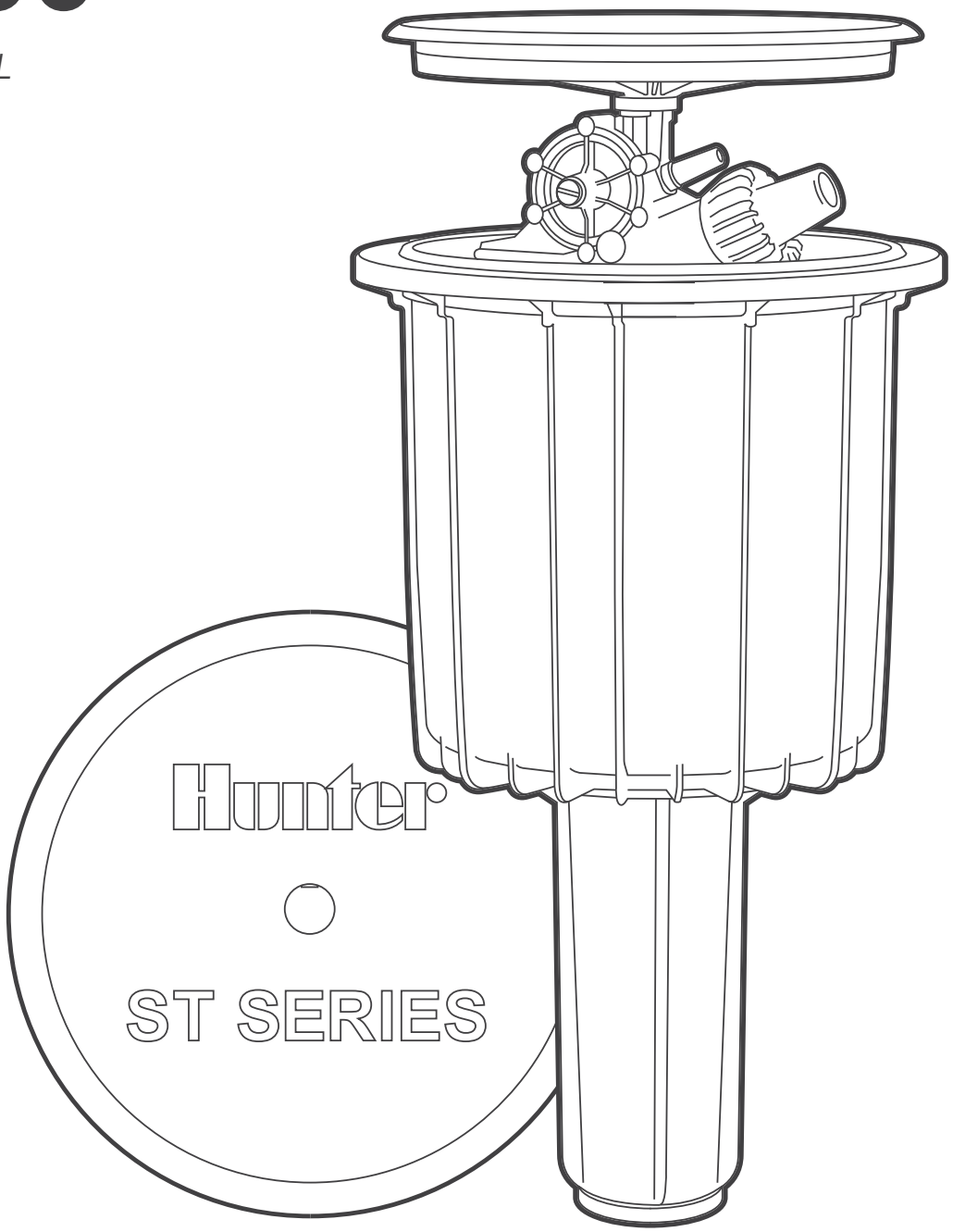
ST-1600

OWNER'S MANUAL



ST-1600
Long-Range Synthetic Turf Rotor

Hunter®

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ST-1600-HS-B: Pop-Up Gear Drive

The best-in-class gear-driven ST-1600-HS-B Synthetic Turf Rotor offers a premium solution for synthetic turf irrigation. The rotor cools, cleans, and flushes synthetic sports fields to enhance field safety and playability. With a throwing radius up to 165', the powerful and reliable ST-1600-HS-B Rotor offers years of solid performance in a range of applications.

ST-1600-HS-BR: Riser-Mounted Gear Drive

The riser-mounted ST-1600-HS-BR configuration is an ideal retrofit option for synthetic turf irrigation. It is also an effective dust-control solution for horse arenas, corrals, and pastures.

