

Power Unit Accessories

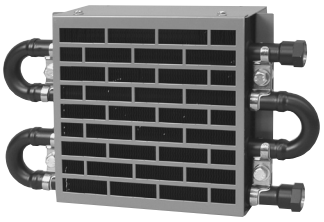
HYDRAULIC POWER UNITS

ACCESSORIES

CONTINENTAL HYDRAULICS

Power Unit Accessories

Features













Continental Hydraulics offers a wide range of accessories that can be either mounted on the power unit, or purchased seperately. Everything from filters and gauges to gear pumps and electric motors can be found in the Accessories Catalog.

A wide selection of heat exchangers and temperature monitoring devices can be selected to remove excess heat from power units and extend the life of most hydraulic components.

Filters, strainers and magnets help reduce the amount of comtamination in the system reducing the wear and tear on pumps and valves.

In-line accessories such as relief valves, ball valves and check valves help finish any plumbing needs required for your system.

A full description and dimensional information can be found for each component as well as flow curves, technical data and part numbers on its given page. If additional information is needed, please call Continental Hydraulics.

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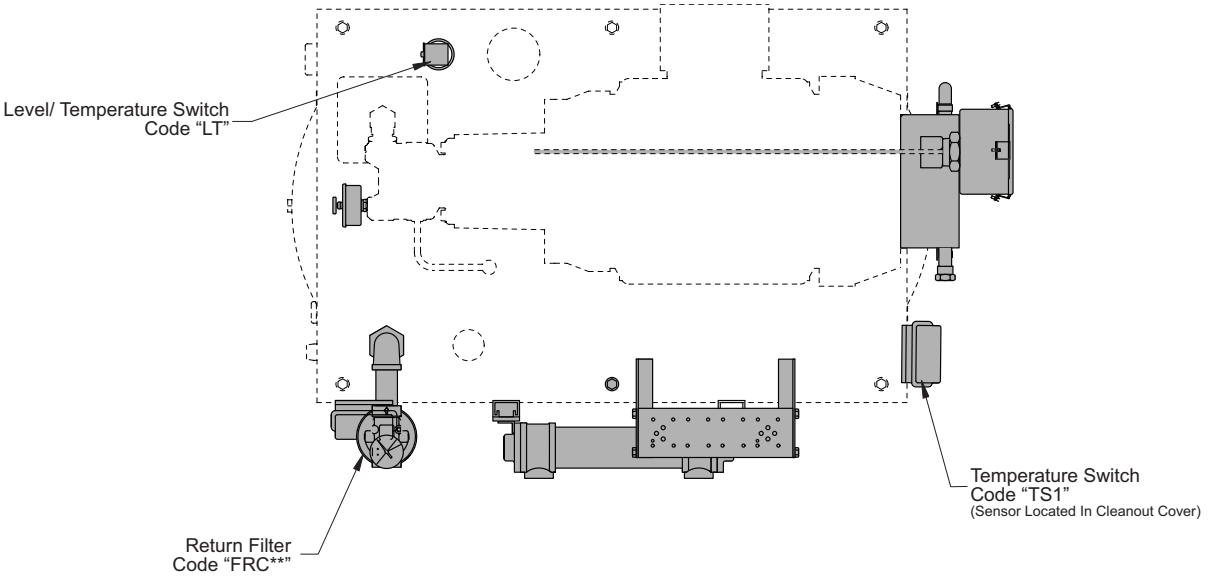
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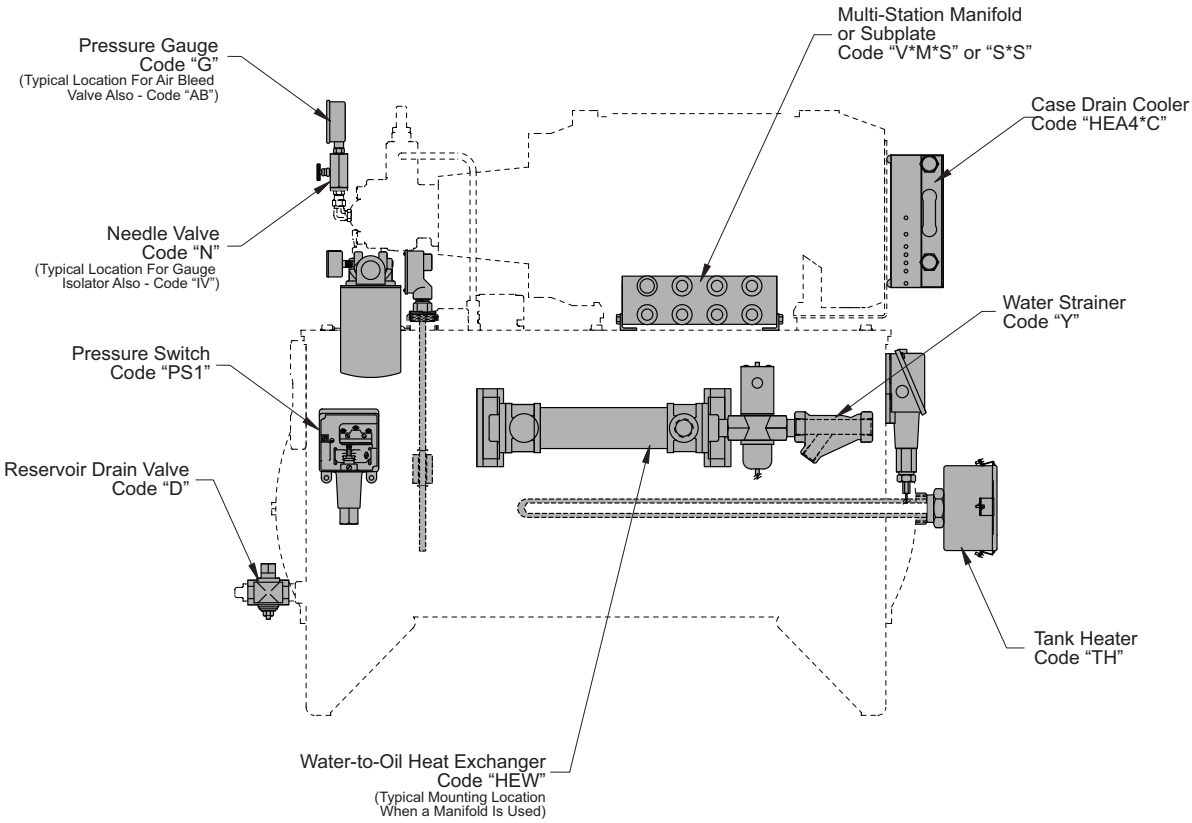
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Power Unit Accessories

NFPA/JIC STYLE POWER UNITS

Typical Accessory Locations

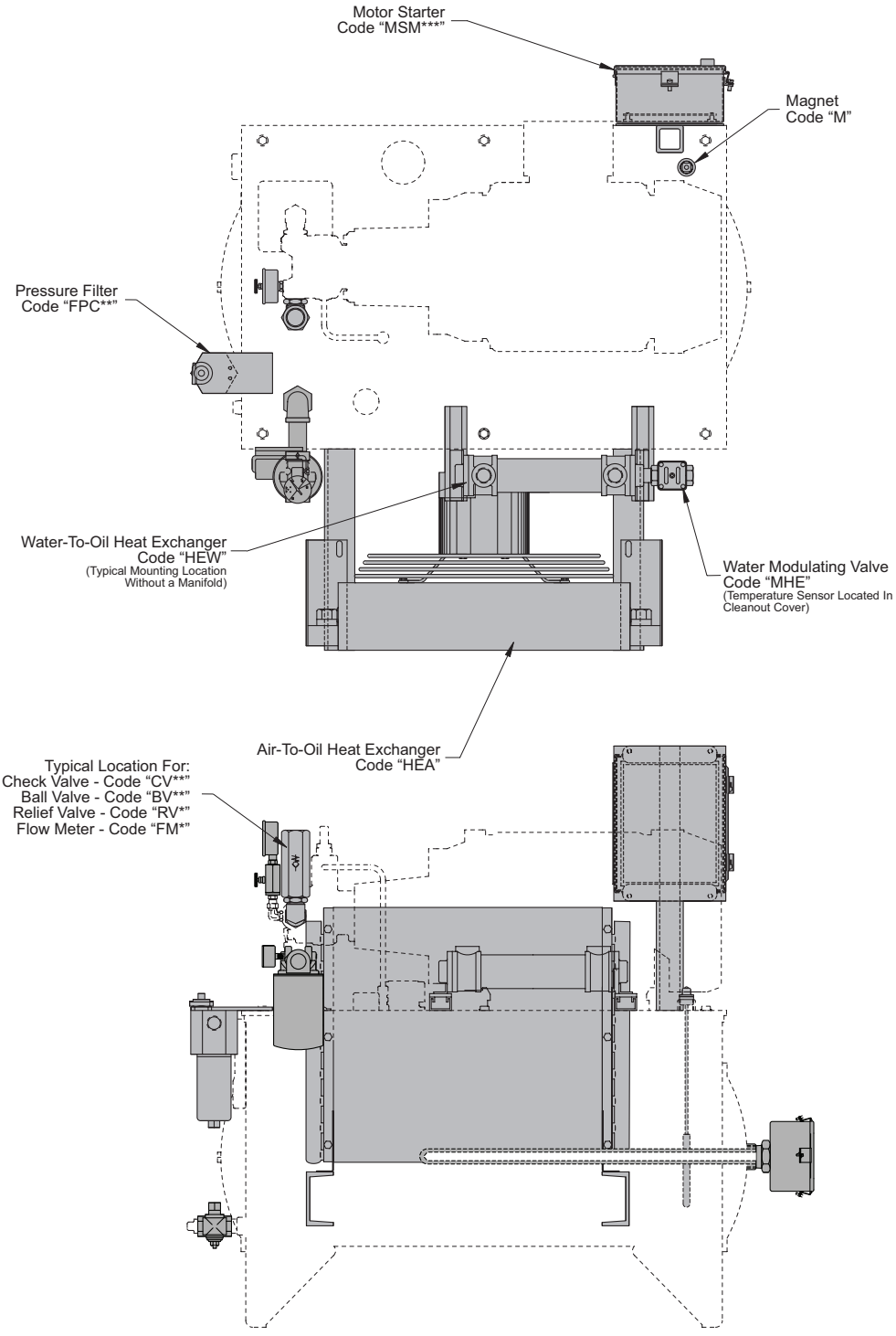




Power Unit Accessories

NFPA/JIC STYLE POWER UNITS

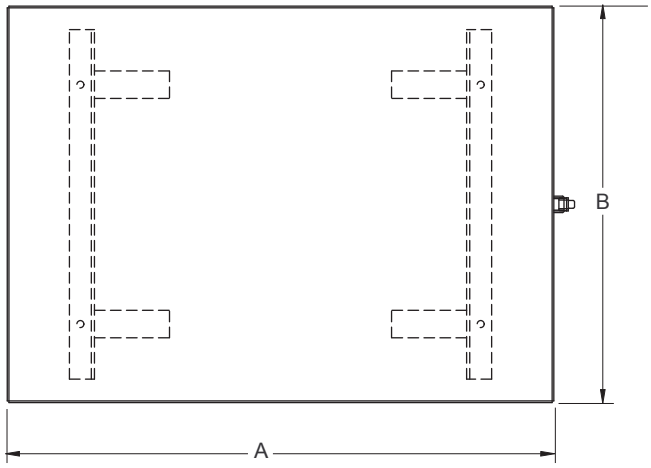
Typical Accessory Locations



Power Unit Accessories

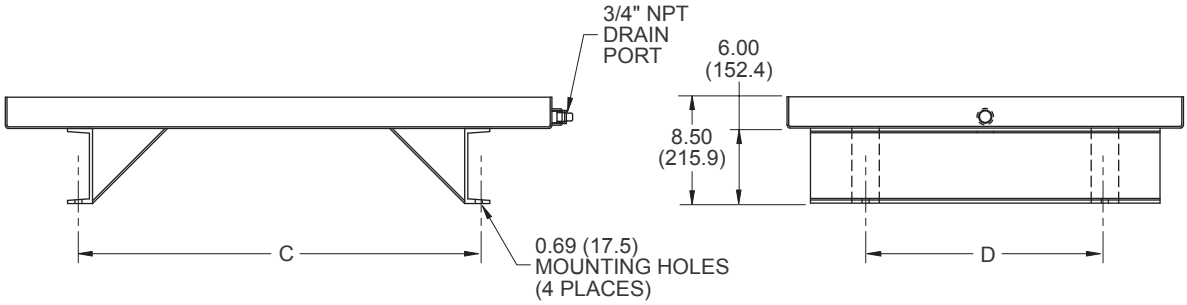
NFPA/JIC STYLE POWER UNITS

Drip Pans



Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: These drip pans are designed to mount directly under our standard NFPA/JIC style reservoirs.



Dimensions

Model Code	Part Number	Dimension			
		A	B	C	D
R10DP	621259	28.00 (711.2)	24.50 (622.3)	21.00 (533.4)	13.00 (330.2)
R20DP	621260	36.00 (914.4)	24.50 (622.3)	29.00 (736.6)	13.00 (330.2)
R35DP	621261	42.00 (1066.8)	30.50 (744.7)	35.00 (889.0)	19.00 (330.2)
R50DP	621261	42.00 (1066.8)	30.50 (744.7)	35.00 (889.0)	19.00 (330.2)
R70DP	621262	54.00 (1371.6)	33.50 (850.9)	47.00 (1193.8)	22.00 (330.2)
R90DP	621263	66.00 (1676.4)	33.50 (850.9)	59.00 (1498.6)	22.00 (330.2)
R130DP	621264	66.00 (1676.4)	36.50 (927.1)	59.00 (1498.6)	25.00 (330.2)
R160DP	621264	66.00 (1676.4)	36.50 (927.1)	59.00 (1498.6)	25.00 (330.2)
R210DP	621265	78.00 (1981.2)	42.50 (1079.5)	71.00 (1803.4)	31.00 (330.2)

Model Code

Drip Pan **DP**

Reservoir Capacity

Code	Description
R10	10 Gallons (37.8 liters)
R20	20 Gallons (75.7 liters)
R35	35 Gallons (132.5 liters)
R50	50 Gallons (189.2 liters)
R70	70 Gallons (254.9 liters)
R90	90 Gallons (340.6 liters)
R130	130 Gallons (492.0 liters)
R160	160 Gallons (605.6 liters)
R210	210 Gallons (794.8 liters)

Power Unit Accessories

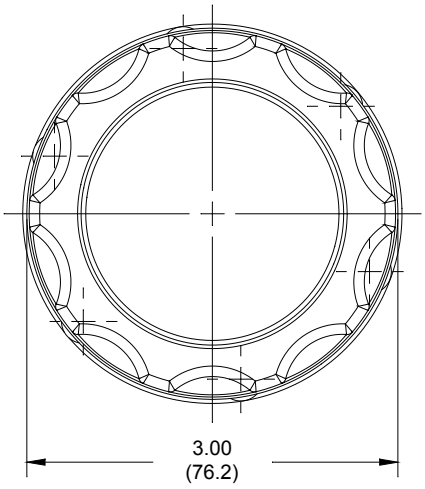
NFPA/JIC AND L-SHAPED POWER UNITS

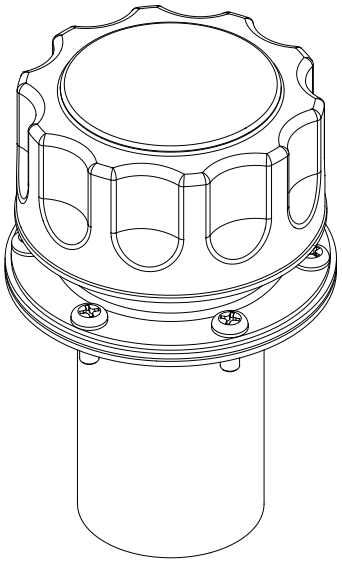
Filler Breather

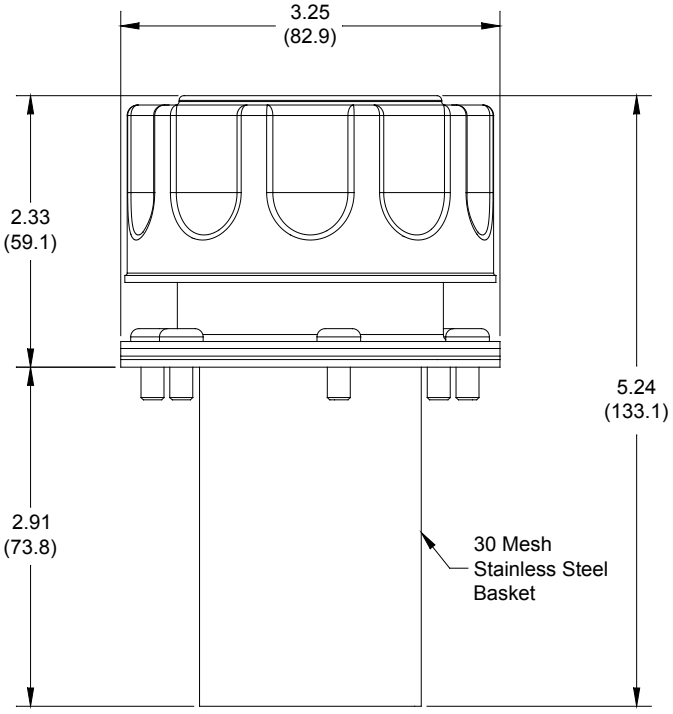
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

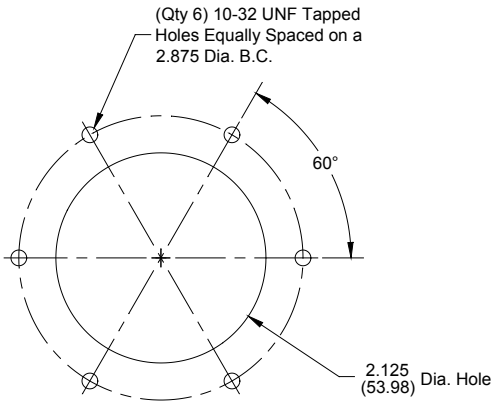
Description: Filler Breathers are designed to be used as a filler port for hydrualic power units. This unit also lets the tank breathe while keeping out airborn particles.

- 10 Micron Foam Media
- 10CFM Air Flow Capacity
- 115 GPM Oil Transfer Rate









Model Code

Filler Breather

F B

Part # 136647

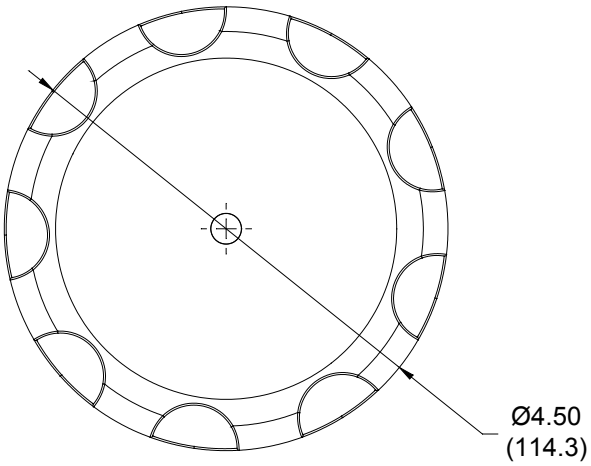
Power Unit Accessories

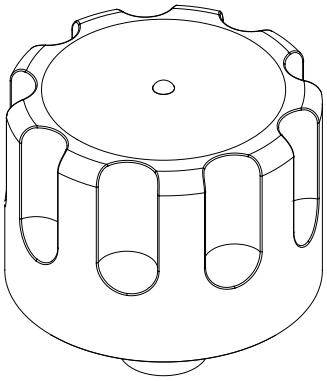
NFPA/JIC AND L-SHAPED POWER UNITS

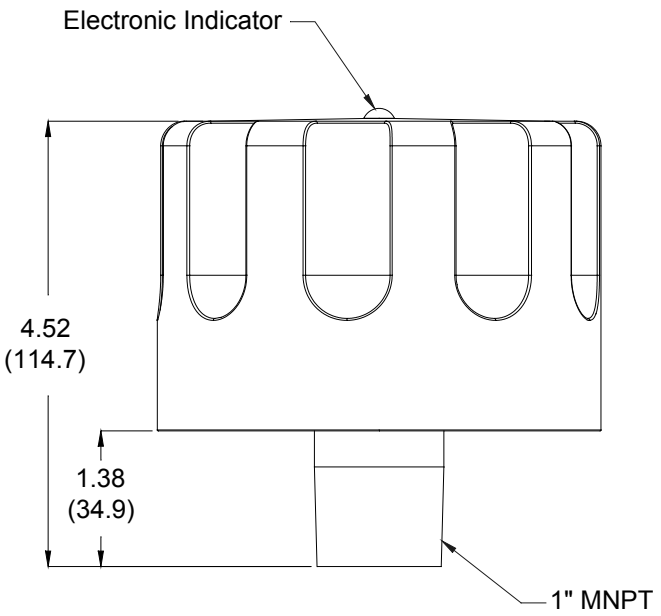
Donaldson. T.R.A.P.™ Breather

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: Keep moisture and dirt OUT of your hydraulic reservoir with Donaldson's innovative technology, the Thermally Reactive Advanced Protection (T.R.A.P.™) breather! It senses moisture and begins working faster and lasts longer than desiccant breathers. This is an entirely new technology that provides better protection for your oil or hydraulic fluid.







Model Code

Breather NPT

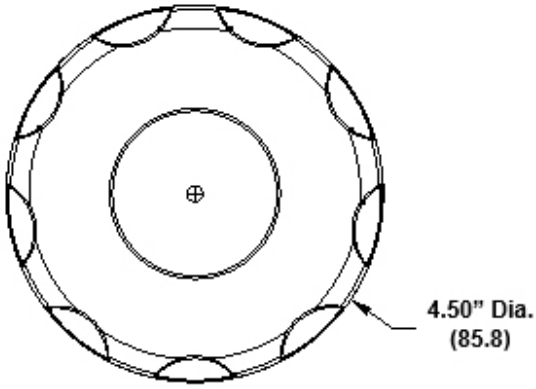
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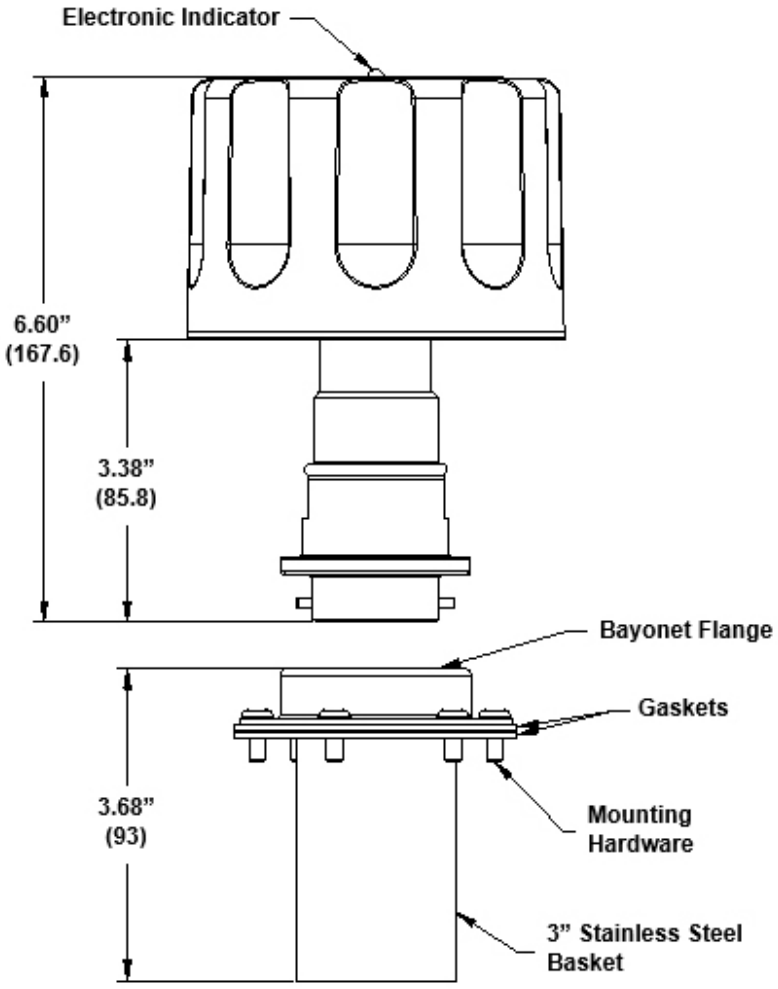
Part # 1001906

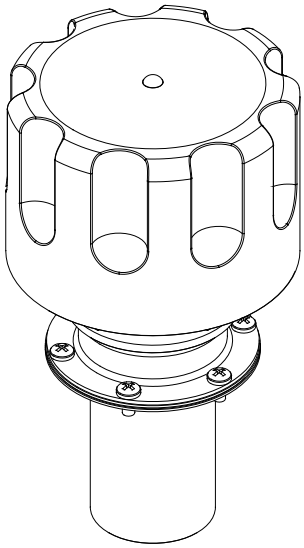
Electronic Indicator Actuated by Pressure Differential, Flashes Red to Indicate Change Out is Needed. Indicator Setting, 1PSID.

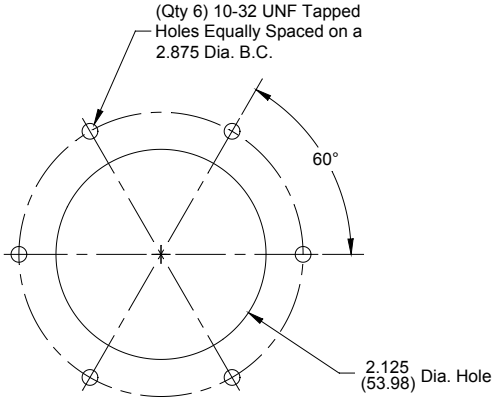
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: Keep moisture and dirt OUT of your hydraulic reservoir with Donaldson's innovative technology, the Thermally Reactive Advanced Protection (T.R.A.P.™) breather! It senses moisture and begins working faster and lasts longer than desiccant breathers. This is an entirely new technology that provides better protection for your oil or hydraulic fluid.









Model Code

Breather Bayonet

B Y

Breather Part # 1001489*
Basket Part # 1003956

*Breather 1001489 will not fit on the same basket that comes with the standard Filler Breather 136647.

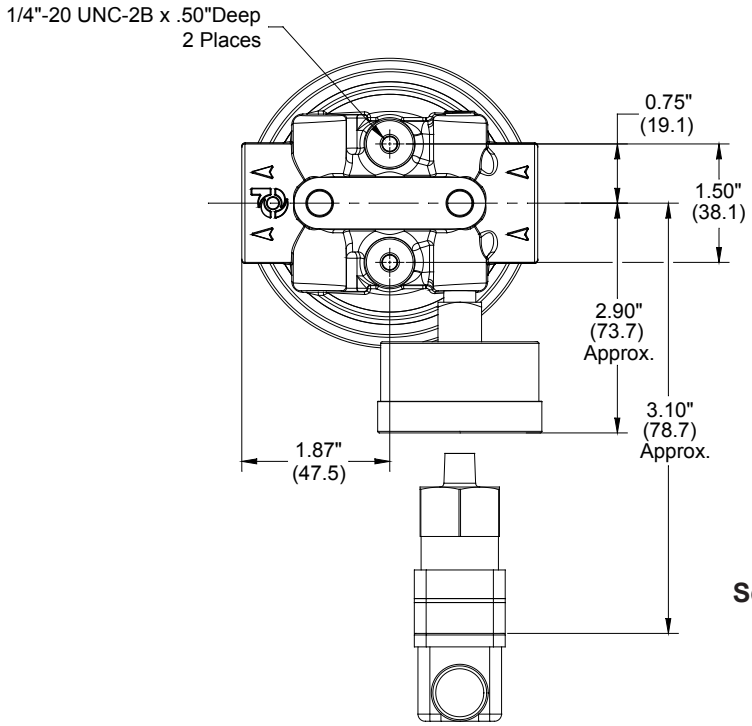
Electronic Indicator Actuated by Pressure Differential, Flashes Red to Indicate Change Out is Needed. Indicator Setting, 1PSID.

Power Unit Accessories

NFPA/JIC STYLE AND L-SHAPED POWER UNITS

Return Filter - 10 gpm (37.8 lpm)

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm))

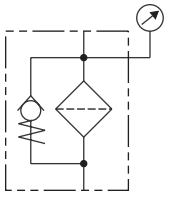


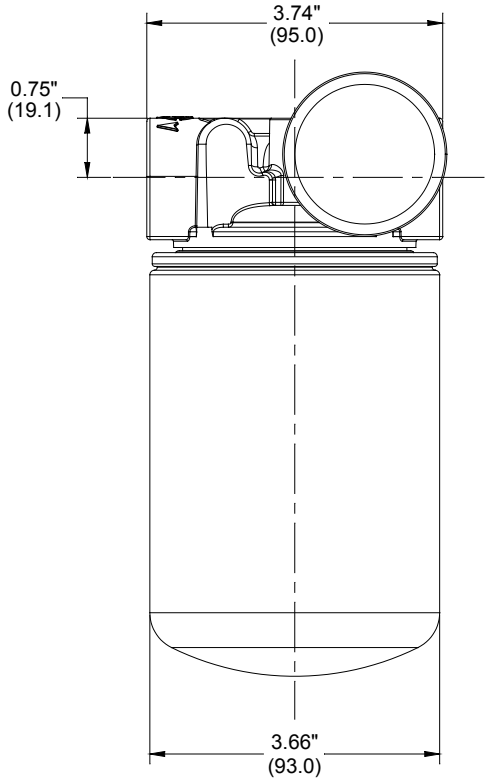
Description: Return filters can greatly increase the life of your hydraulic fluid and components. Filters should be sized to handle the maximum return flow of the system.

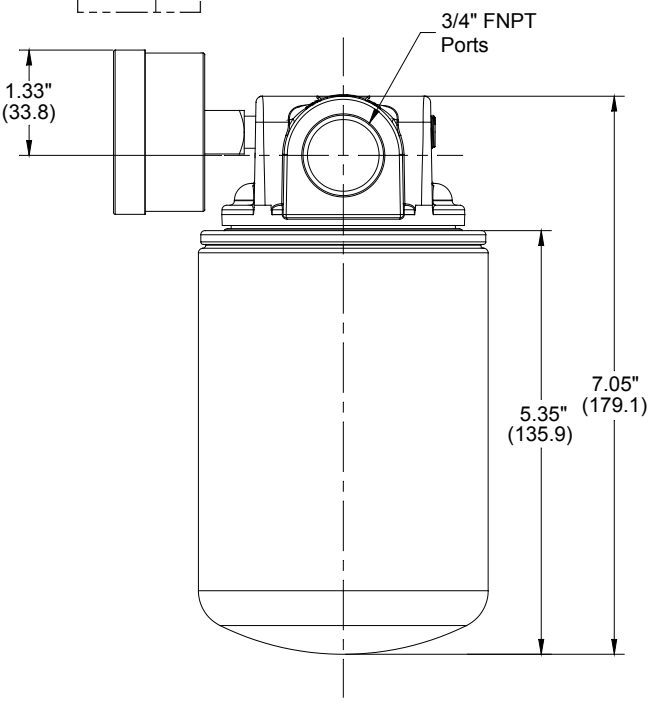
- 10 gpm (37.8 lpm)
- Maximum Pressure: 150 psi (11 bar)
- By-Pass Cracking Pressure: 25 psi (2 Bar)
- Visual Indicator Standard
- Electrical Indicator Optional

Wiring Code
Common = #1
N.O. = #3
N.C. = #2
Voltage
12 VDC, 7.0 Amp
24 VDC, 5.0 Amp
125/250 VAC, 5.0 Amp Inductive

Schematic Symbol





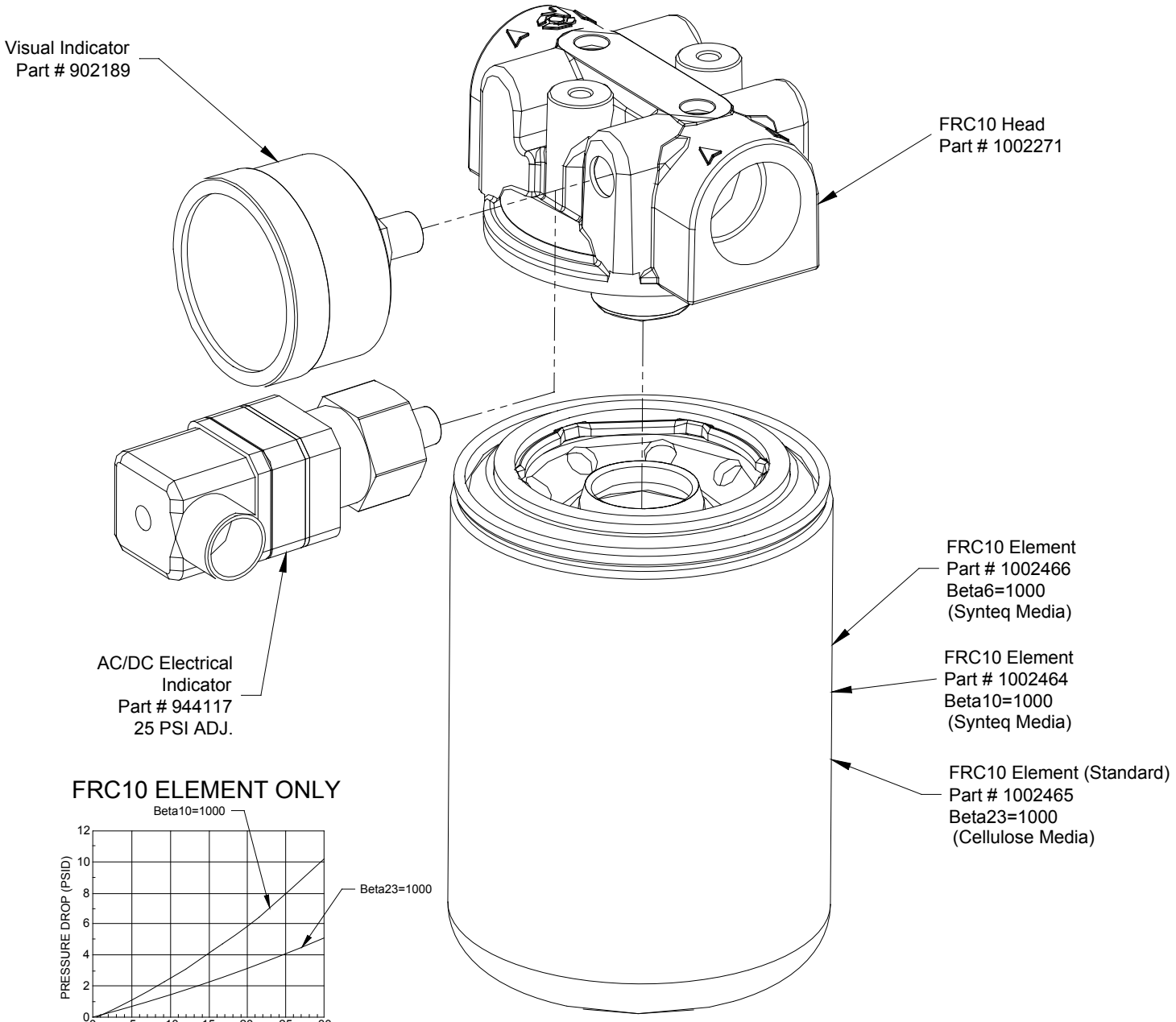


CONTINENTAL HYDRAULICS.

