

SINGLE INTERLOCK PRE-ACTION SYSTEM ELECTRIC RELEASE

Model FP-400Y-7M

The BERMAD Model FP 400Y-7M utilizes an elastomeric deluge valve, designed for advanced fire protection systems and the latest industry standards.

The Single Interlock Electric Release is suitable for use in systems requiring that water be kept out of the sprinkler piping until an electric detecting device is activated.

Single Interlock Pre-Action Systems include automatic sprinklers attached to a dry sprinkler piping system, with a supplementary electric detection system installed in the same area. This system admits water into the sprinkler piping upon activation of the detection system. Water is discharged only through sprinklers that have been opened due to excessive heat.



Features & Benefits

- Safety and reliability
 - Time proven, simple design with a fail safe actuation
 - Single piece, rugged elastomeric diaphragm seal - VRSD technology
 - Intermediate anti-flooding chamber
 - Obstacle-free, uninterrupted flow path
 - No mechanical moving parts
- High performance
 - Very high flow efficiency
 - Straight through Y type body
 - Approved for PN20 - 300 psi
- Quick and easy maintenance
 - In-line serviceable
 - Fast and easy cover removal
 - Swivel mounted drain valves (for valves 3" and larger)

Typical Applications

- Water sensitive material storage
- Computer and electronics rooms
- Libraries museums and archives

Approvals



UL-Listed
Special System Water Control
Valves.
Sizes 1½" - 10"



FM Approved
for Preaction and Refrigerated
Area Sprinkler Systems
Sizes 1½" - 8"



Det Norske Veritas
Type Approval



ABS
American Bureau of Shipping
Type Approval

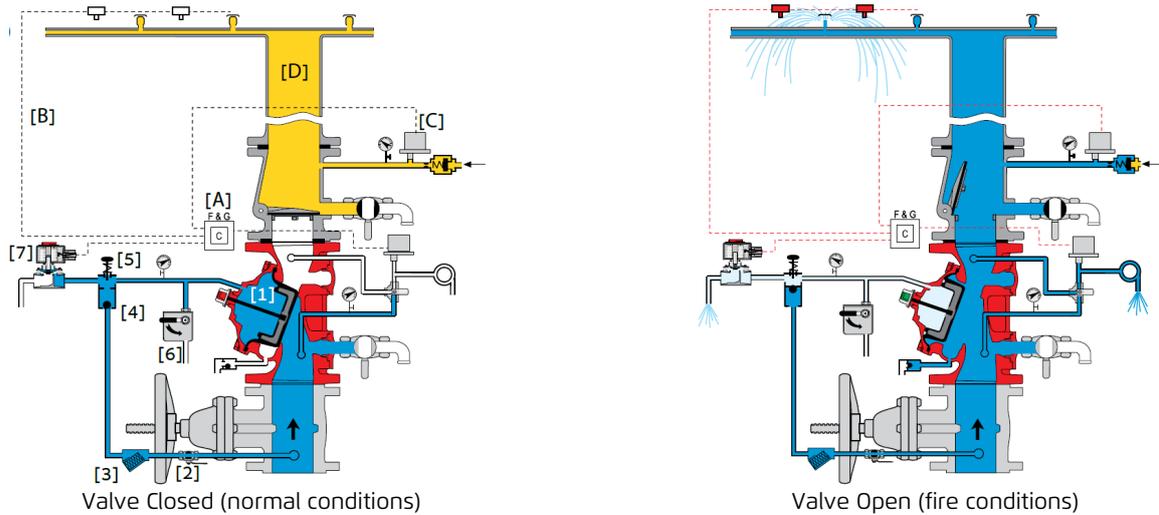


Lloyd's Register
Type Approval

Additional Features

- Valve position limit switches
- Local valve position indicator beacon
- Air Maintenance Device
- Water motor alarm
- Seawater compatibility
- Corrosion resistant zinc based high build epoxy coating

