rotor in a compact, spray-sized package, with water-efficient nozzles and easy arc adjustment.*

## KEY BENEFITS

- Headed and slotted setscrew allows radius adjustment with a Hunter Wrench or flat-blade screwdriver
- Adjustable arc from 40° to 360° to keep water in the appropriate areas
- Standard factory-installed 2.0 nozzle speeds installation
- QuickCheck™ Arc Mechanism for fast arc adjustment

## OPERATING SPECIFICATIONS

- Nozzle choices: 8
- Radius: 4.0 to 10.7 m
- Flow: 0.08 to 1.0 m³/hr; 1.4 to 16.7 l/min
- Recommended pressure range: 1.7 to 3.8 bar; 170 to 380 kPa
- Operating pressure range: 1.4 to 7.0 bar; 140 to 700 kPa
- Precipitation rate: 15 mm/hr approximately
- Nozzle trajectory: 15° approximately
- Warranty period: 2 years

## FACTORY-INSTALLED OPTIONS

- Drain Check Valve (up to 2.1 m of elevation) excluding PGJ-00
- Reclaimed water ID

## USER-INSTALLED OPTIONS

- Drain Check Valve (up to 2.1 m of elevation) excluding PGJ-00 (P/N 462078SP)
- HC-50F-50M Check Valve (up to 9.7 m of elevation)

**PGJ Reclaimed**
*Available as a factory-installed option on all models*

**PGJ-00**
Overall height: 18 cm
Exposed diameter: 3 cm
Inlet size: ½"

**PGJ-04**
Overall height: 18 cm
Pop-up height: 10 cm
Exposed diameter: 3 cm
Inlet size: ½"

**PGJ-06**
Overall height: 23 cm
Pop-up height: 15 cm
Exposed diameter: 3 cm
Inlet size: ½"

**PGJ-12**
Overall height: 41 cm
Pop-up height: 30 cm
Exposed diameter: 3 cm
Inlet size: ½"

**PGJ – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3

| 1 Model | 2 Standard Features | 3 Feature Options |
|---|---|---|
| **PGJ-00** = Shrub | Adjustable arc, 8 standard nozzles | **(blank)** = No option |
| **PGJ-04** = 10 cm pop-up | | **V** = Drain Check Valve |
| **PGJ-06** = 15 cm pop-up | | **R** = Drain Check Valve and reclaimed water ID *(pop-up models only)* |
| **PGJ-12** = 30 cm pop-up | | |

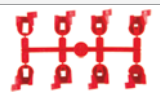
**Examples:**
**PGJ-04** = 10 cm pop-up, adjustable arc
**PGJ-06 -V** = 15 cm pop-up, adjustable arc, with Drain Check Valve
**PGJ-12 -R** = 30 cm pop-up, adjustable arc, with Drain Check Valve and reclaimed water ID

## PGJ PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | $m^3$/hr | l/min | ■ | ▲ |
| 0.50 | 1.7 | 170 | 4.3 | 0.08 | 1.4 | 9 | 11 |
| | 2.0 | 200 | 4.3 | 0.09 | 1.6 | 10 | 12 |
| | **2.5** | **250** | **4.6** | **0.11** | **1.8** | **10** | **12** |
| | 3.0 | 300 | 4.6 | 0.12 | 2.0 | 12 | 13 |
| | 3.5 | 350 | 4.9 | 0.13 | 2.2 | 11 | 13 |
| | 3.8 | 380 | 4.9 | 0.14 | 2.3 | 12 | 14 |
| 0.75 | 1.7 | 170 | 4.3 | 0.13 | 2.2 | 14 | 17 |
| | 2.0 | 200 | 4.6 | 0.14 | 2.4 | 14 | 16 |
| | **2.5** | **250** | **4.9** | **0.16** | **2.7** | **13** | **15** |
| | 3.0 | 300 | 5.2 | 0.18 | 3.0 | 13 | 15 |
| | 3.5 | 350 | 5.2 | 0.19 | 3.2 | 14 | 17 |
| | 3.8 | 380 | 5.5 | 0.20 | 3.4 | 13 | 15 |
| 1.0 | 1.7 | 170 | 5.2 | 0.18 | 3.0 | 13 | 15 |
| | 2.0 | 200 | 5.5 | 0.19 | 3.2 | 13 | 15 |
| | **2.5** | **250** | **5.5** | **0.21** | **3.5** | **14** | **16** |
| | 3.0 | 300 | 5.8 | 0.23 | 3.8 | 14 | 16 |
| | 3.5 | 350 | 5.8 | 0.24 | 4.1 | 15 | 17 |
| | 3.8 | 380 | 6.1 | 0.25 | 4.2 | 14 | 16 |
| 1.5 | 1.7 | 170 | 6.1 | 0.27 | 4.5 | 15 | 17 |
| | 2.0 | 200 | 6.4 | 0.29 | 4.8 | 14 | 16 |
| | **2.5** | **250** | **6.4** | **0.32** | **5.4** | **16** | **18** |
| | 3.0 | 300 | 6.7 | 0.36 | 6.0 | 16 | 18 |
| | 3.5 | 350 | 6.7 | 0.39 | 6.4 | 17 | 20 |
| | 3.8 | 380 | 7.0 | 0.40 | 6.7 | 16 | 19 |
| 2.0 | 1.7 | 170 | 7.0 | 0.34 | 5.6 | 14 | 16 |
| | 2.0 | 200 | 7.3 | 0.37 | 6.2 | 14 | 16 |
| | **2.5** | **250** | **7.3** | **0.42** | **7.1** | **16** | **18** |
| | 3.0 | 300 | 7.6 | 0.48 | 8.0 | 17 | 19 |
| | 3.5 | 350 | 7.6 | 0.53 | 8.8 | 18 | 21 |
| | 3.8 | 380 | 7.9 | 0.56 | 9.3 | 18 | 20 |
| 2.5 | 1.7 | 170 | 7.9 | 0.46 | 7.6 | 15 | 17 |
| | 2.0 | 200 | 8.2 | 0.49 | 8.1 | 14 | 17 |
| | **2.5** | **250** | **8.2** | **0.54** | **9.0** | **16** | **18** |
| | 3.0 | 300 | 8.5 | 0.59 | 9.8 | 16 | 19 |
| | 3.5 | 350 | 8.5 | 0.63 | 10.5 | 17 | 20 |
| | 3.8 | 380 | 8.8 | 0.65 | 10.9 | 17 | 19 |
| 3.0 | 1.7 | 170 | 8.8 | 0.51 | 8.5 | 13 | 15 |
| | 2.0 | 200 | 9.1 | 0.56 | 9.3 | 13 | 15 |
| | **2.5** | **250** | **9.1** | **0.64** | **10.6** | **15** | **18** |
| | 3.0 | 300 | 9.4 | 0.72 | 12.0 | 16 | 19 |
| | 3.5 | 350 | 9.4 | 0.78 | 13.1 | 18 | 20 |
| | 3.8 | 380 | 9.8 | 0.82 | 13.7 | 17 | 20 |
| 4.0 | 1.7 | 170 | 9.8 | 0.80 | 13.3 | 17 | 19 |
| | 2.0 | 200 | 10.1 | 0.83 | 13.8 | 16 | 19 |
| | **2.5** | **250** | **10.1** | **0.89** | **14.8** | **18** | **20** |
| | 3.0 | 300 | 10.4 | 0.94 | 15.7 | 17 | 20 |
| | 3.5 | 350 | 10.4 | 0.98 | 16.3 | 18 | 21 |
| | 3.8 | 380 | 10.7 | 1.00 | 16.7 | 18 | 20 |

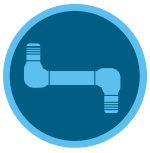
**Note:**
All precipitation rates are calculated for 180° operation. For the precipitation rate of a 360° sprinkler, divide by 2.

## PGJ NOZZLES



PGJ

*Compatible with:*



***SJ Swing Joints***
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***Hunter FlexSG***
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# SRM

*Radius:* **4.0 to 10.7 m**
*Flow:* **0.08 to 1.0 m³/hr; 1.4 to 16.7 l/min**

*The SRM is an economical short-range rotor that offers a convenient and efficient alternative to spray heads.*

## KEY BENEFITS

- Adjustable arc from 40° to 360° to keep water in the appropriate areas
- Standard factory-installed 2.0 nozzle speeds installation
- QuickCheck™ Arc Mechanism for fast arc adjustment

## OPERATING SPECIFICATIONS

- Nozzle choices: 8
- Radius: 4.0 to 10.7 m
- Flow: 0.08 to 1.0 m³/hr; 1.4 to 16.7 l/min
- Recommended pressure range: 1.7 to 3.8 bar; 170 to 380 kPa
- Operating pressure range: 1.4 to 7.0 bar; 140 to 700 kPa
- Precipitation rate: 11 mm/hr approximately
- Nozzle trajectory: 14° approximately
- Warranty period: 1 year

## USER-INSTALLED OPTIONS

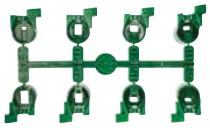
- Drain Check Valve (up to 2.1 m of elevation) (P/N 462078SP)

**SRM-04**
Overall height: 17 cm
Pop-up height: 10 cm
Exposed diameter: 3 cm
Inlet size: ½"

**SRM**

| Model | Description |
|---|---|
| SRM-04 | 10 cm pop-up, adjustable arc, 8 standard nozzles |

**SRM NOZZLES**



SRM

*Compatible with:*

***SJ Swing Joints***
*Page 74*

***Hunter FlexSG***
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**SRM-04 PERFORMANCE DATA**

| Nozzle | Pressure bar | Pressure kPa | Radius m | Flow m³/hr | Flow l/min | Precip in/hr | |
|---|---|---|---|---|---|---|---|
| 0.50 | 1.7 | 170 | 4.3 | 0.08 | 1.4 | 9 | 11 |
| | 2.0 | 200 | 4.3 | 0.09 | 1.6 | 10 | 12 |
| | 2.5 | 250 | 4.6 | 0.11 | 1.8 | 10 | 12 |
| | 3.0 | 300 | 4.6 | 0.12 | 2.0 | 12 | 13 |
| | 3.5 | 350 | 4.9 | 0.13 | 2.2 | 11 | 13 |
| | 3.8 | 380 | 4.9 | 0.14 | 2.3 | 12 | 14 |
| 0.75 | 1.7 | 170 | 4.3 | 0.13 | 2.2 | 14 | 17 |
| | 2.0 | 200 | 4.6 | 0.14 | 2.4 | 14 | 16 |
| | 2.5 | 250 | 4.9 | 0.16 | 2.7 | 13 | 15 |
| | 3.0 | 300 | 5.2 | 0.18 | 3.0 | 13 | 15 |
| | 3.5 | 350 | 5.2 | 0.19 | 3.2 | 14 | 17 |
| | 3.8 | 380 | 5.5 | 0.20 | 3.4 | 13 | 15 |
| 1.0 | 1.7 | 170 | 5.2 | 0.18 | 3.0 | 13 | 15 |
| | 2.0 | 200 | 5.5 | 0.19 | 3.2 | 13 | 15 |
| | 2.5 | 250 | 5.5 | 0.21 | 3.5 | 14 | 16 |
| | 3.0 | 300 | 5.8 | 0.23 | 3.8 | 14 | 16 |
| | 3.5 | 350 | 5.8 | 0.24 | 4.1 | 15 | 17 |
| | 3.8 | 380 | 6.1 | 0.25 | 4.2 | 14 | 16 |
| 1.5 | 1.7 | 170 | 6.1 | 0.27 | 4.5 | 15 | 17 |
| | 2.0 | 200 | 6.4 | 0.29 | 4.8 | 14 | 16 |
| | 2.5 | 250 | 6.4 | 0.32 | 5.4 | 16 | 18 |
| | 3.0 | 300 | 6.7 | 0.36 | 6.0 | 16 | 18 |
| | 3.5 | 350 | 6.7 | 0.39 | 6.4 | 17 | 20 |
| | 3.8 | 380 | 7.0 | 0.40 | 6.7 | 16 | 19 |
| 2.0 | 1.7 | 170 | 7.0 | 0.34 | 5.6 | 14 | 16 |
| | 2.0 | 200 | 7.3 | 0.37 | 6.2 | 14 | 16 |
| | 2.5 | 250 | 7.3 | 0.42 | 7.1 | 16 | 18 |
| | 3.0 | 300 | 7.6 | 0.48 | 8.0 | 17 | 19 |
| | 3.5 | 350 | 7.6 | 0.53 | 8.8 | 18 | 21 |
| | 3.8 | 380 | 7.9 | 0.56 | 9.3 | 18 | 20 |
| 2.5 | 1.7 | 170 | 7.9 | 0.46 | 7.6 | 15 | 17 |
| | 2.0 | 200 | 8.2 | 0.49 | 8.1 | 14 | 17 |
| | 2.5 | 250 | 8.2 | 0.54 | 9.0 | 16 | 18 |
| | 3.0 | 300 | 8.5 | 0.59 | 9.8 | 16 | 19 |
| | 3.5 | 350 | 8.5 | 0.63 | 10.5 | 17 | 20 |
| | 3.8 | 380 | 8.8 | 0.65 | 10.9 | 17 | 19 |
| 3.0 | 1.7 | 170 | 8.8 | 0.51 | 8.5 | 13 | 15 |
| | 2.0 | 200 | 9.1 | 0.56 | 9.3 | 13 | 15 |
| | 2.5 | 250 | 9.1 | 0.64 | 10.6 | 15 | 18 |
| | 3.0 | 300 | 9.4 | 0.72 | 12.0 | 16 | 19 |
| | 3.5 | 350 | 9.4 | 0.78 | 13.1 | 18 | 20 |
| | 3.8 | 380 | 9.8 | 0.82 | 13.7 | 17 | 20 |
| 4.0 | 1.7 | 170 | 9.8 | 0.80 | 13.3 | 17 | 19 |
| | 2.0 | 200 | 10.1 | 0.83 | 13.8 | 16 | 19 |
| | 2.5 | 250 | 10.1 | 0.89 | 14.8 | 18 | 20 |
| | 3.0 | 300 | 10.4 | 0.94 | 15.7 | 17 | 20 |
| | 3.5 | 350 | 10.4 | 0.98 | 16.3 | 18 | 21 |
| | 3.8 | 380 | 10.7 | 1.00 | 16.7 | 18 | 20 |

**Note:**
All precipitation rates are calculated for 180° operation. For the precipitation rate of a 360° sprinkler, divide by 2.

# PGP-ADJ

*Radius:* **6.4 to 15.8 m**
*Flow:* **0.10 to 3.22 m³/hr; 1.7 to 53.7 l/min**

*As Hunter's original rotor, the PGP-ADJ delivers unsurpassed reliability, durability, versatility, and value, keeping it the professional's choice year after year.*



## KEY BENEFITS

- Three types of nozzles available for various landscapes: red standard, blue standard, grey low-angle
- Adjustable arc from 40° to 360° to keep water in the appropriate areas
- Factory-installed rubber cover for safety
- Through-the-top arc adjustment for easy installation
- QuickCheck™ Arc Mechanism for fast arc adjustment

**PGP-ADJ**
Overall height: 19 cm
Pop-up height: 10 cm
Exposed diameter: 4 cm
Inlet size: ¾"

## OPERATING SPECIFICATIONS

- Nozzle choices: 27
- Radius: 6.4 to 15.8 m
- Flow: 0.10 to 3.22 m³/hr: 1.7 to 53.7 l/min
- Recommended pressure range: 1.7 to 4.5 bar; 170 to 450 kPa
- Operating pressure range: 1.4 to 7.0 bar; 140 to 700 kPa
- Precipitation rate: 10 mm/hr approximately
- Nozzle trajectory: standard = 25°, low-angle = 13°
- Warranty period: 2 years

## FACTORY-INSTALLED OPTIONS

- Red 5 to 8 Nozzles, Blue 1.5 to 4.0 Nozzles

## USER-INSTALLED OPTIONS

- Drain Check Valve (up to 1 m of elevation) P/N 142300SP

**PGP-ADJ**
*Easy arc and radius adjustment*

**PGP-ADJ – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3

| 1 Model | 2 Standard Features | 3 Feature Options |
|---|---|---|
| **PGP-ADJ-B** = 10 cm pop-up | Adjustable arc with blue nozzle rack | **1.5 to 4.0** = Factory-installed blue nozzle number |
| **PGP-ADJ** = 10 cm pop-up | Adjustable arc with red nozzle rack | **5 to 8** = Factory-installed red nozzle number |

**Examples:**
**PGP-ADJ** = 10 cm pop-up, adjustable arc
**PGP-ADJ-B-3.0** = 10 cm pop-up, adjustable arc, and Blue 3.0 Nozzle
**PGP-ADJ -07** = 10 cm pop-up, adjustable arc, and Red 7 Nozzle

PGP-ADJ Red Nozzle

## PGP-ADJ-B BLUE NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 1.5 ● Blue | 1.7 | 170 | 8.8 | 0.27 | 4.5 | 7 | 8 |
| | 2.0 | 200 | 9.1 | 0.29 | 4.8 | 7 | 8 |
| | 2.5 | 250 | 9.4 | 0.32 | 5.4 | 7 | 8 |
| | 3.0 | 300 | 9.8 | 0.35 | 5.9 | 7 | 9 |
| | 3.5 | 350 | 9.8 | 0.38 | 6.4 | 8 | 9 |
| | 4.0 | 400 | 9.8 | 0.41 | 6.8 | 9 | 10 |
| | 4.5 | 450 | 9.4 | 0.43 | 7.2 | 10 | 11 |
| 2.0 ● Blue | 1.7 | 170 | 10.1 | 0.32 | 5.4 | 6 | 7 |
| | 2.0 | 200 | 10.1 | 0.35 | 5.8 | 7 | 8 |
| | 2.5 | 250 | 10.1 | 0.39 | 6.5 | 8 | 9 |
| | 3.0 | 300 | 10.4 | 0.43 | 7.2 | 8 | 9 |
| | 3.5 | 350 | 10.4 | 0.47 | 7.8 | 9 | 10 |
| | 4.0 | 400 | 10.4 | 0.50 | 8.3 | 9 | 11 |
| | 4.5 | 450 | 10.4 | 0.53 | 8.8 | 10 | 11 |
| 2.5 ● Blue | 1.7 | 170 | 10.1 | 0.39 | 6.6 | 8 | 9 |
| | 2.0 | 200 | 10.4 | 0.43 | 7.1 | 8 | 9 |
| | 2.5 | 250 | 10.7 | 0.48 | 8.0 | 8 | 10 |
| | 3.0 | 300 | 10.7 | 0.54 | 8.9 | 9 | 11 |
| | 3.5 | 350 | 10.7 | 0.58 | 9.7 | 10 | 12 |
| | 4.0 | 400 | 10.7 | 0.62 | 10.4 | 11 | 13 |
| | 4.5 | 450 | 10.7 | 0.66 | 11.1 | 12 | 13 |
| 3.0 ● Blue | 1.7 | 170 | 10.7 | 0.50 | 8.4 | 9 | 10 |
| | 2.0 | 200 | 10.7 | 0.54 | 9.1 | 10 | 11 |
| | 2.5 | 250 | 11.0 | 0.61 | 10.2 | 10 | 12 |
| | 3.0 | 300 | 11.6 | 0.68 | 11.4 | 10 | 12 |
| | 3.5 | 350 | 11.9 | 0.74 | 12.3 | 10 | 12 |
| | 4.0 | 400 | 11.9 | 0.79 | 13.2 | 11 | 13 |
| | 4.5 | 450 | 11.9 | 0.84 | 14.0 | 12 | 14 |
| 4.0 ● Blue | 1.7 | 170 | 11.3 | 0.68 | 11.3 | 11 | 12 |
| | 2.0 | 200 | 11.6 | 0.73 | 12.2 | 11 | 13 |
| | 2.5 | 250 | 11.9 | 0.81 | 13.6 | 12 | 13 |
| | 3.0 | 300 | 12.2 | 0.90 | 15.0 | 12 | 14 |
| | 3.5 | 350 | 12.2 | 0.97 | 16.2 | 13 | 15 |
| | 4.0 | 400 | 12.5 | 1.04 | 17.3 | 13 | 15 |
| | 4.5 | 450 | 12.5 | 1.10 | 18.3 | 14 | 16 |
| 5.0 ● Blue | 1.7 | 170 | 11.3 | 0.84 | 14.0 | 13 | 15 |
| | 2.0 | 200 | 11.6 | 0.91 | 15.2 | 14 | 16 |
| | 2.5 | 250 | 11.9 | 1.02 | 17.1 | 15 | 17 |
| | 3.0 | 300 | 12.8 | 1.14 | 19.0 | 14 | 16 |
| | 3.5 | 350 | 12.8 | 1.24 | 20.6 | 15 | 17 |
| | 4.0 | 400 | 12.8 | 1.32 | 22.1 | 16 | 19 |
| | 4.5 | 450 | 12.8 | 1.41 | 23.4 | 17 | 20 |
| 6.0 ● Blue | 1.7 | 170 | 11.6 | 1.01 | 16.8 | 15 | 17 |
| | 2.0 | 200 | 11.9 | 1.09 | 18.2 | 15 | 18 |
| | 2.5 | 250 | 12.2 | 1.22 | 20.4 | 16 | 19 |
| | 3.0 | 300 | 13.1 | 1.36 | 22.7 | 16 | 18 |
| | 3.5 | 350 | 13.1 | 1.47 | 24.5 | 17 | 20 |
| | 4.0 | 400 | 13.4 | 1.57 | 26.2 | 18 | 20 |
| | 4.5 | 450 | 13.4 | 1.67 | 27.9 | 19 | 21 |
| 8.0 ● Blue | 1.7 | 170 | 11.3 | 1.35 | 22.5 | 21 | 25 |
| | 2.0 | 200 | 11.9 | 1.46 | 24.3 | 21 | 24 |
| | 2.5 | 250 | 12.5 | 1.63 | 27.2 | 21 | 24 |
| | 3.0 | 300 | 13.4 | 1.81 | 30.2 | 20 | 23 |
| | 3.5 | 350 | 13.7 | 1.95 | 32.6 | 21 | 24 |
| | 4.0 | 400 | 14.0 | 2.09 | 34.8 | 21 | 25 |
| | 4.5 | 450 | 14.0 | 2.22 | 36.9 | 23 | 26 |

**Note:**
All precipitation rates are calculated for 180° operation. For the precipitation rate of a 360° sprinkler, divide by 2.

## PGP-ADJ GREY LOW-ANGLE NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 4 LA ● Grey | 1.7 | 170 | 6.4 | 0.30 | 4.9 | 14 | 17 |
| | 2.0 | 200 | 6.7 | 0.32 | 5.3 | 14 | 16 |
| | 2.5 | 250 | 7.0 | 0.35 | 5.9 | 14 | 17 |
| | 3.0 | 300 | 7.3 | 0.39 | 6.5 | 15 | 17 |
| | 3.5 | 350 | 7.9 | 0.42 | 7.0 | 13 | 15 |
| | 4.0 | 400 | 8.5 | 0.45 | 7.5 | 12 | 14 |
| | 4.5 | 450 | 8.5 | 0.47 | 7.9 | 13 | 15 |
| 5 LA ● Grey | 1.7 | 170 | 7.3 | 0.33 | 5.6 | 12 | 14 |
| | 2.0 | 200 | 7.6 | 0.36 | 6.0 | 12 | 14 |
| | 2.5 | 250 | 7.9 | 0.40 | 6.7 | 13 | 15 |
| | 3.0 | 300 | 8.2 | 0.45 | 7.4 | 13 | 15 |
| | 3.5 | 350 | 8.5 | 0.48 | 8.0 | 13 | 15 |
| | 4.0 | 400 | 8.8 | 0.52 | 8.6 | 13 | 15 |
| | 4.5 | 450 | 9.1 | 0.55 | 9.1 | 13 | 15 |
| 6 LA ● Grey | 1.7 | 170 | 8.8 | 0.44 | 7.3 | 11 | 13 |
| | 2.0 | 200 | 9.1 | 0.47 | 7.9 | 11 | 13 |
| | 2.5 | 250 | 9.4 | 0.53 | 8.8 | 12 | 14 |
| | 3.0 | 300 | 9.8 | 0.59 | 9.8 | 12 | 14 |
| | 3.5 | 350 | 10.1 | 0.64 | 10.6 | 13 | 15 |
| | 4.0 | 400 | 10.7 | 0.68 | 11.3 | 12 | 14 |
| | 4.5 | 450 | 10.7 | 0.72 | 12.0 | 13 | 15 |
| 7 LA ● Grey | 1.7 | 170 | 8.5 | 0.58 | 9.7 | 16 | 18 |
| | 2.0 | 200 | 8.8 | 0.62 | 10.3 | 16 | 18 |
| | 2.5 | 250 | 9.4 | 0.68 | 11.4 | 15 | 18 |
| | 3.0 | 300 | 10.1 | 0.75 | 12.5 | 15 | 17 |
| | 3.5 | 350 | 10.7 | 0.80 | 13.3 | 14 | 16 |
| | 4.0 | 400 | 11.3 | 0.85 | 14.1 | 13 | 15 |
| | 4.5 | 450 | 11.3 | 0.89 | 14.8 | 14 | 16 |
| 8 LA ● Grey | 1.7 | 170 | 9.1 | 0.71 | 11.8 | 17 | 20 |
| | 2.0 | 200 | 9.4 | 0.76 | 12.7 | 17 | 20 |
| | 2.5 | 250 | 9.8 | 0.84 | 14.1 | 18 | 20 |
| | 3.0 | 300 | 10.4 | 0.93 | 15.5 | 17 | 20 |
| | 3.5 | 350 | 11.3 | 1.00 | 16.6 | 16 | 18 |
| | 4.0 | 400 | 11.6 | 1.06 | 17.6 | 16 | 18 |
| | 4.5 | 450 | 11.6 | 1.12 | 18.6 | 17 | 19 |
| 9 LA ● Grey | 1.7 | 170 | 9.8 | 0.89 | 14.9 | 19 | 22 |
| | 2.0 | 200 | 10.1 | 0.96 | 16.0 | 19 | 22 |
| | 2.5 | 250 | 10.7 | 1.07 | 17.9 | 19 | 22 |
| | 3.0 | 300 | 11.3 | 1.19 | 19.8 | 19 | 22 |
| | 3.5 | 350 | 12.2 | 1.28 | 21.3 | 17 | 20 |
| | 4.0 | 400 | 12.8 | 1.37 | 22.8 | 17 | 19 |
| | 4.5 | 450 | 12.8 | 1.45 | 24.1 | 18 | 20 |
| 10 LA ● Grey | 1.7 | 170 | 10.1 | 1.17 | 19.5 | 23 | 27 |
| | 2.0 | 200 | 10.7 | 1.26 | 21.0 | 22 | 26 |
| | 2.5 | 250 | 11.3 | 1.40 | 23.4 | 22 | 25 |
| | 3.0 | 300 | 11.6 | 1.55 | 25.9 | 23 | 27 |
| | 3.5 | 350 | 12.2 | 1.67 | 27.8 | 22 | 26 |
| | 4.0 | 400 | 12.8 | 1.78 | 29.7 | 22 | 25 |
| | 4.5 | 450 | 12.8 | 1.89 | 31.4 | 23 | 27 |

**Note:**
All precipitation rates are calculated for 180° operation. For the precipitation rate of a 360° sprinkler, divide by 2.

## PGP-ADJ NOZZLES

Blue
(P/N 665300)

Grey
(P/N 233200)

## PGP-ADJ RED NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 1 ● Red | 1.7 | 170 | 8.2 | 0.10 | 1.7 | 3 | 3 |
| | 2.0 | 200 | 8.5 | 0.11 | 1.8 | 3 | 3 |
| | 2.5 | 250 | 8.5 | 0.13 | 2.1 | 4 | 4 |
| | 3.0 | 300 | 8.8 | 0.15 | 2.4 | 4 | 4 |
| | 3.5 | 350 | 8.8 | 0.16 | 2.7 | 4 | 5 |
| | 4.0 | 400 | 9.1 | 0.18 | 2.9 | 4 | 5 |
| | 4.5 | 450 | 9.1 | 0.19 | 3.2 | 5 | 5 |
| 2 ● Red | 1.7 | 170 | 8.5 | 0.14 | 2.4 | 4 | 5 |
| | 2.0 | 200 | 8.8 | 0.16 | 2.6 | 4 | 5 |
| | 2.5 | 250 | 8.8 | 0.17 | 2.9 | 4 | 5 |
| | 3.0 | 300 | 9.1 | 0.19 | 3.2 | 5 | 5 |
| | 3.5 | 350 | 9.1 | 0.21 | 3.5 | 5 | 6 |
| | 4.0 | 400 | 9.4 | 0.22 | 3.7 | 5 | 6 |
| | 4.5 | 450 | 9.4 | 0.23 | 3.9 | 5 | 6 |
| 3 ● Red | 1.7 | 170 | 8.8 | 0.18 | 3.0 | 5 | 5 |
| | 2.0 | 200 | 9.1 | 0.20 | 3.3 | 5 | 5 |
| | 2.5 | 250 | 9.1 | 0.22 | 3.7 | 5 | 6 |
| | 3.0 | 300 | 9.4 | 0.25 | 4.1 | 6 | 6 |
| | 3.5 | 350 | 9.4 | 0.27 | 4.5 | 6 | 7 |
| | 4.0 | 400 | 9.8 | 0.29 | 4.8 | 6 | 7 |
| | 4.5 | 450 | 9.8 | 0.31 | 5.1 | 6 | 7 |
| 4 ● Red | 1.7 | 170 | 9.4 | 0.24 | 4.1 | 5 | 6 |
| | 2.0 | 200 | 9.8 | 0.27 | 4.4 | 6 | 6 |
| | 2.5 | 250 | 9.8 | 0.30 | 5.0 | 6 | 7 |
| | 3.0 | 300 | 10.1 | 0.34 | 5.6 | 7 | 8 |
| | 3.5 | 350 | 10.1 | 0.37 | 6.2 | 7 | 8 |
| | 4.0 | 400 | 10.4 | 0.40 | 6.6 | 7 | 9 |
| | 4.5 | 450 | 10.4 | 0.43 | 7.1 | 8 | 9 |
| 5 ● Red | 1.7 | 170 | 10.1 | 0.33 | 5.5 | 7 | 8 |
| | 2.0 | 200 | 10.4 | 0.36 | 5.9 | 7 | 8 |
| | 2.5 | 250 | 10.4 | 0.39 | 6.5 | 7 | 8 |
| | 3.0 | 300 | 11.0 | 0.43 | 7.2 | 7 | 8 |
| | 3.5 | 350 | 11.6 | 0.46 | 7.7 | 7 | 8 |
| | 4.0 | 400 | 11.6 | 0.49 | 8.1 | 7 | 8 |
| | 4.5 | 450 | 11.6 | 0.51 | 8.6 | 8 | 9 |
| 6 ● Red | 1.7 | 170 | 10.1 | 0.42 | 6.9 | 8 | 10 |
| | 2.0 | 200 | 10.4 | 0.45 | 7.5 | 8 | 10 |
| | 2.5 | 250 | 10.7 | 0.51 | 8.5 | 9 | 10 |
| | 3.0 | 300 | 11.0 | 0.57 | 9.4 | 9 | 11 |
| | 3.5 | 350 | 11.6 | 0.61 | 10.2 | 9 | 11 |
| | 4.0 | 400 | 11.6 | 0.66 | 10.9 | 10 | 11 |
| | 4.5 | 450 | 11.9 | 0.70 | 11.6 | 10 | 11 |
| 7 ● Red | 1.7 | 170 | 10.1 | 0.54 | 9.0 | 11 | 12 |
| | 2.0 | 200 | 10.4 | 0.58 | 9.7 | 11 | 12 |
| | 2.5 | 250 | 11.0 | 0.65 | 10.8 | 11 | 12 |
| | 3.0 | 300 | 11.6 | 0.72 | 12.0 | 11 | 12 |
| | 3.5 | 350 | 12.2 | 0.78 | 12.9 | 10 | 12 |
| | 4.0 | 400 | 12.2 | 0.83 | 13.8 | 11 | 13 |
| | 4.5 | 450 | 12.2 | 0.88 | 14.6 | 12 | 14 |

## PGP-ADJ RED NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 8 ● Red | 1.7 | 170 | 11.0 | 0.66 | 11.0 | 11 | 13 |
| | 2.0 | 200 | 11.3 | 0.71 | 11.8 | 11 | 13 |
| | 2.5 | 250 | 11.6 | 0.79 | 13.2 | 12 | 14 |
| | 3.0 | 300 | 11.9 | 0.87 | 14.5 | 12 | 14 |
| | 3.5 | 350 | 12.5 | 0.94 | 15.6 | 12 | 14 |
| | 4.0 | 400 | 12.5 | 1.00 | 16.6 | 13 | 15 |
| | 4.5 | 450 | 12.8 | 1.05 | 17.6 | 13 | 15 |
| 9 ● Red | 1.7 | 170 | 11.3 | 0.73 | 12.2 | 11 | 13 |
| | 2.0 | 200 | 11.6 | 0.80 | 13.4 | 12 | 14 |
| | 2.5 | 250 | 11.6 | 0.92 | 15.4 | 14 | 16 |
| | 3.0 | 300 | 12.5 | 1.05 | 17.5 | 13 | 16 |
| | 3.5 | 350 | 13.4 | 1.15 | 19.2 | 13 | 15 |
| | 4.0 | 400 | 13.4 | 1.25 | 20.9 | 14 | 16 |
| | 4.5 | 450 | 13.7 | 1.35 | 22.4 | 14 | 17 |
| 10 ● Red | 2.0 | 200 | 12.2 | 1.14 | 19.0 | 15 | 18 |
| | 2.5 | 250 | 12.8 | 1.29 | 21.4 | 16 | 18 |
| | 3.0 | 300 | 13.4 | 1.44 | 24.0 | 16 | 18 |
| | 3.5 | 350 | 14.0 | 1.56 | 26.1 | 16 | 18 |
| | 4.0 | 400 | 14.3 | 1.68 | 28.0 | 16 | 19 |
| | 4.5 | 450 | 14.3 | 1.79 | 29.9 | 17 | 20 |
| | 5.0 | 500 | 14.6 | 1.90 | 31.7 | 18 | 21 |
| 11 ● Red | 2.0 | 200 | 12.8 | 1.55 | 25.9 | 19 | 22 |
| | 2.5 | 250 | 13.7 | 1.73 | 28.7 | 18 | 21 |
| | 3.0 | 300 | 14.0 | 1.90 | 31.7 | 19 | 22 |
| | 3.5 | 350 | 14.6 | 2.05 | 34.1 | 19 | 22 |
| | 4.0 | 400 | 14.9 | 2.18 | 36.3 | 20 | 23 |
| | 4.5 | 450 | 15.2 | 2.30 | 38.4 | 20 | 23 |
| | 5.0 | 500 | 15.5 | 2.42 | 40.4 | 20 | 23 |
| 12 ● Red | 2.0 | 200 | 12.8 | 2.03 | 33.8 | 25 | 29 |
| | 2.5 | 250 | 13.4 | 2.26 | 37.7 | 25 | 29 |
| | 3.0 | 300 | 14.3 | 2.51 | 41.8 | 24 | 28 |
| | 3.5 | 350 | 14.6 | 2.70 | 45.0 | 25 | 29 |
| | 4.0 | 400 | 14.9 | 2.88 | 48.1 | 26 | 30 |
| | 4.5 | 450 | 15.2 | 3.06 | 50.9 | 26 | 30 |
| | 5.0 | 500 | 15.8 | 3.22 | 53.7 | 26 | 30 |

**Note:**
All precipitation rates are calculated for 180° operation. For the precipitation rate of a 360° sprinkler, divide by 2.

## PGP-ADJ NOZZLES

Red
(P/N 130900)

# PGP™ ULTRA

*Radius:* **4.9 to 14.0 m**
*Flow:* **0.07 to 3.23 m³/hr; 1.2 to 53.8 l/min**

*The PGP Ultra raises the bar for rotor technology with powerful features developed over three decades of research, customer feedback, and lab testing.*

## KEY BENEFITS

- Patented automatic arc return feature returns the turret back to the original arc pattern if vandalised; adjustable arc from 50° to 360°
- Non-strippable drive mechanism is protected from damage if turned in the opposite direction of travel
- Part- and full-circle in one model for flexibility across landscapes and reduced inventory
- Headed and slotted setscrew allows radius adjustment with a Hunter Wrench or flat-blade screwdriver
- Flat-top nozzles allow fast, easy insertion
- QuickCheck™ Arc Mechanism for fast arc adjustment

## OPERATING SPECIFICATIONS

- Nozzle choices: 34
- Radius: 4.9 to 14.0 m
- Flow: 0.07 to 3.23 m³/hr; 1.2 to 53.8 l/min
- Recommended pressure range: 1.7 to 4.5 bar; 170 to 450 kPa
- Operating pressure range: 1.4 to 7.0 bar; 140 to 700 kPa
- Precipitation rate: 10 mm/hr approximately
- Nozzle trajectory: standard = 25°, low-angle = 13°
- Nozzle racks: Blue 1.5 to 8.0, Grey Low-Angle 2.0 to 4.5, Black 0.50 to 3.0, Green 6.0 to 13.0, MPR-25, MPR-30, MPR-35
- Warranty period: 5 years

## FACTORY-INSTALLED OPTIONS

- Drain Check Valve (up to 3 m of elevation)
- Reclaimed water ID
- Blue 1.5–4.0 Nozzles

## USER-INSTALLED OPTIONS

- Drain Check Valve (up to 1 m of elevation) PGP-04 only (P/N 142300SP)
- HSJ-0 prefabricated ¾" PVC Swing Joint

**PGP Ultra Reclaimed**
*Available as a factory-installed option on all models*

**PGP Ultra**
*Easy arc and radius adjustment*

**PGP-ULTRA – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Nozzle Options |
|---|---|---|---|
| **PGP-00** = Shrub<br>**PGP-04** = 10 cm pop-up<br>**PGP-06** = 15 cm pop-up<br>**PGP-12** = 30 cm pop-up | Adjustable arc, plastic riser, 8 standard nozzles, and 4 low-angle nozzles | **CV** = Drain Check Valve<br>**CV-R** = Drain Check Valve and reclaimed water ID | **Blue 1.5–8.0**<br>**Grey low-angle**<br>**Black short-radius**<br>**Green high-flow**<br>**MPR-25-Q, T, H, F**<br>**MPR-30-Q, T, H, F**<br>**MPR-35-Q, T, H, F**<br>**1.5 to 4.0** = Only nozzles 1.5–4.0 can be factory-installed |

**Examples:**
**PGP-04** = 10 cm pop-up, adjustable arc
**PGP-04-2.5** = 10 cm pop-up, adjustable arc and 2.5 nozzle
**PGP-12-CV-R-4.0** = 30 cm pop-up, adjustable arc, with Drain Check Valve and reclaimed water ID with 4.0 nozzle

**PGP-00**
Overall height: 19 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**PGP-04**
Overall height: 19 cm
Pop-up height: 10 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**PGP-06**
Overall height: 25 cm
Pop-up height: 15 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**PGP-12**
Overall height: 43 cm
Pop-up height: 30 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

# I-20

*Radius:* **4.9 to 14.0 m**
*Flow:* **0.07 to 3.23 m³/hr; 1.2 to 53.8 l/min**

*The I-20 is loaded with upgraded features such as FloStop™ Technology, check valves, and efficient nozzles that make it the perfect choice in a range of applications.*

## KEY BENEFITS

- Patented automatic arc return feature returns the turret back to the original arc pattern if vandalised; adjustable arc from 50° to 360°
- Non-strippable drive mechanism is protected from damage if turned in the opposite direction of travel
- Part and full-circle in one model is flexible for all landscapes and decreases inventory
- Headed and slotted setscrew allows radius adjustment with a Hunter Wrench or flat-blade screwdriver
- FloStop Technology stops the flow of water from individual sprinklers to change the nozzle or perform repairs
- Flat-top nozzles allow fast, easy insertion
- Drain Check Valve prevents low-head drainage (up to 3 m of elevation)

## OPERATING SPECIFICATIONS

- Nozzle choices: 34
- Radius: 4.9 to 14.0 m
- Flow: 0.07 to 3.23 m³/hr; 1.2 to 53.8 l/min
- Recommended pressure range: 1.7 to 4.5 bar; 170 to 450 kPa
- Operating pressure range: 1.4 to 7.0 bar; 140 to 700 kPa
- Precipitation rate: 10 mm/hr approximately
- Nozzle trajectory: standard = 25°, low-angle = 13°
- Nozzle racks: Blue 1.5 to 8.0, Grey Low-Angle 2.0 to 4.5, Black 0.50 to 3.0, Green 6.0 to 13.0, MPR-25, MPR-30, MPR-35
- Warranty period: 5 years

## FACTORY-INSTALLED OPTIONS

- No Drain Check Valve (NCV models)
- Reclaimed water ID
- Blue 1.5 to 4.0 Nozzles

**I-20 Reclaimed**
*Available as a factory-installed option on all models*

## USER-INSTALLED OPTIONS

- HSJ-0 prefabricated ¾" PVC Swing Joint

**I-20 (PLASTIC) – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Nozzle Options |
|---|---|---|---|
| **I-20-00** = Shrub<br>**I-20-04** = 10 cm pop-up<br>**I-20-06** = 15 cm pop-up<br>**I-20-12** = 30 cm pop-up | Adjustable arc, plastic, check valve, 8 standard nozzles, and 4 low-angle nozzles | **(blank)** = No option<br>**NCV** = Without check valve *(only available on 10 cm model)*<br>**R** = Reclaimed water ID | **Blue 1.5 to 8.0**<br>**Grey low-angle**<br>**Black short-radius**<br>**Green high-flow**<br>**MPR-25-Q, T, H, F**<br>**MPR-30-Q, T, H, F**<br>**MPR-35-Q, T, H, F**<br>**1.5 to 4.0** = Only nozzles 1.5–4.0 can be factory-installed |

**I-20 (STAINLESS STEEL) – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Nozzle Options |
|---|---|---|---|
| **I-20-04-SS** = 10 cm pop-up<br>**I-20-06-SS** = 15 cm pop-up | Adjustable arc, stainless steel, check valve, 8 standard nozzles, and 4 low-angle nozzles | **(blank)** = No option<br>**NCV** = Without check valve *(only available on 10 cm model)*<br>**R** = Reclaimed water ID | **Blue 1.5 to 8.0**<br>**Grey low-angle**<br>**Black short-radius**<br>**Green high-flow**<br>**MPR-25-Q, T, H, F**<br>**MPR-30-Q, T, H, F**<br>**MPR-35-Q, T, H, F**<br>**1.5 to 4.0** = Only nozzles 1.5–4.0 can be factory-installed |

**Examples:**
**I-20-04** = 10 cm pop-up, adjustable arc
**I-20-12-R-4.0** = 30 cm pop-up, adjustable arc, check valve, with reclaimed water ID, and 4.0 nozzle
**I-20-06-SS-R-3.0** = 15 cm pop-up, adjustable arc, stainless steel riser, with reclaimed water ID, and 3.0 nozzle

**I-20-00**
Overall height: 20 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**I-20-04**
Overall height: 19 cm
Pop-up height: 10 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**I-20-06**
Overall height: 25 cm
Pop-up height: 15 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**I-20-12**
Overall height: 43 cm
Pop-up height: 30 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

# PGP™ ULTRA & I-20 PRB

*Radius:* **4.9 to 14.0 m**
*Flow:* **0.07 to 2.22 m³/hr; 1.2 to 36.0 l/min**

*The PGP Ultra and I-20 PRB Rotors are built to thrive in applications where high water pressure could otherwise lead to inefficient nozzle operation.*

## KEY BENEFITS

- Pressure-regulated body (3.1 bar; 310 kPa) reduces high incoming pressure to increase nozzle efficiency (requires dynamic pressure differential: 1.0 bar; 103 kPa)
- Patented automatic arc return feature returns the turret back to the original arc pattern if vandalised; adjustable arc from 50° to 360°
- Non-strippable drive mechanism is protected from damage if turned in the opposite direction of travel
- Part- and full-circle in one model for flexibility across landscapes and reduced inventory
- Headed and slotted setscrew allows radius adjustment with a Hunter Wrench or flat-blade screwdriver
- FloStop™ Technology stops the flow of water from individual sprinklers, to change the nozzle or perform repairs (I-20 only)
- Flat-top nozzles allow fast, easy insertion
- Drain Check Valve prevents low-head drainage (up to 3 m of elevation)

## OPERATING SPECIFICATIONS

- Nozzle choices: 30
- Radius: 4.9 to 14.0 m
- Flow: 0.07 to 2.22 m³/hr; 1.2 to 36.0 l/min
- Nozzle discharge pressure: 3.1 bar; 310 kPa
- Operating pressure range: 4.1 to 7.0 bar; 410 to 700 kPa
- Precipitation rate: 10 mm/hr approximately
- Nozzle trajectory: standard = 25°, low-angle = 13°
- Nozzle racks: Blue 1.5 to 8.0, Grey Low-Angle 2.0 to 4.5, Black 0.50 to 3.0, Green 6.0 to 13.0, MPR-25, MPR-30, MPR-35
- Warranty period: 5 years

## FACTORY-INSTALLED OPTIONS

- Reclaimed water ID
- Blue 1.5 to 4.0 Nozzles

## USER-INSTALLED OPTIONS

- HSJ-0 prefabricated ¾" PVC Swing Joint

**PGP-00-PRB**
Overall height: 22 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**PGP-04-PRB**
Overall height: 22 cm
Pop-up height: 10 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**I-20-00-PRB**
Overall height: 22 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**I-20-04-PRB**
Overall height: 22 cm
Pop-up height: 10 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**I-20-06-PRB**
Overall height: 27 cm
Pop-up height: 15 cm
Exposed diameter: 4.5 cm
Inlet size: ¾"

**PGP-ULTRA & I-20 PRB – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Nozzle Options |
|---|---|---|---|
| **PGP-00-PRB** = Riser mount<br>**PGP-04-PRB** = 10 cm pop-up | Adjustable arc, plastic riser, pressure-regulated body, 8 standard nozzles, and 4 low-angle nozzles | **(blank)** = No option<br>**CV** = Drain Check Valve (PGP-04 only)<br>**CV-R** = Drain Check Valve and reclaimed water ID | **Blue 1.5 to 8.0** = **Grey low-angle**<br>**Black short-radius**<br>**MPR-25, 30, 35 - Q, T, H, F** |
| **I-20-00-PRB** = Riser mount<br>**I-20-04-PRB** = 10 cm pop-up<br>**I-20-06-PRB** = 15 cm pop-up | Adjustable arc, plastic riser, pressure-regulated body, 8 standard nozzles, and 4 low-angle nozzles | **(blank)** = No option<br>**R** = Drain Check Valve and reclaimed water ID | **Blue 1.5 to 8.0** = **Grey low-angle**<br>**Black short-radius**<br>**MPR-25, 30, 35 - Q, T, H, F** |
| **I-20-04-SS-PRB** = 10 cm pop-up<br>**I-20-06-SS-PRB** = 15 cm pop-up | Adjustable arc, stainless steel riser, pressure-regulated body, 8 standard nozzles, and 4 low-angle nozzles | **(blank)** = No option<br>**R** = Drain Check Valve and reclaimed water ID | **Blue 1.5 to 8.0** = **Grey low-angle**<br>**Black short-radius**<br>**MPR-25, 30, 35 - Q, T, H, F** |

**Examples:**
**PGP-04-PRB** = 10 cm pop-up, adjustable arc, plastic riser with no factory installed-nozzle
**I-20-04-PRB-3.0-2.5** = 10 cm pop-up, adjustable arc, plastic riser with 3.0 nozzle
**I-20-06-SS-PRB-R-MPR-25H** = 15 cm pop-up, adjustable arc, stainless steel riser with MPR-25H

## PGP ULTRA / I-20 / PRB BLUE STANDARD NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 1.5 ● Blue | 1.7 | 170 | 8.8 | 0.27 | 4.5 | 7 | 8 |
| | 2.0 | 200 | 9.1 | 0.29 | 4.8 | 7 | 8 |
| | 2.5 | 250 | 9.4 | 0.32 | 5.4 | 7 | 8 |
| | 3.0 | 300 | 9.8 | 0.35 | 5.9 | 7 | 9 |
| | 3.5 | 350 | 9.8 | 0.38 | 6.4 | 8 | 9 |
| | 4.0 | 400 | 9.8 | 0.41 | 6.8 | 9 | 10 |
| | 4.5 | 450 | 9.4 | 0.43 | 7.2 | 10 | 11 |
| 2.0 ● Blue | 1.7 | 170 | 10.1 | 0.32 | 5.4 | 6 | 7 |
| | 2.0 | 200 | 10.1 | 0.35 | 5.8 | 7 | 8 |
| | 2.5 | 250 | 10.1 | 0.39 | 6.5 | 8 | 9 |
| | 3.0 | 300 | 10.4 | 0.43 | 7.2 | 8 | 9 |
| | 3.5 | 350 | 10.4 | 0.47 | 7.8 | 9 | 10 |
| | 4.0 | 400 | 10.4 | 0.50 | 8.3 | 9 | 11 |
| | 4.5 | 450 | 10.4 | 0.53 | 8.8 | 10 | 11 |
| 2.5 ● Blue | 1.7 | 170 | 10.1 | 0.39 | 6.6 | 8 | 9 |
| | 2.0 | 200 | 10.4 | 0.43 | 7.1 | 8 | 9 |
| | 2.5 | 250 | 10.7 | 0.48 | 8.0 | 8 | 10 |
| | 3.0 | 300 | 10.7 | 0.54 | 8.9 | 9 | 11 |
| | 3.5 | 350 | 10.7 | 0.58 | 9.7 | 10 | 12 |
| | 4.0 | 400 | 10.7 | 0.62 | 10.4 | 11 | 13 |
| | 4.5 | 450 | 10.7 | 0.66 | 11.1 | 12 | 13 |
| 3.0 ● Blue | 1.7 | 170 | 10.7 | 0.50 | 8.4 | 9 | 10 |
| | 2.0 | 200 | 10.7 | 0.54 | 9.1 | 10 | 11 |
| | 2.5 | 250 | 11.0 | 0.61 | 10.2 | 10 | 12 |
| | 3.0 | 300 | 11.6 | 0.68 | 11.4 | 10 | 12 |
| | 3.5 | 350 | 11.9 | 0.74 | 12.3 | 10 | 12 |
| | 4.0 | 400 | 11.9 | 0.79 | 13.2 | 11 | 13 |
| | 4.5 | 450 | 11.9 | 0.84 | 14.0 | 12 | 14 |
| 4.0 ● Blue | 1.7 | 170 | 11.3 | 0.68 | 11.3 | 11 | 12 |
| | 2.0 | 200 | 11.6 | 0.73 | 12.2 | 11 | 13 |
| | 2.5 | 250 | 11.9 | 0.81 | 13.6 | 12 | 13 |
| | 3.0 | 300 | 12.2 | 0.90 | 15.0 | 12 | 14 |
| | 3.5 | 350 | 12.2 | 0.97 | 16.2 | 13 | 15 |
| | 4.0 | 400 | 12.5 | 1.04 | 17.3 | 13 | 15 |
| | 4.5 | 450 | 12.5 | 1.10 | 18.3 | 14 | 16 |
| 5.0 ● Blue | 1.7 | 170 | 11.3 | 0.84 | 14.0 | 13 | 15 |
| | 2.0 | 200 | 11.6 | 0.91 | 15.2 | 14 | 16 |
| | 2.5 | 250 | 11.9 | 1.02 | 17.1 | 15 | 17 |
| | 3.0 | 300 | 12.8 | 1.14 | 19.0 | 14 | 16 |
| | 3.5 | 350 | 12.8 | 1.24 | 20.6 | 15 | 17 |
| | 4.0 | 400 | 12.8 | 1.32 | 22.1 | 16 | 19 |
| | 4.5 | 450 | 12.8 | 1.41 | 23.4 | 17 | 20 |
| 6.0 ● Blue | 1.7 | 170 | 11.6 | 1.01 | 16.8 | 15 | 17 |
| | 2.0 | 200 | 11.9 | 1.09 | 18.2 | 15 | 18 |
| | 2.5 | 250 | 12.2 | 1.22 | 20.4 | 16 | 19 |
| | 3.0 | 300 | 13.1 | 1.36 | 22.7 | 16 | 18 |
| | 3.5 | 350 | 13.1 | 1.47 | 24.5 | 17 | 20 |
| | 4.0 | 400 | 13.4 | 1.57 | 26.2 | 18 | 20 |
| | 4.5 | 450 | 13.4 | 1.67 | 27.9 | 19 | 21 |
| 8.0 ● Blue | 1.7 | 170 | 11.3 | 1.35 | 22.5 | 21 | 25 |
| | 2.0 | 200 | 11.9 | 1.46 | 24.3 | 21 | 24 |
| | 2.5 | 250 | 12.5 | 1.63 | 27.2 | 21 | 24 |
| | 3.0 | 300 | 13.4 | 1.81 | 30.2 | 20 | 23 |
| | 3.5 | 350 | 13.7 | 1.95 | 32.6 | 21 | 24 |
| | 4.0 | 400 | 14.0 | 2.09 | 34.8 | 21 | 25 |
| | 4.5 | 450 | 14.0 | 2.22 | 36.9 | 23 | 26 |

**Note:**
All precipitation rates are calculated for 180° operation. For the precipitation rate of a 360° sprinkler, divide by 2.

## PGP ULTRA / I-20 / PRB GREY LOW-ANGLE NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 2.0 LA ● Grey | 1.7 | 170 | 7.3 | 0.33 | 5.6 | 12 | 14 |
| | 2.0 | 200 | 7.6 | 0.36 | 6.0 | 12 | 14 |
| | 2.5 | 250 | 7.9 | 0.40 | 6.7 | 13 | 15 |
| | 3.0 | 300 | 8.2 | 0.45 | 7.4 | 13 | 15 |
| | 3.5 | 350 | 8.5 | 0.48 | 8.0 | 13 | 15 |
| | 4.0 | 400 | 8.8 | 0.52 | 8.6 | 13 | 15 |
| | 4.5 | 450 | 9.1 | 0.55 | 9.1 | 13 | 15 |
| 2.5 LA ● Grey | 1.7 | 170 | 7.9 | 0.44 | 7.3 | 14 | 16 |
| | 2.0 | 200 | 8.2 | 0.47 | 7.9 | 14 | 16 |
| | 2.5 | 250 | 8.8 | 0.53 | 8.8 | 14 | 16 |
| | 3.0 | 300 | 9.4 | 0.59 | 9.8 | 13 | 15 |
| | 3.5 | 350 | 10.1 | 0.64 | 10.6 | 13 | 15 |
| | 4.0 | 400 | 10.4 | 0.68 | 11.3 | 13 | 15 |
| | 4.5 | 450 | 10.7 | 0.72 | 12.0 | 13 | 15 |
| 3.5 LA ● Grey | 1.7 | 170 | 8.5 | 0.58 | 9.7 | 16 | 18 |
| | 2.0 | 200 | 8.8 | 0.62 | 10.3 | 16 | 18 |
| | 2.5 | 250 | 9.1 | 0.68 | 11.4 | 16 | 19 |
| | 3.0 | 300 | 10.1 | 0.75 | 12.5 | 15 | 17 |
| | 3.5 | 350 | 10.7 | 0.80 | 13.3 | 14 | 16 |
| | 4.0 | 400 | 11.0 | 0.85 | 14.1 | 14 | 16 |
| | 4.5 | 450 | 11.3 | 0.89 | 14.8 | 14 | 16 |
| 4.5 LA ● Grey | 1.7 | 170 | 8.2 | 0.71 | 11.8 | 21 | 24 |
| | 2.0 | 200 | 8.8 | 0.76 | 12.7 | 19 | 23 |
| | 2.5 | 250 | 9.1 | 0.84 | 14.1 | 20 | 23 |
| | 3.0 | 300 | 10.1 | 0.93 | 15.5 | 18 | 21 |
| | 3.5 | 350 | 10.7 | 1.00 | 16.6 | 18 | 20 |
| | 4.0 | 400 | 11.0 | 1.06 | 17.6 | 18 | 20 |
| | 4.5 | 450 | 11.3 | 1.12 | 18.6 | 18 | 20 |

**I-20-04 Rotor with PRB Body**

## PGP ULTRA / I-20 / PRB NOZZLES

Blue Standard / Grey Low-Angle (P/N 782900)

Flat-top nozzle for easy insertion coupled with a headed slotted adjustment screw for quick radius adjustment with a Hunter Wrench or a flat-blade screwdriver.

**Pressure Regulation**

*Continual operating pressure of 3.1 bar; 310 kPa*

**PR-075**

Overall height: 5.7 cm
Inlet/outlet size: ¾"
For use with all ¾" inlet sprinklers models, regulates to 3.1 bar; 310 kPa

## PGP ULTRA / I-20 GREEN HIGH-FLOW NOZZLE PERFORMANCE DATA

| Nozzle | Pressure bar | Pressure kPa | Radius m | Flow $m^3/hr$ | Flow l/min | Precip mm/hr ■ | Precip mm/hr ▲ |
|---|---|---|---|---|---|---|---|
| 10 Dk. Green | 1.7 | 170 | 10.7 | 1.48 | 24.6 | 26 | 30 |
| | 2.0 | 200 | 11.9 | 1.60 | 26.7 | 23 | 26 |
| | 2.5 | 250 | 12.5 | 1.80 | 30.0 | 23 | 27 |
| | 3.0 | 300 | 12.8 | 2.01 | 33.5 | 25 | 28 |
| | 3.5 | 350 | 13.1 | 2.18 | 36.3 | 25 | 29 |
| | 4.0 | 400 | 13.7 | 2.34 | 39.0 | 25 | 29 |
| | 4.5 | 450 | 14.0 | 2.49 | 41.5 | 25 | 29 |
| 13 Dk. Green | 1.7 | 170 | 11.0 | 1.91 | 31.9 | 32 | 37 |
| | 2.0 | 200 | 12.2 | 2.08 | 34.6 | 28 | 32 |
| | 2.5 | 250 | 12.8 | 2.34 | 38.9 | 29 | 33 |
| | 3.0 | 300 | 13.1 | 2.61 | 43.4 | 30 | 35 |
| | 3.5 | 350 | 13.4 | 2.83 | 47.1 | 31 | 36 |
| | 4.0 | 400 | 13.7 | 3.03 | 50.5 | 32 | 37 |
| | 4.5 | 450 | 14.0 | 3.23 | 53.8 | 33 | 38 |
| 6.0 LA Dk. Green | 1.7 | 170 | 9.1 | 0.86 | 14.3 | 21 | 24 |
| | 2.0 | 200 | 9.4 | 0.94 | 15.6 | 21 | 24 |
| | 2.5 | 250 | 10.1 | 1.07 | 17.8 | 21 | 24 |
| | 3.0 | 300 | 10.7 | 1.20 | 20.0 | 21 | 24 |
| | 3.5 | 350 | 11.3 | 1.31 | 21.9 | 21 | 24 |
| | 4.0 | 400 | 11.6 | 1.42 | 23.6 | 21 | 24 |
| | 4.5 | 450 | 11.9 | 1.52 | 25.3 | 21 | 25 |
| 8.0 LA Dk. Green | 1.7 | 170 | 10.1 | 1.17 | 19.5 | 23 | 27 |
| | 2.0 | 200 | 10.7 | 1.28 | 21.3 | 22 | 26 |
| | 2.5 | 250 | 11.3 | 1.44 | 24.0 | 23 | 26 |
| | 3.0 | 300 | 11.6 | 1.61 | 26.9 | 24 | 28 |
| | 3.5 | 350 | 11.9 | 1.76 | 29.3 | 25 | 29 |
| | 4.0 | 400 | 12.5 | 1.89 | 31.5 | 24 | 28 |
| | 4.5 | 450 | 12.5 | 2.01 | 33.6 | 26 | 30 |

I-20 Rotor with Blue Standard Nozzle

Convenient Nozzle Rack

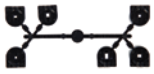
## PGP ULTRA / I-20 / PRB BLACK SHORT-RADIUS NOZZLE PERFORMANCE DATA

| Nozzle | Pressure bar | Pressure kPa | Radius m | Flow $m^3/hr$ | Flow l/min | Precip mm/hr ■ | Precip mm/hr ▲ |
|---|---|---|---|---|---|---|---|
| 0.50 SR Black | 1.7 | 170 | 4.9 | 0.07 | 1.2 | 6 | 7 |
| | 2.0 | 200 | 5.2 | 0.08 | 1.3 | 6 | 7 |
| | 2.5 | 250 | 5.2 | 0.09 | 1.5 | 7 | 8 |
| | 3.0 | 300 | 5.2 | 0.10 | 1.7 | 8 | 9 |
| | 3.5 | 350 | 5.5 | 0.12 | 1.9 | 8 | 9 |
| | 4.0 | 400 | 5.5 | 0.13 | 2.1 | 8 | 10 |
| | 4.5 | 450 | 5.5 | 0.14 | 2.3 | 9 | 10 |
| 1.0 SR Black | 1.7 | 170 | 4.9 | 0.16 | 2.7 | 14 | 16 |
| | 2.0 | 200 | 5.2 | 0.17 | 2.9 | 13 | 15 |
| | 2.5 | 250 | 5.2 | 0.19 | 3.2 | 14 | 17 |
| | 3.0 | 300 | 5.2 | 0.21 | 3.6 | 16 | 18 |
| | 3.5 | 350 | 5.5 | 0.23 | 3.8 | 15 | 18 |
| | 4.0 | 400 | 5.5 | 0.25 | 4.1 | 16 | 19 |
| | 4.5 | 450 | 5.5 | 0.26 | 4.3 | 17 | 20 |
| 2.0 SR Black | 1.7 | 170 | 4.9 | 0.28 | 4.7 | 24 | 27 |
| | 2.0 | 200 | 5.2 | 0.31 | 5.2 | 23 | 27 |
| | 2.5 | 250 | 5.2 | 0.36 | 6.0 | 27 | 31 |
| | 3.0 | 300 | 5.2 | 0.41 | 6.9 | 31 | 35 |
| | 3.5 | 350 | 5.5 | 0.45 | 7.6 | 30 | 35 |
| | 4.0 | 400 | 5.5 | 0.49 | 8.2 | 33 | 38 |
| | 4.5 | 450 | 5.5 | 0.53 | 8.9 | 35 | 41 |
| 0.75 SR Black | 1.7 | 170 | 6.7 | 0.12 | 2.0 | 5 | 6 |
| | 2.0 | 200 | 7.0 | 0.13 | 2.2 | 5 | 6 |
| | 2.5 | 250 | 7.0 | 0.15 | 2.4 | 6 | 7 |
| | 3.0 | 300 | 7.3 | 0.16 | 2.7 | 6 | 7 |
| | 3.5 | 350 | 7.6 | 0.17 | 2.9 | 6 | 7 |
| | 4.0 | 400 | 7.6 | 0.19 | 3.1 | 6 | 7 |
| | 4.5 | 450 | 7.6 | 0.20 | 3.3 | 7 | 8 |
| 1.5 SR Black | 1.7 | 170 | 6.7 | 0.23 | 3.8 | 10 | 12 |
| | 2.0 | 200 | 7.0 | 0.25 | 4.1 | 10 | 12 |
| | 2.5 | 250 | 7.0 | 0.28 | 4.6 | 11 | 13 |
| | 3.0 | 300 | 7.3 | 0.31 | 5.2 | 12 | 13 |
| | 3.5 | 350 | 7.6 | 0.34 | 5.6 | 12 | 13 |
| | 4.0 | 400 | 7.6 | 0.36 | 6.0 | 12 | 14 |
| | 4.5 | 450 | 7.6 | 0.39 | 6.4 | 13 | 15 |
| 3.0 SR Black | 1.7 | 170 | 6.7 | 0.53 | 8.9 | 24 | 27 |
| | 2.0 | 200 | 7.0 | 0.56 | 9.3 | 23 | 26 |
| | 2.5 | 250 | 7.0 | 0.60 | 10.0 | 24 | 28 |
| | 3.0 | 300 | 7.3 | 0.64 | 10.7 | 24 | 28 |
| | 3.5 | 350 | 7.6 | 0.67 | 11.2 | 23 | 27 |
| | 4.0 | 400 | 7.6 | 0.70 | 11.7 | 24 | 28 |
| | 4.5 | 450 | 7.6 | 0.73 | 12.1 | 25 | 29 |

**Note:**
All precipitation rates are calculated for 180° operation. For the precipitation rate of a 360° sprinkler, divide by 2.

## PGP ULTRA / I-20 / PRB NOZZLES

Dk. Green
High-Flow
(P/N 444800)



Black Short-Radius
(P/N 466100)

## PGP ULTRA / I-20 / PRB MPR-25 NOZZLE PERFORMANCE DATA

| Nozzle | Pressure bar | Pressure kPa | Radius m | Flow m³/hr | Flow l/min | Precip mm/hr ■ | Precip mm/hr ▲ |
|---|---|---|---|---|---|---|---|
| 90° | 1.7 | 170 | 7.0 | 0.17 | 3.0 | 13.7 | 15.8 |
| | 2.4 | 240 | 7.3 | 0.20 | 3.6 | 14.9 | 17.3 |
| | 3.1 | 310 | 7.6 | 0.23 | 3.6 | 15.6 | 18.1 |
| | 3.8 | 380 | 7.6 | 0.25 | 4.2 | 17.4 | 20.1 |
| | 4.5 | 450 | 7.6 | 0.27 | 4.8 | 18.9 | 21.9 |
| 120° | 1.7 | 170 | 7.0 | 0.23 | 3.6 | 13.9 | 16.0 |
| | 2.4 | 240 | 7.3 | 0.27 | 4.8 | 15.4 | 17.8 |
| | 3.1 | 310 | 7.6 | 0.31 | 5.4 | 16.2 | 18.7 |
| | 3.8 | 380 | 7.6 | 0.35 | 6.0 | 18.0 | 20.7 |
| | 4.5 | 450 | 7.6 | 0.38 | 6.6 | 19.6 | 22.6 |
| 180° | 1.7 | 170 | 7.0 | 0.33 | 5.4 | 13.3 | 15.4 |
| | 2.4 | 240 | 7.3 | 0.39 | 6.6 | 14.7 | 17.0 |
| | 3.1 | 310 | 7.6 | 0.45 | 7.2 | 15.5 | 17.9 |
| | 3.8 | 380 | 7.6 | 0.50 | 8.4 | 17.3 | 20.0 |
| | 4.5 | 450 | 7.6 | 0.55 | 9.0 | 18.9 | 21.8 |
| 360° | 1.7 | 170 | 7.0 | 0.63 | 10.8 | 12.8 | 14.8 |
| | 2.4 | 240 | 7.3 | 0.76 | 12.6 | 14.2 | 16.4 |
| | 3.1 | 310 | 7.6 | 0.87 | 14.4 | 14.9 | 17.3 |
| | 3.8 | 380 | 7.6 | 0.97 | 16.2 | 16.6 | 19.2 |
| | 4.5 | 450 | 7.6 | 1.05 | 17.4 | 18.1 | 20.9 |

**MPR-25 NOZZLE**

## PGP ULTRA / I-20 / PRB MPR-35 NOZZLE PERFORMANCE DATA

| Nozzle | Pressure bar | Pressure kPa | Radius m | Flow m³/hr | Flow l/min | Precip mm/hr ■ | Precip mm/hr ▲ |
|---|---|---|---|---|---|---|---|
| 90° | 1.7 | 170 | 9.8 | 0.32 | 5.4 | 13.4 | 15.4 |
| | 2.4 | 240 | 10.4 | 0.38 | 6.6 | 14.1 | 16.3 |
| | 3.1 | 310 | 10.7 | 0.44 | 7.2 | 15.3 | 17.7 |
| | 3.8 | 380 | 10.7 | 0.48 | 7.8 | 17.0 | 19.6 |
| | 4.5 | 450 | 10.7 | 0.52 | 9.0 | 18.4 | 21.3 |
| 120° | 1.7 | 170 | 9.8 | 0.40 | 6.6 | 12.7 | 14.6 |
| | 2.4 | 240 | 10.4 | 0.49 | 8.4 | 13.6 | 15.8 |
| | 3.1 | 310 | 10.7 | 0.56 | 9.6 | 14.7 | 17.0 |
| | 3.8 | 380 | 10.7 | 0.62 | 10.2 | 16.4 | 18.9 |
| | 4.5 | 450 | 10.7 | 0.68 | 11.4 | 17.9 | 20.7 |
| 180° | 1.7 | 170 | 9.8 | 0.62 | 10.2 | 13.1 | 15.2 |
| | 2.4 | 240 | 10.4 | 0.76 | 12.6 | 14.1 | 16.3 |
| | 3.1 | 310 | 10.7 | 0.87 | 14.4 | 15.2 | 17.6 |
| | 3.8 | 380 | 10.7 | 0.96 | 16.2 | 16.9 | 19.5 |
| | 4.5 | 450 | 10.7 | 1.05 | 17.4 | 18.4 | 21.3 |
| 360° | 1.7 | 170 | 9.8 | 1.22 | 20.4 | 12.8 | 14.8 |
| | 2.4 | 240 | 10.4 | 1.50 | 25.2 | 14.0 | 16.2 |
| | 3.1 | 310 | 10.7 | 1.72 | 28.8 | 15.1 | 17.5 |
| | 3.8 | 380 | 10.7 | 1.91 | 31.8 | 16.8 | 19.4 |
| | 4.5 | 450 | 10.7 | 2.09 | 34.8 | 18.3 | 21.2 |

**MPR-35 NOZZLE**

## PGP ULTRA / I-20 / PRB MPR-30 NOZZLE PERFORMANCE DATA

| Nozzle | Pressure bar | Pressure kPa | Radius m | Flow m³/hr | Flow l/min | Precip mm/hr ■ | Precip mm/hr ▲ |
|---|---|---|---|---|---|---|---|
| 90° | 1.7 | 170 | 8.8 | 0.23 | 3.6 | 12.0 | 13.8 |
| | 2.4 | 240 | 9.1 | 0.28 | 4.8 | 13.4 | 15.4 |
| | 3.1 | 310 | 9.1 | 0.32 | 5.4 | 15.2 | 17.6 |
| | 3.8 | 380 | 9.1 | 0.35 | 6.0 | 17.0 | 19.6 |
| | 4.5 | 450 | 9.1 | 0.38 | 6.6 | 18.4 | 21.2 |
| 120° | 1.7 | 170 | 8.8 | 0.30 | 4.8 | 11.7 | 13.5 |
| | 2.4 | 240 | 9.1 | 0.37 | 6.0 | 13.2 | 15.2 |
| | 3.1 | 310 | 9.1 | 0.42 | 7.2 | 15.1 | 17.4 |
| | 3.8 | 380 | 9.1 | 0.47 | 7.8 | 16.8 | 19.4 |
| | 4.5 | 450 | 9.1 | 0.51 | 8.4 | 18.3 | 21.1 |
| 180° | 1.7 | 170 | 8.8 | 0.49 | 8.4 | 12.5 | 14.4 |
| | 2.4 | 240 | 9.1 | 0.59 | 9.6 | 14.1 | 16.2 |
| | 3.1 | 310 | 9.1 | 0.67 | 11.4 | 16.1 | 18.6 |
| | 3.8 | 380 | 9.1 | 0.75 | 12.6 | 17.9 | 20.7 |
| | 4.5 | 450 | 9.1 | 0.82 | 13.8 | 19.6 | 22.6 |
| 360° | 1.7 | 170 | 8.8 | 0.96 | 16.2 | 12.3 | 14.2 |
| | 2.4 | 240 | 9.1 | 1.15 | 19.2 | 13.8 | 15.9 |
| | 3.1 | 310 | 9.1 | 1.31 | 21.6 | 15.7 | 18.1 |
| | 3.8 | 380 | 9.1 | 1.45 | 24.0 | 17.4 | 20.0 |
| | 4.5 | 450 | 9.1 | 1.57 | 26.4 | 18.8 | 21.7 |

**MPR-30 NOZZLE**

PGP-04 Ultra Rotor with MPR-30 Nozzle

# I-25

*Radius:* **11.9 to 21.6 m**
*Flow:* **0.82 to 7.24 m³/hr; 13.6 to 120.2 l/min**

*The reliable, durable, and versatile I-25 Rotor offers an expansive nozzle selection that makes it the perfect choice for large turf applications.*

## KEY BENEFITS

- Patented automatic arc return feature returns the turret back to the original arc pattern if vandalised; adjustable arc from 50° to 360°
- Non-strippable drive mechanism is protected from damage if turned in the opposite direction of travel
- Part- and full-circle in one model for flexibility across landscapes and reduced inventory
- Colour-coded nozzles make identification easy
- Drain Check Valve prevents low-head drainage (up to 3 m of elevation)

## OPERATING SPECIFICATIONS

- Nozzle choices: 11
- Radius: 11.9 to 21.6 m
- Flow: 0.82 to 7.24 m³/hr; 13.6 to 120.2 l/min
- Recommended pressure range: 2.5 to 7.0 bar; 250 to 700 kPa
- Warranty period: 5 years
- Operating pressure range: 2.5 to 7.0 bar; 250 to 700 kPa
- Precipitation rate: 15 mm/hr approximately
- Nozzle trajectory: standard = 25°

## FACTORY-INSTALLED OPTIONS

- Reclaimed water ID
- High-speed rotation

## USER-INSTALLED OPTIONS

- HSJ-1 prefabricated 1" (25 mm) PVC Swing Joint

**I-25-04**
Overall height: 20 cm
Pop-up height: 10 cm
Exposed diameter: 5 cm
Inlet size: 1" (25 mm) BSP

**I-25-06**
Overall height: 26 cm
Pop-up height: 15 cm
Exposed diameter: 5 cm
Inlet size: 1" (25 mm) BSP

**I-25 Reclaimed**
*Available as a factory-installed option on all models*

**I-25 High-Speed**
*Available as a factory-installed option on all stainless steel models*

**I-25 (PLASTIC) - SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Nozzle Options |
|---|---|---|---|
| **I-25-04** = 10 cm pop-up<br>**I-25-06** = 15 cm pop-up | Adjustable arc, plastic riser, check valve, and 5 nozzles | **B** = BSP inlet threads<br>**R** = Reclaimed water ID | **4 to 28** = Factory-installed nozzle number |

**I-25 (STAINLESS STEEL) - SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Nozzle Options |
|---|---|---|---|
| **I-25-04-SS** = 10 cm pop-up<br>**I-25-06-SS** = 15 cm pop-up | Adjustable arc, stainless steel riser, check valve, and 5 nozzles | **B** = BSP inlet threads<br>**R** = Reclaimed water ID<br>**HS** = High-speed<br>**HS-R** = High-speed and reclaimed water ID | **4 to 28** = Factory-installed nozzle number |

**Examples:**
**I-25-04-B** = 10 cm pop-up, adjustable arc, BSP inlet threads
**I-25-04-SS-R-B-18** = 10 cm pop-up, adjustable arc, stainless steel riser, reclaimed water ID, and 18 nozzle, BSP inlet threads
**I-25-06-SS-B** = 15 cm pop-up, adjustable arc, stainless steel riser, BSP inlet threads

## I-25 STANDARD NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 4 Yellow | 2.5 | 250 | 11.9 | 0.82 | 13.6 | 12 | 13 |
| | 3.0 | 300 | 12.2 | 0.91 | 15.2 | 12 | 14 |
| | 3.5 | 350 | 12.5 | 0.98 | 16.4 | 13 | 15 |
| | 4.0 | 400 | 12.5 | 1.05 | 17.5 | 13 | 16 |
| | 4.5 | 450 | 12.8 | 1.11 | 18.6 | 14 | 16 |
| | 5.0 | 500 | 13.1 | 1.18 | 19.6 | 14 | 16 |
| | 5.5 | 550 | 13.4 | 1.24 | 20.7 | 14 | 16 |
| 7 Orange* | 2.5 | 250 | 13.4 | 1.44 | 24.0 | 16 | 19 |
| | 3.0 | 300 | 14.0 | 1.54 | 25.6 | 16 | 18 |
| | 3.5 | 350 | 14.3 | 1.61 | 26.9 | 16 | 18 |
| | 4.0 | 400 | 14.3 | 1.68 | 28.0 | 16 | 19 |
| | 4.5 | 450 | 14.6 | 1.75 | 29.1 | 16 | 19 |
| | 5.0 | 500 | 14.9 | 1.81 | 30.1 | 16 | 19 |
| | 5.5 | 550 | 15.2 | 1.87 | 31.1 | 16 | 19 |
| 8 Lt. Brown | 2.5 | 250 | 14.0 | 1.65 | 27.5 | 17 | 19 |
| | 3.0 | 300 | 14.3 | 1.81 | 30.1 | 18 | 20 |
| | 3.5 | 350 | 14.9 | 1.94 | 32.3 | 17 | 20 |
| | 4.0 | 400 | 15.2 | 2.05 | 34.2 | 18 | 20 |
| | 4.5 | 450 | 15.2 | 2.16 | 36.0 | 19 | 22 |
| | 5.0 | 500 | 15.5 | 2.27 | 37.8 | 19 | 22 |
| | 5.5 | 550 | 15.8 | 2.38 | 39.6 | 19 | 22 |
| 10 Lt. Green* | 3.0 | 300 | 15.2 | 2.15 | 35.8 | 18 | 21 |
| | 3.5 | 350 | 15.5 | 2.32 | 38.6 | 19 | 22 |
| | 4.0 | 400 | 15.8 | 2.48 | 41.3 | 20 | 23 |
| | 4.5 | 450 | 16.2 | 2.63 | 43.9 | 20 | 23 |
| | 5.0 | 500 | 16.2 | 2.78 | 46.3 | 21 | 25 |
| | 5.5 | 550 | 16.5 | 2.94 | 48.9 | 22 | 25 |
| | 6.0 | 600 | 16.8 | 3.07 | 51.1 | 22 | 25 |
| 13 Lt. Blue | 3.0 | 300 | 15.8 | 2.38 | 39.6 | 19 | 22 |
| | 3.5 | 350 | 16.2 | 2.57 | 42.8 | 20 | 23 |
| | 4.0 | 400 | 16.5 | 2.75 | 45.7 | 20 | 23 |
| | 4.5 | 450 | 16.5 | 2.91 | 48.5 | 21 | 25 |
| | 5.0 | 500 | 16.8 | 3.04 | 51.2 | 22 | 25 |
| | 5.5 | 550 | 16.8 | 3.24 | 54.0 | 23 | 27 |
| | 6.0 | 600 | 17.1 | 3.39 | 56.4 | 23 | 27 |
| 15 Grey* | 3.0 | 300 | 16.8 | 2.86 | 47.7 | 20 | 24 |
| | 3.5 | 350 | 17.1 | 3.05 | 50.8 | 21 | 24 |
| | 4.0 | 400 | 17.4 | 3.22 | 53.7 | 21 | 25 |
| | 4.5 | 450 | 17.4 | 3.38 | 56.3 | 22 | 26 |
| | 5.0 | 500 | 17.4 | 3.53 | 58.8 | 23 | 27 |
| | 5.5 | 550 | 17.7 | 3.69 | 61.5 | 24 | 27 |
| | 6.0 | 600 | 18.0 | 3.82 | 63.7 | 24 | 27 |
| | 6.2 | 620 | 18.3 | 3.88 | 64.6 | 23 | 27 |
| 18 Red | 3.0 | 300 | 17.4 | 30.8 | 51.4 | 20 | 24 |
| | 3.5 | 350 | 17.7 | 3.31 | 55.2 | 21 | 24 |
| | 4.0 | 400 | 18.0 | 3.52 | 58.7 | 22 | 25 |
| | 4.5 | 450 | 18.3 | 3.72 | 62.0 | 22 | 26 |
| | 5.0 | 500 | 18.9 | 3.91 | 65.2 | 22 | 25 |
| | 5.5 | 550 | 19.2 | 4.11 | 68.5 | 22 | 26 |
| | 6.0 | 600 | 19.5 | 4.28 | 71.4 | 23 | 26 |
| | 6.2 | 620 | 19.5 | 4.35 | 72.5 | 23 | 26 |
| 20 Dk. Brown* | 3.5 | 350 | 18.0 | 3.72 | 62.1 | 23 | 27 |
| | 4.0 | 400 | 18.6 | 3.97 | 66.2 | 23 | 27 |
| | 4.5 | 450 | 18.9 | 4.20 | 70.1 | 24 | 27 |
| | 5.0 | 500 | 19.2 | 4.42 | 73.7 | 24 | 28 |
| | 5.5 | 550 | 19.5 | 4.66 | 77.7 | 25 | 28 |
| | 6.0 | 600 | 19.8 | 4.86 | 81.0 | 25 | 29 |
| | 6.5 | 650 | 20.1 | 5.05 | 84.2 | 25 | 29 |
| | 6.9 | 690 | 20.4 | 5.21 | 86.8 | 25 | 29 |
| 23 Dk. Green | 3.5 | 350 | 18.6 | 4.56 | 76.0 | 26 | 30 |
| | 4.0 | 400 | 19.2 | 4.88 | 81.3 | 26 | 31 |
| | 4.5 | 450 | 19.5 | 5.18 | 86.3 | 27 | 31 |
| | 5.0 | 500 | 19.8 | 5.47 | 91.1 | 28 | 32 |
| | 5.5 | 550 | 20.1 | 5.78 | 96.3 | 29 | 33 |
| | 6.0 | 600 | 20.1 | 6.04 | 100.6 | 30 | 34 |
| | 6.5 | 650 | 20.4 | 6.29 | 104.8 | 30 | 35 |
| | 6.9 | 690 | 20.7 | 6.50 | 108.3 | 30 | 35 |
| 25 Dk. Blue* | 3.5 | 350 | 19.2 | 4.86 | 80.9 | 26 | 30 |
| | 4.0 | 400 | 19.8 | 5.23 | 87.1 | 27 | 31 |
| | 4.5 | 450 | 20.1 | 5.58 | 93.1 | 28 | 32 |
| | 5.0 | 500 | 20.4 | 5.92 | 98.7 | 28 | 33 |
| | 5.5 | 550 | 21.0 | 6.29 | 104.9 | 28 | 33 |
| | 6.0 | 600 | 21.0 | 6.60 | 110.0 | 30 | 34 |
| | 6.5 | 650 | 21.3 | 6.90 | 115.1 | 30 | 35 |
| | 6.9 | 690 | 21.6 | 7.15 | 119.2 | 31 | 35 |
| 28 Black | 3.5 | 350 | 18.3 | 5.31 | 88.5 | 32 | 37 |
| | 4.0 | 400 | 19.2 | 5.63 | 93.8 | 31 | 35 |
| | 4.5 | 450 | 20.1 | 5.93 | 98.8 | 29 | 34 |
| | 5.0 | 500 | 20.7 | 6.21 | 103.5 | 29 | 33 |
| | 5.5 | 550 | 21.3 | 6.52 | 108.6 | 29 | 33 |
| | 6.0 | 600 | 21.3 | 6.77 | 112.8 | 30 | 34 |
| | 6.5 | 650 | 21.6 | 7.01 | 116.9 | 30 | 35 |
| | 6.9 | 690 | 21.6 | 7.21 | 120.2 | 31 | 36 |

* Five standard nozzles included with each sprinkler.

**Note:**
All precipitation rates are calculated for 180° operation. For the precipitation rate of a 360° sprinkler, divide by 2.