Power Unit Accessories

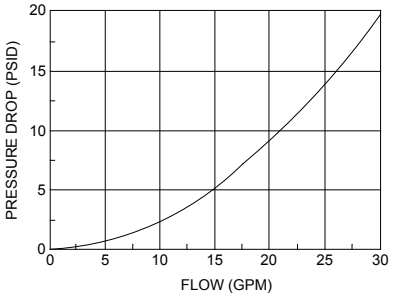
NFPA/JIC AND L-SHAPED POWER UNITS

Return Filter - 10 gpm (37.8 lpm)



FRC10 ELEMENT ONLY

FRC10 HEAD ONLY



Model Code

Filter	Return		Flow
F	**R**		**10**

Indicator

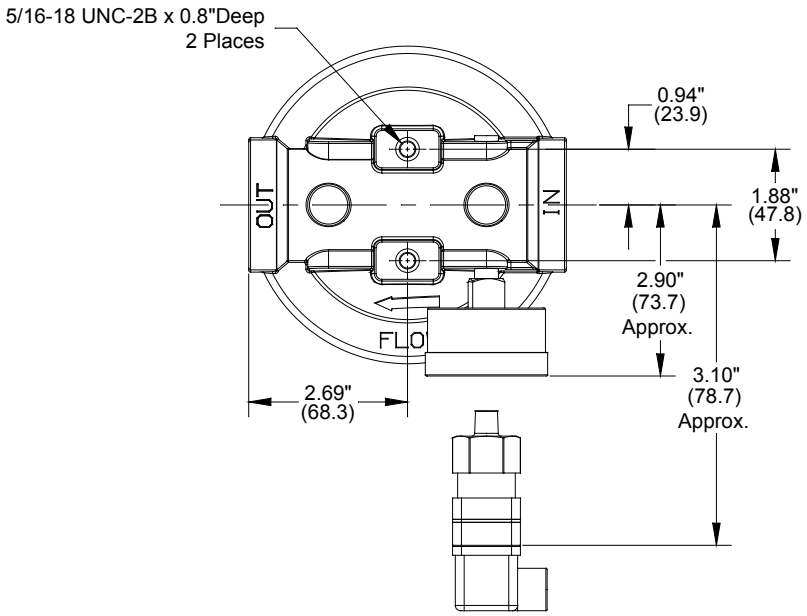
Code	Description
C	Visual - #902189
E	Electrical - #944117

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

Return Filter - 40 gpm (151.4 lpm)

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

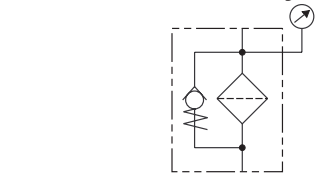


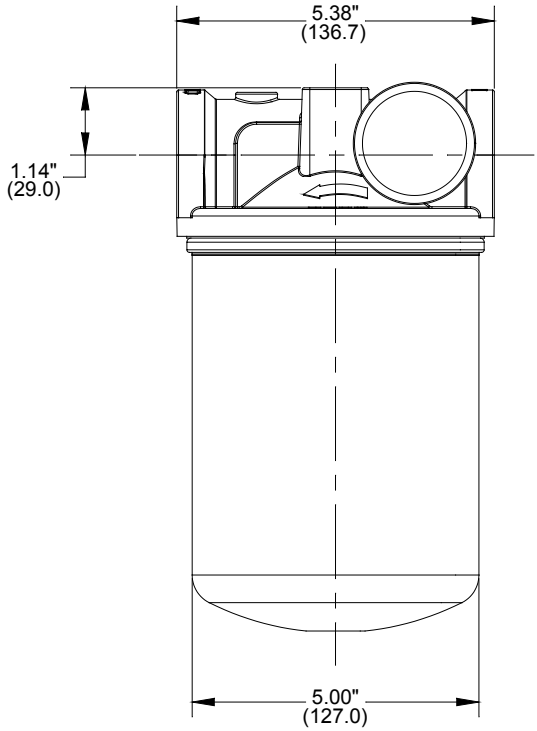
Description: Return filters can greatly increase the life of your hydraulic fluid and components. Filters should be sized to handle the maximum return flow of the system.

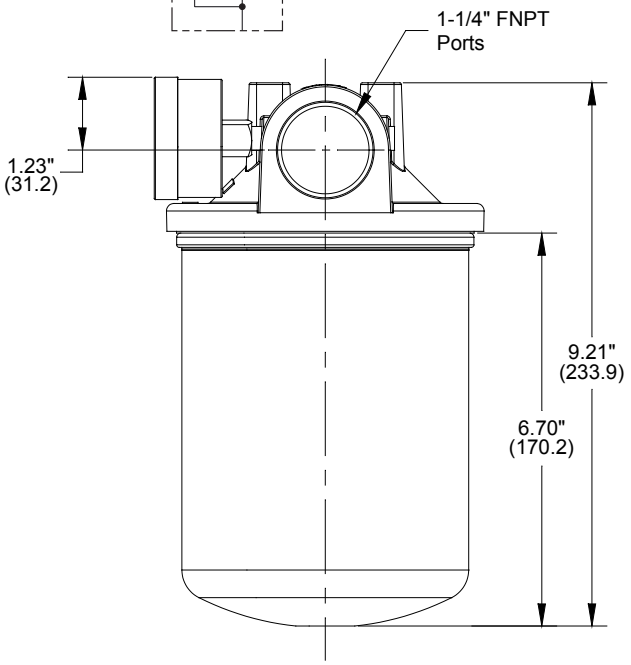
- 40 gpm (151.4 lpm)
- Maximum Pressure: 150 psi (11 bar)
- By-Pass Cracking Pressure: 25 psi (2 Bar)
- Visual Indicator Standard
- Electrical Indicator Optional

Wiring Code
Common = #1
N.O. = #3
N.C. = #2
Voltage
12 VDC, 7.0 Amp
24 VDC, 5.0 Amp
125/250 VAC, 5.0 Amp Inductive

Schematic Symbol



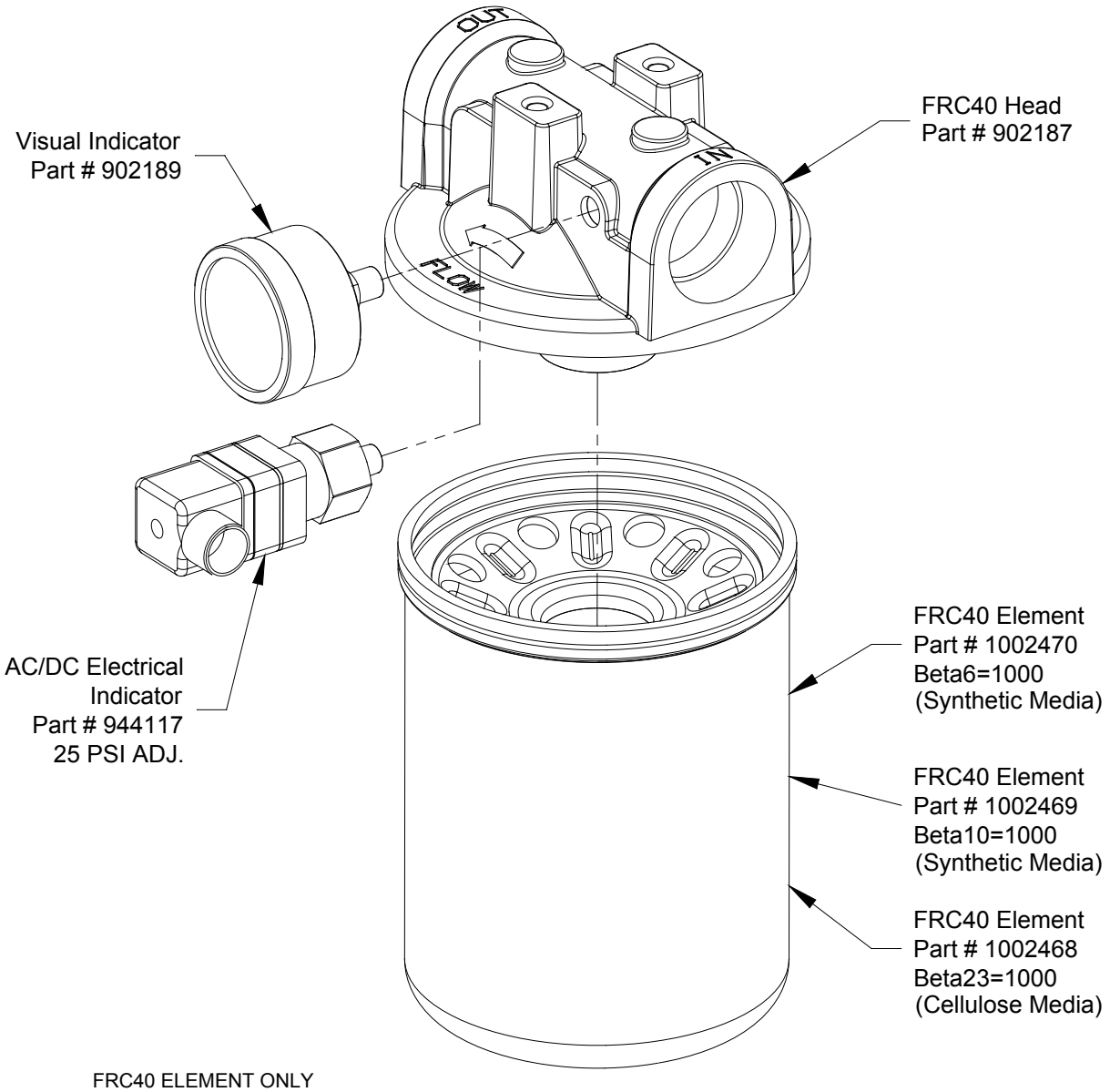




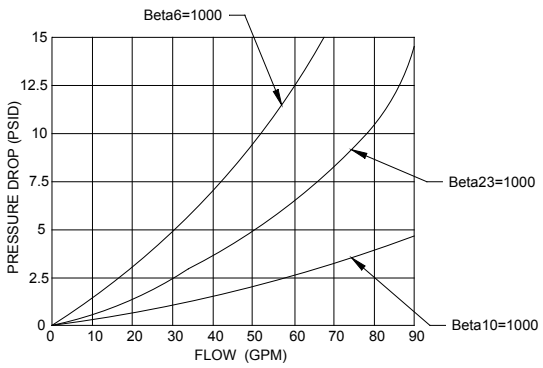
Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

Return Filter - 40 gpm (151.4 lpm)



FRC40 ELEMENT ONLY



Model Code

Filter	Return		Flow
F	**R**		**40**

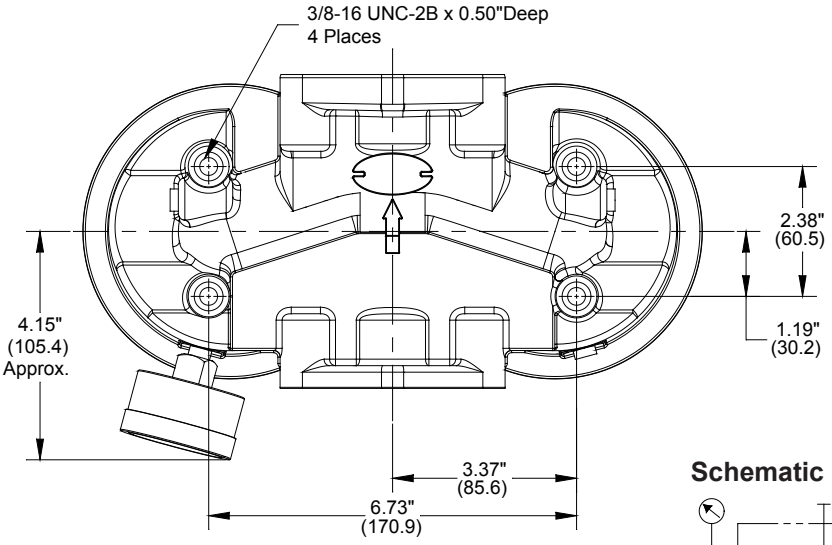
Indicator

Code	Description
C	Visual - #902189
E	Electrical - #944117

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

Return Filter - 80 gpm (302.8 lpm)

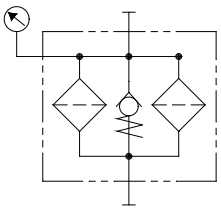


Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: Return filters can greatly increase the life of your hydraulic fluid and components. Filters should be sized to handle the maximum return flow of the system.

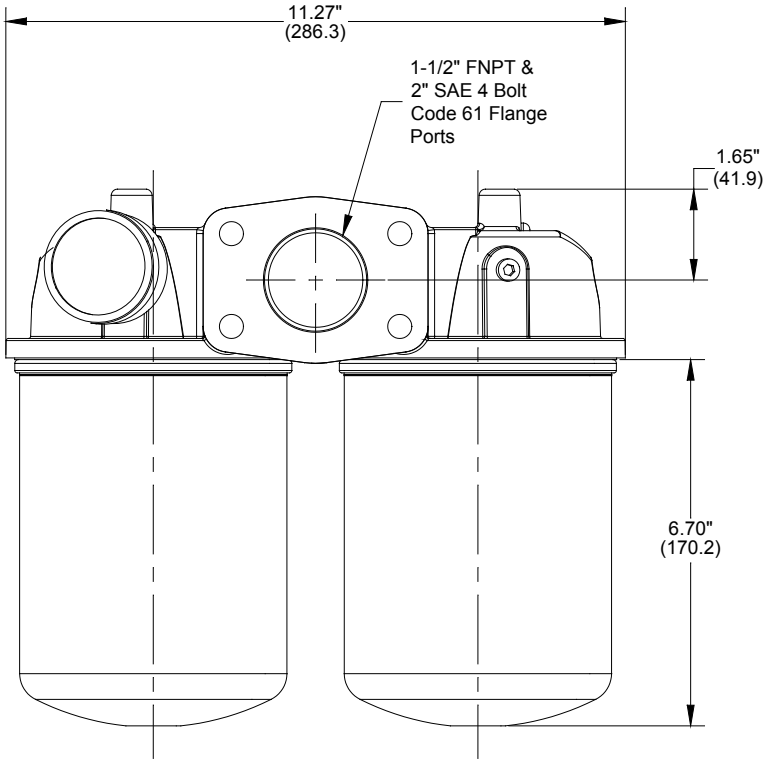
- 80 gpm (302.8 lpm)
- Maximum Pressure: 150 psi (11 bar)
- By-Pass Cracking Pressure: 25 psi (2 Bar)
- Visual Indicator Standard
- Electrical Indicator Optional

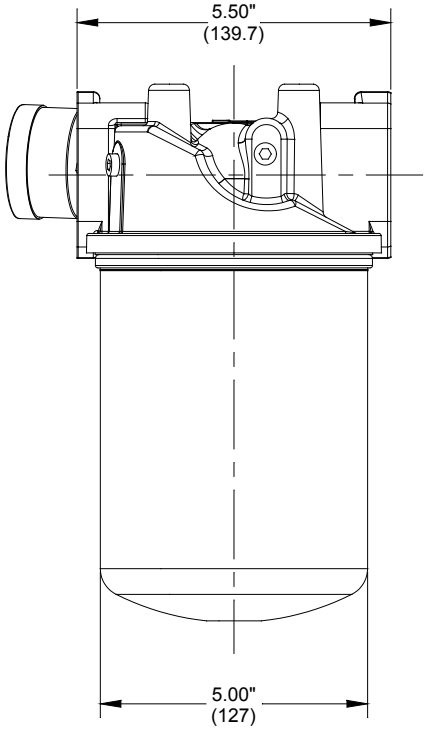
Schematic Symbol



Wiring Code
- Common = #1
- N.O. = #3
- N.C. = #2

Voltage
- 12 VDC, 7.0 Amp
- 24 VDC, 5.0 Amp
- 125/250 VAC, 5.0 Amp Inductive

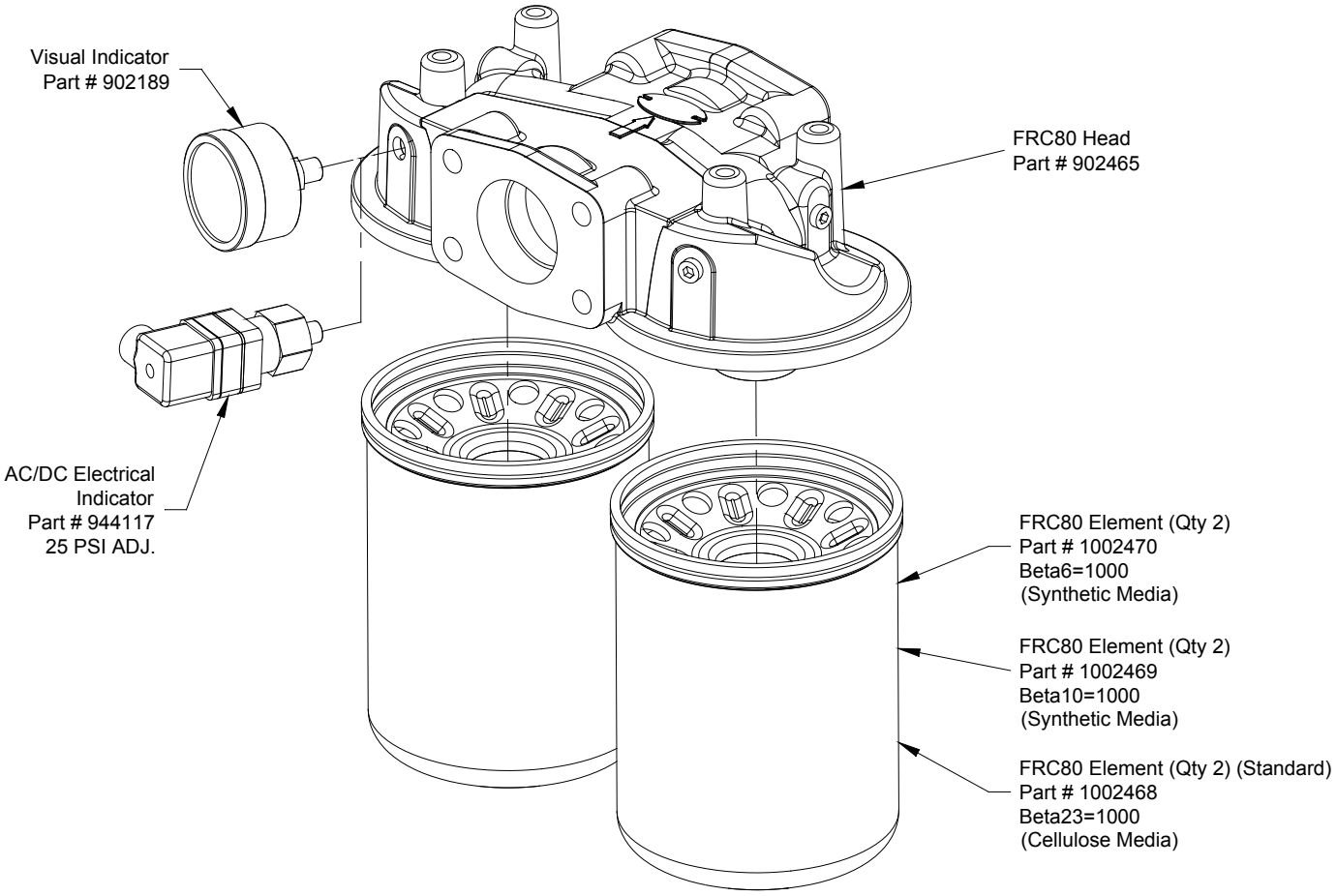




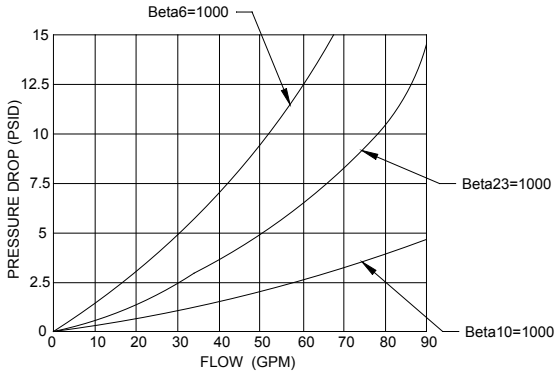
Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

Return Filter - 80 gpm (302.8 lpm)



FRC80 ELEMENT ONLY



Model Code

Filter	Return		Flow
F	R		80

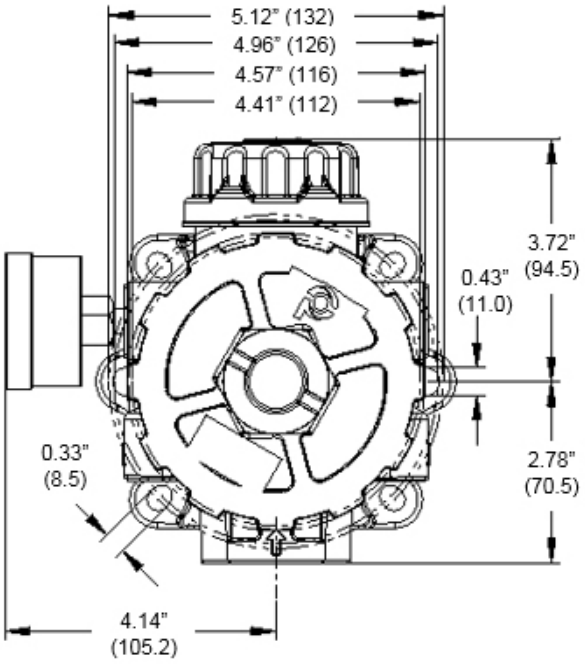
Indicator

Code	Description
C	Visual - #902189
E	Electrical - #944117

Power Unit Accessories

LITTLE CHAMP®/LOW PROFILE POWER UNIT

In-Tank Return Filter - 14 gpm (52.9 lpm)

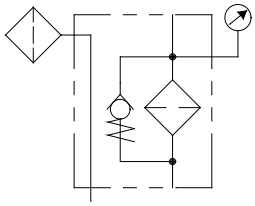


Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: Return filters can greatly increase the life of your hydraulic fluid and components. Filters should be sized to handle the maximum return flow of the system.

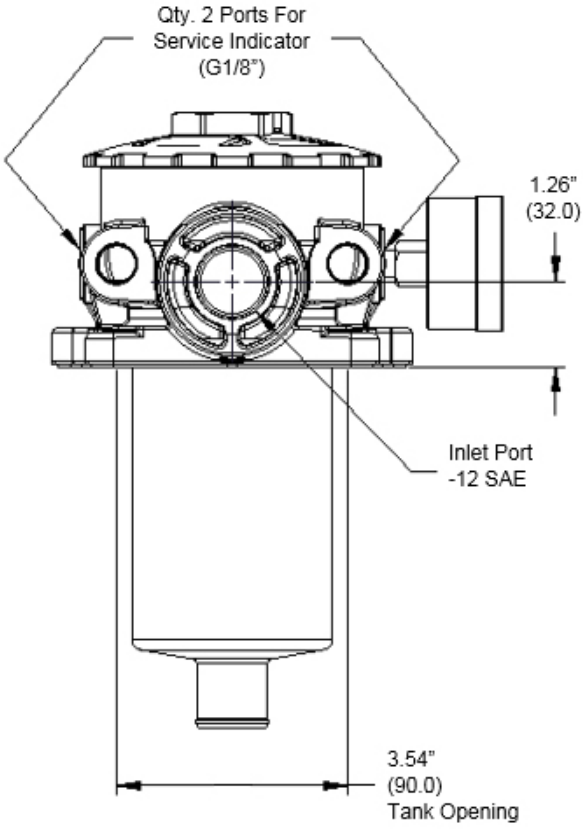
- 14 gpm (52.9 lpm)
- Maximum Pressure: 145 psi (9.9 bar)
- By-Pass Cracking Pressure: 22 psi (1.5 Bar)
- Visual Indicator Optional
- Electrical Indicator Optional

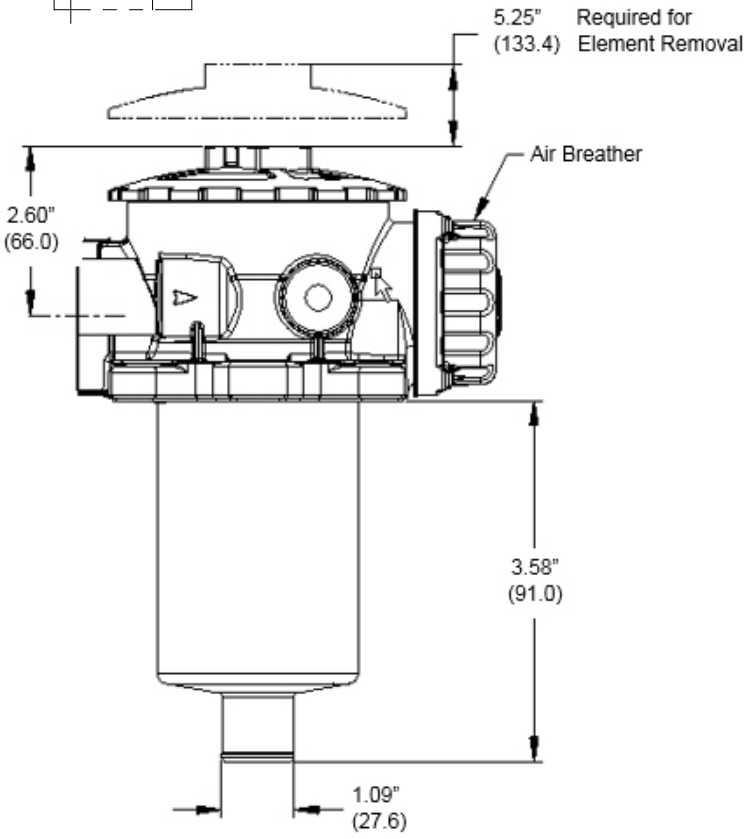
Schematic Symbol



Wiring Code
Common = #1
N.O. = #3
N.C. = #2

Voltage
12 VDC, 7.0 Amp
24 VDC, 5.0 Amp
125/250 VAC, 5.0 Amp Inductive





Power Unit Accessories

LITTLE CHAMP®/LOW PROFILE POWER UNIT

In-Tank Return Filter - 14 gpm (52.9 lpm)

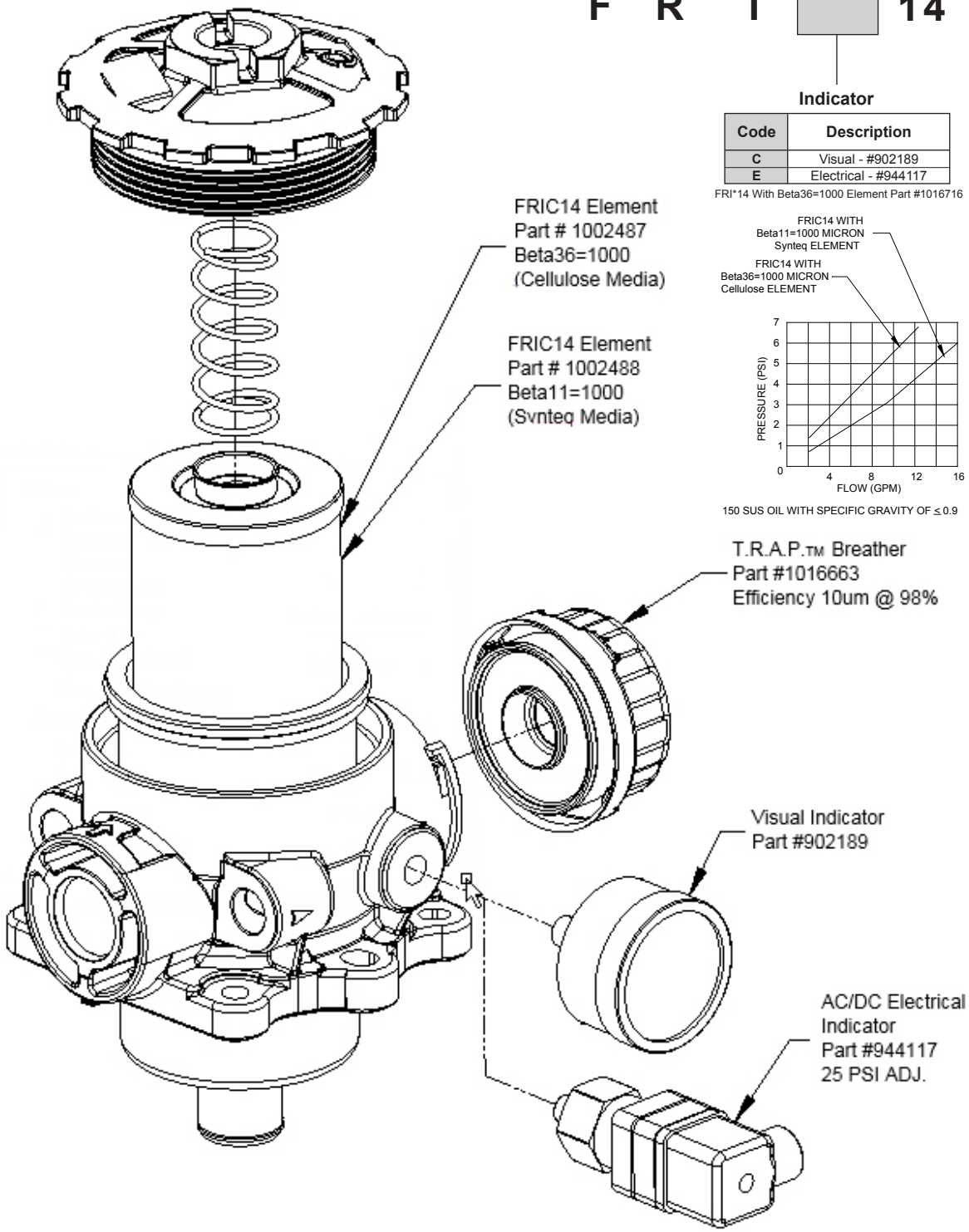
Model Code

Filter	Return	In-Tank		Flow
F	R	I		14

Indicator

Code	Description
C	Visual - #902189
E	Electrical - #944117

FRI*14 With Beta36=1000 Element Part #1016716

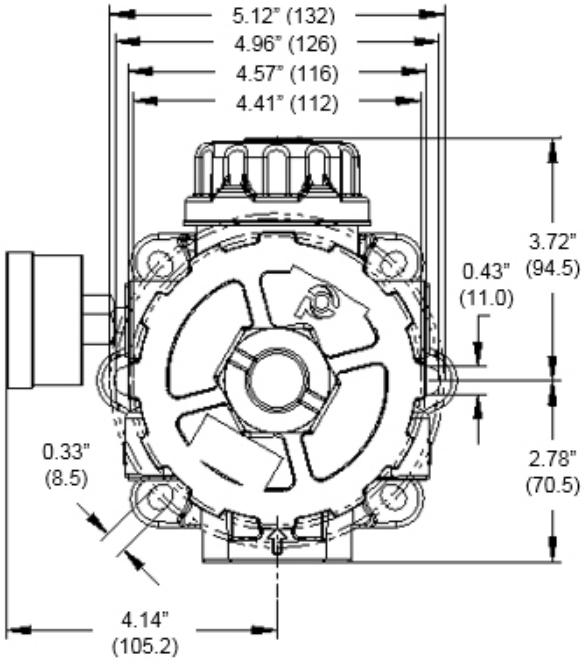


150 SUS OIL WITH SPECIFIC GRAVITY OF ≤ 0.9

Power Unit Accessories

LITTLE CHAMP®/LOW PROFILE POWER UNIT

In-Tank Return Filter - 25 gpm (94.6 lpm)

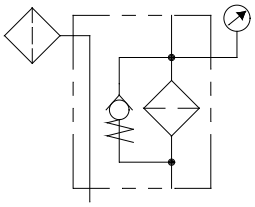


Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: Return filters can greatly increase the life of your hydraulic fluid and components. Filters should be sized to handle the maximum return flow of the system.

