

Single interlock, Pneumatically Actuated, Local reset, Preaction

FPS-SIPO

The pre-action system is a combined fire protection (FP) system consisting of a controlled FDV deluge valve and a riser check valve installed downstream. The pressurized automatic sprinkler pipeline keeps the riser check valve closed. The section between the downstream side of the closed deluge valve and the check-valve clapper serves as the intermediate chamber, where the water-pressure switch and the acoustic alarm are installed.

In single-interlock pre-action systems, such as the one described here, full system activation depends on a single fire-related event. When heat activates one or more automatic sprinklers on the dry pilot line, the pipeline depressurizes. The pressure drop opens a pneumatic actuator located on the deluge valve control-chamber drain line, causing the deluge valve to open and allowing water to flow into the sprinkler pipeline.

The resulting pressure drop also triggers the air-pressure switch, which sends a signal to the main control board for supervisory purposes only.



MARKETS



Commercial



Industry



Storage



Airports



Residential

TECHNICAL DATA

FLUID:

Water, Foam

PNEUMATICS: Air, Nitrogen

SIZE RANGE:

50 mm to 250 mm (2" to 10")

AVAILABLE CONNECTIONS ENDS:

Flange*Flange, Groove*Groove,
Flange*Groove, Groove* Flange

PRESSURE NOMINAL:

250 psi (17.2 bar)

ADVANTAGES

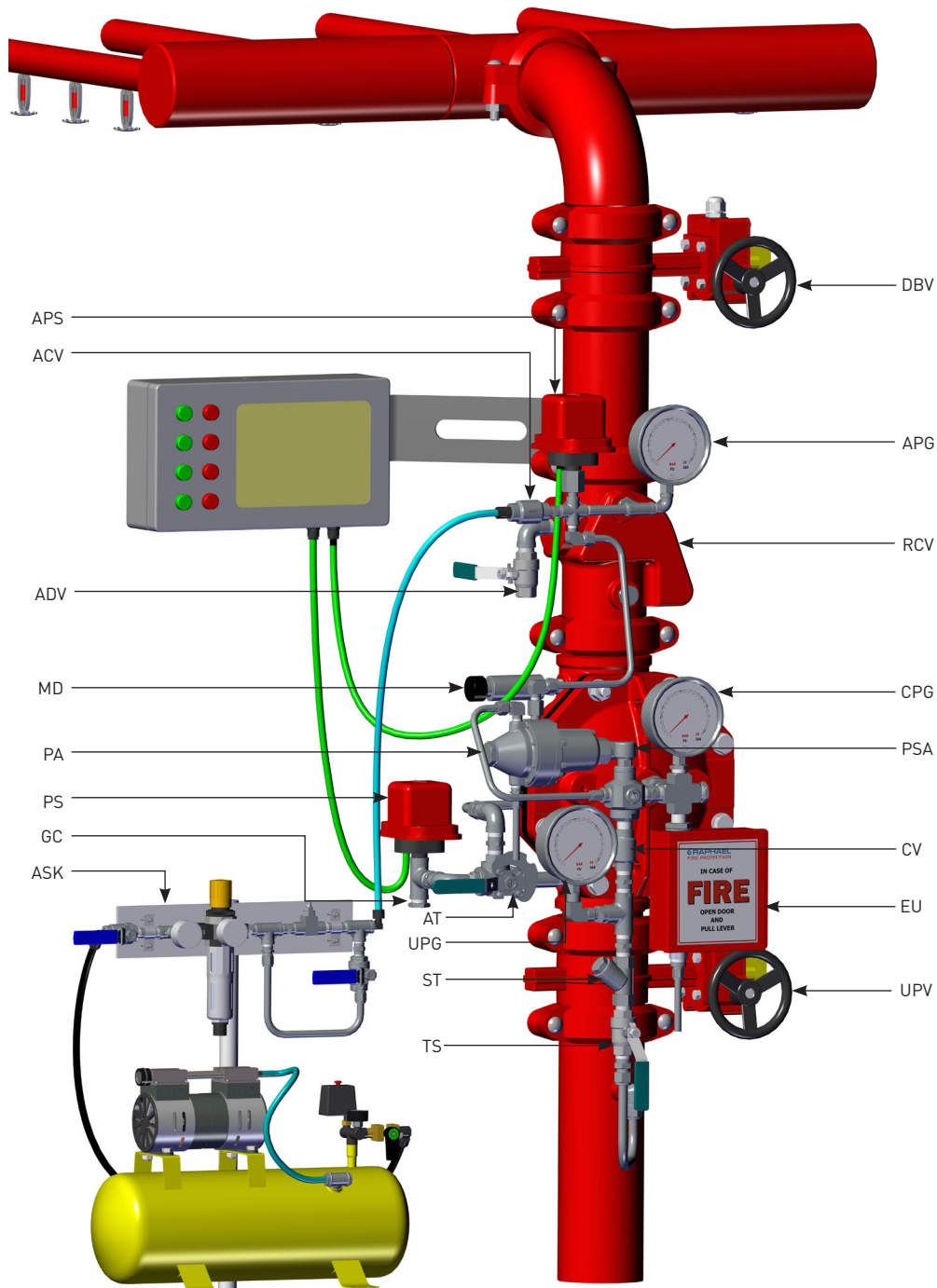
- Suitable for installation in low-temperature zones, as the water-spraying pipeline is kept dry.
- Full-bore unobstructed design.
- The ASK air-supply unit provides constant air compensation in the event of minor pipeline leaks.
- The manual/emergency local-operation valve, installed in a metal enclosure, is fully protected against accidental activation. When opened, it bypasses all control functions.
- Open fail-safe valve operation is achieved by means of the special fail-safe device, the PSA.
- Low maintenance cost: the main valve is serviced in-line and has only one replaceable part, the long-life elastomeric diaphragm. The riser check valve is maintenance-free.

