

**Hunter**<sup>®</sup>

## THE HUNTER ST SYSTEM

Synthetic Turf Cooling & Cleaning

RESIDENTIAL & COMMERCIAL IRRIGATION

*Built on Innovation*



# TAKE YOUR FIELD TO THE NEXT LEVEL OF PLAYABILITY

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Simple to specify, contractor-friendly to install and easy to service and maintain for the end-user, the Hunter ST System is the first and only complete package of irrigation products perfectly suited for cooling and cleaning synthetic sports fields.

Modern-day synthetic sports fields generate considerable heat when exposed to sunlight. With on-demand cooling capabilities, fields can remain safe and playable even on the hottest summer days. And when the occasional spill needs clean-up, the irrigation system is there to help get the job done.

The core of the Hunter ST System features our gear-driven long-range rotors. Coupled with special multi-axis swing joints, low-pressure loss valves and robust, feature-packed enclosures,

they provide the ultimate in installation flexibility and long-term total access to all irrigation components including the swing joint point of connection. Such complete access is an absolute must when the surrounding synthetic surface is not easily excavated and restored to original condition without huge expense, specialized equipment and procedures.

For the most complete and highest quality synthetic turf watering solution, the answer is clearly the Hunter ST System.

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## Inside the ST System

Open access to all components for ease of ongoing maintenance



## From the top

Smooth and safe surface area with quick-access ports



## Seamless integration

Blends in perfectly with the surrounding synthetic surface





**THE HUNTER ST SYSTEM** is the first and only cost-effective integrated solution designed to exceed the unique and specific needs of the synthetic turf irrigation market.

## STK-1B / STK-2B FOR APPLICATIONS UP TO 36 METRE RADIUS

Synthetic sports fields come in all sizes and shapes. For small to mid-sized football fields, Hunter offers two ST System kits. These cost-competitive turn-key solutions each offer a collection of products designed to meet a radius range of up to 36 metres and a choice of Block type or VAH (valve adjacent to head) valve designs. Rotors in this category typically require higher pressures of 8 Bar (800 kPa) to the base of the rotor, and 9 Bar (900 kPa) to the swing joint's inlet in order to maximize performance.

### STK-1B

Block type design with remotely located valves. This configuration keeps high pressure mainlines away from beneath the synthetic surface.

### STK-2B

VAH type design and integrated solution simplifies installation. This configuration also eliminates the high pressure losses associated with valve in head type rotors in these high flow and high operating pressure systems.

#### ST Rotor Features

- Nozzle choices: 2
- Nozzle trajectory: 22.5°
- Arc adjustment: through-the-top
- Arc setting: 40° to 360°
- Quick-check arc mechanism
- Gear-drive: Water lubricated
- Rubber logo cap
- Optional rubber cover kits
- 5-Year component part warranty

The ST-90 is ideally suited for direct burial in the natural turf that is sometimes adjacent to the synthetic field to be irrigated. It is not intended for use with the ST System vaults.

The STG-900 is ideally suited for installation within the STK-1B or STK-2B vault on the synthetic surface. It can also be installed in the natural turf that is sometimes adjacent to the synthetic field to be irrigated.

#### ST-90B / STG-900 Rotors

Robust, reliable, and engineered for longevity in high flow and high pressure conditions, ST gear-driven rotors in the 31 m to 36 m category are available in two configurations.

##### ST-90B

Model: 8 cm jar top  
Overall height: 29 cm  
Pop-up height: 8 cm  
Diameter: 14 cm  
Inlet size: 1½" BSP



##### STG-900

Model: 8 cm top service  
Overall height: 36 cm  
Pop-up height: 8 cm  
Diameter: 20 cm  
Inlet size: 1½" Acme



#### STK-1B / STK-2B

##### The ST Kits Descriptions

For specification ease and to ensure the correct product is installed, the ST System is available in kit configurations.