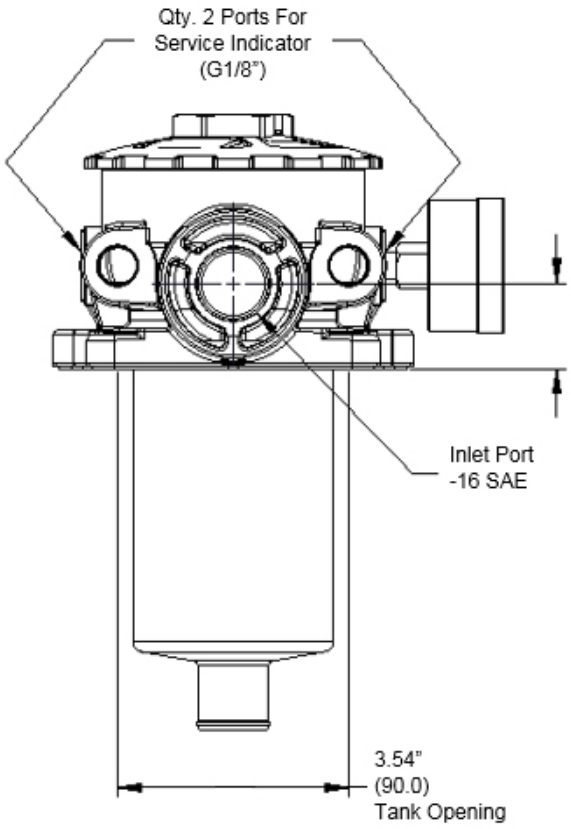
- 25 gpm (94.6 lpm)
- Maximum Pressure: 145 psi (9.9 bar)
- By-Pass Cracking Pressure: 22 psi (1.5 Bar)
- Visual Indicator Optional
- Electrical Indicator Optional

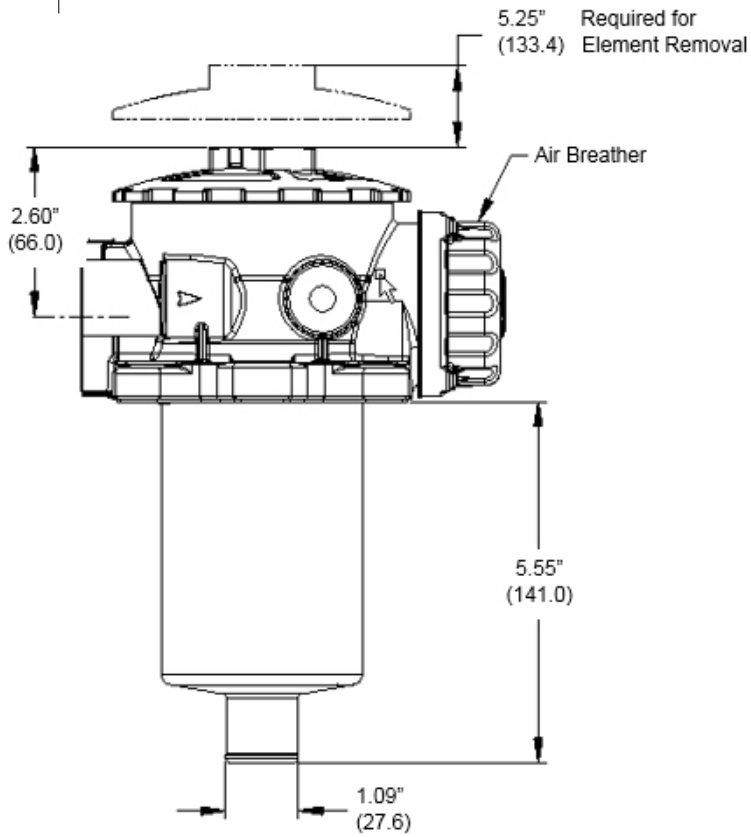
Schematic Symbol



Wiring Code
- Common = #1
- N.O. = #3
- N.C. = #2

Voltage
- 12 VDC, 7.0 Amp
- 24 VDC, 5.0 Amp
- 125/250 VAC, 5.0 Amp Inductive





Power Unit Accessories

LITTLE CHAMP®/LOW PROFILE POWER UNIT

In-Tank Return Filter - 25 gpm (94.6 lpm)

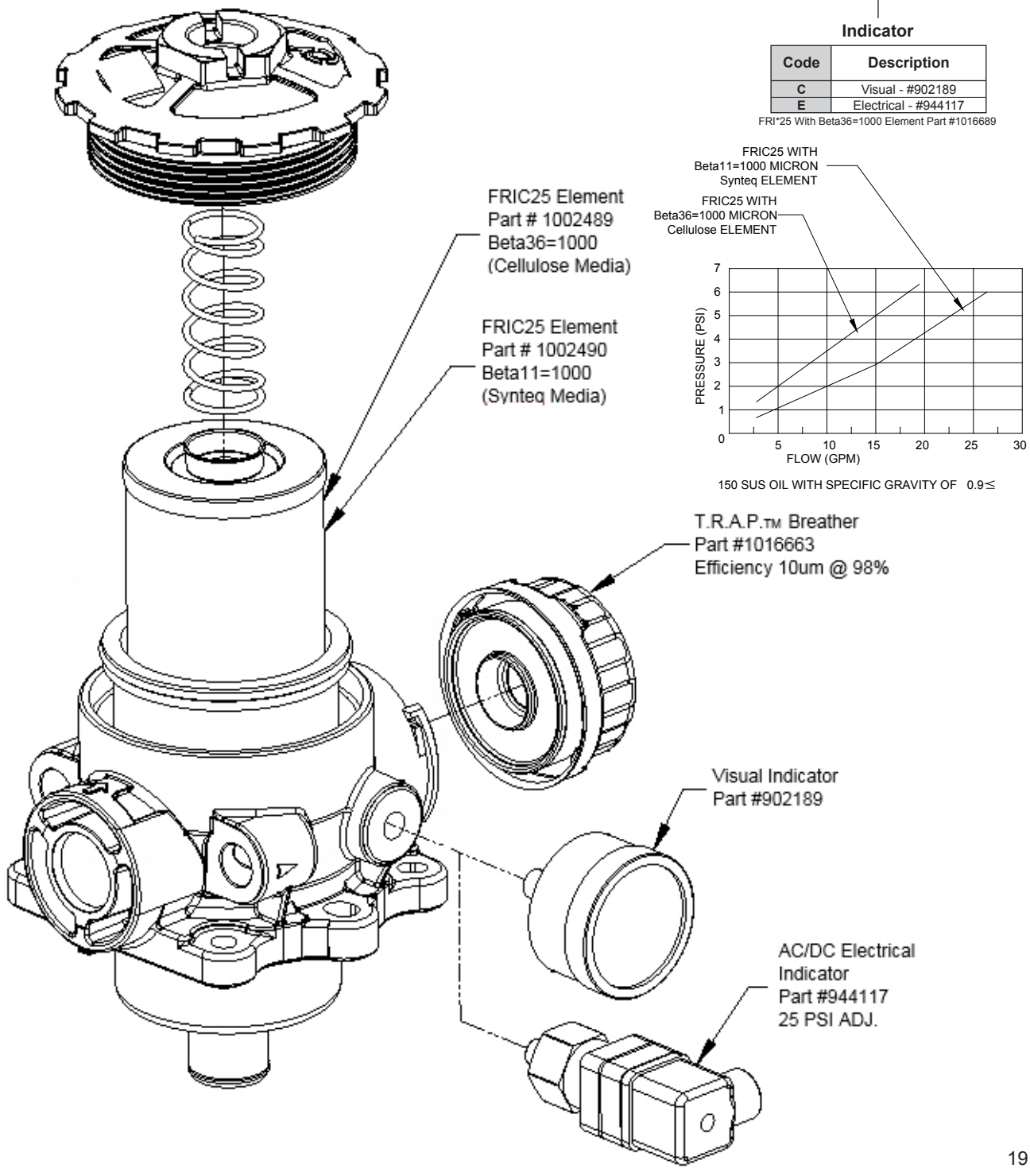
Model Code

Filter	Return	In-Tank		Flow
F	**R**	**I**		**25**

Indicator

Code	Description
C	Visual - #902189
E	Electrical - #944117

FRI*25 With Beta36=1000 Element Part #1016689



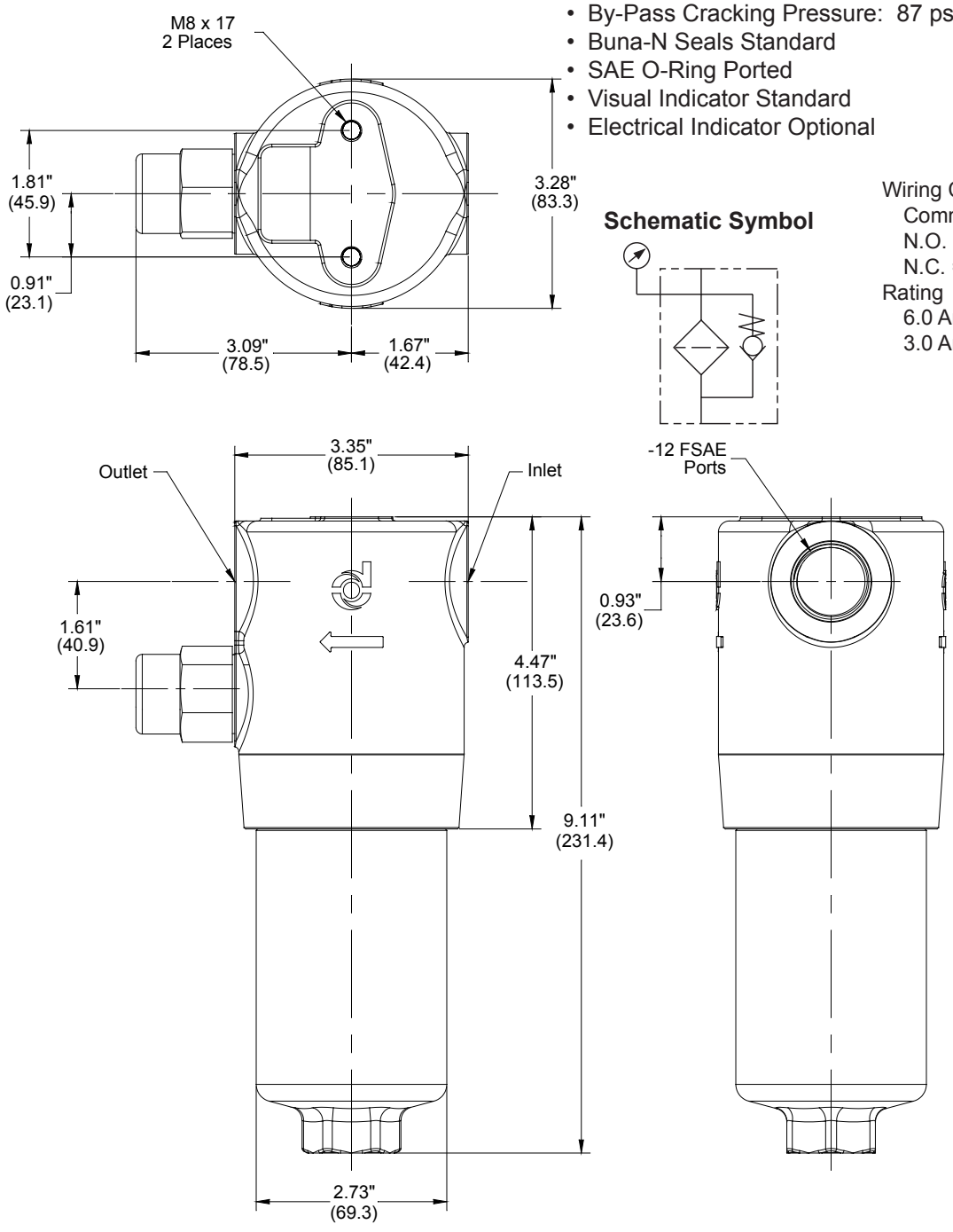
150 SUS OIL WITH SPECIFIC GRAVITY OF 0.9≤

Power Unit Accessories

NFPA/JIC STYLE AND L-SHAPED POWER UNITS

Pressure Filter - 10 gpm (37.8 lpm)

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Description: Pressure filters ensure the most positive type of filtration and provide clean fluid for sensitive pressure line components.

- 10 gpm (37.8 lpm)
- Maximum Pressure: 6090 psi (419 bar)
- By-Pass Cracking Pressure: 87 psi (6 Bar)
- Buna-N Seals Standard
- SAE O-Ring Ported
- Visual Indicator Standard
- Electrical Indicator Optional

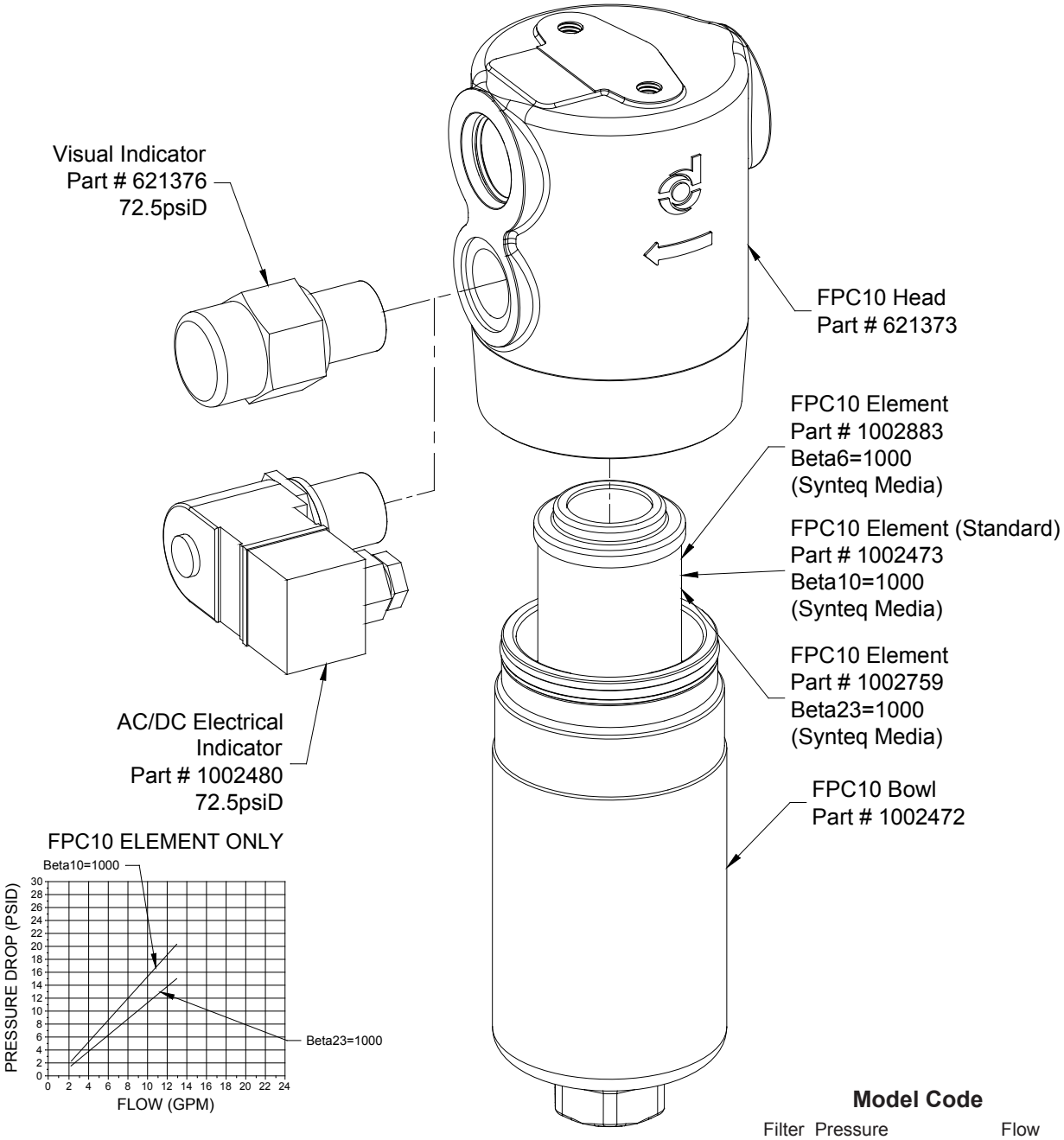
Schematic Symbol

Wiring Code
Common = #1
N.O. = #3
N.C. = #2
Rating
6.0 Amps @ 120 VAC
3.0 Amps @ 240 VAC

Power Unit Accessories

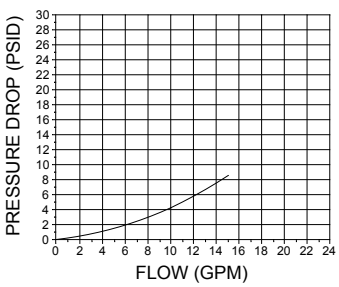
NFPA/JIC STYLE AND L-SHAPED POWER UNITS

Pressure Filter - 10 gpm (37.8 lpm)



FPC10 ELEMENT ONLY

FPC10 HOUSING ONLY



Model Code

Filter	Pressure		Flow
F	**P**		**10**

Indicator

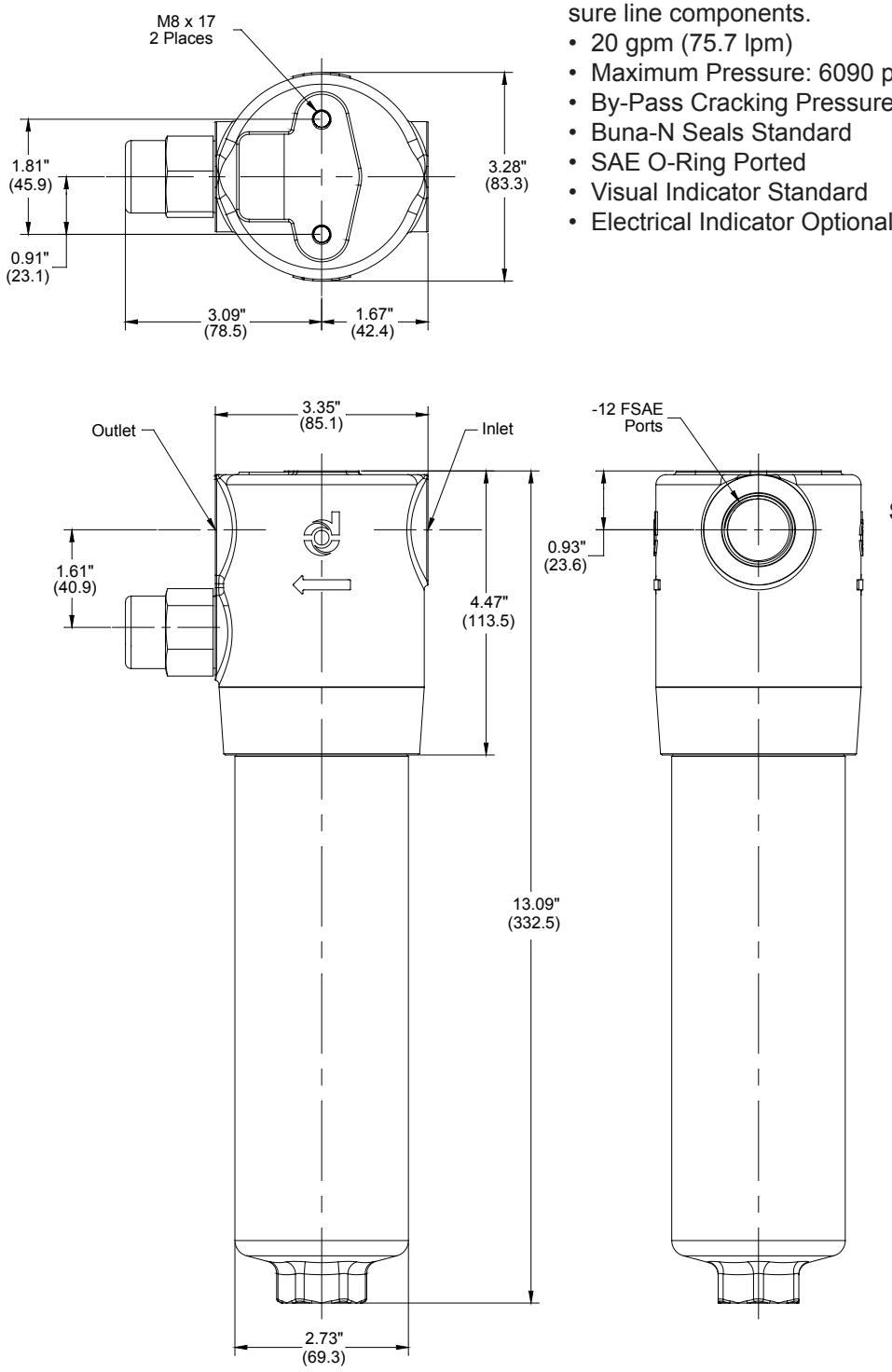
Code	Description
C	Visual - #621376
E	Electrical - #1002480

Power Unit Accessories

NFPA/JIC STYLE AND L-SHAPED POWER UNITS

Pressure Filter - 20 gpm (75.7 lpm)

Dimensions shown in: Inches (± .125)
(millimeters (± 1 mm)

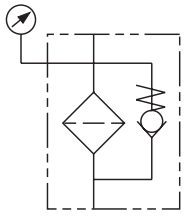


Description: Pressure filters ensure the most positive type of filtration and provide clean fluid for sensitive pressure line components.

- 20 gpm (75.7 lpm)
- Maximum Pressure: 6090 psi (419 bar)
- By-Pass Cracking Pressure: 87 psi (6 Bar)
- Buna-N Seals Standard
- SAE O-Ring Ported
- Visual Indicator Standard
- Electrical Indicator Optional

Wiring Code
Common = #1
N.O. = #3
N.C. = #2
Rating
6.0 Amps @ 120 VAC
3.0 Amps @ 240 VAC

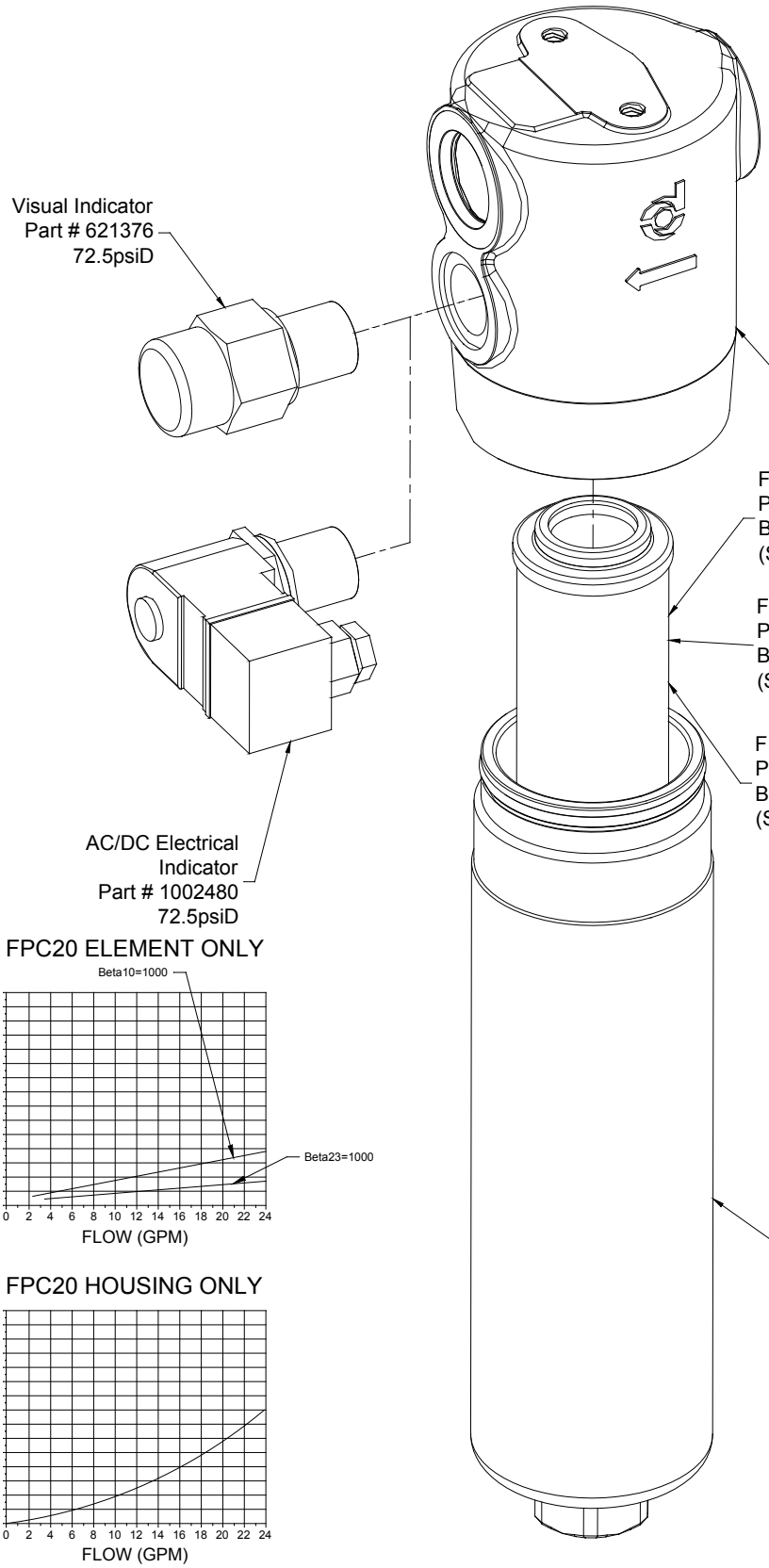
Schematic Symbol



Power Unit Accessories

NFPA/JIC STYLE AND L-SHAPED POWER UNITS

Pressure Filter - 20 gpm (75.7 lpm)



Model Code

Filter	Pressure		Flow
F	**P**		**20**

Indicator

Code	Description
C	Visual - #621376
E	Electrical - #1002480

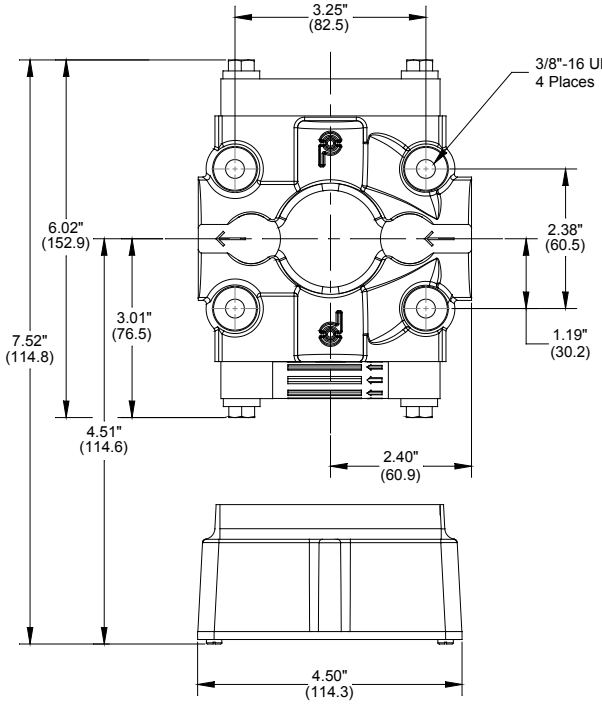
FPC20 ELEMENT ONLY

FPC20 HOUSING ONLY

Power Unit Accessories

NFPA/JIC STYLE AND L-SHAPED POWER UNITS

Pressure Filter - 50 gpm (187.3 lpm)

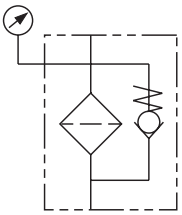


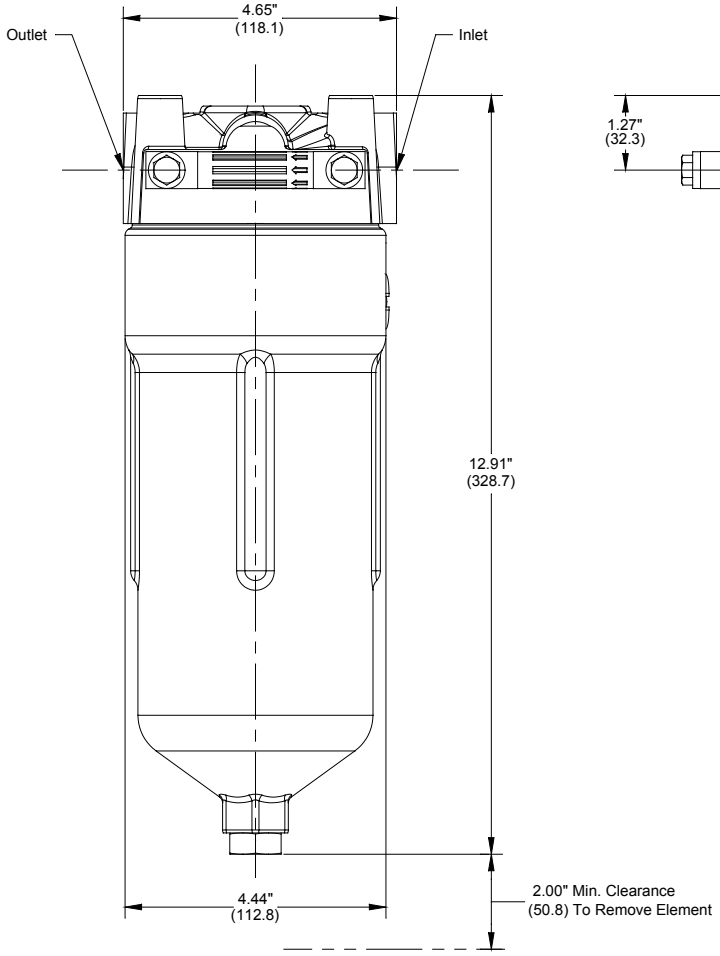
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

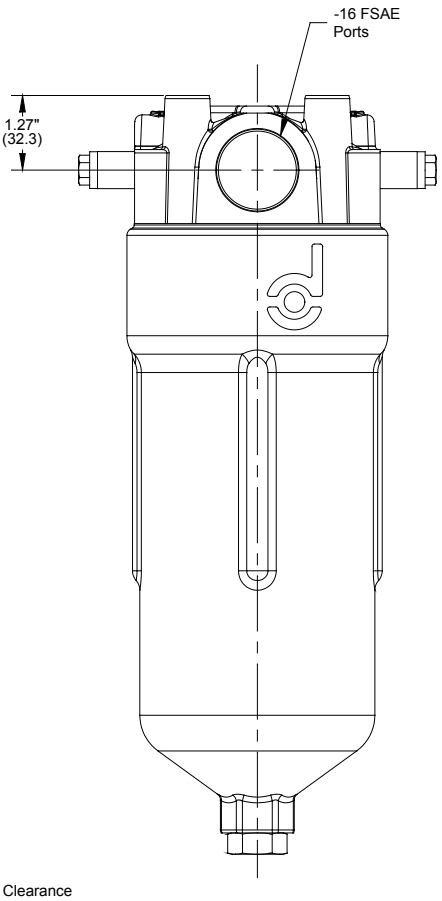
Description: Pressure filters ensure the most positive type of filtration and provide clean fluid for sensitive pressure line components.

- 50 gpm (187.3 lpm)
- Maximum Pressure: 3000 psi (207 bar)
- By-Pass Cracking Pressure: 50 psi (3 Bar)
- Buna-N Seals Standard
- SAE O-Ring Ported
- Visual Indicator Standard
- Electrical Indicator Optional:
  - Max Temp: 250F/121C
  - Set: 40 psi / 276kPa
  - Voltage: 120 VAC / 28 VDC
  - Current: 250 mA
  - Circuit: Normaly Open (RED)
    Normaly Closed (BLUE)
    Common (WHITE)

Schematic Symbol



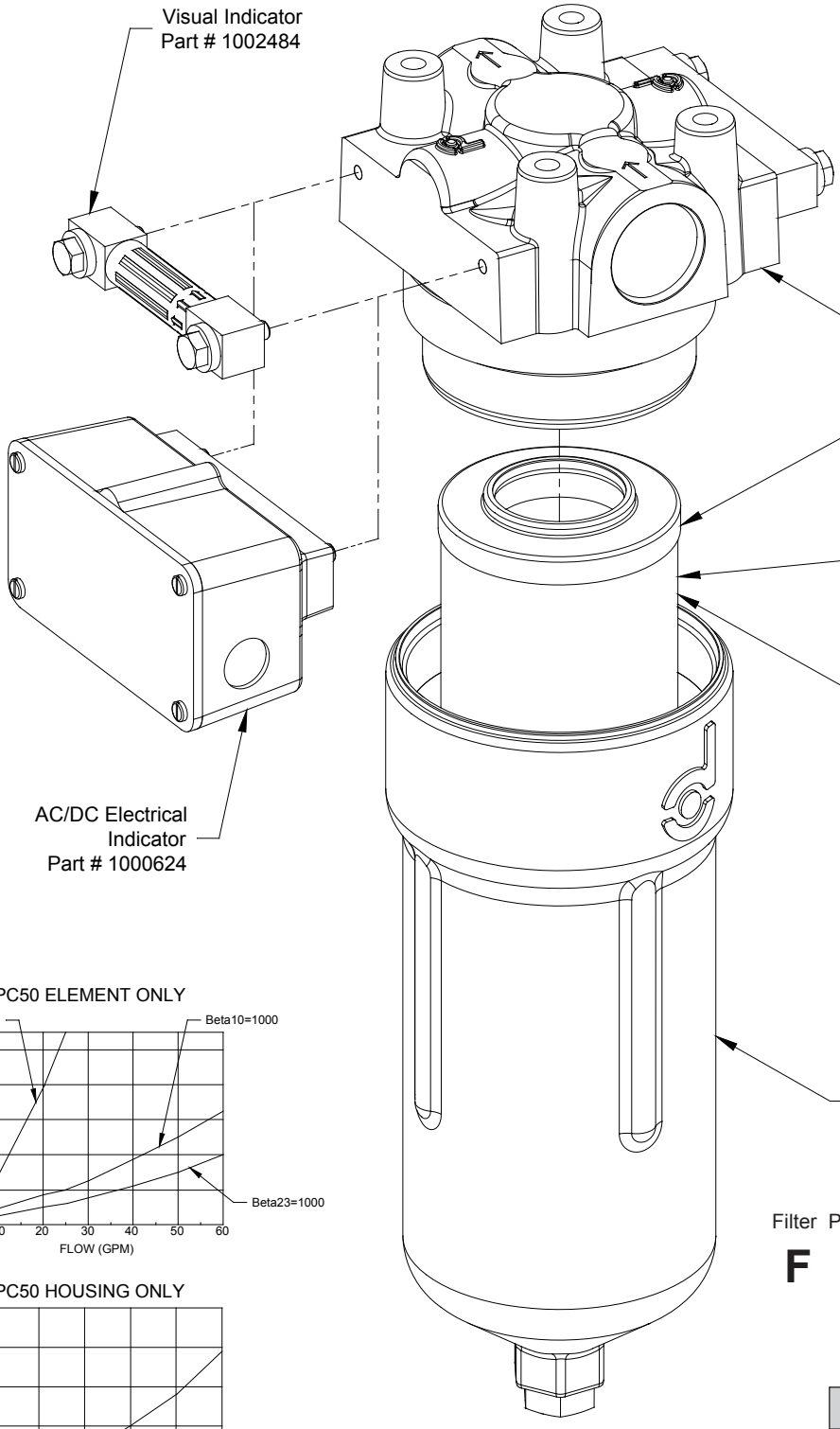




Power Unit Accessories

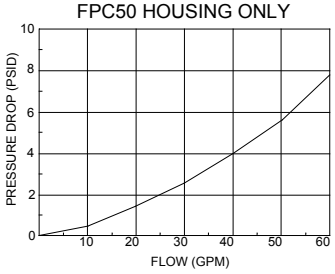
NFPA/JIC STYLE AND L-SHAPED POWER UNITS

Pressure Filter - 50 gpm (187.3 lpm)



FPC50 ELEMENT ONLY

FPC50 HOUSING ONLY



Model Code

Filter	Pressure		Flow
F	P		50

Indicator

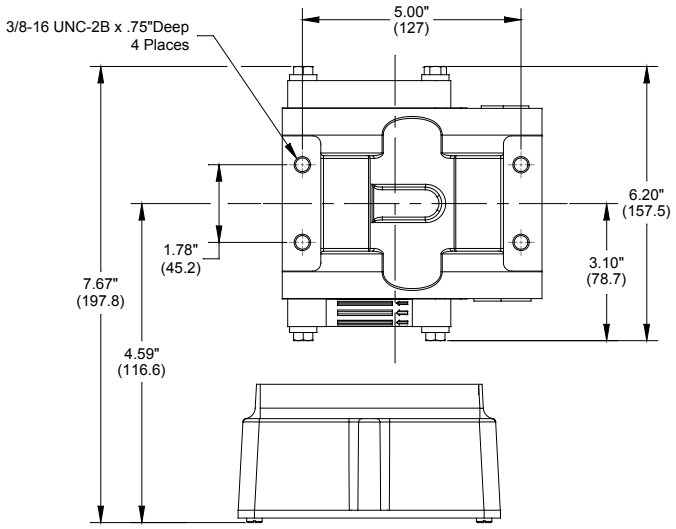
Code	Description
C	Visual - #1002484
E	Electrical - #1000624

Power Unit Accessories

NFPA/JIC STYLE AND L-SHAPED POWER UNITS

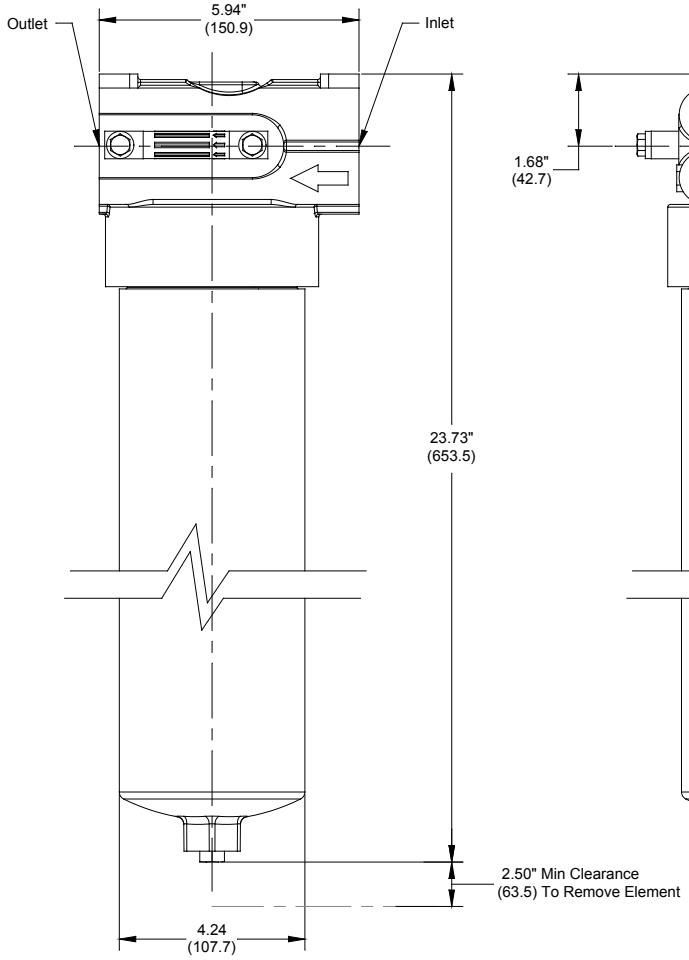
Pressure Filter - 70 gpm (264.9 lpm)

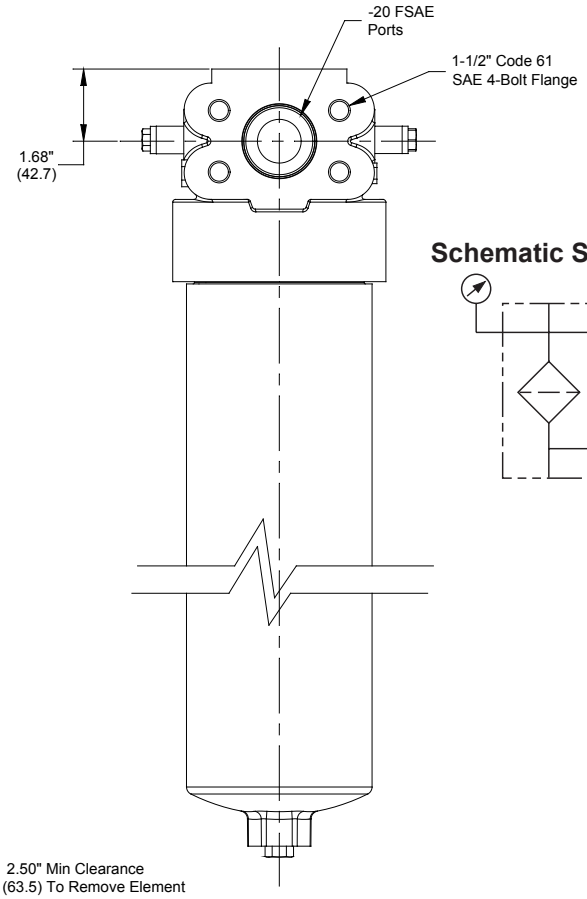
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Description: Pressure filters ensure the most positive type of filtration and provide clean fluid for sensitive pressure line components.