Installation

- With a maximum radius of 165', the ST-1600 Rotor is designed for placement outside the field for safety and serviceability.
- Pair the rotor with the ST-1600-KIT vault system to bring all irrigation components together inside one strong enclosure for simple access to the complete system.

Key Benefits

- Heavy-duty internal gear drive and stainless steel pop-up riser provide years of reliable operation
- Long-range performance flexibility up to 165' with six nozzle choices
- Full-circle and adjustable arc in one model from 40° to 360°
- Adjustable speed of rotation using the adjustment knob to set the speed to your requirements

Factory Settings

- Preinstalled #20 nozzle; other nozzles are included in the packaging
- Speed control pre-set for maximum speed of rotation
- 40° arc setting

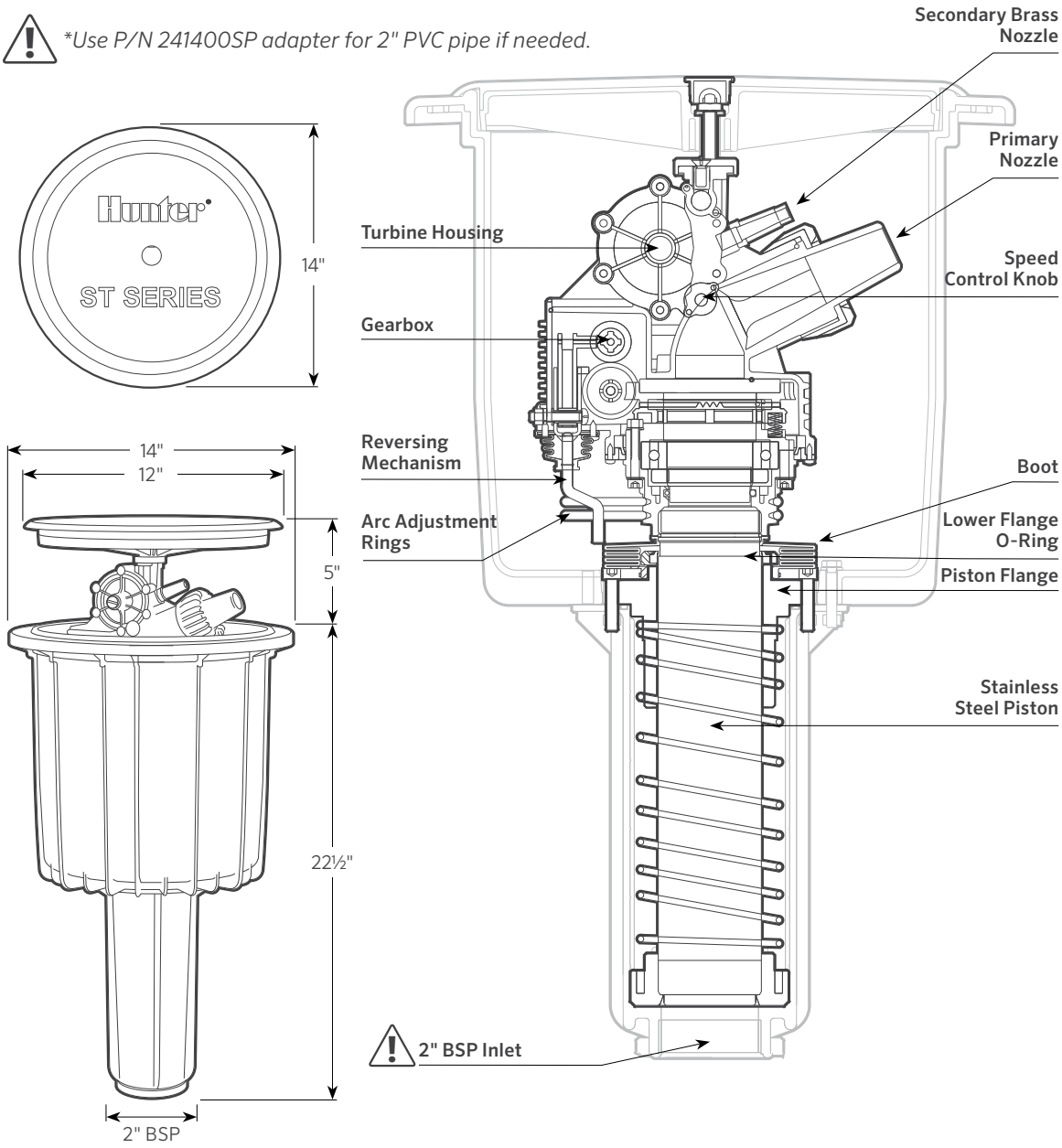
Product Dimensions:

- Overall height: 22½"
- Pop-up height: 5"
- Exposed diameter: 14"
- Inlet size: 2" BSP*

