

Modelo FP-400E-3UM



Benefícios e Características

- Segurança e confiabilidade
 - Design simples, comprovado pelo tempo, com atuação à prova de falhas
 - Vedação de diafragma elastomérico robusto em peça única - tecnologia VRSD
 - Fluxo livre de obstáculos e ininterrupto
 - Sem partes mecânicas móveis
 - Válvula Solenoide 3 Vias Listada UL429A
 - Trava aberta: permanece aberta até ser reinicializada localmente
 - Indicadores de posição chave fim de curso (opcional)
 - Atende aos requisitos das normas da indústria
- Manutenção rápida e fácil
 - Projetada para alta confiabilidade e fácil manutenção
 - Manutenção em linha
 - Remoção rápida e fácil da tampa

Aplicações Típicas

- Sistemas automáticos de pulverização de água
- Sistemas de detecção de incêndio elétricos com painéis de controle
- Aplicações de espuma
- Monitores de Controle Remoto

Aprovações



UL-Listed
Válvulas de Controle de Água para
Sistemas Especiais, Tipo Dilúvio (VLFT)
Diâmetros 1½" - 10"



Det Norske Veritas
Tipo de aprovação
Diâmetros de 1½" a 12"



ABS
American Bureau of Shipping
Tipo de aprovação
Tamanhos 1½" - 12"

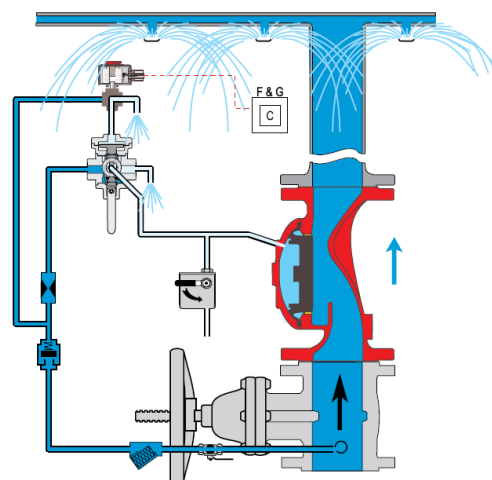
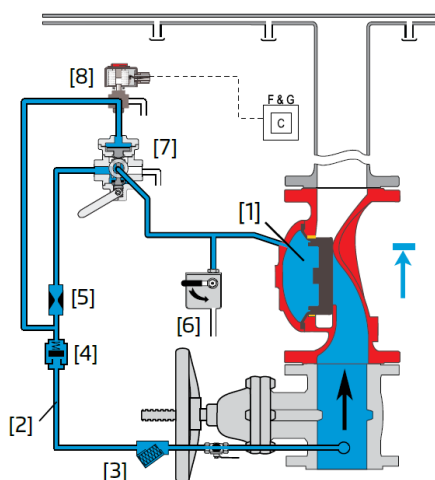


Lloyd's Register
Tipo de aprovação
Tamanhos 1½" - 10"