Operation

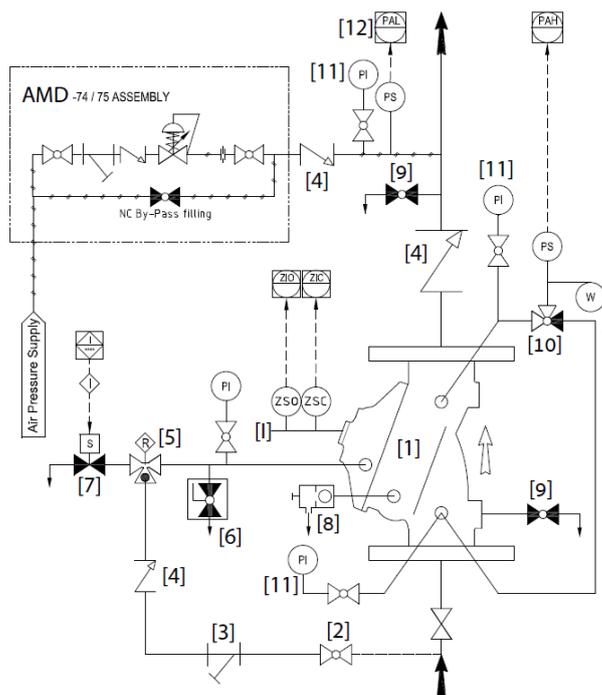


The BERMAD model 400Y-7M is held closed by water pressure in the control chamber [1]. Upon release of pressure from the control chamber, the valve opens.

Under NORMAL conditions, water pressure is supplied to the control chamber via the priming line [2] and strainer [3], and is then trapped in the control chamber by the manual emergency release [6], check feature [4], of the EasyLock Manual Reset [5], and a closed solenoid valve [7]. The water pressure trapped in the control chamber holds the diaphragm against the valve seat, sealing it drip-tight and keeping the system pipes dry.

Under FIRE conditions, water pressure is released from the control chamber, either with the manual emergency release, or by the solenoid valve opening in response to the releasing control panel [A]. The control panel energizes the solenoid valve only when the electric heat-detection device [B] has been activated. Once energized and open, the solenoid vents the main valve control chamber, whilst the Easylock Manual Reset check feature prevents water pressure from re-entering. The 400Y-7M pre-action valve latches open, allowing water to flow into the system piping and to the alarm device [9].

System P&ID



Components	
1	BERMAD 400Y Deluge Valve
2	Priming Ball Valve
3	Priming Strainer
4	Check Valve
5	EasyLock Manual Reset
6	Manual Emergency Release
7	2-Way Solenoid Valve
8	Automatic Drip Check Valve
9	Drain Valve
10	3-Way Alarm Test Ball Valve
11	Pressure Gauge
12	Pressure Switch Low (PAL)

Optional System Items	
ZS	Limit Switch Assembly
W	Water Motor Alarm
I	Visual Valve Position indicator
AMD	Air Maintenance Device
PAH	Pressure Switch - High

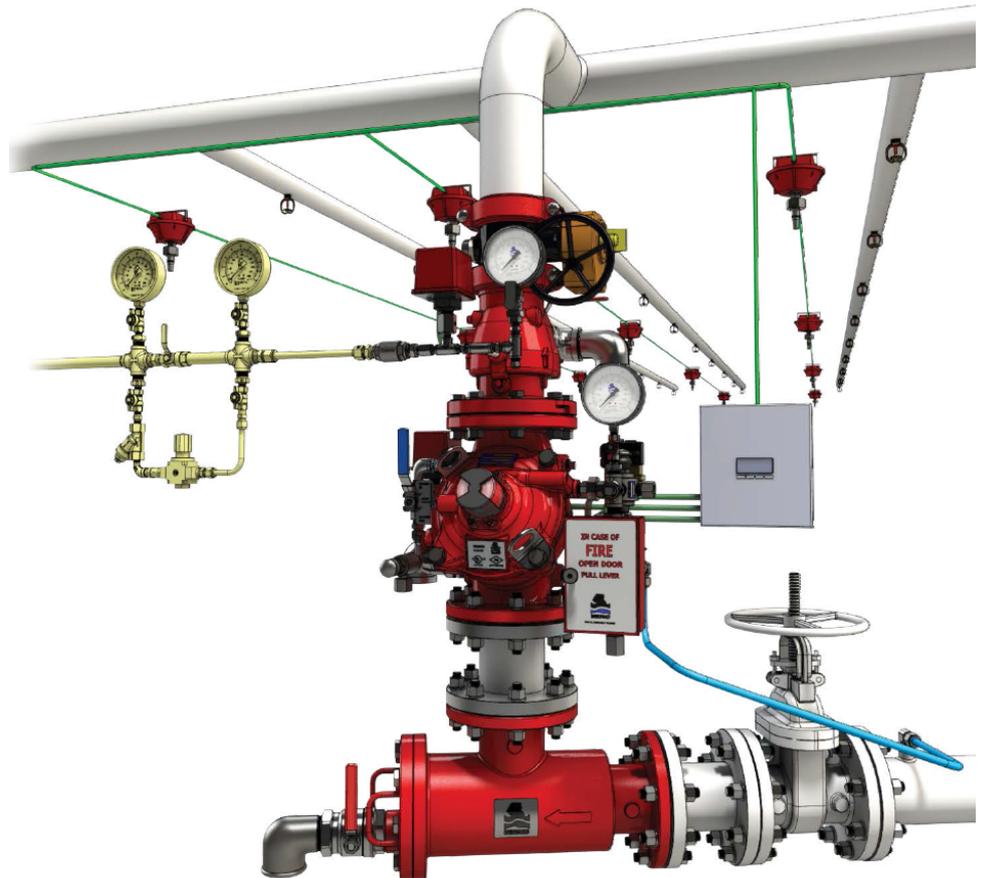
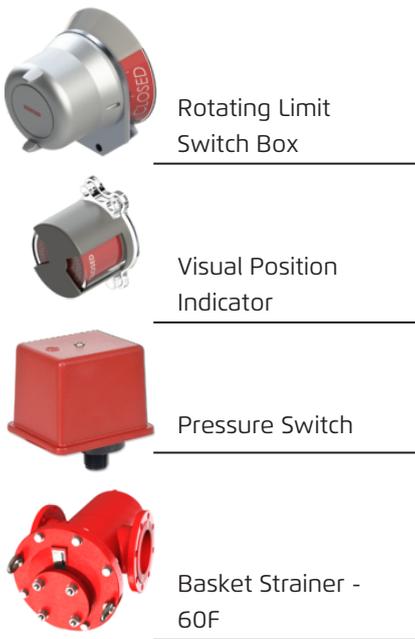
System Installation