Operating Specifications:

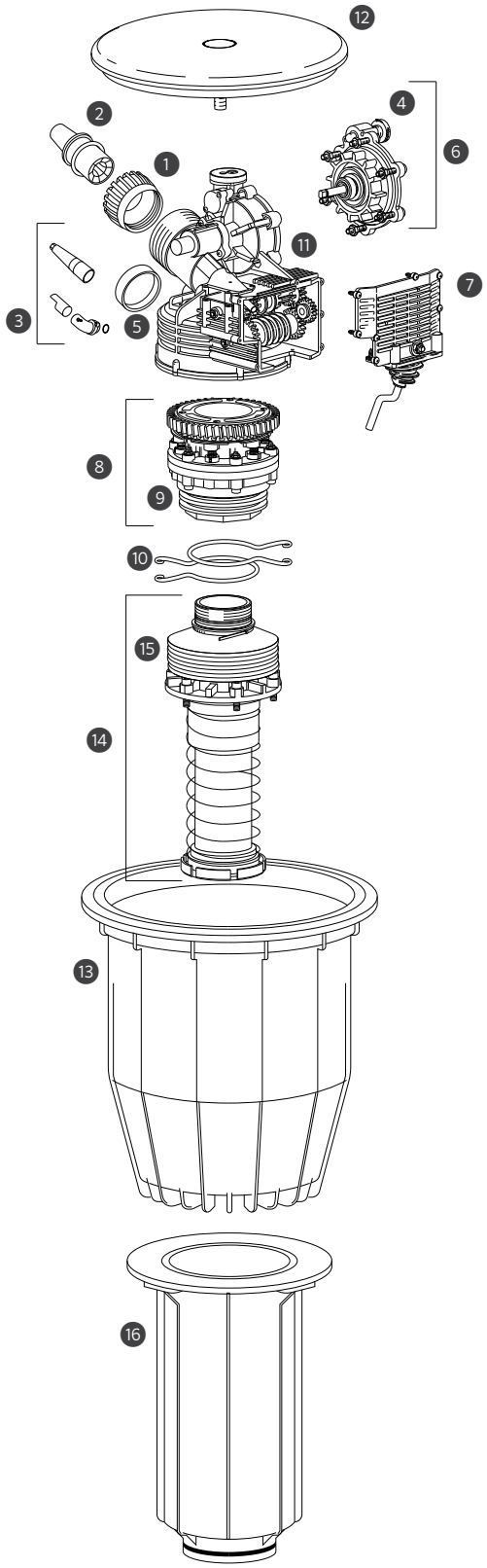
- Radius: 107' to 165'
- Flow: 96.2 to 326.8 GPM
- Operating pressure range: 60 to 120 PSI
- Speed of rotation: 80 seconds at 90 PSI in a single 180° sweep

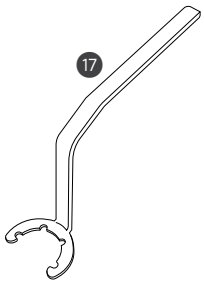
**Use P/N 241400SP adapter for 2" PVC pipe if needed.*



ST-1600-HS-B: Replacement Parts

ITEM	DESCRIPTION		CATALOG NO.
1	Primary Nozzle Retainer		502402SP
2	Primary Nozzle	#16	784800SP
		#18	784801SP
		#20	784802SP
		#22	784803SP
		#24	784804SP
		#26	784805SP
3	Secondary Nozzle Kit	Female-threaded nozzle with elbow	10005900SP
		Male-threaded nozzle	10006100SP
4	Speed Control Knob		510101SP
5	Gearbox Cover		502455
6	Turbine Assembly Kit		10006200SP
7	Reversing Kit		510164SP
8	Turret inlet Kit		510167SP
9		Threaded rotor inlet	893600SP
10	Arc Rings (2)		205617SP
11	Gear-Drive Assembly		881900SP
12	Rotor Cover Kit		204205SP
13	Upper Body Kit		502432SP
14	Riser Assembly		502432SP
15		Rubber boot	502423
16	Lower Body Kit		502442SP
17	Gear-Drive Insertion/Removal Tool		517600SP





A. Replacing the cover and rotor

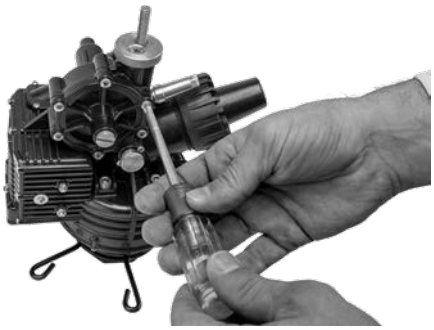
1. Remove center plug with a flat-blade screwdriver and unscrew the nut underneath using a ½" (13 mm) socket.