## I-25 NOZZLE

Standard

## I-25 HIGH-SPEED NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 04 Yellow | 2.5 | 250 | 11.0 | 0.81 | 13.6 | 14 | 16 |
| | 3.0 | 300 | 11.3 | 0.91 | 15.1 | 14 | 16 |
| | 3.5 | 350 | 11.6 | 0.99 | 16.4 | 15 | 17 |
| | 4.0 | 400 | 11.6 | 1.06 | 17.6 | 16 | 18 |
| | 4.5 | 450 | 11.6 | 1.13 | 18.8 | 17 | 19 |
| | 5.0 | 500 | 11.9 | 1.19 | 19.9 | 17 | 19 |
| | 5.5 | 550 | 11.9 | 1.26 | 21.1 | 18 | 21 |
| 07 Orange* | 2.5 | 250 | 11.9 | 1.32 | 22.0 | 19 | 22 |
| | 3.0 | 300 | 12.2 | 1.46 | 24.3 | 20 | 23 |
| | 3.5 | 350 | 12.5 | 1.57 | 26.2 | 20 | 23 |
| | 4.0 | 400 | 12.8 | 1.68 | 27.9 | 20 | 24 |
| | 4.5 | 450 | 13.1 | 1.78 | 29.6 | 21 | 24 |
| | 5.0 | 500 | 13.4 | 1.87 | 31.1 | 21 | 24 |
| | 5.5 | 550 | 13.4 | 1.97 | 32.8 | 22 | 25 |
| 08 Lt. Brown | 2.5 | 250 | 12.5 | 1.54 | 25.7 | 20 | 23 |
| | 3.0 | 300 | 12.8 | 1.72 | 28.6 | 21 | 24 |
| | 3.5 | 350 | 13.1 | 1.86 | 31.0 | 22 | 25 |
| | 4.0 | 400 | 13.4 | 2.00 | 33.3 | 22 | 26 |
| | 4.5 | 450 | 13.4 | 2.13 | 35.4 | 24 | 27 |
| | 5.0 | 500 | 13.7 | 2.25 | 37.5 | 24 | 28 |
| | 5.5 | 550 | 13.7 | 2.38 | 39.7 | 25 | 29 |
| 10 Lt. Green* | 3.0 | 300 | 13.7 | 2.15 | 35.8 | 23 | 26 |
| | 3.5 | 350 | 14.0 | 2.32 | 38.6 | 24 | 27 |
| | 4.0 | 400 | 14.3 | 2.48 | 41.3 | 24 | 28 |
| | 4.5 | 450 | 14.6 | 2.63 | 43.9 | 25 | 28 |
| | 5.0 | 500 | 14.9 | 2.78 | 46.3 | 25 | 29 |
| | 5.5 | 550 | 15.2 | 2.94 | 48.9 | 25 | 29 |
| | 6.0 | 600 | 15.2 | 3.07 | 51.1 | 26 | 31 |
| 13 Lt. Blue | 3.0 | 300 | 14.3 | 2.38 | 39.6 | 23 | 27 |
| | 3.5 | 350 | 14.6 | 2.57 | 42.8 | 24 | 28 |
| | 4.0 | 400 | 14.9 | 2.75 | 45.7 | 25 | 28 |
| | 4.5 | 450 | 15.2 | 2.91 | 48.5 | 25 | 29 |
| | 5.0 | 500 | 15.5 | 3.07 | 51.2 | 25 | 29 |
| | 5.5 | 550 | 15.5 | 3.24 | 54.0 | 27 | 31 |
| | 6.0 | 600 | 15.5 | 3.39 | 56.4 | 28 | 32 |
| 15 Grey* | 3.0 | 300 | 14.6 | 2.86 | 47.7 | 27 | 31 |
| | 3.5 | 350 | 14.9 | 3.05 | 50.8 | 27 | 32 |
| | 4.0 | 400 | 15.2 | 3.22 | 53.7 | 28 | 32 |
| | 4.5 | 450 | 15.5 | 3.38 | 56.3 | 28 | 32 |
| | 5.0 | 500 | 16.2 | 3.53 | 58.8 | 27 | 31 |
| | 5.5 | 550 | 16.5 | 3.69 | 61.5 | 27 | 31 |
| | 6.0 | 600 | 16.5 | 3.82 | 63.7 | 28 | 33 |
| | 6.2 | 620 | 16.5 | 3.88 | 64.6 | 29 | 33 |
| 18 Red | 3.0 | 300 | 14.9 | 3.08 | 51.4 | 28 | 32 |
| | 3.5 | 350 | 15.2 | 3.31 | 55.2 | 29 | 33 |
| | 4.0 | 400 | 15.5 | 3.52 | 58.7 | 29 | 34 |
| | 4.5 | 450 | 16.2 | 3.72 | 62.0 | 29 | 33 |
| | 5.0 | 500 | 16.8 | 3.91 | 65.2 | 28 | 32 |
| | 5.5 | 550 | 17.4 | 4.11 | 68.5 | 27 | 31 |
| | 6.0 | 600 | 17.4 | 4.28 | 71.4 | 28 | 33 |
| | 6.2 | 620 | 17.4 | 4.35 | 72.5 | 29 | 33 |
| 20 Dk. Brown* | 3.5 | 350 | 15.5 | 3.72 | 62.1 | 31 | 36 |
| | 4.0 | 400 | 16.2 | 3.97 | 66.2 | 30 | 35 |
| | 4.5 | 450 | 16.5 | 4.20 | 70.1 | 31 | 36 |
| | 5.0 | 500 | 17.1 | 4.42 | 73.7 | 30 | 35 |
| | 5.5 | 550 | 17.7 | 4.66 | 77.7 | 30 | 34 |
| | 6.0 | 600 | 17.7 | 4.86 | 81.0 | 31 | 36 |
| | 6.5 | 650 | 18.0 | 5.05 | 84.2 | 31 | 36 |
| | 6.9 | 690 | 18.0 | 5.21 | 86.8 | 32 | 37 |
| 23 Dk. Green | 3.5 | 350 | 16.5 | 4.56 | 76.0 | 34 | 39 |
| | 4.0 | 400 | 17.1 | 4.88 | 81.3 | 33 | 39 |
| | 4.5 | 450 | 17.4 | 5.18 | 86.3 | 34 | 40 |
| | 5.0 | 500 | 17.7 | 5.47 | 91.1 | 35 | 40 |
| | 5.5 | 550 | 18.3 | 5.78 | 96.3 | 35 | 40 |
| | 6.0 | 600 | 18.3 | 6.04 | 100.6 | 36 | 42 |
| | 6.5 | 650 | 18.6 | 6.29 | 104.8 | 36 | 42 |
| | 6.9 | 690 | 18.6 | 6.50 | 108.3 | 38 | 43 |
| 25 Dk. Blue* | 3.5 | 350 | 17.1 | 4.86 | 80.9 | 33 | 38 |
| | 4.0 | 400 | 17.7 | 5.23 | 87.1 | 33 | 39 |
| | 4.5 | 450 | 18.3 | 5.58 | 93.1 | 33 | 39 |
| | 5.0 | 500 | 18.9 | 5.92 | 98.7 | 33 | 38 |
| | 5.5 | 550 | 19.5 | 6.29 | 104.9 | 33 | 38 |
| | 6.0 | 600 | 19.8 | 6.60 | 110.0 | 34 | 39 |
| | 6.5 | 650 | 20.1 | 6.90 | 115.1 | 34 | 39 |
| | 6.9 | 690 | 20.1 | 7.15 | 119.2 | 35 | 41 |
| 28 Black | 3.5 | 350 | 17.4 | 5.31 | 88.5 | 35 | 41 |
| | 4.0 | 400 | 17.7 | 5.63 | 93.8 | 36 | 42 |
| | 4.5 | 450 | 18.0 | 5.93 | 98.8 | 37 | 42 |
| | 5.0 | 500 | 18.3 | 6.21 | 103.5 | 37 | 43 |
| | 5.5 | 550 | 18.9 | 6.52 | 108.6 | 36 | 42 |
| | 6.0 | 600 | 19.5 | 6.77 | 112.8 | 36 | 41 |
| | 6.5 | 650 | 19.8 | 7.01 | 116.9 | 36 | 41 |
| | 6.9 | 690 | 20.4 | 7.21 | 120.2 | 35 | 40 |

* 5 standard nozzles included with each sprinkler.

**Notes:**
All precipitation rates are calculated for 180° operation. For the precipitation rate of a 360° sprinkler, divide by 2.

## I-25 NOZZLE

High-Speed

# I-40

*Radius:* **13.1 to 23.2 m**
*Flow:* **1.63 to 6.84 m³/hr; 27.2 to 114.1 l/min**

*The I-40 Rotor has a comprehensive list of upgraded features that make it the top choice for demanding, large turf projects.*



## KEY BENEFITS

- Patented automatic arc return feature returns the turret back to the original arc pattern if vandalised; adjustable arc from 50° to 360°
- Non-strippable drive mechanism is protected from damage if turned in the opposite direction of travel
- Part- and full-circle in one model for flexibility across landscapes and reduced inventory
- Colour-coded nozzles make identification easy
- Available opposing nozzle model for even watering in full-circle applications (I-40-ON model)
- Drain Check Valve prevents low-head drainage (up to 4.5 m of elevation)

**I-40-04**
Overall height: 20 cm
Pop-up height: 10 cm
Exposed diameter: 5 cm
Inlet size: 1" (25 mm) BSP

**I-40-06**
Overall height: 26 cm
Pop-up height: 15 cm
Exposed diameter: 5 cm
Inlet size: 1" (25 mm) BSP

## OPERATING SPECIFICATIONS

- Nozzle choices: 12
- Radius I-40: 13.1 to 21.3 m
- Radius I-40-ON: 15.2 to 23.2 m
- Flow I-40: 1.63 to 6.84 m³/hr; 27.2 to 114.1 l/min
- Flow I-40-ON: 2.75 to 7.76 m³/hr; 45.8 to 129.4 l/min
- Warranty period: 5 years
- Recommended pressure range: 2.5 to 7.0 bar; 250 to 700 kPa
- Operating pressure range: 2.5 to 7.0 bar; 250 to 700 kPa
- Precipitation rates: 15 mm/hr approximately
- Nozzle trajectory: standard = 25°

## FACTORY-INSTALLED OPTIONS

- Reclaimed water ID
- High-speed rotation

## USER-INSTALLED OPTIONS

- HSJ-1 prefabricated 1" (25 mm) PVC Swing Joint

**I-40 Reclaimed**
*Available as a factory-installed option on all models*

**I-40 High-Speed**
*Available as a factory-installed option on all models*

**I-40 – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Nozzle Options |
|---|---|---|---|
| **I-40-04-SS** = 10 cm pop-up<br>**I-40-06-SS** = 15 cm pop-up | Adjustable arc, stainless steel riser, check valve, and 6 nozzles | **B** = BSP inlet threads<br>**R** = Reclaimed water ID<br>**HS** = High-speed<br>**HS-R** = High-speed and reclaimed water ID | **8 to 25** = Factory-installed nozzle number |

**I-40-ON – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Nozzle Options |
|---|---|---|---|
| **I-40-04-SS-ON** = 10 cm pop-up<br>**I-40-06-SS-ON** = 15 cm pop-up | Full-circle, opposing nozzle, stainless steel riser, check valve, and 6 nozzles | **B** = BSP inlet threads<br>**R** = Reclaimed water ID<br>**ON** = Full-circle opposing nozzle<br>**ON-R** = Full circle opposing nozzles, reclaimed water ID | **15 to 28** = Factory-installed nozzle number |

**Examples:**
**I-40-04-SS-B** = 10 cm pop-up, BSP inlet threads
**I-40-04-SS-ON-R-B-23** = 10 cm pop-up, full-circle opposing nozzles, reclaimed water ID, 23 nozzle, BSP inlet threads
**I-40-06-SS-15-B** = 15 cm pop-up, 15 nozzle, BSP inlet threads

## I-40 STANDARD NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | $m^3$/hr | l/min | ■ | ▲ |
| 08 Lt. Brown | 2.5 | 250 | 13.1 | 1.63 | 27.2 | 19 | 22 |
| | 3.0 | 300 | 13.4 | 1.80 | 30.0 | 20 | 23 |
| | 3.5 | 350 | 13.7 | 1.94 | 32.3 | 21 | 24 |
| | 4.0 | 400 | 14.0 | 2.06 | 34.4 | 21 | 24 |
| | 4.5 | 450 | 14.0 | 2.18 | 36.3 | 22 | 26 |
| | 5.0 | 500 | 14.3 | 2.29 | 38.2 | 22 | 26 |
| | 5.5 | 550 | 14.6 | 2.41 | 40.2 | 23 | 26 |
| 10 Lt. Green | 3.0 | 300 | 14.6 | 2.20 | 36.6 | 21 | 24 |
| | 3.5 | 350 | 14.9 | 2.37 | 39.4 | 21 | 24 |
| | 4.0 | 400 | 15.2 | 2.52 | 42.0 | 22 | 25 |
| | 4.5 | 450 | 15.5 | 2.67 | 44.5 | 22 | 25 |
| | 5.0 | 500 | 15.5 | 2.81 | 46.8 | 23 | 27 |
| | 5.5 | 550 | 15.8 | 2.96 | 49.3 | 24 | 27 |
| | 6.0 | 600 | 16.2 | 3.08 | 51.4 | 24 | 27 |
| 13 Lt. Blue | 3.0 | 300 | 14.9 | 2.36 | 39.4 | 21 | 24 |
| | 3.5 | 350 | 15.2 | 2.55 | 42.6 | 22 | 25 |
| | 4.0 | 400 | 15.5 | 2.73 | 45.5 | 23 | 26 |
| | 4.5 | 450 | 15.5 | 2.90 | 48.3 | 24 | 28 |
| | 5.0 | 500 | 15.8 | 3.06 | 51.0 | 24 | 28 |
| | 5.5 | 550 | 16.2 | 3.23 | 53.9 | 25 | 29 |
| | 6.0 | 600 | 16.5 | 3.38 | 56.3 | 25 | 29 |
| 15 Grey | 3.0 | 300 | 16.2 | 2.93 | 48.8 | 22 | 26 |
| | 3.5 | 350 | 16.5 | 3.19 | 53.2 | 24 | 27 |
| | 4.0 | 400 | 16.8 | 3.44 | 57.3 | 24 | 28 |
| | 4.5 | 450 | 17.1 | 3.67 | 61.2 | 25 | 29 |
| | 5.0 | 500 | 17.4 | 3.89 | 64.9 | 26 | 30 |
| | 5.5 | 550 | 18.0 | 4.14 | 68.9 | 26 | 30 |
| | 6.0 | 600 | 18.3 | 4.34 | 72.4 | 26 | 30 |
| | 6.2 | 620 | 18.3 | 4.43 | 73.8 | 26 | 31 |
| 23 Dk. Green | 3.5 | 350 | 18.6 | 4.48 | 74.6 | 26 | 30 |
| | 4.0 | 400 | 18.9 | 4.76 | 79.4 | 27 | 31 |
| | 4.5 | 450 | 19.2 | 5.03 | 83.9 | 27 | 32 |
| | 5.0 | 500 | 19.5 | 5.29 | 88.1 | 28 | 32 |
| | 5.5 | 550 | 19.8 | 5.56 | 92.7 | 28 | 33 |
| | 6.0 | 600 | 20.1 | 5.79 | 96.5 | 29 | 33 |
| | 6.2 | 620 | 20.1 | 5.89 | 98.1 | 29 | 34 |
| | 6.5 | 650 | 20.1 | 6.01 | 100.2 | 30 | 34 |
| | 6.9 | 690 | 20.4 | 6.19 | 103.2 | 30 | 34 |
| 25 Dk. Blue | 3.5 | 350 | 19.8 | 4.98 | 83.0 | 25 | 29 |
| | 4.0 | 400 | 20.1 | 5.33 | 88.7 | 26 | 30 |
| | 4.5 | 450 | 20.4 | 5.65 | 94.2 | 27 | 31 |
| | 5.0 | 500 | 20.7 | 5.96 | 99.3 | 28 | 32 |
| | 5.5 | 550 | 21.0 | 6.29 | 104.9 | 28 | 33 |
| | 6.0 | 600 | 21.0 | 6.57 | 109.6 | 30 | 34 |
| | 6.2 | 620 | 21.0 | 6.69 | 111.5 | 30 | 35 |
| | 6.5 | 650 | 21.3 | 6.84 | 114.1 | 30 | 35 |
| | 6.9 | 690 | 21.3 | 7.07 | 117.8 | 31 | 36 |

## I-40 HIGH-SPEED NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | $m^3$/hr | l/min | ■ | ▲ |
| 08 Lt. Brown | 2.5 | 250 | 12.2 | 1.63 | 27.2 | 22 | 25 |
| | 3.0 | 300 | 12.5 | 1.80 | 30.0 | 23 | 27 |
| | 3.5 | 350 | 12.8 | 1.94 | 32.3 | 24 | 27 |
| | 4.0 | 400 | 12.8 | 2.06 | 34.4 | 25 | 29 |
| | 4.5 | 450 | 13.1 | 2.18 | 36.3 | 25 | 29 |
| | 5.0 | 500 | 13.4 | 2.29 | 38.2 | 25 | 29 |
| | 5.5 | 550 | 13.4 | 2.41 | 40.2 | 27 | 31 |
| 10 Lt. Green | 3.0 | 300 | 13.4 | 2.20 | 36.6 | 34 | 28 |
| | 3.5 | 350 | 13.7 | 2.37 | 39.4 | 25 | 29 |
| | 4.0 | 400 | 14.0 | 2.52 | 42.0 | 26 | 30 |
| | 4.5 | 450 | 14.0 | 2.67 | 44.5 | 27 | 31 |
| | 5.0 | 500 | 14.3 | 2.81 | 46.8 | 27 | 32 |
| | 5.5 | 550 | 14.6 | 2.96 | 49.3 | 28 | 32 |
| | 6.0 | 600 | 14.6 | 3.08 | 51.4 | 29 | 33 |
| 13 Lt. Blue | 3.0 | 300 | 13.7 | 2.36 | 39.4 | 25 | 29 |
| | 3.5 | 350 | 14.0 | 2.55 | 42.6 | 26 | 30 |
| | 4.0 | 400 | 14.3 | 2.73 | 45.5 | 27 | 31 |
| | 4.5 | 450 | 14.3 | 2.90 | 48.3 | 28 | 33 |
| | 5.0 | 500 | 14.6 | 3.06 | 51.0 | 29 | 33 |
| | 5.5 | 550 | 14.9 | 3.23 | 53.9 | 29 | 33 |
| | 6.0 | 600 | 14.9 | 3.38 | 56.3 | 30 | 35 |
| 15 Grey | 3.0 | 300 | 15.2 | 2.93 | 48.8 | 25 | 29 |
| | 3.5 | 350 | 15.5 | 3.19 | 53.2 | 26 | 30 |
| | 4.0 | 400 | 15.8 | 3.44 | 57.3 | 27 | 32 |
| | 4.5 | 450 | 15.8 | 3.67 | 61.2 | 29 | 34 |
| | 5.0 | 500 | 16.2 | 3.89 | 64.9 | 30 | 34 |
| | 5.5 | 550 | 16.5 | 4.14 | 68.9 | 31 | 35 |
| | 6.0 | 600 | 16.5 | 4.34 | 72.4 | 32 | 39 |
| | 6.2 | 620 | 16.5 | 4.43 | 73.8 | 33 | 38 |
| 23 Dk. Green | 3.5 | 350 | 16.8 | 4.48 | 74.6 | 32 | 37 |
| | 4.0 | 400 | 17.4 | 4.76 | 79.4 | 32 | 36 |
| | 4.5 | 450 | 17.7 | 5.03 | 83.9 | 32 | 37 |
| | 5.0 | 500 | 17.7 | 5.29 | 88.1 | 34 | 39 |
| | 5.5 | 550 | 18.0 | 5.56 | 92.7 | 34 | 40 |
| | 6.0 | 600 | 18.3 | 5.79 | 96.5 | 35 | 40 |
| | 6.2 | 620 | 18.6 | 5.89 | 98.1 | 34 | 39 |
| | 6.5 | 650 | 18.6 | 6.01 | 100.2 | 35 | 40 |
| | 6.9 | 690 | 18.6 | 6.19 | 103.2 | 36 | 41 |
| 25 Dk. Blue | 3.5 | 350 | 17.4 | 4.98 | 83.0 | 33 | 38 |
| | 4.0 | 400 | 18.0 | 5.33 | 88.7 | 33 | 38 |
| | 4.5 | 450 | 18.3 | 5.65 | 94.2 | 34 | 39 |
| | 5.0 | 500 | 18.6 | 5.96 | 99.3 | 34 | 40 |
| | 5.5 | 550 | 18.9 | 6.29 | 104.9 | 35 | 41 |
| | 6.0 | 600 | 19.2 | 6.57 | 109.6 | 36 | 41 |
| | 6.2 | 620 | 19.5 | 6.69 | 111.5 | 35 | 41 |
| | 6.5 | 650 | 19.5 | 6.84 | 114.1 | 36 | 42 |
| | 6.9 | 690 | 19.5 | 7.07 | 117.8 | 37 | 43 |

**Note:**
All precipitation rates are calculated for 180° operation. For the precipitation rate of a 360° sprinkler, divide by 2.

## I-40 NOZZLES

Standard/
High-Speed

## I-40 DUAL OPPOSING NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 15 ● Grey | 3.0 | 300 | 15.2 | 2.75 | 45.8 | 12 | 14 |
| | 3.5 | 350 | 15.8 | 2.91 | 48.5 | 12 | 13 |
| | 4.0 | 400 | 16.2 | 3.06 | 51.0 | 12 | 14 |
| | 4.5 | 450 | 16.8 | 3.20 | 53.3 | 11 | 13 |
| | 5.0 | 500 | 17.1 | 3.32 | 55.4 | 11 | 13 |
| | 5.5 | 550 | 17.4 | 3.46 | 57.7 | 11 | 13 |
| | 6.0 | 600 | 17.7 | 3.58 | 59.6 | 11 | 13 |
| | 6.2 | 620 | 17.7 | 3.62 | 60.4 | 12 | 13 |
| 18 ● Red | 3.0 | 300 | 17.4 | 2.90 | 48.3 | 10 | 11 |
| | 3.5 | 350 | 17.7 | 3.15 | 52.5 | 10 | 12 |
| | 4.0 | 400 | 18.0 | 3.38 | 56.4 | 10 | 12 |
| | 4.5 | 450 | 18.0 | 3.61 | 60.1 | 11 | 13 |
| | 5.0 | 500 | 18.3 | 3.82 | 63.7 | 11 | 13 |
| | 5.5 | 550 | 18.9 | 4.05 | 67.5 | 11 | 13 |
| | 6.0 | 600 | 19.2 | 4.25 | 70.8 | 12 | 13 |
| | 6.2 | 620 | 19.2 | 4.33 | 72.1 | 12 | 14 |
| | 6.5 | 650 | 19.5 | 4.43 | 73.9 | 12 | 13 |
| 20 ● Dk. Brown | 3.5 | 350 | 18.3 | 3.98 | 66.2 | 12 | 14 |
| | 4.0 | 400 | 18.9 | 4.26 | 71.1 | 12 | 14 |
| | 4.5 | 450 | 19.2 | 4.54 | 75.6 | 12 | 14 |
| | 5.0 | 500 | 19.5 | 4.80 | 80.0 | 13 | 15 |
| | 5.5 | 550 | 20.1 | 5.08 | 84.7 | 13 | 15 |
| | 6.0 | 600 | 19.8 | 5.32 | 88.7 | 14 | 16 |
| | 6.2 | 620 | 19.8 | 5.42 | 90.4 | 14 | 16 |
| | 6.5 | 650 | 20.1 | 5.55 | 92.5 | 14 | 16 |
| | 6.9 | 690 | 20.1 | 5.74 | 95.7 | 14 | 16 |
| 23 ● Dk. Green | 3.5 | 350 | 18.9 | 4.23 | 70.6 | 12 | 14 |
| | 4.0 | 400 | 19.5 | 4.55 | 75.8 | 12 | 14 |
| | 4.5 | 450 | 19.8 | 4.85 | 80.8 | 12 | 14 |
| | 5.0 | 500 | 20.1 | 5.14 | 85.6 | 13 | 15 |
| | 5.5 | 550 | 20.4 | 5.45 | 90.8 | 13 | 15 |
| | 6.0 | 600 | 20.7 | 5.71 | 95.1 | 13 | 15 |
| | 6.2 | 620 | 20.7 | 5.82 | 97.0 | 14 | 16 |
| | 6.5 | 650 | 20.7 | 5.96 | 99.4 | 14 | 16 |
| | 6.9 | 690 | 21.0 | 6.17 | 102.9 | 14 | 16 |
| 25 ● Dk. Blue | 3.5 | 350 | 19.5 | 4.60 | 76.7 | 12 | 14 |
| | 4.0 | 400 | 20.1 | 4.92 | 82.1 | 12 | 14 |
| | 4.5 | 450 | 20.4 | 5.23 | 87.2 | 13 | 14 |
| | 5.0 | 500 | 20.7 | 5.52 | 92.0 | 13 | 15 |
| | 5.5 | 550 | 21.0 | 5.84 | 97.3 | 13 | 15 |
| | 6.0 | 600 | 21.3 | 6.10 | 101.7 | 13 | 15 |
| | 6.2 | 620 | 21.3 | 6.22 | 103.6 | 14 | 16 |
| | 6.5 | 650 | 21.3 | 6.36 | 106.0 | 14 | 16 |
| | 6.9 | 690 | 21.6 | 6.57 | 109.5 | 14 | 16 |
| 28 ● Black | 3.5 | 350 | 19.8 | 5.73 | 95.5 | 15 | 17 |
| | 4.0 | 400 | 20.4 | 6.07 | 101.1 | 15 | 17 |
| | 4.5 | 450 | 21.0 | 6.38 | 106.4 | 14 | 17 |
| | 5.0 | 500 | 21.3 | 6.68 | 111.3 | 15 | 17 |
| | 5.5 | 550 | 21.9 | 7.00 | 116.7 | 15 | 17 |
| | 6.0 | 600 | 22.3 | 7.27 | 121.1 | 15 | 17 |
| | 6.2 | 620 | 22.3 | 7.38 | 122.9 | 15 | 17 |
| | 6.5 | 650 | 22.6 | 7.52 | 125.3 | 15 | 17 |
| | 6.9 | 690 | 23.2 | 7.73 | 128.8 | 14 | 17 |

**Note:**
Precipitation rates for the ON-Opposing Nozzles models are calculated at 360°.

## I-40 NOZZLES

Opposing

Front Back

**I-40 Turf Cup Kit Option**
Available as a field-installed option on all models
P/N TURFCUPKITI40

**I-40 Opposing Nozzle 360° Model**

# I-80

*Radius:* **19.2 to 29.6 m**
*Flow:* **4.59 to 13.5 m³/hr; 76.5 to 225.6 l/min**

*The highly versatile and efficient I-80 Rotor is the first commercial sports turf rotor with no-dig Total-Top-Serviceability.*

## KEY BENEFITS

- Exclusive Total-Top-Service (TTS) design provides convenient no-dig servicing
- PressurePort™ Technology and forward-facing triple nozzles (I-80) or opposing triple nozzles (I-80-ON) create exceptional nozzle uniformity in part- and full-circle applications
- Tool-free, part- and full-circle arc adjustment mechanism makes fast, easy installation and reduces inventory (70° to 360°)
- Ratcheting stainless steel riser allows setting of right-side fixed arc alignment to the landscape without rotor disassembly

## OPERATING SPECIFICATIONS

- I-80
  - Nozzle choices: 7 standard
  - Radius: 19.8 to 28.7 m
  - Flow: 4.6 to 13.5 m³/hr; 76.5 to 225.6 l/min
- I-80-ON
  - Nozzle choices: 7 standard
  - Radius: 19.2 to 29.6 m
  - Flow: 4.9 to 13.3 m³/hr; 81.8 to 221.4 l/min
- All I-80 Rotors are pressure-rated at 10 bar; 1,000 kPa
- Recommended pressure range: 3.4 to 6.9 bar; 340 to 690 kPa
- Operating pressure range: 2.7 to 10.3 bar; 275 to 1,030 kPa
- Precipitation rates: 10 mm/hr approximately
- Warranty period: 5 years
- QuickCheck™ Arc Mechanism (I-80) for fast arc adjustment and review of the arc setting
- Drain Check Valve prevents low-head drainage (up to 5' of elevation)

## FACTORY-INSTALLED OPTIONS

- Exclusive Turf Cup option for an aesthetically clean and safe installation
  - No-dig servicing of riser assembly
  - No-dig arc adjustments
  - Quick-release turf cup assembly
  - Threads in cup lock/retain the turf

## USER-INSTALLED OPTIONS

- Rubber Cover Kit P/N: 959300SP
- Turf Cup Kit P/N: 959400SP
- HSJ prefabricated PVC Swing Joints
- Reclaimed water ID 450105


**I-80-04-SS Pop-Up**
**I-80-04-SS-ON Pop-Up**
Overall height: 25 cm
Pop-up height: 9.5 cm
Exposed diameter: 11 cm
Inlet size: 1½" (40 mm)


**I-80-04-SS-TC Turf Cup**
**I-80-04-SS-ON-TC Turf Cup**
Overall height: 29 cm
Pop-up height: 9.5 cm
Exposed diameter: 8.9 cm
Inlet size: 1½" (40 mm)

**I-80 Turf Cup Kit**
P/N 959400SP

**I-80 Rubber Cover Kit**
P/N 959300SP

## I-80 – SPECIFICATION BUILDER: ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Nozzle Options |
|---|---|---|
| **I-80-04-SS-B** = 10 cm pop-up | Adjustable arc, stainless steel riser, check valve, with BSP inlet threads, and 15 nozzle options | **23 to 53** = Factory-installed nozzle number, no nozzle pack |
| **I-80-04-SS-TC-B** = 10 cm pop-up with turf cup | Adjustable arc, stainless steel riser, check valve, factory-installed turf cup, with BSP inlet threads, and 15 nozzle options | |
| **I-80-04-SS-ON-B** = 10 cm pop-up | Full-circle, opposing nozzle, stainless steel riser, check valve, with BSP inlet threads, and 15 nozzle options | **23 to 53** = Factory-installed nozzle number, no nozzle pack |
| **I-80-04-SS-ON-TC-B** = 10 cm pop-up with turf cup | Full-circle, opposing nozzle, stainless steel riser, check valve, factory-installed turf cup, with BSP inlet threads, and 15 nozzle options | |

**Examples:**
**I-80-04-SS-B-25** = 10 cm pop-up, adjustable arc, stainless steel riser, check valve, BSP inlet threads, and factory-installed 25 nozzle
**I-80-04-SS-ON-B-38** = 10 cm pop-up, stainless steel riser, check valve, opposing nozzle full-circle, BSP inlet threads, and factory-installed 38 nozzle
**I-80-04-SS-ON-TC-B-48** = 10 cm pop-up, stainless steel riser, check valve, opposing nozzle full-circle, factory-installed turf cup, BSP inlet threads, and factory-installed 48 nozzle

## I-80 NOZZLE PERFORMANCE DATA

| Nozzle Set | | | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|---|---|
| | | | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| Orange | 23 Green | Lt. Green | 3.4 | 344 | 19.8 | 4.59 | 76.5 | 11.7 | 13.5 |
| 803603 | | 315313 | 4.1 | 413 | 20.1 | 5.02 | 83.7 | 12.4 | 14.3 |
| | | | 4.5 | 450 | 20.4 | 5.43 | 90.5 | 13.0 | 15.0 |
| | | | 4.8 | 482 | 20.4 | 5.50 | 91.6 | 13.2 | 15.2 |
| ● | | ● | 5.5 | 551 | 21.0 | 5.88 | 98.0 | 13.3 | 15.4 |
| Orange | 25 Blue | Lt. Green | 4.5 | 450 | 21.6 | 6.43 | 107.1 | 13.7 | 15.8 |
| 803603 | | 315313 | 4.8 | 482 | 21.9 | 6.66 | 110.9 | 13.8 | 16.0 |
| | | | 5.5 | 551 | 22.3 | 7.16 | 119.2 | 14.5 | 16.7 |
| | | | 6.2 | 620 | 22.6 | 7.59 | 126.4 | 14.9 | 17.2 |
| ● | | ● | 6.9 | 689 | 22.9 | 8.04 | 134.0 | 15.4 | 17.8 |
| Orange | 33 Grey | Lt. Green | 4.5 | 450 | 21.9 | 6.95 | 115.8 | 14.4 | 16.7 |
| 803603 | | 315313 | 4.8 | 482 | 22.3 | 7.18 | 119.6 | 14.5 | 16.7 |
| | | | 5.5 | 551 | 22.9 | 7.70 | 128.3 | 14.7 | 17.0 |
| | | | 6.2 | 620 | 23.5 | 8.13 | 135.5 | 14.8 | 17.0 |
| ● | | ● | 6.9 | 689 | 24.1 | 8.61 | 143.5 | 14.8 | 17.1 |
| Orange | 38 Red | Lt. Green | 4.5 | 450 | 23.2 | 7.93 | 132.1 | 14.8 | 17.1 |
| 803603 | | 315313 | 4.8 | 482 | 23.8 | 8.22 | 137.0 | 14.5 | 16.8 |
| | | | 5.5 | 551 | 24.4 | 8.88 | 148.0 | 14.9 | 17.2 |
| | | | 6.2 | 620 | 25.0 | 9.36 | 156.0 | 15.0 | 17.3 |
| ● | | ● | 6.9 | 689 | 25.6 | 9.88 | 164.7 | 15.1 | 17.4 |
| Orange | 43 Dk. Brown | Lt. Green | - | - | - | - | - | - | - |
| 803603 | | 315313 | 4.8 | 482 | 24.7 | 9.36 | 156.0 | 15.4 | 17.7 |
| | | | 5.5 | 551 | 25.3 | 9.88 | 164.7 | 15.4 | 17.8 |
| | | | 6.2 | 620 | 26.2 | 10.49 | 174.9 | 15.3 | 17.6 |
| ● | | ● | 6.9 | 689 | 27.1 | 11.06 | 184.3 | 15.0 | 17.4 |
| Orange | 48 Dk. Green | Lt. Green | - | - | - | - | - | - | - |
| 803603 | | 315313 | 4.8 | 482 | 25.3 | 10.52 | 175.3 | 16.4 | 19.0 |
| | | | 5.5 | 551 | 25.9 | 10.99 | 183.2 | 16.4 | 18.9 |
| | | | 6.2 | 620 | 27.1 | 11.74 | 195.7 | 16.0 | 18.4 |
| ● | | ● | 6.9 | 689 | 27.7 | 12.38 | 206.3 | 16.1 | 18.6 |
| Orange | 53 Dk. Blue | Lt. Green | - | - | - | - | - | - | - |
| 803603 | | 315313 | 4.8 | 482 | 26.5 | 11.52 | 191.9 | 16.4 | 18.9 |
| | | | 5.5 | 551 | 27.1 | 12.06 | 201.0 | 16.4 | 18.9 |
| | | | 6.2 | 620 | 28.0 | 12.81 | 213.5 | 16.3 | 18.8 |
| ● | | ● | 6.9 | 689 | 28.7 | 13.54 | 225.6 | 16.5 | 19.0 |

● = Nozzle Plug P/N 315300 installed in the back side of the nozzle housing.

* Complies to ASAE standard. All precipitation rates calculated for 360° operation. All triangular rates are equilateral.

## I-80-ON NOZZLE PERFORMANCE DATA*

| Nozzle Set | | | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|---|---|
| | | | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| ● | | ● | 3.4 | 344 | 19.2 | 4.91 | 81.8 | 13.3 | 15.4 |
| Tan | 23 Green | Lt. Blue | 4.1 | 413 | 19.8 | 5.22 | 87.1 | 13.3 | 15.4 |
| | | | 4.5 | 450 | 20.1 | 5.45 | 90.8 | 13.5 | 15.6 |
| | | | 4.8 | 482 | 20.4 | 5.66 | 94.3 | 13.6 | 15.7 |
| 803611 | | 315311 | 5.5 | 551 | 20.7 | 6.04 | 100.7 | 14.1 | 16.2 |
| ● | | ● | 4.5 | 450 | 21.6 | 6.50 | 108.3 | 13.9 | 16.0 |
| Tan | 25 Blue | Lt. Blue | 4.8 | 482 | 22.3 | 6.75 | 112.5 | 13.6 | 15.7 |
| | | | 5.5 | 551 | 22.6 | 7.19 | 119.8 | 14.1 | 16.3 |
| | | | 6.2 | 620 | 22.9 | 7.65 | 127.5 | 14.6 | 16.9 |
| 803611 | | 315311 | 6.9 | 689 | 23.5 | 8.12 | 135.3 | 14.7 | 17.0 |
| ● | | ● | 4.5 | 450 | 22.6 | 7.02 | 117.0 | 13.8 | 15.9 |
| Tan | 33 Grey | Lt. Blue | 4.8 | 482 | 22.9 | 7.27 | 121.1 | 13.9 | 16.1 |
| | | | 5.5 | 551 | 23.5 | 7.77 | 129.5 | 14.1 | 16.3 |
| | | | 6.2 | 620 | 24.1 | 8.22 | 137.0 | 14.2 | 16.4 |
| 803611 | | 315311 | 6.9 | 689 | 24.7 | 8.68 | 144.6 | 14.2 | 16.4 |
| ● | | ● | 4.5 | 450 | 23.5 | 7.97 | 132.9 | 14.5 | 16.7 |
| Tan | 38 Red | Lt. Blue | 4.8 | 482 | 24.1 | 8.31 | 138.5 | 14.3 | 16.6 |
| | | | 5.5 | 551 | 25.0 | 8.84 | 147.3 | 14.1 | 16.3 |
| | | | 6.2 | 620 | 25.6 | 9.38 | 156.3 | 14.3 | 16.5 |
| 803611 | | 315311 | 6.9 | 689 | 26.5 | 9.90 | 165.0 | 14.1 | 16.3 |
| ● | | ● | - | - | - | - | - | - | - |
| Tan | 43 Dk. Brown | Lt. Blue | 4.8 | 482 | 25.3 | 9.38 | 156.3 | 14.7 | 16.9 |
| | | | 5.5 | 551 | 25.9 | 9.90 | 165.0 | 14.8 | 17.0 |
| | | | 6.2 | 620 | 26.5 | 10.52 | 175.3 | 15.0 | 17.3 |
| 803611 | | 315311 | 6.9 | 689 | 27.1 | 11.09 | 184.7 | 15.1 | 17.4 |
| ● | | ● | - | - | - | - | - | - | - |
| Tan | 48 Dk. Green | Lt. Blue | 4.8 | 482 | 27.4 | 10.65 | 177.5 | 14.2 | 16.3 |
| | | | 5.5 | 551 | 28.0 | 11.11 | 185.1 | 14.1 | 16.3 |
| | | | 6.2 | 620 | 28.7 | 11.46 | 191.0 | 14.0 | 16.1 |
| 803611 | | 315311 | 6.9 | 689 | 29.3 | 12.15 | 202.5 | 14.2 | 16.4 |
| ● | | ● | - | - | - | - | - | - | - |
| Tan | 53 Dk. Blue | Lt. Blue | 4.8 | 482 | 27.7 | 11.31 | 188.5 | 14.7 | 17.0 |
| | | | 5.5 | 551 | 28.3 | 11.86 | 197.7 | 14.8 | 17.0 |
| | | | 6.2 | 620 | 29.0 | 12.61 | 210.1 | 15.0 | 17.4 |
| 803611 | | 315311 | 6.9 | 689 | 29.6 | 13.29 | 221.4 | 15.2 | 17.6 |

## I-80 NOZZLES

# I-90

*Radius:* **22.3 to 31.4 m**
*Flow:* **6.7 to 19.04 m³/hr; 111.7 to 317.2 l/min**

*The robust I-90 Rotor is built for long-distance natural turf applications in large parks, open spaces, and sports fields.*

## KEY BENEFITS

- PressurePort™ Technology, forward-facing triple nozzles (I-90), opposing triple nozzles (I-90-ON) create exceptional nozzle uniformity in part- and full-circle applications
- Part- and full-circle in one model provides flexible installation options and reduces inventory (I-90)
- Drain Check Valve prevents low-head drainage (up to 2 m of elevation)

## OPERATING SPECIFICATIONS

- I-90 nozzle choices: 8
- Radius I-90 ADV: 20.1 to 29.6 m
- Radius I-90 36V: 22.3 to 31.4 m
- Flow I-90 ADV: 6.7 to 19.04 m³/hr; 111.7
- Flow I-90 36V: 6.93 to 18.92 m³/hr; 115.5 to 315.3 l/min
- Recommended pressure range: 5.5 to 8.3 bar; 550 to 830 kPa
- Operating pressure range: 5.5 to 8.3 bar; 550 to 830 kPa
- Precipitation rate: 19 mm/hr approximately
- Warranty period: 5 years

## FACTORY-INSTALLED OPTIONS

- Reclaimed water ID

## USER-INSTALLED OPTIONS

- Rubber Cover Kit P/N: 234200
- Turf Cup Kit P/N: 467955
- Prefabricated PVC 1½" (40 mm) HSJ Swing Joints

**I-90**
Overall height:
ADV/36V: 28 cm
Pop-up height: 8 cm
Exposed diameter: 9 cm
Inlet size: 1½" (40 mm) BSP

**Turf Cup Kit**
P/N 467955

**I-90 Reclaimed**
*Available as a factory-installed option on all models*

**Rubber Cover Kits**
P/N 234200

**I-90 – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Nozzle Options |
|---|---|---|---|
| **I-90** = 8 cm pop-up | Plastic riser, check valve, and 8 nozzles | **ADV-B** = Adjustable arc, with BSP inlet threads<br>**ARV-B** = Adjustable arc and reclaimed water ID, with BSP inlet threads<br>**36V-B** = Full-circle, opposing nozzles, with BSP inlet threads<br>**3RV-B** = Full-circle, opposing nozzles and reclaimed water ID, with BSP inlet threads | **25 to 73** = Factory-installed nozzle number |

**Examples:**
**I-90-ADV-B** = 8 cm pop-up, adjustable arc, with BSP inlet threads
**I-90-36V-B-43** = 8 cm pop-up, full-circle, opposing nozzles, with BSP inlet threads, and 43 nozzle
**I-90-3RV-B-63** = 8 cm pop-up, full-circle, opposing nozzles, reclaimed water ID, with BSP inlet threads, and 63 nozzle

## I-90-ADV NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | $m^3$/hr | l/min | ■ | ▲ |
| 25 Lt. Blue | 5.5 | 550 | 20.1 | 6.70 | 111.7 | 33.1 | 38.2 |
| | 6.0 | 600 | 20.4 | 7.16 | 119.2 | 34.3 | 39.6 |
| | 7.0 | 700 | 20.7 | 7.54 | 125.7 | 35.1 | 40.5 |
| | 7.5 | 750 | 21.0 | 8.09 | 134.8 | 36.6 | 42.2 |
| 33 Grey | 5.5 | 550 | 20.7 | 8.22 | 137.0 | 38.3 | 44.2 |
| | 6.0 | 600 | 21.0 | 8.68 | 144.6 | 39.2 | 45.3 |
| | 7.0 | 700 | 21.3 | 9.18 | 152.9 | 40.3 | 46.6 |
| | 7.5 | 750 | 21.6 | 9.68 | 161.3 | 41.3 | 47.7 |
| 38 Red | 5.5 | 550 | 21.9 | 9.22 | 153.7 | 38.3 | 44.2 |
| | 6.0 | 600 | 22.3 | 9.77 | 162.8 | 39.5 | 45.6 |
| | 7.0 | 700 | 22.9 | 10.31 | 171.9 | 39.5 | 45.6 |
| | 7.5 | 750 | 23.2 | 10.81 | 180.2 | 40.3 | 46.5 |
| 43 Dk. Brown | 5.5 | 550 | 22.6 | 10.47 | 174.5 | 41.2 | 47.5 |
| | 6.0 | 600 | 22.6 | 11.02 | 183.6 | 43.3 | 50.0 |
| | 7.0 | 700 | 22.9 | 11.52 | 191.9 | 44.1 | 50.9 |
| | 7.5 | 750 | 23.5 | 12.13 | 202.1 | 44.0 | 50.9 |
| 48 Dk. Green | 5.5 | 550 | 23.5 | 11.40 | 190.0 | 41.4 | 47.8 |
| | 6.0 | 600 | 24.1 | 11.95 | 199.1 | 41.2 | 47.6 |
| | 7.0 | 700 | 24.7 | 12.52 | 208.6 | 41.1 | 47.4 |
| | 7.5 | 750 | 25.0 | 13.06 | 217.7 | 41.8 | 48.3 |
| 53 Dk. Blue* | 5.5 | 550 | 24.7 | 12.47 | 207.8 | 40.9 | 47.2 |
| | 6.0 | 600 | 25.6 | 12.99 | 216.5 | 39.6 | 45.8 |
| | 7.0 | 700 | 26.2 | 13.52 | 225.2 | 39.3 | 45.4 |
| | 7.5 | 750 | 26.5 | 14.11 | 235.1 | 40.1 | 46.3 |
| | 8.0 | 800 | 26.8 | 14.63 | 243.8 | 40.7 | 47.0 |
| 63 Black | 5.5 | 550 | 26.2 | 14.15 | 235.8 | 41.2 | 47.6 |
| | 6.0 | 600 | 26.8 | 14.88 | 247.9 | 41.4 | 47.8 |
| | 7.0 | 700 | 27.4 | 15.67 | 261.2 | 41.7 | 48.1 |
| | 7.5 | 750 | 27.7 | 16.33 | 272.2 | 42.5 | 49.0 |
| | 8.0 | 800 | 28.0 | 16.97 | 282.8 | 43.2 | 49.8 |
| 73 Orange | 5.5 | 550 | 27.1 | 16.51 | 275.2 | 44.9 | 51.8 |
| | 6.0 | 600 | 27.7 | 17.13 | 285.4 | 44.5 | 51.4 |
| | 7.0 | 700 | 28.3 | 17.74 | 295.6 | 44.2 | 51.0 |
| | 7.5 | 750 | 29.0 | 18.38 | 306.2 | 43.8 | 50.6 |
| | 8.0 | 800 | 29.6 | 19.04 | 317.2 | 43.5 | 50.3 |

* Factory-installed nozzle

**Notes:**

Precipitation rates for ADV models are calculated for 180° operation. Precipitation rates for 36V models are calculated for 360° operation. All triangular rates are equilateral. Complies to ASAE standard.

## I-90-36V NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | $m^3$/hr | l/min | ■ | ▲ |
| 25 Lt. Blue | 5.5 | 550 | 22.3 | 6.93 | 115.5 | 14.0 | 16.2 |
| | 6.0 | 600 | 22.9 | 7.36 | 122.6 | 14.1 | 16.3 |
| | 7.0 | 700 | 23.2 | 7.79 | 129.8 | 14.5 | 16.8 |
| | 7.5 | 750 | 23.8 | 8.29 | 138.2 | 14.7 | 16.9 |
| 33 Grey | 5.5 | 550 | 23.5 | 8.25 | 137.4 | 15.0 | 17.3 |
| | 6.0 | 600 | 23.8 | 8.72 | 145.4 | 15.4 | 17.8 |
| | 7.0 | 700 | 24.4 | 9.22 | 153.7 | 15.5 | 17.9 |
| | 7.5 | 750 | 24.7 | 9.70 | 161.6 | 15.9 | 18.4 |
| 38 Red | 5.5 | 550 | 24.4 | 9.22 | 153.7 | 15.5 | 17.9 |
| | 6.0 | 600 | 25.0 | 9.75 | 162.4 | 15.6 | 18.0 |
| | 7.0 | 700 | 25.3 | 10.29 | 171.5 | 16.1 | 18.6 |
| | 7.5 | 750 | 25.9 | 10.84 | 180.6 | 16.1 | 18.6 |
| 43 Dk. Brown | 5.5 | 550 | 25.3 | 10.49 | 174.9 | 16.4 | 18.9 |
| | 6.0 | 600 | 25.6 | 11.04 | 184.0 | 16.8 | 19.4 |
| | 7.0 | 700 | 25.9 | 11.56 | 192.7 | 17.2 | 19.9 |
| | 7.5 | 750 | 26.2 | 12.13 | 202.1 | 17.7 | 20.4 |
| 48 Dk. Green | 5.5 | 550 | 26.2 | 11.27 | 187.8 | 16.4 | 18.9 |
| | 6.0 | 600 | 27.1 | 11.93 | 198.7 | 16.2 | 18.7 |
| | 7.0 | 700 | 27.4 | 12.45 | 207.4 | 16.5 | 19.1 |
| | 7.5 | 750 | 27.7 | 13.02 | 216.9 | 16.9 | 19.5 |
| 53 Dk. Blue* | 5.5 | 550 | 27.1 | 12.31 | 205.2 | 16.7 | 19.3 |
| | 6.0 | 600 | 27.4 | 12.88 | 214.6 | 17.1 | 19.8 |
| | 7.0 | 700 | 28.0 | 13.45 | 224.1 | 17.1 | 19.7 |
| | 7.5 | 750 | 28.3 | 14.02 | 233.6 | 17.4 | 20.1 |
| | 8.0 | 800 | 28.7 | 14.58 | 243.0 | 17.8 | 20.5 |
| 63 Black | 5.5 | 550 | 28.0 | 14.36 | 239.2 | 18.3 | 21.1 |
| | 6.0 | 600 | 28.7 | 14.97 | 249.5 | 18.2 | 21.1 |
| | 7.0 | 700 | 29.3 | 15.76 | 262.7 | 18.4 | 21.3 |
| | 7.5 | 750 | 29.6 | 16.36 | 272.5 | 18.7 | 21.6 |
| | 8.0 | 800 | 29.9 | 17.01 | 283.5 | 19.1 | 22.0 |
| 73 Orange | 5.5 | 550 | 29.3 | 16.38 | 272.9 | 19.1 | 22.1 |
| | 6.0 | 600 | 29.9 | 17.04 | 283.9 | 19.1 | 22.0 |
| | 7.0 | 700 | 30.2 | 17.67 | 294.5 | 19.4 | 22.4 |
| | 7.5 | 750 | 31.1 | 18.29 | 304.7 | 18.9 | 21.8 |
| | 8.0 | 800 | 31.4 | 18.92 | 315.3 | 19.2 | 22.2 |

## I-90 NOZZLE

ADV & 36V

I-90

# HSJ SWING JOINTS

*With swivel ells on both ends, HSJ Swing Joints easily adjust sprinklers to proper height and position in any configuration.*

## KEY BENEFITS

- Strength, longevity and contamination resistance
  - Prefabricated PVC design with O-ring seals
- Configurations to meet every installation requirement
  - Available in all popular inlet and outlet configurations
  - Choose from 20 cm, 30 cm, or 46 cm lay arm lengths
  - Single top-out or triple top-out designs

**Swing Joints**
HSJ-0 = Model ¾"
HSJ-1 = Model 1" (25 mm)
HSJ-2 = Model 1¼" (30 mm)
HSJ-3 = Model 1½" (40 mm)


**SWING JOINT – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4 + 5

### 1 Model

**HSJ-0** = ¾" commercial Swing Joint

**HSJ-1** = 1" (25 mm) heavy-duty Swing Joint

**HSJ-2** = 1¼" (30 mm) heavy-duty Swing Joint

**HSJ-3** = 1½" (40 mm) heavy-duty Swing Joint

### 2 Inlet Type (from pipe fitting)

**3** = Male NPT

**4** = Male Acme*

**6** = Male BSP**

**7** = Spigot, 10 cm long**

**M** = Main Acme H-connection ***

**P** = Main Acme V-connection

* *Not available in HSJ-0 or HSJ-3. Use "M" inlet for HSJ-3.*
** *Not available in HSJ-0.*
*** *Horizontal connection reduces from 40 mm Acme to Swing Joint size*

### 3 Outlet Type (to sprinkler inlet)

**0** = Male Acme

**2** = Male NPT

**5** = Male BSP *(not available in HSJ-0)*

**6** = Enlarging to 1½" (40 mm) male BSP*

**8** = Enlarging to 1½" (40 mm) male Acme*

**A** = Enlarging/reducing to 30 mm male Acme**

* *Not available in HSJ-0 or HSJ-3*
** *Not available in HSJ-0 and HSJ-2*

### 4 Outlet Style

**2** = Single top-out

**4** = Triple top-out

### 5 Lay Length

**8** = 20 cm lay arm*



**12** = 30 cm lay arm

**18** = 46 cm lay arm**



* *HSJ-0 only*
** *Not available in HSJ-0*

**Example:**
**HSJ-1-3-2-2-12** = HSJ 1" (25 mm) heavy-duty Swing Joint, 1" (25 mm) NPT inlet, 1" (25 mm) male NPT single top-out outlet, 30 cm lay arm length

*SnapLok is a trademark of LASCO Fittings Inc.*

# SNAPLOK™ COMBO KITS

*These kits are designed for applications that demand sturdy installation due to frequent Quick Coupler use.*

## KEY BENEFITS

- Highly effective solution for Quick Coupler stabilisation
- SnapLok design includes:
  - Heavy-duty PVC and brass outlet construction
  - Anti-rotation coupler locking feature
  - Accommodates both rebar and pipe stabilisation
- Solves common quick-coupler stabilisation and unthreading concerns
  - Unique SnapLok outlet with integrated brass thread outlet
- See the HSJ Swing Joints on **page 42**


**Quick Coupler with SnapLok**
*Equipped with HSJ-1 Swing Joint*

**SNAPLOK COMBO KITS – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4 + 5

| 1 Model | 2 Inlet Type (from pipe fitting) | 3 Outlet Type (to sprinkler inlet) | 4 Outlet Style | 5 Lay Length |
|---|---|---|---|---|
| **HSJ-1** = 1" (25 mm) heavy-duty Swing Joint | **6** = Male BSP  **2** = Short spigot  | **S** = 1" Male brass NPT SnapLok  **T** = ¾" Male brass NPT/BSP SnapLok **U** = 1" (25 mm) Male brass BSP SnapLok  | **2** = Single top-out  | **12** = 30 cm lay arm  **18** = 46 cm lay arm  |

**Example:**
**HSJ-1-6-S-2-12** = HSJ 1" (25 mm) heavy-duty Swing Joint, 1" (25 mm) BSP inlet, 1" (25 mm) male brass outlet, single top-out, 30 cm lay arm length

# HCV CHECK VALVES

*Eliminate low-head drainage for both rotor and spray shrub systems with the adjustable HCV Check Valves.*

## KEY BENEFITS

- Adjustment access from top of valve
- Adjusts to compensate for elevational changes up to 11 m
- Variety of inlet and outlet options reduces need for additional fittings
- Meets Schedule 80 specifications for durability under high pressure
- Pressure loss charts for HCV products on **page 219**

**HCV CHECK VALVES**

| Model | Description |
|---|---|
| HC-50F-50F | ½" female inlet x ½" female outlet |
| HC-50F-50M | ½" female inlet x ½" male outlet |
| HC-75F-75M | ¾" female inlet x ¾" male outlet |


**HCV Check Valves**
Overall height: 7.5 cm


ST SYSTEMS

# ST-90-B

*The ST-90-B Synthetic Turf Rotor is designed for installation in natural turf adjacent to the playing surface — the perfect solution for small and midsize fields.*

## KEY BENEFITS

- Arc setting: 40° to 360°
- QuickCheck™ Arc Mechanism
- Through-the-top arc adjustment
- Water-lubricated gear drive
- Factory-installed rubber logo cap
- Nozzle trajectory: 22.5°

## OPERATING SPECIFICATIONS

- Radius: 31.4 m to 36.6 m
- Flow: 16.9 to 20.9 $m^3$/hr; 282 to 348 l/min
- Operating pressure range: 6.9 to 8.3 bar; 690 to 830 kPa
- Precipitation rate: 35 mm/hr approximately
- Warranty period: 5 years for component parts

## USER-INSTALLED OPTIONS

- Rubber Cover Kit ST-90: P/N 234200SP

**ST-90-B***
Overall height: 29 cm
Pop-up height: 8 cm
Diameter: 14 cm
Inlet size: 1½" (40 mm) BSP

* Not for use with the ST Vault

**ST ROTOR**

| Model | Description |
|---|---|
| ST-90-B-XX | 8 cm pop-up, jar-top cap, adjustable arc, plastic riser, and BSP inlet threads, 73 or 83 preinstalled nozzle |

**ST-90-B NOZZLE PERFORMANCE DATA**

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | $m^3$/hr | l/min | ■ | ▲ |
| 73 ● | 7.0 | 700 | 31.4 | 16.9 | 282 | 34.3 | 39.6 |
| | 7.5 | 750 | 33.2 | 17.5 | 291 | 31.7 | 36.6 |
| Orange | 8.0 | 800 | 35.1 | 18.1 | 301 | 29.4 | 34.0 |
| 83 ● | 7.0 | 700 | 34.1 | 19.1 | 319 | 32.8 | 37.9 |
| | 7.5 | 750 | 35.4 | 20.0 | 333 | 32.0 | 37.0 |
| Tan | 8.0 | 800 | 36.6 | 20.9 | 348 | 31.2 | 36.1 |

**Notes:**
All precipitation rates calculated for 180° operation.
For precipitation rate of a 360° sprinkler, divide by 2.

Requires minimum 7.0 bar; 700 kPa dynamic pressure supplied to Swing Joint inlet.

# HIGH-FLOW SWING JOINTS

*These durable Swing Joints are easy to position and ensure correct rotor installation height.*

## KEY BENEFITS

- Heavy-duty, high-flow Swing Joints with O-ring seals
- HSJ-4 for high-flow I-90 and ST-90 Rotors with 2" (50 mm) inlets

**High-Flow Swing Joints**
HSJ-4 = 50 mm model

**HSJ HIGH-FLOW SWING JOINT – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Inlet Type (from pipe fitting) | 3 Outlet Type (to sprinkler inlet) | 4 Outlet Style | 5 Lay Length |
|---|---|---|---|---|
| **HSJ-4** = 50 mm heavy-duty Swing Joint | **6** = 2" (50 mm) male BSP, horizontal side connection | **D** = 1½" (40 mm) male BSP | **2** = Single top-out | **12** = 12" (30 cm) lay arm |

**Example:**
**HSJ-4-6-D-2-12** = HSJ 50 mm heavy-duty Swing Joint, 50 mm male BSP horizontal side connection to piping, 40 mm male BSP outlet to sprinkler, single top-out, and 30 cm lay arm

# ST-1200-BR

*The cost-effective ST-1200-BR Synthetic Turf Rotor is the ideal riser-mounted solution for pastures, corrals, arenas, dust control, and wash-down watering.*

## KEY BENEFITS

- Nozzle choices: 5 (included)
- Standard nozzle: 12
- Nozzle range: 10 to 18
- Nozzle trajectory: 22.5°
- Isolated, grease-lubricated gear drive
- Nozzle barrels: short and long (included)
- Movable stops (left and right) arc adjustment
- Arc setting: 40° to non-reversing 360°
- Ratcheting nozzle turret

## OPERATING SPECIFICATIONS

- Radius: 20.4 m to 35.1 m
- Flow: 6.13 to 29.76 m³/hr; 102.1 to 495.9 l/min
- Operating pressure range: 2.0 to 6.0 bar; 200 to 600 kPa

**ST-1200-BR**
Overall height: 30 cm
Overall length: 30 cm (Long Barrel)
Overall width: 10 cm
Inlet size: 1½" (40 mm) BSP

*Use P/N 241401SP 1½" (40 mm) male spigot x 1½" (40 mm) BSP adapter if needed

**Included**
*Short and long barrels*

**ST-1200-BR NOZZLE PERFORMANCE DATA**

| Nozzle | Pressure | | Radius | Flow | | Precip in/hr | |
|---|---|---|---|---|---|---|---|
| | Bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 10 ● Black | 2.0 | 200 | 20.4 | 6.13 | 102.2 | 29.4 | 34.0 |
| | 3.0 | 300 | 22.9 | 7.45 | 124.2 | 28.5 | 32.9 |
| | 4.0 | 400 | 25.9 | 8.65 | 144.2 | 25.8 | 29.8 |
| | 5.0 | 500 | 27.4 | 9.88 | 164.7 | 26.3 | 30.3 |
| 12 ● Black | 2.0 | 200 | 20.7 | 7.63 | 127.2 | 35.5 | 41.0 |
| | 3.0 | 300 | 23.8 | 9.36 | 156.0 | 33.1 | 38.2 |
| | 4.0 | 400 | 26.8 | 10.81 | 180.2 | 30.1 | 34.7 |
| | 5.0 | 500 | 29.9 | 12.06 | 201.0 | 27.0 | 31.2 |
| 14 ● Black | 2.0 | 200 | 21.3 | 10.38 | 173.0 | 45.6 | 52.7 |
| | 3.0 | 300 | 26.2 | 12.72 | 212.0 | 37.0 | 42.8 |
| | 4.0 | 400 | 30.5 | 14.70 | 244.9 | 31.6 | 36.5 |
| | 5.0 | 500 | 33.5 | 16.47 | 274.4 | 29.3 | 33.8 |
| 16 ● Black | 2.0 | 200 | 21.9 | 13.52 | 225.2 | 56.1 | 64.8 |
| | 3.0 | 300 | 28.3 | 16.58 | 276.3 | 41.3 | 47.7 |
| | 4.0 | 400 | 31.4 | 19.15 | 319.1 | 38.9 | 44.9 |
| | 5.0 | 500 | 35.4 | 18.38 | 306.2 | 29.4 | 33.9 |
| 18 ● Black | 3.0 | 300 | 29.0 | 21.01 | 350.1 | 50.1 | 57.9 |
| | 4.0 | 400 | 31.7 | 24.31 | 405.0 | 48.4 | 55.9 |
| | 5.0 | 500 | 33.8 | 27.15 | 452.4 | 47.4 | 54.8 |
| | 6.0 | 600 | 35.1 | 29.76 | 495.9 | 48.4 | 55.9 |

ST-1200-BR Rotor Installed

# ST-1600-HS-BR

*In addition to synthetic turf, this heavy-duty rotor is designed for irrigating pastures, horse arenas, dust control, and natural turf areas.*

## KEY BENEFITS

- Nozzle choices: 6
- Standard nozzle: 20
- Nozzle range: 16 to 26
- Nozzle trajectory: 25°
- Movable stops with left and right arc adjustment
- Arc setting: 40° to non-reversing 360°
- Ratcheting nozzle turret

## OPERATING SPECIFICATIONS

- Radius: 32.5 to 50.3 m
- Flow: 21.8 to 74.2 $m^3$/hr; 364 to 1,237 l/min
- Operating pressure range: 4.0 to 8.0 bar; 400 to 800 kPa
- Precipitation rate: 60 mm/hr approximately
- Warranty period: 5 years for component parts

**ST-1600-HS-BR (High-Speed)**
(Riser-Mounted Model)
Overall height: 22 cm
Diameter: 21 cm
Inlet size: 2" (50 mm) BSP*

*Use P/N 241400SP 2" (50 mm) male spigot x 2" (50 mm) male BSP adapter if needed

**ST-1600-HS-BR NOZZLE PERFORMANCE DATA***

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | $m^3$/hr | l/min | ■ | ▲ |
| 16 ● Black | 4.0 | 400 | 32.5 | 21.8 | 364 | 41.4 | 47.8 |
| | 5.0 | 500 | 35.0 | 24.4 | 406 | 39.8 | 45.9 |
| | 6.0 | 600 | 37.0 | 26.8 | 446 | 39.1 | 45.1 |
| | 7.0 | 700 | 39.0 | 28.9 | 482 | 38.0 | 43.9 |
| | 8.0 | 800 | 41.0 | 31.2 | 520 | 37.1 | 42.9 |
| 18 ● Black | 4.0 | 400 | 34.0 | 24.3 | 405 | 42.0 | 48.6 |
| | 5.0 | 500 | 37.0 | 27.1 | 452 | 39.6 | 45.8 |
| | 6.0 | 600 | 39.0 | 29.8 | 496 | 39.1 | 45.2 |
| | 7.0 | 700 | 40.5 | 32.1 | 535 | 39.1 | 45.2 |
| | 8.0 | 800 | 43.0 | 34.8 | 580 | 37.6 | 43.5 |
| 20 ● Black | 4.0 | 400 | 35.0 | 32.7 | 545 | 53.4 | 61.7 |
| | 5.0 | 500 | 39.0 | 36.5 | 609 | 48.1 | 55.5 |
| | 6.0 | 600 | 43.0 | 40.1 | 668 | 43.4 | 50.1 |
| | 7.0 | 700 | 44.0 | 43.3 | 721 | 44.7 | 51.6 |
| | 8.0 | 800 | 45.0 | 46.4 | 773 | 45.8 | 52.9 |
| 22 ● Black | 4.0 | 400 | 36.0 | 38.9 | 649 | 60.1 | 69.4 |
| | 5.0 | 500 | 39.5 | 43.6 | 726 | 55.8 | 64.5 |
| | 6.0 | 600 | 44.0 | 47.7 | 795 | 49.3 | 56.9 |
| | 7.0 | 700 | 47.0 | 51.5 | 859 | 46.7 | 53.9 |
| | 8.0 | 800 | 48.0 | 55.2 | 920 | 47.9 | 55.3 |
| 24 ● Black | 4.0 | 400 | 37.0 | 45.9 | 765 | 67.1 | 77.4 |
| | 5.0 | 500 | 40.5 | 51.3 | 855 | 62.6 | 72.2 |
| | 6.0 | 600 | 45.0 | 56.2 | 937 | 55.5 | 64.1 |
| | 7.0 | 700 | 47.5 | 60.7 | 1012 | 53.8 | 62.2 |
| | 8.0 | 800 | 48.7 | 65.0 | 1084 | 54.9 | 63.3 |
| 26 ● Black | 4.0 | 400 | 38.4 | 53.0 | 883 | 71.8 | 82.9 |
| | 5.0 | 500 | 41.4 | 59.2 | 986 | 68.8 | 79.5 |
| | 6.0 | 600 | 46.0 | 64.6 | 1077 | 61.0 | 70.4 |
| | 7.0 | 700 | 48.7 | 69.7 | 1162 | 58.6 | 67.7 |
| | 8.0 | 800 | 50.3 | 74.2 | 1237 | 58.7 | 67.8 |

*All radius measurements are taken at standard rotation speeds. Slowing rotation to the minimum rotation speed will add 3+ meters to the radius.

ST-1600-HS-BR Rotor Installed

# ST-1700-V

*This ST System includes a valve-in-head design for faster installation and maintenance.*

## KEY BENEFITS

- Nozzle choices: 5 ranging from nozzles 16 to 24
- Nozzle trajectory: 25°
- Total-Top-Service (TTS) design provides convenient no-dig servicing
- Valve-in-head configuration simplifies installation
- Isolated, grease-lubricated gear drive provides smooth operation
- Arc adjustment: movable stops for left/right arc adjustment

## OPERATING SPECIFICATIONS

- Radius: 32 m to 48 m
- Flow: 21.0 to 58.8 m³/hr; 350 to 980 l/min
- Operating pressure range: 4.0 to 8.0 bar; 400 to 800 kPa
- Arc setting: 40° to non-reversing 360°
- Speed of rotation: 80 seconds at 6.0 bar; 600 kPa (single 180° sweep)
- Precipitation rate: 45 mm/hr approximately
- Warranty period: 5 years for component parts

## USER-INSTALLED OPTIONS

- Infill Barrier System Rubber Cover Kit: P/N ST-IBS-1700
- Short-Radius Nozzle Kit: P/N 959900
- Adapter (if needed), 2" (50 mm) male spigot x 2" (50 mm) male BSP: P/N 241400SP

**ST-1700-V**
Overall height: 68 cm
Pop-up height: 13 cm
Top: 33 cm x 39 cm
Inlet size: 2" (50 mm) BSP*

**ST-1700-V Valve Tool**
P/N 10000100SP
For installation and removal of inlet valve

**Snap Ring Removal Tool**
P/N 251000SP

**Infill Barrier System Rubber Cover Kit**
P/N STIBS1700

**ST-1700-V NOZZLE PERFORMANCE DATA**

| Nozzle | Pressure bar | Pressure kPa | Radius m | Flow m³/hr | Flow l/min | Precip mm/hr ■ | Precip mm/hr ▲ |
|---|---|---|---|---|---|---|---|
| 16 ● Black | 4.0 | 400 | 32.0 | 21.0 | 350 | 41.0 | 47.3 |
| | 5.0 | 500 | 35.0 | 22.7 | 379 | 37.1 | 42.8 |
| | 6.0 | 600 | 37.0 | 25.9 | 432 | 37.8 | 43.7 |
| | 7.0 | 700 | 38.5 | 28.1 | 469 | 38.0 | 43.9 |
| | 8.0 | 800 | 40.0 | 30.4 | 508 | 38.1 | 43.9 |
| 18 ● Black | 4.0 | 400 | 34.0 | 24.3 | 405 | 42.0 | 48.5 |
| | 5.0 | 500 | 36.5 | 26.1 | 435 | 39.2 | 45.3 |
| | 6.0 | 600 | 38.5 | 28.8 | 481 | 38.9 | 44.9 |
| | 7.0 | 700 | 40.0 | 31.1 | 519 | 38.9 | 44.9 |
| | 8.0 | 800 | 42.0 | 33.8 | 564 | 38.3 | 44.3 |
| 20 ● Black | 4.0 | 400 | 35.0 | 30.4 | 508 | 49.7 | 57.4 |
| | 5.0 | 500 | 39.0 | 34.3 | 572 | 45.1 | 52.0 |
| | 6.0 | 600 | 41.0 | 37.2 | 621 | 44.3 | 51.1 |
| | 7.0 | 700 | 43.0 | 40.9 | 681 | 44.2 | 51.0 |
| | 8.0 | 800 | 45.0 | 44.0 | 733 | 43.4 | 50.1 |
| 22 ● Black | 4.0 | 400 | 35.5 | 34.9 | 582 | 55.4 | 63.9 |
| | 5.0 | 500 | 39.0 | 39.5 | 659 | 51.9 | 60.0 |
| | 6.0 | 600 | 43.0 | 42.9 | 715 | 46.4 | 53.6 |
| | 7.0 | 700 | 45.5 | 46.8 | 780 | 45.2 | 52.2 |
| | 8.0 | 800 | 47.0 | 50.4 | 841 | 45.7 | 52.7 |
| 24 ● Black | 4.0 | 400 | 37.0 | 40.2 | 671 | 58.8 | 67.9 |
| | 5.0 | 500 | 40.5 | 45.6 | 761 | 55.6 | 64.2 |
| | 6.0 | 600 | 44.0 | 50.4 | 840 | 52.1 | 60.1 |
| | 7.0 | 700 | 47.0 | 54.5 | 908 | 49.3 | 57.0 |
| | 8.0 | 800 | 48.0 | 58.8 | 980 | 51.0 | 58.9 |

# STG-900-KIT-B / STG-900

*This top-quality, long-range system is specially designed for synthetic turf sports field irrigation.*

## KEY BENEFITS

- Arc setting: 40° to 360°
- QuickCheck™ Arc Mechanism
- Through-the-top arc adjustment
- Water-lubricated gear drive
- Factory-installed rubber logo cap
- Nozzle trajectory: 22.5°

## OPERATING SPECIFICATIONS

- Radius: 31.4 m to 36.6 m
- Flow: 16.9 to 20.9 $m^3$/hr; 282 to 348 l/min
- Operating pressure range: 6.9 to 8.3 bar; 690 to 830 kPa
- Precipitation rate: 35 mm/hr approximately
- Warranty period: 5 years for component parts

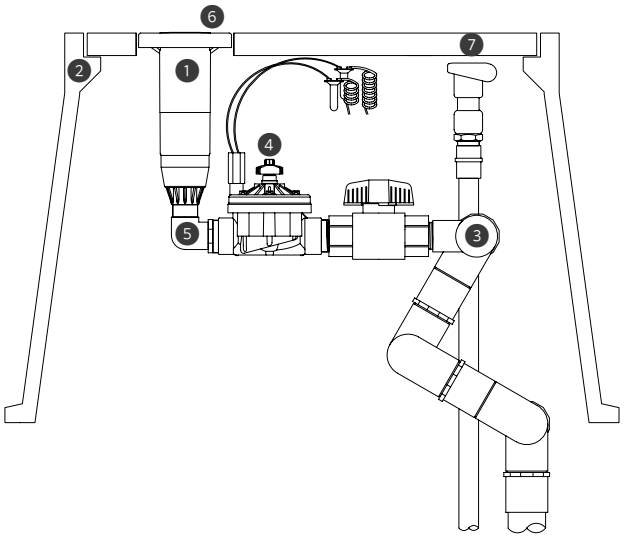
## USER-INSTALLED OPTIONS

- Rubber Cover Kit STG-900: P/N 473900SP

**STG-900***
Overall height: 36 cm
Pop-up height: 8 cm
Diameter: 20 cm
Inlet size: 1½" (40 mm) Acme

*For use with the ST-173026-B Vault

## STG-900-KIT-B




**STG-900-KIT-B COMPONENTS**

| FIGURE | COMPONENTS | QTY | DESCRIPTION |
|---|---|---|---|
| 1 | STG-900-83 | 1 | Pop-up, top serviceable, adjustable arc (40°–360°), 1½" (40 mm) Acme inlet |
| 2 | ST-173026-B | 1 | Composite vault, pre-cast hole for rotor and quick coupler |
| 3 | ST-2008-VA | 1 | Vertical alignment PVC Swing Joint, seven pivot points, 2" (50 mm) female slip inlet, 1½" (40 mm) female Acme outlet |
| 4 | ST-VBVF-K | 1 | ICV-151G valve, manifold ball valve, 1½" (40 mm) Acme inlet, 1½" (40 mm) Acme outlet |
| 5 | 239800 | 1 | 1½" (40 mm) elbow, female Acme to male Acme, connects STG-900 rotor to ST-VBVF-K |
| 6 | 473900SP | 1 | STG-900 rubber cover kit |
| 7 | HQ-5-RC-BSP | 1 | Quick coupler, 1" BSP inlet, 1¼" outlet for key |

STG-900 Rotor

## STG-900 NOZZLE PERFORMANCE DATA

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 73 ● | 7.0 | 700 | 31.4 | 16.9 | 282 | 34.3 | 39.6 |
| | 7.5 | 750 | 33.2 | 17.5 | 291 | 31.7 | 36.6 |
| Orange | 8.0 | 800 | 35.1 | 18.1 | 301 | 29.4 | 34.0 |
| 83 ● | 7.0 | 700 | 34.1 | 19.1 | 319 | 32.8 | 37.9 |
| | 7.5 | 750 | 35.4 | 20.0 | 333 | 32.0 | 37.0 |
| Tan | 8.0 | 800 | 36.6 | 20.9 | 348 | 31.2 | 36.1 |

**Notes:**
All precipitation rates are calculated for 180° operation.
For the precipitation rate of a 360° sprinkler, divide by 2.

Requires minimum 7.0 bar; 700 kPa dynamic pressure supplied to the Swing Joint inlet.

## ST SWING JOINTS

Multiaxis 22 bar; 2,200 kPa rated vertical alignment PVC Swing Joints with seven O-ring sealed pivot points allow the rotor to be perfectly placed within the ST Vault's cover set opening.

**ST-2008-VA:** 2" (50 mm) for STG-900

**Inlet:** 2" (50 mm) slip*
**Outlet:** 1½" (40 mm) Acme

*Use P/N 241400 adapter to connect to male BSP threads

**Adapter fitting 239300**
Connects 239800 elbow fitting to STG-900 Rotor with Acme inlet

## ST VALVE SETS

Heavy-duty control valves are configured to complement the ST Rotors and ST Vaults.

**ST-VBVF-K:** For STG-900-KIT-B

**Valve:** 1½" (40 mm) NPT ICV
**Ball valve:** 22 bar (2,200 kPa) rating
**Inlet:** 1½" (40 mm) Acme
**Outlet:** 1½" (40 mm) Acme
**Low-pressure-loss design:** 0.7 bar; 70 kPa at 22.7 m³/hr; 378 l/min from Swing Joint inlet through to rotor
**Includes:** 1½" (40 mm) connection fittings

## ST VAULTS

Heavy-duty tapered fibreglass and polymer-concrete construction with pre-cast holes for rotor and quick coupler valve.

**ST-173026-B for STG-900-KIT-B includes 50 mm thick, 3-piece cover set**

**Main cover:** 43 cm x 76 cm
**Overall height:** 66 cm
**Body weight:** 47 kg
**Total weight:** 73 kg
**Base pad:** 68 cm x 104 cm
**Quick-access ports:** 1


All ST Vaults include handy quick-access ports. Quick couplers provide a convenient source of water for washing down spills and water-soluble paint. The integrated in-vault design eliminates the need for additional quick-coupler enclosures.

① Quick Coupler

# ST-1600-KIT-B / ST-1600-HS-B

*This all-in-one solution offers unmatched cleaning, cooling, and flushing capabilities to prepare synthetic sports fields for play.*

## KEY BENEFITS

- Nozzle choices: 6
- Standard nozzle: 20
- Nozzle range: 16 to 26
- Nozzle trajectory: 25°
- Isolated, grease-lubricated gear drive
- Movable stops (left and right) arc adjustment
- Arc setting: 40° to non-reversing 360°
- Ratcheting nozzle turret
- Adjustable speed of rotation: 0 to 65 seconds (high-speed models, 180° at 8 bar; 800 kPa)

## OPERATING SPECIFICATIONS

- Radius: 32.5 to 50.3 m
- Flow: 21.8 to 74.2 $m^3$/hr; 364 to 1,237 l/min
- Operating pressure range: 4 to 8 bar; 400 to 800 kPa
- Precipitation rate: 60 mm/hr approximately
- Warranty period: 5 years for component parts

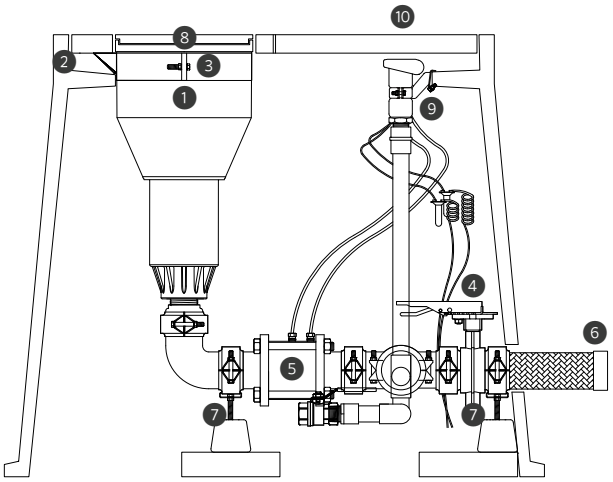
## USER-INSTALLED OPTIONS

- Simulated concrete cover for attachment to the top of the flattened Infill Barrier System (used with vault): P/N ST-FRP-1600
- ST-approved adhesive for attaching artificial turf, track, or simulated concrete (ST-FRP-1600) to Infill Barrier System: P/N ST-ADH-K
- ST-1600 Short-Radius Nozzle Kit: P/N 959900
- Adapter (if needed), 2" (50 mm) male spigot x 2" (50 mm) male BSP: P/N 241400SP (Not for use with kit)
- DC-Latching Solenoid Kit: P/N ST-LSA

**ST-1600-HS-B (High-Speed)**
Overall height: 57 cm
Pop-up height: 13 cm
Diameter: 36 cm
Inlet size: 2" (50 mm) BSP*

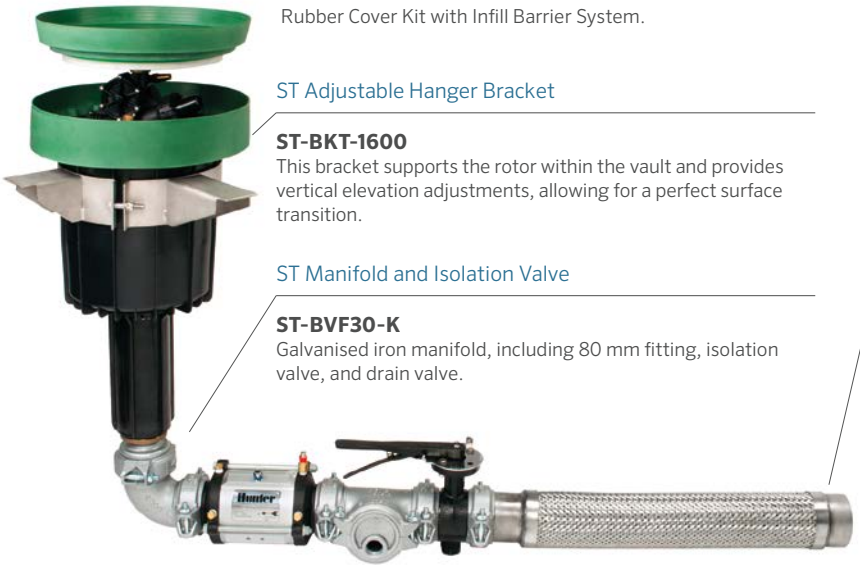
**ST-1600 / ST-1700 Tool**
P/N 517600SP
For gear-drive installation and removal

## ST-1600-KIT-B




**ST-1600-KIT-B COMPONENTS**

| Figure | Components | Qty | Description |
|---|---|---|---|
| 1 | ST-1600-HS-B | 1 | High-speed pop-up, adjustable arc (40° to 360°), 50 mm BSP inlet |
| 2 | ST-243636-B | 1 | Composite vault |
| 3 | ST-BKT-1600 | 1 | Rotor vault hanger and grade adjustment bracket for ST-1600-HS-B Rotor |
| 4 | ST-BVF30-K | 1 | Manifold butterfly valve and Victaulic® coupling fitting kit (includes galvanized grooved X male BSP rotor adapter fitting) |
| 5 | ST-V30-KV | 1 | 80 mm metal control valve, 80 mm grooved Victaulic inlet/outlet fitting, 91 cm remotely located solenoid and on-off-auto selector manifold |
| 6 | ST-H30-K | 1 | Stainless steel inlet hose, 80 mm female NPT inlet |
| 7 | ST-SPT-K | 2 | Adjustable manifold support stand; two required per vault |
| 8 | ST-IBS-1600 | 1 | Infill Barrier System Rubber Cover Kit for ST-1600-HS-B Rotor |
| 9 | ST-BKT-QCV | 1 | Hanger bracket for HQ-5-RC-BSP Quick Coupler |
| 10 | HQ-5-RC-BSP | 1 | Quick Coupler, 25 mm BSP inlet, 32 mm outlet for key |



### ST Infill Barrier System

**ST-IBS-1600**
Rubber Cover Kit with Infill Barrier System.

### ST Adjustable Hanger Bracket

**ST-BKT-1600**
This bracket supports the rotor within the vault and provides vertical elevation adjustments, allowing for a perfect surface transition.

### ST Manifold and Isolation Valve

**ST-BVF30-K**
Galvanised iron manifold, including 80 mm fitting, isolation valve, and drain valve.

### ST H-Block Manifold Supports

**ST-SPT-K**
Adjustable support stands include a large footprint base made from recycled tire rubber and a 50 mm vertically adjustable support rail (two required under manifold).

### ST Flexible Stainless Steel Inlet Hose

**ST-H30-K**
80 mm ultra-flexible, corrugated, stainless steel hose with stainless steel support braiding.

### ST Heavy-Duty, Slow-Opening Valve

**ST-V30-KV**
Heavy-duty 80 mm ultra-low-pressure-loss valve (0.15 bar; 15 kPa at 65 m³/hr; 1,082 l/min). Includes on-off-auto selector and solenoid (not shown).

## ST-1600 NOZZLE PERFORMANCE DATA*

| Nozzle | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ |
| 16 ● Black | 4.0 | 400 | 32.5 | 21.8 | 364 | 41.4 | 47.8 |
| | 5.0 | 500 | 35.0 | 24.4 | 406 | 39.8 | 45.9 |
| | 6.0 | 600 | 37.0 | 26.8 | 446 | 39.1 | 45.1 |
| | 7.0 | 700 | 39.0 | 28.9 | 482 | 38.0 | 43.9 |
| | 8.0 | 800 | 41.0 | 31.2 | 520 | 37.1 | 42.9 |
| 18 ● Black | 4.0 | 400 | 34.0 | 24.3 | 405 | 42.0 | 48.6 |
| | 5.0 | 500 | 37.0 | 27.1 | 452 | 39.6 | 45.8 |
| | 6.0 | 600 | 39.0 | 29.8 | 496 | 39.1 | 45.2 |
| | 7.0 | 700 | 40.5 | 32.1 | 535 | 39.1 | 45.2 |
| | 8.0 | 800 | 43.0 | 34.8 | 580 | 37.6 | 43.5 |
| 20 ● Black | 4.0 | 400 | 35.0 | 32.7 | 545 | 53.4 | 61.7 |
| | 5.0 | 500 | 39.0 | 36.5 | 609 | 48.1 | 55.5 |
| | 6.0 | 600 | 43.0 | 40.1 | 668 | 43.4 | 50.1 |
| | 7.0 | 700 | 44.0 | 43.3 | 721 | 44.7 | 51.6 |
| | 8.0 | 800 | 45.0 | 46.4 | 773 | 45.8 | 52.9 |
| 22 ● Black | 4.0 | 400 | 36.0 | 38.9 | 649 | 60.1 | 69.4 |
| | 5.0 | 500 | 39.5 | 43.6 | 726 | 55.8 | 64.5 |
| | 6.0 | 600 | 44.0 | 47.7 | 795 | 49.3 | 56.9 |
| | 7.0 | 700 | 47.0 | 51.5 | 859 | 46.7 | 53.9 |
| | 8.0 | 800 | 48.0 | 55.2 | 920 | 47.9 | 55.3 |
| 24 ● Black | 4.0 | 400 | 37.0 | 45.9 | 765 | 67.1 | 77.4 |
| | 5.0 | 500 | 40.5 | 51.3 | 855 | 62.6 | 72.2 |
| | 6.0 | 600 | 45.0 | 56.2 | 937 | 55.5 | 64.1 |
| | 7.0 | 700 | 47.5 | 60.7 | 1,012 | 53.8 | 62.2 |
| | 8.0 | 800 | 48.7 | 65.0 | 1,084 | 54.9 | 63.3 |
| 26 ● Black | 4.0 | 400 | 38.4 | 53.0 | 883 | 71.8 | 82.9 |
| | 5.0 | 500 | 41.4 | 59.2 | 986 | 68.8 | 79.5 |
| | 6.0 | 600 | 46.0 | 64.6 | 1,077 | 61.0 | 70.4 |
| | 7.0 | 700 | 48.7 | 69.7 | 1,162 | 58.6 | 67.7 |
| | 8.0 | 800 | 50.3 | 74.2 | 1,237 | 58.7 | 67.8 |

Note:
All precipitation rates are calculated for 180° operation.
For the precipitation rate of a 360° sprinkler, divide by 2.
*All radius measurements are taken at standard rotation speeds. Slowing rotation to the minimum rotation speed will add 3+ m to the radius.