A typical installation of the BERMAD model 400Y-7M features automatic actuation via a solenoid valve and releasing control panel. Actuation occurs only when the control panel receives an electric signal from the fire-detection system.

An inline check valve and drip-check valve create an intermediate vented chamber to ensure against flooding when the valve is closed. An air supply system including an Air Maintenance Device (AMD-74 / 75) with a low Pressure Switch can be provided when a Supervised System is required.

When fitted with a limit switch, the valve can send a feedback signal to a remote valve position monitoring system.

Optional System Items



Suggested Specifications

The pre-action valve shall be UL listed and FM approved, 20 bar/300 psi rated, with a straight-through, Y type body.

The valve shall have an unobstructed flow path, with no stem guide or supporting ribs.

The valve shall have no mechanical moving parts, and the actuation shall utilize a single-piece diaphragm assembly of VRSD technology.

The valve shall be coated internally and externally with UV protection. Optional: C5-VH grade of ISO-12944 standard against corrosive conditions.

The control trim shall include a manual emergency release unit, an Easy-Lock latching valve, a Y-type strainer, two 4-inch pressure gauges, an automatic drip-check with manual override, and a ball drain valve with a 360 degree swivel.

The solenoid valve shall be a 2-way FM and UL429A-listed for 365 psi/25 bar with 65% of the rated voltage.

A valve position indicator shall be provided, and equipped with two proximity limit switches.

Removing the valve cover for full inspection and maintenance shall be in-line and not require removal of the control trim.

The pre-action valve and control trim shall be pre-assembled and hydraulically tested by a UL/FM and ISO 9000, 9001 certified factory.

Technical Data

Available Sizes:

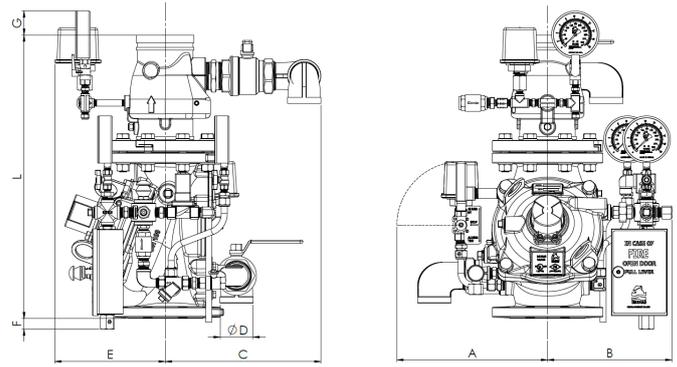
Flanged- 2, 3, 4, 6 & 8"
Grooved- 2, 3, 4, 6 & 8"

Pressure Rating:

ANSI#150 - 17.2 bar | 250 psi
ANSI#300 - 1½" to 10" - 20 bar | 300 psi
Grooved - 20 bar | 300 psi

Elastomer:

