**Hunter ST-1600-KIT Synthetic Turf Irrigation Kit and ST-1600-KIT-B Synthetic Turf Irrigation Kit Written Specifications**

**Part 1 – General**

1.1The ST-1600-KIT Synthetic Turf Irrigation Kit and ST-1600-KIT-B Synthetic Turf Irrigation Kit can cover a 107' to 165' (32.5 to 50.3 m) radius at 60 to 120 PSI (4.0 to 8.0 bar; 400 to 800 kPa) with a discharge rate of 96.2 to 326.8 GPM (21.8 to 74.2 m3/hr; 364 to 1,237 l/min).

**Part 2 – Parts and Material**

2.1The ST-1600-KIT and ST-1600-KIT-B shall consist of the following components:

1. ST-1600-HS-B Adjustable Arc and Full-Circle Gear-Driven Sprinkler
* The sprinkler shall include within its packaging six interchangeable nozzles discharging 96.2 GPM to 326.8 GPM (21.8 to 74.2 m3/hr; 364 to 1237 l/min).
* The sprinkler shall be capable of both full-circle and adjustable part-circle configurations in one sprinkler.
* The adjustable part-circle feature shall be adjustable from 40° to 360°.
* The sprinkler shall be adjustable in all phases of installation (i.e., before installation, after installation while static, and after installation while in operation).
* The sprinkler shall have a ratcheting mechanism within the gear drive that allows full rotational movement of the nozzle turret assembly without damage to the sprinkler.
* The sprinkler shall have a brass adjustment knob that provides the means to change the sprinkler’s speed of rotation.
* The ST-1600-HS-B speed of adjustment range for a 180° arc setting shall be zero (no rotation) up to 65 seconds at 120 PSI (8 bar; 800 kPa).
1. ST-243636-B Vault and Cover Set
* The enclosure’s main body shall be made of construction-grade fiberglass and shall be reinforced with gusseted vertical ribbing on all four walls.
* The enclosure main body shall be tapered providing a base that is wider than the exposed upper surface.
* The enclosure’s upper rim and cover supporting nest shall be constructed of polymer concrete.
* The enclosure’s upper rim shall have an outside dimension of 37⅞" x 26¼" (96.2 cm x 66.6 cm).
* The enclosure’s base shall have an approximate outside dimension of 44" x 50" (112 cm x 127 cm) and shall include a flat base to support the enclosure’s weight.
* The enclosure shall be 36" (91.5 cm) tall. The enclosure’s cover shall be a four-piece set and constructed of polymer-concrete.
* The four-piece cover set shall consist of two main cover sections plus two identical circular inset covers.
* When combined, the two main cover sections shall have an outside dimension of 24" x 36" (61 cm x 91.5 cm). One of the main covers shall include a precast 14¾" (36.2 cm) circular hole to accommodate and support the installed ST-1600-HS-B Synthetic Turf Rotor.
* The second main cover shall include two precast 6" (15.2 cm) circular holes to accommodate the circular inset covers.
* The removable inset covers and cover holes shall be located to provide access to the installed HQ-5RC quick coupler valve and to the ST-V30-KV valves remotely mounted ON-OFF-AUTO control manifold (if installed).
* The main cover set shall be 3" (7.6 cm) thick and include an interlock feature located between the two sections.
1. ST-IBS-1600 Rotor Rubber Cover and Infill Barrier System
* The rubber cover and infill barrier system shall include two heavy-duty rubber components.
* The outer ring shall be attached to the rotor’s flange and include a vertical barrier wall such to contain substantial portions of the exterior-to-rotor infill material from migrating to the rotor’s interior cavity when the rotor is popped up and in operation.
* The inner cup component shall be attached to the rotor’s central pop-up logo cap and include a vertical barrier wall such to retain substantial portions of the infill material within the cup from migrating to the rotor’s interior cavity when the rotor is popped up and in operation.
* Both components shall be removable and reinstallable for rotor-servicing purposes.
* Both components shall include ringed reference markings to assist with trimming the height of the vertical wall barriers to accommodate various lengths of synthetic turf.
* Both components shall be trimmable such to provide a generally flat upper surface for the rotor’s exposed upper surface allowing attachment of short-fibered turf or running track material.
1. ST-BKT-1600 Rotor Hanger and Elevation Adjustment Bracket
* The bracket shall be constructed of ⅛" (3 mm) galvanized steel and include connecting hardware to provide clamping of the ST-1600-HS-B rotor’s body to the bracket.
* The clamping action shall be capable of providing vertical elevation changes to the rotor such to provide proper alignment to the surrounding grade/components.
