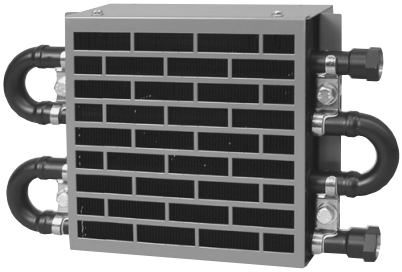
Accessories

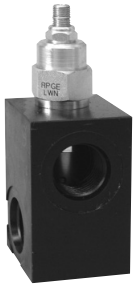
For Hydraulic Power Units



Heat Exchanger

Return Filter

Ball Valve



Relief Valve

Check Valve

► DESCRIPTION:

Continental Hydraulics offers a wide range of accessories that can be either mounted on the power unit, or purchased separately. 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.

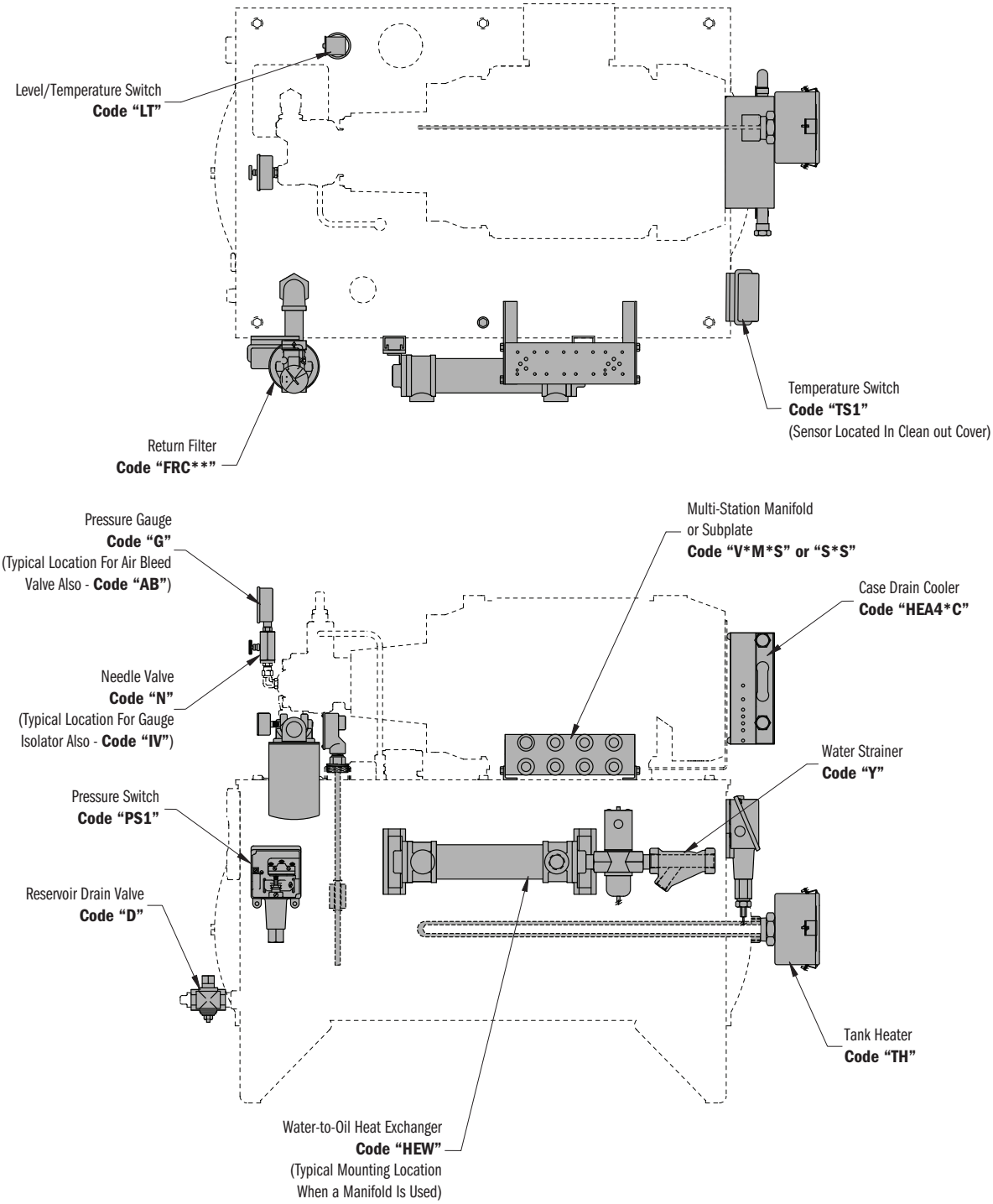
Filters, strainers and magnets help reduce the amount of contamination in the system reducing the wear and tear on pumps and valves.

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

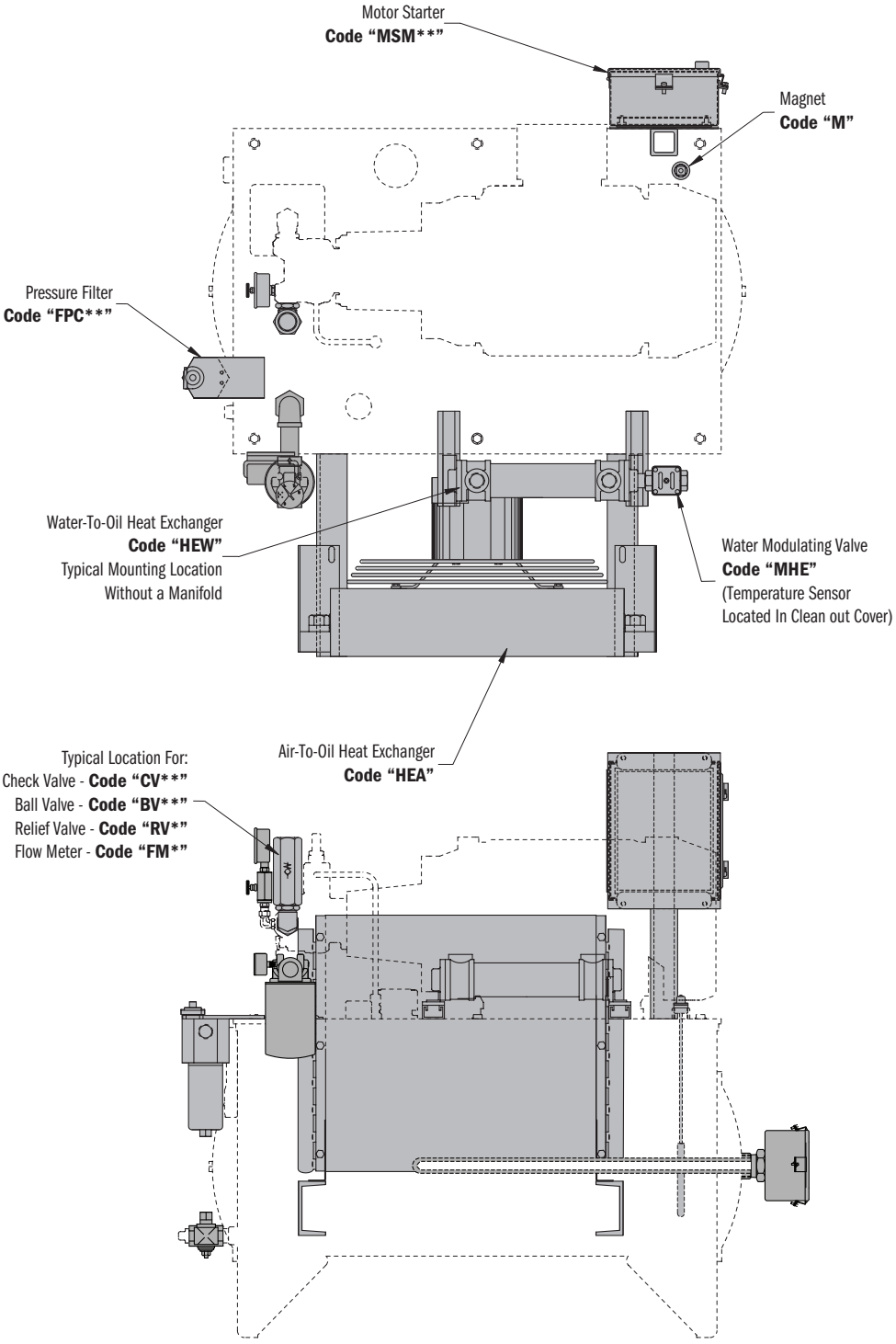
A full description and dimensional information can be found for each component as well as flow curves, technical data and part numbers on its given page. If additional information is needed, please call Continental Hydraulics.

► TABLE OF CONTENTS:

► TYPICAL ACCESSORY LOCATIONS:



► TYPICAL ACCESSORY LOCATIONS:

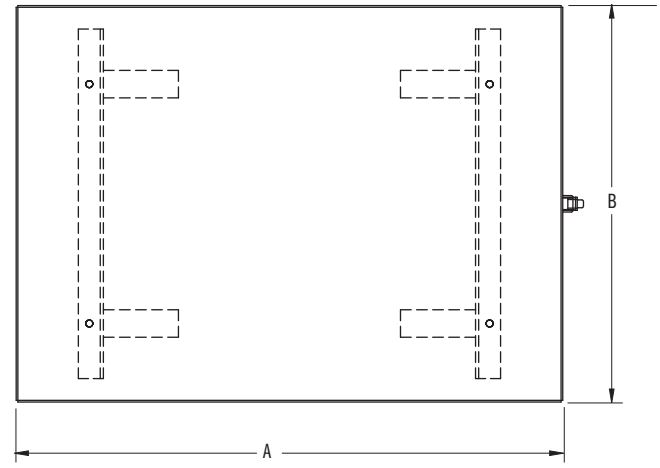


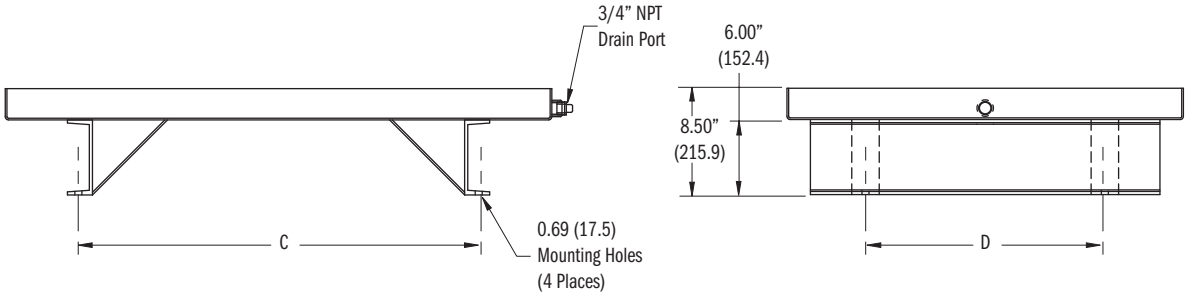
► DRIP PANS:

Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

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





MODEL CODE: [ ] **DP** — Drip Pan

DIMENSIONS (± .125")					
MODEL CODE	PART NUMBER	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 (482.6)
R50DP	621261	42.00 (1066.8)	30.50 (744.7)	35.00 (889.0)	19.00 (482.6)
R70DP	621262	54.99 (1371.6)	33.50 (850.9)	47.00 (1193.8)	22.00 (558.8)
R90DP	621263	66.00 (1676.4)	33.50 (850.9)	59.00 (1498.6)	22.00 (558.8)
R130DP	621264	66.00 (1676.4)	36.50 (927.1)	59.00 (1498.6)	25.00 (635.0)
R160DP	621264	66.00 (1676.4)	36.50 (927.1)	59.00 (1498.6)	25.00 (635.0)
R210DP	621265	78.00 (1981.2)	42.50 (1079.5)	71.00 (1803.4)	31.00 (787.4)

RESERVOIR AND GALLON 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)

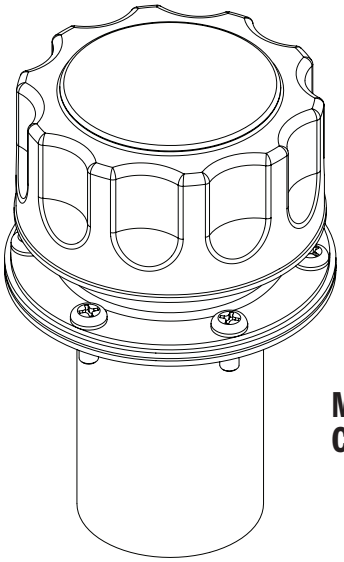
► FILLER BREATHER:

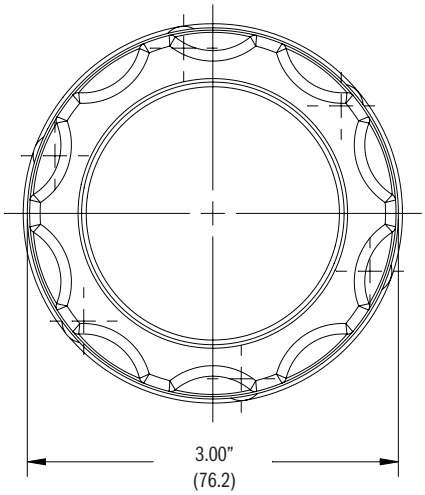
Dimensions:
inches (± .125")
millimeters (± 1 mm)

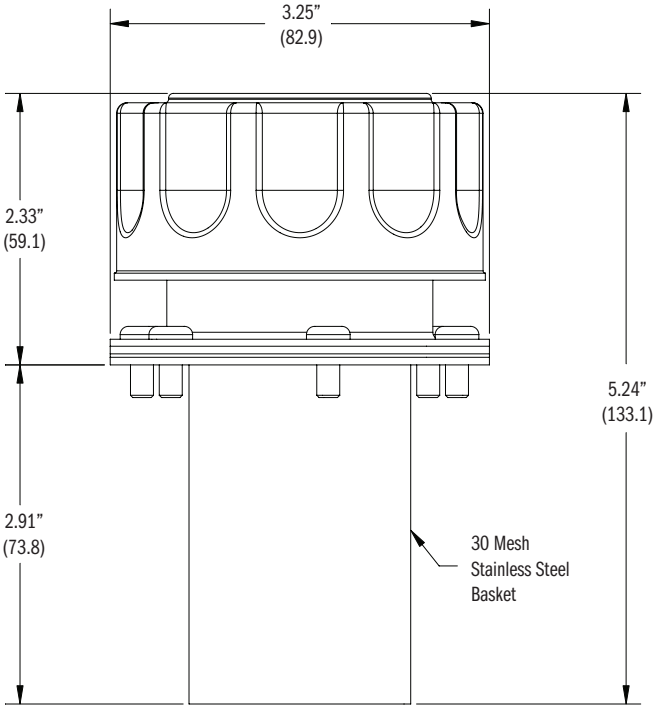
DESCRIPTION

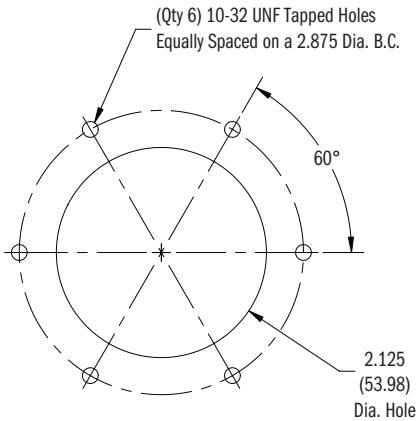
Filler Breathers are designed to be used as a filler port for hydraulic power units. This unit also lets the tank breathe while keeping out airborne particles.

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









MODEL CODE: FB

Filler Breather
Part # 136647

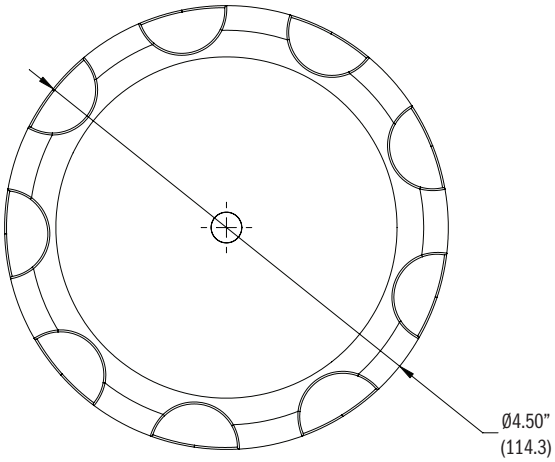
▶ T.R.A.P.™ FILLER BREATHER

Donaldson FILTRATION SOLUTIONS

Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

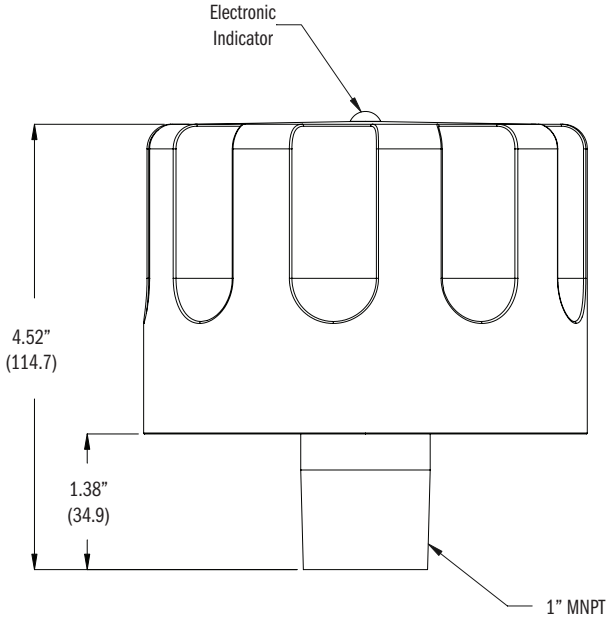
Keep moisture and dirt OUT of your hydraulic reservoir with Donaldson's innovative technology, the Thermally Reactive Advanced Protection (T.R.A.P.™) breather! It senses moisture and begins working faster and lasts longer than desiccant breathers. This is an entirely new technology that provides better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

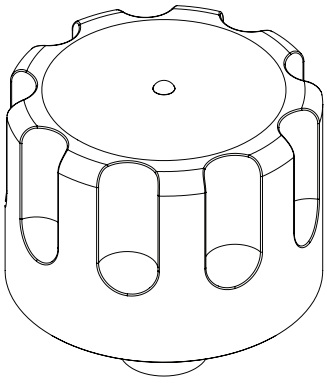


MODEL CODE: BN

Breather NPT
Part # 1001906

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





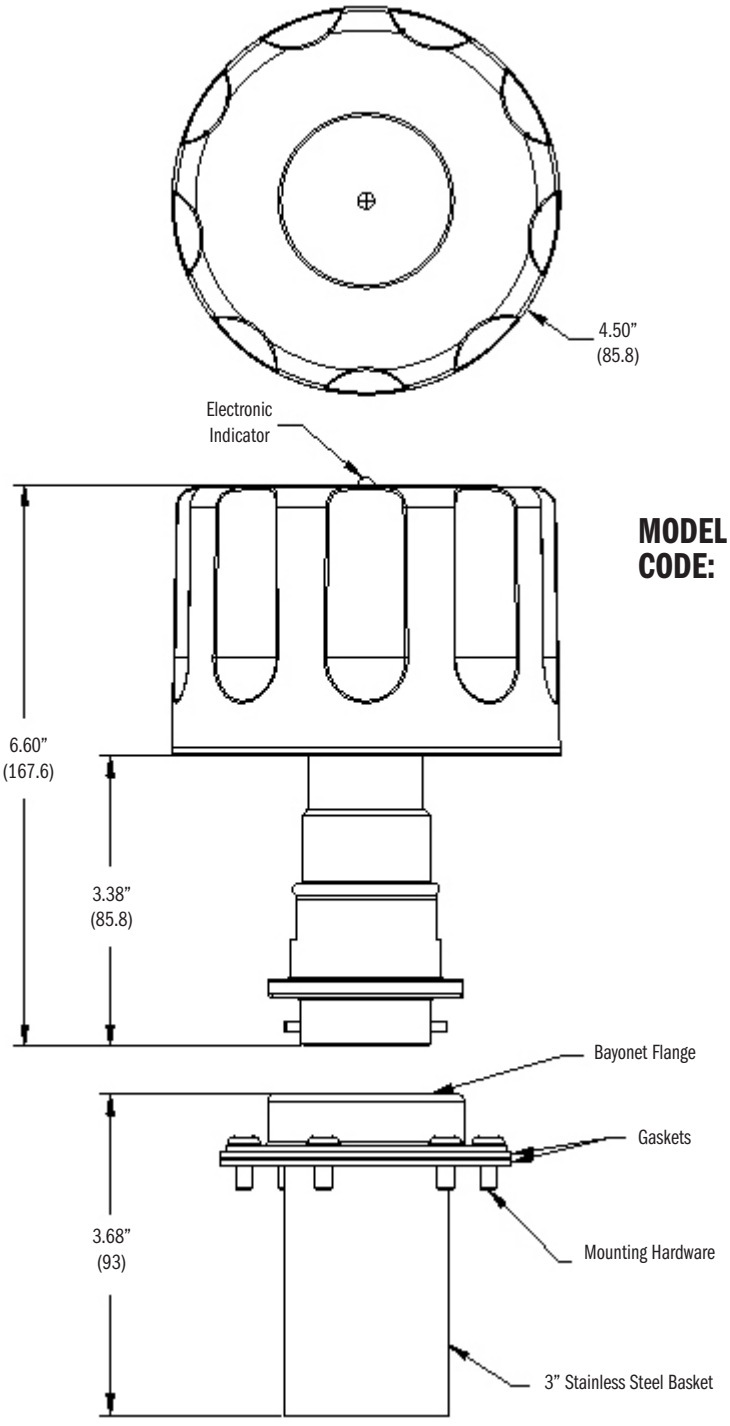
► T.R.A.P.™ FILLER BREATHER

Donaldson FILTRATION SOLUTIONS

Dimensions:
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.

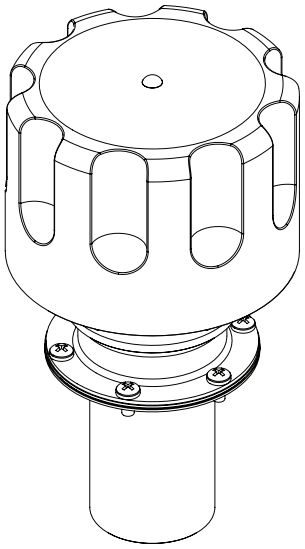


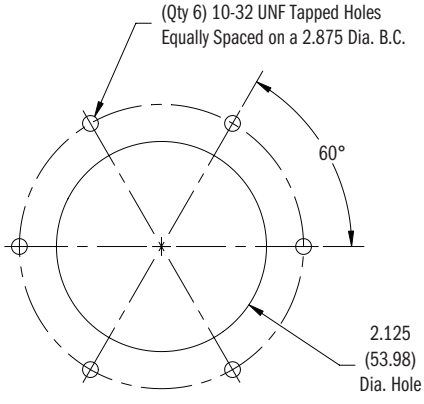
MODEL CODE: BY

Breather Bayonet
Breather Part # 1001489
Basket Part # 1003956

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

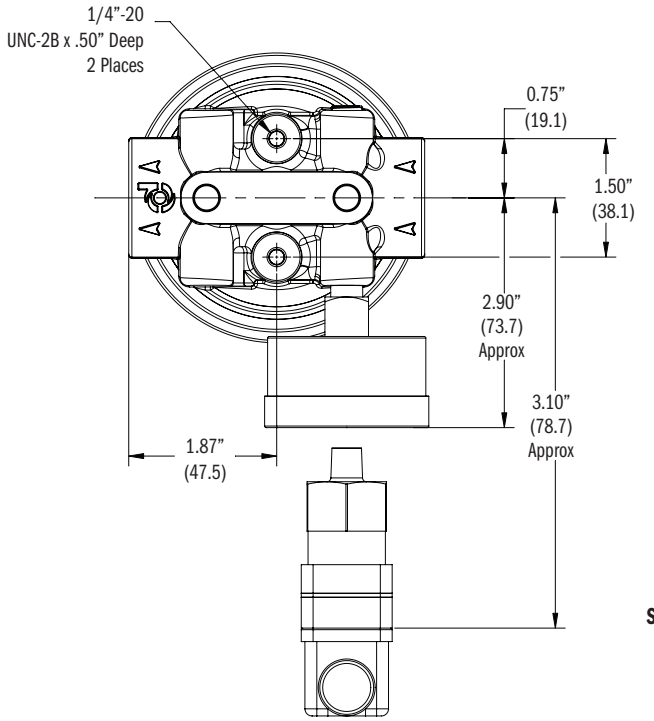
*Breather 1001489 will not fit on the same basket that comes with the standard Filler Breather 136647.





► RETURN FILTER - 10 GPM (37.8 LPM)

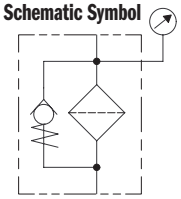
Dimensions:
inches (± .125")
millimeters (± 1 mm)



DESCRIPTION

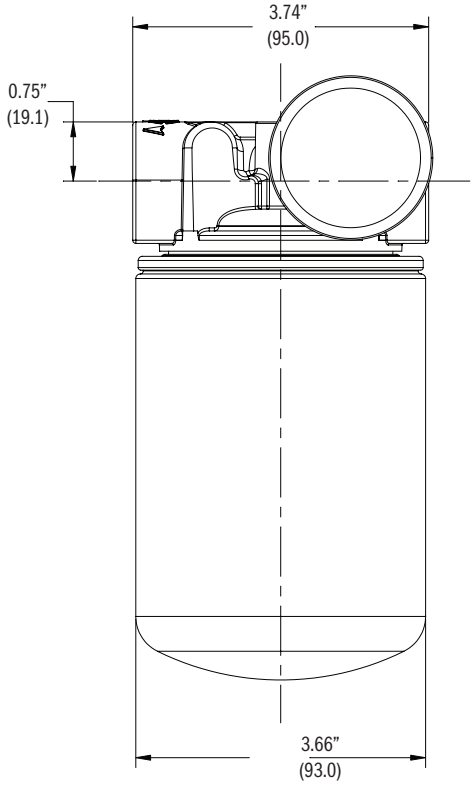
Return filters can greatly increase the life of your hydraulic fluid and components. Filters should be sized to handle the maximum return flow of the system.

