

WHDR™ Wet Chemical Cylinder-Valve Assemblies



P/N 87-12000X-001

FEATURES

- *For use in WHDR™ Commercial Cooking Fire Suppression Systems*
- *Flexible System Configurations*
- *Six Cylinder Sizes to Suit any Application*
- *Factory Filled and Pressurized*
- *No Additional Hardware Required to Pressurize or Regulate Flow*
- *Rugged, Nickel-Plated Brass Valve*
- *Durable, Easy-to-Clean, Corrosion-Resistant Powder Coat Finish*
- *Easy-to-Read Pressure Gauge for Instant Verification of System Readiness*
- *Available Supervisory Pressure Switch (WHDR-OL)*
- *DOT/TC Compliant*
- *UL/ULC Listed to Stringent ANSI/CAN/UL/ULC 300 & ANSI/CAN/UL/ULC 1254 Requirements without Additional Water Source*
- *DNV, LR, ABS, MED & MER Approved for Marine Galleys*
- *Zero Ozone Depletion Potential (ODP)*
- *Zero Global Warming Potential (GWP)*

DESCRIPTION

WHDR series cylinders are used in Kidde Fire Systems' pre-engineered wet chemical fire suppression systems for protection of ventilation equipment and appliances associated with commercial cooking operations. Both appliance-specific and overlapping protection options are available. All cylinders are factory-filled with Kidde Fire Systems APC wet chemical agent and pressurized with nitrogen. APC wet chemical agent provides fast, efficient fire suppression, surface cooling, and prevents re-ignition of fire.

WHDR series cylinders are available in 5 capacities and 6 different sizes to suit a variety of commercial cooking fire protection applications (see Table 1). The WHDR-OL cylinder valve includes a schrader port for optional supervisory pressure switch connection

The APC agent is discharged through the WHDR cylinder valve, a brass-alloy, nickel-plated forging, trusted worldwide for over 30 years. The valve includes an easy to read pressure gauge to facilitate quick inspection.

WHDR series cylinders are pneumatically actuated via a System Valve Actuator (SVA), using either the XV Control System or KRS-50 Control Box*.

All WHDR cylinders are shipped with an anti-recoil plate and valve protection plate for safety.

***Note:** The KRS-50 Control Box cannot be used on WHDR-OL cylinders.



Figure 1.

TECHNICAL DATA

Table 1: Cylinder Assembly Information

Model Number	Part Number	Max. Flows	Charge Pressure (at 70°F)	Charged Weight lb. (kg)	Operating Temperature Range	Finish
WHDR-125	87-120001-001	4	175 psig	30 (13.6)	0° to 120°F	White
WHDR-260	87-120002-001	8	175 psig	56 (25.4)	0° to 120°F	White
WHDR-400S	87-120003-001	12	175 psig	77 (34.9)	0° to 120°F	White
WHDR-400M	87-120006-001	12	175 psig	77 (34.9)	0° to 120°F	White
WHDR-600	87-120005-001	18	175 psig	112 (50.8)	0° to 120°F	White
WHDR-OL	87-120007-001	6	200 psig	80 (36.3)	32° to 130°F	Gray