- 70 gpm (264.9 lpm)
- Maximum Pressure: 6000 psi (413 bar)
- By-Pass Cracking Pressure: 60 psi (4 Bar)
- Buna-N Seals Standard
- SAE O-Ring & SAE 4-Bolt Code 61 Flange Ported
- Visual Indicator Standard
- Electrical Indicator Optional
  - Max Temp: 250F/121C
  - Set: 40 psi / 276kPa
  - Voltage: 120 VAC / 28 VDC
  - Current: 250 mA
  - Circuit: Normaly Open (RED)
    Normaly Closed (BLUE)
    Common (WHITE)



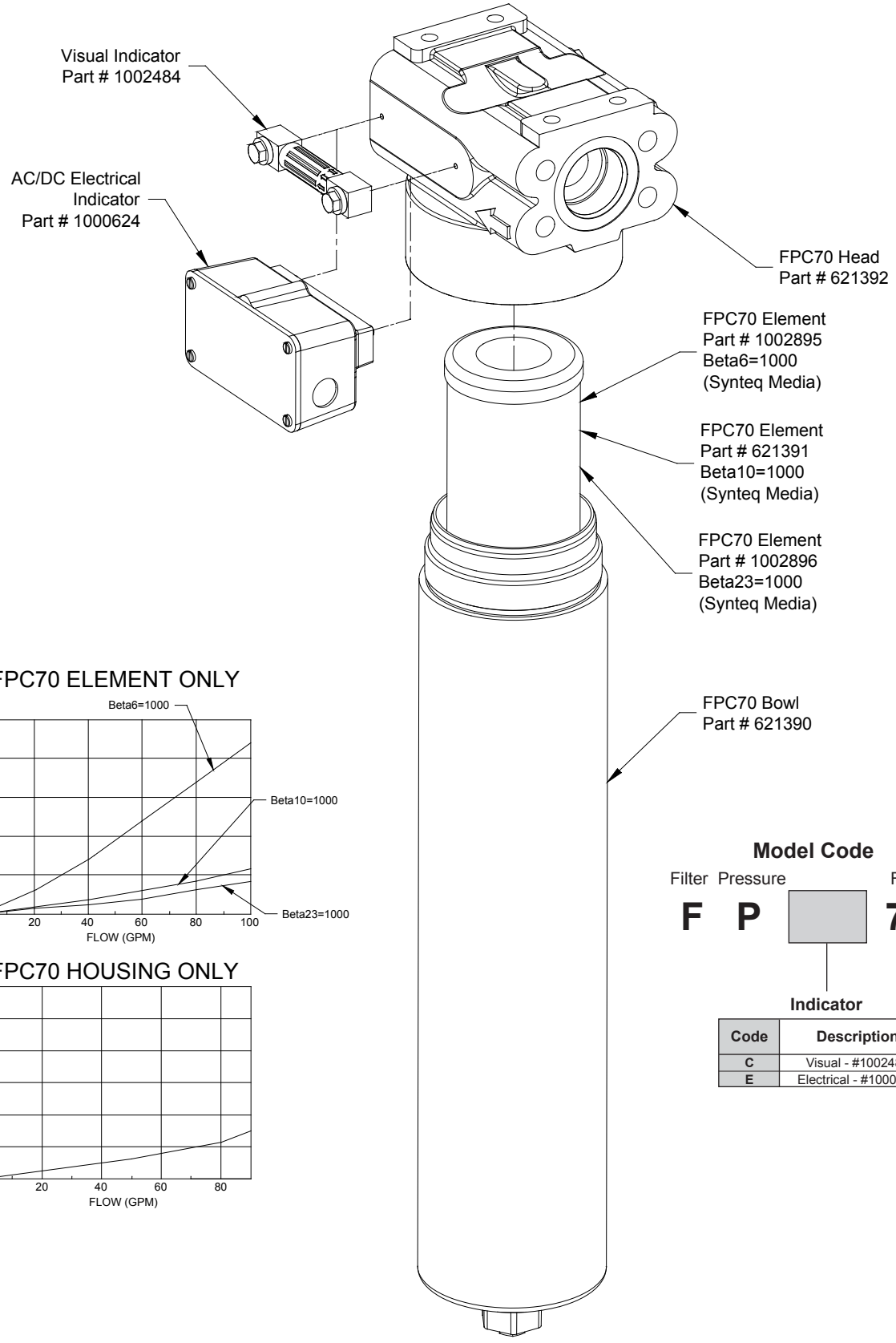


Schematic Symbol

Power Unit Accessories

NFPA/JIC STYLE AND L-SHAPED POWER UNITS

Pressure Filter - 70 gpm (264.9 lpm)



FPC70 ELEMENT ONLY

FPC70 HOUSING ONLY

Model Code

Filter	Pressure		Flow
F	**P**		**70**

Indicator

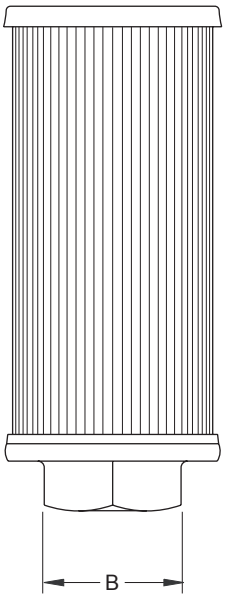
Code	Description
C	Visual - #1002484
E	Electrical - #1000624

Power Unit Accessories

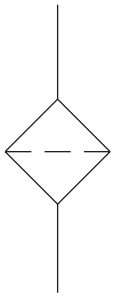
ALL POWER UNITS

Inlet Strainers

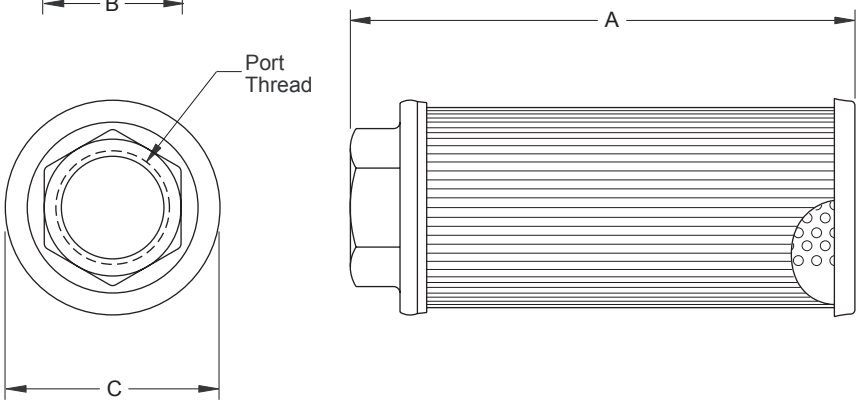
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Schematic Symbol



Description: Inlet Strainers are used to keep contaminants from entering the hydraulic system.



Model Code

Strainer

STR [ ] [ ]

Port Size Code
08
16
20
24
32
40
48

Mesh Code
60
100

Dimensions and Specifications

Model Code	A	B	C	Thread	gpm (lpm)	Area	Micron	Part No.
STR-16-60	5.75 (146.0)	1.63 (41.4)	3.19 (81.0)	1” NPT	10 (37.8)	125 sq. in. (806.5 cm²)	262	**148688**
STR-20-60	7.38 (187.5)	2.00 (50.8)	3.19 (81.0)	1-1/4” NPT	20 (75.7)	162 sq. in. (1045.2 cm²)	262	**148690**
STR-24-60	9.13 (231.9)	2.25 (57.1)	4.19 (106.4)	1-1/2” NPT	30 (113.5)	310 sq. in. (2.88 m²)	262	**148692**
STR-32-60	9.75 (247.6)	2.75 (69.8)	4.19 (106.4)	2” NPT	50 (189.2)	340 sq. in. (3.16 m²)	262	**148694**
STR-40-60	12.50 (317.5)	3.25 (82.6)	5.19 (131.8)	2-1/2” NPT	75 (283.9)	400 sq. in. (3.72 m²)	262	**128802**
STR-48-60	10.30 (261.6)	4.00 (101.6)	5.00 (127.0)	3” NPT	150 (567.7)	920 sq. in. (8.55 m²)	262	**954253**
STR-08-100	3.10 (78.7)	1.13 (28.7)	2.70 (68.6)	1/2” NPT	5 (18.9)	62 sq. in. (400.0 cm²)	149	**944057**
STR-16-100	2.13 (54.1)	1.63 (41.4)	3.19 (81.0)	1” NPT	10 (37.8)	14.7 sq. in. (95.2 cm²)	149	**914469**
STR-16-100	6.00 (152.4)	1.88 (47.8)	1.50 (38.1)	1” NPT	10 (37.8)	68 sq. in. (441.0 cm²)	149	**120806**
STR-16-100	5.75 (146.0)	1.63 (41.4)	3.19 (81.0)	1” NPT	10 (37.8)	125 sq. in. (806.5 cm²)	149	**148689**
STR-20-100	7.38 (187.5)	2.00 (50.8)	3.19 (81.0)	1-1/4” NPT	20 (75.7)	162 sq. in. (1045.2 cm²)	149	**148691**
STR-24-100	9.13 (231.9)	2.25 (57.1)	4.19 (106.4)	1-1/2” NPT	30 (113.5)	310 sq. in. (2.88 m²)	149	**148693**
STR-32-100	9.75 (247.6)	2.75 (69.8)	4.19 (106.4)	2” NPT	50 (189.2)	340 sq. in. (3.16 m²)	149	**148695**
STR-40-100	12.50 (317.5)	3.25 (82.6)	5.19 (131.8)	2-1/2” NPT	75 (283.9)	400 sq. in. (3.72 m²)	149	**128801**
STR-48-100	10.30 (261.6)	4.00 (101.6)	5.00 (127.0)	3” NPT	150 (567.7)	920 sq. in. (8.55 m²)	149	**954052**

Strainer Application for Fluid Codes H1 and H5

Power Unit Type	PVR6	Piggyback PVR6 on R20 Rsrvr	PVR15	PVR50	HPV6	HPV10- thru HPV-29	Gear Pumps G0.6B30- G3.4B21.5	Gear Pumps G2.0B31.5- G11B27
NFPA/JIC	148691	120806	148695	954052	148691	148695	N/A	N/A
L-Shaped	148691	N/A	148695	954052	148691	148695	N/A	N/A
Little Champ®	148691	N/A	N/A	N/A	N/A	N/A	944057	148689
Low Profile	914469	N/A	N/A	N/A	N/A	N/A	914469	914469

Strainer Application for Fluid Codes H3 and H4

Power Unit Type	PVR6	PVR15	PVR50	HPV6	HPV10- thru HPV-29	Gear Pumps G0.6B30- G3.4B21.5	Gear Pumps G2.0B31.5- G11B27
NFPA/JIC	148690	148694	954253	148690	148694	N/A	N/A
L-Shaped	148690	148694	954253	148690	148694	N/A	N/A
Little Champ®	148688	N/A	N/A	N/A	N/A	944057	148688
Low Profile	914469	N/A	N/A	N/A	N/A	914469	914469

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

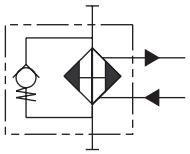
Air-to-Oil Heat Exchangers - Return Flow

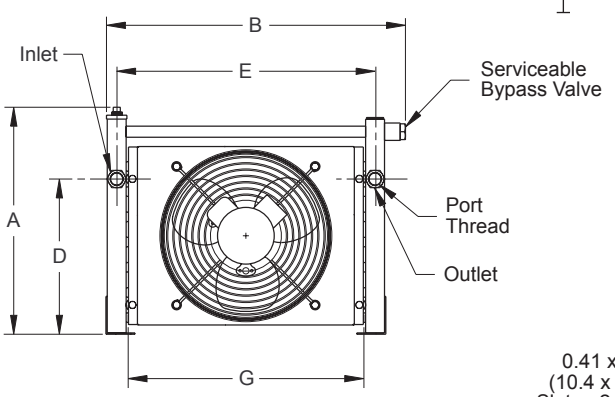
Description: These Heat Exchangers are designed to be used primarily as a cooling device for return flow.

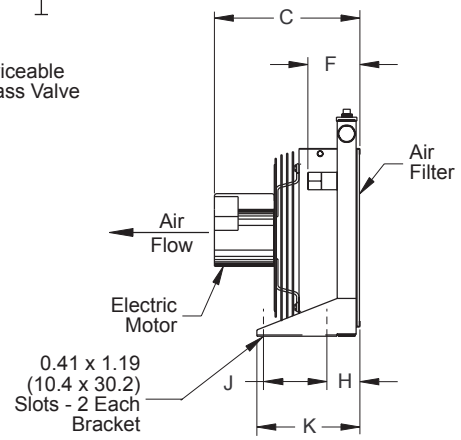
- Heat Removal Up to 80 HP (59.7 kW)
- Oil Flows to 150 gpm (567.7 lpm)
- Mounting Brackets Included
- SAE Connections
- Three Phase Motors
- Built-In 30 psi (2 bar) By-Pass Valve

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

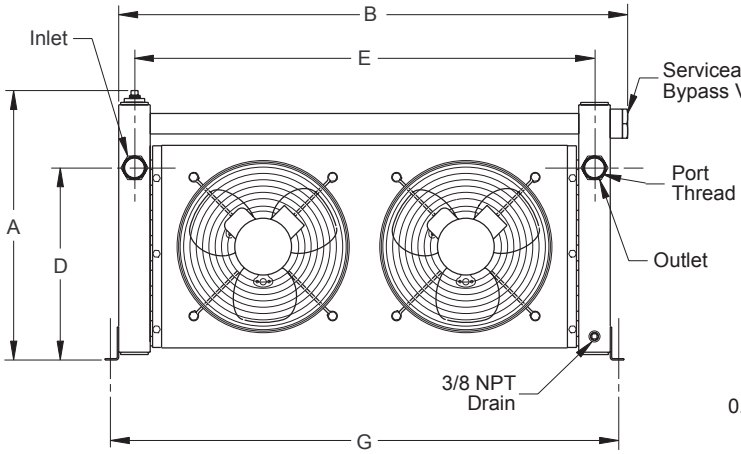
Schematic Symbol

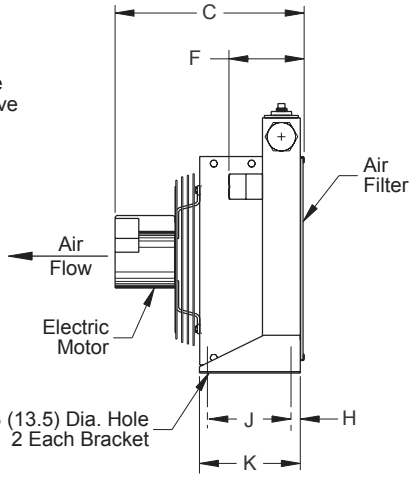






HEA19 - 33





HEA37 - 70

Dimensions

Size	A	B	C	D	E	F	G	H	J	K
HEA19	16.00 (406.4)	16.18 (411.0)	13.08 (332.2)	10.31 (261.9)	15.00 (381.0)	3.05 (77.5)	14.75 (374.6)	2.61 (66.3)	5.00 (127.0)	8.18 (207.8)
HEA22	18.00 (457.2)	23.66 (601.0)	12.19 (309.6)	12.31 (312.7)	20.50 (520.7)	3.05 (77.5)	18.69 (474.7)	2.61 (66.3)	5.00 (127.0)	8.18 (207.8)
HEA24	22.00 (558.8)	26.41 (670.8)	13.19 (335.0)	16.31 (414.3)	23.25 (590.6)	3.05 (77.5)	21.44 (544.6)	2.61 (66.3)	5.00 (127.0)	8.18 (207.8)
HEA33	28.00 (711.2)	31.91 (810.5)	13.19 (335.0)	22.31 (566.7)	28.75 (730.2)	3.05 (77.5)	26.97 (685.0)	2.61 (66.3)	5.00 (127.0)	8.18 (207.8)
HEA37	21.38 (543.1)	40.38 (1025.7)	15.66 (397.8)	15.25 (387.3)	36.50 (927.1)	4.62 (117.3)	40.50 (1028.7)	1.06 (26.9)	6.50 (165.1)	8.31 (211.1)
HEA50	25.38 (644.7)	42.38 (1076.5)	15.62 (396.7)	19.25 (488.9)	38.50 (977.9)	4.68 (118.9)	42.50 (1079.5)	1.12 (28.4)	6.50 (165.1)	8.37 (212.6)
HEA54	33.28 (845.3)	43.38 (1101.9)	17.09 (434.1)	27.25 (692.1)	39.50 (1003.3)	4.89 (124.2)	43.75 (1111.2)	1.87 (47.5)	9.00 (228.6)	12.37 (314.2)
HEA57	39.38 (1000.3)	49.38 (1254.3)	16.72 (424.7)	32.75 (831.8)	45.50 (1155.7)	6.68 (169.7)	49.75 (1263.6)	1.87 (47.5)	9.00 (228.6)	12.37 (314.2)
HEA70	41.25 (1047.7)	52.38 (1330.5)	22.62 (574.5)	34.00 (863.6)	48.50 (1231.9)	8.44 (214.4)	52.75 (1339.8)	1.62 (41.1)	9.00 (228.6)	12.12 (307.8)

Heat Exchanger Selection Procedure:
Performance curves are based on 100 SUS (20.6 Cs) oil leaving the cooler 40° F. (5° C.) higher than the incoming water temperature used for cooling. This is also referred to as a 40° F. approach temperature. Horsepower removed needs to be modified if the above is not met.

STEP 1: Determine the Heat Load. This will vary with diferent systems, but typically, coolers are sized to remove 25 to 50% of the input horsepower of the power unit. (Example: 100 HP power unit x .33 = 33 HP heat load.
If BTU/hr. is known: $HP = \frac{BTU/hr.}{2545}$

STEP 2: Determine Approach Temperature. Desired oil leaving cooler °F - Ambient Air Temperature °F = Actual Approach (maximum reservoir temperature).

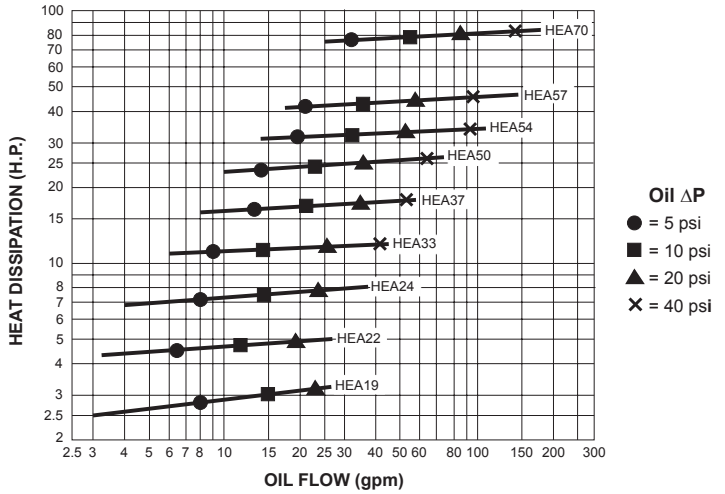
STEP 3: Determine Curve Horsepower Heat Load. Enter the information from above:
Horsepower Heat Load x $\frac{40}{\text{Actual Approach}}$
Viscosity Correction = Curve Horsepower
(Correction: 50 SUS = .90
100 SUS = 1.00
150 SUS = 1.14
200 SUS = 1.20

STEP 4: Enter curves at oil flow through cooler and curve horsepower. Any curve above the intersecting point will work.

STEP 5: Determine the Oil Pressure Drop.
● = 5 psi (.3 bar) ■ = 10 psi (.7 bar)
▲ = 20 psi (1.4 bar) × = 40 psi (2.8 bar)
Multiply pressure drop from curve by correction factor: 50 SUS = .5
100 SUS = 1.00
150 SUS = 1.50
200 SUS = 2.00

Specifications

Size	Part No.	Port Size	Motor HP	Motor Specifications	Motor rpm
HEA19	600084	SAE-12	1/4 HP (.19 kW)	208-230/460/60/3 1.3/.65 Amps Full Load	1700
HEA22	600085	SAE-12	1/4 HP (.19 kW)	208-230/460/60/3 1.3/.65 Amps Full Load	1700
HEA24	600086	SAE-12	1/4 HP (.19 kW)	208-230/460/60/3 1.3/.65 Amps Full Load	1700
HEA33	600087	SAE-16	1/4 HP (.19 kW)	208-230/460/60/3 1.3/.65 Amps Full Load	1700
HEA37	600088	SAE-20	1/4 HP (.19 kW)	208-230/460/60/3 1.3/.65 Amps Full Load	1700
HEA50	600089	SAE-20	1/4 HP (.19 kW)	208-230/460/60/3 1.3/.65 Amps Full Load	1700
HEA54	600090	SAE-24	1/4 HP (.19 kW)	208-230/460/60/3 1.3/.65 Amps Full Load	1700
HEA57	600091	SAE-32	1/4 HP (.19 kW)	208-230/460/60/3 1.3/.65 Amps Full Load	1700
HEA70	600092	SAE-32	1 HP (.75 kW)	208-230/460/60/3 3.4/1.7 Amps Full Load	1725



Model Code

HEA [ ]
Heat Exchanger Air

Size

Code
19
22
24
33
37
50
54
57
70

Power Unit Accessories

ALL POWER UNITS

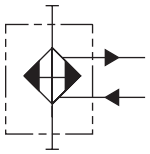
Air-to-Oil Heat Exchangers - Case Drain

Description: The HEA4 Heat Exchanger is designed to be used primarily as a cooling device for the case drain lines on pressure compensated vane pumps. The cooler must be mounted behind a T.E.F.C. motor to provide the required air movement.

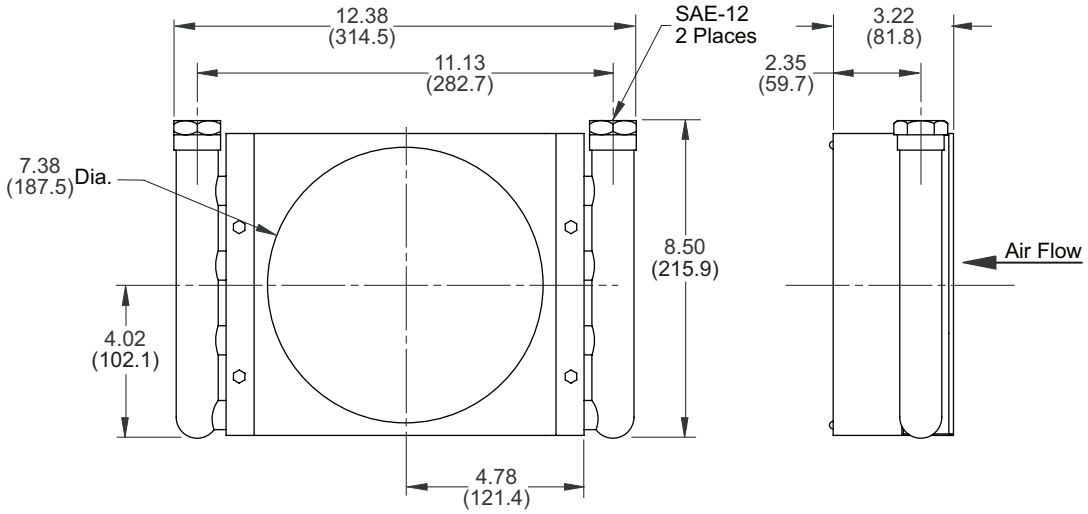
- Utilizes Existing Motor Air Stream
- Protective Steel Case
- 150 psi (10 bar) Pressure Rating
- Gasketed Between Motor and Shell

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

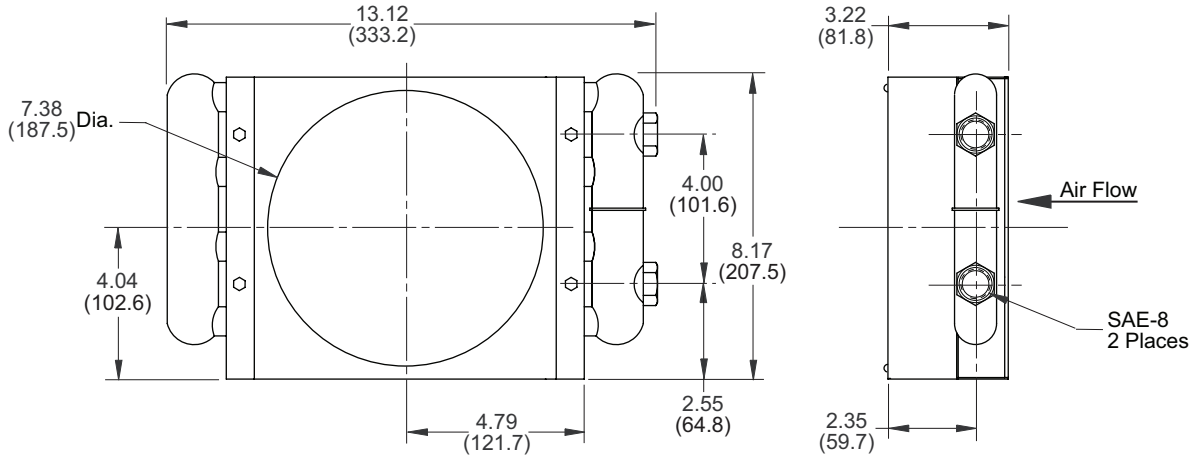
Schematic Symbol



Single Pass

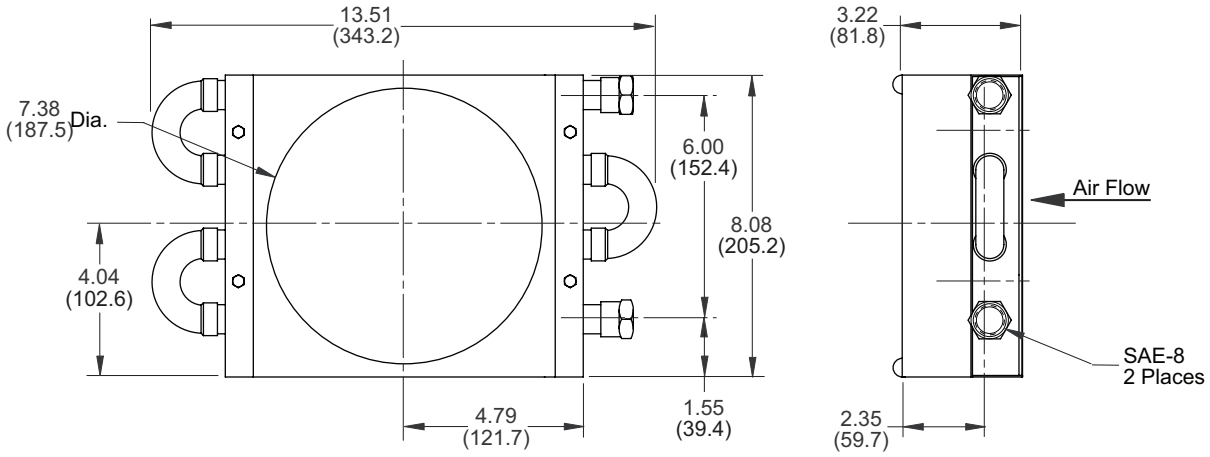


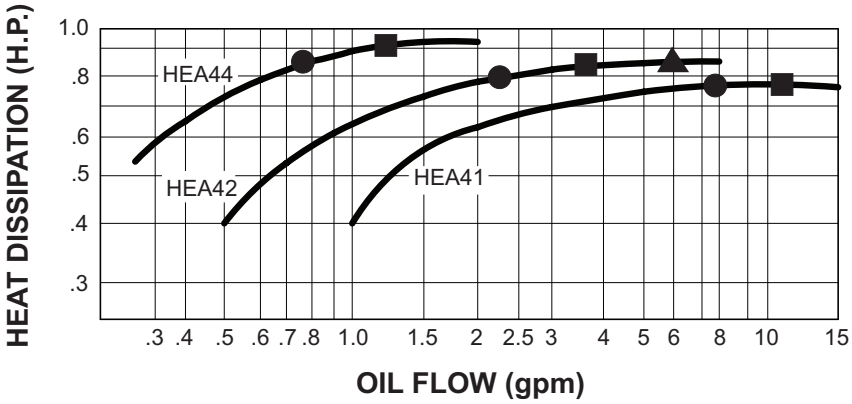
Two Pass



Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Four Pass





Oil ∆P

● = 5 psi

■ = 10 psi

▲ = 20 psi

Model Code

HEA4 [ ]

Heat Exchanger Air

No. of Passes

Code	No. of Passes
1	Single Pass #610861
2	Two Pass #610862
4	Four Pass #610863

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

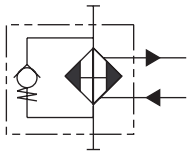
Water-to-Oil Heat Exchangers

Description: These shell and tube Heat Exchangers are highly efficient and can extend the life of hydraulic components and fluid. The heat exchanger must be placed in the return or low pressure portion of the circuit. Models HEW21, HEW31 and HEW33 have built-in surge cushion.

- Steel Shell
- Copper Tubes
- Aluminum Fins
- HEW11 Has Cast Iron End Bonnets
- HEW21 - HEW33 Have Grey Iron End Bonnets

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Schematic Symbol



Model Code

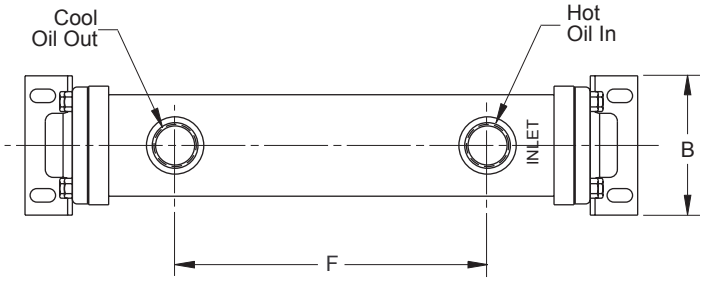
HEW [ ]

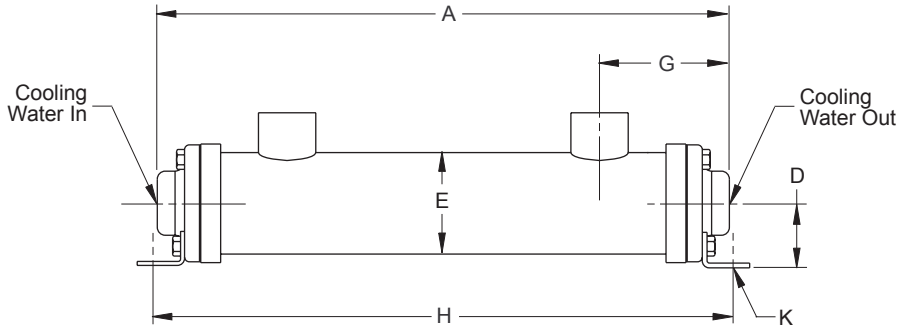
Heat Exchanger Water

Size

Code
11
21
31
33

Single Pass





Dimensions

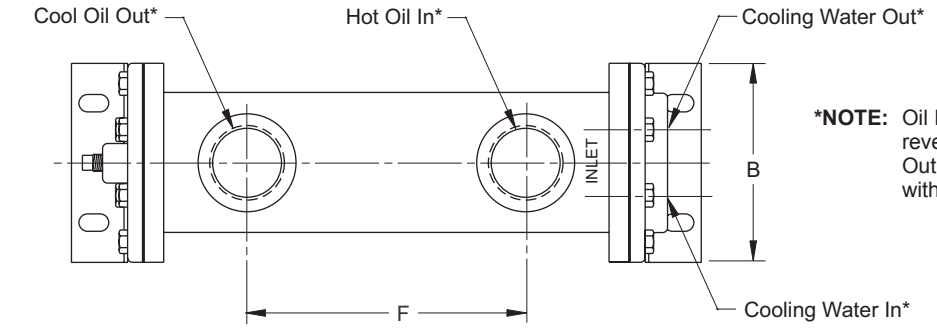
Size	A	B	C	D	E	F	G	H	J
HEW11	11.24 (285.5)	2.62 (66.5)	3.50 (88.9)	1.94 (49.3)	2.13 (54.1)	7.62 (193.5)	1.81 (46.0)	11.01 (279.7)	1.75 (44.4)
HEW21	14.38 (365.3)	3.50 (88.9)	3.90 (99.1)	1.62 (41.2)	2.55 (64.8)	7.85 (199.4)	3.26 (82.8)	14.44 (366.8)	2.50 (63.5)

Dimensions

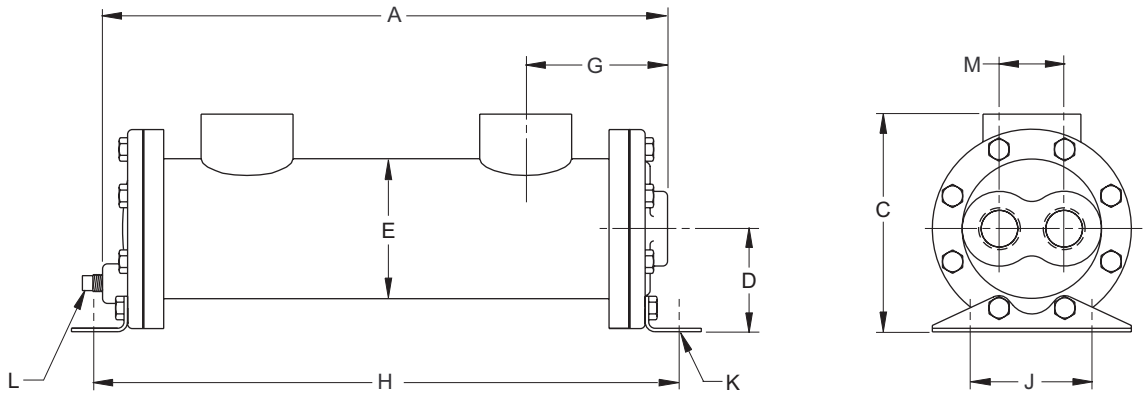
Size	K
HEW11	1.41 (10.4) Dia.
HEW21	.34 x .62 (8.6 x 15.7) Slot

Two Pass

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



***NOTE:** Oil In and Oil Out connection may be reversed, and Water In and Water Out connection may be reversed with no effect on performance.