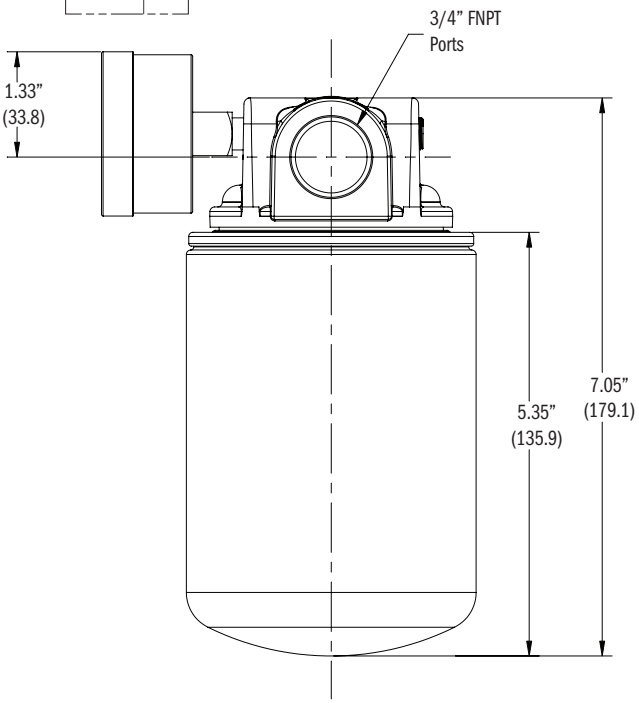
- 10 gpm (37.8 lpm)
- Maximum Pressure: 150 psi (11 bar)
- By-Pass Cracking Pressure: 25 psi (2 Bar)
- Visual Indicator Standard
- Electrical Indicator Optional



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

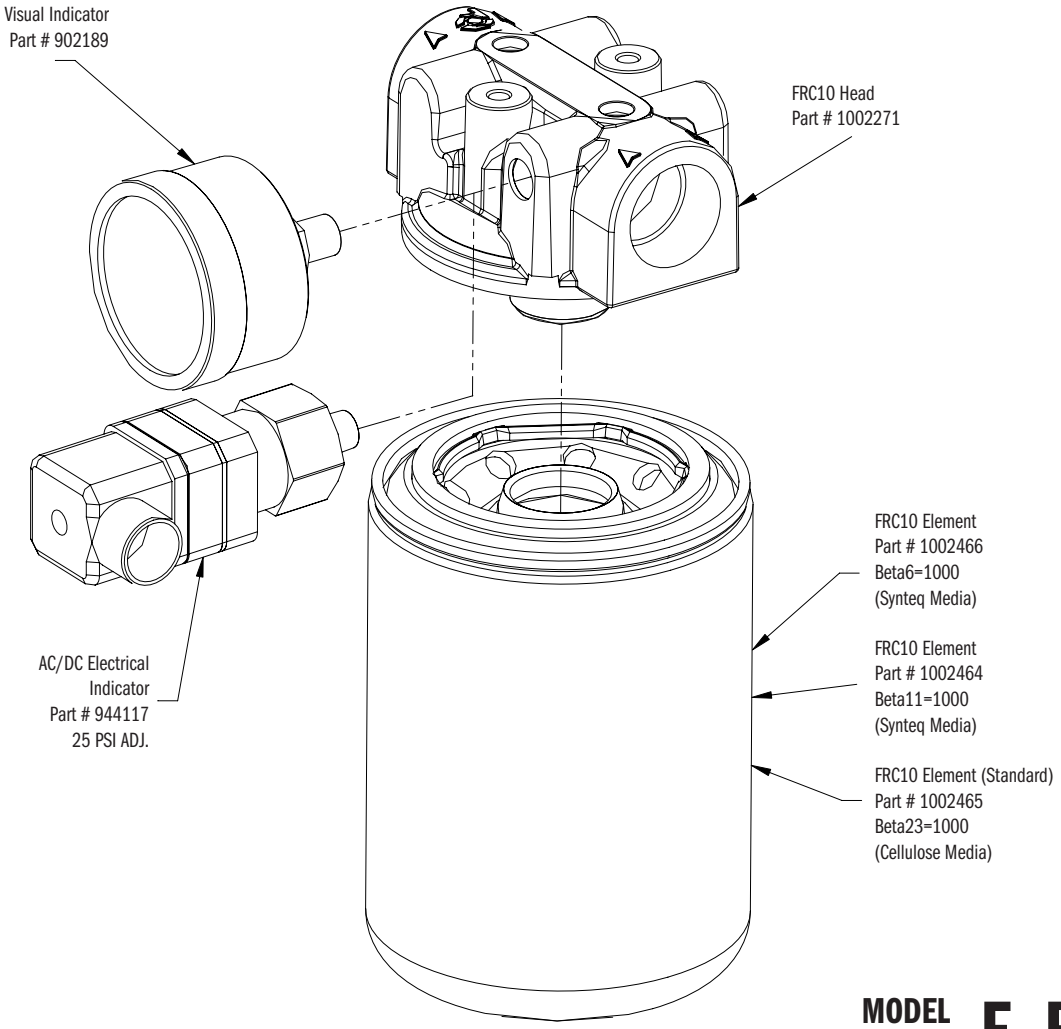
Voltage
12 VDC, 7.0 Amp
24 VDC, 5.0 Amp
125/250 VAC, 5.0 Amp Inductive





▶ RETURN FILTER - 10 GPM (37.8 LPM)

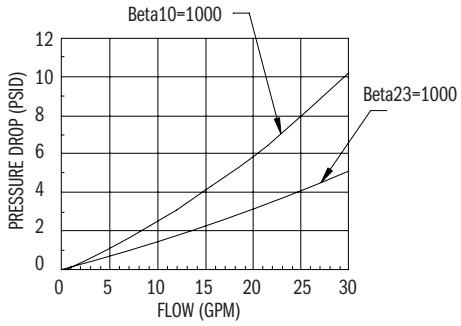
Dimensions:
inches (± .125")
millimeters (± 1 mm)



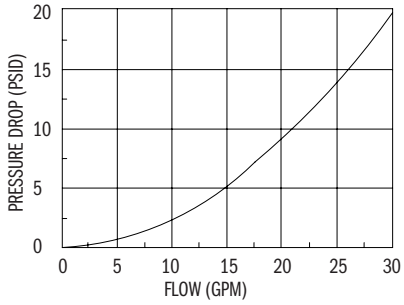
MODEL CODE: **F** (Filter) **R** (Return) [ ] **10** (Flow)

INDICATOR	
CODE	**DESCRIPTION**
C	Visual - #902189
E	Electrical - #944117

FRC10 Element Only

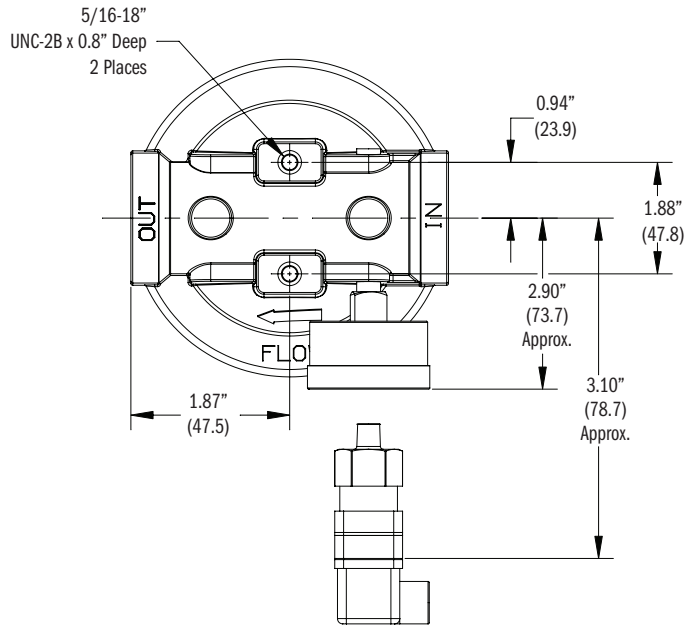


FRC10 Head Only



► RETURN FILTER - 40 GPM (151.4 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)



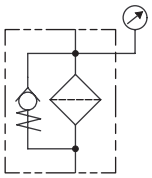
DESCRIPTION

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.

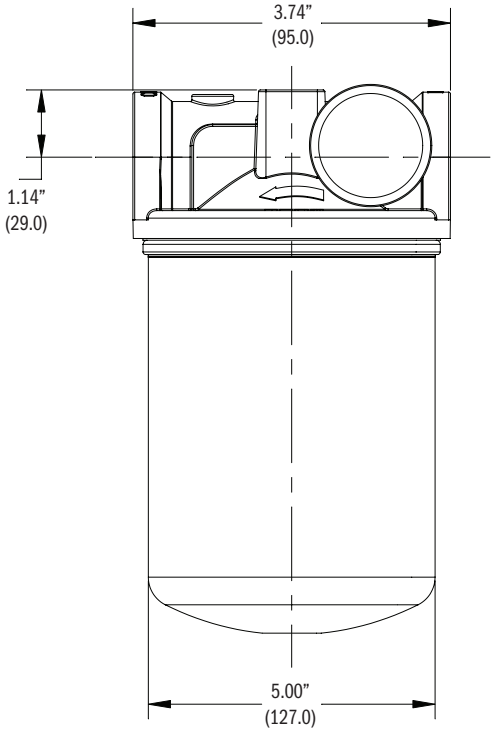
- 40 gpm (151.4 lpm)
- Maximum Pressure: 150 psi (11 bar)
- By-Pass Cracking Pressure: 25 psi (2 Bar)
- Visual Indicator Standard
- Electrical Indicator Optional

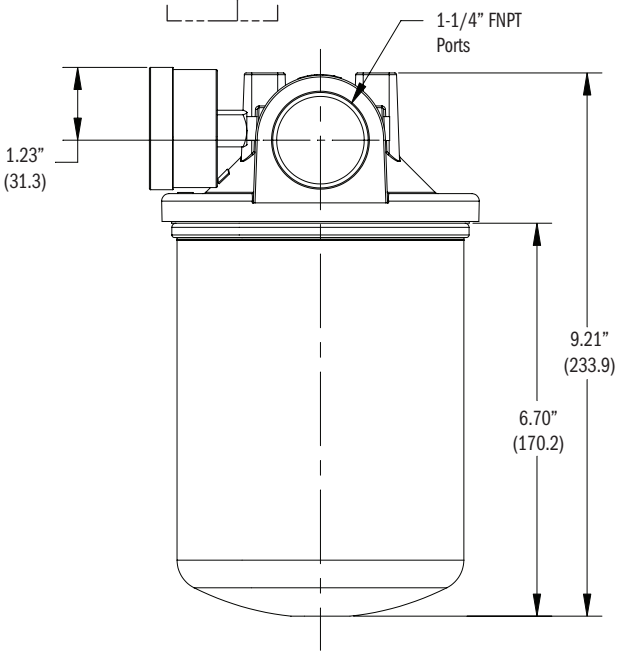
Wiring Code
Common = #1
N.O. = #3
N.C. = #2

Schematic Symbol



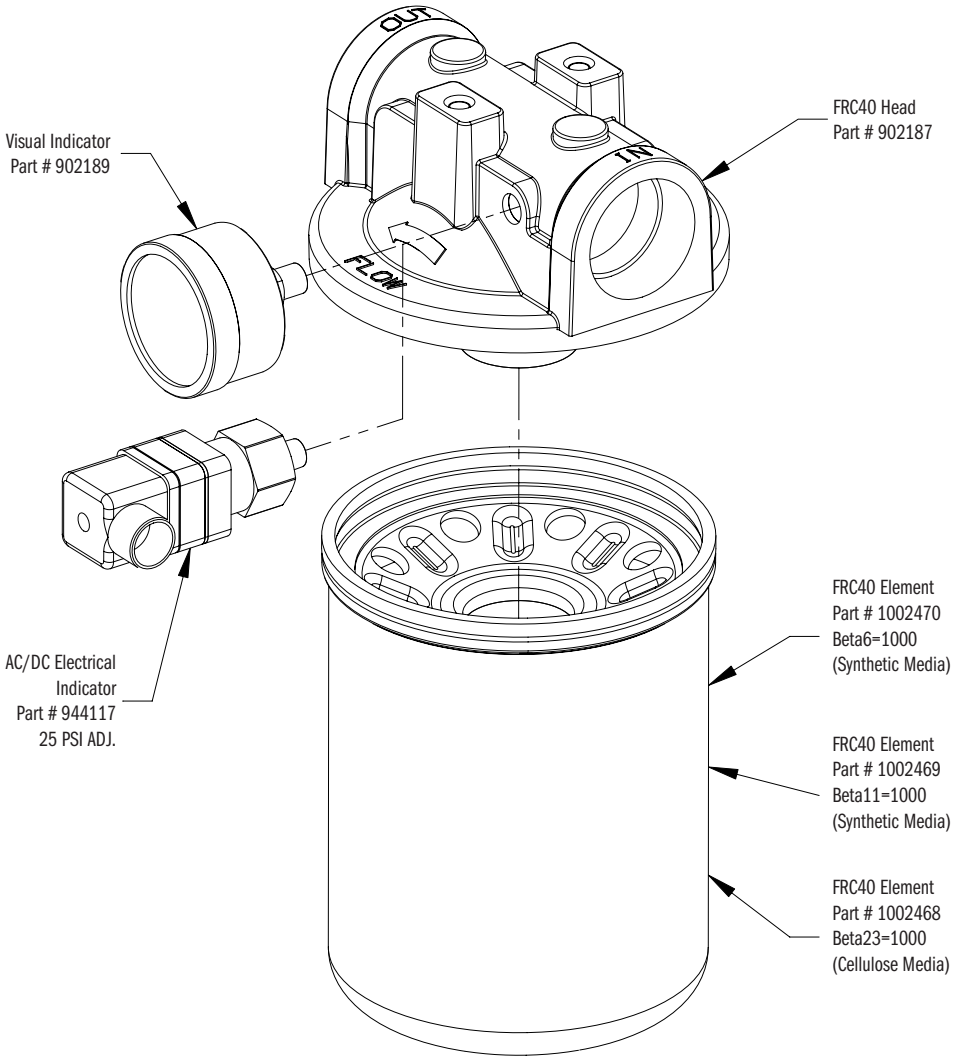
Voltage
12 VDC, 7.0 Amp
24 VDC, 5.0 Amp
125/250 VAC, 5.0 Amp Inductive





▶ RETURN FILTER - 40 GPM (151.4 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)

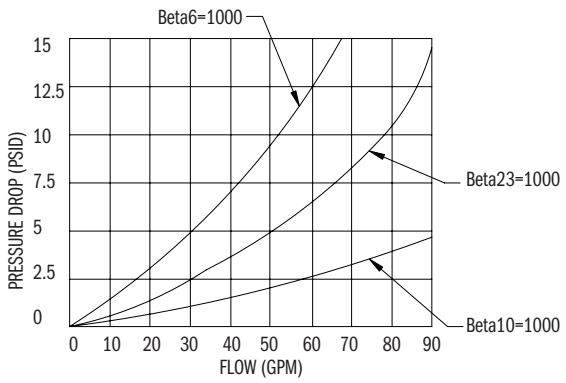


MODEL CODE: **F** **R** [ ] **40**

Filter **Return** **Flow**

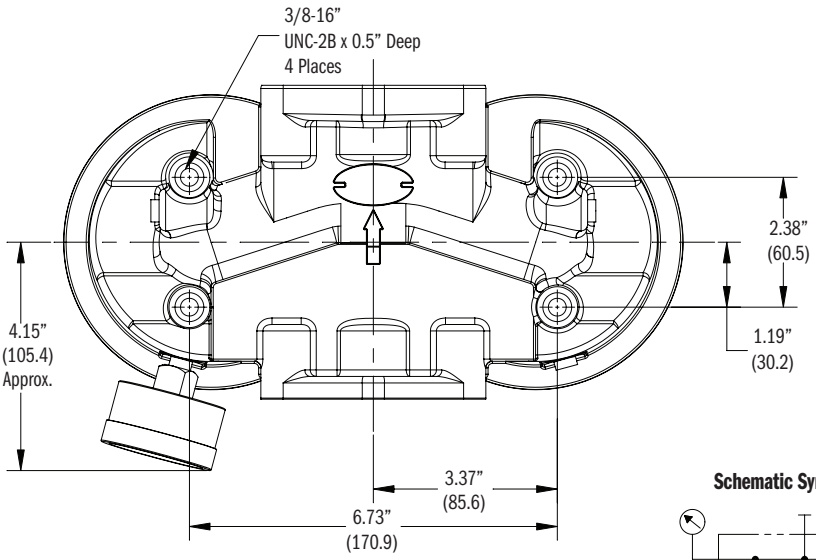
INDICATOR	
CODE	**DESCRIPTION**
C	Visual - #902189
E	Electrical - #944117

FRC40 Element Only



► RETURN FILTER - 80 GPM (302.8 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)

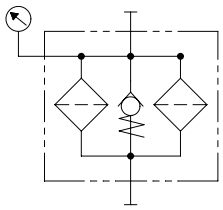


DESCRIPTION

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.

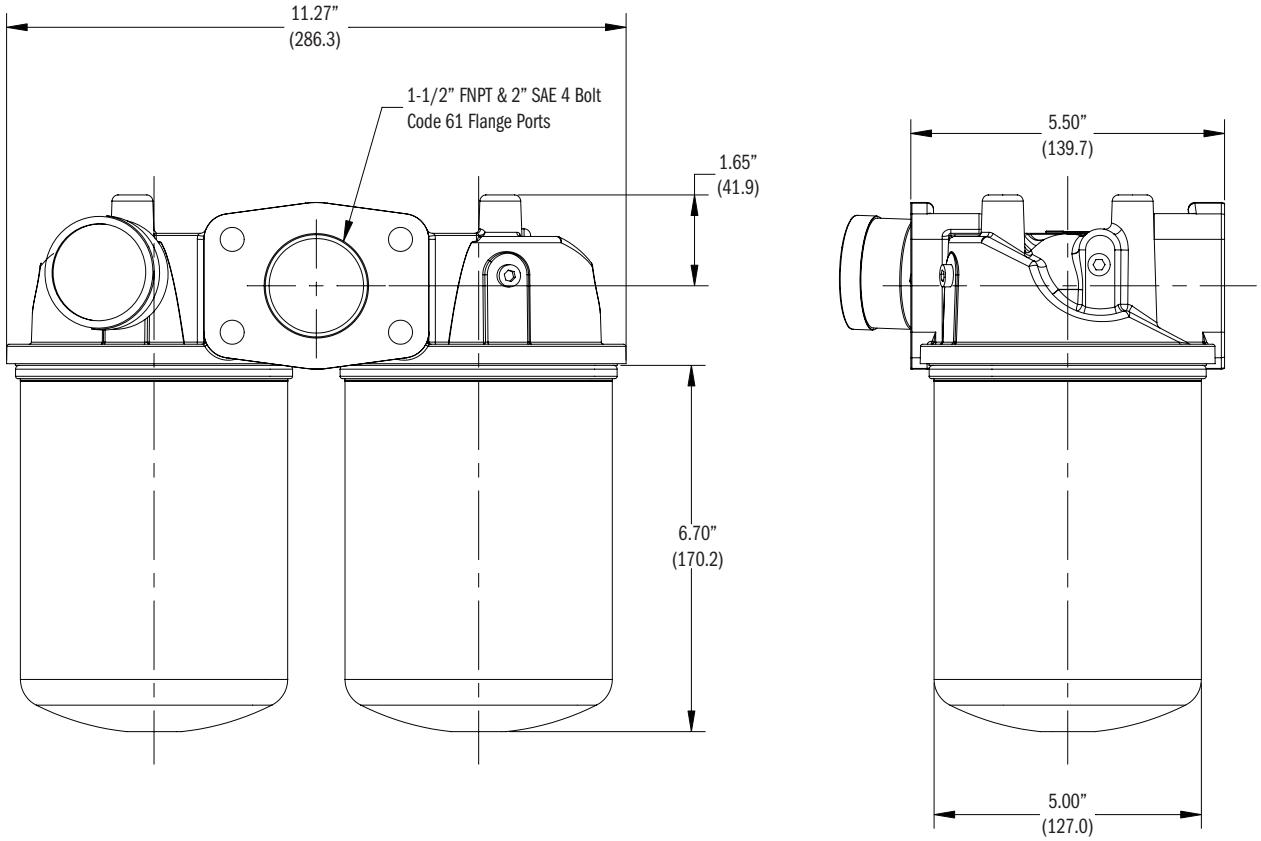
- 80 gpm (302.8 lpm)
- Maximum Pressure: 150 psi (11 bar)
- By-Pass Cracking Pressure: 25 psi (2 Bar)
- Visual Indicator Standard
- Electrical Indicator Optional

Schematic Symbol



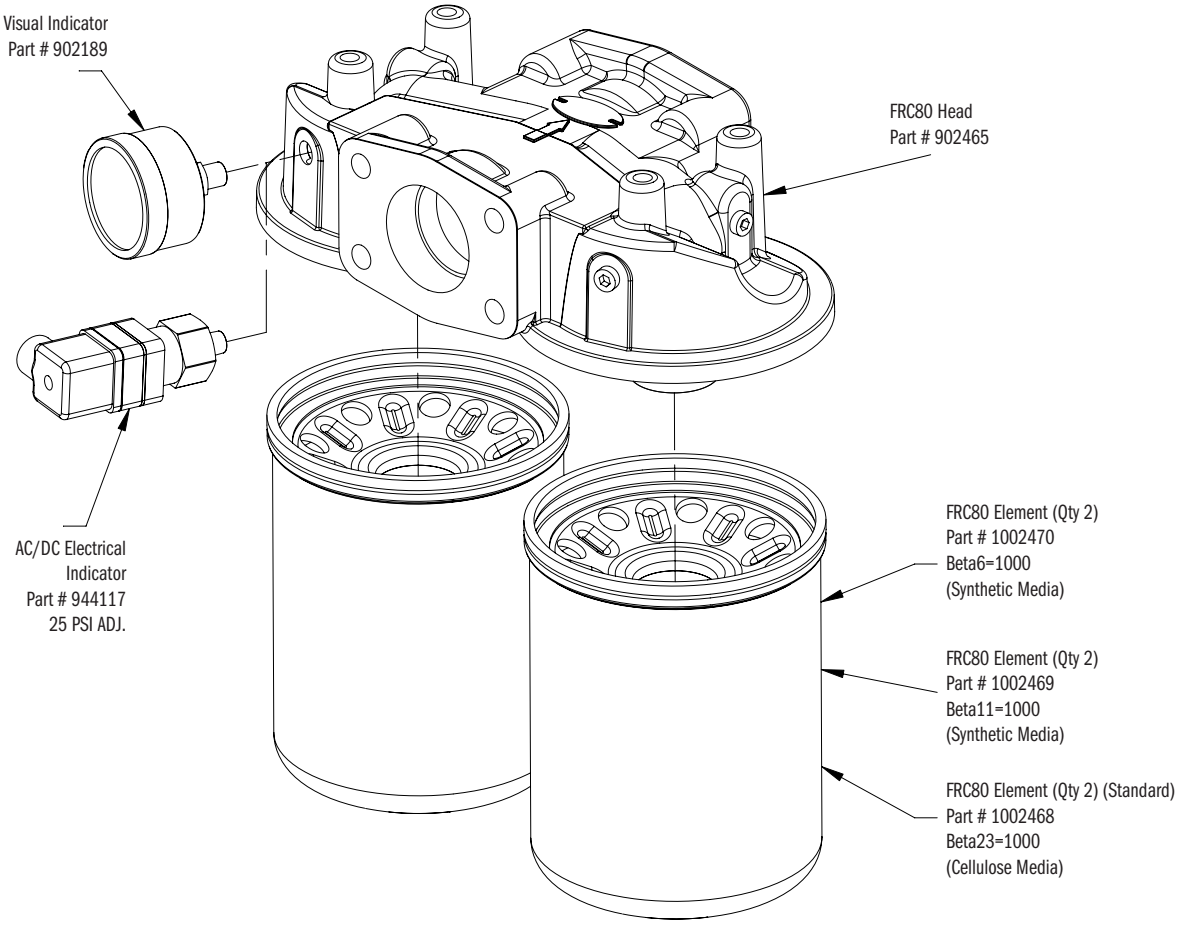
Wiring Code
Common = #1
N.O. = #3
N.C. = #2

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



▶ RETURN FILTER - 80 GPM (302.8 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)

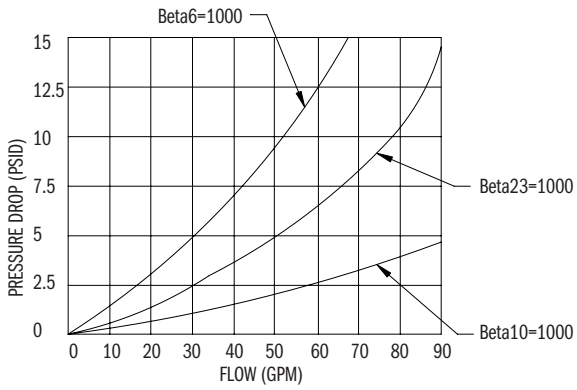


MODEL CODE: **F** **R** [ ] **80**

Filter **Return** **Flow**

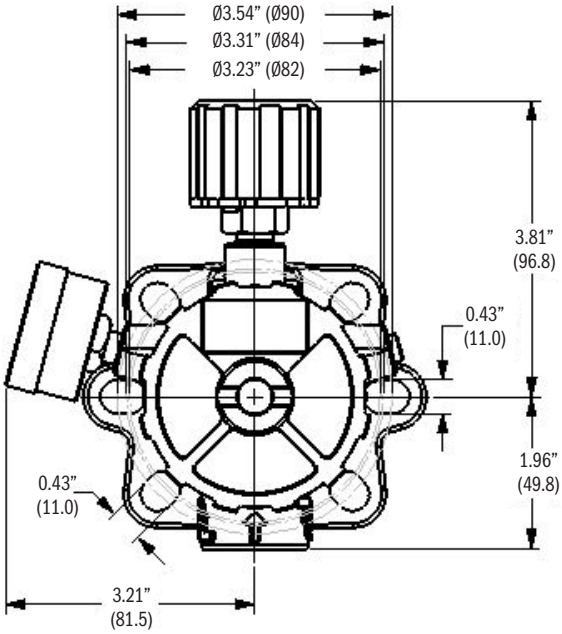
INDICATOR	
CODE	**DESCRIPTION**
C	Visual - #902189
E	Electrical - #944117

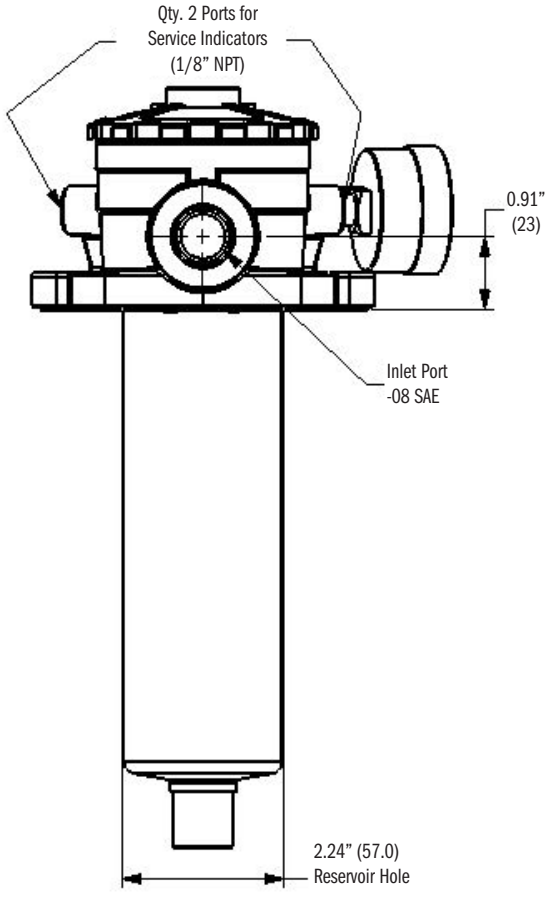
FRC40 Element Only



► IN-TANK RETURN FILTER - 10 GPM (3.79 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)



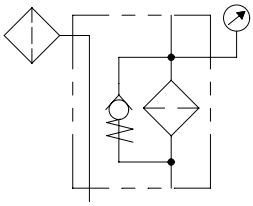


DESCRIPTION

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.

