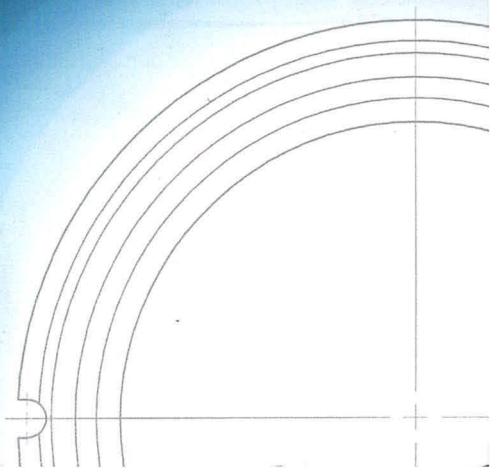
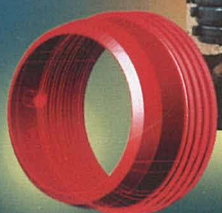
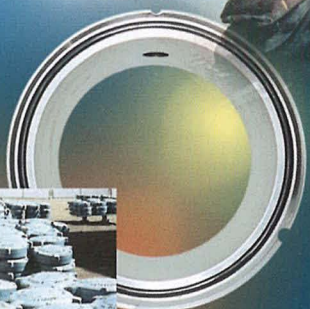
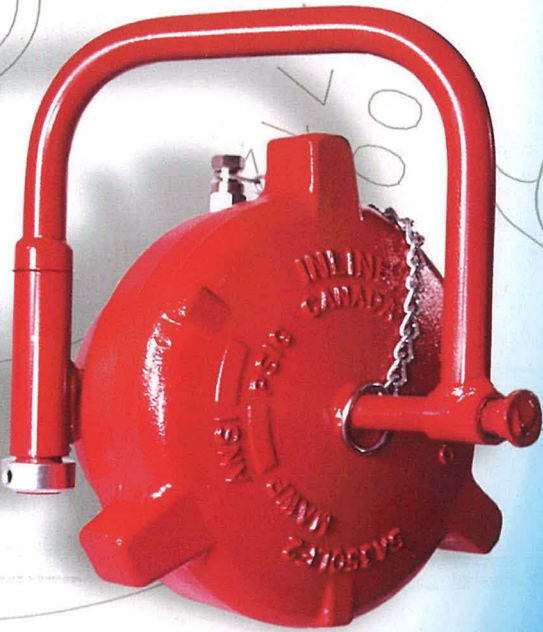


LINE
VAD

In-Line

FLOW PRODUCTS

QUICK OPENING CLOSURE



IN-LINE FIGURE 700 QUICK OP

Design




The design of the In-Line Figure 700 Quick Opening Closure is maintained in accordance with the latest mandatory Edition and Addenda of ASME Section VIII Division 1. ASME Code stamping ("U") and partial data reports (U-2A) are optional. All pressure boundary parts and fabrication conform to NACE MR-01-75.

Weld Hubs

Standard In-Line Closure Weld Hubs are manufactured from SA350-LF2 Class 1 forged steel with chemistry restrictions to improve weldability. ASTM A694 Grades F42 to F70 can be provided to match high yield, thin-walled pipe. Weld hubs can be modified to accommodate material of unequal yield strengths up to 1.5 times the specified minimum yield strength of the standard SA350-LF2 Class 1 Weld Hub per CSA and ASME Piping Codes.

Seals



In-Line Closures come equipped with standard o-ring seals, eliminating the need for purchasing and stocking expensive custom seals. The SAE AS568A O-ring Dash Number (-XXX) is stamped directly on the Weld Hub for easy size identification. Seals can then be purchased locally reducing downtime and parts inventories.