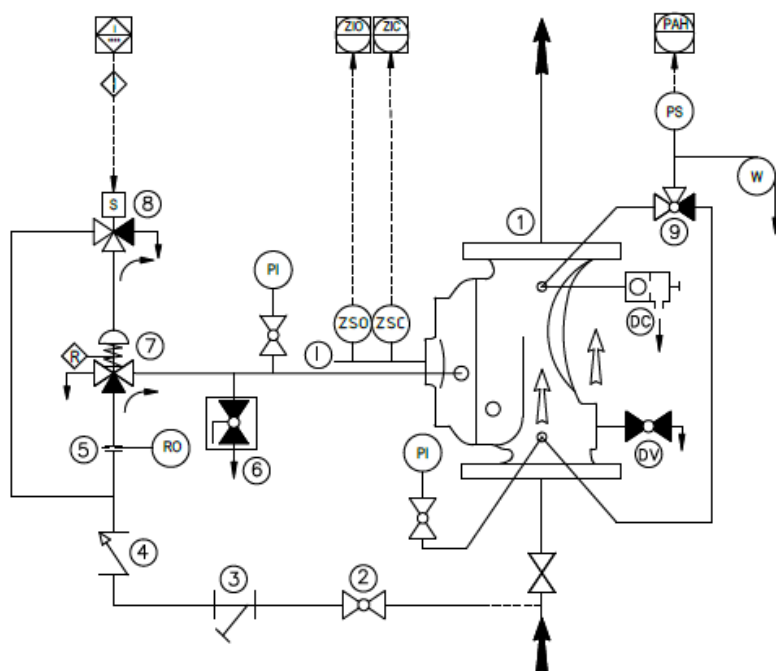
Características Adicionais

- Indicadores de posição chave fim de curso
- Pressostato de alarme
- Compatibilidade com água do mar
- Revestimento epóxi de alto desempenho à base de zinco resistente à corrosão

Operação



P&ID do Sistema



Componentes

Itens Opcionais do Sistema

W	válvula automática de retenção de gotejamento
ZS	
I	
PS	
DV	
PI	
AV	
DC	válvula automática de retenção de gotejamento

* Incluído com o sufixo A no código da válvula (componentes de dreno e indicação)
Veja as designações de código e "Itens adicionais fornecidos de fábrica" na página 4

Instalação do Sistema

Itens Opcionais do Sistema



Water Motor Alarm



Pressure Gauge



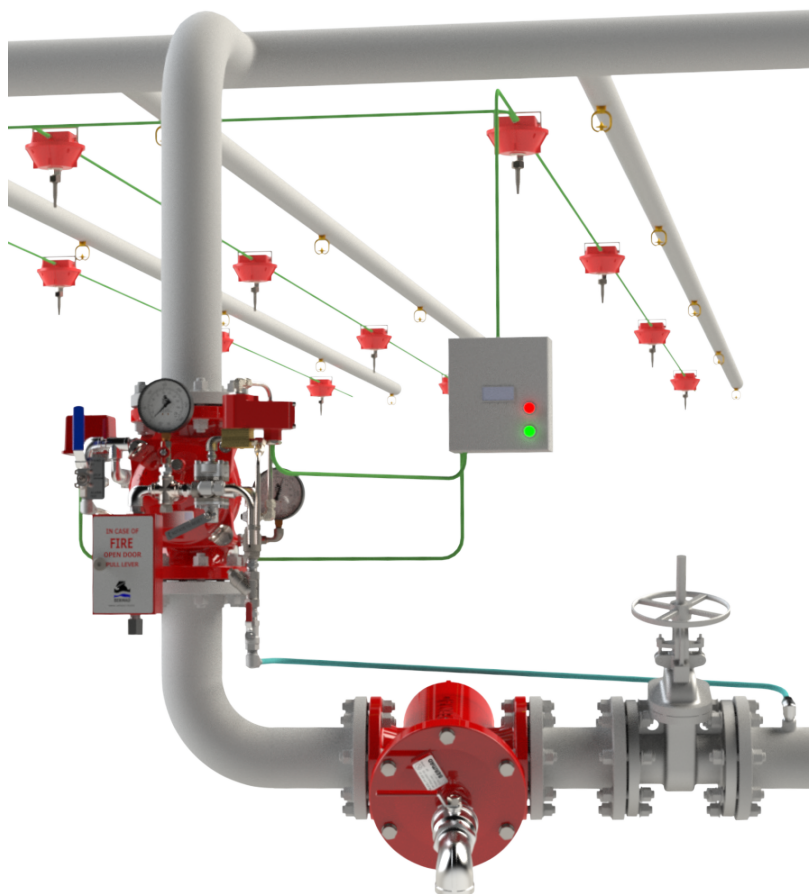
Pressure Switch



Single Ex d
Proximity S.S.316
Limit Switch



Basket Strainer -
60F



Especificações Sugeridas

Todas as imagens neste catálogo são meramente ilustrativas

Dados Técnicos

Tamanhos Disponíveis:

Flangeada- 1½, 2, 2½, 3, 4, 6, 8, 10 & 12"

Ranhurada- 2, 3, 4, 6, & 8"

Classe de Pressão:

