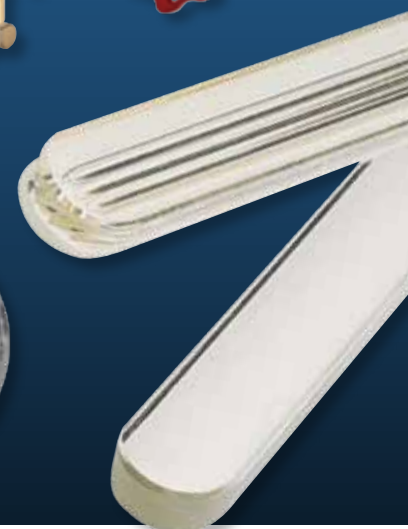




Call: (732) 938-5641 Email: Sales@ernstflow.com & Info@ernstflow.com Order at ErnstFlow.com

PRODUCT INDEX

Ernst Flow Industries® promises to continue our time honored tradition of furnishing quality products that fulfill your every requirement and do so with the highest emphasis placed on commitment to service, satisfaction and support, as we realize that you, our customer, are our greatest asset.

Hundreds of leading Electric Utilities – Refineries – Industrial Plants – Hospitals – Schools – Government Institutions – Process and Chemical Plants insist upon Ernst Flow Industries® products.

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**Valve Centers Chart and
Ordering Guidelines** 20

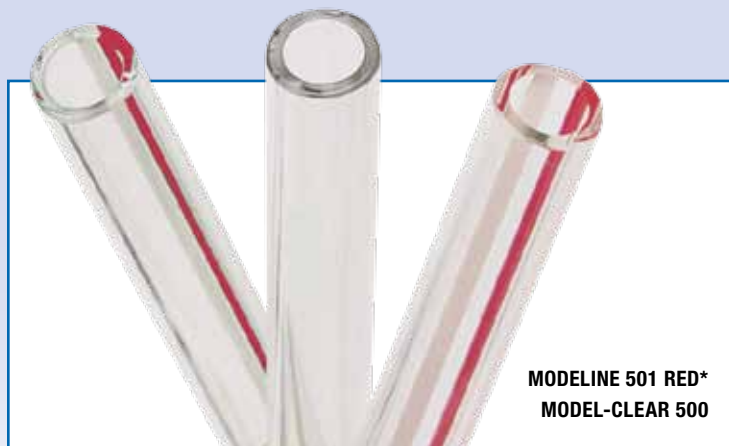
NOTE: ALWAYS WEAR GLOVES AND EYE PROTECTION WHILE WORKING WITH GLASS.

NOTES

- Operating pressures and temperatures are subject to the limitations of the tubular gauge glass and washer composition...consult with Ernst Flow Industries for gauge glass ratings.
- If alternative gasket materials (i.e. PTFE, graphite, etc.) are desired in place of rubber (where rubber is stated), the dimensions may vary from those indicated for rubber... consult with Ernst Flow Industries.
- "Automatic" refers to valves furnished with ball checks that will seat in the event of glass breakage shutting off the escape of fluid or steam.
Note: Only the lifting ball checks are recommended for steam service; rolling ball checks must be removed for steam applications.)
- Most gauge valves can be converted to "non-automatic" by removing the ball checks...please specify if so desired.
- If gauge glass and guard rods are desired, the center to center distance between the upper and lower valve connections must be specified.
- **WARNING: For gauge valves recommended for steam service, use with PROCESS SATURATED STEAM APPLICATIONS ONLY.**
They ARE NOT TO BE USED WITH SUPERHEATED STEAM.

HIGH PRESSURE TUBULAR GAUGE GLASS

For boiler water gauges and liquid level gauges. When ordering, specify: outside diameter and length.



DURAN® CLEAR OR RED-LINE GAUGE GLASS

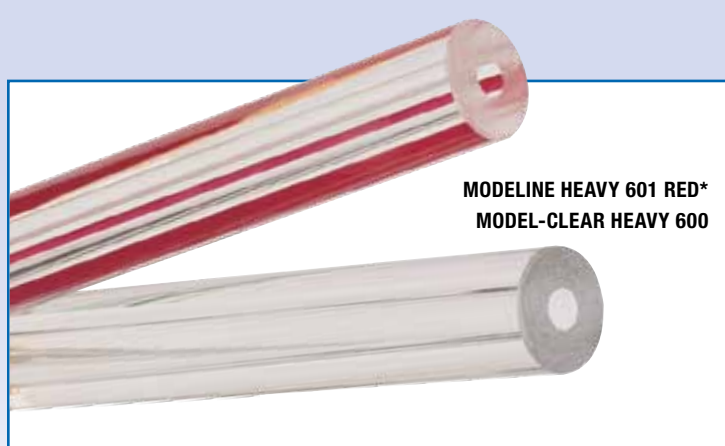
STANDARD WALL

*Recommended up to 500 PSI

Made in lengths up to 144"

Length tolerance +/- 1/16"

Outside diameters: 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1-1/8", 1-1/4" or 1-1/2"



DURAN® CLEAR OR RED-LINE GAUGE GLASS

HEAVY WALL

*Recommended up to 600 PSI

Made in lengths up to 48"

Length tolerance +/- 1/16"

Outside diameters: 5/8", 3/4", 7/8" or 1"



PYREX® TUBING

HEAVY WALL

For all types of oil cups, lubricators, etc.

Ends ground square

Made in lengths up to 48"

Outside Diameters: 1", 1-1/4", 1-1/2", 1-3/4", 2", 2-1/4", 2-1/2", 2-3/4", 3", 3-1/4", 3-1/2", 4", 4-1/2", 5", 5-1/2", 6", 6-1/2", or 7"

ALSO AVAILABLE IN ACRYLIC

Pressure & Temperature Ratings for Acrylic Tubing
available upon request...consult with Ernst Flow Industries



POLYCARBONATE TUBING

MODEL EFI 160TP

Standard outside diameters 5/8" and 3/4"

Other O.D.'s available

Made in all lengths up to 144"

*Pressure & Temperature Ratings of gauge glass are dependent upon the specific model number, outside diameter, length, wall thickness, and application... Consult Ernst Flow Industries for recommendations.

- Complete "TEMPERATURE & PRESSURE RATING CHART" for model numbers 500, 501, 600 and 601 glass is available upon request and online at ernstflow.com.
- Level gauge operating pressures and temperatures are subject to the limitations of tubular gauge glass and washer composition.
- Gauge Glass Protectors should be used with all gauge glass installations. Gauge Glass Protectors and Illuminators for use with gauge glass are illustrated on pages 11 and 20.
- **WARNING:** Always wear safety glasses when working with gauge glass.

CAUTION: Glass and washers must be replaced as a set. Do not place glass back in service, even if the glass appears to have no visible damage, it must be discarded.

HIGH PRESSURE GAUGE GLASS WASHERS (FOR BOILER WATER GAUGES & LIQUID LEVEL GAUGES)

SELF-SEALING MODELIP

EPDM COMPOSITION

For Steam and Water

Made only in the following sizes:



MODEL EFI 66

Washer No.	Dimensions in Inches		
	Inside Diameter	Outside Diameter	Thickness or Height
WR - 66 - 300 - E	3/8	13/16	1/4
WR - 66 - 10 - E	1/2	13/16	9/32
WR - 66 - 210 - E	1/2	7/8	3/8
WR - 66 - 20 - E	1/2	7/8	1/2
WR - 66 - 290 - E	1/2	1	5/16
WR - 66 - 280 - E	1/2	1	3/8
WR - 66 - 340 - E	1/2	1-7/16	3/8
WR - 66 - 190 - E	9/16	13/16	9/32
WR - 66 - 120 - E	9/16	27/32	19/32
WR - 66 - 180 - E	9/16	1-3/32	1/2
WR - 66 - 30 - E	5/8	7/8	9/32
WR - 66 - 520 - E	5/8	7/8	3/8
WR - 66 - 130 - E	5/8	15/16	9/32
WR - 66 - 90 - E	5/8	15/16	9/16
WR - 66 - 40 - E	5/8	1	9/32
WR - 66 - 250 - E	5/8	1	15/32
WR - 66 - 50 - E	5/8	1-1/8	3/8
WR - 66 - 370 - E	5/8	1-1/4	1/2
WR - 66 - 350 - E	5/8	1-5/16	13/32
WR - 66 - 500 - E	21/32	1-1/4	1/4
WR - 66 - 200 - E	11/16	1	9/32
WR - 66 - 510 - E	11/16	1-1/8	3/8
WR - 66 - 420 - E	11/16	1-3/16	7/16
WR - 66 - 440 - E	11/16	1-3/8	3/8
WR - 66 - 560 - E	11/16	1-7/16	13/32
WR - 66 - 570 - E	3/4	15/16	3/8
WR - 66 - 310 - E	3/4	1	3/8
WR - 66 - 430 - E	3/4	1	3/4
WR - 66 - 60 - E	3/4	1-1/16	9/32
WR - 66 - 150 - E	3/4	1-1/16	1/2
WR - 66 - 470 - E	3/4	1-1/16	3/4
WR - 66 - 240 - E	3/4	1-3/32	13/32
WR - 66 - 140 - E	3/4	1-1/8	3/8
WR - 66 - 390 - E	3/4	1-1/8	7/16
WR - 66 - 330 - E	3/4	1-1/8	1/2
WR - 66 - 170 - E	3/4	1-1/8	5/8
WR - 66 - 540 - E	3/4	1-1/8	7/8
WR - 66 - 110 - E	3/4	1-3/16	13/32
WR - 66 - 220 - E	3/4	1-1/4	1/4
WR - 66 - 70 - E	3/4	1-1/4	13/32
WR - 66 - 530 - E	3/4	1-1/4	1/2
WR - 66 - 230 - E	3/4	1-1/4	3/4
WR - 66 - 80 - E	3/4	1-5/16	13/32
WR - 66 - 160 - E	3/4	1-5/16	5/8
WR - 66 - 410 - E	3/4	1-3/8	3/8
WR - 66 - 320 - E	3/4	1-3/8	1/4
WR - 66 - 100 - E	3/4	1-7/16	13/32
WR - 66 - 460 - E	3/4	1-5/8	1/2
WR - 66 - 450 - E	3/4	1-15/16	3/8
WR - 66 - 270 - E	7/8	1-3/8	13/32
WR - 66 - 550 - E	7/8	1-31/64	7/8
WR - 66 - 400 - E	31/32	1-3/4	3/8
WR - 66 - 480 - E	31/32	1-3/4	7/16
WR - 66 - 260 - E	1	1-5/8	1/2
WR - 66 - 380 - E	1	1-1/2	1
WR - 66 - 360 - E	1-1/4	1-7/8	1-5/16
WR - 66 - 490 - E	1-7/8	2-1/4	3/4

*min order quantity 10 pc

MODELAST

NEOPRENE COMPOSITION

For Steam, Water Service and other applications



MODEL EFI 88

Dimensions in Inches			
Glass Outside Diameter	A Inside Diameter	B Outside Diameter	C Thickness or Height
1/2	7/16	3/4	1/4 OR 3/8
1/2	1/2	1-1/8	1/4 OR 3/8
1/2	7/16	1-3/8	1/4 OR 3/8
5/8	9/16	3/4	1/4, 3/8, 1/2 OR 1
5/8	9/16	13/16	1/4, 5/16, 3/8, 1/2 OR 1
5/8	9/16	7/8	1/4, 3/8, 1/2 OR 1
5/8	9/16	15/16	1/4 OR 3/8
5/8	9/16	1	1/4, 3/8, 1/2 OR 1
5/8	9/16	1-1/8	1/4, 3/8, 1/2 OR 3/4
5/8	9/16	1-5/32	1/4, 3/8, 1/2 OR 5/8
5/8	9/16	1-1/4	1/4, 3/8 OR 1/2
5/8	9/16	1-3/16	1/4, 3/8, 1/2 OR 1
3/4	11/16	29/32	1/4 OR 3/8
3/4	11/16	1	1/4, 3/8, OR 1/2
3/4	11/16	1-1/16	1/4 OR 3/8
3/4	11/16	1-1/8	1/4 OR 3/8
3/4	11/16	1-5/32	1/4, 3/8, 1/2 OR 5/8
3/4	11/16	1-15/32	1/4, 3/8, 1/2 OR 3/4
3/4	23/32	7/8	1/4, 3/8, 1/2 OR 1
3/4	23/32	15/16	1/4, 3/8 OR 1/2
3/4	23/32	1-1/16	1/4 OR 3/8
3/4	23/32	1-1/8	1/4, 3/8 OR 1/2
3/4	23/32	1-3/16	1/4, 3/8, 1/2 OR 1
3/4	23/32	1-1/4	1/4, 3/8, 1/2, 5/8 OR 1
3/4	23/32	1-9/32	1/4, 3/8, 1/2, 3/4, 1, OR 1-1/8
3/4	23/32	1-5/16	1/4, 3/8, 1/2 OR 1
3/4	23/32	1-3/8	1/4 OR 3/8
3/4	3/4	15/16	1/4, 3/8 OR 1/2

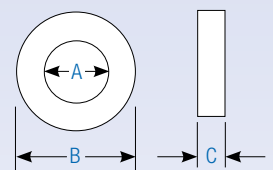
Other sizes available, contact Ernst Flow Industries.

Any size can be furnished to fit all type Packing Nuts and Glass on Boiler Water Gauges and Liquid Level Gauges.

**Minimum
10 pieces.**

Gasket Material	Temperature Ratings
NEOPRENE (EFI 88)	-45°F TO 250°F
EPDM (EFI 66 and EFI 33CS)	-65°F TO 300°F
GRAPHITE (EFI 99)	550°F
PURE PTFE (EFI 101)	450°F
PTFE composition (soft)	500°F
BUNA-N	-45°F TO 250°F
FKM (Viton™)	-20°F TO 400°F
PTFE ENVELOPE w/ neo. filler	250°F
PTFE ENVELOPE w/ non-asbestos filler	450°F
NON-ASBESTOS	700°F
GRAPHITE	800°F

SPECIFY:
A. Inside Diameter
B. Outside Diameter
C. Thickness or Height



Note: For Washer compatibility regarding specific requirements and applications...consult with Ernst Flow Industries.

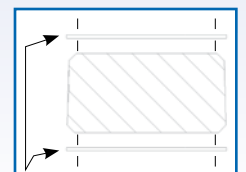
FLAT MICA GASKETS

Helps prevent rubber washer from sticking to Stuffing Boxes, Packing Nuts and Gauge Glass Glands

For use with any tubular glass with No. 66 or 88 washers

- Thickness: .005"

Order 2 Mica Gaskets for each Rubber Washer



MODEL EFI 5

ADDITIONAL WASHERS AND GASKETS



THIN BRASS WASHERS

For Gauge Glass Packing Nuts

Inside Diameter: 5/8" or 3/4"

Outside Diameter: 7/8", 15/16", 1-1/8", 1-3/16", 1-1/4"

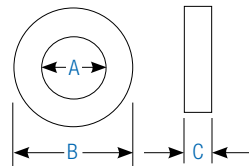
GRAPHITE WASHERS

For Steam and Water Service

Washer No.	Dimensions in Inches		
	A Inside Diameter	B Outside Diameter	C Thickness or Height
WR - 99 - 001 - G	9/16	13/16	1/2
WR - 99 - 002 - G	39/64	13/16	3/8
WR - 99 - 003 - G	5/8	3/4	3/8
WR - 99 - 004 - G	39/64	7/8	3/8
WR - 99 - 005 - G	5/8	7/8	1/2
WR - 99 - 006 - G	5/8	15/16	3/8
WR - 99 - 007 - G	5/8	1-1/8	3/8
WR - 99 - 033 - G	47/64	15/16	3/8
WR - 99 - 009 - G	23/32	1-1/4	1/2
WR - 99 - 010 - G	3/4	1	3/8
WR - 99 - 011 - G	3/4	1	1/2
WR - 99 - 012 - G	3/4	1-1/16	1/2
WR - 99 - 013 - G	3/4	1-1/8	1/2
WR - 99 - 014 - G	3/4	1-3/16	1/2
WR - 99 - 015 - G	3/4	1-3/16	5/8
WR - 99 - 016 - G	3/4	1-1/4	3/8
WR - 99 - 017 - G	47/64	1-1/4	1/2
WR - 99 - 018 - G	3/4	1-1/4	3/4
WR - 99 - 019A - G	47/64	1-5/16	5/8



MODEL EFI 99



SPECIFY:

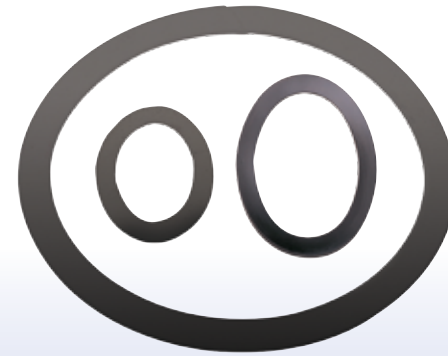
- A. Inside Diameter
- B. Outside Diameter
- C. Thickness or Height

NOTE: Consult Ernst Flow Industries for special sizes.

HANDHOLE GASKETS

Standard Thickness: 1/4"

*Materials: Non-asbestos, SPIRAL WOUND, TOPOG-E®



Contact Factory for Manhole Gasket Dimensions

Dimensions shown represent:

- Inside Oval Width
- Inside Oval Length
- Gasket Width

***NOTE: Consult Ernst Flow Industries on size availability of each material**

HANDHOLE GASKETS Dimensions in Inches

2 x 3 x 1/2
2-1/2 x 3 x 1/2
2-1/2 x 3 x 5/8
2-1/2 x 3-1/2 x 1/2
2-1/2 x 3-1/2 x 5/8
2-1/2 x 4 x 1/2
3 x 3-1/2 x 5/8
3 x 4 x 1/2
3 x 4 x 5/8
3 x 4 x 3/4
3 x 4-1/2 x 1/2
3 x 5 x 5/8
3-1/2 x 4 x 1/2
3-1/2 x 4 x 5/8
3-1/2 x 4-1/2 x 1/2
3-1/2 x 4-1/2 x 5/8
3-1/2 x 4-1/2 x 3/4
3-1/2 x 5 x 5/8
3-1/2 x 5-1/2 x 5/8
4 x 5 x 5/8
4 x 5 x 3/4
4 x 5-1/2 x 5/8
4 x 6 x 3/4
4-1/2 x 6-1/2 x 3/4

CONE SHAPE WASHERS

EPDM

For Steam and Water Service

MODEL EFI 33CS



Dimensions in Inches							
Washer No.	Size of Glass	Overall Height	Inside Diameter	Outside Diameter	O.D. at Base of Bevel	Height of Bevel	Thickness of Flange
WR - 33CS - 121 - E	1/2	1/2	1/2	1-1/8	13/16	3/8	1/8
WR - 33CS - 122 - E	1/2	1/2	1/2	1-1/4	13/16	3/8	3/8
WR - 33CS - 123 - E	1/2	7/16	7/16	13/16	1/2	9/32	5/32
WR - 33CS - 124 - E	1/2	7/8	5/8	1	5/8	11/16	3/16
WR - 33CS - 125 - E	1/2	5/8	1/2	15/16	9/16	7/16	3/16
WR - 33CS - 341 - E	3/4	3/4	3/4	1-5/16	1-3/32	17/32	7/32
WR - 33CS - 342 - E	3/4	5/8	3/4	1-17/32	1-1/16	7/16	1/4
WR - 33CS - 343 - E	3/4	15/16	3/4	1-5/8	1-1/4	11/16	3/16
WR - 33CS - 343L - E	3/4	15/16	3/4	1-9/16	1-1/4	3/4	7/16
WR - 33CS - 344 - E	3/4	13/16	3/4	1-9/32	1-1/16	3/8	1/4
WR - 33CS - 345 - E	3/4	1	3/4	1-1/4	31/32	3/4	1/8
WR - 33CS - 346 - E	3/4	1/2	17/32	1-3/16	15/16	19/32	5/32
WR - 33CS - L347 - E	3/4	5/8	21/32	1-7/32	31/32	15/32	5/32
WR - 33CS - 348 - E	3/4	7/8	3/4	1-11/32	1	5/8	1/4
WR - 33CS - 349 - E	3/4	21/32	21/32	1-3/16	23/32	1/2	5/32
WR - 33CS - 353 - E	3/4	1-3/8	3/4	1-1/2	13/16	7/8	1/2
WR - 33CS - L568 - E	17/32	5/8	7/32	1-1/16	13/16	15/32	5/32
WR - 33CS - 581 - E	5/8	9/16	5/8	1-1/4	7/8	7/16	7/32
WR - 33CS - 584 - E	5/8	3/4	5/8	1-3/8	15/16	5/16	7/16

PTFE WASHERS

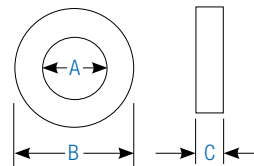
Ideal For Use Against Acids, Solvents and Alkalies

Can be furnished to fit all type Packing Nuts and Glass on Liquid Level Gauges

All sizes made to order



MODEL EFI 101



SPECIFY:

- A. Inside Diameter
- B. Outside Diameter
- C. Thickness or Height

SPECIAL FLAT GASKETS

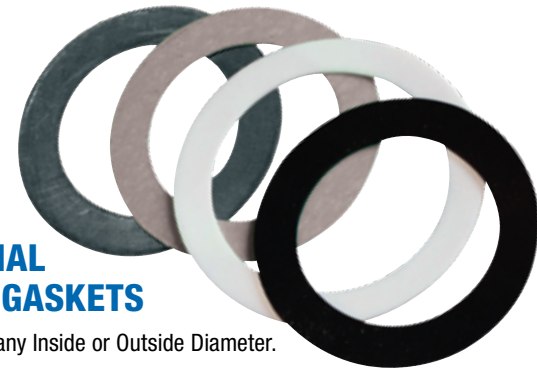
Made in any Inside or Outside Diameter.

Thickness: 1/32", 1/16" or 1/8"

FIBER
GRAPHITE
FKM (Viton™)
PTFE

CORK
NEOPRENE
GYLON®
PTFE ENVELOPE

When ordering specify Inside Diameter, Outside Diameter and Thickness



BRONZE GAUGES

BRONZE EXPANSION TANK WATER GAUGE

NON-AUTOMATIC

For Liquid Level Pressures up to 100 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 5/16"
- Rods 1/2" longer than centers
- Glass 1-1/4" shorter than centers
- 1/8" Drain Cock

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 00000	3/8"	5/8"
EFI 0000	1/2"	5/8"



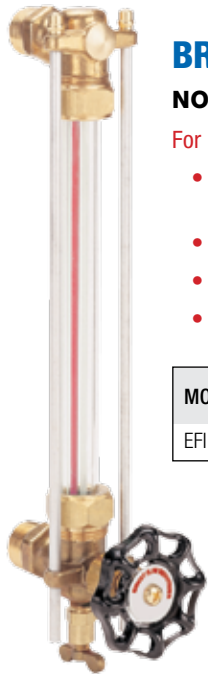
BRONZE HAND WHEEL GAUGE - ROUND BODY

NON-AUTOMATIC

For Liquid Level Pressures up to 125 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 5/16"
- Rods 1/2" longer than centers
- Glass 1-1/2" shorter than centers
- 1/4" Drain Needle

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 581-1L	3/8"	5/8"
EFI 581-1L	1/2"	5/8"



BRONZE PNEUMATIC TANK GAUGE

NON-AUTOMATIC

For Liquid Level Pressures up to 100 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 5/16"
- Rods 1/2" longer than centers
- Glass 1-1/4" shorter than centers
- 1/8" Drain Cock

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 28	1/2"	5/8"

Tapped 1/4" NPT thread for pressure gauge



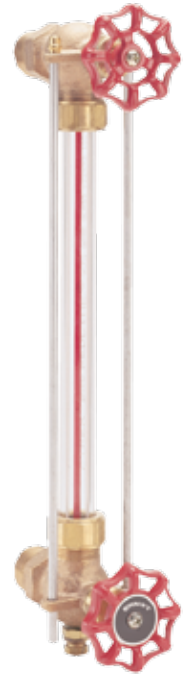
BRONZE HAND WHEEL GAUGE - ROUND BODY

AUTOMATIC

For Liquid Level Pressures up to 200 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 5/16"
3/4" glass - 23/32" x 7/8" x 3/8"
- Rods 1/2" longer than centers
- Glass 1-1/2" shorter than centers
- 1/4" Drain Needle

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI L-150E	3/8"	5/8"
EFI L-150E	1/2"	5/8"
EFI L-150E	3/4"	3/4"



BRONZE PNEUMATIC TANK GAUGE

AUTOMATIC

For Liquid Level Pressures up to 100 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 5/16"
- Rods 1/2" longer than centers
- Glass 1-1/4" shorter than centers
- 1/4" Drain Needle

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 29	1/2"	5/8"

★ Operating pressures and temperatures are subject to the limitations of the tubular gauge glass and washer composition... consult with Ernst Flow Industries for gauge glass ratings.