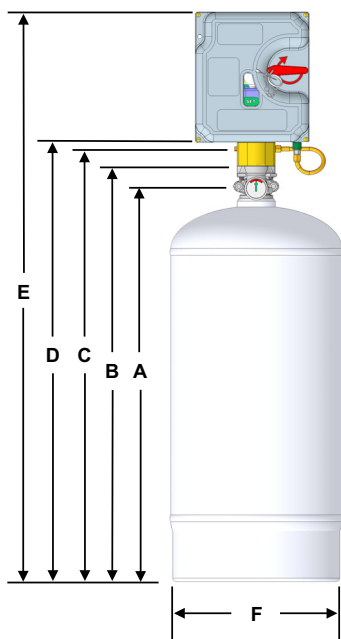


Figure 2. Dimensions of Cylinder Assembly with SVA and XV Control System

Table 2: Dimensions of Cylinder Assembly with SVA and XV Control System

Model	Dimensions					
	A Center of Discharge Port	B Top of Cylinder Valve	C Center of SVA Port	D Top of SVA	E Overall Height	F Nominal Diameter
WHDR-125	13-3/4 in. (349 mm)	15-1/4 in. (387 mm)	16-1/2 in. (419 mm)	17 in. (432 mm)	25-1/8 in. (638 mm)	8 in. (203 mm)
WHDR-260	19-9/16 in. (497 mm)	21 in. (534 mm)	22-5/16 in. (567 mm)	22-3/4 in. (578 mm)	30-15/16 in. (786 mm)	9 in. (230 mm)
WHDR-400S	17-1/2 in. (445 mm)	19 in. (483 mm)	20-1/4 in. (514 mm)	20-3/4 in. (527 mm)	28-7/8 in. (733 mm)	12-1/4 in. (311 mm)
WHDR-400M	22-15/16 in. (583 mm)	24-7/16 in. (621 mm)	25-11/16 in. (652 mm)	26-3/16 in. (665 mm)	34-5/16 in. (872 mm)	10 in. (254 mm)
WHDR-600	33-11/16 in. (856 mm)	35-3/16 in. (894 mm)	36-7/16 in. (929 mm)	36-15/16 in. (938 mm)	45-1/16 in. (1145 mm)	10 in. (254 mm)
WHDR-OL	20-1/4 in. (514 mm)	21-3/4 in. (553 mm)	22 in. (559 mm)	23-1/2 in. (587 mm)	31-5/8 in. (803 mm)	10 in. (254 mm)

SYSTEM VALVE ACTUATOR, P/N 87-120042-001

A System Valve Actuator (SVA) must be mounted to every WHDR cylinder valve assembly (see Figure 3). The SVA contains a pneumatically operated piston, which depresses the cylinder valve stem to open the valve and discharge the wet chemical. The SVA has ports for connection of actuation tubing or braided hose to the control system. Nitrogen from the control head flows through the actuation tubing, pressurizing the SVA(s), thereby extending the internal SVA piston. The piston is equipped with a spring-loaded plunger, which locks the piston in the actuated position, ensuring a complete cylinder discharge.

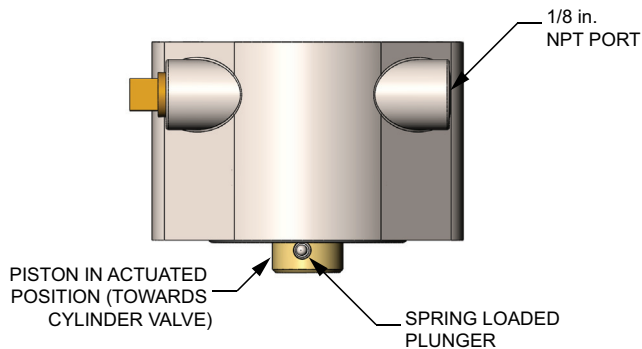


Figure 3. System Valve Actuator

ANTI-RECOIL AND VALVE PROTECTION PLATES

Each WHDR cylinder is factory equipped with an anti-recoil plate and valve protection plate (see Figure 4). The anti-recoil plate is a safety feature attached to the valve outlet port. In the event of an accidental actuation of a cylinder that is not properly secured and connected to system piping, the anti-recoil plate will provide a controlled, safe discharge.

The valve protection plate is installed on the valve actuation port to prevent tampering or accidental depression of the valve actuation pin.

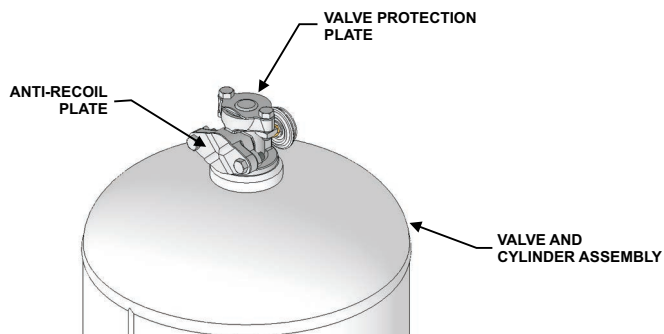


Figure 4. Anti-Recoil and Valve Protection Plates

DISCHARGE ADAPTER KIT, P/N 83-844908-000

The Discharge Adapter (see Figure 5 and Figure 6) provides a means to connect agent distribution pipe to WHDR cylinder and valve assemblies. The Discharge Adapter Kit consists of a valve outlet adapter, o-ring and steel flange plate. The valve outlet adapter has a $\frac{3}{4}$ " NPT male thread and $\frac{1}{2}$ " NPT female thread for connection to system piping. A Discharge Adapter Kit is required for every cylinder and must be ordered separately.