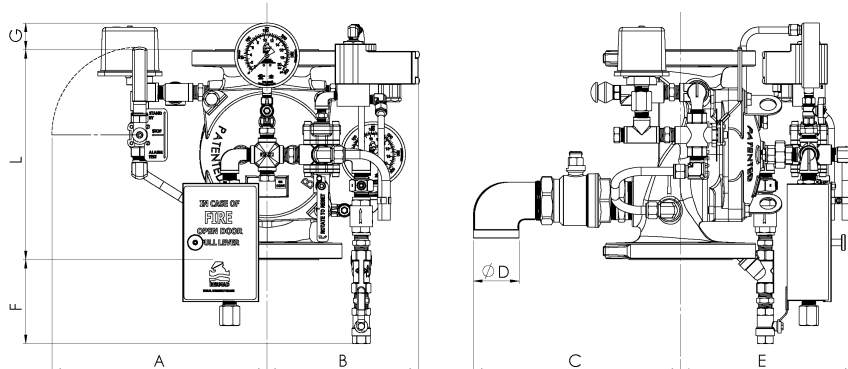
ANSI#150 - 17.2 bar | 250 psi

Ranhurada - 17.2 bar | 250 psi

Elastômero:

HTNR - Fabric Reinforced High Temperature

Compound - See engineering data



Tamanho da Válvula	L #150 mm in	Ranhuira em L mm in	A mm in	B mm in	C mm in	ØD in	E mm in	F mm in	G mm in	Peso #150 kg lb
DN40 1½"	205 8.1	-	313 12.3	235 9.3	199 7.8	¾"	229 9	185 7.3	98 3.9	17 38
DN50 2"	205 8.1	205 8.1	313 12.3	235 9.3	199 7.8	1½"	229 9	185 7.3	98 3.9	18 40
DN65 2½"	205 8.1	-	325 12.8	235 9.3	253 10	1½"	230 9.1	186 7.3	98 3.9	21 45
DN80 3"	257 10.1	250 9.8	358 14.1	235 9.3	266 10.5	1½"	264 10.4	160 6.3	72 2.8	29 64
DN100 4"	320 12.6	320 12.6	328 12.9	234 9.2	316 12.4	2"	283 11.1	128 5	41 1.6	42 93
DN150 6"	415 16.3	415 16.3	349 13.7	240 9.4	347 13.7	2"	360 14.2	81 3.2	-	87 192
DN200 8"	500 19.7	-	383 15.1	270 10.6	264 10.4	2"	411 16.2	38 1.5	-	149 329
DN250 10"	605 23.8	-	383 15.1	270 10.6	264 10.4	2"	411 16.2	-	-	166 366
DN300 12"	725 28.5	-	438 17.2	333 13.1	422 16.6	2"	539 21.2	-	-	254 560

IMPORTANTE: As dimensões do envelope ou extensão do conjunto referem-se à orientação vertical e podem variar conforme o posicionamento específico dos componentes – Exceto para a dimensão "L", permita uma tolerância de pelo menos ±15%