2. Use the Gear-Drive Insertion/ Removal Tool to unscrew the rotor from the piston. The tool will grab onto the screws below the rotor.

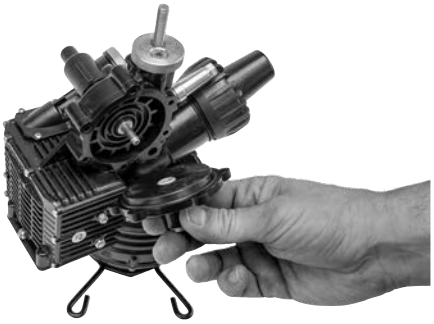
3. Turn the wrench counterclockwise until the unit is free from the threads.
4. Lift the unit out of the body.

B. Replacing the propeller and checking for debris

1. Remove the eight screws on the turbine housing (six large, two small).



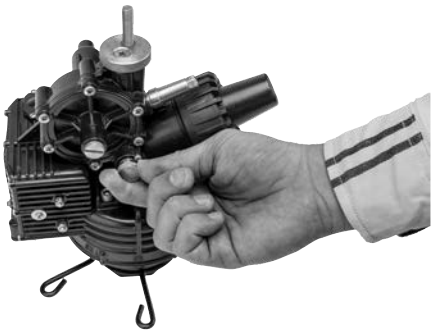
2. Pull to remove the propeller cover and expose the propeller.



3. Remove the propeller from the housing to clear any debris that may be trapped inside.

C. Speed control adjustment

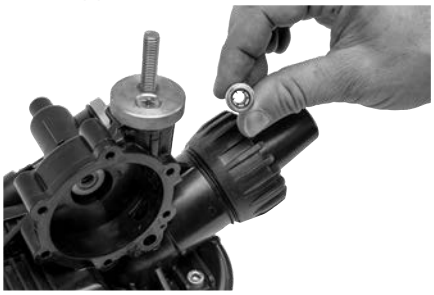
1. Turn the brass knob clockwise to slow down rotation.



D. Servicing secondary nozzle

1. Unthread the secondary nozzle.

2. Clear any debris that may be trapped inside.



E. Arc adjustment

1. For part-circle operation, reach inside the rotor to set the arc adjustment rings to the desired arc setting.

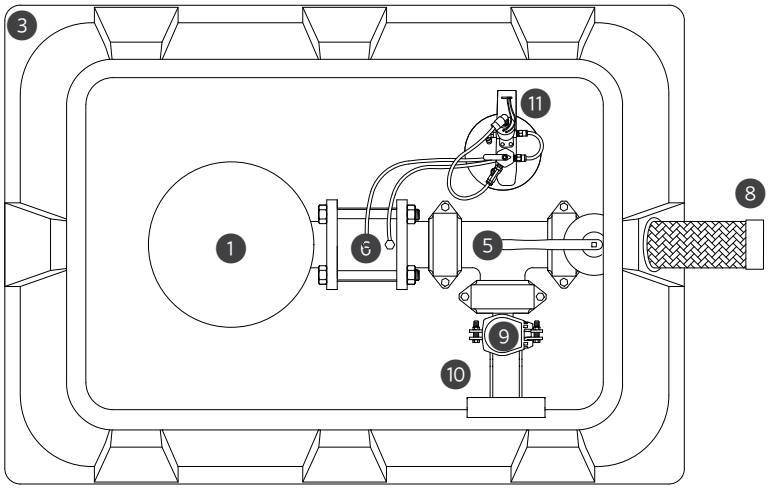
2. For 360° operation, remove both adjustment rings.