Dimensions

Size	A	B	C	D	E	F	G	H	J
HEW31	14.19 (360.4)	5.00 (127.0)	5.47 (138.9)	2.59 (65.8)	3.52 (89.4)	7.00 (177.8)	3.57 (90.7)	14.71 (373.6)	3.00 (76.2)
HEW33	20.19 (512.8)	5.00 (127.0)	5.47 (138.9)	2.59 (65.8)	3.52 (89.4)	13.00 (330.2)	3.57 (90.7)	20.71 (526.0)	3.00 (76.2)

Dimensions

Size	K	L	M
HEW31	.44 x .75 (11.2 x 19.0) Slot	1/4" NPT	1.62 (41.2)
HEW33	.44 x .75 (11.2 x 19.0) Slot	1/4" NPT	1.62 (41.2)

Specifications

Size	Part No.	Water Port	Oil Port	Max. gpm (lpm) Shell (Oil)	Max. gpm (lpm) Tubes (Water)	Max. psi (bar) Shell (Oil)	Max. psi (bar) Tubes (Water)
HEW11	904343	1" NPT	1/2" NPT	9.6 gpm (36.3 lpm)	2.5 gpm (9.5 lpm)	250 psi (17 bar)	150 psi (10.3 bar)
HEW21	133766	3/4" NPT	SAE-12	20 gpm (75.7 lpm)	13 gpm (49.2 lpm)	500 psi (34 bar)	150 psi (10.3 bar)
HEW31	133767	3/4" NPT	SAE-24	70 gpm (264.9 lpm)	12 gpm (45.4 lpm)	500 psi (34 bar)	150 psi (10.3 bar)
HEW33	133768	3/4" NPT	SAE-24	70 gpm (264.9 lpm)	12 gpm (45.4 lpm)	500 psi (34 bar)	150 psi (10.3 bar)

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

Water-to-Oil Heat Exchangers

Heat Exchanger Selection Procedure:
Performance curves are based on 100 SUS (20.6 Cs) oil leaving the cooler 40° F. (5° C.) higher than the incoming water temperature used for cooling. This is also referred to as a 40° F. approach temperature. Horsepower removed needs to be modified if the above is not met.

STEP 1: Determine the Heat Load. This will vary with diferent systems, but typically, coolers are sized to remove 25 to 50% of the input horsepower of the power unit. (Example: 100 HP power unit x .33 = 33 HP heat load.
If BTU/hr. is known: $HP = \frac{BTU/hr.}{2545}$

STEP 2: Determine Approach Temperature. Desired oil leaving cooler °F - Ambient Air Temperature °F = Actual Approach (maximum reservoir temperature).

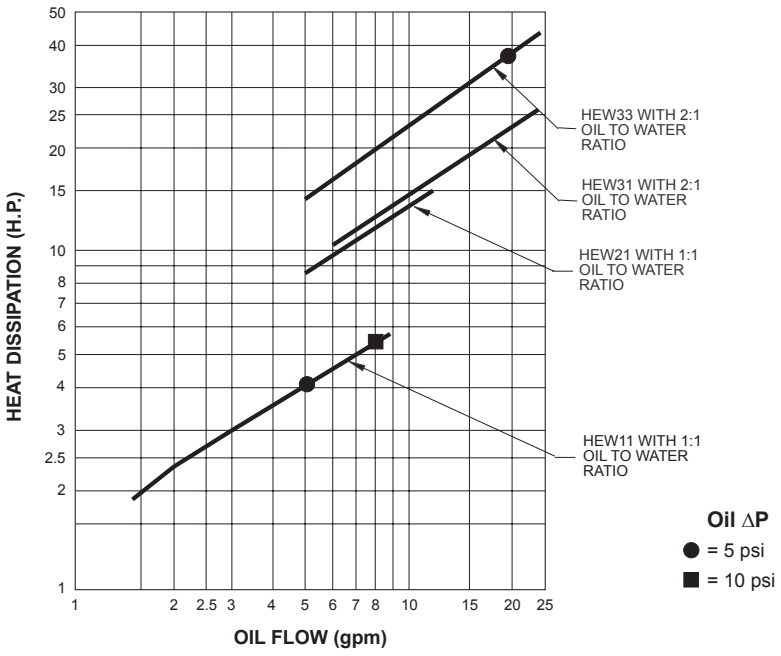
STEP 3: Determine Curve Horsepower Heat Load. Enter the information from above:

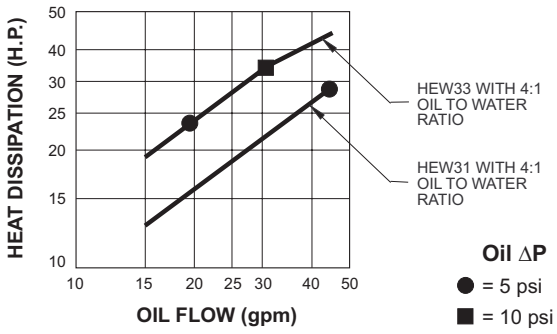
$$\text{Horsepower Heat Load} \times \frac{40}{\text{Actual Approach}} = \text{Viscosity Correction} = \text{Curve Horsepower}$$

(Correction: 50 SUS = .90
100 SUS = 1.00
150 SUS = 1.14
200 SUS = 1.20

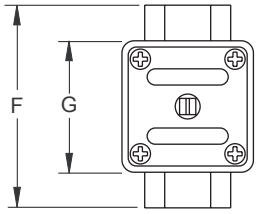
STEP 4: Enter curves at oil flow through cooler and curve horsepower. Any curve above the intersecting point will work.

STEP 5: Determine the Oil Pressure Drop.
● = 5 psi (.3 bar) ■ = 10 psi (.7 bar)
Multiply pressure drop from curve by correction factor: 50 SUS = .5
100 SUS = 1.00
150 SUS = 1.50
200 SUS = 2.00

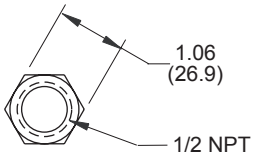


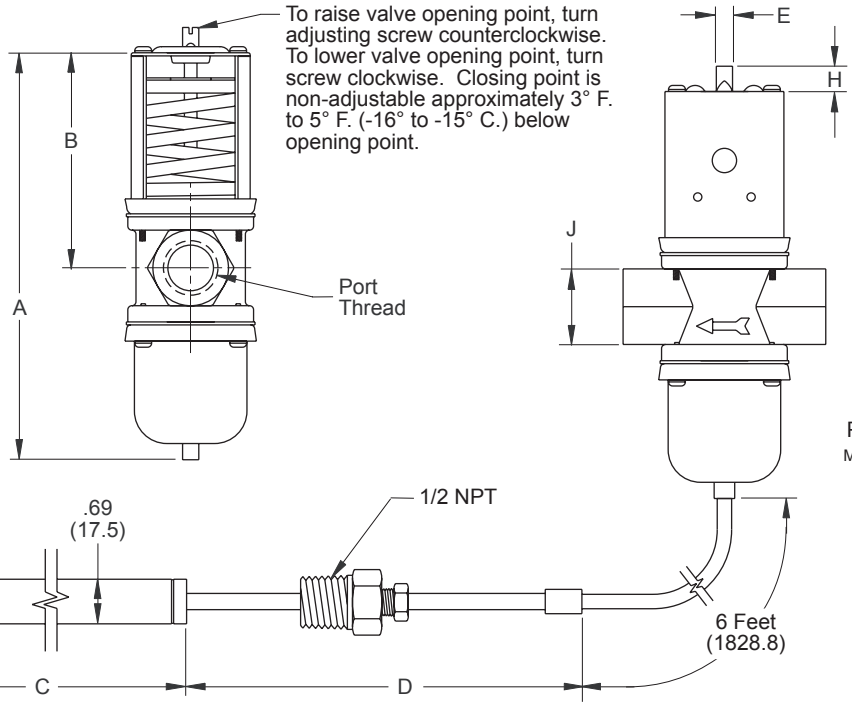


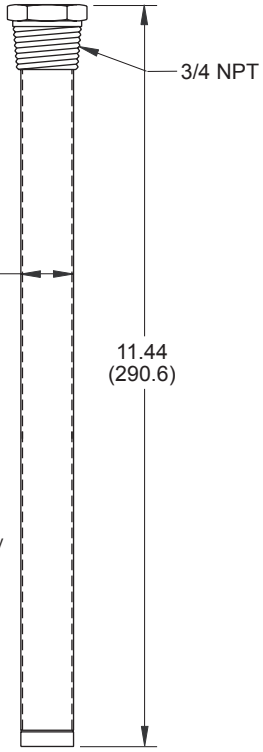
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Description: A Water Modulating Valve should be placed in the water inlet to the heat exchangers to provide maximum operating efficiency, conserve water usage amd eliminate over-cooling the hydraulic oil. The temperature sensor should be located as close as possible to the pump inlet. The sensor may be installed directly into the oil, or into a bulb well.





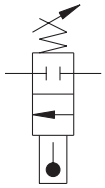


Bulb Well
Part No. 128035
MHE2 and MHE3 Only

Dimensions

Size	A	B	C	D	E	F	G	H	J
MHE2	6.00 (152.4)	3.31 (84.1)	10.00 (254.0)	6.00 (152.4)	.25 (6.3)	3.13 (79.5)	2.00 (50.8)	.38 (9.5)	1.13 (28.7)
MHE3	6.44 (163.6)	3.75 (95.2)	10.00 (254.0)	6.00 (152.4)	.25 (6.3)	3.44 (87.4)	2.13 (54.1)	.38 (9.5)	1.50 (38.1)
MHE4	9.19 (233.4)	5.50 (139.7)	16.25 (412.7)	3.00 (76.2)	.31 (7.9)	5.00 (127.0)	2.88 (73.2)	.50 (12.7)	2.00 (50.8)

Schematic Symbol



Model Code

MHE Water Modulating Valve

Size

Code
2
3
4

Specifications

Size	Part No.	Port Thread	Temperature Range*	Working Pressure	Water Flow at 55 psi (4 bar)
MHE2	124169	1/2" NPT	75° - 135°F. (24° - 57°C.)	150 psi (10.3 bar)	25 gpm (94.6 lpm)
MHE3	129411	3/4" NPT	75° - 135°F. (24° - 57°C.)	150 psi (10.3 bar)	40 gpm (151.4 lpm)
MHE4	119700	1" NPT	75° - 135°F. (24° - 57°C.)	150 psi (10.3 bar)	55 gpm (208.2 lpm)

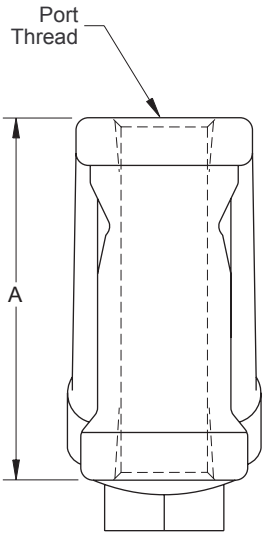
***NOTE:** Maximum bulb temperature - 20°F. (-7°C.) above temperature range.
Maximum water temperature - 170°F. (77°C.).

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

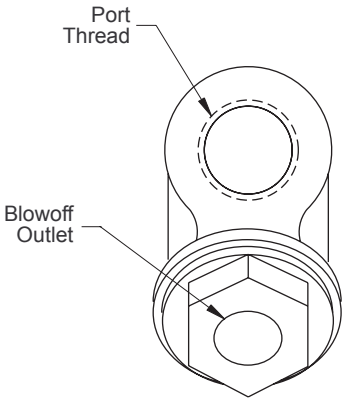
"Y" Type Water Strainers

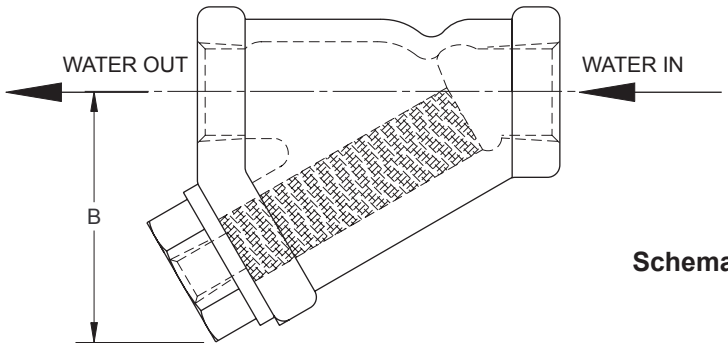
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



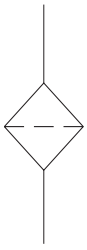
Description: Used to strain foreign matter from water lines. Also provides inexpensive protection for water-to-oil heat exchangers.

- 20 Mesh Screen
- Self-Cleaning By Opening Blowoff Outlet





Schematic Symbol



Dimensions

Size	A	B
Y2	3.25 (82.5)	2.13 (54.1)
Y3	3.81 (96.8)	2.50 (63.5)
Y4	4.19 (106.4)	2.56 (65.0)

Model Code

"Y" Strainer

Y [ ]

Size

Code
2
3
4

Specifications

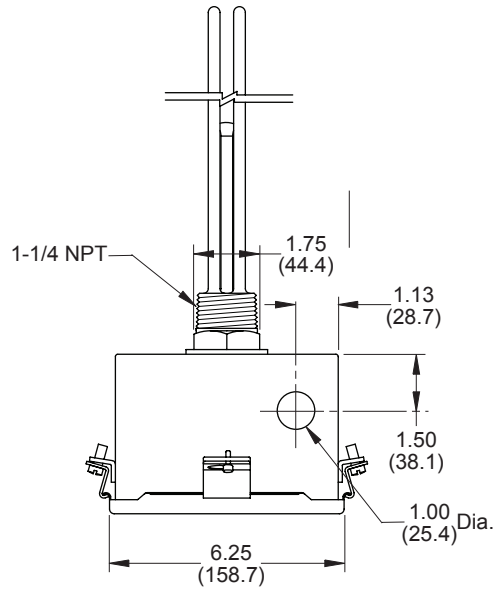
Size	Part No.	Port Thread	Blowoff Outlet
Y2	974443	1/2" NPT	1/4" NPT
Y3	974444	3/4" NPT	3/8" NPT
Y4	974445	1" NPT	3/8" NPT

Power Unit Accessories

NFPA/JIC, L-SHAPED AND LITTLE CHAMP® POWER UNITS

Tank Heaters

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



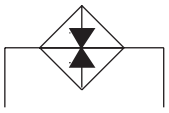
Description: Immersion Heaters are often used to elevate fluid temperature viscosity rating close to that of the operating temperature.

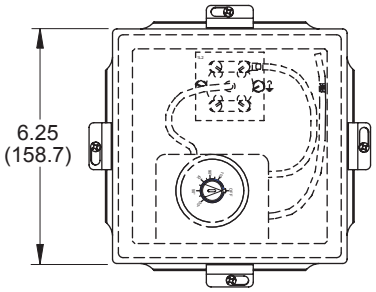
- Dual Voltage 120/240V, 60 Hertz, Single Phase
- NEMA 4 Enclosure
- 30° F. - 100° F. (-1° C. - 38° C.) Thermostat; 25 Amps Maximum
- Steel Elements
- 23 Watts per Square Inch

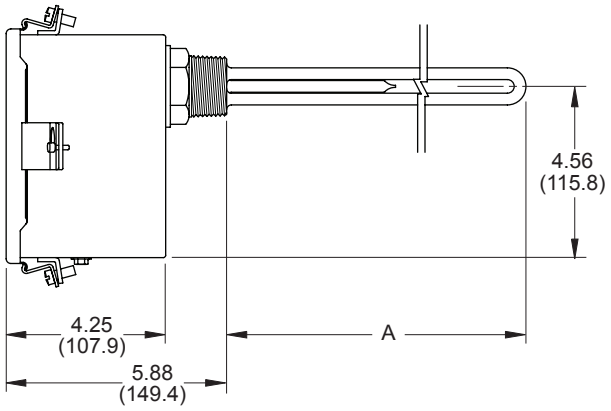
Dimensions

Reservoir Size	A
10 - 20 Gal. (37.8 - 75.7 liters)	8.75 (222.2)
30 - 60 Gal. (113.5 - 227.1 liters)	25.38 (644.7)
70 - 210 Gal. (254.9 - 794.8 liters)	36.87 (936.5)

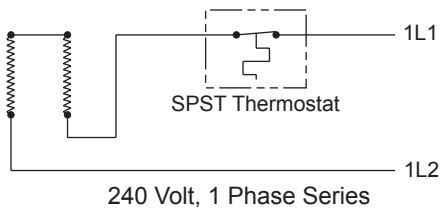
Schematic Symbol



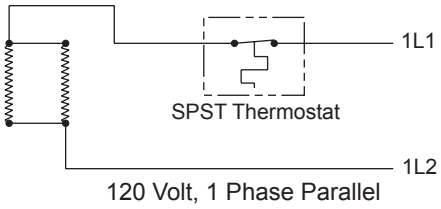




Wiring Diagrams



240 Volt, 1 Phase Series



120 Volt, 1 Phase Parallel

Specifications

Code	Part No.	Application	Watts	Current Draw	
				120 Volts	240 Volts
TH	914840	10 - 20 Gal. (37.8 - 75.7 liters)	700	6 Amps	3 Amps
	914841	30 - 60 Gal. (113.5 - 227.1 liters)	2000	16.7 Amps	8.35 Amps
	914842	70 - 210 Gal. (254.9 - 794.8 liters)	3000	25 Amps	12.5 Amps

Model Code

Tank Heater

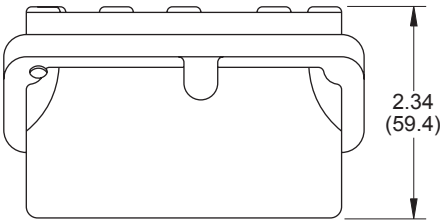
TH

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

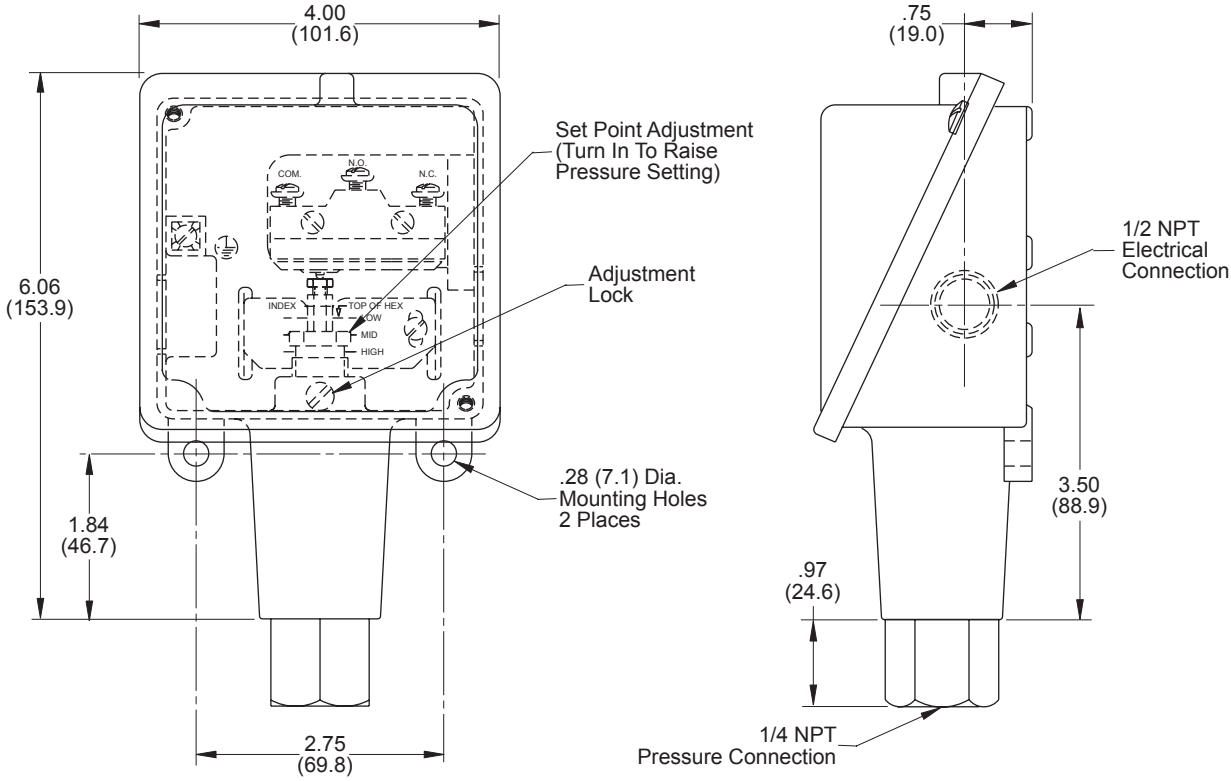
Pressure Switch

Dimensions shown in: Inches (± .125)
(millimeters (± 1 mm)

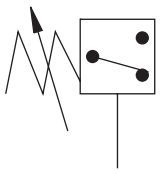


Description: Pressure Switches are used to sense the pressure in a fluid line and control other devices such as electrical components, i.e. valves, motor start/stop switches, alarms, warning lights and programmable logic circuits.

- UL Listed, CSA Certified
- 303 Stainless Steel Piston
- 125 to 3000 psi (9 to 207 bar) Adjustable
- 40 to 180 psi (3 to 12 bar) Deadband
- 10,000 psi (690 bar) Proof Pressure
- SPDT N.O. or N.C. Switch
- 15 Amp, 125/250/480 VAC Resistive
- 1.5% Set Point Repeatability



Schematic Symbol



Model Code

Press. Switch Size

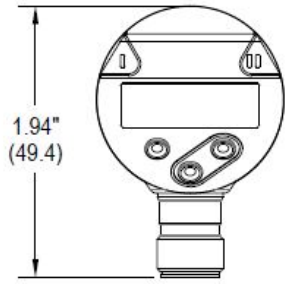
PS 1

Part No. 914861

Power Unit Accessories

ALL POWER UNITS

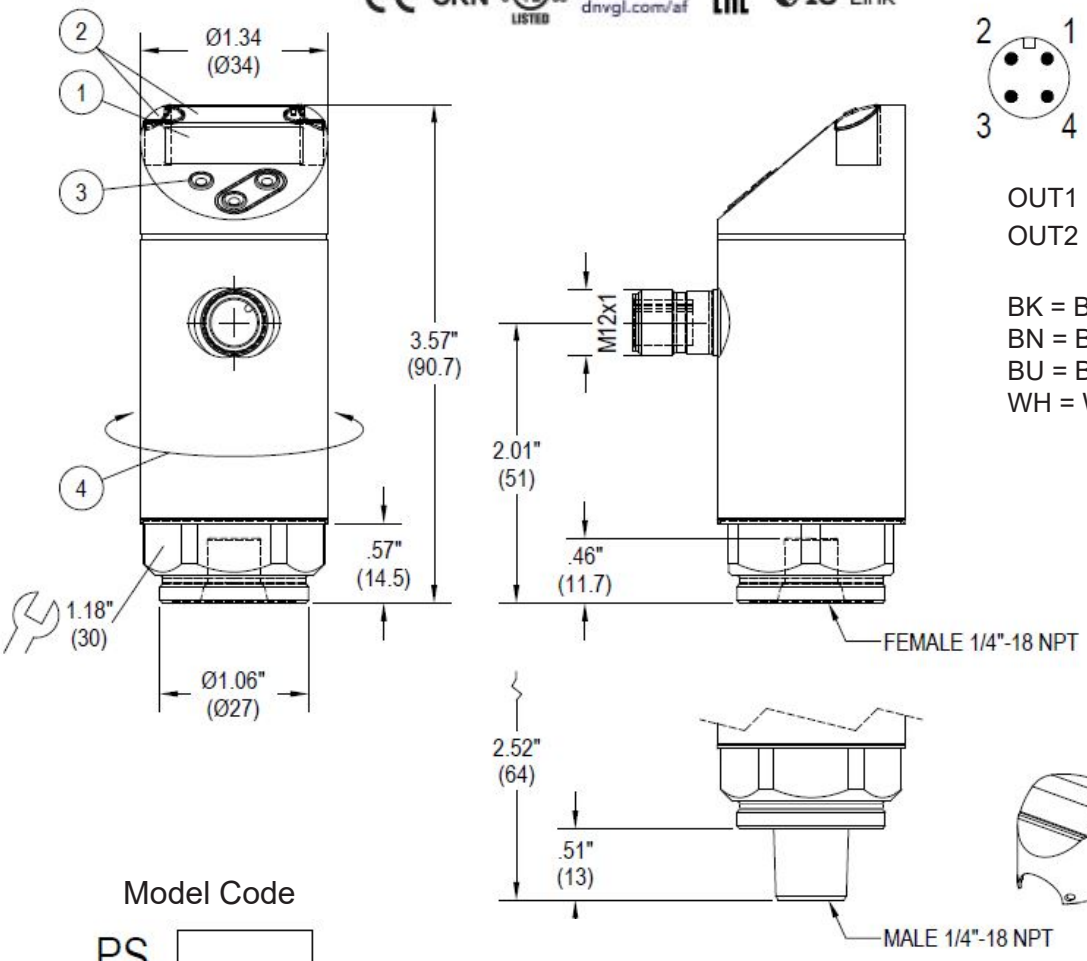
Pressure Sensors



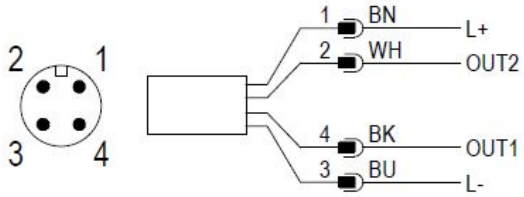
1. Alphanumeric Display 4 digit Red/Green
2. LED's Display Unit / Switching Status
3. Programming Buttons
4. Upper Part Of The Housing Can Be Rotated 345 deg.

Description: Pressure sensor, 4digit 2-color LED display in units of bar, psi and MPa, 4-wire DC, dual PNP/NPN switching outputs, or 4...20mA/0...10V scalable analog and PNP/NPN switching output, 1/4" NPT female or male process connection, IP 65; IP 67; 4-pin micro DC connector.

CE CRN cULus LISTED DNV·GL dnvgl.com/af EAC IO-Link



Wire Diagram



OUT1 Switching Output
OUT2 Switching Output Analog Output

Core Colors:

BK = Black
BN = Brown
BU = Blue
WH = White

Model Code

PS [ ]
Pressure Sensor

Size	Part No.	Application
145M	1023772PT	-14.5 - 145 PSI MALE 1/4" NPT
145F	1024892	-14.5 - 145 PSI FEMALE 1/4" NPT
3620M	1024489	0 - 3620 PSI MALE 1/4" NPT
3620F	1022270	0 - 3620 PSI FEMALE 1/4" NPT
5800M	1024893	0 - 5800 PSI MALE 1/4" NPT
5800F	1024894	0 - 5800 PSI FEMALE 1/4" NPT

1024887 Protective Cover For Temperature Sensor



1024883 Female 90 DEG. Cord set; 5 m PUR-Cable M12 Connector; IP65; IP 67; IP 68; IP 69K Ambient Temp. -13-194 Deg. F (-25-90 Deg. C)



1024884 Female Straight Cordset; 5 m PUR-Cable M12 Connector; IP65; IP 67; IP 68; IP 69K Ambient Temp. -13-194 Deg. F (-25-90 Deg. C)

Power Unit Accessories

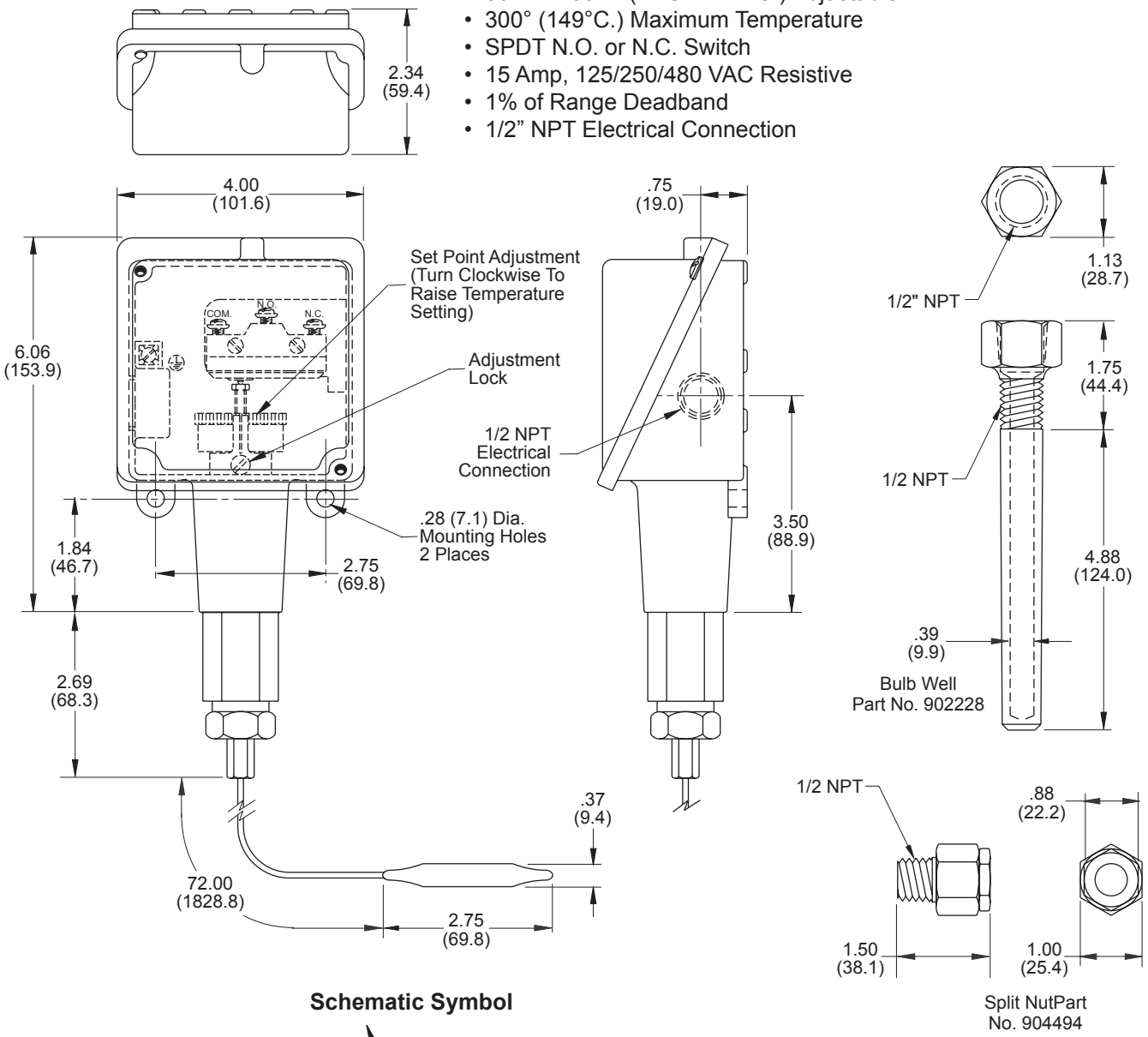
NFPA/JIC AND L-SHAPED POWER UNITS

Temperature Switch

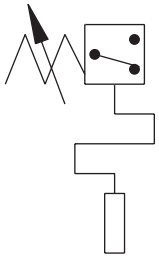
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: Temperature Switches sense the hydraulic oil temperature and control other devices such as warning lights, cooling fan motors and emergency shutdown.

- UL Listed, CSA Certified
- NEMA 4 Enclosure
- 30°F. - 250°F. (-1°C. - 121°C.) Adjustable
- 300° (149°C.) Maximum Temperature
- SPDT N.O. or N.C. Switch
- 15 Amp, 125/250/480 VAC Resistive
- 1% of Range Deadband
- 1/2” NPT Electrical Connection



Schematic Symbol

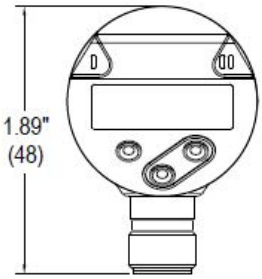


Model Code

Temp. Switch Size

TS 1

Part No. 914862

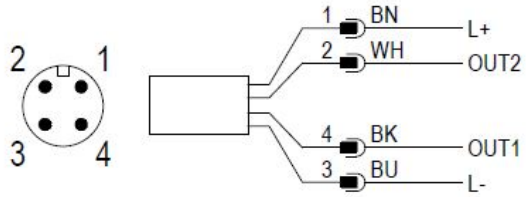


1. LED's Display Unit / Switching Status
2. Alphanumeric Display 4 digit Red/Green
3. Programming Buttons
4. Upper Part Of The Housing Can Be Rotated 345 deg.

Description: Temperature sensor, self contained RTD, -58-305DEG F temp. range, integrated 1/2" NPT precess adapter with 30, 50, 100 & 150mm long 6mm probe, 4-wire DC, two PNP/ NPN switching outputs, or one 4-20mA/1-10v scalable analog and 1 PNP/NPN switch output, 4-pin micro DC connector

IO-Link

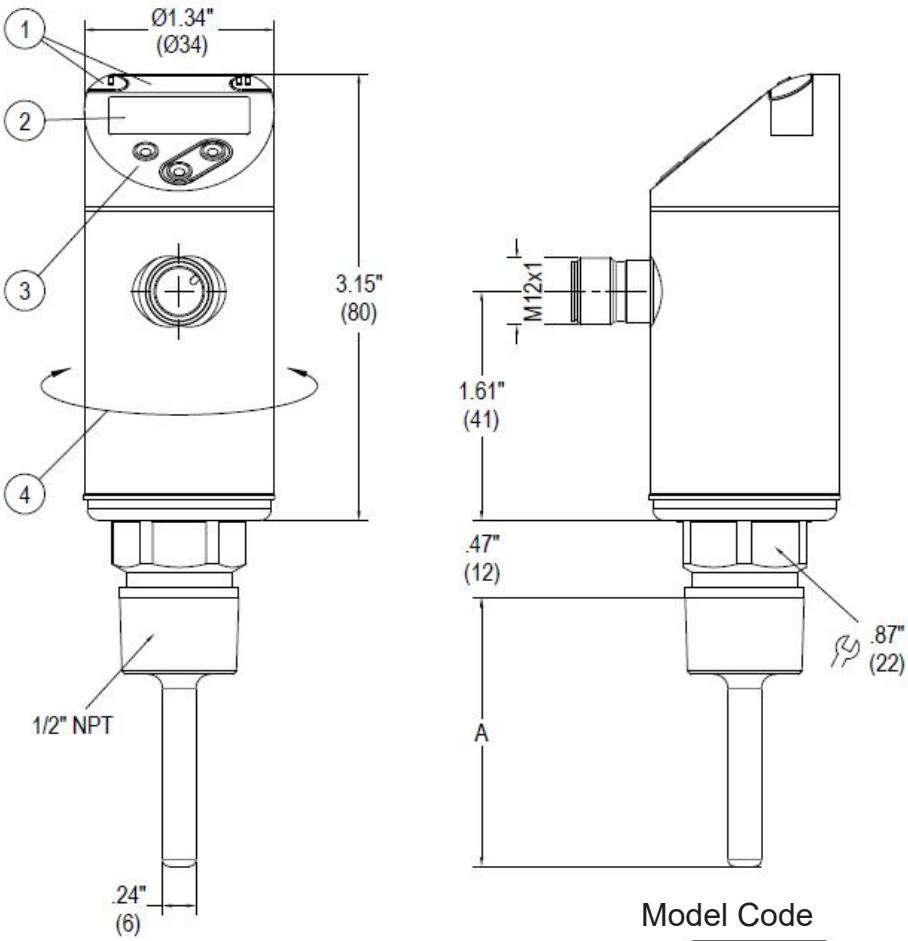
Wire Diagram



OUT1 Switching Output / IO-Link
OUT2 Switching Output Analog Output
Colours To DIN EN 60947-5-2

Core Colors:

BK = Black
BN = Brown
BU = Blue
WH = White





1024887 Protective Cover
For Temperature Sensor



1024883 Female 90 DEG.
Cord set; 5 m PUR-Cable
M12 Connector;
IP65; IP 67; IP 68; IP 69K
Ambient Temp. -13-194 Deg. F
(-25-90 Deg. C)

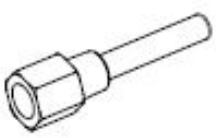


1024884 Female Straight
Cordset; 5 m PUR-Cable
M12 Connector;
IP65; IP 67; IP 68; IP 69K
Ambient Temp. -13-194 Deg. F
(-25-90 Deg. C)

Model Code

TS [ ]

Temperature Sensor



1024522TW 1/2" NPT
Thermowell, 316L
Stainless Steel
For TS30 - TS100

1024678TW 1/2" NPT
Thermowell, 316L
Stainless Steel
For TS150

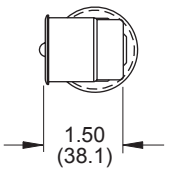
Size	Part No.	A	SWITCHPOINT SETTING RANGE	PRESSURE RATING
30	1024922	1.18" (30)	-58 - 302°F (-50 - 150° C)	4350 PSI
50	1024923	1.97" (50)	-58 - 302°F (-50 - 150° C)	4350 PSI
100	1024522	3.94" (100)	-58 - 302°F (-50 - 150° C)	3625 PSI
150	1024679	5.91" (150)	-58 - 302°F (-50 - 150° C)	3625 PSI

Power Unit Accessories

NFPA/JIC, L-SHAPED AND LITTLE CHAMP® POWER UNITS

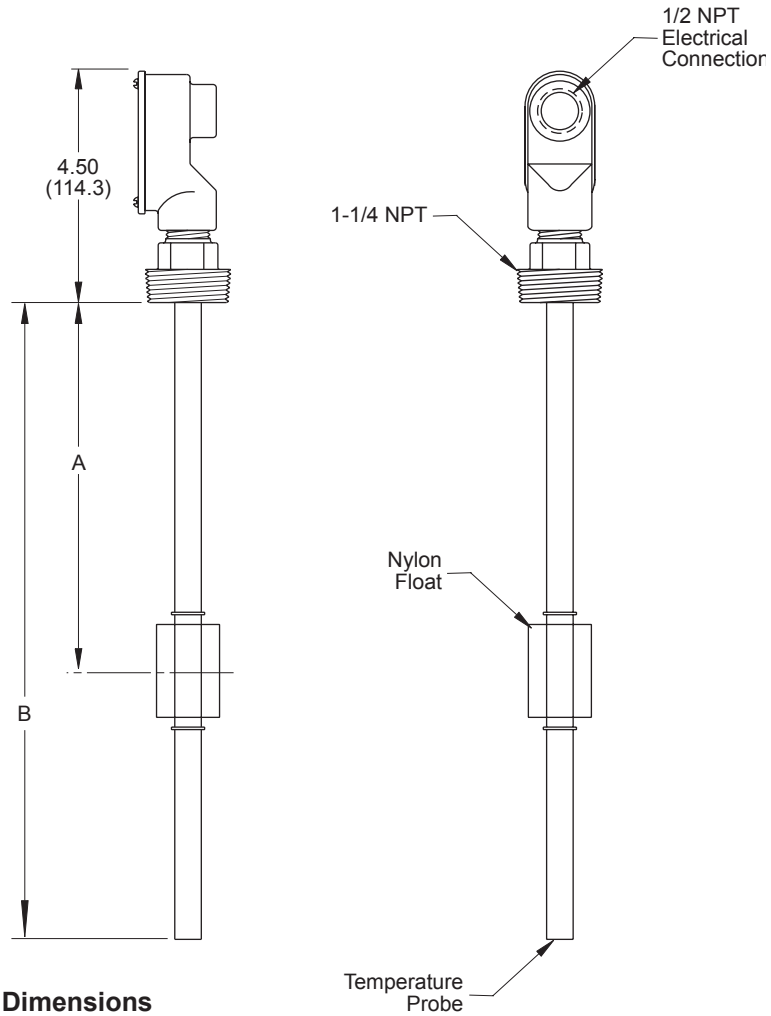
Level/Temperature Switches

Dimensions shown in: Inches (± .125)
(millimeters (± 1 mm)



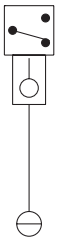
Description: Combination Temperature Switch monitors both liquid level and temperature. It can be wired direct or through relays to operate electric valves such as starters, alarms, etc.