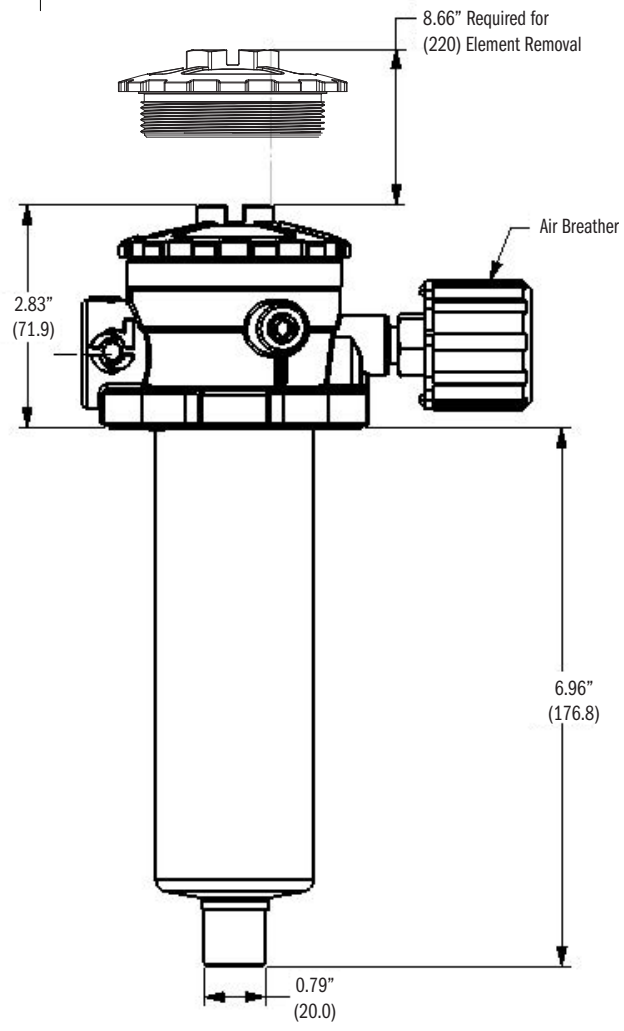
- 10 gpm (3.79 lpm)
- Maximum Pressure: 145 psi (10 bar)
- By-Pass Cracking Pressure: 22 psi (1.7 Bar)
- Visual Indicator Standard
- Electrical Indicator Optional

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



▶ RETURN FILTER - 80 GPM (302.8 LPM)

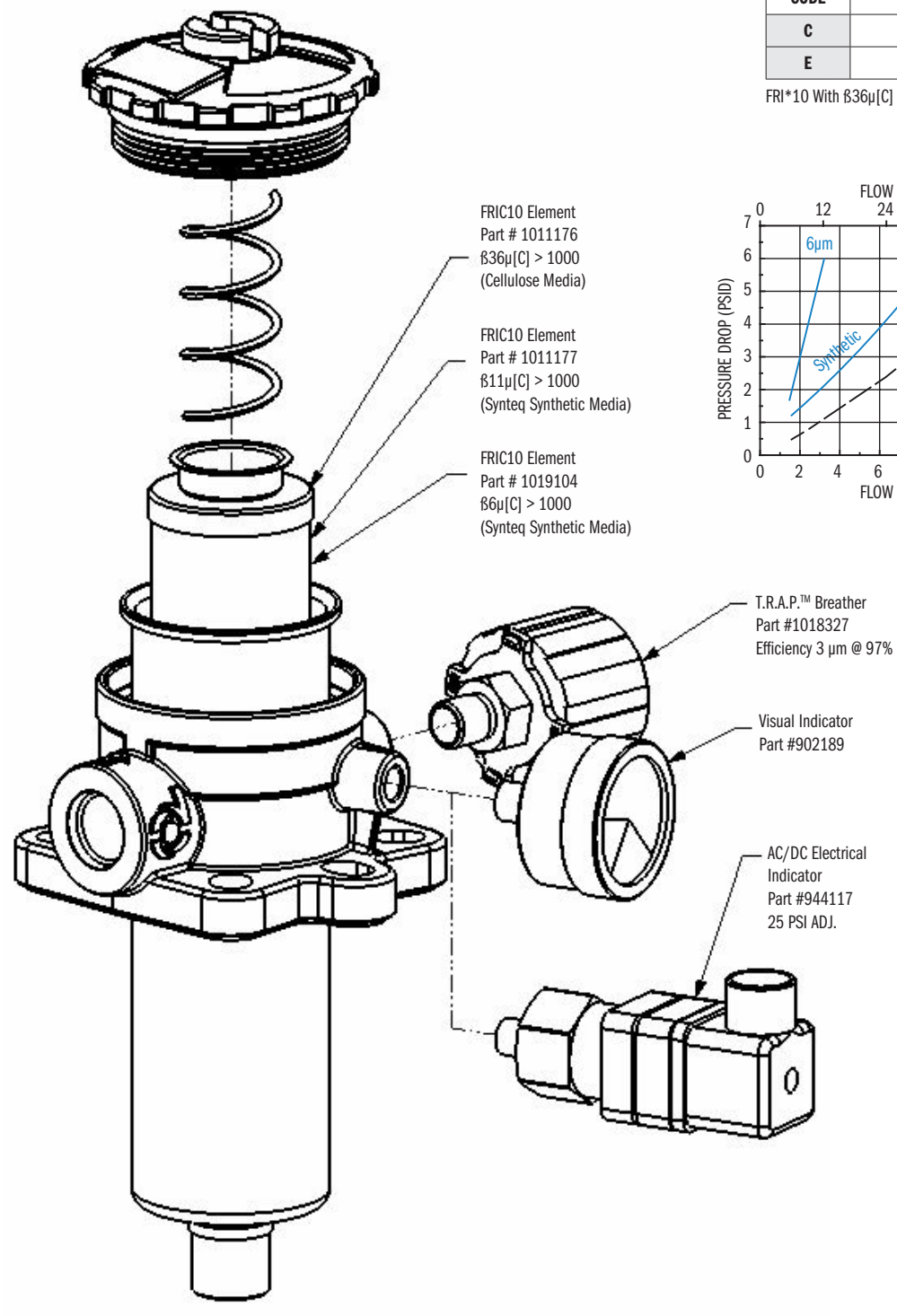
Dimensions:
inches (± .125")
millimeters (± 1 mm)

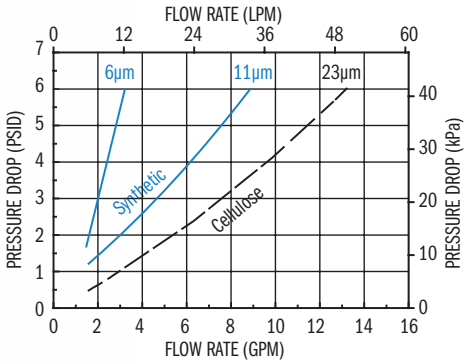
MODEL CODE: **F R I [ ] 10**

F – Filter
R – Return
I – In-Tank
[ ] – INDICATOR
10 – Flow

INDICATOR	
CODE	DESCRIPTION
C	Visual - #902189
E	Electrical - #944117

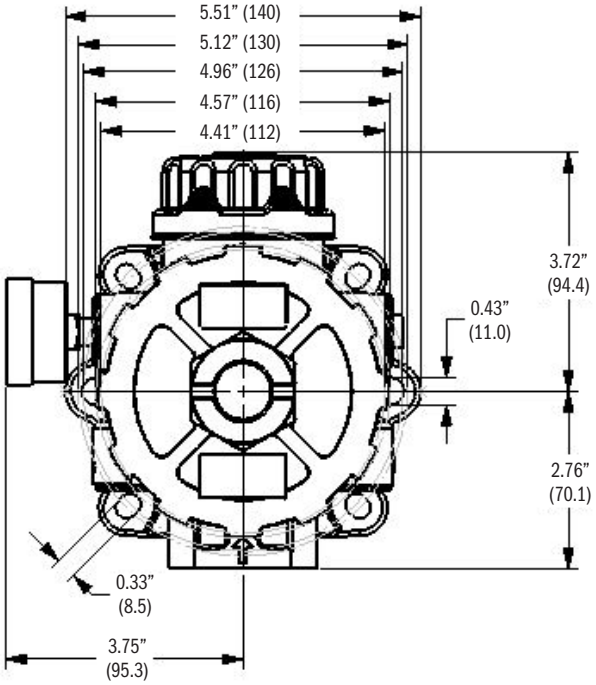
FRI*10 With ß36µ[C] > 1000 Element, Is Part #1018321





► IN-TANK RETURN FILTER - 25 GPM (94.6 LPM)

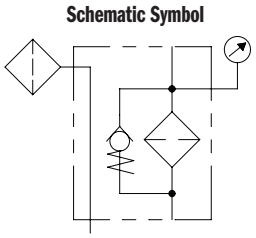
Dimensions:
inches (± .125")
millimeters (± 1 mm)



DESCRIPTION

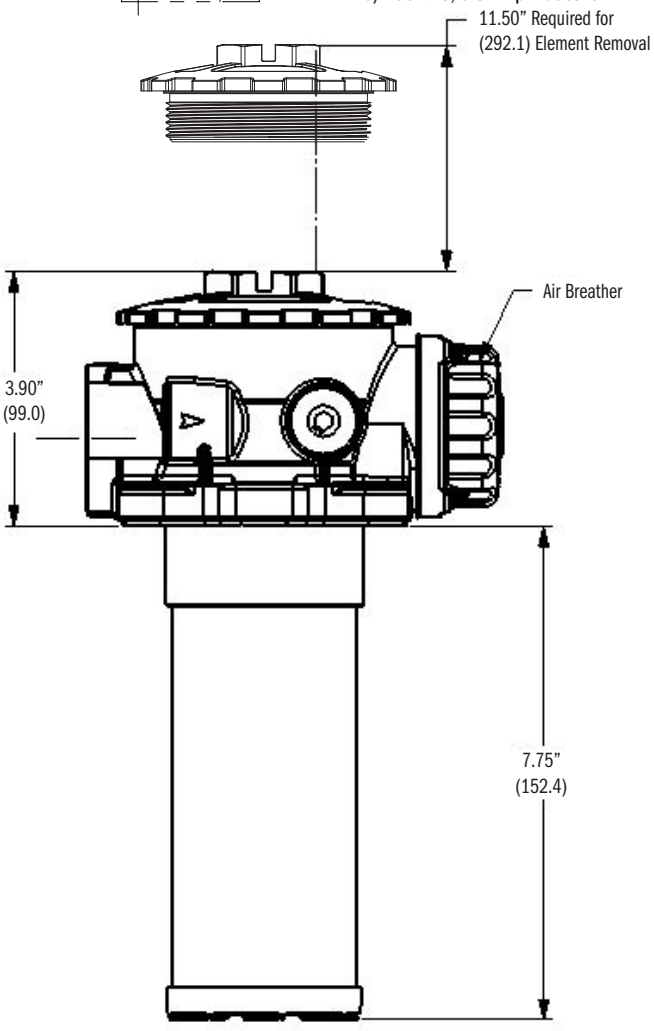
Return filters can greatly increase the life of your hydraulic fluid and components. Filters should be sized to handle the maximum return flow of the system.

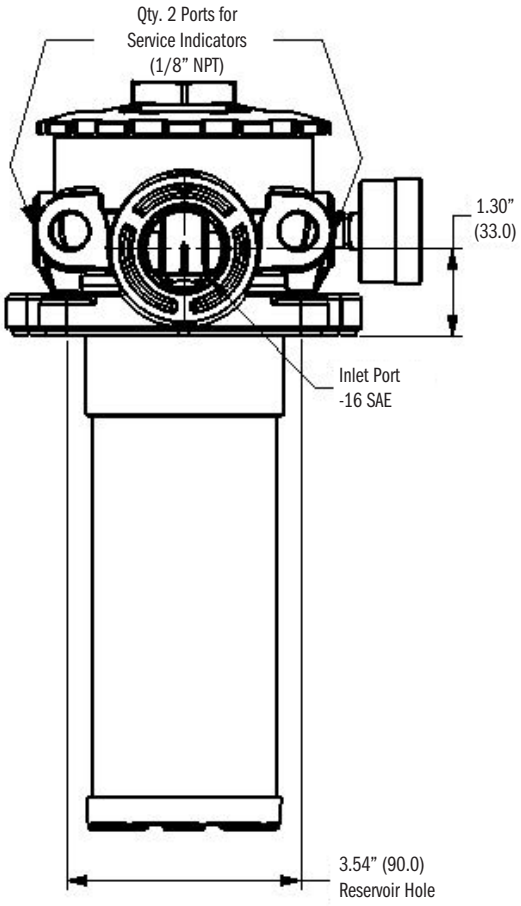
- 25 gpm (94.6 lpm)
- Maximum Pressure: 100 psi (6.9 bar)
- By-Pass Cracking Pressure: 25 psi (1.7 Bar)
- Visual Indicator Standard
- Electrical Indicator Optional



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

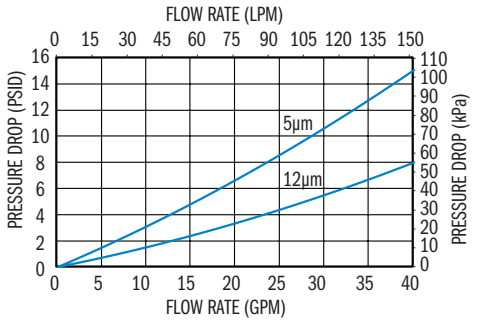
Voltage
12 VDC, 7.0 Amp
24 VDC, 5.0 Amp
125/250 VAC, 5.0 Amp Inductive





▶ IN-TANK RETURN FILTER - 25 GPM (94.6 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)

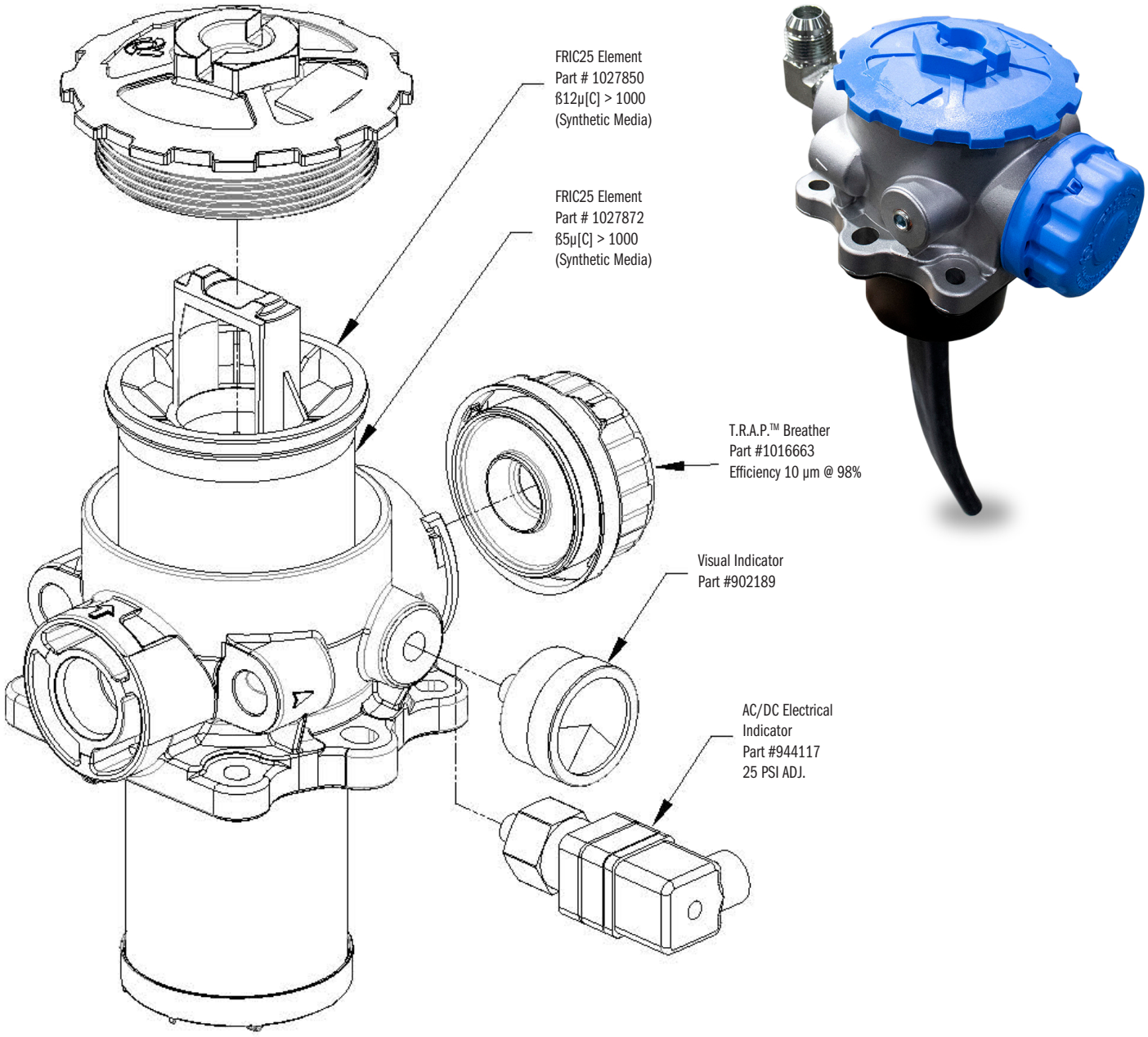


MODEL CODE: **F R I** [ ] **25**

Filter **Return** **In-Tank** **Flow**

INDICATOR	
CODE	**DESCRIPTION**
C	Visual - #902189
E	Electrical - #944117

FRI*25 With ß12µ[C] > 1000 Element, Is Part #1027849



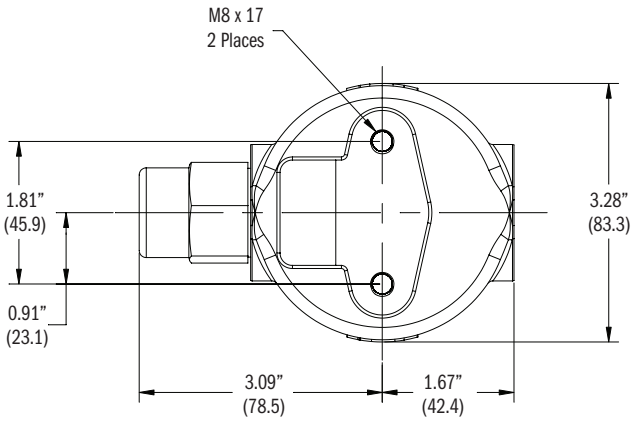
► PRESSURE FILTER - 10 GPM (37.8 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)

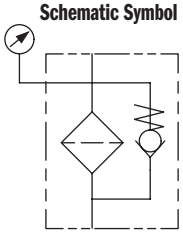
DESCRIPTION

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

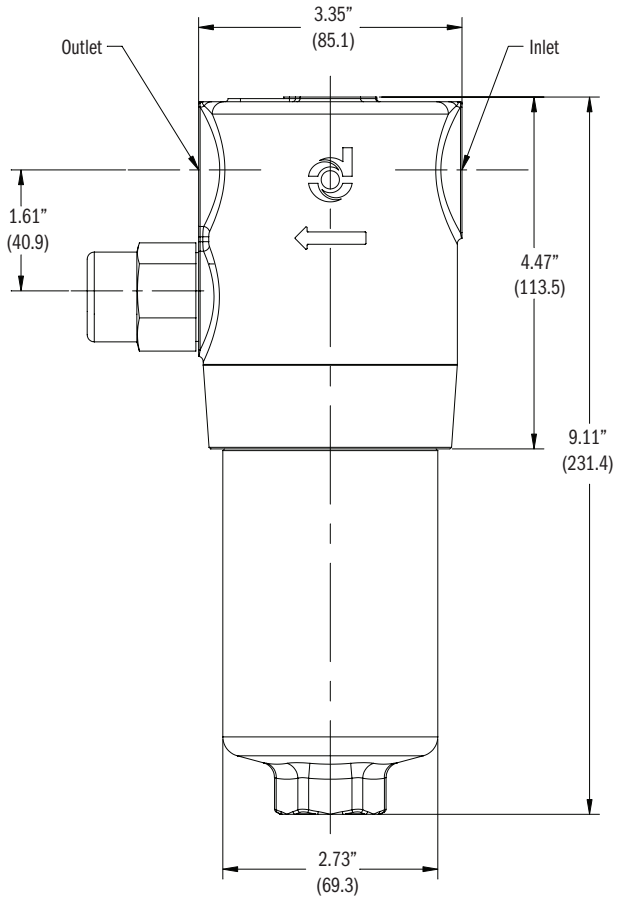


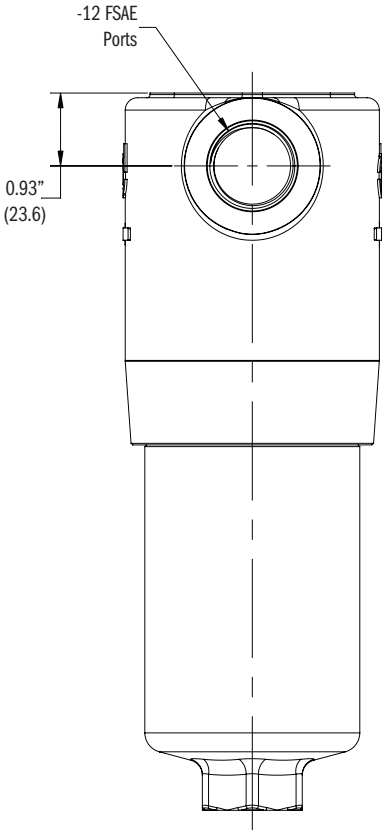
Schematic Symbol



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

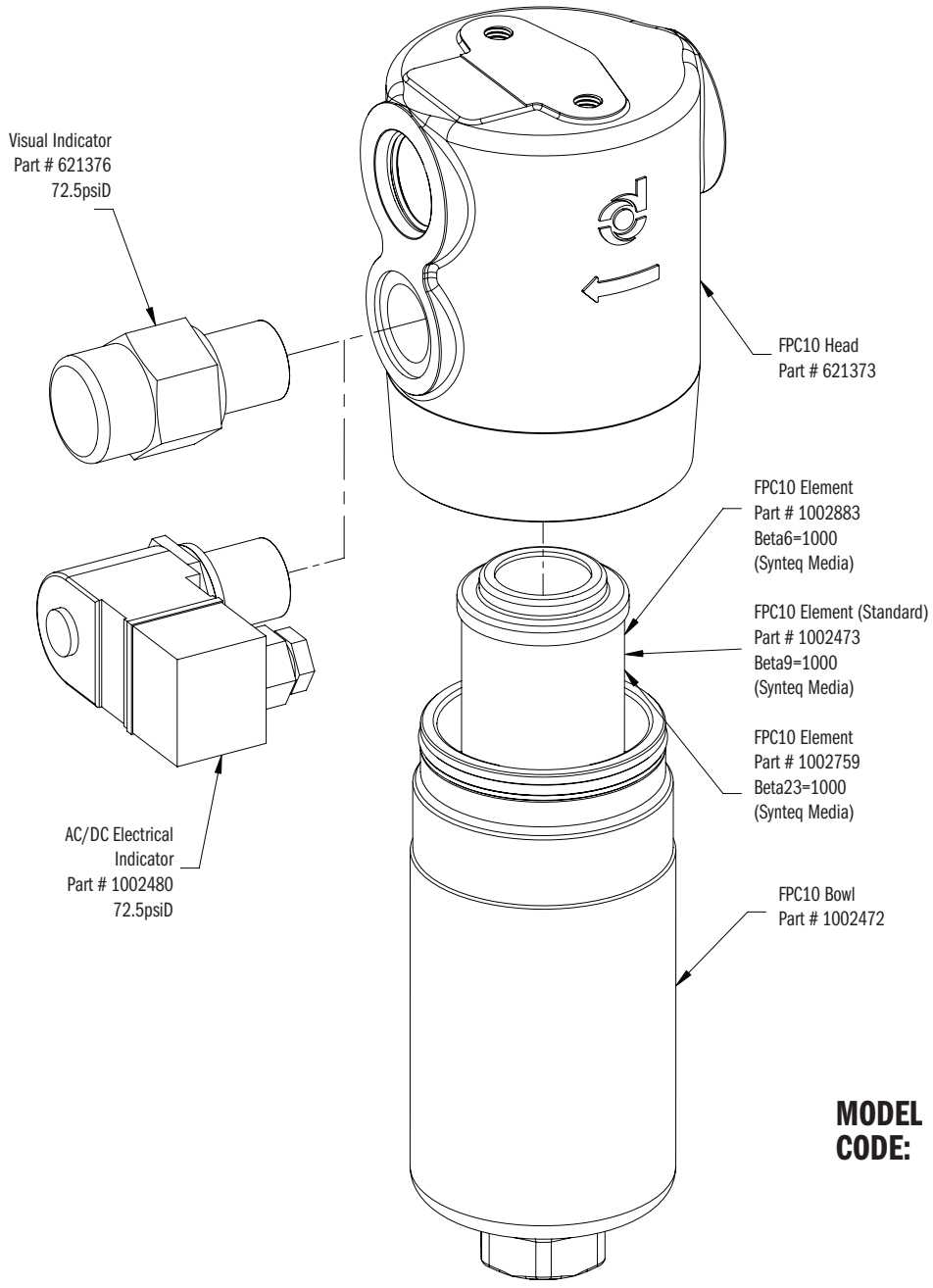
Voltage
12 VDC, 7.0 Amp
24 VDC, 5.0 Amp
125/250 VAC, 5.0 Amp Inductive





▶ PRESSURE FILTER - 10 GPM (37.8 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)

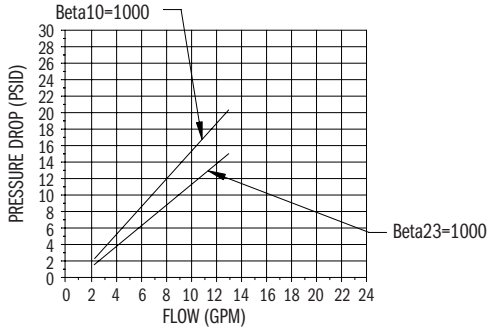


MODEL CODE: **F** **P** [ ] **10**

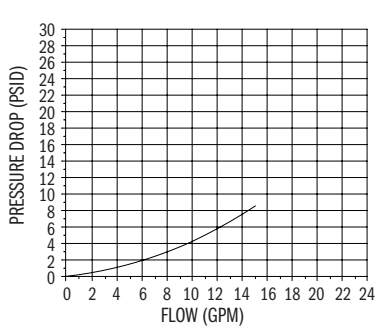
Filter **Pressure** **Flow**

INDICATOR	
CODE	**DESCRIPTION**
C	Visual - #621376
E	Electrical - #1002480

FPC10 Element Only



FPC10 Housing Only



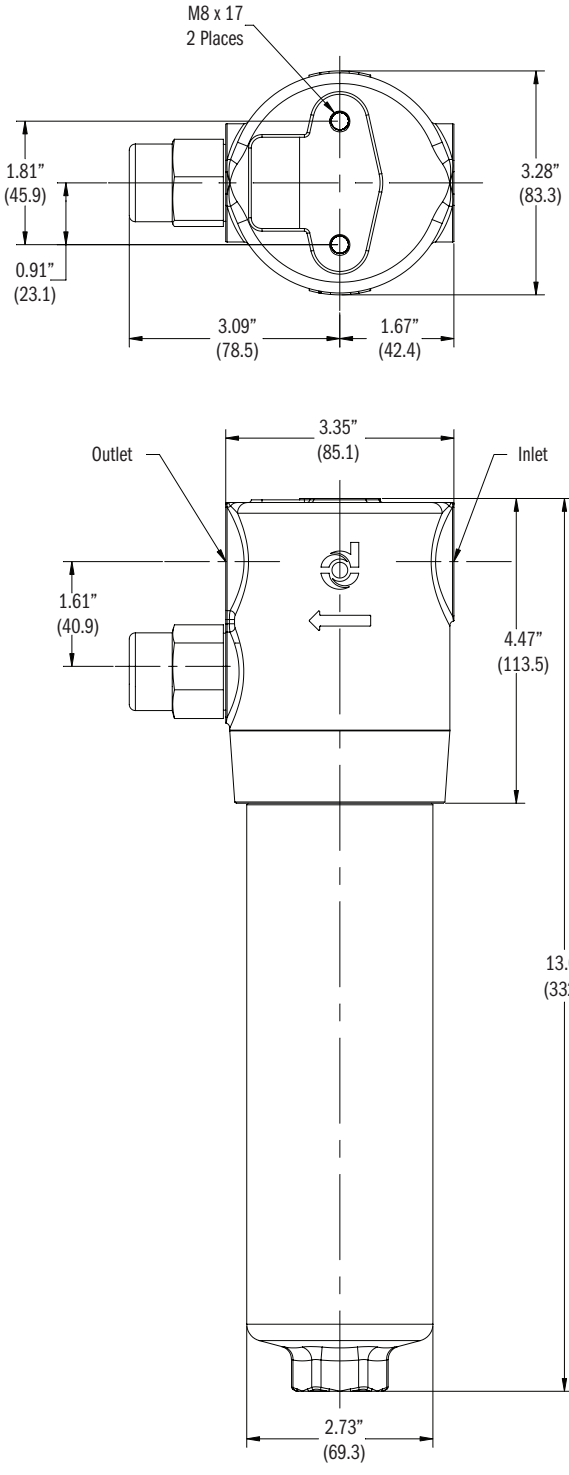
► PRESSURE FILTER - 20 GPM (74.7 LPM)

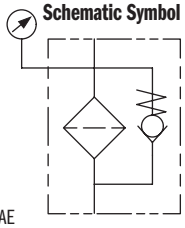
Dimensions:
inches (± .125")
millimeters (± 1 mm)

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



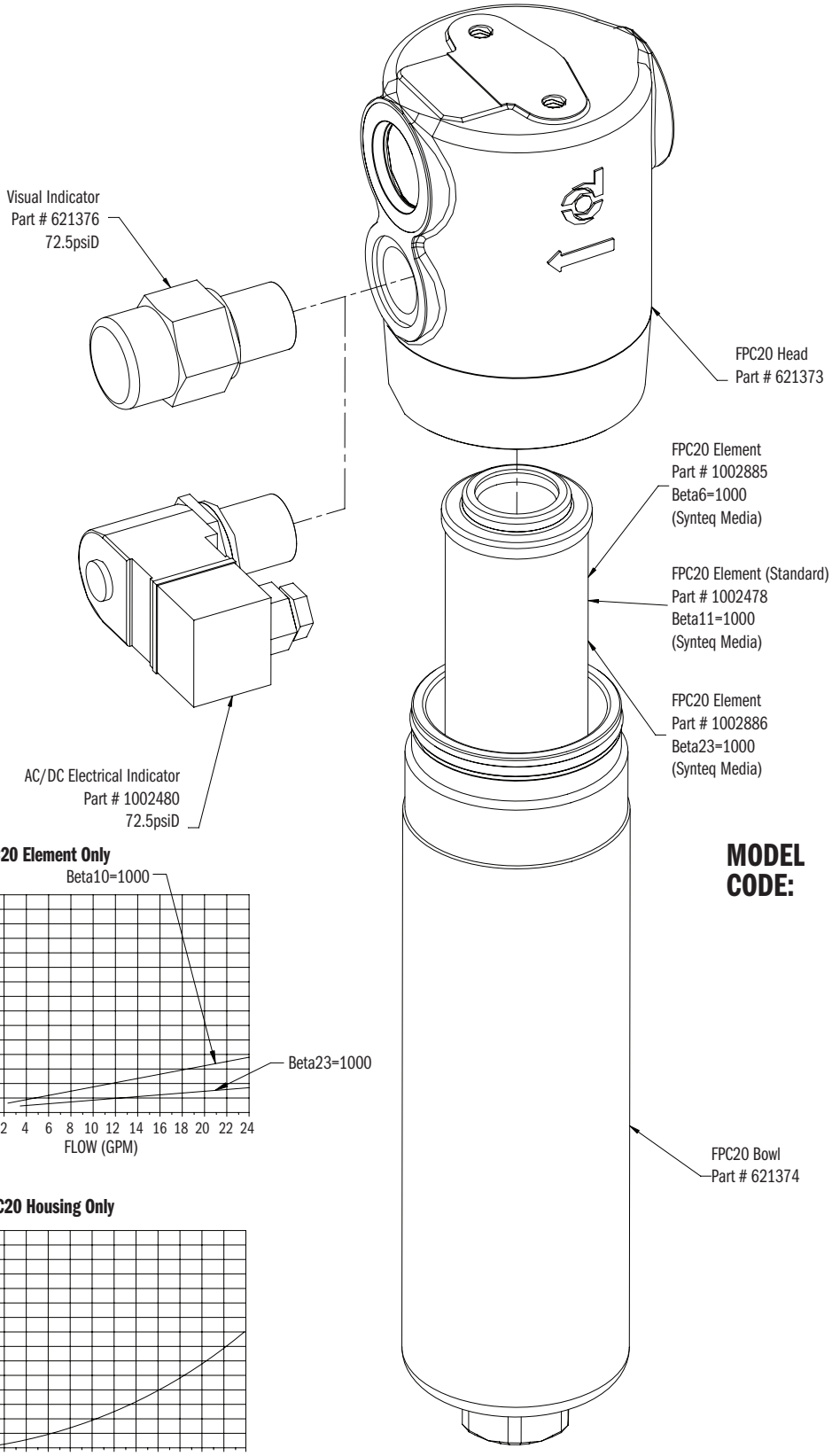


Wiring Code
Common = #1
N.O. = #3
N.C. = #2

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

▶ PRESSURE FILTER - 20 GPM (74.7 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)