* The bracket shall include three support arms to allow the assembly to be hung from the ST-243636-B vault’s interior polymer-concrete rim.
1. ST-BVF30-K Valve and Fitting Kit
* The valve and fitting kit shall include all fittings, couplings and the butterfly isolation valve required to connect the ST-1600-HS-B rotor, ST-V30-KV control valve, point of connection for quick coupler piping (when used) and provide a 3" (80 mm) female NPT pipe thread inlet to the assembly.
* The fittings shall be 3" (80 mm) ductile iron with galvanized coating and grooved (Victaulic® type) connections.
* The couplings shall be 3" (80 mm) ductile iron with galvanized coating and grooved (Victaulic type) connections.
* The butterfly valve shall be 3" (80mm) ductile iron with epoxy coating and grooved (Victaulic type) connections.
* The kit shall also include a 1" (25 mm) brass ball valve for manually draining the manifold.
* The grooved (Victaulic type) fittings shall be rated to 500 PSI (34.5 bar, 3,450 kPa).
1. ST-SPT-K Adjustable Manifold Support
* The adjustable manifold support stand base shall be constructed of recycled tire rubber and have an overall measurement of approximately 11" (28 cm) in length x 5" (13 cm) in width x 8" (20 cm) in height.
* The adjustable support stand shall have a galvanized support strut that is approximately 1" (2.5 cm) in height x 9" (23 cm) in length.
* The strut shall be vertically adjustable by approximately 2" (5 cm).
* The adjustable support stand shall have a load capacity of 1,000 lbs (450 kg).
* Two adjustable manifold support stands shall be required for each ST-1600-KIT manifold.
1. ST-V30-KV Electric Remote-Control Valve
* The valve shall be a normally closed, electronically actuated, tubular, diaphragm-operated, remote-control valve.
* The valve will be capable of operating between 30 and 200 PSI (2 and 14 bar; 200 and 1,400 kPa) with a flow range between 90 and 600 GPM (20.4 to 136.3 m3/hr; 341 to 2,271 l/m).
* The valve shall have ultra-low-pressure-loss characteristics of 1.5 PSI (0.11 bar; 10.4 kPa) maximum at 300 GPM (68.1 m3/hr; 1,136 l/m).
* The valve shall be available in a tubular in-line configuration with 3" (80 mm) grooved (Victaulic type) inlet and outlet connections.
* The inlet and outlet connections of the valve shall be constructed of ductile iron.
* The valve’s main body shall be constructed of extruded aluminum.
* The valve shall be equipped with a stainless-steel internal filtering screen so only clean water can enter the solenoid chamber.
* The standard solenoid shall be a 24 VAC unit with a 350-mA inrush current and 130 mA holding current at 60 cycles.
* The valve shall be equipped with an ON-OFF-AUTO selector valve. The selector valve shall allow manual ON control of the valve from the valve’s location. The manual OFF setting shall prevent the valve from operating even if the controller sends power to the solenoid.
* The ON-OFF-AUTO selector and solenoid shall be detached from the valve and assembled to a bracket for the purposes of remotely mounting the ON-OFF-AUTO selector and solenoid assembly.
1. ST-H30-K Flexible Inlet Hose
* The flexible inlet hose shall be a 3" (80 mm) sized 20" (500 mm) length hose with a corrugated stainless-steel interior and a woven stainless-steel exterior.
* One end of the hose shall be a stainless steel 3" (80 mm) groove (Victaulic type) connection.
* The opposite end of the hose shall be a stainless steel 3" (80 mm) female NPT connection.
* The flexible inlet hose shall be rated to 315 PSI (21.7 bar, 2,172 kPa).
1. ST-BKT-QCV Quick Coupler Mounting Bracket
* Firm stabilization of quick coupler to vault
* Designed specifically for the HQ-5-RC and HQ-5-RC-BSP quick couplers used in our vault kits
* Attaches firmly to quick coupler and top of vault
* Made of carbon steel with a galvanized finish
* Bracket shall come with all mounting hardware (four screws, two nuts, and quick coupler plate)
1. HQ-5-RC / HQ-5-RC-BSP Quick Coupler Valve
* The quick coupler inlet shall be 1" (25 mm) NPT or BSP
* Models shall be red brass and stainless-steel construction
* The spring-loaded covers with stainless steel springs shall provide positive closing and protection of the valve’s sealing components.

2.2 Warranty

A. The kit shall carry a five-year component part warranty.

**Part 3 – Function and Operation**

3.1 Recommended pressure range: 60 to 120 PSI (4.0 to 8.0 bar; 400 to 800 kPa)

 A. Operating pressure range: 60 to 120 PSI (4.0 to 8.0 bar; 400 to 800 kPa)

3.2Radius: 107' to 165' (32.5 to 50.3 m)

3.3 Flow rate: 96.2 to 326.8 GPM (21.8 to 74.2 m3/hr; 364 to 1,237 l/min)

3.4 Precipitation rate: 2.25 in/hr (60 mm/hr), approximately

3.5 Nozzle trajectory: Standard: 25°, approximately

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