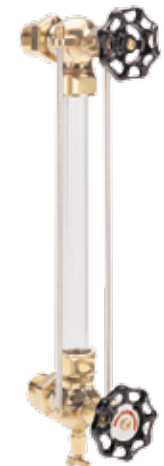
BRONZE HAND WHEEL GAUGE - ROUND BODY

NON-AUTOMATIC

For Liquid Level Pressures up to 200 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 5/16"
3/4" glass - 23/32" x 15/16" x 3/8"
- Rods 1/2" longer than centers
- Glass 1-1/2" shorter than centers
- 1/8" Drain Cock Furnished
- 1/4" Drain Cock When Specified

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 3	1/2"	5/8"
EFI 7-1/2	3/4"	3/4"



BRONZE HAND WHEEL GAUGE - ROUND BODY

AUTOMATIC

For Liquid Level Pressures up to 200 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 5/16"
3/4" glass - 23/32" x 15/16" x 3/8"
- Rods 1/2" longer than centers
- Glass 1-1/2" shorter than centers
- 1/4" Drain Cock

MODEL	Size of NPT Connection	Length of Shank	Size of Glass O.D.
EFI 6155	1/2"	1-3/4"	5/8"
EFI 7614	3/4"	13/16"	3/4"

Long
Shank on
1/2" Size
Only



BRONZE HAND WHEEL GAUGE - ROUND BODY

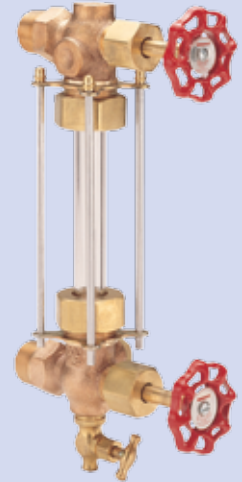
AUTOMATIC

For Steam Pressures up to 300 PSI

For Liquid Level Pressures up to 500 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 3/8"
3/4" glass - 23/32" x 15/16" x 3/8"
- Rods 1-1/4" shorter than centers
- Glass 2" shorter than centers
- 3/8" Drain Cock

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 36A	1/2"	5/8"
EFI 37A	3/4"	3/4"



BRONZE HAND WHEEL GAUGE - SQUARE BODY

AUTOMATIC

For Steam Pressures up to 250 PSI

For Liquid Level Pressures up to 500 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 7/8" x 3/8"
3/4" glass - 23/32" x 7/8" x 3/8"
- Rods 1-1/4" shorter than centers
- Glass 2" shorter than centers

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 5-34	1/2"	5/8"
EFI 5-34	3/4"	3/4"

With 1/4"
NPT
Ball Valve



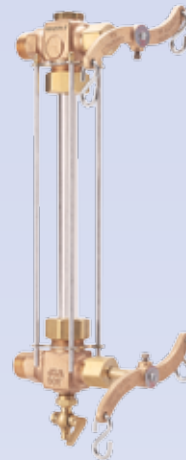
BRONZE CHAIN LEVER BOILER WATER GAUGE - QUICK OPENING - SQUARE BODY

AUTOMATIC

For Steam Pressures up to 300 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 3/8"
3/4" glass - 23/32" x 15/16" x 3/8"
- Rods 1-1/4" shorter than centers
- Glass 2" shorter than centers
- 3/8" Drain Cock

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 31AL	1/2"	5/8"
EFI 34AL	3/4"	3/4"



BRONZE HAND WHEEL GAUGE

AUTOMATIC

For Liquid Level Pressures up to 200 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 3/8"
3/4" glass - 23/32" x 15/16" x 3/8"
- Rods 3/4" shorter than centers for 1/2" NPT
- Rods 1" shorter than centers for 3/4" NPT
- Glass 1-1/2" shorter than centers for 1/2" NPT
- Glass 2" shorter than centers for 3/4" NPT
- 1/4" Drain Cock

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 20-350-00	1/2"	5/8"
EFI 20-353-00	3/4"	3/4"



BRONZE HAND WHEEL GAUGE - SQUARE BODY

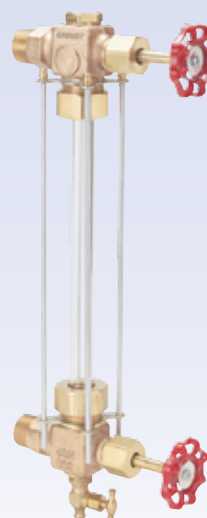
AUTOMATIC

For Steam Pressures up to 300 PSI

For Liquid Level Pressures up to 500 PSI

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 3/8"
3/4" glass - 23/32" x 15/16" x 3/8"
- Rods 1-1/4" shorter than centers
- Glass 2" shorter than centers
- 3/8" Drain Cock

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 31A	1/2"	5/8"
EFI 34A	3/4"	3/4"



★ Operating pressures and temperatures are subject to the limitations of the tubular gauge glass and washer composition... consult with Ernst Flow Industries for gauge glass ratings.

BRONZE GAUGES

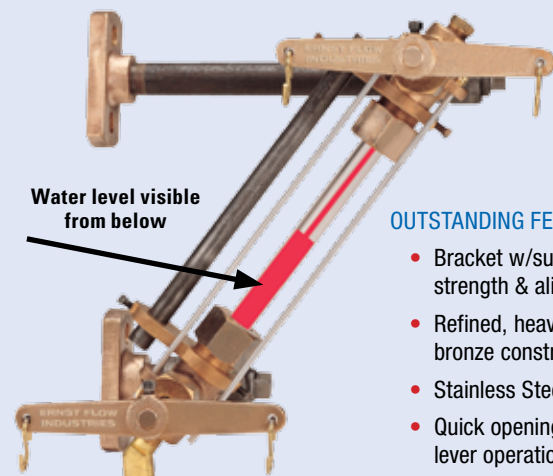
HEAVY DUTY BRONZE BRACKET SUPPORT INCLINED WATER GAUGE

NON-AUTOMATIC

Available Threaded or Flanged Connections

FOR HIGH SET BOILERS TO INSURE CLEAR READING OF WATER LEVEL

For Steam Pressures up to 345 PSI



OUTSTANDING FEATURES:

- Bracket w/support rod for strength & alignment
- Refined, heavy duty bronze construction
- Stainless Steel replaceable seat
- Quick opening & quick closing lever operation
- Conforms to ASME code
- Graphite washer for:
3/4" glass - 3/4" x 1-1/4" x 3/4"
- 3/8" Drain

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 450-SI	3/4" NPT	3/4"
EFI 450-SFI	3/4" Flanged*	3/4"

*ASME B16.5 Class 300 RF

WHEN ORDERING: Specify threaded connection or flanged connection; when special flange, give flange detail.

HEAVY DUTY BRONZE VERTICAL WATER GAUGE

NON-AUTOMATIC

QUICK OPENING LEVER OPERATION

- Available Threaded or Flanged Connections
- Conforms to ASME code
- For Steam Pressures up to 345 PSI
- Graphite washer for:
3/4" glass - 3/4" x 1-1/4" x 3/4"
- Rods 1/2" longer than centers
- Glass 3" shorter than centers
- 3/8" Drain

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 402RS	1/2" NPT	3/4"
EFI 403RS	3/4" NPT	3/4"
EFI 503RAS	3/4" Flanged*	3/4"

*ASME B16.5 Class 300 RF



HEAVY DUTY BRONZE BRACKET SUPPORT VERTICAL WATER GAUGE

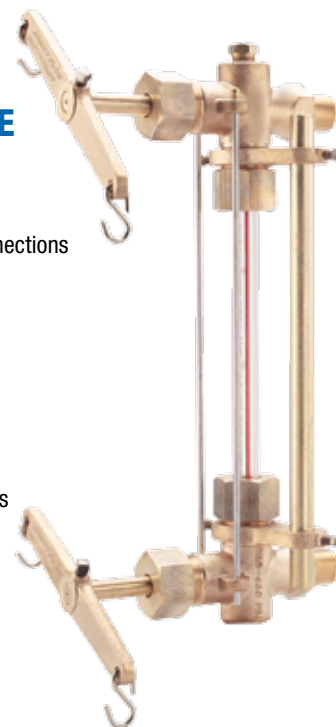
NON-AUTOMATIC

QUICK OPENING LEVER OPERATION

- Available Threaded or Flanged Connections
- Conforms to ASME code
- For Steam Pressures up to 345 PSI
- Graphite washer for:
3/4" glass - 3/4" x 1-1/4" x 3/4"
- Rods 1/2" longer than centers
- Glass 3" shorter than centers
- Support Rod 2" shorter than centers
- 3/8" Drain

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 450-SV	1/2" NPT	3/4"
EFI 450-SV	3/4" NPT	3/4"
EFI 450-FV	3/4" Flanged*	3/4"

*ASME B16.5 Class 300 RF



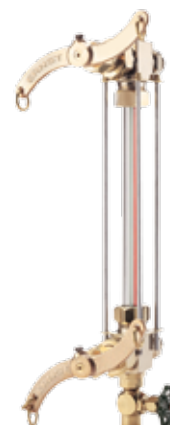
BRONZE CHAIN LEVER BOILER WATER GAUGE - QUICK OPENING

NON-AUTOMATIC

For Steam Pressures up to 250 PSI

- FKM (Viton™) washer for:
3/4" glass - 23/32" x 1" x 3/8"
- Rods 1" shorter than centers
- Glass 2" shorter than centers
- 1/4" Drain Cock

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 53	1/2"	3/4"
EFI 54	3/4"	3/4"



BRONZE INCLINED GAUGE

NON-AUTOMATIC

- Inclined angle vision
- Quick opening lever boiler water gauge
- For Steam Pressures up to 300 PSI @ 421°F
- Inclined for high set boilers to insure clear reading of water level
- Made to fit all kinds of water columns and boilers
- Rubber washer for:
3/4" glass - 23/32" x 15/16" x 3/8"
- 3/8" Drain

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 34	3/4"	3/4"



INTEGRAL FLANGED NAVY BRONZE HAND WHEEL GAUGE

AUTOMATIC

Offset Pattern Design

- MEETS HI-SHOCK MIL-S-901C AND VIBRATION MIL-STD-167
- Test Reports Available upon request
- Units conform to Military Spec. MIL-I-20037
- 3/4" Flanges are supplied to ASME 150# or 300#
- 150# Flanged rated for: 150 PSI Liquid Level or Steam* Pressures
- 300# Flanged rated for: 300 PSI Liquid Level or Steam* Pressures
- Class A - Brass guard rod protection
- Class B - Brass shield protection
- FKM (Viton™) washer for: 3/4" tube - 11/16" x 1-1/16" x 3/8"
- Specify Polycarbonate, Glass with FEP Shrink Wrap, or PCTFE Tube



CARBON STEEL FLANGED STEAM/WATER GAUGE VALVE

AUTOMATIC

FOR INDUSTRIAL PLANTS OR SHIPS

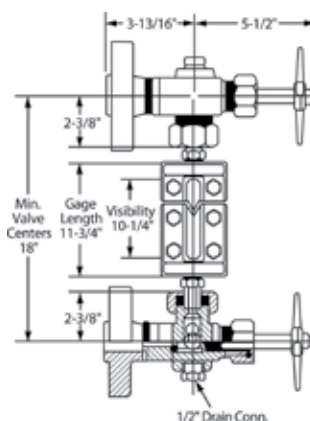
Offset Pattern Design

- Quick Opening Lever Operation

*For Steam Pressures up to 450 PSI

FORGED STEEL CONSTRUCTION

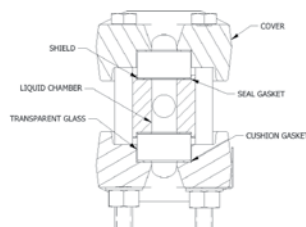
- Available with Gauge Inserts 10-1/4", 11-7/8" or 12-5/8" vision
- Valves 3/4" 600# RF ASME Flanged
- 1/2" NPT Vent and Drain



MODEL EFI 2027

CLEAR AND REFLEX FLAT INSERT GLASS GAUGE

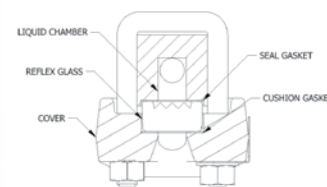
*For STEAM MICA Protected up to 450 PSI @ 456°F



Clear



*For STEAM up to 350 PSI @ 431°F



Reflex



★ Operating pressures and temperatures are subject to the limitations of the tubular gauge glass and washer composition... consult with Ernst Flow Industries for gauge glass ratings.

NAVY BRONZE HAND WHEEL GAUGE

NON-AUTOMATIC OR AUTOMATIC

- MEETS HI-SHOCK MIL-S-901C AND VIBRATION MIL-STD-167
- Test Reports Available upon request
- Flanges can be supplied to ASME 150# / 300# or Navy Spec. MIL-F-20042 150# / 300#
- Flanges are integrally cast to valve bodies
- Units conform to Military Spec. MIL-I-20037

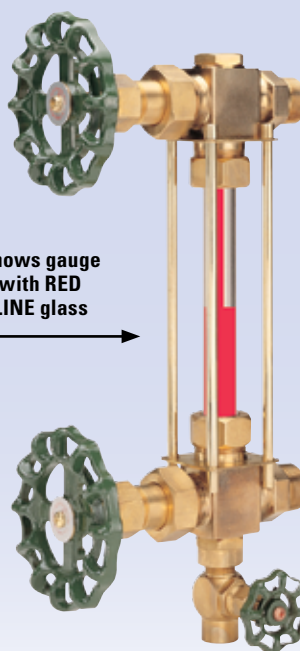
Type 1 - Non-Automatic: No ball check, suitable for maximum working pressure up to 100 PSI

Type 2 - Automatic: Unit has automatic ball check, suitable for liquid level pressure up to 300 PSI* for threaded connection only

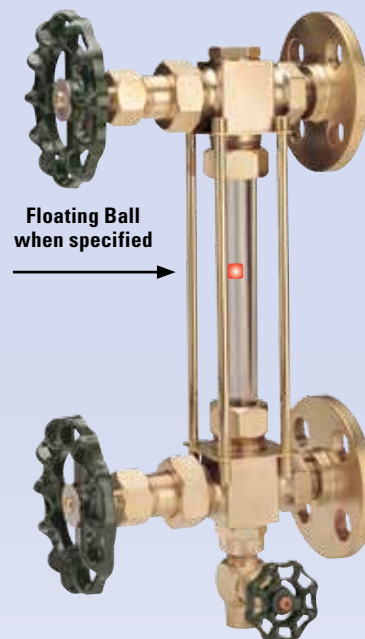
*150 PSI for Flanged Connection

- Threaded or Flanged Connection recommended for Steam Pressures up to 150 PSI (Glass only)
- Automatic Ball Check recommended for Steam Service
- Class A - Brass guard rod protection
- Class B - Brass shield protection
- FKM washer for: 3/4" tube - 11/16" x 1" x 3/8"
- Specify Polycarbonate, Glass with FEP Shrink Wrap, or PCTFE Tube
- With 3/8" NPT Drain Cock

Shows gauge with RED LINE glass



Floating Ball when specified



Note: To specify Coast Guard replacement gauges, use Type 2 valves with vertical lower and horizontal upper ball checks.

MODEL	Size of Connection	Size of Tube O.D.
EFI 53A-16	1/2" NPT	3/4"
EFI 54A-16	3/4" NPT	3/4"
EFI 53A-16-F	1/2" Flanged	3/4"
EFI 54A-16-F	3/4" Flanged	3/4"

STAINLESS STEEL GAUGES

316 STAINLESS STEEL OR CARBON STEEL

AUTOMATIC

For Steam Pressures up to 250 PSI @ 406°F

For Liquid Level Pressures up to 500 PSI

Stainless Steel furnished with Investment Casting

Material used conforms with or exceeds requirements of AISI, ASTM and/or API-ASME for maximum recommended pressures and temperatures.

- Rubber washer for:
5/8" glass - 9/16" x 13/16" x 3/8"
3/4" glass - 23/32" x 15/16" x 3/8"
- Rods 1-1/4" shorter than centers
- Glass 2" shorter than centers
- 1/4" Drain

MODEL	Construction	Size of NPT Connection	Size of Glass O.D.
EFI 70A316	Stainless Steel	1/2"	5/8"
EFI 71A316	Stainless Steel	3/4"	3/4"
EFI 71ACS	Carbon Steel	3/4"	3/4"
EFI 70A	Carbon Steel	1/2"	5/8"

Note: Specify for steam or liquid level, as automatic balls must be removed for steam.



316 STAINLESS STEEL OR ALLOY 20 GAUGE

AUTOMATIC

For Liquid Level Pressures up to 300 PSI

- Investment Casting
- FKM (Viton™) washer for:
5/8" glass - 9/16" x 7/8" x 3/8"
- Rods 1-3/4" shorter than centers
- Glass 3" shorter than centers
- 1/8" Drain Plug

Furnished with a Vertical Rising Ball Check

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 1511	1/2"	5/8"
EFI 1511	3/4"	5/8"

Note: Specify 316 Stainless Steel or Alloy 20 when ordering.



316 STAINLESS STEEL EXPANSION TANK GAUGE

NON-AUTOMATIC

For Liquid Level Pressures up to 250 PSI

Investment Casting

- Neoprene washer for:
5/8" glass - 9/16" x 13/16" x 3/8"
- Rods 1" shorter than centers
- Glass 2-1/2" shorter than centers
- Lower valve has a hand wheel shut-off
- 1/8" Drain Needle

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 23-651	1/2"	5/8"
EFI 23-654	3/4"	5/8"



316 STAINLESS STEEL GAUGE

AUTOMATIC

For Steam Pressures up to 250 PSI @ 406°F

For Liquid Level Pressures up to 500 PSI

Investment Casting

- Neoprene washer for:
5/8" glass - 9/16" x 7/8" x 3/8"
3/4" glass - 23/32" x 7/8" x 3/8"
- Rods 1-1/4" shorter than centers
- Glass 2" shorter than centers
- 1/4" Ball Valve Drain

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 23-350	1/2"	5/8"
EFI 23-353	3/4"	3/4"

1/4" NPT Ball Valve



★ Operating pressures and temperatures are subject to the limitations of the tubular gauge glass and washer composition...consult with Ernst Flow Industries for gauge glass ratings.

316 STAINLESS STEEL EXPANSION TANK GAUGE

NON-AUTOMATIC

For Liquid Level Pressures up to 150 PSI

Investment Casting

- Neoprene washer for:
5/8" glass - 9/16" x 7/8" x 3/8"
- Rods 1" shorter than centers
- Glass 2-1/2" shorter than centers

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 00316	1/2"	5/8"
	3/4"	5/8"
	1" (Bushings Furnished)	5/8"



CARBON STEEL INCLINED GAUGE

NON-AUTOMATIC

Inclined Angle Vision Quick Opening Lever Boiler Water Gauge With Stainless Steel Trim

For Steam Pressures up to 300 PSI:

Inclined for high set boilers to insure clear reading of water level

- Graphite washer for:
3/4" glass - 47/64" x 1-1/8" x 3/8"
- 1/2" Drain

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI-206N Inclined	3/4"	3/4"



VACUUM OR PRESSURE GAUGE

DOUBLE AUTOMATIC

CONSTRUCTION: Bronze, Carbon Steel, Stainless Steel

For Liquid Level Pressures up to 500 PSI

- Neoprene washer for:
3/4" glass - 23/32" x 15/16" x 3/8"
- Rods 1-1/4" shorter than centers
- Glass 2" shorter than centers

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 37A/DA Bronze	3/4"	3/4"
EFI 71ACS/DA Carbon Steel	3/4"	3/4"
EFI 71A316/DA Stainless Steel	3/4"	3/4"



POLYVINYL CHLORIDE (PVC) GAUGE

AUTOMATIC

HAND WHEEL SHUT-OFF

For Liquid Level Pressures up to 125 PSI @ 75°F

All parts contacting liquid are Polyvinyl Chloride (PVC). PVC is more resistant to corrosive environments and solutions than many other materials. In certain applications this gauge can be used in place of stainless steel.

- PTFE washer for:
3/4" glass - 11/16" x 7/8" x 3/8"
- Rods 1-3/8" shorter than centers
- Glass 2" shorter than centers
- Glass or Clear PVC tube can be furnished
- Supplied with PTFE packings
- 3/8" Drain Plug
- Borosilicate Glass Ball Checks

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI-PVC	1/2"	3/4"
EFI-PVC	3/4"	3/4"



BRONZE HAND WHEEL "OFFSET" GAUGE

AUTOMATIC

For Liquid Level or Steam Pressures up to 250 PSI

Offset design permits flushing interior of glass without disrupting operation. Vent and drain connection are located in direct line with gauge glass to form a straight-through passage for effective flushing.

- Neoprene washer for:
5/8" glass - 9/16" x 3/4" x 5/16"
- Rods 1" shorter than centers
- Glass 1-1/2" shorter than centers
- 3/8" Drain Plug Furnished
- 3/8" Drain Cock Optional
(Consult Ernst Flow Industries)

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI L-250	1/2"	5/8"
EFI L-250	3/4" (Bushings Furnished)	5/8"

Note: Specify for steam or liquid level, as automatic balls must be removed for steam.



"1" O.D. GLASS" GAUGE

AUTOMATIC

For a Wider observation of liquid level

For Liquid Level Pressures up to 500 PSI

CONSTRUCTION:

Bronze, Carbon Steel, Stainless Steel

- Neoprene washer for:
1" glass - 15/16" x 1-1/8" x 3/8"
- Rods 1-1/4" shorter than centers
- Glass 2" shorter than centers

Note: Center Supports also available for 1" O.D. gauge. Consult with Ernst Flow Industries.

MODEL	Size of NPT Connection	Size of Glass O.D.
EFI 37A/1 Bronze	3/4"	1"
EFI 71ACS/1 Carbon Steel	3/4"	1"
EFI 71A316/1 Stainless Steel	3/4"	1"

Stainless Steel Gauge Illustrated



CENTER SUPPORT FOR GAUGE VALVES

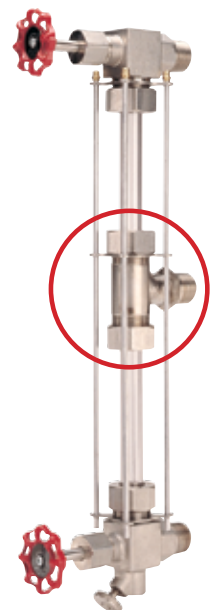
FOR LONG, HIGH TANKS

The center support incorporates the use of two or more tubes instead of one, for use with valves installed on extra long connections.

When ordering, furnish material of construction desired along with connection size and valve type.

Note: Contact Ernst Flow Industries to determine which gauges are compatible with center supports. Center Supports also available for "1" O.D. glass" gauge. Consult with Ernst Flow Industries.

MODEL CONSTRUCTION	Size of NPT Connection
Bronze, Carbon Steel, Stainless Steel, PVC	1/2" or 3/4"



CARBON STEEL
GAUGE VALVE
WITH STAINLESS
STEEL TRIM

AUTOMATIC

*For Steam Pressures up to 300 PSI @ 422°F

- For Liquid Level Pressures up to:
600 PSI @ 100°F
345 PSI @ 400°F
- Graphite washer for:
5/8" glass - 39/64" x 1-1/16" x 3/8"
3/4" glass - 47/64 x 1-1/8" x 3/8"
- Rods 2-1/2" shorter than centers
- Glass 1-3/8" shorter than centers

Also available in Stainless Steel construction.

- 1/2" NPT Vent and Drain

MODEL		Size of NPT Connection	Size of Glass O.D.
Hand Wheel	Lever		
EFI 203J	EFI 204J	1/2"	5/8"
EFI 205J	EFI 206J	3/4"	3/4"

NOTE: Important...Specify if valves are to be used for steam service. Steam and Liquid Level pressure ratings stated are for tubular glass use only.



CARBON STEEL GAUGE VALVE
WITH STAINLESS STEEL TRIM

AUTOMATIC

*For Steam Pressures up to 300 PSI @ 422°F

- For Liquid Level Pressures up to:
600 PSI @ 100°F
345 PSI @ 400°F
- Graphite washer for:
5/8" glass - 39/64" x 1-1/16" x 3/8"
3/4" glass - 47/64 x 1-1/8" x 3/8"
- Rods 2-1/2" shorter than centers
- Glass 1-3/8" shorter than centers

Also available in Stainless Steel construction.

- 1/2" NPT Vent and Drain

MODEL		Size of NPT Connection	Size of Glass O.D.
Hand Wheel	Lever		
EFI 243J	EFI 244J	1/2"	5/8"
EFI 245J	EFI 246J	3/4"	3/4"

★ Operating pressures and temperatures are subject to the limitations of the tubular gauge glass and washer composition...consult with Ernst Flow Industries for gauge glass ratings.



NOTE: Important...Specify if valves are to be used for steam service. Steam and Liquid Level pressure ratings stated are for tubular glass use only.

TUBULAR LEVEL GAUGE ACCESSORIES

GAUGE GLASS PROTECTORS

FOR USE WITH TUBULAR LIQUID LEVEL GAUGES

Provides Gauge Glass Protection: Minimizes chance of accidental glass breakage and confines glass to immediate work area in event of breakage.

Ordering Information For Gauge Glass Protectors

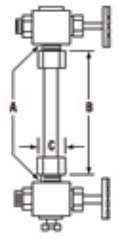
To Order Specify:

A. Distance between Thread Ends

B. (Outside) Distance from Gauge Nut to Gauge Nut

C. Distance Across Hexagon Points of Nuts

Note: For V-Shape Protectors, only dimensions A & B required.



**ACRYLIC
MODEL EFI 31**



**WIRE GLASS
MODEL EFI 9**



**ACRYLIC
MODEL EFI 31-508**



**WIRE GLASS
MODEL EFI 9-508**



**ACRYLIC
MODEL EFI RCP**

PACKING MAINTENANCE TOOL SET

A complete line of tools designed to handle your packing maintenance with ease. The unique interchangeability of tips with flex or rigid holders allows a versatility not available elsewhere. Worn or damaged tips may be replaced at minimum cost rather than sacrificing the entire tool.



MODEL EFI PT-25

SET COMPONENTS	PART	SET COMPONENTS	PART
2 7-1/2" Flexible Holders	F-1	1 Woodscrew for F&S-2&3 Holders	W-3
2 11" Flexible Holders	F-2	1 Set: 1 Brush 2-1/2" x 3/16"	B-1
2 14-1/2" Flexible Holders	F-3	1 Set: 1 Brush 2-1/2" x 3/8"	B-2
2 6" Solid Holders	S-1	1 Set: 1 Brush 1-1/2" x 1/2"	B-2
2 10" Solid Holders	S-2	1 Set: 1 Brush 1-1/2" x 3/4"	B-2
2 14" Solid Holders	S-3	1 Set: 1 Lantern Gland Thread Adapter	LG-1
1 10" 1/8" Packing Pick	P-7	1 Set: 1 Lantern Gland Thread Adapter	LG-2
1 10" 3/16" Packing Pick	P-8	1 Set: 1 Lantern Gland Thread Adapter	LG-2
1 10" 5/16" Packing Pick	P-9	1 Set: 1 Lantern Gland Thread Adapter	LG-2
2 6" O-Ring Extractor	OR	1 Wrench	
1 Corkscrew for F&S-1 Holders	C-1	1 5" Stainless Steel Knife W/Sheath	
1 Corkscrew for F&S-2&3 Holders	C-2	1 Rustproof Tool Box	
1 Corkscrew for F&S-2&3 Holders	C-3	1 Knife	
1 Woodscrew for F&S-1 Holders	W-1	1 Pocket Light	
1 Woodscrew for F&S-2&3 Holders	W-2		



SELF-ADHESIVE VINYL TRANSPARENT SCALES

For Gauge Glass

- Each scale indicates both Inches and Centimeters in 12"/30cm strips
- Choice of reading Vertical UP or DOWN
- BLACK or WHITE Graphics available

H-2080 Vertical **UP** in **Black**

H-2081 Vertical **DOWN** in **Black**

H-2082 Vertical **UP** in **White**

H-2083 Vertical **DOWN** in **White**

GAUGE GLASS CUTTERS

TABLE TYPE GLASS CUTTER

This unit is made so it can be clamped to a table or a work bench.

Glass tubing up to 1-1/2" diameter can be cut.

IMPROVED DESIGN:

- Heavier Construction Throughout
- Large Round Cutter Shaft Knob
- Longer Gauge Glass Support
- Increased Opening For Clamping to Work Surface
- New Wing Type Clamp Handle

MODEL EFI
734BC



SQUEEZE & POP! GLASS CUTTER

VERSATILE - The same tool may be used on a variety of brittle tubular materials including gauge glass (all types), laboratory glass and porcelain tube.

ACCURATE - Cutter chain is wrapped around tubing right at the point where cut is to be made. Any length from 1/2" to several feet may be cut off.

CUTS UP TO 3/4" O.D.