Valve Code Designations

FP	6"	400E-3UM	03	V	C	A5	ER	4DC	NN	N6nW																																																																																																																																																
<table><tr><th>Category</th><th>Code</th></tr><tr><td>Standard</td><td>FP</td></tr><tr><td>Seawater</td><td>FS</td></tr><tr><td>Foam</td><td>FC</td></tr></table>	Category	Code	Standard	FP	Seawater	FS	Foam	FC	<table><tr><th>Valve Size</th><th></th></tr><tr><td>1½"</td><td>40 mm</td></tr><tr><td>2"</td><td>50 mm</td></tr><tr><td>2½"</td><td>60 mm</td></tr><tr><td>3"</td><td>80 mm</td></tr><tr><td>4"</td><td>100 mm</td></tr><tr><td>6"</td><td>150 mm</td></tr><tr><td>8"</td><td>200 mm</td></tr><tr><td>10"</td><td>250 mm</td></tr><tr><td>12"</td><td>300 mm</td></tr></table>	Valve Size		1½"	40 mm	2"	50 mm	2½"	60 mm	3"	80 mm	4"	100 mm	6"	150 mm	8"	200 mm	10"	250 mm	12"	300 mm	<table><tr><th>Installation</th><th>Code</th></tr><tr><td>Vertical</td><td>V</td></tr><tr><td>Horizontal</td><td>H</td></tr></table> <table><tr><th>Material Body & Cover ⁽¹⁾</th><th>Code</th></tr><tr><td>Ductile Iron A356 ⁽²⁾</td><td>C</td></tr><tr><td>Steel ASTM A216 WCB ⁽²⁾</td><td>S</td></tr><tr><td>Stainless Steel 316</td><td>N</td></tr><tr><td>Nickel Al Bronze C95800</td><td>U</td></tr><tr><td>Super Duplex Grade 5A</td><td>D</td></tr></table> <table><tr><th>End Connections</th><th>Code</th></tr><tr><td>ANSI#150RF</td><td>A5</td></tr><tr><td>ANSI#150FF</td><td>a5</td></tr><tr><td>ISO PN16</td><td>16</td></tr><tr><td>Grooved ANSI</td><td>VI</td></tr></table> <table><tr><th>Additional Feature</th><th>Code</th></tr><tr><td>Closing Speed Control</td><td>01</td></tr><tr><td>Opening Speed Control</td><td>02</td></tr><tr><td>Opening & Closing Speed Control</td><td>03</td></tr><tr><td>None</td><td>-</td></tr></table>	Installation	Code	Vertical	V	Horizontal	H	Material Body & Cover ⁽¹⁾	Code	Ductile Iron A356 ⁽²⁾	C	Steel ASTM A216 WCB ⁽²⁾	S	Stainless Steel 316	N	Nickel Al Bronze C95800	U	Super Duplex Grade 5A	D	End Connections	Code	ANSI#150RF	A5	ANSI#150FF	a5	ISO PN16	16	Grooved ANSI	VI	Additional Feature	Code	Closing Speed Control	01	Opening Speed Control	02	Opening & Closing Speed Control	03	None	-	<table><tr><th>Coating</th><th>Code</th></tr><tr><td>High Build Epoxy</td><td>ER</td></tr><tr><td>Zinc Based High Build Epoxy ⁽⁵⁾</td><td>ZR</td></tr><tr><td>Uncoated</td><td>UC</td></tr></table> <table><tr><th>Voltage - Main Valve N.O or N.C *</th><th>Code</th></tr><tr><td>24VDC - N.C.</td><td>4DC</td></tr><tr><td>24VDC - N.O.</td><td>4DO</td></tr><tr><td>110VDC - N.C.</td><td>5DC</td></tr><tr><td>110VDC - N.O.</td><td>5DO</td></tr><tr><td>110 - 120/AC - N.C.</td><td>5AC</td></tr><tr><td>110 - 120/AC - N.C.</td><td>5AO</td></tr><tr><td>220 - 240/AC - N.C.</td><td>2AC</td></tr><tr><td>221 - 240/AC - N.C.</td><td>2AO</td></tr></table> <table><tr><th>Tubing & Fittings</th><th>Code</th></tr><tr><td>Stainless Steel 316</td><td>NN</td></tr><tr><td>Monel 400</td><td>MM</td></tr><tr><td>Super Duplex</td><td>DD</td></tr></table>	Coating	Code	High Build Epoxy	ER	Zinc Based High Build Epoxy ⁽⁵⁾	ZR	Uncoated	UC	Voltage - Main Valve N.O or N.C *	Code	24VDC - N.C.	4DC	24VDC - N.O.	4DO	110VDC - N.C.	5DC	110VDC - N.O.	5DO	110 - 120/AC - N.C.	5AC	110 - 120/AC - N.C.	5AO	220 - 240/AC - N.C.	2AC	221 - 240/AC - N.C.	2AO	Tubing & Fittings	Code	Stainless Steel 316	NN	Monel 400	MM	Super Duplex	DD	<table><tr><th>Factory Supplied Additional Items</th><th>Code</th></tr><tr><td>General Purpose NEMA-4 Pressure Switch</td><td>P</td></tr><tr><td>Ex Proof NEC, Div.1 Pressure Switch ⁽³⁾</td><td>P7</td></tr><tr><td>Ex d ATEX Pressure Switch ⁽³⁾</td><td>P9</td></tr><tr><td>Ex d Pressure Switch, SS316 Enclosure ⁽³⁾</td><td>P9Jn</td></tr><tr><td>Ex d Pressure Switch, SS316 Enclosure, Monel Sensor ⁽³⁾</td><td>P9mJn</td></tr><tr><td>Single Limit Switch, General Purpose</td><td>S</td></tr><tr><td>Single Ex d Proximity limit Switch</td><td>S9</td></tr><tr><td>Double Ex d Proximity Limit Switch</td><td>SS9</td></tr><tr><td>Double Ex d Proximity Limit Switch with SS316 Junction Box</td><td>SS9Jn</td></tr><tr><td>Pressure Gauge Assembly ⁽³⁾</td><td>6</td></tr><tr><td>S.S Glycerin Pressure Gauge Assembly ⁽³⁾</td><td>6n</td></tr><tr><td>Monel Pressure Gauge Assembly ⁽³⁾</td><td>6m</td></tr><tr><td>Ex Proof NEC Class 1 Div 1 Solenoid</td><td>7</td></tr><tr><td>Ex. d Atex Solenoid</td><td>9</td></tr><tr><td>Stainless steel 316 Solenoid Valve</td><td>K</td></tr><tr><td>Drain Valve</td><td>DV</td></tr><tr><td>Water Motor Alarm Assembly ⁽³⁾</td><td>W</td></tr><tr><td>Special Elastomer</td><td>E</td></tr><tr><td>Large Control Filter</td><td>F</td></tr><tr><td>Valve Position Indicator</td><td>I</td></tr><tr><td>S.S 316 Trim Accessories</td><td>N</td></tr><tr><td>S.S Solenoid Valve</td><td>K</td></tr><tr><td>Pressure Transmitter ⁽³⁾</td><td>Q</td></tr><tr><td>Drain and Indicating Components</td><td>A</td></tr></table>	Factory Supplied Additional Items	Code	General Purpose NEMA-4 Pressure Switch	P	Ex Proof NEC, Div.1 Pressure Switch ⁽³⁾	P7	Ex d ATEX Pressure Switch ⁽³⁾	P9	Ex d Pressure Switch, SS316 Enclosure ⁽³⁾	P9Jn	Ex d Pressure Switch, SS316 Enclosure, Monel Sensor ⁽³⁾	P9mJn	Single Limit Switch, General Purpose	S	Single Ex d Proximity limit Switch	S9	Double Ex d Proximity Limit Switch	SS9	Double Ex d Proximity Limit Switch with SS316 Junction Box	SS9Jn	Pressure Gauge Assembly ⁽³⁾	6	S.S Glycerin Pressure Gauge Assembly ⁽³⁾	6n	Monel Pressure Gauge Assembly ⁽³⁾	6m	Ex Proof NEC Class 1 Div 1 Solenoid	7	Ex. d Atex Solenoid	9	Stainless steel 316 Solenoid Valve	K	Drain Valve	DV	Water Motor Alarm Assembly ⁽³⁾	W	Special Elastomer	E	Large Control Filter	F	Valve Position Indicator	I	S.S 316 Trim Accessories	N	S.S Solenoid Valve	K	Pressure Transmitter ⁽³⁾	Q	Drain and Indicating Components	A
Category	Code																																																																																																																																																									
Standard	FP																																																																																																																																																									
Seawater	FS																																																																																																																																																									
Foam	FC																																																																																																																																																									