FPC20 Element Only

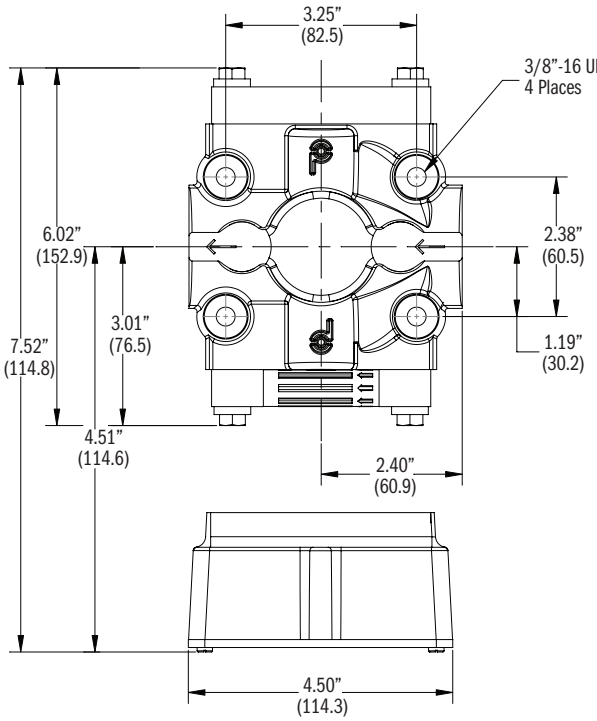
FPC20 Housing Only

MODEL CODE: **F** (Filter) **P** (Pressure) [ ] **20** (Flow)

INDICATOR	
CODE	**DESCRIPTION**
C	Visual - #621376
E	Electrical - #1002480

► PRESSURE FILTER - 50 GPM (187.3 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)

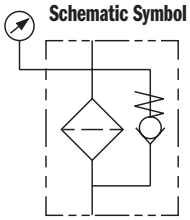


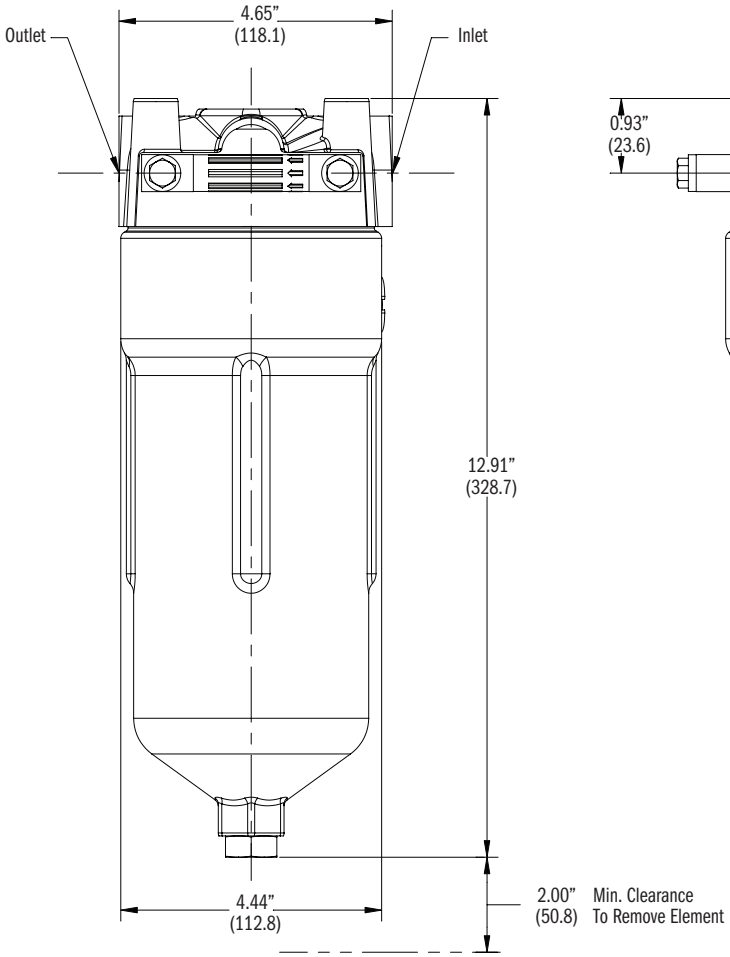
DESCRIPTION

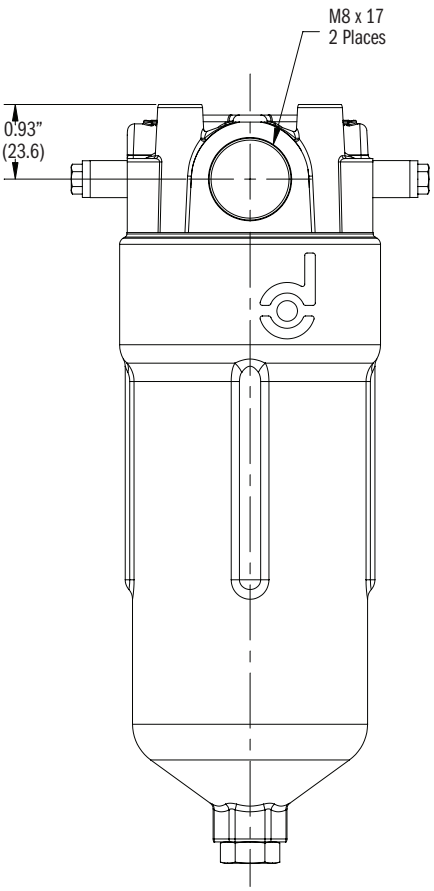
Pressure filters ensure the most positive type of filtration and provide clean fluid for sensitive pressure line components.

- 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:
Normally Open (RED)
Normally Closed (BLUE)
Common (WHITE)

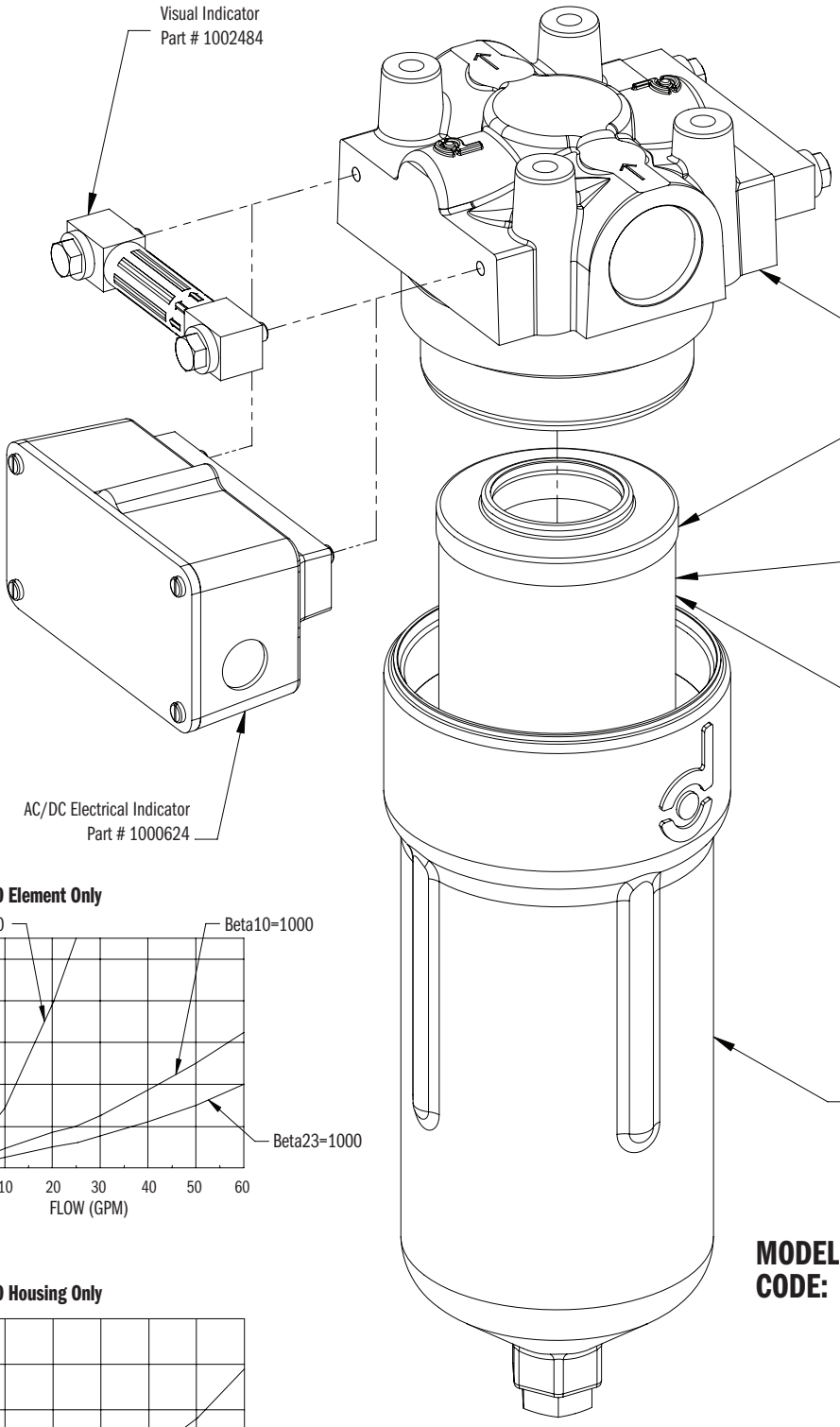






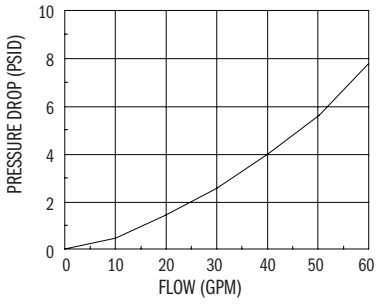
▶ PRESSURE FILTER - 50 GPM (187.3 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)



FPC50 Element Only

FPC50 Housing Only



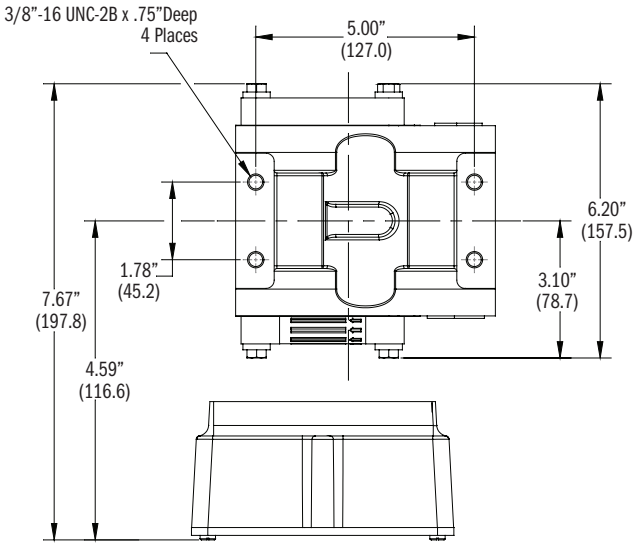
MODEL CODE: **F** **P** [ ] **50**

Filter **Pressure** **Flow**

INDICATOR	
CODE	**DESCRIPTION**
C	Visual - #1002484
E	Electrical - #1000624

► PRESSURE FILTER - 70 GPM (264.9 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)

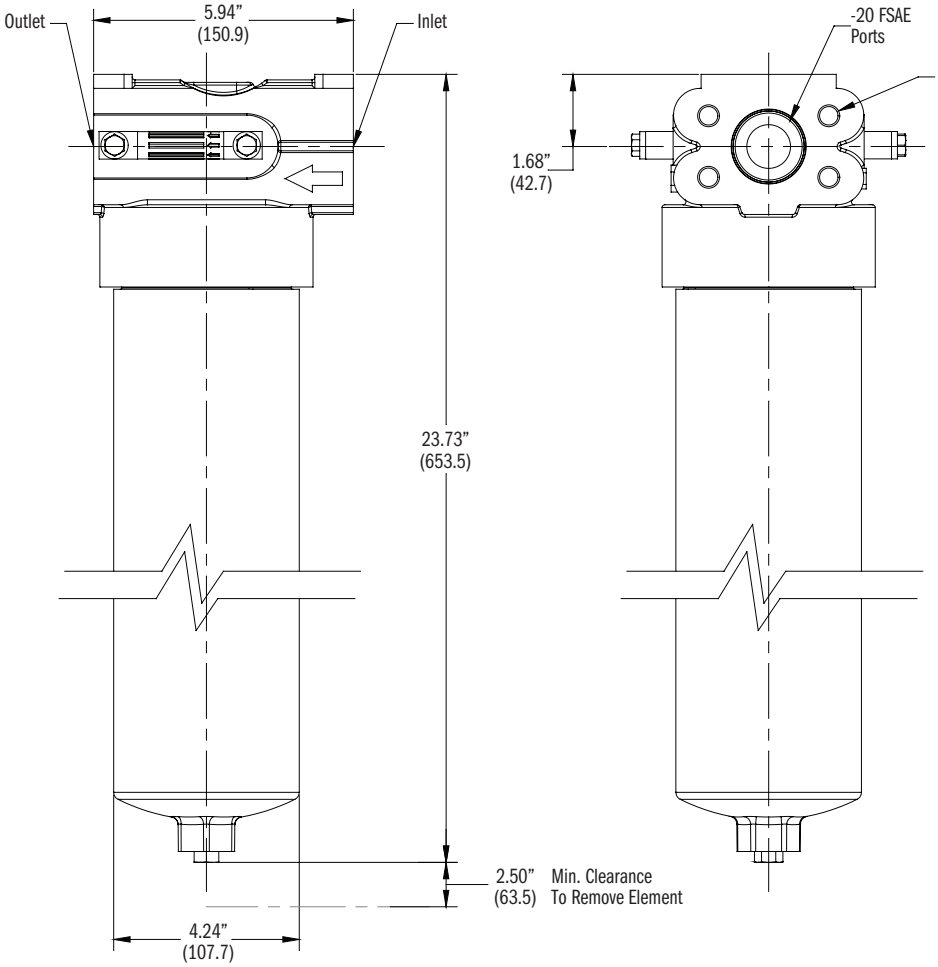


DESCRIPTION

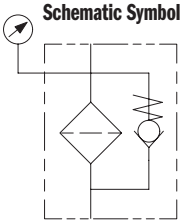
Pressure filters ensure the most positive type of filtration and provide clean fluid for sensitive pressure line components.

- 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 Ported
- Visual Indicator Standard
- Electrical Indicator Optional:
  Max Temp: 250F/121C
  Set: 40 psi / 276kPa
  Voltage: 120 VAC / 28 VDC
  Current: 250 mA

Circuit:
Normally Open (RED)
Normally Closed (BLUE)
Common (WHITE)

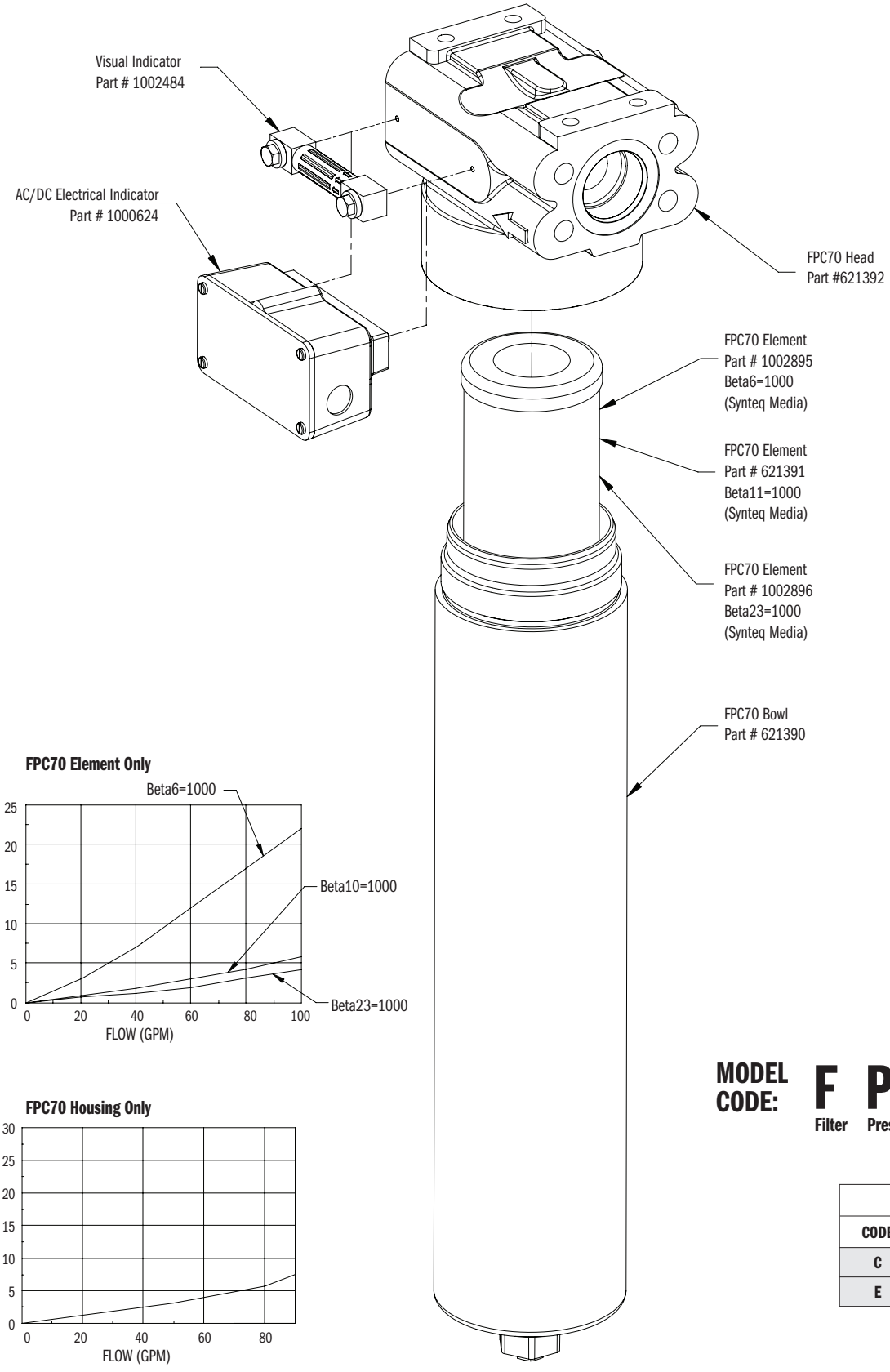


Schematic Symbol



▶ PRESSURE FILTER - 50 GPM (187.3 LPM)

Dimensions:
inches (± .125")
millimeters (± 1 mm)



FPC70 Element Only

FPC70 Housing Only

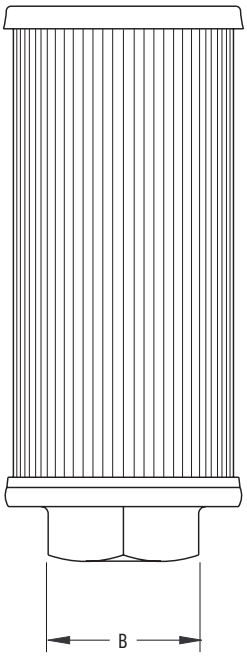
MODEL CODE: **F** **P** [ ] **70**

Filter **Pressure** **Flow**

INDICATOR	
CODE	**DESCRIPTION**
C	Visual - #1002484
E	Electrical - #1000624

▶ INLET STRAINERS

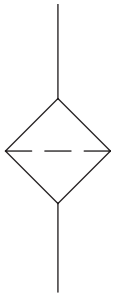
Dimensions:
inches (± .125")
millimeters (± 1 mm)

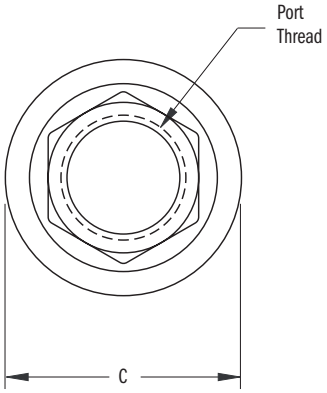


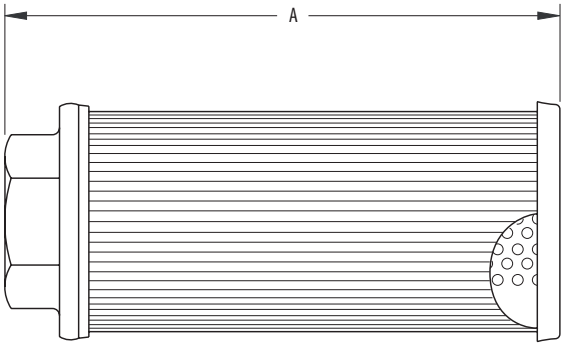
DESCRIPTION

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

Schematic Symbol







MODEL CODE: **S T R** [ ] [ ]

Strainer

PORT SIZE CODE
08
16
20
24
32
40
48

MESH CODE
06
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 cm^2)	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 cm^2)	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 m^2)	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 m^2)	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 m^2)	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 m^2)	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 cm^2)	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 cm^2)	149	**914469**
STR-16-100	6.00 (152.0)	1.88 (47.8)	3.50 (38.1)	1" NPT	10 (37.8)	68 sq. in. (441.0 cm^2)	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 cm^2)	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 cm^2)	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 m^2)	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 m^2)	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 m^2)	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 m^2)	149	**954052**

► INLET STRAINERS

Dimensions:
inches (± .125")
millimeters (± 1 mm)

Strainer Application for Fluid Codes H1 and H5

Power Unit Type	PVR6	Piggyback PVR6 on R20 Rsrvr	PVR15	PVR50	HPVR6	HPVR10- thru HPVR-29	Gear Pumps G0.5B36-G3.4B26	Gear Pumps G2.0B34-G14.4B21
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	HPVR6	HPVR10- thru HPVR-29	Gear Pumps G0.5B36-G3.4B26	Gear Pumps G2.0B34-G14.4B21
NFPA/JIC	148690	148694	954053	148690	148694	N/A	N/A
L-Shaped	148690	148694	954053	148690	148694	N/A	N/A
Little Champ®	148688	N/A	N/A	N/A	N/A	944057	148689
Low Profile	914469	N/A	N/A	N/A	N/A	914469	914469

► AIR-TO-OIL HEAT EXCHANGER - RETURN FLOW

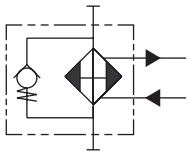
Dimensions:
inches (± .125")
millimeters (± 1 mm)

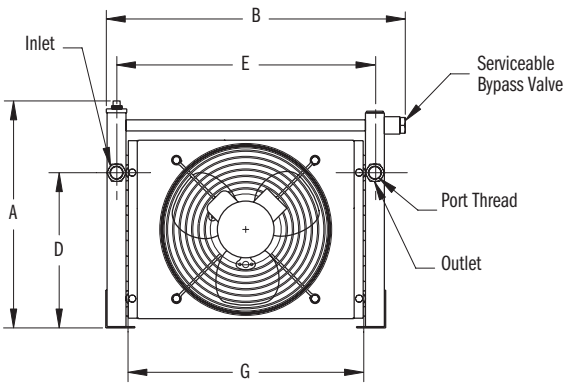
DESCRIPTION

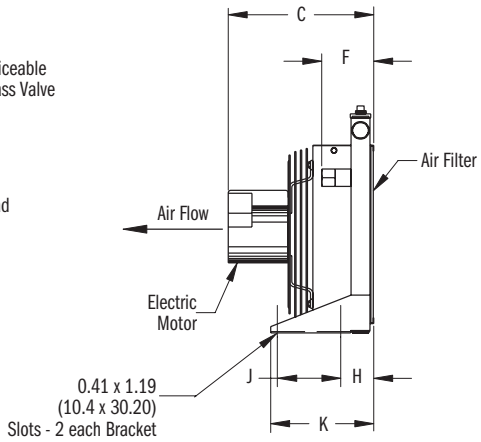
These Heat Exchangers are designed to be used primarily as a cooling device for return flow.

- 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

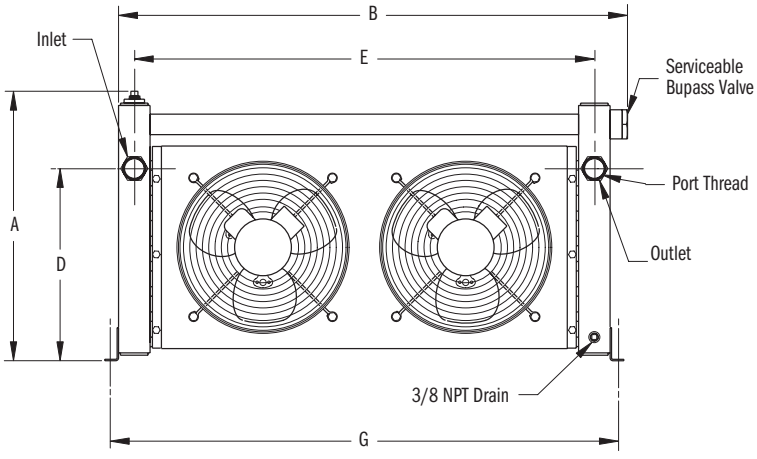
Schematic Symbol

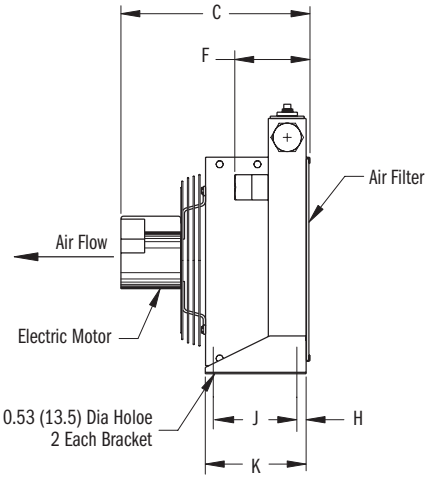






HEA19 - 33





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 (1228.7)	1.06 (26.9)	6.50 (165.1)	8.31 (211.1)
HEA50	25.38 (644.7)	42.38 (1076.5)	15.52 (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 (8636)	48.50 (1231.9)	8.44 (214.4)	52.75 (1339.8)	1.62 (41.1)	9.00 (228.6)	12.12 (307.8)

► AIR-TO-OIL HEAT EXCHANGER - RETURN FLOW

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 different 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 $\frac{40}{\text{Actual Approach}}$

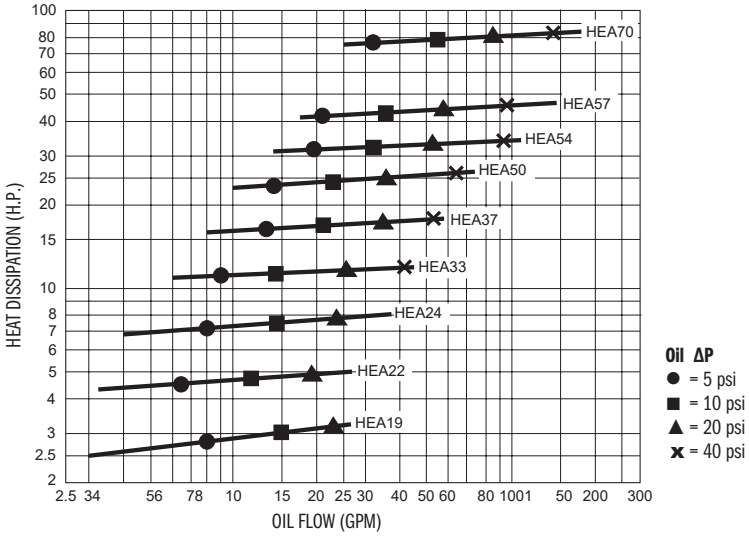
Viscosity Correction = Curve Horsepower Correction:
50 SUS = .90
100 SUS = 1.00
150 SUS = 1.14
200 SUS = 1.20

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) x= 40 psi (2.8 bar)
Multiply pressure drop from curve by correction factor:
50 SUS = .90
100 SUS = 1.00
150 SUS = 1.14
200 SUS = 1.20

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

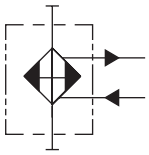


MODEL CODE: HEA [ ]
Heat Exchanger Air

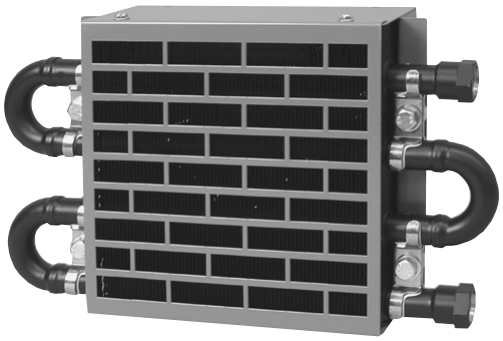
SIZE CODE
19
22
24
33
37
50
54
57
70

► AIR-TO-OIL HEAT EXCHANGE - CASE DRAIN

Schematic Symbol



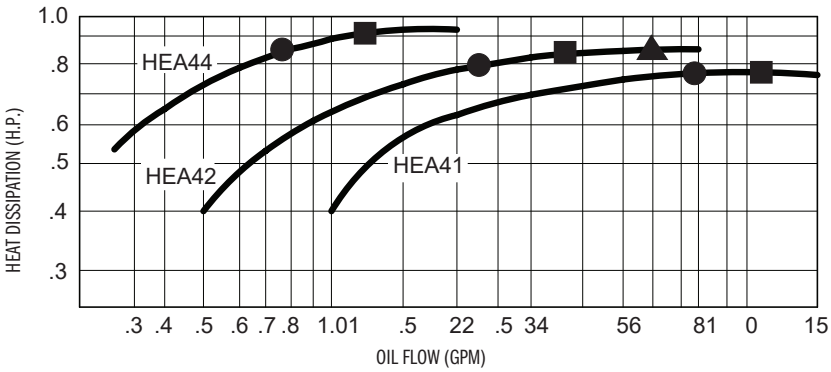
Dimensions:
inches (± .125")
millimeters (± 1 mm)