MODEL EFI
734/690Q19



MODEL EFI WC

MODEL EFI WC GLASS CUTTER

FEATURES:

- Zinc Casting with Carbon Steel Wheel
- Cuts Up to 1" O.D. Glass Tube
- V-Shaped Cradle for Glass Placement
- Can Be Operated by Either Holding the Cutter or Placing Cutter on a Flat Work Surface
- Comes with Its Own Storage Container



MODEL EFI S-39955

ALUMINUM NICKEL-PLATED GLASS CUTTER

FEATURES:

- Hardened Steel Cutter Wheel
- Cuts Up to 1-1/8" O.D. Tube
- Employs Two V-Guides for Tubing Alignment
- Coil Spring Action for Cutter Wheel Arm

Note: Glass cutters shown on this page cannot be used with Heavy Wall glass; for use only with standard wall 500 or 501.

GAUGE GLASS BRUSH

- Brush Lengths 24", 30", 36", 42", 48", 72" for cleaning 3/8", 5/8", 1/2", 3/4" or 1" O.D. gauge glass



MODEL EFI 130

CLEAR OR REFLEX FLAT GAUGE GLASS

CLEAR OR CLEAR HIGH PRESSURE GAUGE GLASS

CLEAR

Liquid Level 2500 PSI @ 150°F
For Steam, Mica Protected up to 1000 PSI

CLEAR HIGH PRESSURE

Liquid Level 5000 PSI @ 150°F
For Steam, Mica Protected up to 1500 PSI

- Width: 1-5/16", Thickness: 11/16"

CLEAR MODEL EFI	CLEAR HIGH PRES. MODEL EFI	REFLEX MODEL EFI	LENGTH (INCHES)
CA-1	CA-1-T	RB-1	4-1/2
CA-2	CA-2-T	RB-2	5-1/2
CA-3	CA-3-T	RB-3	6-1/2
CA-4	CA-4-T	RB-4	7-1/2
CA-5	CA-5-T	RB-5	8-5/8
CA-6	CA-6-T	RB-6	9-7/8
CA-7	CA-7-T	RB-7	11
CA-8	CA-8-T	RB-8	12-5/8
CA-9	CA-9-T	RB-9	13-3/8

MODEL
EFI RB REFLEX

REFLEX GROOVED GAUGE GLASS

Liquid Level 2500 PSI @ 150°F
For Steam up to 400 PSI

- Width: 1-5/16", Thickness: 11/16"

The reflex, vertical prisms show the water level and the appearance is BLACK ... SILVER above the level.

MODELS
EFI CA Clear
EFI CA-T Clear High Pressure

GASKETS FOR FLAT GAUGE GLASS

- Sizes 1 through 9
- Material: Graphite (standard on both Reflex or Clear Gauges) Fiber or PTFE also available

MODEL EFI 44



MICA SHIELDS FOR FLAT GAUGE GLASS

FOR USE WITH FLAT CLEAR GAUGE GLASS ONLY

- Sizes 1 through 9
- Shield Thickness: .005" to .006"
- V4 Quality

1" WIDE CLEAR OR REFLEX GAUGE GLASS

CLEAR

Liquid Level 750 PSI @ 100°F

REFLEX GROOVED GAUGE GLASS

Liquid Level 750 PSI @ 100°F

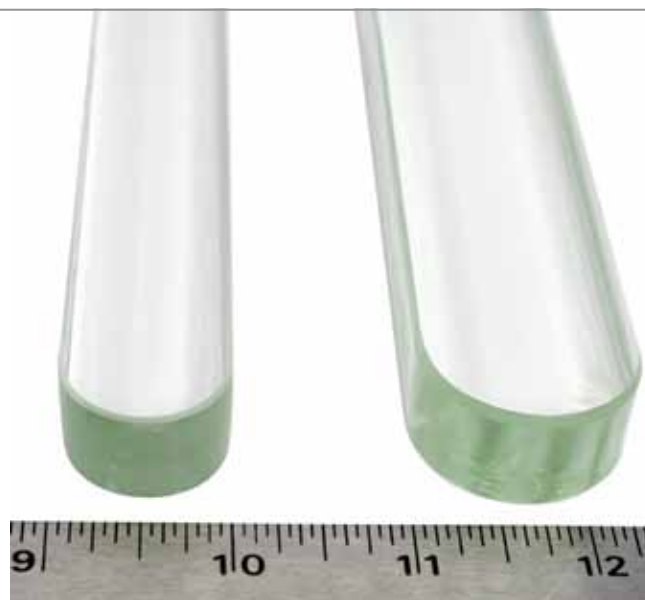
GASKETS FOR 1" WIDE FLAT GAUGE GLASS

- Size 11, 12, 13, 15, 18, 20
- Material: Graphite, Fiber or Low Flo PTFE also available

MICA SHIELDS FOR 1" WIDE FLAT GAUGE GLASS

- Size 11, 12, 13, 15, 18, 20
- Shield Thickness: .005" to .006"
- V4 Quality

Clear Model EFI DA	Reflex Model DB	Length (Inches)
DA-11	DB-11	11
DA-12	DB-12	12
DA-13	DB-13	13
DA-15	DB-15	15
DA-18	DB-18	18
DA-20	DB-20	20



Jerguson® Series 5, 12, & 300L Replacement Glass

MODEL EFI DB Reflex
MODEL EFI DA Clear

FLAT GLASS BOILER GAUGES

CLEAR FLAT GLASS BOILER WATER GAUGES

For Steam* Pressure up to 900 PSI @ 534°F
With Mica Shield

Heat-treated flat glass with mica protection makes this Ernst Flow Industries Gauges an efficient, boiler water level indicator. Finest quality borosilicate glass of special composition to resist temperature shock is carefully tested for surface trueness and assembled with best quality sheet mica in heavy steel housing. The mica resists corrosive effects of steam and water. Clamping of the 900 PSI design features individual "fingers" which assemble easily and promote uniform bolt pressure to assure gasket tightness. The assembly is easily dismantled for cleaning and other maintenance. Window slot 1/2" wide provides a highly visible gauge reading which can be accentuated by using an Ernst Flow Industries illumination assembly. Made in single and multiple-window style to handle a wide range of visibility requirements. See table below.

MODEL	Visibility	Minimum Gauge Centers	Approx. Weight (lbs.)
SINGLE WINDOW INSERTS			
EFI FG904	6-5/8"	17	22
EFI FG905	7-3/4"	18	25
EFI FG906	9"	20	28
EFI FG907	10-1/8"	21	31
EFI FG908	11-3/4"	22	34
EFI FG909	12-1/2"	23	37
DOUBLE WINDOW INSERTS			
EFI FG966	15"	26	62
EFI FG977	17-1/2"	29	67
EFI FG988	20"	31	72
EFI FG999	21-1/2"	33	78

Minimum centers shown apply to use with EFI SG854, EFI SG855, or EFI SG860

Replacement Glass and Gaskets are illustrated on page 13.

***WARNING:** For use with POWER BOILER STAURATED STEAM APPLICATIONS ONLY. MODEL EFI FG BOILER WATER GAUGES ARE NOT TO BE USED WITH SATURATED STEAM.



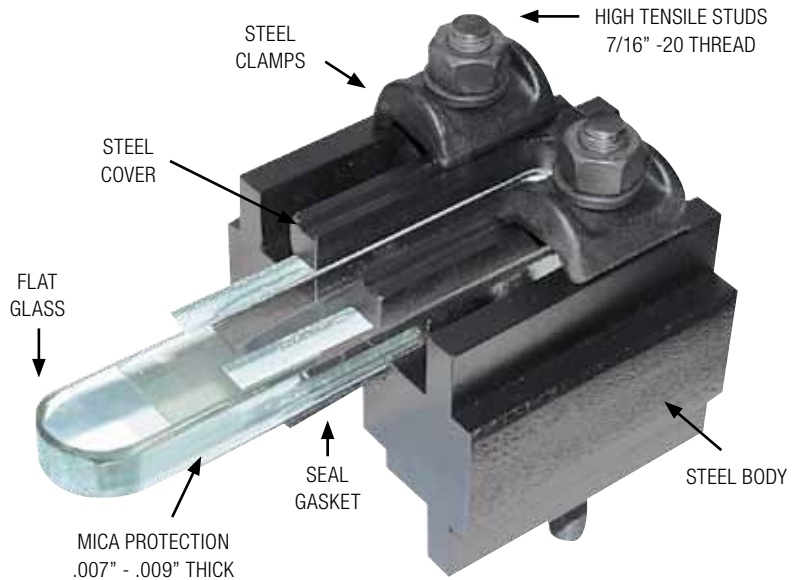
Single Window Gauge Insert

Double Window Gauge Insert

Chamber: Steel
Cover: Steel

Special inserts up to *1500 PSI @ 596°F upon request

Replacement End Stem
(6" Long, Field Cut To Length)
Part No: PG4-060



CROSS SECTIONAL VIEW

Spare Glass and Gaskets: See page 13

EFI DRUMLITE™

LED Illuminator For Flat Glass Boiler Water Gauges

- High Contrast
- Amber LED's for high intensity "star-like" image of water line
- Superior Visibility Day or Night
- Pays for itself in electricity savings alone!
- Field Upgradable
- Long Life ~ 100,000 hrs.
- Maintenance Free
- Power Supply: 120 or 240 VAC
- Electrical Connection: 3/4" FNPT
- Max Distance from Power Supply to Light Strip: 8 ft.
- Ambient Temperature: -40°F to 170°F
- Agency Approvals: FM and CFM (Canadian Use)
 - Class I, DIV 1, Groups B, C, and D
 - Class II, DIV 1, Groups E, F, and G
- Models for ordinary (non-hazardous) locations available

FLAT GLASS BOILER VALVES

FORGED STEEL GAUGE VALVE

For Steam** Pressure up to 1500 PSI

The steel valve is lever-operated, outside screw and yoke design, and is recommended for steam service up to 1500 PSI @ 600°F. Forged steel body to ASTM A105 specification. Supplied with 303 SS and 420F replacement seat. Stem and nipple packing rings are secured by identical two-bolt packing yokes. Quadruple stem thread permits full open or shut position in one-quarter turn. Bronze stem bushing prevents seizing, and is located outside of valve body, thus unaffected by high temperature or corrosive fluids. Bottom of lower valve contains 1/2" pipe tap and female socket weld connection for gauge blowdown.

The EFI SG854 valves have 3/4" male pipe connections, while the EFI SG860 valves are fitted with ASME 3/4" 900# RF* flanges. EFI SG855 valves have the same connections as the EFI SG854, but feature a union connection on the tail piece. Special connections can be furnished on request.

Complete set includes two 5-foot lengths of chain, with handles to indicate open or closed position of valves, as required by the ASME Boiler Code.

When ordering: Specify Ernst Flow Industries Model number, 3/4" threaded or flanged connection. Specify gauge centers, operating pressure and temperature.

****WARNING: For use with POWER BOILER SATURATED STEAM APPLICATIONS ONLY. MODEL EFI SG STEEL GAUGE VALVES ARE NOT TO BE USED WITH SUPERHEATED STEAM.**

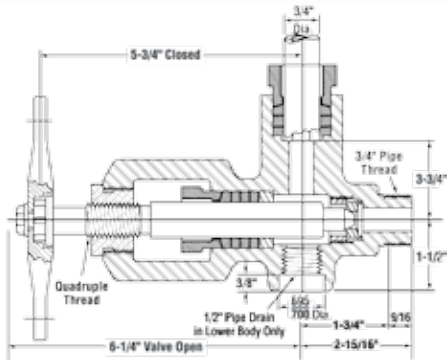
GRAPHITE PACKING CARTRIDGES

PART NUMBER	DESCRIPTION
EFI SG854-4	Operating Stem
EFI SG854-5	Gauge End Stem

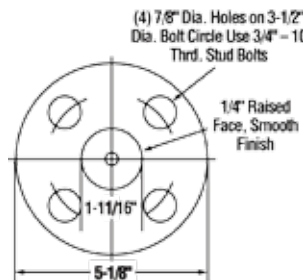
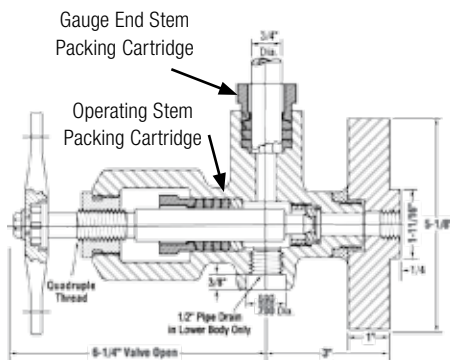
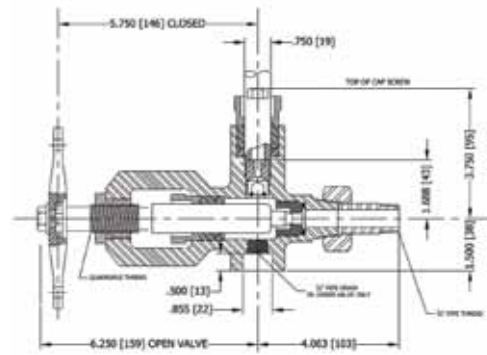
*300 or 600 lb. flanges optional



3/4" Threaded Connection
EFI SG854



3/4" Threaded Union
EFI SG855



Flanged Connection
EFI SG860



MODEL	CONNECTION SIZE & TYPE	BALL CHECK LOWER	BALL CHECK UPPER	UNION	GAGE CONNECTION	MAX. PRESSURE	APPROX. WEIGHT PER SET (LBS.)
EFI SG854	3/4" NPT Male	No	No	No	3/4" OD Nipple	1500 PSIG	15
EFI SG855	3/4" NPT Male	Yes	Yes	Yes	3/4" OD Nipple	1500 PSIG	16
EFI SG860	3/4" 900# RF*	No	No	No	3/4" OD Nipple	1500 PSIG	25

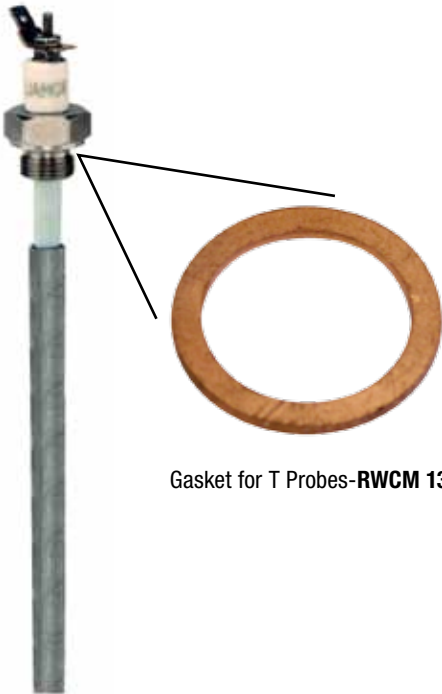
*ASME B16.5 Class 300 or 600 flanges optional

WATER COLUMN PROBES AND ACCESSORIES

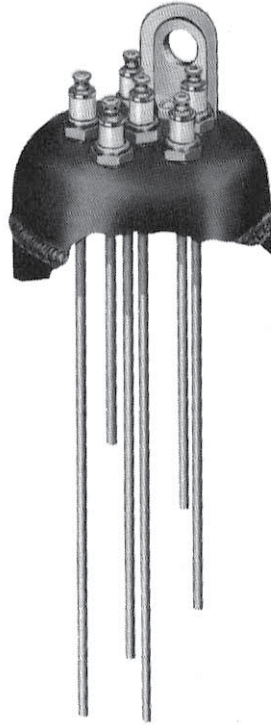
REPLACEMENT CONDUCTIVITY PROBES AND GASKETS FOR WATER COLUMNS

T360 PROBE (36" LONG)

with 2 Gaskets For Cast Iron and Steel Water Columns
(up to 450 PSI) -**RT360RK**



Gasket for T Probes-**RWCM 13**



V360 PROBE (36" LONG)

with 2 Gaskets For Steel Water Columns
(up to 1000 PSI) -**RV360RK**

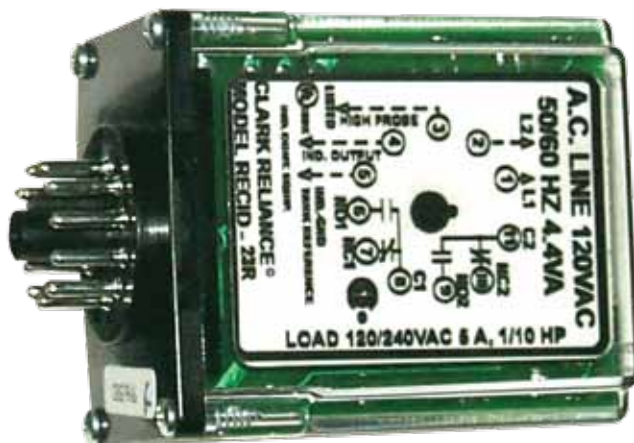


Gasket for V probes-**X175500**

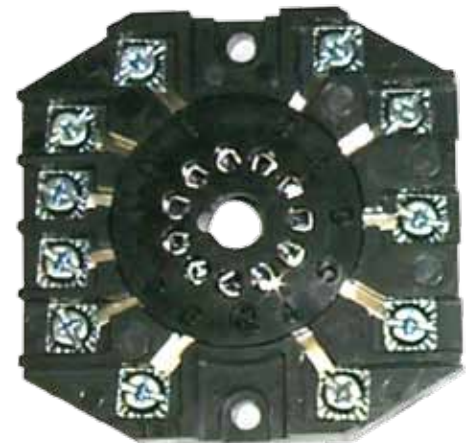
**NOTE: Probes supplied with two gaskets. One gasket required per probe, and second is a spare.
Probes supplied 36" long. Probe cut to desired length by customer in field.*

REPLACEMENT RELAY MODULE AND RELAY SOCKET FOR CLARK-RELIANCE® EYE-HYE® REMOTE WATER LEVEL INDICATION SYSTEMS

Relay Module 50K Sensitivity Direct Mode
120VAC For Control Unit-**RECID 23R**



Relay Socket - Surface Mount - 11 Pin-**RECID 49**



CARBON STEEL GAUGES OFFSET PATTERN DESIGN

AUTOMATIC

Saturated steam rating 600 WSP

- For Liquid Level Pressures up to:
2400 PSI @ 100°F 1631 PSI @ 600°F
- For use with reflex or clear flat glass gauge
- Offset Pattern
- Integral Bonnet
- Integral Seats

Standard Connections

- Union Vessel: 1/2" MNPT
- Rigid Gauge: 1/2" FNPT Rigid
(3/4" Available)
- Vent & Drain: 1/2" FNPT

Also available in 316SS, LTCS and other materials.



MODEL		Size of NPT Connection	Approx. Weight (lbs.)
Hand Wheel	Lever		
EFI 333	EFI 334	1/2" Male	11
EFI 335	EFI 336	3/4" Male	11

Note: see 430 Series for renewable seat and stem option (repairable valve)

CARBON STEEL GAUGE VALVE WITH STAINLESS STEEL TRIM

AUTOMATIC

Saturated steam rating 350 WSP

- For Liquid Level Pressures up to:
2400 PSI @ 100°F 1631 PSI @ 600°F
- For use with reflex or clear flat glass gauge
- Offset Pattern
- Integral Bonnet
- Integral Seats

Standard Connections

- Union Vessel: 1/2" MNPT
- Union Gauge: 1/2" FNPT (3/4" Available)
- Vent & Drain: 1/2" FNPT

Also available in 316SS, LTCS and other materials.



MODEL		Size of NPT Connection	Approx. Weight (lbs.)
Hand Wheel	Lever		
EFI 323	EFI 324	1/2" Male	13
EFI 325	EFI 326	3/4" Male	13

Note: see 420 Series for renewable seat and stem option (repairable valve)

CARBON STEEL GAUGE VALVE WITH STAINLESS STEEL TRIM

AUTOMATIC

Saturated steam rating 600 WSP

- For Liquid Level Pressures up to:
4000 PSI @ 100°F 2077 PSI @ 600°F
- For use with reflex or clear flat glass gauge
- Offset Pattern
- Union Bonnet
- Renewable Seats

Standard Connections

- Union Vessel: 1/2" MNPT
- Rigid Gauge: 1/2" FNPT (3/4" Available)
- Vent & Drain: 1/2" FNPT

Also available in 316SS, LTCS and other materials.



MODEL		Size of NPT Connection	Approx. Weight (lbs.)
Hand Wheel	Lever		
EFI 433	EFI 434	1/2" Male	13
EFI 435	EFI 436	3/4" Male	13

CARBON STEEL GAUGE VALVE WITH STAINLESS STEEL TRIM

AUTOMATIC

Saturated steam rating 600 WSP

- For Liquid Level Pressures up to:
4000 PSI @ 100°F 2077 PSI @ 600°F
- For use with reflex or clear flat glass gauge
- Offset Pattern
- Union Bonnet
- Renewable Seats

Standard Connections

- Union Vessel: 1/2" MNPT
- Union Gauge: 1/2" FNPT (3/4" Available)
- Vent & Drain: 1/2" FNPT

Also available in 316SS, LTCS and other materials.



MODEL		Size of NPT Connection	Approx. Weight (lbs.)
Hand Wheel	Lever		
EFI 423	EFI 424	1/2" Male	15
EFI 425	EFI 426	3/4" Male	15

★ Operating pressures and temperatures are subject to the limitations of the gauge inserts and gasket composition...consult with Ernst Flow Industries.

All valves on this page conform to ASME or ASTM specifications.

*NOTE: Important...Specify if valves are to be used for steam service. Gauge valves illustrated on this page are not to be used in steam service exceeding 350 PSI (For up to 450 PSI steam service, our Models EFI 66-H, 66-L, 67-H and 67-L steel gauge valve sets are required ... not shown in catalog; contact Ernst Flow Industries for details). When used in steam service Models EFI 331 through 336 and Models 433 through 436 will have automatic ball checks omitted. When used in steam service Models EFI 323 through 326 and Models EFI 423 through 426 can be supplied with automatic ball checks or with them omitted, as specified. The gauge valves with ball checks will have a vertical rising ball in the lower gauge valve.

Reflex and Clear Flat Insert Glass Gauges are illustrated on pages 18 and 19. For steam service, mica shields are required for use with Clear Flat Insert Glass Gauges.

WARNING: For use with PROCESS SATURATED STEAM APPLICATIONS ONLY. Carbon Steel Gauge Valves ARE NOT TO BE USED WITH SUPERHEATED STEAM.

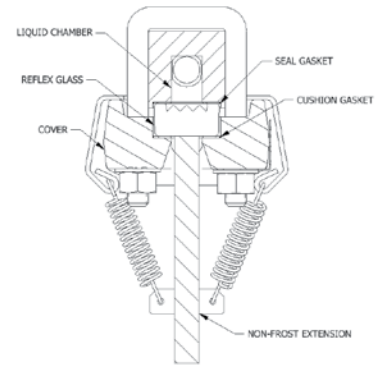
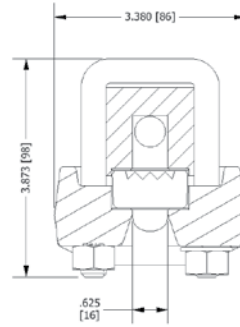
REFLEX FLAT GLASS GAUGES

1/2" NPT Both Ends (3/4" optional)

FOR STEAM** OR LIQUID LEVEL

MODEL EFI S

- *For Liquid Level Pressures up to:
2250 to 3270 PSI @ 100°F
1550 to 2285 PSI @ 600°F
- Saturated steam rating to 300
- Chamber: Steel
- Cover: Forged Steel
- Fasteners: Alloy Steel



Frost-Proof Kits can be furnished for all Liquid Level Gauges...consult Ernst Flow Industries

***NOTES FOR PAGES 18 & 19: General Operating Pressures are stated. They represent pressures from the longest through the shortest single section gauge. Consult with Ernst Flow Industries for the specific operating pressure for an individual gauge size.**

All materials conform to ASME or ASTM specifications.

Gauge support brackets are furnished for all four section gauges and longer to support the weight of the gauge assembly.

OPTIONAL STAINLESS STEEL CHAMBERS ARE AVAILABLE

NOTE: "Valve Center Chart" for Reflex or Clear Insert Gauges is located on page 49.

Section X Size	A Length of Gauge	B Length of Visual Glass	GAUGE MODEL	Approx Weight (lbs.)
SINGLE SECTION GAUGE INSERT				
11	5-1/4"	3-3/4"	EFI S-1100J	9
12	6-1/4"	4-3/4"	EFI S-1101J	10
13	7-1/4"	5-3/4"	EFI S-1102J	12
14	8-1/4"	6-3/4"	EFI S-1103J	13
14	9-3/8"	7-7/8"	EFI S-1104J	15
16	10-5/8"	9-1/8"	EFI S-1105J	17
17	11-3/4"	10-1/4"	EFI S-1106J	19
18	13-3/8"	11-7/8"	EFI S-1107J	21
19	14-1/8"	12-5/8"	EFI S-1108J	22
TWO SECTION GAUGE INSERT				
24	16-1/2"	15"	EFI S-1123J	27
25	18-3/4"	17-1/4"	EFI S-1124J	29
26	21-1/4"	19-3/4"	EFI S-1125J	34
27	23-1/2"	22"	EFI S-1126J	37
28	26-3/4"	25-1/4"	EFI S-1127J	42
29	28-1/4"	26-3/4"	EFI S-1128J	44
THREE SECTION GAUGE INSERT				
36	31-7/8"	30-3/8"	EFI S-1145J	50
37	35-1/4"	33-3/4"	EFI S-1146J	56
38	40-1/8"	38-5/8"	EFI S-1147J	63
39	42-3/8"	40-7/8"	EFI S-1148J	66
FOUR SECTION GAUGE INSERT				
47	47"	45-1/2"	EFI S-1166J	74
48	53-1/2"	52"	EFI S-1167J	84
49	56-1/2"	55"	EFI S-1168J	88
FIVE SECTION GAUGE INSERT				
57	58-3/4"	57-1/4"	EFI S-56J	93
58	66-7/8"	65-3/8"	EFI S-57J	105
59	70-5/8"	69-1/8"	EFI S-58J	111

VISIBLE LENGTHS UP TO 125-5/8" ARE AVAILABLE...consult with Ernst Flow Industries
Steel valves for use with Reflex Flat Gauges are illustrated on page 17.
Replacement Glass and Gaskets are illustrated on page 13.

****WARNING: Specify if insert gauge is to be used for steam service.**

For use with PROCESS SATURATED STEAM APPLICATIONS ONLY.

EFI Reflex Flat Insert Glass Gauges ARE NOT TO BE USED WITH SUPERHEATED STEAM.