### SEAMLESS INTEGRATION

Blends in perfectly with the surrounding synthetic surface.

## ST VAULTS

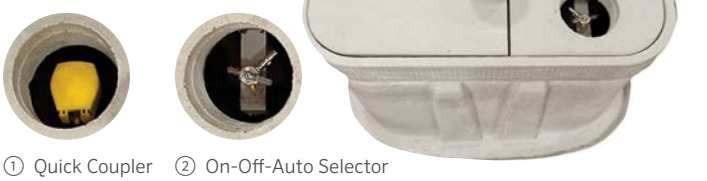
The heavy-duty, tapered fibreglass and polymer-concrete construction includes precast holes for the rotor, quick coupler valve, and remote manifold assembly.

Quick couplers provide a convenient source of water for washing down spills and water-soluble paint. The integrated in-vault design eliminates the need for additional quick coupler enclosures.

The ST-V30-KV Valve Kit includes a remotely located on-off-auto selector and solenoid manifold assembly. These convenient features bring valve manual control functions and solenoid splice connections closer to the surface for easy access.

**ST-243636-B:** Includes 76 mm thick, 4-piece PC cover set

**Main cover:** 61 cm x 91 cm
**Overall height:** 91 cm
**Body weight:** 70 kg
**Total weight:** 138 kg
**Base pad:** 106 cm x 122 cm
**Quick-access ports:** 2




① Quick Coupler ② On-Off-Auto Selector

# MP ROTATOR™

# ADVANCED FEATURES

## AUTOMATIC MATCHED PRECIPITATION

MP Rotator Nozzles adjust the flow rate through the nozzle as the radius and arc are changed, resulting in the same matched precipitation rate regardless of the nozzle setting.

## DOUBLE-POP FEATURE

MP Rotator Nozzles pop up from their protected position only after the riser is fully extended, providing superior defence against dirt and debris.

## HIGH DISTRIBUTION UNIFORMITY

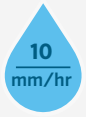
The multiple streams of the MP Rotator Nozzle target all areas of the landscape evenly, resulting in superior uniformity over traditional spray nozzles and better wind resistance.

## LOW PRECIPITATION RATE

Since the majority of soils have a water infiltration rate of less than 25 mm/hr, irrigating at a low precipitation rate is essential to reduce runoff and increase efficiency.

The Standard MP Rotator Nozzle applies water at 10 mm/hr, while the MP800 Nozzle model has a precipitation rate of 20 mm/hr. Either choice will avoid runoff, save water, and prevent erosion.

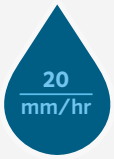
**STANDARD**
MP Rotator Nozzles




**2.5 to 10.7 m**

- Maximum water efficiency
- Slowest precipitation rate

**MP ROTATOR**
MP800 Nozzles




**1.8 to 4.9 m**

- Small spaces
- Tight water windows

**MP ROTATOR**
Strip Nozzles

**1.5 m wide**

- Rectangular spaces
- Pair with either option

# ECO-ROTATOR

*Radius:* **2.5 to 9.1 m**

*This compact sprinkler comes with a pre-installed MP Rotator™ Nozzle that provides up to 30% more water savings over traditional spray nozzles.*

## KEY BENEFITS

- Automatic matched precipitation for simplified irrigation design and flexibility
- High distribution uniformity for a healthy landscape and maximum water efficiency
- Double-pop feature protects the nozzle from external debris
- Large inlet filter screen protects the nozzle from internal debris in the system
- Heavy-duty spring for consistent riser retraction

## ADDITIONAL FEATURES

- Wind-resistant, multi-stream technology prevents misting
- For vandal resistance, the arc is adjustable only when the MP Rotator Nozzle is running
- Colour-coded for easy field identification
- Two-piece ratcheting riser

## OPERATING SPECIFICATIONS

- Low precipitation rate
- Radius range: 1.8 to 9.1 m
- Operational pressure range: 1.7 to 3.8 bar; 170 to 380 kPa
- Recommended operating pressure: 2.8 bar; 280 kPa
- Warranty period: 2 years

## USER-INSTALLED OPTION

- Drain Check Valve (up to 2 m of elevation; P/N 462237SP)

**Eco-Rotator**
Retracted height: 18 cm
Pop-up height: 10 cm
Exposed diameter: 3 cm
Inlet size: ½"

## ECO-ROTATOR PERFORMANCE DATA

**ECO-04 MP800SR**
Radius: 1.8 to 3.5 m
Adjustable Arc and Full-Circle
● Orange and Grey: 90° to 210°
● Lime Green and Grey: 360°

| MAX RADIUS | | | | | | | | | MIN RADIUS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Arc | Pressure | | Radius | Flow | | Precip. mm/hr | | | Radius | Flow | |
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ | | m | m³/hr | l/min |
| 90° | 2.1 | 210 | 2.6 | 0.04 | 0.61 | 22 | 25 | | 1.8 | 0.03 | 0.49 |
| | 2.5 | 250 | 2.9 | 0.04 | 0.72 | 21 | 24 | | 2.1 | 0.03 | 0.55 |
| | **2.8** | **280** | **3.1** | **0.05** | **0.87** | **21** | **24** | | **2.4** | **0.04** | **0.61** |
| | 3.0 | 300 | 3.4 | 0.06 | 0.95 | 20 | 23 | | 2.4 | 0.04 | 0.68 |
| | 3.5 | 350 | 3.5 | 0.06 | 1.02 | 20 | 23 | | 2.7 | 0.04 | 0.72 |
| | 3.8 | 380 | 3.5 | 0.06 | 1.06 | 20 | 23 | | 3.0 | 0.05 | 0.76 |
| 180° | 2.1 | 210 | 2.6 | 0.07 | 1.21 | 22 | 25 | | 1.8 | 0.06 | 0.98 |
| | 2.5 | 250 | 2.8 | 0.08 | 1.40 | 21 | 24 | | 2.1 | 0.07 | 1.10 |
| | **2.8** | **280** | **3.0** | **0.10** | **1.59** | **21** | **24** | | **2.4** | **0.07** | **1.21** |
| | 3.0 | 300 | 3.3 | 0.10 | 1.74 | 19 | 22 | | 2.4 | 0.08 | 1.36 |
| | 3.5 | 350 | 3.4 | 0.11 | 1.82 | 19 | 22 | | 2.7 | 0.09 | 1.44 |
| | 3.8 | 380 | 3.5 | 0.11 | 1.89 | 18 | 21 | | 3.0 | 0.09 | 1.51 |
| 210° | 2.1 | 210 | 2.6 | 0.08 | 1.40 | 22 | 25 | | 1.8 | 0.07 | 1.15 |
| | 2.5 | 250 | 2.8 | 0.10 | 1.67 | 22 | 25 | | 2.1 | 0.08 | 1.28 |
| | **2.8** | **280** | **3.0** | **0.11** | **1.85** | **21** | **24** | | **2.4** | **0.08** | **1.41** |
| | 3.0 | 300 | 3.2 | 0.12 | 2.01 | 20 | 23 | | 2.4 | 0.10 | 1.59 |
| | 3.5 | 350 | 3.4 | 0.13 | 2.12 | 19 | 22 | | 2.7 | 0.10 | 1.68 |
| | 3.8 | 380 | 3.5 | 0.13 | 2.20 | 18 | 21 | | 3.0 | 0.11 | 1.77 |
| 360° | 2.1 | 210 | 2.6 | 0.14 | 2.38 | 22 | 25 | | 1.8 | 0.11 | 1.78 |
| | 2.5 | 250 | 2.8 | 0.16 | 2.65 | 20 | 23 | | 2.1 | 0.12 | 1.97 |
| | **2.8** | **280** | **3.0** | **0.18** | **2.95** | **20** | **23** | | **2.4** | **0.13** | **2.12** |
| | 3.0 | 300 | 3.1 | 0.19 | 3.22 | 20 | 23 | | 2.4 | 0.13 | 2.23 |
| | 3.5 | 350 | 3.3 | 0.20 | 3.33 | 19 | 21 | | 2.7 | 0.14 | 2.38 |
| | 3.8 | 380 | 3.5 | 0.22 | 3.71 | 18 | 21 | | 3.0 | 0.16 | 2.65 |

**Bold** = Recommended pressure

## ECO-ROTATOR

| Model | Description |
|---|---|
| ECO-04-800SR-90 | 10 cm pop-up, MP800SR 1.8 to 3.5 m radius, adjustable from 90° to 210° |
| ECO-04-800SR-360 | 10 cm pop-up, MP800SR 1.8 to 3.5 m radius, 360° |
| ECO-04-1090 | 10 cm pop-up, MP1000 2.5 to 4.5 m radius, adjustable from 90° to 210° |
| ECO-04-10360 | 10 cm pop-up, MP1000 2.5 to 4.5 m radius, 360° |
| ECO-04-2090 | 10 cm pop-up, MP2000 4.0 to 6.4 m radius, adjustable from 90° to 210° |
| ECO-04-20360 | 10 cm pop-up, MP2000 4.0 to 6.4 m radius, 360° |
| ECO-04-3090 | 10 cm pop-up, MP3000 6.7 to 9.1 m radius, adjustable from 90° to 210° |
| ECO-04-30360 | 10 cm pop-up, MP3000 6.7 to 9.1 m radius, 360° |

Eco-Rotator

## ECO-ROTATOR PERFORMANCE DATA

**ECO-04 MP1000**
Radius: 2.5 to 4.5 m
Adjustable Arc and Full-Circle
- Maroon: 90° to 210°
- Olive: 360°

**ECO-04 MP2000**
Radius: 4.0 to 6.4 m
Adjustable Arc and Full-Circle
- Black: 90° to 210°
- Red: 360°

**ECO-04 MP3000**
Radius: 6.7 to 9.1 m
Adjustable Arc and Full-Circle
- Blue: 90° to 210°
- Grey: 360°

| Arc | Pressure bar | Pressure kPa | MP1000 Radius m | MP1000 Flow m³/hr | MP1000 Flow l/min | MP1000 Precip mm/hr ■ | MP1000 Precip mm/hr ▲ | MP2000 Radius m | MP2000 Flow m³/hr | MP2000 Flow l/min | MP2000 Precip mm/hr ■ | MP2000 Precip mm/hr ▲ | MP3000 Radius m | MP3000 Flow m³/hr | MP3000 Flow l/min | MP3000 Precip mm/hr ■ | MP3000 Precip mm/hr ▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90° | 2.1 | 210 | 3.7 | 0.04 | 0.64 | 11 | 13 | 5.5 | 0.09 | 1.44 | 12 | 13 | 8.2 | 0.17 | 2.88 | 10 | 12 |
| | 2.5 | 250 | 4.0 | 0.04 | 0.72 | 11 | 13 | 5.8 | 0.09 | 1.52 | 11 | 13 | 8.5 | 0.19 | 3.11 | 10 | 12 |
| | **2.8** | **280** | **4.1** | **0.05** | **0.80** | **11** | **13** | **6.1** | **0.10** | **1.63** | **11** | **12** | **9.1** | **0.20** | **3.26** | **10** | **11** |
| | 3.0 | 300 | 4.3 | 0.05 | 0.87 | 11 | 13 | 6.4 | 0.11 | 1.74 | 10 | 12 | 9.1 | 0.21 | 3.41 | 10 | 12 |
| | 3.5 | 350 | 4.5 | 0.06 | 0.95 | 11 | 13 | 6.4 | 0.11 | 1.78 | 11 | 12 | 9.1 | 0.22 | 3.60 | 11 | 12 |
| | 3.8 | 380 | 4.5 | 0.06 | 1.02 | 12 | 14 | 6.4 | 0.11 | 1.82 | 11 | 12 | 9.1 | 0.23 | 3.83 | 11 | 13 |
| 180° | 2.1 | 210 | 3.7 | 0.08 | 1.29 | 11 | 13 | 5.2 | 0.15 | 2.43 | 11 | 13 | 8.2 | 0.36 | 5.99 | 11 | 12 |
| | 2.5 | 250 | 4.0 | 0.09 | 1.44 | 11 | 13 | 5.5 | 0.16 | 2.69 | 11 | 12 | 8.5 | 0.39 | 6.44 | 11 | 12 |
| | **2.8** | **280** | **4.1** | **0.10** | **1.59** | **11** | **13** | **5.8** | **0.18** | **2.92** | **11** | **12** | **9.1** | **0.42** | **6.90** | **10** | **12** |
| | 3.0 | 300 | 4.3 | 0.10 | 1.67 | 11 | 13 | 6.1 | 0.20 | 3.22 | 11 | 12 | 9.1 | 0.44 | 7.31 | 11 | 12 |
| | 3.5 | 350 | 4.5 | 0.12 | 1.90 | 11 | 13 | 6.4 | 0.21 | 3.45 | 10 | 12 | 9.1 | 0.47 | 7.73 | 11 | 13 |
| | 3.8 | 380 | 4.5 | 0.12 | 1.93 | 12 | 13 | 6.4 | 0.22 | 3.60 | 11 | 12 | 9.1 | 0.49 | 8.07 | 12 | 14 |
| 210° | 2.1 | 210 | 3.7 | 0.09 | 1.52 | 12 | 13 | 5.2 | 0.17 | 2.84 | 11 | 13 | 8.2 | 0.42 | 6.97 | 11 | 12 |
| | 2.5 | 250 | 4.0 | 0.10 | 1.71 | 11 | 13 | 5.5 | 0.19 | 3.07 | 11 | 12 | 8.5 | 0.46 | 7.54 | 11 | 13 |
| | **2.8** | **280** | **4.1** | **0.11** | **1.86** | **11** | **13** | **5.8** | **0.20** | **3.26** | **10** | **12** | **9.1** | **0.49** | **8.03** | **10** | **12** |
| | 3.0 | 300 | 4.3 | 0.12 | 1.93 | 11 | 13 | 6.1 | 0.21 | 3.45 | 10 | 11 | 9.1 | 0.52 | 8.53 | 11 | 12 |
| | 3.5 | 350 | 4.5 | 0.13 | 2.16 | 11 | 13 | 6.4 | 0.23 | 3.71 | 9 | 11 | 9.1 | 0.55 | 8.98 | 11 | 13 |
| | 3.8 | 380 | 4.5 | 0.14 | 2.24 | 11 | 13 | 6.4 | 0.23 | 3.83 | 10 | 11 | 9.1 | 0.57 | 9.44 | 12 | 14 |
| 360° | 2.1 | 210 | 3.7 | 0.16 | 2.62 | 12 | 13 | 5.2 | 0.29 | 4.85 | 11 | 13 | 8.2 | 0.72 | 11.94 | 11 | 12 |
| | 2.5 | 250 | 4.0 | 0.18 | 2.92 | 11 | 13 | 5.5 | 0.32 | 5.19 | 10 | 12 | 8.5 | 0.78 | 12.89 | 11 | 12 |
| | **2.8** | **280** | **4.1** | **0.19** | **3.18** | **11** | **13** | **5.8** | **0.34** | **5.61** | **10** | **12** | **9.1** | **0.84** | **13.80** | **10** | **12** |
| | 3.0 | 300 | 4.3 | 0.20 | 3.34 | 11 | 13 | 6.1 | 0.36 | 5.95 | 10 | 11 | 9.1 | 0.89 | 14.63 | 11 | 12 |
| | 3.5 | 350 | 4.5 | 0.23 | 3.71 | 11 | 13 | 6.4 | 0.39 | 6.37 | 9 | 11 | 9.1 | 0.94 | 15.43 | 11 | 13 |
| | 3.8 | 380 | 4.5 | 0.23 | 3.83 | 11 | 13 | 6.4 | 0.40 | 6.59 | 10 | 11 | 9.1 | 0.98 | 16.18 | 12 | 14 |

**Bold** = Recommended pressure

# STANDARD MP ROTATOR™

*Radius:* **2.5 to 10.7 m**

10 mm/hr

*The MP Rotator Nozzle is the most trusted high-efficiency solution on the market, offering up to 30% water savings over traditional spray nozzles.*

## KEY BENEFITS

- Lowest precipitation rate in the industry of approximately 10 mm/hr
- Matched precipitation for simplified irrigation design and flexibility
- Double-pop feature protects the nozzle from external debris
- High distribution uniformity for a healthy landscape with maximum water efficiency

## ADDITIONAL FEATURES

- Wind-resistant, multi-stream technology prevents misting
- For vandal resistance, the arc is adjustable only when the MP Rotator Nozzle is running
- Removable filter screen prevents nozzle from clogging
- Colour-coded for easy identification

## OPERATING SPECIFICATIONS

- Radius reduction up to approximately 25% on all models
- Recommended operating pressure: 2.8 bar; 280 kPa
- Minimum radius setting achieved at 2.1 bar; 210 kPa
- Warranty period: 3 years

## OPTIONS

- Pair with Pro-Spray™ PRS40 Sprinkler Body for pressure regulation to 2.8 bar; 280 kPa for nominal radius settings
- Pair with Pro-Spray PRS30 Sprinkler Body for pressure regulation to 2.1 bar; 210 kPa for minimum radius settings

**MP ROTATOR – SPECIFICATION BUILDER:** ORDER 1 + 2

| 1 Model | 2 Options |
|---|---|
| **MP1000-90** = 2.5 to 4.5 m radius, adjustable from 90° to 210° | **(blank)** = No option |
| **MP1000-210** = 2.5 to 4.5 m radius, adjustable from 210° to 270° | **HT** = Male threaded version *(Not available in 3500 and 1000-210)* |
| **MP1000-360** = 2.5 to 4.5 m radius, 360° | |
| **MP2000-90** = 4.0 to 6.4 m radius, adjustable from 90° to 210° | |
| **MP2000-210** = 4.0 to 6.4 m radius, adjustable from 210° to 270° | |
| **MP2000-360** = 4.0 to 6.4 m radius, 360° | |
| **MP3000-90** = 6.7 to 9.1 m radius, adjustable from 90° to 210° | |
| **MP3000-210** = 6.7 to 9.1 m radius, adjustable from 210° to 270° | |
| **MP3000-360** = 6.7 to 9.1 m radius, 360° | |
| **MP3500-90** = 9.4 to 10.7 m radius, adjustable from 90° to 210° | |
| **MPLCS-515** = Left corner strip, 1.5 m x 4.6 m | |
| **MPRCS-515** = Right corner strip, 1.5 m x 4.6 m | |
| **MPSS-530** = Side strip, 1.5 m x 9.1 m | |
| **MP-CORNER** = 2.5 to 4.5 m radius, adjustable from 45° to 105° | |

### MP1000: 2.5 to 4.5 m radius

**MP1000-90**
90° to 210°

**MP1000-210**
210° to 270°

**MP1000-360**
360°

### MP2000: 4.0 to 6.4 m radius

**MP2000-90**
90° to 210°

**MP2000-210**
210° to 270°

**MP2000-360**
360°

### MP3000: 6.7 to 9.1 m radius

**MP3000-90**
90° to 210°

**MP3000-210**
210° to 270°

**MP3000-360**
360°

### MP3500: 9.4 to 10.7 m radius

**MP3500-90**
90° to 210°

## MP ROTATOR PERFORMANCE DATA

**MP1000**
Radius: 2.5 to 4.5 m
Adjustable Arc and Full-Circle
- Maroon: 90° to 210°
- Lt. Blue: 210° to 270°
- Olive: 360°

**MP2000**
Radius: 4.0 to 6.4 m
Adjustable Arc and Full-Circle
- Black: 90° to 210°
- Green: 210° to 270°
- Red: 360°

**MP3000**
Radius: 6.7 to 9.1 m
Adjustable Arc and Full-Circle
- Blue: 90° to 210°
- Yellow: 210° to 270°
- Grey: 360°

| Arc | Pressure bar | Pressure kPa | MP1000 Radius m | MP1000 Flow m³/hr | MP1000 Flow l/min | MP1000 Precip mm/hr ■ | MP1000 Precip mm/hr ▲ | MP2000 Radius m | MP2000 Flow m³/hr | MP2000 Flow l/min | MP2000 Precip mm/hr ■ | MP2000 Precip mm/hr ▲ | MP3000 Radius m | MP3000 Flow m³/hr | MP3000 Flow l/min | MP3000 Precip mm/hr ■ | MP3000 Precip mm/hr ▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90° | 2.1 | 210 | 3.7 | 0.04 | 0.64 | 11 | 13 | 5.5 | 0.09 | 1.44 | 12 | 13 | 8.2 | 0.17 | 2.88 | 10 | 12 |
| | 2.5 | 250 | 4.0 | 0.04 | 0.72 | 11 | 13 | 5.8 | 0.09 | 1.52 | 11 | 13 | 8.5 | 0.19 | 3.11 | 10 | 12 |
| | **2.8** | **280** | **4.1** | **0.05** | **0.80** | **11** | **13** | **6.1** | **0.10** | **1.63** | **11** | **12** | **9.1** | **0.20** | **3.26** | **10** | **11** |
| | 3.0 | 300 | 4.3 | 0.05 | 0.87 | 11 | 13 | 6.4 | 0.11 | 1.74 | 10 | 12 | 9.1 | 0.21 | 3.41 | 10 | 12 |
| | 3.5 | 350 | 4.5 | 0.06 | 0.95 | 11 | 13 | 6.4 | 0.11 | 1.78 | 11 | 12 | 9.1 | 0.22 | 3.60 | 11 | 12 |
| | 3.8 | 380 | 4.5 | 0.06 | 1.02 | 12 | 14 | 6.4 | 0.11 | 1.82 | 11 | 12 | 9.1 | 0.23 | 3.83 | 11 | 13 |
| 180° | 2.1 | 210 | 3.7 | 0.08 | 1.29 | 11 | 13 | 5.2 | 0.15 | 2.43 | 11 | 13 | 8.2 | 0.36 | 5.99 | 11 | 12 |
| | 2.5 | 250 | 4.0 | 0.09 | 1.44 | 11 | 13 | 5.5 | 0.16 | 2.69 | 11 | 12 | 8.5 | 0.39 | 6.44 | 11 | 12 |
| | **2.8** | **280** | **4.1** | **0.10** | **1.59** | **11** | **13** | **5.8** | **0.18** | **2.92** | **11** | **12** | **9.1** | **0.42** | **6.90** | **10** | **12** |
| | 3.0 | 300 | 4.3 | 0.10 | 1.67 | 11 | 13 | 6.1 | 0.20 | 3.22 | 11 | 12 | 9.1 | 0.44 | 7.31 | 11 | 12 |
| | 3.5 | 350 | 4.5 | 0.12 | 1.90 | 11 | 13 | 6.4 | 0.21 | 3.45 | 10 | 12 | 9.1 | 0.47 | 7.73 | 11 | 13 |
| | 3.8 | 380 | 4.5 | 0.12 | 1.93 | 12 | 13 | 6.4 | 0.22 | 3.60 | 11 | 12 | 9.1 | 0.49 | 8.07 | 12 | 14 |
| 210° | 2.1 | 210 | 3.7 | 0.09 | 1.52 | 12 | 13 | 5.2 | 0.17 | 2.84 | 11 | 13 | 8.2 | 0.42 | 6.97 | 11 | 12 |
| | 2.5 | 250 | 4.0 | 0.10 | 1.71 | 11 | 13 | 5.5 | 0.19 | 3.07 | 11 | 12 | 8.5 | 0.46 | 7.54 | 11 | 13 |
| | **2.8** | **280** | **4.1** | **0.11** | **1.86** | **11** | **13** | **5.8** | **0.20** | **3.26** | **10** | **12** | **9.1** | **0.49** | **8.03** | **10** | **12** |
| | 3.0 | 300 | 4.3 | 0.12 | 1.93 | 11 | 13 | 6.1 | 0.21 | 3.45 | 10 | 11 | 9.1 | 0.52 | 8.53 | 11 | 12 |
| | 3.5 | 350 | 4.5 | 0.13 | 2.16 | 11 | 13 | 6.4 | 0.23 | 3.71 | 9 | 11 | 9.1 | 0.55 | 8.98 | 11 | 13 |
| | 3.8 | 380 | 4.5 | 0.14 | 2.24 | 11 | 13 | 6.4 | 0.23 | 3.83 | 10 | 11 | 9.1 | 0.57 | 9.44 | 12 | 14 |
| 270° | 2.1 | 210 | 3.7 | 0.11 | 1.82 | 11 | 12 | 5.2 | 0.22 | 3.60 | 11 | 12 | 8.2 | 0.55 | 8.98 | 11 | 12 |
| | 2.5 | 250 | 4.0 | 0.12 | 2.01 | 10 | 12 | 5.5 | 0.24 | 3.90 | 10 | 12 | 8.5 | 0.59 | 9.66 | 11 | 12 |
| | **2.8** | **280** | **4.1** | **0.14** | **2.39** | **11** | **13** | **5.8** | **0.25** | **4.17** | **10** | **12** | **9.1** | **0.63** | **10.35** | **10** | **12** |
| | 3.0 | 300 | 4.3 | 0.15 | 2.54 | 11 | 13 | 6.1 | 0.27 | 4.43 | 10 | 11 | 9.1 | 0.66 | 10.95 | 11 | 12 |
| | 3.5 | 350 | 4.5 | 0.17 | 2.73 | 11 | 13 | 6.4 | 0.28 | 4.66 | 9 | 11 | 9.1 | 0.70 | 11.60 | 11 | 13 |
| | 3.8 | 380 | 4.5 | 0.17 | 2.84 | 11 | 13 | 6.4 | 0.30 | 4.93 | 10 | 11 | 9.1 | 0.74 | 12.20 | 12 | 14 |
| 360° | 2.1 | 210 | 3.7 | 0.16 | 2.62 | 12 | 13 | 5.2 | 0.29 | 4.85 | 11 | 13 | 8.2 | 0.72 | 11.94 | 11 | 12 |
| | 2.5 | 250 | 4.0 | 0.18 | 2.92 | 11 | 13 | 5.5 | 0.32 | 5.19 | 10 | 12 | 8.5 | 0.78 | 12.89 | 11 | 12 |
| | **2.8** | **280** | **4.1** | **0.19** | **3.18** | **11** | **13** | **5.8** | **0.34** | **5.61** | **10** | **12** | **9.1** | **0.84** | **13.80** | **10** | **12** |
| | 3.0 | 300 | 4.3 | 0.20 | 3.34 | 11 | 13 | 6.1 | 0.36 | 5.95 | 10 | 11 | 9.1 | 0.89 | 14.63 | 11 | 12 |
| | 3.5 | 350 | 4.5 | 0.23 | 3.71 | 11 | 13 | 6.4 | 0.39 | 6.37 | 9 | 11 | 9.1 | 0.94 | 15.43 | 11 | 13 |
| | 3.8 | 380 | 4.5 | 0.23 | 3.83 | 11 | 13 | 6.4 | 0.40 | 6.59 | 10 | 11 | 9.1 | 0.98 | 16.18 | 12 | 14 |

**Bold =** Optimal pressure for the MP Rotator Nozzle is 2.8 bar; 280 kPa. This can easily be achieved by using it with the pressure-regulated Pro-Spray PRS40 Sprinkler Body at 2.8 bar; 280 kPa.

**Works best with Pro-Spray PRS40**

Smart Approved WaterMark

**Smart WaterMark**
Recognised as a responsible water-saving tool

*Compatible with:*

***Pro-Spray PRS40***
*Page 72*

## MP ROTATOR PERFORMANCE DATA

**MP3500**
Radius: 9.4 to 10.7 m
Adjustable Arc
● Light Brown: 90° to 210°

| Arc | Pressure bar | Pressure kPa | Radius m | Flow m³/hr | Flow l/min | Precip. mm/hr ■ | Precip. mm/hr ▲ |
|---|---|---|---|---|---|---|---|
| 90° | 2.1 | 210 | 10.4 | 0.26 | 4.28 | 10 | 11 |
| | 2.5 | 250 | 10.4 | 0.28 | 4.58 | 10 | 12 |
| | **2.8** | **280** | **10.7** | **0.29** | **4.84** | **10** | **12** |
| | 3.0 | 300 | 10.7 | 0.31 | 5.22 | 11 | 13 |
| | 3.5 | 350 | 10.7 | 0.33 | 5.41 | 11 | 13 |
| | 3.8 | 380 | 10.7 | 0.34 | 5.68 | 12 | 14 |
| 180° | 2.1 | 210 | 10.4 | 0.51 | 8.48 | 9 | 11 |
| | 2.5 | 250 | 10.4 | 0.60 | 10.03 | 11 | 13 |
| | **2.8** | **280** | **10.7** | **0.65** | **10.83** | **11** | **13** |
| | 3.0 | 300 | 10.7 | 0.70 | 11.73 | 12 | 14 |
| | 3.5 | 350 | 10.7 | 0.73 | 12.15 | 13 | 15 |
| | 3.8 | 380 | 10.7 | 0.75 | 12.41 | 13 | 15 |
| 210° | 2.1 | 210 | 10.4 | 0.65 | 10.75 | 10 | 12 |
| | 2.5 | 250 | 10.4 | 0.70 | 11.66 | 11 | 13 |
| | **2.8** | **280** | **10.7** | **0.75** | **12.45** | **11** | **13** |
| | 3.0 | 300 | 10.7 | 0.80 | 13.40 | 12 | 14 |
| | 3.5 | 350 | 10.7 | 0.85 | 14.23 | 13 | 15 |
| | 3.8 | 380 | 10.7 | 0.90 | 14.91 | 13 | 16 |

**Bold** = Optimal pressure for the MP Rotator Nozzle is 2.8 bar; 280 kPa. This can easily be achieved by using it with the pressure-regulated Pro-Spray PRS40 Sprinkler Body at 2.8 bar; 280 kPa.

MP3500

## MP ROTATOR PERFORMANCE DATA

● **MPLCS-515:** Ivory, MP Left Corner Strip
● **MPRCS-515:** Copper, MP Right Corner Strip
● **MPSS-530:** Brown, MP Side Strip

| | Pressure bar | Pressure kPa | Radius m | Flow m³/hr | Flow l/min | Precip. mm/hr ■ | Precip. mm/hr ▲ |
|---|---|---|---|---|---|---|---|
| MP Left Corner Strip | 2.1 | 210 | 1.2 x 4.2 | 0.04 | 0.64 | 31 | 15 |
| | 2.5 | 250 | 1.4 x 4.4 | 0.04 | 0.68 | 27 | 13 |
| | **2.8** | **280** | **1.5 x 4.5** | **0.04** | **0.72** | **26** | **13** |
| | 3.0 | 300 | 1.6 x 4.6 | 0.05 | 0.79 | 26 | 13 |
| | 3.5 | 350 | 1.7 x 4.7 | 0.05 | 0.87 | 26 | 13 |
| | 3.8 | 380 | 1.8 x 4.8 | 0.05 | 0.91 | 25 | 13 |
| MP Right Corner Strip | 2.1 | 210 | 1.2 x 4.2 | 0.04 | 0.64 | 31 | 15 |
| | 2.5 | 250 | 1.4 x 4.4 | 0.04 | 0.68 | 27 | 13 |
| | **2.8** | **280** | **1.5 x 4.5** | **0.04** | **0.72** | **26** | **13** |
| | 3.0 | 300 | 1.6 x 4.6 | 0.05 | 0.79 | 26 | 13 |
| | 3.5 | 350 | 1.7 x 4.7 | 0.05 | 0.87 | 26 | 13 |
| | 3.8 | 380 | 1.8 x 4.8 | 0.05 | 0.91 | 25 | 13 |
| MP Side Strip | 2.1 | 210 | 1.2 x 8.4 | 0.07 | 1.25 | 30 | 15 |
| | 2.5 | 250 | 1.4 x 8.7 | 0.08 | 1.36 | 27 | 13 |
| | **2.8** | **280** | **1.5 x 9.0** | **0.09** | **1.44** | **26** | **13** |
| | 3.0 | 300 | 1.6 x 9.3 | 0.09 | 1.55 | 25 | 13 |
| | 3.5 | 350 | 1.7 x 9.6 | 0.10 | 1.67 | 24 | 12 |
| | 3.8 | 380 | 1.8 x 9.9 | 0.11 | 1.79 | 24 | 12 |

### MP Rotator Strip Nozzles

**MPLCS-515**
Left Corner Strip
1.5 x 4.6 m

**MPRCS-515**
Right Corner Strip
1.5 x 4.6 m

**MPSS-530**
Side Strip
1.5 x 9.1 m

**Notes:**
To match the precipitation rate of MP Rotator MP800 Nozzles, use rectangular spacing.

See **page 204** for precipitation rate calculation.

## MP ROTATOR PERFORMANCE DATA

**MP Corner**
Radius: 2.5 to 4.5 m
Adjustable Arc
● Turquoise: 45° to 105°

| Arc | Pressure bar | Pressure kPa | Radius m | Flow $m^3/hr$ | Flow l/min |
|---|---|---|---|---|---|
| 45° | 2.1 | 210 | 3.5 | 0.04 | 0.61 |
| | 2.5 | 250 | 4.0 | 0.04 | 0.68 |
| | **2.8** | **280** | **4.1** | **0.04** | **0.70** |
| | 3.0 | 300 | 4.3 | 0.04 | 0.73 |
| | 3.5 | 350 | 4.4 | 0.05 | 0.78 |
| | 3.8 | 380 | 4.5 | 0.05 | 0.81 |
| 90° | 2.1 | 210 | 3.5 | 0.08 | 1.27 |
| | 2.5 | 250 | 4.0 | 0.08 | 1.40 |
| | **2.8** | **280** | **4.1** | **0.09** | **1.44** |
| | 3.0 | 300 | 4.3 | 0.09 | 1.57 |
| | 3.5 | 350 | 4.4 | 0.10 | 1.67 |
| | 3.8 | 380 | 4.5 | 0.10 | 1.73 |
| 105° | 2.1 | 210 | 3.5 | 0.09 | 1.48 |
| | 2.5 | 250 | 4.0 | 0.10 | 1.63 |
| | **2.8** | **280** | **4.1** | **0.10** | **1.70** |
| | 3.0 | 300 | 4.3 | 0.11 | 1.83 |
| | 3.5 | 350 | 4.4 | 0.12 | 1.94 |
| | 3.8 | 380 | 4.5 | 0.12 | 2.00 |

### MP Corner


**MP-CORNER**
Corner
2.5 to 4.5 m

### Male Threaded

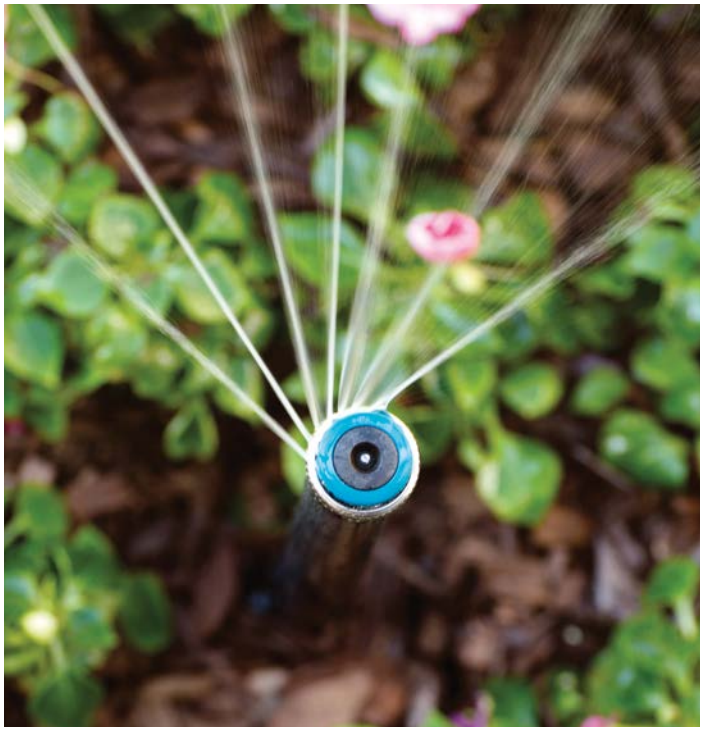
**MP-HT**
Male Threaded

### MP Accessories

**MPTOOL**
Adjusts all MP Rotator Nozzles

**MPSTICK**
Snaps onto any length of 1" (25 mm) PVC to allow standing adjustment.
*PVC pipe not included.*

MP Corner



MP Tool for easy adjustments

# MP ROTATOR™ MP800

*Radius:* **1.8 to 4.9 m**

20 mm/hr

*The MP800 offers a higher precipitation rate perfect for small spaces and spray retrofits.*

## KEY BENEFITS

- Precipitation rate of approximately 20 mm/hr for spray retrofit applications
- Automatic matched precipitation for simplified irrigation design and flexibility
- Double-pop feature protects the nozzle from external debris
- High distribution uniformity for a healthy landscape with maximum water efficiency

## ADDITIONAL FEATURES

- Wind-resistant, multi-stream technology prevents misting
- For vandal resistance, the arc is adjustable only when the MP Rotator Nozzle is running
- Removable filter screen prevents nozzle clogging
- Colour-coded for easy identification

## OPERATING SPECIFICATIONS

- Radius reduction up to approximately 25% on all models
- Recommended operating pressure: 2.8 bar; 280 kPa
- Minimum radius setting achieved at 2.1 bar; 210 kPa
- Filtration recommended on dirty water applications
- Warranty period: 3 years

## OPTIONS

- Pair with Pro-Spray™ PRS40 Sprinkler Body for pressure regulation to 2.8 bar; 280 kPa for nominal radius settings
- Pair with Pro-Spray PRS30 Sprinkler Body for pressure regulation to 2.1 bar; 210 kPa for minimum radius settings

### MP800SR: 1.8 m to 3.5 m radius

**MP800SR-90**
90° to 210°

**MP800SR-360**
360°

### MP815: 2.5 m to 4.9 m radius

**MP815-90**
90° to 210°

**MP815-210**
210° to 270°

**MP815-360**
360°

*Compatible with:*

***HY Filter***
*Page 168*

***PRS30 and PRS40***
*Page 70 and Page 72*

MP800SR-90

MP815-90

## MP ROTATOR PERFORMANCE DATA

### MP800SR

Radius: 1.8 to 3.5 m
Adjustable Arc and Full-Circle
- Orange and Grey: 90° to 210°
- Lime Green and Grey: 360°

| Arc | Pressure bar | Pressure kPa | MAX RADIUS Radius m | MAX RADIUS Flow m³/hr | MAX RADIUS Flow l/min | MAX RADIUS Precip. mm/hr ■ | MAX RADIUS Precip. mm/hr ▲ | MIN RADIUS Radius m | MIN RADIUS Flow m³/hr | MIN RADIUS Flow l/min |
|---|---|---|---|---|---|---|---|---|---|---|
| 90° | 2.1 | 210 | 2.6 | 0.04 | 0.61 | 22 | 25 | 1.8 | 0.03 | 0.49 |
| | 2.5 | 250 | 2.9 | 0.04 | 0.72 | 21 | 24 | 2.1 | 0.03 | 0.55 |
| | **2.8** | **280** | **3.1** | **0.05** | **0.87** | **21** | **24** | **2.4** | **0.04** | **0.61** |
| | 3.0 | 300 | 3.4 | 0.06 | 0.95 | 20 | 23 | 2.4 | 0.04 | 0.68 |
| | 3.5 | 350 | 3.5 | 0.06 | 1.02 | 20 | 23 | 2.7 | 0.04 | 0.72 |
| | 3.8 | 380 | 3.5 | 0.06 | 1.06 | 20 | 23 | 3.0 | 0.05 | 0.76 |
| 180° | 2.1 | 210 | 2.6 | 0.07 | 1.21 | 22 | 25 | 1.8 | 0.06 | 0.98 |
| | 2.5 | 250 | 2.8 | 0.08 | 1.40 | 21 | 24 | 2.1 | 0.07 | 1.10 |
| | **2.8** | **280** | **3.0** | **0.10** | **1.59** | **21** | **24** | **2.4** | **0.07** | **1.21** |
| | 3.0 | 300 | 3.3 | 0.10 | 1.74 | 19 | 22 | 2.4 | 0.08 | 1.36 |
| | 3.5 | 350 | 3.4 | 0.11 | 1.82 | 19 | 22 | 2.7 | 0.09 | 1.44 |
| | 3.8 | 380 | 3.5 | 0.11 | 1.89 | 18 | 21 | 3.0 | 0.09 | 1.51 |
| 210° | 2.1 | 210 | 2.6 | 0.08 | 1.40 | 22 | 25 | 1.8 | 0.07 | 1.15 |
| | 2.5 | 250 | 2.8 | 0.10 | 1.67 | 22 | 25 | 2.1 | 0.08 | 1.28 |
| | **2.8** | **280** | **3.0** | **0.11** | **1.85** | **21** | **24** | **2.4** | **0.08** | **1.41** |
| | 3.0 | 300 | 3.2 | 0.12 | 2.01 | 20 | 23 | 2.4 | 0.10 | 1.59 |
| | 3.5 | 350 | 3.4 | 0.13 | 2.12 | 19 | 22 | 2.7 | 0.10 | 1.68 |
| | 3.8 | 380 | 3.5 | 0.13 | 2.20 | 18 | 21 | 3.0 | 0.11 | 1.77 |
| 360° | 2.1 | 210 | 2.6 | 0.14 | 2.38 | 22 | 25 | 1.8 | 0.11 | 1.78 |
| | 2.5 | 250 | 2.8 | 0.16 | 2.65 | 20 | 23 | 2.1 | 0.12 | 1.97 |
| | **2.8** | **280** | **3.0** | **0.18** | **2.95** | **20** | **23** | **2.4** | **0.13** | **2.12** |
| | 3.0 | 300 | 3.1 | 0.19 | 3.22 | 20 | 23 | 2.4 | 0.13 | 2.23 |
| | 3.5 | 350 | 3.3 | 0.20 | 3.33 | 19 | 21 | 2.7 | 0.14 | 2.38 |
| | 3.8 | 380 | 3.5 | 0.22 | 3.71 | 18 | 21 | 3.0 | 0.16 | 2.65 |

**Bold** = Optimal pressure for the MP Rotator Nozzle is 2.8 bar; 280 kPa. This can easily be achieved by using it with the pressure-regulated Pro-Spray PRS40 Sprinkler Body at 2.8 bar; 280 kPa.

## MP ROTATOR PERFORMANCE DATA

### MP815

Radius: 2.5 to 4.9 m
Adjustable Arc and Full-Circle
- Maroon and Grey: 90° to 210°
- Lt. Blue and Grey: 210° to 270°
- Olive and Grey: 360°

| Arc | Pressure bar | Pressure kPa | Radius m | Flow m³/hr | Flow l/min | Precip. mm/hr ■ | Precip. mm/hr ▲ |
|---|---|---|---|---|---|---|---|
| 90° | 2.1 | 210 | 4.3 | 0.10 | 1.59 | 21 | 24 |
| | 2.5 | 250 | 4.5 | 0.10 | 1.74 | 21 | 24 |
| | **2.8** | **280** | **4.6** | **0.11** | **1.85** | **21** | **24** |
| | 3.1 | 310 | 4.8 | 0.12 | 1.97 | 21 | 24 |
| | 3.5 | 350 | 4.9 | 0.12 | 2.08 | 21 | 24 |
| | 3.8 | 380 | 4.9 | 0.13 | 2.20 | 22 | 25 |
| 180° | 2.1 | 210 | 4.0 | 0.17 | 2.84 | 21 | 25 |
| | 2.5 | 250 | 4.3 | 0.20 | 3.26 | 21 | 24 |
| | **2.8** | **280** | **4.5** | **0.21** | **3.52** | **21** | **24** |
| | 3.1 | 310 | 4.6 | 0.22 | 3.63 | 21 | 24 |
| | 3.5 | 350 | 4.8 | 0.24 | 4.01 | 21 | 24 |
| | 3.8 | 380 | 4.9 | 0.25 | 4.20 | 21 | 24 |
| 210° | 2.1 | 210 | 4.0 | 0.20 | 3.33 | 21 | 25 |
| | 2.5 | 250 | 4.3 | 0.22 | 3.63 | 20 | 23 |
| | **2.8** | **280** | **4.5** | **0.25** | **4.16** | **21** | **24** |
| | 3.1 | 310 | 4.6 | 0.26 | 4.39 | 21 | 25 |
| | 3.5 | 350 | 4.8 | 0.28 | 4.69 | 21 | 24 |
| | 3.8 | 380 | 4.9 | 0.30 | 4.92 | 21 | 24 |
| 270° | 2.1 | 210 | 4.0 | 0.26 | 4.31 | 22 | 25 |
| | 2.5 | 250 | 4.3 | 0.28 | 4.69 | 20 | 23 |
| | **2.8** | **280** | **4.5** | **0.32** | **5.30** | **21** | **24** |
| | 3.1 | 310 | 4.6 | 0.33 | 5.56 | 21 | 24 |
| | 3.5 | 350 | 4.8 | 0.35 | 5.83 | 20 | 23 |
| | 3.8 | 380 | 4.9 | 0.37 | 6.09 | 20 | 23 |
| 360° | 2.1 | 210 | 4.0 | 0.35 | 5.75 | 22 | 25 |
| | 2.5 | 250 | 4.3 | 0.39 | 6.43 | 21 | 24 |
| | **2.8** | **280** | **4.5** | **0.42** | **7.08** | **21** | **24** |
| | 3.1 | 310 | 4.6 | 0.45 | 7.57 | 21 | 25 |
| | 3.5 | 350 | 4.8 | 0.48 | 8.06 | 21 | 24 |
| | 3.8 | 380 | 4.9 | 0.51 | 8.55 | 21 | 25 |

# MP ROTATOR STAKE KIT

*Models:* **Standard and Pressure-Regulated Staking Kits**

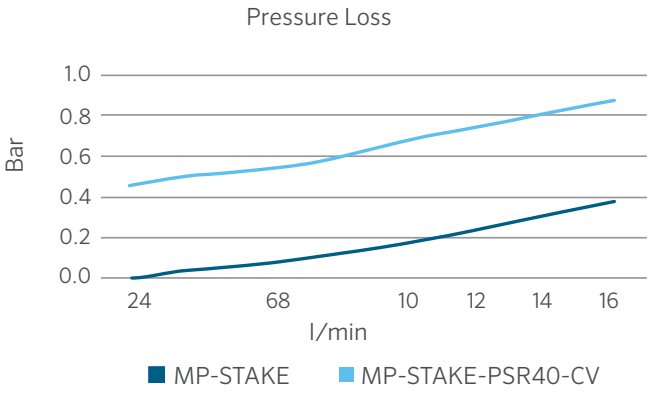
*Designed for easy implementation with any water-efficient MP Rotator Nozzle, MP Stake Kits come preassembled for quick installation in the field.*

## KEY BENEFITS

- Pair with any high-efficiency MP Rotator Nozzle to simplify temporary irrigation
- Preassembled for fast and easy installation in the field
- Standard kit includes a 66 cm stake, nozzle adapter, 0.345" (9 mm) tubing, and ½" threaded male fitting for quick connection
- For maximum water savings, upgrade to a 2.8 bar (280 kPa) pressure regulator and Hunter Check Valve

## OPERATING SPECIFICATIONS

- Operational pressure range: 2.1 to 4.8 bar (210 to 480 kPa)




**MP-STAKE**
Total height: 71 cm
Male threaded connection: ½"

**MP-STAKE-PRS40-CV**
Total height: 86 cm
Male threaded connection: ½"

*Compatible with:*

*All MP Rotator Nozzles*
*Page 54 and 58*

*Spray Nozzles*
*Page 75*

**MP-STAKE-PRS40-CV Installation**

| MP-STAKE MODELS | |
|---|---|
| **Model** | **Description** |
| MP-STAKE | 66 cm stake, 0.345" (9 mm) tubing to ½" male fitting, PROS-00 shrub adapter (total height: 71 cm) |
| MP-STAKE-PRS40-CV | 66 cm stake, 0.345" (9 mm) tubing to ½" male fitting, Hunter Check Valve, PROS-00-PRS40 pressure-regulated shrub adapter (total height: 86 cm) |

# ENGINEERED FOR *MAXIMUM EFFICIENCY*

### DURABLE
With only one moving part, the MP Rotator is built with the highest-quality materials to ensure long-lasting performance in every installation.

### EFFICIENT
The rotating streams of water cut through wind, reduce misting, and distribute water at a slow, even rate that soils can better absorb, preventing runoff.

### FLEXIBLE
Matched precipitation across 1.5 m wide strips to 10.7 m radius allows the MP Rotator to fit a wide range of landscapes with uniform coverage for healthy plants.

### RELIABLE
With more than 15 years of proven performance with Hunter Industries, the MP Rotator is the most trusted high-efficiency nozzle on the market.

# SPRAY SPRINKLER BODIES

# SPRAY SPRINKLER BODY ADVANCED FEATURES

## STRENGTH & DURABILITY

### CO-MOULDED WIPER SEAL

Moulded with two types of chemical- and chlorine-resistant materials, this multi-function wiper seal reduces flow-by, allowing more heads on one zone, and prevents debris from entering the seal, reducing riser stick-ups.

### FLOGUARD™ TECHNOLOGY

In the event of a missing nozzle, FloGuard Technology reduces the flow of water from the riser to a 1.9 l/min (3 m tall) indicator stream, eliminating water waste and preventing landscape erosion while providing a visual indicator for repair.

### HEAVY-DUTY SPRING

The industry's strongest spring offers positive retraction under any conditions.

### CHECK VALVE

Optional field- or factory-installed check valves eliminate leaks and puddles at the lower heads, protecting landscapes from damage and erosion while reducing water waste.

### PRESSURE-REGULATED TO 2.1 & 2.8 BAR

Pressure-regulated Pro-Spray™ Sprinkler Bodies optimise the performance of the nozzle, reducing flow rates and preventing misting. The brown PRS30 model regulates pressures to 2.1 bar; 210 kPa for spray nozzles. The grey PRS40 model regulates pressures to 2.8 bar; 280 kPa when paired with the efficient MP Rotator Nozzle.

### INDUSTRY'S STRONGEST SPRAY BODY

The Pro-Spray line incorporates a heavy-duty ribbed body and durable cap engineered to withstand the harshest environments, including the rigors of foot traffic and the abuses of heavy machinery. In addition, the buttress thread design provides superior strength in cap-to-body gripping capacity, helping the head to withstand high inlet surge pressures.

**PRO-SPRAY** **COMPETITOR**

### INNOVATIVE SEAL DESIGN

Pedestrian traffic, landscape equipment, temperature changes, and cycling pressures can cause body caps to loosen. Pro-Spray caps can withstand more than one full 360° turn and remain sealed at any pressure, preventing excess runoff.

**Pro-Spray:** Seal remains intact
**Competitor:** Significant leaking at the body cap

## SPRAY SPRINKLER BODY COMPARISON CHART

| QUICK SPECS | |  PS ULTRA |  PRO-SPRAY® |  PRO-SPRAY PRS30 |  PRO-SPRAY PRS40 |
|---|---|---|---|---|---|
| | | Good | Better | Best for Spray Nozzles | Best for MP Rotator™ Nozzles |
| POP-UP HEIGHT | cm | 5, 10, 15 | Shrub, 5, 7.5, 10, 15, 30 | Shrub, 7.5, 10, 15, 30 | Shrub, 7.5, 10, 15, 30 |
| PRESSURE-REGULATED | bar | N/A | N/A | 2.1 | 2.8 |
| | kPa | N/A | N/A | 210 | 280 |
| **FEATURES** | | | | | |
| PREINSTALLED NOZZLE | | 5SS, 8A, 10A, 12A, 15A, 17A | N/A | N/A | N/A |
| CAP COLOUR | | Black | Black | Brown | Grey |
| CHECK VALVES | | Field-Installed | Field-Installed or Factory-Installed | Field-Installed or Factory-Installed | Field-Installed or Factory-Installed |
| WARRANTY | | 2 Years | 5 Years | 5 Years | 5 Years |
| **ADVANCED FEATURES** | | | | | |
| BODY STYLE | | Slim Line | Rugged Body | Rugged Body | Rugged Body |
| SPRING | | Standard | Heavy-Duty | Heavy-Duty | Heavy-Duty |
| CO-MOULDED WIPER SEAL | | | ● | ● | ● |
| RECLAIMED CAP | | | ● | ● | ● |
| PRESSURE REGULATION | | | | ● | ● |
| FLOGUARD™ TECHNOLOGY | | | | ● | ● |
| **APPLICATIONS** | | | | | |
| TURFGRASS | | ● | ● | ● | ● |
| TURFGRASS: TALL MOWING HEIGHT | | ● | ● | ● | ● |
| SHRUBS: SPRINKLERS ON RISERS | | | ● | ● | ● |
| SHRUBS: TALL POP-UP SPRINKLERS | | | ● | ● | ● |
| RESIDENTIAL | | ● | ● | ● | ● |
| COMMERCIAL/MUNICIPALITIES | | | ● | ● | ● |
| HIGH-TRAFFIC AREAS | | | ● | ● | ● |
| RECLAIMED WATER | | | ● | ● | ● |

# PS ULTRA

*The PS Ultra is a compact, slim-line spray sprinkler with the option of preinstalled nozzles for faster installation.*

## KEY BENEFITS

- Enhanced cap for more durability, easier handling, and extended riser seal life
- Large inlet filter screen for increased debris resistance
- Check valve option eliminates low-head drainage
- Heavy-duty spring for consistent riser retraction

## ADDITIONAL FEATURES

- Directional flush plug design for cleaner installation
- Two-piece ratcheting riser
- 5 cm and 10 cm models can retrofit into older style PS models
- Compatible with all female-threaded nozzles

## OPERATING SPECIFICATIONS

- Operational pressure range: 1.4 to 4.8 bar; 140 to 480 kPa
- Warranty period: 2 years

## FACTORY-INSTALLED OPTIONS

- Flush plug (large filter screen not included)
- Nozzles 2.4 m, 3.0 m, 3.7 m, 4.6 m, 5.2 m, 1.5 x 9.0 m side strip
- Large inlet filter screen included in 10 cm and 15 cm preinstalled nozzle models

## USER-INSTALLED OPTIONS

- Check valve installs in filter screen for 10 cm and 15 cm models (up to 2 m of elevation; P/N 462237SP)
- Large inlet filter screen (P/N 162900SP)
- Shutoff nozzle (P/N 916400SP)

**PSU-02**
Retracted height: 12 cm
Pop-up height: 5 cm
Exposed diameter: 3 cm
Inlet size: ½"

**PSU-04**
Retracted height: 18 cm
Pop-up height: 10 cm
Exposed diameter: 3 cm
Inlet size: ½"

**PSU-06**
Retracted height: 24 cm
Pop-up height: 15 cm
Exposed diameter: 3 cm
Inlet size: ½"

**PS ULTRA – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 (OPTIONAL)

| 1 Model | 2 Nozzles | 3 Optional |
|---|---|---|
| **PSU-02** = 5 cm pop-up | **(blank)** = Flush plug, no large filter screen | **NFO** = Nozzle filter only *(available for 10 cm model only)*. Substitute standard installation of large inlet filter screen and receive unit with the nozzle filter only. |
| **PSU-04** = 10 cm pop-up | **8A** = 2.4 m adjustable nozzle | |
| **PSU-06** = 15 cm pop-up | **10A** = 3.0 m adjustable nozzle | |
| | **12A** = 3.7 m adjustable nozzle | |
| | **15A** = 4.6 m adjustable nozzle | |
| | **17A** = 5.2 m adjustable nozzle | |
| | **5SS** = 1.5 m x 9.1 m side strip *(not available for PSU-06)* | |

**Examples:**
**PSU-04 - 15A** = 10 cm pop-up, with a 4.6 m adjustable nozzle
**PSU-02 - 5SS** = 5 cm pop-up, with a 1.5 m x 9.0 m side strip
**PSU-06 - 10A** = 15 cm pop-up, with a 3.0 m adjustable nozzle
**PSU-04 - 12A - NFO** = 10 cm pop-up, with a 3.7 m adjustable nozzle, nozzle filter only

## PS ULTRA STANDARD NOZZLES PERFORMANCE DATA

**8A** — Brown — 2.4 m radius, Adjustable from 0° to 360°, Trajectory: 15°

**10A** — Red — 3.0 m radius, Adjustable from 0° to 360°, Trajectory: 15°

**12A** — Green — 3.7 m radius, Adjustable from 0° to 360°, Trajectory: 28°

| Arc | Pressure | | 8A Radius | 8A Flow | | 8A Precip mm/hr | | 10A Radius | 10A Flow | | 10A Precip mm/hr | | 12A Radius | 12A Flow | | 12A Precip mm/hr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ |
| 45° | 1.0 | 100 | 2.0 | 0.04 | 0.62 | 77 | 89 | 2.6 | 0.04 | 0.68 | 49 | 56 | 3.2 | 0.04 | 0.73 | 34 | 40 |
| | 1.5 | 150 | 2.2 | 0.04 | 0.72 | 72 | 83 | 2.8 | 0.05 | 0.80 | 49 | 57 | 3.4 | 0.06 | 0.97 | 40 | 46 |
| | **2.1** | **210** | **2.4** | **0.05** | **0.83** | **67** | **77** | **3.0** | **0.06** | **0.94** | **49** | **56** | **3.7** | **0.07** | **1.23** | **44** | **51** |
| | 2.5 | 250 | 2.6 | 0.05 | 0.91 | 63 | 73 | 3.2 | 0.06 | 1.06 | 48 | 56 | 3.9 | 0.09 | 1.44 | 46 | 54 |
| | 3.0 | 300 | 2.9 | 0.06 | 1.01 | 59 | 68 | 3.5 | 0.07 | 1.18 | 47 | 54 | 4.1 | 0.10 | 1.68 | 48 | 56 |
| 90° | 1.0 | 100 | 2.0 | 0.07 | 1.24 | 77 | 89 | 2.6 | 0.08 | 1.35 | 49 | 56 | 3.2 | 0.09 | 1.46 | 34 | 40 |
| | 1.5 | 150 | 2.2 | 0.09 | 1.44 | 72 | 83 | 2.8 | 0.10 | 1.61 | 49 | 57 | 3.4 | 0.12 | 1.93 | 40 | 46 |
| | **2.1** | **210** | **2.4** | **0.10** | **1.65** | **67** | **77** | **3.0** | **0.11** | **1.89** | **49** | **56** | **3.7** | **0.15** | **2.46** | **44** | **51** |
| | 2.5 | 250 | 2.6 | 0.11 | 1.82 | 63 | 73 | 3.2 | 0.13 | 2.11 | 48 | 56 | 3.9 | 0.17 | 2.88 | 46 | 54 |
| | 3.0 | 300 | 2.9 | 0.12 | 2.02 | 59 | 68 | 3.5 | 0.14 | 2.37 | 47 | 54 | 4.1 | 0.20 | 3.36 | 48 | 56 |
| 120° | 1.0 | 100 | 2.0 | 0.10 | 1.66 | 77 | 89 | 2.6 | 0.11 | 1.80 | 49 | 56 | 3.2 | 0.12 | 1.94 | 34 | 40 |
| | 1.5 | 150 | 2.2 | 0.11 | 1.92 | 72 | 83 | 2.8 | 0.13 | 2.14 | 49 | 57 | 3.4 | 0.15 | 2.58 | 40 | 46 |
| | **2.1** | **210** | **2.4** | **0.13** | **2.20** | **67** | **77** | **3.0** | **0.15** | **2.52** | **49** | **56** | **3.7** | **0.20** | **3.28** | **44** | **51** |
| | 2.5 | 250 | 2.6 | 0.15 | 2.43 | 63 | 73 | 3.2 | 0.17 | 2.82 | 48 | 56 | 3.9 | 0.23 | 3.84 | 46 | 54 |
| | 3.0 | 300 | 2.9 | 0.16 | 2.69 | 59 | 68 | 3.5 | 0.19 | 3.16 | 47 | 54 | 4.1 | 0.27 | 4.48 | 48 | 56 |
| 180° | 1.0 | 100 | 2.0 | 0.15 | 2.49 | 77 | 89 | 2.6 | 0.16 | 2.71 | 49 | 56 | 3.2 | 0.17 | 2.91 | 34 | 40 |
| | 1.5 | 150 | 2.2 | 0.17 | 2.87 | 72 | 83 | 2.8 | 0.19 | 3.21 | 49 | 57 | 3.4 | 0.23 | 3.86 | 40 | 46 |
| | **2.1** | **210** | **2.4** | **0.20** | **3.30** | **67** | **77** | **3.0** | **0.23** | **3.78** | **49** | **56** | **3.7** | **0.30** | **4.92** | **44** | **51** |
| | 2.5 | 250 | 2.6 | 0.22 | 3.65 | 63 | 73 | 3.2 | 0.25 | 4.23 | 48 | 56 | 3.9 | 0.35 | 5.76 | 46 | 54 |
| | 3.0 | 300 | 2.9 | 0.24 | 4.03 | 59 | 68 | 3.5 | 0.28 | 4.73 | 47 | 54 | 4.1 | 0.40 | 6.71 | 48 | 56 |
| 240° | 1.0 | 100 | 2.0 | 0.20 | 3.32 | 77 | 89 | 2.6 | 0.22 | 3.61 | 49 | 56 | 3.2 | 0.23 | 3.88 | 34 | 40 |
| | 1.5 | 150 | 2.2 | 0.23 | 3.83 | 72 | 83 | 2.8 | 0.26 | 4.28 | 49 | 57 | 3.4 | 0.31 | 5.15 | 40 | 46 |
| | **2.1** | **210** | **2.4** | **0.26** | **4.40** | **67** | **77** | **3.0** | **0.30** | **5.03** | **49** | **56** | **3.7** | **0.39** | **6.56** | **44** | **51** |
| | 2.5 | 250 | 2.6 | 0.29 | 4.86 | 63 | 73 | 3.2 | 0.34 | 5.64 | 48 | 56 | 3.9 | 0.46 | 7.68 | 46 | 54 |
| | 3.0 | 300 | 2.9 | 0.32 | 5.38 | 59 | 68 | 3.5 | 0.38 | 6.31 | 47 | 54 | 4.1 | 0.54 | 8.95 | 48 | 56 |
| 270° | 1.0 | 100 | 2.0 | 0.22 | 3.73 | 77 | 89 | 2.6 | 0.24 | 4.06 | 49 | 56 | 3.2 | 0.26 | 4.37 | 34 | 40 |
| | 1.5 | 150 | 2.2 | 0.26 | 4.31 | 72 | 83 | 2.8 | 0.29 | 4.82 | 49 | 57 | 3.4 | 0.35 | 5.80 | 40 | 46 |
| | **2.1** | **210** | **2.4** | **0.30** | **4.95** | **67** | **77** | **3.0** | **0.34** | **5.66** | **49** | **56** | **3.7** | **0.44** | **7.38** | **44** | **51** |
| | 2.5 | 250 | 2.6 | 0.33 | 5.47 | 63 | 73 | 3.2 | 0.38 | 6.34 | 48 | 56 | 3.9 | 0.52 | 8.65 | 46 | 54 |
| | 3.0 | 300 | 2.9 | 0.36 | 6.05 | 59 | 68 | 3.5 | 0.43 | 7.10 | 47 | 54 | 4.1 | 0.60 | 10.07 | 48 | 56 |
| 360° | 1.0 | 100 | 2.0 | 0.30 | 4.97 | 77 | 89 | 2.6 | 0.32 | 5.41 | 49 | 56 | 3.2 | 0.35 | 5.83 | 34 | 40 |
| | 1.5 | 150 | 2.2 | 0.34 | 5.75 | 72 | 83 | 2.8 | 0.39 | 6.43 | 49 | 57 | 3.4 | 0.46 | 7.73 | 40 | 46 |
| | **2.1** | **210** | **2.4** | **0.40** | **6.61** | **67** | **77** | **3.0** | **0.45** | **7.55** | **49** | **56** | **3.7** | **0.59** | **9.84** | **44** | **51** |
| | 2.5 | 250 | 2.6 | 0.44 | 7.29 | 63 | 73 | 3.2 | 0.51 | 8.45 | 48 | 56 | 3.9 | 0.69 | 11.53 | 46 | 54 |
| | 3.0 | 300 | 2.9 | 0.48 | 8.07 | 59 | 68 | 3.5 | 0.57 | 9.47 | 47 | 54 | 4.1 | 0.81 | 13.43 | 48 | 56 |

**Bold** = Recommended pressure

## PS ULTRA STANDARD NOZZLES PERFORMANCE DATA

**15A** ● Black — 4.6 m radius, Adjustable from 0° to 360°, Trajectory: 28°

**17A** ● Grey — 5.2 m radius, Adjustable from 0° to 360°, Trajectory: 28°

| Arc | Pressure | | 15A Radius | 15A Flow | | 15A Precip mm/hr | | 17A Radius | 17A Flow | | 17A Precip mm/hr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ |
| 45° | 1.0 | 100 | 4.0 | 0.08 | 1.27 | 38 | 43 | 4.6 | 0.10 | 1.68 | 38 | 43 |
| | 1.5 | 150 | 4.3 | 0.09 | 1.51 | 39 | 45 | 4.9 | 0.12 | 1.94 | 38 | 44 |
| | **2.1** | **210** | **4.6** | **0.11** | **1.79** | **40** | **46** | **5.2** | **0.13** | **2.23** | **39** | **45** |
| | 2.5 | 250 | 4.9 | 0.12 | 2.00 | 40 | 46 | 5.5 | 0.15 | 2.46 | 39 | 45 |
| | 3.0 | 300 | 5.2 | 0.14 | 2.25 | 40 | 46 | 5.8 | 0.16 | 2.72 | 39 | 45 |
| 90° | 1.0 | 100 | 4.0 | 0.15 | 2.53 | 38 | 43 | 4.6 | 0.20 | 3.36 | 38 | 43 |
| | 1.5 | 150 | 4.3 | 0.18 | 3.03 | 39 | 45 | 4.9 | 0.23 | 3.88 | 38 | 44 |
| | **2.1** | **210** | **4.6** | **0.21** | **3.57** | **40** | **46** | **5.2** | **0.27** | **4.45** | **39** | **45** |
| | 2.5 | 250 | 4.9 | 0.24 | 4.01 | 40 | 46 | 5.5 | 0.30 | 4.92 | 39 | 45 |
| | 3.0 | 300 | 5.2 | 0.27 | 4.50 | 40 | 46 | 5.8 | 0.33 | 5.44 | 39 | 45 |
| 120° | 1.0 | 100 | 4.0 | 0.20 | 3.38 | 38 | 43 | 4.6 | 0.27 | 4.48 | 38 | 43 |
| | 1.5 | 150 | 4.3 | 0.24 | 4.03 | 39 | 45 | 4.9 | 0.31 | 5.17 | 38 | 44 |
| | **2.1** | **210** | **4.6** | **0.29** | **4.76** | **40** | **46** | **5.2** | **0.36** | **5.94** | **39** | **45** |
| | 2.5 | 250 | 4.9 | 0.32 | 5.34 | 40 | 46 | 5.5 | 0.39 | 6.56 | 39 | 45 |
| | 3.0 | 300 | 5.2 | 0.36 | 6.00 | 40 | 46 | 5.8 | 0.43 | 7.25 | 39 | 45 |
| 180° | 1.0 | 100 | 4.0 | 0.30 | 5.07 | 38 | 43 | 4.6 | 0.40 | 6.71 | 38 | 43 |
| | 1.5 | 150 | 4.3 | 0.36 | 6.05 | 39 | 45 | 4.9 | 0.47 | 7.75 | 38 | 44 |
| | **2.1** | **210** | **4.6** | **0.43** | **7.14** | **40** | **46** | **5.2** | **0.53** | **8.91** | **39** | **45** |
| | 2.5 | 250 | 4.9 | 0.48 | 8.02 | 40 | 46 | 5.5 | 0.59 | 9.83 | 39 | 45 |
| | 3.0 | 300 | 5.2 | 0.54 | 9.00 | 40 | 46 | 5.8 | 0.65 | 10.87 | 39 | 45 |
| 240° | 1.0 | 100 | 4.0 | 0.41 | 6.76 | 38 | 43 | 4.6 | 0.54 | 8.95 | 38 | 43 |
| | 1.5 | 150 | 4.3 | 0.48 | 8.07 | 39 | 45 | 4.9 | 0.62 | 10.34 | 38 | 44 |
| | **2.1** | **210** | **4.6** | **0.57** | **9.52** | **40** | **46** | **5.2** | **0.71** | **11.88** | **39** | **45** |
| | 2.5 | 250 | 4.9 | 0.64 | 10.69 | 40 | 46 | 5.5 | 0.79 | 13.11 | 39 | 45 |
| | 3.0 | 300 | 5.2 | 0.72 | 12.00 | 40 | 46 | 5.8 | 0.87 | 14.50 | 39 | 45 |
| 270° | 1.0 | 100 | 4.0 | 0.46 | 7.60 | 38 | 43 | 4.6 | 0.60 | 10.07 | 38 | 43 |
| | 1.5 | 150 | 4.3 | 0.54 | 9.08 | 39 | 45 | 4.9 | 0.70 | 11.63 | 38 | 44 |
| | **2.1** | **210** | **4.6** | **0.64** | **10.71** | **40** | **46** | **5.2** | **0.80** | **13.36** | **39** | **45** |
| | 2.5 | 250 | 4.9 | 0.72 | 12.03 | 40 | 46 | 5.5 | 0.89 | 14.75 | 39 | 45 |
| | 3.0 | 300 | 5.2 | 0.81 | 13.50 | 40 | 46 | 5.8 | 0.98 | 16.31 | 39 | 45 |
| 360° | 1.0 | 100 | 4.0 | 0.61 | 10.13 | 38 | 43 | 4.6 | 0.81 | 13.43 | 38 | 43 |
| | 1.5 | 150 | 4.3 | 0.73 | 12.10 | 39 | 45 | 4.9 | 0.93 | 15.51 | 38 | 44 |
| | **2.1** | **210** | **4.6** | **0.86** | **14.28** | **40** | **46** | **5.2** | **1.07** | **17.82** | **39** | **45** |
| | 2.5 | 250 | 4.9 | 0.96 | 16.03 | 40 | 46 | 5.5 | 1.18 | 19.67 | 39 | 45 |
| | 3.0 | 300 | 5.2 | 1.08 | 18.00 | 40 | 46 | 5.8 | 1.30 | 21.75 | 39 | 45 |

**Bold** = Recommended pressure

## STRIP PATTERN NOZZLE PERFORMANCE DATA

| Model | Pressure | | Width x Length | Flow | |
|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min |
| SS-530 | 1.0 | 100 | 1.2 x 8.5 | 0.21 | 3.5 |
| | 1.5 | 150 | 1.5 x 9.0 | 0.25 | 4.2 |
| | 2.0 | 200 | 1.5 x 9.0 | 0.29 | 4.9 |
| | **2.1** | **210** | **1.5 x 9.1** | **0.30** | **5.0** |
| | 2.5 | 250 | 1.5 x 9.1 | 0.33 | 5.5 |

**Bold** = Recommended pressure

# PRO-SPRAY™

*Meet the strongest, most versatile spray sprinkler body in the industry.*

## KEY BENEFITS

- Industry's strongest spray body for years of reliable performance
- Co-moulded wiper seal made from chemical- and chlorine-resistant materials
- Innovative seal design prevents cap-to-body leaks
- Heavy-duty spring for consistent riser retraction
- Check valve option eliminates low-head drainage

## ADDITIONAL FEATURES

- Directional flush plug design for cleaner installation
- Interchangeable components for easier servicing, retrofits, and upgrades

## OPERATING SPECIFICATIONS

- Operational pressure range: 1.0 to 7.0 bar; 100 to 700 kPa
- SASO Quality Mark Certified
- Warranty period: 5 years

## FACTORY-INSTALLED OPTIONS

- Check valve available for 10 cm, 15 cm, and 30 cm models (up to 3 m of elevation)
- Reclaimed water ID cap

## USER-INSTALLED OPTIONS

- Drain check valve (up to 3 m of elevation; P/N 437400SP)
- Reclaimed water ID cap (P/N 458520SP)
- Snap-on reclaimed cover (P/N PROS-RC-CAP-SP)
- Shutoff cap (P/N 213600SP)
- Shutoff nozzle (P/N 916400SP)

**Pro-Spray Reclaimed**

*Pro-Spray models include optional factory-installed purple reclaimed caps.*

**PRO-SPRAY – SPECIFICATION BUILDER:** ORDER 1 + 2

| 1 Model | 2 Options |
|---|---|
| **PROS-00** = Shrub adapter | **(blank)** = No option |
| **PROS-02** = 5 cm pop-up | **CV** = Factory-installed drain check valve *(Pop-up models only)* |
| **PROS-03** = 7.5 cm pop-up | **R** = Factory-installed reclaimed body cap (shrub moulded in purple) |
| **PROS-04** = 10 cm pop-up | |
| **PROS-06** = 15 cm pop-up (no side inlet) | |
| **PROS-12** = 30 cm pop-up (no side inlet) | |

| PRO-SPRAY (SIDE INLET) MODELS |
|---|
| **PROS-06-SI** = 15 cm pop-up with side inlet |
| **PROS-12-SI** = 30 cm pop-up with side inlet |

**Examples:**
**PROS-06-CV** = 15 cm pop-up, drain check valve
**PROS-12-CV-R** = 30 cm pop-up, drain check valve, reclaimed body cap

**PROS-00**
Retracted height: 4 cm
Inlet size: ½"

**PROS-02**
Retracted height: 10 cm
Pop-up height: 5 cm
Exposed diameter: 5.7 cm
Inlet size: ½"

**PROS-03**
Retracted height: 12.5 cm
Pop-up height: 7.5 cm
Exposed diameter: 5.7 cm
Inlet size: ½"

**PROS-04**
Retracted height: 15.5 cm
Pop-up height: 10 cm
Exposed diameter: 5.7 cm
Inlet size: ½"


[A] **PROS-06-SI**
[B] **PROS-06**
Retracted height: 22.5 cm
Pop-up height: 15 cm
Exposed diameter: 5.7 cm
Inlet size: ½"


[A] **PROS-12-SI**
[B] **PROS-12**
Retracted height: 41 cm
Pop-up height: 30 cm
Exposed diameter: 5.7 cm
Inlet size: ½"

# PRO-SPRAY™ PRS30

*To maintain consistent performance and reduce water waste, the Pro-Spray PRS30 Sprinkler Body is pressure-regulated to an optimal pressure of 2.1 bar; 210 kPa.*

## KEY BENEFITS

- Industry's strongest sprinkler body for years of reliable performance
- Pressure-regulated to 2.1 bar; 210 kPa for optimal nozzle performance
- Brown cap for easy field identification
- Co-moulded wiper seal made from chemical- and chlorine-resistant materials
- Innovative seal design prevents cap-to-body leaks, even with a loose cap
- FloGuard™ Technology option eliminates water waste in the event of a missing nozzle

## ADDITIONAL FEATURES

- Directional flush plug design for cleaner installation
- Interchangeable components for easier servicing, retrofits, and upgrades
- Heavy-duty spring for consistent riser retraction
- Check valve option eliminates low-head drainage

## OPERATING SPECIFICATIONS

- Operational pressure range: 1.0 to 7.0 bar; 100 to 700 kPa
- *SASO Quality Mark Certified
- Warranty period: 5 years

## FACTORY-INSTALLED OPTIONS

- Check valve available for 10 cm, 15 cm, and 30 cm models (up to 4.3 m of elevation)
- Reclaimed water identification
- FloGuard Technology available for check valve models

## USER-INSTALLED OPTIONS

- Check valve: P/N 437400SP
  - Up to 3 m of elevation for 7.5 cm model
  - Up to 4.3 m of elevation for 10 cm, 15 cm, and 30 cm models
- Reclaimed water ID cap: P/N 458560SP
- Snap-on reclaimed cover: P/N PROS-RC-CAP-SP
- Shutoff cap: P/N 213600SP
- Shutoff nozzle: P/N 916400SP

**PRS30 Reclaimed**
*PRS30 models include optional factory-installed purple reclaimed caps*

**FloGuard Technology**
*Eliminate water waste in the event of a missing nozzle*

Smart Approved WaterMark

**Smart WaterMark**
Recognised as a responsible water-saving tool

**PROS-00-PRS30***
Retracted height: 11 cm
Inlet size: ½"

**PROS-03-PRS30**
Retracted height: 12.5 cm
Pop-up height: 7.5 cm
Exposed diameter: 5.7 cm
Inlet size: ½"

**PROS-04-PRS30***
Retracted height: 15.5 cm
Pop-up height: 10 cm
Exposed diameter: 5.7 cm
Inlet size: ½"


[A] **PROS-06-SI-PRS30***
[B] **PROS-06-PRS30***
Retracted height: 22.5 cm
Pop-up height: 15 cm
Exposed diameter: 5.7 cm
Inlet size: ½"


[A] **PROS-12-SI-PRS30***
[B] **PROS-12-PRS30***
Retracted height: 41 cm
Pop-up height: 30 cm
Exposed diameter: 5.7 cm
Inlet size: ½"

**PRO-SPRAY PRS30 – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3

| 1 Model | 2 Feature Options | 3 Specialty Options |
|---|---|---|
| **PROS-00-PRS30** = 2.1 bar regulated shrub adapter | **(blank)** = No option | **(blank)** = No option |
| **PROS-03-PRS30** = 2.1 bar regulated 7.5 cm pop-up | **CV** = Factory-installed drain check valve *(10 cm, 15 cm, 30 cm models only)* | **R** = Factory-installed reclaimed body cap |
| **PROS-04-PRS30** = 2.1 bar regulated 10 cm pop-up | | **F** = FloGuard Technology *(10 cm, 15 cm, 30 cm models only)* |
| **PROS-06-PRS30** = 2.1 bar regulated 15 cm pop-up | | **F-R** = FloGuard Technology with reclaimed body cap *(10 cm, 15 cm, 30 cm models only)* |
| **PROS-12-PRS30** = 2.1 bar regulated 30 cm pop-up | | |

**PRO-SPRAY PRS30 (SIDE INLET) MODELS**

**PROS-06-SI-PRS30** = 2.1 bar regulated 15 cm pop-up with side inlet

**PROS-12-SI-PRS30** = 2.1 bar regulated 30 cm pop-up with side inlet

**Examples:**
**PROS-06-SI-PRS30 =** 15 cm pop-up with side inlet regulated at 2.1 bar; 210 kPa
**PROS-06-PRS30-CV** = 15 cm pop-up regulated at 2.1 bar; 210 kPa, drain check valve
**PROS-12-PRS30-CV-F-R** = 30 cm pop-up regulated at 2.1 bar; 210 kPa, drain check valve, and FloGuard Technology with reclaimed body cap

*Compatible with:*

***Pro Adjustable Nozzles***
*Page 78*

***Pro Fixed Nozzles***
*Page 82*

***Pro High-Efficiency Nozzles***
*Page 76*

# PRO-SPRAY™ PRS40

*To optimise MP Rotator™ Nozzle performance, the Pro-Spray PRS40 Sprinkler Body is pressure-regulated to 2.8 bar; 280 kPa.*

## KEY BENEFITS

- Industry's strongest sprinkler body for years of reliable performance
- Pressure-regulated to 2.8 bar; 280 kPa for the MP Rotator Nozzle
- Grey cap for easy field identification
- Co-moulded wiper seal made from chemical- and chlorine-resistant materials
- Innovative seal design prevents cap-to-body leaks, even with a loose cap
- FloGuard™ Technology option eliminates water waste in the event of a missing nozzle

## ADDITIONAL FEATURES

- Directional flush plug design for cleaner installation
- Interchangeable components for easier servicing, retrofits, and upgrades
- Heavy-duty spring for consistent riser retraction
- Check valve option eliminates low-head drainage

## OPERATING SPECIFICATIONS

- Operational pressure range: 1.0 to 7.0 bar; 100 to 700 kPa
- *SASO Quality Mark Certified
- Warranty period: 5 years

## FACTORY-INSTALLED OPTIONS

- Check valve available for 10 cm, 15 cm, and 30 cm models (up to 4.3 m of elevation)
- Reclaimed water identification
- FloGuard Technology available for pop-up models

## USER-INSTALLED OPTIONS

- Check valve: P/N 437400SP
  - Up to 3 m of elevation for 7.5 cm model
  - Up to 4.3 m of elevation for 10 cm, 15 cm, and 30 cm models
- Reclaimed water ID cap: P/N 458562SP
- Snap-on reclaimed cover: P/N PROS-RC-CAP-SP
- Shutoff cap: P/N 213600SP
- Shutoff nozzle: P/N 916400SP

**PRS40 Reclaimed**
*PRS40 models include optional factory-installed purple reclaimed caps*

**FloGuard Technology**
*Eliminate water waste in the event of a missing nozzle*

Smart Approved WaterMark

**Smart WaterMark**
Recognised as a responsible water-saving tool

**PROS-00-PRS40***
Retracted height: 11 cm
Inlet size: ½"

**PROS-03-PRS40**
Retracted height: 12.5 cm
Pop-up height: 7.5 cm
Exposed diameter: 5.7 cm
Inlet size: ½"

**PROS-04-PRS40-CV***
Retracted height: 15.5 cm
Pop-up height: 10 cm
Exposed diameter: 5.7 cm
Inlet size: ½"

**PROS-06-PRS40-CV***
Retracted height: 22.5 cm
Pop-up height: 15 cm
Exposed diameter: 5.7 cm
Inlet size: ½"

**PROS-12-PRS40-CV***
Retracted height: 41 cm
Pop-up height: 30 cm
Exposed diameter: 5.7 cm
Inlet size: ½"

**PRO-SPRAY PRS40 – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3

| 1 Model | 2 Feature Options | 3 Specialty Options |
|---|---|---|
| **PROS-00-PRS40** = 2.8 bar regulated shrub adapter | **(blank)** = No option | **(blank)** = No option |
| **PROS-03-PRS40** = 2.8 bar regulated 7.5 cm pop-up | **CV** = Factory-installed drain check valve *(10 cm, 15 cm, 30 cm models only)* | **R** = Factory-installed reclaimed body cap |
| **PROS-04-PRS40** = 2.8 bar regulated 10 cm pop-up | | **F** = FloGuard Technology *(10 cm, 15 cm, 30 cm models only)* |
| **PROS-06-PRS40** = 2.8 bar regulated 15 cm pop-up | | **F-R** = FloGuard Technology with reclaimed body cap *(10 cm, 15 cm, 30 cm models only)* |
| **PROS-12-PRS40** = 2.8 bar regulated 30 cm pop-up | | |

**PRO-SPRAY PRS40 (SIDE INLET) MODELS**

| |
|---|
| **PROS-06-SI-PRS40** = 2.8 bar regulated 15 cm pop-up with side inlet |
| **PROS-12-SI-PRS40** = 2.8 bar regulated 30 cm pop-up with side inlet |

**Examples:**
**PROS-06-SI-PRS40 =** 15 cm pop-up with side inlet regulated at 2.8 bar; 280 kPa
**PROS-06-PRS40-CV** = 15 cm pop-up regulated at 2.8 bar; 280 kPa, drain check valve
**PROS-12-PRS40-CV-F-R** = 30 cm pop-up regulated at 2.8 bar; 280 kPa, drain check valve, and FloGuard Technology with reclaimed body cap

*Compatible with:*

***MP Rotator Nozzles***
*Page 54*

# SPRAY ACCESSORIES

*Spray accessories provide additional flexibility for installation and maintenance of spray systems.*

## SJ SWING JOINTS

### Features
- Unique swivel ells on both ends for easy installation in any configuration
- Swing joints are built with air-tight connection points for long-term reliability

### Models
- SJ-506: ½" threaded x 15 cm length
- SJ-7506: ½" x ¾" threaded x 15 cm length
- SJ-706: ¾" threaded x 15 cm length
- SJ-512: ½" threaded x 30 cm length
- SJ-7512: ½" x ¾" threaded x 30 cm length
- SJ-712: ¾" threaded x 30 cm length

### Operating Specifications
- Pressure-rated to 10 bar; 1000 kPa
- Warranty period: 2 years

**SJ Swing Joints**
15 cm or 30 cm links

## HUNTER SPIRAL BARB ELBOWS

### Features
- Improved bigger, stronger design
- Spiral-to-barb design for easier installation
- Acetal material for sharp barbs
- Compatible with FlexSG Tubing and other brands for a customised swing joint

### Models
- HSBE-050: ½" male x spiral barb elbow
- HSBE-075: ¾" male x spiral barb elbow

### Operating Specifications
- Operating pressure: Up to 5.5 bar; 550 kPa
- Warranty period: 2 years

**Spiral Barb Elbows**
HSBE-050, HSBE-075

## FlexSG TUBING

### Features
- Engineered to resist kinking
- Textured for easy grip
- Linear low-density polyethylene material
- Meets ASTM D2104, D2239, D2737

### Models
- FLEXSG: 30 m roll
- FLEXSG-18: 45 cm pre-cut lengths

### Operating Specifications
- Operating pressure: up to 5.5 bar; 550 kPa
- Warranty period: 2 years

**FlexSG Tubing**
30 m and 45 cm precut lengths
Inside diameter: 1.2 cm

## PRO-SPRAY SHUTOFF CAP

### Features
- Caps off the Pro-Spray Sprinkler Body for maintenance or drip conversions
- Maintains a clean look to the landscape

### Models
- P/N 213600SP


**Pro-Spray Shutoff Cap**
P/N 213600SP

## SHUTOFF NOZZLE

### Features
- Easy shutoff for spray systems
- Allows heads to pop-up for easy visibility
- Use with Pro-Spray and PS Ultra models

### Models
- P/N 916400SP

**Shutoff Nozzle**
P/N 916400SP

# NOZZLES

# PRO HIGH-EFFICIENCY NOZZLES

*Pro High-Efficiency Nozzles provide increased efficiency for spray systems through high uniformity from the spray pattern at a matched precipitation rate across the line.*

## KEY BENEFITS

- High-efficiency performance from a high-uniformity spray pattern
- Matched precipitation of 40 mm/hr from 2.4 m to 5.2 m across the 0° to 360° adjustable arc range
- Smooth spray pattern with well-defined edges for targeted landscape irrigation
- Colour-coded with natural hues to blend with the landscape and provide easy field identification

## ADDITIONAL FEATURES

- Simple arc adjustment using the easy-grip nozzle top
- Thick nozzle top offers long-lasting durability against equipment damage
- Fast installation with clear identification of spray pattern edges

## OPERATING SPECIFICATIONS

- Recommended operating pressure: 2.1 bar; 210 kPa
- Pair with Pro-Spray™ PRS30 Sprinkler Bodies for pressure regulation to 2.1 bar; 210 kPa
- Warranty period: 2 years

**8A-HE Nozzle**
Radius: 2.4 m

**10A-HE Nozzle**
Radius: 3.0 m

**12A-HE Nozzle**
Radius: 3.7 m

**15A-HE Nozzle**
Radius: 4.6 m

**17A-HE Nozzle**
Radius: 5.2 m

## PRO HIGH-EFFICIENCY NOZZLES PERFORMANCE DATA

**8A-HE** 2.4 m radius
Olive Green
Adjustable from 0° to 360°
Trajectory: 20°

**10A-HE** 3.0 m radius
Dark Blue
Adjustable from 0° to 360°
Trajectory: 25°

**12A-HE** 3.7 m radius
Brown
Adjustable from 0° to 360°
Trajectory: 25°

| Arc | Pressure | | 8A-HE Radius | 8A-HE Flow | | 8A-HE Precip mm/hr | | 10A-HE Radius | 10A-HE Flow | | 10A-HE Precip mm/hr | | 12A-HE Radius | 12A-HE Flow | | 12A-HE Precip mm/hr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ |
| 90° | 1.0 | 100 | 2.0 | 0.05 | 0.87 | 52 | 60 | 2.7 | 0.08 | 1.36 | 45 | 52 | 3.3 | 0.12 | 2.01 | 44 | 51 |
| | 1.5 | 150 | 2.2 | 0.06 | 1.02 | 51 | 59 | 2.8 | 0.09 | 1.55 | 48 | 55 | 3.5 | 0.13 | 2.23 | 44 | 51 |
| | **2.1** | **210** | **2.4** | **0.06** | **1.06** | **44** | **51** | **3.0** | **0.10** | **1.67** | **44** | **51** | **3.7** | **0.14** | **2.38** | **42** | **48** |
| | 2.5 | 250 | 2.6 | 0.07 | 1.21 | 43 | 50 | 3.1 | 0.11 | 1.82 | 45 | 52 | 3.8 | 0.16 | 2.65 | 44 | 51 |
| | 3.0 | 300 | 2.8 | 0.08 | 1.32 | 41 | 47 | 3.2 | 0.12 | 1.93 | 45 | 52 | 3.9 | 0.17 | 2.84 | 45 | 52 |
| 180° | 1.0 | 100 | 2.0 | 0.10 | 1.65 | 49 | 57 | 2.7 | 0.16 | 2.65 | 44 | 50 | 3.3 | 0.23 | 3.88 | 43 | 49 |
| | 1.5 | 150 | 2.2 | 0.11 | 1.85 | 46 | 53 | 2.8 | 0.18 | 2.94 | 45 | 52 | 3.5 | 0.25 | 4.24 | 42 | 48 |
| | **2.1** | **210** | **2.4** | **0.12** | **2.08** | **43** | **50** | **3.0** | **0.19** | **3.24** | **43** | **50** | **3.7** | **0.28** | **4.62** | **40** | **47** |
| | 2.5 | 250 | 2.6 | 0.14 | 2.37 | 42 | 48 | 3.1 | 0.21 | 3.52 | 44 | 51 | 3.8 | 0.30 | 5.03 | 42 | 48 |
| | 3.0 | 300 | 2.8 | 0.15 | 2.57 | 39 | 45 | 3.2 | 0.23 | 3.79 | 44 | 51 | 3.9 | 0.33 | 5.53 | 44 | 50 |
| 270° | 1.0 | 100 | 2.0 | 0.15 | 2.47 | 49 | 57 | 2.7 | 0.24 | 3.97 | 44 | 50 | 3.3 | 0.35 | 5.82 | 43 | 49 |
| | 1.5 | 150 | 2.2 | 0.17 | 2.78 | 46 | 53 | 2.8 | 0.26 | 4.41 | 45 | 52 | 3.5 | 0.38 | 6.36 | 42 | 48 |
| | **2.1** | **210** | **2.4** | **0.19** | **3.11** | **43** | **50** | **3.0** | **0.29** | **4.85** | **43** | **50** | **3.7** | **0.42** | **6.93** | **40** | **47** |
| | 2.5 | 250 | 2.6 | 0.21 | 3.55 | 42 | 48 | 3.1 | 0.32 | 5.28 | 44 | 51 | 3.8 | 0.45 | 7.55 | 42 | 48 |
| | 3.0 | 300 | 2.8 | 0.23 | 3.86 | 39 | 45 | 3.2 | 0.34 | 5.68 | 44 | 51 | 3.9 | 0.50 | 8.29 | 44 | 50 |
| 360° | 1.0 | 100 | 2.0 | 0.20 | 3.29 | 49 | 57 | 2.7 | 0.32 | 5.30 | 44 | 50 | 3.3 | 0.47 | 7.76 | 43 | 49 |
| | 1.5 | 150 | 2.2 | 0.22 | 3.71 | 46 | 53 | 2.8 | 0.35 | 5.88 | 45 | 52 | 3.5 | 0.51 | 8.48 | 42 | 48 |
| | **2.1** | **210** | **2.4** | **0.25** | **4.15** | **43** | **50** | **3.0** | **0.39** | **6.47** | **43** | **50** | **3.7** | **0.55** | **9.24** | **40** | **47** |
| | 2.5 | 250 | 2.6 | 0.28 | 4.73 | 42 | 48 | 3.1 | 0.42 | 7.04 | 44 | 51 | 3.8 | 0.60 | 10.07 | 42 | 48 |
| | 3.0 | 300 | 2.8 | 0.31 | 5.50 | 39 | 45 | 3.2 | 0.45 | 7.57 | 44 | 51 | 3.9 | 0.66 | 11.05 | 44 | 50 |

## PRO HIGH-EFFICIENCY NOZZLES PERFORMANCE DATA

**15A-HE** 4.6 m radius
Adjustable from 0° to 360°
● Black Trajectory: 25°

**17A-HE** 5.2 m radius
Adjustable from 0° to 360°
● Grey Trajectory: 25°

| Arc | Pressure | | 15A-HE Radius | 15A-HE Flow | | 15A-HE Precip mm/hr | | 17A-HE Radius | 17A-HE Flow | | 17A-HE Precip mm/hr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ |
| 90° | 1.0 | 100 | 4.2 | 0.18 | 2.95 | 40 | 46 | 4.6 | 0.22 | 3.61 | 41 | 47 |
| | 1.5 | 150 | 4.4 | 0.20 | 3.33 | 41 | 48 | 4.8 | 0.24 | 4.04 | 42 | 49 |
| | **2.1** | **210** | **4.6** | **0.22** | **3.63** | **41** | **48** | **5.2** | **0.28** | **4.69** | **42** | **48** |
| | 2.5 | 250 | 4.7 | 0.24 | 4.05 | 44 | 51 | 5.3 | 0.29 | 4.90 | 42 | 48 |
| | 3.0 | 300 | 4.8 | 0.26 | 4.28 | 45 | 51 | 5.4 | 0.31 | 5.25 | 43 | 50 |
| 180° | 1.0 | 100 | 4.2 | 0.35 | 5.78 | 39 | 45 | 4.6 | 0.40 | 6.68 | 38 | 44 |
| | 1.5 | 150 | 4.4 | 0.38 | 6.38 | 40 | 46 | 4.8 | 0.46 | 7.70 | 40 | 46 |
| | **2.1** | **210** | **4.6** | **0.42** | **7.08** | **40** | **46** | **5.2** | **0.54** | **8.93** | **40** | **46** |
| | 2.5 | 250 | 4.7 | 0.47 | 7.76 | 42 | 49 | 5.3 | 0.56 | 9.33 | 40 | 46 |
| | 3.0 | 300 | 4.8 | 0.50 | 8.39 | 44 | 50 | 5.4 | 0.60 | 10.03 | 41 | 48 |
| 270° | 1.0 | 100 | 4.2 | 0.52 | 8.67 | 39 | 45 | 4.6 | 0.60 | 10.02 | 38 | 44 |
| | 1.5 | 150 | 4.4 | 0.57 | 9.58 | 40 | 46 | 4.8 | 0.69 | 11.55 | 40 | 46 |
| | **2.1** | **210** | **4.6** | **0.64** | **10.62** | **40** | **46** | **5.2** | **0.80** | **13.40** | **40** | **46** |
| | 2.5 | 250 | 4.7 | 0.70 | 11.64 | 42 | 49 | 5.3 | 0.84 | 14.00 | 40 | 46 |
| | 3.0 | 300 | 4.8 | 0.75 | 12.59 | 44 | 50 | 5.4 | 0.90 | 15.05 | 41 | 48 |
| 360° | 1.0 | 100 | 4.2 | 0.69 | 11.56 | 39 | 45 | 4.6 | 0.80 | 13.36 | 38 | 44 |
| | 1.5 | 150 | 4.4 | 0.77 | 12.77 | 40 | 46 | 4.8 | 0.92 | 15.40 | 40 | 46 |
| | **2.1** | **210** | **4.6** | **0.85** | **14.16** | **40** | **46** | **5.2** | **1.07** | **17.87** | **40** | **46** |
| | 2.5 | 250 | 4.7 | 0.93 | 15.52 | 42 | 49 | 5.3 | 1.12 | 18.66 | 40 | 46 |
| | 3.0 | 300 | 4.8 | 1.01 | 16.78 | 44 | 50 | 5.4 | 1.20 | 20.06 | 41 | 48 |

**Bold** = Recommended pressure
**Note:** The Pro-Spray PRS30 Sprinkler Body's built-in pressure regulator controls output to a maximum of 2.1 bar; 210 kPa. Adjusting the radius reduction screw may be required to achieve catalogue radius and flow.