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



Oil ΔP

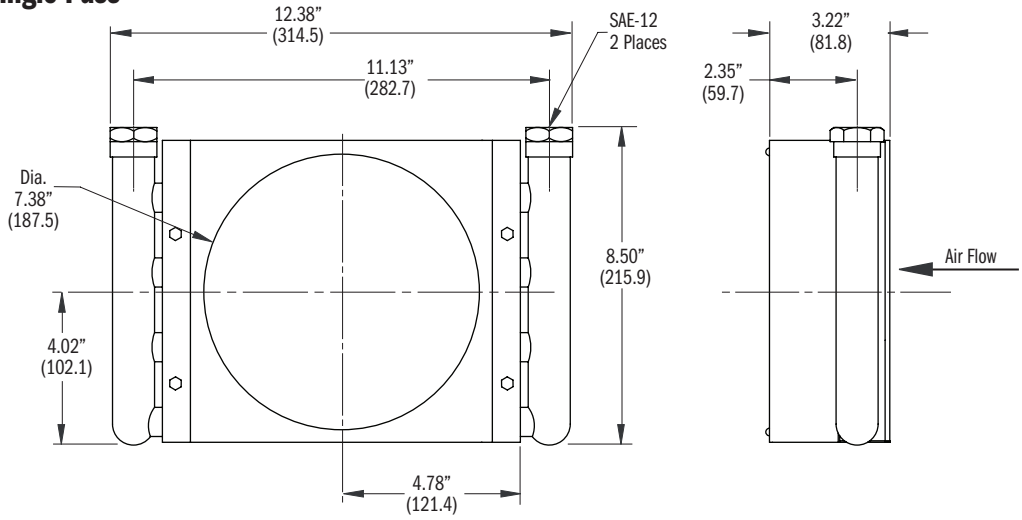
● = 5 psi
■ = 10 psi
▲ = 20 psi

MODEL CODE: **HEA 4** [ ]
Heat Exchanger Air

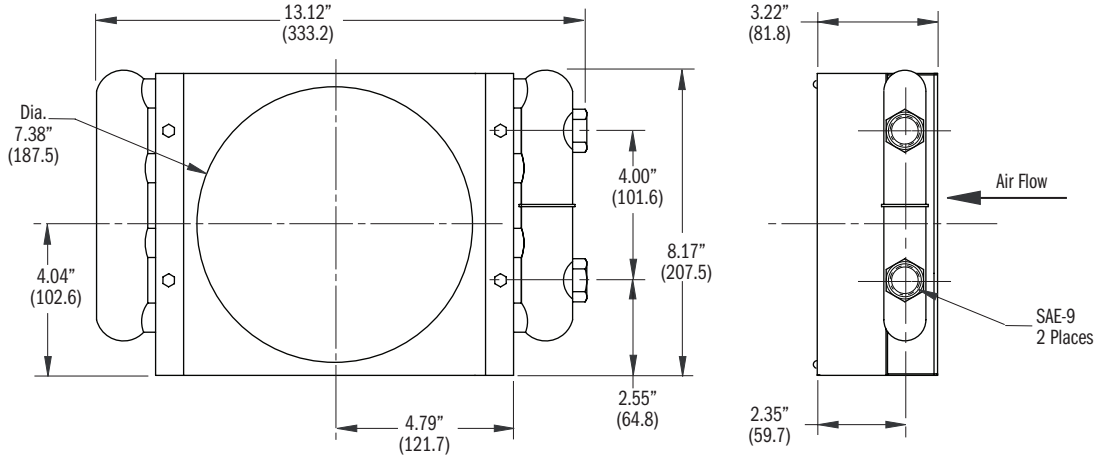
CODE	No. of Passes
1	Single Pass #610861
2	Tow Pass #610862
4	Four Pass #610863

Accessories

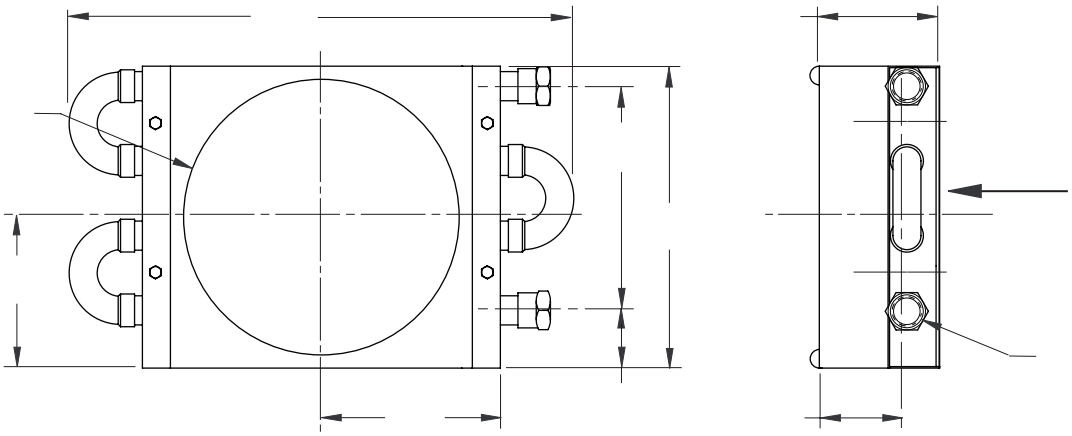
Single Pass



Two Pass

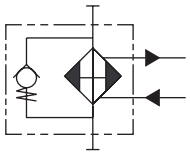


Four Pass



▶ WATER-TO-OIL HEAT EXCHANGER

Schematic Symbol



Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

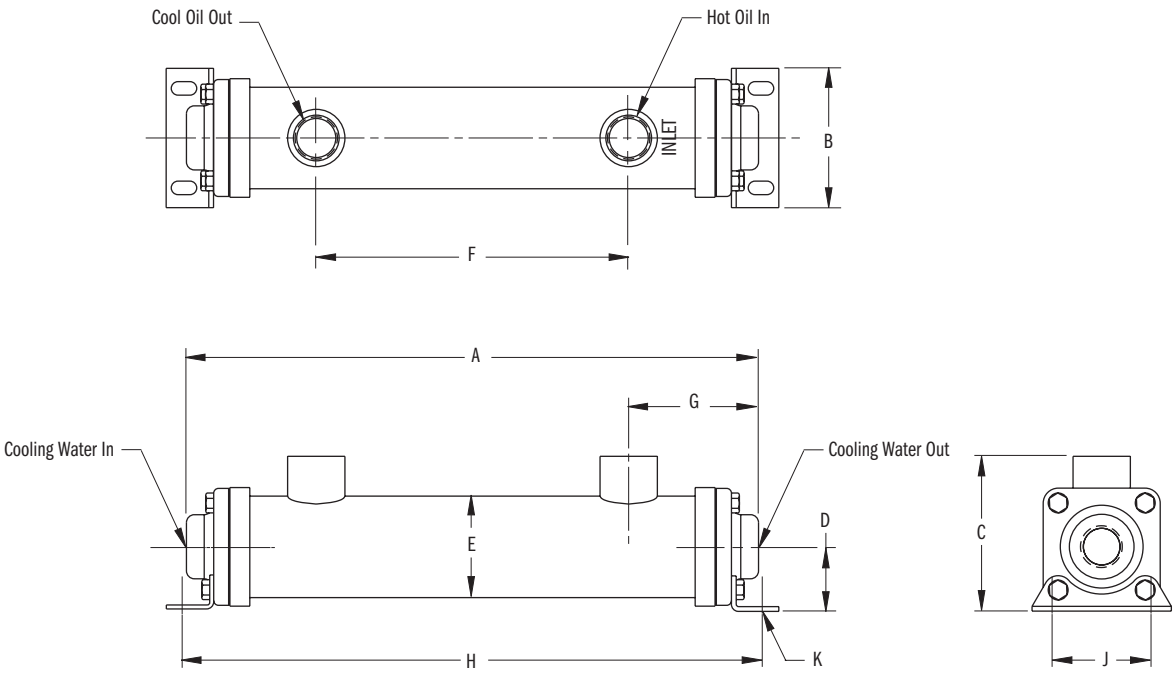
These shell and tube Heat Exchangers are highly efficient and can extend the life of hydraulic components and fluid. The heat exchanger must be placed in the return or low pressure portion of the circuit. Models HEW21, HEW31 and HEW33 have built-in surge cushion.

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

MODEL CODE: **HEW** [ ]
Heat Exchanger Water

CODE
11
21
31
33

Single Pass



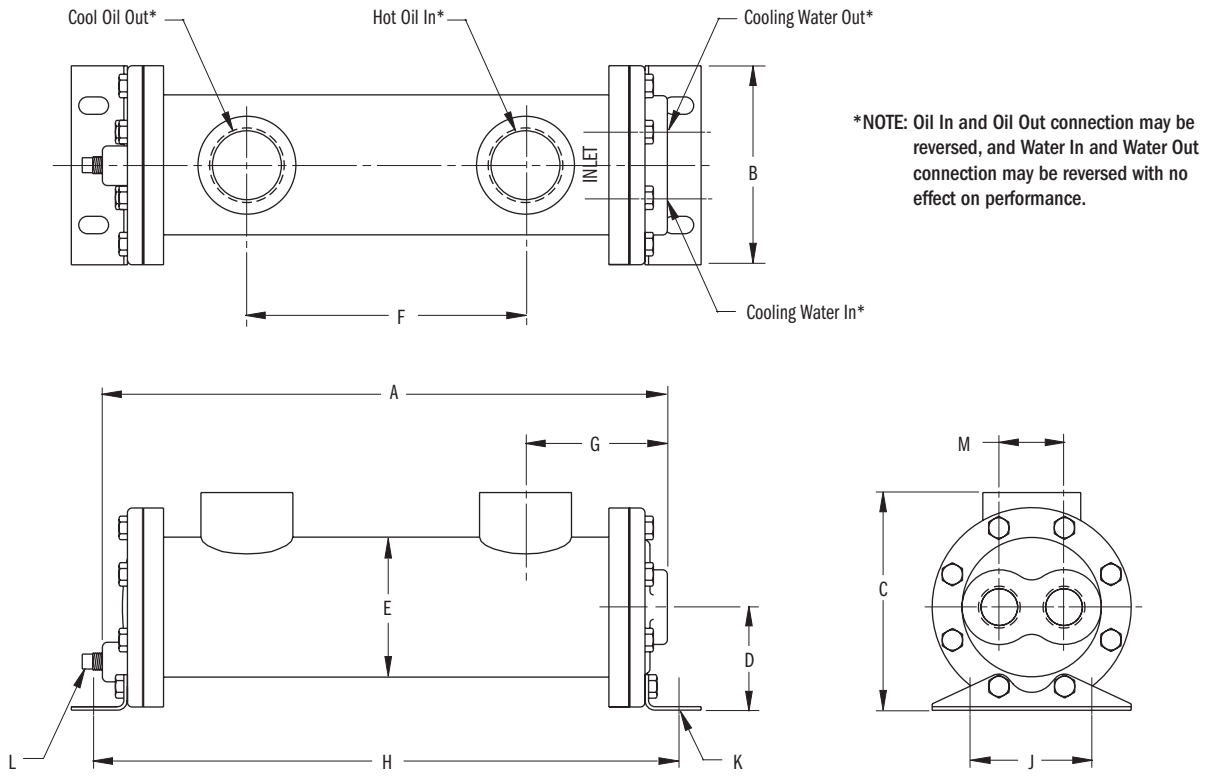
Dimensions

Size	A	B	C	D	E	F	G	H	J	K
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)	0.41 (10.4) Dia.
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)	.34 x .62 (8.6 x 15.7) Slot

▶ WATER-TO-OIL HEAT EXCHANGER

Dimensions:
inches (± .125")
millimeters (± 1 mm)

Two Pass



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

► WATER-TO-OIL HEAT EXCHANGER

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 different 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).

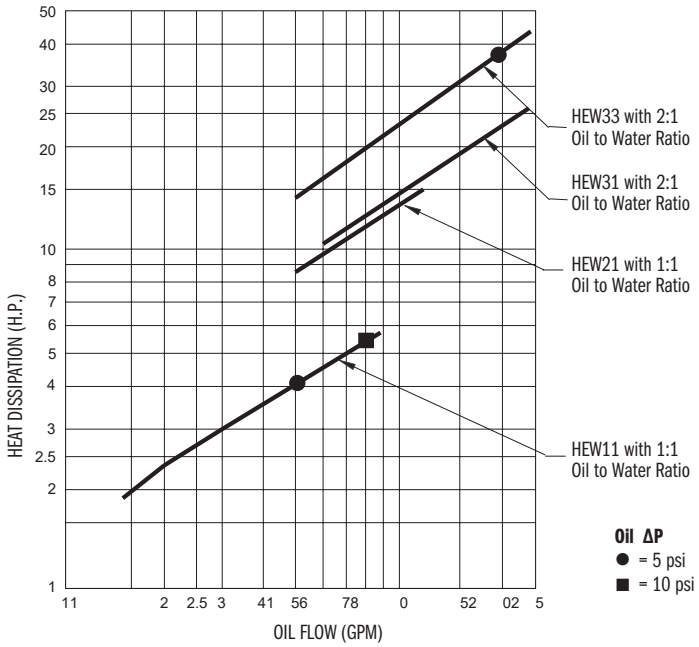
STEP 3: Determine Curve Horsepower Heat Load.
Enter the information from above:

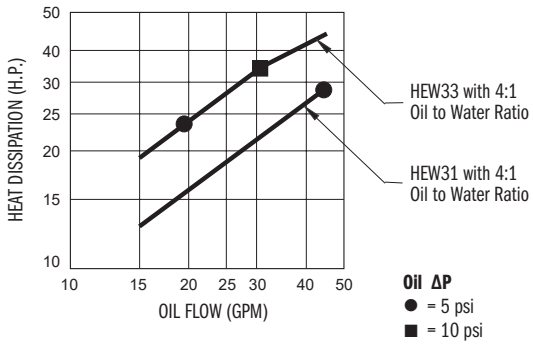
$$\text{Horsepower Heat Load} \times \frac{40}{\text{Actual Approach}}$$

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).
Multiply pressure drop from curve by correction factor:
50 SUS = .5
100 SUS = 1.00
150 SUS = 1.50
200 SUS = 2.00





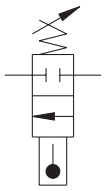
► WATER MODULATING VALVES

Dimensions:
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 and 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.

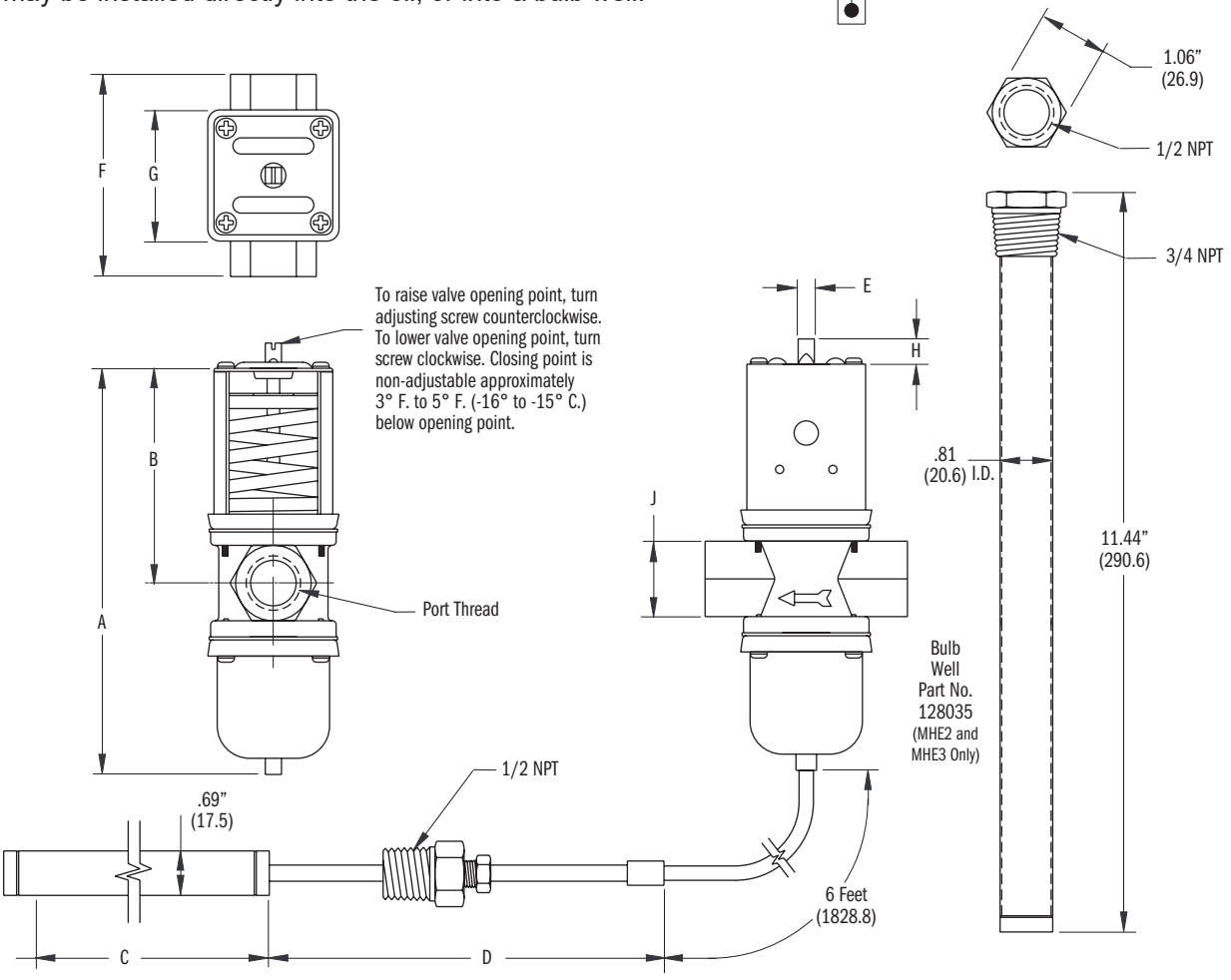
Schematic Symbol



MODEL CODE: MHE [ ]

Water Modulating Valve

SIZE CODE
2
3
4



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)

Specifications

Size	Part No.	Port Thread	Temperature Range*	Work 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.).

▶ "Y" TYPE WATER STRAINERS

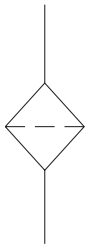
Dimensions:
inches (± .125")
millimeters (± 1 mm)

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

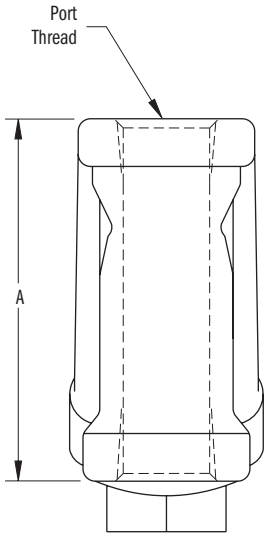
Schematic Symbol

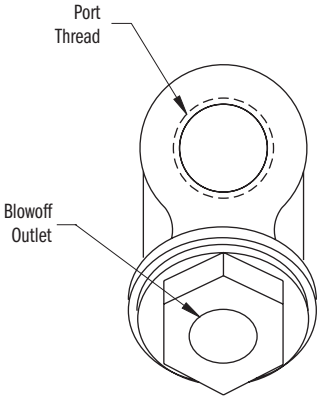


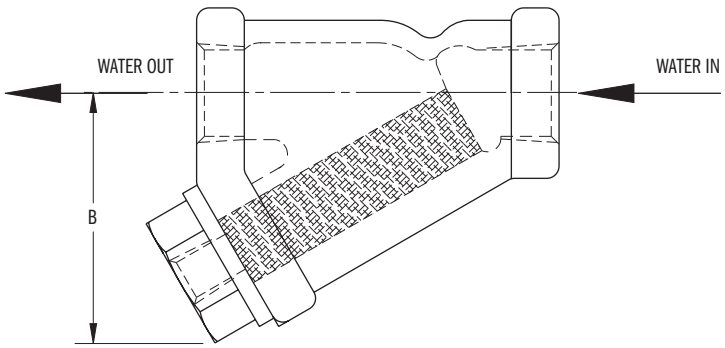
MODEL CODE: Y [ ]

Strainer

SIZE CODE
2
3
4







Dimensions and Specifications

Model Code	A	B	Port Thread	Blowoff Outlet	Part No.
Y2	3.25 (82.5)	2.13 (54.1)	1/2" NPT	1/4" NPT	**974443**
Y3	3.81 (96.8)	2.50 (63.5)	3/4" NPT	3/8" NPT	**974444**
Y4	4.19 (106.4)	2.56 (65.0)	1" NPT	3/8" NPT	**974445**

► TANK HEATERS

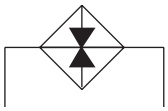
Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

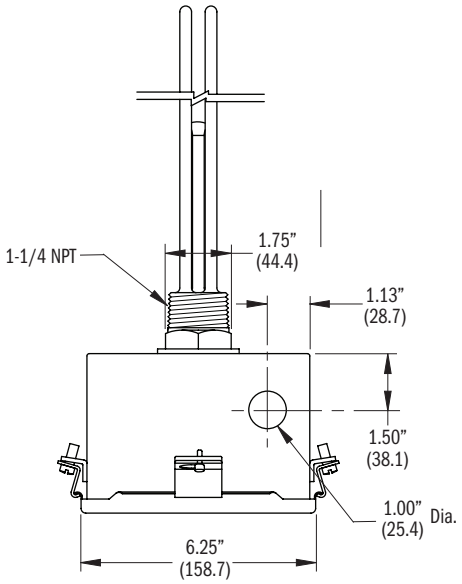
Immersion Heaters are often used to elevate fluid temperature viscosity rating close to that of the operating temperature.

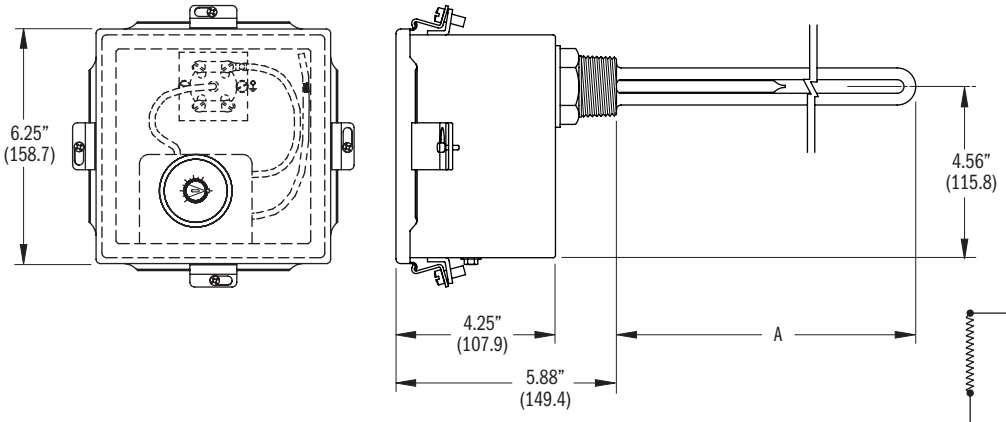
- Dual Voltage 120/240V, 60 Hertz, Single Phase
- NEMA 4 Enclosure
- 30° F. - 100° F. (-1° C. - 38° C.) Thermostat; 25 Amps Maximum
- Steel Elements
- 23 Watts per Square Inch

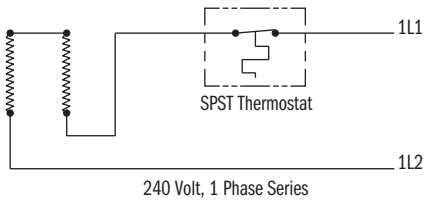
Schematic Symbol



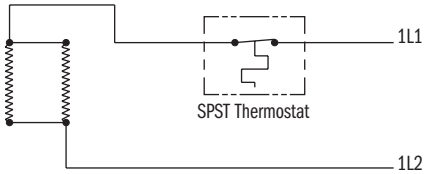
MODEL CODE: **T H**
Tank Heater







240 Volt, 1 Phase Series



120 Volt, 1 Phase Parallel

Dimensions and 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

► PRESSURE SWITCH

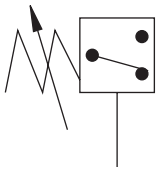
Dimensions:
inches (± .125")
millimeters (± 1 mm)

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

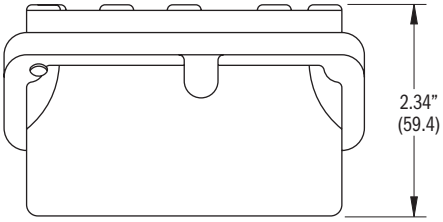
Schematic Symbol

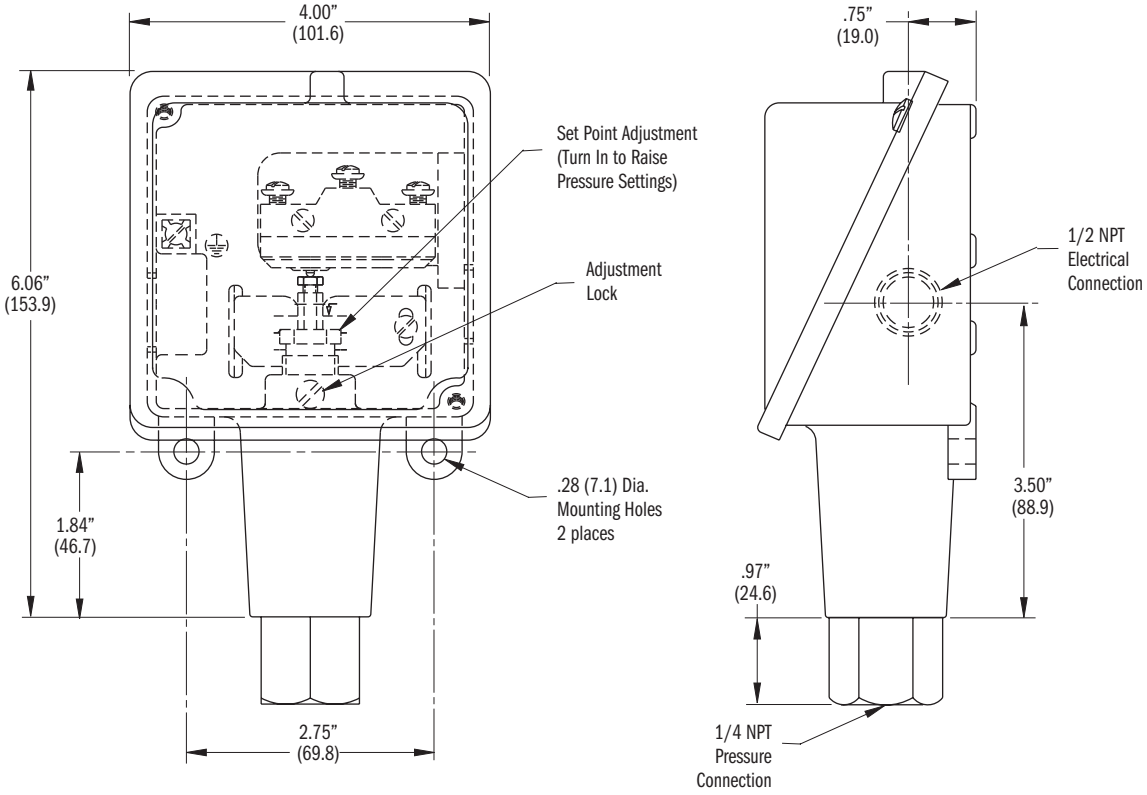


MODEL CODE: **P S 1**

Press Switch Size

Part No. 914861



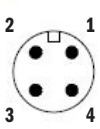


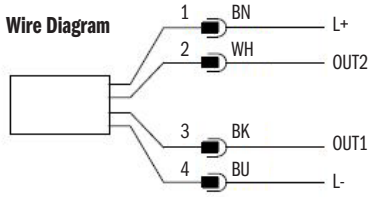
► PRESSURE SENSORS

Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

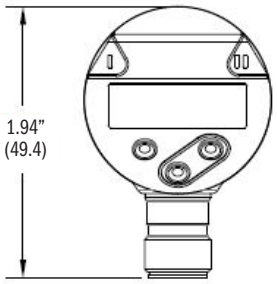
Pressure sensor, 4 digit 2-color LED display in units of bar, psi and MPa, 4-wire DC, dual PNP/NPN switching outputs, or 4...20mA/0...10V scalable analog and PNP/NPN switching output, 1/4" NPT female or male process connection, IP 65; IP 67; 4-pin micro DC connector.





