

1400 & 1500 SERIES (FLANGED)

OPW Engineered Systems has been manufacturing Sight Flow Indicators for over 60 years. Our experience has led to many innovations in design and manufacturing, making VISI-FLO® the most thoroughly-engineered Sight Flow Indicator on the market. VISI-FLO's are available in two series: the Standard 1400 Series, and the 1500 High-Pressure High-Temperature Series.

Standard Features

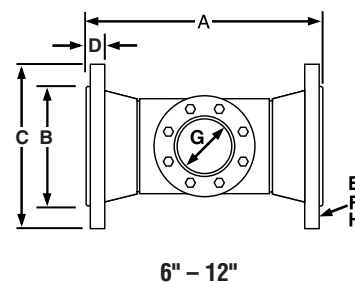
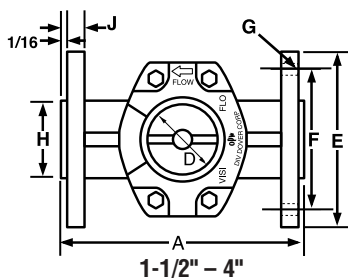
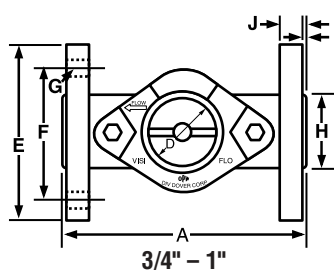
- **Exclusive 3-Year "No-Leak" Guarantee -**
VISI-FLO's innovative radial seal creates a constant and uninterrupted sealing force between the body and outside diameter of the glass lens. This sealing method provides a longer lasting and better seal than conventional flat seals.
- **Maintenance-Free Design -** VISI-FLO's unique, bolt-on-body design requires no special maintenance or torquing sequence be followed to prevent leaks. This results in a safer, more reliable sight flow indicator than those units using tie rods to fasten lens and seal to body.
- **Dimensionally Interchangeable - "FJP" Flanged**
VISI-FLO's feature end-to-end dimensions that match Jacoby-Tarbox and Penberthy and other manufacturers' units. "FJP" units are available in 3/4", 2", 3", and 4".
- **Shipment Within 48 Hours on Most Items**
- **Rated for Full Vacuum Service**
- **Four Indicator Styles**
 - a. **Propeller** - The best way to show flow of opaque liquids. Ideal for observation at a distance. Flow from right to left is standard. Specify if left to right flow is needed. Not recommended for flow rates above 100 GPM.
 - b. **Bi-Directional Flapper** - This indicator points in either direction to show you at a glance which way the liquid is flowing.
 - c. **Bi-Directional Plain** - When the color and clarity of your liquid are of prime importance.
 - d. **Drip Tube** - Ideal for gravity, extremely low or intermittent flow. Keeps product from dripping on the glass. Assures constant see-through for vertical lines



Maximum Pressure/Temperature Ratings for Visi-Flo® Sight Flow Indicators

Series	End Connection	Maximum ASME Pressure	Maximum Temperature
1400	Flanged 6" to 12"*	150 psig @ 150° F	150° F @ 150 psig
	Flanged 1/4" to 4"*	200 psig @ 150° F	250° F @ 135 psig
1500	Flanged (Carbon Steel)*	285 psig @ 100° F	350° F @ 215 psig
	Flanged (Stainless Steel)*	275 psig @ 100° F	350° F @ 205 psig
	Flanged (Ductile Iron)*	245 psig @ 100° F	350° F @ 165 psig

* With standard seals. Temperatures up to 500° F possible with High Temp PTFE Seals.



Dimensions for Flanged VISI-FLO®

	3/4"		1"		1-1/2"		2"		3"		4"		6"		8"		10"		12"	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
A Overall Length	4 5/8	117	5	127	6 1/2	165	7	178	8	203	9	229	14 1/4	362	16 1/8	410	16 1/8	410	17 1/8	435
"FJP" Overall Length	4 5/8	117	N/A		*		7 7/8		9 3/8		11		*		*		*		*	
D Diameter of Sight Opening	1 1/2	38	1 1/2	38	2	51	2	51	3	76	3	76	4	102	4	102	4	102	4	102
E Flange Dia.	3 7/8	98	4 1/4	108	5	127	6	152	7 1/2	191	9	229	11	279	13 1/2	343	16	406	19	483
F Bolt Circle Dia.	2 3/4	70	3 1/8	79	3 7/8	98	4 3/4	121	6	152	7 1/2	191	9 1/2	241	11 3/4	298	14 1/4	362	17	432
G (#Bolt Holes) Size	(4) 5/8	(4) 16	(4) 5/8	(4) 16	(4) 5/8	(4) 16	(4) 3/4	(4) 19	(4) 3/4	(4) 19	(8) 3/4	(8) 19	(8) 3/4	(8) 19	(8) 3/4	(8) 19	(12) 7/8	(12) 22	(12) 7/8	(12) 22
H Dia. of Raised Face	1 11/16	43	2	51	2 7/8	73	3 5/8	92	5	127	6 3/16	157	8 1/2	216	10 5/8	270	12 3/4	324	15	381
J Thickness of Flange	1/2	13	15/32	12	19/32	15	11/16	17	13/16	21	1	25	1	25	1 1/8	29	1 3/16	30	1 1/4	32
Total Weight (lbs.)	5.2		5.4		11.1		15		29.3		35		85		125		165		250	