**Pro High-Efficiency Nozzles**

# PRO ADJUSTABLE NOZZLES

*Choose Pro Adjustable Nozzles for excellent landscape coverage in any setting.*

## KEY BENEFITS

- Adjustable from 0° to 360° for maximum design flexibility
- Easy-grip top for simple adjustment
- Strong edges for a defined pattern with better wind resistance
- Large water droplets minimise misting with better uniformity

## ADDITIONAL FEATURES

- Matched precipitation rate on each nozzle from 8A to 17A
- Even distribution results in better coverage
- Colour-coded for easy field identification

## OPERATING SPECIFICATIONS

- Recommended operating pressure: 2.1 bar; 210 kPa
- Pair with Pro-Spray PRS30 pop-up for pressure regulation to 2.1 bar; 210 kPa
- Warranty period: 2 years

**4A Nozzle**
Radius: 1.2 m

**6A Nozzle**
Radius: 1.8 m

**8A Nozzle**
Radius: 2.4 m

**10A Nozzle**
Radius: 3.0 m

**12A Nozzle**
Radius: 3.7 m

**15A Nozzle**
Radius: 4.6 m

**17A Nozzle**
Radius: 5.2 m

Pro Adjustable Nozzle

## PRO ADJUSTABLE NOZZLES PERFORMANCE DATA



**4A** ● Lt. Green — 1.2 m radius, Adjustable from 0° to 360°, Trajectory: 0°

**6A** ● Lt. Blue — 1.8 m radius, Adjustable from 0° to 360°, Trajectory: 0°

**8A** ● Brown — 2.4 m radius, Adjustable from 0° to 360°, Trajectory: 15°

| Arc | Pressure | | 4A Radius | 4A Flow | | 4A Precip mm/hr | | 6A Radius | 6A Flow | | 6A Precip mm/hr | | 8A Radius | 8A Flow | | 8A Precip mm/hr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ |
| 45° | 1.0 | 100 | 0.9 | 0.02 | 0.31 | 187 | 216 | 1.5 | 0.03 | 0.54 | 117 | 136 | 2.0 | 0.04 | 0.62 | 77 | 89 |
| | 1.5 | 150 | 1.0 | 0.02 | 0.39 | 178 | 206 | 1.6 | 0.04 | 0.60 | 108 | 124 | 2.2 | 0.04 | 0.72 | 72 | 83 |
| | **2.1** | **210** | **1.2** | **0.03** | **0.48** | **167** | **193** | **1.8** | **0.04** | **0.65** | **98** | **114** | **2.4** | **0.05** | **0.83** | **67** | **77** |
| | 2.5 | 250 | 1.3 | 0.03 | 0.56 | 158 | 183 | 1.9 | 0.04 | 0.70 | 92 | 106 | 2.6 | 0.05 | 0.91 | 63 | 73 |
| | 3.0 | 300 | 1.4 | 0.04 | 0.64 | 149 | 172 | 2.1 | 0.05 | 0.75 | 86 | 99 | 2.9 | 0.06 | 1.01 | 59 | 68 |
| 90° | 1.0 | 100 | 0.9 | 0.04 | 0.72 | 213 | 246 | 1.5 | 0.06 | 1.08 | 116 | 134 | 2.0 | 0.07 | 1.24 | 77 | 89 |
| | 1.5 | 150 | 1.0 | 0.05 | 0.76 | 182 | 210 | 1.6 | 0.07 | 1.21 | 109 | 126 | 2.2 | 0.09 | 1.44 | 72 | 83 |
| | **2.1** | **210** | **1.2** | **0.05** | **0.83** | **139** | **160** | **1.8** | **0.08** | **1.35** | **102** | **118** | **2.4** | **0.10** | **1.65** | **67** | **77** |
| | 2.5 | 250 | 1.3 | 0.05 | 0.91 | 129 | 149 | 1.9 | 0.09 | 1.47 | 97 | 112 | 2.6 | 0.11 | 1.82 | 63 | 73 |
| | 3.0 | 300 | 1.4 | 0.06 | 0.95 | 116 | 134 | 2.1 | 0.10 | 1.61 | 92 | 106 | 2.9 | 0.12 | 2.02 | 59 | 68 |
| 120° | 1.0 | 100 | 0.9 | 0.06 | 0.97 | 221 | 255 | 1.5 | 0.08 | 1.26 | 102 | 118 | 2.0 | 0.10 | 1.66 | 77 | 89 |
| | 1.5 | 150 | 1.0 | 0.07 | 1.10 | 188 | 217 | 1.6 | 0.09 | 1.43 | 97 | 112 | 2.2 | 0.11 | 1.92 | 72 | 83 |
| | **2.1** | **210** | **1.2** | **0.07** | **1.25** | **162** | **187** | **1.8** | **0.10** | **1.61** | **91** | **105** | **2.4** | **0.13** | **2.20** | **67** | **77** |
| | 2.5 | 250 | 1.3 | 0.08 | 1.36 | 146 | 168 | 1.9 | 0.11 | 1.76 | 87 | 100 | 2.6 | 0.15 | 2.43 | 63 | 73 |
| | 3.0 | 300 | 1.4 | 0.09 | 1.49 | 131 | 151 | 2.1 | 0.12 | 1.93 | 82 | 95 | 2.9 | 0.16 | 2.69 | 59 | 68 |
| 180° | 1.0 | 100 | 0.9 | 0.07 | 1.18 | 178 | 206 | 1.5 | 0.10 | 1.70 | 92 | 106 | 2.0 | 0.15 | 2.49 | 77 | 89 |
| | 1.5 | 150 | 1.0 | 0.08 | 1.38 | 157 | 181 | 1.6 | 0.12 | 1.96 | 88 | 102 | 2.2 | 0.17 | 2.87 | 72 | 83 |
| | **2.1** | **210** | **1.2** | **0.10** | **1.60** | **139** | **160** | **1.8** | **0.13** | **2.24** | **84** | **97** | **2.4** | **0.20** | **3.30** | **67** | **77** |
| | 2.5 | 250 | 1.3 | 0.11 | 1.78 | 127 | 146 | 1.9 | 0.15 | 2.47 | 81 | 94 | 2.6 | 0.22 | 3.65 | 63 | 73 |
| | 3.0 | 300 | 1.4 | 0.12 | 1.98 | 115 | 133 | 2.1 | 0.16 | 2.72 | 78 | 90 | 2.9 | 0.24 | 4.03 | 59 | 68 |
| 240° | 1.0 | 100 | 0.9 | 0.12 | 1.94 | 220 | 254 | 1.5 | 0.15 | 2.44 | 99 | 114 | 2.0 | 0.20 | 3.32 | 77 | 89 |
| | 1.5 | 150 | 1.0 | 0.13 | 2.24 | 192 | 221 | 1.6 | 0.17 | 2.83 | 96 | 111 | 2.2 | 0.23 | 3.83 | 72 | 83 |
| | **2.1** | **210** | **1.2** | **0.16** | **2.59** | **168** | **194** | **1.8** | **0.20** | **3.28** | **92** | **107** | **2.4** | **0.26** | **4.40** | **67** | **77** |
| | 2.5 | 250 | 1.3 | 0.17 | 2.86 | 153 | 177 | 1.9 | 0.22 | 3.63 | 89 | 103 | 2.6 | 0.29 | 4.86 | 63 | 73 |
| | 3.0 | 300 | 1.4 | 0.19 | 3.17 | 139 | 160 | 2.1 | 0.24 | 4.03 | 86 | 99 | 2.9 | 0.32 | 5.38 | 59 | 68 |
| 270° | 1.0 | 100 | 0.9 | 0.13 | 2.09 | 211 | 244 | 1.5 | 0.18 | 3.08 | 111 | 128 | 2.0 | 0.22 | 3.73 | 77 | 89 |
| | 1.5 | 150 | 1.0 | 0.14 | 2.40 | 183 | 211 | 1.6 | 0.21 | 3.52 | 106 | 122 | 2.2 | 0.26 | 4.31 | 72 | 83 |
| | **2.1** | **210** | **1.2** | **0.16** | **2.75** | **159** | **183** | **1.8** | **0.24** | **4.02** | **101** | **116** | **2.4** | **0.30** | **4.95** | **67** | **77** |
| | 2.5 | 250 | 1.3 | 0.18 | 3.02 | 144 | 166 | 1.9 | 0.27 | 4.42 | 97 | 112 | 2.6 | 0.33 | 5.47 | 63 | 73 |
| | 3.0 | 300 | 1.4 | 0.20 | 3.33 | 130 | 150 | 2.1 | 0.29 | 4.87 | 92 | 107 | 2.9 | 0.36 | 6.05 | 59 | 68 |
| 360° | 1.0 | 100 | 0.9 | 0.14 | 2.26 | 171 | 197 | 1.5 | 0.21 | 3.57 | 96 | 111 | 2.0 | 0.30 | 4.97 | 77 | 89 |
| | 1.5 | 150 | 1.0 | 0.16 | 2.60 | 148 | 171 | 1.6 | 0.24 | 4.07 | 92 | 106 | 2.2 | 0.34 | 5.75 | 72 | 83 |
| | **2.1** | **210** | **1.2** | **0.18** | **2.98** | **129** | **149** | **1.8** | **0.28** | **4.62** | **87** | **100** | **2.4** | **0.40** | **6.61** | **67** | **77** |
| | 2.5 | 250 | 1.3 | 0.20 | 3.29 | 117 | 135 | 1.9 | 0.30 | 5.06 | 83 | 96 | 2.6 | 0.44 | 7.29 | 63 | 73 |
| | 3.0 | 300 | 1.4 | 0.22 | 3.63 | 106 | 122 | 2.1 | 0.33 | 5.56 | 79 | 92 | 2.9 | 0.48 | 8.07 | 59 | 68 |

**Bold** = Recommended pressure
**Note:** The Pro-Spray PRS30's built-in pressure regulator controls output to a maximum of 2.1 bar; 210 kPa.
Adjusting the radius reduction screw may be required to achieve catalogue radius and flow.

## PRO ADJUSTABLE NOZZLES PERFORMANCE DATA

**10A**
● Red
3.0 m radius
Adjustable from 0° to 360°
Trajectory: 15°

**12A**
● Green
3.7 m radius
Adjustable from 0° to 360°
Trajectory: 28°

**15A**
● Black
4.6 m radius
Adjustable from 0° to 360°
Trajectory: 28°

| Arc | Pressure | | 10A Radius | 10A Flow | | 10A Precip mm/hr | | 12A Radius | 12A Flow | | 12A Precip mm/hr | | 15A Radius | 15A Flow | | 15A Precip mm/hr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar | kPa | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ |
| 45° | 1.0 | 100 | 2.6 | 0.04 | 0.68 | 49 | 56 | 3.2 | 0.04 | 0.73 | 34 | 40 | 4.0 | 0.08 | 1.27 | 38 | 43 |
| | 1.5 | 150 | 2.8 | 0.05 | 0.80 | 49 | 57 | 3.4 | 0.06 | 0.97 | 40 | 46 | 4.3 | 0.09 | 1.51 | 39 | 45 |
| | **2.1** | **210** | **3.0** | **0.06** | **0.94** | **49** | **56** | **3.7** | **0.07** | **1.23** | **44** | **51** | **4.6** | **0.11** | **1.79** | **40** | **46** |
| | 2.5 | 250 | 3.2 | 0.06 | 1.06 | 48 | 56 | 3.9 | 0.09 | 1.44 | 46 | 54 | 4.9 | 0.12 | 2.00 | 40 | 46 |
| | 3.0 | 300 | 3.5 | 0.07 | 1.18 | 47 | 54 | 4.1 | 0.10 | 1.68 | 48 | 56 | 5.2 | 0.14 | 2.25 | 40 | 46 |
| 90° | 1.0 | 100 | 2.6 | 0.08 | 1.35 | 49 | 56 | 3.2 | 0.09 | 1.46 | 34 | 40 | 4.0 | 0.15 | 2.53 | 38 | 43 |
| | 1.5 | 150 | 2.8 | 0.10 | 1.61 | 49 | 57 | 3.4 | 0.12 | 1.93 | 40 | 46 | 4.3 | 0.18 | 3.03 | 39 | 45 |
| | **2.1** | **210** | **3.0** | **0.11** | **1.89** | **49** | **56** | **3.7** | **0.15** | **2.46** | **44** | **51** | **4.6** | **0.21** | **3.57** | **40** | **46** |
| | 2.5 | 250 | 3.2 | 0.13 | 2.11 | 48 | 56 | 3.9 | 0.17 | 2.88 | 46 | 54 | 4.9 | 0.24 | 4.01 | 40 | 46 |
| | 3.0 | 300 | 3.5 | 0.14 | 2.37 | 47 | 54 | 4.1 | 0.20 | 3.36 | 48 | 56 | 5.2 | 0.27 | 4.50 | 40 | 46 |
| 120° | 1.0 | 100 | 2.6 | 0.11 | 1.80 | 49 | 56 | 3.2 | 0.12 | 1.94 | 34 | 40 | 4.0 | 0.20 | 3.38 | 38 | 43 |
| | 1.5 | 150 | 2.8 | 0.13 | 2.14 | 49 | 57 | 3.4 | 0.15 | 2.58 | 40 | 46 | 4.3 | 0.24 | 4.03 | 39 | 45 |
| | **2.1** | **210** | **3.0** | **0.15** | **2.52** | **49** | **56** | **3.7** | **0.20** | **3.28** | **44** | **51** | **4.6** | **0.29** | **4.76** | **40** | **46** |
| | 2.5 | 250 | 3.2 | 0.17 | 2.82 | 48 | 56 | 3.9 | 0.23 | 3.84 | 46 | 54 | 4.9 | 0.32 | 5.34 | 40 | 46 |
| | 3.0 | 300 | 3.5 | 0.19 | 3.16 | 47 | 54 | 4.1 | 0.27 | 4.48 | 48 | 56 | 5.2 | 0.36 | 6.00 | 40 | 46 |
| 180° | 1.0 | 100 | 2.6 | 0.16 | 2.71 | 49 | 56 | 3.2 | 0.17 | 2.91 | 34 | 40 | 4.0 | 0.30 | 5.07 | 38 | 43 |
| | 1.5 | 150 | 2.8 | 0.19 | 3.21 | 49 | 57 | 3.4 | 0.23 | 3.86 | 40 | 46 | 4.3 | 0.36 | 6.05 | 39 | 45 |
| | **2.1** | **210** | **3.0** | **0.23** | **3.78** | **49** | **56** | **3.7** | **0.30** | **4.92** | **44** | **51** | **4.6** | **0.43** | **7.14** | **40** | **46** |
| | 2.5 | 250 | 3.2 | 0.25 | 4.23 | 48 | 56 | 3.9 | 0.35 | 5.76 | 46 | 54 | 4.9 | 0.48 | 8.02 | 40 | 46 |
| | 3.0 | 300 | 3.5 | 0.28 | 4.73 | 47 | 54 | 4.1 | 0.40 | 6.71 | 48 | 56 | 5.2 | 0.54 | 9.00 | 40 | 46 |
| 240° | 1.0 | 100 | 2.6 | 0.22 | 3.61 | 49 | 56 | 3.2 | 0.23 | 3.88 | 34 | 40 | 4.0 | 0.41 | 6.76 | 38 | 43 |
| | 1.5 | 150 | 2.8 | 0.26 | 4.28 | 49 | 57 | 3.4 | 0.31 | 5.15 | 40 | 46 | 4.3 | 0.48 | 8.07 | 39 | 45 |
| | **2.1** | **210** | **3.0** | **0.30** | **5.03** | **49** | **56** | **3.7** | **0.39** | **6.56** | **44** | **51** | **4.6** | **0.57** | **9.52** | **40** | **46** |
| | 2.5 | 250 | 3.2 | 0.34 | 5.64 | 48 | 56 | 3.9 | 0.46 | 7.68 | 46 | 54 | 4.9 | 0.64 | 10.69 | 40 | 46 |
| | 3.0 | 300 | 3.5 | 0.38 | 6.31 | 47 | 54 | 4.1 | 0.54 | 8.95 | 48 | 56 | 5.2 | 0.72 | 12.00 | 40 | 46 |
| 270° | 1.0 | 100 | 2.6 | 0.24 | 4.06 | 49 | 56 | 3.2 | 0.26 | 4.37 | 34 | 40 | 4.0 | 0.46 | 7.60 | 38 | 43 |
| | 1.5 | 150 | 2.8 | 0.29 | 4.82 | 49 | 57 | 3.4 | 0.35 | 5.80 | 40 | 46 | 4.3 | 0.54 | 9.08 | 39 | 45 |
| | **2.1** | **210** | **3.0** | **0.34** | **5.66** | **49** | **56** | **3.7** | **0.44** | **7.38** | **44** | **51** | **4.6** | **0.64** | **10.71** | **40** | **46** |
| | 2.5 | 250 | 3.2 | 0.38 | 6.34 | 48 | 56 | 3.9 | 0.52 | 8.65 | 46 | 54 | 4.9 | 0.72 | 12.03 | 40 | 46 |
| | 3.0 | 300 | 3.5 | 0.43 | 7.10 | 47 | 54 | 4.1 | 0.60 | 10.07 | 48 | 56 | 5.2 | 0.81 | 13.50 | 40 | 46 |
| 360° | 1.0 | 100 | 2.6 | 0.32 | 5.41 | 49 | 56 | 3.2 | 0.35 | 5.83 | 34 | 40 | 4.0 | 0.61 | 10.13 | 38 | 43 |
| | 1.5 | 150 | 2.8 | 0.39 | 6.43 | 49 | 57 | 3.4 | 0.46 | 7.73 | 40 | 46 | 4.3 | 0.73 | 12.10 | 39 | 45 |
| | **2.1** | **210** | **3.0** | **0.45** | **7.55** | **49** | **56** | **3.7** | **0.59** | **9.84** | **44** | **51** | **4.6** | **0.86** | **14.28** | **40** | **46** |
| | 2.5 | 250 | 3.2 | 0.51 | 8.45 | 48 | 56 | 3.9 | 0.69 | 11.53 | 46 | 54 | 4.9 | 0.96 | 16.03 | 40 | 46 |
| | 3.0 | 300 | 3.5 | 0.57 | 9.47 | 47 | 54 | 4.1 | 0.81 | 13.43 | 48 | 56 | 5.2 | 1.08 | 18.00 | 40 | 46 |

**Bold** = Recommended pressure
**Note:** The Pro-Spray PRS30's built-in pressure regulator controls output to a maximum of 2.1 bar; 210 kPa.
Adjusting the radius reduction screw may be required to achieve catalogue radius and flow.

## PRO ADJUSTABLE NOZZLES PERFORMANCE DATA

**17A**
● Grey

5.2 m radius
Adjustable from 0° to 360°
Trajectory: 28°

| Arc | Pressure | | Radius | Flow | | Precip mm/hr | |
|---|---|---|---|---|---|---|---|
| | bar | kPa | m | $m^3$/hr | l/min | ■ | ▲ |
| 45° | 1.0 | 100 | 4.6 | 0.10 | 1.68 | 38 | 43 |
| | 1.5 | 150 | 4.9 | 0.12 | 1.94 | 38 | 44 |
| | **2.1** | **210** | **5.2** | **0.13** | **2.23** | **39** | **45** |
| | 2.5 | 250 | 5.5 | 0.15 | 2.46 | 39 | 45 |
| | 3.0 | 300 | 5.8 | 0.16 | 2.72 | 39 | 45 |
| 90° | 1.0 | 100 | 4.6 | 0.20 | 3.36 | 38 | 43 |
| | 1.5 | 150 | 4.9 | 0.23 | 3.88 | 38 | 44 |
| | **2.1** | **210** | **5.2** | **0.27** | **4.45** | **39** | **45** |
| | 2.5 | 250 | 5.5 | 0.30 | 4.92 | 39 | 45 |
| | 3.0 | 300 | 5.8 | 0.33 | 5.44 | 39 | 45 |
| 120° | 1.0 | 100 | 4.6 | 0.27 | 4.48 | 38 | 43 |
| | 1.5 | 150 | 4.9 | 0.31 | 5.17 | 38 | 44 |
| | **2.1** | **210** | **5.2** | **0.36** | **5.94** | **39** | **45** |
| | 2.5 | 250 | 5.5 | 0.39 | 6.56 | 39 | 45 |
| | 3.0 | 300 | 5.8 | 0.43 | 7.25 | 39 | 45 |
| 180° | 1.0 | 100 | 4.6 | 0.40 | 6.71 | 38 | 43 |
| | 1.5 | 150 | 4.9 | 0.47 | 7.75 | 38 | 44 |
| | **2.1** | **210** | **5.2** | **0.53** | **8.91** | **39** | **45** |
| | 2.5 | 250 | 5.5 | 0.59 | 9.83 | 39 | 45 |
| | 3.0 | 300 | 5.8 | 0.65 | 10.87 | 39 | 45 |
| 240° | 1.0 | 100 | 4.6 | 0.54 | 8.95 | 38 | 43 |
| | 1.5 | 150 | 4.9 | 0.62 | 10.34 | 38 | 44 |
| | **2.1** | **210** | **5.2** | **0.71** | **11.88** | **39** | **45** |
| | 2.5 | 250 | 5.5 | 0.79 | 13.11 | 39 | 45 |
| | 3.0 | 300 | 5.8 | 0.87 | 14.50 | 39 | 45 |
| 270° | 1.0 | 100 | 4.6 | 0.60 | 10.07 | 38 | 43 |
| | 1.5 | 150 | 4.9 | 0.70 | 11.63 | 38 | 44 |
| | **2.1** | **210** | **5.2** | **0.80** | **13.36** | **39** | **45** |
| | 2.5 | 250 | 5.5 | 0.89 | 14.75 | 39 | 45 |
| | 3.0 | 300 | 5.8 | 0.98 | 16.31 | 39 | 45 |
| 360° | 1.0 | 100 | 4.6 | 0.81 | 13.43 | 38 | 43 |
| | 1.5 | 150 | 4.9 | 0.93 | 15.51 | 38 | 44 |
| | **2.1** | **210** | **5.2** | **1.07** | **17.82** | **39** | **45** |
| | 2.5 | 250 | 5.5 | 1.18 | 19.67 | 39 | 45 |
| | 3.0 | 300 | 5.8 | 1.30 | 21.75 | 39 | 45 |

**Bold** = Recommended pressure
**Note:** The Pro-Spray PRS30's built-in pressure regulator controls output to a maximum of 2.1 bar; 210 kPa. Adjusting the radius reduction screw may be required to achieve catalogue radius and flow.

# PRO FIXED NOZZLES

*Pro Fixed Nozzles are designed for high accuracy within a variety of landscape shapes and sizes.*

## KEY BENEFITS

- Clean edges for a defined pattern with better wind resistance
- Large water droplets minimise misting with better uniformity
- Sturdy construction ensures reliable performance
- Colour-coded for easy field identification

## OPERATING SPECIFICATIONS

- Recommended operating pressure: 2.1 bar; 210 kPa
- Pair with Pro-Spray™ PRS30 Sprinkler Bodies for pressure regulation to 2.1 bar; 210 kPa
- Warranty period: 2 years



**PRO FIXED NOZZLES**

| ARC | 5 | 8 | 10 | 12 | 15 | 17 |
|---|---|---|---|---|---|---|
| Q |  |  |  |  |  |  |
| T | Use 4A/6A Nozzle |  |  |  |  | Use 17A Nozzle |
| H |  |  |  |  |  |  |
| F |  |  |  |  |  | Use 17A Nozzle |
| | 1.5 m | 2.4 m | 3.0 m | 3.7 m | 4.6 m | 5.2 m |

## PRO FIXED NOZZLES PERFORMANCE DATA



**5** ● Blue — 1.5 m radius; Fixed: ¼, ½, Full; Trajectory: 0°

**8** ● Brown — 2.4 m radius; Fixed: ¼, ⅓, ½, Full; Trajectory: 15°

**10** ● Red — 3.0 m radius; Fixed: ¼, ⅓, ½, Full; Trajectory: 15°

| Arc | Position | Pressure | | 5 Radius | 5 Flow | | 5 Precip mm/hr | | 8 Radius | 8 Flow | | 8 Precip mm/hr | | 10 Radius | 10 Flow | | 10 Precip mm/hr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | bar | kPa | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ | m | m³/hr | l/min | ■ | ▲ |
| 90° | Q | 1.0 | 100 | 1.1 | 0.02 | 0.30 | 60 | 69 | 1.8 | 0.04 | 0.62 | 46 | 53 | 2.4 | 0.07 | 1.08 | 45 | 52 |
| | | 1.5 | 150 | 1.3 | 0.02 | 0.38 | 54 | 62 | 2.1 | 0.05 | 0.84 | 46 | 53 | 2.7 | 0.08 | 1.33 | 44 | 51 |
| | | **2.1** | **210** | **1.5** | **0.03** | **0.46** | **49** | **57** | **2.4** | **0.05** | **0.91** | **38** | **44** | **3.0** | **0.09** | **1.57** | **42** | **48** |
| | | 2.5 | 250 | 1.7 | 0.03 | 0.51 | 42 | 49 | 2.7 | 0.06 | 0.98 | 32 | 37 | 3.3 | 0.10 | 1.71 | 38 | 44 |
| | | 3.0 | 300 | 1.8 | 0.03 | 0.53 | 39 | 45 | 2.7 | 0.06 | 1.10 | 36 | 42 | 3.4 | 0.11 | 1.85 | 38 | 44 |
| 120° | T | 1.0 | 100 | | | | | | 1.8 | 0.05 | 0.83 | 46 | 53 | 2.4 | 0.09 | 1.44 | 45 | 52 |
| | | 1.5 | 150 | | | | | | 2.1 | 0.07 | 1.10 | 45 | 52 | 2.7 | 0.11 | 1.77 | 44 | 50 |
| | | **2.1** | **210** | | **Use 4A or 6A Nozzle** | | | | **2.4** | **0.07** | **1.21** | **38** | **44** | **3.0** | **0.13** | **2.09** | **42** | **48** |
| | | 2.5 | 250 | | | | | | 2.7 | 0.08 | 1.32 | 33 | 38 | 3.3 | 0.14 | 2.31 | 38 | 44 |
| | | 3.0 | 300 | | | | | | 2.7 | 0.09 | 1.44 | 36 | 41 | 3.4 | 0.15 | 2.50 | 39 | 45 |
| 180° | H | 1.0 | 100 | 1.1 | 0.04 | 0.60 | 60 | 69 | 1.8 | 0.08 | 1.33 | 49 | 57 | 2.4 | 0.13 | 2.17 | 45 | 52 |
| | | 1.5 | 150 | 1.3 | 0.05 | 0.76 | 54 | 62 | 2.1 | 0.10 | 1.63 | 44 | 51 | 2.7 | 0.16 | 2.65 | 44 | 50 |
| | | **2.1** | **210** | **1.5** | **0.06** | **0.87** | **49** | **57** | **2.4** | **0.11** | **1.80** | **38** | **43** | **3.0** | **0.19** | **3.14** | **42** | **48** |
| | | 2.5 | 250 | 1.7 | 0.06 | 0.95 | 42 | 49 | 2.7 | 0.12 | 1.93 | 32 | 37 | 3.3 | 0.22 | 3.60 | 40 | 46 |
| | | 3.0 | 300 | 1.8 | 0.06 | 1.04 | 39 | 44 | 2.7 | 0.13 | 2.10 | 35 | 40 | 3.4 | 0.23 | 3.90 | 40 | 47 |
| 360° | F | 1.0 | 100 | 1.1 | 0.07 | 1.20 | 60 | 69 | 1.8 | 0.16 | 2.67 | 49 | 57 | 2.4 | 0.26 | 4.33 | 45 | 52 |
| | | 1.5 | 150 | 1.3 | 0.09 | 1.52 | 54 | 62 | 2.1 | 0.20 | 3.33 | 45 | 52 | 2.7 | 0.32 | 5.31 | 44 | 50 |
| | | **2.1** | **210** | **1.5** | **0.11** | **1.85** | **49** | **57** | **2.4** | **0.22** | **3.67** | **38** | **44** | **3.0** | **0.38** | **6.28** | **42** | **48** |
| | | 2.5 | 250 | 1.7 | 0.12 | 2.04 | 42 | 49 | 2.7 | 0.24 | 4.01 | 33 | 38 | 3.3 | 0.41 | 6.85 | 38 | 44 |
| | | 3.0 | 300 | 1.8 | 0.12 | 2.10 | 39 | 45 | 2.7 | 0.26 | 4.35 | 36 | 41 | 3.4 | 0.42 | 6.97 | 36 | 42 |

**Bold** = Recommended pressure

**Pro Fixed Nozzles**

## PRO FIXED NOZZLES PERFORMANCE DATA

**12** ● Green — 3.7 m radius; Fixed: ¼, ⅓, ½, ⅔, ¾, Full; Trajectory: 28°

**15** ● Black — 4.6 m radius; Fixed: ¼, ⅓, ½, ⅔, ¾, Full; Trajectory: 28°

**17** ● Grey — 5.2 m radius; Fixed: ¼, ½; Trajectory: 28°

| Arc | Position | Pressure bar | Pressure kPa | 12 Radius m | 12 Flow m³/hr | 12 Flow l/min | 12 Precip mm/hr ■ | 12 Precip mm/hr ▲ | 15 Radius m | 15 Flow m³/hr | 15 Flow l/min | 15 Precip mm/hr ■ | 15 Precip mm/hr ▲ | 17 Radius m | 17 Flow m³/hr | 17 Flow l/min | 17 Precip mm/hr ■ | 17 Precip mm/hr ▲ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90° | Q | 1.0 | 100 | 3.0 | 0.10 | 1.58 | 42 | 49 | 3.9 | 0.15 | 2.50 | 39 | 46 | 4.7 | 0.19 | 3.17 | 34 | 40 |
| | | 1.5 | 150 | 3.4 | 0.12 | 2.00 | 42 | 48 | 4.2 | 0.18 | 3.06 | 42 | 48 | 4.9 | 0.23 | 3.88 | 39 | 45 |
| | | **2.1** | **210** | **3.7** | **0.15** | **2.43** | **43** | **49** | **4.6** | **0.22** | **3.62** | **41** | **47** | **5.2** | **0.28** | **4.59** | **41** | **47** |
| | | 2.5 | 250 | 4.0 | 0.16 | 2.69 | 40 | 47 | 4.9 | 0.24 | 3.95 | 39 | 46 | 5.5 | 0.30 | 5.01 | 40 | 46 |
| | | 3.0 | 300 | 4.0 | 0.18 | 2.95 | 44 | 51 | 5.2 | 0.26 | 4.32 | 38 | 44 | 5.8 | 0.32 | 5.30 | 38 | 44 |
| 120° | T | 1.0 | 100 | 3.0 | 0.13 | 2.11 | 42 | 49 | 3.9 | 0.20 | 3.33 | 39 | 46 | | | | | |
| | | 1.5 | 150 | 3.4 | 0.16 | 2.67 | 42 | 48 | 4.2 | 0.24 | 4.08 | 42 | 48 | | | | | |
| | | **2.1** | **210** | **3.7** | **0.19** | **3.25** | **43** | **49** | **4.6** | **0.29** | **4.83** | **41** | **47** | **Use 17A Nozzle** | | | | |
| | | 2.5 | 250 | 4.0 | 0.22 | 3.67 | 41 | 48 | 4.9 | 0.32 | 5.27 | 40 | 46 | | | | | |
| | | 3.0 | 300 | 4.0 | 0.24 | 3.94 | 44 | 51 | 5.2 | 0.35 | 5.75 | 38 | 44 | | | | | |
| 180° | H | 1.0 | 100 | 3.0 | 0.19 | 3.17 | 42 | 49 | 3.9 | 0.30 | 5.00 | 39 | 46 | 4.7 | 0.38 | 6.33 | 34 | 40 |
| | | 1.5 | 150 | 3.4 | 0.24 | 4.01 | 42 | 48 | 4.2 | 0.37 | 6.12 | 42 | 48 | 4.9 | 0.47 | 7.76 | 39 | 45 |
| | | **2.1** | **210** | **3.7** | **0.29** | **4.87** | **43** | **49** | **4.6** | **0.43** | **7.25** | **41** | **47** | **5.2** | **0.55** | **9.18** | **41** | **47** |
| | | 2.5 | 250 | 4.0 | 0.32 | 5.39 | 40 | 47 | 4.9 | 0.47 | 7.91 | 40 | 46 | 5.5 | 0.60 | 10.01 | 40 | 46 |
| | | 3.0 | 300 | 4.0 | 0.35 | 5.75 | 43 | 50 | 5.2 | 0.49 | 8.18 | 36 | 42 | 5.8 | 0.64 | 10.06 | 38 | 44 |
| 360° | F | 1.0 | 100 | 3.0 | 0.38 | 6.33 | 42 | 49 | 3.9 | 0.60 | 10.00 | 39 | 46 | | | | | |
| | | 1.5 | 150 | 3.4 | 0.48 | 8.01 | 42 | 48 | 4.2 | 0.73 | 12.25 | 42 | 48 | | | | | |
| | | **2.1** | **210** | **3.7** | **0.58** | **9.74** | **43** | **49** | **4.6** | **0.87** | **14.49** | **41** | **47** | **Use 17A Nozzle** | | | | |
| | | 2.5 | 250 | 4.0 | 0.65 | 10.78 | 40 | 47 | 4.9 | 0.95 | 15.81 | 40 | 46 | | | | | |
| | | 3.0 | 300 | 4.0 | 0.70 | 11.73 | 44 | 51 | 5.2 | 0.99 | 16.50 | 37 | 42 | | | | | |

**Bold** = Recommended pressure

# SHORT-RADIUS MICRO SPRAY NOZZLES

*These highly accurate nozzles are perfect for small spaces and can support a robust micro spray system with Pro-Spray™ Sprinkler Bodies.*

## KEY BENEFITS

- Low flow for controlled irrigation of tight spaces
- Meets micro spray requirement of 114 l/hr max flow at 2.1 bar; 210 kPa
- Built to last for a robust overhead solution for small spaces

## OPERATING SPECIFICATIONS

- Recommended operating pressure: 2.1 bar; 210 kPa
- Pair with Pro-Spray PRS30 pop-up for pressure regulation to 2.1 bar; 210 kPa

**2Q Nozzle**
Radius: 0.6 m

**2H Nozzle**
Radius: 0.6 m

**4Q Nozzle**
Radius: 1.2 m

**4H Nozzle**
Radius: 1.2 m

**6Q Nozzle**
Radius: 1.8 m

**6H Nozzle**
Radius: 1.8 m

### SHORT-RADIUS NOZZLES PERFORMANCE DATA

**Nozzle Lt. Brown**

| Arc | Pressure bar | Pressure kPa | Position | Radius m | Flow l/min | Flow l/hr | *Precip mm/hr |
|---|---|---|---|---|---|---|---|
| 90° | 1.0 | 100 | 2Q | 0.6 | 0.34 | 20 | 57 |
| | 1.5 | 150 | | 0.6 | 0.38 | 23 | 63 |
| | **2.1** | **210** | | **0.6** | **0.42** | **25** | **70** |
| | 2.5 | 250 | | 0.6 | 0.49 | 29 | 82 |
| | 3.0 | 300 | | 0.6 | 0.53 | 32 | 88 |
| 180° | 1.0 | 100 | 2H | 0.6 | 0.53 | 32 | 44 |
| | 1.5 | 150 | | 0.6 | 0.57 | 34 | 48 |
| | **2.1** | **210** | | **0.6** | **0.76** | **46** | **63** |
| | 2.5 | 250 | | 0.6 | 0.77 | 46 | 64 |
| | 3.0 | 300 | | 0.6 | 0.80 | 48 | 67 |

**Nozzle Lt. Green**

| Arc | Pressure bar | Pressure kPa | Position | Radius m | Flow l/min | Flow l/hr | *Precip mm/hr |
|---|---|---|---|---|---|---|---|
| 90° | 1.0 | 100 | 4Q | 1.2 | 0.68 | 41 | 28 |
| | 1.5 | 150 | | 1.2 | 0.76 | 46 | 32 |
| | **2.1** | **210** | | **1.2** | **0.76** | **46** | **32** |
| | 2.5 | 250 | | 1.2 | 0.83 | 50 | 35 |
| | 3.0 | 300 | | 1.2 | 0.91 | 55 | 38 |
| 180° | 1.0 | 100 | 4H | 1.2 | 1.25 | 75 | 26 |
| | 1.5 | 150 | | 1.2 | 1.29 | 77 | 27 |
| | **2.1** | **210** | | **1.2** | **1.51** | **91** | **31** |
| | 2.5 | 250 | | 1.2 | 1.52 | 91 | 32 |
| | 3.0 | 300 | | 1.2 | 1.67 | 100 | 35 |

**Nozzle Lt. Blue**

| Arc | Pressure bar | Pressure kPa | Position | Radius m | Flow l/min | Flow l/hr | *Precip mm/hr |
|---|---|---|---|---|---|---|---|
| 90° | 1.0 | 100 | 6Q | 1.8 | 0.83 | 50 | 15 |
| | 1.5 | 150 | | 1.8 | 0.91 | 55 | 17 |
| | **2.1** | **210** | | **1.8** | **1.14** | **68** | **21** |
| | 2.5 | 250 | | 1.8 | 1.14 | 68 | 21 |
| | 3.0 | 300 | | 1.8 | 1.14 | 68 | 21 |
| 180° | 1.0 | 100 | 6H | 1.8 | 1.52 | 91 | 14 |
| | 1.5 | 150 | | 1.8 | 1.67 | 100 | 15 |
| | **2.1** | **210** | | **1.8** | **1.90** | **114** | **18** |
| | 2.5 | 250 | | 1.8 | 1.97 | 118 | 18 |
| | 3.0 | 300 | | 1.8 | 2.05 | 123 | 19 |

**Bold** = Recommended pressure
*Precipitation rate shown without overlap

Short-Radius Micro Spray Nozzle

# STRIP PATTERN NOZZLES

*Irrigate narrow turf and planter areas accurately with fixed arc Strip Pattern Nozzles.*

## KEY BENEFITS

- Designed for accurate coverage of strip areas
- Available in a variety of models for unique, rectangular spaces
- Built to last in harsh conditions

## OPERATING SPECIFICATIONS

- Recommended operating pressure: 2.1 bar; 210 kPa
- Pair with Pro-Spray™ PRS30 pop-up for pressure regulation to 2.1 bar; 210 kPa
- Warranty period: 2 years

**Left Corner Strip**
Rectangle: 1.5 m x 4.5 m

**Right Corner Strip**
Rectangle: 1.5 m x 4.5 m

**Side Strip**
Rectangle: 1.5 m x 9.1 m

**Side Strip**
Rectangle: 2.7 m x 5.5 m

**Center Strip**
Rectangle: 1.5 m x 9.1 m

**End Strip**
Rectangle: 1.5 m x 4.5 m

**STRIP PATTERN NOZZLE PERFORMANCE DATA**

| Arc | Pressure bar | Pressure kPa | Width x Length m | Flow $m^3/hr$ | Flow l/min |
|---|---|---|---|---|---|
| LCS-515 | 1.0 | 100 | 1.2 x 4.2 | 0.10 | 1.7 |
| | 1.5 | 150 | 1.2 x 4.3 | 0.13 | 2.1 |
| | **2.1** | **210** | **1.5 x 4.5** | **0.15** | **2.5** |
| | 2.5 | 250 | 1.5 x 4.5 | 0.16 | 2.7 |
| | 3.0 | 300 | 1.5 x 4.5 | 0.17 | 2.8 |
| RCS-515 | 1.0 | 100 | 1.2 x 4.2 | 0.10 | 1.7 |
| | 1.5 | 150 | 1.2 x 4.3 | 0.13 | 2.1 |
| | **2.1** | **210** | **1.5 x 4.5** | **0.15** | **2.5** |
| | 2.5 | 250 | 1.5 x 4.5 | 0.16 | 2.7 |
| | 3.0 | 300 | 1.5 x 4.5 | 0.17 | 2.8 |
| SS-530 | 1.0 | 100 | 1.2 x 8.5 | 0.21 | 3.5 |
| | 1.5 | 150 | 1.5 x 9.0 | 0.25 | 4.2 |
| | **2.1** | **210** | **1.5 x 9.1** | **0.30** | **5.0** |
| | 2.5 | 250 | 1.5 x 9.1 | 0.33 | 5.5 |
| | 3.0 | 300 | 1.5 x 9.1 | 0.34 | 5.7 |
| SS-918 | 1.0 | 100 | 2.4 x 5.2 | 0.27 | 4.5 |
| | 1.5 | 150 | 2.7 x 5.5 | 0.33 | 5.5 |
| | **2.1** | **210** | **2.7 x 5.5** | **0.39** | **6.5** |
| | 2.5 | 250 | 2.7 x 5.5 | 0.43 | 7.1 |
| | 3.0 | 300 | 2.7 x 5.5 | 0.47 | 7.9 |
| CS-530 | 1.0 | 100 | 1.2 x 8.5 | 0.21 | 3.5 |
| | 1.5 | 150 | 1.5 x 9.0 | 0.25 | 4.2 |
| | **2.1** | **210** | **1.5 x 9.1** | **0.30** | **5.0** |
| | 2.5 | 250 | 1.5 x 9.1 | 0.33 | 5.5 |
| | 3.0 | 300 | 1.5 x 9.1 | 0.34 | 5.7 |
| ES-515 | 1.0 | 100 | 1.1 x 4.2 | 0.10 | 1.7 |
| | 1.5 | 150 | 1.2 x 4.3 | 0.13 | 2.1 |
| | **2.1** | **210** | **1.5 x 4.5** | **0.15** | **2.5** |
| | 2.5 | 250 | 1.5 x 4.5 | 0.16 | 2.7 |
| | 3.0 | 300 | 1.5 x 4.5 | 0.17 | 2.8 |

**Bold** = Recommended pressure

RCS-515

# BUBBLER NOZZLES

*Deliver a consistent flow regardless of inlet pressure with pressure-compensating Bubbler Nozzles.*

## KEY BENEFITS

- Pressure-compensating for constant water flow at any pressure
- Designed for deep watering of planted areas
- Nozzle threaded for use with Pro-Spray™ Sprinkler Bodies
- Warranty period: 2 years

### MULTI-STREAM BUBBLER PERFORMANCE DATA

| Arc | | Model | Flow m³/hr | Flow l/min | Radius m |
|---|---|---|---|---|---|
| | | MSBN-25Q | 0.06 | 0.9 | 0.30 |
| | | MSBN-50Q | 0.11 | 1.9 | 0.46 |
| | | MSBN-50H | 0.11 | 1.9 | 0.30 |
| | | MSBN-10H | 0.23 | 3.8 | 0.46 |
| | | MSBN-10F | 0.23 | 3.8 | 0.30 |
| | | MSBN-20F | 0.45 | 7.6 | 0.46 |

**Notes:**
Typical spacing 0.6 to 1.2 m. Flows shown for pressures between 1.0 and 4.8 bar; 100 and 480 kPa.

Multi-Stream Bubbler


**MSBN Installed on PROS-04**

*Combining Hunter Bubbler Nozzles with Pro-Spray Sprinkler Bodies provides the watering precision of pressure-compensating bubblers paired with the benefit of retracting the nozzle out of sight.*

## MULTI-STREAM BUBBLER NOZZLES

**MSBN-25Q**
Flow: 0.06 m³/hr; 0.9 l/min

**MSBN-50Q/50H**
Flow: 0.11 m³/hr; 1.9 l/min

**MSBN-10H/10F**
Flow: 0.23 m³/hr; 3.8 l/min

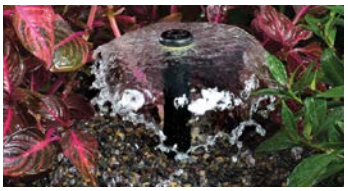
**MSBN-20F**
Flow: 0.45 m³/hr; 7.6 l/min

### PCN PERFORMANCE DATA

| | Model | Flow m³/hr | Flow l/min | Pattern Type |
|---|---|---|---|---|
| | 25 | 0.06 | 0.9 | Trickle |
| | 50 | 0.11 | 1.9 | Trickle |
| | 10 | 0.23 | 3.8 | Umbrella |
| | 20 | 0.46 | 7.6 | Umbrella |

**Notes:**
Typical spacing 0.3 to 0.9 m. Flows shown for pressures between 1.0 and 4.8 bar; 100 and 480 kPa.

PCN



## PCN BUBBLER NOZZLES

**PCN-25**
Flow: 0.06 m³/hr; 0.9 l/min

**PCN-50**
Flow: 0.11 m³/hr; 1.9 l/min

**PCN-10**
Flow: 0.23 m³/hr; 3.8 l/min

**PCN-20**
Flow: 0.46 m³/hr; 7.6 l/min

### 5-CST-B BUBBLER NOZZLE PERFORMANCE DATA

| | Pressure bar | Pressure kPa | Radius m | Flow m³/hr | Flow l/min |
|---|---|---|---|---|---|
| | 1.0 | 100 | 1.5 | 0.07 | 1.1 |
| | 1.5 | 150 | 1.5 | 0.07 | 1.2 |
| | 2.0 | 200 | 1.5 | 0.09 | 1.4 |
| | **2.1** | **210** | **1.5** | **0.09** | **1.5** |
| | 2.5 | 250 | 1.5 | 0.10 | 1.6 |

5-CST-B

## DUAL-STREAM BUBBLER NOZZLE

**5-CST-B**

# BUBBLERS

*Ensure consistent flow regardless of pressure with above-ground, pressure-compensating Bubblers.*

## KEY BENEFITS

- Pressure-compensating for constant water flow at any pressure
- Designed for deep watering of planted areas
- ½" threaded inlet for easy installation on a ½" riser

## OPERATING SPECIFICATIONS

- *SASO Quality Mark Certified
- Warranty period: 2 years



### PCB PERFORMANCE DATA

| | Model | Flow m³/hr | Flow l/min | Pattern Type |
|---|---|---|---|---|
| ● | 25 | 0.06 | 0.9 | Trickle |
| | 50 | 0.11 | 1.9 | Trickle |
| | 10 | 0.23 | 3.8 | Umbrella |
| | 20 | 0.45 | 7.6 | Umbrella |

**Notes:**
Typical spacing 0.6 to 1.2 m. Flows shown for pressures between 1.0 and 4.8 bar; 100 and 480 kPa.

PCB

## PRESSURE-COMPENSATING BUBBLERS

**PCB***

**PCB-R***

### AFB PERFORMANCE DATA

| | Model | Flow m³/hr | Flow l/min | Pattern Type |
|---|---|---|---|---|
| ● | AFB | < 0.45 | < 7.6 | Trickle/ Umbrella |

AFB

## ADJUSTABLE FLOOD BUBBLER

**AFB**

# HUNTER PRO-SPRAY™ SPRINKLER BODIES AND NOZZLES

*The most trusted spray solutions in the industry*



Choose the right spray system from the start! The Hunter Pro-Spray Sprinkler Body lets you simplify inventory, save time, speed service calls, and ensure years of beautiful, healthy landscapes for your customers.

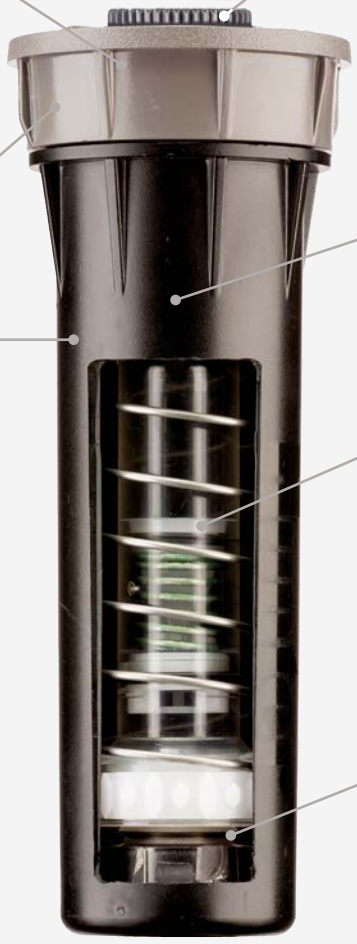
With a reputation as the industry's strongest, most versatile spray body, it's also compatible with a wide array of high-performing nozzles for maximum performance and even watering in all types of applications.

### HUNTER PRO-SPRAY

**Ensure leak-free performance** with a co-moulded wiper seal

**Make retrofitting a breeze** with a durable, interchangeable cap

**Simplify inventory management** with the same body across all models



**Protect against field damage** with thick, coined edges

**Stop water waste in the event of a missing nozzle** with optional FloGuard™ Technology

**Optimise field performance** with a pressure-regulated riser

**Stop runoff** with a field- or factory-installed check valve

### HUNTER ADJUSTABLE NOZZLES

These proven nozzles fight the effects of wind with large droplets, distribute water evenly with a smooth spray pattern, and minimise overspray with crisp edges.


ON
OFF
Hunter
PGV


# VALVES

**Look for this icon.** *All Hunter valves are 100% water-tested to ensure reliable operation once installed.*

## VALVE COMPARISON CHART

| QUICK SPECS | 1" PGV & JAR-TOP | PGV | ICV | ICV FILTER SENTRY | IBV FILTER SENTRY |
|---|---|---|---|---|---|
| SIZE | 1" BSP (25 mm) | 1½", 2" BSP (40, 50 mm) | 1", 1½", 2", 3" BSP (25, 40, 50, 80 mm) | 1", 1½", 2", 3" BSP (25, 40, 50, 80 mm) | 1", 1½", 2", 3" BSP (25, 40, 50, 80 mm) |
| FLOW ($m^3$/hr) | 0.05–9 | 0.05–34 | 0.05–68 | 0.05–68 | 0.05–68 |
| FLOW (l/min) | 0.7-150 | 0.7-570 | 0.4-1135 | 0.4-1135 | 0.4-1135 |
| **FEATURES** | | | | | |
| CAPTIVE BONNET BOLTS | ● | ● | ● | ● | |
| EPDM DIAPHRAGM AND SEAT | | | Standard | Standard | Standard |
| WARRANTY | 2 Years | 2 Years | 5 Years | 5 Years | 5 Years |
| **ADVANCED FEATURES** | | | | | |
| FLOW CONTROL | Optional | ● | ● | ● | ● |
| FILTER SENTRY™ MECHANISM | | | User-Installed | Factory-Installed | Factory-Installed |
| ACCU SYNC™ CAPABLE | ● | ● | ● | ● | ● |
| RECLAIMED WATER ID HANDLE | User-Installed | User-Installed | User-Installed | User-Installed | User-Installed |
| RECLAIMED WATER ID TAG | | | User-Installed | User-Installed | User-Installed |
| **APPLICATIONS** | | | | | |
| RESIDENTIAL | ● | ● | ● | | |
| COMMERCIAL | | ● | ● | ● | ● |
| POTABLE WATER | ● | ● | ● | ● | ● |
| RECLAIMED WATER | | | ● | ● | ● |
| SECONDARY WATER | | | | ● | ● |
| PRESSURE REGULATION | ● | ● | ● | ● | ● |
| HIGH-PRESSURE SYSTEMS | | | ● | ● | ● |
| LOW-PRESSURE SYSTEMS | ● | ● | ● | ● | ● |
| HIGH-TEMPERATURE LOCATIONS | | | ● | ● | ● |
| USE AS MASTER VALVE | | ● | ● | ● | ● |

## Advanced Features

### ACCU SYNC PRESSURE REGULATORS

Available on:

PGV, ICV, IBV

Avoid sprinkler over-pressure conditions and gain significant water savings with Accu Sync Pressure Regulators. This option is available in adjustable or fixed pressure models.

### FILTER SENTRY MECHANISM

For use with:

ICV, IBV

The Filter Sentry Mechanism scours the filter clean twice during each valve cycle. Since it is attached to the diaphragm, the Filter Sentry feature can be easily added after a valve has been installed.

# 1½" (40 MM) AND 2" (50 MM) PGV

*These reliable valves provide long-lasting performance for larger systems.*

## KEY BENEFITS

- External/internal manual bleed allows for quick and easy activation at the valve
- Double-beaded diaphragm seal design ensures leak-free performance
- Captive bonnet screws eliminate the possibility of lost parts during disassembly
- Flow control maximises efficiency and prolongs the life of the system
- Triple-tool bonnet screws are compatible with standard or Phillips screwdrivers as well as a nut driver
- Each valve available with globe or angle configuration for convenient placement
- Encapsulated solenoid with captive plunger used on every Hunter valve provides hassle-free service

## USER-INSTALLED OPTIONS

- Accu Sync™ Pressure Regulator at the valve*
- DC-Latching Solenoid for battery-operated controllers (P/N 458200)
- Reclaimed flow control handle (P/N 607105)

## FACTORY-INSTALLED OPTIONS

- DC: DC-Latching Solenoid for battery-operated controllers; **see page 103**
- LS: Valve without solenoid

## OPERATING SPECIFICATIONS

- Flow:
  - PGV-151: 5 to 27 m³/hr; 75 to 450 l/min
  - PGV-201: 5 to 34 m³/hr; 75 to 570 l/min
- Recommended pressure range: 1.5 to 10 bar; 150 to 1000 kPa
- Temperature rating: 66°C
- Warranty period: 2 years

## SOLENOID SPECIFICATIONS

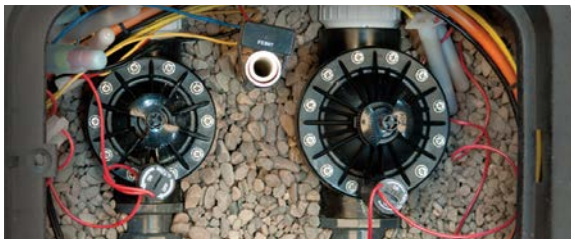
- 24 VAC solenoid
  - 350 mA inrush, 190 mA holding, 60 Hz
  - 370 mA inrush, 210 mA holding, 50 Hz

* Accu Sync product information on **page 102**

**PGV-151 VALVE**
Inlet diameter: 1½" (40 mm)
Height: 19 cm
Length: 15 cm
Width: 11 cm

**PGV-201 VALVE**
Inlet diameter: 2" (50 mm)
Height: 20 cm
Length: 17 cm
Width: 13 cm

**PGV Installed**



**PGV PRESSURE LOSS IN kPa**

| Flow l/min | 1½" (40 mm) Globe | 1½" (40 mm) Angle | 2" (50 mm) Globe | 2" (50 mm) Angle |
|---|---|---|---|---|
| 75 | 20 | 22 | 4 | 9 |
| 95 | 20 | 21 | 5.5 | 9 |
| 115 | 21 | 21 | 7.5 | 9.5 |
| 135 | 22 | 21 | 9 | 10 |
| 150 | 25 | 23 | 12 | 11 |
| 200 | 27 | 24 | 14 | 12 |
| 325 | 47 | 41 | 26 | 19 |
| 400 | 65 | 59 | 33 | 24 |
| 500 | 96 | 92 | 43 | 32 |
| 625 | | | 56 | 45 |
| 775 | | | 74 | 64 |

**PGV PRESSURE LOSS IN BAR**

| Flow m³/hr | 1½" (40 mm) Globe | 1½" (40 mm) Angle | 2" (50 mm) Globe | 2" (50 mm) Angle |
|---|---|---|---|---|
| 4.5 | 0.2 | 0.2 | 0.1 | 0.1 |
| 5.5 | 0.2 | 0.2 | 0.1 | 0.1 |
| 6.5 | 0.2 | 0.2 | 0.1 | 0.1 |
| 8.0 | 0.2 | 0.2 | 0.1 | 0.1 |
| 9.0 | 0.2 | 0.2 | 0.1 | 0.1 |
| 11.0 | 0.3 | 0.2 | 0.1 | 0.1 |
| 13.5 | 0.3 | 0.3 | 0.1 | 0.1 |
| 18.0 | 0.4 | 0.4 | 0.2 | 0.1 |
| 22.5 | 0.6 | 0.5 | 0.3 | 0.2 |
| 27.0 | 0.8 | 0.8 | 0.4 | 0.3 |
| 30.5 | | | 0.6 | 0.5 |
| 34.0 | | | 0.7 | 0.6 |

**PGV 1½" & 2" – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 User-Installed Options |
|---|---|---|---|
| **PGV-151-B** = 1½" (40 mm) BSP<br><br>**PGV-201-B** = 2" (50 mm) BSP | Globe / angle valve with flow control | **(blank)** = No option<br><br>**DC** = DC-Latching Solenoid for battery-operated controllers<br><br>**LS** = Less solenoid | **AS-ADJ =** Adjustable Accu Sync Pressure Regulator<br><br>**458200** = DC-Latching Solenoid for battery-operated controllers<br><br>**607105** = Reclaimed flow control handle<br><br>**LIT-700** = Reclaimed ID tag |

**Examples:**
**PGV-201-B-AS-ADJ =** 2" (50 mm) BSP PGV globe/angle valve with flow control, user-installed Accu Sync Pressure Regulator

# 1" (25 MM) PGV AND PGV JAR-TOP

*These versatile and robust valves offer simple serviceability.*



## KEY BENEFITS

- External/internal manual bleed allows for quick and easy activation at the valve
- Double-beaded diaphragm seal design ensures leak-free performance
- Captive bonnet screws eliminate the possibility of lost parts during disassembly
- Triple-tool bonnet screws are compatible with standard or Phillips screwdrivers as well as a nut driver
- Jar-top models provide easy access without tools
- Encapsulated solenoid with captive plunger used on every Hunter valve provides hassle-free service
- Flow control maximises efficiency and prolongs the life of the system

## USER-INSTALLED OPTIONS

- Accu Sync™ Pressure Regulator at the valve*
- DC-Latching Solenoid for battery-operated controllers (P/N 458200)

## FACTORY-INSTALLED OPTIONS

- LS: Valve without solenoid
- DC: DC-Latching Solenoid for battery-operated controllers; **see page 103**

## OPERATING SPECIFICATIONS

- Flow: 0.05 to 9 $m^3$/hr; 0.7 to 150 l/min
- Recommended pressure range: 1.5 to 10 bar; 150 to 1,000 kPa
- Temperature rating: 66°C
- Warranty period: 2 years

## SOLENOID SPECIFICATIONS

- 24 VAC solenoid
  - 350 mA inrush, 190 mA holding, 60 Hz
  - 370 mA inrush, 210 mA holding, 50 Hz

* Accu Sync product information on **page 102**

**PGV-100G VALVE**
Inlet diameter: 1" (25 mm)
Height: 13 cm
Length: 11 cm
Width: 6 cm

**PGV-101G VALVE**
Inlet diameter: 1" (25 mm)
Height: 13 cm
Length: 11 cm
Width: 6 cm

**PGV-100JT-G VALVE**
Inlet diameter: 1" (25 mm)
Height: 14 cm
Length: 11 cm
Width: 8 cm

**PGV-101JT-G VALVE**
Inlet diameter: 1" (25 mm)
Height: 14 cm
Length: 11 cm
Width: 8 cm

**Double-Beaded Diaphragm**

**AC Solenoid**
(P/N 606800)
Two red wires

**PGV - SPECIFICATION BUILDER :** ORDER 1 + 2 + 3 + 4 + 5

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Options | 5 User-Installed Options |
|---|---|---|---|---|
| **PGV-100** = 1" (25 mm) | Globe valve, without flow control, threaded inlet/outlet | **G-B** = BSP female threaded inlet/outlet | **DC** = DC-Latching Solenoid for battery-operated controllers | **AS-ADJ** = Accu Sync adjustable |
| **PGV-101** = 1" (25 mm) | Globe valve, with flow control, threaded inlet/outlet | **MM-B =** BSP male threaded inlet/outlet | **LS** = Less solenoid | **458200** = DC-Latching Solenoid for battery-operated controllers |
| | | | | **269205** = Reclaimed flow control handle |
| | | | | **LIT-700** = Reclaimed ID tag |

**Example:**
**PGV-101-G-B-DC** = 1" (25 mm) PGV globe valve, with flow control, with female BSP inlet and outlet, with DC-Latching Solenoid

**PGV JAR-TOP - SPECIFICATION BUILDER :** ORDER 1 + 2 + 3 + 4 + 5

| 1 Model | 2 Standard Features | 3 Feature Options | 4 Options | 5 User-Installed Options |
|---|---|---|---|---|
| **PGV-100-JT** = 1" (25 mm) | Globe valve, jar-top bonnet, without flow control, threaded inlet/outlet | **G-B** = BSP female threaded inlet/outlet | **DC** = DC-Latching Solenoid for battery-operated controllers | **AS-ADJ** = Accu Sync adjustable |
| **PGV-101-JT** = 1" (25 mm) | Globe valve, jar-top bonnet, with flow control, threaded inlet/outlet | **MM-B =** BSP male threaded inlet/outlet | **LS** = Less solenoid | **458200** = DC-Latching Solenoid for battery-operated controllers |
| | | | | **269205** = Reclaimed flow control handle |
| | | | | **LIT-700** = Reclaimed ID tag |

**Example:**
**PGV-101-JT-MM-B-DC** = 1" (25 mm) PGV globe valve, with jar-top bonnet, with flow control, with male BSP inlet and outlet, with DC-Latching Solenoid

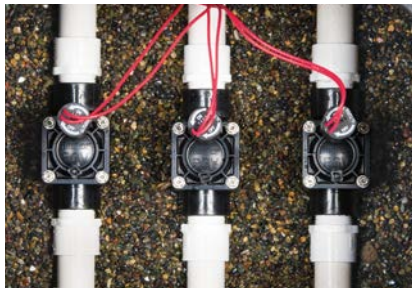
**1" (25 MM) PGV VALVE**

| Flow m³/hr | Pressure Loss bar |
|---|---|
| 0.3 | 0.08 |
| 1.0 | 0.11 |
| 2.5 | 0.13 |
| 3.5 | 0.16 |
| 4.5 | 0.23 |
| 5.5 | 0.43 |
| 6.5 | 0.62 |
| 8.0 | 1.10 |
| 9.0 | 1.48 |

**1" (25 MM) PGV VALVE**

| Flow l/min | Pressure Loss kPa |
|---|---|
| 4 | 8 |
| 20 | 11 |
| 40 | 13 |
| 55 | 16 |
| 75 | 23 |
| 95 | 43 |
| 115 | 62 |
| 135 | 110 |
| 150 | 148 |

PGV-100G Valve Installed



Captive Bonnet Bolts

# ICV

*This valve is the perfect choice for high-pressure systems and dirty water conditions.*

## KEY BENEFITS

- Optional Filter Sentry™ Mechanism scours the filter screen in dirty water conditions
- External/internal manual bleed allows for quick and easy activation at the valve
- Glass-filled nylon construction provides high pressure rating and reliability
- Double-beaded diaphragm seal design ensures leak-free performance
- Fabric-reinforced EPDM diaphragm and seat ensure greater performance in all water conditions
- Captive bonnet screws eliminate the possibility of lost parts during disassembly
- Triple-tool bonnet screws are compatible with standard or Phillips screwdrivers as well as a nut driver
- Encapsulated solenoid with captive plunger used on every Hunter valve provides hassle-free service
- Flow control maximises efficiency and prolongs the life of the system

## USER-INSTALLED OPTIONS

- Accu Sync™ Pressure Regulator at the valve*
- DC-Latching Solenoid for battery-operated controllers (P/N 458200)
- Filter Sentry Mechanism easily added to an installed valve

## FACTORY-INSTALLED OPTIONS

- LS: Valve without solenoid
- DC: DC-Latching Solenoid for battery-operated controllers; **see page 103**
- FS: Filter Sentry
- FS-R: Reclaimed option with Filter Sentry Mechanism, purple control knob, and purple, chlorine-resistant diaphragm (available only on 40 mm and 50 mm models)

## OPERATING SPECIFICATIONS

- Flow:
  - ICV-101G: 0.03 to 9 $m^3$/hr; 0.4 to 150 l/min
  - ICV-151G: 0.03 to 34 $m^3$/hr; 0.4 to 568 l/min
  - ICV-201G: 0.03 to 45 $m^3$/hr; 0.4 to 757 l/min
  - ICV-301: 0.03 to 68 $m^3$/hr; 0.4 to 1,135 l/min
- Recommended pressure range: 1.5 to 15.0 bar; 150 to 1,500 kPa
- Temperature rating: 66°C
- SASO Quality Mark Certified
- Warranty period: 5 years

## SOLENOID SPECIFICATIONS

- 24 VAC solenoid
  - 350 mA inrush, 190 mA holding, 60 Hz
  - 370 mA inrush, 210 mA holding, 50 Hz

* Accu Sync product information on **page 102**

**ICV-101G VALVE**
Inlet diameter: 1" (25 mm)
Height: 14 cm
Length: 12 cm
Width: 10 cm

**ICV-151G VALVE**
Inlet diameter: 1½" (40 mm)
Height: 18 cm
Length: 17 cm
Width: 14 cm

**ICV-201G VALVE**
Inlet diameter: 2" (50 mm)
Height: 18 cm
Length: 17 cm
Width: 14 cm

**ICV-301 VALVE**
Inlet diameter: 3" (80 mm)
Height: 27 cm
Length: 22 cm
Width: 19 cm

**ICV-R VALVE**
Inlet diameter: 1½" (40 mm) and 2" (50 mm)
Height: 18 cm
Length: 17 cm
Width: 14 cm

**Double-Beaded Chlorine-Resistant Diaphragm**

**Filter Sentry Mechanism**

## ICV 1", 1½", 2" AND 3" – SPECIFICATION BUILDER: ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 User-Installed Options |
|---|---|---|---|
| **ICV-101-G-B** = 1"(25 mm) BSP | Globe valve with flow control | **(blank)** = No option | **AS-ADJ** = Adjustable Accu Sync Pressure Regulator |
| **ICV-151-G-B** = 1½" (40 mm) BSP | | **FS** = Filter Sentry Mechanism | **458200** = DC-Latching Solenoid for battery-operated controllers |
| **ICV-201-G-B** = 2" (50 mm) BSP | | **FS-R** = Purple reclaimed Filter Sentry Mechanism and ID tag (available only on 40 mm and 50 mm models) | **607105** = Reclaimed flow control handle (25, 40, 50 mm only) |
| | | **DC** = DC-Latching Solenoid for battery-operated controllers | **LIT-700** = Reclaimed ID tag |
| **ICV-301-B** = 3" (80 mm) BSP | Globe / angle valve with flow control | **LS** = Less solenoid | |

**Example:**
**ICV-201G-B-AS-ADJ =** 2" (50 mm) BSP ICV globe valve with flow control, user-installed adjustable Accu Sync Pressure Regulator

**Double-Beaded Diaphragm**

**Optional: Filter Sentry Mechanism**

**Captive Bonnet Bolts**

**AC Solenoid**
(P/N 606800)
Two red wires

### ICV PRESSURE LOSS (AT OPTIMAL FLOWS) IN BAR

| Flow $m^3/hr$ | 1" (25 mm) Globe | 1½" (40 mm) Globe | 2" (50 mm) Globe | 3" (80 mm) Globe | 3" (80 mm) Angle |
|---|---|---|---|---|---|
| 0.05 | 0.1 | | | | |
| 0.1 | 0.1 | | | | |
| 0.3 | 0.1 | | | | |
| 1.0 | 0.2 | | | | |
| 2.5 | 0.2 | | | | |
| 3.5 | 0.2 | | | | |
| 4.5 | 0.2 | 0.1 | | | |
| 7.0 | 0.4 | 0.1 | | | |
| 9.0 | 1.0 | 0.1 | 0.1 | | |
| 11.0 | | 0.2 | 0.1 | | |
| 13.5 | | 0.2 | 0.1 | | |
| 17.0 | | 0.3 | 0.1 | | |
| 20.5 | | 0.4 | 0.2 | | |
| 23.0 | | 0.5 | 0.3 | | |
| 27.0 | | 0.7 | 0.4 | | |
| 30.5 | | 0.9 | 0.5 | | |
| 34.0 | | 1.2 | 0.6 | 0.2 | 0.1 |
| 40.0 | | | 0.9 | 0.2 | 0.2 |
| 45.5 | | | 1.2 | 0.3 | 0.2 |
| 51.0 | | | | 0.3 | 0.3 |
| 57.0 | | | | 0.4 | 0.4 |
| 62.5 | | | | 0.5 | 0.5 |
| 68.0 | | | | 0.6 | 0.6 |

### ICV PRESSURE LOSS (AT OPTIMAL FLOWS) IN kPa

| Flow l/min | 1" (25 mm) Globe | 1½" (40 mm) Globe | 2" (50 mm) Globe | 3" (80 mm) Globe | 3" (80 mm) Angle |
|---|---|---|---|---|---|
| 1 | 14 | | | | |
| 2 | 14 | | | | |
| 4 | 14 | | | | |
| 20 | 17 | | | | |
| 40 | 20 | | | | |
| 60 | 20 | | | | |
| 75 | 20 | 9.6 | | | |
| 115 | 62 | 10 | | | |
| 150 | 139 | 12 | 5.0 | | |
| 190 | | 15 | 7.0 | | |
| 225 | | 18 | 9.3 | | |
| 280 | | 26 | 14 | | |
| 340 | | 37 | 20 | | |
| 380 | | 46 | 26 | | |
| 450 | | 65 | 36 | | |
| 510 | | 84 | 47 | | |
| 565 | | 104 | 57 | 16 | 12 |
| 660 | | | 79 | 22 | 17 |
| 750 | | | 103 | 29 | 23 |
| 850 | | | | 38 | 30 |
| 950 | | | | 47 | 38 |
| 1,050 | | | | 58 | 47 |
| 1,135 | | | | 69 | 56 |

# IBV

*Built of solid brass, this valve can power through the fiercest irrigation conditions.*



## KEY BENEFITS

- Factory-installed Filter Sentry™ Mechanism scours the filter screen in dirty water conditions
- External/internal manual bleed allows for quick and easy activation at the valve
- Heavy-duty brass construction provides high pressure rating and reliability
- Double-beaded diaphragm seal design ensures leak-free performance
- Fabric-reinforced EPDM diaphragm and seat ensure greater performance in all water conditions
- Triple-tool bonnet screws are compatible with standard or Phillips screwdrivers as well as a nut driver
- Encapsulated solenoid with captive plunger used on every Hunter valve provides hassle-free service
- Flow control maximises efficiency and prolongs the life of the system

## USER-INSTALLED OPTIONS

- Accu Sync™ Pressure Regulator at the valve*
- DC-Latching Solenoid for battery-operated controllers (P/N 458200)

## FACTORY-INSTALLED OPTIONS

- DC: DC-Latching Solenoid for battery-operated controllers; **see page 103**

## OPERATING SPECIFICATIONS

- Flow rate:
  - IBV-101G-FS: 0.03 to 9 $m^3$/hr; 0.4 to 150 l/min
  - IBV-151G-FS: 0.03 to 34 $m^3$/hr; 0.4 to 568 l/min
  - IBV-201G-FS: 0.03 to 45 $m^3$/hr; 0.4 to 757 l/min
  - IBV-301G-FS: 0.03 to 68 $m^3$/hr; 0.4 to 1,135 l/min
- Recommended pressure range: 1.5 to 15 bar; 150 to 1,500 kPa
- Temperature rating: 66°C
- Warranty period: 5 years

## SOLENOID SPECIFICATIONS

- 24 VAC solenoid
  - 350 mA inrush, 190 mA holding, 60 Hz
  - 370 mA inrush, 210 mA holding, 50 Hz

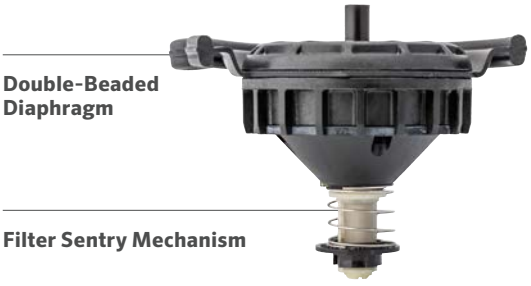
* Accu Sync product information on **page 102**

**IBV-101G-FS VALVE**
Inlet diameter: 1" (25 mm)
Height: 14 cm
Length: 12 cm
Width: 8 cm

**IBV-151G-FS VALVE**
Inlet diameter: 1½" (40 mm)
Height: 17 cm
Length: 15 cm
Width: 15 cm

**IBV-201G-FS VALVE**
Inlet diameter: 2" (50 mm)
Height: 18 cm
Length: 15 cm
Width: 15 cm

**IBV-301G-FS VALVE**
Inlet diameter: 3" (80 mm)
Height: 23 cm
Length: 22 cm
Width: 18 cm



## IBV 1", 1½", 2" & 3" – SPECIFICATION BUILDER: ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Standard Features | 3 Feature Options | 4 User-Installed Options |
|---|---|---|---|
| **IBV-101G-B-FS** = 1" (25 mm) BSP<br><br>**IBV-151G-B-FS** = 1-½" (40 mm) BSP<br><br>**IBV-201G-B-FS** = 2" (50 mm) BSP<br><br>**IBV-301G-B-FS** = 3" (80 mm) BSP | Brass globe valve with flow control, Filter Sentry Mechanism | **(blank)** = No Option<br><br>**R** = Purple reclaimed Filter Sentry Mechanism and ID tag (available only on 40 mm and 50 mm models)<br><br>**DC** = DC-Latching Solenoid for battery-operated controllers<br><br>**LS** = Less solenoid | **AS-ADJ** = Adjustable Accu Sync Pressure Regulator<br><br>**458200** = DC-Latching Solenoid for battery-operated controllers<br><br>**607105** = Reclaimed flow control handle<br><br>**LIT-700** = Reclaimed ID tag |