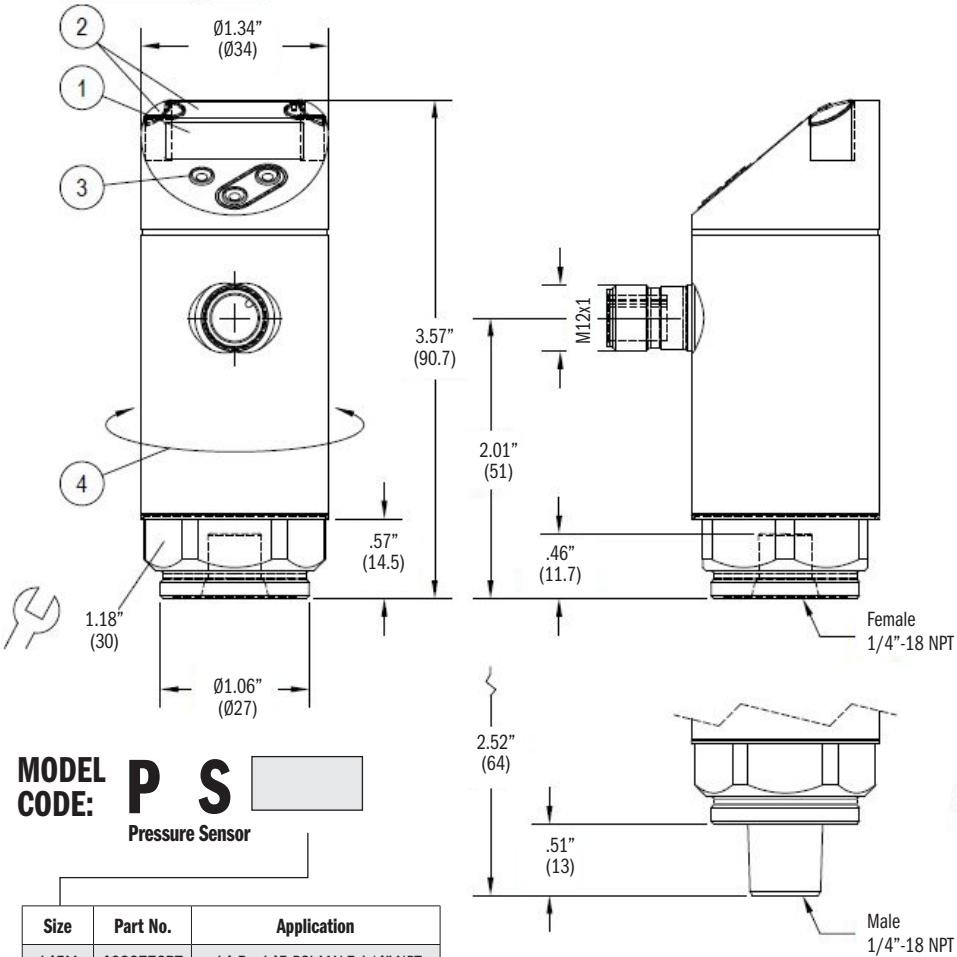
OUT1 Switching Output
OUT2 Switching Output
Analog Output

Core Colors:
BK = Black
BN = Brown
BU = Blue
WH = White



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.

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



MODEL CODE: **P S** [ ]
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 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)

► TEMPERATURE SWITCH

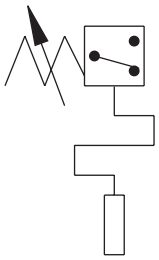
Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

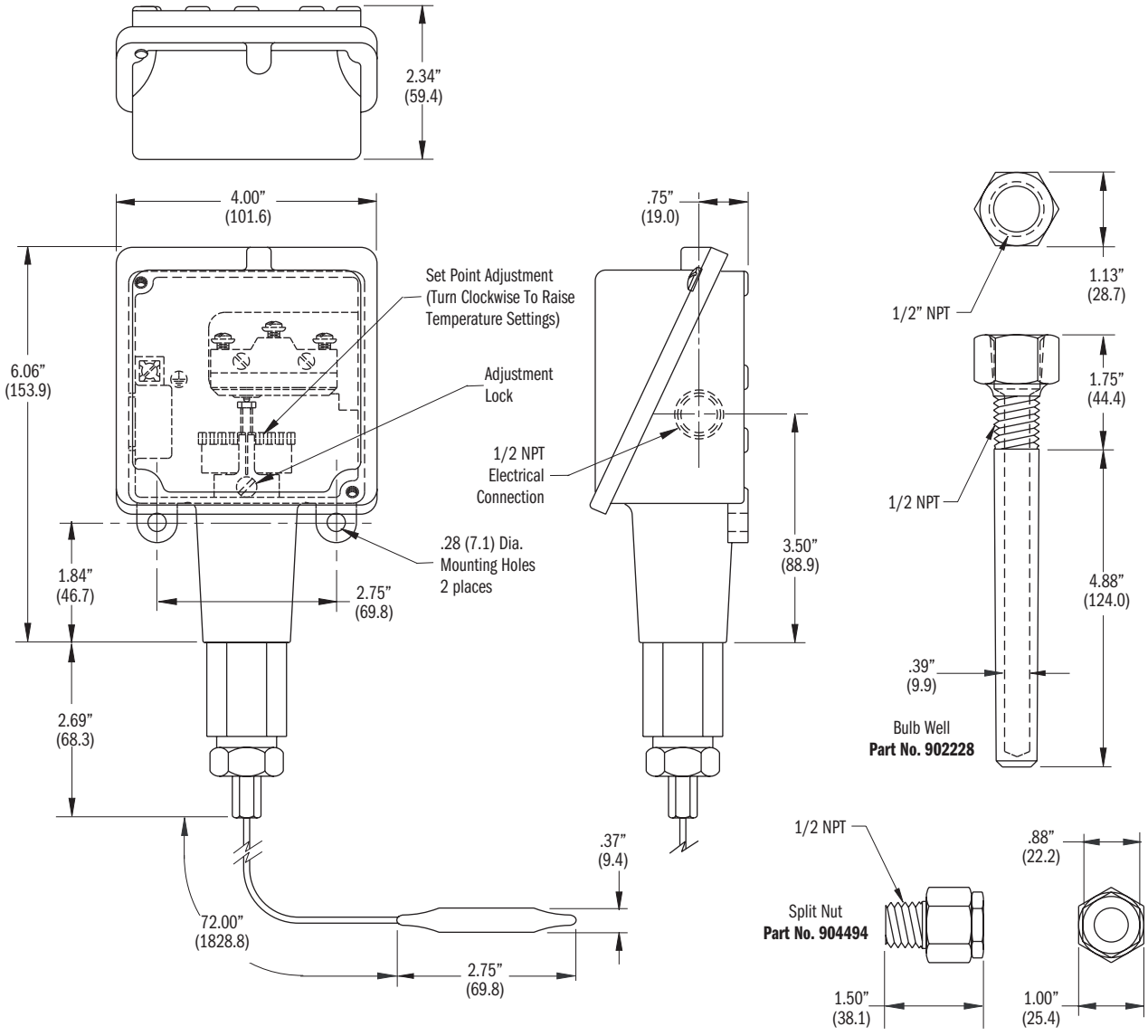
Temperature Switches sense the hydraulic oil temperature and control other devices such as warning lights, cooling fan motors and emergency shutdown.

- 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: T S 1
Temp. Switch Size
Part No. 914862

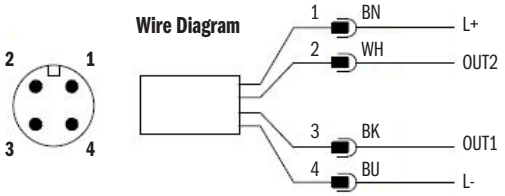


► TEMPERATURE SENSORS

Dimensions:
inches (± .125")
millimeters (± 1 mm)

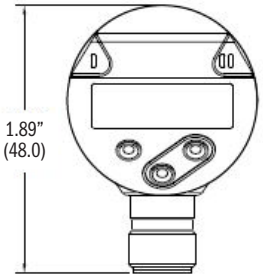
DESCRIPTION

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.

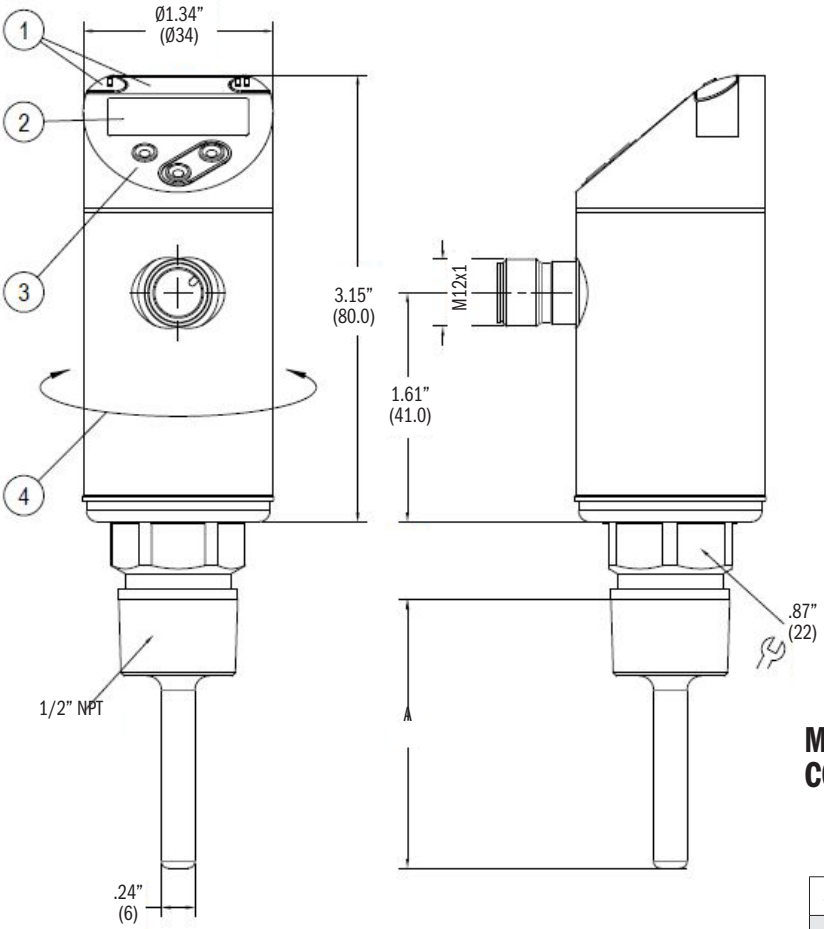


OUT1 Switching Output / IO-Link
OUT2 Switching Output Analog Output
Colours To DIN EN 60947-5-2

Core Colors:
BK = Black
BN = Brown
BU = Blue
WH = White



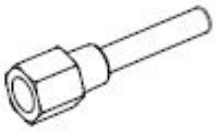
1. LED's Display Unit / Switching Status
2. Alphanumeric Display 4 digit Red/Green
3. Programming Buttons
4. Upper Part Of The Housing
   Can Be Rotated 345 deg.



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)



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

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

MODEL CODE: T S [ ]
Temp. Sensor

Size	Part No.	A	Switch point 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

► LEVEL/TEMPERATURE SWITCHES

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

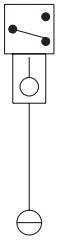
Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

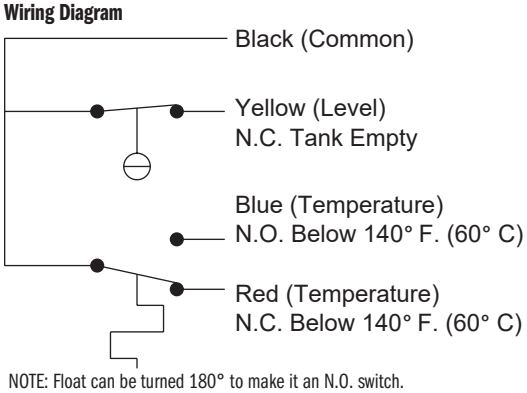
Combination Temperature Switch monitors both liquid level and temperature. It can be wired direct or through relays to operate electric valves such as starters, alarms, etc.

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

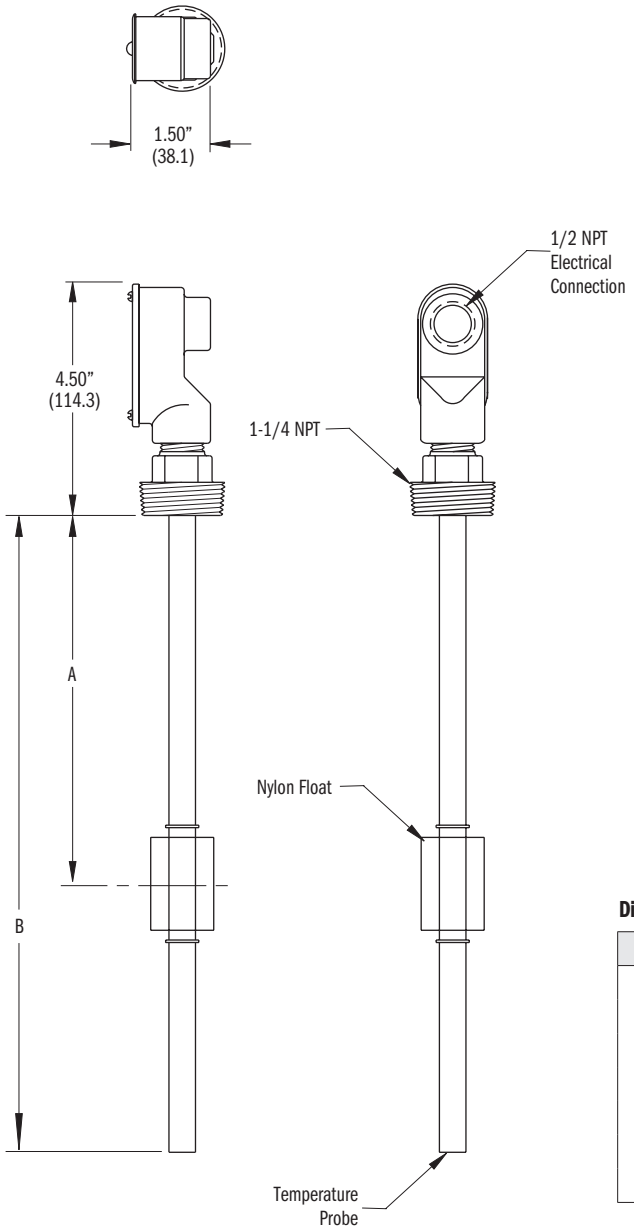
Schematic Symbol



Wiring Diagram



NOTE: Float can be turned 180° to make it an N.O. switch.



MODEL CODE: **L T** ☐
Level Temp.

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 and Specifications

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)

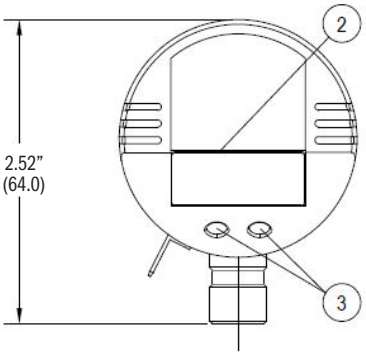
*NOTE: Dimensions shown are for the NFPA/JIC, Little Champ, & Low Profile Style Power Units. For L-Shaped Power Units, consult factory.

► LEVEL/TEMPERATURE SENSORS

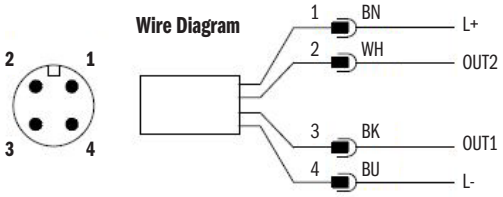
Dimensions:
inches (± .125")
millimeters (± 1 mm)

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.

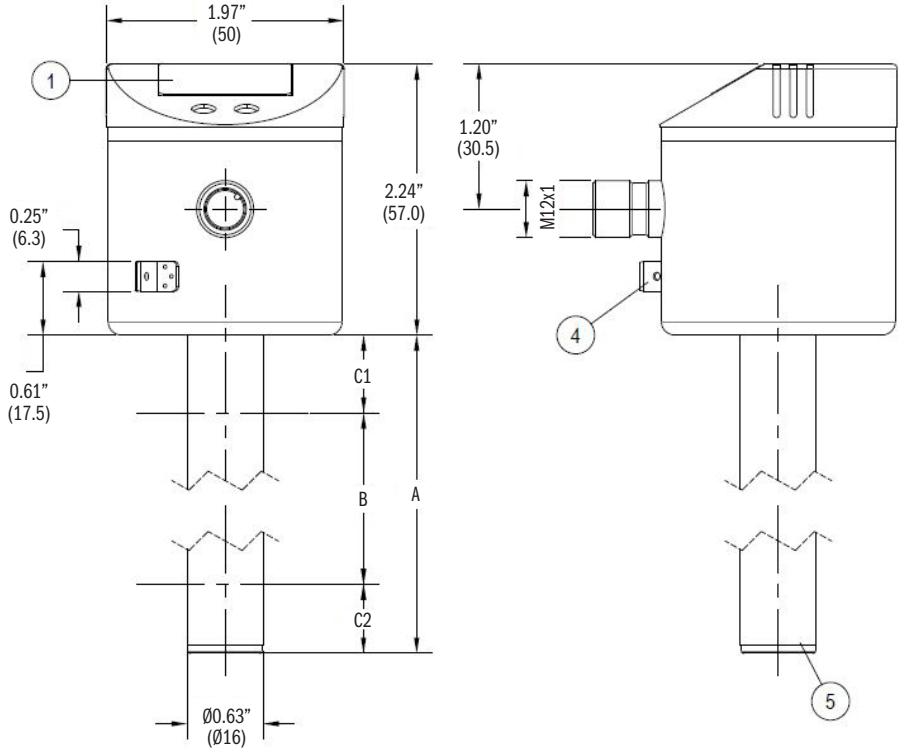


1. Alphanumeric Display 4 digit
2. Status LED's
3. Programming Buttons
4. Housing Connection Flat-Pin Connection 6.3 mm DIN 46244
5. Position Of The Temperature Measuring Element



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

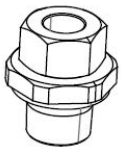
Core Colors:
BK = Black
BN = Brown
BU = Blue
WH = White



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)

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)



1024678 3/4" NPT Adapter

1022671 1.00" NPT Adapter

MODEL CODE: L T S [ ]
Level/Temp. Sensor

Size	Part No.	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)

► PRESSURE GAUGE

Dimensions:
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
- Infrangible 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

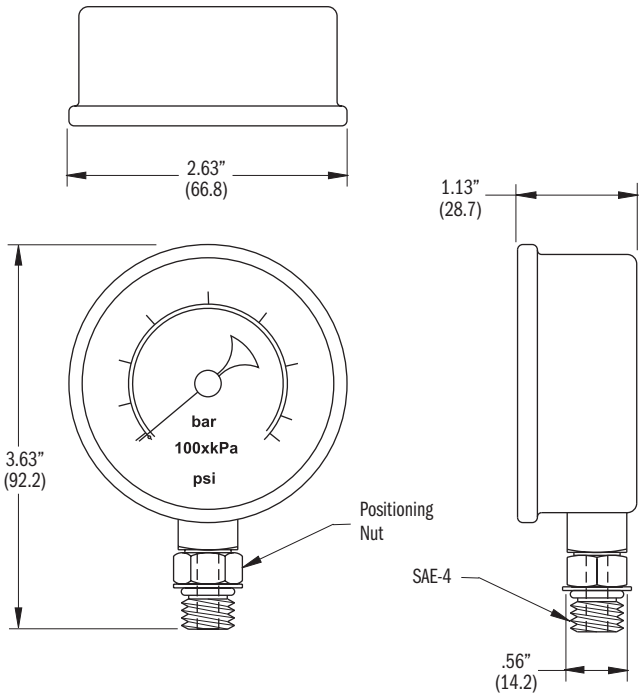
- Reduces Pulsation and Vibration Wear
- Weather Tight - No Condensation
- Lengthened Gauge Life
- Continuously Lubricated Internal Parts

Schematic Symbol

MODEL CODE: G ☐

Gauge

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)



Dimensions and Specifications

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

► NEEDLE VALVE

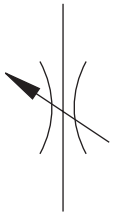
Dimensions:
inches (± .125")
millimeters (± 1 mm)

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

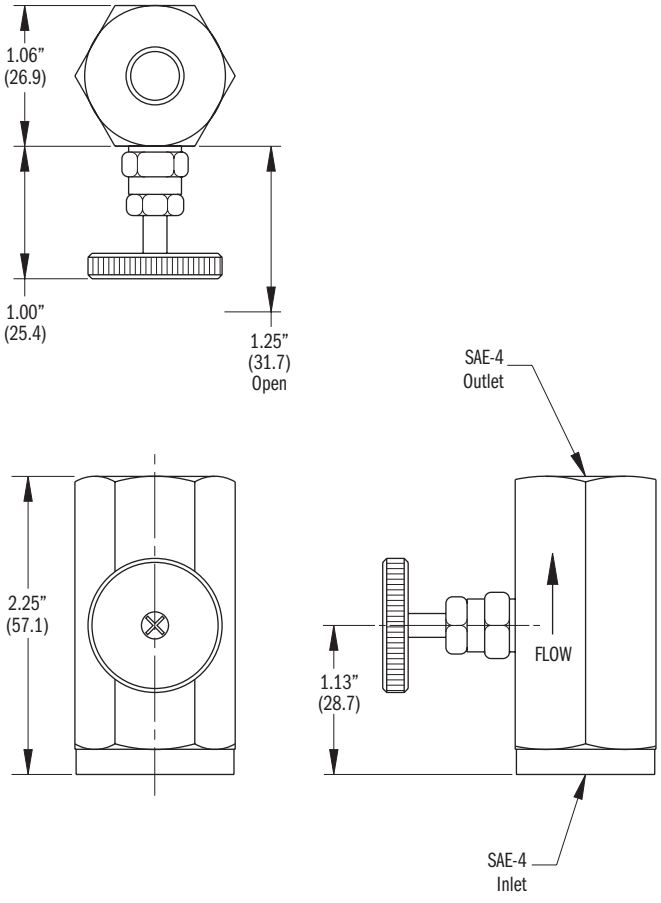
Schematic Symbol



MODEL CODE: N

Needle Valve

Part No. 964086



► GAUGE ISOLATOR

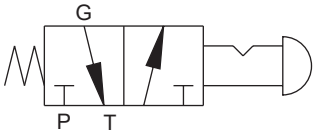
Dimensions:
inches (± .125")
millimeters (± 1 mm)

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

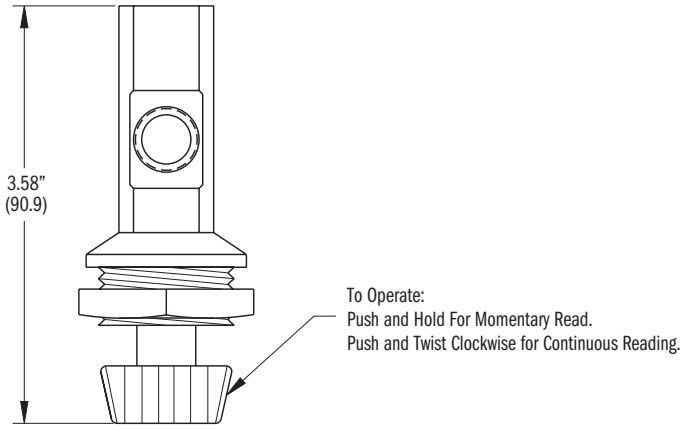
Schematic Symbol

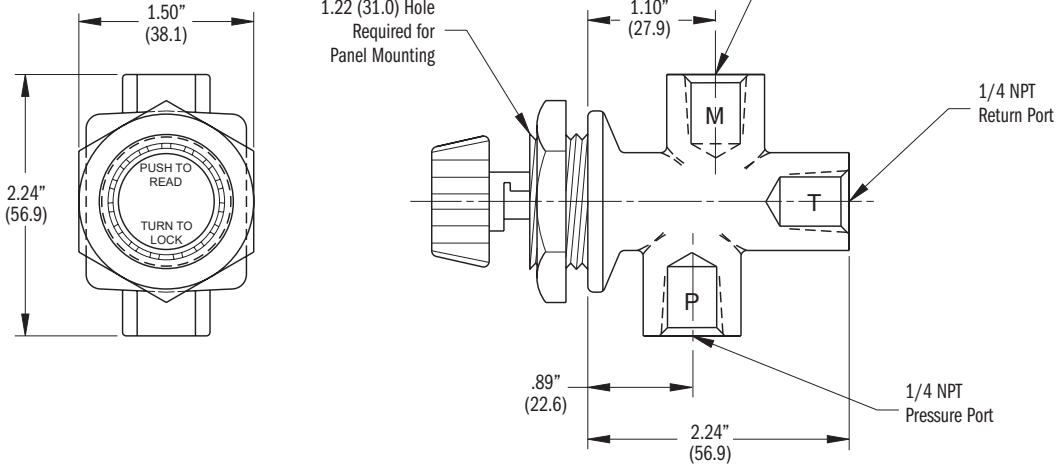


MODEL CODE: **I V**

Isolator Valve

Part No. 128809





► RELIEF VALVES

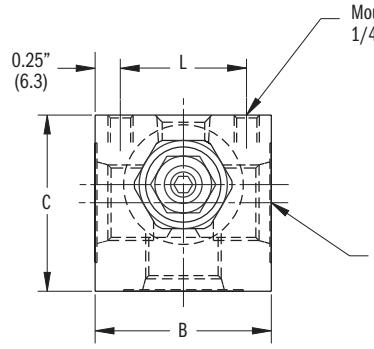
Dimensions:
inches (± .125")
millimeters (± 1 mm)

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.