Valve Size																																																																																																																																																										
1½"	40 mm																																																																																																																																																									
2"	50 mm																																																																																																																																																									
2½"	60 mm																																																																																																																																																									
3"	80 mm																																																																																																																																																									
4"	100 mm																																																																																																																																																									
6"	150 mm																																																																																																																																																									
8"	200 mm																																																																																																																																																									
10"	250 mm																																																																																																																																																									
12"	300 mm																																																																																																																																																									
Installation	Code																																																																																																																																																									
Vertical	V																																																																																																																																																									
Horizontal	H																																																																																																																																																									
Material Body & Cover ⁽¹⁾	Code																																																																																																																																																									
Ductile Iron A356 ⁽²⁾	C																																																																																																																																																									
Steel ASTM A216 WCB ⁽²⁾	S																																																																																																																																																									
Stainless Steel 316	N																																																																																																																																																									
Nickel Al Bronze C95800	U																																																																																																																																																									
Super Duplex Grade 5A	D																																																																																																																																																									
End Connections	Code																																																																																																																																																									
ANSI#150RF	A5																																																																																																																																																									
ANSI#150FF	a5																																																																																																																																																									
ISO PN16	16																																																																																																																																																									
Grooved ANSI	VI																																																																																																																																																									
Additional Feature	Code																																																																																																																																																									
Closing Speed Control	01																																																																																																																																																									
Opening Speed Control	02																																																																																																																																																									
Opening & Closing Speed Control	03																																																																																																																																																									
None	-																																																																																																																																																									
Coating	Code																																																																																																																																																									
High Build Epoxy	ER																																																																																																																																																									
Zinc Based High Build Epoxy ⁽⁵⁾	ZR																																																																																																																																																									
Uncoated	UC																																																																																																																																																									
Voltage - Main Valve N.O or N.C *	Code																																																																																																																																																									
24VDC - N.C.	4DC																																																																																																																																																									
24VDC - N.O.	4DO																																																																																																																																																									
110VDC - N.C.	5DC																																																																																																																																																									