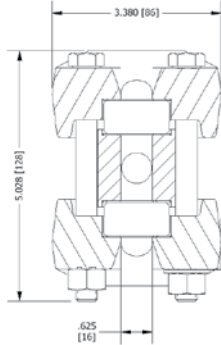
TRANSPARENT FLAT GLASS GAUGES

FOR STEAM** OR LIQUID LEVEL

1/2" NPT Both Ends
(3/4" optional)

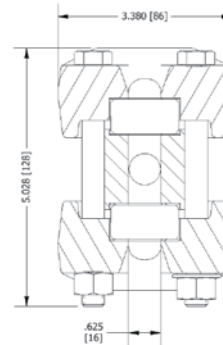
MODEL EFI ST

- For Liquid Level
1000 to 2000 PSI @ 100°F
675 to 1350 PSI @ 600°F
- **MICA-Protected saturated
steam rating
350 to 600
- Chamber: Steel
- Cover: Forged Steel
- Fasteners: Alloy Steel

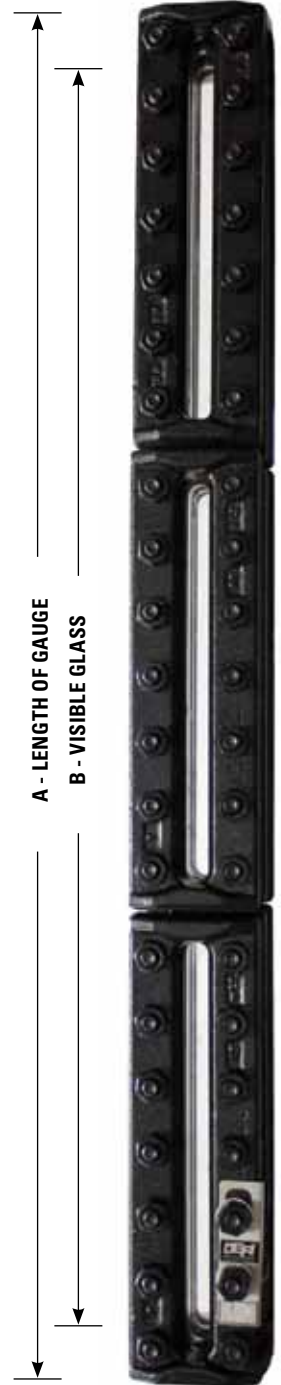


MODEL EFI WT

- For Liquid Level
4000 PSI @ 100°F
3080 PSI @ 600°F
- **MICA-Protected
saturated steam
rating to 750
- Chamber: Steel
- Cover: Forged Steel
- Fasteners: Alloy Steel



Section X Size	A Length of Gauge	B Length of Visual Glass	GAUGE MODEL	Approx. Weight (lbs.)	GAUGE MODEL	Approx. Weight (lbs.)
SINGLE SECTION GAUGE INSERT						
11	5-1/4"	3-3/4"	EFI ST-1200J	13	EFI WT-10J	13
12	6-1/4"	4-3/4"	EFI ST-1201J	15	EFI WT-11J	15
13	7-1/4"	5-3/4"	EFI ST-1202J	17	EFI WT-12J	17
14	8-1/4"	6-3/4"	EFI ST-1203J	20	EFI WT-13J	20
15	9-3/8"	7-7/8"	EFI ST-1204J	22	EFI WT-14J	22
16	10-5/8"	9-1/8"	EFI ST-1205J	25	EFI WT-15J	25
17	11-3/4"	10-1/4"	EFI ST-1206J	28	EFI WT-16J	28
18	13-3/8"	11-7/8"	EFI ST-1207J	31	EFI WT-17J	31
19	14-1/8"	12-5/8"	EFI ST-1208J	33	EFI WT-18J	33
TWO SECTION GAUGE INSERT						
24	16-1/2"	15"	EFI ST-1223J	40	EFI WT-23J	40
25	18-3/4"	17-1/4"	EFI ST-1224J	44	EFI WT-24J	44
26	21-1/4"	19-3/4"	EFI ST-1225J	50	EFI WT-25J	50
27	23-1/2"	22"	EFI ST-1226J	56	EFI WT-26J	56
28	26-3/4"	25-1/4"	EFI ST-1227J	63	EFI WT-27J	63
29	28-1/4"	26-3/4"	EFI ST-1228J	66	EFI WT-28J	66
THREE SECTION GAUGE INSERT						
36	31-7/8"	30-3/8"	EFI ST-1245J	76	EFI WT-35J	76
37	35-1/4"	33-3/4"	EFI ST-1246J	84	EFI WT-36J	84
38	40-1/8"	38-5/8"	EFI ST-1247J	94	EFI WT-37J	94
39	42-3/8"	40-7/8"	EFI ST-1248J	99	EFI WT-38J	99
FOUR SECTION GAUGE INSERT						
47	47"	45-1/2"	EFI ST-1266J	112	EFI WT-46J	112
48	53-1/2"	52"	EFI ST-1267J	126	EFI WT-47J	126
49	56-1/2"	55"	EFI ST-1268J	133	EFI WT-48J	133
FIVE SECTION GAUGE INSERT						
57	58-3/4"	57-1/4"	EFI ST-56J	140	EFI WT-56J	140
58	66-7/8"	65-3/8"	EFI ST-57J	158	EFI WT-57J	158
59	70-5/8"	69-1/8"	EFI ST-58J	166	EFI WT-58J	166



MODEL EFI ST

VISIBLE LENGTHS UP TO 125-5/8" ARE AVAILABLE...consult with Ernst Flow Industries.

Steel valves for use with Clear Flat Gauges are illustrated on page 17.

NOTE: For Model EFI WT, our Models EFI 66-H, 66-L, 67-H and 67-L steel gauge valve sets are required. (not shown in catalog; contact Ernst Flow Industries for details).

Replacement Glass and Gaskets are illustrated on page 13.

****WARNING:** Specify if insert gauge is to be used for steam service.
Mica shields are required for all steam applications.

For use with PROCESS SATURATED STEAM APPLICATIONS ONLY.

EFI Clear Flat Insert Glass Gauges ARE NOT TO BE USED WITH SUPERHEATED STEAM.
Not for Section I Service.

VALVE CENTERS CHART

FOR FLAT GAUGES ILLUSTRATED ON PAGES 18 AND 19

- The center-to-center dimensions indicated in the charts are the minimum distances obtainable between valve centers for the corresponding gauge and valves.
- Charts apply to standard Rigid gauge connection 1/2" NPT Female.
- For optional 3/4" connection, consult Ernst Flow Industries for corresponding valve center dimensions.

NOTE: For Steel Valves that incorporate Threaded Union Gauge Connections (Models EFI 323, 324, 325, 326, 423, 424, 425, 426, 67-H, 67-L) in either the standard 1/2" or optional 3/4" NPT Female, consult Ernst Flow Industries for corresponding valve center dimensions.

Gauge Type and Model			Number of Sections	VISIBLE GLASS (Dimensions in Inches)	Distance Between Valve Centers (Dimensions in Inches) Models 331,332, 333,334,335, 336,433,434, 435,436
Reflex	Transparent				
EFI S	EFI ST	EFI WT			
EFI S-1100J	EFI ST-1200J	EFI WT-10J	1	3-3/4	8-3/8
EFI S-1101J	EFI ST-1201J	EFI WT-11J	1	4-3/4	9-3/8
EFI S-11002	EFI ST-1202J	EFI WT-12J	1	5-3/4	10-3/8
EFI S-1103J	EFI ST-1203J	EFI WT-13J	1	6-3/4	11-3/8
EFI S-1104J	EFI ST-1204J	EFI WT-14J	1	7-7/8	12-1/2
EFI S-1105J	EFI ST-1205J	EFI WT-15J	1	9-1/8	13-3/4
EFI S-1106J	EFI ST-1206J	EFI WT-16J	1	10-1/4	14-7/8
EFI S-1107J	EFI ST-1207J	EFI WT-17J	1	11-7/8	16-1/2
EFI S-1108J	EFI ST-1208J	EFI WT-18J	1	12-5/8	17-1/4
EFI S-1123J	EFI ST-1223J	EFI WT-23J	2	15	19-5/8
EFI S-1124J	EFI ST-1224J	EFI WT-24J	2	17-1/4	21-7/8
EFI S-1125J	EFI ST-1225J	EFI WT-25J	2	19-3/4	24-3/8
EFI S-1126J	EFI ST-1226J	EFI WT-26J	2	22	26-5/8
EFI S-1127J	EFI ST-1227J	EFI WT-27J	2	25-1/4	29-7/8
EFI S-1128J	EFI ST-1228J	EFI WT-28J	2	26-3/4	31-3/8
EFI S-1145J	EFI ST-1245J	EFI WT-35J	3	30-3/8	35
EFI S-1146J	EFI ST-1246J	EFI WT-36J	3	33-3/4	38-3/8
EFI S-1147J	EFI ST-1247J	EFI WT-37J	3	38-5/8	43-1/4
EFI S-1148J	EFI ST-1248J	EFI WT-38J	3	40-7/8	45-1/2
EFI S-1166J	EFI ST-1266J	EFI WT-46J	4	45-1/2	50-1/4
EFI S-1167J	EFI ST-1267J	EFI WT-47J	4	52	56-5/8
EFI S-1168J	EFI ST-1268J	EFI WT-48J	4	55	59-5/8
EFI S-56J	EFI ST-56J	EFI WT-56J	5	57-1/4	61-7/8
EFI S-57J	EFI ST-57J	EFI WT-57J	5	65-3/8	70
EFI S-58J	EFI ST-58J	EFI WT-58J	5	69-1/8	73-3/4
EFI S-67J	EFI ST-67J	EFI WT-67J	6	78-3/4	83-3/8
EFI S-68J	EFI ST-68J	EFI WT-68J	6	83-1/4	87-7/8
EFI S-77J	EFI ST-77J	EFI WT-77J	7	92-1/8	96-3/4
EFI S-78J	EFI ST-78J	EFI WT-78J	7	97-3/8	102
EFI S-87J	EFI ST-87J	EFI WT-87J	8	105-1/2	110-1/8
EFI S-88J	EFI ST-88J	EFI WT-88J	8	111-1/2	116-1/8
EFI S-97J	EFI ST-97J	EFI WT-97J	9	118-7/8	123-1/2
EFI S-98J	EFI ST-98J	EFI WT-98J	9	125-5/8	130-1/4

ORDERING GUIDELINES

We want to process your orders as quickly as possible.

To ensure your order is being processed promptly and efficiently, please specify the following:

1. Quantity.
2. EFI Model.
3. Size.
4. Material. (It is especially important to specify metal desired, when ordering products constructed of metal.)
5. Give a brief description of the Ernst Flow Industries products desired and provide a page number.

EFI LEVELITE™ EXPLOSION PROOF ILLUMINATOR

ANODIZED ALUMINUM CONSTRUCTION

- High Contrast White LEDs
- Superior Visibility Day or Night
- Maintenance FREE
- Long Life ~ 100,000 hrs.
- No Heat Generation
- Field Upgradable
- Fits any glass gauge!
- Eliminates "bulb-changes"
- Longest Field-of-View
- Covers up to 4 sections, size 9 gauge or 5 sections, size 7 gauge
- FM and CSA Approvals: Class 1, Div 1, Groups B, C and D, T4
- Pays for itself in electricity savings alone!



EPL - 100 - 9 - 1 - 1 - 1 -

EFI Levelite

115 or 230 VAC 50/60 Hz
NEMA 4, 4x, 7

Gage Window Size

(1 thru 9 or 11 thru 20)

Prewired Terminal Connections

1 = FM/CSA Approved*, 115 VAC 50/60 Hz
2 = FM/CSA Approved*, 230 VAC 50/60 Hz
3 = ATEX Approved*, 115 VAC 50/60 Hz
4 = ATEX Approved*, 230 VAC 50/60 Hz
24 VDC option available, see page 34

Number of Gage Sections (1, 2, 3, 4)

Replacement 18" cable: V20509

(End-Fitting construction is Nickel-Plated Brass.)

Extension Cord for remote mount, 6.5 ft. length: V20601-6-5

(End-Fitting construction is Nickel-Plated Brass.)

Note: Power Supply will be remote mounted for all single section size 7 and smaller illuminators.

Blank = Standard

D = Daisy Chain (for multiple single section light strips with connecting braided wire cable shielded for strength. Consult factory for maximum lengths and number of sections)
R = Remote Mount Power Supply (required for single section size 7 and smaller)

Mounting Brackets

1 = Universal Mounting Bracket for cover plates up to 3-1/2" in width.
4 = Series 20/32 CS Covers NF Ext.
5 = Series 20/32 SS Covers NF Ext.
6 = Series 30/900# Boiler Water Gages
7 = Reliance FG450/900
8 = Reliance FG1500
9 = Series 40/1100/1600# Boiler Water Gages
11 = Jogler
12 = Reflex Gage



MODEL EFI E-Z READ

Scale shown attached to 3-Section Gauge with Mounting Brackets

(Brackets available from Ernst Flow Industries)

LEVEL GAUGE ILLUMINATORS

ALUMINUM CONSTRUCTION

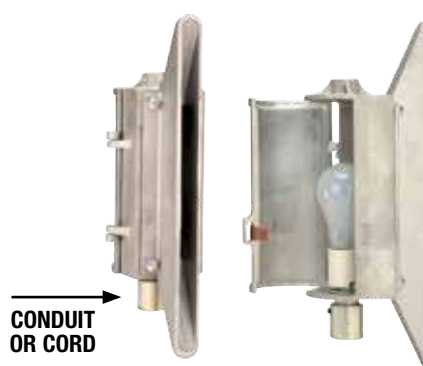
- Equipped with Energy Efficient Bulb
- Can be used with all Tubular or Clear Flat Level Gauges
- Illuminators may be combined for greater vision
- 120 volt, 60 watt bulb equivalent



8-7/8" VISION

MODEL EFI GL-530

12" VISION
View Showing Interior with Door Open



CONDUIT OR CORD

MODEL EFI 509

GAUGE SCALE

STANDARD LENGTHS IN 1 to 5 FT. SECTIONS...
LONGER LENGTHS AVAILABLE UPON REQUEST

Available for installations where measurement of liquid level is required. These 2" wide scales are guaranteed not to chip, crack or rust. The base material is two sheets of white polyester painted aluminum with a black thermoplastic bonded core. Graphics are solvent ink printed then top coated with clear polyester providing optimum chemical, abrasion and UV protection. Scale can be mounted on a board with 3/16" mounting holes provided at strategic points. Mounting holes can be drilled larger and additional ones can be added. The scale can be cut to a shorter length without any detrimental loss of quality. Black graduations are in 1/8" increments with numerals at inch and foot marks.

WELDING PAD GAUGES-REFLEX OR TRANSPARENT GLASS MODELS

CARBON STEEL PAD OR STAINLESS STEEL PAD



REFLEX MODEL

- *For Pressures up to 2250 to 3271 PSI @ 100°F
1550 to 2285 PSI @ 600°F

*NOTE: For Liquid Level ONLY;
not recommended for Steam Service.*



CLEAR MODEL

- *For Pressures up to 1000 to 2000 PSI @ 100°F
675 to 1350 PSI @ 600°F

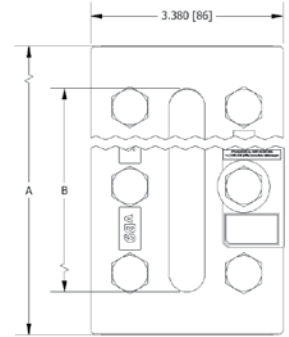
QUALITY CONSTRUCTION

All materials conform to ASME or ASTM Specifications.

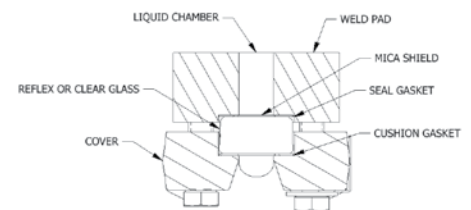
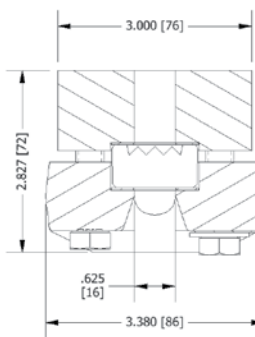
- Liquid Chamber** - one piece steel regardless of number of gauge sections - optional materials available
- Cover** - encloses glass to reduce stress and resist glass breakage, steel construction
- Bolts and Nuts** - alloy steel for high temperature service
- Glass** - tempered borosilicate glass is standard for high strength and resistance to thermal shock and erosion
- Gasket and Cushion** - die cut from quality material providing resiliency and long life



Note: General Operating Pressures are stated. They represent pressures from the longest through the shortest single section gauge. Consult with Ernst Flow Industries for the specific operating pressure for an individual gauge size.



Section X Size	Clear Gauge Model	Reflex Gauge Model	A Length of Visual Glass	B Length of Visual Glass	Approx. Weight (lbs.)
SINGLE SECTION GAUGE INSERT					
11	EFI-1200WJ	EFI-1100WJ	5-1/4	3-3/4	9
12	EFI-1201WJ	EFI-1101WJ	6-1/4	4-3/4	11
13	EFI-1202WJ	EFI-1102WJ	7-1/4	5-3/4	12
14	EFI-1203WJ	EFI-1103WJ	8-1/4	6-3/4	14
15	EFI-1204WJ	EFI-1104WJ	9-3/8	7-7/8	16
16	EFI-1205WJ	EFI-1105WJ	10-5/8	9-1/8	18
17	EFI-1206WJ	EFI-1106WJ	11-3/4	10-1/4	20
18	EFI-1207WJ	EFI-1107WJ	13-3/8	11-7/8	22
19	EFI-1208WJ	EFI-1108WJ	14-1/8	12-5/8	24
TWO SECTION GAUGE INSERT					
24	EFI-1223WJ	EFI-1123WJ	16-1/2	15	28
25	EFI-1224WJ	EFI-1124WJ	18-3/4	17-1/4	32
26	EFI-1225WJ	EFI-1125WJ	21-1/4	19-3/4	36
27	EFI-1226WJ	EFI-1126WJ	23-1/2	22	40
28	EFI-1227WJ	EFI-1127WJ	26-3/5	25-1/4	44
29	EFI-1228WJ	EFI-1128WJ	28-1/4	26-3/4	48
THREE SECTION GAUGE INSERT					
36	EFI-1245WJ	EFI-1145WJ	31-7/8	30-3/8	54
37	EFI-1246WJ	EFI-1146WJ	35-1/4	33-3/4	60
38	EFI-1247WJ	EFI-1147WJ	40-1/8	38-5/8	66
39	EFI-1248WJ	EFI-1148WJ	42-3/8	40-7/8	72
FOUR SECTION GAUGE INSERT					
47	EFI-1266WJ	EFI-1166WJ	47	45-1/2	80
48	EFI-1267WJ	EFI-1167WJ	53	52	88
49	EFI-1268WJ	EFI-1168WJ	56	55	96



**Shield can only be used with Clear Flat Glass, not Reflex Glass Replacement Glass and Gaskets are illustrated on page 13.*

MODEL EFI MINI-MAGNA™

Cost Effective!...for simple pressure applications at or near ambient temperature involving water, oil or chemical storage, such as:

- Air conditioning and refrigeration
- Filter manufacturers
- Waste water treatment
- Boiler feedwater tanks
- Tank manufacturers

**MODEL EFI
MINI-MAGNA**

FEATURES:

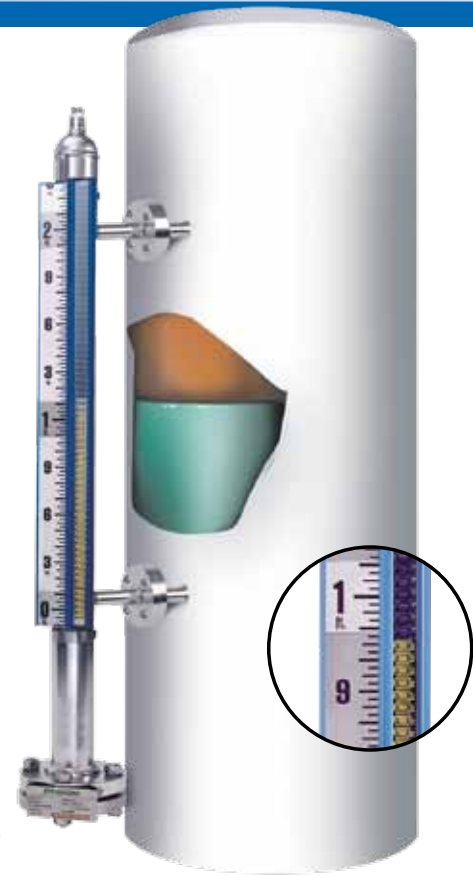
- No glass to contact process
- Uses a 1-1/4" Schedule 10 Standpipe Chamber
- Up to Class 300 ASME
- Designed to ASME B31.1/B31.3
- Chamber construction: 316/316L SS or 304/304L SS
- Float construction: 316/316L Stainless Steel
- Specific gravity down to 0.70
- Choice of mounting styles for both threaded or flanged connections
- Yellow flag indication



MODEL EFI MAGNA™

FEATURES:

- Pressure Ratings up to 3,500 PSI
- Temperature rating up to 1,000°F
- No glass to contact process
- Clear visual indication from extended viewing distances
- Low maintenance
- Uses 2-1/2" schedule 40 standpipe chamber
- Designed to ASME B31.1/B31.3
- Chamber construction: 316/316L SS or 304/304L SS
- Float construction: 316/316L Stainless Steel
- Specific gravity down to 0.36
- Choice of mounting styles for both threaded or flanged connections
- Yellow flag indication
- Furnished with attached scale (optional scales available)
- Electrical point level switches available (Mechanical or Reed Type)



POINT LEVEL SWITCHES:



MODEL EFI RS-2
Reed Switch



MODEL EFI SAS-16
Mechanical Snap-Action Switch

EFI MAGNA gives you a choice of two types of electrical interface for point level control or alarm with magnetic gauges.

- Easy installation – Clamp to EFI MAGNA chamber
- Latches to maintain position as the float passes
- Field adjustable
- No contact with process
- Both models are designed to give years of trouble-free service

Required to quote EFI MAGNA

- Process Liquid
- Viscosity
- Quantity
- Pressure (Min, Operating, Max)
- Temperature (Min, Operating, Max)

1	2	3	4	5	6	7	8	9	10	11
EFI MAGNA	SF - Side Flanged	Process Connection Size 04 = 1/2" 06 = 3/4" 08 = 1" 12 = 1-1/2" 16 = 2" 20 = 2-1/2" 24 = 3" 32 = 4" 48 = 6"	Flange Class (ASME) 01 = 150 03 = 300 06 = 600 09 = 900 15 = 1500	General Material R = 304 SS RA = 304 SS, CS Flanges T = 316 SS TA = 316 SS, CS Flanges K = Alloy 20 M = Monel TT = Titanium	Specific Gravity .35 and up	Max. Working Pres. (PSIG) Up to 5000 PSIG 2400 PSIG Inquire for pressure up to 5000 PSIG	Max. Working Temp. (°F) Up to 1000 °F	Centers/Visible Range Exact Inches	Options MS = Metric Scale IL = Illuminator WN = Weld Neck Flanges VV = Valves (Specify) BC = Valves with Ball Check X = Other (Specify)	Indicator FL = Flag (Wafer)

Example:

EFI MAGNA-SF-08-15-TA-.55-1000-500-48.0"-FL-IB-WN

Description:

2. Style SF (side flanged)	7. Max. working pressure: 1000 PSIG
3. Process connections: 1.0" RF	8. Max. working temperature: 500 °F
4. Flange rating: 1500# ASME	9. Process connection C/L: 48.0"
5. Chamber material: 316SS with carbon steel flanges	10. Flag indication (FL)
6. Specific gravity: .55	11. Options: Insulation blanket Weld neck flanges

SERIES E-57 SIGHT FLOW INDICATORS

NPT THREADED CONNECTION / WINDOW TYPE

CONSTRUCTION: BRONZE, CARBON STEEL, 316 STAINLESS STEEL OR PVC

NEOPRENE SEAL GASKETS AS STANDARD



MODEL EFI E-57-1
(Rynite® Flapper)

Not recommended for downward flow



MODEL EFI E-57-4
(Ball Action - Specify Ball Material)



MODEL EFI E-57-0
(Plain)



MODEL EFI E-57-2
(Drip Tube)



MODEL EFI E-57-3
(Rynite® Rotating Wheel)

BRONZE OR PVC

Plain, Ball Action, Flapper, Drip Tube or Rotating Wheel

Pressure Rating:

Furnished with Tempered glass:
200 PSI (*PVC 100 PSI with
Tempered glass @ 75°F)

Temperature Rating:

Up to 500°F depending on glass
and gasket selection

**NOTE: PVC only available in Model EFI E-57-0 or E-57-4.*

PTFE gaskets standard with PVC.

Consult Ernst Flow Industries for PVC dimensions and weights.

NPT Conn.	Dimensions in Inches			Approx. Weight (lbs.)
	A	B	C	
1/4, 3/8, 1/2	4-3/4	1-3/4	4	4
3/4	4-5/8	1-3/4	4	4
1	5-1/4	1-3/4	4	4
1-1/4, 1-1/2	4-5/8	1-3/4	4	5
2	5-1/2	1-3/4	4	7
2-1/2	6-3/4	2-3/4	5-1/4	13
3	7-3/8	2-3/4	6	18

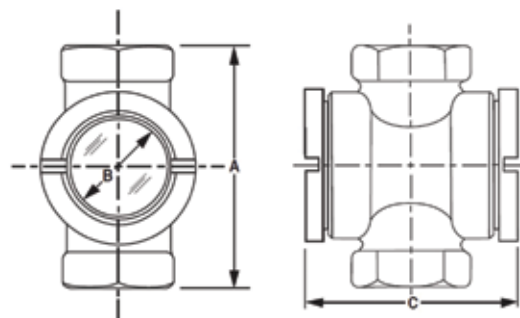
CARBON STEEL OR 316 STAINLESS STEEL

Plain, Ball Action, Flapper, Drip Tube or Rotating Wheel

CARBON STEEL OR 316 STAINLESS STEEL				
NPT Conn.	Dimensions in Inches			Approx. Weight (lbs.)
	A	B	C	
1/4, 3/8, 1/2, 3/4, 1	4-5/8	1-3/4	4	4
1-1/4, 1-1/2, 2	5-7/16	1-3/4	5	8

Notes: For all Sight Flow Indicators and Sight Windows indicated on pages 24-34.

- Materials of construction indicated describe wetted surfaces only. Bolting, tie rods, glass retaining rings and covers may be of materials other than those indicated for the wetted surfaces. Optional materials for these parts are available. Consult Ernst Flow Industries relative to standard and optional gasket materials.
- Optional materials of construction are available...consult Ernst Flow Industries.
- Optional connection type available (i.e. socket weld, butt weld, sil-braze, etc.).
- Consult Ernst Flow Industries regarding operating temperatures for specific sight flow indicator and sight window models.



SERIES 215 SIGHT FLOW INDICATORS

CLASS 150 FLANGED CONNECTION / WINDOW TYPE

CONSTRUCTION: CARBON STEEL, 316 STAINLESS STEEL OR PVC

NEOPRENE SEAL GASKETS AS STANDARD

CARBON STEEL OR 316 STAINLESS STEEL

Plain, Ball Action, Flapper, Drip Tube or Rotating Wheel

Pressure Rating:

Furnished with Tempered glass: 200 PSI
(*PVC 100 PSI with Tempered glass @ 75°F)

Temperature Rating:

Up to 500°F depending on glass and gasket selection

Flange Connections:

- Raised Face: Carbon Steel, 316 Stainless Steel
- Flat Face: PVC

**NOTE: PVC only available in Model EFI 215-P, or 215-B.*

PTFE gaskets standard with PVC.

Consult Ernst Flow Industries for PVC dimensions and weights.