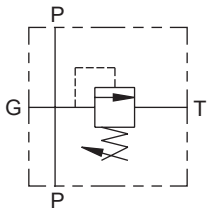
MODEL CODE: R V ☐
Relief Valve

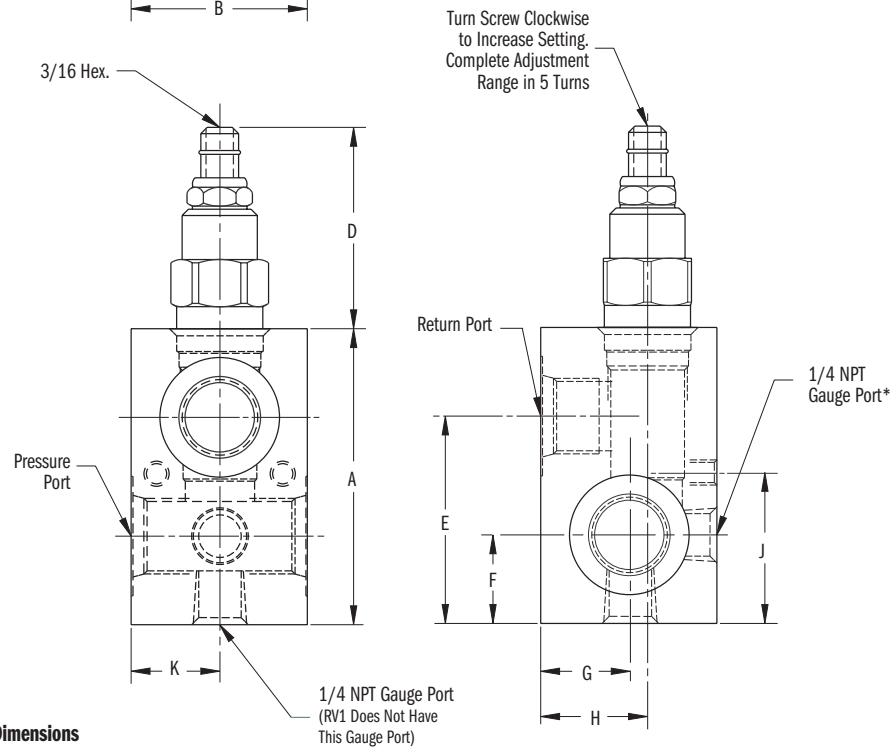
SIZE CODE
1
2
6



- 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





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)	0.88 (22.3)	0.88 (22.3)	1.06 (26.9)	1.50 (38.1)	0.88 (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)	0.75 (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	Work Pressure	Maximum Flow (20 FPS)
MHE2	974544	SAE-8	4500 psi (310 bar)	12 gpm
MHE3	904640	SAE-12	4500 psi (310 bar)	28 gpm
MHE4	904329	SAE-16	4500 psi (310 bar)	50 gpm

► CHECK VALVES

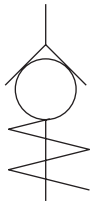
Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

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

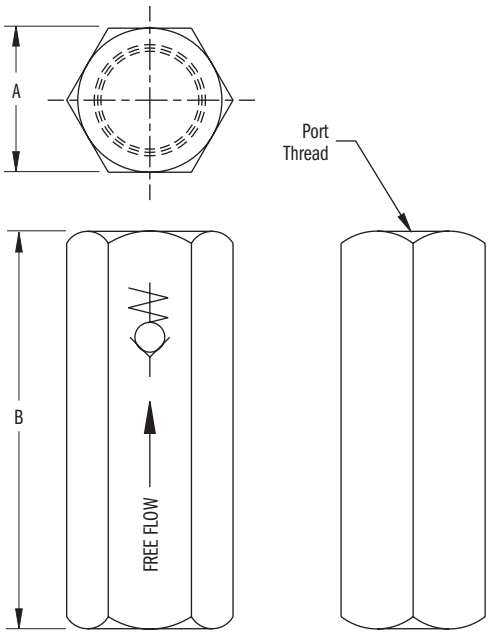
- SAE O-Ring Ports
- Precision Machined and Hardened
- Ground Poppet
- Metal-to-Metal seal Design
- Viton Seals Standard

Schematic Symbol



MODEL CODE: C V [ ]
Check Valve

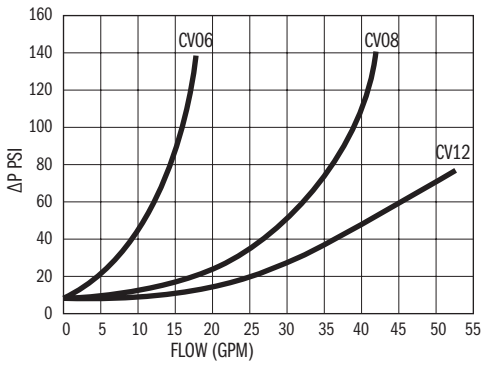
SIZE CODE
06
08
12
16
20
24



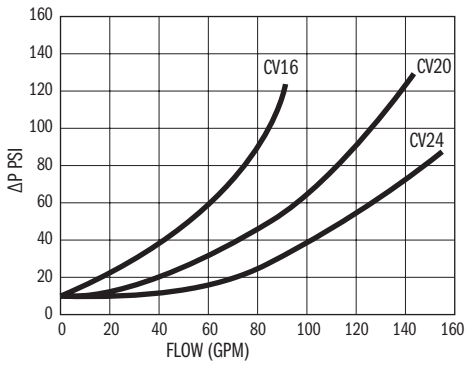
Dimensions and Specifications

Code	Part No.	A	B	Port Thread	Working Pressure	Cracking Pressure
CV06	**934705**	1.00 (25.4)	2.60 (66.0)	SAE-6	5000 psi (345 bar)	7 psi (.5 bar)
CV08	**934707**	1.25 (31.7)	2.87 (72.9)	SAE-8	5000 psi (345 bar)	7 psi (.5 bar)
CV12	**934709**	1.44 (36.6)	3.46 (87.9)	SAE-12	5000 psi (345 bar)	7 psi (.5 bar)
CV16	**934711**	1.81 (46.0)	5.00 (127.0)	SAE-16	5000 psi (345 bar)	7 psi (.5 bar)
CV20	**934713**	2.38 (60.5)	5.63 (143.0)	SAE-20	5000 psi (345 bar)	7 psi (.5 bar)
CV24	**934715**	2.56 (65.0)	5.63 (143.0)	SAE-24	5000 psi (345 bar)	7 psi (.5 bar)

CV06-12



CV16-24



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

► BALL VALVES - HIGH PRESSURE

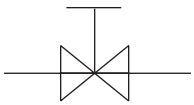
Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

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

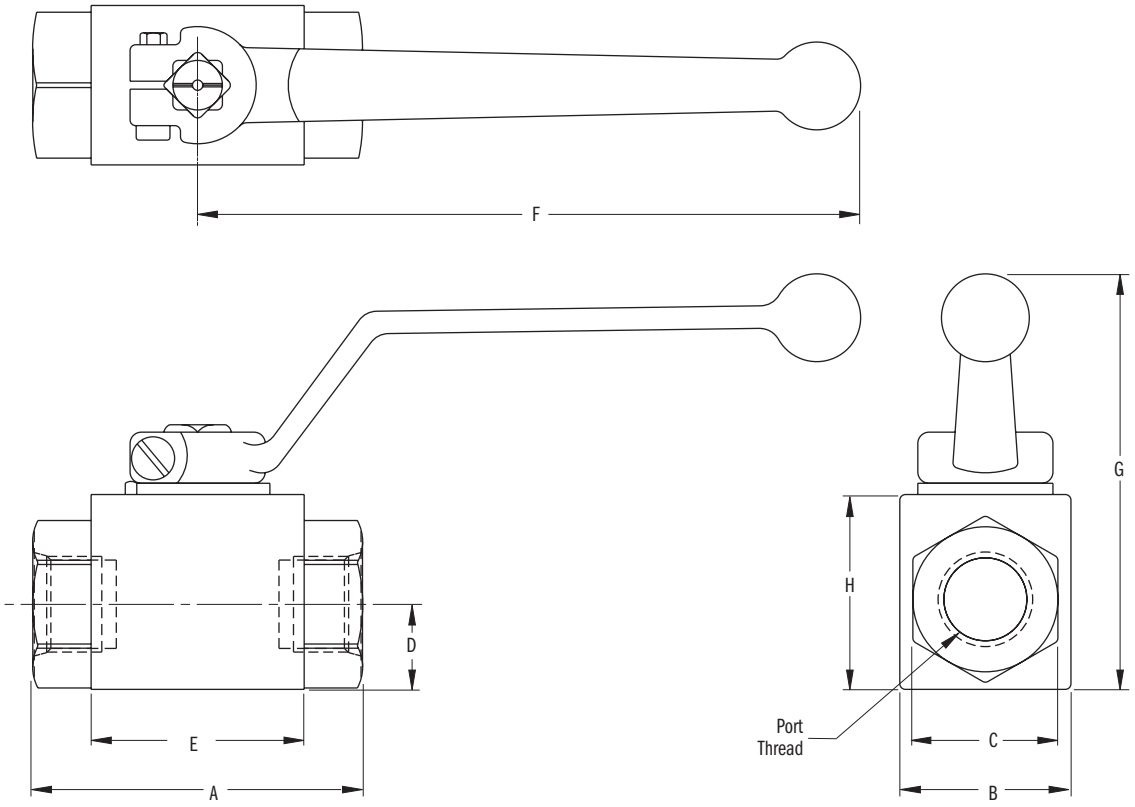
- Full Flow Passage For Unrestricted Fluid Flow
- Direction of Flow Indicated On Control Handle
- 5000 psi (345 bar) Working Pressure
- SAE O-Ring Ported

Schematic Symbol



MODEL CODE: **B V** [ ]
Ball Valve

SIZE CODE
08
12
16
20
24



Dimensions and Specifications

Size	Part No.	A	B	C	D	E	F	G	Port Thread	Working Pressure
BV08	**902559**	3.23 (82.0)	1.38 (35.1)	1.18 (30.0)	0.67 (17.0)	2.00 (50.8)	4.41 (112.0)	3.62 (91.9)	SAE-8	5000 psi (345 bar)
BV12	**902560**	3.66 (93.0)	1.77 (45.0)	1.61 (40.9)	0.95 (24.1)	2.36 (59.9)	7.36 (186.9)	4.45 (113.0)	SAE-12	5000 psi (345 bar)
BV16	**902561**	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)	SAE-16	5000 psi (345 bar)
BV20	**902562**	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)	SAE-20	5000 psi (345 bar)
BV24	**902563**	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)	SAE-24	5000 psi (345 bar)

► BALL VALVES - LOW PRESSURE

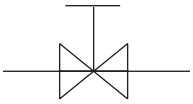
Dimensions:
inches (± .125")
millimeters (± 1 mm)

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

Schematic Symbol

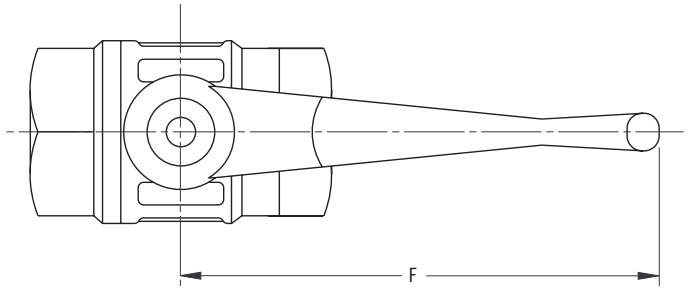


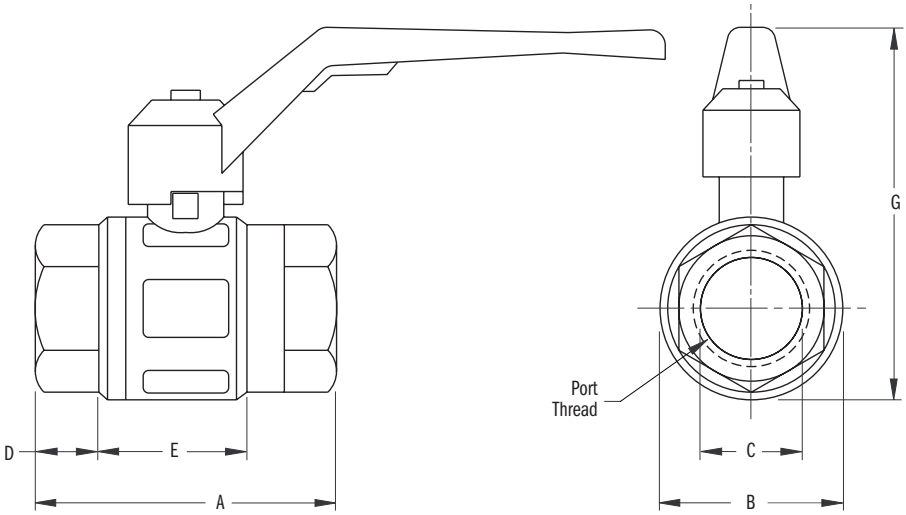
MODEL CODE: **B V** [ ] [ ]

Ball Valve

SIZE CODE
08
12
16
20
24
32
40

THREAD	
CODE	TYPE
N	NPT
S	SAE





Dimensions and Specifications

Size	Part No.	A	B	C	D	E	F	G	Port Thread	Working Pressure
BV08N	914831	2.20 (55.9)	1.28 (32.5)	0.59 (15.0)	0.53 (13.5)	1.08 (27.4)	3.43 (87.1)	2.47 (62.7)	1/2" NPT	600 psi (41 bar)
BV12N	902485	2.46 (62.5)	1.56 (39.6)	0.79 (20.1)	0.53 (13.5)	1.36 (34.5)	4.41 (112.0)	3.05 (77.5)	3/4" NPT	400 psi (28 bar)
BV16N	902486	2.81 (71.4)	1.89 (48.0)	0.98 (25.0)	0.56 (14.2)	1.61 (40.9)	4.41 (112.0)	3.31 (84.1)	1" NPT	400 psi (28 bar)
BV20N	902487	3.19 (81.0)	2.32 (58.9)	1.26 (32.0)	0.65 (16.5)	1.80 (45.7)	4.41 (112.0)	3.75 (95.2)	1-1/4" NPT	400 psi (28 bar)
BV24N	902488	3.56 (90.4)	2.88 (73.2)	1.57 (39.9)	0.67 (17.0)	2.26 (57.4)	5.51 (140.0)	4.52 (114.8)	1-1/2" NPT	400 psi (28 bar)
BV32N	902489	4.13 (104.9)	3.29 (83.6)	1.89 (48.0)	0.67 (17.0)	2.72 (69.1)	6.38 (162.1)	5.18 (131.6)	2" NPT	200 psi (14 bar)
BV40N	954050	5.43 (137.9)	4.35 (110.5)	2.36 (59.9)	0.91 (23.1)	3.46 (87.9)	7.87 (199.9)	6.38 (162.1)	2-1/2" NPT	200 psi (14 bar)
BV08S	974519	2.51 (63.8)	1.38 (35.1)	0.59 (15.0)	0.61 (15.5)	1.31 (33.3)	3.43 (87.1)	2.61 (66.3)	SAE-8	600 psi (41 bar)
BV12S	974520	2.80 (71.1)	1.60 (40.6)	0.79 (20.1)	0.66 (16.8)	1.51 (38.4)	4.41 (112.0)	3.10 (78.7)	SAE-12	400 psi (28 bar)
BV16S	974521	3.37 (85.6)	1.93 (49.0)	0.98 (25.0)	0.81 (20.6)	1.74 (44.2)	4.41 (112.0)	3.39 (86.1)	SAE-16	400 psi (28 bar)
BV20S	974522	3.75 (95.2)	2.32 (58.9)	1.26 (32.0)	0.89 (22.6)	2.01 (51.1)	4.41 (112.0)	3.75 (95.2)	SAE-20	400 psi (28 bar)
BV24S	974523	4.22 (107.2)	2.84 (72.1)	1.57 (39.9)	0.90 (22.9)	2.42 (61.5)	5.51 (140.0)	4.57 (116.1)	SAE-24	400 psi (28 bar)
BV32S	974524	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)	SAE-32	200 psi (14 bar)

► CASTER - RIGID - 4.00” DIAMETER

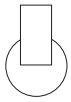
Dimensions:
inches (± .125”)
millimeters (± 1 mm)

DESCRIPTION

4.00” Corrosion-Resistant Rigid Caster.

- Material: Polyurethane Rubber
- Capacity Per Caster: 400 lbs.
- Hardness: Durometer 90A
- Surface Type: Asphalt, Bar Grating, Brick, Concrete, Hardwood, Linoleum, Steel, Tile.
- For Use With: Grease, Mild Acids, Mild Alkalines,Oil, Solvents.

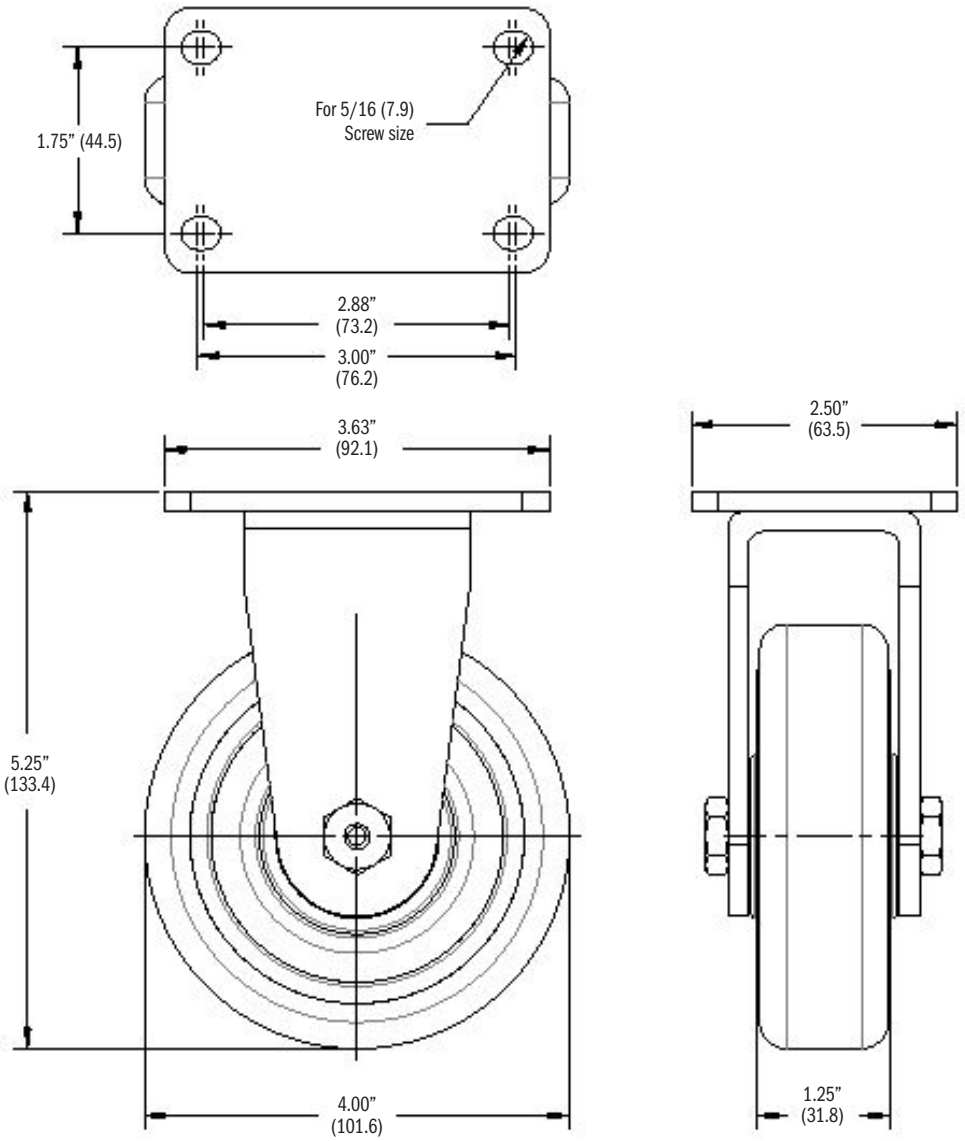
Schematic Symbol



MODEL CODE: CS4R

Caster

Part No. 1029665



► CASTER - SWIVEL WITH BRAKE - 4.00” DIAMETER

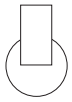
Dimensions:
inches (± .125”)
millimeters (± 1 mm)

DESCRIPTION

4.00” Corrosion-Resistant Swivel Caster With Brake.

- Material: Polyurethane Rubber
- Capacity Per Caster: 400 lbs.
- Hardness: Durometer 90A
- Surface Type: Asphalt, Bar Grating, Brick, Concrete, Hardwood, Linoleum, Steel, Tile.
- For Use With: Grease, Mild Acids, Mild Alkalines,Oil, Solvents.

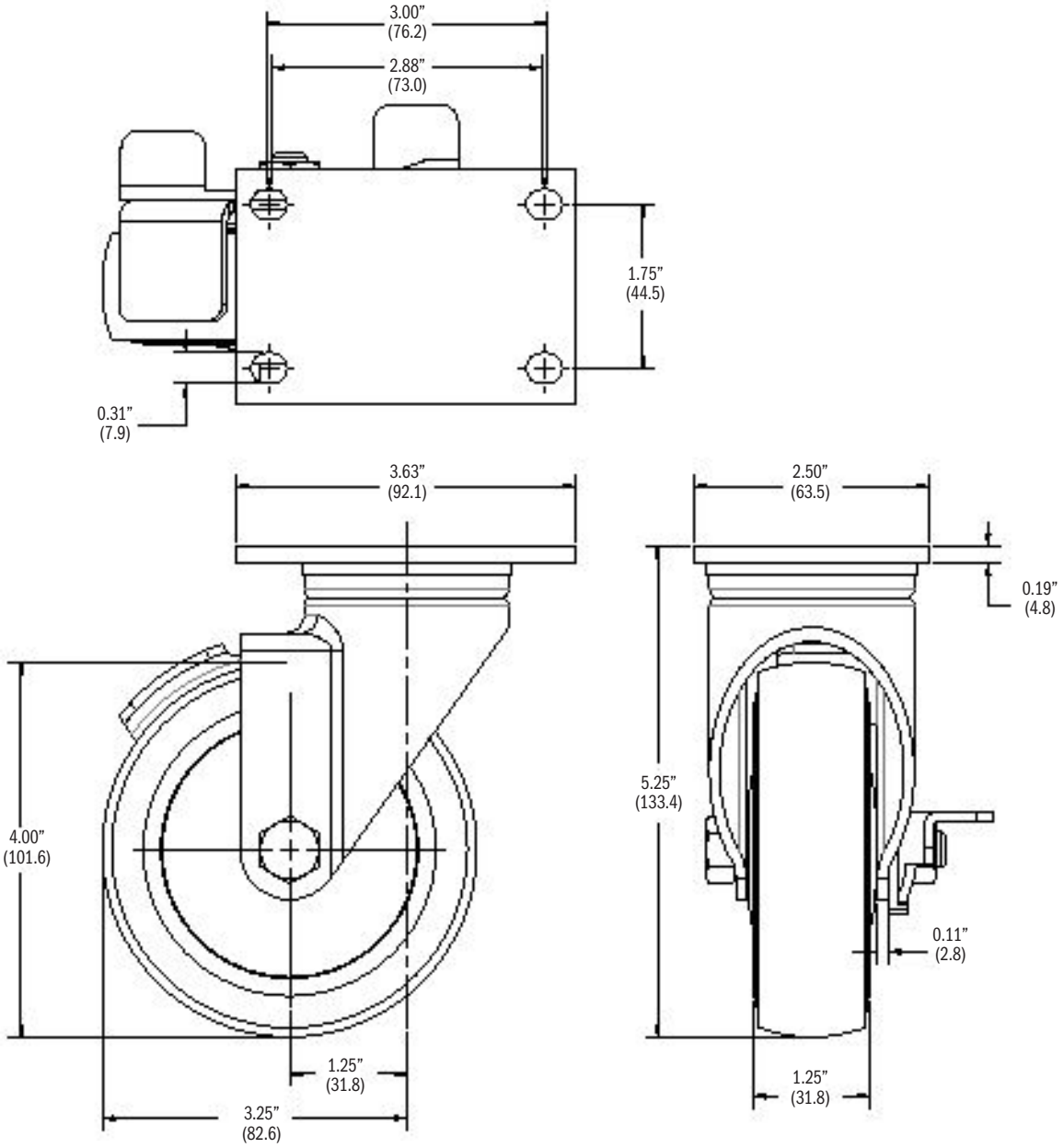
Schematic Symbol



MODEL CODE: CS4SB

Caster

Part No. 1029664



► CASTER - RIGID - 6.00” DIAMETER

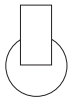
Dimensions:
inches (± .125”)
millimeters (± 1 mm)

DESCRIPTION

6.00” Corrosion-Resistant Rigid Caster.

- Material: Polyurethane Rubber
- Capacity Per Caster: 2000 lbs.
- Hardness: Durometer 95A
- Surface Type: Asphalt, Bar Grating, Brick, Concrete, Hardwood, Linoleum, Steel, Tile.
- For Use With: Grease, Mild Acids, Mild Alkalines,Oil, Solvents.

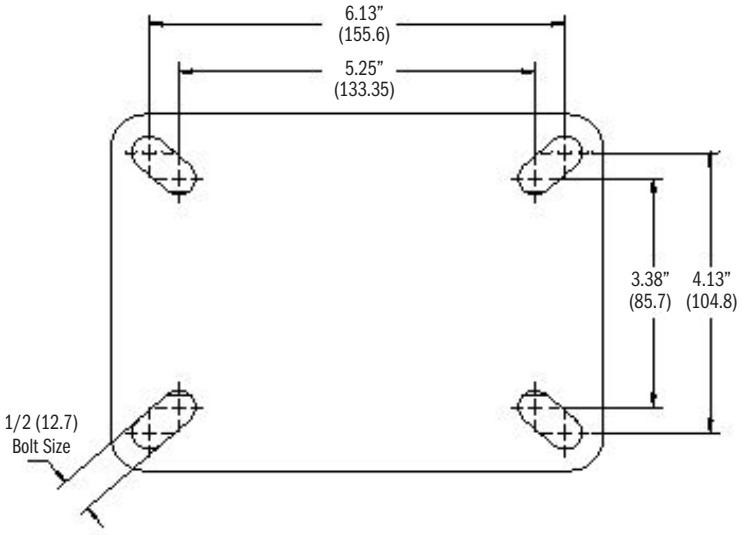
Schematic Symbol

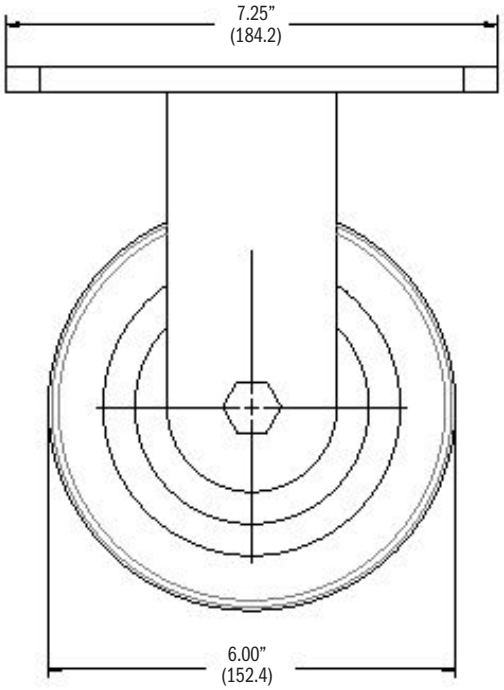


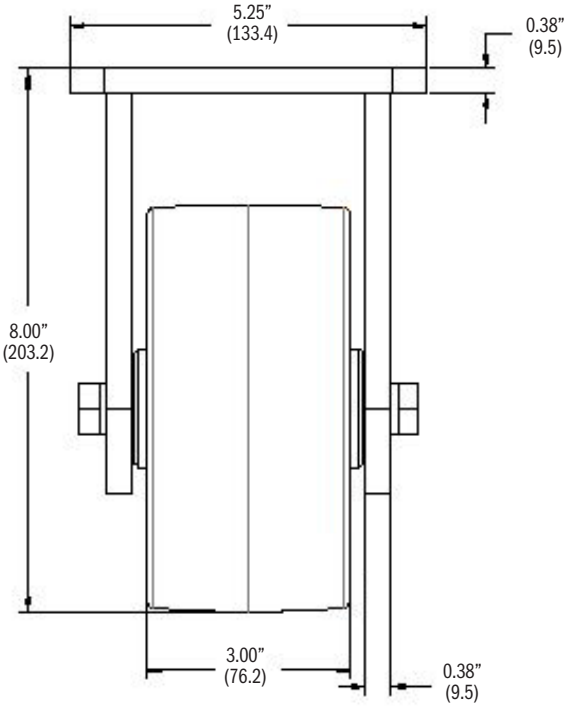
MODEL CODE: CS6R

Caster

Part No. 1029666







► CASTER - SWIVEL WITH BRAKE - 6.00” DIAMETER

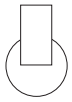
Dimensions:
inches (± .125”)
millimeters (± 1 mm)

DESCRIPTION

6.00” Corrosion-Resistant Swivel Caster With Brake.

- Material: Polyurethane Rubber
- Capacity Per Caster: 2000 lbs.
- Hardness: Durometer 95A
- Surface Type: Asphalt, Bar Grating, Brick, Concrete, Hardwood, Linoleum, Steel, Tile.
- For Use With: Grease, Mild Acids, Mild Alkalines,Oil, Solvents.

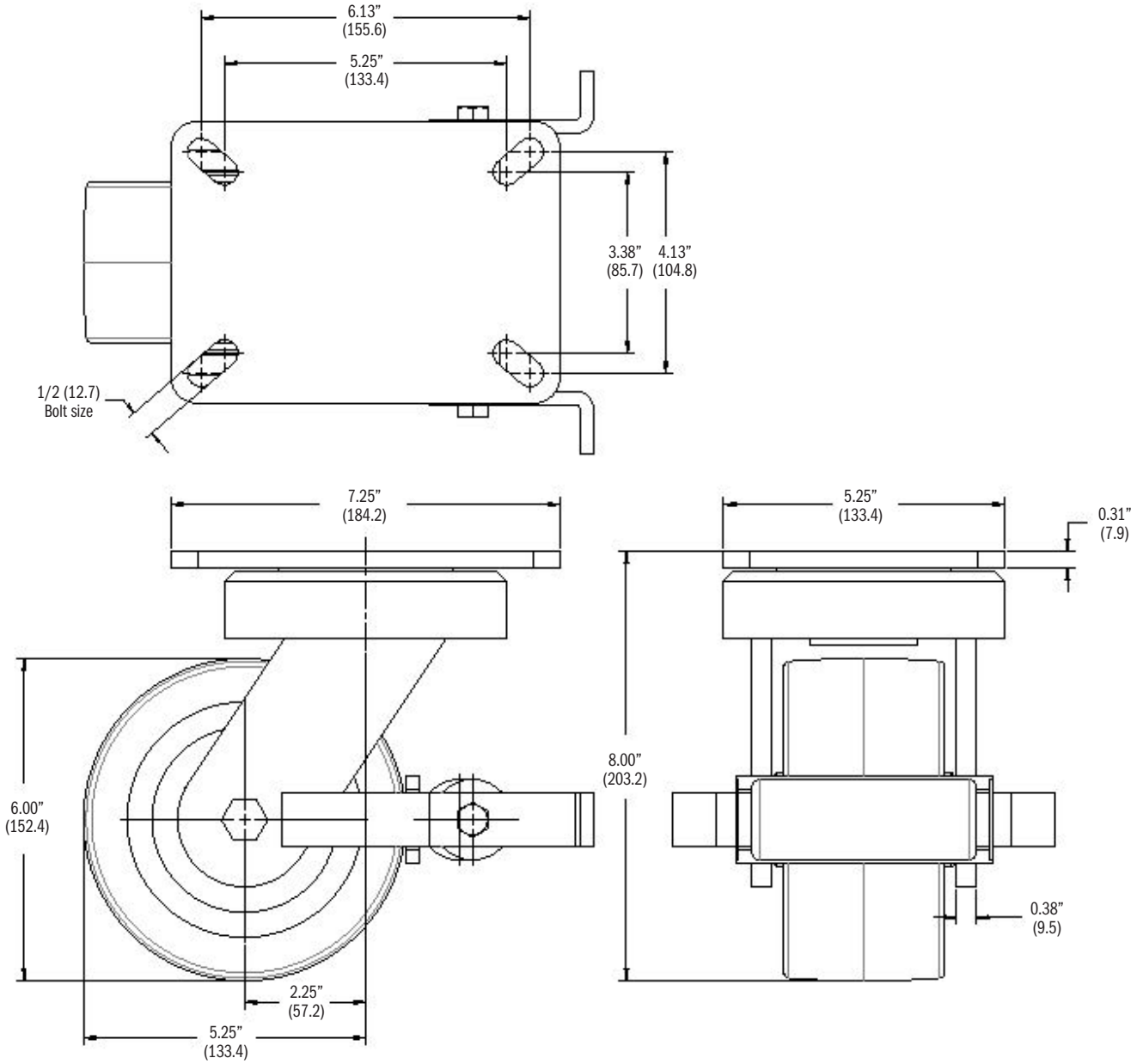
Schematic Symbol



MODEL CODE: CS6SB

Caster

Part No. 1007929



► FLOW METERS

Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

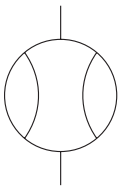
Flow Meters provide up to the minute answers about pump condition and/or systems settings. General design features include rugged construction, operation in any position and accuracy within ± 2%. No special piping required. Flow Meters are relatively in sensitive to shock and vibration. They are direct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

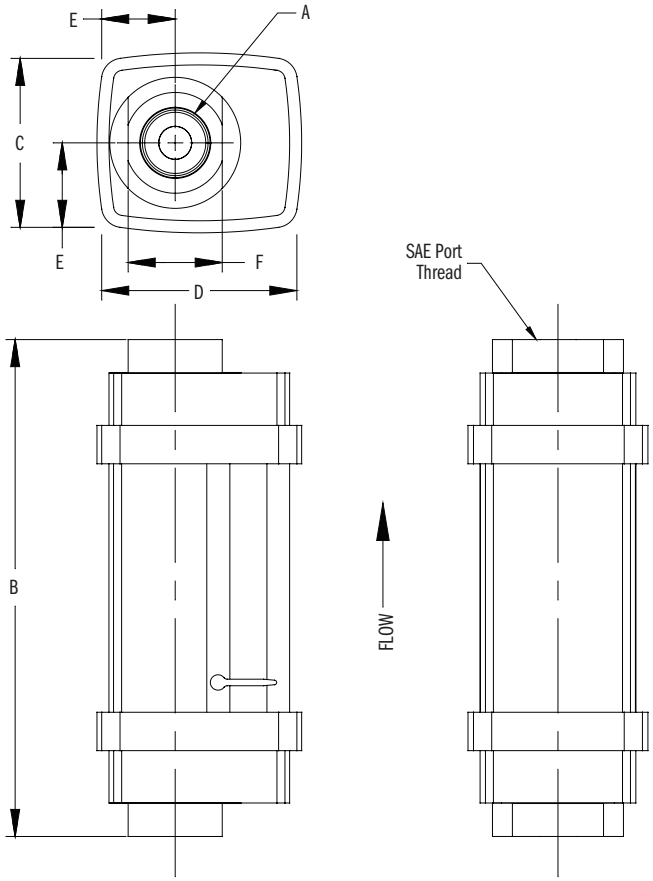
- 360° Rotatable Guard/Scale
- SAE O-Ring Ports
- 2024-T351 Anodized Aluminum Body, Piston and Cone
- Viton Seals Standard
- -20°F. to 400°F. (-29°C. to 204°C.) Continuous Temperature Range.