110VDC - N.O.	5DO																																																																																																																																																									
110 - 120/AC - N.C.	5AC																																																																																																																																																									
110 - 120/AC - N.C.	5AO																																																																																																																																																									
220 - 240/AC - N.C.	2AC																																																																																																																																																									
221 - 240/AC - N.C.	2AO																																																																																																																																																									
Tubing & Fittings	Code																																																																																																																																																									
Stainless Steel 316	NN																																																																																																																																																									
Monel 400	MM																																																																																																																																																									
Super Duplex	DD																																																																																																																																																									
Factory Supplied Additional Items	Code																																																																																																																																																									
General Purpose NEMA-4 Pressure Switch	P																																																																																																																																																									
Ex Proof NEC, Div.1 Pressure Switch ⁽³⁾	P7																																																																																																																																																									
Ex d ATEX Pressure Switch ⁽³⁾	P9																																																																																																																																																									
Ex d Pressure Switch, SS316 Enclosure ⁽³⁾	P9Jn																																																																																																																																																									
Ex d Pressure Switch, SS316 Enclosure, Monel Sensor ⁽³⁾	P9mJn																																																																																																																																																									
Single Limit Switch, General Purpose	S																																																																																																																																																									
Single Ex d Proximity limit Switch	S9																																																																																																																																																									
Double Ex d Proximity Limit Switch	SS9																																																																																																																																																									
Double Ex d Proximity Limit Switch with SS316 Junction Box	SS9Jn																																																																																																																																																									
Pressure Gauge Assembly ⁽³⁾	6																																																																																																																																																									
S.S Glycerin Pressure Gauge Assembly ⁽³⁾	6n																																																																																																																																																									
Monel Pressure Gauge Assembly ⁽³⁾	6m																																																																																																																																																									
Ex Proof NEC Class 1 Div 1 Solenoid	7																																																																																																																																																									
Ex. d Atex Solenoid	9																																																																																																																																																									
Stainless steel 316 Solenoid Valve	K																																																																																																																																																									
Drain Valve	DV																																																																																																																																																									
Water Motor Alarm Assembly ⁽³⁾	W																																																																																																																																																									
Special Elastomer	E																																																																																																																																																									
Large Control Filter	F																																																																																																																																																									
Valve Position Indicator	I																																																																																																																																																									
S.S 316 Trim Accessories	N																																																																																																																																																									
S.S Solenoid Valve	K																																																																																																																																																									
Pressure Transmitter ⁽³⁾	Q																																																																																																																																																									
Drain and Indicating Components	A																																																																																																																																																									

Notes:

(1) Other materials available see engineering data

(2) Coated internally and externally

(3) Supplied loose

(4) Consult BERMAD for availability

(5) For valves up to and including 10"

*More options available – consult BERMAD