CARBON STEEL OR 316 STAINLESS STEEL				
Flange Size	Dimensions in Inches			Approx. Weight (lbs.)
	A	B	C	
1	7	1-3/4	4-1/4	10
1-1/2	7-1/4	1-3/4	5	13
2	9	3	6	21
2-1/2	9	3	7	27
3	9-1/4	3	7-1/2	32
4	9-1/4	3	9	42
6	9-1/4	3	11	53

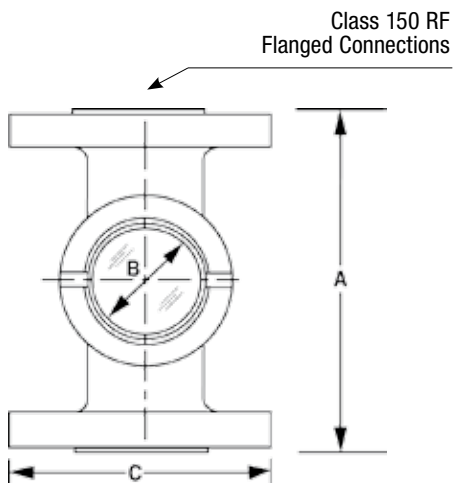


MODEL EFI 215-P
(Plain)

MODEL EFI 215-P
(Ball Action)
not shown... specify ball material



MODEL EFI 215-R
(Rynite® Rotating Wheel)



MODEL EFI 215-F
(Rynite® Flapper)
Not recommended for downward flow



MODEL EFI 215-D
(Drip Tube)

FLANGED & THREADED SIGHT FLOW INDICATORS

ASME FLANGED CONNECTION / WINDOW TYPE

CONSTRUCTION: BRONZE, CARBON STEEL OR 316 STAINLESS STEEL
NEOPRENE SEAL GASKETS AS STANDARD

STANDARD FEATURES:

- Connections per ASME B16.5 or B16.24
- Tempered borosilicate glass
- ASME B31.1 & B31.3
- CRN – All Provinces
- API 614
- NACE MR0175 / ISO15156-1 and MR0103*



FLAPPER

Pressure Rating: Class 150 ASME

EFI-910-FA Sight Flow Indicators are recommended for both horizontal and vertical pipe lines with upward flow. This model is best suited to transparent or slightly opaque solutions. Position of flapper indicates variation in flow rates. May be supplied without flapper where no internal indicator is required.

Note: for plain style model, specify EFI-910-FA (NF)

ROTATING PTFE WHEEL

Pressure Rating: Class 150 ASME

EFI-935-FA Sight Flow Indicators operate successfully in any orientation but are particularly adapted to pipe lines carrying dark opaque solutions where the motion of the wheel is easily detected. This model is equally adapted to transparent solutions and is frequently installed where observation must be made from a distance.



DRIP TUBE

Pressure Rating: Class 150 ASME

EFI-608-FA Sight Flow Indicators are best adapted to vertical downward flow. Designed without any obstruction, this unit is particularly useful in distillation and similar apparatus where flow is apt to be intermittent.

NPT THREADED CONNECTION / WINDOW TYPE

CONSTRUCTION: BRONZE, CARBON STEEL OR 316 STAINLESS STEEL
NEOPRENE SEAL GASKETS AS STANDARD

STANDARD FEATURES:

- FNPT connections per ASME B2.1
- Independently threaded retainers machined from corrosion resistant alloys
- Annealed borosilicate glass
- Hex ends on bodies allow for easy installation
- All ASTM listed body materials
- CRN – All Provinces



FLAPPER

Pressure Rating: 150 PSI

EFI 100-S Sight Flow Indicators are recommended for both horizontal and vertical pipe lines with upward flow. This model is best suited to transparent or slightly opaque solutions. Position of flapper indicates variation in flow rates. May be supplied without flapper where no internal indicator is required.

ROTATING PTFE WHEEL

Pressure Rating: 150 PSI

EFI 300-S Sight Flow Indicators operate successfully in any orientation but are particularly adapted to pipe lines carrying dark opaque solutions where the motion of the wheel is easily detected. This model is equally adapted to transparent solutions and is frequently installed where observation must be made from a distance.



DRIP TUBE

Pressure Rating: 150 PSI

EFI 200-S Sight Flow Indicators are best adapted to vertical downward flow. Designed without any obstruction, this unit is particularly useful in distillation and similar apparatus where flow is apt to be intermittent.

HIGH PRESSURE SIGHT FLOW INDICATORS

HIGH PRESSURE SIGHT FLOW INDICATORS

Engineered per the design criteria of ASME B31.1 & B31.3, Power and Process Piping Codes, incorporating the listed ASTM materials for all metals in the unit construction.

**Class 300, Class 600, Class 900, and Class 1500 Piping Systems
STEEL AND 316 STAINLESS STEEL**

STANDARD FEATURES:

- Single Window (1 per side / 2 total)
- Body with Integrally cast flanges (CL300/600)
- 100% Hydrotest
- ASME B31.1 & B31.3
- CRN – All Provinces
- API 614
- NACE MR0175 / ISO15156-1 and MR0103*

*All Wetted Metals



MODELS:
EFI 100HP, EFI 100HP-NF
EFI 100HP-FLT, EFI 200-HP, EFI 300HP

Pressure Class	Size Range
300	1/4" thru 2"
600	1/4" thru 2"
900	1/4" thru 2"
1500	1/4" thru 2"



MODELS:
EFI 910HP, EFI 910HP-NF
EFI 910HP-FLT, EFI 608HP, EFI 960HP

Pressure Class	Size Range
300	1/2" thru 8"
600	1/2" thru 8"
900	1/2" thru 2"
1500	1/2" thru 2"

PROCESS VIEW MAXIMIZED

View matches or exceeds pipe inside diameter, allowing 100% unobstructed process observation of liquids, slurries, gases and solids.

MINIMAL PRESSURE DROP

Non-rotor models have unrestricted flow as all internal openings are no smaller than the pipe's inside diameter.

SAFELY VIEW

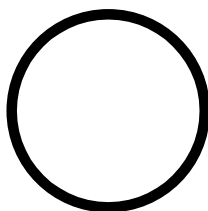
Safely view process properties such as color, clarity, air entrainment, and interface.

ECONOMICALLY VIEW

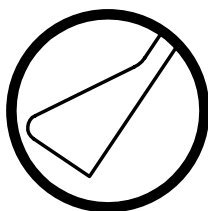
Economically view process drain, lube, hydraulic, condensate, fuel and return lines

Window Shield Options Available

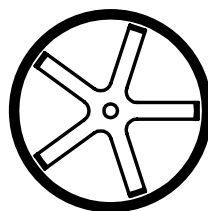
INDICATOR OPTIONS (APPLIES TO PAGES 26 & 27)



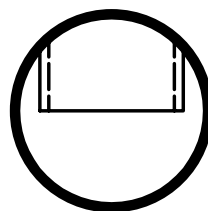
Plain



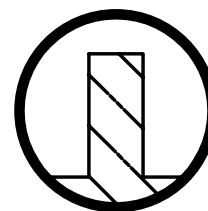
Flapper



Rotor



Drip



Flutter

SERIES 2000 SIGHT FLOW INDICATORS

THREADED CONNECTION / WINDOW TYPE

CONSTRUCTION: CARBON STEEL OR 316 STAINLESS STEEL

PRESSURE RATING: CLASS 150 OR CLASS 300

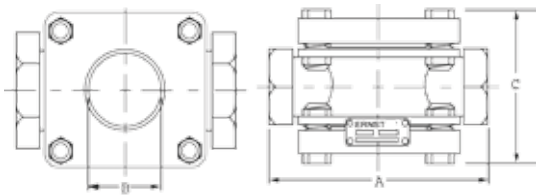
FEATURES:

- Full ASME rated
- Independent glass retainer bolting contributes to ease and added safety to field maintenance and replacement procedures
- Investment Castings
- Tempered borosilicate glass standard in all units
- Gylon® 3504 gasketing standard in all units
- Acrylic enamel coating on bodies and cover plates (all carbon steel models)
- Cast steel glass retainers standard on all carbon steel models
- Stainless steel glass retainers standard on all stainless steel models
- All units 100% Hydrostatic pressure tested
- Other alloys of construction are available upon request.

Optional gasket materials: Available upon request.

Class 150 Threaded Units				
NPT Conn.	Dimensions in Inches			Approx. Weight (lbs.)
	A	B	C	
1/2	3-3/4	1-1/4	3-7/8	6
3/4	3-3/4	1-1/4	3-7/8	6
1	4-1/4	1-1/4	4-1/8	11
1-1/2	5-1/2	1-3/4	5-3/8	12
2	6-1/4	2	6-1/8	17

Class 300 Threaded Units				
NPT Conn.	Dimensions in Inches			Approx. Weight (lbs.)
	A	B	C	
1/2	3-3/4	1-1/4	4	7
3/4	3-3/4	1-1/4	4	7
1	4-1/4	1-1/4	4-1/2	13
1-1/2	5-1/2	1-3/4	5-7/8	14
2	6-1/4	2	6-3/8	20



Every indicator has a stainless steel tag riveted to the body for easy identification of size, psi, temperature rating and model. (Example shown above)



PLAIN

MODEL EFI 20-00-T

These units show system flow visually without the use of internal indicators. They will operate effectively in any position to detect either the presence or absence of solutions, or to observe fluids for turbulence, color or clarity.

DRIP TUBE

MODEL EFI 20-10-T

These models have a drip tube on the media entry end in order to pass low or intermittent flow directly into the viewing area. They have no obstructions and are best adapted for downward vertical flow.



FLAPPER

MODEL EFI 20-20-T

These units must be installed with the flow in the direction of the arrow on the body casting. These models have a hinged flap visible through the viewing window that indicates changes in flow rates by the position of the flap. They are best suited for flow indication of transparent or slightly opaque solutions. They may be used with horizontal and upward vertical flows.

ROTOR

MODEL EFI 20-30-T

A PTFE rotor spins to indicate flow in this type unit. Flow indication at a great distance is possible with dark as well as transparent flow. These indicators can be mounted horizontally or vertically.



SERIES 2000 SIGHT FLOW INDICATORS

FLANGED CONNECTION / WINDOW TYPE

CONSTRUCTION: CARBON STEEL OR 316 STAINLESS STEEL

PRESSURE RATING: CLASS 150 OR CLASS 300

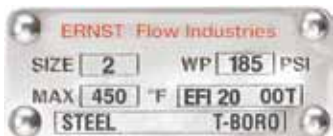
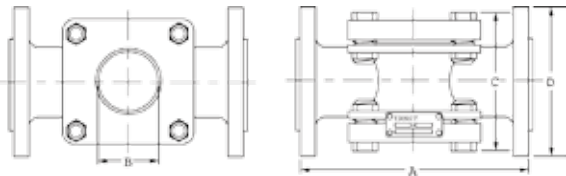
FEATURES:

- Full ASME rated
- Independent glass retainer bolting contributes to ease and added safety to field maintenance and replacement procedures
- Investment Castings
- Tempered borosilicate glass standard in all units
- Gylon® 3504 gasketing standard in all units
- Acrylic enamel coating on bodies and cover plates (all carbon steel models)
- Cast steel glass retainers standard on all carbon steel models
- Stainless steel glass retainers standard on all stainless steel models
- All units 100% Hydrostatic pressure tested
- Other alloys of construction are available upon request.

Optional gasket materials: Available upon request.

Class 150 Flanged Units					
Flange Size	Dimensions in Inches				Approx. Weight (lbs.)
	A	B	C	D	
1/2	4-5/8	1-1/4	4-3/16	3-1/2	6
3/4	4-5/8	1-1/4	4-3/16	3-7/8	6
1	5-5/8	1-1/4	4-1/8	4-1/4	11
1-1/2	6-1/2	1-3/4	5-3/8	5	17
2	7-7/8	2	6-1/8	6	27
3	9-3/8	3-3/16	7-3/4	7-1/2	56
4	11	4-3/8	10-5/8	9	75
6	14-1/4	6-7/8	12-3/4	11	150

Class 300 Flanged Units					
Flange Size	Dimensions in Inches				Approx. Weight (lbs.)
	A	B	C	D	
1/2	5-7/8	1-1/4	4-3/16	3-3/4	9
3/4	5-7/8	1-1/4	4-3/16	4-5/8	9
1	6-7/8	1-1/4	4-1/2	4-7/8	12
1-1/2	7-1/2	1-3/4	5-7/8	6-1/8	19
2	8-5/8	2	6-3/8	6-1/2	30
3	11-3/8	3-3/16	8-3/8	8-1/4	62
4	13-1/4	4-3/8	12-1/4	10	84



Every indicator has a stainless steel tag riveted to the body for easy identification of size, psi, temperature rating and model. (Example shown above)

PLAIN

MODEL EFI 20-40-F

These units show system flow visually without the use of internal indicators. They will operate effectively in any position.



DRIP TUBE

MODEL EFI 20-50-F

These models have a drip tube on the media entry end in order to pass low or intermittent flow directly into the viewing area. They have no obstructions and are best adapted for downward vertical flow.

FLAPPER

MODEL EFI 20-60-F

These units must be installed with the flow in the direction of the arrow on the body casting. These models have a hinged flap visible through the viewing window that indicates changes in flow rates by the position of the flap. They are best suited for flow indication of transparent or slightly opaque solutions. They may be used with horizontal and upward vertical flows.



ROTOR

MODEL EFI 20-70-F

A PTFE rotor spins to indicate flow in this type unit. Flow indication at a great distance is possible with dark as well as transparent flow. These indicators can be mounted horizontally or vertically.



PFA Lined EFI Series 2000 Flanged units now available for corrosive applications. Available 1" through 8" sizes. Contact Ernst Flow Industries for details.

SERIES 1400 SIGHT FLOW INDICATORS

NPT THREADED CONNECTION / WINDOW TYPE

CONSTRUCTION: BRONZE, CARBON STEEL OR 316 STAINLESS STEEL

FKM (Viton™) SEAL GASKETS AS STANDARD

PLAIN

Pressure Rating: 200 PSI*;
400 PSI with tempered glass**

When the color and clarity of your liquids are of prime importance.

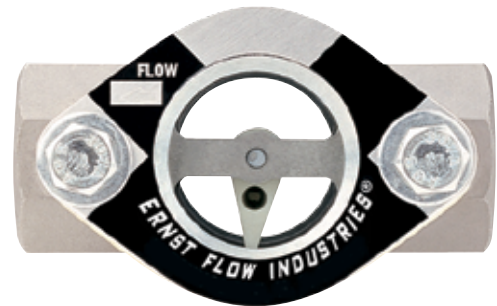


MODEL
EFI 1420 Carbon Steel
EFI 1430 Bronze
EFI 1470 316 Stainless Steel
EFI 1480 Ductile Iron

FLAPPER

Pressure Rating: 200 PSI*;
400 PSI with tempered glass**

These units must be installed with the flow in the direction of the arrow on the body casting. These models have a hinged flap visible through the viewing window that indicates changes in flow rates by the position of the flap. They are best suited for flow indication of transparent or slightly opaque solutions. They may be used with horizontal and upward vertical flows.



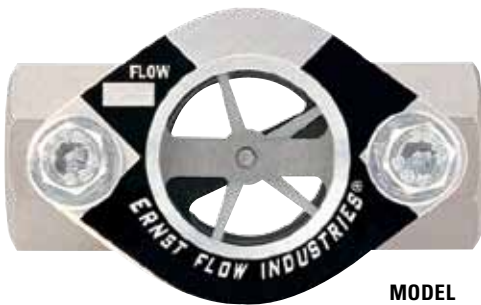
MODEL
EFI 1422 Carbon Steel
EFI 1432 Bronze
EFI 1472 316 Stainless Steel
EFI 1482 Ductile Iron

ROTATING DELRIN® WHEEL

Pressure Rating: 200 PSI*;
400 PSI with tempered glass**

The best way to show flow of opaque liquids... also ideal for observations at a distance. Flow from right to left is standard. Specify if left to right flow is required.

NOTE: Ryton® Wheel furnished for 400 PSI rating



MODEL
EFI 1421 Carbon Steel
EFI 1431 Bronze
EFI 1471 316 Stainless Steel
EFI 1481 Ductile Iron

DRIP TUBE

Pressure Rating: 200 PSI*;
400 PSI with tempered glass**

Ideal for gravity, extremely low or intermittent flow, keeps product from dripping on glass... assures constant see-through vision. Recommended for vertical downward flow.



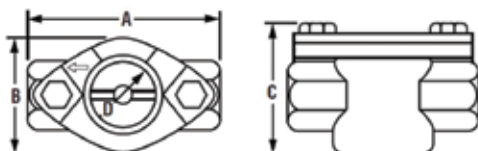
MODEL
EFI 1423 Carbon Steel
EFI 1433 Bronze
EFI 1473 316 Stainless Steel
EFI 1483 Ductile Iron

NOTE: 400 PSI rated units are furnished with an extra-heavy cover in addition to the tempered glass. Tempered glass should not be used with 200 PSI rated units.

CONN. SIZE 1/4" TO 1" WITH 2 - BOLT GLASS RETAINING COVER
CONN. SIZE 1-1/4" TO 2" WITH 4 - BOLT GLASS RETAINING COVER

*200 PSI @ 150°F;
135 PSI @ 250°F

**400 PSI @ 150°F;
200 PSI @ 350°F



	NPT Connection (Dimensions in Inches)							
	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
A Over-all Length	3-1/4 ¹	3-1/4 ¹	3-1/4 ¹	4-1/4 ²	4-1/4	5-1/4 ³	5-1/4 ³	5-1/2 ³
B Over-all Width	2	2	2	2-9/16	2-9/16	3-5/16	3-5/16	3-5/16
C Over-all Height	2-3/8	2-3/8	2-3/8	3-1/4	3-1/4	4-5/16	4-5/16	4-5/16
Over-all Height w/ Tempered Glass	2-9/16	2-9/16	2-9/16	3-7/16	3-7/16	4-1/2	4-1/2	4-1/2
D Diameter of Sight Opening	1-1/8	1-1/8	1-1/8	1-1/2	1-1/2	2	2	2
Approx. Weight (lbs.)	1.6	1.6	1.4	3.0	2.7	8.4	7.9	6.6

1. Stainless Steel Units are 3-5/8" 2. Bronze Units are 4-1/8" 3. Stainless Steel Units are 5-5/8"

SERIES 1400 SIGHT FLOW INDICATORS

CLASS 150 FLANGE CONNECTION / WINDOW TYPE
CONSTRUCTION: CARBON STEEL OR 316 STAINLESS STEEL
FKM (Viton™) SEAL GASKETS AS STANDARD

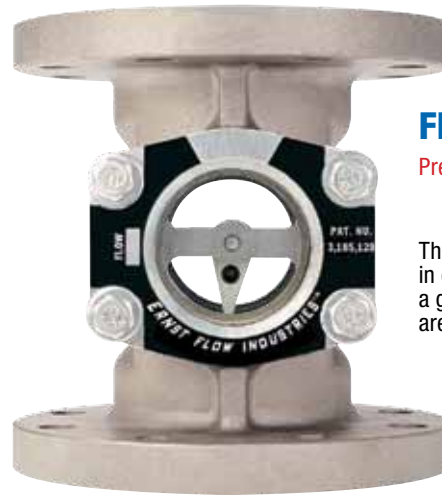


PLAIN

Pressure Rating:
200 PSI*;
275 PSI with tempered glass**

When the color and clarity of your liquids are of prime importance.

MODEL
EFI 1420-F Carbon Steel
EFI 1470-F Stainless Steel



FLAPPER

Pressure Rating:
200 PSI*;
275 PSI with tempered glass**

This bi-directional indicator points in either direction to show you at a glance which way your liquids are flowing.

MODEL
EFI 1422-F Carbon Steel
EFI 1472-F Stainless Steel

ROTATING DELRIN® WHEEL

Pressure Rating: 200 PSI*;
275 PSI with tempered glass**

The best way to show flow of opaque liquids... also ideal for observations at a distance. Flow from right to left is standard. Specify if left to right flow is required.

NOTE: Ryton® Wheel furnished for 275 PSI rating

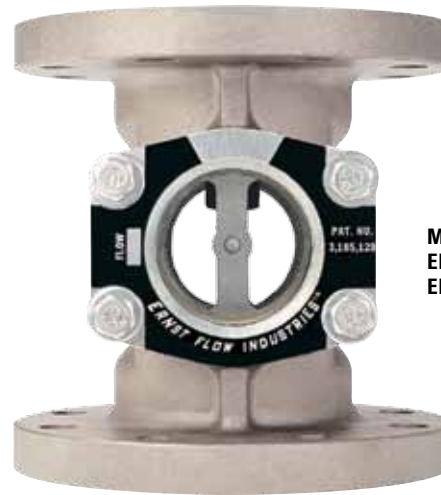


MODEL
EFI 1421-F Carbon Steel
EFI 1471-F Stainless Steel

DRIP TUBE

Pressure Rating: 200 PSI*;
275 PSI with tempered glass**

Ideal for gravity, extremely low or intermittent flow, keeps product from dripping on glass... assures constant see-through vision. Recommended for vertical downward flow.

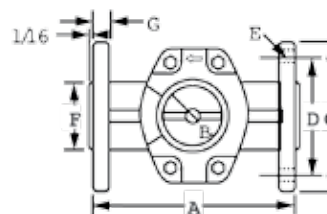


MODEL
EFI 1423-F Carbon Steel
EFI 1473-F Stainless Steel

	Flanged Connection (Dimensions in Inches)				
	1	1-1/2	2	3	4
A Over-all Length	5	6-1/2	7	8	9
B Dia. of Sight Opening	1-1/2	2	2	3	3
C Flange Diameter	4-1/4	5	6	7-1/2	9
D Bolt Circle Diameter	3-1/8	3-7/8	4-3/4	6	7-1/2
E No. Bolt Holes & Size	(4)5/8	(4)5/8	(4)3/4	(4)3/4	(8)3/4
F Dia. of Raised Face	2	2-7/8	3-5/8	5	6-3/16
G Thickness of Flange	15/32	19/32	11/16	13/16	1
Approx. Weight (lbs.)	5.4	11.1	15	29.3	35

NOTE: Optional O/A lengths also available for the following flanged connections:

Size	O/A Length
2"	7-7/8"
3"	9-3/8"
4"	11"



NOTE: 275 PSI rated units are furnished with an extra-heavy cover in addition to the tempered glass. Tempered glass should not be used with 200 PSI rated units.

FLANGE SIZE 1" FURNISHED WITH 2 - BOLT GLASS RETAINING COVER
FLANGE SIZE 1-1/2" TO 4" WITH 4 - BOLT GLASS RETAINING COVER

*200 PSI @ 150°F; 135 PSI @ 250°F

**Stainless Steel units rated at 275 PSI @ 100°F; 205 PSI @ 350°F
Steel units rated at 285 PSI @ 100°F; 215 PSI @ 350°F

Note: For connections 6" through 12", inquire with factory.

CYLINDER TYPE SIGHT FLOW INDICATORS

CONSTRUCTION: BRASS, CARBON STEEL OR 316 STAINLESS STEEL

PLAIN OR DRIP TUBE

Furnished with Protective Outer Shield

- CRN – All Provinces



MODEL EFI 805-S
(Plain)



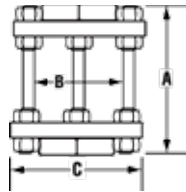
MODEL EFI 805-SD
(Drip Tube)



MODEL EFI 805-SL
Available in pipe sizes 1/8" through 2" and in lengths up to 48"
Graduated cylinders also available

NPT Conn.	Dimensions in Inches			Approx. Weight (lbs.)	Pressure Rating (PSI)
	A	B	C		
1/8	4-1/2	1-3/4	4	2	150
1/4	4-1/2	1-3/4	4	2	150
3/8	4-1/2	1-3/4	4	2	150
1/2	4-1/2	1-3/4	4	2	150
3/4	4-1/2	1-3/4	4	2	150
1	4-1/2	2	4-1/2	3	150
1-1/2	4-3/4	2-1/2	5-1/4	5	120
2	5-1/2	3	5-3/4	8	100

"A" Dimension $\pm 1/8$ "

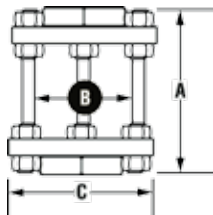


For 805-SL units, consult Ernst Flow Industries for shield availability.

BALL ACTION

With PTFE or Neoprene Ball

Furnished with Protective Outer Shield



MODEL EFI 1728-NB 805-S

NPT Conn.	Dimensions in Inches			Approx. Weight (lbs.)	Pressure Rating (PSI)
	A	B	C		
1/8	4-1/2	1-3/4	4	2	150
1/4	4-1/2	1-3/4	4	2	150
3/8	4-1/2	1-3/4	4	2	150
1/2	4-1/2	1-3/4	4	2	150
3/4	4-1/2	1-3/4	4	2	150
1	4-1/2	2	4-1/2	3	150
1-1/2	4-3/4	2-1/2	5-1/4	5	120
2	5-1/2	3	5-3/4	8	100

"A" Dimension $\pm 1/8$ "

PLAIN

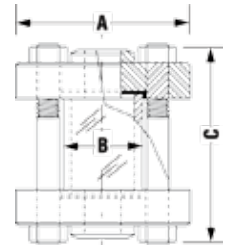
Note: Also available in PVC Construction

NPT Conn.	Dimensions in Inches			Pressure Rating (PSI)
	A	B	C	
1/2	3-1/2	1-1/2	2-1/4	150
3/4	3-7/8	1-1/2	2-1/4	150
1	4-1/4	2	3	150
1-1/4	4-5/8	2-1/4	3-3/8	135
1-1/2	5	2-1/2	3-7/8	112
2	6	3-1/2	5-3/4	70
2-1/2	7	4	7	75
3	7-1/2	4	7	75
4	9	5-1/2	9-1/4	43

"C" Dimension $\pm 1/8$ "



MODEL EFI 17280



PLAIN OR DRIP TUBE

Construction: Carbon Steel, 316 Stainless Steel

Furnished with Protective Outer Shield

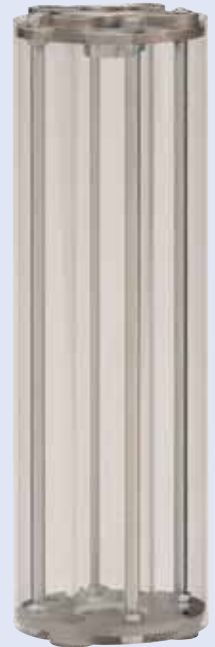
- CRN – All Provinces



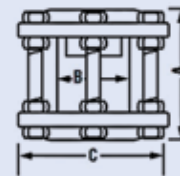
MODEL EFI 830 F
(Plain)



MODEL EFI 830-FD
(Drip Tube)



MODEL EFI 830-FL
Available in pipe sizes 1/2" through 6" and in lengths up to 48". Graduated cylinders also available



For 830-SL units, consult Ernst Flow Industries for shield availability.