- Junction Box
- Nylon Float
- Actuation Temperature at 140°F. (60°C.)
- Float Can Be Rotated 180° to act as a N.O. Switch

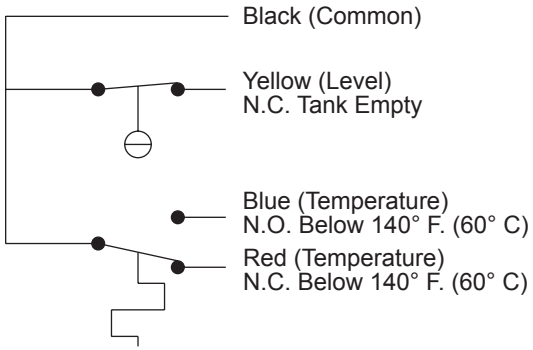


Rating
Level - .84 Amps @ 120 VAC
Temperature - 4.0 Amps @ 120 VAC

Schematic Symbol



Wiring Diagrams



Model Code

Level Temperature Switch

L T - ▢

Float Depth

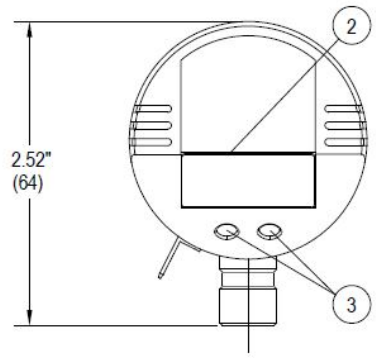
Code	Float Depth
3.5	3.50 (88.9)
6	6.00 (152.4)
7	7.00 (177.8)
9	9.00 (228.6)
10	10.00 (254.0)
12	12.00 (304.8)
16	16.00 (406.4)

Dimensions

Code	Part No.	Reservoir Size*	A	B
LT	600636	W10 Gal. (37.9 liters)	3.50 (88.9)	7.25 (184.2)
	621323	R10 / R20 Gal. (37.9 / 75.7 liters)	6.00 (152.4)	11.00 (279.4)
	904490	W20/W30/R35 Gal. (132.5 liters)	7.00 (177.8)	12.00 (304.8)
	904160	R50-R90 Gal. (189.3 - 340.7 liters)	9.00 (228.6)	14.00 (355.6)
	611798	10V - 40V Gal. (37.9 - 151.4 liters)	10.00 (254.0)	15.00 (381.0)
	904161	R130/R210 Gal. (492.1/794.9 liters)	12.00 (304.8)	17.00 (431.8)
	904162	R160 Gal. (605.6 liters)	16.00 (406.4)	21.00 (533.4)

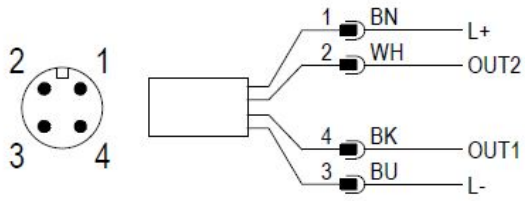
***NOTE:** Dimensions shown are for the NFPA/JIC, Little Champ, & Low Profile Style Power Units. For L-Shaped Power Units, consult factory.

1. Alphanumeric Display 4 digit
2. Status LED's
3. Programming Buttons
4. Housing Connection Flat-Pin Connectin 6.3 mm DIN 46244
5. Position Of The Temperature Measuring Element



Description: Continuous level sensor, with temp. monitoring, 4-digit LED display, 4-20mA / 0-10 V analog output and PNP/NPN switching output, mounting accessory required, 4-pin micro DC connector. IP 67

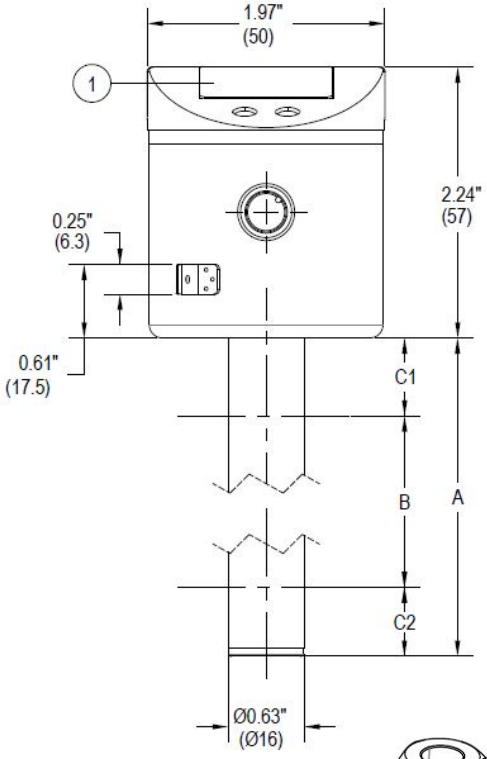
Wire Diagram

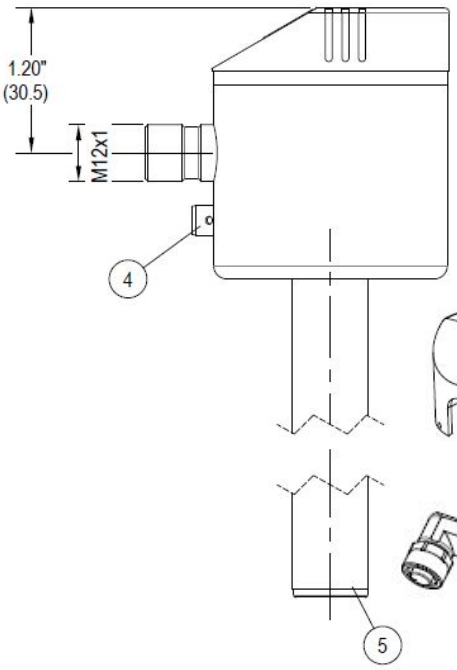


OUT1 Switching Output / IO-Link
OUT2 Switching Output
Colours to DIN EN 60947-5-2

Core Colors:

BK = Black
BN = Brown
BU = Blue
WH = White



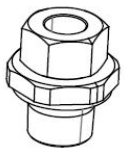




1024888 Protective Cover For L/T



1024883 Female 90 DEG. Cord set; 5 m PUR-Cable M12 Connector;
IP65; IP 67; IP 68; IP 69K
Ambient Temp. -13-194 Deg. F (-25-90 Deg. C)



1024678 3/4" NPT Adapter
1022671 1.00" NPT Adapter



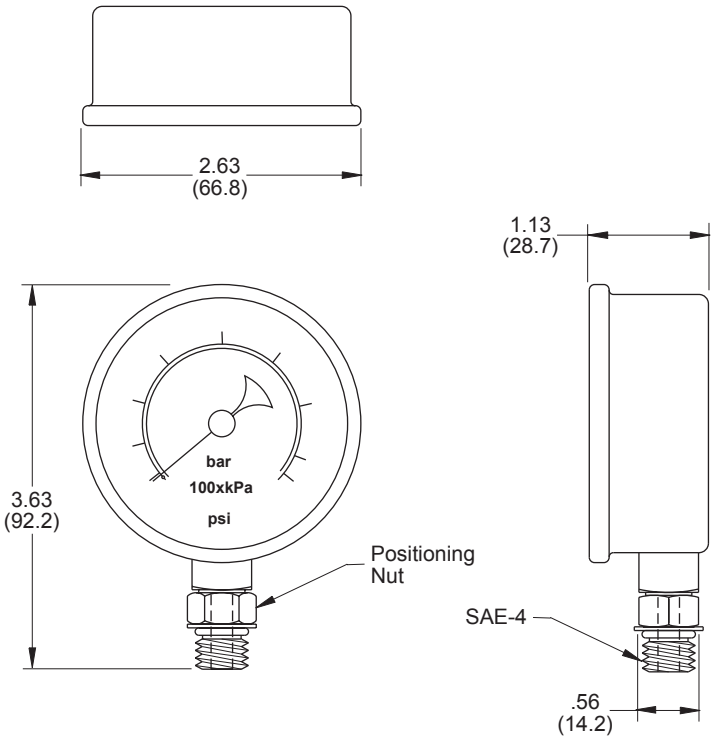
1024884 Female Straight Cordset; 5 m PUR-Cable M12 Connector;
IP65; IP 67; IP 68; IP 69K
Ambient Temp. -13-194 Deg. F (-25-90 Deg. C)

Model Code

LTS [ ]
Level/Temp. Sensor

Size		A	B	C1	C2
264	1024677	10.39"(264)	7.67" (195)	2.08" (53)	0.63" (16)
472	1024896	18.58"(472)	15.35" (390)	2.36" (60)	0.86" (22)
728	1024897	28.66" (728)	23.03" (585)	4.09" (104)	1.53" (39)

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Description: Pressure Gauges are used to indicate hydraulic pressure at a given point in the system.

- 2-1/2 " (63.5 mm) Diameter Face
- Spiral Bourden Tube
- Infragible Polycarbonate Lens
- Stainless Steel Case and Bezel
- Built-In Snubber
- Dual Readout PSI/Bar
- ±1.6% FSD Accuracy
- Temperature Range = 40°F. to 180°F. (4°C. to 80°C.)

Liquid Filled Gauges

- Reduces Pulsation and Vibration Wear
- Weather Tight - No Condensation
- Lengthened Gauge Life
- Continuosly Lubricated Internal Parts

Dimensions

Code	Part No.	Pressure Range
G1	964172	0 - 1000 psi (0 - 69 bar)
G1.5	964173	0 - 1500 psi (0 - 103 bar)
G2	964174	0 - 2000 psi (0 - 138 bar)
G3	964175	0 - 3000 psi (0 - 207 bar)
G5	964176	0 - 5000 psi (0 - 345 bar)

***NOTE:** Select a gauge which does not allow the operating pressure to exceed 75% of the scale range.

Schematic Symbol



Model Code

Gauge

G [ ]

Pressure Range

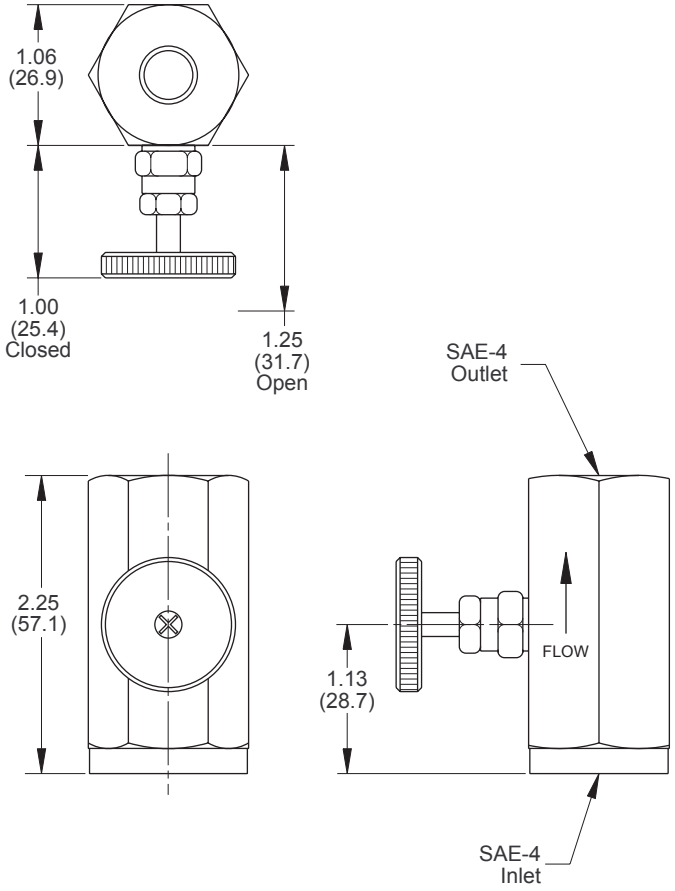
Code	Pressure Range
1	0 - 1000 psi (0 - 69 bar)
1.5	0 - 1500 psi (0 - 103 bar)
2	0 - 2000 psi (0 - 138 bar)
3	0 - 3000 psi (0 - 207 bar)
5	0 - 5000 psi (0 - 345 bar)

Power Unit Accessories

ALL POWER UNITS

Needle Valve

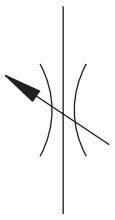
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Description: Ideal for pressure gauge shutoff. It can also be used as a safety bleed down for an accumulator.

- Compact Design
- 5000 psi (345 bar) Working Pressure
- SAE O-Ring Ports
- Knurled Knob
- Viton Seals Standard
- Dual Readout PSI/Bar
- -15°F. to 400°F. (-26°C. to 204°C.) Temperature Range

Schematic Symbol



Model Code

Needle Valve

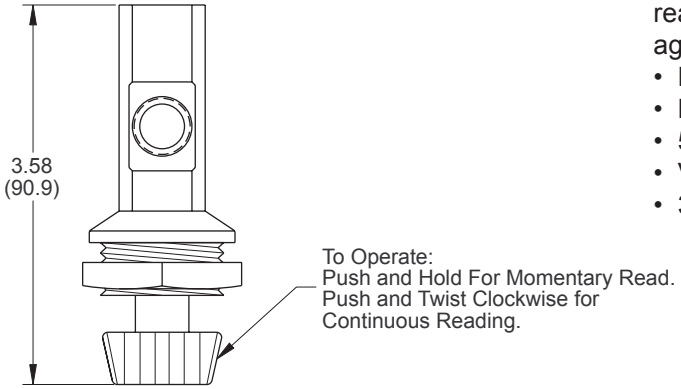
N

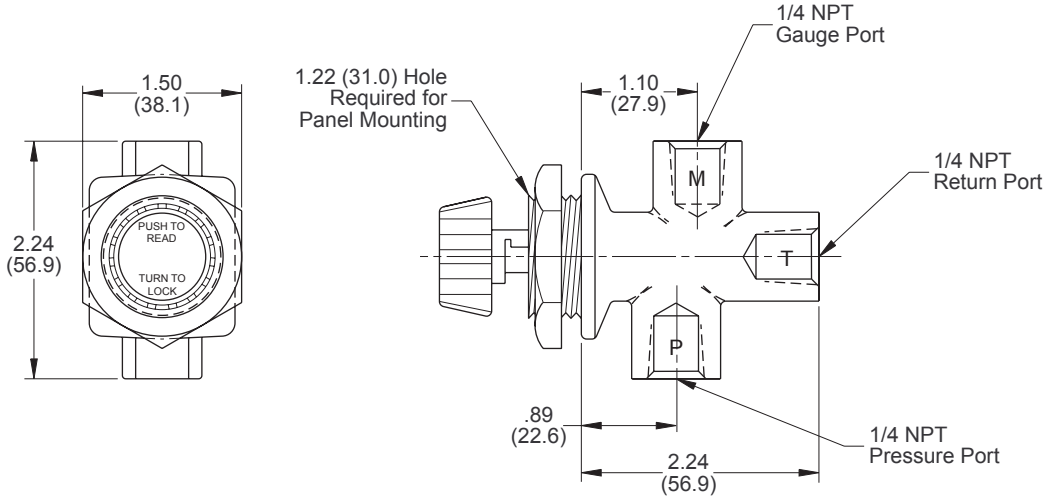
Part No. 964086

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

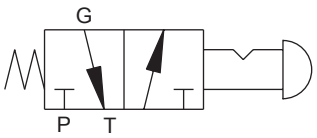
Description: Ideal for extending gauge life. When not reading pressure, the gauge is vented to tank to protect it against pressure pulses from the system.

- Panel Mountable
- Maximum Panel Thickness 5/16” (8 mm)
- 5800 psi (400 bar) Working Pressure
- Viton Seals Standard
- 30°F. to 240°F. (-1°C. to 116°C.) Operating Temperature





Schematic Symbol



Model Code

Isolator Valve

I V

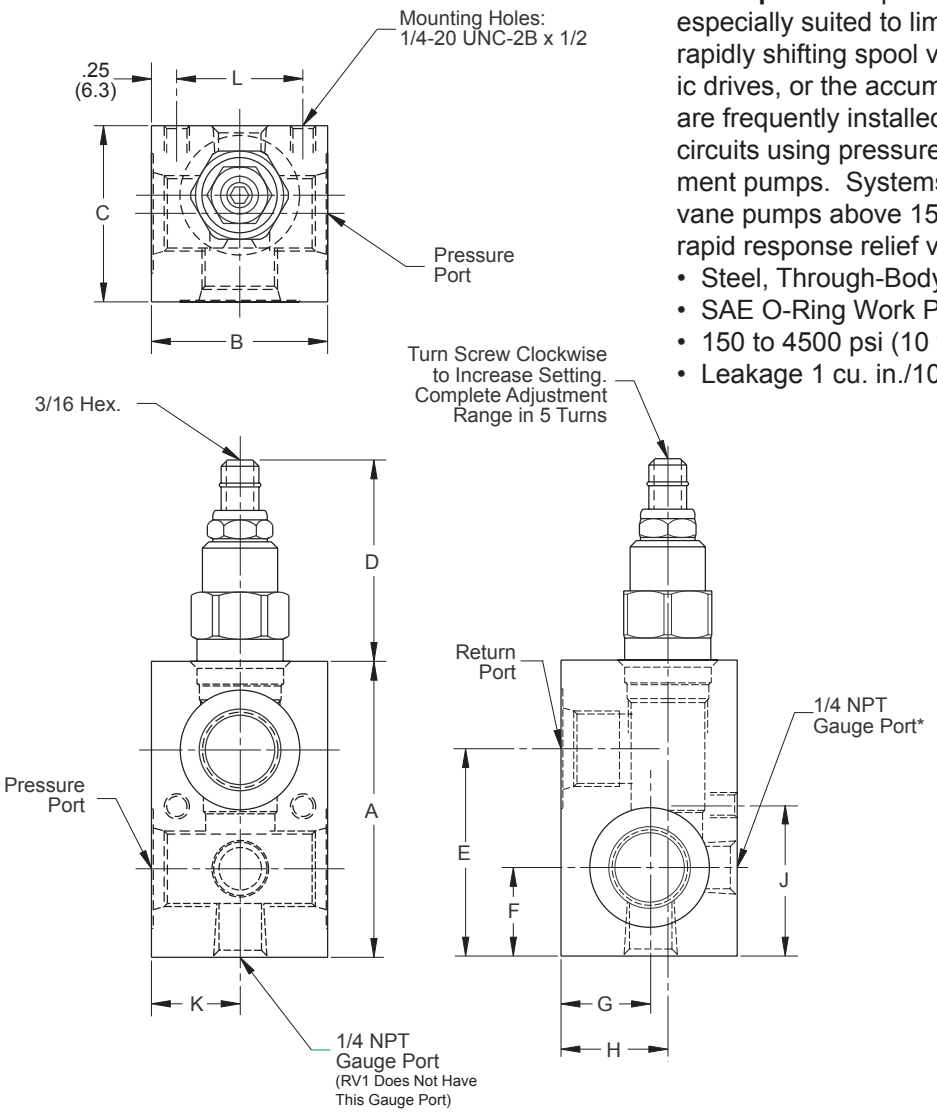
Part No. 128809

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

Rapid Response Relief Valves

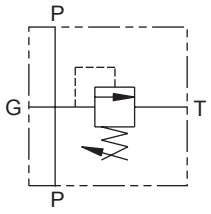
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Description: Rapid Response Relief Valves are especially suited to limiting pressure surges caused by rapidly shifting spool valves, rapidly reversing hydrostatic drives, or the accumulator effect of long lines. They are frequently installed for over-pressure protection in circuits using pressure compensated variable displacement pumps. Systems using Continental Hydraulics vane pumps above 1500 psi (103 bar) may require a rapid response relief valve.

- Steel, Through-Body Design
- SAE O-Ring Work Ports
- 150 to 4500 psi (10 to 310 bar) Adjustable
- Leakage 1 cu. in./1000 psi (16.4 cu. cm/69 bar)

Schematic Symbol



Model Code

Relief Valve **RV** [ ]

Size

Code
1
2
6

Dimensions

Size	A	B	C	D	E	F	G	H	J	K	L
RV1	2.94 (74.7)	1.75 (44.4)	1.75 (44.4)	2.00 (50.8)	2.06 (52.3)	.88 (22.3)	.88 (22.3)	1.06 (26.9)	1.50 (38.1)	.88 (22.3)	1.25 (31.7)
RV2	3.25 (82.5)	2.00 (50.8)	2.00 (50.8)	2.09 (53.1)	2.19 (55.6)	.75 (19.0)	1.25 (31.7)	1.25 (31.7)	1.62 (41.1)	1.00 (25.4)	1.50 (38.1)
RV6	3.75 (95.2)	2.00 (50.8)	2.50 (63.5)	2.09 (53.1)	2.75 (69.8)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.88 (47.8)	1.00 (25.4)	1.50 (38.1)

Specifications

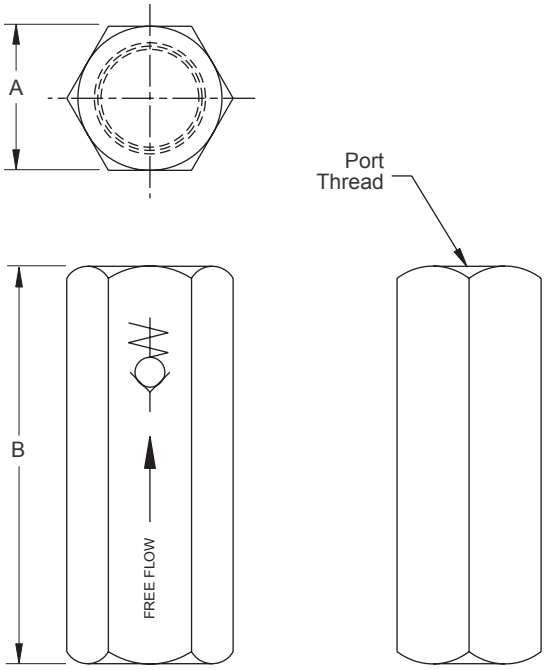
Size	Part No.	Port Thread	Working Pressure	Maximum Flow (20 FPS)
RV1	974544	SAE-8	4500 psi (310 bar)	12 GPM
RV2	904640	SAE-12	4500 psi (310 bar)	28 GPM
RV6	904329	SAE-16	4500 psi (310 bar)	50 GPM

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

Check Valves

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



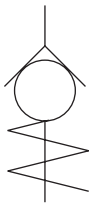
Description: Check Valves allow flow in only one direction. Used for pump isolation or load holding.

- SAE O-Ring Ports
- Precision Machined and Hardened
- Ground Poppet
- Metal-to-Metal seal Design
- Viton Seals Standard

Dimensions

Size	A	B
CV06	1.00 (25.4)	2.60 (66.0)
CV08	1.25 (31.7	2.87 (72.9)
CV12	1.44 (36.6)	3.46 (87.9)
CV16	1.81 (46.0)	5.00 (127.0)
CV20	2.38 (60.5)	5.63 (143.0)
CV24	2.56 (65.0)	5.63 (143.0)

Schematic Symbol



Specifications

Size	Part No.	Port Thread	Working Pressure	Cracking Pressure
CV06	934705	SAE-6	5000 psi (345 bar)	7 psi (.5 bar)
CV08	934707	SAE-8	5000 psi (345 bar)	7 psi (.5 bar)
CV12	934709	SAE-12	5000 psi (345 bar)	7 psi (.5 bar)
CV16	934711	SAE-16	5000 psi (345 bar)	7 psi (.5 bar)
CV20	934713	SAE-20	5000 psi (345 bar)	7 psi (.5 bar)
CV24	934715	SAE-24	5000 psi (345 bar)	7 psi (.5 bar)

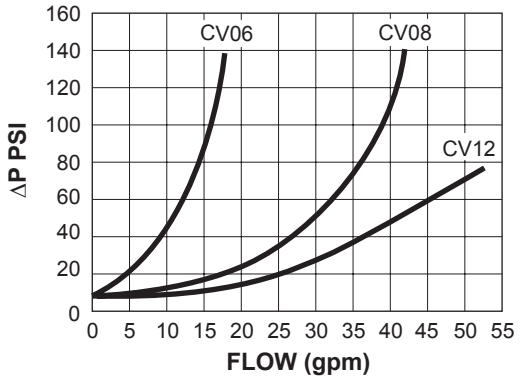
Model Code

Check Valve **C V** [ ]

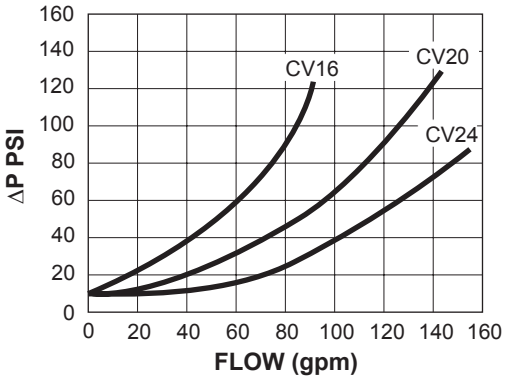
Size

Code
06
08
12
16
20
24

CV06-12



CV16-24



ΔP curves generated using 350 SUS (75.5 Cs) hydraulic oil at a temperature of 86° F. (30° C.).

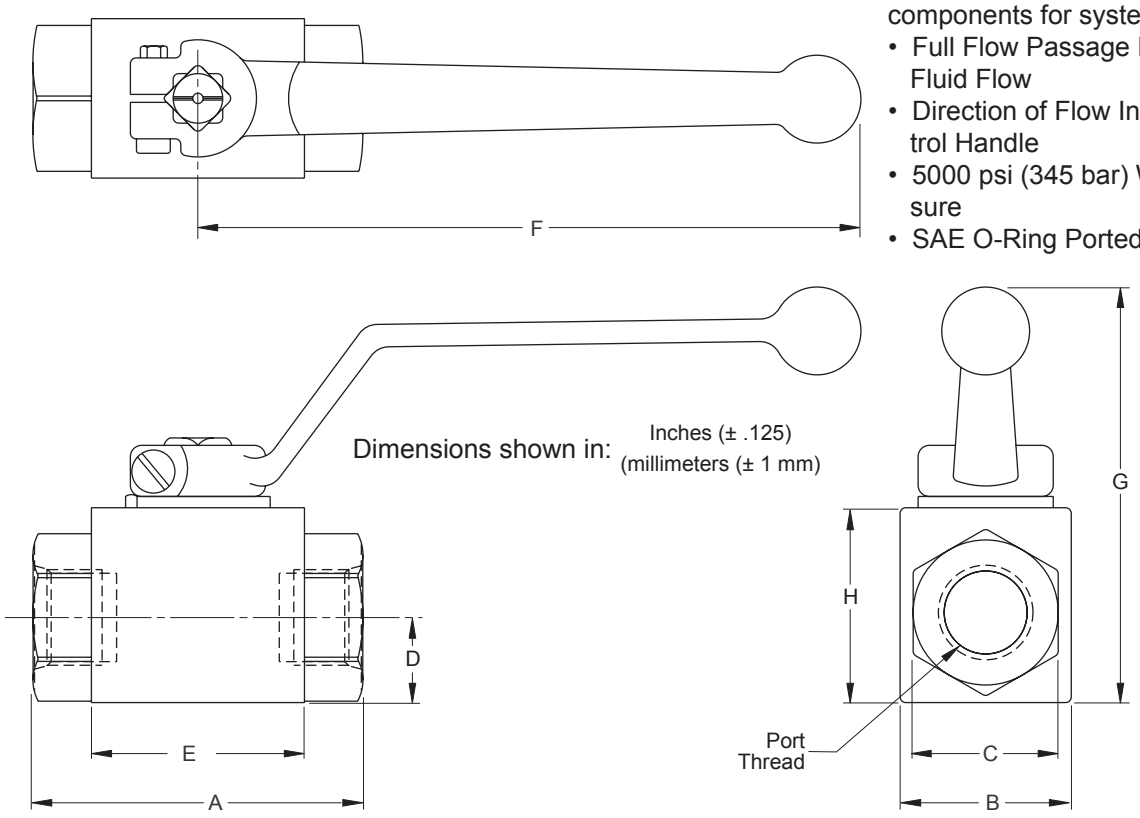
Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

Ball Valves - High Pressure

Description: Ball Valves are manual valves used as on-off circuit valves. They may also be used as isolating components for system maintenance.

- Full Flow Passage For Unrestricted Fluid Flow
- Direction of Flow Indicated On Control Handle
- 5000 psi (345 bar) Working Pressure
- SAE O-Ring Ported



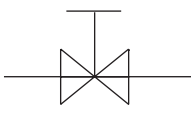
Dimensions

Size	A	B	C	D	E	F	G
BV08	3.23 (82.0)	1.38 (35.1)	1.18 (30.0)	.67 (17.0)	2.00 (50.8)	4.41 (112.0)	3.62 (91.9)
BV12	3.66 (93.0)	1.77 (45.0)	1.61 (40.9)	.95 (24.1)	2.36 (59.9)	7.36 (186.9)	4.45 (113.0)
BV16	4.45 (113.0)	2.17 (55.1)	1.97 (50.0)	1.02 (25.9)	2.76 (70.1)	7.36 (186.9)	4.65 (118.1)
BV20	4.33 (110.0)	2.87 (72.9)	2.36 (59.9)	1.44 (36.6)	2.76 (70.1)	9.45 (240.0)	4.11 (104.4)
BV24	4.49 (114.1)	3.35 (85.1)	2.76 (70.1)	1.67 (42.4)	2.95 (74.9)	9.45 (240.0)	4.11 (104.4)

Specifications

Size	Part No.	Port Thread	Working Pressure
BV08	902559	SAE-8	5000 psi (345 bar)
BV12	902560	SAE-12	5000 psi (345 bar)
BV16	902561	SAE-16	5000 psi (345 bar)
BV20	902562	SAE-20	5000 psi (345 bar)
BV24	902563	SAE-24	5000 psi (345 bar)

Schematic Symbol



Model Code

Ball Valve

B V ☐

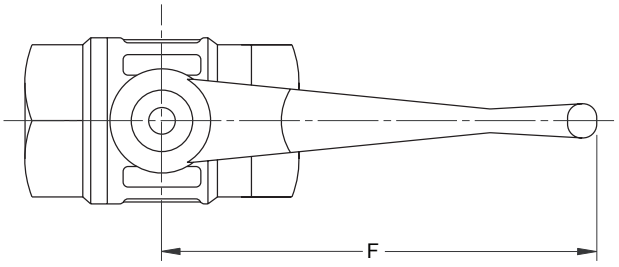
Size

Code
08
12
16
20
24

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

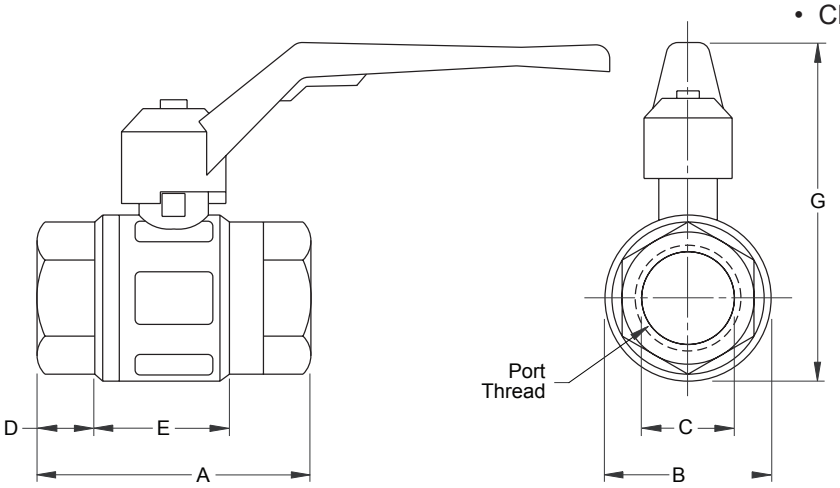
Ball Valves - Low Pressure



Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: Low Pressure Ball Valves are used for pump inlet shut-off.