**Example:**
**IBV-201G-B-FS-AS-ADJ =** 2" (50 mm) BSP IBV brass globe valve with flow control, Filter Sentry mechanism, user-installed adjustable Accu Sync Pressure Regulator


### IBV PRESSURE LOSS (AT OPTIMAL FLOWS) IN BAR

| Flow $m^3/hr$ | 1" (25 mm) Globe | 1½" (40 mm) Globe | 2" (50 mm) Globe | 3" (80 mm) Globe |
|---|---|---|---|---|
| 0.05 | 0.1 | | | |
| 0.1 | 0.1 | | | |
| 0.3 | 0.1 | | | |
| 1.0 | 0.2 | | | |
| 2.5 | 0.2 | | | |
| 3.5 | 0.2 | | | |
| 4.5 | 0.2 | 0.1 | | |
| 7.0 | 0.4 | 0.1 | | |
| 9.0 | 1.0 | 0.1 | 0.1 | |
| 11.0 | | 0.2 | 0.1 | |
| 13.5 | | 0.2 | 0.1 | |
| 17.0 | | 0.3 | 0.2 | |
| 20.5 | | 0.4 | 0.2 | |
| 23.0 | | 0.5 | 0.3 | |
| 27.0 | | 0.7 | 0.4 | |
| 30.5 | | 0.9 | 0.5 | |
| 34.0 | | | 0.6 | 0.2 |
| 40.0 | | | | 0.2 |
| 45.5 | | | | 0.3 |
| 51.0 | | | | 0.3 |
| 57.0 | | | | 0.4 |
| 62.5 | | | | 0.5 |
| 68.0 | | | | 0.6 |

### IBV PRESSURE LOSS (AT OPTIMAL FLOWS) IN kPa

| Flow l/min | 1" (25 mm) Globe | 1½" (40 mm) Globe | 2" (50 mm) Globe | 3" (80 mm) Globe |
|---|---|---|---|---|
| 0.1 | 14 | | | |
| 0.5 | 14 | | | |
| 4 | 14 | | | |
| 20 | 17 | | | |
| 40 | 20 | | | |
| 60 | 20 | | | |
| 75 | 20 | 9.6 | | |
| 115 | 62 | 10 | | |
| 150 | 139 | 12 | 5 | |
| 190 | | 15 | 7 | |
| 225 | | 18 | 9.3 | |
| 280 | | 26 | 14 | |
| 340 | | 37 | 20 | |
| 380 | | 46 | 26 | |
| 450 | | 65 | 36 | |
| 510 | | 84 | 47 | |
| 565 | | | 57 | 16 |
| 660 | | | | 22 |
| 750 | | | | 29 |
| 850 | | | | 38 |
| 950 | | | | 47 |
| 1,050 | | | | 58 |
| 1,135 | | | | 69 |

# QUICK COUPLERS

*The sturdy red brass and stainless steel construction of Quick Couplers strengthens any project.*

## FEATURES

- 100% interchangeable with major brands
- Red brass and stainless steel construction
- Heavy-duty thermoplastic locking and non-locking covers
- Optional winged stabilisation and Acme key connection
- Stainless steel lug on 1" (25 mm) and 1¼" (32 mm) keys
- Spring-loaded covers with stainless steel springs for positive closing and protection of valve's sealing components
- Warranty period: 5 years

**Quick Couplers**

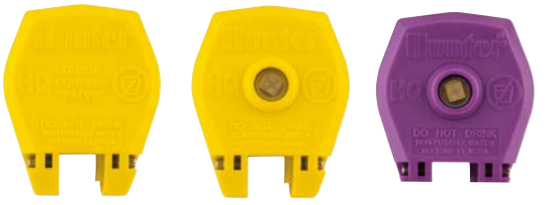
**HQ QUICK COUPLER – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3

| 1 Model | 2 Cover Options | 3 Additional Options |
|---|---|---|
| **HQ-3** = ¾" inlet, 1-piece body, 2 slots | **RC** = Yellow rubber cover | **(blank)** = No option |
| **HQ-5** = 1" (25 mm) inlet, 1-piece body, 1 slot | **LRC** = Yellow locking rubber cover | **AW** = Acme key with anti-rotation wings |
| | *(Not available for HQ-3 body)* | *(Only available for HQ-44 body)* |
| **HQ-33D** = ¾" inlet, 2-piece body, 2 slots | | **BSP** = BSP threads |
| **HQ-44** = 1" (25 mm) inlet, 2-piece body, 1 slot or Acme | | *(Only available for HQ-5 body)* |
| | | **R** = Purple locking cover *(reclaimed water ID; only available for LRC models)* |

**Examples:**
**HQ-3-RC** = HQ-3 valve with rubber cover
**HQ-44-LRC** = HQ-44 valve with locking rubber cover
**HQ-44-LRC-R** = HQ-44 valve with locking rubber cover and purple locking cover
**HQ-44-LRC-AW-R** = HQ valve, with locking rubber cover, Acme key socket, anti-rotation wings and purple locking cover
**HQ-5-LRC-BSP** = HQ-5 valve with locking rubber cover and BSP threads

HQ-3-RC HQ-5-RC HK-33

HQ-33-DLRC-R HQ-44-LRC HK-44



Non-locking Locking Reclaimed

HQ-44-RC-AW HK-44A

Key

### Reclaimed Water Option

*All locking models have an optional purple cover for sites using reclaimed water.*

## HK KEYS

| Key Model | Compatible Valve | Compatible Swivel |
|---|---|---|
| HK-33 = ¾" valve, ¾" key inlet | HQ-3, HQ-33 | HS-0 |
| HK-44 = 1" (25 mm) valve, 1" (25 mm) key inlet | HQ-44 | HS-1, HS-2, HS-1-B, HS-2-B |
| HK-44A = 1" (25 mm) valve, Acme key inlet | HQ-44-AW | HS-1, HS-2, HS-1-B, HS-2-B |
| HK-55 = 1" (25 mm) valve, 1¼" (32 mm) key inlet | HQ-5 | HS-1, HS-2, HS-1-B, HS-2-B |

## HS HOSE SWIVELS

| Hose Swivel | Compatible Key |
|---|---|
| HS-0 = ¾" inlet, ¾" hose outlet | HK-33 |
| HS-1 = 1" (25 mm) inlet, ¾" hose outlet | HK-44, HK-44A, HK-55 |
| HS-2 = 1" (25 mm) inlet, 1" (25 mm) hose outlet | HK-44, HK-44A, HK-55 |
| HS-1-B = 1" (25 mm) inlet, ¾" (20 mm) BSP outlet | HK-44, HK-44A, HK-55 |
| HS-2-B = 1" (25 mm) inlet, 1" (25 mm) BSP outlet | HK-44, HK-44A, HK-55 |

## QUICK COUPLER, KEY, AND HOSE SWIVEL CHARTS

| Model | Inlet Threads | Slots | Body | Colour* | Locking | Key | Swivels |
|---|---|---|---|---|---|---|---|
| **HQ-3-RC** | ¾" | 2 | 1-piece | Yellow | No | HK-33 | HS-0 |
| **HQ-33-DRC** | ¾" | 2 | 2-piece | Yellow | No | HK-33 | HS-0 |
| **HQ-33-DLRC** | ¾" | 2 | 2-piece | Yellow | Yes | HK-33 | HS-0 |
| **HQ-44-RC** | 1" (25 mm) NPT | 1 | 2-piece | Yellow | No | HK-44 | HS-1 or HS-2 |
| **HQ-44-LRC** | 1" (25 mm) NPT | 1 | 2-piece | Yellow | Yes | HK-44 | HS-1 or HS-2 |
| **HQ-44-RC-AW** | 1" (25 mm) NPT | Acme | 2-piece wing** | Yellow | No | HK-44A | HS-1 or HS-2 |
| **HQ-44-LRC-AW** | 1" (25 mm) NPT | Acme | 2-piece wing** | Yellow | Yes | HK-44A | HS-1 or HS-2 |
| **HQ-5-RC** | 1" (25 mm) NPT | 1 | 1-piece | Yellow | No | HK-55 | HS-1 or HS-2 |
| **HQ-5-LRC** | 1" (25 mm) NPT | 1 | 1-piece | Yellow | Yes | HK-55 | HS-1 or HS-2 |
| **HQ-5-RC-BSP** | 1" (25 mm) BSP | 1 | 1-piece | Yellow | Yes | HK-55 | HS-1 or HS-2 |
| **HQ-5-LRC-BSP** | 1" (25 mm) BSP | 1 | 1-piece | Yellow | Yes | HK-55 | HS-1 or HS-2 |

**Notes:**
* All locking cover models are available with purple covers for reclaimed water applications
** Anti-rotation stabilisation wings

## HQ PRESSURE LOSS IN BAR

| Flow $m^3/hr$ | HQ-3 | HQ-33 | HQ-44 | HQ-5 |
|---|---|---|---|---|
| 1 | 0.06 | 0.07 | | |
| 2.3 | 1.12 | 0.14 | | |
| 3.4 | 0.28 | 0.30 | 0.15 | |
| 4.5 | 0.50 | 0.52 | 0.30 | 0.07 |
| 6.8 | | | 0.79 | 0.21 |
| 9.1 | | | | 0.43 |
| 11.4 | | | | 0.63 |
| 13.6 | | | | 0.90 |
| 15.9 | | | | 1.37 |

## HQ PRESSURE LOSS IN kPa

| Flow l/min | HQ-3 | HQ-33 | HQ-44 | HQ-5 |
|---|---|---|---|---|
| 18.9 | 5.5 | 6.9 | | |
| 37.9 | 12.4 | 13.8 | | |
| 56.8 | 28.3 | 29.6 | 15.2 | |
| 75.7 | 49.6 | 52.4 | 30.3 | 6.9 |
| 113.6 | | | 79.3 | 20.7 |
| 151.4 | | | | 43.4 |
| 189.3 | | | | 63.4 |
| 227.1 | | | | 89.6 |
| 265.0 | | | | 136.5 |


HS-0 HS-1 HS-2


HS-1-B HS-2-B

# ACCU SYNC™ PRESSURE REGULATORS

*Provides an easy solution to limit pressure for optimal performance.*

## OPERATING SPECIFICATIONS

- Regulation from 1.4 to 7.0 bar; 140 to 700 kPa
- Static pressure: 10 bar; 1,000 kPa
- Required dynamic pressure differential: 1.0 bar; 100 kPa
- Works with AC and DC-Latching Solenoids
- Works with any Hunter valve
- Warranty period: 2 years



**ACCU SYNC PRESSURE REGULATOR RECOMMENDED FLOW RANGE**

| Valve | Flow $m^3/hr$ | Flow l/min |
|---|---|---|
| PGV-100/101 | 4.5 to 9.1 | 76 to 151 |
| PGV-151 | 4.5 to 28 | 76 to 454 |
| PGV-201 | 9.1 to 34 | 151 to 568 |
| ICV-101 | 3.4 to 9.1 | 57 to 151 |
| ICV-151 | 4.5 to 34 | 76 to 568 |
| ICV-201 | 34 to 68 | 151 to 757 |
| ICV-301 | 3.4 to 68 | 568 to 1,136 |
| IBV-101 | 34 to 9.1 | 57 to 151 |
| IBV-151 | 4.5 to 34 | 76 to 568 |
| IBV-201 | 34 to 68 | 151 to 757 |
| IBV-301 | 34 to 68 | 568 to 1,136 |

**ACCU SYNC APPLICATIONS**

| | | |
|---|---|---|
| ● | **Adjustable 1.4 to 7.0 bar** | For full customisation, the adjustable Accu Sync can regulate pressure from 1.4 to 7.0 bar; 140 to 700 kPa |

**ACCU SYNC PRESSURE REGULATOR – SPECIFICATION BUILDER:** ORDER 1 + 2

| 1 Model | 2 Inlet/Outlet |
|---|---|
| **ACCU SYNC** | **ADJ** = Adjustable pressure regulator (1.4 to 7.0 bar) |

**Example:**
**ICV-201G-B-AS-ADJ** = 2" (50 mm) BSP ICV globe valve with flow control, user-installed adjustable Accu Sync Pressure Regulator

## ADJUSTABLE

**ACCUSYNC-ADJ PRESSURE REGULATOR**
Height with solenoid: 8 cm

## ADAPTER

**SOLENOID ADAPTER**

**Installation**
*Accu Sync shown installed on ICV Valve.*

# DC-LATCHING SOLENOID

*Allows valve operation with battery-operated controllers.*

## KEY BENEFITS

- Compatible with all Hunter irrigation valves
- Compatible with NODE, NODE-BT, and XC Hybrid
- Captive plunger offers easy servicing of solenoid
- Manual quarter-turn on/off control

## OPERATING SPECIFICATIONS

- Minimum opening/operating voltage: 6 VDC
- Maximum recommended voltage: 9 VDC
- Coil resistance: 4.8 ohms nominal
- Pulse width: 250 milliseconds
- Wire leads: 45 cm of 0.8 mm² black/red UL-approved wire

**Note:** See controller product pages for wiring distances


**DC-Latching Solenoid**
(P/N 458200)
One black (common) wire and one red (station) wire



# AC SOLENOID

*The standard solenoid for all electric controllers.*

## KEY BENEFITS

- Compatible with all Hunter irrigation valves
- Captive plunger offers easy servicing of solenoid
- Manual quarter-turn on/off control
- Wire leads: 45 cm of 0.8 mm² red UL-approved wire

## OPERATING SPECIFICATIONS

- Minimum operating voltage: 20.5 VAC
- Maximum recommended voltage: 24 VAC
  - 350 mA inrush, 190 mA holding, 60 HZ
  - 370 mA inrush, 210 mA holding, 50 HZ
- Coil resistance:  23 to 28 ohms nominal

**AC Solenoid**
P/N 606800: Includes one red (common) and one red (station) wire


Hydrawise
Zones
Settings
Status
PRO-HC Wi-Fi
Hunter

# CONTROLLERS

# CONTROLLER
# SELECTION GUIDE

| *Platform* | *AC-Powered Controllers* |
|---|---|

## STANDARD

*Details on* ***page 108***

Button and dial-based controllers are standalone systems that offer water-saving features and convenient remote control operation for faster maintenance.

**Eco Logic**
***Stations:*** *4, 6*
***page 110***

**X-Core™**
***Stations:*** *2, 4, 6, 8*
***page 111***

## HYDRAWISE™

*Details on* ***page 112***

The Wi-Fi controller solution designed for contractors. The Hydrawise Irrigation Management Platform is simple to set up, easy to use, and packed with helpful remote irrigation management features. Built-in system monitoring and a suite of powerful tools make saving water and managing multiple sites easy.

**HC**
***Stations:*** *6, 12*
***page 112***

**X2™**
***Stations:*** *4, 6, 8, 14*
***page 117***

**X2 with WAND**
***Stations:*** *4, 6, 8, 14*
***page 118***

**Pro-HC**
***Stations:*** *6, 12, 24*
***page 119***

**HPC**
***Stations:*** *4 to 32*
***page 120***

**HCC**
***Stations:*** *8 to 54*
***page 121***

## CENTRALUS™

*Details on* ***page 122***

Add cloud-based control and monitoring for Pro-C, ICC2, and ACC2 Controllers with the mobile-friendly Centralus Irrigation Management Platform.

**Pro-C™**
***Stations:*** *4 to 32*
***page 130***

**ICC2**
***Stations:*** *8 to 54*
***page 128***

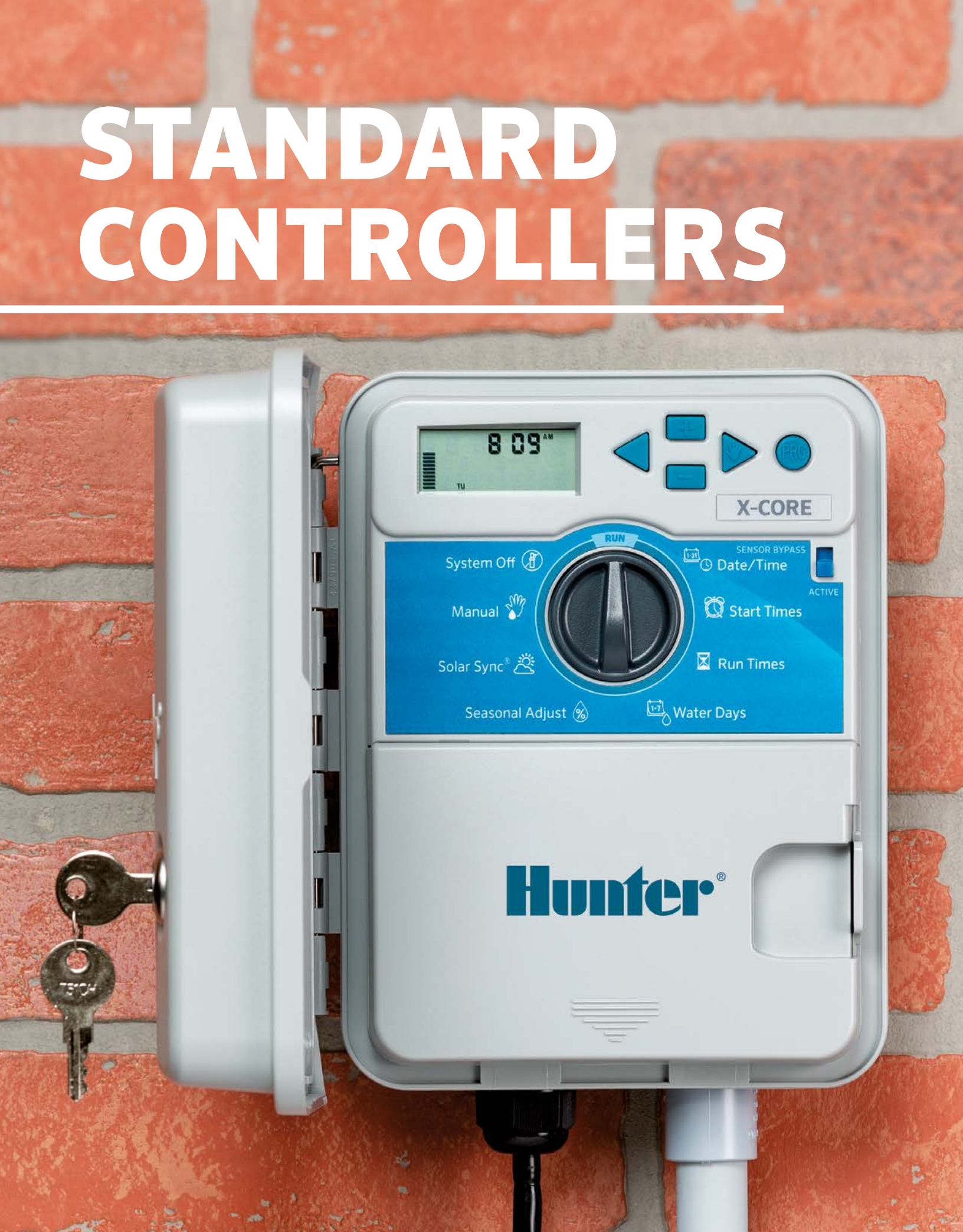
**ACC2**
***Stations:*** *12 to 54 conventional, 1 to 225 with two-wire*
***page 126***

Use this guide to quickly compare Hunter controller power needs, station counts, and software platforms to ensure you choose the best controller for every installation.

| *Platform* | *Battery-Operated Controllers* |
|---|---|
| **INDEPENDENT**<br>*Details on* ***page 133***<br>Battery-operated controllers allow automatic irrigation for power-restricted valve locations and areas where hardscape blocks the ability to run wire affordably. | **NODE**<br>***Stations:*** *1, 2, 4, 6*<br>***page 135***<br>  <br>**XC Hybrid**<br>***Stations:*** *6, 12*<br>***page 137***<br>  |
| **BLUETOOTH®**<br>*Details on* ***page 133***<br>Bluetooth-enabled, battery-operated controllers have all the benefits of independent battery controllers with convenient, on-site wireless control from a smartphone. | **BTT**<br>***Zones:*** *1, 2*<br>***page 134***<br>  <br>**NODE-BT**<br>***Stations:*** *1, 2, 4*<br>***page 136***<br>  |

*With the two-wire option, you can easily expand the system as needed after installation.*

# STANDARD CONTROLLERS



Standard controllers are self-contained irrigation systems designed for quick installation and programming. Perfect for entry-level residential projects, these simple and affordable options provide standard irrigation capabilities for small landscapes.



## STANDARD CONTROLLER COMPARISON CHART

| CONTROLLER MODELS | MAXIMUM STATIONS | SENSOR INPUTS | SMART ADJUSTMENT | REMOTE CONTROL | WEB ACCESS |
|---|---|---|---|---|---|
| ECO LOGIC | 6 | 1 | N/A | N/A | N/A |
| X-CORE™ | 8 | 1 | Solar Sync™ | ROAM, ROAM XL | N/A |

# ECO LOGIC

*The reliable Eco Logic Controller is the first choice for small residential areas and has the option for water-saving accessories.*

## KEY BENEFITS

- Number of stations:
  – 4 or 6 (fixed models)
- 2 automatic programs with 4 start times each, with up to 4-hour run times per station
- QuickCheck™ Technology provides simple diagnostics of faulty field wiring
- Suspend irrigation up to 7 days during the off-season
- Short-circuit protection detects wiring faults and skips the station without system damage
- Seasonal adjustment for quicker schedule adjustments without changing run times

## OPERATING SPECIFICATIONS

- Transformer input: 230 VAC
- Transformer output (24 VAC): 0.625 A
- Station output (24 VAC): 0.56 A
- P/MV output (24 VAC): 0.28 A
- Sensor inputs: 1
- Approvals: CE, UKCA, cUL
- Warranty period: 2 years

| ECO LOGIC | |
|---|---|
| **Model** | **Description** |
| ELC-401i-E | 4-station indoor controller, 230 VAC wall adapter |
| ELC-601i-E | 6-station indoor controller, 230 VAC wall adapter |


**Plastic Indoor**
Height: 12.6 cm
Width: 12.6 cm
Length: 3.2 cm

*Compatible with:*

***Soil-Clik™ Sensor***
*Page 157*

***Rain-Clik™ Sensor***
*Page 154*

# X-CORE™

*Perfect for tract homes and entry-level residential systems, this simple and intuitive controller provides basic irrigation capabilities with convenient add-on options for smart watering adjustments and remote operation.*

## KEY BENEFITS

- Number of stations:
  - 2, 4, 6, or 8 (fixed models)
- Separate indoor and outdoor models for a variety of installation environments
- 3 automatic programs with 4 start times per program, and up to 4-hour run times per station
- Add a Solar Sync™ Sensor to save water based on local weather conditions
- QuickCheck™ Technology provides simple diagnostics of faulty field wiring
- Hide Programs setting shows 1 program and 1 start time for simplification
- Short-circuit protection detects wiring faults and skips the station without system damage
- Easy Retrieve™ Memory backs up the full irrigation schedule
- Delay Between Stations accommodates for slow-closing valves or pump recharge
- Cycle and Soak prevents water waste and runoff in areas with elevation changes or tight soils
- Seasonal adjustment for quicker schedule adjustments without changing run times

## OPERATING SPECIFICATIONS

- Transformer input: 120 VAC or 230 VAC
- Transformer output (24 VAC): 1 A
- Station output (24 VAC): 0.56 A
- P/MV output (24 VAC): 0.28 A
- Sensor inputs: 1
- Approvals: Plastic IP54 (outdoor), UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years

**X-CORE - SPECIFICATION BUILDER:** ORDER 1 + 2 + 3 + 4

| 1 Model | 2 Transformer | 3 Indoor/Outdoor | 4 Plug |
|---|---|---|---|
| **XC-2** = 2-station *(indoor only)* | **00** = 120 VAC | **(blank)** = Outdoor model | **(blank)** = American plug |
| **XC-4** = 4-station | **01** = 230 VAC | **i** = Indoor model | **E** = European connections, no plug |
| **XC-6** = 6-station | | | **A** = Australian plug |
| **XC-8** = 8-station | | | |

**Examples:**
**XC-801i-E** = 8-station controller, 230 VAC European wall adapter, indoor
**XC-801-A** = 8-station controller, 230 VAC internal transformer, outdoor with Australian plug


**Plastic Indoor**
Height: 16.5 cm
Width: 14.6 cm
Depth: 5 cm


**Plastic Outdoor**
Height: 22 cm
Width: 17.8 cm
Depth: 9.5 cm

*Compatible with:*

*Solar Sync Sensor*
*Page 156*

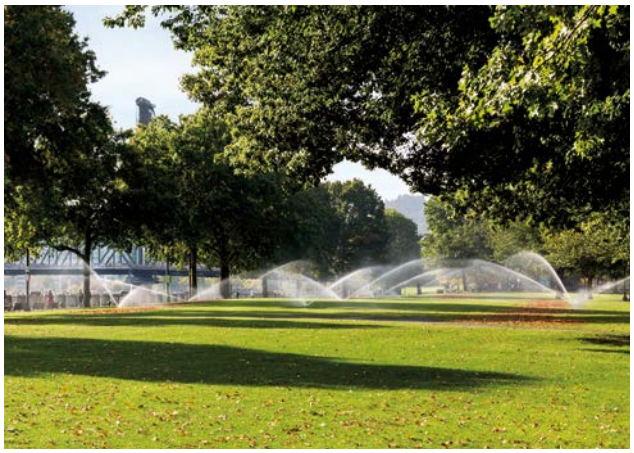
*ROAM Remote*
*Page 146*
*ROAM XL Remote*
*Page 147*

*Soil-Clik Sensor*
*Page 157*

Smart Approved WaterMark

**Smart WaterMark**
Recognised as a responsible water-saving tool when used with a Solar Sync Sensor


# HYDRAWISE™ CONTROLLERS



A healthy, beautiful garden needs just the right amount of water to thrive. The Hydrawise™ Irrigation Management Platform automatically adjusts watering based on your local weather. Choose from a complete lineup of Hydrawise-enabled controllers to maximise water and money savings in any setting.



## HYDRAWISE CONTROLLER COMPARISON CHART

| CONTROLLER MODELS | MAXIMUM STATIONS | SENSOR INPUTS | TWO-WIRE | REMOTE CONTROL | WEB ACCESS | FLOW |
|---|---|---|---|---|---|---|
| HC | 12 | 2 | N/A | Hydrawise App | Hydrawise: Wi-Fi | HC Flow Meter (wired or wireless) |
| X2™ | 14 | 1 | N/A | ROAM, ROAM XL, Hydrawise App | Hydrawise: Wi-Fi (WAND Module) | N/A |
| X2 with WAND | 14 | 1 | N/A | ROAM, ROAM XL, Hydrawise App | Hydrawise: Wi-Fi | N/A |
| PRO-HC | 24 | 2 | N/A | Hydrawise App | Hydrawise: Wi-Fi | HC Flow Meter (wired or wireless) |
| HPC | 32 | 2 | EZDS | ROAM, ROAM XL, Hydrawise App | Hydrawise: Wi-Fi | HC Flow Meter (wired or wireless) |
| HCC | 54 | 2 | EZDS | ROAM, ROAM XL, Hydrawise App | Hydrawise: Wi-Fi | HC Flow Meter (wired or wireless) |

# HYDRAWISE™ SOFTWARE

*As the industry's best Wi-Fi control solution, the Hydrawise Irrigation Management Platform allows for professional multi-site management and provides a range of helpful water-saving features for end users.*

## Save Water

### PREDICTIVE WATERING™ TECHNOLOGY

Predictive Watering Technology uses past, current, and forecast weather data sourced from the internet to automatically adjust to local, real-time conditions and provide homeowners and end users with tremendous water savings.

### VIRTUAL SOLAR SYNC™ SENSOR

Virtual Solar Sync uses daily ET measurements from your selected weather stations to supplement the Predictive Watering adjustments on your controller, working to save even more water.

## Protect the Landscape

### SYSTEM MONITORING

Flow rate and valve monitoring alert you in the event of a problem, so you can quickly prevent landscape degradation before significant damage occurs.

### WEATHER MONITORING

Web-based climate monitoring automatically adjusts irrigation systems to local weather conditions, ensuring plants remain healthy — rain or shine.

## Save Time and Labour

### REMOTE MANAGEMENT

Make changes to a program and know the status of the controller and the irrigation plan without a site visit.

### STORE CUSTOMER PLANS AND DESIGNS

Attach irrigation system layouts to your customers' controllers for quick reference in the field. Never forget the location of the pipes or valve boxes again.

### ON-SITE REMOTE

Turn your smartphone into a remote control to make changes and check the irrigation system without visiting the controller.



## Build a Stronger Business

### BUILD A STRONGER BUSINESS

Add services, grow revenue, increase customer satisfaction, and rest assured that Hydrawise has your back as you expand your business.

### BUSINESS BRANDING

Gain instant recognition from your customers by including your business logo and details in your Hydrawise account.

### MULTI-SITE MANAGER

Manage customers or multiple sites with our unique business tools.

- Summary of all controllers
- List view of customers/sites
- Search for customers and controllers
- View all controller events and logs
- View all controller alerts
- Branded automatic email reporting to customers
- Global control settings
  - Alerts
  - Watering Schedules
  - Start Times
  - Watering Triggers
- Quick select controllers
- Generate job sheets
- Manage subcontractors or regions

### BUSINESS ACCOUNT

Manage staff access with different levels of permission. Remove or add staff easily and quickly. Add and store files, irrigation plans, layouts, or other documents for access by your staff.

### MESSAGING

Receive messages from and send messages to customers and staff through the Hydrawise App.

## Manage from Anywhere

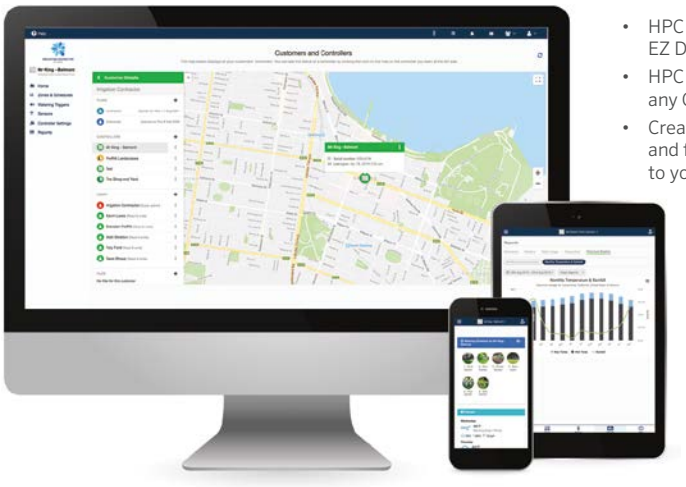
### GLOBAL APP AND WEB ACCESS

With Hydrawise, everything you need is in the palm of your hand. Remote access allows you to view, manage, and monitor irrigation controllers from your smartphone, tablet, or computer at your convenience.

### SMART-HOME COMPATIBILITY

Hydrawise integrates seamlessly with Amazon Alexa™, Control4®, and HomeSeer™.

## What's New with Hydrawise



- HPC Controller now compatible with the EZ Decoder System up to 32 stations
- HPC Controller now has 2 sensor ports for any Clik sensor and HC Flow Meter
- Create custom reports for water savings and forecasts; automatically email them to your customers
- WAND Module for X2™ Controllers provides super-fast Bluetooth remote, Wi-Fi setup, and a convenient copy-paste function
- Controller touchscreen enhancements

Access to Hydrawise Software is free for all users worldwide.
**To learn more, visit hydrawise.com.**

**Smart WaterMark**
Recognised as a responsible water-saving tool

**HC Controller**
6- and 12-station count

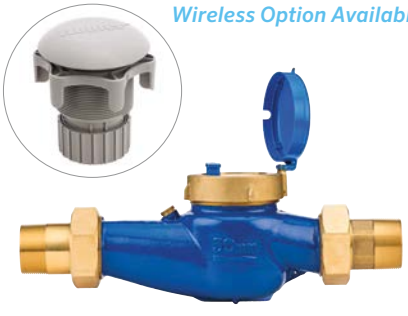
**X2 Controller with WAND Module**
4-, 6-, 8-, and 14-station count

**Pro-HC Controller**
6-, 12-, and 24-station count

**HPC Controller**
4- to 32-station count, EZDS two-wire option

**HCC Controller**
8- to 54-station count, EZDS two-wire option

*Wireless Option Available!*



**HC Flow Meter**
Add an optional flow meter to receive flow alerts and monitor water consumption

*Not available for X2 Controller*

# HC

*The cost-effective solution for residential projects, the HC Controller provides smart water savings and remote irrigation management capabilities.*

**Try Hydrawise Software today at hydrawise.com.**

## KEY BENEFITS

- Number of stations:
  – 6 or 12 (fixed models)
- Standard programming option allows for 6 independent irrigation programs and 6 start times per program
- Advanced programming option provides station-based programming with up to 6 total start times available
- 2 sensor inputs available for use with any Clik Sensors and HC Flow Meter
- Station outputs can also be used to activate a pump start relay or master valve
- Wi-Fi enabled for quick connection to Hydrawise Software
- 7 cm full-colour touchscreen display for simple programming at the control panel
- Built-in milliamp sensor for wire fault detection and alerts (12-zone models)

## OPERATING SPECIFICATIONS

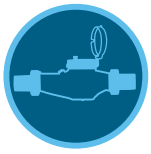
- Transformer input: 230 VAC
- Transformer output (24 VAC): 1 A
- Station output (24 VAC): 0.56 A
- P/MV output (24 VAC): 0.28 A
- 2.4 GHz (only) Wi-Fi router compatible, 802.11 b/g/n 20 MHz
- Supported security protocols: WPA/WPA2 Personal (only), TLS, SSL
- Approvals: UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years

## USER-INSTALLED OPTIONS

- Wireless HC Flow Meter option permits wireless flow monitoring for Hydrawise-enabled systems


**HC**
(plastic indoor)
Height: 15.2 cm
Width: 17.8 cm
Depth: 3.3 cm

*Compatible with:*



***HC Flow Meter***
*Page 158*

***Soil-Clik Sensor***
*Page 157*

***Rain-Clik Sensor***
*Page 154*

| HC | |
|---|---|
| **Model** | **Description** |
| HC-601i-E | Fixed 6-station, plastic indoor wall mount, 230 VAC European wall adapter |
| HC-1201i-E | Fixed 12-station, plastic indoor wall mount, 230 VAC European wall adapter |

Smart Approved WaterMark

**Smart WaterMark**
Recognised as a responsible water-saving tool

# X2™

*This online-capable controller offers Rapid Programming™ Technology and advanced water-saving features.*

## KEY BENEFITS

- Number of stations:
  - 4, 6, 8, or 14 (fixed models)
- Wi-Fi capable controller automatically managed by Hydrawise™ Software
- Backlit display provides optimal visibility in any light
- 3 flexible programs with 4 start times each and up to 6-hour run times
- QuickCheck™ Technology provides simple diagnostics of faulty field wiring
- Hide Programs option shows one program and one start time for simplification
- Suspend irrigation for up to 99 days during the off-season
- Short-circuit protection detects wiring faults and skips the station without system damage
- Easy Retrieve™ Memory backs up the full irrigation schedule
- Delay Between Stations for slow-closing valves or pump recharge
- Cycle and Soak prevents water waste and runoff in areas with elevation changes or tight soils
- Seasonal adjustment for quicker schedule updates without changing run times

## OPERATING SPECIFICATIONS

- Transformer input: 120 VAC or 230 VAC
- Transformer output (24 VAC): 1 A
- Station output (24 VAC): 0.56 A
- P/MV output (24 VAC): 0.28 A
- Sensor inputs: 1
- Approvals (controller): Plastic IP55 (outdoor), UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years


**X2**
Height: 23 cm
Width: 19 cm
Depth: 10 cm



*Compatible with:*

***Hydrawise Software***
*Page 114*

***ROAM Remote***
*Page 146*
***ROAM XL Remote***
*Page 147*

***Rain-Clik™ Sensor***
*Page 154*

**X2 - SPECIFICATION BUILDER:** ORDER 1 + 2 + 3

| 1 Model | 2 Transformer | 3 Plug |
|---|---|---|
| **X2-4** = 4-station | **00** = 120 VAC | **(blank)** = U.S. plug |
| **X2-6** = 6-station | **01** = 230 VAC | **E** = European connections, no plug |
| **X2-8** = 8-station | | **A** = Australian plug |
| **X2-14** = 14-station | | |

**Examples:**
**X2-1401-E** = 14-station controller, 230 VAC internal transformer with no plug
**X2-1401-A** = 14-station controller, 230 VAC internal transformer with Australian plug

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**Smart WaterMark**
Recognised as a responsible water-saving tool when used with the WAND Module

# **WAND** FOR X2™

*This Wi-Fi upgrade option equips X2 Controllers with remote management capabilities from anywhere with an internet connection.*

**Try Hydrawise Software today at hydrawise.com.**

## KEY BENEFITS

- Simple Wi-Fi plug-in enables remote irrigation management with any X2 Controller
- WAND Technology provides easy online irrigation management with controller status and faulty wiring alerts
- Standard programming allows for 3 independent programs featuring 6 start times each and 24-hour maximum run times
- Rapid Programming™ Technology lets you send preprogrammed schedules to any X2 Controller in seconds, so you get jobs done quicker
- Predictive Watering™ Technology provides precise weather adjustments for maximum water savings
- Compatibility with Amazon Alexa™, Control4®, and HomeSeer™ home automation technology enables simple, centralised voice control of the irrigation system
- Bluetooth Wi-Fi setup or WPS push-button connection makes it easy to connect to a wireless network
- WAND Module sold separately from X2 Controller

## OPERATING SPECIFICATIONS

- Flexible setup options: Bluetooth® Wi-Fi tether, Wi-Fi direct, or WPS push-button connection
- Bluetooth 5.0
- 2.4 GHz (only) Wi-Fi router compatible, 802.11 b/g/n 20 MHz
- Supported security protocols: WPA/WPA2 Personal (only), TLS
- Approvals: UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years


**WAND Module with Bluetooth and Wi-Fi Capability**
Height: 2 cm
Width: 5 cm
Depth: 5 cm

**WAND Module installed in X2 Controller**

| WAND MODULE | |
|---|---|
| **Model** | **Description** |
| WAND | Bluetooth and Wi-Fi Module for Hydrawise Irrigation Management Platform |
| X2 | **See page 117** for model chart |

WAND INSTALLATION


*Compatible with:*

***X2 Controller***
*Page 117*

***ROAM Remote***
*Page 146*
***ROAM XL Remote***
*Page 147*

***Rain-Clik™ Sensor***
*Page 154*

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# PRO-HC

*Use this rugged, cost-effective, professional-grade Wi-Fi controller for residential and light commercial applications.*

Try Hydrawise Software today at hydrawise.com.

## KEY BENEFITS

- Number of stations:
  – 6, 12, or 24 (fixed models)
- Standard programming option allows for 6 independent irrigation programs and 6 start times per program
- Advanced programming option provides station-based programming with up to 6 total start times available
- 2 sensor inputs available for use with any Clik Sensor and HC Flow Meter
- 1 P/MV output for pump start relay and master valve activation
- Wi-Fi enabled for quick connection to Hydrawise™ Software
- 7 cm full-colour touchscreen display for simple programming at the control panel
- Built-in milliamp sensor for wire fault detection and alerts

## OPERATING SPECIFICATIONS

- Transformer input: 120 VAC or 230 VAC
- Transformer output (24 VAC): 1 A
- Station output (24 VAC): 0.56 A
- P/MV output (24 VAC): 0.28 A
- 2.4 GHz (only) Wi-Fi router compatible, 802.11 b/g/n 20 MHz
- Supported security protocols: WPA/WPA2 Personal (only), TLS
- Approvals: IP44 (outdoor), UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years

## USER-INSTALLED OPTIONS

- Wireless HC Flow Meter option permits wireless flow monitoring for Hydrawise-enabled systems

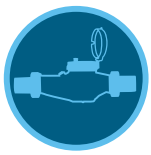

**Pro-HC**
(indoor/outdoor)
Height: 22.8 cm
Width: 25 cm
Depth: 10 cm

**PRO-HC - SPECIFICATION BUILDER:** ORDER 1 + 2 + 3

| 1 Model | 2 Transformer | 3 Options |
|---|---|---|
| **PHC-6** = 6-station controller | **00** = 120 VAC | **(blank)** = U.S. cable and plug |
| **PHC-12** = 12-station controller | **01** = 230 VAC | **E** = 230 VAC with European cable and plug |
| **PHC-24** = 24-station controller | | **A** = 230 VAC with Australian cable and plug |

**Example:**
**PHC-2400** = 24-station, plastic wall mount cabinet, 120 VAC with U.S. cable and plug
**PHC-1201-E** = 12-station, plastic wall mount cabinet, 230 VAC with European cable and plug

*Compatible with:*



***HC Flow Meter***
*Page 158*

***Soil-Clik™ Sensor***
*Page 157*

***Rain-Clik™ Sensor***
*Page 154*

Smart Approved WaterMark

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Recognised as a responsible water-saving tool

# HPC

*This smart and flexible control solution combines the modularity of the popular Pro-C™ Controller with the power of Hydrawise™ Software.*

**Try Hydrawise Software today at hydrawise.com.**

## KEY BENEFITS

- Number of stations:
  - Conventional wiring from 4 to 23 stations
  - Hybrid EZ Decoder System option up to 32 total stations (28 stations maximum if two-wire only)
- Standard programming option allows for 6 independent irrigation programs and 6 start times per program
- Advanced programming option provides station-based programming with up to 6 total start times available
- 2 sensor inputs available for use with any Clik Sensor and HC Flow Meter
- 1 P/MV output for pump start relay and master valve activation
- Wi-Fi enabled for quick connection to Hydrawise Software
- 7 cm full-colour touchscreen display for simple programming at the control panel
- Built-in milliamp sensor for wire fault detection and alerts

## OPERATING SPECIFICATIONS

- Transformer input: 120 or 230 VAC
- Transformer output (24 VAC): 1 A
- Station output (24 VAC): 0.56 A
- P/MV output (24 VAC): 0.28 A
- 2.4 GHz (only) Wi-Fi router compatible, 802.11 b/g/n 20 MHz
- Supported security protocols: WPA/WPA2 Personal (only), TLS
- Approvals: IP44 (outdoor), UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years

## USER-INSTALLED OPTIONS

- Wireless HC Flow Meter option permits wireless flow monitoring for Hydrawise enabled systems

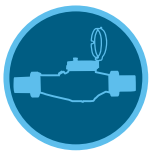
| HPC | |
|---|---|
| **Model** | **Description** |
| HPC-400 | 4-station base model, plastic wall mount cabinet, 120 VAC with U.S. cable and plug |
| HPC-401-E | 4-station base model, plastic wall mount cabinet, 230 VAC with European cable and plug |
| HPC-401-A | 4-station base model, plastic wall mount cabinet, 230 VAC with Australian cable and plug |
| HPC-FP | Hydrawise retrofit face panel for Pro-C Controllers (March 2014 or newer models) |

| PC-SERIES STATION EXPANSION | |
|---|---|
| **Model** | **Description** |
| PCM-300 | 3-station plug-in module |
| PCM-900 | 9-station plug-in module |
| PCM-1600 | 16-station plug-in module |
| PC-DM | EZ Decoder output module |


**HPC**
(plastic indoor/outdoor)
Height: 22.9 cm
Width: 25.4 cm
Depth: 11.4 cm

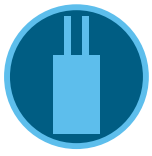

**HPC Face Panel**

*Compatible with:*



*HC Flow Meter*
*Page 158*

*ROAM Remote*
*Page 146*
*ROAM XL Remote*
*Page 147*



*EZ Decoder System*
*Page 142*

Smart Approved WaterMark

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# HCC

*Bring the power of Hydrawise™ Software to residential, commercial, and public-sector projects with this affordable powerhouse.*

Try Hydrawise Software today at hydrawise.com.

## KEY BENEFITS

- Number of stations:
  - Conventional: 8 to 38 (plastic), 8 to 54 (metal and pedestals)
  - With two-wire EZDS: up to 54 (all enclosure options)
- Any 2 programs or stations can operate simultaneously to improve irrigation efficiency
- 2 sensor inputs available for use with any Clik Sensors and HC Flow Meter
- 1 P/MV output for pump start relay and master valve activation
- 8 cm full-colour touchscreen display for simple programming at the control panel
- Built-in milliamp sensor for wire fault detection and alerts

## OPERATING SPECIFICATIONS

- Transformer input: 120/230 VAC
- Transformer output (24 VAC): 1.4 A
- Station output (24 VAC): 0.56 A
- P/MV output (24 VAC): 0.56 A
- Run a maximum of 4 Hunter solenoids 1.04 A at once
- 2.4 GHz (only) Wi-Fi router compatible, 802.11 b/g/n 20 MHz
- Supported security protocols: WPA/WPA2 Personal (only), TLS
- Approvals: Plastic Wall Mount IP55 (outdoor), Plastic Pedestal IP24, Metal wall-mounted enclosure IP55 (outdoor), Metal Pedestal IP55 (outdoor), UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years

## USER-INSTALLED OPTIONS

- Wireless HC Flow Meter option permits wireless flow monitoring for Hydrawise enabled systems
- Compatible with ROAM Remote and ROAM XL Remote; **see pages 146 and 147**


**Plastic**
Height: 30.5 cm
Width: 35 cm
Depth: 12.7 cm

**Metal**
(grey or stainless)
Height: 40.6 cm
Width: 33 cm
Depth: 12.7 cm

**Metal Pedestal**
(metal/stainless)
Height: 91.4 cm
Width: 29.2 cm
Depth: 12.7 cm


**Plastic Pedestal**
Height: 99 cm
Width: 61 cm
Depth: 43 cm

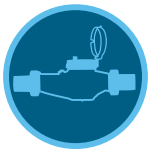
**HCC**

| Model | Description |
|---|---|
| HCC-800-PL | 8-station base model, plastic outdoor, wall mount |
| HCC-800-M | 8-station base model, grey metal outdoor, wall mount |
| HCC-800-SS | 8-station base model, stainless steel, wall mount |
| HCC-800-PP | 8-station base model, plastic pedestal |
| HCC-FPUP | Retrofit upgrade kit for ICC and ICC2 Controllers |
| ICC-PED | Grey pedestal for metal wall mount cabinet |
| ICC-PED-SS | Stainless steel pedestal for stainless steel wall mount |
| ICC-PWB | Optional pedestal wiring board for metal pedestals |
| ANT-EXT-KIT | Universal antenna extension kit |

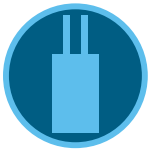
**HCC SERIES STATION EXPANSION**

| Model | Description |
|---|---|
| ICM-400 | 4-station plug-in module with enhanced surge protection |
| ICM-800 | 8-station plug-in module with enhanced surge protection |
| ICM-2200 | 22-station expansion module (maximum one per controller) |
| EZDS | See **page 142** for model chart |

*Compatible with:*



*HC Flow Meter*
*Page 158*



*EZ Decoder System*
*Page 142*

*Rain-Clik™ Sensor*
*Page 154*

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# CENTRALUS™ CONTROLLERS

Manage large, complex systems from your fingertips with the cloud-based Centralus Irrigation Management Platform. Simple plug-in communication modules provide powerful internet connectivity and mobile control for Hunter's commercial-grade ACC2, ICC2, and Pro-C™ Controllers.



## CENTRALUS CONTROLLER COMPARISON CHART

| CONTROLLER MODELS | MAXIMUM STATIONS | SENSOR INPUTS | TWO-WIRE | FLOW* | REMOTE CONTROL | WEB ACCESS |
|---|---|---|---|---|---|---|
| ACC2 | 54, 225 two-wire | 3 Clik, 1 Solar Sync, 6 Flow | ICD, 225 stations | HFS, WFS | ROAM, ROAM XL, Smartphone | Centralus: Wi-Fi, LAN, Cellular |
| ICC2 | 54 | 1 Clik or Solar Sync, 1 Flow | EZDS, 54 stations | HFS, WFS, HC Flow Meter | ROAM, ROAM XL, Smartphone | Centralus: Wi-Fi, LAN, Cellular |
| Pro-C | 32 | 1 Clik, 1 Solar Sync or Flow | EZDS, 28 stations | HFS, WFS, HC Flow Meter | ROAM, ROAM XL, Smartphone | Centralus: Wi-Fi |

**Centralus communication module required for flow sensor input with Pro-C and ICC2 Controllers*

# CENTRALUS™ SOFTWARE

*Add cloud-based control and monitoring for Pro-C™, ICC2, and ACC2 Controllers with the mobile-friendly Centralus Irrigation Management Platform.*

View Centralus Software today at centralus.hunterindustries.com.

## KEY BENEFITS

- Browser-based programming and communication software
- Highly secure cloud access
- Map-based navigation and status
- Instant remote control from mobile device
- Flow monitoring and reporting
- Alarm reporting and detailed irrigation history reports
- Responsive web design configures for your device, allowing the same controls from your smartphone, tablet, or desktop
- Operable in many international languages
- Wi-Fi, Ethernet, or cellular connectivity options
- Manage Solar Sync™ Sensor adjustments and delay settings for greater water savings
- Organise maintenance teams and their controllers into management groups

## OPERATING SPECIFICATIONS

- Operates in most modern browsers
- Secure internet connection for web-hosted application

## USER-INSTALLED OPTIONS

- ET-based Solar Sync Sensor (one per controller); **see page 156**
- Flow sensors including the Flow-Sync™ Sensor, Wireless Flow Sensor, HC Flow Meter, and other approved equals
- Connected controllers are compatible with licence-free ROAM/ROAM XL Remotes (pre-wired controller connection)

## COMMUNICATION OPTIONS

- Ethernet with RJ-45 connection, low data requirements
- 2.4 GHz (only) Wi-Fi router compatible, 802.11 b/g/n
- Supported security protocols: WPA/WPA2 Personal (only), TLS
- Cellular connectivity with ICC2 and ACC2 Controllers

**COMMUNICATIONS**

| Model | Description |
|---|---|
| PC-WIFI | Pro-C Wi-Fi connection |
| WIFIKIT | ICC2 Wi-Fi connection |
| LANKIT | ICC2 LAN (Ethernet) connection |
| CELLKIT | ICC2 cellular connection (service plan required) |
| A2C-WIFI* | ACC2 Wi-Fi connection |
| A2C-LAN | ACC2 LAN (Ethernet) connection |
| A2C-CELL-E* | Cellular Communication Module (3G LTE) for ACC2 Controllers |
| A2C-LTEM | ACC2 4G Global connection (monthly service plan required) |

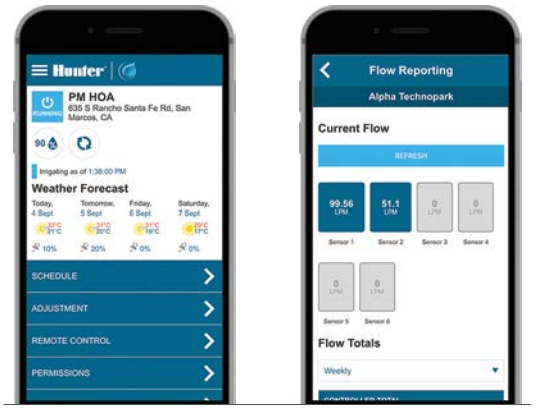
**Note**
* SASO Quality Mark Certified

**COMMUNICATIONS ACCESSORIES**

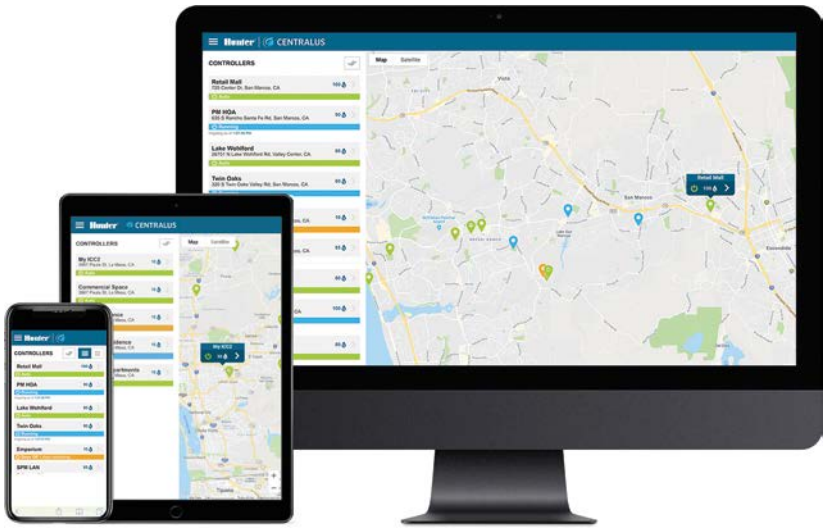
| Model | Description |
|---|---|
| ANT-EXT-KIT | Universal Antenna Extension Kit |

ACC2 COMMUNICATION MODULE INSTALLATION


**A2C Communication Modules are installed behind the ACC2 Facepack**




**Manage and monitor controllers from anywhere**



**Centralus™ Software**
Enable Pro-C, ICC2, and ACC2 Controllers with next-generation management technology.To learn more, visit **centralus.hunterindustries.com**.

## Mobile-Friendly

The mobile-friendly Centralus Irrigation Management Platform provides highly secure, comprehensive cloud-based control and monitoring features. The connectivity allows you to view a controller's status, change settings, view forecasts, save water, and receive instant notification of important system alarms.

## User-Friendly

The addition of internet access brings dial-based Pro-C, ICC2, and ACC2 Controllers seamlessly into the world of next-generation irrigation control. From the intuitive Centralus dashboard, it's now easier than ever to add alarm monitoring, location information, remote operation, and scheduling to Pro-C, ICC2, and ACC2 Controllers.

## Easy to Upgrade

To upgrade to Centralus control, add a simple Wi-Fi, Ethernet (LAN), or cellular communication module to the controller:

- Pro-C: PC-WIFI
- ICC2: WIFIKIT, LANKIT, or CELLKIT (4G)
- ACC2: A2C-WIFI, A2C-LAN, A2C-LTEM (4G), or A2C-CELL-E (3G only)

**PC-WIFI**
Height: 11 cm
Width: 6 cm
Depth: 1.5 cm

**WIFIKIT**
Height: 10.8 cm
Width: 6.4 cm (installed)
Depth: 3.5 cm

**LANKIT**
Height: 10.8 cm
Width: 6.4 cm (installed)
Depth: 3.5 cm


**CELLKIT**
Height: 8 cm
Width: 6 cm
Depth: 4 cm


**A2C-WIFI***
Height: 7.6 cm
Width: 5.7 cm
Depth: 2.5 cm


**A2C-LAN**
Height: 7.6 cm
Width: 5.7 cm
Depth: 2.5 cm

**A2C-LTEM**
Height: 7.6 cm
Width: 5.7 cm
Depth: 2.5 cm

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**Smart WaterMark**
Recognised as a responsible water-saving tool when used with a Solar Sync Sensor

# ACC2

*The multi-flow monitoring and management capabilities of the ACC2 Controller, combined with the option to upgrade to cloud-based Centralus™ control, make it the best choice for complex projects.*

**View Centralus Software today at centralus.hunterindustries.com.**

## KEY BENEFITS

- Number of stations:
  - 12 to 225, for large projects
  - Language-selectable, high-visibility display
- Up to 6 flow sensor inputs and 6 P/MV outputs
- 32 automatic programs (10 start times each) for precise plant management
- Block function to group stations and consolidate large systems
- Add a Solar Sync™ Sensor to save water based on local weather conditions
- Real-time flow monitoring detects and diagnoses leaks in up to 6 flow zones
- Flow management optimises watering at safe velocities
- High-visibility, full-colour display with reversible facepack
- Conditional Response "if/then" programming for active responses to sensor inputs
- User management password protection, with two levels of access
- Optional plug-in communications modules for cloud or network control
- Detailed alarm logs
- Extreme service lightning protection
- Easy Retrieve™ Memory programming backup and restore
- Non-Water Windows to inhibit accidental irrigation

## OPERATING SPECIFICATIONS

- Transformer input: 120/230 VAC
- Maximum AC current draw: 120 VAC, 2 A/230 VAC, 1 A
- Transformer output: 24 VAC, ~3 A
- P/MV outputs (24 VAC): Up to 6; 3 included, 0.8 A each
- Sensor inputs: 3 Clik, 1 Solar Sync, and up to 6 Flow Sensors (3 included)
- Approvals: Wall Mounts IP55 (outdoor), Plastic Pedestal IP24, UL, cUL, FCC, CE, UKCA, RCM, ISED, SASO Quality Mark Certified*
- Warranty period: 5 years

## USER-INSTALLED OPTIONS

- Centralus central control available with Wi-Fi, LAN, and cellular connections
- SCADA/automation compatible with BACnet, Modbus, RESTful API, and other protocols via Hunter field servers; **see page 132**

**Metal Wall Mount**
(grey or stainless steel)
Height: 40 cm
Width: 40 cm
Depth: 18 cm

**Plastic Wall Mount**
Height: 42 cm
Width: 42 cm
Depth: 17 cm

**Metal Pedestals**
(grey or stainless steel)
Height: 94 cm
Width: 39 cm
Depth: 13 cm

**Plastic Pedestal**
Height: 97 cm
Width: 55 cm
Depth: 40 cm

*Compatible with:*

***Solar Sync Sensor***
*Page 156*

***Flow-Sync™ Sensor***
*Page 161*
***Wireless Flow Sensor***
*Page 162*

***ROAM Remote***
*Page 146*
***ROAM XL Remote***
*Page 147*

**Smart WaterMark**
Recognised as a responsible water-saving tool when used with a Solar Sync Sensor

CENTRALUS CONTROLLERS

## ADDITIONAL SPECIFICATIONS BY MODEL

### ACC2 CONVENTIONAL

- Number of stations:
  - 12 to 54, for large projects
- Simultaneous station operation: up to 14 solenoids
- Expands in 6-station increments
- Extreme service lightning protection, standard on all A2M-600 Output Modules
- Station outputs: 0.8 A each

### ACC2 DECODER

- Number of stations:
  - 75, 150, or 225, for large projects
- Simultaneous station operation: up to 30 solenoids
- Operates Hunter's premium ICD Decoders over ID wire:
  - Up to 3 km (2 $mm^2$ wire)
  - Up to 4.5 km (3 $mm^2$ wire)
- See complete ICD Decoder key benefits and specifications on **page 140**
- Up to 3 two-wire paths per output module
- Diagnostics including decoder inventory, wire tracker, solenoid finder, and more

**ACC2 CONVENTIONAL MODELS**

| Model | Description |
|---|---|
| A2C-1200-M | 12-station base unit controller, expands to 54 stations, grey steel wall mount, outdoor |
| A2C-1200-P | 12-station base unit controller, expands to 54 stations, plastic outdoor wall mount |
| A2C-1200-SS | 12-station base unit controller, expands to 54 stations, stainless steel wall mount, outdoor |
| A2C-1200-PP | 12-station base unit controller, expands to 54 stations, plastic pedestal |
| A2M-600 | 6-station plug-in module for use with the A2C-1200 series controllers |

**ACC2 DECODER MODELS**

| Model | Description |
|---|---|
| A2C-75D-M* | 75-station base model, grey metal outdoor, wall mount |
| A2C-75D-P* | 75-station base model, plastic outdoor, wall mount |
| A2C-75D-SS* | 75-station base model, stainless steel, wall mount |
| A2C-75D-PP* | 75-station base model, plastic pedestal |
| A2C-D75* | 75-station decoder expansion module |

**Note**
*SASO Quality Mark Certified

## ACC2 ACCESSORIES FOR ALL MODELS

**ACC2 ACCESSORIES**

| Model | Description |
|---|---|
| A2C-F3 | Optional flow meter expansion module (adds 3 inputs) |
| A2C-LEDKT | External status light shows controller status with door closed |
| A2C-WIFI* | ACC2 Wi-Fi connection |
| A2C-LAN | ACC2 LAN (Ethernet) connection |
| A2C-LTEM | Cellular Communication Module (4G LTE) for ACC2 Controllers (monthly service plan required) |
| A2C-CELL-E* | Cellular Communication Module (3G only) for use in areas where 4G is not available |
| ACC-PED | Grey pedestal for wall mount |
| PED-SS | Stainless steel pedestal for wall mount |

**Note**
* SASO Quality Mark Certified

**ACC2 REVERSIBLE FACEPACK AND AUTOMATIC DIAGNOSTIC MODE**

# ICC2

*This flexible control system can run any combination of conventional or two-wire outputs with the option to upgrade to cloud-based Centralus™ control.*

**View Centralus Software today at centralus.hunterindustries.com**

## KEY BENEFITS

- Number of stations:
  - Conventional: 8 to 38 (plastic), 8 to 54 (metal and pedestal)
  - With two-wire EZDS: up to 54 (all enclosure options)
- 4 automatic irrigation programs with 8 start times per program and 12-hour run times per station
- Any 2 programs can operate simultaneously to improve irrigation efficiency
- 1 sensor input available for use with Solar Sync™ or any Clik Sensors
- 1 flow sensor input available with Centralus communication modules
- 1 P/MV output for pump start relay and master valve activation
- Upgradable to Centralus Software for web-based central control options

## OPERATING SPECIFICATIONS

- Transformer input: 120/230 VAC
- Transformer output (24 VAC): 1.4 A
- Station output (24 VAC): 0.56 A
- P/MV output (24 VAC): 0.56 A
- Approvals: Wall Mounts IP55 (outdoor), Plastic Pedestal IP24, UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 5 years

## USER-INSTALLED OPTIONS

- WIFIKIT, LANKIT, or CELLKIT communications for cloud-based Centralus control
- Compatible with Hunter Flow-Sync™ Sensor and HC Flow Meter for flow monitoring and high-flow shutdown capabilities via Centralus Software
- SCADA/automation compatible with BACnet, Modbus, RESTful API, and other protocols via Hunter field servers; **see page 132**

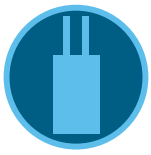
**Plastic**
Height: 30.5 cm
Width: 35 cm
Depth: 12.7 cm

**Metal**
(grey or stainless steel)
Height: 40.6 cm
Width: 33 cm
Depth: 12.7 cm

**Metal Pedestal**
(grey or stainless steel)
Height: 91.4 cm
Width: 29.2 cm
Depth: 12.7 cm

**Plastic Pedestal**
Height: 99 cm
Width: 61 cm
Depth: 43 cm

*Compatible with:*



***EZ Decoder System***
*Page 142*

***Solar Sync™ Sensor***
*Page 156*

***ROAM Remote***
*Page 146*
***ROAM XL Remote***
*Page 147*

Smart Approved WaterMark

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Recognised as a responsible water-saving tool when used with a Solar Sync Sensor

ICC2

| ICC2 | |
|---|---|
| **Model** | **Description** |
| I2C-800-PL | 8-station base model, plastic outdoor wall mount |
| I2C-800-M | 8-station base model, grey metal outdoor, wall mount |
| I2C-800-SS | 8-station base model, stainless steel, wall mount |
| I2C-800-PP | 8-station base model, plastic pedestal |
| ICC-FPUP2 | ICC2 Retrofit Kit for original ICC Controllers |
| ICC-PED | Grey pedestal for metal controller mount |
| ICC-PED-SS | Stainless steel pedestal for stainless steel controller mount |
| ICC-PWB | Optional pedestal wiring board for metal pedestals |

| ICC2 SERIES STATION EXPANSION | |
|---|---|
| **Model** | **Description** |
| ICM-400 | 4-station plug-in module with enhanced surge suppression |
| ICM-800 | 8-station plug-in module with enhanced surge suppression |
| ICM-2200 | 22-station expansion module (one per controller) |
| EZDS | **See page 142** for model chart |

**ICM400**
Height: 11.5 cm
Width: 6.5 cm
Depth: 4 cm

**ICM800**
Height: 11.5 cm
Width: 6.5 cm
Depth: 4 cm

**ICM2200**
Height: 23.5 cm
Width: 7 cm
Depth: 4.5 cm

**EZ-DM**
Height: 11.5 cm
Width: 6.5 cm
Depth: 4 cm


**EZ-1**
Height: 7 cm
Width: 4 cm
Depth: 2 cm

# PRO-C™

*Simple programming and flexible station expansion make the Pro-C Controller the professional's choice for residential and light commercial systems.*

## KEY BENEFITS

- Number of stations:
  - Modular Pro-C
    - Conventional wiring from 4 to 23 stations
    - Hybrid EZ Decoder option up to 32 total stations (28 stations max. if two-wire only)
- 3 automatic irrigation programs with 4 start times per program and 6-hour run times per station
- 2 sensor inputs available for use with Solar Sync™ or any Clik Sensors
- 1 flow sensor input available with Centralus Wi-Fi module
- 1 P/MV output for pump start relay and master valve activation
- High-visibility, backlit display for simple programming in any light
- Optional Seconds Mode allows for station run times with seconds resolution from 1 second to 5 minutes
- QuickCheck™ Technology provides simple diagnostics of faulty field wiring
- Backward compatible with previous modular PC-400 models dated 2014 to 2023

## OPERATING SPECIFICATIONS

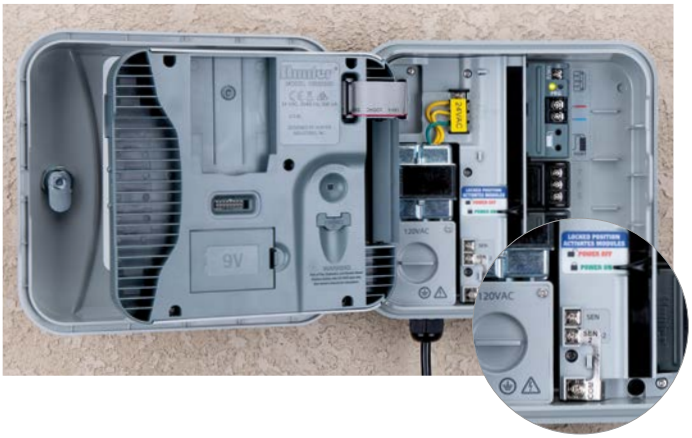
- Transformer input: 120 VAC or 230 VAC
- Transformer output (24 VAC): 1 A
- Station output (24 VAC): 0.56 A
- P/MV output (24 VAC): 0.28 A
- Approvals: IP44 (outdoor), UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years

## USER-INSTALLED OPTIONS

- PC-WIFI communication module for cloud-based Centralus control
- Compatible with Hunter Flow-Sync™ Sensor and HC Flow Meter for flow monitoring and high-flow shutdown capabilities via Centralus Software


**Plastic Outdoor**
Height: 22.9 cm
Width: 25.4 cm
Depth: 11.4 cm

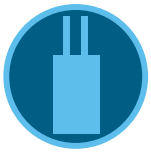
P2C-400 CONTROLLER WITH 2 SENSOR INPUTS



*Compatible with:*

***Solar Sync Sensor***
*Page 156*

***ROAM Remote***
*Page 146*
***ROAM XL Remote***
*Page 147*



***EZ Decoder System***
*Page 142*

Smart Approved WaterMark

**Smart WaterMark**
Recognised as a responsible water-saving tool when used with a Solar Sync Sensor

| PRO-C | |
|---|---|
| **Model** | **Description** |
| P2C-400 | 4-station base, plastic wall mount cabinet, 120 VAC with U.S. cable and plug |
| P2C-401-E | 4-station base, plastic wall mount cabinet, 230 VAC with European cable and plug |
| P2C-401-A | 4-station base, plastic wall mount cabinet, 230 VAC with Australian cable and plug |

| PC-SERIES STATION EXPANSION | |
|---|---|
| **Model** | **Description** |
| PCM-300 | 3-station plug-in module |
| PCM-900 | 9-station plug-in module |
| PCM-1600 | 16-station plug-in module |
| PC-DM | EZ Decoder Output Module |

**PCM300**
Height: 7.5 cm
Width: 3.5 cm
Depth: 3 cm

**PCM900**
Height: 7.5 cm
Width: 7.5 cm
Depth: 3 cm

**PCM1600**
Height: 9 cm
Width: 7.5 cm
Depth: 3.5 cm

**PC-DM**
Height: 7.5 cm
Width: 7.5 cm
Depth: 3 cm

# HUNTER FIELD SERVERS

*These high-performance devices make it easy to communicate directly with Hunter ACC2 and ICC2 Controllers from centralised command centers.*

## KEY BENEFITS

- Field server for BACnet, Modbus, RESTful API, and over 120 other automation protocols
- Up to 3,000 data points with complete documentation and demo software with Hunter licence agreement
- Integrates controllers directly into SCADA, Smart City, and BMS applications
- Allows total access to all controller commands, reports, and features from the customer's integration software
- Does not require internet connection or other proprietary control software
- 2 x RJ-45 receptacles for system and controller connections
- 1 x RS-485/RS-232 and 1 x RS-485
- DIN rail mounting included
- Made in USA

## OPERATING SPECIFICATIONS

- Serial (galvanic isolation): 1 x RS-485/RS-232 and 1 x RS-485
- Baud: 9600, 19200, 38400, 57600, 76800, 115000
- Ethernet: 2 x 10/100BaseT, MDIX, DHCP
- Operating temperature: -20°C to 70°C
- Relative humidity: 10% to 95% RH non-condensing


**Hunter Field Server**
Height: 10.2 cm
Width: 2.8 cm
Depth: 6.8 cm


**Field Server Connections**

| HUNTER FIELD SERVER MODEL CHART | |
|---|---|
| **Model** | **Description** |
| **FS-3000** | Field Server, 3,000 data points |
| **FS-1000** | Field Server, 1,000 data points |


# BATTERY-OPERATED CONTROLLERS

## BATTERY-OPERATED CONTROLLER COMPARISON CHART

| CONTROLLER MODELS | MAXIMUM STATIONS | SENSOR INPUTS | REMOTE CONTROL | SOLAR |
|---|---|---|---|---|
| BTT | 2 | N/A | BTT Bluetooth® App | N/A |
| NODE | 6 | 1 | N/A | SPNODE |
| NODE-BT | 4 | 2 | NODE-BT Bluetooth App | SPNODEBT |
| XC Hybrid | 12 | 1 | N/A | SPXCH, XCH-600-SSP, XCH-1200-SSP |

# BTT

*Take advantage of smartphone-controlled, above-ground irrigation for easier access to the hose tap.*

## KEY BENEFITS

- Number of zones:
  – 1 or 2 (fixed models)
- Battery-operated tap timer with Bluetooth® control
- 1 smartphone manages an unlimited number of controllers
- 1-second to 24-hour run time with 4 start times
- Cycling mode repeats continuously within user-defined water windows, perfect for drip systems or germinating seeds
- Suspend irrigation up to 99 days during the off-season, perfect for seasonal markets
- Manual push-button operation for quick operation without a smartphone
- Automatic water shutoff after 1 hour prevents water waste
- Blinking LED low-battery alert indicates battery replacement
- Alkaline batteries included for quicker installation
- Includes quick coupler adapter

## OPERATING SPECIFICATIONS

- Two 1.5V AA alkaline batteries (included)
- Flow rate: 1.9 to 2,271 L/H
- Recommended pressure: 0.5 to 8 bar (50 to 800 kPa)
- See friction loss chart on **page 220**
- Bluetooth 4.0/4.2 (BLE)
- Approvals: Plastic IPX6 (outdoor), UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years

## APP SPECIFICATIONS

- iOS® 9.0 or above, Android™ 4.4 or above
- Maximum communication distance: 10 m
- See all app features at **hunter.info/BTT**

**BTT-101**
Inlet diameter: ¾" and 1"
Outlet diameter: ¾"
Height: 16.8 cm
Width: 12 cm
Depth: 6 cm

**BTT-201**
Inlet diameter: ¾" and 1"
Outlet diameter: ¾"
Height: 15.7 cm
Width: 13.5 cm
Depth: 7.6 cm

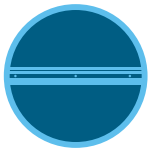
**BTT-LOC**
(optional)
Inlet diameter: ¾"
Outlet diameter: 16-18 mm dripline
Height: 7 cm
Width: 3 cm


**Pressure Regulator**
(optional)
Inlet diameter: ¾"
Outlet diameter: ¾"
Height: 7 cm
Width: 4 cm

**BTT WITH HUNTER DRIPLINE (HDL) INSTALLATION**

*To control drip irrigation applications with BTT, use the BTT-LOC Drip Adapter, which connects BTT to HDL surface and subsurface systems.*

*Compatible with:*



***HDL Dripline***
*Page 171*

| BTT | |
|---|---|
| **Model** | **Description** |
| BTT-101 | 1-zone Bluetooth Tap Timer, 1" (25 mm) BSP and ¾" hose thread, quick coupler adapter |
| BTT-201 | 2-zone Bluetooth Tap Timer, 1" (25 mm) BSP and ¾" hose thread, quick coupler adapter |

| BTT ACCESSORIES | |
|---|---|
| **Model** | **Description** |
| BTT-LOC | BTT adapter for 16 to 18 mm dripline |
| PRLG203FH3MH | 1.4 bar (140 kPa) pressure regulator, ¾" hose thread |
| PRLG253FH3MH | 1.7 bar (170 kPa) pressure regulator, ¾" hose thread |
| PRLG303FH3MH | 2 bar (200 kPa) pressure regulator, ¾" hose thread |
| PRLG403FH3MH | 2.8 bar (280 kPa) pressure regulator, ¾" hose thread |

# NODE

*This battery-operated, waterproof controller offers automatic irrigation control for temporary irrigation and sites without electricity.*

## KEY BENEFITS

- Number of stations:
  – 1, 2, 4, or 6 (fixed models)
- Battery-operated controller for automatic irrigation
- Battery-life indicator for battery replacement
- Waterproof enclosure seal protects against water ingress
- 3 flexible programs with 4 start times each and up to 6-hour run times
- Suspend irrigation up to 99 days during the off-season
- Easy Retrieve™ Memory backs up the full irrigation schedule if ever changed
- Seasonal adjustment for quicker schedule adjustments without changing run times
- Solar panel provides maintenance-free operation
- Mounts to Hunter solenoids, pipes, flat surfaces, or inside the valve box

## OPERATING SPECIFICATIONS

- One or two 9 V alkaline batteries or 800 mAh solar panel with charging cell
- Operates Hunter DC-Latching Solenoids; **see page 103**
- 30 m maximum wire runs, 1 mm² wire only
- Solar panel includes 12 m of direct-burial wire
- Station output: 9–11 VDC
- P/MV output: 9–11 VDC (multi-station models)
- Sensor inputs: 1 (wired rain, freeze, or wind only)
- Approvals: IP68 (submersible), UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years

| NODE | |
|---|---|
| **Model** | **Description** |
| NODE-100 | Single-station battery controller and DC-Latching Solenoid |
| NODE-100-LS | Single-station battery controller |
| NODE-200 | 2-station battery controller |
| NODE-400 | 4-station battery controller |
| NODE-600 | 6-station battery controller |
| NODE-100-VALVE | Single-station battery controller with PGV-101G Valve and DC-Latching Solenoid (NPT threads) |
| NODE-100-VALVE-B | Single-station battery controller with PGV-101G-B Valve and DC-Latching Solenoid (BSP threads) |
| SPNODE | Solar Panel Kit for NODE controllers |
| 458200 | DC-Latching Solenoid (for all Hunter valves) |


**NODE**
Height: 6.4 cm
Diameter: 8.9 cm

**SPNODE**
Solar Panel Kit (optional)
Height: 8 cm
Length: 25 cm
Width: 8 cm
Controller to solar panel: 30 m maximum
1 mm² direct-burial wire

NODE


*Compatible with:*

***Mini-Clik™ Sensor***
*Page 155*

***Waterproof Wire Connector***
*Page 145*

# NODE-BT

*Manage gardens, greenhouses, traffic medians, and temporary irrigation sites from a smartphone without opening the valve box.*

## KEY BENEFITS

- Number of stations:
  – 1, 2, or 4 (fixed models)
- Bluetooth® battery-operated controller for automatic irrigation
- Active station LEDs and battery-life LED indicator for replacement
- 3 programs with 8 start times each and 1 second to 12-hour run times
- Suspend irrigation up to 99 days during the off-season
- Manual push-button operation for quick operation without a smartphone
- Delay Between Stations for slow-closing valves or pump recharge
- Cycle and Soak prevents water waste and runoff in areas with elevation changes or tight soils
- Monthly and global seasonal adjustment for quicker schedule adjustments without changing run times

## OPERATING SPECIFICATIONS

- One or two 9 V alkaline batteries
- Operates Hunter DC-Latching Solenoids; **see page 103**
- 30 m maximum wire runs, 1 $mm^2$ wire only
- Station output: 9–11 VDC
- P/MV output: 9–11 VDC (multi-station models)
- Sensor inputs: 2 (wired rain, freeze, or wind only)
- Bluetooth 5.0 (BLE)
- Approvals: IP68 (submersible), UL, cUL, FCC, CE, UKCA, RCM, ISED
- Warranty period: 2 years

## APP SPECIFICATIONS

- iOS® 9.0 or above, Android™ 5.0 or above
- Maximum communication distance: 15 m
- See all app features at **hunter.info/NodeBT**


**NODE-BT**
Height: 8.3 cm
Diameter: 8.9 cm

**SC-PROBE**
Soil Moisture Sensor (optional)
Height: 8.3 cm
Diameter: 2.5 cm

**SP-NODE-BT**
NODE-BT Solar Panel
Height: 7.6 cm
Width: 4.5
Depth: 24 cm

NODE-BT WITH PGV INSTALLATION

| NODE-BT | |
|---|---|
| **Model** | **Description** |
| NODE-BT-100 | Single-station Bluetooth battery controller and DC-Latching Solenoid |
| NODE-BT-100-LS | Single-station Bluetooth battery controller |
| NODE-BT-200 | 2-station Bluetooth battery controller |
| NODE-BT-400 | 4-station Bluetooth battery controller |
| NODE-BT-100-VALVE | Single-station Bluetooth battery controller with PGV-101G Valve and DC-Latching Solenoid (NPT threads) |
| NODE-BT-100-VALVE-B | Single-station Bluetooth battery controller with PGV-101G-B Valve and DC-Latching Solenoid (BSP threads) |
| SC-PROBE | Soil probe for moisture sensing (module is not used) |
| SP-NODE-BT | Solar Panel Kit for NODE-BT Controllers |
| 458200 | DC-Latching Solenoid |

*Compatible with:*

***Mini-Clik™ Sensor***
*Page 155*

***Waterproof Wire Connector***
*Page 145*

# XC HYBRID

*Effectively manage landscapes where electricity is unavailable with this economical battery-operated or solar-powered controller.*

## KEY BENEFITS

- Number of stations:
  – 6 or 12 (fixed models)
- 3 power options: AC power, battery, or solar panel compatible with ambient light
- Stainless steel enclosure protects against vandalism
- 3 programs with 4 start times each and up to 4-hour run times
- Easy Retrieve™ Memory backs up the full irrigation schedule
- Delay Between Stations for slow-closing valves or pump recharge
- Seasonal adjustment for quicker scheduleadjustments without changing run times
- Solar panel provides maintenance-free operation
- Mounts to flat surfaces or steel posts

## OPERATING SPECIFICATIONS

- Plastic model operates six 1.5 V AA alkaline batteries
- Stainless steel model operates six 1.5 V C alkaline batteries
- Stainless steel solar model operates 800 mAh solar panel with charging cell
- Solar panel includes 12 m of direct-burial wire
- Controller to solar panel: 30 m maximum 1 mm² direct-burial wire
- All models operate optional 24 VAC plug-in wall adapter:
  - 120 VAC P/N 526500
  - 230 VAC Australian P/N 545500
  - 230 VAC European P/N 545700
- Operates Hunter DC-Latching Solenoids; **see page 103**
- Station output: 9 to 11 VDC
- P/MV output: 9 to 11 VDC
- Sensor inputs: 1 (wired rain, freeze, or wind only)
- Approvals: Plastic IP54 (outdoor), Stainless Steel IP24 (outdoor), UL, cUL, FCC, CE, UKCA, RCM , ISED
- Warranty period: 2 years

**Plastic**
Height: 22 cm
Width: 18 cm
Depth: 10 cm

**Stainless Steel**
Height: 25 cm
Width: 19 cm
Depth: 11 cm

**Stainless Steel Solar**
Height: 27 cm
Width: 19 cm
Depth: 11 cm

**SPXCH**
Solar Panel Kit (optional)
Height: 8 cm
Length: 25 cm
Width: 8 cm

**XCHSPOLE**
Pole-Mounting Kit (optional)
Height: 1.2 m

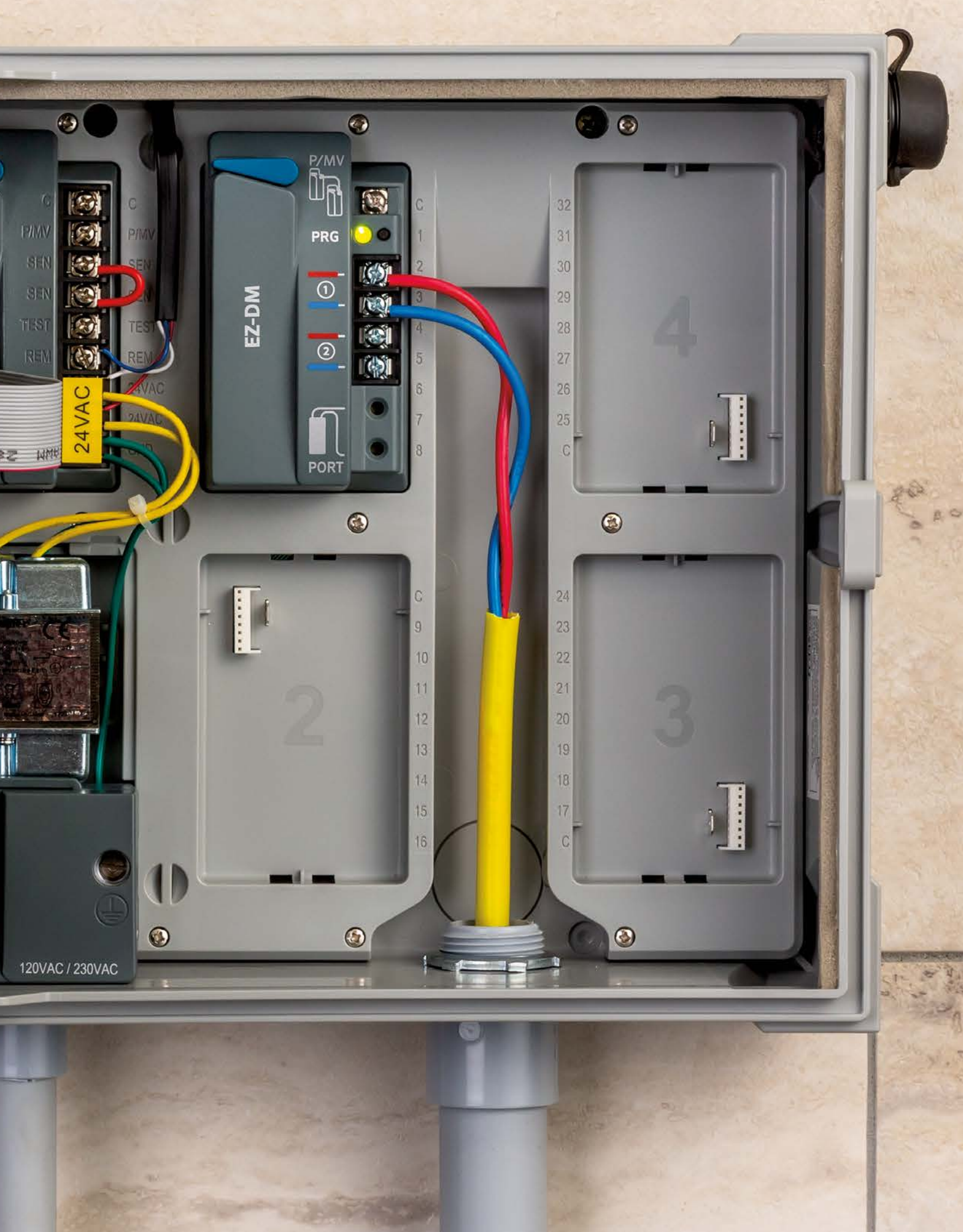
*Compatible with:*

***Mini-Clik™ Sensor***
*Page 155*

| XC HYBRID | |
|---|---|
| **Model** | **Description** |
| XCH-600 | 6-station battery controller |
| XCH-600-SS | 6-station battery controller, stainless steel |
| XCH-600-SSP | 6-station controller, stainless steel, with mounted solar panel |
| XCH-1200 | 12-station battery controller |
| XCH-1200-SS | 12-station battery controller, stainless steel |
| XCH-1200-SSP | 12-station controller, stainless steel, with mounted solar panel |
| DCREL2 | Latching sensor relay switch for pumps |
| 458200 | DC-Latching Solenoid (for all Hunter valves) |

| MAXIMUM WIRE RUNS | |
|---|---|
| **Wire Size** | **Max. Distance** |
| 1.0 mm² | 168 m |
| 1.2 mm² | 265 m |
| 1.6 mm² | 420 m |
| 2.0 mm² | 670 m |

# CONTROLLER DECODERS & ACCESSORIES


EZ-DM
P/MV
PRG
PORT
C
P/MV
SEN
SEN
TEST
REM
24VAC
24VAC
C
1
2
3
4
5
6
7
8
32
31
30
29
28
27
26
25
C
4
C
9
10
11
12
13
14
15
16
2
24
23
22
21
20
19
18
17
C
3
120VAC / 230VAC

# ICD

*Hunter's premium two-wire decoders for long-distance, high-station-count ACC2 applications include two-way communications and integrated surge protection.*

## KEY BENEFITS

- ICD Decoders are compatible with ACC2 Decoder Controllers and legacy ACC-99D Decoder Controllers
- 1-, 2-, 4-, and 6-station versions provide maximum flexibility
- Sensor decoders allow Flow and Clik Sensor monitoring via the two-wire paths
- Field-programmable decoders accept station numbers directly, and do not require entering serial numbers into the control panel
  - Decoders can be programmed before installation at the controller interface
  - Use of the ICD-HP Programmer allows for wireless decoder programming or reprogramming after installation to the two-wire path
- Integrated surge protection eliminates the need for extra surge protection devices
- Colour-coded wiring connections simplify installation
- Industrial-grade, waterproof DRBY Splice Connectors included for two-wire path splices

## OPERATING SPECIFICATIONS

- Maximum recommended distance, decoder to solenoid: 45 m
- Maximum distance to decoder via two-wire path:
  - 2 $mm^2$ wire path: 3 km
  - 3.3 $mm^2$ wire path: 4.5 km
- Approvals: UL, cUL, FCC, CE, UKCA, RCM
- Decoder rating: IP68 (submersible)
- Warranty period: 5 years

## USER-INSTALLED OPTIONS

- Wireless handheld ICD-HP Programmer; **see page 141**
- DECSTAKE10 Universal Decoder Stake, 10-pack; **see page 144**

**ICD-100, 200, ICD-SEN**
Height: 92 mm
Width: 38 mm
Depth: 12.7 mm

**ICD-400, 600**
Height: 92 mm
Width: 46 mm
Depth: 38 mm

### DECODER MODELS

| Model | Description |
|---|---|
| ICD-100 | Single-station decoder with surge suppression and ground wire |
| ICD-200 | 2-station decoder with surge suppression and ground wire |
| ICD-400 | 4-station decoder with surge suppression and ground wire |
| ICD-600 | 6-station decoder with surge suppression and ground wire |
| ICD-SEN | 2-input sensor decoder with surge suppression and ground wire |

### ID WIRE MODEL GUIDE

| 2 $mm^2$ Decoder Cable | | 3.3 $mm^2$ Long-Range, Heavy-Duty Decoder Cable | |
|---|---|---|---|
| ID1GRY | Grey jacket | ID2GRY | Grey jacket |
| ID1PUR | Purple jacket | ID2PUR | Purple jacket |
| ID1YLW | Yellow jacket | ID2YLW | Yellow jacket |
| ID1ORG | Orange jacket | ID2ORG | Orange jacket |
| ID1BLU | Blue jacket | ID2BLU | Blue jacket |
| ID1TAN | Tan jacket | ID2TAN | Tan jacket |

### ID WIRE MAXIMUM WIRE RUNS

| ID 1 Wire | ID 2 Wire |
|---|---|
| 1,500 m with legacy DUAL™ systems | 2,300 m with legacy DUAL systems |
| 3 km with ICD systems | 4.5 km with ICD systems |

*Compatible with:*

***Waterproof Splice Kit***
*Page 145*

# ICD-HP PROGRAMMER

*Gain wireless, handheld programming and diagnostic capabilities for Hunter ICD and DUAL™ Decoders.*

## KEY BENEFITS

- Program or re-program decoder stations, whether new or installed*
- Simplifies setup and diagnostics for sensor decoders
- Sensor test functions for Flow and Clik Sensors, plus built-in multimeter
- Communicates with decoder through plastic case: wireless electromagnetic induction saves waterproof connectors
- Compatible with Hunter ICD and legacy DUAL Decoders, as well as Pilot™ Two-Way Modules
- USB-powered for shop or office use; 4 AA batteries for field use
- All test leads and cables included in durable, foam-padded carrying case
- Turn decoder stations on and view solenoid status, current in milliamps, and more
- Waterproof programming cup
- Backlit adjustable display
- 6 operating languages

* **Note:** ICD-HP Programmer is not compatible with EZ-1 Decoders

## ELECTRICAL SPECIFICATIONS

- Power input: 4 AA batteries, or standard USB connector (included)
- Communications: wireless induction, range 25 mm
- Fused test leads for unpowered decoder functions

## APPROVALS

- UL, cUL, FCC, CE, UKCA, RCM

| ICD-HP | |
|---|---|
| **Model** | **Description** |
| ICD-HP | Wireless handheld decoder programmer, includes all test and power leads, programming cup, and rugged carrying case |


**ICD-HP**
Height: 21 cm
Width: 9 cm
Depth: 5 cm

Packaged in an outdoor carrying case, this complete kit includes probes, induction cup, cable, USB power cable for bench use, and 4 AA batteries for fieldwork.