Flange Size	Dimensions in Inches			Approx. Weight (lbs.)	Pressure Rating (PSI)
	A	B	C		
1/2	3-7/8	1	3-1/2	3	150
3/4	3-7/8	1-1/4	3-7/8	3	150
1	4	1-3/4	4-1/2	3	150
1-1/2	4	2-1/2	5-1/4	4	120
2	4-3/4	3	6-1/4	6	100
3	5-3/8	4	7-3/4	15	100
4	7-1/2	5	9-1/4	27	70
6	10-3/8	7	11	47	45

"A" Dimension $\pm 1/8$ "

CYLINDER TYPE SIGHT FLOW INDICATORS

PLAIN

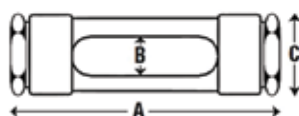
Construction: Brass, Carbon Steel, 316 Stainless Steel

Pressure Rating 150 PSI

- CRN – All Provinces

NPT Conn.	Dimensions in Inches			Approx. Weight (lbs.)
	A	B	C	
1/4	4-7/8	5/8	1-1/2	1
3/8	4-7/8	5/8	1-1/2	1
1/2	6	3/4	1-3/4	2
3/4	6-5/8	1	2	2-1/2
1	6-5/8	1	2	2-1/2
1-1/4	9-1/8	1-3/8	2-7/8	6
1-1/2	9-1/8	1-3/8	2-7/8	6

"A" Dimension $\pm 1/8$ "



Note: All materials of construction furnished with bronze body as standard. Optional 316 Stainless Steel body available upon request.

Available with Neoprene or PTFE Seal Gaskets.

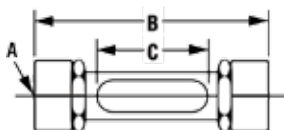
MODEL EFI 4000-S

OIL LINE TYPE / MALE OR FEMALE CONN.

Construction: Brass

Pressure Rating: Size 1 through 4 - 100 PSI
Size 5 through 8 - 50 PSI

Size No.	Dimensions in Inches			Glass O.D.
	A NPT Conn. Male / Female	B	C	
1	1/8	2-7/16	1-3/16	5/8
2	1/4	3	1-3/16	5/8
3	3/8	3	1-3/16	5/8
4	1/2	4-1/2	2-1/4	5/8
5	3/4	4-1/2	2	7/8
6	1	5	2-3/8	1
7	1-1/4	5-1/4	2-3/8	1-1/4
8	1-1/2	5-1/4	2-3/8	1-1/2



MODEL EFI 265

PLAIN

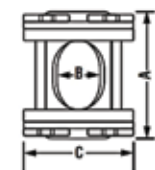
Construction: Steel or 316 Stainless Steel

Flanged Conn.	Dimensions in Inches			Approx. Weight (lbs.)	Pressure Rating (PSI)
	A	B	C		
1/2	6-1/8	13/16	3-1/2	5	150
3/4	6-3/8	1-1/16	3-7/8	8	150
1	6-3/8	1-1/16	4-1/4	11	150
1-1/2	6-3/4	1-5/8	5	16	150
2	7-5/8	2	6	23	120
2-1/2	7-7/8	2-3/8	7	31	100
3	8-1/8	2-3/4	7-1/2	33	100

"A" Dimension $\pm 1/8$ "

Note: All materials of construction furnished with iron body as standard. Optional 316 Stainless Steel body available upon request.

Available with Neoprene or PTFE Seal.

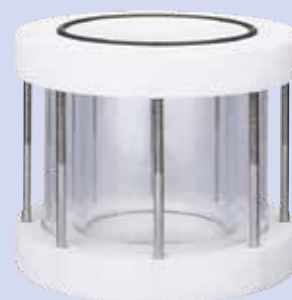


MODEL EFI 860-F

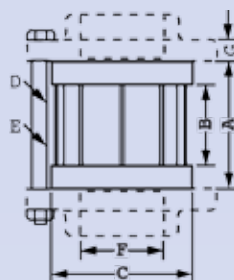
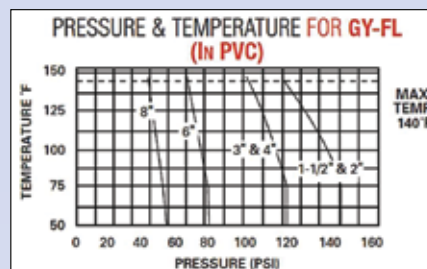
"WAFER" INDICATOR

Model No. EFI GY-FI flow indicators utilize double wall construction and are used on flanged piping systems handling highly corrosive or ultra-pure liquids compatible with borosilicate glass. They cannot be used with hydrofluoric acid or sodium hydroxide as they will etch the borosilicate cylinder wall.

PVC ends are standard. PP, CPVC, PTFE and Kynar® ends also available. Fluorocarbon seals are standard. These indicators will fit 1-1/2" through 8" smooth face standard companion flanges. Two flange O-ring seals are supplied, therefore, other gasketing materials are not required. The inner cylinder is borosilicate for maximum corrosion resistance and the outer cylinder is high impact acrylic, which acts as a protective shield against external impacts.



MODEL EFI GY-FL
(All Bolting Stainless Steel)



Pipe Size	Dimensions in Inches						
	A	B	C	D	E	F	G
	Wafer Assembly Length	Visible Glass Length	Wafer Assembly Diameter	Bolt Size	No. of Bolts Required	Max I.D. ASME Flanges	ASME Flange Thickness
1-1/2	4-1/2	2-1/2	3-3/8	1/2-13 x 5	4	1-9/16	11/16
2	5	3	4-1/8	5/8-11 x 7-1/2	4	2-1/16	3/4
3	5-1/4	3-1/4	5-7/16	5/8-11 x 8	4	3-1/16	1-1/32
4	5-5/8	3-5/8	6-7/8	5/8-11 x 9	8	4-5/16	1-1/32
6	6-1/8	4-1/4	8-11/16	3/4-10 x 10	8	6-5/16	1-7/32
8	6-1/4	4-1/4	10-7/8	3/4-10 x 10	8	8-5/16	1-7/16

POLYVINYL CHLORIDE (PVC)

FOR HIGHLY CORROSIVE FLUIDS

Pressure Rating:

(1/2" through 2" NPT) 112 PSI @ 140°F

(3" NPT) 92 PSI @ 140°F

These sight glasses have a heavy duty borosilicate inner cylinder with a heavy duty outer cylinder of Acrylic surrounding and protecting it. This combination with Fluorocarbon seals offers excellent visibility and maximum chemical resistance.

Connecting bolts and nuts are stainless steel.

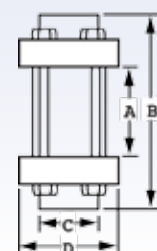


MODEL EFI GY

NPT Conn.	Dimensions in Inches			
	A	B	C	D
1/2	2-1/4	4-3/4	1-1/2	2-1/2
3/4	2-1/4	4-3/4	1-1/2	2-1/2
1	2-1/4	5-1/4	1-3/4	3
1-1/4	2-1/2	5-7/8	2-3/8	3-1/2
1-1/2	2-1/2	5-7/8	2-3/8	3-1/2
2	3-1/8	7-3/8	2-7/8	4
3	3-3/8	8-3/8	4-3/8	5-1/2

Polypropylene Ends Also Available

Pressure Rating 50 PSI @ 185°F



SIGHT FLOW INDICATORS & LIGHTING

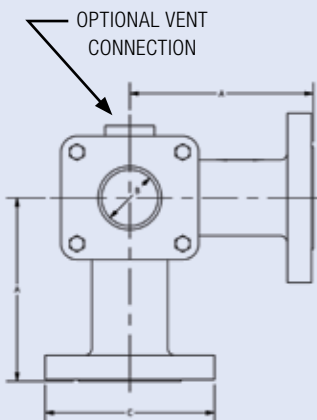
EFI – L90 / PLAIN OR DRIP TUBE

Pressure Rating: Class 150 ASME

BLACK TYPE: NEOPRENE SEAL GASKETS AS STANDARD



MODEL
EFI – L90 (Plain)
EFI – L90 D (Drip)



L90 sight flow indicators

- Same take out as long-radius elbow
- Save space and weight by reducing number of connections
- Available with or without drip indicator
- Drip tube used for low flow to move flow into view
- Vent connection: mount instrumentation or remove gas pockets
- Threaded and flanged vents available
- CRN – All Provinces
- API 614

Dimensions in Inches

Flange Size	A	B	C	Approx. Weight (lbs.)
1	5	1-1/4	4-1/4	12
1-1/2	6	2	5	19
2	6-1/2	2	6	32
3	7-3/4	3-3/16	7-1/2	65
4	9	4-3/8	10	79
6	11-1/2	6-3/4	11	155

EFI TANKLITE™



FEATURES:

- Rated for over 10 years of continuous duty... no need to turn on and off
- Consume less than one amp...so they stay cool enough to touch even when on for long periods of time
- Illuminate with cool light, keeping product from "baking on" the window or changing the process properties
- Require no maintenance: Need to clean it? Unclip and wash... no need to disconnect
- Install or retrofit in 2 minutes or less on any tank window 4" (100mm) or larger (for view thru) any sight flow indicator 1/2" and larger (for back lighting)

TANKLITE™ & FLOWLITE™ Ratings:

- Explosion-Proof Power Supply
 - Class I, Div. 1, Groups B, C, D T4
 - Class II, Div. 1, Groups E, F, G T4
- Intrinsically safe output (Shielded cable)
- NEMA 4X rating (Anodized Aluminum Housing, 316SS optional)



Additional FLOWLITE™ Ratings:

- ATEX
 - Power Supply II 2(2) G Ex d [ia] IIC T6
 - Light Source II 2 G Ex ia IIC T4



EFI TANKLITE™

Part Number: TL — 6L — 01 — 01 — 2C

RING SIZE

- 4 = 4" LIGHT
- 6 = 6" LIGHT

LIGHT HOUSING

- L = Anodized Aluminum (STD)
- S = Stainless Steel

POWER SUPPLY

- 01 = 120 VAC
- 02 = 240 VAC

TOTAL CORD LENGTH

- 01 = 8" / 2.5M (Standard)
- 02 = 24" / 7.5M
- 03 = 40" / 12.5M
- 04 = 56" / 17.5M
- 05 = 72" / 22.5M

BRACKET OPTION

- 1 = For retainer thickness over .500" to .875" (12.7mm to 22.2mm)
- 2 = For retainer thickness over .875" to 1.25" (22.2mm to 31.8mm)
- 9 = Special

BRACKET MATERIAL

- C = Plated Steel Bracket Set (Standard)
- S = All Stainless Steel Bracket Set

EFI FLOWLITE™

Part Number: FL — L — 01 — 01

MATERIAL CODE

- L = Aluminum Light Body
- S = Stainless Light Body

POWER SUPPLY

- 01 = 120 VAC
- 02 = 240 VAC

TOTAL CORD LENGTH

- 01 = 8" / 2.5M (Standard)
- 02 = 24" / 7.5M
- 03 = 40" / 12.5M
- 04 = 56" / 17.5M
- 05 = 72" / 22.5M

ACCESSORIES FOR SIGHT FLOW INDICATORS & SIGHT WINDOWS

VUE-GARD® SAFETY SHIELD™

FOR USE WITH EFI SIGHT FLOW INDICATORS OR SIGHT WINDOWS, AS WELL AS OTHER MANUFACTURER'S EQUIPMENT OR PIPE FLANGES.

Temperature Rating: up to 300°F

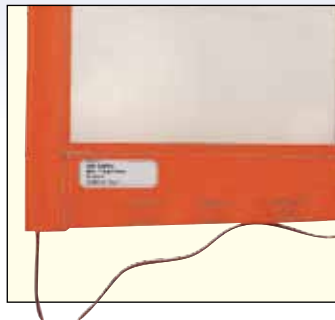
–Helps to provide for a safe work environment–

Features:

- Custom Manufactured
- Transparent... for easy view of indicator sight glass and pipe joints
- Durable, wrap around over-lap design prevents lateral sprayout of fluid
- Wide range of chemical resistance
- Can be used for both sight port and tubular glass indicators



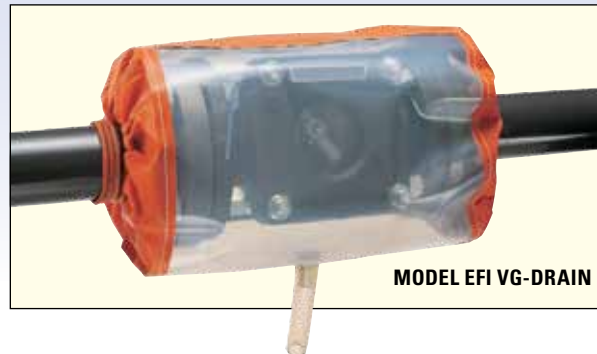
MODEL EFI VG



When ordering, specify:

- A. Sight Indicator Model
- B. Pipe Size
- C. Specific Service

SPECIAL TAGGING-
Shields can be marked with customer's stock numbers, installation's location, specific handling, or any other relevant information.



MODEL EFI VG-DRAIN



MODEL EFI VG-CAP



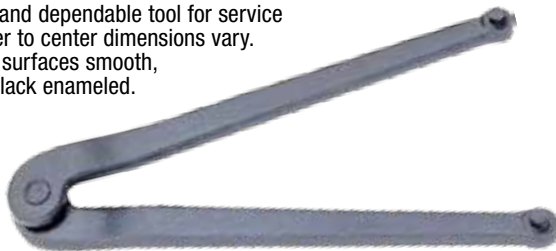
Contact Ernst Flow Industries for complete descriptive literature

ADJUSTABLE FACE SPANNER WRENCH

FOR REMOVING OR INSTALLING SIGHT FLOW RETAINER RINGS

For use with Models EFI 100-S, 200-S, 300-S, S5400

A desirable and dependable tool for service where center to center dimensions vary. Pins milled, surfaces smooth, hardened, black enameled.



Note: hand tighten only

Specify Size	Small	Medium	Large
Pin Size Diameter	1/8"	3/16"	1/4"
EFI S5400 Sizes	N/A	1" & 2"	3"
EFI 100-S, 200-S 300-S Sizes	1/8", 1/4", 3/8"	1/2", 3/4", 1"	1-1/4", 1-1/2", 2"

TOOL FOR REMOVING OR INSTALLING "SLOTTED" RETAINING RINGS

For use with torque wrench



MODEL EFI 57-SL

FIXED PIN SPANNER WRENCH

For use with torque wrench



MODEL EFI FPSW

Specify Size	-1	-2	-3
Pin Size Diameter	3/16"	3/16"	1/4"
EFI S5400 Sizes	1-1/4", 1-1/2", 2"	N/A	3"
EFI 100-S, 200-S, 300-S Sizes	1/2" & 3/4"	1"	1-1/4", 1-1/2", 2"

OIL LEVEL INDICATING PRODUCTS



**MODEL
EFI 527**



**MODEL
EFI 530**



**MODEL
EFI 524**



**MODEL
EFI 522**



**MODEL
EFI 526**

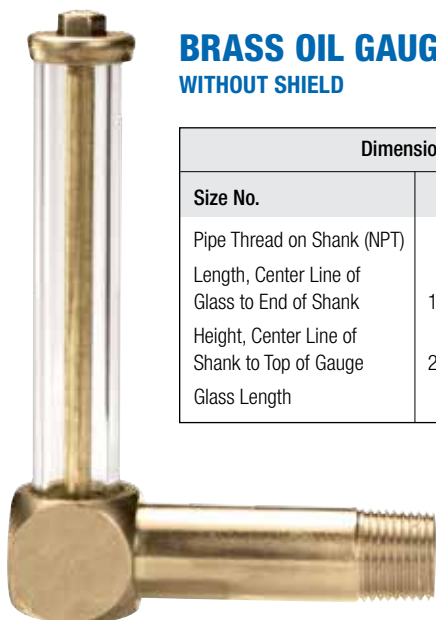
BRASS STANDARDIZED OIL GAUGES

Our oil gauges are made in standard sizes as indicated in table, but they can also be made in various combinations to meet special requirements. [Specify Model and Size No. when ordering.](#)

CAN BE FURNISHED UP TO 30" LONG

***Length applies to those gauges which have shanks, Models EFI 526 and 527. Height and Length are measured from center line of base to top of gauge and end of shank respectively.**

Dimensions in Inches						
Size No.	1	2	3	4	5	6
Pipe Thread on Shank (NPT)	1/8	1/4	1/4	1/4	3/8	1/2
*Length, Center Line of Glass to End of Shank	1-3/4	1-3/4	1-3/4	2-3/4	2-3/4	2-3/4
Height, Center Line of Shank to Top of Gauge	3-1/16	3-1/16	3-13/16	4-11/16	6-1/16	6-1/8
EFI 530 Only - Height	3-1/8	3-1/8	3-7/8	4-7/8	6-3/16	6-1/4
Glass Length (O.D. 5/8")	2-3/8	2-3/8	3-1/8	4-1/8	5-3/8	5-3/8



MODEL EFI 202

BRASS OIL GAUGES WITHOUT SHIELD

Dimensions in Inches				
Size No.	0	1	2	3
Pipe Thread on Shank (NPT)	1/8	1/4	3/8	1/2
Length, Center Line of Glass to End of Shank	1-5/8	1-3/4	2-1/2	4
Height, Center Line of Shank to Top of Gauge	2-1/2	3-1/8	3-3/4	4-7/8
Glass Length	2	2-1/2	3	4

SHIELDED OIL GAUGE WITH SHUT-OFF VALVE

CONSTRUCTION: BRASS

MALE PIPE THREAD -

Sizes 3/8", 1/2", and 3/4" NPT

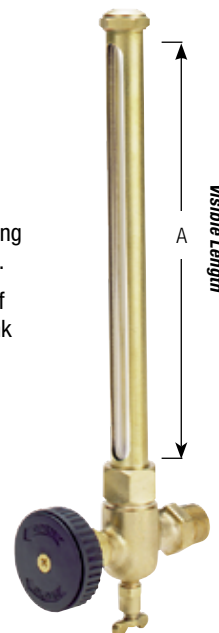
Glass can be drained, cleaned or replaced by closing shut valve. It is not necessary to drain tank or reservoir.

TYPICAL APPLICATIONS: Used to indicate level of lubricating oil supply at bearings, gear boxes, crank cases, transformers, switches, etc. Designed to operate at atmospheric pressure and a maximum temperature of 225°F.

PROTECTED VENT: Vent hole allows free air communication with atmosphere minimizing possibility of dust or dirt getting inside gauge.

When ordering, Specify "A" Dimension

CAN BE FURNISHED UP TO 30" LONG



MODEL EFI 5050A

HIGH-TYPE SHIELDED OIL GAUGES

CONSTRUCTION: STEEL/ZINC PLATED

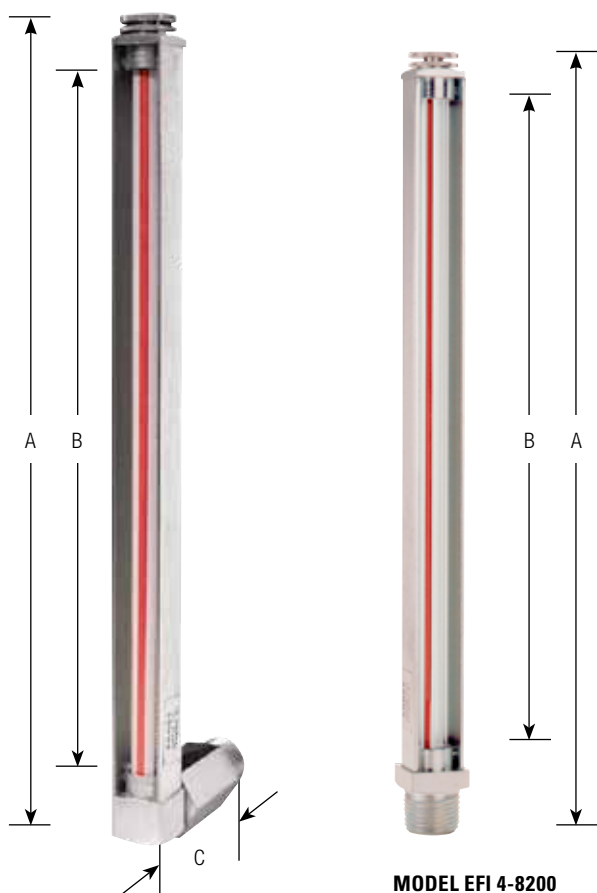
GASKETS: BUNA-N

Pressure Rating: Atmospheric @ 225°F

APPLICATIONS: Used to indicate level of lubricating oil supply at bearings, gear boxes, crank cases, transformers, switches, etc.

PROTECTED VENT: Vent hole in cap nut allows free air communication with atmosphere – minimizes possibility of dust or dirt getting inside gauge.

Furnished with Redline Gauge Glass



MODEL EFI 3-8200

MODEL EFI 4-8200

Dimensions in Inches			
NPT Conn.	A	B	C
1/4	6	4-3/8	1-13/16
3/8	6	4-3/8	1-7/8
1/2	6	4-3/8	2-1/2
1/4	7	5-3/8	1-13/16
3/8	7	5-3/8	1-7/8
1/2	7	5-3/8	2-1/2
1/4	9	7-3/8	1-13/16
3/8	9	7-3/8	1-7/8
1/2	9	7-3/8	2-1/2
1/4	11	9-3/8	1-13/16
3/8	11	9-3/8	1-7/8
1/2	11	9-3/8	2-1/2
1/4	14	12-3/8	1-13/16
3/8	14	12-3/8	1-7/8
1/2	14	12-3/8	2-1/2

Dimensions in Inches		
NPT Conn.	A	B
1/4	7-3/32	5-3/8
3/8	7-5/32	5-3/8
1/2	7-9/32	5-3/8
1/4	9-3/32	7-3/8
3/8	9-5/32	7-3/8
1/2	9-9/32	7-3/8
1/4	11-3/32	9-3/8
3/8	11-5/32	9-3/8
1/2	11-9/32	9-3/8
1/4	14-3/32	12-3/8
3/8	14-5/32	12-3/8
1/2	14-9/32	12-3/8

SNAP LEVER SIGHT FEED OILER

WITH SNAP FILLER OPENING

CONSTRUCTION: BRASS



Model EFI 33-A

To operate cup: Raise lever to stand perpendicular. Raise or lower the valve stem by turning the milled nut until the proper feed is obtained. To flush bearing move lever to an angle of 45°. Illustration shows cup with feed shut off.

Size No.	Dimensions in Inches			Capacity Ounces
	Outside Diameter of Glass	Height of Glass	Shank Pipe Thread (NPT)	
0	1-1/4	1-1/8	1/8	5/8
1	1-1/2	1-3/8	1/4	1
1-1/2	1-3/4	1-5/8	1/4	1-1/2
2	2	1-7/8	3/8	2-1/2
3	2-1/4	2-1/8	3/8	4
4	2-1/2	2-3/8	3/8	5
5	3	3	1/2	10
6	3-1/2	4	1/2	Pint
7	4-1/4	5	3/4	Quart



FLUSH MOUNTING SHIELDED GAUGE

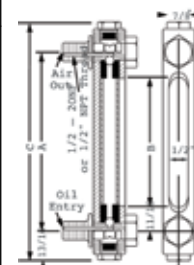
CONSTRUCTION: ALUMINUM, BRASS, STEEL, STAINLESS STEEL

For Operating Pressures up to 270 PSI and Maximum Temperature 150°F

Size 1/2" NPT or 1/2-20 UNF Thread

Furnished with Redline Gauge Glass for easy indication of liquid level

MODEL	Dimensions in Inches		
	A	B	C
EFI 80-G-607	3	1-1/2	4-5/8
EFI 81-G-607	4	2-1/2	5-5/8
EFI 82-G-607	5	3-1/2	6-5/8
EFI 83-G-607	6	4-1/2	7-5/8
EFI 84-G-607	7	5-1/2	8-5/8
EFI 85-G-607	8	6-1/2	9-5/8
EFI 86-G-607	9	7-1/2	10-5/8
EFI 87-G-607	10	8-1/2	11-5/8
EFI 88-G-607	11	9-1/2	12-5/8
EFI 89-G-607	12	10-1/2	13-5/8



FLUSH MOUNTING SHIELDED GAUGES

CONSTRUCTION: STEEL/ZINC PLATED

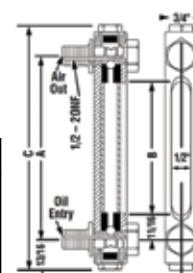
Available with Thermometer (EFI 740) or without (EFI 5-8200)

Pressure Rating: 125 PSI @ 225°F

Size: 1/2-20 UNF Thread (furnished with 3/8" or 1/2" NPT adaptors, when specified)

Furnished with Redline Gauge Glass and Buna-N O-rings

Dimensions in Inches			
Size No.	A	B	C
3	3	1-1/2	4
5	5	3-1/2	6
7	7	5-1/2	8
9	9	7-1/2	10
11	11	9-1/2	12



Specify Model and Size No. when ordering.



MODEL EFI 5-8200

MODEL EFI 740
With thermometer
0-250°F Range

SIGHT FLOW MONITORS (THREADED CONNECTION)

EFI INFLO FLOW RATE MONITORS

CONSTRUCTION: ALUMINUM, BRASS OR STAINLESS STEEL

Available in **BASIC (Style B or G) or HIGH TEMPERATURE (Style H or J)**

Pressure Rating: For Liquid.....3500 PSI (Aluminum or Brass)
6000 PSI (Stainless Steel)

For Air or Gas....600 PSI (Aluminum or Brass)
1000 PSI (Stainless Steel)

Temperature Rating: 240°F (BASIC Style)
400°F (HIGH TEMPERATURE Style)
600°F also available...contact Ernst Flow Industries

FEATURES:

- Unrestricted mounting...install the monitor in any orientation - horizontal, vertical or inverted
- Can be used with oil or opaque liquids
- Uses the variable annular orifice technique in tandem with a transfer magnet and compression spring. A sharp-edged Stainless Steel orifice provides excellent measurement stability for viscosities from 0-500 SSU*
- Has a measuring accuracy of $\pm 2.5\%$ of full scale in the center third of the measuring range, and a $\pm 4\%$ of full scale accuracy over the entire flow measuring range
- Weather-tight external construction (BASIC style only, when used with Buna-N window seals) for use outdoors and/or on systems where wash downs are required
- Will provide years of maintenance-free performance
- **Five year limited warranty**

Sizes:

- 1/4", 3/8", 1/2", 3/4", 1", 1-1/4", 1-1/2" or 2" NPTF
- #6, #8, #10, #12, #16, #20, #24 or #32 SAE

Flow Ranges:

- For Liquid.....**0.05 to 150 GPM (0.2 to 560 LPM)
- For Air or Gas...**1.5 to 1300 SCFM

* Flow monitors can be specially calibrated for viscosities from 500 to 2000 SSU upon request.