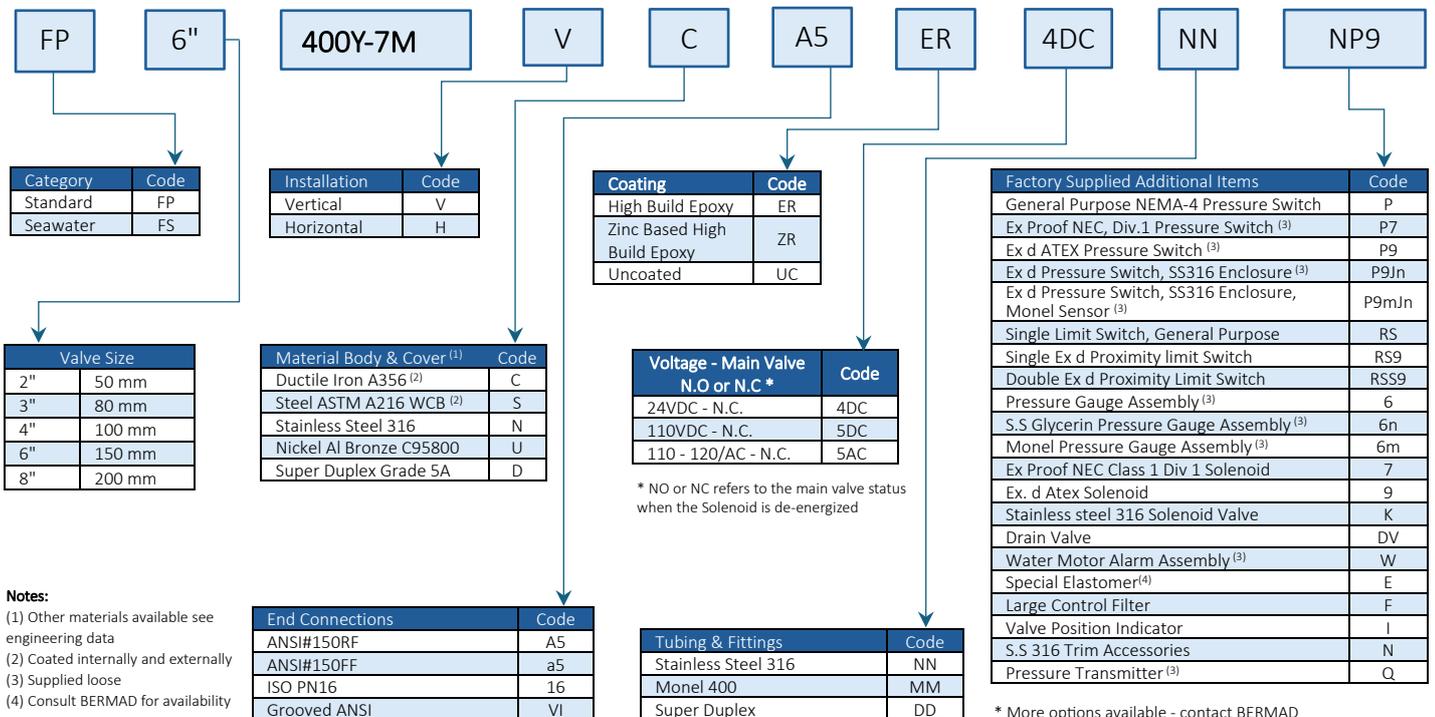
HTNR - Fabric Reinforced High Temperature Compound - See engineering data



Valve Size	L #150 mm in	L Grooved mm in	L #300 mm in	A mm in	B mm in	C mm in	øD in	E mm in	F mm in	G mm in	Weight #150 kg lb
DN50 2"	450 17.7	450 17.7	455 17.9	279 11	191 7.5	276 10.9	3/4"	140 5.5	-	101 4	31 68
DN80 3"	555 21.9	555 21.9	570 22.4	339 13.3	249 9.8	309 12.2	1½"	166 6.5	-	91 3.6	48 106
DN100 4"	566 23.4	595 23.4	612.5 24.1	347 13.7	247 9.7	325 12.8	2"	178 7	-	78 3	60 131
DN150 6"	775 30.5	775 30.5	800.5 31.6	400 15.7	314 12.4	340 13.4	2"	248 9.8	-	30 1.2	112 246
DN200 8"	965 38	965 38	990.5 39	430 16.9	342 13.5	355 14	2"	315 12.4	-	-	179 394

IMPORTANT: Dimensions for the trim envelope or extents refer to a vertical orientation and may vary with specific component positioning - Apart from the "L" dimension, allow a tolerance of at least ±15%

Valve Code Designations



Notes:
(1) Other materials available see engineering data
(2) Coated internally and externally
(3) Supplied loose
(4) Consult BERMAD for availability