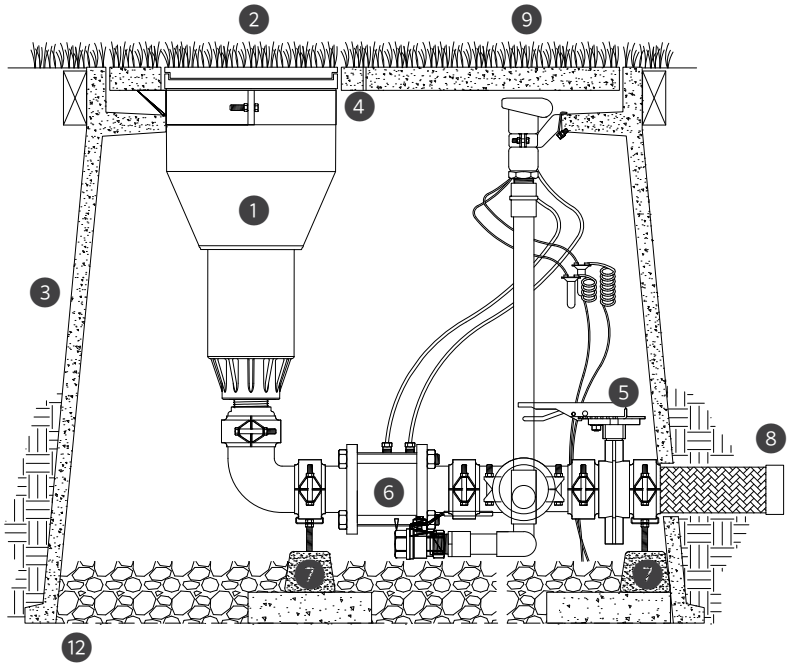
ST-1600-KIT System Components

The ST-1600-HS-B Rotor paired with the ST-1600-KIT vault system is the superior solution for all synthetic turf irrigation needs. The ST-1600-KIT brings ST irrigation components together inside one strong underground enclosure that offers simple access from the top for quick servicing and maintenance.

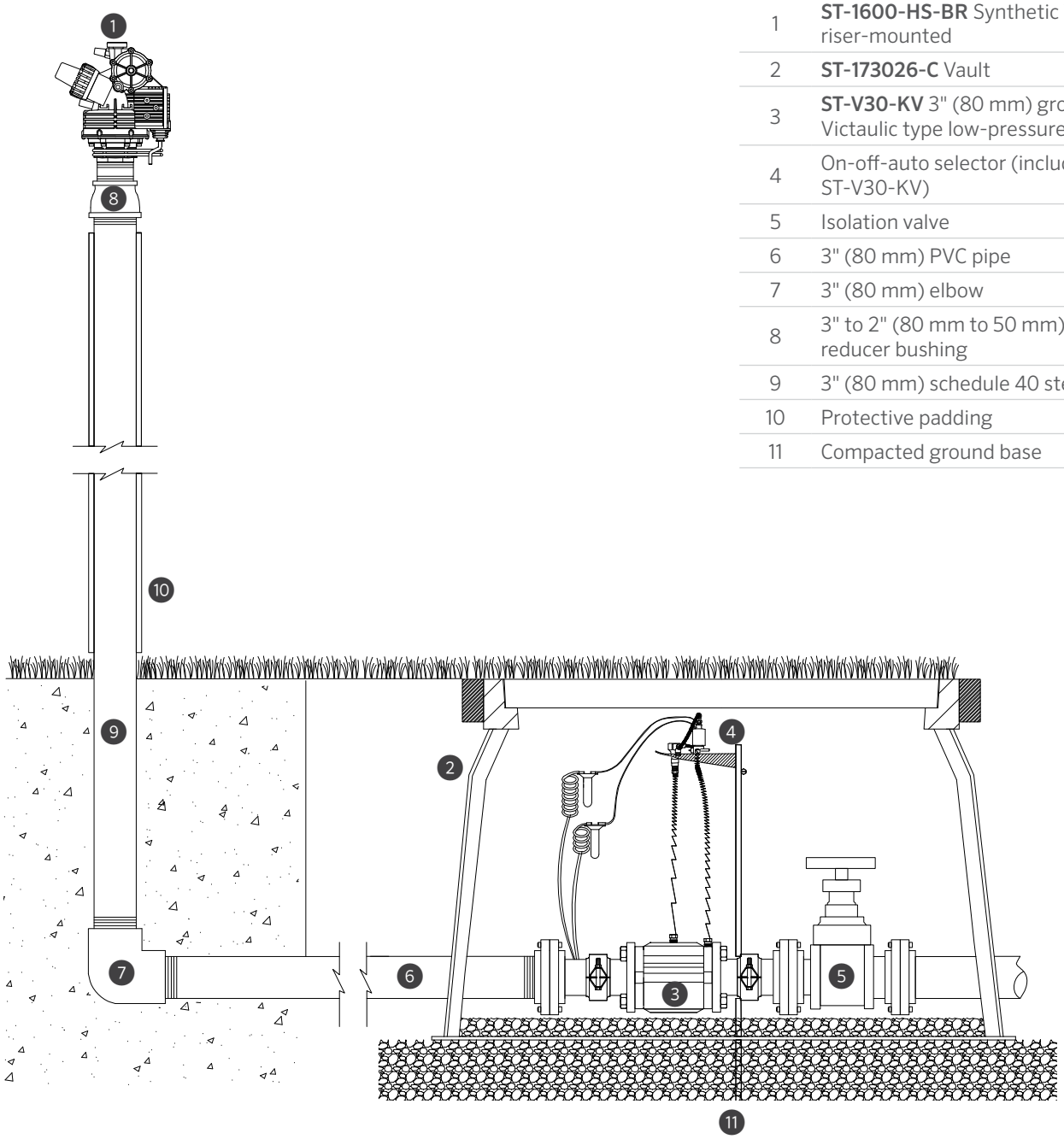
ITEM	DESCRIPTION
1	**ST-1600-HS-B** Synthetic Turf Rotor
2	**ST-IBS-1600** Rubber Cover Kit with infill barrier system
3	**ST-243636-B** Vault
4	**ST-BKT-1600** Bracket for rotor
5	**ST-BVF30-K** Manifold, including 3" (80 mm) Victaulic® fittings, isolation valve, drain valve
6	**ST-V30-KV** 3" (80 mm) grooved Victaulic type low-pressure-loss valve
7	**ST-SPT-K** Adjustable manifold supports (2 required)
8	**ST-H30-K** Flexible stainless steel hose, Victaulic connection to 3" (80 mm) female NPT
9	**HQ-5-RC** Quick coupler 1" (25 mm) inlet with 1¼" (30 mm) outlet
10	**ST-BKT-QCV** Hanger bracket for quick coupler
11	On-off-auto selector (included with ST-V30-KV)
12	Compacted ground base