The Discharge Adapter can also be used as a recharge adapter to pressurize WHDR cylinders with nitrogen after re-filling with Kidde Fire Systems APC wet chemical.

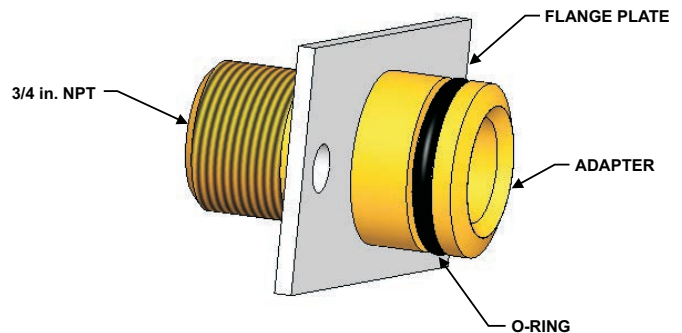


Figure 5. Discharge Adapter Kit

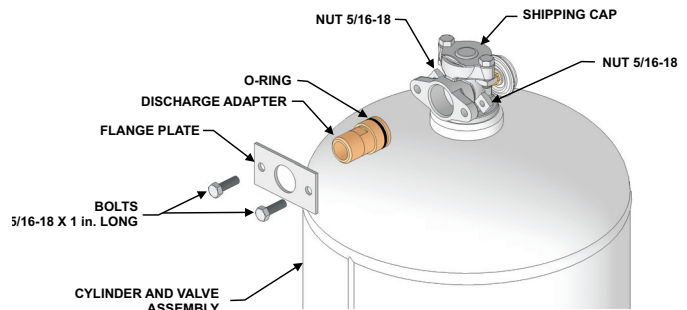


Figure 6. Discharge Adapter Kit Installation

VENT PLUG, P/N 60-9196984-000

The Vent Plug (see Figure 7) is installed in the discharge piping near a WHDR cylinder to prevent pressure build up in the system piping, caused by heat, from rupturing the foil seals on the nozzles. The Vent Plug has a $\frac{1}{2}$ -inch NPT male thread, and must be installed in an upright or horizontal position, one per pipe network.

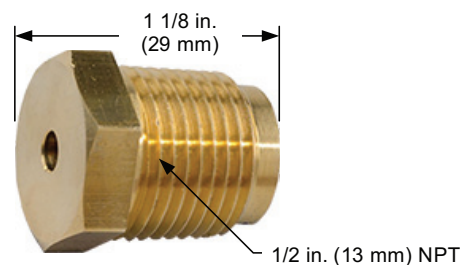


Figure 7. Vent Plug, P/N 60-9196984-000

ORDERING INFORMATION

Description	Part Number
WHDR-125 Cylinder and Valve Assembly (4 Flow)	87-120001-001
WHDR-260 Cylinder and Valve Assembly (8 Flow)	87-120002-001
WHDR-400S Cylinder and Valve Assembly (12 Flow)	87-120003-001
WHDR-400M Cylinder and Valve Assembly (12 Flow)	87-120006-001
WHDR-600 Cylinder and Valve Assembly (18 Flow)	87-120005-001
WHDR-OL Cylinder and Valve Assembly (6 Flow)	87-120007-001
Discharge Adapter Kit (one required for each cylinder)	83-844908-000
Vent Plug (one required for each set of piping)	60-9196984-000
Pressure Gauge Shield	83-131024-001
WHDR-125 Wall Mount Bracket	60-9197430-000
WHDR-260 Wall Mount Bracket	60-9197263-000
WHDR-400S Wall Mount Bracket	60-9197415-000
WHDR-400M Wall Mount Bracket	60-9197414-000
WHDR-OL, Wall Mount Bracket (can also be used on WHDR-260 & WHDR-400M)	87-100011-001
WHDR-600 or 400M Shelf Bracket (wall or floor mount)	87-100013-001
Floor Mount Kit, for use with Shelf Bracket (on WHDR-600 and WHDR-400M)	87-100010-001
System Valve Actuator (one required per cylinder, one ships with each control head)	87-120042-001

REFERENCE INFORMATION

WHDR Systems must be designed and installed in accordance with manual P/N 87-122000-001, Kidde Fire Systems *WHDR Wet Chemical Fire Suppression System Design, Installation, Operation, and Maintenance Manual*.

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Kidde-Fenwal, LLC
400 Main Street
Ashland, MA 01721
Ph: 508.881.2000
kiddefenwal.com