**ST Rotor:** Synthetic turf rotor without rubber cover kit

**ST Vault:** Vault with 3-piece polymer-concrete cover

**ST Swing Joint:** "VA" 51 mm (2") PVC swing joint with 7 pivot points

**ST Valve & Fitting Kit:** ICV-151 valve, high pressure rated ball valve and fitting kit

**ST Adapter Elbow Fitting\***

**ST Rotor Adapter Fitting\*\***

**Rubber Cover Kit:** STG-900 rubber cover kit

**Quick Coupler Valve:** 1" Inlet with 1¼" outlet for key

**BSP Inlet Adapter:** Converts swing joint inlet to 51 mm male BSP threads.

##### STK-1B

STG-900 Block System  
(remotely located valve)

STG-900-73

ST-173026B

ST-2008VA

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239800

239300

473900

HQ5RC-BSP

241400

##### STK-2B

STG-900 VAH System  
(valve adjacent to head)

STG-900-73

ST-173026B

ST-2008VA

ST-VBVKF

239800

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473900

HQ5RC-BSP

241400

##### Notes:

\*ST adapter elbow fitting connects ST-2008VA swing joint to rotor adapter fitting (STK-1B) also connects ST-VBVKF to STG-900 rotor (STK-2B)

\*\* ST rotor adapter fitting connects 239800 Adapter Elbow Fitting to STG-900 Acme inlet rotor (STK-1B)

# STK-1B / STK-2B SPECIFICATIONS & ACCESSORIES

## ST ROTOR USER INSTALLED OPTIONS

Rubber Cover Kit ST-90: P/N 234200

Rubber Cover Kit STG-900: P/N 473900

The rubber cover kit enhances safety with its smooth and flat rubberized exposed surface area.

## ST-90 / STG-900 NOZZLE PERFORMANCE DATA

| Nozzle              | Pressure |     | Radius<br>m | Flow               |       | Precip mm/hr |      |
|---------------------|----------|-----|-------------|--------------------|-------|--------------|------|
|                     | Bar      | kPa |             | m <sup>3</sup> /hr | l/min | ■            | ▲    |
| <b>73</b><br>Orange | 6.9      | 690 | 31.4        | 16.9               | 282   | 34.3         | 39.6 |
|                     | 7.6      | 760 | 33.2        | 17.5               | 291   | 31.7         | 36.6 |
|                     | 8.3      | 830 | 35.1        | 18.1               | 301   | 29.4         | 34.0 |
| <b>83</b><br>Tan    | 6.9      | 690 | 34.1        | 19.1               | 319   | 32.8         | 37.9 |
|                     | 7.6      | 760 | 35.4        | 20.0               | 333   | 32.0         | 37.0 |
|                     | 8.3      | 830 | 36.6        | 20.9               | 348   | 31.2         | 36.1 |

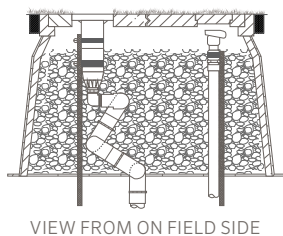
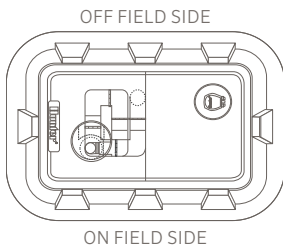
### Notes:

All precipitation rates calculated for 180 degree operation.  
For precipitation rate of 360 degree sprinkler divide by 2.

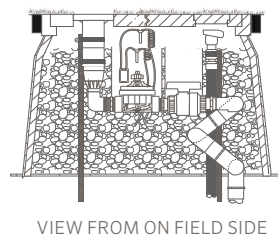
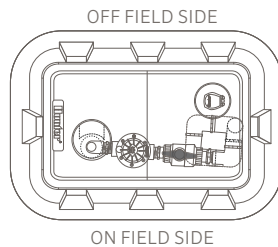
## ST System Details and Instructions

Every ST Kit also includes a set of concise installation details and installation instructions. Each installation detail contains more than 20 callouts and references to ensure the system is installed to the exact and intended specifications.

### STK-1B



### STK-2B



## ST Swing Joints

Multi-axis vertical alignment swing joints with seven O-ring sealed pivot points. With 100% directional flexibility, the rotor can be perfectly placed within the pre-cast opening in the ST Vault's cover set. Also dramatically reduces dangerous water velocities and performance robbing pressure loss through the ST System components.