Note: *All components above make up the ST-1600-KIT.*



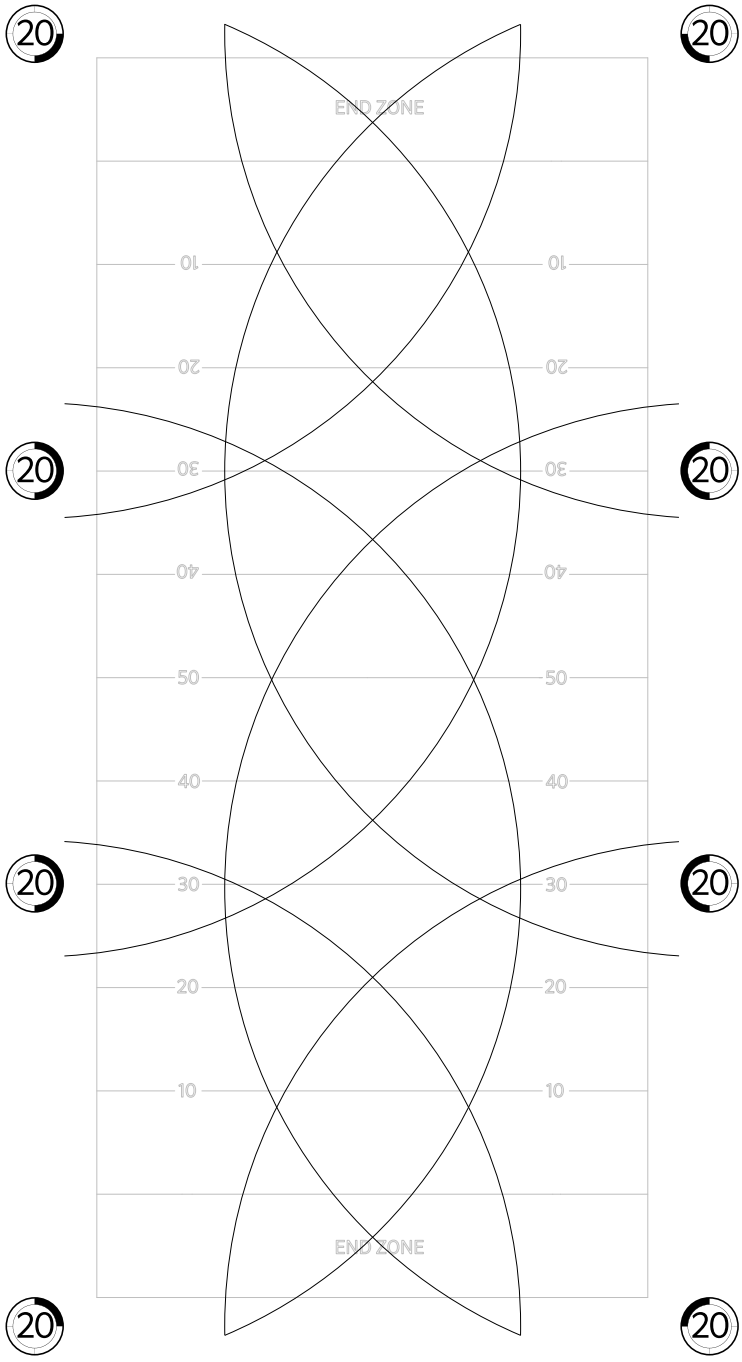


The riser-mounted ST-1600-HS-BR Rotor cools and cleans synthetic fields from above. If riser-mounted irrigation is your choice, protect the riser with padding for safety. This option is also a great dust-control solution for horse arenas, corrals, and pastures.