** Specific Range dependent on Size...contact Ernst Flow Industries



FLOW RATE CYLINDER TYPE

**CONSTRUCTION: BRASS, PVC,
STAINLESS STEEL**

Pressure Rating: 125 PSI

Temperature Rating: 125°F (Brass or PVC)
200°F (Stainless Steel)

In handling liquids where a continuous rate of flow is an operating aid and necessity, it is desirable to know at a glance the rate of flow in GALLONS PER MINUTE. With a clear borosilicate tube entirely around the body and an indicator just inside the tube for easy reading, the rate of flow is observable at all times. The flange of the float deflects the liquid against the wall of the tube and helps keep it clean and the indicator remains visible even in liquids of high sediment content. The small size of the flow rater permits minimum line spacing.

The unit must be mounted in a vertical position to insure accuracy

Accuracy is $\pm 5\%$ of maximum scale reading

All units are calibrated for water at 31.5 SSU.

Model	Dimensions in Inches		Gallons Per Min.
	NPT Conn.	Length	
EFI RA 404	1/2	4	1 - 4
EFI RA 412	1/2	4	3 - 12
EFI RA 608	3/4	4-1/2	2 - 8
EFI RA 620	3/4	4-1/2	5 - 20
EFI RA 812	1	5	3 - 12
EFI RA 840	1	5	10 - 40

MODEL EFI INFLO



High Temperature
(Brass Construction Shown)



Basic
(Brass Construction Shown)

TELEFLO / DIAL TYPE

CONSTRUCTION: BRONZE

Pressure Rating: 125 PSI at 200°F

For many liquids, particularly dark or opaque, the Teleflo indicator with its easy to read, vane-actuated dial, indicates the relative amount of liquid flowing through a pipeline. It can be installed in vertical or horizontal pipe lines, with flow in any one direction.

Requires at least 1/2 GPM minimum flow to ensure correct dial reading.

When the Teleflo is equipped with a microswitch and conduit connection, it can operate a bell, whistle or similar alarm. When used in relay, it can be used to shut off a pump motor should the liquid flow stop.



**MODEL EFI 816BC
WITH MICROSWITCH**
(shown with faceplate removed)

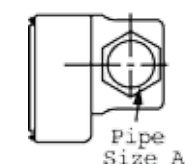
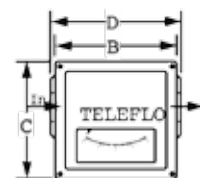
Suggested Operating Flow Rates for the Models EFI 815BC & EFI 816BC

NPT Conn.	Flow Rates
1/2 & 3/4	10 GPM
1	16 GPM
1-1/2	35 GPM
2	85 GPM

Dimensions in Inches				
NPT Conn.	Width of Case	Height of Case	Width Overall	Approx. Weight (lbs.)
A	B	C	D	
1/2	3-5/8	3-3/8	3-5/8	3
3/4	3-5/8	3-3/8	3-3/4	4-1/2
1	3-5/8	3-3/8	3-3/4	4-1/2
1-1/2	3-5/8	3-3/8	4-3/4	6-1/2
2	4-1/2	4-1/2	6-1/2	13



MODEL EFI 815BC
(Without Microswitch)

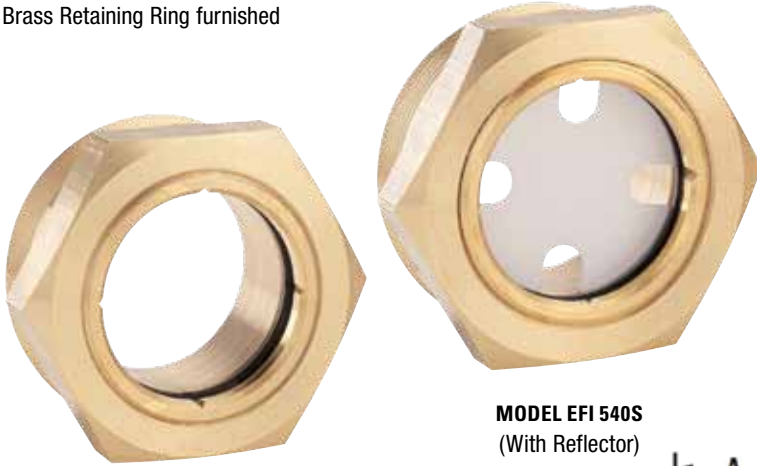


LOW PRESSURE

CONSTRUCTION: BRASS, CARBON STEEL, STAINLESS STEEL

FKM (VITON™) SEAL GASKETS AS STANDARD

Brass Retaining Ring furnished



MODEL EFI 540

NPT Conn.	Dimensions in Inches				Pressure Rating (PSI)	
	A	B	C	D	Brass	St. Steel / Carbon Steel
3/8	7/8	15/32	7/8	1/2	100	300
1/2	1	19/32	7/8	1/2	90	275
3/4	1-1/8	11/16	1	9/16	80	250
1	1-3/8	15/16	1-1/8	11/16	60	200
1-1/4	1-7/8	1-1/4	1-1/4	11/16	35	150
1-1/2	2-1/8	1-1/2	1-1/4	11/16	25	100
2	2-1/2	1-1/2	1-1/4	11/16	25	N/A

NOTES: 2" size not available in Carbon Steel or Stainless Steel.
Spanner wrench available...consult Ernst Flow Industries.



LOW PRESSURE

CONSTRUCTION: STEEL

Pressure Rating: 125 PSI @ 250°F



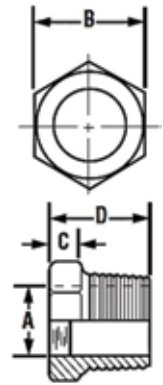
MODEL EFI 1260

MODEL EFI 1260BR
(With Ball and Reflector)

An aluminum ball is placed between the glass sight and the stainless steel reflector, which provides maximum visible observation of the liquid level.

NPT Conn.	Dimensions in Inches			
	A	B	C	D
1/4	11/32	5/8	3/16	5/8
3/8	7/16	3/4	7/32	23/32
1/2	9/16	15/16	7/32	25/32
3/4	3/4	1-1/16	5/16	15/16
1	15/16	1-3/8	5/16	1-1/16
1-1/4	1-3/16	1-3/4	13/32	1-7/32
1-1/2	1-7/16	2	13/32	1-7/32
2	1-7/8	2-1/2	13/32	1-9/32

NOTE: Clear glass is fused to steel.
*Not available in MODEL EFI 1260BR



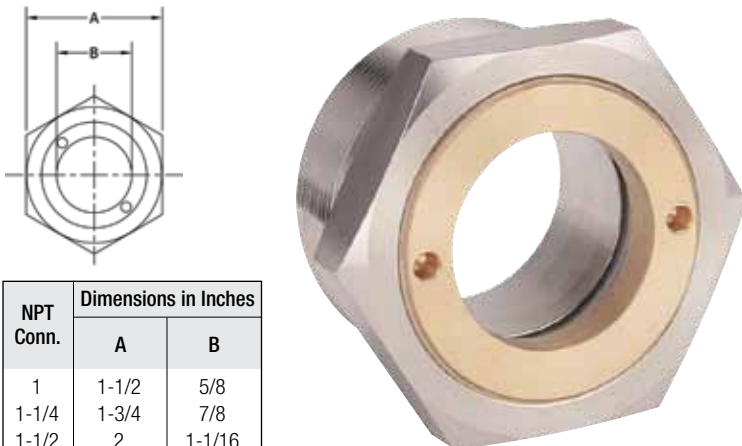
MEDIUM PRESSURE

CONSTRUCTION: CARBON STEEL, STAINLESS STEEL

NEOPRENE SEAL GASKET AS STANDARD

Pressure Rating: (1" through 2" NPT) 150 PSI
(3" NPT) 175 PSI
250 PSI with tempered glass

NOTE: Quartz available for high temperature applications...
consult with Ernst Flow Industries.



MODEL EFI S5400

Brass Retaining Ring furnished.
Stainless Steel Ring available.

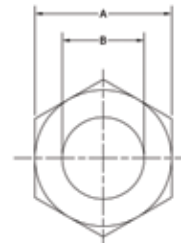
NPT Conn.	Dimensions in Inches	
	A	B
1	1-1/2	5/8
1-1/4	1-3/4	7/8
1-1/2	2	1-1/16
2	2-1/2	1-5/16
2-1/2	3	1-3/5
3	3-1/2	2-3/8

HIGH PRESSURE EFI SAFEPORT™ FUSED GLASS WINDOW

CONSTRUCTION: CARBON STEEL, STAINLESS STEEL, AND HC (UNS N10276/N06022/J30002)

Pressures up to 2000 PSIG.

- One piece construction
- No gaskets or seals
- Available with material test reports



NPT Conn.	Dimensions in Inches	
	A	B
1	1-3/8	3/4
1-1/4	1-3/4	15/16
1-1/2	2	1-1/8
2	2-1/2	1-1/2
3	3-5/8	2-1/8



MODEL EFI-HPSP

More Impact, Pressure, Stress and Shock Resistant
Excellent Temperature and Corrosion Resistance

SIGHT WINDOWS

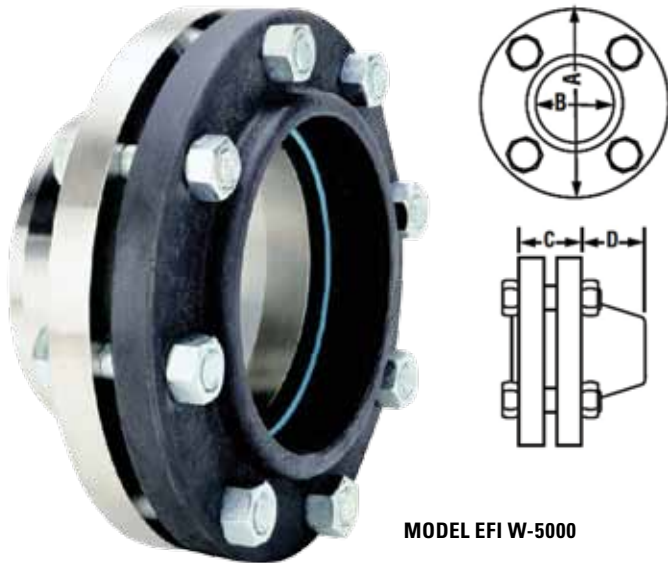
WELDING NECK

CONSTRUCTION: CARBON STEEL, STAINLESS STEEL

Pressure Rating: 150 PSI

These models have been designed for attachments to tanks, vessels, or large pipe lines and utilize standard welding neck flanges.

- CRN – All Provinces



Flanged Conn.	Dimensions in Inches				Approx. Weight (lbs.)
	A	B	C	D	
1	4-1/4	1-3/8	1-1/4	1-5/8	6
1-1/4	4-5/8	1-11/16	1-3/8	1-5/8	7
1-1/2	5	1-15/16	1-5/8	1-3/4	9
2	6	2-7/16	1-3/4	1-3/4	13
2-1/2	7	2-15/16	2-1/8	1-7/8	20
3	7-1/2	3-9/16	2-3/8	1-3/4	23
4	9	4-9/16	2-3/8	2	34
5	10	5-11/16	2-3/8	2-1/2	38
6	11	6-3/4	2-1/2	2-1/2	48

THREADED CONNECTION

CONSTRUCTION: BRONZE, IRON, CARBON STEEL, STAINLESS STEEL

Pressure Rating: 150 PSI

These models have been designed for threading onto male thread ends of pipe fittings.

- CRN – All Provinces

NPT Conn.	Dimensions in Inches			Approx. Weight (lbs.)
	A	B	C	
1	4-1/4	1-3/8	1-1/4	5
1-1/4	4-5/8	1-11/16	1-3/8	7
1-1/2	5	1-15/16	1-5/8	7
2	6	2-7/16	1-3/4	12
2-1/2	7	2-15/16	2-1/8	16
3	7-1/2	3-9/16	2-3/8	18
4	9	4-9/16	2-3/8	30
5	10	5-11/16	2-3/8	34
6	11	6-3/4	2-1/2	45

WELDING PAD SIGHT WINDOW FOR NON-CODE APPLICATIONS

CONSTRUCTION: CARBON STEEL, STAINLESS STEEL

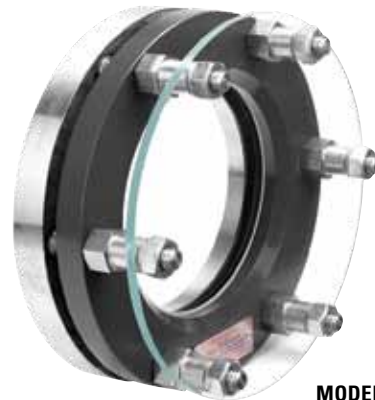
Pressure Rating: 150 PSI

These models have been welded directly to tank side or cover of tank.

- CRN – All Provinces

NOTE: Pressure Vessel Quality (5200-PVQ) ASME Code units available upon request... consult with Ernst Flow Industries.

Size No.	Dimensions in Inches			Approx. Weight (lbs.)
	A	B	C	
2	1-3/8	3-1/4	1-1/2	2
3	2-3/8	4-3/8	1-5/8	3-1/2
4	2-3/4	5-1/2	1-7/8	7
5	3-3/4	6-1/2	1-7/8	9
6	4-3/4	7-1/2	1-7/8	12
7	5-1/2	8-5/8	2-1/4	18
8	6-7/8	10-1/4	2-1/4	22



Optional Polycarbonate Shield

Available in sizes 4 through 8 only

Shield assembly consists of

- 1/4" thick Polycarbonate disc that covers the diameter of EFI 5200 housing
- Special bolting



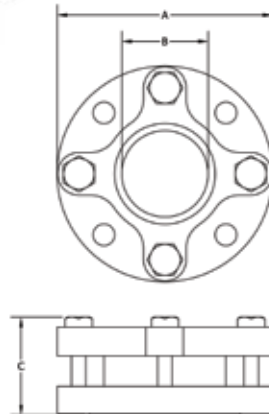
SECURITY SIGHT WINDOW

- Dual Windows
- Protection against stress concentration, thermal shock, corrosion, erosion, overpressure
- Bolt-on to ASME class 150 flanges (other pressure classes available)
- **Pressure Range: Full Vacuum (FV) to 150 psig**
- Steel and 316 SS
- Other materials available
- CRN – All Provinces



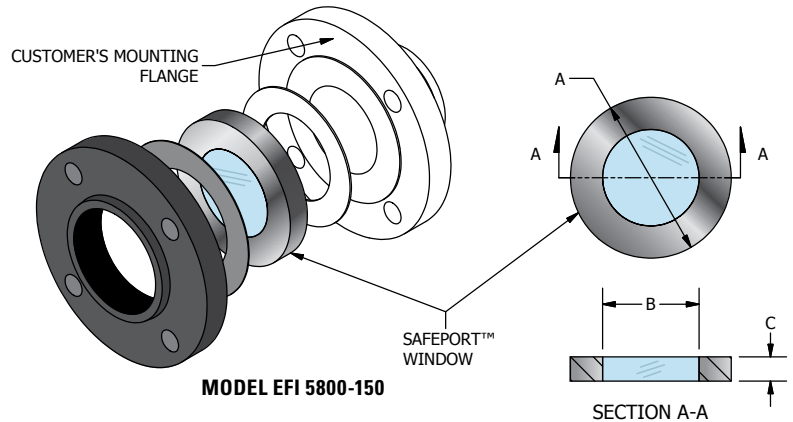
MODEL EFI 5005-DW

Flanged Conn.	Dimensions in Inches			Approx. Weight (lbs.)
	A	B	C	
2"	6	2	2-5/8	7
3"	7-1/2	3	3-1/16	13
4"	9	4	2-15/16	21
6"	11	6	3-9/16	30
8"	13-1/2	8	4-3/16	47
10"	16	10	5-3/4	75
12"	19	10	5-13/16	95



EFI SAFEPORT™ BOLT-ON SIGHT WINDOW

- Simple, two-piece, ASME rated units, SafePort™ window plus retaining flange
- Strongest, safest, most impact resistant
- Bolt-on to ASME Class 150 flanges (other pressure classes available)
- **Pressure Range: FV to 285 psig**
- Temperature: up to 600°F
- Available in Steel, Duplex, and Alloy C
- CRN – All Provinces



MODEL EFI 5800-150

Dimensions in Inches			
Class 150 Flanged Conn.	A	B	C
1"	2	1-1/8	3/8
1-1/2"	3	1-1/2	3/4
2"	3-5/8	2-1/8	3/4
2-1/2"	4-1/2	2-1/2	3/4
3"	5	3	3/4
4"	6	4	3/4
6"	8-3/8	6	3/4
8"	10-1/2	8	29/32
10"	12	6	29/32

HIGH PRESSURE VARI WINDOW

CONSTRUCTION: CARBON STEEL, STAINLESS STEEL

Pressure Rating: 1500 PSI at 200°F w/ Standard Buna-N Seal
1500 PSI at 300°F w/ Optional FKM Seal

- NPT Connection 1-1/2" or 2"
- Viewing Diameter 1-1/2"
- Glass: Molded Tempered Borosilicate
- O-Ring Pressure Seal Buna-N
- Cushion Gasket Fiber

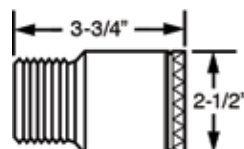


MODEL EFI HP-WINDOW

When ordering, specify connection size and construction



FROST FREE EXTENSION IS AVAILABLE



EFI GLO-BRITE™ LEVEL INDICATOR

CONSTRUCTION: HIGH IMPACT POLYCARBONATE

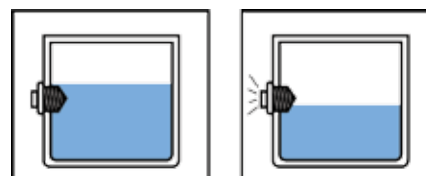
FOR TANKS, VESSELS, ETC.

Pressure Rating: 50 PSI at 150°F

- Size: 3/8" NPT (Where fittings are larger than 3/8" adapter bushings can be used.)
- No moving parts. Non-electric.
- For Water, Petroleum, Oils or Similar Mild Solutions Without Additives.
- For side-mounting.



MODEL EFI 738

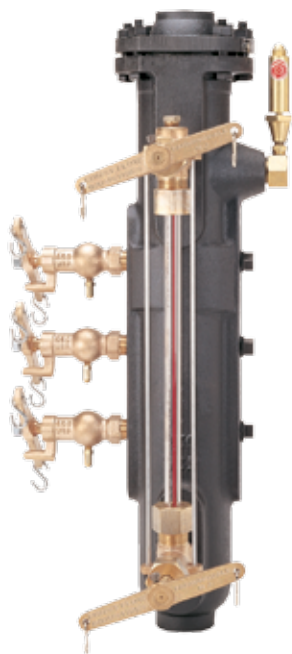


When liquid level is down, the lens glows as a bright signal.

WATER COLUMNS & REPLACEMENT PARTS

SAFETY BOILER WATER COLUMN - HIGH AND LOW ALARM

250 PSI Rated • 18" Gauge Centers • Steam and Water Connection 1-1/4" NPT



MODEL EFI 58-5-2

Shown with:

Model EFI 403RS Heavy Duty
Bronze Vertical Gauge (Page 6)

Model EFI GC451 Bronze Lever
Try Cocks (Page 43)



MODEL EFI 58-5

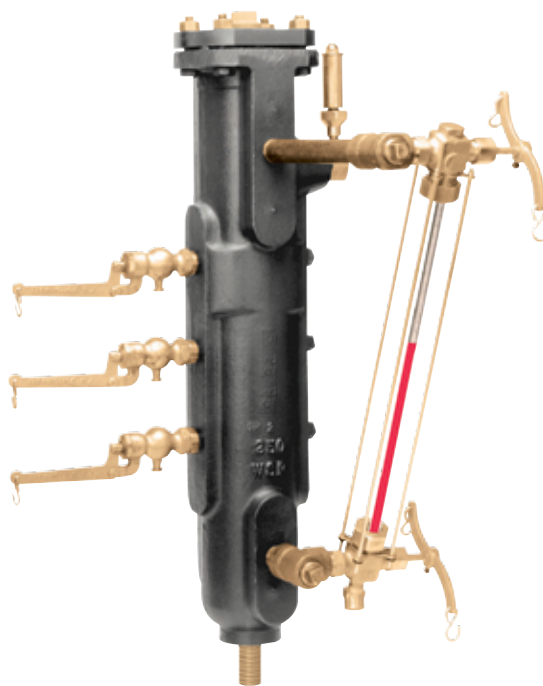
Shown with:

Model EFI 403RS Heavy Duty
Bronze Vertical Gauge (Page 6)

Model EFI 311E Bronze Weighted
Try Cocks (Page 43)

Model EFI 31-508 V-Shape
Acrylic Protector (Page 11)

Model EFI 79-H
Pull Handle (Shown Here)



MODEL EFI 58-6

Shown with:

Model EFI 34 Bronze
Inclined Gauge (Page 6)

Model EFI 507 Bronze Spring
Try Cocks (Page 43)

*Various Water
Column Trim can be
furnished...consult
with Ernst Flow
Industries.*

SAFETY BOILER WATER COLUMN REPLACEMENT PARTS



EFI F5M FLOAT
Type 304
Stainless Steel



EFI C5-3
Gasket
Corrugated Steel



EFI W5
Whistle 1/4" Brass
Also made 3/8" & 1/2"



EFI V5
Valve, 1" NPT



EFI C5R-4
Float Rod, Upper



EFI C5R-5
Float Rod, Lower



EFI 79-H
Pull Handle



EFI 79-C
Pull Chain
Copper Coated

FUSIBLE PLUGS

Inside Waterside - 250 PSI
Outside Fireside - 250 PSI

Size: Inside Waterside - 1" NPT

Outside Fireside - 1/2", 3/4" or 1" NPT

Fusible Plugs are installed between the fireside and the waterside of either the plate, flue or tube of the boiler and below the water level. Those installed from the waterside are called waterside or inside type fusible plugs; those installed from the fireside are called fireside or outside fusible plugs.

Ernst Flow Industries Fusible Plugs are manufactured to conform to ASME standards and meet U.S. Coast Guard requirements.

All Fusible Plugs are filled with pure tin having a melting point between 445° and 450°F.

WHEN ORDERING SPECIFY:

Inside Waterside or Outside Fireside.

Outside Fireside

Inside Waterside



MODEL
EFI 86



BRONZE LEVER TRY COCK

For Pressures up to 450 PSI

- No ball check

MODEL	Size of NPT Connection
EFI GC450	1/2"
EFI GC451	3/4"



BRONZE LEVER "SUPER" TRY COCK

For Pressures up to 450 PSI

- With safety ball check
- Lever can be adjusted to desired angle position

MODEL	Size of NPT Connection
EFI 14	1/2"
EFI 14	3/4"



BRONZE WEIGHTED TRY COCK

For Pressures up to 250 PSI

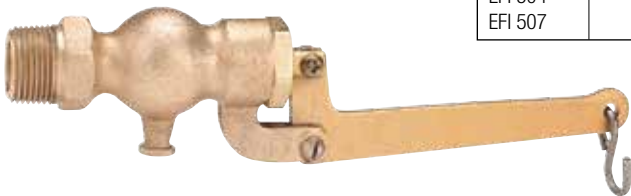
MODEL	Size of NPT Connection
EFI 310E	1/2"
EFI 311E	3/4"



BRONZE SPRING TRY COCK

For Pressures up to 250 PSI

MODEL	Size of NPT Connection
EFI 504	1/2"
EFI 507	3/4"



STAINLESS STEEL BODY AND SEAT LEVER TRY COCK

For Pressures up to 1500 PSI

With replaceable Stainless Steel seat

MODEL	Size of NPT Connection
EFI 301	1/2"
EFI 302	3/4"



BRONZE HAND WHEEL TRY COCK

For Pressures up to 175 PSI

1-1/4" Shank

MODEL	Size of NPT Connection
EFI 6156	1/2"



BRONZE HAND WHEEL TRY COCK

For Pressures up to 250 PSI

MODEL	Size of NPT Connection
EFI 250	3/8" or 1/2"
EFI 250	3/4"



BRONZE HAND WHEEL TRY COCK

For Pressures up to 300 PSI

With replaceable PTFE seat

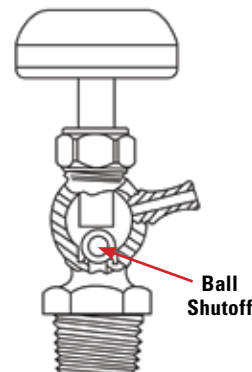
MODEL	Size of NPT Connection
EFI 60T	1/2"
EFI 61T	3/4"



BRONZE HAND WHEEL TRY COCK WITH STAINLESS STEEL BALL

For Pressures up to 250 PSI

MODEL	Size of NPT Connection
EFI 26-314	1/2"
EFI 26-317	3/4"



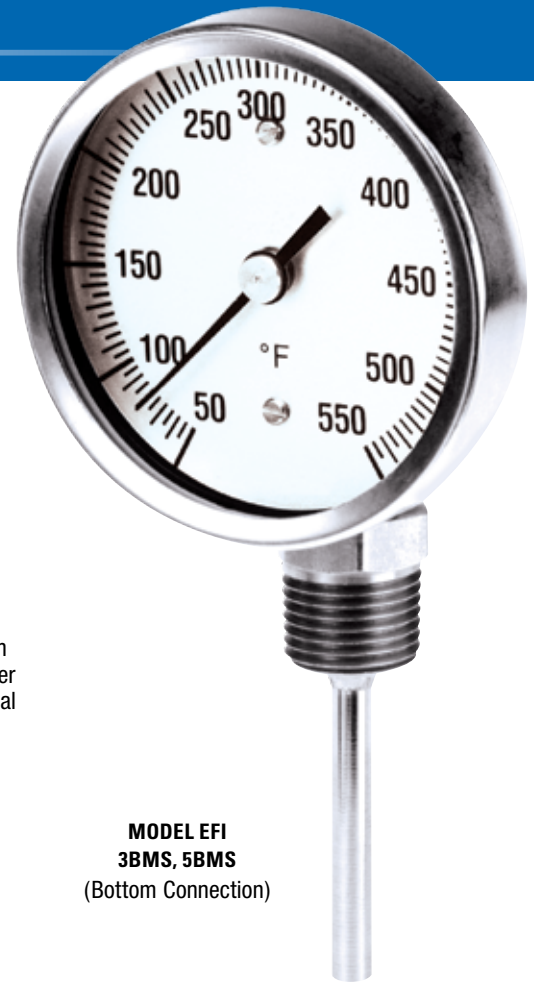
THERMOMETERS

BI-METAL DIAL TYPE

MODEL 3BM, 3BMS, 3VBM - 3" DIAL

MODEL 5BM, 5BMS, 5VBM - 5" DIAL

- **STAINLESS STEEL CASE:** The entire case assembly is of type 300 series stainless steel. Glass face gasketed within case and bezel assembly to insure a hermetic seal.
- **STEM ASSEMBLY:** Stem and fixed thread connection fabricated of type 304 stainless steel. Welded construction insures complete corrosion resistance. The stem diameter is 1/4", the fixed thread fitting is 1/2" NPT. Stem lengths also available up to 36"
...consult Ernst Flow Industries.
- **BI-METALLIC ELEMENT:** The sensitive, precision formed bi-metallic element is accurately calibrated to meet certified temperature standards. This helix assembly is silicone damped against vibration. The silicone fluid increases the speed of response due to more rapid heat transfer from stem to bi-metallic element.
- **DIAL:** The BM, BMS and VBM series have a dial of anodized aluminum, with satin matte background and black numerals and graduation lines. Minimum parallax.
- **ACCURACY:** Accurate within 1% of scale range.
- **SEPARABLE SOCKETS:** Separable sockets are available in all materials for direct attachment to the thermometers. Separable sockets should be used on all pressurized applications, to protect the stem of the thermometer from corrosion and physical damage, and to facilitate removal of the thermometer without disturbing the process. Type 304 or 316 Stainless Steel available. 3/4" NPT standard external thread. 1/2" or 1" NPT available.
- **ADJUSTABLE ANGLE TYPE:** Available in the 3VBM and 5VBM models.
- **RECALIBRATOR ADJUSTMENT:** All models equipped with reset screw.