**ICD-HP**

# EZ DECODER SYSTEM

*Bring two-wire technology to more projects than ever before with the revolutionary, low-cost, and hassle-free EZ Decoder System for Pro-C™, HPC, ICC2, and HCC Controllers.*

## KEY BENEFITS

- Number of stations:
  - Pro-C/HPC: Up to 28, plus master valve
  - ICC2/HCC: Up to 54, plus master valve
- No special wire or connectors required
- No special grounding or surge arrestors required in-line
- Programmable decoders with no need to input individual serial numbers
- P/MV can activate via the two-wire path for distant installations
- EZ-1 Decoders have built-in status LED for positive diagnostics

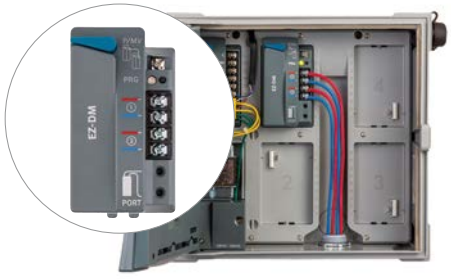
## OPERATING SPECIFICATIONS

- Electrical output on two-wire path: 24 VAC, 50/60 Hz
- Two-wire paths to the field:
  - EZ-DM: 2
  - PC-DM: 1
- Wire paths possible up to 1 km (see Wiring Table below)
- Each EZ-1 Decoder can activate two standard 24 VAC solenoids
- Operate any two decoders simultaneously for more efficient watering (ICC2 and HCC Controllers only)
- Approvals: UL, cUL, FCC, CE, UKCA, RCM, ISED
- EZ-1 Decoders are IP68 rated, submersible
- Warranty period: 3 years

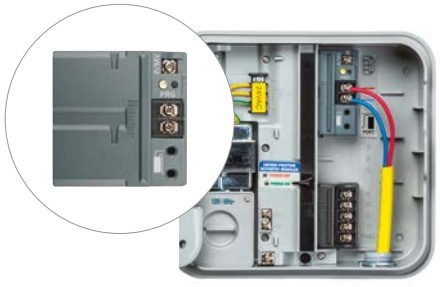
## USER-INSTALLED OPTIONS

- Centralus™ Software with Pro-C and ICC2 Controllers
- Hydrawise™ Software with HPC and HCC Controllers
- EZ-DT Diagnostic Tool for wireless diagnostics with EZ-1 Decoders
- DECSTAKE10 Universal Decoder Stake, 10-pack; **see page 144**
- Compatible with Waterproof Wire Connector; **see page 145**


**Single-Station Decoder**
Height: 73 mm
Width: 42 mm
Depth: 16 mm




**Decoder Output Module: EZ-DM**
Height: 115 mm
Width: 64 mm
Depth: 42 mm



**Decoder Output Module: PC-DM**
Height: 76 mm
Width: 76 mm
Depth: 32 mm

*Compatible with:*

*HCC Controller*
*Page 121*

*ICC2 Controller*
*Page 128*

*Pro-C Controller*
*Page 130*

**WIRING TABLE**

| International Wire Gauge | Distance, single solenoid | Distance, 2 solenoids per output |
|---|---|---|
| **0.5 mm²** | 167 m | 83 m |
| **0.8 mm²** | 267 m | 133 m |
| **1 mm²** | 333 m | 167 m |
| **1.5 mm²** | 500 m | 250 m |
| **2.5 mm²** | 833 m | 417 m |
| **4 mm²** | 1,333 m | 667 m |

**Note**
Distances in the Wiring Table are calculated based on 50 Hz with a wire temperature of 50°C and a 10% safety factor.

**DECODER MODELS**

| Model | Description |
|---|---|
| **EZ-DM** | Decoder output module for ICC2 and HCC Controllers |
| **PC-DM** | Decoder output module for Pro-C and HPC Controllers |
| **EZ-1** | Single-station decoder with status LED |
| **EZ-DT** | EZ-DT Diagnostic Tool |

# EZ-DT

*Simplify maintenance of EZ Decoder Systems with the handheld, wireless EZ Decoder Diagnostic Tool.*

## KEY BENEFITS

- Wireless, handheld diagnostic tool for EZ-1 Decoders
- Detect faults and perform electrical troubleshooting in the field without uninstalling decoders
- Quickly read decoder status, station address, current draw, and two-wire voltage to simplify maintenance
- Program decoder station address via the wired connection to speed up installation and save time on-site
- Update controller facepack or decoder module firmware via ribbon cable connection for flexibility when updating systems
- Communicate in your preferred language using the multilingual user interface
- Work reliably and efficiently on the go with power supplied by 4 AAA batteries

## OPERATING SPECIFICATIONS

- Power input: 4 AAA batteries (included)
- Communications: Wireless induction, 25 mm range from decoder to EZ-DT Diagnostic Tool
- 46 mm full-colour, backlit TFT display

## USER-INSTALLED OPTIONS

- Centralus™ Software with Pro-C and ICC2 Controllers
- Hydrawise™ Software with HCC and HPC Controllers
- DECSTAKE10 Universal Decoder Stake, 10-pack; **see page 144**

| DECODER MODELS | |
|---|---|
| **Model** | **Description** |
| **EZ-DM** | Decoder output module for ICC2 and HCC Controllers |
| **PC-DM** | Decoder output module for Pro-C and HPC Controllers |
| **EZ-1** | Single-station decoder with status LED |
| **EZ-DT** | EZ-DT Diagnostic Tool |

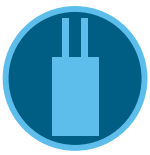

**EZ-DT Diagnostic Tool**
Height: 197 mm
Width: 70 mm
Depth: 22 mm

EZ-DT DIAGNOSTIC TOOL


*Compatible with:*

***HCC Controller***
*Page 121*

***ICC2 Controller***
*Page 128*



***EZ Decoder System***
*Page 142*

# UNIVERSAL DECODER STAKE

*The Universal Decoder Stake raises the decoder off the ground to keep two-wire installations organised, clean, and easily accessible during routine maintenance.*

## KEY BENEFITS

- Raises decoder off the ground, so contractors don't have to dig the device out of the mud
- Holds Hunter decoders in end-up position for convenient access and wireless programming without removal
- Works with all Hunter decoders and most other brands, so contractors only need to stock one item
- Zip ties conveniently included to secure the stake during installation
- Sturdy construction ensures the stake won't break or bend when hammered into the dirt
- Made primarily from recycled materials with minimal packaging to prevent waste and minimise carbon footprint

## OPERATING SPECIFICATIONS

- Fits all Hunter decoders and most other brands
- Zip ties included
- Made of recycled materials

**Universal Decoder Stake**
Height: 27.5 cm

UNIVERSAL DECODER STAKE

| UNIVERSAL DECODER STAKE | |
|---|---|
| **Model** | **Description** |
| DECSTAKE10 | Universal Decoder Stake (10 per carton), zip ties included |

# ANTENNA EXTENSION KITS

*Use these flexible Antenna Extension Kits when buildings, terrain, or other obstructions prevent reliable wireless communications.*

## KEY BENEFITS

- Universal Antenna Extension Kit option for Wi-Fi and cellular radio communications (ANT-EXT-KIT)
  - Wi-Fi: HCC Controller, A2C-WIFI
  - Cell: A2C-CELL-E, A2C-LTEM
- For ROAM XL Remotes, extend the receiver antenna up to 7.6 m with a convenient extension cable (ROAMXL-EXT)
- Simplify Plastic Pedestal installations with a flexible pedestal lid mounting option (PED-LID-ANT-BRKT)

**ANT-EXT-KIT**

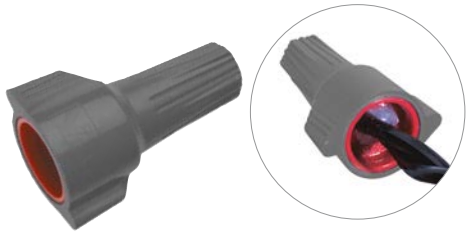
| ANTENNA EXTENSION OPTIONS | |
|---|---|
| **Model** | **Description** |
| ANT-EXT-KIT | Universal Antenna Extension Kit for Wi-Fi and cellular communication hardware (2.7 m cable and mounting hardware) |
| ROAMXL-EXT | ROAM XL Antenna Extension Kit (7.6 m cable and mounting hardware) |
| PED-LID-ANT-BRKT | Plastic Pedestal Antenna Mount |

# WATERPROOF WIRE CONNECTOR

*Use this approved waterproof connector for EZ-1 Decoders and all above-grade solenoid and sensor wiring connections.*

## KEY BENEFITS

- 100% silicone-based sealant protects against moisture and corrosion
- Designed as a single-use only connection
- UL Listed (UL486G) to 600 V for use in damp/wet locations or above-grade applications
- Easy to apply, pre-filled twist-on wire connectors
- Eliminates the need for heat-shrink or excessive taping
- Not for use in continual submersion applications, use DBRY-6 Splice Connectors
- Approvals: UL, cUL, FCC, CE, UKCA, RCM, RoHS, ISED



**Waterproof Wire Connector**
Height: 3.5 cm
Minimum wire: 3 #0.8 mm²
Maximum wire: 2 #6 mm² with 1 #3 mm²

WC100 WIRE CONNECTOR

| WIRE CONNECTOR | |
|---|---|
| **Model** | **Description** |
| WC100 | Bulk 100 connectors in canister |

# WATERPROOF SPLICE KIT

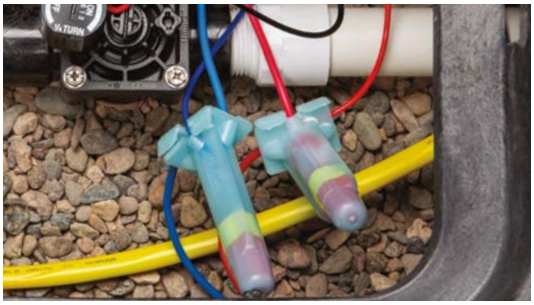
*Use this approved splice kit for all direct-burial two-wire ICD and legacy DUAL™ Decoder wiring connections, as well as Pilot™ Two-Way Modules.*

## KEY BENEFITS

- UL Listed (UL486G) to 600 V for use in damp/wet location or direct-burial applications
- Waterproof, corrosion-proof, UV-rated, and impact resistant
- Snap-fit lid provides strain relief and three wire exits
- Prefilled with silicone that never hardens
- Two-part system includes red/yellow winged wire connector and silicone-filled tube
- Compatible with EZ-1 Decoder connections, but not a requirement
- Approvals: UL, cUL, FCC, CE, UKCA, RCM, RoHS, ISED

**Waterproof Splice Kit**
Height: 9.5 cm
Minimum wire: 2-7 #0.8 mm²
Maximum wire: 2-3 #6 mm²

DBRY-6 WATERPROOF SPLICE KIT



| DBRY-6 SPLICE KIT | |
|---|---|
| **Model** | **Description** |
| DBRY100 | Bulk 100 connectors (100 tubes loose in box, plus inner box with 100 wire nuts) |
| DBRY2X25 | 25 x 2-packs (2 tubes and 2 wire nuts in a plastic bag x 25 units) |

# ROAM REMOTE

*Enable convenient controller management from a distance with this handheld wireless remote.*

## KEY BENEFITS

- Compatibility with Hunter X-Core™, X2™, Pro-C™, HPC, ICC2, HCC, ACC2, legacy ACC, and I-Core™ Controllers to enable remote management for projects of any size
- Manually start individual stations or programs for quick maintenance checks and troubleshooting
- 128 programmable addresses available prevents cross-communication between multiple remotes within close proximity of each other
- Programmable run times from 1 to 90 minutes, which will not overwrite regular automatic programming
- Manual operation up to 240 stations provides flexibility for larger projects

## OPERATING SPECIFICATIONS

- Range: 300 m from transmitter to receiver
- Transmitter power source: 4 AAA batteries (included)
- Receiver power source: 24 VAC, 0.010 A
- System operating frequency: 433 MHz
- SmartPort™ Wiring Harness installation: maximum 15 m from controller
- FCC, CE, and UKCA approved for use in the United States and internationally
- Warranty period: 2 years


**ROAM XL Transmitter and Receiver**
Height: 18 cm
Width: 6 cm
Depth: 3 cm

**SmartPort Wiring Harness**
Hunter remotes require the installation of a SmartPort Wiring Harness, which is wired to the terminals on the controller and allows for quick connection to any Hunter receiver.

**Wall-Mount Bracket for SmartPort Wiring Harness**
P/N 258200

| ROAM | |
|---|---|
| **Model** | **Description** |
| ROAM-KIT | Transmitter, receiver, SmartPort Wiring Harness, and 4 AAA batteries included |
| ROAM-R | Receiver unit |
| ROAM-TR | Transmitter unit and 4 AAA batteries included |

| USER-INSTALLED OPTIONS | |
|---|---|
| **Model** | **Description** |
| ROAM-WH | SmartPort Wiring Harness (length: 1.8 m) |
| ROAM-SCWH | Shielded SmartPort Wiring Harness (length: 7.6 m) |
| 258200 | Wall-mount bracket for SmartPort Wiring Harness |

# ROAM XL REMOTE

*Add professional, licence-free remote control to projects of any size with this long-range remote.*

## KEY BENEFITS

- Compatibility with Hunter X-Core™, X2™, Pro-C™, HPC, ICC2, HCC, ACC2 legacy ACC, and I-Core™ Controllers to enable remote management for projects of any size
- Manually start individual stations or programs for quick maintenance checks and troubleshooting
- 128 programmable addresses available prevents cross-communication between multiple remotes within close proximity of each other
- Programmable run times from 1 to 90 minutes, which will not overwrite regular automatic programming
- Manual operation up to 240 stations provides flexibility for larger projects
- Rugged and water-resistant transmitter includes a large LCD display with simple push-button operation and a battery-life indicator

## OPERATING SPECIFICATIONS

- Range: 3 km (line of sight) from transmitter to receiver
- Transmitter power source: 4 AAA batteries (included)
- Receiver power source: 24 VAC, 0.010 A
- System operating frequency: 27 MHz
- SmartPort™ Wiring Harness installation: maximum 15 m from controller
- FCC approved (not available in EU and some other countries; check local regulations)
- Warranty period: 3 years

**ROAM XL Transmitter and Receiver**
(without antenna)
Height: 16 cm
Width: 8 cm
Depth: 3 cm

| ROAM XL | |
|---|---|
| **Model** | **Description** |
| ROAMXL-KIT | Transmitter, receiver, SmartPort Wiring Harness, 4 AAA batteries and plastic carrying case included |
| ROAMXL-R | Receiver unit (SmartPort Wiring Harness included) |
| ROAMXL-TR | Handheld transmitter and 4 AAA batteries included |

| USER-INSTALLED OPTIONS | |
|---|---|
| **Model** | **Description** |
| 258200 | Wall-mount bracket for SmartPort Wiring Harness |
| ROAM-WH | SmartPort Wiring Harness (length: 1.8 m) |
| ROAM-SCWH | Shielded SmartPort Wiring Harness (length: 7.6 m) |
| ROAMXL-EXT | ROAM XL Antenna Extension Kit (7.6 m cable and mounting hardware included) |

**SmartPort Wiring Harness**
Hunter remotes require the installation of a SmartPort Wiring Harness, which is wired to the terminals on the controller and allows for quick connection to any Hunter receiver.

**Wall-Mount Bracket for SmartPort Wiring Harness**
P/N 258200

# PSR

*This reliable and economical Pump Start Relay family is perfect for systems that require pump activation.*

## KEY BENEFITS

- Pump Start Relay family for a variety of voltage and power requirements
- 24 VAC flying leads make connection to the controller quick and easy
- Suitable for conventional wiring or two-wire decoder activation

## OPERATING SPECIFICATIONS

- Recommended installation: Minimum 4.5 m from irrigation controller; see chart on **page 221** for maximum distances
- Approvals: IP44 (outdoor), UL, cUL, FCC, CE, RCM , ISED
- Warranty period: 2 years

**Pump Start Relay**
Height: 17 cm
Width: 19 cm
Depth: 12 cm

**PUMP START RELAY**

| Model | Description |
|---|---|
| PSR-22 | Double-pole/single-throw Pump Start Relay for 120 VAC pumps up to 1.5 kW or 230 VAC pumps up to 2.2 kW |
| PSR-52 | Double-pole/single-throw Pump Start Relay for 120 VAC pumps up to 2.2 kW or 230 VAC pumps up to 5.6 kW |
| PSR-53 | Triple-pole/single-throw Pump Start Relay for 120 VAC pumps up to 2.2 kW, 230 VAC pumps up to 5.6 kW, or 230 VAC pumps up to 7.5 kW (3-phase) |

**PUMP START RELAY ELECTRICAL SPECIFICATIONS**

| Model | Single-Phase | | 3-Phase** | Max. Full Load | Max. Resistive | Coil VA | | | | Coil VA | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kW AT 120 VAC | kW AT 230 VAC | kW AT 230 VAC | AMPS | AMPS | INRUSH | | AMPS | | HOLDING | | AMPS | |
| | | | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| PSR-22 | 1.5* | 2.2* | N/A | 30 | 40 | 33 | 30 | 1.38 | 1.25 | 8 | 6.5 | 0.33 | 0.27 |
| PSR-52 | 2.2 | 5.6 | N/A | 40 | 50 | 65 | 60 | 2.71 | 2.50 | 7.5 | 5 | 0.31 | 0.21 |
| PSR-53 | 2.2 | 5.6 | 7.5 | 40 | 50 | 65 | 60 | 2.71 | 2.50 | 7.5 | 5 | 0.31 | 0.21 |

**Note:** *Approximate power
** 3-phase power at 230 VAC is not commonly available in some international markets. Check local electrical codes for compatibility.

# PSR-B

*For distant pump starts that require more power, choose the PSR-B.*

## KEY BENEFITS

- Provides a solution for pump start relay installations that have insufficient power to activate the pump
- Includes solid state relay and local 24 VAC transformer for simple PSR activation

## OPERATING SPECIFICATIONS

- Primary AC power input: 120/230 VAC,
- Secondary AC power output: 24 VAC, 1.6 A
- Relay rating: Double-pole, double-throw solid state (10 A)
- Approvals: IP54 (outdoor), UL, cUL, FCC, CE, RCM, ISED
- Warranty period: 2 years

**PSR-B Pump Start Relay Booster**
Height: 22 cm
Width: 18 cm
Depth: 9.5 cm

**PUMP START RELAY BOOSTER**

| Model | Description |
|---|---|
| PSR-B | Pump Start Relay Booster for increasing controller output power |

# CONNECT YOUR WAY

*Choose from a range of Wi-Fi, LAN (Ethernet), and cellular connection accessories to enable remote irrigation management on standalone controllers anytime, anywhere.*

## HYDRAWISE™ SOFTWARE

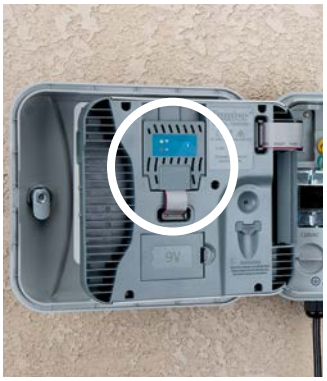
### X2 Controller with WAND Module Installed


**WAND**
Wi-Fi accessory for X2 Controllers, managed by Hydrawise Software

**page 118**

## CENTRALUS™ SOFTWARE

### PRO-C Controller with PC-WIFI Module Installed

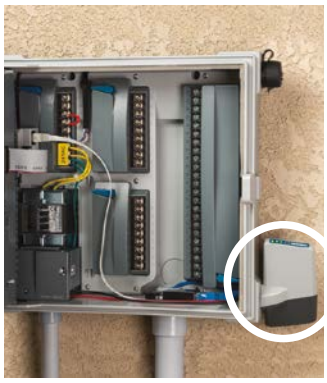


**PC-WIFI**
Wi-Fi accessory for Pro-C Controllers, managed by Centralus Software

**page 124**

## CENTRALUS SOFTWARE

### ICC2 Controller with LANKIT Module Installed



**WIFIKIT**
Wi-Fi accessory for ICC2 Controllers, managed by Centralus Software

**page 124**

**LANKIT**
Ethernet accessory for ICC2 Controllers, managed by Centralus Software

**page 124**

**CELLKIT**
Cellular accessory for ICC2 Controllers, managed by Centralus Software

**page 124**

## CENTRALUS SOFTWARE

### ACC2 Controller with A2C-LTEM Module Installed

**A2C-WIFI**
Wi-Fi accessory for ACC2 Controllers, managed by Centralus Software

**page 127**

**A2C-LAN**
Ethernet accessory for ACC2 Controllers, managed by Centralus Software

**page 127**

**A2C-LTEM**
Cellular accessory for ACC2 Controllers, managed by Centralus Software

**page 127**

# SENSORS

# SENSOR AND CONTROLLER COMPATIBILITY CHART

| AC CONTROLLERS | SENSOR INPUTS | RAIN | SMART WEATHER ADJUST | FLOW* | HIGH-FLOW SHUTOFF |
|---|---|---|---|---|---|
| **ECO LOGIC** page 110 | 1 | Mini-Clik, Rain-Clik | N/A | N/A | Flow-Clik |
| **X-CORE™** page 111 | 1 | Mini-Clik, Rain-Clik | Solar Sync | N/A | Flow-Clik |
| **HC** page 116 | 2 | Mini-Clik, Rain-Clik | Hydrawise™ Software | HC Flow Meter | HC Flow Meter |
| **X2™** page 117 | 1 | Mini-Clik, Rain-Clik | Hydrawise Software | N/A | Flow-Clik |
| **PRO-HC** page 119 | 2 | Mini-Clik, Rain-Clik | Hydrawise Software | HC Flow Meter | HC Flow Meter |
| **HPC** page 120 | 2 | Mini-Clik, Rain-Clik | Hydrawise Software | HC Flow Meter | HC Flow Meter |
| **HCC** page 121 | 2 | Mini-Clik, Rain-Clik | Hydrawise Software | HC Flow Meter | HC Flow Meter |
| **ACC2** page 126 | 1 Solar Sync, 3 Clik, 6 Flow | Mini-Clik, Rain-Clik | Solar Sync, Centralus™ Software | HFS, WFS, HC Flow Meter, Other (K-Factor or Scaled Pulse) | Built-In, Real-Time Flow Monitoring and Management |
| **ICC2** page 128 | 2 | Mini-Clik, Rain-Clik | Solar Sync, Centralus Software | HFS, WFS, HC Flow Meter, Other (K-Factor or Scaled Pulse) | Flow-Clik |
| **PRO-C™** page 130 | 2 | Mini-Clik, Rain-Clik | Solar Sync, Centralus Software | HFS, WFS, HC Flow Meter, Other (K-Factor or Scaled Pulse) | Flow-Clik |
| **BATTERY-OPERATED CONTROLLERS** | | | | | |
| **NODE** page 135 | 1 | Mini-Clik, Rain-Clik | N/A | N/A | N/A |
| **NODE-BT** page 136 | 2 | Mini-Clik, Rain-Clik | N/A | N/A | N/A |
| **XC HYBRID** page 137 | 1 | Mini-Clik, Rain-Clik | N/A | N/A | N/A |

**Centralus communication module required for flow sensor input with Pro-C and ICC2 Controllers*

| SOIL MOISTURE | FREEZE | WIND |
|---|---|---|
| Soil-Clik | Freeze-Clik, WR-Clik | Wind-Clik, MWS |
| Soil-Clik | Freeze-Clik, WR-Clik | Wind-Clik, MWS |
| Soil-Clik | Freeze-Clik, WR-Clik, Hydrawise Software | Wind-Clik, MWS, Hydrawise Software |
| Soil-Clik | Freeze-Clik, WR-Clik, Hydrawise Software | Wind-Clik, MWS, Hydrawise Software |
| Soil-Clik | Freeze-Clik, WR-Clik, Hydrawise Software | Wind-Clik, MWS, Hydrawise Software |
| Soil-Clik | Freeze-Clik, WR-Clik, Hydrawise Software | Wind-Clik, MWS, Hydrawise Software |
| Soil-Clik | Freeze-Clik, WR-Clik, Hydrawise Software | Wind-Clik, MWS, Hydrawise Software |
| Soil-Clik | Freeze-Clik, WR-Clik, Centralus Software | Wind-Clik, MWS |
| Soil-Clik | Freeze-Clik, WR-Clik, Centralus Software | Wind-Clik, MWS |
| Soil-Clik | Freeze-Clik, WR-Clik, Centralus Software | Wind-Clik, MWS |
| | | |
| N/A | Freeze-Clik | N/A |
| SC-Probe | Freeze-Clik | N/A |
| N/A | Freeze-Clik | N/A |

**Rain-Clik™ Sensor**

**Mini-Clik™ Sensor**

**Soil-Clik™ Sensor**

**Freeze-Clik™ Sensor**

**Wind-Clik™ Sensor**

**Mini Weather Station**

**Solar Sync™ Sensor**

**Flow-Sync™ Sensor**

**HC Flow Meter Sensor**

*Available wireless!*

**Wireless Flow Sensor**

**Flow-Clik™ Sensor**

# RAIN-CLIK™

*Sensor:* **Rain, Freeze**

*To prevent water waste, built-in Quick Response™ Technology instantly shuts down irrigation as soon as it starts raining.*

## KEY BENEFITS

- Quick Response Technology triggers instant rain shutoff
- Freeze sensing model halts system operation at 3°C
- Wireless sensor kit simplifies installation
- Maintenance-free design with integrated battery for wireless models
- Adjustable vent ring allows for shorter or longer reset period
- Includes gutter bracket and wall mount with wireless models
- Compatible with most normally open or normally closed irrigation controllers

## OPERATING SPECIFICATIONS

- Quick Response Technology:
  - Time to turn off irrigation system: approximately 2 to 5 minutes for Quick Response
  - Time to reset Quick Response: approximately 4 hours under dry, sunny conditions
  - Time to reset when fully wet: approximately 3 days under dry, sunny conditions
- All models switch rating (24 VAC): 3 A
- Wired models include 7 m of 0.5 $mm^2$ sheathed, UL-approved wire
- Wireless model operating frequency: 433 MHz
- Wireless model range is 243 m line of sight from sensor to receiver
- Multiple wireless receivers can be operated from a single wireless sensor
- Approvals: UL, cUL, FCC, CE, UKCA, RCM
- Warranty period: 5 years

## USER-INSTALLED OPTIONS

- Optional Gutter Mount for wired models (included with WR-CLIK)
- Vandal-resistant Wireless Sensor Guard for surface- or pole-mounting (order sensor separately)
- Vandal-resistant Wireless Receiver Guard for pedestal mounting (order receiver separately)

**Wired Rain-Clik Sensor**
(with mounting arm)
Height: 6 cm
Length: 18 cm
Width: 2.5 cm

**Sensor Gutter Mount**
Height: 1.2 cm
Length: 7.6 cm
Width: 1.2 cm

**Wireless Rain-Clik Sensor**
(with mounting arm)
Height: 7.6 cm
Length: 20 cm
Width: 2.5 cm


**Wireless Receiver**
(with wall-mounting hardware)
Height: 8 cm
Length: 10 cm
Width: 3 cm

**Wireless Sensor Guard**
(with mounting hardware)
Height: 7 cm
Length: 9.5 cm
Width: 3.2 cm

**Wireless Receiver Guard**
(with mounting hardware)
Height: 12.7
Length: 10.2 cm
Width: 3.2 cm

| RAIN-CLIK | |
|---|---|
| **Model** | **Description** |
| RAIN-CLIK | Wired Rain-Clik Sensor |
| RAIN-CLIK-NO | Wired Rain-Clik Sensor, normally open switch |
| RFC | Wired Rain/Freeze-Clik Sensor |
| WR-CLIK | Wireless Rain/Freeze-Clik Sensor, Receiver, and Gutter Mount |
| WS-GUARD | Vandal-resistant Wireless Sensor Guard for surface- or pole-mounting |
| WR-GUARD | Vandal-resistant Wireless Receiver Guard for pedestal mounting |

*Compatible with:*

***Waterproof Wire Connector***
*Page 145*

**Smart WaterMark**
Recognised as a responsible water-saving tool

# MINI-CLIK™

*Sensor:* **Rain, Freeze**

*This sensor halts scheduled irrigation when it detects a preset level of rainfall to prevent water waste.*

## KEY BENEFITS

- Shuts off irrigation automatically when the sensor detects rainfall from 3 mm to 19 mm
- Debris-tolerant for reliable operation and no unnecessary shutdowns
- Wireless sensor kit simplifies installation*
- Quick Response™ Technology triggers faster system shutdown for plant protection*
- Built-in freeze sensing halts system operation at 3°C to protect plants and keep roads and walkways ice-free*
- Maintenance-free design with integrated battery for wireless models
- Compatible with most normally open or normally closed irrigation controllers

## OPERATING SPECIFICATIONS

- Quick Response Technology* (when enabled):
  - Time to turn off irrigation system: approximately 2 to 5 minutes
  - Time to reset: approximately 4 hours under dry, sunny conditions
  - Time to reset when fully wet: approximately 3 days under dry, sunny conditions
- All models switch rating (24 VAC): 3 A
- Wired models include 7 m of 0.5 mm² sheathed, UL-approved wire
- Wireless model operating frequency: 433 MHz
- Wireless model range is 243 m line of sight from sensor to receiver
- Multiple wireless receivers can be operated from a single wireless sensor
- Approvals: UL, cUL, FCC, CE, UKCA, RCM
- Warranty period: 5 years

## USER-INSTALLED OPTIONS

- Optional Gutter Mount for wired models (included with WM-CLIK)
- Vandal-resistant Wireless Sensor Guard for surface- or pole-mounting (order sensor separately)
- Vandal-resistant Wireless Receiver Guard for pedestal mounting (order receiver separately)

*Wireless Mini-Clik Sensor only

**Wired Mini-Clik Sensor**
(with mounting arm)
Height: 5 cm
Length: 15 cm
Width: 2.5 cm

**Wired Mini-Clik Sensor**
(with stainless steel enclosure)
Height: 13.9 cm
Length: 7.6 cm
Width: 10.1 cm

**Wireless Mini-Clik Sensor**
(with mounting arm)
Height: 7.6 cm
Length: 20 cm
Width: 2.5 cm


**Wireless Receiver**
(with wall-mounting hardware)
Height: 10 cm
Length: 8 cm
Width: 3 cm

**Wireless Sensor Guard**
(with mounting hardware)
Height: 7 cm
Length: 9.5 cm
Width: 3.2 cm

**Wireless Receiver Guard**
(with mounting hardware)
Height: 12.7 cm
Length: 10.2 cm
Width: 3.2 cm

*Compatible with:*

***Waterproof Wire Connector***
*Page 145*

**Smart WaterMark**
Recognised as a responsible water-saving tool
(WM-CLIK only)

| MINI-CLIK | |
|---|---|
| **Model** | **Description** |
| MINI-CLIK | Mini-Clik Sensor |
| MINI-CLIK-NO | Mini-Clik Sensor, normally open switch |
| MINI-CLIK-C | Mini-Clik Sensor, conduit mount |
| SG-MC | Mini-Clik Sensor in a stainless steel sensor enclosure |
| WM-CLIK | Wireless Mini-Clik Sensor, Receiver, and Gutter Mount |
| WS-GUARD | Vandal-resistant Wireless Sensor Guard for surface- or pole-mounting |
| WR-GUARD | Vandal-resistant Wireless Receiver Guard for pedestal mounting |

# SOLAR SYNC™

*Sensor:* **ET, Rain, Freeze**

*This sensor automatically adjusts controller run times daily based on local climate conditions to reduce water usage and improve plant health.*

## KEY BENEFITS

- Automatically adjusts irrigation run times based on weather conditions using on-site solar radiation and air temperature
- Quick Response™ Technology triggers instant rain shutoff
- Freeze sensing halts system operation at 3°C
- Wireless sensor kit simplifies installation
- Maintenance-free design with integrated battery for wireless models
- Adjustable vent ring allows for shorter or longer reset period
- Use with X-Core™, Pro-C™, ICC2, ACC2, and legacy ACC and I-Core™ Controllers
- Manage remotely with Centralus™ Software for Pro-C, ICC2, and ACC2 installations

## OPERATING SPECIFICATIONS

- Solar Sync Technology:
  - Adjusts run times daily 3 minutes before midnight using the last 3 days of ET (evapotranspiration) data
- Quick Response Technology:
  - Time to turn off irrigation system: approximately 2 to 5 minutes for Quick Response
  - Time to reset Quick Response: approximately 4 hours under dry, sunny conditions
  - Time to reset when fully wet: approximately 3 days under dry, sunny conditions
- All models switch rating (24 VAC): 3 A
- Wired models include 7 m of 0.5 mm² sheathed, UL-approved wire
- Wireless model operating frequency: 433 MHz
- Wireless model range is 243 m line of sight from sensor to receiver
- Multiple wireless receivers can be operated from a single wireless sensor
- Approvals: UL, cUL, FCC, CE, UKCA, RCM, SASO Quality Mark Certified*
- Warranty period: 5 years

## USER-INSTALLED OPTIONS

- Vandal-resistant Wireless Sensor Guard for surface- or pole-mounting (order sensor separately)
- Vandal-resistant Wireless Receiver Guard for pedestal mounting (order receiver separately)

| SOLAR SYNC | |
|---|---|
| **Model** | **Description** |
| SOLAR-SYNC-SEN* | Wired Solar Sync Sensor and Gutter Mount |
| WSS-SEN* | Wireless Solar Sync Sensor, Receiver, and Gutter Mount |
| WS-GUARD | Vandal-resistant Wireless Sensor Guard for surface- or pole-mounting |
| WR-GUARD | Vandal-resistant Wireless Receiver Guard for pedestal mounting |

**Wired Solar Sync Sensor**
(with mounting arm)
Height: 8 cm
Length: 22 cm
Width: 2 cm

**Wireless Solar Sync Sensor**
(with mounting arm)
Height: 11 cm
Length: 22 cm
Width: 2.5 cm


**Wireless Solar Sync Receiver**
(with wall-mounting kit)
Height: 14 cm
Length: 4 cm
Width: 4 cm


**Wireless Sensor Guard**
(with mounting hardware)
Height: 7 cm
Length: 9.5 cm
Width: 3.2 cm


**Wireless Receiver Guard**
(with mounting hardware)
Height: 12.7 cm
Length: 10.2 cm
Width: 3.2 cm

*Compatible with:*

*Centralus Software*
*Page 124*

*Waterproof Wire Connector*
*Page 145*

**Smart WaterMark**
Recognised as a responsible water-saving tool

# SOIL-CLIK™

*Sensor:* **Soil Moisture**

*This sensor prevents water waste by measuring soil moisture and shutting off irrigation when a pre-set level is reached.*

## KEY BENEFITS

- View current soil moisture level and status at a glance
- One-touch override allows soil moisture bypass for special conditions
- Low-voltage outdoor enclosure powered by host controller
- Connect to Hunter sensor inputs, or use to interrupt common wires in virtually any 24 VAC irrigation system
- Use with Solar Sync™ Sensor for maximum water savings; **see page 156**

## OPERATING SPECIFICATIONS

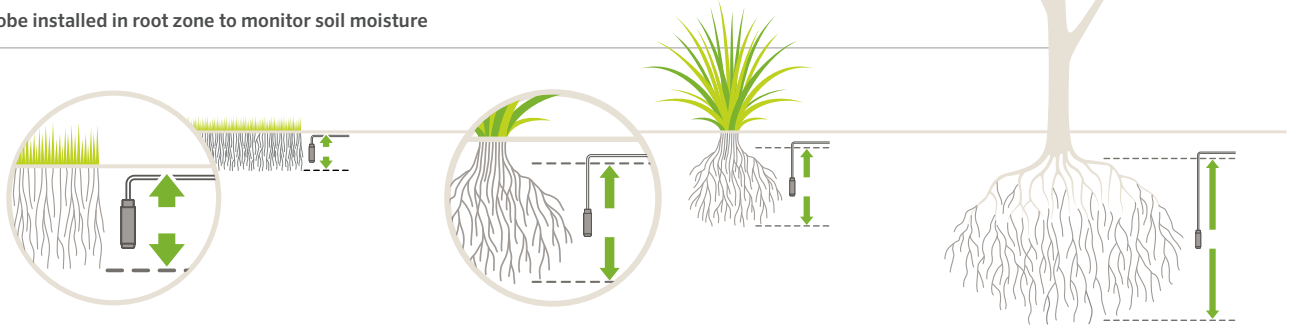
- Switch rating (24 VAC): 5 A
- Input power (24 VAC): 100 mA
- Normally closed dry-contact closure
- 2 m maximum distance from Soil-Clik module to controller
- 300 m maximum distance from Soil-Clik module to sensor probe for AC installations
- 30 m maximum distance for NODE-BT installations
- Sensor probe includes 80 cm of direct-burial wire
- Approvals: UL, cUL, FCC, CE, UKCA, RCM
- Warranty period: 5 years

**Soil-Clik Module**
Height: 11.4 cm
Width: 8.9 cm
Length: 3.2 cm


**Soil-Clik Probe**
Height: 8.3 cm
Diameter: 2 cm

| SOIL-CLIK | |
|---|---|
| **Model** | **Description** |
| **SOIL-CLIK** | Soil-Clik moisture sensor module and probe |
| **SC-PROBE** | Soil moisture probe sensor for NODE-BT (module is not used) |

**Probe installed in root zone to monitor soil moisture**



In turf applications, the probe should be placed in the root zone, approximately 15 cm deep (adjust for actual turf conditions).

For shrubs or trees, select a deeper depth that matches the root zone. For new plantings, choose a spot halfway down the root ball, adjacent to native soil.

*Compatible with:*

***Waterproof Wire Connector***
*Page 145*

***NODE-BT Controller***
*Page 136*

# HC FLOW METER

*Sensor:* **Flow**

*Detect, monitor, and report critical flow zone data via wired or wireless connection with this robust and simple-to-install flow sensor.*

## KEY BENEFITS

- Compatible with Hydrawise™ enabled HC, HPC, Pro-HC, and HCC Controllers as well as Centralus enabled Pro-C, ICC2, and ACC2 Controllers
- Provides station-level flow rates and totals
- Sends automatic alerts in the event of high-flow, low-flow, or unscheduled flow conditions
- Flow reports within Hydrawise Software can display total system water use and individual station water use for accurate water budgeting and tracking
- Robust brass construction with union fittings for easy installation and removal for winterisation
- Analogue dial on the face of the meter displays daily flow totals

## OPERATING SPECIFICATIONS

- Scaled pulse output is precalibrated based on the size of the meter
- When wired directly to the controller, the meter must be installed with shielded, minimum 0.75 $mm^2$ wire, up to 300 m from the controller
- Accuracy: ± 2% of reading at recommended flow
- Warranty period: 2 years

## WIRELESS HC FLOW METER BENEFITS

- Add wireless communication to any HC Flow Meter (sensor sold separately)
- Send flow data wirelessly from the sensor to the controller, without the need to run wire or dig trenches

**HC-075-FLOW-B**
(20 mm male BSP thread)
Height: 8 cm
Length: 23.2 cm
Depth: 8 cm
Weight: 0.9 kg

**HC-150-FLOW-B**
(40 mm male BSP thread)
Height: 16.2 cm
Length: 43.1 cm
Depth: 12.5 cm
Weight: 6.6 kg

**HC-100-FLOW-B**
(25 mm male BSP thread)
Height: 9.3 cm
Length: 26.2 cm
Depth: 8 cm
Weight: 1.4 kg

**HC-200-FLOW-B**
(50 mm male BSP thread)
Height: 16.2 cm
Length: 44.7 cm
Depth: 12.5 cm
Weight: 7.4 kg

WIRELESS HC FLOW METER


**HC FLOW METER MODELS**

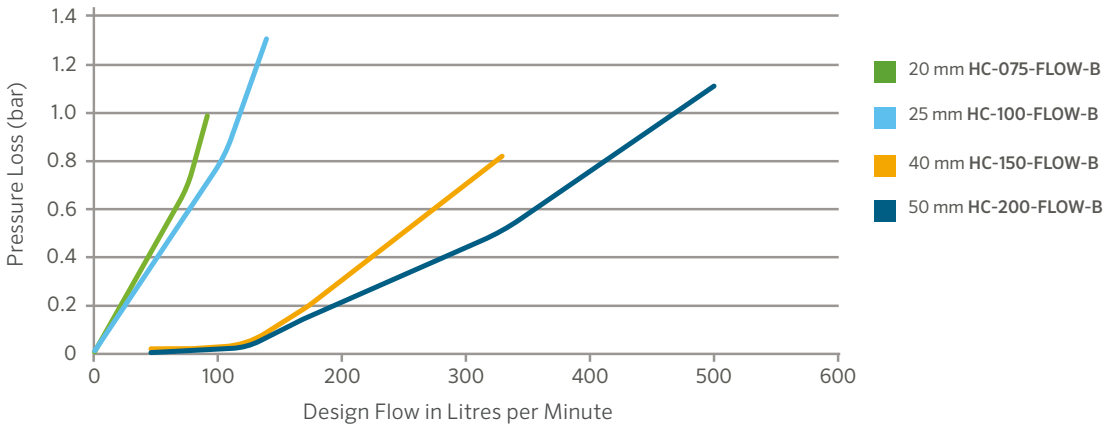
| Model | Description |
|---|---|
| W-HC-FLOW-INT | Wireless HC Flow Meter Kit, includes transmitter and receiver (international 868 MHz) |
| W-HC-FLOW-AU | Wireless HC Flow Meter Kit, includes transmitter and receiver (AU/NZ 915 MHz) |
| HC-075-FLOW-B | HC Flow Meter with 20 mm male BSP thread, $m^3$ reading |
| HC-100-FLOW-B | HC Flow Meter with 25 mm male BSP thread, $m^3$ reading |
| HC-150-FLOW-B | HC Flow Meter with 40 mm male BSP thread, $m^3$ reading |
| HC-200-FLOW-B | HC Flow Meter with 50 mm male BSP thread, $m^3$ reading |

| HC FLOW METER SPECIFICATIONS | | | | |
|---|---|---|---|---|
| | HC-075-FLOW-B (20 mm) | HC-100-FLOW-B (25 mm) | HC-150-FLOW-B (40 mm) | HC-200-FLOW-B (50 mm) |
| **Minimum flow (l/min)** | 0.83 | 1.16 | 3.33 | 7.5 |
| **Maximum recommended flow (l/min)** | 60 | 110 | 250 | 400 |
| **Maximum flow (l/min)** | 80 | 130 | 330 | 500 |
| **Dial reading ($m^3$)** | 1 pulse per 1 litre | 1 pulse per 10 litres | 1 pulse per 10 litres | 1 pulse per 10 litres |

## WIRELESS HC FLOW METER OPERATING SPECIFICATIONS

- 152 m range (line of sight) from transmitter to receiver
- Communication frequency: 868 MHz for international use; 915 MHz for use in Australia/New Zealand
- Transmitter power supply: 3 AA batteries
- Receiver power supply: 24 VAC from host controller
- Warranty period: 2 years

### HC FLOW METER PRESSURE LOSS CHART



# FLOW-CLIK™

*Sensor:* **Flow**

*Add high-flow shutoff capabilities to any irrigation controller with this simple, adjustable device.*

## KEY BENEFITS

- Automatically shuts down entire system if an overflow condition occurs, helping to protect against flood damage and erosion
- Single-button calibration to set highest flow rate
- User-adjustable timing and delay for sensor response
- Compatible with all Hunter AC-powered controllers for a variety of applications
- Multi-colour LED indicates system status and if flow is within limits

## OPERATING SPECIFICATIONS

- Recommended pressure range: 1.5 to 15.0 bar; 150 to 1,500 kPa
- Current draw (24 VAC): 0.025 A
- Switching current: 2 A maximum
- Sensor wiring: 2 x direct burial, 0.75 $mm^2$ or greater, colour-coded or marked for polarity, up to 300 m from the interface module
- Programmable start up delay: 0 to 300 seconds (allows for system hydraulics to stabilise and prevents false flow readings)
- Programmable interrupt period: 5 to 60 minutes (or option to reset manually)
- Warranty period: 5 years

## USER-INSTALLED OPTIONS

- FCT fittings for 25 mm to 100 mm pipe diameters

**Flow-Clik Sensor and Module shown with required FCT fitting for pipe installation** (sold separately)

*Compatible with:*

***Waterproof Wire Connector***
*Page 145*

SENSORS

| FLOW-CLIK | |
|---|---|
| **Model** | **Description** |
| FLOW-CLIK | Standard kit for all 24 VAC controllers. *Includes sensor and interface module, sensor requires FCT for pipe installation.* |

| REQUIRED USER-INSTALLED OPTION (SPECIFY SEPARATELY) | |
|---|---|
| **Model** | **Description** |
| FCT-100 | 1" (25 mm) Schedule 40 sensor receptacle tee |
| FCT-150 | 1½" (40 mm) Schedule 40 sensor receptacle tee |
| FCT-158 | 1½" (40 mm) Schedule 80 sensor receptacle tee |
| FCT-200 | 2" (50 mm) Schedule 40 sensor receptacle tee |
| FCT-208 | 2" (50 mm) Schedule 80 sensor receptacle tee |
| FCT-300 | 3" (80 mm) Schedule 40 sensor receptacle tee |
| FCT-308 | 3" (80 mm) Schedule 80 sensor receptacle tee |
| FCT-400 | 4" (100 mm) Schedule 40 sensor receptacle tee |

| BSP ADAPTERS FOR FCT FITTINGS | |
|---|---|
| **Diameter** | **Model** |
| 1" (25 mm) | 795700 |
| 1½" (40 mm) | 795800 |
| 2" (50 mm) | 241400 |
| 3" (80 mm) | 477800 |

**FLOW RANGE**

| Pipe Diameter | Operating Range | | | |
|---|---|---|---|---|
| | Minimum | | Suggested Maximum* | |
| | l/min | $m^3$/hr | l/min | $m^3$/hr |
| 1" (25 mm) | 7.6 | 0.45 | 64 | 3.84 |
| 1½" (40 mm) | 19 | 1.14 | 132 | 8.0 |
| 2" (50 mm) | 37.8 | 2.26 | 208 | 12.5 |
| 3" (80 mm) | 106 | 6.36 | 450 | 27.0 |
| 4" (100 mm) | 129 | 7.74 | 750 | 45.0 |

**Notes:**

* Good design practice dictates the maximum velocity not to exceed 1.5 m/sec. Suggested maximum velocity is based upon Class 200 IPS plastic pipe.

# FLOW-SYNC™

*Sensor:* **Flow**

*This cost-effective flow sensor is designed for use with commercial controllers.*

## KEY BENEFITS

- Simple-insertion flow sensor for metering and reacting to real-time flow conditions
- Provides station-level flow monitoring for reaction to high- or low-flow conditions, helping to protect against flood damage and erosion
- Compatible with Hunter ACC2 and legacy ACC and I-Core™ Controllers, ICD-SEN Sensor Decoders, Pro-C and ICC2 Centralus Communication Modules
- Easy connection up to 300 m from controller or sensor decoder
- Sensor is precalibrated for K-Factor and Offset based on pipe size, allowing for quick setup and programming within the controller

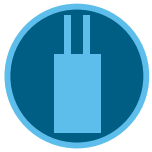
## OPERATING SPECIFICATIONS

- Recommended pressure range: 1.5 to 15.0 bar; 150 to 1,500 kPa
- Pressure loss: < 0.009 bar; 0.9 kPa
- Sensor wiring: 2 x direct burial, 0.75 mm² or greater, colour-coded or marked for polarity, up to 300 m from controller
- Warranty period: 5 years

**Impeller-type flow meter, requires FCT fitting for pipe installation** (order separately)

*Compatible with:*

***ACC2 Controllers***
*Page 126*



***ICD-SEN Decoder***
*Page 141*

***Waterproof Wire Connector***
*Page 145*



### FLOW-SYNC

| Model | Description |
|---|---|
| HFS | Hunter Flow-Sync Sensor for use with ACC2 and legacy ACC and I-Core Controllers, ICD-SEN Sensor Decoders, and Pro-C™ and ICC2 Centralus™ Communication Modules |

### REQUIRED USER-INSTALLED OPTION (SPECIFY SEPARATELY)

| Model | Description |
|---|---|
| FCT-100 | 1" (25 mm) Schedule 40 sensor receptacle tee |
| FCT-150 | 1½" (40 mm) Schedule 40 sensor receptacle tee |
| FCT-158 | 1½" (40 mm) Schedule 80 sensor receptacle tee |
| FCT-200 | 2" (50 mm) Schedule 40 sensor receptacle tee |
| FCT-208 | 2" (50 mm) Schedule 80 sensor receptacle tee |
| FCT-300 | 3" (80 mm) Schedule 40 sensor receptacle tee |
| FCT-308 | 3" (80 mm) Schedule 80 sensor receptacle tee |
| FCT-400 | 4" (100 mm) Schedule 40 sensor receptacle tee |

### BSP ADAPTERS FOR FCT FITTINGS

| Diameter | Model |
|---|---|
| 1" (25 mm) | 795700 |
| 1½" (40 mm) | 795800 |
| 2" (50 mm) | 241400 |
| 3" (80 mm) | 477800 |

### FLOW RANGE

| Pipe Diameter | Operating Range | | | |
|---|---|---|---|---|
| | Minimum | | Suggested Maximum* | |
| | l/min | m³/hr | l/min | m³/hr |
| 1" (25 mm) | 7.6 | 0.45 | 64 | 3.84 |
| 1½" (40 mm) | 19 | 1.14 | 132 | 8.0 |
| 2" (50 mm) | 37.8 | 2.26 | 208 | 12.5 |
| 3" (80 mm) | 106 | 6.36 | 450 | 27.0 |
| 4" (100 mm) | 129 | 7.74 | 750 | 45.0 |

**Notes:**

* Good design practice dictates the maximum velocity not to exceed 1.5 m/sec. Suggested maximum velocity is based upon Class 200 IPS plastic pipe.

# WFS

*Sensor:* **Flow**

*Use this sensor to retrofit flow to existing systems that cross under asphalt, concrete, or other hardscapes.*

## KEY BENEFITS

- Wireless flow sensor saves time, materials, and labour
- Simple-insertion flow sensor for monitoring and reacting to real-time flow conditions
- Provides station-level flow monitoring for reaction to high- or low-flow conditions, helping to protect against waste and damage from leaks
- Compatible with Hunter ACC2 and legacy ACC and I-Core™ Controllers as well as Pro-C™ and ICC2 Centralus™ Communication Modules for installation flexibility in a variety of settings
- Sensor is pre-calibrated for K-Factor and Offset based on pipe size, allowing for quick setup and programming within the controller
- Multi-colour LED on the receiver indicates proper communication to the transmitter, as well as remaining battery life

## OPERATING SPECIFICATIONS

- Recommended pressure range: 0 to 15.0 bar; 0 to 1,500 kPa
- Pressure loss: < 0.009 bar; 0.9 kPa
- Maximum distance sensor to receiver: 152 m
- Operating frequency: 868 MHz
- FCC and CE approved
- Warranty period: 5 years

## USER-INSTALLED OPTIONS

- FCT tee fittings for pipe installation

**WFS**

*Compatible with:*

***ACC2 Controllers***
*Page 126*

**WIRELESS FLOW SENSOR**

| Model | Description |
|---|---|
| **WFS-INT** | Wireless Flow Sensor Kit (international 868 MHz) |
| **WFS-T-INT** | Wireless Flow Sensor Kit transmitter only (international 868 MHz) |
| **WFS-R-INT** | Wireless Flow Sensor Kit receiver only (international 868 MHz) |
| **WFS-ALKBATT** | Wireless Flow Sensor alkaline battery with cage |

**REQUIRED USER-INSTALLED OPTION (SPECIFY SEPARATELY)**

| Model | Description |
|---|---|
| **FCT-100** | 1" (25 mm) Schedule 40 sensor (white) receptacle tee |
| **FCT-150** | 1½" (40 mm) Schedule 40 sensor (white) receptacle tee |
| **FCT-158** | 1½" (40 mm) Schedule 80 sensor (grey) receptacle tee |
| **FCT-200** | 2" (50 mm) Schedule 40 sensor (white) receptacle tee |
| **FCT-208** | 2" (50 mm) Schedule 80 sensor (grey) receptacle tee |
| **FCT-300** | 3" (80 mm) Schedule 40 sensor (white) receptacle tee |
| **FCT-308** | 3" (80 mm) Schedule 80 sensor (grey) receptacle tee |
| **FCT-400** | 4" (100 mm) Schedule 40 sensor (white) receptacle tee |

**FLOW RANGE**

| Wireless Flow Sensor Diameter | Operating Range | | | |
|---|---|---|---|---|
| | Minimum | | Suggested Max* | |
| | l/min | $m^3$/hr | l/min | $m^3$/hr |
| 1" (25 mm) | 7.6 | 0.45 | 64 | 3.84 |
| 1½" (40 mm) | 19 | 1.14 | 132 | 8.0 |
| 2" (50 mm) | 37.8 | 2.26 | 208 | 12.5 |
| 3" (80 mm) | 106 | 6.36 | 450 | 27.0 |
| 4" (100 mm) | 129 | 7.74 | 750 | 45.0 |

**Notes:**
* Good design practice dictates the maximum velocity not to exceed 1.5 m/sec. Suggested maximum velocity is based upon Class 200 IPS plastic pipe.

# WORK SMARTER, NOT HARDER
## *ABOVE AND BELOW*

Use the Solar Sync Sensor with the Soil-Clik Sensor to measure both climate and soil conditions. Solar Sync uses ET to adjust application amounts when irrigation is needed. Soil-Clik prevents watering when proper soil moisture levels have been reached. Together, they're the ultimate environmentally responsive solution.

### **Solar Sync**™ *Sensor Above*

- **Water-Saving:** Automatically adjusts run times based on local weather conditions
- **Responsive:** Shuts down irrigation during rainfall and freezing conditions
- **Convenient:** Wired or wireless models available

### **Soil-Clik**™ *Sensor Below*

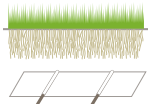
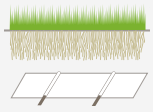
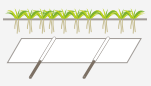
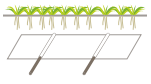
- **Water-Saving:** Measures soil moisture and prevents unnecessary irrigation
- **Easy:** Simple installation, push-button operation
- **Flexible**: Use with any Hunter AC-powered controller and most other brands


MICRO

# MICRO IRRIGATION SOLUTIONS

From ultra-durable Hunter Dripline to our innovative Root Zone Watering System, Hunter's micro irrigation solutions are designed to apply water efficiently and precisely where it's needed. Choose the combination of products best suited for your application and plant type using the chart below.

**COMMON MICRO APPLICATIONS GUIDE**

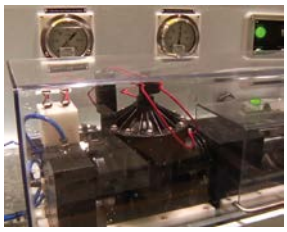
| APPLICATION | STANDARD DESIGN | ADVANCED DESIGN |
|---|---|---|
| TREES  | MLD, Emitters, Micro Sprays, HDL | HDL-COP, PLD, Eco-Wrap™, IH Risers, RZWS |
| MIXED PLANTINGS  | MLD, Micro Sprays, HDL, PLD, Single-Port Emitters | HDL-COP, Multi-Port Emitters, Eco-Wrap |
| SLOPED AREAS  | MLD, Micro Sprays, HDL-PC, HDL-R, Emitters, RZB | HDL-CV, Eco-Mat™, Eco-Wrap, HDL-COP, IH Risers, RZWS |
| TURF  | HDL-COP | Eco-Wrap, Eco-Mat |
| SUBSURFACE  | HDL-COP | Eco-Wrap, Eco-Mat |
| SPARSE PLANTING  | Emitters | IH Risers |
| DENSE PLANTING  | Micro Sprays, HDL, PLD | HDL-COP, Eco-Wrap, Eco-Mat |
| GREEN ROOFS  | Eco-Mat, Eco-Wrap | Eco-Mat, Eco-Wrap |
| POTTED PLANTS  | Single-Port Emitters, Micro Sprays | MLD |
| RECLAIMED  | MLD, Micro Sprays, Emitters | HDL-R, IH Risers, RZWS |

# CONTROL ZONE KITS
# ADVANCED FEATURES

## PCZ

| TOP FEATURES | PCZ |
|---|---|
| PREASSEMBLED FOR TIME SAVINGS | ● |
| ABOVE-GROUND INSTALLATION | |
| FILTER SENTRY™ MECHANISM | |
| ROBUST, STAINLESS STEEL SCREEN | ● |
| TOP-RATED SENNINGER™ REGULATOR | ● |
| VALVES 100% WATER-TESTED | ● |
| REGULATORS 100% WATER-TESTED | ● |
| LOW FRICTION LOSS | ● |
| RECLAIMED COMPONENTS | ● |
| CAPABILITY OF DISC FILTRATION | |
| HIGHEST FLOW OPTION (100 GPM) | |
| FLOW CONTROL | ● |
| APPLICATION | Residential |
| WARRANTY | 2 Years |

### TOTAL RELIABILITY



Every Hunter valve is water-tested to verify reliability, durability, and performance.

### DURABLE FILTER

All Hunter filters offer a stainless steel screen and low pressure loss. 1½" (38 mm) and 2" (50 mm) filter bodies offer sizes of 80-mesh (180-microns), 120 mesh (125-microns), and 150 mesh (100-microns) with a 120-mesh (125-micron) disc filter.

### ULTIMATE CONVENIENCE

Kits are preassembled to save time and labour in the field. With a highly compact design, they maximise space in the valve box.

### PRECISE REGULATION


Senninger regulators are the most trusted regulators in the industry. Each regulator is water-tested before leaving the factory to ensure years of life in the field.

# PCZ

*Make installations quick and easy using this robust, preassembled kit with stainless steel filtration and pressure regulation.*

## KEY BENEFITS

- Factory-assembled for quick and easy installation
- Valves 100% water-tested to ensure dependable operation
- Senninger regulator provides precise regulation to protect system from high pressure
- 150 mesh (100 microns) stainless steel screen for years of reliable filtration

## USER-INSTALLED OPTIONS

- Reclaimed water ID handle for PCZ-101 (P/N 269205)

## OPERATING SPECIFICATIONS

- Pressure regulation: 1.7 or 2.8 bar; 170 or 280 kPa
- Flow: 2 to 55 l/min
- Operating pressure: 1.4 to 8.0 bar; 140 to 800 kPa
- Operating temperature: up to 66°C
- 150 mesh (100 microns) stainless steel screen

## SOLENOID OPERATING SPECIFICATIONS

- Heavy-duty solenoid 24 VAC
  - 350 mA inrush current, 190 mA holding current, 60 Hz
  - 370 mA inrush current, 210 mA holding current, 50 Hz
- Warranty period: 2 years


**PCZ-101**
Height: 18 cm
Width: 7 cm
Length: 26 cm
1" (25 mm) BSP inlet x ¾" outlet

**PCZ-101 Installed**



**DRIP CONTROL ZONE KITS**

| Model | Description |
|---|---|
| **PCZ-101-25-B** | 1" (25 mm) flow control PGV Valve with HFR; 1.7 bar; 170 kPa regulator, ¾" outlet |
| **PCZ-101-40-B** | 1" (25 mm) flow control PGV Valve with HFR; 2.8 bar; 280 kPa regulator, ¾" outlet |

**PCZ CONTROL ZONE KITS: PRESSURE REQUIREMENTS BASED ON FLOW**

| System Flow | | PCZ-101-25-B (1.7 bar/170 kPa outlet) | | PCZ-101-40-B (2.8 bar/280 kPa outlet) | |
|---|---|---|---|---|---|
| | | Inlet pressure required to achieve desired outlet pressure | | | |
| l/min | m³/hr | bar | kPa | bar | kPa |
| 1.9 | 0.14 | 2.3 | 234 | 2.8 | 283 |
| 3.8 | 0.28 | 2.3 | 235 | 2.0 | 290 |
| 19.0 | 1.14 | 2.3 | 234 | 3.1 | 310 |
| 37.8 | 2.27 | 2.6 | 255 | 3.6 | 358 |
| 56.8 | 3.41 | 2.8 | 283 | 4.1 | 407 |

# FILTERS & FILTER REGULATORS

*Choose rugged filters and filter regulators for maximum performance.*

## KEY BENEFITS

- HFR-075 (Hunter Filter Regulator)
  - Compact, all-in-one filter and regulator minimise required valve box space
  - Senninger regulator provides precise regulation to protect system from high pressure
  - 150 mesh (100 microns) stainless steel screen for years of reliable filtration
  - Operating pressure: Up to 8 bar; 800 kPa
  - Wide flow range covers most drip applications
  - Warranty period: 2 years
- ¾" HY Filter
  - 150 mesh (100 microns) stainless steel screen for years of reliable filteration
  - Operating pressure: up to 8 bar; 800 kPa
  - Warranty period: 2 years
- 1", 1½", and 2" (25 mm, 40 mm, and 50 mm) HY Filter
  - Glass-filled polypropylene body for added strength and durability
  - Filter type: Disc filter, 120 mesh (125 microns)
  - Operating pressure: Up to 10 bar; 1,000 kPa
  - Large disc filtration provides longer life between cleanings
  - Warranty period: 2 years

| HUNTER FILTERS | |
|---|---|
| **Model** | **Description** |
| **HFR-075-25** | Filter regulator, ¾" inlet/outlet, 1.7 bar; 170 kPa |
| **HFR-075-40** | Filter regulator, ¾" inlet/outlet, 2.8 bar; 280 kPa |
| **HY-075** | ¾" screen filter with ¾" inlet/outlet |
| **HY-100-D-BSP** | 1" (25 mm) BSP disc filter, 10 bar; 1,000 kPa |
| **HY-151-D-BSP** | 1½" (40 mm) BSP disc filter, 10 bar; 1,000 kPa |
| **HY-201-D-BSP** | 2" (50 mm) BSP disc filter, 10 bar; 1,000 kPa |


**HFR-075**
Height: 18 cm
Width: 7 cm
Length: 16 cm
¾" inlet x ¾" outlet

**HY-075**
**HY-100**
Height: 15 cm
Width: 7 cm
Length: 13 cm

**HY-151**
Height: 23 cm
Width: 13 cm
Length: 23 cm

**HY-201**
Height: 31 cm
Width: 18 cm
Length: 30 cm

# SENNINGER™ PRESSURE REGULATORS

*Choose the most consistent and reliable pressure regulators in the industry.*

## KEY BENEFITS

- Maintain consistent preset outlet pressure to prevent damage to system components
- 100% water-tested to ensure accuracy and dependable operation
- Install above or below ground for convenience of design
- Tamper-proof construction provides reliability and long life
- Very low hysteresis and friction loss help maintain accurate regulation
- No external metal parts for excellent corrosion resistance

## OPERATING SPECIFICATIONS

- PRL (¾"):
  - Flow range: 2 to 30 l/min
  - Maximum inlet pressure*: 6.9 to 8.3 bar; 690 to 830 kPa
- PRLG:
  - Flow range: 2 to 27 l/min
  - Maximum inlet pressure*: 8.3 bar; 830 kPa
- PMR-MF (¾"):
  - Flow range: 7.5 to 75.7 l/min
  - Maximum inlet pressure*: 6.9 to 9.0 bar; 690 to 900 kPa
- Warranty period: 2 years

*Maximum recommended inlet pressure should not exceed 5.5 bar; 550 kPa above nominal model pressure

**PRL (¾") USE FOR STANDARD LOW-FLOW IRRIGATION APPLICATIONS**

| Model | Outlet Pressure | Inlet | Outlet |
|---|---|---|---|
| PRL203F3F | 1.38 bar; 138 kPa | ¾" FNPT | ¾" FNPT |
| PRL253F3F | 1.72 bar; 172 kPa | ¾" FNPT | ¾" FNPT |
| PRL303F3F | 2.07 bar; 207 kPa | ¾" FNPT | ¾" FNPT |
| PRL353F3F | 2.41 bar; 241 kPa | ¾" FNPT | ¾" FNPT |

**PRLG ¾" HOSE THREAD**

| Model | Outlet Pressure | Inlet | Outlet |
|---|---|---|---|
| PRLG253FH3MH | 1.72 bar; 172 kPa | ¾" FHT | ¾" MHT |

**PMR-MF (¾")**

| Model | Pressure | Inlet | Outlet |
|---|---|---|---|
| PMR20MF3F3FV | 1.38 bar; 138 kPa | ¾" NPT | ¾" NPT |
| PMR25MF3F3FV | 1.72 bar; 172 kPa | ¾" NPT | ¾" NPT |
| PMR30MF3F3FV | 2.07 bar; 207 kPa | ¾" NPT | ¾" NPT |
| PMR40MF3F3FV | 2.76 bar; 276 kPa | ¾" NPT | ¾" NPT |
| PMR50MF3F3FV | 3.45 bar; 345 kPa | ¾" NPT | ¾" NPT |


**PRL Pressure Regulator**
**Low-Flow**
Width: 4.8 cm
Length: 11.4 cm
¾" FNPT inlet x ¾" FNPT outlet


**PRLG Pressure Regulator**
**Low-Flow ¾" hose thread**
Width: 4.8 cm
Length: 11.4 cm
¾" FNPT inlet x ¾" FNPT outlet


**PMR-MF Pressure-Master Regulator**
**Medium-Flow**
Width: 6.4 cm
Length: 14.0 cm
¾" female inlet x ¾" female outlet

*The pressure regulator will maintain the predetermined operating pressure, provided that the inlet pressure is at least 0.35 bar; 35 kPa above the expected outlet pressure, but not exceeding the maximum operating pressure.*

# DRIPLINE SYSTEMS

*Ultra-durable Hunter Dripline solutions are easy to install and provide maximum longevity in the field. HDL and PLD work efficiently and effectively to use as little water as possible and keep plants thriving.*



1. The dripline grid is a common installation practice either at grade or subsurface. Establishing consistent laterals in dense plantings provides a quick and simple approach to irrigating a planted area.

2. Arranging the dripline through a series of plants is an accepted and reliable method of irrigation. Ensure the dripline has emission points near or around each plant.

3. **Multi-Purpose Box:**
   - 25 cm x 18 cm opening
   - Five colour options for lids

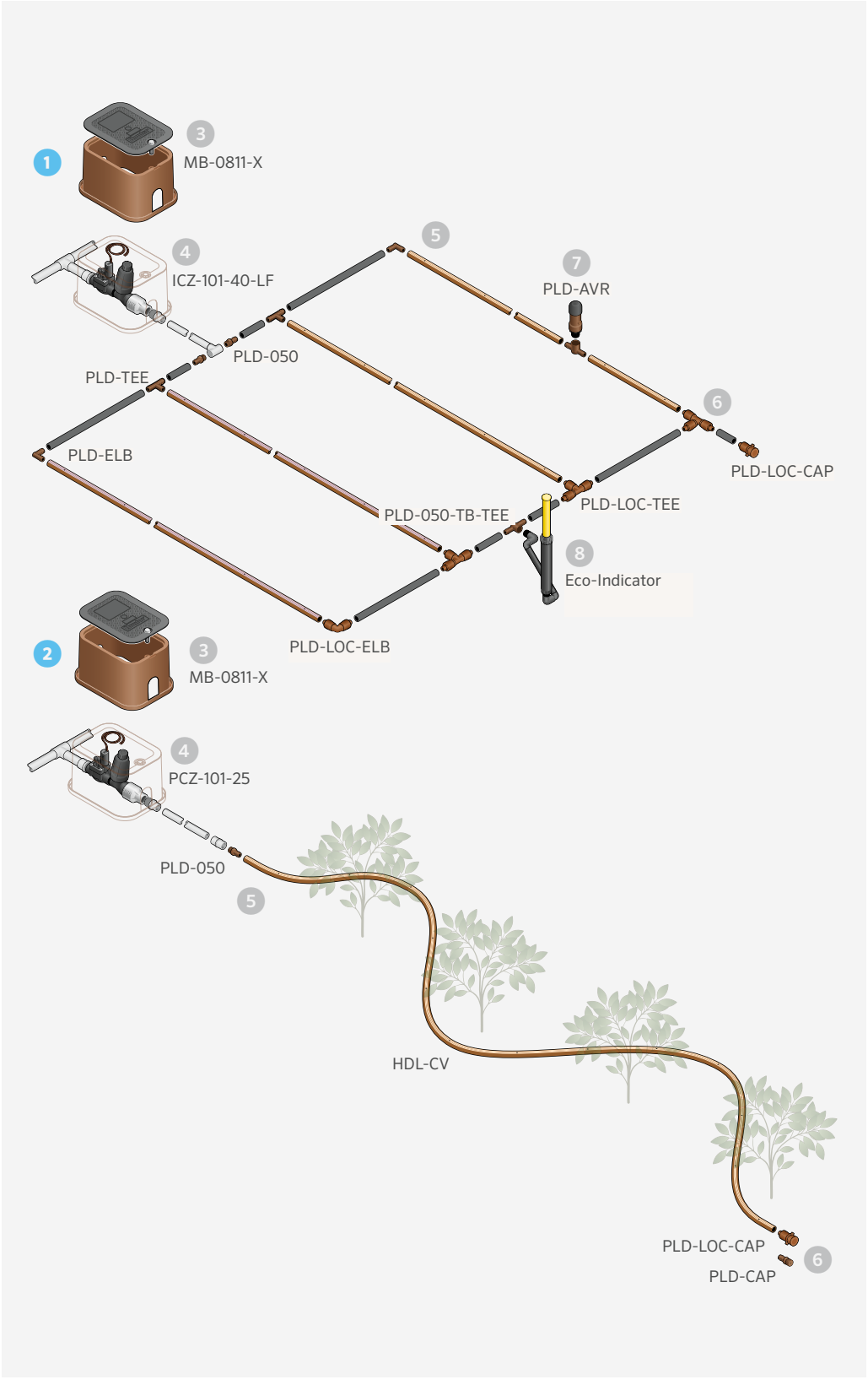
4. **Control Zone Kit:**
   - Factory-assembled for quick and easy installation
   - Low-, medium-, and high-flow kits

5. **PLD/HDL:**
   - All versions are pressure-compensating
   - Check valve options available

6. **Fittings:**
   - Double-barb holds fittings tight
   - LOC Fittings can be reused

7. **Air/Vacuum Relief Valve:**
   - Helps prevent water hammer and tubing collapse
   - Use at high point(s) in zone

8. **Eco-Indicator:**
   - Pops up at 0.85 bar; 85 kPa and shows system is running
   - Reveals when system pressure drops too low



# HDL-CV (17 MM)

*Increase drip system efficiency with pressure compensation, flow indication stripes, and a 1.8 m check height.*

## KEY BENEFITS

- Pressure-compensating emitters for consistent flow and uniform coverage
- Non-draining check valve (CV-ND) prevents low-point pooling and allows all emitters to open/close at the same time for greater system efficiency
- Check height of 1.8 m minimises system drainage and runoff
- Anti-siphon feature prevents debris from entering emitter at system shutdown
- Colour-coded stripes provide easy identification of flow
- UV resistance facilitates product longevity
- Stretch-wrapped coils stay intact and make installation quick and easy
- Superior grit tolerance provided by proprietary emitter design with multiple inlet filters, a wide turbulent labyrinth, and a full-size outlet pool

## PRODUCT SPECIFICATIONS

- Available flow rates: 1.5, 2.1, 3.4 l/hr
- Available emitter spacing: 30 cm, 45 cm, 60 cm
- Tubing dimensions: 16.76 mm x 14.22 mm (outside/inside diameter)
- Wall thickness: 1.2 mm

## OPERATING SPECIFICATIONS

- Operating range: 1 to 4.2 bar; 100 to 420 kPa
- Minimum filtration: 120 mesh (125 microns)
- Warranty period: 5 years (plus 2 additional years for environmental stress cracking)

**HDL-CV**

**Coil with Stretch Wrap**

**HUNTER DRIPLINE COLOUR CODE**

| STRIPE COLOUR | TUBING COLOUR |
|---|---|
| ● 3.4 l/hr - Black<br>○ 2.1 l/hr - Grey<br>○ 1.5 l/hr - Tan | ● HDL-CV - Dark brown tubing, pressure-compensating with check valve |

**HDL-CV**

| Model | Flow | Spacing | Length |
|---|---|---|---|
| HDL-04-12-250-CV | 1.5 l/hr | 30 cm | 75 m |
| HDL-04-12-1K-CV | | | 300 m |
| HDL-04-18-250-CV | | 45 cm | 75 m |
| HDL-04-18-1K-CV | | | 300 m |
| HDL-06-12-100-CV | 2.1 l/hr | 30 cm | 30 m |
| HDL-06-12-250-CV | | | 75 m |
| HDL-06-12-500-CV | | | 150 m |
| HDL-06-12-1K-CV | | | 300 m |
| HDL-06-18-250-CV | | 45 cm | 75 m |
| HDL-06-18-1K-CV | | | 300 m |
| HDL-06-24-250-CV | | 60 cm | 75 m |
| HDL-09-12-100-CV | 3.4 l/hr | 30 cm | 30 m |
| HDL-09-12-250-CV | | | 75 m |
| HDL-09-12-500-CV | | | 150 m |
| HDL-09-12-1K-CV | | | 300 m |
| HDL-09-18-250-CV | | 45 cm | 75 m |
| HDL-09-18-1K-CV | | | 300 m |
| HDL-09-24-250-CV | | 60 cm | 75 m |

*Compatible with:*

***Soil-Clik™ Sensor***
*Page 157*

***Eco-Indicator***
*Page 181*

***PLD Fittings***
*Page 164*

# HDL-PC & HDL-R (17 MM)

*Maximise drip system longevity with robust material construction and pressure compensation for standard and reclaimed applications.*

## KEY BENEFITS

- Pressure-compensating emitters for consistent flow and uniform coverage
- Colour-coded stripes provide easy identification of flow
- UV resistance facilitates product longevity
- Stretch-wrapped coils stay intact and make installation quick and easy
- Superior grit tolerance provided by proprietary emitter design with multiple inlet filters, a wide turbulent labyrinth, and a full-size outlet pool
- Reclaimed product (HDL-R) identified by purple stripes assists in visual identification when using non-potable water

## PRODUCT SPECIFICATIONS

- Available flow rates: 2.1, 3.4 l/hr
- Available emitter spacing: 30 cm, 45 cm, 60 cm
- Tubing dimensions: 16.76 mm x 14.22 mm (outside/inside diameter)
- Wall thickness: 1.2 mm

## OPERATING SPECIFICATIONS

- Operating range: 1 to 4.2 bar; 100 to 420 kPa
- Minimum filtration: 120 mesh (125 microns)
- Warranty period: 5 years (plus 2 additional years for environmental stress cracking)

**HDL-PC**

| Model | Flow | Spacing | Length |
|---|---|---|---|
| HDL-06-12-250-PC | 2.1 l/hr | 30 cm | 75 m |
| HDL-06-12-500-PC | | | 150 m |
| HDL-06-18-250-PC | | 45 cm | 75 m |
| HDL-09-12-250-PC | 3.4 l/hr | 30 cm | 75 m |
| HDL-09-12-500-PC | | | 150 m |
| HDL-09-18-250-PC | | 45 cm | 75 m |

**HDL-R**

| Model | Flow | Spacing | Length |
|---|---|---|---|
| HDL-06-12-250-R | 2.1 l/hr | 30 cm | 75 m |
| HDL-06-12-1K-R | | | 300 m |
| HDL-06-18-250-R | | 45 cm | 75 m |
| HDL-06-18-1K-R | | | 300 m |
| HDL-09-12-250-R | 3.4 l/hr | 30 cm | 75 m |
| HDL-09-12-1K-R | | | 300 m |
| HDL-09-18-250-R | | 45 cm | 75 m |
| HDL-09-18-1K-R | | | 300 m |

**HDL-PC**

**HDL-R** (Reclaimed)

Optional colour for reclaimed water sources, available for 17 mm only.

### HUNTER DRIPLINE COLOUR CODE

**STRIPE COLOUR**
- 3.4 l/hr - Black
- 2.1 l/hr - Grey
- Reclaimed - Purple

**TUBING COLOUR**
- HDL-PC - Light brown tubing, pressure-compensating
- HDL-R - Light brown with purple stripe, pressure-compensating, reclaimed

See **page 209** for Maximum Run Length Chart.

*Compatible with:*

***Soil-Clik***
*Page 157*

***Eco-Indicator***
*Page 181*

***PLD Fittings***
*Page 177*

# HDL-BLNK (17 MM)

*UV-resistant HDL Blank Tubing is a useful addition to any drip system.*

## KEY BENEFITS

- UV resistance facilitates product longevity
- Stretch-wrapped coils stay intact and make installation quick and easy
- Accepts Hunter PLD-LOC and 17 mm barb fittings for ease of connection
- Earth-tone tubing prevents bright spots in the landscape
- Purple stripes for reclaimed applications

## PRODUCT SPECIFICATIONS

- Tubing dimensions: 16.76 mm x 14.22 mm (outside/inside diameter)
- Wall thickness: 1.2 mm

## OPERATING SPECIFICATIONS

- Operating range: Up to 4.2 bar; 420 kPa
- Warranty period: 5 years (plus 2 additional years for environmental stress cracking)

**HDL-BLNK**

**HDL-BLNK-R**

| HDL-BLNK | | | |
|---|---|---|---|
| **Model** | **Flow** | **Spacing** | **Length** |
| **HDL-BLNK-100** | Blank tubing | | 30 m |
| **HDL-BLNK-250** | | | 75 m |
| **HDL-BLNK-500** | | | 150 m |
| **HDL-BLNK-1K** | | | 300 m |
| **HDL-BLNK-500-R** | Blank tubing (reclaimed) | | 150 m |

# HDL-COP (16 MM)

*Minimise the risk of root intrusion by adding copper to industry-leading Hunter Dripline.*

## KEY BENEFITS

- Emitters infused with copper oxide (Cu2O) provide triple protection against root intrusion
- Long-term, safe, and non-leaching solution
- Slow-draining check valve (CV) emitters prevent low-point pooling and boost system efficiency
- Pressure-compensating emitters provide consistent flow over the entire lateral length
- Anti-siphon feature prevents debris from entering emitters
- Colour-coded stripes provide easy flow identification
- UV resistance facilitates product longevity
- Stretch-wrapped coils stay intact and make installation quick and easy
- Multiple inlet filters in the emitter and a wide turbulent labyrinth provide superior grit tolerance
- Full-sized emitter outlet pool and raised wall keep debris and roots from entering the emitter

## PRODUCT SPECIFICATIONS

- Emitter spacing: 30 cm, 45 cm
- Tubing dimensions: 16.2 mm x 13.8 mm (outside/inside diameter)
- Wall thickness: 1.2 mm
- Diaphragm: Silicone

## OPERATING SPECIFICATIONS

- Available flow rates: 2.1, 3.4 l/hr
- Operating range: 1.0 to 4.2 bar; 100 to 420 kPa
- Minimum filtration: 120 mesh (125 microns)
- Warranty period: 5 years (plus 2 additional years for environmental stress cracking)
- No warranty against root intrusion

**HDL-COP**

| Model | Flow | Spacing | Length |
|---|---|---|---|
| HDL-22-30-400-COP | 2.1 l/hr | 30 cm | 400 m |
| HDL-22-45-400-COP | | 45 cm | 400 m |
| HDL-34-30-400-COP | 3.4 l/hr | 30 cm | 400 m |
| HDL-34-45-400-COP | | 45 cm | 400 m |

***Note:*** *While the use of copper does not completely remove the chance of root intrusion, it has been shown to assist in its prevention when coupled with proper irrigation scheduling.*

**HDL-COP**

**Coil with Stretch Wrap**

**HUNTER DRIPLINE COLOUR CODES**

| STRIPE COLOUR | TUBING COLOUR |
|---|---|
| 2.1 l/h – Grey<br>3.4 l/hr – Black | HDL-COP - Pressure-compensating, earth-tone copper tubing with slow-draining check valve |

See **page 209** for Maximum Run Length Charts.