### ST-2008VA

51 mm (2") PVC  
21.7 Bar (2,170 kPa) rating  
51 mm (2") Female slip inlet\*  
1½" Female Acme outlet

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

## ST Valve Sets

Heavy-duty control valves are uniquely configured to complement the ST System. Whether installed in Block or Valve Adjacent to Head (VAH) designs, the result is dramatic reductions in pressure loss when compared to all available Valve In Head rotor designs. These ST System specific valve sets work to ensure that all components fit efficiently within the ST Vault.

### ST-VBVKF

38 mm (1½") NPT ICV valve  
21.7 Bar (2,170 kPa) rated ball valve  
1½" Acme inlet  
1½" Acme outlet  
Low pressure loss design  
(0.7 Bar; 70 kPa at 22.7 m<sup>3</sup>/hr; 378 l/min)  
Includes 38 mm (1½") connection fittings



## ST Vaults

Lightweight, yet super-duty, ST Vaults include construction-grade tapered fiberglass body shells with polymer-concrete exposed upper rims. The polymer-concrete cover sets include two main sections that simplify installation and maintenance. One side includes a pre-cast opening to support the ST Rotor's high-flow lateral thrust while the other side includes the quick-access port and lid for the quick-coupler.

### ST-173026B

51 mm Thick 3-piece cover set  
43 cm x 76 cm Main cover  
66 cm Overall height  
47 kg Body weight  
73 kg Total weight  
68 cm x 104 cm Base pad  
One quick access port



## STK-5B / STK-6B FOR APPLICATIONS UP TO 50 METRE RADIUS

For larger and wider sports fields like full-sized football or field hockey, the STK-5B / STK-6B category is the perfect solution. These fields typically require the largest nozzles, and the system oftentimes must supply 8 Bar (800 kPa) to the base of the rotor in order to maximize performance. This category also works well with smaller fields when the desired radius is beyond the STK-1B / STK-2B capabilities.

The big advantage to using larger rotors on smaller fields is the added benefit of being able to run the system at much lower operating pressures.

### STK-5B

Block type design with remotely located valves. This configuration keeps high pressure mainlines away from beneath the synthetic surface.

### STK-6B

VAH type design and integrated solution simplifies installation. This configuration also eliminates the high pressure losses associated with valve in head type rotors in these high flow and high operating pressure systems.

### ST-1600B / ST-1600BR Rotor Features

- Nozzle choices: 6
- Nozzle trajectory: 22.5°
- Arc Adjustment: movable stops
- Arc Setting: 40° to 360°
- Quick-check arc mechanism
- Ratcheting nozzle turret
- Gear-drive: Isolated and grease lubricated
- Rubber logo cap
- Telescoping infill barrier
- Adjustable rotation speed: 0 to 85 seconds (180° at 8 Bar)
- 5-Year component part warranty

The ST-1600 rotors complement the ST-90 and STG-900 rotors by adding long-range capabilities. The pop-up ST-1600B is ideally suited for installation within the STK-5B or STK-6B vault on the synthetic surface. It can also be installed in the natural turf that is sometimes adjacent to the synthetic field to be irrigated. The ST-1600BR rotor is perfect for sites where riser mounting is preferred, or for retrofitting existing synthetic fields to irrigation. It is also great for horse arenas and pastures.

### ST-1600B / ST-1600BR

Robust, reliable, and engineered for longevity in high flow and high pressure conditions, ST gear-driven rotors in the 107' to 165' category are available in two configurations.

#### ST-1600B

Model: 13 cm top service  
Overall height: 57 cm  
Pop-up height: 13 cm  
Diameter: 36 cm  
Inlet size: 2" BSP\*

\* Use P/N 241400 adapter to 2" pipe

#### ST-1600BR

Model: Riser mounted  
Overall height: 22 cm  
Diameter: 21 cm  
Inlet size: 2" BSP\*

\* Use P/N 241400 adapter to 2" pipe



### STK-5B / STK-6B

#### The STK Kits Description

For specification ease and to ensure the correct product is installed, the ST System is available in kit configurations.