**MODEL EFI
3BMS, 5BMS
(Bottom Connection)**



**MODEL EFI 3BM, 5BM
(Back Connection)**



**MODEL EFI 3VBM, 5VBM
(Adjustable Angle)**

3" Dial Bottom Conn. Model EFI	5" Dial Bottom Conn. Model EFI	3" Dial Back Conn. Model EFI	5" Dial Back Conn. Model EFI	Stem Length (Including Thread)
3BMS2-1/2	5BMS2-1/2	3BM2-1/2	5BM2-1/2	2-1/2"
3BMS4	5BMS4	3BM4	5BM4	4"
3BMS6	5BMS6	3BM6	5BM6	6"
3BMS9	5BMS9	3BM9	5BM9	9"
3BMS12	5BMS12	3BM12	5BM12	12"

Standard Temperature Ranges					
Fahrenheit Range	Scale Divisions	Fahrenheit Range	Scale Divisions	Centigrade Range	Scale Divisions
-100 to 100°	2°	-50 to 300°	2°	-50 to 100°C	2°
-80 to 120°	2°	50 to 300°	2°	-50 to 50°C	1°
-40 to 160°	2°	50 to 400°	5°	-40 to 70°C	1°
-20 to 120°	2°	50 to 500°	5°	-40 to 160°C	2°
* 0 to 100°	1°	50 to 550°	5°	-20 to 120°C	2°
* 25 to 125°	1°	100 to 800°	10°	-10 to 110°C	1°
0 to 150°	1°	150 to 750°	10°	* 0 to 50°C	1/2°
0 to 200°	2°	200 to 1000°	10°	0 to 100°C	1°
0 to 220°	2°			0 to 150°C	1°
0 to 250°	2°			0 to 200°C	2°
20 to 240°	2°			0 to 300°C	5°
				0 to 400°C	5°
				100 to 500°C	5°

WARNING: All bi-metal thermometers should be selected considering media and operating conditions. Improper application can be detrimental to the thermometer causing failure and possible personal injury, or property damage.

AIM-N-READ INFRARED THERMOMETER

The Model EFI ANR Aim-N-Read thermometer is a non-contact infrared thermometer, with real real-time maximum data. Applicable for almost any temperature measurement, including hot/chilled water pipe lines, HVAC balancing, motor temperatures and air conditioning.

FEATURES:

- Easy to use
- Pistol Grip Design
- Laser Pointer
- Measures both degrees Fahrenheit or Centigrade (-58°/752°F or -50°/400°C)
- Back Light LCD Display
- 9:1 Ratio
- $\pm 2^\circ$ Accuracy
- Auto Off

Temperature Range	-58° to 752°F (-50° to 400°C)
Operating Range	32° to 122°F (0° to 50°C)
Dimensions	6-29/32" x 1-17/32" x 2-27/32"
Weight	6.3 oz. (including batteries)
Response Time	1 second (auto shut-off if left idle more than 15 seconds)
Class II Laser	



WARNING: Use extreme caution when operating a laser device.



MODEL EFI ANR

SPRING-HELD OR MAGNETIC PIPE SURFACE TYPE

Spring Held Temperature Ranges:

-50° to 250°F 70° to 370°F 70° to 500°F

Magnetic Temperature Ranges:

0° to 250°F 50° to 750°F



MODEL EFI 486

- Simplicity in both installation and use.
- Not necessary to open joints to install.
- Spring-Kit type gives snug-fit on 1/2" to 6" O.D. pipe or tubing.
- Dial Diameter 2".
- Accuracy is within 2% of full scale.

Note: When ordering specify the type (Spring-Held or Magnetic) and temperature range.

ADJUSTABLE ANGLE TYPE

- **CASE:** V-shape design with parts molded of Valox® polyester, in black textured finish. Heavy glass protected front firmly secured against rattles by spring action.
- **STEM:** For 3-1/2" stems only and ranges up to and including 300°F, the stem material is a precision die cast Zamac alloy. For ranges above 300°F, bulb chamber is a precision machined aluminum alloy with copper plated steel stem extension.
- **LOCKING DEVICE:** Adjustable case locknut and angle adjusting screw work independently to provide a full 360° positioning of thermometer case and stem.
- **ADJUSTABLE JOINT:** Valox® finished to match case. Completely encloses capillary to prevent tampering and foreign matter from entering instrument.
- **TUBE & CAPILLARY:** Blue Spirit (non-mercury) filled magnifying tube. Precision made to guarantee accuracy within 1% of scale range. Silicone shock mounted for lasting durability.
- **SCALE:** White coated aluminum with permanently baked bold black markings...locked in place and adjusted through device at top of scale. There are no mounting screws to cover up scale markings.



Our Adjustable Angle feature provides a quick setting of the case angle and can be adjusted incrementally from a fixed point.

Stem Length	Union Connection	
	7" Case Model EFI	9" Case Model EFI
3-1/2"	7VU3-1/2	9VU3-1/2
6"	7VU6	9VU6
9"	7VU9	9VU9
12"	7VU12	9VU12

Fahrenheit Temperature Ratings			Centigrade Temperature Ratings
-40 to 110°	0 to 160°	50 to 400°	-20-0-45°C
0 to 120°	30 to 180°	50 to 550°	0-50°C
	30 to 240°	50 to 750°	0-100°C
	30 to 300°		0-160°C
			0-200°C
			0-300°C

Note: Separable Socket on request. Separable Sockets should be used on all pressurized applications, to protect the stem of the thermometer from corrosion and physical damage, and to facilitate removal of the thermometer without disturbing the process. 3/4" NPT standard external thread, 1" NPT available. Brass standard, 316 Stainless Steel available.

BRASS AIR COCKS

AIR COCKS ARE FOR AIR SERVICE TO 100 PSI AT MODERATE TEMPERATURES.

AIR COCKS INDIVIDUALLY TESTED FOR HIGHER PRESSURES ARE AVAILABLE...CONSULT ERNST FLOW INDUSTRIES.

TEE HANDLE PLAIN

MODEL	NPT Connection
EFI 6	1/8"
EFI 7	1/4"
EFI 8*	3/8"

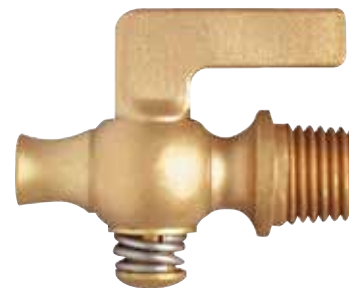
**These sizes have Hexagon Shoulders, others are as illustrated.*



LEVER HANDLE PLAIN

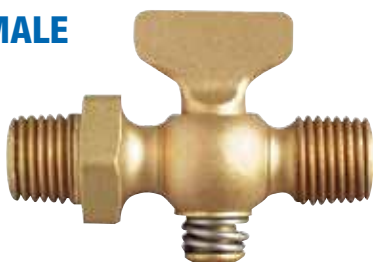
MODEL	NPT Connection
EFI 12	1/8"
EFI 13	1/4"
EFI 14*	3/8"
EFI 15*	1/2"

**These sizes have Hexagon Shoulders, others are as illustrated.*



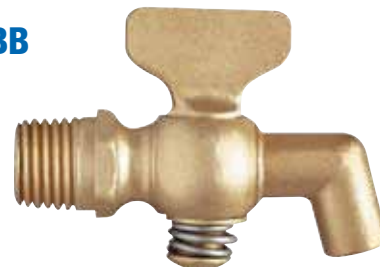
TEE HANDLE DOUBLE MALE HEXAGON SHOULDER

MODEL	NPT Connection
EFI 18	1/8"
EFI 19	1/4"
EFI 20	3/8"
EFI 21	1/2"



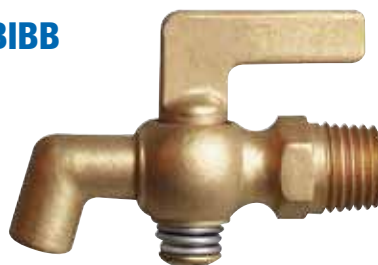
TEE HANDLE WITH BIBB HEXAGON SHOULDER

MODEL	NPT Connection
EFI 26	1/8"
EFI 27	1/4"



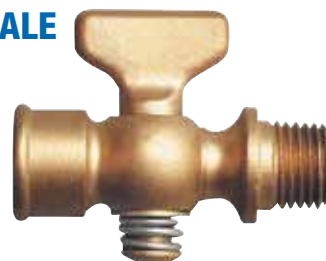
LEVER HANDLE WITH BIBB HEXAGON SHOULDER

MODEL	NPT Connection
EFI 29	1/8"
EFI 30	1/4"



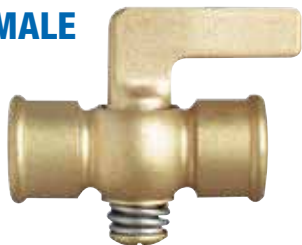
TEE HANDLE MALE & FEMALE

MODEL	NPT Connection
EFI 40	1/8"
EFI 41	1/4"
EFI 42	3/8"
EFI 42A	1/2"



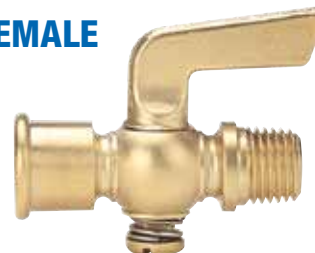
LEVER HANDLE DOUBLE FEMALE

MODEL	NPT Connection
EFI 44	1/4"
EFI 45	3/8"



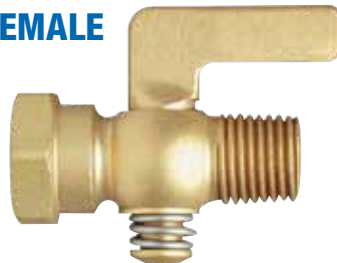
LEVER HANDLE MALE & FEMALE

MODEL	NPT Connection
EFI 47	1/4"
EFI 48	3/8"



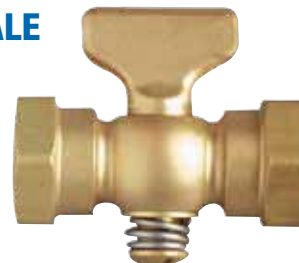
LEVER HANDLE MALE & FEMALE HEXAGON SHOULDER

MODEL	NPT Connection
EFI 52	1/8"
EFI 53	1/4"
EFI 54	3/8"
EFI 54A	1/2"



TEE HANDLE DOUBLE FEMALE HEXAGON SHOULDER

MODEL	NPT Connection
EFI 55	1/8"
EFI 56	1/4"
EFI 57A	1/2"



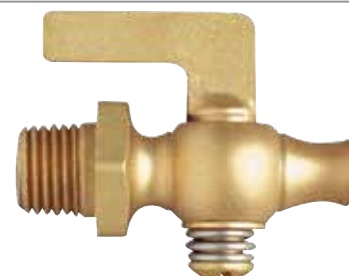
LEVER HANDLE DOUBLE FEMALE HEXAGON SHOULDER

MODEL	NPT Connection
EFI 59	1/4"
EFI 60	3/8"



LEVER HANDLE HEXAGON SHOULDER

MODEL	NPT Connection
EFI 63L	1/8"
EFI 64L	1/4"



BRASS AIR COCKS & SHUT-OFF VALVES

TEE HANDLE HEXAGON SHOULDER

MODEL	NPT Connection
EFI 63T	1/8"
EFI 64T	1/4"



LEVER HANDLE FEMALE

WITH MALE UNION

Conn. Size: 1/4" NPT



TEE HANDLE FEMALE

WITH MALE UNION

Conn. Size: 1/4" NPT



MODEL EFI 81T

PET COCK

CONSTRUCTION: STAINLESS STEEL

Pressure Rating: 150 PSI

Sizes: 1/8", 1/4", 3/8", 1/2" NPT



MODEL EFI 1508



MODEL EFI 129
BRASS



MODEL EFI 130
STAINLESS STEEL

THROTTLER FOR REDUCING PULSATION

CONSTRUCTION: BRASS,
TYPE 303 STAINLESS STEEL

Pressure Rating: 600 PSI (Brass)
2000 PSI (Stainless Steel)

NPT Connection: 1/4" male inlet and
1/4" female outlet

The throttler employs the variable restricted orifice principle—the entrance for pressure can be made larger if the pressure medium is of high viscosity or smaller when the pressure is high and the frequency of pulsation great. Adjustment of the variable orifice is accomplished by means of an eccentric which is activated by a thumb screw. A locknut protects the adjustment from vibration or inadvertent change.

BALL VALVE

CONSTRUCTION: BRONZE
OR STAINLESS STEEL

BRONZE FEATURES:

- Chromium plated ball
- Reinforced PTFE seats and stuffing box ring
- Blow-out-proof stem design
- Meets WW-V-35C Type: II

Composition: BZ Style: 3

STAINLESS STEEL FEATURES:

- Investment cast components
- Reinforced PTFE seats and stuffing box ring
- Stainless Steel lever and nut
- Meets NACE-MR-01-75
- Meets WV-V-35C Type: II

Composition: SS Style: 3

STANDARD VALVE RATINGS:

- BRONZE VALVES
600 PSI WOG, Cold, Non-Shock
- 316 STAINLESS STEEL VALVES
2,000 PSI WOG, 1/4" thru 1"
1,500 PSI WOG, 1-1/4" thru 2"
Cold, Non-Shock
- All standard valves rated for 150 PSI saturated steam on-off service
- Vacuum service to 29 inches mercury
- All valves tested to MSS-SP-72, 100 PSI air under water, in the opened and closed position



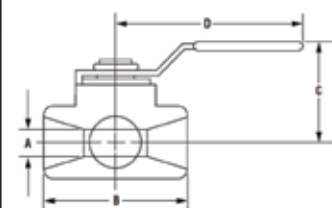
MODEL EFI 70
BRONZE



MODEL EFI 76
STAINLESS STEEL

NPT Conn.	Dimensions in Inches			
	A	B	C	D
1/4	.37	2.06	1.75	3.87
3/8	.37	2.06	1.75	3.87
1/2	.50	2.25	*1.75	3.87
3/4	.68	3.00	2.12	4.87
1	.87	3.37	2.25	4.87
1-1/4	1.00	4.00	2.62	5.50
1-1/2	1.25	4.37	3.05	8.00
2	1.50	*4.68	3.24	8.00

*B = 5.50, C = 1.81 in Stainless Steel



NEEDLE VALVE

CONSTRUCTION: CARBON STEEL
OR 316 STAINLESS STEEL

FEATURES:

- 10,000 PSI - cold non-shock
- Reinforced PTFE Packing
- Steel Valves are Nickel Plated
- Barstock Design
- 3/4" and 1" have Tee Handles
- 250 PSI Saturated Steam

Sizes: 1/4", 3/8", 1/2", 3/4" or 1" NPT



MODEL EFI 1900

STOP COCK

CONSTRUCTION: STAINLESS STEEL

Pressure Rating: 150 PSI

Sizes: 1/8", 1/4", 3/8" NPT

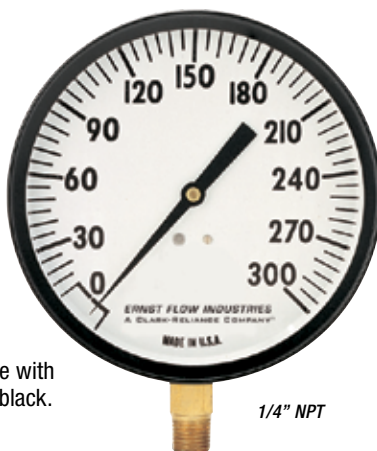


MODEL EFI 1506

PRESSURE GAUGES (PRESSURE — VACUUM — COMPOUND)

UTILITY GAUGES: SERIES TL

- **APPLICATION:** This gauge is intended for general service conditions. For pressure or vacuum service on air, oil, water, gas or other mediums that do not attack brass. For steam service, gauges should be protected from excessive temperature by installation of a syphon.
- **CASE AND RING:** Drawn steel case with friction fitted steel ring finished in black.
- **BOURDON TUBE ASSEMBLY:** Bronze, soldered to socket and tip.
- **DIAL:** White coated metal. Lithographed with black graduation lines and numerals, dial mounted on socket, independent of case.
- **SOCKET:** Brass bar stock 9/16" square wrench surface. 1/4" NPT Male lower or back connection.
- **ACCURACY:** 2% of the middle third of the entire range. ASME B40.1 Grade B.
- **MOVEMENT:** All brass construction, precision gear and pinion. Mounted on socket independent of case.
- **POINTER:** Balanced design, aluminum in black finish.



1/4" NPT

PRESSURE - PSI		
Range	Graduations	Figure Interval
0-15	0.5	1
0-30	0.5	5
0-60	1	5
0-100	2	10
0-160	5	20
0-200	5	20
0-300	5	30
0-400	10	50
0-600	10	50

COMPOUND - In. Hg. Vac./ PSI		
Range	Graduations	Figure Interval
30"-0-15	1"Hg-0.5 PSI	5"Hg-3 PSI
30"-0-30	1"Hg-1 PSI	10"Hg-5 PSI
30"-0-60	2"Hg-1 PSI	10"Hg-10 PSI
30"-0-100	5"Hg-2 PSI	15"Hg-10 PSI
30"-0-150	5"Hg-2 PSI	30"Hg-20 PSI

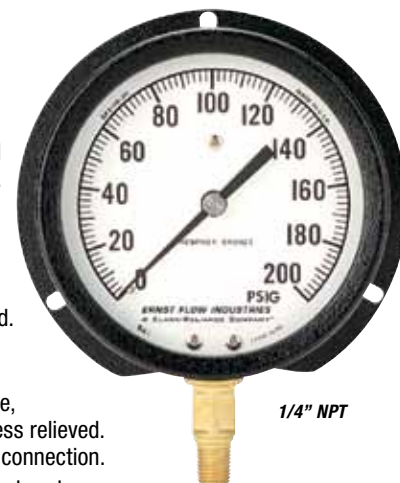
VACUUM - In. Hg. Vac.		
Range	Graduations	Figure Interval
30"-0	0.5" Hg	5" Hg

WHEN ORDERING: SPECIFY MODEL AND DIAL SIZE			
Dial Sizes	Pressure Model EFI	Vacuum Model EFI	Compound Model EFI
2"	TL20P	TL20V	TL20VP
2-1/2"	TL25P	TL25V	TL25VP
3-1/2"	TL35P	TL35V	TL35VP
4-1/2"	TL45P	TL45V	TL45VP

Note: 4-1/2" Dial Size available in lower connection only

DELUXE GAUGES: SERIES PG

- **APPLICATION:** For Pressure measurement of all fluids and gases non-corrosive to brass. Steam service gauges should be protected from excessive temperature by installation of a syphon.
- **ACCURACY:** $\pm 1\%$ middle third. ASME B40.1 - Grade A
- **BOURDON TUBE & SOCKET:** Phosphor bronze bourdon tube, brass socket. Brazed and stress relieved. 1/4" NPT Male lower or back connection.
- **MOVEMENT:** Bronze bushed rotary type.
- **POINTER:** Slotted micro-adjustable.
- **DIAL:** Aluminum with white back ground and black graduation lines and numerals.
- **CASE:** Aluminum* with black textured enamel finish, black finished aluminum bayonet lock ring.



1/4" NPT

*3-1/2" dial size furnished with aluminum case.

PRESSURE - PSI		
Range	Graduations	Figure Interval
0-15	0.25	1
0-30	0.50	5
0-60	1	10
0-100	1	10
0-160	2	20
0-200	2	20
0-300	5	50
0-400	5	50
0-600	10	100
0-1,000	10	100

COMPOUND - In. Hg. Vac./ PSI		
Range	Graduations	Figure Interval
30"-0-15	1"Hg-0.5 PSI	5"Hg-3 PSI
30"-0-30	1"Hg-1 PSI	10"Hg-5 PSI
30"-0-60	1"Hg-1 PSI	10"Hg-10 PSI
30"-0-100	5"Hg-1 PSI	15"Hg-10 PSI
30"-0-150	5"Hg-5 PSI	30"Hg-25 PSI
30"-0-200	5"Hg-5 PSI	30"Hg-20 PSI
30"-0-300	5"Hg-5 PSI	30"Hg-50 PSI
30"-0-400	5"Hg-5 PSI	30"Hg-50 PSI
30"-0-600	5"Hg-10 PSI	30"Hg-100 PSI

VACUUM - In. Hg. Vac.		
Range	Graduations	Figure Interval
30"-0	0.5" Hg	5" Hg

WHEN ORDERING: SPECIFY MODEL AND DIAL SIZE			
Dial Sizes	Pressure Model EFI	Vacuum Model EFI	Compound Model EFI
3-1/2"	PR 3-1/2	VR 3-1/2	CR 3-1/2
4-1/2"	PR 4-1/2	VR 4-1/2	CR 4-1/2
6"	PR 6	VR 6	CR 6
8-1/2"	PR 8-1/2	VR 8-1/2	CR 8-1/2

STEAM GAUGE SYPHONS

CAN BE USED WITH ALL PRESSURE GAUGES

Brass - 1/4", 1/2" NPT
Steel - 1/4", 1/2" NPT
Stainless Steel - 1/4", 1/2" NPT
Schedule 40 standard
(Schedule 80 available)



STRAIGHT TYPE



ANGLE TYPE



PYREX® ANNULAR EDGE REPLACEMENT GLASS

MANUFACTURED FROM BOROFLOAT® BOROSILICATE GLASS

Low Pressure 400°F, High Pressure 500°F

- For ovens, kettles, furnaces, stills, pressure vessels, chemical tanks, etc.
- Outstanding thermal resistance
- High chemical durability
- Excellent mechanical strength
- Supplied with 1/2" sandblasted sealing surface
- Thickness for all sizes is 3/4"

Low Pressure		High Pressure		Diameter (inches)
MODEL EFI	Pressure Rating PSIG	MODEL EFI	Pressure Rating PSIG	
AE695620	150	AE695621	450	4
AE695610	100	AE695611	300	5
AE692540	60	AE692541	180	6
AE694790	45	AE694791	135	6-3/4
AE694800	30	AE694801	90	8-3/8

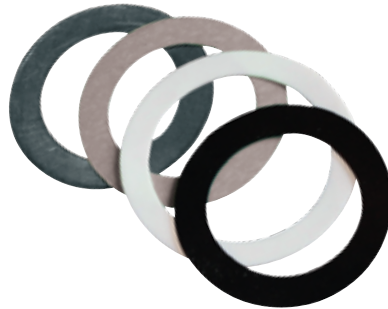
SPECIAL FLAT GASKETS

Made in any Inside or Outside Diameter.

Thickness: 1/32", 1/16" or 1/8"

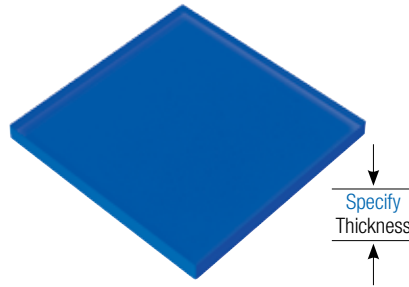
FIBER	CORK
GRAPHITE	NEOPRENE
FKM (Viton™)	GYLON®
PTFE	PTFE ENVELOPE

When ordering specify Inside Diameter, Outside Diameter and Thickness



BLUE BOROSILICATE GLASS

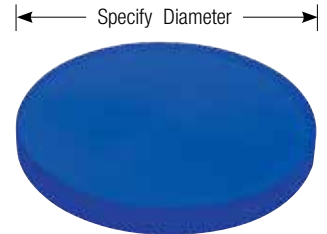
CIRCLES, SQUARES OR RECTANGLES



MODEL EFI S-2130 BLUE
Specify Length, Width and Thickness

For Furnace observation

- Temperature Rating: 400°F
- Specify Required Size
- Thickness: 1/8", 3/16", 7/32" (furnished for 1/4")



MODEL EFI C-2140 BLUE

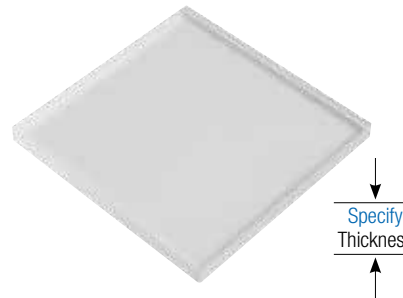
CLEAR BOROSILICATE GLASS

CIRCLES, SQUARES OR RECTANGLES

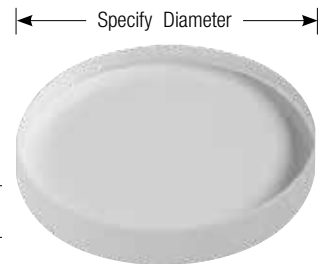
Annealed 450°F, Tempered 500°F

- Specify Required Size
- Thickness: 1/8", 3/16", 1/4", 3/8", 1/2", 5/8", 3/4", 1", 1-1/4"

NOTE: 1/8" or 3/16" thickness not available in Tempered.



MODEL EFI S-2130
Specify Length, Width, Thickness



MODEL EFI C-2140

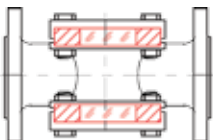
ANNEALED OR TEMPERED
QUARTZ AVAILABLE
FOR HIGHER TEMPERATURE APPLICATIONS

EFI SAFEPORT™

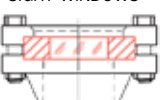
For the Highest Degree of Sight Window Safety

TYPICAL SAFEPORT APPLICATIONS

SLIGHT FLOW WINDOWS



SIGHT WINDOWS



MODEL EFI-SP

For use with: Sight Windows, Sight Flow Indicators, Hygienic Clamp Connections—Many other applications

ADVANTAGES:

- NO SHUTDOWNS
- NO REPLACEMENT PARTS
- NO PRODUCT LOSS
- NO MAINTENANCE

FEATURES:

- Glass Fused to Metal
- Can withstand temperatures up to 600°F
- Available in Steel, Duplex, HC, and Alloy C
- Reliability against failure due to mechanically pre-stressed glass
- Resistant to impact, pressure thermal and mechanical stresses; resistant to over torquing and unaffected by chips and scratches
- Provides for long and continuous service
- Reusable: Can be reused after removal from service
- Contributes to a safe work area
- Hygienic clamp connection available according to ASME BPE



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