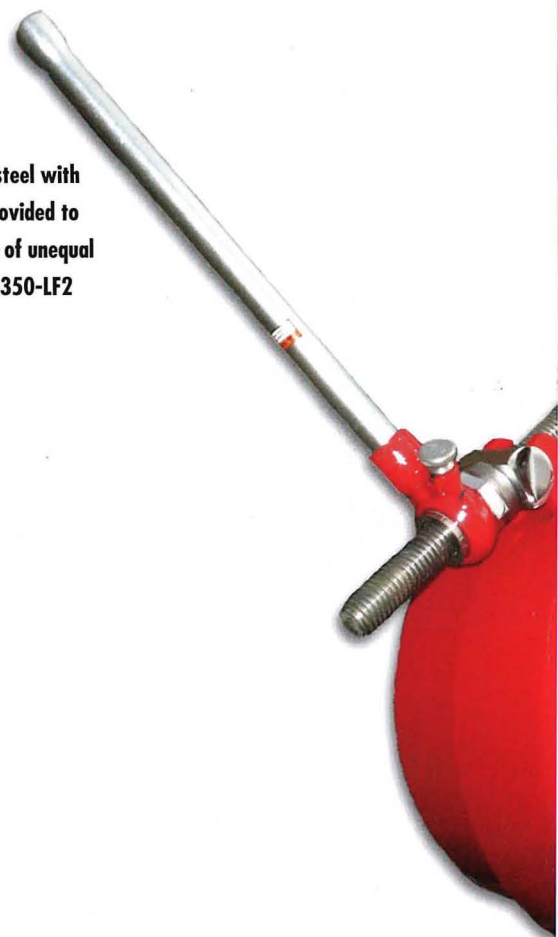
Actuating

Large bore Closures (NPS16 and larger) are provided with a Ratchet device to smoothly assist the opening and closing of the Closure Head. Spanner wrenches are available for smaller sizes. The use of these devices is highly recommended to ensure trouble-free operation and help maintain the pressure-retaining integrity of the Closure. Use of impact tools (i.e. hammers) is not supported and will void all warranties.

Pressure Warning



All Closures NPS6 and larger feature a Pressure Alert Fitting to warn the operator of internal pressure prior to opening. While this fitting can be added to smaller sizes as an option, Closures NPS2 to NPS4 come equipped with Pressure Warning Grooves in the threads as standard. These grooves create a path of least resistance for residual pressure, alerting the operator of a pressure condition. Pressure Warning Grooves are available as an option on large sizes. These features are intended to provide warning of residual pressure and are not intended to bleed or blow down vessels or piping systems.



ENDING CLOSURE



Size Range

NPS2 to NPS48

Larger sizes on request

Class Rating

ANSI 150 to 1500

Higher Class ratings on request

Pipe Schedule / Wall

All Schedules and Walls per ANSI B36.10

All Nominal Vessel Wall thicknesses

Stocking sizes: Std, S40, XH and S80

Termination

Weld bevel per ASME B16.25

Tapered transition per ASME Section VIII Division 1

ASME B16.5 Flanges installed on request

Design Specifications

ASME Section VIII Division 1

ASME 'U' Stamp and U-2A Partial Data Report available on request

Hinge Orientation

Horizontal or Vertical

Intermediate angles and non-hinged available on request

Temperature Range

-50°F (-46°C) to +400°F (+204°C) - limits of elastomer seal

Seals

SAE AS568 Standard O-Ring HSN (Highly Saturated Nitrile)

Other elastomers available on request

Materials

Heads:

2"-14" ANSI 150/600

2"-8" ANSI 900/1500

10"-14" ANSI 900/1500

16" and larger ANSI 150/900

ASME SA350 LF2 Class 1

ASME SA350 LF2 Class 1

ASME SA487 4A (Charpy to -50°F)

ASME SA516 70 (Charpy to -50°F)

Weld Hubs:

All sizes

ASME SA350 LF2 Class 1

Carbon Equivalent: 0.45 maximum

Hardness: 187 HBN maximum

Optional

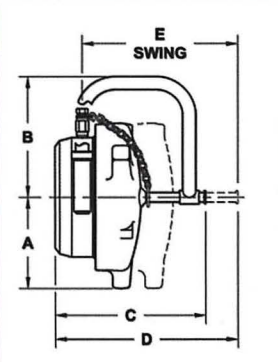
ASTM A694 F42 to F70

In-Line

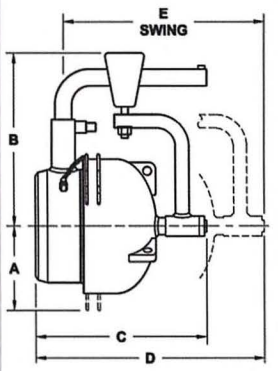
FLOW PRODUCTS

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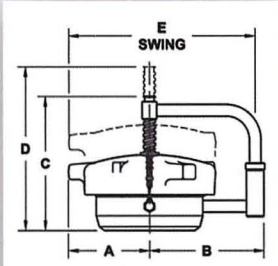
Closure Dimensional Data