CHARACTERISTICS

- Hydro-dynamic pattern design ensures high flow rates with minimal head loss.
- The valve trips open automatically after a single actuation event. The trip is initiated by a pressure decrease in the sprinkler pipeline (the dry pilot line).
- The FPS-SIPO resets to its standby closed position after all activated (open) sprinklers along the dry pilot line are replaced, allowing both the pilot line and the downstream pipeline to be re-pressurized. In addition, the PSA push button must be pressed.

APPROVALS





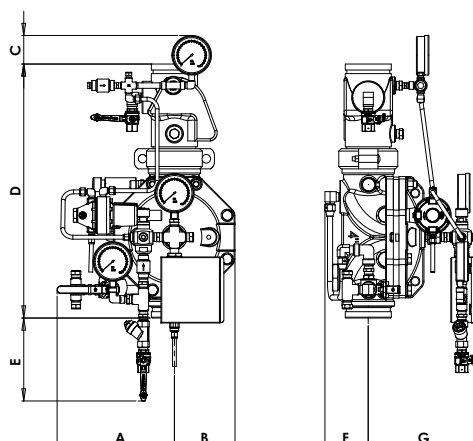
DBV - Downstream Butterfly Valve
UBV - Upstream Butterfly Valve
APS - Air pressure switch
APG - Air Pressure Gauge
DPL - Dry Pilot Line
ASK - Air Supply Kit
ACV - Air Check Valve

RCV - Riser Check Valve
ADV - Air Drain Valve
CPG - Control Chamber Pressure Gauge
UPG - Upstream Pressure Gauge
PA - Pneumatic actuator Valve
PSA - Pressure Supply Arrestor
MD - Manual Automatic Drain Valve

EU - Emergency Unit
GC - Gong Connection
CV - Check Valve
ST - "Y" Strainer
TS - Trim Supply
WPS - Water Pressure Switch (optional)
AT - Alarms Test Valve

Parametric drawing:

FPS-SIPO



Dimensions Table

Size	2"		3"		4"		6"		8"		10"	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
A	262	10.3	297	11.6	290	11.4	314	12.3	348	13.7	394	15.5
B	122	4.8	122	4.8	150	8.9	177	6.9	232	9.1	300	11.8
C	78	3	80	3.1	70	2.7	73	2.8	90	3.5	90	3.5
D	392	15.4	523	20.5	629	24.7	736	28.9	897	35.3	1200	47.2
E	319	12.5	243	9.5	205	8	174	6.8	122	4.8	22	0.8
F	75	2.9	87	3.4	107	4.2	151	5.9	160	6.3	187	7.3
G	225	8.8	237	9.3	272	10.7	337	13.2	367	14.4	457	18
Kg/lb	16.1	35.5	30.3	66.8	51.5	114	79.5	175	129	284	181	400

Factory Standard

MAIN VALVE

BODY & COVER

- Ductile iron
- Cast Steel WCB
- Stainless Steel CF8
- Stainless Steel CF8M

RISKER CHECK VALVE:

- Ductile iron
- Cast Steel WCB
- Stainless Steel CF8M

ELASTOMERS:

- NR, fabric reinforced Natural Rubber
- EPDM, fabric reinforced
- NBR, fabric reinforced Nitrile Rubber

COATING:

- Base layer – high built Epoxy FBE
Top layer – electrostatic Polyester powder RAL 3000
- Rilsan Polyamide based (Nylon 11)
- Internal – vitreous Enamel
External – Epoxy/Polyester powder RAL 3000

TRIM

PIPING & TUBING:

- Stainless Steel 316
- Copper/Brass

FITTINGS:

- Stainless Steel 316
- Brass

ACCESSORIES:

- Stainless steel CF8M
- Brass

PLEASE SPECIFY

- Working Media
- Ambiental conditions
- Min/Max operating flow
- Min/Max operating pressure
- Pneumatic working pressure
- System installation orientation
- Valve ends and standard
- Deluge valve material and coating
- Trim materials
- Solenoid Voltage
- Solenoid Protection
- Additional accessories needed:
 - Water motor Alarm (Gong)
 - Water pressure switch

For more detailed technical information, please refer to chapter Engineering Data.