*Dimensionally interchangeable with standard flanged VISI-FLO®

Pressure/Temperature Ratings

1400 Series Flanged VISI-FLO® (Standard

Pressure/Temperature)

Temperature		psig (Barg)		
(F)	(C)	Steel	316 SST	Ductile Iron
-20 to 150	-29 to 65	200 (13.8)	200 (13.8)	200 (13.8)
200	93	165 (11.4)	165 (11.4)	165 (11.4)
225	105	150 (10.3)	150 (10.3)	150 (10.3)
250	121	135 (9.3)	135 (9.3)	135 (9.3)
<i>With Optional Seals</i>				
300	149(6.9)	100 (6.9)	100 (6.9)	100 (6.9)
350	177(4.8)	70 (4.8)	70 (4.8)	70 (4.8)
400	204(2.4)	35 (2.4)	35 (2.4)	35 (2.4)

1500 Series Flanged VISI-FLO®

Temperature		psig (Barg)		
(F)	(C)	Steel	316 SST	Ductile Iron
-20 to -100	-29 to -38	285 (19.7)	275 (19.0)	245 (16.8)
150	65	270 (18.6)	255 (17.6)	225 (15.5)
200	93	260 (17.2)	240 (16.6)	200 (13.8)
225	105	250 (16.8)	230 (15.9)	195 (13.4)
300	149	230 (15.9)	215 (14.8)	180 (12.4)
350	177	215 (14.8)	205 (14.4)	165 (11.4)
<i>With Optional Seals</i>				
400	204	200 (13.8)	195 (13.4)	150 (10.3)
450	232	185 (12.8)	180 (12.4)	135 (9.3)
500	260	170 (11.7)	170 (11.7)	120 (8.3)

Seal & Indicator Operating Temperatures

Material	Degrees F	Degrees C
Seals		
Neoprene (1400 series standard)	-20 to 250	-29 to 121
Viton® (1500 series standard)	0 to 350	-17 to 177
Buna-N	-30 to 250	-29 to 121
EPT	-20 to 250	-29 to 121
Teflon®	-40 to 450	-40 to 232
Indicators		
Delrin®	-40 to 250	-40 to 121
Ryton®	-40 to 450	-40 to 232
Teflon®	-40 to 450	-40 to 232

Construction and Material

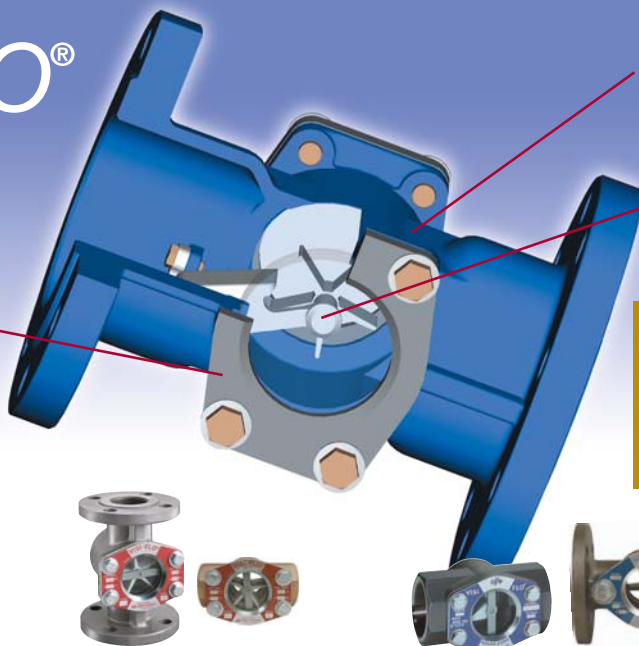
Body:	Steel 316 Stainless Steel Ductile Iron Optional Materials:	ASTM A216 WCB ASTM A351 CF8M ASTM A536 65-45-12 Hastelloy®, Alloy® 20, Monel®, Others upon request
Windows:	1400 Series 1500 Series *Annealed Borcsilicate used on sizes 3" and above.	Tempered Soda Lime* Tempered Borosilicate
Indicators:	1400 Series 1500 Series Optional Materials:	Delrin® Ryton® Teflon®
Seals:	1400 Series 1500 Series See page 16 for seal options.	Neoprene (Std.) Viton® (Std.)
Connections:	Steel 316 Stainless Steel Ductile Iron Options	ASME B16.5 150 lb.RF Flange ASME B16.5 150 lb.RF Flange ASME B16.1 125 lb.RF Flange ASME B16.5 300 lb.RF Flange
Options:	Protective Shield (1400SK): Pressure/Temperature Probe:	Polycarbonate lens cover Consult Factory

Ordering Information see page 16.

IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

VISI-FLO®

Sight Flow Indicators



Unique radial seal prevents leakage

Four indicator choices cover every application

Bolted glass retainers eliminate routine maintenance

Flow monitoring made easy

- Quick, reliable flow verification
- Easy monitoring of fluid color and clarity
- Economical, maintenance-free design
- 3-year warranty... guaranteed not to leak



1300 Series

Window units with large 4" viewing area for internal observation of tanks, pipelines and more



1400 Series

Standard pressure/temperature units in flanged and threaded styles



1500 Series

High pressure/temperature units in flanged and threaded styles



1700 Series

Low pressure units in flanged (shown) and threaded styles feature 360° viewing area, Borosilicate cylinders, and impact deterrent shields

Your guide to the industry's most complete line of sight flow indicators

Indicator Styles



Plain - When fluid color/clarity is of prime importance (bi-directional)



Propeller - Ideal for opaque fluids and observation from a distance (right to left flow std., specify other)



Flapper - Points in either direction to show fluid flow (bi-directional)



Drip Tube - Ideal for gravity, intermittent or extremely low flow, prevents fluid from dripping on glass (vertical lines only)

Ordering Chart Call OPW Customer Service at 800-547-9393 for complete ordering information

Construction

- 2 - Carbon Steel
- 3 - Bronze
- 7 - 316 Stainless Steel
- 8 - Ductile Iron
- 9 - Alloy 20

Other construction materials available

Indicator Material

- D - Delrin® (Std. 1400 Series, white)
- R - Ryton® (Std. 1500 Series, brown)
- T - Teflon® (Std. 6" - 12", white)
- C - Carbon Steel (Drip Tubes only)
- S - Stainless Steel (Drip Tubes only)

End Connections

- Blank - FNPT
- F - ASME 150 Lb. Flange
- B - British Threaded
- FJP - Flanged Replacement
- FT - ASME 300 Lb. Flange
- SW - Socket Weld

1520RF-0201

Series

- 13 - 1300 Series (4" only)
- 14 - 1400 Series
- 15 - 1500 Series
- 17 - 1700 Series

See charts below for temperature and pressure ratings.

Indicator

- 0 - Plain
- 1 - Propeller (1/4" to 4" only)
- 2 - Flapper
- 3 - Drip Tube
- 4 - Low Flow (1/4", 3/8", 1/2" only)

Shielding

- Blank - Not Shielded
- SK - Shielded

Seal Materials

- 1 - Buna-N (Std. 1700 Series)
- 2 - Viton® (Std. 1500 Series)
- 3 - Teflon®
- 4 - EPT
- 5 - Neoprene (Std. 1300/1400 Series)
- 6 - Kalrez®
- 7 - Teflon® - High Temperature
- X - Customer Specified

Size

001 - 1/8"	010 - 1"	040 - 4"
002 - 1/4"	012 - 1-1/4"	060 - 6"
004 - 3/8"	015 - 1-1/2"	080 - 8"
005 - 1/2"	020 - 2"	100 - 10"
007 - 3/4"	030 - 3"	120 - 12"

Availability of styles, sizes and materials may vary depending upon Visi-Flo configuration. Consult OPW Customer Service regarding your exact requirements.

Maximum Pressure/Temperature Ratings

Size	Max. ASME Pressure	Max. Temperature*
4"	300 PSIG at 100°F	250°F at 250 PSIG
* 316 SST unit with standard Neoprene seals		
1400 Series		
End Connection	Max. ASME Pressure	Max. Temperature*
Flanged (6" - 12")	150 PSIG at 150°F	150°F at 150 PSIG
Threaded/Flanged (1/4" - 4")	200 PSIG at 150°F	250°F at 135 PSIG
* With standard seals. Temperatures up to 500°F possible with High Temperature Teflon® seals.		

Maximum Pressure/Temperature Ratings

End Connection	Materials	Max. ASME Pressure	Max. Temperature*
Threaded	All	400 PSIG at 150°F	350°F at 200 PSIG
Flanged	Carbon Steel	285 PSIG at 100°F	350°F at 215 PSIG
Flanged	Stainless Steel	275 PSIG at 100°F	350°F at 205 PSIG
Flanged	Ductile Iron	245 PSIG at 100°F	350°F at 165 PSIG
* With standard seals. Temperatures up to 500°F possible with High Temperature Teflon® seals.			
1700 Series			
Size	Max. ASME Pressure	Max. Temperature*	
1/8" - 1"	150 PSIG at 100°F	250°F at 150 PSIG	
1-1/2"	120 PSIG at 100°F	250°F at 120 PSIG	
2" - 3"	100 PSIG at 100°F	250°F at 100 PSIG	
4"	70 PSIG at 100°F	250°F at 70 PSIG	
* With standard Buna-N seals			

Temperature Range for Seal Materials

Seal Material	Minimum	Maximum
Neoprene (Std. 1300/1400 Series)	-20°F	250°F
Viton® (Std. 1500 Series)	0°F	350°F
Buna-N (Std. 1700 Series)	-30°F	250°F
EPT	-20°F	250°F
Teflon®	-40°F	450°F
Teflon® - High Temperature	0°F	500°F
Kalrez®	0°F	500°F