**ST Rotor:** Synthetic turf rotor

**ST Vault:** Vault with 4-piece polymer-concrete cover set

**ST Swing Joint:** 76 mm (3") PVC swing joint with 7 pivot points

**ST Valve Sets:** 76 mm (3") Valve set with remote on-off-auto selector manifold

**ST Fitting Sets:** All fittings needed to connect swing joint to valve and/or rotor

**Quick Coupler Valve:** 1" inlet with 1¼" outlet for key

**BSP Inlet Adapter:** Converts swing joint inlet to 76 mm male BSP threads.

#### STK-5B

ST-1600 Block System  
(remotely located valve)

ST-1600B

ST-243642B

ST-3010VA

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ST-F30K

HQ5RC-BSP

477800

#### STK-6B

ST-1600 VAH System  
(valve adjacent to head)

ST-1600B

ST-243642B

ST-3010VA

ST-V30KB

ST-F30K

HQ5RC-BSP

477800

## STK-5B / STK-6B SPECIFICATIONS & ACCESSORIES

### ST-1600 NOZZLE PERFORMANCE DATA

| Nozzle         | Pressure |     | Radius<br>m | Flow               |       | Precip mm/hr |      |
|----------------|----------|-----|-------------|--------------------|-------|--------------|------|
|                | Bar      | kPa |             | m <sup>3</sup> /hr | l/min | ■            | ▲    |
| 16 ●<br>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 ●<br>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 ●<br>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 ●<br>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 | 46.1        | 51.5               | 859   | 48.5         | 56.0 |
|                | 8.0      | 800 | 47.3        | 55.2               | 920   | 49.4         | 57.0 |
| 24 ●<br>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* ●<br>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 |

#### Notes:

All precipitation rates calculated for 180 degree operation.  
For precipitation rate of 360 degree sprinkler divide by 2.  
\* Preliminary data

### ST Swing Joints

Multi-axis vertical alignment swing joints with seven O-ring sealed pivot points. With 100% directional flexibility, the rotor can be perfectly placed within the pre-cast opening in the ST Vault's cover set. Also dramatically reduces dangerous water velocities and performance robbing pressure loss through the ST System components.



#### ST-3010VA

76 mm (3") PVC  
21.7 Bar (2,170 kPa) rating  
76 mm (3") Female slip inlet  
3" Female Acme outlet

\* Use P/N 477800 adapter to male BSP threads

### ST Valve Sets

Heavy-duty control valves are uniquely configured to complement the ST System. Whether installed in Block or Valve Adjacent to Head (VAH) designs, the results are dramatic reductions in pressure loss when compared to all available Valve In Head rotor designs. These ST System specific valve sets work to ensure that all components fit efficiently within the ST vault.

#### ST-V30KB

76 mm (3") BSP cast-iron/aluminum construction  
Slow opening and closing feature  
Ultra-low pressure loss design  
(0.15 Bar; 15 kPa at 65.0 m<sup>3</sup>/hr; 1082 l/min)  
Remote On-Off-Auto selector and solenoid (not shown)



### Inside the ST Vault



### ST Vaults

Lightweight, yet super-duty, ST Vaults include construction-grade tapered fiberglass body shells with polymer-concrete exposed upper rims. The polymer-concrete cover sets include two main sections that simplify installation and maintenance. One side includes a pre-cast opening to support the ST Rotor's high-flow lateral thrust while the other side includes access ports for the quick-coupler valve and remote On-Off-Auto selector/solenoid manifold.

#### ST-243642B

76 mm Thick 4-piece cover set  
61 cm x 91 cm Main cover  
107 cm Overall height  
77 kg Body weight  
145 kg Total weight  
112 cm x 127 cm Base pad  
Two quick access ports

Learn more. Visit [www.hunterindustries.com/st](http://www.hunterindustries.com/st)



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.

A handwritten signature in white ink that reads "Richard E. Hunter".

Richard E. Hunter, CEO of Hunter Industries

**Website** [hunterindustries.com](http://hunterindustries.com) | **Customer Support** 760-744-5240 | **Technical Service** 760-591-7383

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