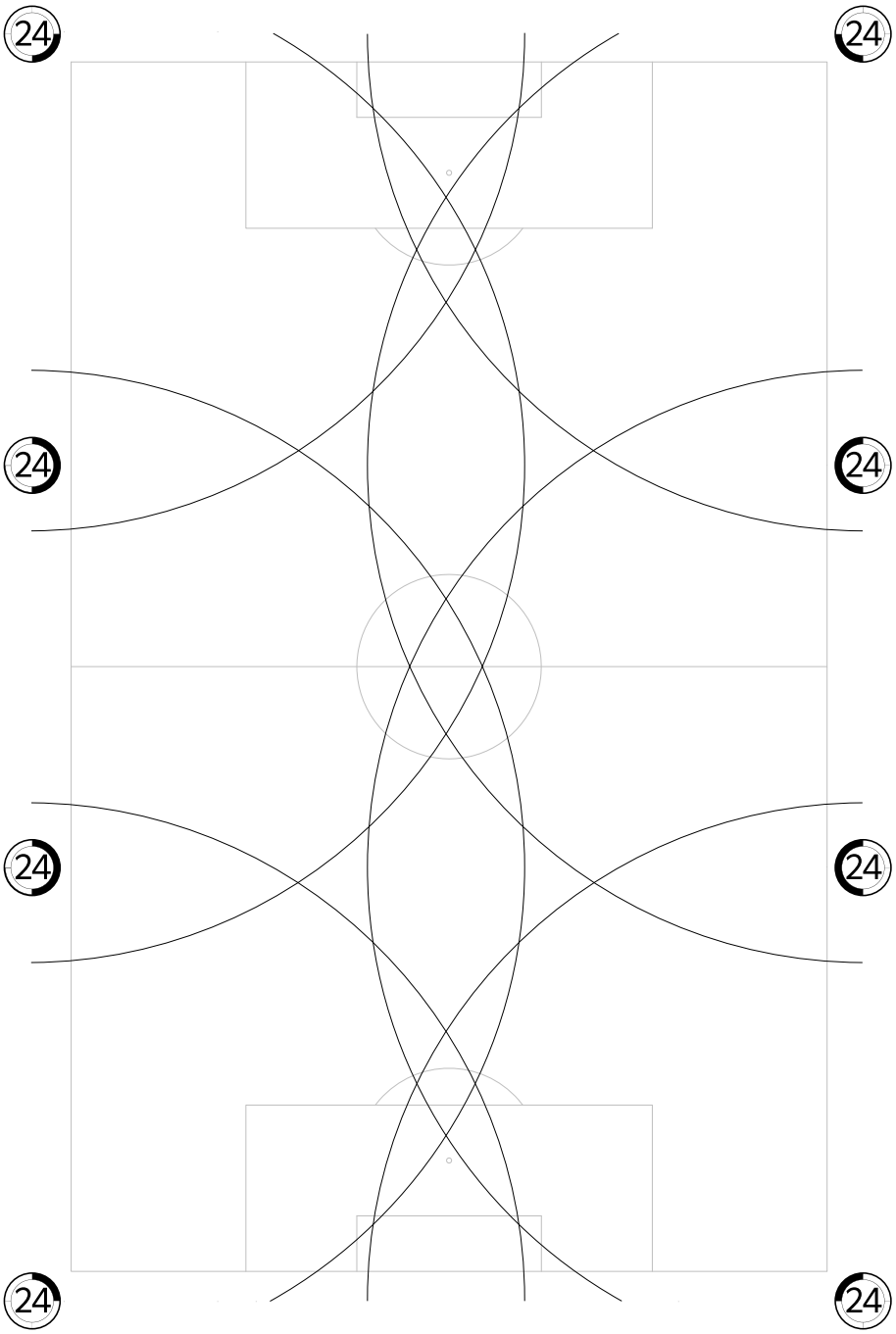


ITEM	DESCRIPTION
1	**ST-1600-HS-BR** Synthetic Turf Rotor, riser-mounted
2	**ST-173026-C** Vault
3	**ST-V30-KV** 3" (80 mm) grooved Victaulic type low-pressure-loss valve
4	On-off-auto selector (included with ST-V30-KV)
5	Isolation valve
6	3" (80 mm) PVC pipe
7	3" (80 mm) elbow
8	3" to 2" (80 mm to 50 mm) reducer bushing
9	3" (80 mm) schedule 40 steel pipe
10	Protective padding
11	Compacted ground base