*Compatible with:*

***Soil-Clik™ Sensor***
*Page 157*

***Eco-Indicator***
*Page 181*

***PLD Fittings***
*Page 164*

# PLD (16 MM)

*High-quality, pressure-compensating emitters make PLD a great choice for most landscapes.*

## KEY BENEFITS

- Pressure-compensating emitters
- Flow rates of 2.2, 3.8 l/hr
- Emitter spacing at 30 cm and 50 cm
- Use with PLD-LOC or barbed PLD Fittings
- Strong UV resistance
- Check valves keep the line charged up to 1.5 m and prevent low-point drainage
- Anti-siphon prevents debris from entering emitters when used subsurface

## OPERATING SPECIFICATIONS

- Pressure-compensating, non-draining emitters
- Operating pressure range: 1.0 to 3.5 bar; 100 to 350 kPa
- Minimum filtration: 120 mesh (125 microns)
- Warranty period: 5 years

**PLD-CV**

**PLD Installed**

**16 MM EMITTER FLOW RATE 2.2 l/hr**

| Row Spacing (m) | Emitter Spacing (m) 0.30 | 0.50 |
|---|---|---|
| **0.30** | 24 | 15 |
| **0.35** | 21 | 13 |
| **0.40** | 18 | 11 |
| **0.45** | 16 | 10 |
| **0.50** | 15 | 9 |
| **0.55** | 13 | 8 |
| **0.60** | 12 | 7 |

**16 MM EMITTER FLOW RATE 3.8 l/hr**

| Row Spacing (m) | Emitter Spacing (m) 0.30 | 0.50 |
|---|---|---|
| **0.30** | 42 | 25 |
| **0.35** | 36 | 22 |
| **0.40** | 32 | 19 |
| **0.45** | 28 | 17 |
| **0.50** | 25 | 15 |
| **0.55** | 23 | 14 |
| **0.60** | 21 | 13 |

**16 MM DRIPLINE MAX LENGTH 2.2 l/hr**

| Pressure (bar; kPa) | Emitter Spacing (m) 0.30 | 0.50 |
|---|---|---|
| **1.0; 100** | 47 | 73 |
| **2.0; 200** | 84 | 131 |
| **3.0; 300** | 104 | 162 |

**16 MM DRIPLINE MAX LENGTH 3.8 l/hr**

| Pressure (bar; kPa) | Emitter Spacing (m) 0.30 | 0.50 |
|---|---|---|
| **1.0; 100** | 35 | 54 |
| **2.0; 200** | 59 | 91 |
| **3.0; 300** | 72 | 112 |

**16 MM QUICK REFERENCE CHART l/min PER 100 M**

| Emitter (l/hr) | Emitter Spacing (m) 0.30 | 0.50 |
|---|---|---|
| **1.5** | 12.2 | 7.3 |
| **3.8** | 21.1 | 12.7 |

**Notes:**
PLD is subject to order minimums. Please contact your distributor for more information.

**PLD 16 MM – SPECIFICATION BUILDER:**
ORDER 1 + 2 + 3

| 1 Model | 2 Spacing | 3 Length | |
|---|---|---|---|
| **PLD-22** = 2.2 l/hr flow | **30 cm** | **100 = 100 m** | **CV** = Pressure-compensating, check valve |
| **PLD-38** = 3.8 l/hr flow | **50 cm** | **200 = 200 m** | |
| | | **400 = 400 m** | |

**Examples:**

**PLD-22-30-100-CV** = 2.2 l/hr dripline with 30 cm spacing in a 100 m roll

**PLD-22-50-200-CV** = 2.2 l/hr dripline with 50 cm spacing in a 200 m roll

**PLD-38-50-400-CV** = 3.8 l/hr dripline with 50 cm spacing in a 400 m roll

# PLD BARB FITTINGS (16 MM)

*Ensure a superior hold with robust acetal construction.*

## KEY BENEFITS

- Acetal material provides a secure connection
- Dual barb removes the need for clamps

## PRODUCT SPECIFICATIONS

- Use with PLD or other 16 mm dripline

## OPERATING SPECIFICATIONS

- Pressure range: up to 7 bar; 700 kPa
- Warranty period: 1 year

**PLD-CPL-16**
16 mm barb x barb

**PLD-050-16**
½" (12 mm) MPT x 16 mm barb

**PLD-ELB-16**
16 mm barb x barb elbow

**PLD-TEE-16**
16 mm barb x barb tee

**PLD-BV-16**
16 mm barb x barb ball valve

**PLD INSERT BARBS- 16 MM**

| Model | Description |
|---|---|
| PLD-CPL-16 | 16 mm barb x barb |
| PLD-050-16 | ½" MPT x 16 mm barb |
| PLD-ELB-16 | 16 mm barb x barb elbow |
| PLD-TEE-16 | 16 mm barb x barb tee |
| PLD-BV-16 | 16 mm barb x barb ball valve |
| PLD-075-16 | ¾" MPT x 16 mm barb |

# PLD LOC FITTINGS (16-18 MM)

*LOC Fittings are compatible with any nominal ½" tubing and dripline for quicker installs and easier repairs.*

## KEY BENEFITS

- Glass-filled polypropylene for added durability
- Thread lock connection method provides a secure connection while still allowing flexibility for service and system changes

## PRODUCT SPECIFICATIONS

- Use with 16 to 18 mm dripline or tubing
- Install with PLD-IAC/PLD-IAE grommet and a 17.5 mm spade drill bit

## OPERATING SPECIFICATIONS

- Operating pressure range: Up to 10 bar; 1,000 kPa
- Warranty period: 2 years

**PLD-LOC 075**
¾" male pipe thread x LOC

**PLD-LOC 050**
½" male pipe thread x LOC

**PLD-LOC CAP**
End cap x LOC

**PLD-LOC ELB**
Locking elbow

**PLD-LOC CPL**
Locking coupler

**PLD-LOC FHS**
¾" female hose swivel x LOC

**PLD-LOC TEE**
Locking tee



# PLD BARB FITTINGS (17 MM)

*Acetal construction holds vinyl and PE tubing for an ideal low-cost choice when installing dripline.*

## KEY BENEFITS

- Acetal material provides a secure connection
- Dual barb removes the need for clamps

## PRODUCT SPECIFICATIONS

- Use with HDL or other 17 mm dripline
- Install with PLD-IAC/PLD-IAE grommet and a 17.5 mm spade drill bit

## OPERATING SPECIFICATIONS

- Operating pressure range: up to 7 bar; 700 kPa
- Warranty period: 1 year

**PLD-050**
½" MPT x 17 mm barb

**PLD-ELB**
17 mm barb elbow

**PLD-075**
¾" MPT x 17 mm barb

**PLD-CPL**
17 mm barb coupling

**PLD-CAP**
17 mm barb x ½" MPT with cap

**PLD-075-TB-TEE**
17 mm barb tee x ¾" thread

**PLD-BV**
17 mm barb shut-off valve

**PLD-TEE**
17 mm barb tee

**PLD-075-TB-ELB**
¾" FPT x 17 mm barb elbow

**PLD-050-TB-TEE**
½" FPT x 17 mm barb tee

**PLD-IAC**
(with *grommet*)
Insert adapter x 17 mm coupling

**PLD-IAE**
(with *grommet*)
Insert adapter x 17 mm elbow

**PLD-CRS**
17mm barb cross

# SUBSURFACE SYSTEMS

*Subsurface drip irrigation systems can be extremely effective at saving water and encouraging root growth. Hunter is the only manufacturer to offer three tiers of top-quality subsurface irrigation solutions: HDL-COP Dripline, the Eco-Wrap™ System, and the Eco-Mat™ System.*



1. **Eco-Mat** offers 30% greater efficiency than any other bare subsurface dripline product. It installs under the soil like a blanket of water, ready for the roots to absorb what they need.

2. **Eco-Wrap** provides resistance to root intrusion while enhancing the capillary action and efficiency of the system. Eco-Wrap combines the quality of HDL with the wicking properties of polyethylene fleece.

3. **Entry Manifold:**
   - PVC (for stability) or polyethylene
   - Assemble with either 17 mm or LOC Fittings

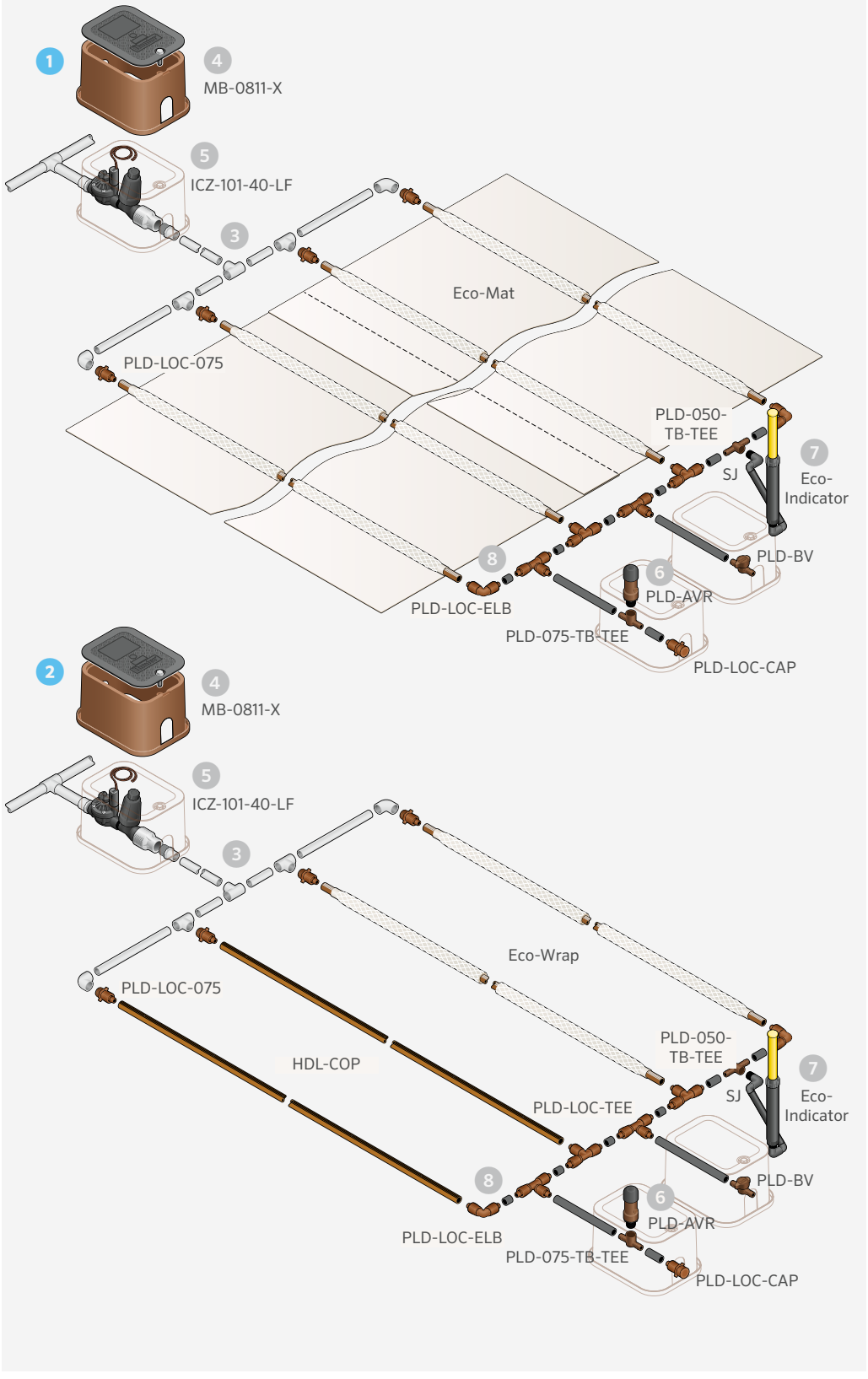
4. **Multi-Purpose Box:**
   - 25 cm x 18 cm opening
   - Five colour options for lids

5. **Control Zone Kit:**
   - Factory-assembled for quick and easy installation
   - Low-, medium-, and high-flow kits

6. **Air/Vacuum Relief Valve:**
   - Helps prevent water hammer and tubing collapse
   - Use at high point(s) in zone

7. **Eco-Indicator:**
   - Pops up at 0.85 bar; 85 kPa and shows system is running
   - Reveals when system pressure drops too low

8. **Fittings:**
   - Double-barb holds fittings tight
   - LOC Fittings can be reused



# ECO-MAT™

*Irrigate plants below the root zone for maximum efficiency with a combination of fleece-wrapped dripline and fleece blanket.*

## KEY BENEFITS

- Anti-siphon feature and fleece wrap protect against debris and root intrusion
- Saves 20 to 40% more water than standard products due to superior capillary movement of water to the entire root zone, promoting healthier root growth
- Non-draining, pressure-compensating emitters open/close simultaneously, maximising efficiency
- Check height of 1.5 m minimises system drainage and runoff

## PRODUCT SPECIFICATIONS

- Flow rate: 2.2 l/hr; 0.13 $m^3$/hr
- Emitter spacing: 30 cm
- Lateral row spacing: 35 cm
- Product width: 0.80 m
- Roll length: 16 mm = 100 m; 17 mm = 90 m
- Tubing dimensions: 0.660" x 0.560" (outside/inside diameter)
- Accepts 16/17 mm barb (depending on Eco-Mat selection) or LOC Fittings
- Water-holding capacity: 1.89 l/$m^3$
- Approximate coverage per roll: 100 m roll = 75 $m^2$; 90 m roll = 67 $m^2$
- Example calculation based on area 12 m x 24 m:

$$\text{Roll Qty.} = \frac{\text{Irrigated landscape area}}{\text{Area of roll coverage}} = \frac{288\ m^2}{67\ m^2} = 4.3 \text{ (round up to 5 rolls)}$$

## OPERATING SPECIFICATIONS

- Operating range: 1.0 to 3.5 bar; 100 to 350 kPa
- Minimum filtration: 120 mesh (125 microns)
- Air relief recommended for sloping conditions greater than 1.5 m
- Recommended installation depth: turf (10 to 15 cm); other (10 to 30 cm)
- May use in conjunction with the Eco-Wrap™ System
- Warranty period: 5 years

Eco-Mat Installed

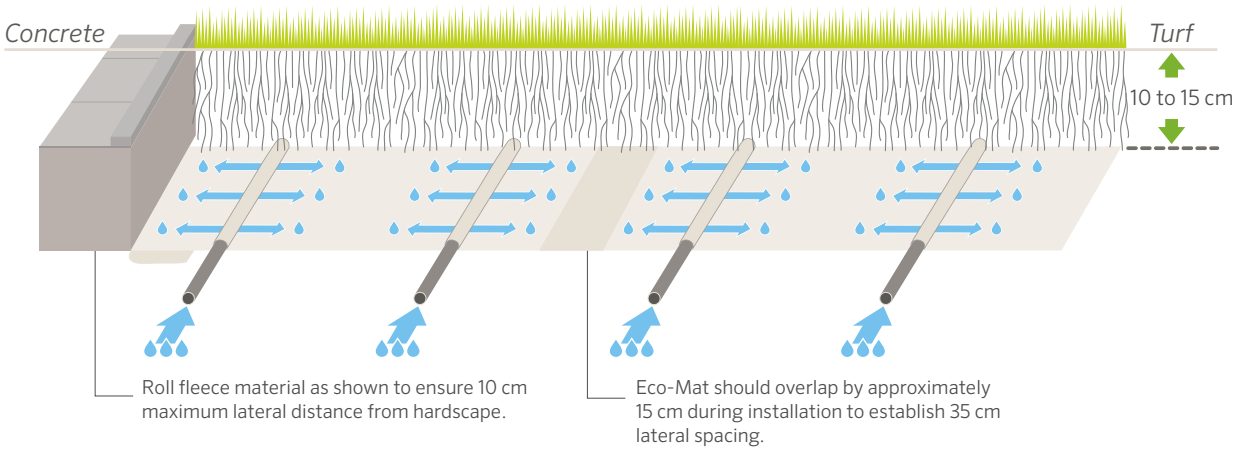
**ECO-MAT**

| Model | Description |
|---|---|
| ECO-MAT-16 | PLD (16 mm) fleece drip mat, 100 m roll |
| ECO-MAT-17 | HDL (17 mm) fleece drip mat, 90 m roll |

*Compatible with:*

***Soil-Clik***
*Page 157*

***Eco-Indicator***
*Page 181*



# ECO-WRAP™

*Irrigate more efficiently than blank dripline with fleece-wrapped dripline.*

## KEY BENEFITS

- Perfect for narrow areas that are difficult to irrigate with standard methods
- Anti-siphon feature and fleece wrap protect against debris and root intrusion
- Saves 20 to 40% more water than standard products due to superior capillary movement of water to the entire root zone, promoting healthier root growth
- Non-draining, pressure-compensating emitters open/close simultaneously, maximising efficiency
- Check height of 1.5 m minimises system drainage and runoff

## PRODUCT SPECIFICATIONS

- Flow rate: 2.1 l/hr
- Emitter spacing: 30 cm
- Tubing dimensions: 0.660" x 0.560" (outside/inside diameter)
- Roll length: 16 mm = 100 m; 17 mm = 90 m
- Accepts 16 mm barb or LOC Fittings

## OPERATING SPECIFICATIONS

- Operating range: 1.0 to 3.5 bar; 100 to 350 kPa
- Minimum filtration: 120 mesh (125 microns)
- Air relief recommended for sloping conditions greater than 1.5 m
- Recommended installation depth: turf (10 to 16 cm); other (10 to 30 cm)
- Compatible with the Eco-Mat™ System
- Warranty period: 5 years

**MAXIMUM RUN LENGTH FOR ECO-MAT AND ECO-WRAP**

| Pressure (bar; kPa) | Length (m) |
|---|---|
| 1.0; 100 | 52 |
| 1.5; 150 | 75 |
| 2.0; 200 | 95 |
| 2.5; 250 | 106 |
| 3.5; 350 | 126 |
| 4.0; 400 | 130 |

**Eco-Wrap**

**ECO-WRAP**

| Model | Description |
|---|---|
| ECO-WRAP-16 | PLD (16 mm) fleece drip wrap, 100 m roll |
| ECO-WRAP-17 | HDL (17 mm) fleece drip wrap, 75 m roll |

**Eco-Wrap Installed**

*Compatible with:*

***Soil-Clik***
*Page 157*

***Eco-Indicator***
*Page 181*

# ECO-INDICATOR

*Confirm system operation and adequate pressure with this handy visual device.*

## KEY BENEFITS

- Visible bright yellow or reclaimed purple riser stem and cap indicate when system is in operation
- Stem pops up when pressure exceeds the threshold and assists in confirming low pressures if not raised
- Connects via bottom or side inlet ports for easy installation; side inlet port is available on 30 cm version

## OPERATING SPECIFICATIONS

- ECO-ID:
  - Operating pressure: up to 5 bar; 500 kPa
  - Indication of system operation: above 0.8 bar; 80 kPa
  - Warranty period: 2 years
- ECO-ID-12/ECO-ID-12-**R**:
  - Operating pressure: up to 7 bar; 700 kPa
  - Indication of system operation: above 1 bar; 100 kPa
  - Warranty period: 5 years

## USER-INSTALLED OPTIONS (FOR 30 CM ECO-INDICATOR)

- Drain check valve (up to 3 m of elevation: P/N 437400SP)
- SJ Swing Joint: SJ-512 (½" threaded x 30 cm length)

**ECO-INDICATOR**

| Model | Description |
|---|---|
| ECO-ID | 15 cm Eco-Indicator |
| ECO-ID-12 | 30 cm Eco-Indicator |
| ECO-ID-12-**R** | 30 cm Eco-Indicator, Reclaimed |

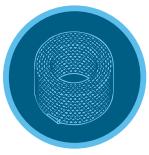
**Eco-Indicator Installed**

**ECO-ID**
Retracted height: 24 cm
Pop-up height: 15 cm
Exposed diameter: 3 cm
Inlet size: ½"


[A] **ECO-ID-12**
[B] **ECO-ID-12-R**
Retracted height: 41 cm
Pop-up height: 30 cm
Exposed diameter: 5.7 cm
Inlet size: ½

*Compatible with:*

***Eco-Mat™ System***
*Page 179*



***Eco-Wrap™ System***
*Page 180*

***HDL and PLD Dripline***
*Page 171 to 175*

# SUPPLY TUBING

*UV-resistant polyethylene makes this 17.8 mm X 15.2 mm solution a useful addition to drip systems.*

## KEY BENEFITS

- Thick wall and UV resistance provide durability and longevity
- Kink resistance for added flexibility and quicker installation

## PRODUCT SPECIFICATIONS

- 17.8 mm x 15.2 mm (outside x inside diameter)

## OPERATING SPECIFICATIONS

- 0 to 4.1 bar; 0 to 410 kPa
- Warranty period: 2 years

**17 mm PE Tubing**

| SUPPLY TUBING (THICK-WALLED POLYETHYLENE) | |
|---|---|
| **Model** | **Description** |
| TWPE-700-100 | ½" PE tubing - 30 m |
| TWPE-700-250 | ½" PE tubing - 75 m |
| TWPE-700-500 | ½" PE tubing - 150 m |

**Example:**
**TWPE-700-250** = 17 mm polyethylene tubing in a 76 m roll

# MLD

*Use this 6 mm dripline solution for tight spaces and raised planters.*

## KEY BENEFITS

- Superior flexibility makes MLD an excellent choice for small spaces and raised containers
- Properly irrigates without being intrusive to the landscape

## PRODUCT SPECIFICATIONS

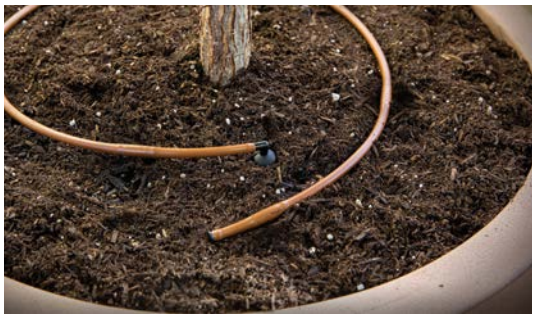
- Colours: brown or black polyethylene
- Emitter spacing: 15 cm or 30 cm
- Coil size: 30 m
- 6.4 mm x 4.5 mm (outside/inside diameter)
- Use with 6 mm barb fittings

## OPERATING SPECIFICATIONS

- Pressure range: 0.7 to 2.8 bar; 70 to 280 kPa
- Minimum filtration: 150 mesh (120 microns)
- Maximum run lengths: 15 cm = 4.6 m; 30 cm = 9.2 m
- MLD flow chart; **see page 209**
- Warranty period: 2 years

**MLD**

**MLD Installed**



| MLD – SPECIFICATION BUILDER: ORDER 1 + 2 + 3 + 4 | | | |
|---|---|---|---|
| **1** Model | **2** Spacing | **3** Length | **4** Options |
| **MLD-05** | **06** = 15 cm<br>**12** = 30 cm | **100** = 30 m | **BL** = Black<br>**(blank)** = Brown |

**Example:**
**MLD-05 -12-100** = 1.9 l/hr mini dripline with 30 cm spacing in a 30 m roll, brown

# DISTRIBUTION TUBING

*Add stability and flexibility to any system when using Point-Source Emitters or Micro Sprays.*

## KEY BENEFITS

- High-quality vinyl or polyethylene securely connects to acetal (6 mm) fittings
- Vinyl is more flexible, but it softens in high heat and should be used in cooler climates
- Polyethylene performs well in warmer climates

## PRODUCT SPECIFICATIONS

- Material: Polyethylene or vinyl
- Coil sizes: 30 m, 75 m, and 300 m

## OPERATING SPECIFICATIONS

- Operating pressure range: Up to 4.1 bar; 410 kPa
- Warranty period: 2 years

**6 mm Tubing**

**6 MM TUBING – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3

| 1 Model | 2 Tubing Diameter | 3 Length |
|---|---|---|
| **HQPE** = Polyethylene tubing | **250** = 6 mm barb | **100** = 30 m |
| **HQV** = Vinyl tubing | | **250** = 75 m |
| | | **1K** = 300 m |

**Example:**
**HQPE-250-1K** = 6 mm polyethylene tubing in a 300 m roll

# 6 MM FITTINGS

*Ensure a superior hold with robust acetal construction.*

## KEY BENEFITS

- Acetal material provides a secure connection
- Goof plug lays flat to help prevent leaking

## PRODUCT SPECIFICATIONS

- Fits Hunter MLD and Distribution Tubing

## OPERATING SPECIFICATIONS

- Pressure range: Up to 4 bar; 400 kPa
- Warranty period: 2 years

**QB-TEE**
6 mm barb tee

**QB-ELB**
6 mm barb elbow

**QB-CPL**
6 mm barb coupling

**QB-CRS**
6 mm barb cross

**GP-025**
Goof plug

**6 mm Barb Fittings**

*Use with MLD or any vinyl or polyethylene 6 mm tubing, UV-stabilised materials, and durable single-barb connection.*

# RZWS

*Deliver water across all levels of the root zone for high-efficiency subsurface irrigation of trees and shrubs.*

## KEY BENEFITS

- Patented StrataRoot™ Baffles divert water to all levels of the root zone while adding strength to the unit
- Durable locking cap for vandal resistance
- Pressure-compensating bubbler for accurate water flow
- Built-in Hunter Swing Joint for direct installation to ½" PVC fitting
- Preassembled for fast installation

## OPERATING SPECIFICATIONS

- Bubbler flow rates: 0.9 l/min or 1.9 l/min
- Recommended pressure range: 1.0 to 4.8 bar; 100 to 480 kPa
- Warranty period: 2 years

## FACTORY-INSTALLED OPTIONS

- Hunter check valve (HCV)
- Locking reclaimed water purple cap

## USER-INSTALLED OPTIONS

- Fabric sleeve to prevent soil intrusion in sandy areas for 45 cm and 90 cm models (P/N RZWS-SLEEVE)
- Replacement cap for 45 and 90 cm models (P/N 913300SP)
- Locking reclaimed purple cap for 45 and 90 cm models (P/N 913301SP)
- Reclaimed water purple cap for 25 cm model (P/N RZWS10-RCC)

**RZWS-10**
Diameter: 5.1 cm
Length: 25 cm

**RZWS-18**
Tube diameter: 7.6 cm
Cap diameter: 12 cm
Length: 45 cm

**RZWS-36**
Tube diameter: 7.6 cm
Cap diameter: 12 cm
Length: 90 cm

**RZWS Patented StrataRoot Baffles**

**Reclaimed models available (Add -R to model number)**

**RZWS – SPECIFICATION BUILDER:** Order 1 + 2 + 3

| 1 Model | 2 Bubbler Flow Rate | 3 Options |
|---|---|---|
| **RZWS-10** = 25 cm Root Zone Watering System | **25** = 0.9 l/min | **(blank)** = No option |
| **RZWS-18** = 45 cm Root Zone Watering System | **50** = 1.9 l/min | **CV** = Check valve |
| **RZWS-36** = 90 cm Root Zone Watering System | **(blank)** = No bubbler or swing joint | **R** = Reclaimed cap |
| | | **CV-R** = Check valve with reclaimed cap |

**Examples:**
**RZWS-18 -25-CV** = 45 cm Root Zone Watering System at 0.9 l/min, with check valve
**RZWS-10-50-R** = 25 cm Root Zone Watering System at 1.9 l/min, with reclaimed cap
**RZWS-36-25-CV-R** = 90 cm Root Zone Watering System at 0.9 l/min, with check valve and reclaimed cap

**ADDITIONAL OPTION (SPECIFY SEPARATELY)**

**RZWS-SLEEVE** = Field-installed sleeve made from filter fabric

# RZWS-E

*Cultivate stronger, deeper roots by delivering water and oxygen directly to the root zone of trees and shrubs.*

## KEY BENEFITS

- Top serviceable cap design
- Pressure-compensating bubbler for accurate water flow
- Built-in Hunter Swing Joint for direct installation to ½" PVC fitting
- Preassembled for fast installation

## OPERATING SPECIFICATIONS

- Bubbler flow rates: 0.9 l/min or 1.9 l/min
- Recommended pressure range: 1.0 to 4.8 bar; 100 to 480 kPa
- Warranty period: 2 years

**RZWS-E – SPECIFICATION BUILDER:** Order 1 + 2

| 1 Model | 2 Bubbler Flow Rate |
|---|---|
| **RZWS-E-18** = 45 cm Root Zone Watering System | **25** = 0.9 l/min |
| **RZWS-E-36** = 90 cm Root Zone Watering System | **50** = 1.9 l/min |

**Examples:**
**RZWS-E-18-50** = 45 cm Root Zone Watering System, 1.9 l/min bubbler
**RZWS-E-36-25** = 90 cm Root Zone Watering System, 0.9 l/min bubbler

**RZWS-E-18**
Diameter: 7.6 cm
Length: 45 cm

**RZWS-E-36**
Diameter: 7.6 cm
Length: 90 cm

# SOFT PIPE SYSTEMS

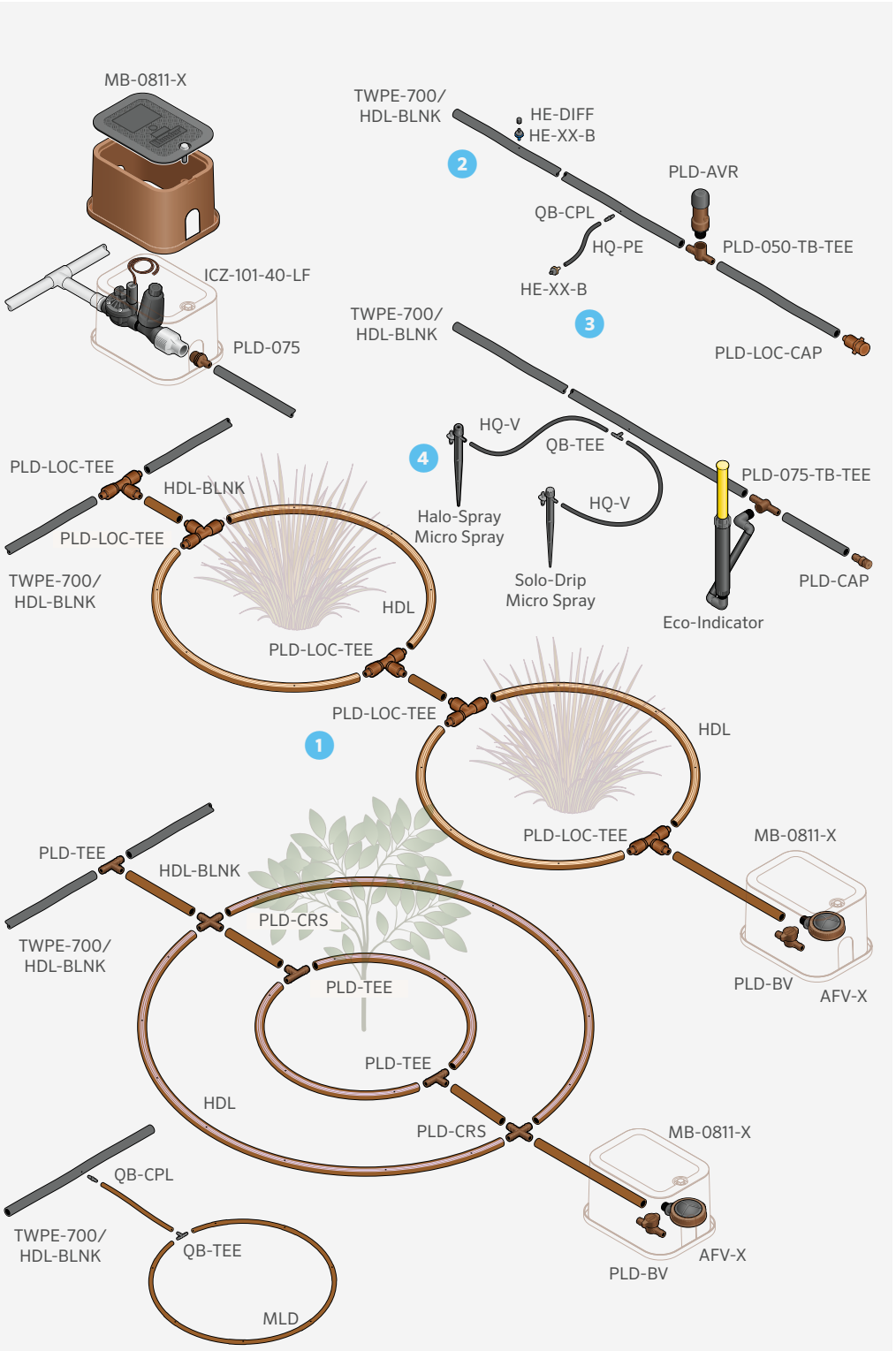
*Using soft pipe to distribute irrigation water is acceptable in both commercial and residential applications. Polyethylene tubing is used in place of PVC and may be 1", ¾", or ½". Hunter offers a full suite of products that are compatible with soft pipe systems.*

**1 Tree and Shrub Rings:**
- Convenient and efficient way to irrigate sparse plantings
- Use HDL or MLD to form the irrigation ring
- Connect with LOC Fittings for faster installation

**2 6 mm PE Tubing:**
- Use HDL-BLNK to distribute water
- Use 6 mm PE polyethylene (HQPE) or vinyl (HQV) to connect to emitters and micro sprays

**3 Point-Source Emitters:**
- Barbed emitters insert directly into PE tubing or at the end of 6 mm vinyl/PE
- Colour-coded flows (2, 4, 8, 15, 23 l/hr)

**4 Micro Spray Stakes:**
- Use when higher flows are needed (0 to 114 l/hr)
- Throw water from 0 m to 3.6 m



# HARD PIPE SYSTEMS

*From multi-port emitters to micro sprays, Hunter offers a wide variety of products and accessories that are designed to complement hard pipe systems.*

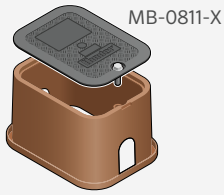
**1 IH Risers:**
- Ultra-durable point-to-point emitters
- Built-in check valve screen makes them great for slopes
- Wide variety of flows

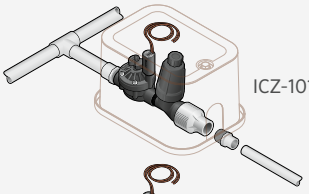
**2 Point-Source Emitters:**
- Colour-coded flows (2, 4, 8, 23 l/hr)
- HEB (½" threaded emitter bubblers install directly onto ½" risers)
- HE-T (10-32 threaded emitters install onto rigid risers)

**3 Multi-Port Emitters:**
- Colour-coded flows (0-119 l/hr)
- Swivel barbs for directional flow
- Install directly onto ½" risers

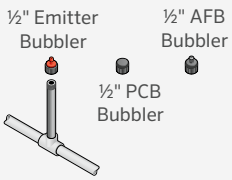
**4 Micro Sprays:**
- Ideal for higher flows (0-114 l/hr)
- Diameter of throw (0-3.4 m)
- Install directly onto rigid risers or on ¼" tubing

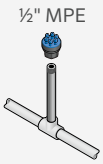
**5 Root Zone Watering System:**
- For deep root irrigating
- Allows oxygen to penetrate the soil
- Encourages healthier root growth

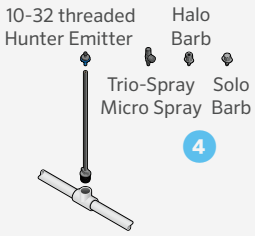


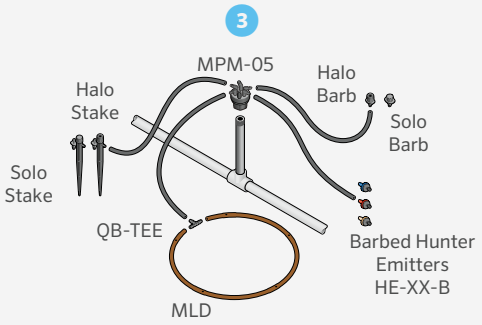



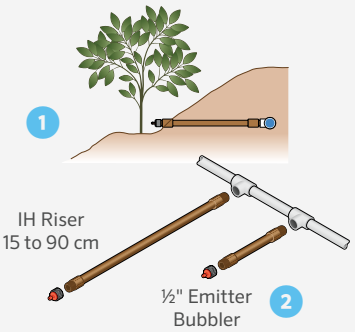


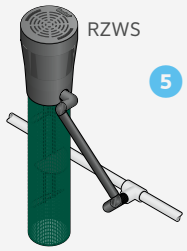



# POINT-SOURCE EMITTERS

*Ensure accurate irrigation for mixed and sparse plantings with a wide range of flow rates.*

## KEY BENEFITS

- Pressure-compensating for consistent and reliable flow
- Colour-coded by flow for easy identification in the field
- Self-flushing diaphragm
- Earth-tone colours blend in well with the surrounding environment
- Three inlet variations: 6 mm barb, 10-32 thread, ½" FPT
- Coined edges for easy grip
- Self-piercing barb for simple, no-tool installation
- Optional diffuser cap to gently distribute water at high flow

## OPERATING SPECIFICATIONS

- Recommended pressure range: 1.4 to 3.5 bar; 140 to 350 kPa
- Minimum filtration: 150 mesh (100 microns)
- Warranty period: 2 years

**½" FEMALE THREAD (BROWN BASE) WITH CHECK VALVE SCREEN**

| | Model | Inlet Type | Flow (l/hr) |
|---|---|---|---|
| Blue | HEB-05-CV | ½" female thread | 2.0 |
| Black | HEB-10-CV | ½" female thread | 4.0 |
| Red | HEB-20-CV | ½" female thread | 8.0 |
| Tan | HEB-40-CV | ½" female thread | 15.0 |
| Orange | HEB-60-CV | ½" female thread | 23.0 |

**EMITTER MODEL CHART**

| | Model | Inlet Type | Flow (l/hr) |
|---|---|---|---|
| Blue | HE-050-B | Self-piercing barb | 2.0 |
| Black | HE-10-B | Self-piercing barb | 4.0 |
| Red | HE-20-B | Self-piercing barb | 8.0 |
| Tan | HE-40-B | Self-piercing barb | 15.0 |
| Orange | HE-60-B | Self-piercing barb | 23.0 |
| Blue | HE-050-T | 10-32 thread | 2.0 |
| Black | HE-10-T | 10-32 thread | 4.0 |
| Red | HE-20-T | 10-32 thread | 8.0 |
| Tan | HE-40-T | 10-32 thread | 15.0 |
| Orange | HE-60-T | 10-32 thread | 23.0 |
| Blue | HEB-05 | ½" female thread | 2.0 |
| Black | HEB-10 | ½" female thread | 4.0 |
| Red | HEB-20 | ½" female thread | 8.0 |
| Tan | HEB-40 | ½" female thread | 15.0 |
| Orange | HEB-60 | ½" female thread | 23.0 |

**DIFFUSER CAP**
(HE-DIFF)
Use for flows higher than 8.0 l/hr to diffuse the water and prevent erosion

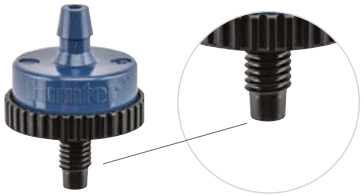
**½" FEMALE THREAD**
Brown base matches IH Risers and blends into the landscape

**SCREEN-CV**
Filter screen with 3.6 m check valve

**Inlet Options**

① Self-piercing barb

② 10-32 thread



③ ½" female thread

SOFT AND HARD PIPE SYSTEMS

# IH RISERS

*Simplify point-to-point irrigation with vandal-resistant, heavy-duty IH Risers.*

## KEY BENEFITS

- Heavy-duty, military-grade, vandal-resistant design
- Made of flexible PVC for durability
- Brown components blend in with the landscape
- Purple fittings available for reclaimed water applications
- Accepts any ½" FPT emitter
- Ideal for slope applications
- At-grade or below-grade installation
- Available in multiple lengths for easy assembly
- Available as components for custom lengths

## OPERATING SPECIFICATIONS

- Maximum flow: 26.5 l/min
- Maximum pressure: 4.1 bar; 410 kPa
- Warranty period: 2 years

**IH Risers – SPECIFICATION BUILDER:** ORDER 1 + 2 + 3

| 1 Model | 2 Riser Length | 3 Fitting Options |
|---|---|---|
| **IH-RISER** | **06** = 15 cm riser<br>**12** = 30 cm riser<br>**18** = 45 cm riser<br>**24** = 60 cm riser<br>**36** = 90 cm riser | **(blank)** = Brown<br>**R** = Reclaimed (purple fitting) |

**Example:**
**IH-RISER-12** = 30 cm flexible PVC riser with preglued ½" fittings

**IH RISER COMPONENTS (SOLD SEPARATELY)**

| Model | Description |
|---|---|
| SCREEN-CV | Filter screen with 3.6 m check valve |
| IH-FIT-3850 | ⅜" x ½" MPT IH fitting |
| IH-FIT-3850-R | ⅜" x ½" MPT IH fitting (reclaimed) |
| IH-250 | 75 m length of flexible PVC irrigation hose |

## RECOMMENDED GLUES FOR FLEXIBLE PVC

- IPS® Weld-On®:
  - P-68™ primer (recommended for PVC fittings only)
  - P-70™ primer (may be used, but P-68 is suggested)
  - 795™ Flex PVC cement
- Christy's®:
  - Purple Primer® or Red Hot Clear Primer® (fittings only)
  - Flex Pro PVC pipe cement
  - Red Hot Blue Glue® (not specialised for flexible PVC)

**IH RISERS**

**SCREEN-CV**
Filter screen with 3.6 m check valve

**IH-FIT-3850, IH-FIT-3850-R**
⅜" x ½" MPT IH fitting

**IH-250**
Flexible PVC for creating headers or custom risers

*Compatible with:*

***Point-Source Emitters***
*Page 188*

***Bubblers***
*Page 88*

***Multi-Port Emitters***
*Page 190*

# MULTI-PORT EMITTERS

*Use these emitters to irrigate groups of plants effectively from one source.*

## KEY BENEFITS

- Six pressure-compensating emitter ports provide consistent and reliable flow
- Colour-coded by flow for easy identification
- Earth-tone colours blend in with surrounding landscape
- Swivel elbows assist in placing water directly to plant
- MPM (Multi-Port Manifold) provides unrestricted flow for each outlet

## PRODUCT SPECIFICATIONS

- Available in ½" FNPT
- Available flows: 2, 4, 8 l/hr
- PVC cap plugs port when not being used

## OPERATING SPECIFICATIONS

- Pressure range: 1.4 to 3.5 bar; 140 to 350 kPa
- Minimum filtration: 150 mesh (100 microns)
- Warranty period: 2 years

**MULTI-PORT EMITTER MODEL CHART**

| | Model | Flow (l/hr) |
|---|---|---|
| Blue | MPE-05 | 2.0 |
| Black | MPE-10 | 4.0 |
| Red | MPE-20 | 8.0 |
| Grey | MPM-050 | N/A |

**Multi-Port Emitter**

**Multi-Port Manifold**
(MPM-050)
Unrestricted flow through outlets as indicated by grey colour. Use with 6 mm distribution tubing and a barbed emitter at the end (available in ½" FPT). Allows water to be directed to as many as six different locations.

**Emitter Caps**
(MPE-CAPS)
Plug unused 6 mm barbed emitter outlets. Use with Hunter Multi-Port Emitters.

# RIGID RISERS

*These risers maintain their stiffness even when used with micro sprays, making them a perfect choice for high-throw applications.*

## KEY BENEFITS

- Provide a rigid connection for emitters and micro sprays
- Increase the height of sprays for flower beds

## PRODUCT SPECIFICATIONS

- Inlet configurations: blank, 6 mm barb, ½" FNPT

## OPERATING SPECIFICATIONS

- Pressure range: 1.4 to 4.1 bar; 140 to 410 kPa
- Warranty period: 1 year

**30 cm Rigid Riser**

**RIGID RISER MODEL CHART**

| Model | Description |
|---|---|
| RR12 | 30 cm rigid riser |
| RR12-T | 30 cm rigid riser with ½" threaded base |
| RR12-B | 30 cm rigid riser with 6 mm barb base |

# MICRO SPRAYS

*Apply water accurately for small-area coverage.*

## SOLO-DRIP

- Eight streams of water for thorough coverage
- Adjustable cap for flow and radius adjustment

**SOLO-DRIP PERFORMANCE DATA**

| Pressure (bar; kPa) | Flow (l/hr) | Throw Diameter (m) |
|---|---|---|
| 1.0; 100 | 0–40 | 0–0.5 |
| 1.5; 150 | 0–50 | 0–0.6 |
| 2.0; 200 | 0–60 | 0–0.8 |

**Note:** Adjustable to maximum (approx. 20 clicks)

## HALO-SPRAY

- Adjustable umbrella of water
- Adjustable cap for flow and radius adjustment

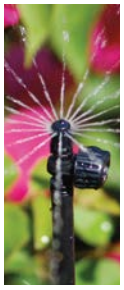
**HALO-SPRAY PERFORMANCE DATA**

| Pressure (bar; kPa) | Flow (l/hr) | Throw Diameter (m) |
|---|---|---|
| 1.0; 100 | 0–52 | 0–1.7 |
| 1.5; 150 | 0–65 | 0–2.8 |
| 2.0; 200 | 0–74 | 0–3.4 |

**Note:** Adjustable to maximum (approx. 14 clicks)

## TRIO-SPRAY

- Full-, half-, and quarter-circle configurations
- Adjustable cap for flow and radius adjustment



**TRIO-SPRAY PERFORMANCE DATA**

| Pressure (bar; kPa) | Flow (l/hr) | Spray Pattern (m) Diameter in Throw 360° x 18 Hole | Radius of Throw 180° | Radius of Throw 90° |
|---|---|---|---|---|
| 0.5; 50 | 0–54 | 0–5.0 | 0–2.0 | 0–1.5 |
| 1.0; 100 | 0–77 | 0–5.8 | 0–2.5 | 0–2.1 |
| 1.5; 150 | 0–94 | 0–6.4 | 0–2.9 | 0–2.6 |
| 2.0; 200 | 0–105 | 0–7.0 | 0–3.2 | 0–3.0 |
| 2.5; 250 | 0–119 | 0–7.5 | 0–3.5 | 0–3.3 |

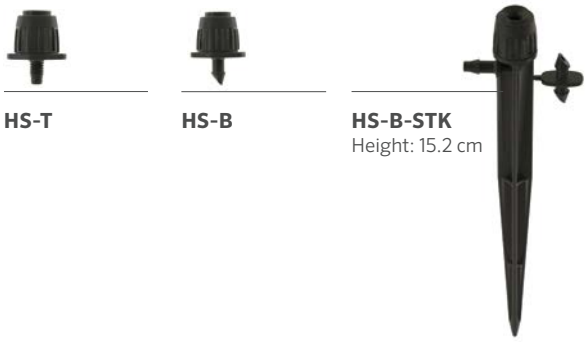
## PRODUCT SPECIFICATIONS

- Inlet configurations: 6 mm barb, 10-32 thread, 6 mm barb stake

## OPERATING SPECIFICATIONS

- Pressure range: 0.5 to 2.5 bar; 50 to 250 kPa
- Minimum filtration: 100 mesh (150 microns)
- Warranty period: 1 year

**SD-T** | **SD-B** | **SD-B-STK** Height: 15.2 cm



**HS-T** | **HS-B** | **HS-B-STK** Height: 15.2 cm

**TS-T-F** | **TS-T-H** | **TS-T-Q**

B = Barbed, F = Full, H = Half, Q = Quarter, STK = Stake, T = Threaded

For a more robust overhead micro spray system, pair Short-Radius Micro Spray Nozzles with Pro-Spray™ Sprinkler Bodies.

*Short-Radius Micro Spray Nozzles*
*Page 191*

# MULTI-PURPOSE BOX

*This sturdy box is just the right size to provide protection and easy access to essential irrigation components.*

## KEY BENEFITS

- Small footprint in a sturdy, durable box
- Five colour offerings blend in with any environment
- Overlapping lid prevents debris from entering box
- Knock-out bolt hole
- UV-protected, non-slip lid
- Warranty period: 2 years

## PRODUCT SPECIFICATIONS

- Fits small control zone kits and other assorted components
- Durable HDPE construction
- ⅜" bolt included with every box

| MULTI-PURPOSE BOX | |
|---|---|
| **Model** | **Description** |
| **MB-0811** | Multi-Purpose Box with standard brown lid |
| **MB-0811-G** | Multi-Purpose Box with green lid |
| **MB-0811-T** | Multi-Purpose Box with tan lid |
| **MB-0811-R** | Multi-Purpose Box with purple lid |
| **MB-0811-B** | Multi-Purpose Box with black lid |
| **MB-BOX** | Multi-Purpose Box (box only) |
| **MB-LID** | Multi-Purpose Box (lid only), brown |
| **MB-LID-G** | Multi-Purpose Box (lid only), green |
| **MB-LID-T** | Multi-Purpose Box (lid only), tan |
| **MB-LID-R** | Multi-Purpose Box (lid only), purple |
| **MB-LID-B** | Multi-Purpose Box (lid only), black |

**Multi-Purpose Box**
Top
Width: 19.0 cm
Length: 26.7 cm

Bottom
Width: 21.6 cm
Length: 29.2 cm

Height: 20 cm

**MB-LID-B**

**MB-LID-G**

**MB-LID**

**MB-LID-R**

**MB-LID-T**

**Multi-Purpose Box Installed**

# AIR/VACUUM RELIEF VALVE

*Prevent water hammer and system collapse by discharging air during startup and allowing air to enter during shutdown.*

## KEY BENEFITS

- Releases air pockets without premature closure
- Leak-free closure after release
- Helps prevent system collapse through vacuum relief

## PRODUCT SPECIFICATIONS

- UV-protected and corrosion-resistant material

## OPERATING SPECIFICATIONS

- Pressure range: up to 5.5 bar; 550 kPa
- Warranty period: 2 years

**AVR-075**
Height: 13 cm
Width: 5 cm
Inlet: ¾" MPT

**PLD-AVR**
½" Air/Vacuum Relief Valve

**Air/Vacuum Relief Valve Installed**

# AUTOMATIC FLUSH VALVE

*Keep laterals clean by automatically flushing water, air, and debris at each system startup.*

## KEY BENEFITS

- Flushes debris automatically at every system startup
- Reversible diaphragm to coordinate with low or high flow
- Lateral placement provides better grit tolerance

## PRODUCT SPECIFICATIONS

- Removable top for diaphragm maintenance

## OPERATING SPECIFICATIONS

- Pressure range: up to 4.1 bar; 410 kPa
- Low-flow diaphragm side: 7.6 to 18.9 l/m
- High-flow diaphragm side: 18.9 to 45.4 l/m
- Warranty period: 1 year

**AFV-B**
Automatic Flush Valve with 17 mm barb connection

**AFV-T**
Automatic Flush Valve with ½" MPT connection

**Automatic Flush Valve Installed**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## ROTORS

**PGJ**

**PGJ-00-R**
**PGJ-04-R**
**PGJ-06-R**
**PGJ-12-R**

**PGP™ ULTRA**

**PGP-00-CV-R**
**PGP-00-CV-R-PRB**
**PGP-04-CV-R**
**PGP-04-CV-R-PRB**
**PGP-06-CV-R**
**PGP-12-CV-R**

**I-20**

**I-20-00-R**
**I-20-00-R-PRB**
**I-20-04-R**
**I-20-04-SS-R**
**I-20-04-R-PRB**
**I-20-04-SS-R-PRB**
**I-20-06-R**
**I-20-06-SS-R**
**I-20-06-R-PRB**
**I-20-06-SS-R-PRB**
**I-20-12-R**

**I-25**

**I-25-04-B-R**
**I-25-04-SS-B-R**
**I-25-06-B-R**
**I-25-06-SS-B-R**

**I-40**

**I-40-04-SS-B-R**
**I-40-04-SS-ON-B-R**
**I-40-06-SS-B-R**
**I-40-06-SS-ON-B-R**

**Rotors** Key

**00** - Shrub
**04** - 10 cm pop-up
**06** - 15 cm pop-up
**12** - 30 cm pop-up
**CV** - Check valve
**SS** - Stainless steel
**ON** - Opposing nozzles
**PRB** - Pressure-regulated body
**ARV** - Adjustable arc
**3RV** - Full-circle
**RB** - Reclaimed BSP

## ROTORS

**I-80**

**I-80-04-SS-R-B**
**I-80-04-SS-ON-R-B**

**I-90**

**I-90-ARV-B**
**I-90-3RV-B**

## SPRINKLER BODIES

**PRO-SPRAY™**

**PROS-00-R**
**PROS-04-CV-R**
**PROS-06-CV-R**
**PROS-12-CV-R**
**PROS-RC-CAP-SP** (snap-on)
**458520SP** = ID cap (threaded)

**PRO-SPRAY PRS30**

**PROS-00-PRS30-R**
**PROS-04-PRS30-CV-R**
**PROS-06-PRS30-CV-R**
**PROS-12-PRS30-CV-R**
**PROS-04-PRS30-CV-F-R**
**PROS-06-PRS30-CV-F-R**
**PROS-12-PRS30-CV-F-R**
**458560** = ID cap

**PRO-SPRAY PRS40**

**PROS-00-PRS40-R**
**PROS-04-PRS40-CV-R**
**PROS-06-PRS40-CV-R**
**PROS-12-PRS40-CV-R**
**PROS-04-PRS40-CV-F-R**
**PROS-06-PRS40-CV-F-R**
**PROS-12-PRS40-CV-F-R**
**458562** = ID cap

**Sprays** Key

**00** - Shrub
**04** - 10 cm pop-up
**06** - 15 cm pop-up
**12** - 30 cm pop-up
**CV** - Check valve
**F** - FloGuard™ Technology

# BUBBLERS

### BUBBLERS

**PCB-25-R**

**PCB-50-R**

**PCB-10-R**

**PCB-20-R**

**Bubblers** Key

**25** - 0.9 l/min
**50** - 1.9 l/min
**10** - 3.8 l/min
**20** - 7.6 l/min

# VALVES

### ICV VALVE

**ICV-151G-B-FS-R**

**ICV-201G-B-FS-R**

**561205** = ICV-101-201 series ID handle

**515005** = ICV-301 series ID handle

### IBV VALVE

**IBV-151G-B-FS-R**

**IBV-201G-B-FS-R**


### QUICK COUPLERS

**HQ-33-DLRC-R**

**HQ-44-LRC-R**

**HQ-44-LRC-AW-R**

**HQ-5-LRC-R**

**HHQ-5-LRC-BSP-R**

**Valves** Key

**B** - BSP threads
**FS** - Filter Sentry™ Mechanism
**LRC** - Locking rubber cover
**RC** - Rubber cover
**AW** - Acme key with anti-rotation wheels

*** Note:** IBV purple tags are user-installed options.

**Quick Couplers** Key

**LRC** - Locking rubber cover
**RC** - Rubber cover
**AW** - Acme key with anti-rotation wheels

# MICRO

### IH RISERS

**IH-RISER-XX-R**
**IH-FIT-3850-R**

### ROOT ZONE WATERING SYSTEM

**RZWS-10-R**
**RZWS-10-25-R**
**RZWS-10-50-R**
**RZWS-10-25-CV-R**
**RZWS-10-50-CV-R**
**RZWS-18-R**
**RZWS-18-25-R**
**RZWS-18-50-R**
**RZWS-18-25-CV-R**
**RZWS-18-50-CV-R**
**RZWS-36-R**
**RZWS-36-25-R**
**RZWS-36-50-R**
**RZWS-36-25-CV-R**
**RZWS-36-50-CV-R**
**913301SP** (purple cap for 45 cm and 90 cm)
**RZWS-10-RCC** (purple cap for 25 cm)

### HUNTER DRIPLINE

**HDL-06-12-250-R**
**HDL-06-12-1K-R**
**HDL-06-18-250-R**
**HDL-06-18-1K-R**
**HDL-09-12-250-R**
**HDL-09-12-1K-R**
**HDL-09-18-250-R**
**HDL-09-18-1K-R**
**HDL-BLNK-500-R**

### ECO-INDICATOR

**ECO-ID-12-R**

### MULTI-PURPOSE BOX

**MB-0811-R**

**MB-LID-R** (lid only)

**Micro** Key

**IH Risers**
**XX** - Riser Length
**06** - 15 cm
**12** - 30 cm
**18** - 45 cm
**24** - 60 cm
**36** - 90 cm

**RZWS**
**10** - 25 cm
**18** - 45 cm
**36** - 90 cm
**25** - 0.9 l/min
**50** - 1.9 l/min
**CV** - Check valve

**HDL**
**BLNK** - No emitter
**HDL-04** - 1.5 l/hr
**HDL-06** - 2.1 l/hr
**HDL-09** - 3.4 l/hr
**12** - 12 cm
**18** - 18 cm
**24** - 24 cm
**250** - 75 m
**500** - 150 m
**1K** - 300 m


# TOOLS

# SPOTSHOT HOSE-END NOZZLE

## MODELS

- ¾" hose thread inlet – P/N 160700
- 1" (25 mm) hose thread inlet – P/N 160705

## KEY BENEFITS

- Variable nozzle stream choices:
  - Fan: Broad, light stream for turf hot spots
  - Soak: Medium stream for dust-control areas
  - Jet: Tight, focused stream for power washing

## OPERATING SPECIFICATIONS

- Flow: 132 l/min; 8 $m^3$/hr at 5.5 bar; 551 kPa*

* Not recommended for residential use with regulated, low-pressure, or low-flow conditions

**SpotShot Hose-End Nozzle**
¾" P/N 160700SP
1" (25 mm) P/N 160705

**Pitot Gauge**
P/N 280100SP
Used to check operating pressure of rotor sprinklers

**MP Gauge Assembly**
P/N MPGAUGE
Used to check operating pressure on spray body sprinklers

**Hand Pump**
P/N 217500SP
Used to remove water from flooded areas during service and installation

**Nozzle Insertion Collar**
P/N 123200SP

**Hunter Wrench**
P/N 172000SP

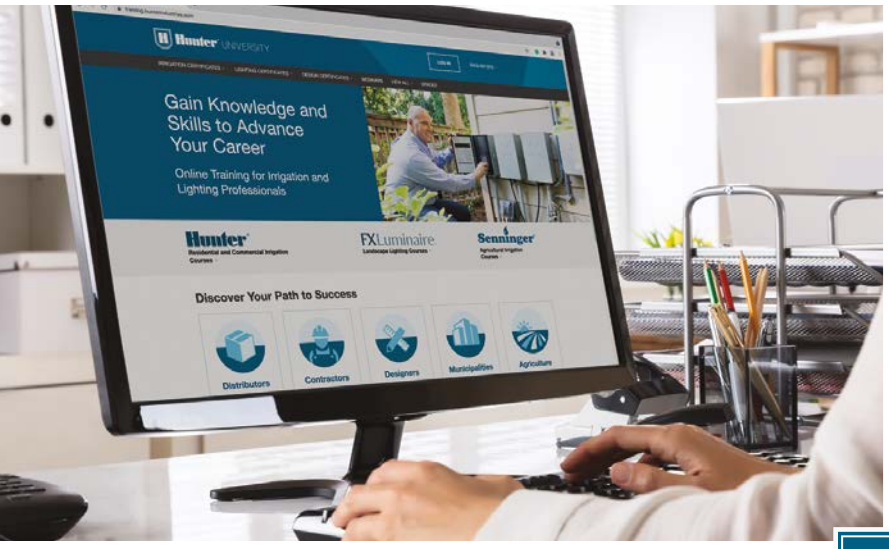
**T-Handle Tool**
P/N 319100SP

**Nozzle Removal/ Installation Tool**
P/N 803700SP
13 mm Nut Driver used with I-80 Rotor short and mid-range nozzles

**Snap Ring Removal Tool**
P/N 251000SP
Use with I-80 Rotor

# RESOURCES


Hunter UNIVERSITY
VLV-401-T - VALVE TECHNICIAN PROGRAM
SUMMARY
HELPFUL HINTS FOR SUCCESS
COURSES

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- EZ Decoder System Specialist NEW
- EZ Decoder System Technician NEW

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# PRECIPITATION RATES

In this section, the "Sprinkler Spacing Method – Any Arc and Any Spacing" equation is used to calculate precipitation rates. The first set of equations with the ■ shows the precipitation rate for the sprinklers when they are laid out in a square pattern. The next set with the ▲ shows the precipitation rate for the sprinklers laid out in an equilateral triangular spacing pattern. This is the "Sprinkler Spacing Method – Equilateral Triangular Spacing" equation.

## WHAT IS PRECIPITATION RATE?

If someone said they were caught in a rainstorm that dropped 25 mm of water in an hour, you would have some idea of how hard or heavily the rain came down. A rainstorm that covers an area with 25 mm of water in one hour has a precipitation rate of 25 mm per hour. Similarly, the precipitation rate is the speed at which a sprinkler or an irrigation system applies water.

## MATCHED PRECIPITATION RATES

A zone or system in which all the heads have similar precipitation rates is said to have "matched precipitation rates." Systems that have matched precipitation rates reduce wet and dry spots and minimise run times, which reduces water consumption and lowers costs. Knowing that sprinkler spacing, flow rates, and arcs of coverage affect precipitation rates, a general guideline is: as the spray arc doubles, so should the flow.

90° Arc = 1 GPM; 0.23 $m^3$/hr; 3.8 l/min

180° Arc = 2 GPM; 0.45 $m^3$/hr; 7.6 l/min

360° Arc = 4 GPM; 0.91 $m^3$/hr; 15.1 l/min

The flow rate of half-circle heads must be two times the flow rate of the quarter-circle heads, and the full-circle heads must have two times the flow rate of the half-circle heads. In the illustration, the same amount of water is applied to each quarter circle area and precipitation is therefore matched.

### CALCULATING PRECIPITATION RATES

Depending upon the construction of the irrigation system, the precipitation rate may be calculated by either a Sprinkler Spacing or a Total Area method.

**Sprinkler Spacing Method (■)**
The precipitation rate should be calculated for each individual zone. If all sprinkler heads on the zone have the same spacing, flow rate, and arc of coverage, use one of the following formulas:

**Any Arc and Any Spacing (■):**

$$\text{P.R. (in/hr)} = \frac{\text{Flow Rate (GPM) for any Arc} \times 34{,}650}{\text{Degrees of Arc} \times \text{Head Spacing (ft.)} \times \text{Row Spacing (ft.)}}$$

$$\text{P.R. (mm/hr)} = \frac{\text{Flow Rate } (m^3/hr) \text{ for any Arc} \times 360{,}000}{\text{Degrees of Arc} \times \text{Head Spacing (m)} \times \text{Row Spacing (m)}}$$

$$\text{P.R. (mm/hr)} = \frac{\text{Flow Rate (l/min) for any Arc} \times 21{,}600}{\text{Degrees of Arc} \times \text{Head Spacing (m)} \times \text{Row Spacing (m)}}$$

**Sprinkler Spacing Method (▲)**
The precipitation rate should be calculated for each individual zone. If all sprinkler heads on the zone have the same spacing, flow rate, and arc of coverage, use one of the following formulas:

**Equilateral Triangular Spacing (▲):**

$$\text{P.R. (in/hr)} = \frac{\text{Flow Rate (GPM) for any Arc} \times 34{,}650}{\text{Degrees of Arc} \times (\text{Head Spacing})^2 \times 0.866}$$

$$\text{P.R. (mm/hr)} = \frac{\text{Flow Rate } (m^3/hr) \text{ for any Arc} \times 360{,}000}{\text{Degrees of Arc} \times (\text{Head Spacing})^2 \times 0.866}$$

$$\text{P.R. (mm/hr)} = \frac{\text{Flow Rate (l/min) for any Arc} \times 21{,}600}{\text{Degrees of Arc} \times (\text{Head Spacing})^2 \times 0.866}$$

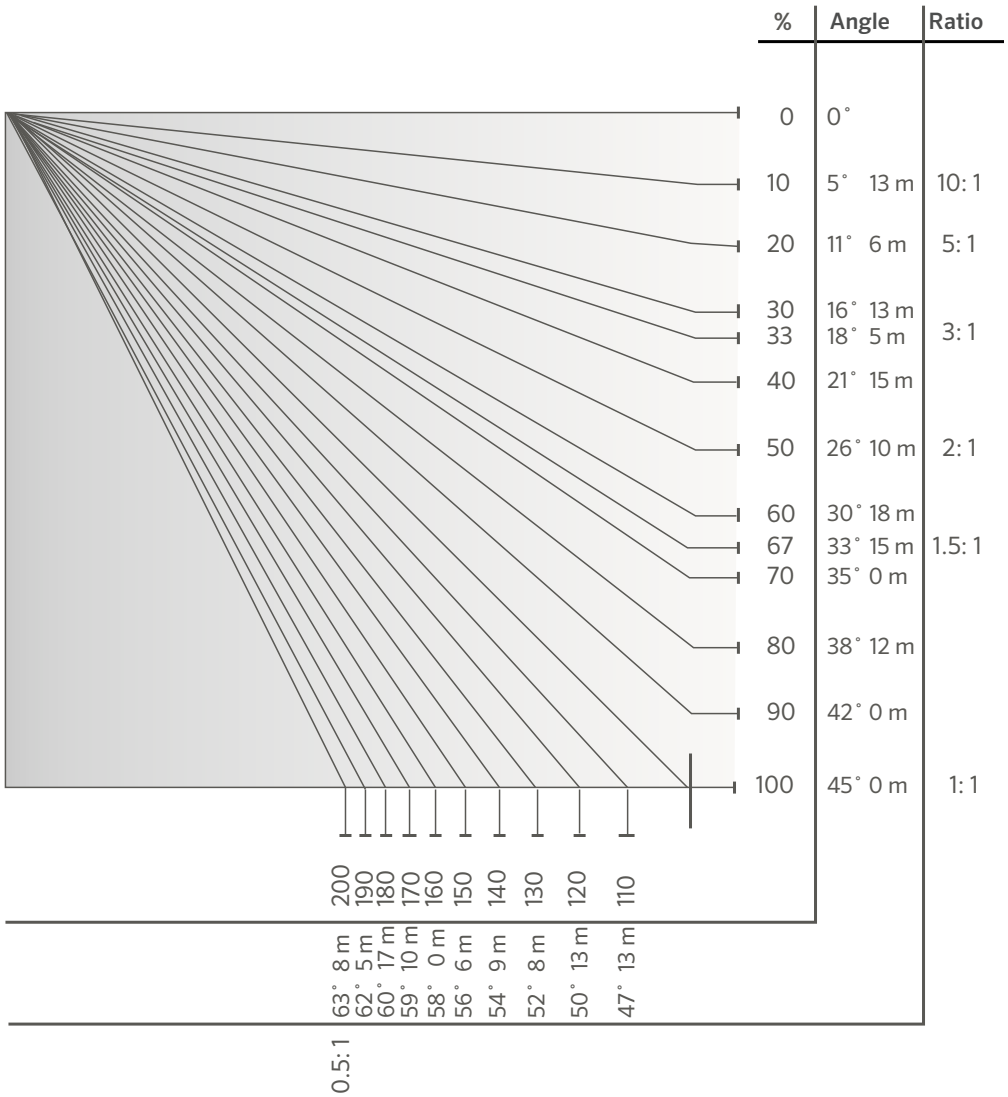
**Total Area Method**
The precipitation rate for a "system" is the average precipitation rate of all sprinklers in an area, regardless of the spacing, flow rate, or arc for each head. The Total Area Method calculates all the flows of all of the heads in any given area.

$$\text{P.R. (in/hr)} = \frac{\text{Flow (GPM)} \times 96.25}{\text{Total Area (ft.)}}$$

$$\text{P.R. (mm/hr)} = \frac{\text{Flow } (m^3/hr) \times 1{,}000}{\text{Total Area } (m^2)}$$

$$\text{P.R. (mm/hr)} = \frac{\text{Flow (l/min)} \times 60}{\text{Total Area } (m^2)}$$

# SLOPE EQUIVALENTS/IRRIGATION




**SLOPE IRRIGATION:** Maximum precipitation rates for slopes in mm/hr

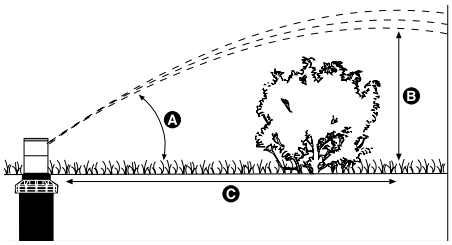
| Soil Texture | 0 to 5% Slope | | 5 to 8% Slope | | 8 to 12% Slope | | 12%+ Slope | |
|---|---|---|---|---|---|---|---|---|
| | Cover | Bare | Cover | Bare | Cover | Bare | Cover | Bare |
| Coarse sandy soils | 51 | 51 | 51 | 38 | 38 | 25 | 25 | 13 |
| Coarse sandy soils over compact subsoils | 44 | 38 | 32 | 25 | 25 | 19 | 19 | 10 |
| Light sandy loams uniform | 44 | 25 | 32 | 20 | 25 | 15 | 19 | 10 |
| Light sandy loams over compact subsoils | 32 | 19 | 25 | 13 | 19 | 10 | 13 | 8 |
| Uniform silt loams | 25 | 13 | 20 | 10 | 15 | 8 | 10 | 5 |
| Silt loams over compact subsoil | 15 | 8 | 13 | 6 | 10 | 4 | 8 | 3 |
| Heavy clay or clay loam | 5 | 4 | 4 | 3 | 3 | 2 | 3 | 2 |

**Notes:**

The maximum precipitation values listed below are those suggested by the United States Department of Agriculture. The values are average and may vary with respect to actual soil and groundcover conditions.

# HEIGHT OF SPRAY

When designing and installing irrigation systems, it's important to know the trajectory and spray height of the water stream leaving the nozzle.




These rotor nozzle trajectory charts are designed to help determine how close a sprinkler can be placed to an object such as a fence or hedge without obstructing the spray pattern. All information shown is at optimum operating pressures.

**HUNTER NOZZLE HEIGHT AND TRAJECTORY CHART**

| Model | Nozzle No. | Pressure | | Degrees of Trajectory | Max Height of Spray (m) | Distance from Head to Maximum Height (m) |
|---|---|---|---|---|---|---|
| | | bar | kPa | | | |
| MP ROTATOR™ | 800SR | 2.8 | 280 | 18 | 0.5 | Varies |
| | 815 | 2.8 | 280 | 15 | 0.3 | Varies |
| | 1000 | 2.8 | 280 | 20 | 0.5 | Varies |
| | 2000 | 2.8 | 280 | 26 | 1.1 | Varies |
| | 3000 | 2.8 | 280 | 26 | 2.0 | Varies |
| | 3500 | 2.8 | 280 | 28 | 2.5 | Varies |
| | Corner | 2.8 | 280 | 14 | 0.4 | Varies |
| | Side Strip | 2.8 | 280 | 16 | 0.5 | Varies |
| | Left Strip | 2.8 | 280 | 16 | 0.5 | Varies |
| PGJ/SRM | 0.50 | 2.8 | 280 | 10 | 0.6 | 1.2 |
| | 0.75 | 2.8 | 280 | 10 | 0.6 | 1.2 |
| | 1.0 | 2.8 | 280 | 10 | 0.6 | 2.4 |
| | 1.5 | 2.8 | 280 | 10 | 0.9 | 3.7 |
| | 2.0 | 2.8 | 280 | 15 | 1.5 | 4.9 |
| | 2.5 | 2.8 | 280 | 12 | 1.5 | 6.1 |
| | 3.0 | 2.8 | 280 | 15 | 1.5 | 6.1 |
| | 4.0 | 2.8 | 280 | 15 | 1.5 | 6.7 |
| PGP™ RED NOZZLES | 1.0 | 3.5 | 350 | 26 | 2.1 | 6.7 |
| | 2.0 | 3.5 | 350 | 26 | 2.1 | 6.7 |
| | 3.0 | 3.5 | 350 | 26 | 2.4 | 7.0 |
| | 4.0 | 3.5 | 350 | 26 | 2.4 | 7.0 |
| | 5.0 | 3.5 | 350 | 27 | 2.7 | 7.9 |
| | 6.0 | 3.5 | 350 | 27 | 3.0 | 8.5 |
| | 7.0 | 3.5 | 350 | 26 | 3.4 | 9.1 |
| | 8.0 | 3.5 | 350 | 26 | 3.4 | 9.1 |
| | 9.0 | 3.5 | 350 | 27 | 3.7 | 9.8 |
| | 10.0 | 4.0 | 400 | 25 | 4.0 | 9.8 |
| | 11.0 | 4.0 | 400 | 25 | 4.0 | 11.6 |
| | 12.0 | 4.0 | 400 | 25 | 4.0 | 12.2 |
| PGP LOW-ANGLE GREY NOZZLES | 4.0 | 3.5 | 350 | 15 | 1.5 | 6.7 |
| | 5.0 | 3.5 | 350 | 15 | 1.2 | 6.7 |
| | 6.0 | 3.5 | 350 | 14 | 1.2 | 6.7 |
| | 7.0 | 3.5 | 350 | 14 | 1.2 | 6.7 |
| | 8.0 | 3.5 | 350 | 14 | 1.5 | 7.3 |
| | 9.0 | 3.5 | 350 | 15 | 1.5 | 7.9 |
| | 10.0 | 4.0 | 400 | 15 | 1.8 | 9.1 |
| PGP BLUE NOZZLES | 1.5 | 3.0 | 300 | 25 | 2.4 | 7.0 |
| | 2.0 | 3.0 | 300 | 25 | 2.4 | 7.0 |
| | 2.5 | 3.0 | 300 | 25 | 2.7 | 7.9 |
| | 3.0 | 3.0 | 300 | 25 | 3.0 | 8.5 |
| | 4.0 | 3.0 | 300 | 25 | 3.4 | 9.1 |
| | 5.0 | 3.0 | 300 | 25 | 3.4 | 9.1 |
| | 6.0 | 3.8 | 380 | 25 | 3.7 | 9.8 |
| | 8.0 | 3.8 | 380 | 25 | 4.0 | 9.8 |
| PGP ULTRA/I-20 DARK BLUE NOZZLES | 1.0 | 3.5 | 350 | 26 | 2.4 | 7.0 |
| | 1.5 | 3.5 | 350 | 26 | 2.4 | 7.0 |
| | 2.0 | 3.5 | 350 | 27 | 2.7 | 7.9 |
| | 3.0 | 3.5 | 350 | 27 | 3.0 | 8.5 |
| | 3.5 | 3.5 | 350 | 26 | 3.4 | 9.1 |
| | 4.0 | 3.5 | 350 | 26 | 3.4 | 9.1 |
| | 6.0 | 3.5 | 350 | 27 | 3.7 | 9.8 |
| | 8.0 | 4.0 | 400 | 25 | 4.0 | 9.8 |
| PGP ULTRA/I-20 BLUE NOZZLES | 1.5 | 3.0 | 300 | 25 | 2.4 | 7.0 |
| | 2.0 | 3.0 | 300 | 25 | 2.4 | 7.0 |
| | 2.5 | 3.0 | 300 | 25 | 2.7 | 7.9 |
| | 3.0 | 3.0 | 300 | 25 | 3.0 | 8.5 |
| | 4.0 | 3.0 | 300 | 25 | 3.4 | 9.1 |
| | 5.0 | 3.0 | 300 | 25 | 3.4 | 9.1 |
| | 6.0 | 3.8 | 380 | 25 | 3.7 | 9.8 |
| | 8.0 | 3.8 | 380 | 25 | 4.0 | 9.8 |

# HEIGHT OF SPRAY

**HUNTER NOZZLE HEIGHT AND TRAJECTORY CHART**

| Model | Nozzle No. | Pressure | | Degrees of Trajectory | Max Height of Spray (m) | Distance from Head to Maximum Height (m) |
|---|---|---|---|---|---|---|
| | | bar | kPa | | | |
| PGP™ Ultra/I-20 Low-Angle Grey Nozzles | 2.0 LA | 3.5 | 350 | 13 | 1.5 | 6.7 |
| | 2.5 LA | 3.5 | 350 | 13 | 1.2 | 6.7 |
| | 3.5 LA | 3.5 | 350 | 13 | 1.2 | 6.7 |
| | 4.5 LA | 3.5 | 350 | 13 | 1.2 | 6.7 |
| PGP Ultra/I-20 Short Radius Black Nozzles | 0.5 | 3.5 | 350 | 15 | 1.5 | 2.4 |
| | 1.0 | 3.5 | 350 | 14 | 1.8 | 2.7 |
| | 2.0 | 3.5 | 350 | 3 | 0.3 | 1.8 |
| PGP Ultra/I-20 Short Radius Black Nozzles | 0.75 | 3.5 | 350 | 22 | 2.1 | 4.0 |
| | 1.5 | 3.5 | 350 | 18 | 2.1 | 4.0 |
| | 3.0 | 3.5 | 350 | 8 | 0.3 | 1.8 |
| PGP Ultra/I-20 MPR-25 Red Nozzles | Q - 90 | 3.0 | 300 | 22 | 0.9 | 4.6 |
| | T - 120 | 3.0 | 300 | 21 | 1.2 | 4.2 |
| | H - 180 | 3.0 | 300 | 24 | 1.2 | 4.2 |
| | F - 360 | 3.0 | 300 | 22 | 1.2 | 3.0 |
| PGP Ultra/I-20 MPR-30 Lt. Green Nozzles | Q - 90 | 3.0 | 300 | 28 | 1.5 | 5.4 |
| | T - 120 | 3.0 | 300 | 14 | 0.9 | 5.1 |
| | H - 180 | 3.0 | 300 | 16 | 1.2 | 4.8 |
| | F - 360 | 3.0 | 300 | 18 | 0.6 | 3.9 |
| PGP Ultra/I-20 MPR-35 Tan Nozzles | Q - 90 | 3.0 | 300 | 28 | 1.8 | 5.7 |
| | T - 120 | 3.0 | 300 | 28 | 1.8 | 5.4 |
| | H - 180 | 3.0 | 300 | 16 | 1.2 | 5.1 |
| | F - 360 | 3.0 | 300 | 14 | 0.9 | 3.6 |
| I-25 | 4 | 3.5 | 350 | 25 | 2.7 | 6.7 |
| | 7 | 3.5 | 350 | 25 | 3.0 | 8.5 |
| | 8 | 3.5 | 350 | 25 | 3.4 | 8.5 |
| | 10 | 4 | 400 | 25 | 3.7 | 9.1 |
| | 13 | 4 | 400 | 25 | 4.0 | 9.4 |
| | 15 | 4 | 400 | 25 | 3.7 | 9.4 |
| | 18 | 4 | 400 | 25 | 4.6 | 10.4 |
| | 20 | 5 | 500 | 25 | 4.6 | 10.7 |
| | 23 | 5 | 500 | 25 | 4.9 | 11.6 |
| | 25 | 5 | 500 | 25 | 4.9 | 11.6 |
| | 28 | 5 | 500 | 25 | 5.2 | 12.2 |
| I-40 Adjustable | 8 | 3.5 | 350 | 25 | 3.7 | 9.8 |
| | 10 | 4.0 | 400 | 25 | 4.3 | 9.8 |
| | 13 | 4.0 | 400 | 25 | 4.3 | 10.4 |
| | 15 | 4.0 | 400 | 25 | 4.6 | 12.8 |
| | 23 | 5.0 | 500 | 25 | 5.2 | 14.0 |
| | 25 | 5.0 | 500 | 25 | 5.2 | 14.6 |
| I-40-ON | 15 | 4.0 | 400 | 25 | 4.6 | 12.8 |
| | 18 | 4.0 | 400 | 25 | 4.8 | 13.1 |
| | 20 | 5.0 | 500 | 25 | 5.2 | 13.7 |
| | 23 | 5.0 | 500 | 25 | 5.2 | 14.0 |
| | 25 | 5.0 | 500 | 25 | 5.2 | 14.6 |
| | 28 | 5.0 | 500 | 25 | 5.2 | 15.2 |

# HEIGHT OF SPRAY

**HUNTER NOZZLE HEIGHT AND TRAJECTORY CHART**

| Model | Nozzle No. | Pressure | | Degrees of Trajectory | Max Height of Spray (m) | Distance from Head to Maximum Height (m) |
|---|---|---|---|---|---|---|
| | | bar | kPa | | | |
| I-80 & I-90 ADV | 23 | 5.5 | 550 | 22.5 | 4.3 | 11.3 |
| | 25 | 5.5 | 550 | 22.5 | 4.6 | 12.2 |
| | 33 | 5.5 | 550 | 22.5 | 4.6 | 12.8 |
| | 38 | 5.5 | 550 | 22.5 | 4.9 | 14.6 |
| | 43 | 5.5 | 550 | 22.5 | 4.9 | 14.6 |
| | 48 | 5.5 | 550 | 22.5 | 5.2 | 16.5 |
| | 53 | 5.5 | 550 | 22.5 | 5.2 | 17.1 |
| | 63 | 5.5 | 550 | 22.5 | 5.5 | 19.5 |
| | 73 | 5.5 | 550 | 22.5 | 5.8 | 20.7 |
| I-80-ON & I-90 36V | 23 | 5.5 | 550 | 22.5 | 4.3 | 12.5 |
| | 25 | 5.5 | 550 | 22.5 | 4.6 | 14.0 |
| | 33 | 5.5 | 550 | 22.5 | 4.6 | 14.0 |
| | 38 | 5.5 | 550 | 22.5 | 4.9 | 15.3 |
| | 43 | 5.5 | 550 | 22.5 | 4.9 | 16.5 |
| | 48 | 5.5 | 550 | 22.5 | 5.2 | 17.1 |
| | 53 | 5.5 | 550 | 22.5 | 5.2 | 17.7 |
| | 63 | 5.5 | 550 | 22.5 | 5.5 | 18.9 |
| | 73 | 5.5 | 550 | 22.5 | 5.8 | 20.7 |

# HDL MAXIMUM RUN LENGTHS

### HDL-CV; 1.5 l/hr

| Pressure (bar; kPa) | Emitter Spacing (cm) 30 | 45 | 60 |
|---|---|---|---|
| **1.0; 100** | 62 | 88 | 112 |
| **2.0; 200** | 116 | 163 | 207 |
| **3.0; 300** | 142 | 200 | 255 |
| **4.0; 400** | 161 | 228 | 289 |

### HDL-CV; 2.1 l/hr

| Pressure (bar; kPa) | Emitter Spacing (cm) 30 | 45 | 60 |
|---|---|---|---|
| **1.0; 100** | 52 | 73 | 93 |
| **2.0; 200** | 96 | 134 | 171 |
| **3.0; 300** | 117 | 166 | 210 |
| **4.0; 400** | 134 | 189 | 239 |

### HDL-CV; 3.4 l/hr

| Pressure (bar; kPa) | Emitter Spacing (cm) 30 | 45 | 60 |
|---|---|---|---|
| **1.0; 100** | 36 | 50 | 64 |
| **2.0; 200** | 66 | 94 | 119 |
| **3.0; 300** | 81 | 115 | 146 |
| **4.0; 400** | 92 | 131 | 165 |

### HDL-PC/HDL-R; 1.5 l/hr

| Pressure (bar; kPa) | Emitter Spacing (cm) 30 | 45 | 60 |
|---|---|---|---|
| **1.0; 100** | 87 | 123 | 156 |
| **2.0; 200** | 125 | 177 | 224 |
| **3.0; 300** | 149 | 210 | 266 |
| **4.0; 400** | 167 | 235 | 299 |

### HDL-PC/HDL-R; 2.1 l/hr

| Pressure (bar; kPa) | Emitter Spacing (cm) 30 | 45 | 60 |
|---|---|---|---|
| **1.0; 100** | 72 | 101 | 129 |
| **2.0; 200** | 103 | 147 | 186 |
| **3.0; 300** | 123 | 174 | 220 |
| **4.0; 400** | 137 | 194 | 247 |

### HDL-PC/HDL-R; 3.4 l/hr

| Pressure (bar; kPa) | Emitter Spacing (cm) 30 | 45 | 60 |
|---|---|---|---|
| **1.0; 100** | 50 | 71 | 89 |
| **2.0; 200** | 72 | 101 | 128 |
| **3.0; 300** | 85 | 120 | 153 |
| **4.0; 400** | 96 | 134 | 171 |