- Full Ported
- NPT and SAE Ports
- Teflon Seals (Ball and Stem)
- Hot Pressed Brass Body and Ball
- Chromium Plated Ball and Body



Model Code

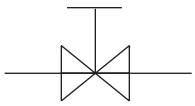
Ball Valve **B V** [ ] [ ]

Size	Thread	
Code	Code	Type
08	N	NPT
12	S	SAE
16		
20		
24		
32		
40		

Dimensions

Size	A	B	C	D	E	F	G
BV08N	2.20 (55.9)	1.28 (32.5)	.59 (15.0)	.53 (13.5)	1.08 (27.4)	3.43 (87.1)	2.47 (62.7)
BV12N	2.46 (62.5)	1.56 (39.6)	.79 (20.1)	.53 (13.5)	1.36 (34.5)	4.41 (112.0)	3.05 (77.5)
BV16N	2.81 (71.4)	1.89 (48.0)	.98 (25.0)	.56 (14.2)	1.61 (40.9)	4.41 (112.0)	3.31 (84.1)
BV20N	3.19 (81.0)	2.32 (58.9)	1.26 (32.0)	.65 (16.5)	1.80 (45.7)	4.41 (112.0)	3.75 (95.2)
BV24N	3.56 (90.4)	2.88 (73.2)	1.57 (39.9)	.67 (17.0)	2.26 (57.4)	5.51 (140.0)	4.52 (114.8)
BV32N	4.13 (104.9)	3.29 (83.6)	1.89 (48.0)	.67 (17.0)	2.72 (69.1)	6.38 (162.1)	5.18 (131.6)
BV40N	5.43 (137.9)	4.35 (110.5)	2.36 (59.9)	.91 (23.1)	3.46 (87.9)	7.87 (199.9)	6.38 (162.1)
BV08S	2.51 (63.8)	1.38 (35.1)	.59 (15.0)	.61 (15.5)	1.31 (33.3)	3.43 (87.1)	2.61 (66.3)
BV12S	2.80 (71.1)	1.60 (40.6)	.79 (20.1)	.66 (16.8)	1.51 (38.4)	4.41 (112.0)	3.10 (78.7)
BV16S	3.37 (85.6)	1.93 (49.0)	.98 (25.0)	.81 (20.6)	1.74 (44.2)	4.41 (112.0)	3.39 (86.1)
BV20S	3.75 (95.2)	2.32 (58.9)	1.26 (32.0)	.89 (22.6)	2.01 (51.1)	4.41 (112.0)	3.75 (95.2)
BV24S	4.22 (107.2)	2.84 (72.1)	1.57 (39.9)	.90 (22.9)	2.42 (61.5)	5.51 (140.0)	4.57 (116.1)
BV32S	4.84 (122.9)	3.29 (83.6)	1.93 (49.0)	1.31 (33.3)	2.76 (70.1)	6.38 (162.1)	5.21 (132.3)

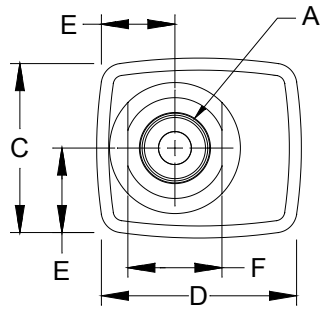
Schematic Symbol



Specifications

NPT Thread **SAE Thread**

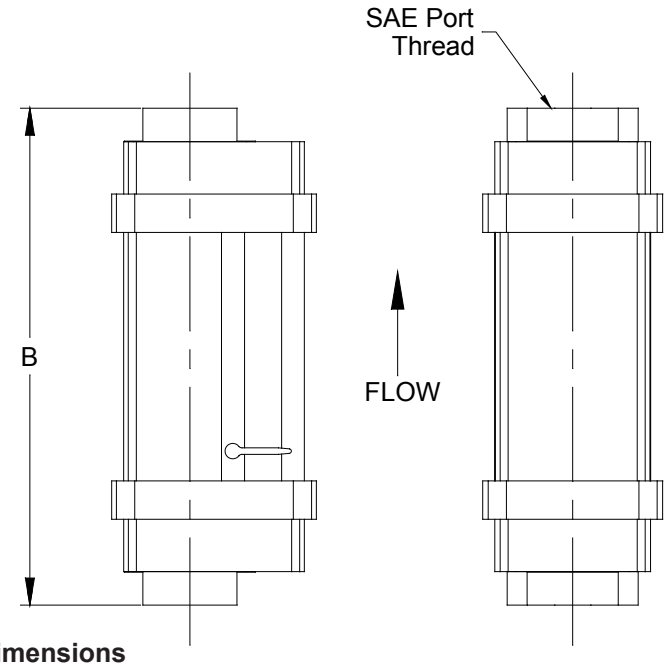
Size	Part No.	Port Thread	Working Pressure	Size	Part No.	Port Thread	Working Pressure
BV08N	914831	1/2" NPT	600 psi (41 bar)	**BV08S**	974519	SAE-8	600 psi (41 bar)
BV12N	902485	3/4" NPT	400 psi (28 bar)	**BV12S**	974520	SAE-12	400 psi (28 bar)
BV16N	902486	1" NPT	400 psi (28 bar)	**BV16S**	974521	SAE-16	400 psi (28 bar)
BV20N	902487	1-1/4" NPT	400 psi (28 bar)	**BV20S**	974522	SAE-20	400 psi (28 bar)
BV24N	902488	1-1/2" NPT	400 psi (28 bar)	**BV24S**	974523	SAE-24	400 psi (28 bar)
BV32N	902489	2" NPT	200 psi (14 bar)	**BV32S**	974524	SAE-32	200 psi (14 bar)
BV40N	954050	2-1/2" NPT	200 psi (14 bar)				



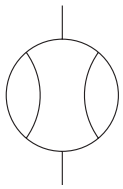
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: Flow Meters provide up to the minute answers about pump condition and/or systems settings. General design features include rugged construction, operation in any position and accuracy within ± 2%. No special piping required. Flow Meters are relatively in sensitive to shock and vibration. They are direct reading and require no electrical connections.

- 360° Rotatable Guard/Scale
- SAE O-Ring Ports
- 2024-T351 Anodized Aluminum Body, Piston and Cone
- Viton Seals Standard
- -20°F. to 400°F. (-29°C. to 204°C.) Continuous Temperature Range



Schematic Symbol



Model Code

Flow Meter **F M** [ ]

Size

Code
1
2
3

Dimensions

Size	A	B	C	D	E	F
FM1	1/2 (SAE10)	6.60 (168)	2.07 (53)	2.40 (61)	1.04 (26)	1.25 (32)
FM2	7.20 (182.9)	7.20 (183)	2.48 (63)	2.85 (72)	1.24 (32)	1.50 (38)
FM3	12.20 (309.9)	12.20 (310)	4.12 (105)	4.72 (120)	2.06 (52)	2.75 (70)

Specifications

Size	Part No.	Port Thread	Working Pressure*	Flow Range	Pressure Drop 50% Flow	Pressure Drop 100% Flow
FM1	934287	SAE-10	3500 psi (241 bar)	1 - 10 gpm (3.9 - 37.8 lpm)	4.00 psi (.28 bar)	9.50 psi (.66 bar
FM2	934288	SAE-12	3500 psi (241 bar)	3 - 30 gpm (3.9 - 37.8 lpm)	7.00 psi (.48 bar)	16.50 psi (1.14 bar)
FM3	934289	SAE-20	3500 psi (241 bar)	10 - 75 gpm (3.9 - 37.8 lpm)	5.00 psi (.34 bar)	10.50 psi (.72 bar

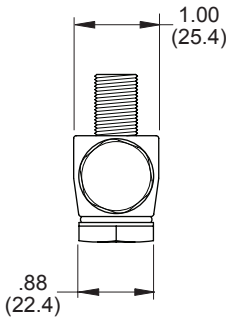
***NOTE:** Safety Factor - 3:1 Calibrated with 140 SUS (29.7 cS), .876 specific gravity hydraulic oil

Power Unit Accessories

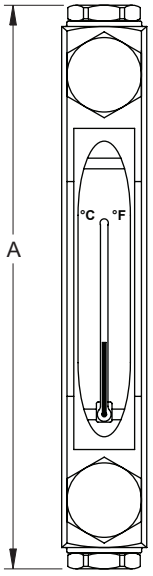
ALL POWER UNITS

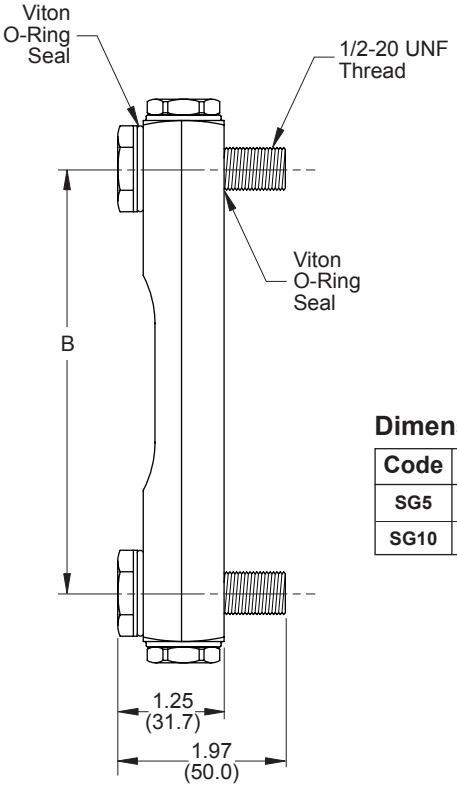
Sight Gauges - Internal Thermometer

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Description: Sight Gauges give you an indication of your current fluid level and temperature.





Dimensions

Code	A	B
SG5	6.63 (168.4)	5.00 (127.0)
SG10	11.63 (295.4)	10.00 (254.0)

Specifications

Code	Part No.	Temperature Range	Thermometer Type
SG5	944961	0°F. - 240°F. (0°C. - 116°C.)	Internal (Red)
SG10	944962	0°F. - 240°F. (0°C. - 116°C.)	Internal (Red)

Model Code

Sight Gauge

S G [ ]

Length

Code
5
10

Applications

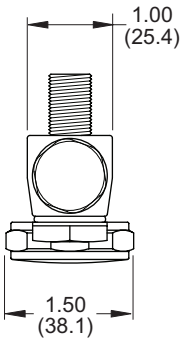
Power Unit Type	H1 Fluid	H3 Fluid	H4 Fluid	H5 Fluid
NFPA/JIC	944961	944963		
L-Shaped	944961	944963		
Low Profile	944961	944963		
Little Champ®	944961	944963		

Power Unit Accessories

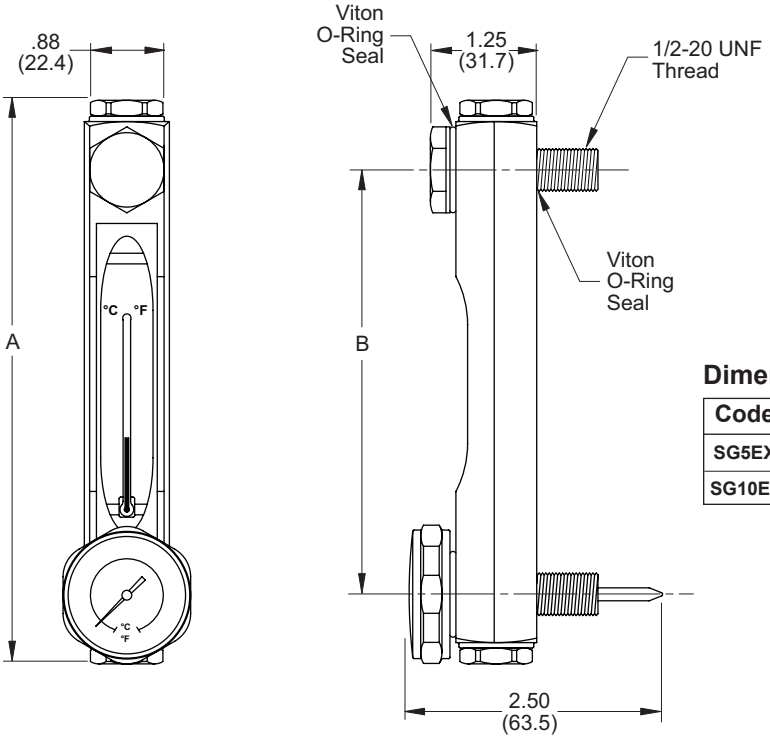
ALL POWER UNITS

Sight Gauges - External Thermometer

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Description: Sight Gauges give you an indication of your current fluid level and temperature.



Dimensions

Code	A	B
SG5EX	6.63 (168.4)	5.00 (127.0)
SG10EX	11.63 (295.4)	10.00 (254.0)

Specifications

Code	Part No.	Temperature Range	Thermometer Type
SG5EX	944963	0°F. - 300°F. (0°C. - 149°C.)	External
SG10EX	944964	0°F. - 240°F. (0°C. - 149°C.)	External

Model Code

Sight Gauge **S G** [ ] External **E X**

Length

Code
5
10

Applications

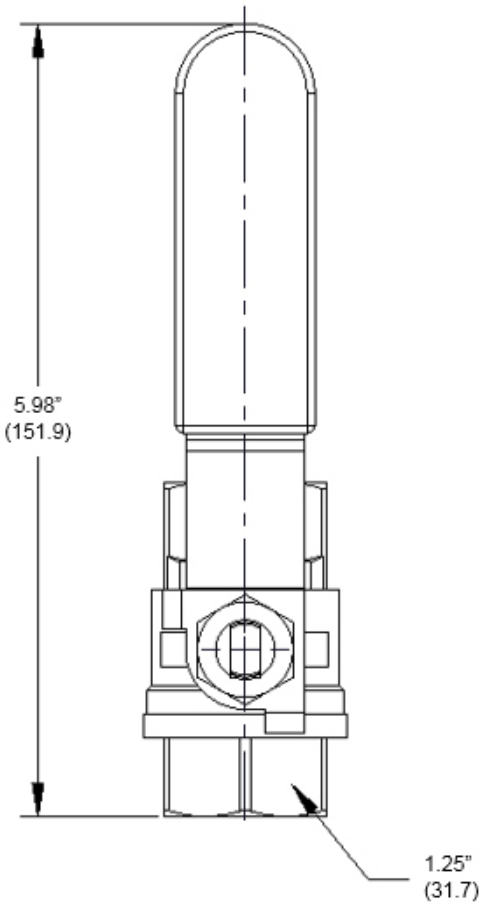
Power Unit Type	H1 Fluid	H3 Fluid	H4 Fluid	H5 Fluid
NFPA/JIC	944961	944963		
L-Shaped	944961	944963		
Low Profile	944961	944963		
Little Champ®	944961	944963		

Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

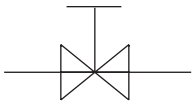
Reservoir Drain Valve

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

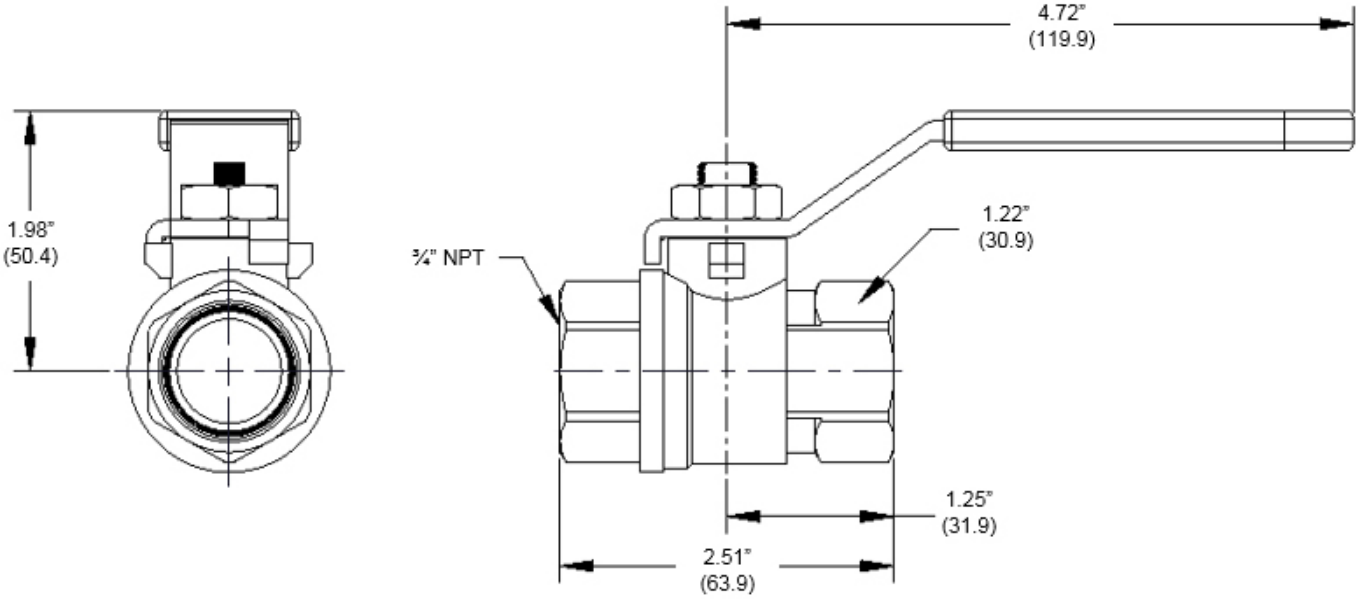


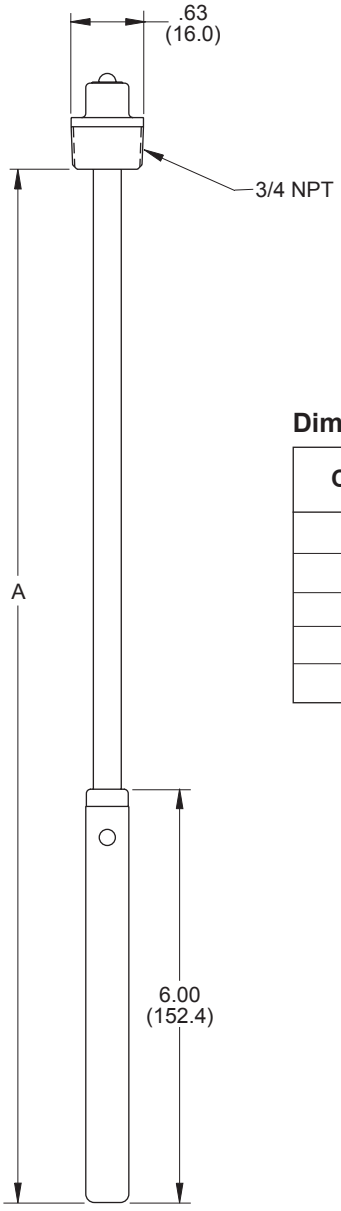
Description: Drain Valves allows the fluid to be removed without disassembling the reservoir. Ball valve design assures leak-free operation.

Schematic Symbol



Model Code
Drain Valve
D
Part No. 014630





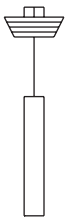
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: Magnets are used to protect your system from metal partical contamination.

Dimensions

Code	Part No.	Application	Dimension A
M	904429	R10	9.00 (228.6)
M	904430	R20/R35	15.00 (381.0)
M	904431	R50 - R90	19.50 (495.3)
M	904432	R120/R130	25.50 (647.7)
M	904433	R160/R210	33.50 (850.9)

Schematic Symbol



Model Code

Magnet

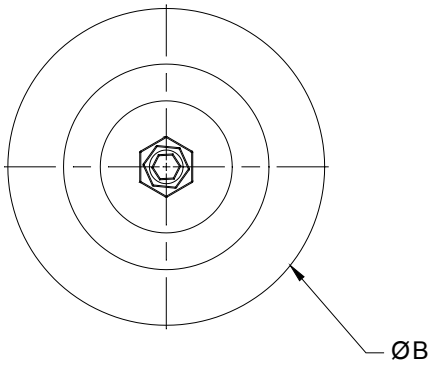
M

Power Unit Accessories

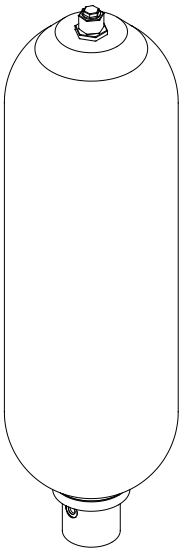
ALL POWER UNITS

Accumulator - Bladder (Bottom Repairable)

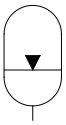
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

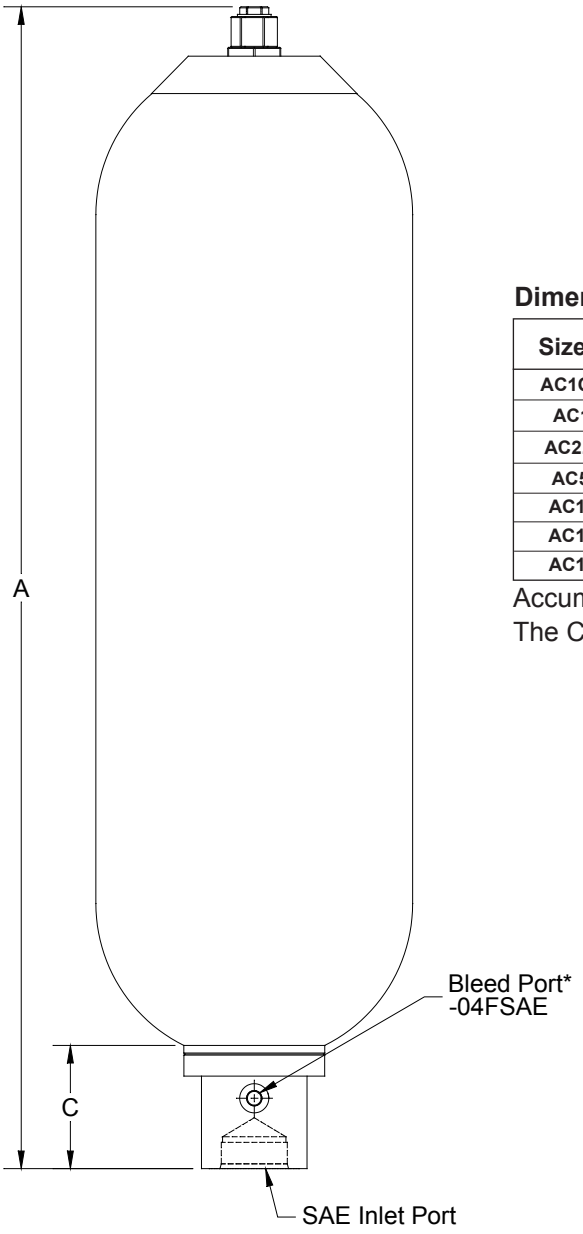


Description: Accumulators are used to assist in flow rates and store fluids under pressure, 3000 PSI max pressure.



Schematic Symbol





Dimensions

Size	Part No.	Port Size	A	B	C
AC1QT	611873	-12 SAE	12.00 (304.8)	4.50 (114.3)	2.10 (53.3)
AC1	621351	-20 SAE	17.00 (431.8)	6.70 (170.2)	3.50 (88.9)
AC2.5	621274	-24 SAE	21.00 (533.4)	9.00 (228.6)	3.50 (88.9)
AC5	1000055	-24 SAE	33.00 (838.2)	9.00 (228.6)	3.50 (88.9)
AC10	621131	-24 SAE	54.00 (1371.6)	9.00 (228.6)	3.50 (88.9)
AC11	1006937	-24 SAE	60.00 (1524.0)	9.00 (228.6)	3.50 (88.9)
AC15	1000056	-24 SAE	78.00 (1981.2)	9.00 (228.6)	3.50 (88.9)

Accumulators are shipped **WITH NO GAS CHARGE!!**

The Charging and Gauging Assembly Kit is part #1006939.

Model Code

Accumulator

A C [ ]

Size

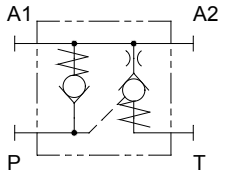
Code	Type
1QT	Quart
1	Gallon
2.5	
5	
10	
11	
15	

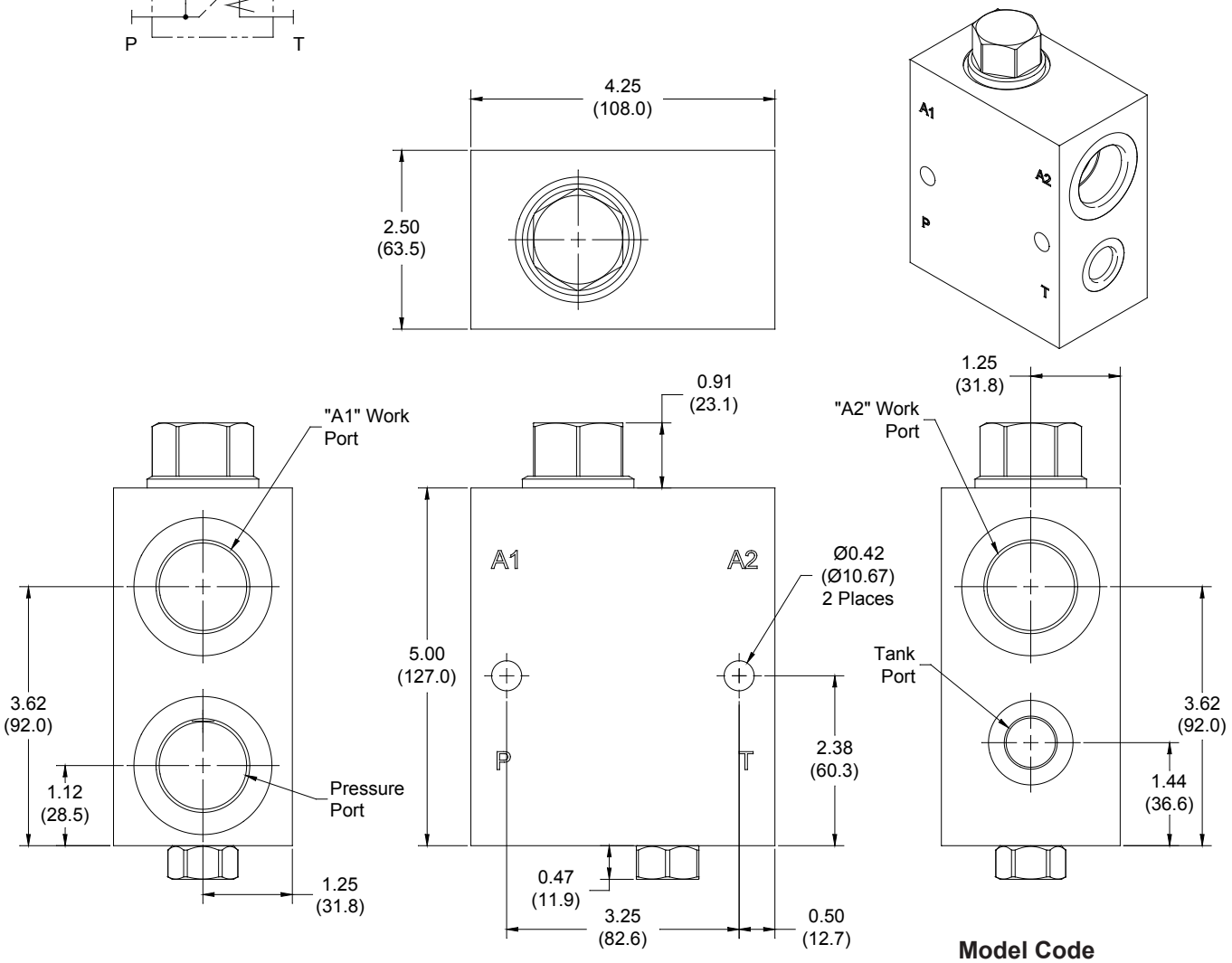
*Not Avalible On The 1 Quart Model

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Description: Accumulator Dump Valves are used to drain the pressure of the accumulator for safty and manitenace, 3000 PSI max pressure.

Schematic Symbol





Specifications

Code	Part No.	Pressure Port Size	A1 Port Size	A2 Port Size	Tank Port Size
AD12	621033	-12 SAE	-12 SAE	-12 SAE	-08 SAE
AD16	602151AA	-16 SAE	-16 SAE	-16 SAE	-08 SAE
AD20	611926	-20 SAE	-20 SAE	-20 SAE	-08 SAE

Model Code

Accumulator Dump Valve

A D [ ]

Size

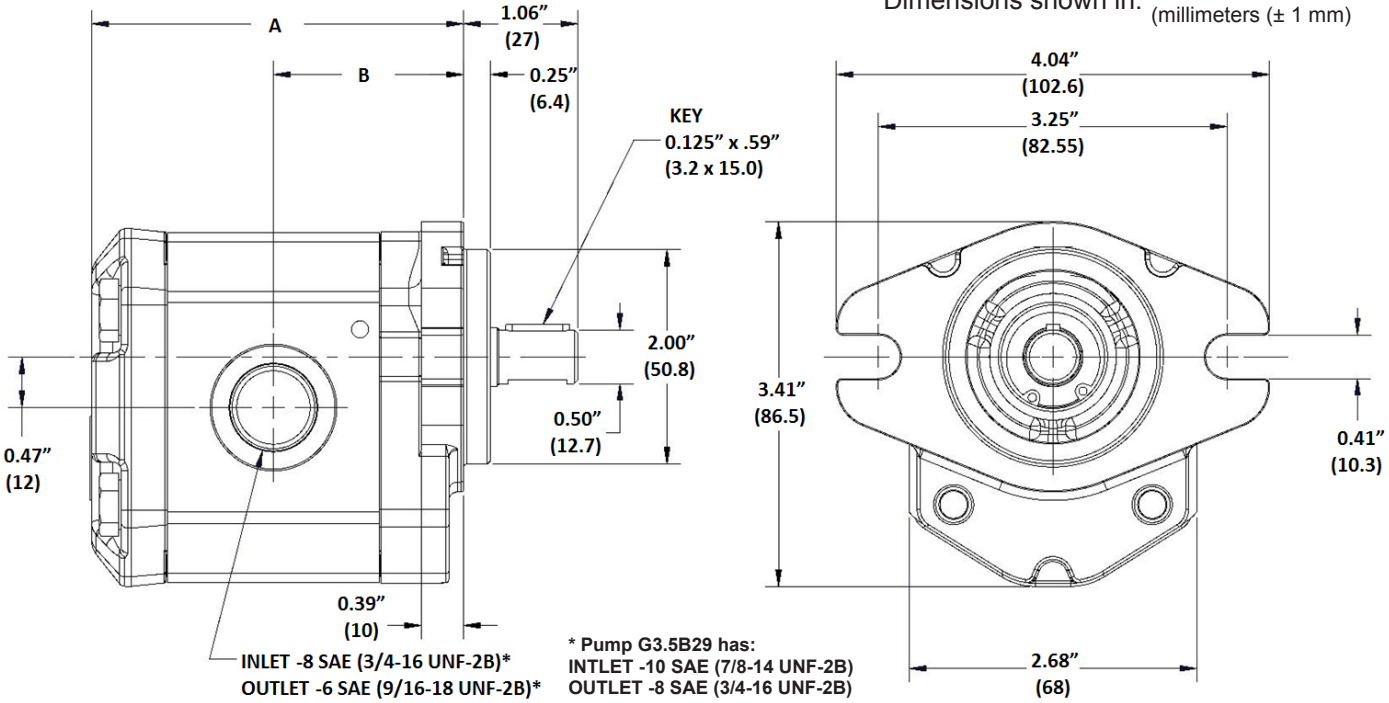
Code
12
16
20

Power Unit Accessories

LOW PROFILE AND LITTLE CHAMP® POWER UNITS

Gear Pumps - SAE AA

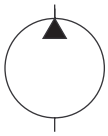
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Dimensions

Code	A	B
G0.6B36	3.25 (82.5)	1.65 (42.0)
G0.9B36	3.33 (84.5)	1.69 (43.0)
G1.3B36	3.41 (86.5)	1.73 (44.0)
G1.6B36	3.48 (88.5)	1.77 (45.0)
G1.9B36	3.56 (90.5)	1.81 (46.0)
G2.4B33	3.68 (93.5)	1.87 (47.5)
G2.8B33	3.80 (96.5)	1.93 (49.0)
G3.5B29	3.96 (100.5)	2.01 (51.0)

Schematic Symbol



Model Code

Gear Pump **G** [ ] 1725 rpm **B** [ ]

GPM

Code
0.6
0.9
1.3
1.6
1.9
2.4
2.8
3.5

Pressure

Code	Pressure
36	3625 psi (250 bar)
33	3335 psi (230 bar)
29	2900 psi (200 bar)

NOTES:

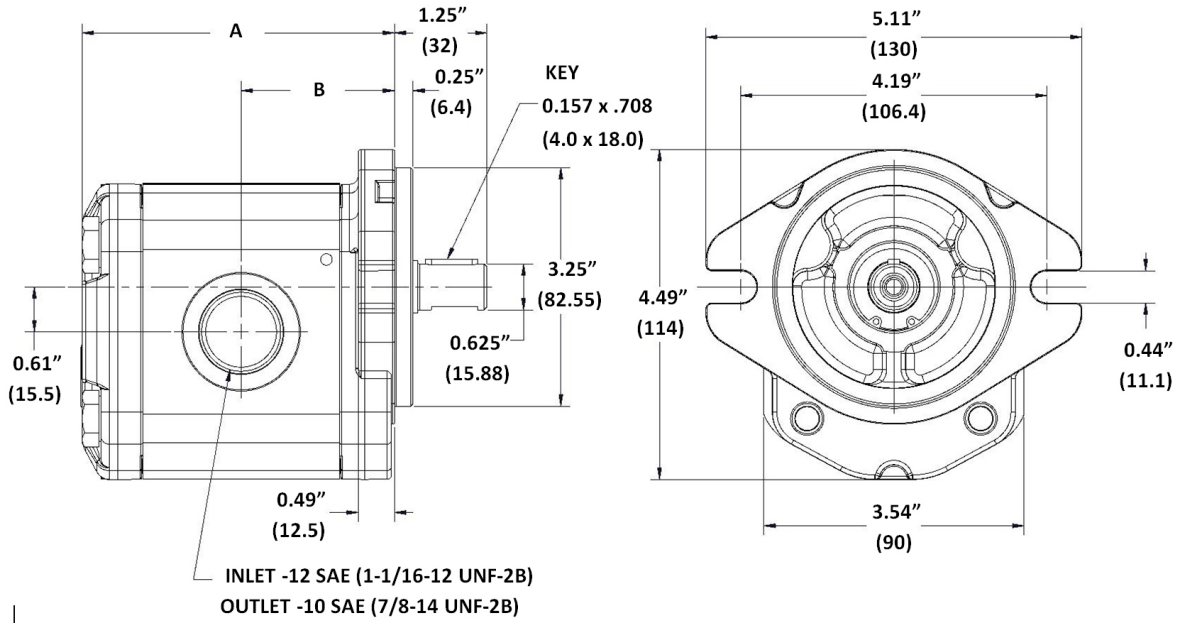
1. Volumetric Efficiency = 93%
   Mechanical Efficiency = 90%
   Total Efficiency = 83.7%
2. No efficiency ratings were used in calculating the gpm of the pumps.