American football field, with a #20 nozzle installed, operating at 100 PSI

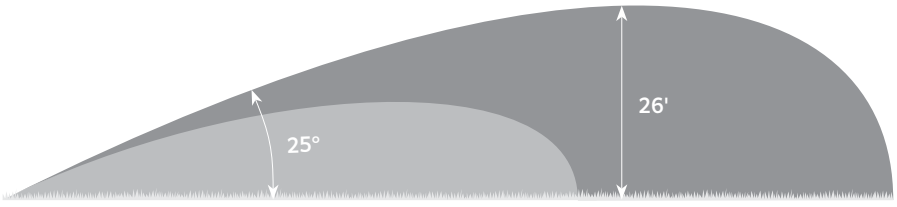


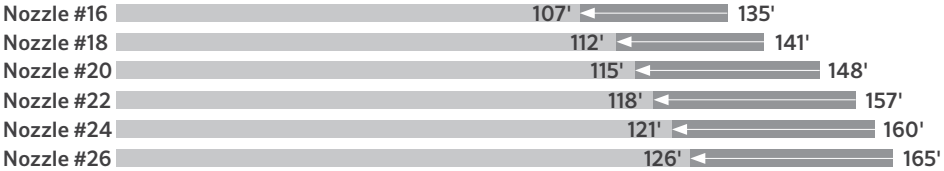
International soccer pitch, with a #24 nozzle installed, operating at 90 PSI



ST-1600 PERFORMANCE DATA (IMPERIAL)					
Nozzle	Pressure	Radius	Flow	Precipitation in/hr*	
	PSI	ft.	GPM	■	▲
16	60	107	96.2	1.63	1.88
	70	115	107.3	1.57	1.81
	90	121	117.8	1.54	1.78
	100	128	127.3	1.50	1.73
	115	135	137.4	1.46	1.69
18	60	112	107.0	1.66	1.91
	70	121	119.4	1.56	1.80
	90	128	131.0	1.54	1.78
	100	133	141.3	1.54	1.78
	115	141	153.2	1.48	1.71
20 (Factory installed)	60	115	144.0	2.10	2.43
	70	128	160.9	1.89	2.18
	90	141	176.5	1.71	1.97
	100	144	190.5	1.76	2.03
	115	148	204.2	1.80	2.08
22	60	118	171.5	2.37	2.73
	70	130	191.8	2.20	2.54
	90	144	210.0	1.94	2.24
	100	151	226.9	1.84	2.12
	115	157	243.1	1.89	2.18
24	60	121	202.1	2.64	3.05
	70	133	225.9	2.46	2.84
	90	148	247.6	2.19	2.52
	100	156	267.4	2.12	2.45
	115	160	286.4	2.16	2.49
26	60	126	233.2	2.83	3.27
	70	136	260.4	2.71	3.13
	90	151	284.5	2.40	2.77
	100	160	307.0	2.31	2.67
	115	165	326.8	2.32	2.68

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





ST-1600 SHORT-RADIUS NOZZLE KIT PERFORMANCE CHART - P/N 959900					
Nozzle	Pressure	Radius	Flow	Precipitation in/hr	
	PSI	ft	GPM	■	▲
8	60	70	23.3	0.92	1.06
	70	72	25.5	0.95	1.09
	90	74	27.3	0.96	1.11
	100	76	29.2	0.97	1.12
10	60	81	37.8	1.11	1.28
	70	84	42.5	1.16	1.34
	90	86	47.1	1.23	1.42
	100	88	51.0	1.27	1.46
12	60	92	53.9	1.23	1.42
	70	94	60.5	1.32	1.52
	90	96	65.7	1.37	1.58
	100	98	71.8	1.44	1.66
14	60	103	69.3	1.26	1.45
	70	105	78.2	1.37	1.58
	90	108	85.5	1.41	1.63
	100	110	92.5	1.47	1.70

Troubleshooting

Find other helpful information about your product, including installation tips and more.

hunter.help/ST1600Support 1-760-591-7383

Important

The water may contain foreign objects such as sand, rocks, and other impurities, which can damage the rotor. To avoid these problems, you may need to install a filter.

After Installation

Troubleshooting non-rotation after installation:

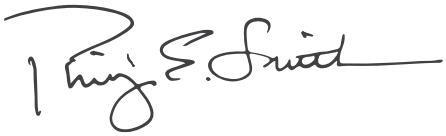
1. Check for plugged secondary nozzle.
2. Check for a blocked propeller in the turbine assembly.

Caution

- Stand clear of the rotor's water jet and area of operation.
- Ensure the water jet is not directed toward persons, animals, power lines, roads, or other objects.

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.

Gregory R. Hunter, CEO of Hunter Industries



Gene Smith, President, Landscape Irrigation and Outdoor Lighting

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