### HDL-COP; 2.1 l/hr

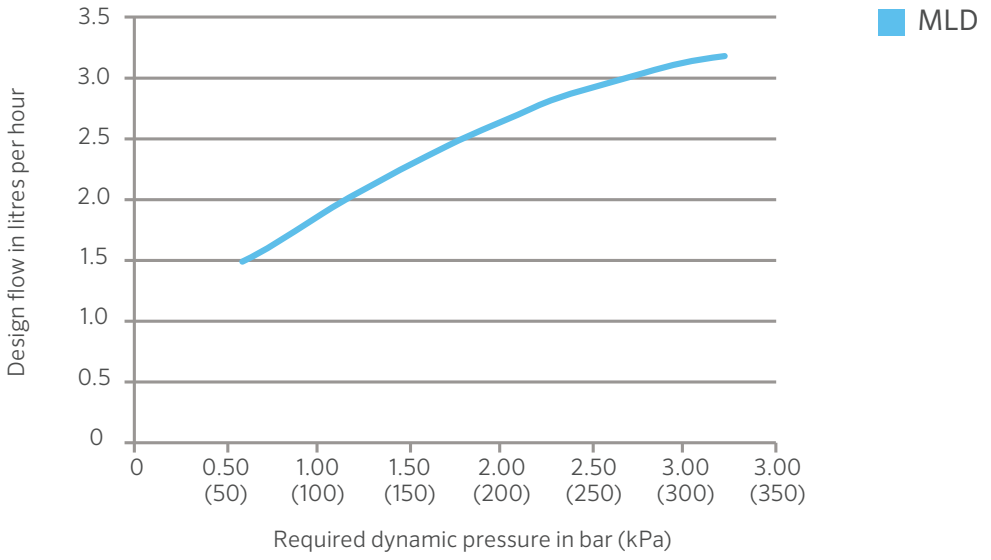
| Pressure (bar; kPa) | Emitter Spacing (cm) 30 | 45 |
|---|---|---|
| **1.0; 100** | 52 | 73 |
| **2.0; 200** | 96 | 134 |
| **3.0; 300** | 117 | 166 |
| **4.0; 400** | 134 | 189 |

### HDL-COP; 3.4 l/hr

| Pressure (bar; kPa) | Emitter Spacing (cm) 30 | 45 |
|---|---|---|
| **1.0; 100** | 36 | 50 |
| **2.0; 200** | 66 | 94 |
| **3.0; 300** | 81 | 115 |
| **4.0; 400** | 92 | 131 |

# MLD FLOW CHART

**MLD FLOW CHART**



# CONVERSION FACTORS

| CONVERSION FACTORS | | | |
|---|---|---|---|
| **To Convert** | **From** | **To** | **Multiply By** |
| **Area** | acres | foot$^2$ | 43560 |
| | acres | metre$^2$ | 4046.8 |
| | metre$^2$ | foot$^2$ | 10.764 |
| | foot$^2$ | inch$^2$ | 144 |
| | inch$^2$ | centimetre$^2$ | 6.452 |
| | hectares | metre$^2$ | 10000 |
| | hectares | acres | 2.471 |
| **Power** | kilowatts | horsepower | 1.341 |
| **Flow** | foot$^3$/minute | metre$^3$/second | 0.0004719 |
| | foot$^3$/second | metre$^3$/second | 0.02832 |
| | yards$^3$/minute | metre$^3$/second | 0.01274 |
| | gallon/minute | metre$^3$/hour | 0.22716 |
| | gallon/minute | litre/minute | 3.7854 |
| | gallon/minute | litre/second | 0.06309 |
| | metre$^3$/hour | litre/minute | 16.645 |
| | metre$^3$/hour | litre/second | 0.2774 |
| | litre/minute | litre/second | 60 |
| **Length** | foot | inch | 12 |
| | inch | centimetre | 2.54 |
| | foot | metre | 0.30481 |
| | kilometre | miles | 0.6214 |
| | miles | foot | 5280 |
| | miles | metre | 1609.34 |
| | millimetre | inch | 0.03937 |
| **Pressure** | PSI | kilopascals | 6.89476 |
| | PSI | bar | 0.068948 |
| | bar | kilopascals | 100 |
| | PSI | feet of head | 2.31 |
| **Velocity** | feet/second | metre/second | 0.3048 |
| **Volume** | feet$^3$ | gallon | 7.481 |
| | feet$^3$ | litre | 28.32 |
| | metre$^3$ | feet$^3$ | 35.31 |
| | metre$^3$ | yard$^3$ | 1.3087 |
| | yard$^3$ | feet$^3$ | 27 |
| | yard$^3$ | gallon | 202 |
| | acres/feet | foot$^3$ | 43,560 |
| | gallon | metre$^3$ | 0.003785 |
| | gallon | litre | 3.785 |
| | imperial gallon | gallon | 1.833 |

# FRICTION LOSS CHARTS - UPVC PIPE CLASS 3 (6 BAR)

C = 150 • PRESSURE LOSS (BAR/100 METRES)

| Nominal Size | | 40 mm | | 50 mm | | 63 mm | | 75 mm | | 90 mm | | 110 mm | | 160 mm | | 200 mm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe ID | | 36.4 mm | | 46.4 mm | | 59.2 mm | | 70.6 mm | | 84.6 mm | | 103.6 mm | | 153.2 mm | | 188.2 mm | |
| Pipe OD | | 40 mm | | 50 mm | | 63 mm | | 75 mm | | 90 mm | | 110 mm | | 160 mm | | 200 mm | |
| Wall Thick | | 1.8 mm | | 1.8 mm | | 1.9 mm | | 2.2 mm | | 2.7 mm | | 3.2 mm | | 3.4 mm | | 5.9 mm | |
| Flow l/min | Flow $m^3$/hr | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss |
| 3.8 | 0.25 | | | | | | | | | | | | | | | | |
| 7.6 | 0.5 | | | | | | | | | | | | | | | | |
| 11.4 | 0.75 | | | | | | | | | | | | | | | | |
| 15.1 | 1 | 0.3 | 0.03 | | | | | | | | | | | | | | |
| 26.5 | 1.5 | 0.4 | 0.06 | 0.2 | 0.02 | | | | | | | | | | | | |
| 34.1 | 2 | 0.5 | 0.09 | 0.3 | 0.03 | | | | | | | | | | | | |
| 41.6 | 2.5 | 0.7 | 0.14 | 0.4 | 0.04 | | | | | | | | | | | | |
| 49.2 | 3 | 0.8 | 0.20 | 0.5 | 0.06 | | | | | | | | | | | | |
| 56.8 | 3.5 | 0.9 | 0.27 | 0.6 | 0.08 | | | | | | | | | | | | |
| 68.1 | 4 | 1.1 | 0.34 | 0.7 | 0.10 | | | | | | | | | | | | |
| 83.3 | 5 | 1.3 | 0.52 | 0.8 | 0.16 | | | | | | | | | | | | |
| 98.4 | 6 | 1.6 | 0.72 | 1.0 | 0.22 | 0.6 | 0.07 | 0.4 | 0.03 | | | | | | | | |
| 117.3 | 7 | 1.9 | 0.96 | 1.1 | 0.30 | 0.7 | 0.09 | 0.5 | 0.04 | | | | | | | | |
| 132.5 | 8 | 2.1 | 1.23 | 1.3 | 0.38 | 0.8 | 0.12 | 0.6 | 0.05 | | | | | | | | |
| 151.4 | 9 | 2.4 | 1.53 | 1.5 | 0.47 | 0.9 | 0.14 | 0.6 | 0.06 | | | | | | | | |
| 166.6 | 10 | 2.7 | 1.86 | 1.6 | 0.57 | 1.0 | 0.17 | 0.7 | 0.07 | | | | | | | | |
| 181.7 | 11 | | | 1.8 | 0.68 | 1.1 | 0.21 | 0.8 | 0.09 | 0.5 | 0.04 | | | | | | |
| 200.6 | 12 | | | 2.0 | 0.8 | 1.2 | 0.24 | 0.9 | 0.10 | 0.6 | 0.04 | | | | | | |
| 215.8 | 13 | | | 2.1 | 0.93 | 1.3 | 0.28 | 0.9 | 0.12 | 0.6 | 0.05 | | | | | | |
| 234.7 | 14 | | | 2.3 | 1.07 | 1.4 | 0.33 | 1.0 | 0.14 | 0.7 | 0.06 | | | | | | |
| 249.8 | 15 | | | 2.5 | 1.21 | 1.5 | 0.37 | 1.1 | 0.16 | 0.7 | 0.06 | 0.5 | 0.02 | | | | |
| 265.0 | 16 | | | | | 1.6 | 0.42 | 1.1 | 0.18 | 0.8 | 0.07 | 0.5 | 0.03 | | | | |
| 283.9 | 17 | | | | | 1.7 | 0.47 | 1.2 | 0.20 | 0.8 | 0.08 | 0.6 | 0.03 | | | | |
| 299.0 | 18 | | | | | 1.8 | 0.52 | 1.3 | 0.22 | 0.9 | 0.09 | 0.6 | 0.03 | | | | |
| 318.0 | 19 | | | | | 1.9 | 0.57 | 1.3 | 0.24 | 0.9 | 0.10 | 0.6 | 0.04 | | | | |
| 333.1 | 20 | | | | | 2.0 | 0.63 | 1.4 | 0.27 | 1.0 | 0.11 | 0.7 | 0.04 | | | | |
| 348.3 | 21 | | | | | 2.1 | 0.69 | 1.5 | 0.29 | 1.0 | 0.12 | 0.7 | 0.05 | | | | |
| 367.2 | 22 | | | | | 2.2 | 0.75 | 1.6 | 0.32 | 1.1 | 0.13 | 0.7 | 0.05 | | | | |
| 382.3 | 23 | | | | | 2.3 | 0.82 | 1.6 | 0.35 | 1.1 | 0.14 | 0.8 | 0.05 | | | | |
| 401.3 | 24 | | | | | | | 1.7 | 0.37 | 1.2 | 0.16 | 0.8 | 0.06 | | | | |
| 416.4 | 25 | | | | | | | 1.8 | 0.40 | 1.2 | 0.17 | 0.8 | 0.06 | | | | |
| 431.5 | 26 | | | | | | | 1.8 | 0.43 | 1.3 | 0.18 | 0.9 | 0.07 | | | | |
| 450.5 | 27 | | | | | | | 1.9 | 0.47 | 1.3 | 0.19 | 0.9 | 0.07 | | | | |
| 465.6 | 28 | | | | | | | 2.0 | 0.50 | 1.4 | 0.21 | 0.9 | 0.08 | | | | |
| 484.5 | 29 | | | | | | | 2.1 | 0.53 | 1.4 | 0.22 | 1.0 | 0.08 | | | | |
| 499.7 | 30 | | | | | | | 2.1 | 0.57 | 1.5 | 0.23 | 1.0 | 0.09 | | | | |
| 583.0 | 35 | | | | | | | | | 1.7 | 0.31 | 1.2 | 0.12 | | | | |
| 666.2 | 40 | | | | | | | | | 2.0 | 0.40 | 1.3 | 0.15 | | | | |
| 749.5 | 45 | | | | | | | | | 2.2 | 0.50 | 1.5 | 0.19 | | | | |
| 832.8 | 50 | | | | | | | | | | | 1.6 | 0.23 | | | | |
| 916.1 | 55 | | | | | | | | | | | 1.8 | 0.27 | | | | |
| 999.3 | 60 | | | | | | | | | | | 2.0 | 0.32 | | | | |
| 1082.6 | 65 | | | | | | | | | | | 2.1 | 0.37 | 1.0 | 0.05 | | |
| 1165.9 | 70 | | | | | | | | | | | 2.3 | 0.42 | 1.1 | 0.06 | | |
| 1249.2 | 75 | | | | | | | | | | | | | 1.1 | 0.07 | | |
| 1332.5 | 80 | | | | | | | | | | | | | 1.2 | 0.08 | | |
| 1415.7 | 85 | | | | | | | | | | | | | 1.3 | 0.09 | | |
| 1499.0 | 90 | | | | | | | | | | | | | 1.4 | 0.10 | | |
| 1665.6 | 100 | | | | | | | | | | | | | 1.5 | 0.12 | 1.0 | 0.04 |
| 1832.1 | 110 | | | | | | | | | | | | | 1.7 | 0.14 | 1.1 | 0.05 |
| 1998.7 | 120 | | | | | | | | | | | | | 1.8 | 0.17 | 1.2 | 0.06 |
| 2165.3 | 130 | | | | | | | | | | | | | 2.0 | 0.20 | 1.3 | 0.07 |
| 2331.8 | 140 | | | | | | | | | | | | | 2.1 | 0.23 | 1.4 | 0.08 |
| 2498.4 | 150 | | | | | | | | | | | | | 2.3 | 0.26 | 1.5 | 0.09 |

**Notes:** Shaded areas represent velocities over 1.5 m/s. Use with caution when water hammer is a concern.

# FRICTION LOSS CHARTS - UPVC PIPE CLASS 4 (10 BAR)

C = 150 • PRESSURE LOSS (BAR/100 METRES)

| Nominal Size | | 25 mm | | 32 mm | | 40 mm | | 50 mm | | 63 mm | | 75 mm | | 90 mm | | 110 mm | | 160 mm | | 200 mm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe ID | | 22 mm | | 28.4 mm | | 36.2 mm | | 45.2 mm | | 57 mm | | 67.8 mm | | 81.4 mm | | 99.4 mm | | 144.6 mm | | 180.8 mm | |
| Pipe OD | | 25 mm | | 32 mm | | 40 mm | | 50 mm | | 63 mm | | 75 mm | | 90 mm | | 110 mm | | 160 mm | | 200 mm | |
| Wall Thick | | 1.5 mm | | 1.8 mm | | 1.9 mm | | 2.4 mm | | 3.0 mm | | 3.6 mm | | 4.3 mm | | 5.3 mm | | 7.7 mm | | 9.6 mm | |
| Flow l/min | Flow $m^3/hr$ | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss |
| 3.8 | 0.25 | 0.2 | 0.02 | | | | | | | | | | | | | | | | | | |
| 7.6 | 0.5 | 0.4 | 0.08 | | | | | | | | | | | | | | | | | | |
| 11.4 | 0.75 | 0.5 | 0.18 | | | | | | | | | | | | | | | | | | |
| 15.1 | 1 | 0.7 | 0.30 | | | | | | | | | | | | | | | | | | |
| 26.5 | 1.5 | 1.1 | 0.64 | 0.7 | 0.19 | | | | | | | | | | | | | | | | |
| 34.1 | 2 | 1.5 | 1.10 | 0.9 | 0.32 | | | | | | | | | | | | | | | | |
| 41.6 | 2.5 | 1.8 | 1.66 | 1.1 | 0.48 | 0.7 | 0.15 | | | | | | | | | | | | | | |
| 49.2 | 3 | 2.2 | 2.33 | 1.3 | 0.67 | 0.8 | 0.21 | | | | | | | | | | | | | | |
| 56.8 | 3.5 | 2.6 | 3.10 | 1.5 | 0.89 | 0.9 | 0.27 | | | | | | | | | | | | | | |
| 68.1 | 4 | | | 1.8 | 1.14 | 1.1 | 0.35 | 0.7 | 0.12 | | | | | | | | | | | | |
| 83.3 | 5 | | | 2.2 | 1.73 | 1.3 | 0.53 | 0.9 | 0.18 | | | | | | | | | | | | |
| 98.4 | 6 | | | 2.6 | 2.42 | 1.6 | 0.74 | 1.0 | 0.25 | 0.7 | 0.08 | | | | | | | | | | |
| 117.3 | 7 | | | | | 1.9 | 0.99 | 1.2 | 0.34 | 0.8 | 0.11 | | | | | | | | | | |
| 132.5 | 8 | | | | | 2.2 | 1.27 | 1.4 | 0.43 | 0.9 | 0.14 | | | | | | | | | | |
| 151.4 | 9 | | | | | 2.4 | 1.58 | 1.6 | 0.53 | 1.0 | 0.17 | 0.7 | 0.07 | | | | | | | | |
| 166.6 | 10 | | | | | | | 1.7 | 0.65 | 1.1 | 0.21 | 0.8 | 0.09 | | | | | | | | |
| 181.7 | 11 | | | | | | | 1.9 | 0.77 | 1.2 | 0.25 | 0.8 | 0.11 | | | | | | | | |
| 200.6 | 12 | | | | | | | 2.1 | 0.91 | 1.3 | 0.29 | 0.9 | 0.13 | | | | | | | | |
| 215.8 | 13 | | | | | | | 2.3 | 1.06 | 1.4 | 0.34 | 1.0 | 0.15 | | | | | | | | |
| 234.7 | 14 | | | | | | | 2.4 | 1.21 | 1.5 | 0.39 | 1.1 | 0.17 | | | | | | | | |
| 249.8 | 15 | | | | | | | 2.6 | 1.38 | 1.6 | 0.44 | 1.2 | 0.19 | | | | | | | | |
| 265.0 | 16 | | | | | | | | | 1.7 | 0.50 | 1.2 | 0.22 | 0.9 | 0.09 | | | | | | |
| 283.9 | 17 | | | | | | | | | 1.9 | 0.56 | 1.3 | 0.24 | 0.9 | 0.10 | | | | | | |
| 299.0 | 18 | | | | | | | | | 2.0 | 0.62 | 1.4 | 0.27 | 1.0 | 0.11 | | | | | | |
| 318.0 | 19 | | | | | | | | | 2.1 | 0.69 | 1.5 | 0.30 | 1.0 | 0.12 | | | | | | |
| 333.1 | 20 | | | | | | | | | 2.2 | 0.76 | 1.5 | 0.33 | 1.1 | 0.13 | | | | | | |
| 348.3 | 21 | | | | | | | | | 2.3 | 0.83 | 1.6 | 0.36 | 1.1 | 0.15 | | | | | | |
| 367.2 | 22 | | | | | | | | | 2.4 | 0.90 | 1.7 | 0.39 | 1.2 | 0.16 | | | | | | |
| 382.3 | 23 | | | | | | | | | 2.5 | 0.98 | 1.8 | 0.42 | 1.2 | 0.17 | | | | | | |
| 401.3 | 24 | | | | | | | | | | | 1.8 | 0.46 | 1.3 | 0.19 | | | | | | |
| 416.4 | 25 | | | | | | | | | | | 1.9 | 0.49 | 1.3 | 0.20 | | | | | | |
| 431.5 | 26 | | | | | | | | | | | 2.0 | 0.53 | 1.4 | 0.22 | 0.9 | 0.08 | | | | |
| 450.5 | 27 | | | | | | | | | | | 2.1 | 0.57 | 1.4 | 0.23 | 1.0 | 0.09 | | | | |
| 465.6 | 28 | | | | | | | | | | | 2.2 | 0.61 | 1.5 | 0.25 | 1.0 | 0.09 | | | | |
| 484.5 | 29 | | | | | | | | | | | 2.2 | 0.65 | 1.5 | 0.27 | 1.0 | 0.10 | | | | |
| 499.7 | 30 | | | | | | | | | | | 2.3 | 0.69 | 1.6 | 0.28 | 1.1 | 0.11 | 0.5 | 0.02 | | |
| 583.0 | 35 | | | | | | | | | | | | | 1.9 | 0.38 | 1.3 | 0.14 | 0.6 | 0.02 | | |
| 666.2 | 40 | | | | | | | | | | | | | 2.1 | 0.48 | 1.4 | 0.18 | 0.7 | 0.03 | | |
| 749.5 | 45 | | | | | | | | | | | | | 2.4 | 0.60 | 1.6 | 0.23 | 0.8 | 0.04 | | |
| 832.8 | 50 | | | | | | | | | | | | | | | 1.8 | 0.28 | 0.8 | 0.04 | | |
| 916.1 | 55 | | | | | | | | | | | | | | | 2.0 | 0.33 | 0.9 | 0.05 | | |
| 999.3 | 60 | | | | | | | | | | | | | | | 2.1 | 0.39 | 1.0 | 0.06 | | |
| 1082.6 | 65 | | | | | | | | | | | | | | | 2.3 | 0.45 | 1.1 | 0.07 | | |
| 1165.9 | 70 | | | | | | | | | | | | | | | 2.5 | 0.51 | 1.2 | 0.08 | | |
| 1249.2 | 75 | | | | | | | | | | | | | | | 2.7 | 0.58 | 1.3 | 0.09 | | |
| 1332.5 | 80 | | | | | | | | | | | | | | | 2.9 | 0.66 | 1.4 | 0.11 | | |
| 1415.7 | 85 | | | | | | | | | | | | | | | 3.0 | 0.74 | 1.4 | 0.12 | | |
| 1499.0 | 90 | | | | | | | | | | | | | | | 3.2 | 0.82 | 1.5 | 0.13 | 1.0 | 0.04 |
| 1665.6 | 100 | | | | | | | | | | | | | | | | | 1.7 | 0.16 | 1.1 | 0.05 |
| 1832.1 | 110 | | | | | | | | | | | | | | | | | 1.9 | 0.19 | 1.2 | 0.06 |
| 1998.7 | 120 | | | | | | | | | | | | | | | | | 2.0 | 0.22 | 1.3 | 0.08 |
| 2165.3 | 130 | | | | | | | | | | | | | | | | | 2.2 | 0.26 | 1.4 | 0.09 |
| 2331.8 | 140 | | | | | | | | | | | | | | | | | 2.4 | 0.30 | 1.5 | 0.10 |
| 2498.4 | 150 | | | | | | | | | | | | | | | | | 2.5 | 0.34 | 1.6 | 0.11 |

**Notes:** Shaded areas represent velocities over 1.5 m/s. Use with caution when water hammer is a concern.

# FRICTION LOSS CHARTS - UPVC PIPE CLASS 5 (16 BAR)

C = 150 • PRESSURE LOSS (BAR/100 METRES)

| Nominal Size | | 25 mm | | 32 mm | | 40 mm | | 50 mm | | 63 mm | | 75 mm | | 90 mm | | 110 mm | | 160 mm | | 200 mm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe ID | | 21.2 mm | | 27.2 mm | | 34 mm | | 42.6 mm | | 53.6 mm | | 63.8 mm | | 76.6 mm | | 93.6 mm | | 136.2 mm | | 170.2 mm | |
| Pipe OD | | 25 mm | | 32 mm | | 40 mm | | 50 mm | | 63 mm | | 75 mm | | 90 mm | | 110 mm | | 160 mm | | 200 mm | |
| Wall Thick | | 1.5 mm | | 1.8 mm | | 1.9 mm | | 2.4 mm | | 3 mm | | 3.6 mm | | 4.3 mm | | 5.3 mm | | 7.7 mm | | 14.9 mm | |
| Flow | Flow | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar |
| l/min | m³/hr | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss |
| 3.8 | 0.25 | 0.2 | 0.03 | | | | | | | | | | | | | | | | | | |
| 7.6 | 0.5 | 0.4 | 0.10 | | | | | | | | | | | | | | | | | | |
| 11.4 | 0.75 | 0.6 | 0.21 | 0.4 | 0.06 | | | | | | | | | | | | | | | | |
| 15.1 | 1 | 0.8 | 0.36 | 0.5 | 0.11 | 0.3 | 0.04 | | | | | | | | | | | | | | |
| 26.5 | 1.5 | 1.2 | 0.77 | 0.7 | 0.23 | 0.5 | 0.08 | 0.3 | 0.03 | | | | | | | | | | | | |
| 34.1 | 2 | 1.6 | 1.32 | 1.0 | 0.39 | 0.6 | 0.13 | 0.4 | 0.04 | | | | | | | | | | | | |
| 41.6 | 2.5 | 2.0 | 1.99 | 1.2 | 0.59 | 0.8 | 0.20 | 0.5 | 0.07 | | | | | | | | | | | | |
| 49.2 | 3 | 2.4 | 2.79 | 1.4 | 0.83 | 0.9 | 0.28 | 0.6 | 0.09 | | | | | | | | | | | | |
| 56.8 | 3.5 | | | 1.7 | 1.10 | 1.1 | 0.37 | 0.7 | 0.12 | | | | | | | | | | | | |
| 68.1 | 4 | | | 1.9 | 1.41 | 1.2 | 0.48 | 0.8 | 0.16 | | | | | | | | | | | | |
| 83.3 | 5 | | | 2.4 | 2.13 | 1.5 | 0.72 | 1.0 | 0.24 | | | | | | | | | | | | |
| 98.4 | 6 | | | | | 1.8 | 1.01 | 1.2 | 0.34 | 0.7 | 0.11 | | | | | | | | | | |
| 117.3 | 7 | | | | | 2.1 | 1.34 | 1.4 | 0.45 | 0.9 | 0.15 | | | | | | | | | | |
| 132.5 | 8 | | | | | 2.4 | 1.72 | 1.6 | 0.57 | 1.0 | 0.19 | | | | | | | | | | |
| 151.4 | 9 | | | | | | | 1.8 | 0.71 | 1.1 | 0.23 | | | | | | | | | | |
| 166.6 | 10 | | | | | | | 1.9 | 0.87 | 1.2 | 0.28 | | | | | | | | | | |
| 181.7 | 11 | | | | | | | 2.1 | 1.03 | 1.4 | 0.34 | 1.0 | 0.14 | | | | | | | | |
| 200.6 | 12 | | | | | | | 2.3 | 1.21 | 1.5 | 0.40 | 1.0 | 0.17 | | | | | | | | |
| 215.8 | 13 | | | | | | | | | 1.6 | 0.46 | 1.1 | 0.20 | | | | | | | | |
| 234.7 | 14 | | | | | | | | | 1.7 | 0.53 | 1.2 | 0.23 | | | | | | | | |
| 249.8 | 15 | | | | | | | | | 1.8 | 0.60 | 1.3 | 0.26 | | | | | | | | |
| 265.0 | 16 | | | | | | | | | 2.0 | 0.68 | 1.4 | 0.29 | 1.0 | 0.12 | | | | | | |
| 283.9 | 17 | | | | | | | | | 2.1 | 0.76 | 1.5 | 0.32 | 1.0 | 0.13 | | | | | | |
| 299.0 | 18 | | | | | | | | | 2.2 | 0.84 | 1.6 | 0.36 | 1.1 | 0.15 | | | | | | |
| 318.0 | 19 | | | | | | | | | 2.3 | 0.93 | 1.7 | 0.40 | 1.1 | 0.16 | | | | | | |
| 333.1 | 20 | | | | | | | | | 2.5 | 1.02 | 1.7 | 0.44 | 1.2 | 0.18 | | | | | | |
| 348.3 | 21 | | | | | | | | | | | 1.8 | 0.48 | 1.3 | 0.20 | | | | | | |
| 367.2 | 22 | | | | | | | | | | | 1.9 | 0.52 | 1.3 | 0.21 | | | | | | |
| 382.3 | 23 | | | | | | | | | | | 2.0 | 0.57 | 1.4 | 0.23 | | | | | | |
| 401.3 | 24 | | | | | | | | | | | 2.1 | 0.61 | 1.4 | 0.25 | 1.0 | 0.09 | | | | |
| 416.4 | 25 | | | | | | | | | | | 2.2 | 0.66 | 1.5 | 0.27 | 1.0 | 0.10 | | | | |
| 431.5 | 26 | | | | | | | | | | | 2.3 | 0.71 | 1.6 | 0.29 | 1.0 | 0.11 | | | | |
| 450.5 | 27 | | | | | | | | | | | 2.3 | 0.76 | 1.6 | 0.31 | 1.1 | 0.12 | | | | |
| 465.6 | 28 | | | | | | | | | | | 2.4 | 0.82 | 1.7 | 0.33 | 1.1 | 0.13 | | | | |
| 484.5 | 29 | | | | | | | | | | | 2.5 | 0.87 | 1.7 | 0.36 | 1.2 | 0.13 | | | | |
| 499.7 | 30 | | | | | | | | | | | | | 1.8 | 0.38 | 1.2 | 0.14 | | | | |
| 583.0 | 35 | | | | | | | | | | | | | 2.1 | 0.51 | 1.4 | 0.19 | | | | |
| 666.2 | 40 | | | | | | | | | | | | | 2.4 | 0.65 | 1.6 | 0.24 | | | | |
| 749.5 | 45 | | | | | | | | | | | | | 2.7 | 0.81 | 1.8 | 0.30 | | | | |
| 832.8 | 50 | | | | | | | | | | | | | | | 2.0 | 0.37 | 1.0 | 0.06 | | |
| 916.1 | 55 | | | | | | | | | | | | | | | 2.2 | 0.44 | 1.0 | 0.07 | | |
| 999.3 | 60 | | | | | | | | | | | | | | | 2.4 | 0.52 | 1.1 | 0.08 | | |
| 1082.6 | 65 | | | | | | | | | | | | | | | 2.6 | 0.60 | 1.2 | 0.10 | | |
| 1165.9 | 70 | | | | | | | | | | | | | | | 2.8 | 0.69 | 1.3 | 0.11 | | |
| 1249.2 | 75 | | | | | | | | | | | | | | | 3.0 | 0.78 | 1.4 | 0.13 | | |
| 1332.5 | 80 | | | | | | | | | | | | | | | 3.2 | 0.88 | 1.5 | 0.14 | | |
| 1415.7 | 85 | | | | | | | | | | | | | | | | | 1.6 | 0.16 | | |
| 1499.0 | 90 | | | | | | | | | | | | | | | | | 1.7 | 0.18 | | |
| 1665.6 | 100 | | | | | | | | | | | | | | | | | 1.9 | 0.21 | 1.2 | 0.07 |
| 1832.1 | 110 | | | | | | | | | | | | | | | | | 2.1 | 0.26 | 1.3 | 0.09 |
| 1998.7 | 120 | | | | | | | | | | | | | | | | | 2.3 | 0.30 | 1.5 | 0.10 |
| 2165.3 | 130 | | | | | | | | | | | | | | | | | 2.5 | 0.35 | 1.6 | 0.12 |
| 2331.8 | 140 | | | | | | | | | | | | | | | | | 2.7 | 0.40 | 1.7 | 0.14 |
| 2498.4 | 150 | | | | | | | | | | | | | | | | | 2.9 | 0.45 | 1.8 | 0.15 |

**Notes:** Shaded areas represent velocities over 1.5 m/s. Use with caution when water hammer is a concern.

# FRICTION LOSS CHARTS - SCHEDULE 40 IPS PVC PLASTIC PIPE

C = 150 • PRESSURE LOSS (BAR/100 METRES)

| Nominal Size | | 1" | | 1¼" | | 1½" | | 2" | | 2½" | | 3" | | 4" | | 6" | | 8" | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe OD | | 1.315" | | 1.66" | | 1.900" | | 2.375" | | 2.375" | | 3.500" | | 4.500" | | 6.625" | | 8.625" | |
| Pipe ID | | 1.049" | | 1.380" | | 1.610" | | 2.067" | | 2.469" | | 3.068" | | 4.026" | | 6.065" | | 7.981" | |
| Pipe ID mm | | 26.64 | | 35.05 | | 40.89 | | 52.50 | | 62.71 | | 77.93 | | 102.26 | | 154.05 | | 202.72 | |
| Wall Thick | | 0.133" | | 0.140" | | 0.145" | | 0.154" | | 0.203" | | 0.216" | | 0.237" | | 0.280" | | 0.322" | |
| Flow | Flow | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar | Velocity | bar |
| l/min | m³/hr | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss | m/s | loss |
| 3.8 | 0.25 | 0.1 | 0.01 | | | | | | | | | | | | | | | | |
| 7.6 | 0.5 | 0.2 | 0.03 | | | | | | | | | | | | | | | | |
| 11.4 | 0.75 | 0.4 | 0.07 | 0.2 | 0.02 | | | | | | | | | | | | | | |
| 15.1 | 1 | 0.5 | 0.12 | 0.3 | 0.03 | 0.2 | 0.01 | | | | | | | | | | | | |
| 26.5 | 1.5 | 0.7 | 0.25 | 0.4 | 0.07 | 0.3 | 0.03 | 0.2 | 0.01 | | | | | | | | | | |
| 34.1 | 2 | 1.0 | 0.43 | 0.6 | 0.11 | 0.4 | 0.05 | 0.3 | 0.02 | | | | | | | | | | |
| 41.6 | 2.5 | 1.2 | 0.65 | 0.7 | 0.17 | 0.5 | 0.08 | 0.3 | 0.02 | | | | | | | | | | |
| 49.2 | 3 | 1.5 | 0.92 | 0.9 | 0.24 | 0.6 | 0.11 | 0.4 | 0.03 | | | | | | | | | | |
| 56.8 | 3.5 | 1.7 | 1.22 | 1.0 | 0.32 | 0.7 | 0.15 | 0.4 | 0.04 | | | | | | | | | | |
| 68.1 | 4 | 2.0 | 1.56 | 1.2 | 0.41 | 0.8 | 0.19 | 0.5 | 0.06 | | | | | | | | | | |
| 83.3 | 5 | 2.5 | 2.36 | 1.4 | 0.62 | 1.1 | 0.29 | 0.6 | 0.09 | | | | | | | | | | |
| 98.4 | 6 | | | 1.7 | 0.87 | 1.3 | 0.41 | 0.8 | 0.12 | 0.5 | 0.05 | 0.3 | 0.02 | | | | | | |
| 117.3 | 7 | | | 2.0 | 1.16 | 1.5 | 0.55 | 0.9 | 0.16 | 0.6 | 0.07 | 0.4 | 0.02 | | | | | | |
| 132.5 | 8 | | | 2.3 | 1.48 | 1.7 | 0.70 | 1.0 | 0.21 | 0.7 | 0.09 | 0.5 | 0.03 | | | | | | |
| 151.4 | 9 | | | 2.6 | 1.84 | 1.9 | 0.87 | 1.2 | 0.26 | 0.8 | 0.11 | 0.5 | 0.04 | | | | | | |
| 166.6 | 10 | | | 2.9 | 2.24 | 2.1 | 1.06 | 1.3 | 0.31 | 0.9 | 0.13 | 0.6 | 0.05 | | | | | | |
| 181.7 | 11 | | | | | 2.3 | 1.26 | 1.4 | 0.37 | 1.0 | 0.16 | 0.6 | 0.05 | | | | | | |
| 200.6 | 12 | | | | | 2.5 | 1.48 | 1.5 | 0.44 | 1.1 | 0.18 | 0.7 | 0.06 | | | | | | |
| 215.8 | 13 | | | | | 2.7 | 1.72 | 1.7 | 0.51 | 1.2 | 0.21 | 0.8 | 0.07 | | | | | | |
| 234.7 | 14 | | | | | 3.0 | 1.97 | 1.8 | 0.58 | 1.3 | 0.25 | 0.8 | 0.09 | | | | | | |
| 249.8 | 15 | | | | | 3.2 | 2.24 | 1.9 | 0.66 | 1.3 | 0.28 | 0.9 | 0.10 | | | | | | |
| 265.0 | 16 | | | | | | | 2.1 | 0.75 | 1.4 | 0.31 | 0.9 | 0.11 | | | | | | |
| 283.9 | 17 | | | | | | | 2.2 | 0.84 | 1.5 | 0.35 | 1.0 | 0.12 | | | | | | |
| 299.0 | 18 | | | | | | | 2.3 | 0.93 | 1.6 | 0.39 | 1.0 | 0.14 | | | | | | |
| 318.0 | 19 | | | | | | | 2.4 | 1.03 | 1.7 | 0.43 | 1.1 | 0.15 | | | | | | |
| 333.1 | 20 | | | | | | | 2.6 | 1.13 | 1.8 | 0.48 | 1.2 | 0.17 | | | | | | |
| 348.3 | 21 | | | | | | | | | 1.9 | 0.52 | 1.2 | 0.18 | | | | | | |
| 367.2 | 22 | | | | | | | | | 2.0 | 0.57 | 1.3 | 0.20 | | | | | | |
| 382.3 | 23 | | | | | | | | | 2.1 | 0.62 | 1.3 | 0.21 | | | | | | |
| 401.3 | 24 | | | | | | | | | 2.2 | 0.67 | 1.4 | 0.23 | | | | | | |
| 416.4 | 25 | | | | | | | | | 2.2 | 0.72 | 1.5 | 0.25 | | | | | | |
| 431.5 | 26 | | | | | | | | | 2.3 | 0.77 | 1.5 | 0.27 | | | | | | |
| 450.5 | 27 | | | | | | | | | 2.4 | 0.83 | 1.6 | 0.29 | | | | | | |
| 465.6 | 28 | | | | | | | | | | | 1.6 | 0.31 | | | | | | |
| 484.5 | 29 | | | | | | | | | | | 1.7 | 0.33 | | | | | | |
| 499.7 | 30 | | | | | | | | | | | 1.7 | 0.35 | | | | | | |
| 583.0 | 35 | | | | | | | | | | | 2.0 | 0.47 | 1.2 | 0.12 | | | | |
| 666.2 | 40 | | | | | | | | | | | 2.3 | 0.60 | 1.4 | 0.16 | | | | |
| 749.5 | 45 | | | | | | | | | | | 2.6 | 0.74 | 1.5 | 0.20 | | | | |
| 832.8 | 50 | | | | | | | | | | | 2.9 | 0.90 | 1.7 | 0.24 | | | | |
| 916.1 | 55 | | | | | | | | | | | | | 1.9 | 0.29 | | | | |
| 999.3 | 60 | | | | | | | | | | | | | 2.0 | 0.34 | | | | |
| 1082.6 | 65 | | | | | | | | | | | | | 2.2 | 0.39 | 1.0 | 0.07 | | |
| 1165.9 | 70 | | | | | | | | | | | | | 2.4 | 0.45 | 1.0 | 0.08 | | |
| 1249.2 | 75 | | | | | | | | | | | | | 2.5 | 0.51 | 1.1 | 0.09 | | |
| 1332.5 | 80 | | | | | | | | | | | | | 2.7 | 0.57 | 1.2 | 0.10 | | |
| 1415.7 | 85 | | | | | | | | | | | | | 2.9 | 0.64 | 1.3 | 0.11 | | |
| 1499.0 | 90 | | | | | | | | | | | | | 3.0 | 0.71 | 1.3 | 0.12 | 0.8 | 0.03 |
| 1665.6 | 100 | | | | | | | | | | | | | | | 1.5 | 0.15 | 0.9 | 0.03 |
| 1832.1 | 110 | | | | | | | | | | | | | | | 1.6 | 0.18 | 0.9 | 0.04 |
| 1998.7 | 120 | | | | | | | | | | | | | | | 1.8 | 0.21 | 1.0 | 0.04 |
| 2165.3 | 130 | | | | | | | | | | | | | | | 1.9 | 0.25 | 1.1 | 0.05 |
| 2331.8 | 140 | | | | | | | | | | | | | | | 2.1 | 0.28 | 1.2 | 0.06 |
| 2498.4 | 150 | | | | | | | | | | | | | | | 2.1 | 0.32 | 1.3 | 0.07 |

**Notes:** Shaded areas represent velocities over 1.5 m/s. Use with caution when water hammer is a concern.

# FRICTION LOSS CHARTS - SCHEDULE 80 IPS PVC PLASTIC PIPE

C = 150 • PRESSURE LOSS (BAR/100 METRES)

| Nominal Size | | 1" | | 1¼" | | 1½" | | 2" | | 2½" | | 3" | | 4" | | 6" | | 8" | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe OD | | 1.315" | | 1.660" | | 1.900" | | 2.375" | | 2.875" | | 3.500" | | 4.500" | | 6.625" | | 8.625" | |
| Pipe ID | | 0.957" | | 1.278" | | 1.500" | | 1.939" | | 2.323" | | 2.900" | | 3.826" | | 5.761" | | 7.625" | |
| Pipe ID mm | | 24.31 | | 32.46 | | 38.10 | | 49.25 | | 59.00 | | 73.66 | | 97.18 | | 146.33 | | 193.68 | |
| Wall Thick | | 0.179" | | 0.191" | | 0.200" | | 0.218" | | 0.276" | | 0.300" | | 0.337" | | 0.432" | | 0.500" | |
| Flow l/min | Flow $m^3/hr$ | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss |
| 3.8 | 0.25 | 0.1 | 0.01 | | | | | | | | | | | | | | | | |
| 7.6 | 0.5 | 0.3 | 0.05 | | | | | | | | | | | | | | | | |
| 11.4 | 0.75 | 0.4 | 0.11 | 0.3 | 0.03 | | | | | | | | | | | | | | |
| 15.1 | 1 | 0.6 | 0.19 | 0.3 | 0.05 | 0.2 | 0.02 | | | | | | | | | | | | |
| 26.5 | 1.5 | 0.9 | 0.40 | 0.5 | 0.10 | 0.4 | 0.04 | 0.2 | 0.01 | | | | | | | | | | |
| 34.1 | 2 | 1.2 | 0.68 | 0.7 | 0.17 | 0.5 | 0.08 | 0.3 | 0.02 | | | | | | | | | | |
| 41.6 | 2.5 | 1.5 | 1.02 | 0.8 | 0.25 | 0.6 | 0.11 | 0.4 | 0.03 | | | | | | | | | | |
| 49.2 | 3 | 1.8 | 1.43 | 1.0 | 0.35 | 0.7 | 0.16 | 0.4 | 0.05 | | | | | | | | | | |
| 56.8 | 3.5 | 2.1 | 1.90 | 1.2 | 0.47 | 0.9 | 0.21 | 0.5 | 0.06 | | | | | | | | | | |
| 68.1 | 4 | 2.4 | 2.44 | 1.3 | 0.60 | 1.0 | 0.27 | 0.6 | 0.08 | | | | | | | | | | |
| 83.3 | 5 | 3.0 | 3.69 | 1.7 | 0.90 | 1.2 | 0.41 | 0.7 | 0.12 | | | | | | | | | | |
| 98.4 | 6 | | | 2.0 | 1.26 | 1.5 | 0.58 | 0.9 | 0.17 | 0.6 | 0.07 | 0.4 | 0.02 | | | | | | |
| 117.3 | 7 | | | 2.3 | 1.68 | 1.7 | 0.77 | 1.0 | 0.22 | 0.7 | 0.09 | 0.5 | 0.03 | | | | | | |
| 132.5 | 8 | | | 2.7 | 2.15 | 1.9 | 0.99 | 1.2 | 0.28 | 0.8 | 0.12 | 0.5 | 0.04 | | | | | | |
| 151.4 | 9 | | | 3.0 | 2.68 | 2.2 | 1.23 | 1.3 | 0.35 | 0.9 | 0.15 | 0.6 | 0.05 | | | | | | |
| 166.6 | 10 | | | | | 2.4 | 1.49 | 1.5 | 0.43 | 1.0 | 0.18 | 0.7 | 0.06 | | | | | | |
| 181.7 | 11 | | | | | 2.7 | 1.78 | 1.6 | 0.51 | 1.1 | 0.21 | 0.7 | 0.07 | | | | | | |
| 200.6 | 12 | | | | | 2.9 | 2.09 | 1.7 | 0.60 | 1.2 | 0.25 | 0.8 | 0.08 | | | | | | |
| 215.8 | 13 | | | | | | | 1.9 | 0.69 | 1.3 | 0.29 | 0.8 | 0.10 | | | | | | |
| 234.7 | 14 | | | | | | | 2.0 | 0.80 | 1.4 | 0.33 | 0.9 | 0.11 | | | | | | |
| 249.8 | 15 | | | | | | | 2.2 | 0.91 | 1.5 | 0.38 | 1.0 | 0.13 | | | | | | |
| 265.0 | 16 | | | | | | | 2.3 | 1.02 | 1.6 | 0.42 | 1.0 | 0.14 | | | | | | |
| 283.9 | 17 | | | | | | | 2.5 | 1.14 | 1.7 | 0.47 | 1.1 | 0.16 | | | | | | |
| 299.0 | 18 | | | | | | | 2.6 | 1.27 | 1.8 | 0.53 | 1.2 | 0.18 | | | | | | |
| 318.0 | 19 | | | | | | | | | 1.9 | 0.58 | 1.2 | 0.20 | | | | | | |
| 333.1 | 20 | | | | | | | | | 2.0 | 0.64 | 1.3 | 0.22 | | | | | | |
| 348.3 | 21 | | | | | | | | | 2.1 | 0.70 | 1.4 | 0.24 | | | | | | |
| 367.2 | 22 | | | | | | | | | 2.2 | 0.76 | 1.4 | 0.26 | | | | | | |
| 382.3 | 23 | | | | | | | | | 2.3 | 0.83 | 1.5 | 0.28 | | | | | | |
| 401.3 | 24 | | | | | | | | | 2.4 | 0.90 | 1.6 | 0.30 | | | | | | |
| 416.4 | 25 | | | | | | | | | 2.5 | 0.97 | 1.6 | 0.33 | | | | | | |
| 431.5 | 26 | | | | | | | | | | | 1.7 | 0.35 | | | | | | |
| 450.5 | 27 | | | | | | | | | | | 1.8 | 0.38 | | | | | | |
| 465.6 | 28 | | | | | | | | | | | 1.8 | 0.41 | 1.0 | 0.11 | | | | |
| 484.5 | 29 | | | | | | | | | | | 1.9 | 0.43 | 1.1 | 0.11 | | | | |
| 499.7 | 30 | | | | | | | | | | | 2.0 | 0.46 | 1.1 | 0.12 | | | | |
| 583.0 | 35 | | | | | | | | | | | 2.3 | 0.61 | 1.3 | 0.16 | | | | |
| 666.2 | 40 | | | | | | | | | | | 2.6 | 0.78 | 1.5 | 0.20 | | | | |
| 749.5 | 45 | | | | | | | | | | | | | 1.7 | 0.25 | | | | |
| 832.8 | 50 | | | | | | | | | | | | | 1.9 | 0.31 | | | | |
| 916.1 | 55 | | | | | | | | | | | | | 2.1 | 0.37 | | | | |
| 999.3 | 60 | | | | | | | | | | | | | 2.2 | 0.43 | | | | |
| 1082.6 | 65 | | | | | | | | | | | | | 2.4 | 0.50 | 1.1 | 0.07 | | |
| 1165.9 | 70 | | | | | | | | | | | | | 2.6 | 0.57 | 1.2 | 0.08 | | |
| 1249.2 | 75 | | | | | | | | | | | | | 2.8 | 0.65 | 1.2 | 0.09 | | |
| 1332.5 | 80 | | | | | | | | | | | | | 3.0 | 0.73 | 1.3 | 0.10 | | |
| 1415.7 | 85 | | | | | | | | | | | | | 3.2 | 0.82 | 1.4 | 0.11 | | |
| 1499.0 | 90 | | | | | | | | | | | | | 3.4 | 0.91 | 1.5 | 0.12 | | |
| 1665.6 | 100 | | | | | | | | | | | | | | | 1.7 | 0.15 | 0.9 | 0.04 |
| 1832.1 | 110 | | | | | | | | | | | | | | | 1.8 | 0.18 | 1.0 | 0.05 |
| 1998.7 | 120 | | | | | | | | | | | | | | | 2.0 | 0.21 | 1.1 | 0.05 |
| 2165.3 | 130 | | | | | | | | | | | | | | | 2.1 | 0.25 | 1.2 | 0.06 |
| 2331.8 | 140 | | | | | | | | | | | | | | | 2.3 | 0.28 | 1.3 | 0.07 |
| 2498.4 | 150 | | | | | | | | | | | | | | | 2.5 | 0.32 | 1.4 | 0.08 |

**Notes:** Shaded areas represent velocities over 1.5 m/s. Use with caution when water hammer is a concern.

# FRICTION LOSS CHARTS - HDPE PRESSURE PIPE PE80 SDR 17.6 PN6

C = 140 • PRESSURE LOSS (BAR/100 METRES)

| Nominal Size | | 25 mm | | 32 mm | | 40 mm | | 50 mm | | 63 mm | | 75 mm | | 90 mm | | 110 mm | | 160 mm | | 200 mm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe ID mm | | 21.40 | | 28.40 | | 35.40 | | 44.20 | | 55.80 | | 66.40 | | 79.80 | | 97.40 | | 141.80 | | 177.20 | |
| Wall Thick | | 1.8 | | 1.8 | | 2.3 | | 2.9 | | 3.6 | | 4.3 | | 5.1 | | 6.3 | | 9.1 | | 11.4 | |
| Flow l/min | Flow m³/hr | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss |
| 3.8 | 0.25 | 0.2 | 0.03 | | | | | | | | | | | | | | | | | | |
| 7.6 | 0.5 | 0.4 | 0.11 | | | | | | | | | | | | | | | | | | |
| 11.4 | 0.75 | 0.6 | 0.23 | 0.3 | 0.06 | | | | | | | | | | | | | | | | |
| 15.1 | 1 | 0.8 | 0.40 | 0.4 | 0.10 | 0.3 | 0.03 | | | | | | | | | | | | | | |
| 26.5 | 1.5 | 1.2 | 0.84 | 0.7 | 0.21 | 0.4 | 0.07 | 0.3 | 0.02 | | | | | | | | | | | | |
| 34.1 | 2 | 1.5 | 1.43 | 0.9 | 0.36 | 0.6 | 0.12 | 0.4 | 0.04 | | | | | | | | | | | | |
| 41.6 | 2.5 | 1.9 | 2.16 | 1.1 | 0.54 | 0.7 | 0.19 | 0.5 | 0.06 | | | | | | | | | | | | |
| 49.2 | 3 | 2.3 | 3.03 | 1.3 | 0.76 | 0.8 | 0.26 | 0.5 | 0.09 | | | | | | | | | | | | |
| 56.8 | 3.5 | 2.7 | 4.03 | 1.5 | 1.01 | 1.0 | 0.35 | 0.6 | 0.12 | | | | | | | | | | | | |
| 68.1 | 4 | 3.1 | 5.16 | 1.8 | 1.30 | 1.1 | 0.44 | 0.7 | 0.15 | | | | | | | | | | | | |
| 83.3 | 5 | | | 2.2 | 1.96 | 1.4 | 0.67 | 0.9 | 0.23 | | | | | | | | | | | | |
| 98.4 | 6 | | | 2.6 | 2.75 | 1.7 | 0.94 | 1.1 | 0.32 | 0.7 | 0.10 | 0.5 | 0.04 | | | | | | | | |
| 117.3 | 7 | | | 3.1 | 3.66 | 2.0 | 1.25 | 1.3 | 0.42 | 0.8 | 0.14 | 0.6 | 0.06 | | | | | | | | |
| 132.5 | 8 | | | 3.5 | 4.69 | 2.3 | 1.60 | 1.4 | 0.54 | 0.9 | 0.17 | 0.6 | 0.07 | | | | | | | | |
| 151.4 | 9 | | | | | 2.5 | 2.00 | 1.6 | 0.68 | 1.0 | 0.22 | 0.7 | 0.09 | | | | | | | | |
| 166.6 | 10 | | | | | 2.8 | 2.43 | 1.8 | 0.82 | 1.1 | 0.26 | 0.8 | 0.11 | | | | | | | | |
| 181.7 | 11 | | | | | | | 2.0 | 0.98 | 1.2 | 0.32 | 0.9 | 0.14 | | | | | | | | |
| 200.6 | 12 | | | | | | | 2.2 | 1.15 | 1.4 | 0.37 | 1.0 | 0.16 | | | | | | | | |
| 215.8 | 13 | | | | | | | 2.4 | 1.34 | 1.5 | 0.43 | 1.0 | 0.18 | | | | | | | | |
| 234.7 | 14 | | | | | | | 2.5 | 1.53 | 1.6 | 0.49 | 1.1 | 0.21 | | | | | | | | |
| 249.8 | 15 | | | | | | | 2.7 | 1.74 | 1.7 | 0.56 | 1.2 | 0.24 | | | | | | | | |
| 265.0 | 16 | | | | | | | 2.9 | 1.96 | 1.8 | 0.63 | 1.3 | 0.27 | | | | | | | | |
| 283.9 | 17 | | | | | | | 3.1 | 2.20 | 1.9 | 0.71 | 1.4 | 0.30 | | | | | | | | |
| 299.0 | 18 | | | | | | | 3.3 | 2.44 | 2.0 | 0.79 | 1.4 | 0.34 | | | | | | | | |
| 318.0 | 19 | | | | | | | | | 2.2 | 0.87 | 1.5 | 0.37 | | | | | | | | |
| 333.1 | 20 | | | | | | | | | 2.3 | 0.95 | 1.6 | 0.41 | | | | | | | | |
| 348.3 | 21 | | | | | | | | | 2.4 | 1.04 | 1.7 | 0.45 | 1.2 | 0.18 | | | | | | |
| 367.2 | 22 | | | | | | | | | 2.5 | 1.14 | 1.8 | 0.49 | 1.2 | 0.20 | | | | | | |
| 382.3 | 23 | | | | | | | | | 2.6 | 1.24 | 1.8 | 0.53 | 1.3 | 0.22 | | | | | | |
| 401.3 | 24 | | | | | | | | | 2.7 | 1.34 | 1.9 | 0.57 | 1.3 | 0.23 | | | | | | |
| 416.4 | 25 | | | | | | | | | 3.8 | 1.44 | 2.0 | 0.62 | 1.4 | 0.25 | | | | | | |
| 431.5 | 26 | | | | | | | | | | | 2.1 | 0.67 | 1.4 | 0.27 | 1.0 | 0.10 | 0.5 | 0.02 | | |
| 450.5 | 27 | | | | | | | | | | | 2.2 | 0.71 | 1.5 | 0.29 | 1.0 | 0.11 | 0.5 | 0.02 | | |
| 465.6 | 28 | | | | | | | | | | | 2.2 | 0.76 | 1.6 | 0.31 | 1.0 | 0.12 | 0.5 | 0.02 | | |
| 484.5 | 29 | | | | | | | | | | | 2.3 | 0.81 | 1.6 | 0.33 | 1.1 | 0.13 | 0.5 | 0.02 | | |
| 499.7 | 30 | | | | | | | | | | | 2.4 | 0.87 | 1.7 | 0.35 | 1.1 | 0.13 | 0.5 | 0.02 | | |
| 583.0 | 35 | | | | | | | | | | | 2.8 | 1.15 | 1.9 | 0.47 | 1.3 | 0.18 | 0.6 | 0.03 | | |
| 666.2 | 40 | | | | | | | | | | | 3.2 | 1.48 | 2.2 | 0.60 | 1.5 | 0.23 | 0.7 | 0.04 | | |
| 749.5 | 45 | | | | | | | | | | | | | 2.5 | 0.75 | 1.7 | 0.28 | 0.8 | 0.05 | | |
| 832.8 | 50 | | | | | | | | | | | | | 2.8 | 0.91 | 1.9 | 0.35 | 0.9 | 0.06 | | |
| 916.1 | 55 | | | | | | | | | | | | | 3.1 | 1.09 | 2.1 | 0.41 | 1.0 | 0.07 | | |
| 999.3 | 60 | | | | | | | | | | | | | 3.3 | 1.28 | 2.2 | 0.48 | 1.1 | 0.08 | | |
| 1082.6 | 65 | | | | | | | | | | | | | | | 2.4 | 0.56 | 1.1 | 0.09 | | |
| 1165.9 | 70 | | | | | | | | | | | | | | | 2.6 | 0.64 | 1.2 | 0.10 | | |
| 1249.2 | 75 | | | | | | | | | | | | | | | | | 1.3 | 0.12 | | |
| 1332.5 | 80 | | | | | | | | | | | | | | | | | 1.4 | 0.13 | | |
| 1415.7 | 85 | | | | | | | | | | | | | | | | | 1.5 | 0.15 | | |
| 1499.0 | 90 | | | | | | | | | | | | | | | | | 1.6 | 0.16 | | |
| 1665.6 | 100 | | | | | | | | | | | | | | | | | 1.8 | 0.20 | 1.1 | 0.07 |
| 1832.1 | 110 | | | | | | | | | | | | | | | | | 1.9 | 0.24 | 1.2 | 0.08 |
| 1998.7 | 120 | | | | | | | | | | | | | | | | | 2.1 | 0.28 | 1.4 | 0.09 |
| 2165.3 | 130 | | | | | | | | | | | | | | | | | 2.3 | 0.33 | 1.5 | 0.11 |
| 2331.8 | 140 | | | | | | | | | | | | | | | | | | | 1.6 | 0.13 |
| 2498.4 | 150 | | | | | | | | | | | | | | | | | | | 1.7 | 0.14 |

**Notes:** Shaded areas represent velocities over 1.5 m/s. Use with caution when water hammer is a concern.

# FRICTION LOSS CHARTS - HDPE PRESSURE PIPE PE80 SDR 11 PN10

C = 140 • PRESSURE LOSS (BAR/100 METRES)

| Nominal Size | | 25 mm | | 32 mm | | 40 mm | | 50 mm | | 63 mm | | 75 mm | | 90 mm | | 110 mm | | 160 mm | | 200 mm | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pipe ID mm | | 20.40 | | 26.20 | | 32.60 | | 40.80 | | 51.40 | | 61.40 | | 73.60 | | 90.00 | | 130.80 | | 163.60 | |
| Wall Thick | | 2.3 | | 2.9 | | 3.7 | | 4.6 | | 5.8 | | 6.8 | | 8.2 | | 10 | | 14.6 | | 18.2 | |
| Flow l/min | Flow m³/hr | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss | Velocity m/s | bar loss |
| 3.8 | 0.25 | 0.2 | 0.04 | | | | | | | | | | | | | | | | | | |
| 7.6 | 0.5 | 0.4 | 0.14 | | | | | | | | | | | | | | | | | | |
| 11.4 | 0.75 | 0.6 | 0.29 | 0.4 | 0.09 | | | | | | | | | | | | | | | | |
| 15.1 | 1 | 0.8 | 0.50 | 0.5 | 0.15 | | | | | | | | | | | | | | | | |
| 26.5 | 1.5 | 1.3 | 1.06 | 0.8 | 0.31 | 0.5 | 0.11 | | | | | | | | | | | | | | |
| 34.1 | 2 | 1.7 | 1.80 | 1.0 | 0.53 | 0.7 | 0.18 | | | | | | | | | | | | | | |
| 41.6 | 2.5 | 2.1 | 2.73 | 1.3 | 0.81 | 0.8 | 0.28 | 0.5 | 0.09 | | | | | | | | | | | | |
| 49.2 | 3 | 2.5 | 3.82 | 1.5 | 1.13 | 1.0 | 0.39 | 0.6 | 0.13 | | | | | | | | | | | | |
| 56.8 | 3.5 | 3.0 | 5.08 | 1.8 | 1.50 | 1.2 | 0.52 | 0.7 | 0.17 | | | | | | | | | | | | |
| 68.1 | 4 | | | 2.1 | 1.92 | 1.3 | 0.66 | 0.8 | 0.22 | 0.5 | 0.07 | | | | | | | | | | |
| 83.3 | 5 | | | 2.6 | 2.91 | 1.7 | 1.00 | 1.1 | 0.34 | 0.7 | 0.11 | | | | | | | | | | |
| 98.4 | 6 | | | 3.1 | 4.08 | 2.0 | 1.41 | 1.3 | 0.47 | 0.8 | 0.15 | | | | | | | | | | |
| 117.3 | 7 | | | | | 2.3 | 1.87 | 1.5 | 0.63 | 0.9 | 0.20 | | | | | | | | | | |
| 132.5 | 8 | | | | | 2.7 | 2.40 | 1.7 | 0.8 | 1.1 | 0.26 | | | | | | | | | | |
| 151.4 | 9 | | | | | 3.0 | 2.98 | 1.9 | 1.00 | 1.2 | 0.32 | | | | | | | | | | |
| 166.6 | 10 | | | | | | | 2.1 | 1.21 | 1.3 | 0.39 | | | | | | | | | | |
| 181.7 | 11 | | | | | | | 2.3 | 1.45 | 1.5 | 0.47 | 1.0 | 0.20 | | | | | | | | |
| 200.6 | 12 | | | | | | | 2.5 | 1.70 | 1.6 | 0.55 | 1.1 | 0.23 | | | | | | | | |
| 215.8 | 13 | | | | | | | 2.8 | 1.97 | 1.7 | 0.64 | 1.2 | 0.27 | | | | | | | | |
| 234.7 | 14 | | | | | | | 3.0 | 2.27 | 1.9 | 0.74 | 1.3 | 0.31 | | | | | | | | |
| 249.8 | 15 | | | | | | | | | 2.0 | 0.84 | 1.4 | 0.35 | | | | | | | | |
| 265.0 | 16 | | | | | | | | | 2.1 | 0.94 | 1.5 | 0.40 | | | | | | | | |
| 283.9 | 17 | | | | | | | | | 2.3 | 1.05 | 1.6 | 0.44 | 1.1 | 0.18 | | | | | | |
| 299.0 | 18 | | | | | | | | | 2.4 | 1.17 | 1.7 | 0.49 | 1.2 | 0.20 | | | | | | |
| 318.0 | 19 | | | | | | | | | 2.5 | 1.30 | 1.8 | 0.54 | 1.2 | 0.23 | | | | | | |
| 333.1 | 20 | | | | | | | | | 2.7 | 1.42 | 1.9 | 0.60 | 1.3 | 0.25 | | | | | | |
| 348.3 | 21 | | | | | | | | | 2.8 | 1.56 | 2.0 | 0.66 | 1.4 | 0.27 | | | | | | |
| 367.2 | 22 | | | | | | | | | 2.9 | 1.70 | 2.1 | 0.71 | 1.4 | 0.30 | | | | | | |
| 382.3 | 23 | | | | | | | | | 3.1 | 1.84 | 2.2 | 0.78 | 1.5 | 0.32 | | | | | | |
| 401.3 | 24 | | | | | | | | | | | 2.3 | 0.84 | 1.6 | 0.35 | | | | | | |
| 416.4 | 25 | | | | | | | | | | | 2.3 | 0.91 | 1.6 | 0.37 | | | | | | |
| 431.5 | 26 | | | | | | | | | | | 2.4 | 0.97 | 1.7 | 0.40 | 1.1 | 0.15 | | | | |
| 450.5 | 27 | | | | | | | | | | | 2.5 | 1.04 | 1.8 | 0.43 | 1.2 | 0.16 | | | | |
| 465.6 | 28 | | | | | | | | | | | 2.6 | 1.12 | 1.8 | 0.46 | 1.2 | 0.17 | | | | |
| 484.5 | 29 | | | | | | | | | | | 2.7 | 1.19 | 1.9 | 0.49 | 1.3 | 0.19 | | | | |
| 499.7 | 30 | | | | | | | | | | | 2.8 | 1.27 | 2.0 | 0.53 | 1.3 | 0.20 | | | | |
| 583.0 | 35 | | | | | | | | | | | 3.3 | 1.69 | 2.3 | 0.70 | 1.5 | 0.26 | | | | |
| 666.2 | 40 | | | | | | | | | | | | | 2.6 | 0.89 | 1.7 | 0.34 | | | | |
| 749.5 | 45 | | | | | | | | | | | | | 2.9 | 1.11 | 2.0 | 0.42 | | | | |
| 832.8 | 50 | | | | | | | | | | | | | 3.3 | 1.35 | 2.2 | 0.51 | 1.0 | 0.08 | | |
| 916.1 | 55 | | | | | | | | | | | | | | | 2.4 | 0.61 | 1.1 | 0.10 | | |
| 999.3 | 60 | | | | | | | | | | | | | | | 2.6 | 0.71 | 1.2 | 0.12 | | |
| 1082.6 | 65 | | | | | | | | | | | | | | | 2.8 | 0.83 | 1.3 | 0.13 | | |
| 1165.9 | 70 | | | | | | | | | | | | | | | 3.1 | 0.95 | 1.4 | 0.15 | | |
| 1249.2 | 75 | | | | | | | | | | | | | | | 3.3 | 1.08 | 1.6 | 0.17 | | |
| 1332.5 | 80 | | | | | | | | | | | | | | | | | 1.7 | 0.20 | | |
| 1415.7 | 85 | | | | | | | | | | | | | | | | | 1.8 | 0.22 | 1.1 | 0.07 |
| 1499.0 | 90 | | | | | | | | | | | | | | | | | 1.9 | 0.24 | 1.2 | 0.08 |
| 1665.6 | 100 | | | | | | | | | | | | | | | | | 2.1 | 0.30 | 1.3 | 0.10 |
| 1832.1 | 110 | | | | | | | | | | | | | | | | | 2.3 | 0.35 | 1.5 | 0.12 |
| 1998.7 | 120 | | | | | | | | | | | | | | | | | 2.5 | 0.42 | 1.6 | 0.14 |
| 2165.3 | 130 | | | | | | | | | | | | | | | | | 2.7 | 0.48 | 1.7 | 0.16 |
| 2331.8 | 140 | | | | | | | | | | | | | | | | | | | 1.8 | 0.19 |
| 2498.4 | 150 | | | | | | | | | | | | | | | | | | | 2.0 | 0.21 |

**Notes:** Shaded areas represent velocities over 1.5 m/s. Use with caution when water hammer is a concern.

# PRESSURE LOSS CHARTS

## TABLE OF APPROXIMATE PRESSURE LOSSES FOR PIPE FITTINGS

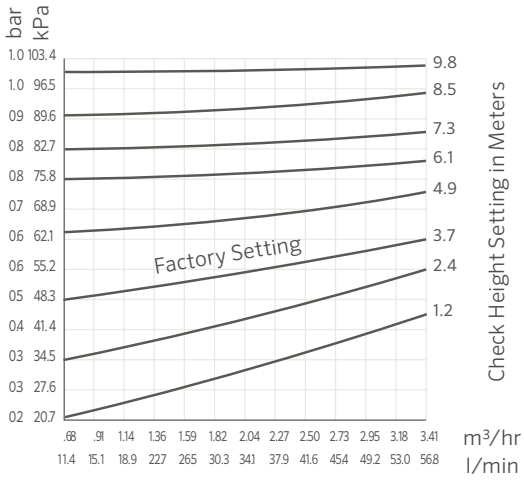
| Steel Fitting Type | ½" | ¾" | 1" (25 mm) | 1¼" (30 mm) | 1½" (40 mm) | 2" (50 mm) | 2½" (65 mm) | 3" (80 mm) | 4" (100 mm) | 6" (150 mm) | 8" (200 mm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Coupling | 0.18 | 0.24 | 0.30 | 0.37 | 0.46 | 0.61 | 0.76 | 0.91 | 1.21 | 1.82 | 2.40 |
| Run of St. Tee | 0.30 | 0.30 | 4.60 | 0.60 | 0.60 | 0.76 | 0.91 | 1.21 | 1.52 | 2.13 | 3.05 |
| Tee, Side Outlet | 0.91 | 1.38 | 1.50 | 2.13 | 2.74 | 3.35 | 4.0 | 4.90 | 6.1 | 9.44 | 12.1 |
| Tee, Run Reduced ½" | 0.45 | 0.76 | 0.91 | 1.21 | 1.50 | 1.82 | 2.13 | 2.4 | 3.65 | 4.90 | 6.10 |
| Elbow, 90° | 0.45 | 0.76 | 0.91 | 1.21 | 1.50 | 1.82 | 2.13 | 2.4 | 3.65 | 4.90 | 6.10 |
| Elbow, 45° | 0.22 | 0.30 | 0.40 | 0.52 | 0.60 | 0.76 | 0.91 | 1.06 | 1.5 | 2.28 | 3.04 |
| Corporation Stop | 2.74 | 2.74 | 2.74 | 2.74 | 2.74 | 2.74 | | | | | |
| Curb Stop | 1.82 | 1.82 | 2.13 | 2.13 | 2.43 | 2.43 | | | | | |

| Plastic IPS or Copper Fitting Type | ½" | ¾" | 1" (25 mm) | 1¼" (30 mm) | 1½" (40 mm) | 2" (50 mm) | 2½" (65 mm) | 3" (80 mm) | 4" (100 mm) | 6" (150 mm) | 8" (200 mm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Coupling | 0.46 | 0.76 | 0.91 | 0.91 | 1.22 | 1.82 | 2.13 | 2.43 | 3.35 | 5.50 | 7.31 |
| Run of St. Tee | 0.76 | 0.91 | 1.22 | 1.52 | 1.83 | 2.43 | 2.74 | 3.35 | 4.57 | 6.40 | 8.53 |
| Tee, Side Outlet | 2.13 | 2.74 | 3.65 | 4.57 | 5.48 | 7.31 | 9.14 | 11.0 | 13.71 | 21.33 | 27.43 |
| Tee, Run Reduced ½" | 1.06 | 1.37 | 1.82 | 2.43 | 2.74 | 3.35 | 4.26 | 5.18 | 7.31 | 10.36 | 13.71 |
| Elbow, 90° | 1.06 | 1.37 | 1.82 | 2.43 | 2.74 | 3.35 | 4.26 | 5.18 | 7.31 | 10.36 | 13.71 |
| Elbow, 34° | 0.46 | 0.60 | 0.91 | 1.06 | 1.22 | 1.52 | 2.13 | 2.44 | 3.04 | 4.90 | 6.10 |

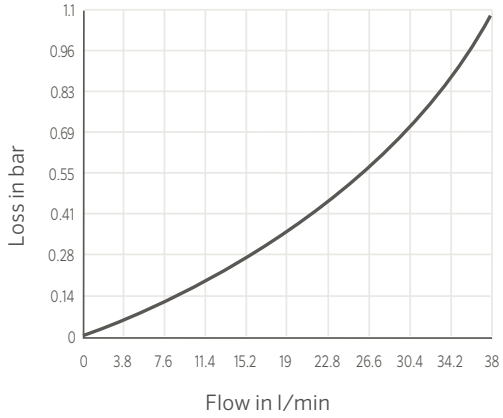
**Note:**
It is recommended that the charts above only be used when the manufacturer's recommended pressure loss values are not available.

## ACCESSORY PRESSURE LOSS CHARTS

### HCV PRESSURE LOSS CHART




### SWING JOINT FRICTION LOSS



# PRESSURE LOSS CHARTS

| **BTT 1-ZONE** Inlet Size ¾", Flow Rate 3-27 l/min | |
|---|---|
| l/min | Friction Loss |
| 3 | 0.3 (28) |
| 7 | 0.3 (34) |
| 11 | 0.4 (41) |
| 15 | 0.6 (55) |
| 19 | 0.8 (76) |
| 23 | 1 (103) |
| 27 | 1 (138) |

**Note:**
Maximum flow at 3.4 bar (340kPa)

| **BTT 2-ZONE** Inlet Size ¾", Flow Rate 3-27 l/min | |
|---|---|
| l/min | Friction Loss |
| 3 | 0.1 (14) |
| 7 | 0.2 (21) |
| 11 | 0.3 (34) |
| 15 | 0.5 (48) |
| 19 | 0.7 (69) |
| 23 | 1 (69) |
| 27 | 1 (124) |

**Note:**
Maximum flow at 3.4 bar (340kPa)
Data shows one 1-zone running at a time.

For applications requiring higher efficiency and lower friction loss, use Hunter valves and dripline products.

# WIRE DATA

| STANDARD ANNEALED COPPER AT 20°C | | | | | | |
|---|---|---|---|---|---|---|
| American Wire Gauge | Common Metric Equivalent ($mm^2$) | Diameter (mils) | Diameter (mm) | Cross-Sectional Area ($mm^2$) | Resistance (Per mft ohms) | Resistance (per km ohms) |
| 1 | 50 | 289.3 | 7.348 | 42.4 | 0.924 | 0.407 |
| 2 | 35 | 257.6 | 6.543 | 33.6 | 0.156 | 0.513 |
| 3 | | 229.4 | 5.827 | 26.7 | 0.197 | 0.647 |
| 4 | 25 | 204.3 | 5.189 | 21.1 | 0.249 | 0.815 |
| 5 | | 181.9 | 4.62 | 16.8 | 0.313 | 1.028 |
| 6 | 16 | 162 | 4.115 | 13.3 | 0.395 | 1.297 |
| 7 | | 144.3 | 3.665 | 10.6 | 0.498 | 1.634 |
| 8 | 10 | 128.5 | 3.264 | 8.36 | 0.628 | 2.061 |
| 9 | | 114.4 | 2.906 | 6.63 | 0.793 | 2.6 |
| 10 | 6 | 101.9 | 2.588 | 5.26 | 0.999 | 3.277 |
| 11 | | 90.7 | 2.3 | 4.17 | 1.26 | 4.14 |
| 12 | 4 | 80.8 | 2.05 | 3.31 | 1.59 | 5.21 |
| 13 | | 72 | 1.83 | 2.63 | 2 | 6.56 |
| 14 | 2.5 | 64.1 | 1.63 | 1.63 | 2.52 | 8.28 |
| 15 | | 57.1 | 1.45 | 1.65 | 3.18 | 10.4 |
| 16 | 1.5 | 50.8 | 1.29 | 1.31 | 4.02 | 13.2 |
| 17 | | 45.3 | 1.15 | 1.04 | 5.05 | 16.6 |
| 18 | 0.75 | 40.3 | 1.02 | 0.82 | 6.39 | 21 |
| 19 | | 35.9 | 0.912 | 0.65 | 8.05 | 26.4 |
| 20 | 0.5 | 32 | 0.813 | 0.52 | 10.1 | 33.2 |

## PSR WIRE DATA

| MAXIMUM WIRE LENGTH, ONE WAY | | | | | | |
|---|---|---|---|---|---|---|
| Model | 0.75 $mm^2$ | 1.5 $mm^2$ | 2.5 $mm^2$ | 4 $mm^2$ | 6 $mm^2$ | 10 $mm^2$ |
| PSR-22 | 74 m | 118 m | 188 m | 298 m | 473 m | 751 m |
| PSR-52 | 41 m | 65 m | 104 m | 165 m | 262 m | 416 m |
| PSR-53 | 41 m | 65 m | 104 m | 165 m | 262 m | 416 m |

# WIRE SIZING

## REQUIRED INFORMATION

1) Actual one-way length of wire between the controllers and the power source or the controllers and valves

2) Allowable voltage loss along the wire circuit

3) Accumulative current flowing through the wire section being sized in amperes

## RESISTANCE IS CALCULATED USING THIS FORMULA:

$$R = \frac{1{,}000 \times AVL}{2L \times I}$$

R = Maximum allowable resistance of wire in ohms per 1,000 m

AVL = Allowable voltage loss

L = Wire length (one way)

I = Inrush current

AVL for controller power wire sizing is calculated by subtracting the minimum operating voltage required by the controller from the minimum available voltage at the power source.

AVL for valve wire sizing is calculated by subtracting minimum solenoid operating voltage from controller output voltage. This number will vary depending on the manufacturer and in some cases with line pressure.

## VALVE WIRE SIZING EXAMPLE

Given: The distance from the controller to the valve is 600 m. The controller output is 24 V. The valve has a minimum operating voltage of 20 V and an inrush current of 370 mA (0.37 A).

$$R = \frac{1{,}000 \times 4}{2\,(600) \times 0.37}$$

$$R = \frac{4{,}000}{444}$$

$$R = 9.01 \text{ ohms/1,000 m}$$

So, wire resistance cannot exceed 9 ohms per 1,000 m. Now go to table #1 and select the proper wire size. Since 1.5 $mm^2$ gauge wire has more resistance than 9 ohms per 1,000 m, choose 2.5 $mm^2$ wire.

Table 2 is a quick reference and is set up to provide maximum wire runs given the information at the bottom of the table.

**TABLE 1 - RESISTANCE OF COPPER WIRE**

| Wire Size ($mm^2$) | Resistance in Ohms per 1,000 m at 20° C |
|---|---|
| 0.5 | 34.5 |
| 1.0 | 17.2 |
| 1.5 | 11.5 |
| 2.5 | 6.9 |
| 4.0 | 4.3 |
| 6.0 | 2.9 |

**TABLE 2 - ALLOWABLE DISTANCES FOR VARIOUS WIRE SIZES***

| Ground Wire ($mm^2$) | Control Wire ($mm^2$) 0.5 | 1.0 | 1.5 | 2.5 | 4.0 | 6.0 |
|---|---|---|---|---|---|---|
| 0.5 | 157 | 209 | 235 | 261 | 279 | 289 |
| 1.0 | 209 | 314 | 377 | 449 | 503 | 538 |
| 1.5 | 235 | 377 | 470 | 588 | 684 | 754 |
| 2.5 | 261 | 449 | 588 | 783 | 965 | 1103 |
| 4.0 | 279 | 503 | 684 | 965 | 1,257 | 1,502 |
| 6.0 | 289 | 538 | 751 | 1,103 | 1,502 | 1,864 |

**Notes:**
Maximum one-way distance in metres between controller and solenoid assuming 370 mA inrush current, AVL = 4 volts, 1 valve on at a time

Table 2 is for a single active solenoid. With two solenoids operating simultaneously on the same wires, the wire distances should be halved.

# ADDITIONAL DATA

## WIRE SIZE REFERENCE CHART

| Wire Size ($mm^2$) | 25 mm | 32 mm | 40 mm | 50 mm | 63 mm | 75 mm | 90 mm | 110 mm | 160 mm | Wire Size ($mm^2$) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | 20 | 35 | 49 | 80 | 110 | 175 | - | - | - | 0.5 |
| 1 | 16 | 30 | 42 | 67 | 97 | 150 | - | - | - | 1 |
| 1.5 | 10 | 18 | 25 | 40 | 56 | 88 | 120 | 150 | - | 1.5 |
| 2.5 | 7 | 15 | 20 | 33 | 50 | 75 | 102 | 130 | - | 2.5 |
| 4 | 6 | 13 | 16 | 27 | 40 | 63 | 85 | 110 | - | 4 |
| 6 | 4 | 6 | 9 | 16 | 25 | 35 | 50 | 65 | 150 | 6 |

**Notes:**
Approximate number of wires to be installed in conduit or tubing. Maximum number of wires in conduit or sleeving.

## CLIMATE ETp TABLE

| Climate* | mm Daily |
|---|---|
| Cool Humid | 2.5 to 3.8 |
| Cool Dry | 3.8 to 5.1 |
| Warm Humid | 3.8 to 5.1 |
| Warm Dry | 5.1 to 6.3 |
| Hot Humid | 5.1 to 7.6 |
| Hot Dry | 7.6 to 11.4 |

**Notes:**
* Cool = under 21˚C as an average midsummer high
* Warm = between 21˚ and 32˚C as midsummer highs
* Hot = over 32˚C
* Humid = over 50% as average midsummer relative humidity (dry = under 50%)

# NOTES

# STATEMENT OF WARRANTY

## Hunter Residential and Commercial Irrigation Products

Hunter Industries Incorporated ("Hunter") warrants the following products to be free of defects in materials or workmanship under normal use in landscape irrigation applications for the specified period of time outlined below from the original date of manufacture:

| | | | | |
|---|---|---|---|---|
| **ONE YEAR** | **ROTORS** | SRM | **MICRO** | Micro Sprays, PLD Fittings, Rigid Risers, Air Relief Valves |
| **TWO YEARS** | **ROTORS** | PGP-ADJ, PGJ, HCV | **CONTROLLERS** | ACC (Legacy), BTT, Eco Logic, FS-1000, FS-3000, I-Core/DUAL (Legacy), NODE, NODE-BT, Pro-C, PSR, ROAM, X-Core, XC Hybrid, and Hydrawise Controllers (HC, X2, WAND, PHC, HPC, HCC) |
| | **SPRAYS** | PS Ultra, SJ, FlexSG, HSBE | **SENSORS** | HC Flow Meter (wired and wireless) |
| | **NOZZLES** | Spray Nozzles, PCN, PCB, AFB, MSBN | **MICRO** | PCZ, RZWS, Point-Source Emitters, Tubing, Multi-Port Emitters, IH Risers, MLD, Eco-Indicator***, Multi-Purpose Box, Senninger Regulators, PLD-LOC Fittings |
| | **VALVES** | PGV | **TOOLS** | SpotShot |
| | **CENTRAL**** | All communication modules (Cell, LAN, Wi-Fi) for ACC, ACC2, ICC2, and other Centralus controllers. | | |
| **THREE YEARS** | **CONTROLLERS** | ROAM XL, EZ Decoder System, EZ-DT | **MP ROTATOR** | All |
| **FIVE YEARS** | **ROTORS** | PGP Ultra, I-20, I-25, I-40, I-80, and I-90 | **CONTROLLERS** | ACC2, ICC2, ICD Decoders, ICD-HP Programmer |
| | **SPRAYS** | Pro-Spray, Pro-Spray PRS30, and Pro-Spray PRS40 | **SENSORS** | Clik Sensors, Flow-Sync, MWS, Solar Sync, Wireless Flow Sensor |
| | **VALVES** | HQ, ICV, IBV | **MICRO** | PLD, HDL**, HDL-COP** Eco-Mat, Eco-Wrap, Eco-Indicator*** |

## Hunter Golf and ST System Irrigation Products*

Hunter will unconditionally repair, replace, or repurchase, at its sole discretion, any defective component* assemblies contained within the Golf and ST products listed below by category, returned freight prepaid, from the date of manufacture within a period of:

| | | |
|---|---|---|
| **ONE YEAR** | **GOLF CONTROLLERS** | Pilot Command Center Software, Pilot-FC, Pilot-FI, Pilot Hub |
| **THREE YEARS** | **GOLF ROTORS** | TTS-800 Series, G-800 Series, G-900 Series, B Series |
| | **GOLF TWO-WAY MODULES** | Pilot 100, Pilot 200, Pilot 400, Pilot 600 |
| **FIVE YEARS** | **GOLF ROTORS** | The golf rotor component warranty is extended to 5 years with a one-for-one purchase of an HSJ Swing Joint from an authorised Hunter Golf distributor. |
| | **SWING JOINTS** | HSJ-0, HSJ-1, HSJ-2, HSJ-3 |
| | **ST ROTORS** | ST-90, STG-900, ST-1200, ST-1600, ST-1700 |
| | **ST ACCESSORIES** | All models starting with "ST" |
| | **COMPUTER, PRINTERS & ACCESSORIES, MAINTENANCE RADIO & BATTERY** | Equipment manufacturer's warranty (no Hunter warranty) |

* Warranty covers repair, replacement, or repurchase of individual defective component assemblies contained within the product. Returns of complete finished goods are not allowed under warranty without prior approval from the Hunter Product Manager.

If used for agricultural applications, Hunter limits the warranty for valves, sprays, MP Rotator Nozzles, and rotor products to a period of one (1) year from the original date of manufacture. This agriculture limitation supersedes all other warranties expressed or implied.

** Plus 2 additional years for environmental stress cracking. No warranty against root intrusion on HDL-COP. While the use of copper does not completely remove the chance of root intrusion, it has been shown to assist in its prevention when coupled with proper irrigation scheduling.

*** Eco-Indicator – 6" ECO-ID: 2-year warranty; 12" ECO-ID-12: 5-year warranty

**** Hunter's cellular module warranty does not apply to the availability or compatibility of cellular data service, in any particular area. Availability of compatible data services should be determined prior to installation.

## *Statement of Warranty, Continued*

If a defect in a Hunter product is discovered during the applicable warranty period, Hunter will repair or replace, at its option, the product or the defective part. This warranty does not extend to repairs, adjustments, or replacement of a Hunter product or part that results from misuse, negligence, alteration, modification, tampering, or improper installation and/or maintenance of the product. This warranty extends only to the original installer of the Hunter product. If a defect arises in a Hunter product during the warranty period, contact your local Hunter Authorised Distributor.

Hunter's warranty applies only to products installed as specified and used as intended for irrigation purposes. Hunter's warranty shall be limited to defects in materials and workmanship during the warranty period, and shall not extend to situations in which the product was subjected to improper design, installation, operation, maintenance, application, abuse, improper electrical current, grounding, service other than by Hunter authorised agents, operating conditions other than that for which it was designed, or in systems using water containing corrosive chemicals, electrolytes, sand, dirt, silt, rust, or agents that otherwise attack and degrade plastics. Hunter's warranty does not cover component failures caused by lightning strikes, electrical power surges, or unconditioned power supplies. If products are repurchased, the price to Distributor for such products in effect at the time of return will apply.

Hunter's obligation to repair, replace, or repurchase its products or product components as set forth above is the sole and exclusive warranty extended by Hunter. There are no other warranties, expressed or implied, including warranties of merchantability and warranties of fitness for a particular purpose. Hunter will not be liable to a distributor or to any other party in strict liability, tort, contract, or any other manner for any damages caused or claimed to be caused as a result of any design of or defect in Hunter's products, or for any special, incidental, or consequential damages of any nature.

Where applicable, Hunter's statement of warranty complies with local directives.

**If you have any questions concerning the warranty or its application, please email support@hunterindustries.com.**

## ASAE CERTIFICATION STATEMENT

Hunter Industries Incorporated certifies that pressure, flow rate, and radius data for these products were determined and listed in accordance with ASAE Standard S398.1, Procedure for Sprinkler Testing and Performance Reporting, and are representative of performance of production sprinklers at the time of publication. Actual product performance may differ from the published specifications due to normal manufacturing variations and sample selection. All other specifications are solely the recommendation of Hunter Industries Incorporated.

Helping our customers succeed is what drives us. While our passion for innovation and engineering is built into everything we do, it is our commitment to exceptional support that we hope will keep you in the Hunter family of customers for years to come.

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Denise Mullikin, President, Landscape Irrigation and Outdoor Lighting

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