Specifications

Code	Part No.	Cu. in./ (cu. cm/) Revolution	gpm* (lpm) @ 1725 rpm	Continuous Pressure	Intermittent Pressure	Maximum Speed (rpm)
G0.6B36	1018871	.085 (1.4)	.635 (2.4)	3625 psi (250 bar)	3916 psi (270 bar)	6000
G0.9B36	1018872	.128 (2.1)	.956 (3.6)	3625 psi (250 bar)	3916 psi (270 bar)	6000
G1.3B36	1018873	.170 (2.8)	1.27 (4.8)	3625 psi (250 bar)	3916 psi (270 bar)	5000
G1.6B36	1018874	.214 (3.5)	1.60 (6.1)	3625psi (250 bar)	3916 psi (270 bar)	5000
G1.9B36	1018875	.250 (4.1)	1.87 (7.1)	3625 psi (250 bar)	3916 psi (270 bar)	4000
G2.4B33	1018876	.317 (5.2)	2.37 (8.9)	3335 psi (230 bar)	3553 psi (245 bar)	3500
G2.8B33	1018877	.378 (6.2)	2.82 (10.9)	3335 psi (230 bar)	3553 psi (245 bar)	3000
G3.5B29	1019069	.464 (7.6)	3.47 (13.1)	2900 psi (200 bar)	3118 psi (215 bar)	3500

*NOTE: $\text{gpm} = \frac{\text{rpm} \times \text{Pump Displacement (Cu. in./Rev.)}}{231}$

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Dimensions

Code	A	B
G2.1B36	3.68 (93.5)	1.79 (45.5)
G2.9B36	3.79 (96.5)	1.85 (47.0)
G3.8B36	3.91 (99.5)	1.90 (48.5)
G5.2B33	4.11 (104.5)	2.00 (51.0)
G6.4B33	4.27 (108.5)	2.08 (53.0)
G8.2B30	4.50 (114.5)	2.20 (56.0)
G9.6B26	4.70 (119.5)	2.30 (58.5)
G11.6B24	4.98 (126.5)	2.44 (62.0)

Model Code

Gear Pump **G** [ ] 1725 rpm **B** [ ]

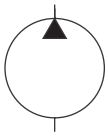
GPM

Code
2.1
2.9
3.8
5.2
6.4
8.2
9.6
11.6

Pressure

Code	Pressure
36	3625 psi (250 bar)
33	3335 psi (230 bar)
30	3045 psi (210 bar)
26	2610 psi (180 bar)
24	2465 psi (170 bar)

Schematic Symbol



NOTES:

1. Volumetric Efficiency = 93%
   Mechanical Efficiency = 90%
   Total Efficiency = 83.7%
2. No efficiency ratings were used in calculating the gpm of the pumps.

Specifications

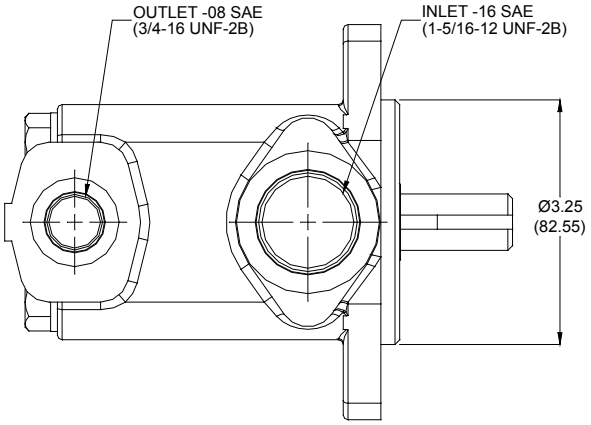
Code	Part No.	Cu. in./ (cu. cm/) Revolution	gpm* (lpm) @ 1725 rpm	Continuous Pressure	Intermittent Pressure	Maximum Speed (rpm)
G2.1B36	1018956	.275 (4.5)	2.05 (7.8)	3625 psi (250 bar)	3916 psi (270 bar)	4000
G2.9B36	1018957	.391 (6.4)	2.91 (11.0)	3625 psi (250 bar)	3916 psi (270 bar)	4000
G3.8B36	1018958	.506 (8.3)	3.78 (14.3)	3625 psi (250 bar)	3916 psi (270 bar)	4000
G5.2B33	1018959	.702 (11.5)	5.24 (19.8)	3335 psi (230 bar)	3625 psi (250 bar)	4000
G6.4B33	1018960	.860 (14.1)	6.42 (24.3)	3335 psi (230 bar)	3625 psi (250 bar)	3200
G8.2B30	1018961	1.092 (17.9)	8.15 (30.9)	3045 psi (210 bar)	3263 psi (225 bar)	2500
G9.6B26	1018962	1.288 (21.1)	9.62 (36.4)	2610 psi (180 bar)	2828 psi (195 bar)	2200
G11.6B24	1018963	1.556 (25.5)	11.62 (43.9)	2465 psi (170 bar)	2683 psi (185 bar)	1800

***NOTE:** $gpm = \frac{rpm \times Pump\ Displacement\ (Cu.\ in./Rev.)}{231}$

Power Unit Accessories

ALL POWER UNITS

Fixed Vane Pumps - SAE A



Model Code

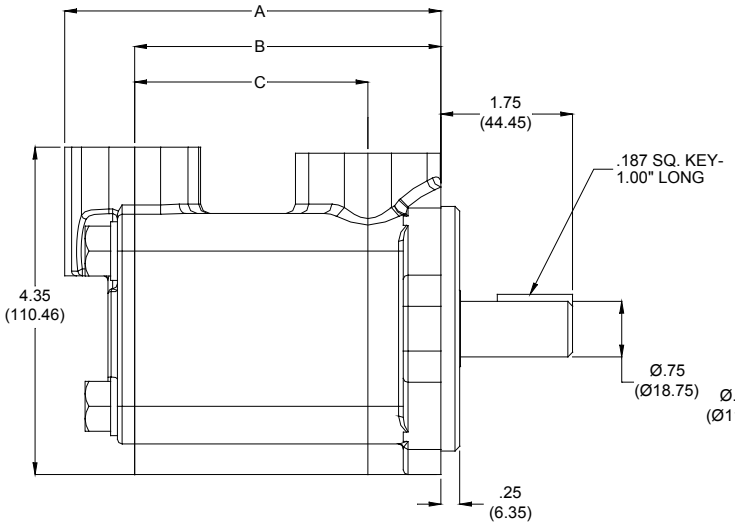
Fixed Vane **F V** [ ] 1725 rpm **B** [ ]

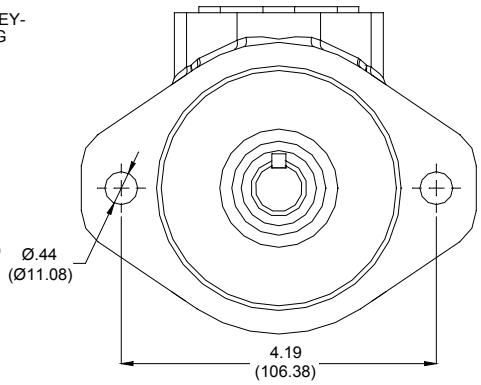
GPM

Code
1.5
3.0
4.5
5.9
7.5

Pressure

Code	Pressure
25	2500 psi (172 bar)

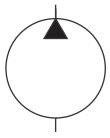




Dimensions

Code	A	B	C
FV1.5B25	4.55 (115.6)	3.62 (91.9)	2.65 (67.3)
FV3.0B25	4.55 (115.6)	3.62 (91.9)	2.65 (67.3)
FV4.5B25	4.55 (115.6)	3.62 (91.9)	2.65 (67.3)
FV5.9B25	4.80 (121.9)	3.87 (98.3)	2.90 (73.7)
FV7.5B25	4.85 (123.2)	3.87 (98.3)	2.90 (73.7)

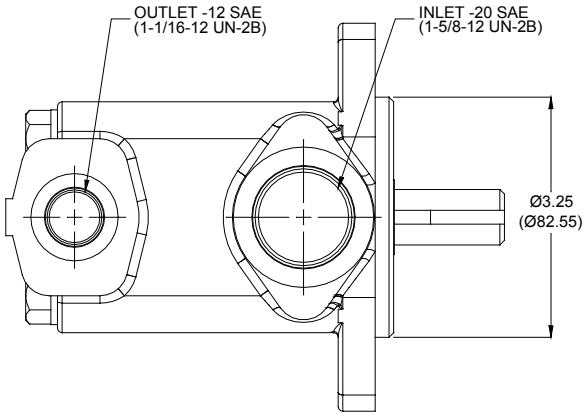
Schematic Symbol



Specifications

Code	Part No.	Cu. in./ (cu. cm/) Revolution	gpm* (lpm) @ 1725 rpm	Continuous Pressure	Maximum Speed (rpm)
FV1.5B25	1005530	0.20 (3.3)	1.49 (5.6)	2500 psi (172 bar)	4800
FV3.0B25	604580AA	0.40 (6.6)	2.99 (11.3)	2500 psi (172 bar)	4500
FV4.5B25	1005531	0.60 (9.8)	4.48 (17.0)	2500 psi (172 bar)	4000
FV5.9B25	1005529	0.80 (13.1)	5.97 (22.6)	2500 psi (172 bar)	3400
FV7.5B25	1005532	1.00 (16.4)	7.47 (28.3)	2500 psi (172 bar)	3200

***NOTE:** $\text{gpm} = \frac{\text{rpm x Pump Displacement (Cu. in./Rev.)}}{231}$



Model Code

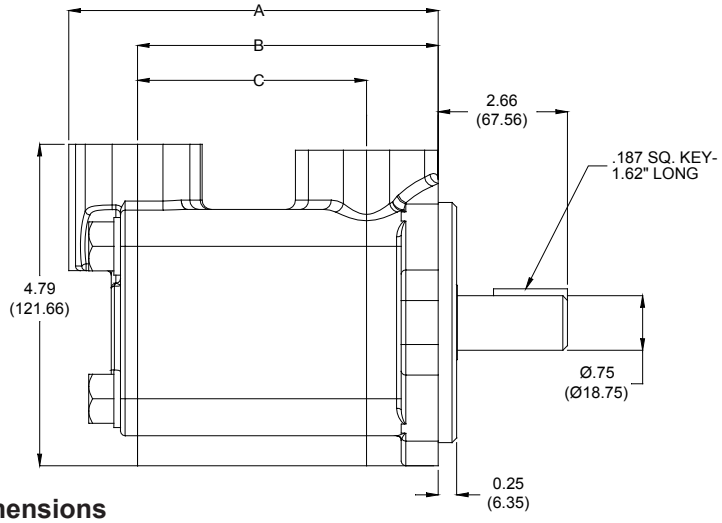
Fixed Vane **F V** [ ] 1725 rpm **B** [ ]

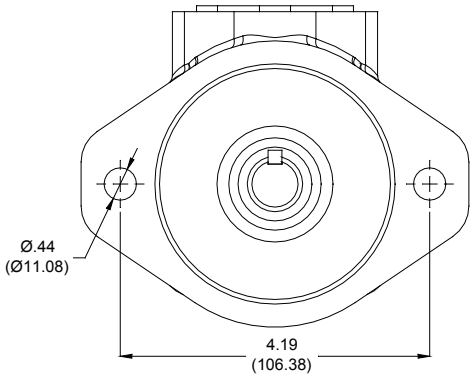
GPM

Code
8.9
10.4
12.1
13.4
16.6
17.8
19.3

Pressure

Code	Pressure
25	2500 psi (172 bar)

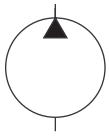




Dimensions

Code	A	B	C
FV8.9B25	4.93 (125.2)	4.02 (102.1)	2.80 (71.1)
FV10.4B25	5.18 (131.6)	4.27 (108.5)	3.05 (77.5)
FV12.1B25	5.18 (131.6)	4.27 (108.5)	3.05 (77.5)
FV13.4B25	5.18 (131.6)	4.27 (108.5)	3.05 (77.5)
FV16.6B25	5.38 (136.7)	4.47 (113.5)	3.25 (82.6)
FV17.8B25	5.52 (140.2)	4.61 (117.1)	3.39 (86.1)
FV19.3B25	5.52 (140.2)	4.61 (117.1)	3.39 (86.1)

Schematic Symbol



Specifications

Code	Part No.	Cu. in./ (cu. cm/) Revolution	gpm* (lpm) @ 1725 rpm	Continuous Pressure	Maximum Speed (rpm)
FV8.9B25	1005539	1.19 (19.5)	8.89 (33.7)	2500 psi (172 bar)	3400
FV10.4B25	1005540	1.39 (22.8)	10.38 (39.3)	2500 psi (172 bar)	3000
FV12.1B25	1005541	1.62 (26.5)	12.10 (46.5)	2500 psi (172 bar)	2800
FV13.4B25	1005542	1.81 (29.7)	13.44 (50.9)	2500 psi (172 bar)	2800
FV16.6B25	1005543	2.22 (36.4)	16.58 (62.8)	2500 psi (172 bar)	2500
FV17.8B25	615804AC	2.38 (39.0)	17.77 (67.3)	2500 psi (172 bar)	2400
FV19.3B25	611342	2.59 (42.4)	19.34 (73.2)	2500 psi (172 bar)	2400

***NOTE:** gpm = $\frac{\text{rpm x Pump Displacement (Cu. in./Rev.)}}{231}$

Power Unit Accessories

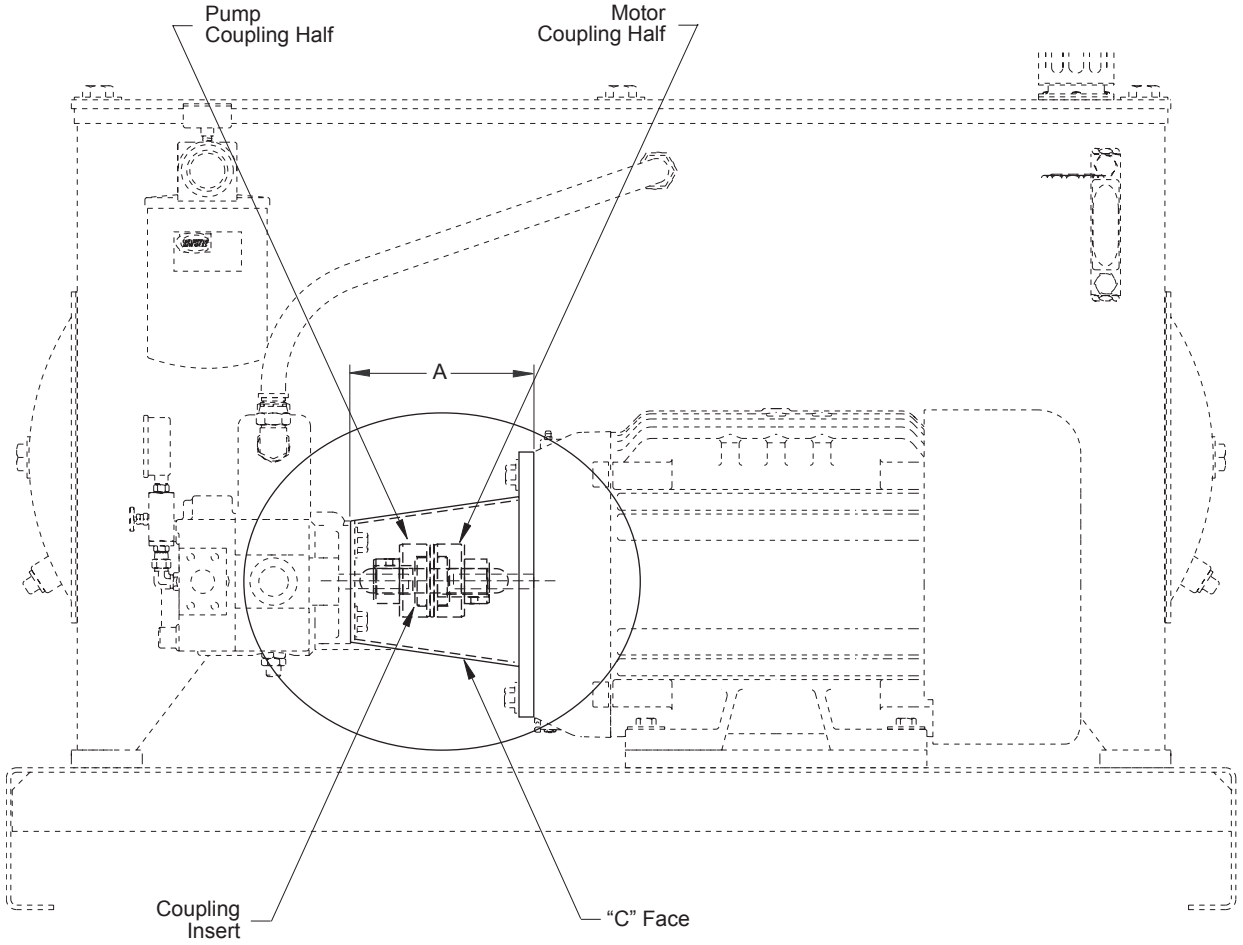
ALL POWER UNITS

Pump Motor Adaptor and Couplings

Pump	Adaptor and Couplings	PVR6, HPV6 PVX8	PVR15, HPV10/15 PVX11/15	HPV20-29, PVX20/29/36	PVX46-75	PVR50	G0.6B36-G3.5B29	G2.0B31.5-G11.8B27	Coupling Series
SAE		SAE-A	SAE-B	SAE-C	SAE-D	SAE None	SAE-AA	SAE-A	
Shaft Dia.		3/4 x 3/16K	7/8 x 1/4K	1-1/4 x 5/16K	1-3/4 x 7/16K	1-1/2 x 3/8K	1/2 x 1/8K	5/8 x 5/32K	
.5 - 3 HP 56C 5/8 x 3/16K	C-Face	902497					974064	902497	PM90
	Motor Cplg	954876					1010339	954876	
	Pump Cplg	954846					1010337	964294	
	Insert	954855					1011156	954855	
1HP-2 HP 143/145TC 7/8 x 3/16K	C-Face	902497					974064	902497	PM90
	Motor Cplg	954847					1011154	954847	
	Pump Cplg	954846					1010337	964294	
	Insert	954855					1011156	954855	
3HP, 5 HP 182/184TC 1-1/8 x 1/4K	C-Face	954856	954858			600619	974065	974741	PM90
	Motor Cplg	954849	954849			914091*	1015501	954849	
	Pump Cplg	954846	954848			914099*	1015502	964294	
	Insert	954874	954874			914217*	1015503	954874	
7.5HP, 10 HP 213/215TC 1-3/8 x 5/16K	C-Face	903606	166719	600616		600620	974066	954856	M200
	Motor Cplg	954850	954850	954850		914095*	954850	954850	
	Pump Cplg	914070	914072	914078		914099*	914064	914066	
	Insert	914216	914216	914216		914217*	914216	914216	
15HP, 20 HP 254/256TC 1-5/8 x 3/8K	C-Face	148618	166616	934788		904611		903606	M300
	Motor Cplg	954851	954851	954851		954851		954851	
	Pump Cplg	914085	914087	914094		914099		914081	
	Insert	914217	914217	914217		914217		914217	
25HP, 30 HP 284/286TC 1-7/8 x 1/2K	C-Face		934782	974817	611669	904081			M400
	Motor Cplg		954852	954852	954852	954852			
	Pump Cplg		914104	934254	611625	914112			
	Insert		914218	914218	914218	914218			
40HP, 50 HP 324/326TC 2-1/8 x 1/2K	C-Face		600574	934791	611833	902778			M500
	Motor Cplg		914134	914134	914134	914134			
	Pump Cplg		914118	914123	914130	914127			
	Insert		914219	914219	914219	914219			
60HP, 75 HP 364/365TC 2-3/8 x 5/8K	C-Face			934792	611671	934787			M500
	Motor Cplg			954853	954853	954853			
	Pump Cplg			914123	914130	914127			
	Insert			914219	914219	914219			
100 HP 405TC 2-7/8 x 3/4K	C-Face				611672				M700
	Motor Cplg				610899				
	Pump Cplg				611666				
	Insert				914221				

***NOTE:** 300 Series

Description: Power unit design and assembly can be greatly simplified by using pump/motor mounts. Direct mounting flange mount pumps to NEMA “C”-face motors by a pump/motor mount eliminates the need for coupling guard, foot brackets, shims risers and mounting plate. The result is the easiest installation and most effective method of mounting a pump and motor. Couplings are enclosed in precision machined aluminum mounts to maintain critical alignment.
All insert material is made of urethane. Viton and Hytrel material for phosphate ester are also available.



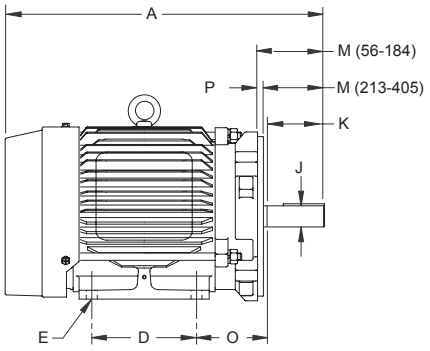
C-Face Length

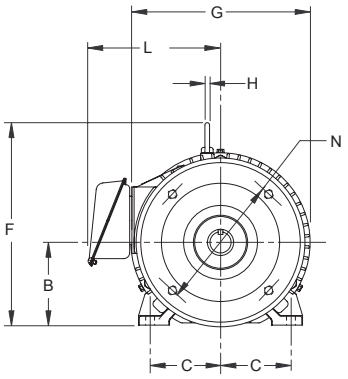
Part No.	A	Part No.	A	Part No.	A	Part No.	A
148618	5.88 (149.4)	611669	8.00 (203.2)	904611	7.50 (190.5)	974064	4.25 (107.9)
166616	6.88 (174.8)	611670	9.00 (228.6)	934782	7.50 (190.5)	974065	4.75 (120.6)
166719	5.88 (149.4)	902497	4.25 (107.9)	934788	6.88 (174.8)	974066	5.00 (127.0)
600616	5.88 (149.4)	902778	8.75 (222.2)	934791	7.63 (193.8)	974741	4.75 (120.6)
600619	6.00 (152.4)	903606	5.25 (133.3)	954856	5.00 (127.0)	974817	7.50 (190.5)
600620	6.50 (165.1)	904081	8.25 (209.5)	954858	5.25 (133.3)		

Power Unit Accessories

NFPA/JIC, L-SHAPED AND LOW PROFILE POWER UNITS

Electric Motors





Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Dimensions A thru K

Code	A	B	C	D	E Slots	F	G	H	J	K
.5BMTCE	11.35 (288.3)	3.50 (88.9)	2.44 (62.0)	3.00 (76.2)	.34 (8.6)	6.88 (174.8)	6.63 (168.4)	.19 (4.8)	.63 (16.0)	1.88 (47.8)
1BMTCE	12.54 (318.5)		2.75 (69.8)	4.00 (101.6)					.88 (22.4)	2.25 (57.1)
1.5BMTCE				5.00 (127.0)						
2BMTCE										
3BMTCE	14.43 (366.5)	4.50 (114.3)	3.75 (95.2)	4.50 (114.3)	.41 (10.4)	8.69 (220.7)	7.88 (200.2)	.25 (6.3)	1.13 (28.7)	2.75 (69.8)
5BMTCE	15.42 (391.7)			5.50 (139.7)						
7.5BMTCE	17.94 (455.7)	5.25 (133.3)	4.25 (107.9)			10.25 (260.3)	9.56 (242.8)	.31 (7.9)	1.38 (35.1)	3.38 (85.9)
10BMTCE	19.43 (493.5)			7.00 (177.8)						
15BMTCF	23.40 (594.4)	6.25 (158.7)	5.00 (127.0)	8.25 (209.5)	.53 (13.5)	12.88 (327.2)	12.94 (328.7)	.38 (9.7)	1.63 (41.4)	4.00 (101.6)
20BMTCF	25.10 (637.5)			10.00 (254.0)						
25BMTCF	26.90 (683.3)	7.00 (177.8)	5.50 (139.7)	9.50 (241.3)		15.63 (397.0)	14.63 (371.6)	.50 (12.7)	1.88 (47.8)	4.63 (117.6)
30BMTCF	28.40 (721.4)			11.00 (279.4)						
40BMTCF	30.44 (773.2)	8.00 (203.2)	6.25 (158.7)	10.50 (266.7)	.66 (16.8)	16.50 (419.1)	16.50 (419.1)		2.13 (54.1)	5.25 (133.3)
50BMTCF				12.00 (304.8)						
60BMTCF	33.44 (849.3)	9.00 (228.6)	7.00 (177.8)	11.25 (285.7)		18.50 (469.9)	18.25 (463.5)	.63 (16.0)	2.38 (60.5)	5.88 (149.4)
75BMTCF				12.25 (311.1)						
100BMTCF	38.31 (973.1)	10.00 (254.0)	8.00 (203.2)	13.75 (349.2)	.81 (20.6)	20.31 (515.9)	20.13 (511.3)	.75 (19.0)	2.88 (73.2)	7.25 (184.1)
125BMTCF	44.62 (1133.3)	11.00 (279.4)	9.00 (228.6)	14.50 (368.3)		23.38 (593.9)	25.25 (641.3)	.88 (22.4)	3.38 (85.9)	8.50 (215.9)

Dimensions L thru P

Code	L	M	N	O	P
.5BMTCE	5.00 (127.0)	2.06 (52.3)	5.88 (149.4)	2.75 (69.8)	.13 (3.3)
1BMTCE	5.25 (133.3)	2.13 (54.1)			
1.5BMTCE					
2BMTCE					
3BMTCE	5.88 (149.4)	2.63 (66.8)	7.25 (184.1)	3.50 (88.9)	.25 (6.3)
5BMTCE					
7.5BMTCE	7.38 (187.5)	3.13 (79.5)		4.25 (107.9)	
10BMTCE					
15BMTCF	9.63 (244.6)	3.75 (95.2)		4.75 (120.6)	
20BMTCF					
25BMTCF	13.13 (333.5)	4.38 (111.3)	9.00 (228.6)		
30BMTCF					
40BMTCF	14.13 (358.9)	5.00 (127.0)	11.00 (279.4)	5.25 (133.3)	
50BMTCF					
60BMTCF	15.06 (382.5)	5.63 (143.0)		5.88 (149.4)	
75BMTCF					
100BMTCF	18.00 (457.2)	7.00 (177.8)		6.63 (168.4)	
125BMTCF	23.38 (593.9)	8.25 (209.5)	14.00 (355.6)	7.50 (190.5)	

Schematic Symbol



Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)

Specifications

Code	Part No.	Motor Frame	Voltage	RPM	Enclosure	Service Factor	Full Load Amps	Shipping Approx Weight
.5BMTCE	1019403	56C	208-230V, 460V 60 Hz, 3 Phase	1725	TEFC	1.25	2.1 - 2/1	23 lbs. (10.4 kg)
1BMTCE	1019400	143TC				1.15	3.2 - 2.8/1.4	38 lbs. (17.2 kg)
1.5BMTCE	1019401	145TC					4.5 - 4.2/2.1	42 lbs. (19.1 kg)
2BMTCE	1019337	145TC					6 - 5.6/2.8	46 lbs. (20.9 kg)
3BMTCE	1005766	182TC					8.3 - 8.2/4.1	78 lbs. (35.4 kg)
5BMTCE	148682	184TC					13.8 - 13.4/6.7	81 lbs. (36.7 kg)
7.5BMTCE	148683	213TC					21.4 - 20.4/10.2	129 lbs. (58.5 kg)
10BMTCE	148684	215TC					28.5 - 28.4/14.2	141 lbs. (64.0 kg)
15BMTCF	148685	254TC					38.8/19.4	253 lbs. (114.8 kg)
20BMTCF	148686	256TC					48/24	276 lbs. (125.2 kg)
25BMTCF	954900	284TC					60/30	401 lbs. (181.9 kg)
30BMTCF	902588	286TC	230V/460V 60 Hz, 3 Phase				72/36	412 lbs. (186.9 kg)
40BMTCF	1005779	324TC					94/47	594 lbs. (269.4 kg)
50BMTCF	1005780	326TC					118/59	579 lbs. (262.6 kg)
60BMTCF	1005781	364TC					140/70	768 lbs. (348.4 kg)
75BMTCF	1005782	365TC					172/86	808 lbs. (366.5 kg)
100BMTCF	1005783	405TC					230/115	1121 lbs. (508.5 kg)
125BMTCF	1004975	444TC					312/156	1540 lbs. (698.5 kg)

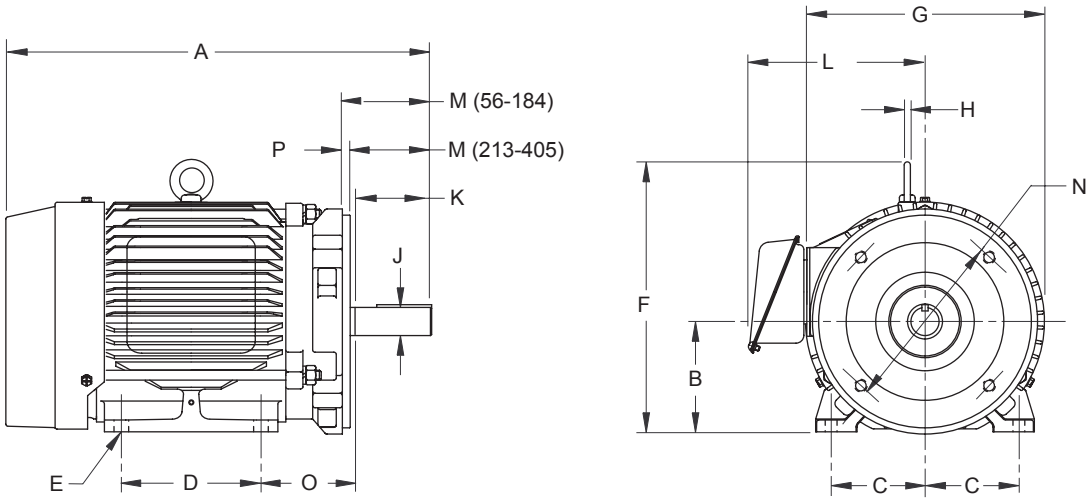
ABB, WEG and Worldwide Electric are preferred motor manufactures. Special request available at time of quote

Power Unit Accessories

LITTLE CHAMP® POWER UNITS

Electric Motors

Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Dimensions A thru K

Code	A	B	C	D	E Slots	F	G	H	J	K
005T	11.48 (289.1)	N/A	N/A	N/A	N/A	N/A	6.63 (168.4)	.19 (4.8)	.63 (16.0)	1.88 (47.8)
007T										
010T	11.48 (289.1)									
015T	12.48 (317.0)									
020T	13.54 (343.9)									
030T	14.12 (358.6)									
050T	17.12 (434.8)						7.88 200.2)	.25 (6.3)	1.13 (28.7)	2.75 (69.8)
075T	20.12 (511.0)						9.56 (242.8)	.31 (7.9)	1.38 (35.1)	3.38 (85.9)
100T	20.12 (511.0)									

Dimensions L thru P

Code	L	M	N	O	P
005T	5.00 (127.0)	2.06 (52.3)	5.88 (149.4)	N/A	.13 (3.3)
007T					
010T					
015T					
020T					
030T					
050T	5.88 (149.4)	2.63 (66.8)	7.25 (184.1)		4.25 (107.9)
075T	7.38 (187.5)	3.13 (79.5)			
100T					

Schematic Symbol

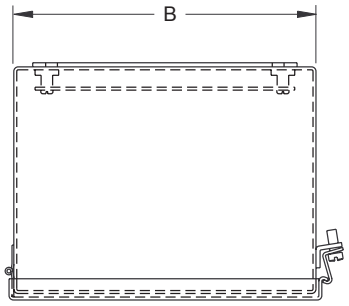


Power Unit Accessories

NFPA/JIC AND L-SHAPED POWER UNITS

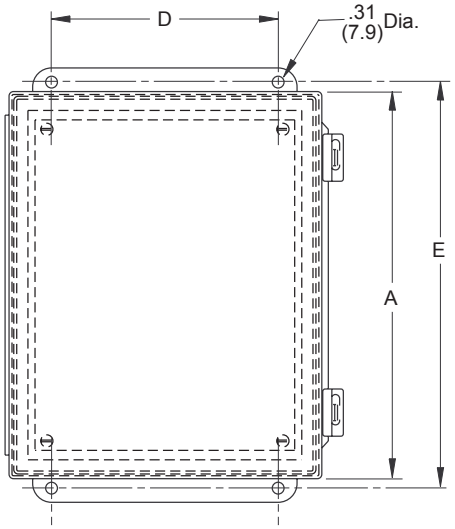
Motor Starters

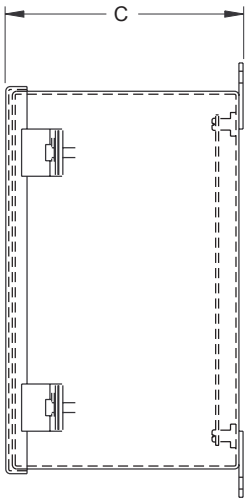
Dimensions shown in: Inches (± .125) (millimeters (± 1 mm)



Description: Motor Starters are designed to meet our interpretation of the N.E.C. code. If motor or any starter components are replaced with other than original components, compliance with the N.E.C. code may be voided. Motor Starter overloads can be adjusted and reset. Standard features include:

- 1 - 50 H.P. (.75 - 37.3 kW) Full Voltage Non-Reversing
- Voltages 208, 230, 460
- Three Phase
- I.E.C. Style Components
- Side by Side Push Button (Green/Start, Red/Stop)
- NEMA 12 Enclosure
- Starters Mounted, Wired and Fully Tested

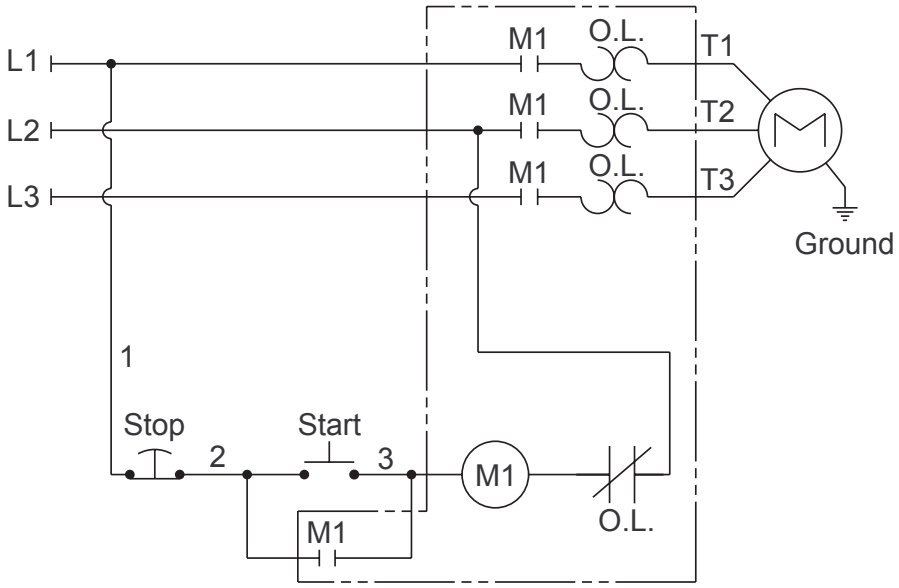




Dimensions

Horsepower	Voltage	A	B	C	D	E
1 - 10 (.75 - 7.5 kW)	208	10.00 (254.0)	8.00 (203.2)	6.00 (152.4)	6.00 (152.4)	10.75 (273.0)
1 - 10 (.75 - 7.5 kW)	230	10.00 (254.0)	8.00 (203.2)	6.00 (152.4)	6.00 (152.4)	10.75 (273.0)
1 - 20 (.75 - 14.9 kW)	460	10.00 (254.0)	8.00 (203.2)	6.00 (152.4)	6.00 (152.4)	10.75 (273.0)
15 - 20 (11.2 - 14.9 kW)	230	12.00 (304.8)	12.00 (304.8)	6.00 (152.4)	6.00 (152.4)	12.75 (323.8)
25 - 40 (18.6 - 29.8 kW)	460	12.00 (304.8)	12.00 (304.8)	6.00 (152.4)	6.00 (152.4)	12.75 (323.8)
25 - 30 (18.6 - 22.4 kW)	230	16.00 (406.4)	14.00 (355.6)	8.00 (203.2)	12.00 (304.8)	16.75 (425.4)
40 - 50 (29.8 - 37.3 kW)	230	30.00 (762.0)	20.00 (508.0)	9.00 (228.6)	18.00 (457.2)	30.75 (781.0)
50 (37.3 kW)	460	30.00 (762.0)	20.00 (508.0)	9.00 (228.6)	18.00 (457.2)	30.75 (781.0)

Wiring Schematic



Model Code

Motor Starter **M S** [ ] [ ] Phase **3** Enclosure **1 2**

Horsepower

Code
1
1.5
2
3
5
7.5
10
15
20
25
30
40
50

Voltage

Code
208
230
460

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