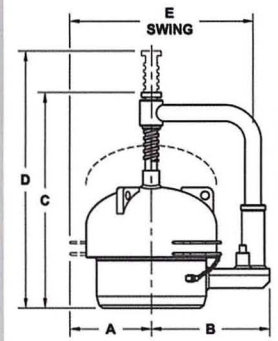
**HORIZONTAL
NPS2 TO NPS14**



**HORIZONTAL
NPS16 AND LARGER**



**VERTICAL
NPS2 TO NPS14**



**VERTICAL
NPS16 AND LARGER**

In-Line Figure 700 Horizontal Closure

Size	A Cap Clearance (in)		B Hinge Clearance (in)		C Length/Height (Closed) (in)		D Length/Height (Open) (in)		E Swing Radius (in)		Approx Weight (lbs.)
	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	
2 150/900	3-3/8	3-3/8	5-1/4	6-1/4	7-3/8	7-3/8	8-7/8	8-7/8	6-7/8	8-1/2	11
3 150/900	4	4	5-3/4	6-1/4	7-7/8	7-7/8	9-5/8	9-5/8	8-1/4	9-1/2	18
4 150/900	4-1/2	4-1/2	6-3/8	6-1/2	8	8	9-5/8	9-5/8	9	10-1/4	24
6 150/900	6-1/4	6-1/4	8-3/8	8-1/2	11-1/4	11-3/4	13-3/4	14-1/4	12-1/2	14-1/4	61
8 150/600	7	7	9-1/4	9-7/8	11-1/2	11-5/8	14	14-1/4	14-1/4	16	79
8 900	7-1/4	7-1/4	9-1/4	9-7/8	11-7/8	11-7/8	14-3/8	14-5/8	14-1/2	16-3/8	87
10 150/600	8-3/4	8-3/4	11-1/2	12	14	13-3/4	17	16-3/4	17-1/2	19-7/8	140
10 900	9	9	11-3/4	12-1/4	14-5/8	14-3/8	17-1/2	17-3/8	17-5/8	20	151
12 150/600	10-1/8	10-1/8	13-1/8	13-5/8	14-3/8	14-3/8	17-1/4	17-3/8	19-7/8	22-3/4	192
12 900	10-1/4	10-1/4	13-1/4	13-3/4	15-1/4	14-3/4	18-1/8	17-3/4	20	23	204
14 150/600	10-7/8	10-7/8	13-7/8	14-3/8	14-3/4	14-5/8	17-5/8	17-5/8	21-1/8	24-1/4	223
14 900	11	11	14	14-1/2	15	15	17-7/8	18	21-1/4	24-1/2	238
16 150/600	12-1/2	12-1/2	25-3/4	19	24	31	32-3/4	37	29	29	590
16 900	12-7/8	12-7/8	25-3/4	19	24-1/2	31-1/2	33-1/4	37-1/2	29-3/8	29-3/8	630
18 150/600	13-3/4	13-3/4	26-3/4	20	24-1/2	31-1/2	34-1/2	37-5/8	32	31-1/8	730
18 900	14-1/8	14-1/8	26-3/4	20	25	32	35	38-1/8	32-3/8	31-1/2	780
20 150/600	14-3/4	14-3/4	27-3/4	21	25-3/4	31-3/4	38-1/4	38-1/4	30-1/2	33	825
20 900	15-1/8	15-1/8	27-3/4	21	26-1/4	32-1/4	38-3/4	38-3/4	30-7/8	33-3/8	880
24 150/600	16-3/4	16-3/4	29-3/4	23	25-3/4	32-3/4	40-5/8	38-5/8	37	37-1/8	1080
24 900	17-1/4	17-1/4	29-3/4	23	26-3/8	33-3/8	41-1/4	39-1/4	37-1/2	37-5/8	1155
30 150/600	20	20	36-3/4	31	34-5/8	38-3/4	46-7/8	46-3/4	43-1/2	43-1/8	1600
30 900	20-5/8	20-5/8	36-3/4	31	35-1/4	39	47-1/2	47	44	43-1/8	1425
36 150/600	23-1/4	23-1/4	42-3/4	35	40-5/8	44-3/4	52-7/8	54-3/4	49-1/2	49-1/4	2425
36 900	24	24	42-3/4	35	41-1/4	45	52-1/2	55	50-1/8	49-1/4	2550
42 150/600	27-3/8	27-3/8	49-1/2	41	48-1/2	52-5/8	60-7/8	64-5/8	57-3/4	55-1/2	3650
42 900	28-3/8	28-3/8	49-1/2	41	48-7/8	53	61-5/8	65	58-1/8	55-1/2	3825
48 150/600	30-5/8	30-5/8	55-5/8	47	54-1/2	58-3/4	66-3/4	70-3/4	63-3/4	61-1/2	5550
48 900	31-3/4	31-3/4	55-5/8	47	55-1/8	59-1/4	67-1/4	60-1/4	64-1/2	61-1/2	5725

Larger and intermediate sizes available on request.



In-Line Flow Products Limited

Edmonton, Alberta, Canada
 Phone: (780) 490-5337
 Fax: (780) 490-5314
 Toll Free: 1-866-416-9003
 www.in-line.ca