MODEL CODE: F M [ ]
Flow Meter

SIZE CODE
1
2
3

Schematic Symbol





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	100% Flow
FM1	934287	SAE-10	3500 psi (241 bar)	1 - 10 gpm (3.8 - 38 lpm)	4.00 psi (.28 bar)	9.50 psi (.66 bar)
FM2	934288	SAE-12	3500 psi (241 bar)	3 - 30 gpm (11.3 - 115 lpm)	7.00 psi (.48 bar)	16.50 psi (1.14 bar)
FM3	934289	SAE-20	3500 psi (241 bar)	10 - 75 gpm (38 - 285 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

► SIGHT GAUGES - INTERNAL THERMOMETER

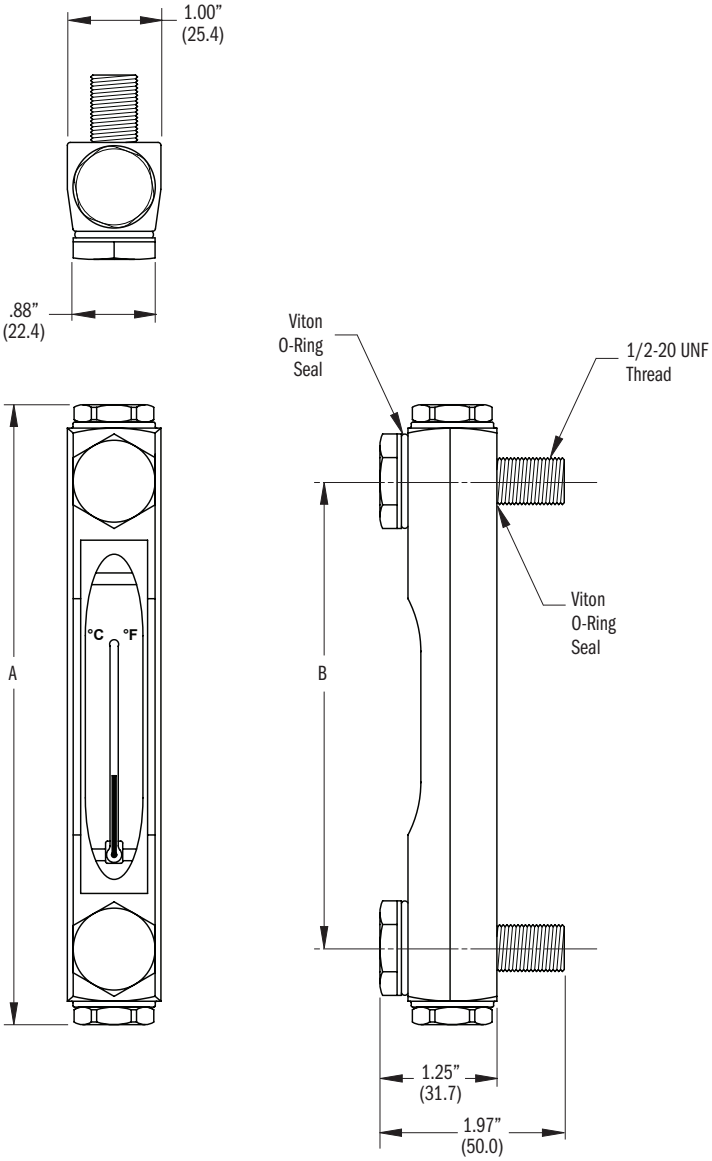
Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

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

MODEL CODE: **S G** [ ]
Sight Gauge

LENGTH CODE
5
10



Dimensions and Specifications

Model Code	A	B	Temperature Range	Thermometer Type	Part No.
SG5	6.63 (168.4)	5.00 (127.0)	0°F. - 240°F. (0°C. - 116°C.)	Internal (Red)	**944961**
SG10	11.63 (295.4)	10.00 (254.0)	0°F. - 240°F. (0°C. - 116°C.)	Internal (Red)	**944962**

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		

► SIGHT GAUGES - EXTERNAL THERMOMETER

Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

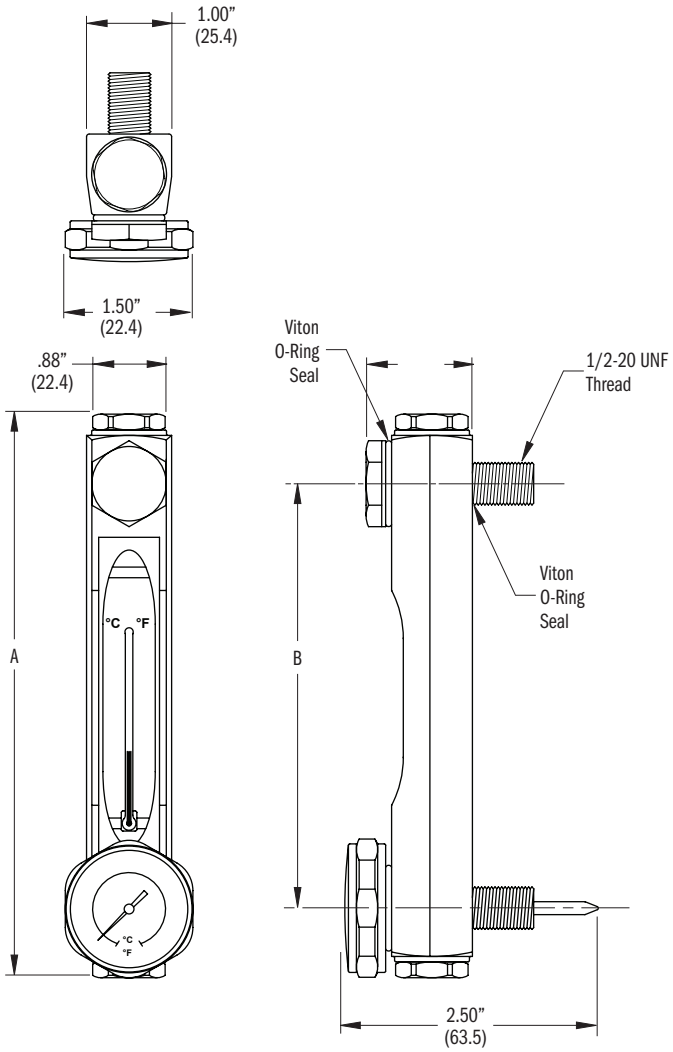
Sight Gauges give you an indication of your current fluid level and temperature.

MODEL CODE: **S G** [ ] **E X**

S G — Sight Gauge

[ ] — LENGTH CODE: 5, 10

E X — External



Dimensions and Specifications

Model Code	A	B	Temperature Range	Thermometer Type	Part No.
SG5EX	6.63 (168.4)	5.00 (127.0)	0°F. - 300°F. (0°C. - 149°C.)	External	**944963**
SG10EX	11.63 (295.4)	10.00 (254.0)	0°F. - 116°F. (0°C. - 149°C.)	External	**944964**

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		

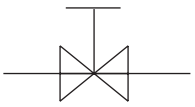
► RESERVOIR DRAIN VALVE

Dimensions:
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.

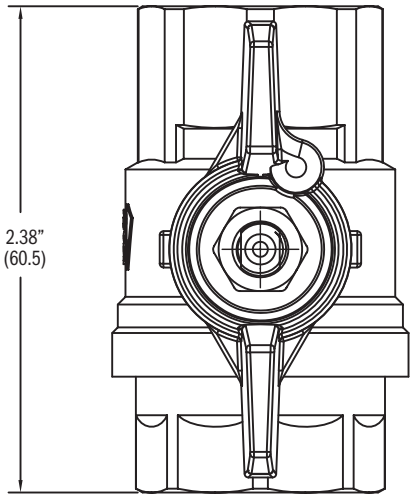
Schematic Symbol

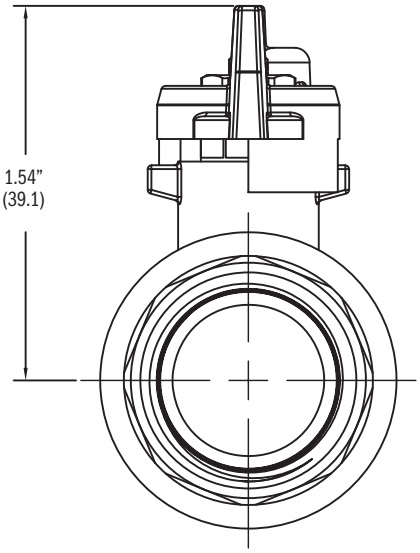


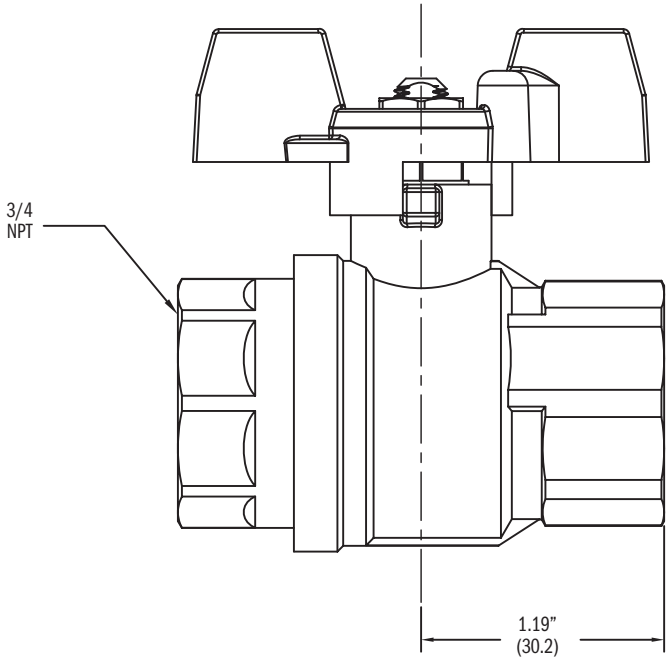
MODEL CODE: D

Drain Valve

Part No. 014630







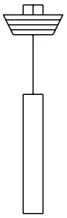
► MAGNETS

Dimensions:
inches (± .125")
millimeters (± 1 mm)

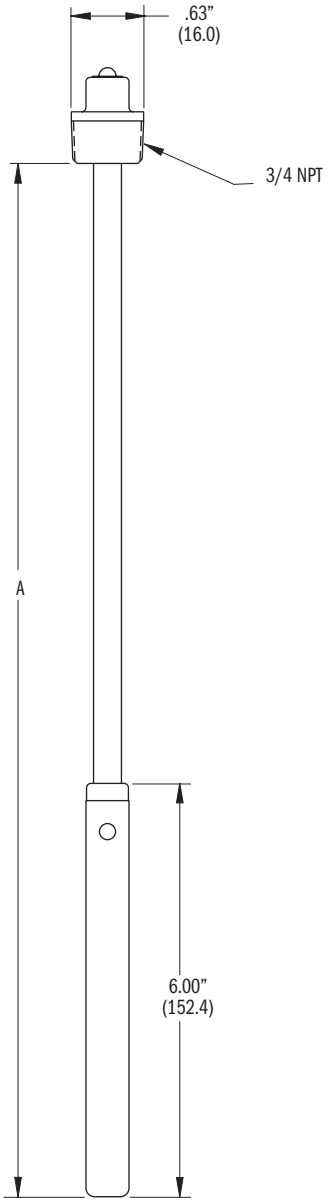
DESCRIPTION

Magnets are used to protect your system from metal particle contamination.

Schematic Symbol



MODEL CODE: **M**
Magnet

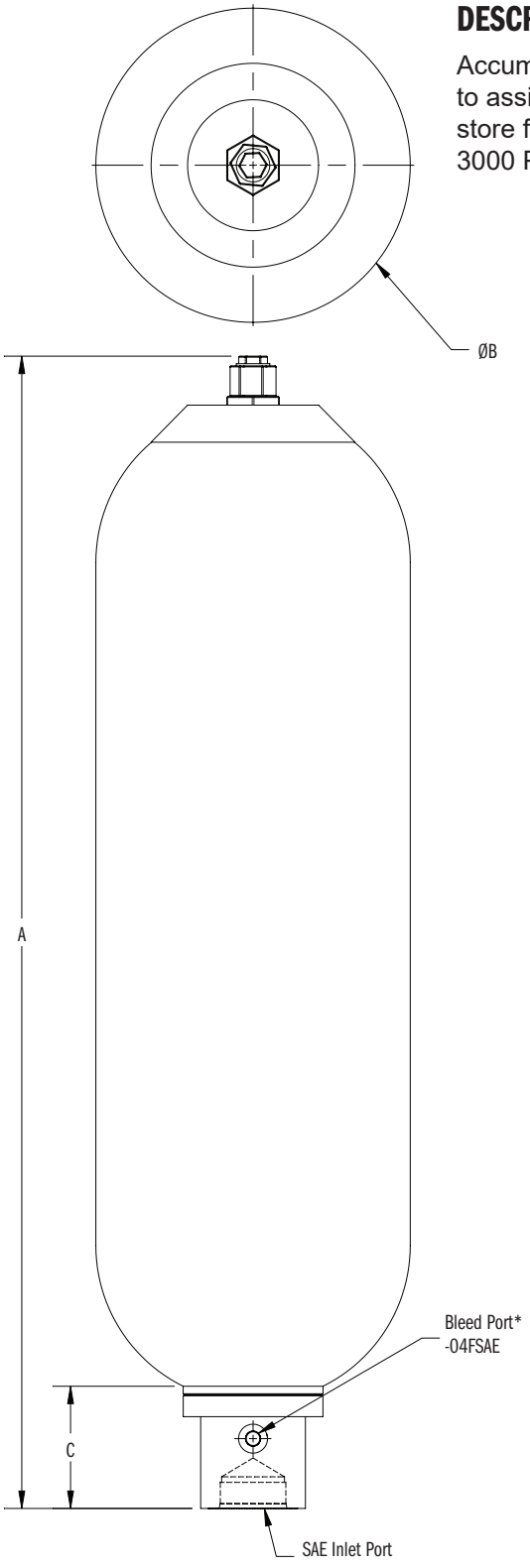


Dimensions and Specifications

Code	Part No.	Application	Dimensions 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)

► ACCUMULATOR - BLADDER (BOTTOM REPAIRABLE)

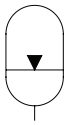
Dimensions:
inches (± .125")
millimeters (± 1 mm)

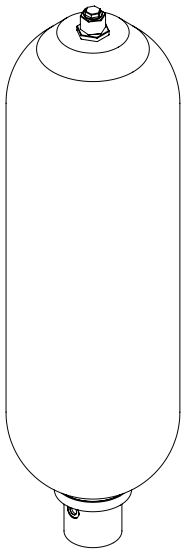


DESCRIPTION

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

Schematic Symbol





MODEL CODE: A C [ ]

A = Accumulator

SIZE	
CODE	TYPE
1QT	Quart
1	Gallon
2.5	
5	
10	
11	
15	

*Not Avalible On The 1 Quart Model

Dimensions and Specifications

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.

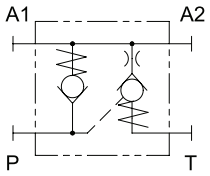
► ACCUMULATOR DUMP VALVES

Dimensions:
inches (± .125")
millimeters (± 1 mm)

DESCRIPTION

Accumulator Dump Valves are used to drain the pressure of the accumulator for safety and maintenance, 3000 PSI max pressure.

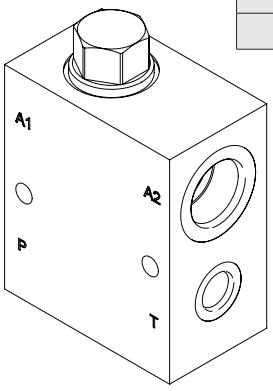
Schematic Symbol



MODEL CODE: A D [ ]

Accumulator Dump Valve

SIZE CODE
12
16
20

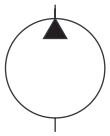


Specifications

Code	Part No.	Pressure Port Size	A1 Port Size	A2 Port Size	Tank Port Size
AD12	621033	-12 SAE	-12 SAE	-12 SAE	-8 SAE
AC16	602151AA	-16 SAE	-16 SAE	-16 SAE	-8 SAE
AC20	611926	-20 SAE	-20 SAE	-20 SAE	-8 SAE

▶ GEAR PUMPS - SAE AA

Schematic Symbol



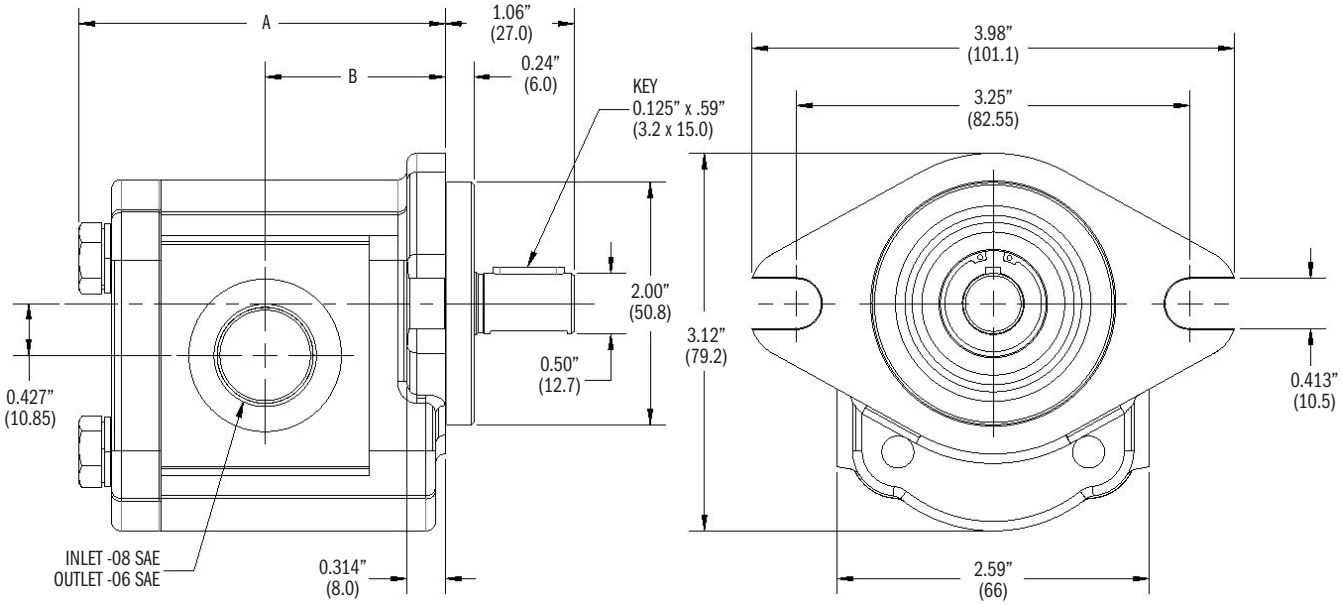
MODEL CODE: G ☐ B ☐

Gear Pump | **1725 rpm**

Dimensions:
inches (± .125")
millimeters (± 1 mm)

GPM CODE
0.5
0.7
0.9
1.1
1.4
1.7
2.1
2.4
2.9
3.4

THREAD	
CODE	Pressure
36	3620 psi (250 bar)
37	3770 psi (260 bar)
34	3480 psi (240 bar)
33	3300 psi (230 bar)
26	2610 psi (180 bar)



Dimensions and Specifications

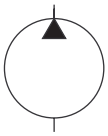
Code	Part No.	A	B	Cu. in./ (cu. cm/) Revolution	gpm* (lpm) @ 1725 rpm	Continuous Pressure	Intermittent Pressure	Maximum Speed (rpg)
G0.5B36	H1000P021C	2.63 (67.7)	1.29 (32.8)	0.061 (1.0)	0.46 (1.7)	3620 psi (250 bar)	3920 psi (270 bar)	4000
G0.7B37	H1000P022C	2.70 (68.5)	1.33 (33.7)	0.091 (1.5)	0.68 (2.6)	3770 psi (260 bar)	3916 psi (270 bar)	4000
G0.9B37	H1000P023C	2.76 (70.0)	1.36 (34.5)	0.116 (1.9)	0.87 (3.3)	3770 psi (260 bar)	3916 psi (270 bar)	4000
G1.1B37	H1000P024C	2.85 (72.3)	1.40 (35.6)	0.152 (2.5)	1.14 (4.3)	3770 psi (260 bar)	3916 psi (270 bar)	4000
G1.4B37	H1000P025C	2.93 (74.5)	1.45 (36.7)	0.189 (3.1)	1.41 (5.3)	3770 psi (260 bar)	3916 psi (270 bar)	4000
G1.7B37	H1000P026C	3.03 (77.1)	1.50 (38.0)	0.232 (3.8)	1.73 (6.6)	3770 psi (260 bar)	3553 psi (245 bar)	4000
G2.1B34	H1000P027C	3.17 (80.5)	1.56 (39.7)	0.287 (4.7)	2.14 (8.1)	3480 psi (240 bar)	3553 psi (245 bar)	4000
G2.4B34	H1000P028C	3.26 (82.7)	1.61 (40.8)	0.323 (5.3)	2.42 (9.1)	3480 psi (240 bar)	3118 psi (215 bar)	4000
G2.9B33	H1000P029C	3.40 (86.4)	1.68 (42.7)	0.385 (6.3)	2.87 (10.9)	3330 psi (230 bar)	3118 psi (215 bar)	3500
G3.4B26	H1000P030C	3.55 (90.2)	1.76 (44.6)	0.458 (7.5)	3.42 (12.9)	2610 psi (180 bar)	3118 psi (215 bar)	3500

NOTE: No efficiency ratings were used in calculating the gpm of the pumps.

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

► GEAR PUMPS - SAE A

Schematic Symbol



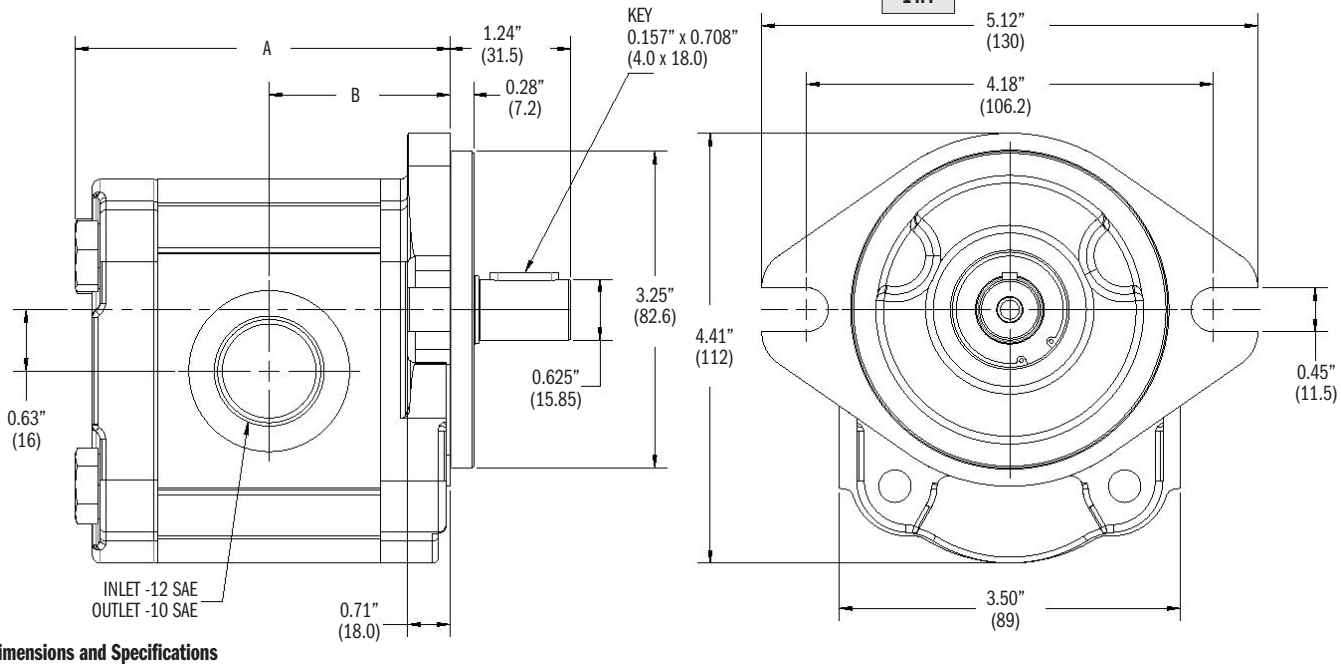
MODEL CODE: G ☐ B ☐

Gear Pump | **1725 rpm**

Dimensions:
inches (± .125")
millimeters (± 1 mm)

GPM CODE
2.0
3.0
3.7
5.2
6.7
7.7
9.2
10.0
11.5
12.9
14.4

THREAD	
CODE	Pressure
37	3770 psi (260 bar)
30	3040 psi (210 bar)
29	2900 psi (200 bar)
26	2610 psi (180 bar)
23	2320 psi (160 bar)
21	2170 psi (150 bar)



Dimensions and Specifications

Code	Part No.	A	B	Cu. in./ (cu. cm/) Revolution	gpm* (lpm) @ 1725 rpm	Continuous Pressure	Intermittent Pressure	Maximum Speed (rpg)
G2.0B34	H200SP904C	3.60 (91.5)	1.67 (42.3)	0.27 (4.5)	2.02 (7.8)	3480 psi (240 bar)	3910 psi (270 bar)	4000
G3.0B34	H200SP905C	3.72 (94.4)	1.72 (43.8)	0.4 (6.5)	2.99 (11.2)	3480 psi (240 bar)	3910 psi (270 bar)	4000
G3.7B34	H200SP906C	3.82 (96.9)	1.77 (45.0)	0.5 (8.2)	3.73 (14.1)	3480 psi (240 bar)	3910 psi (270 bar)	4000
G5.0B34	H200SP907C	3.92 (99.5)	1.86 (47.2)	0.67 (11.3)	5.00 (19.5)	3480 psi (240 bar)	3910 psi (270 bar)	4000
G6.7B34	H200SP908C	4.18 (106.1)	1.95 (49.6)	0.89 (14.6)	6.65 (25.2)	3480 psi (240 bar)	3910 psi (270 bar)	3500
G7.7B34	H200SP909C	4.31 (109.5)	2.02 (51.3)	1.03 (16.9)	7.69 (29.2)	3480 psi (240 bar)	3910 psi (270 bar)	3200
G9.2B30	H200SP910C	4.50 (114.2)	2.11 (53.7)	1.23 (20.1)	9.19 (34.7)	3040 psi (210 bar)	3480 psi (240 bar)	3000
G10.0B29	H200SP911C	4.92 (124.9)	2.32 (59.0)	1.34 (22.0)	10.00 (37.9)	2900 psi (200 bar)	3330 psi (230 bar)	2700
G11.5B26	H200SP912C	5.10 (129.2)	2.41 (61.3)	1.54 (25.2)	11.50 (43.5)	2610 psi (180 bar)	3040 psi (210 bar)	2500
G12.9B23	H200SP915C	5.27 (133.9)	2.50 (63.5)	1.72 (28.2)	12.84 (48.6)	2320 psi (160 bar)	2750 psi (190 bar)	2200
G14.4B21	H200SP914C	5.47 (139.0)	2.60 (66.1)	1.93 (31.7)	14.41 (54.7)	2170 psi (150 bar)	2610 psi (180 bar)	2000

NOTE: No efficiency ratings were used in calculating the gpm of the pumps.

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

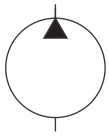
► FIXED VANE PUMPS - SAE A

MODEL CODE: **F V** [ ] **B** [ ]

Fixed Vane — **1725 rpm**

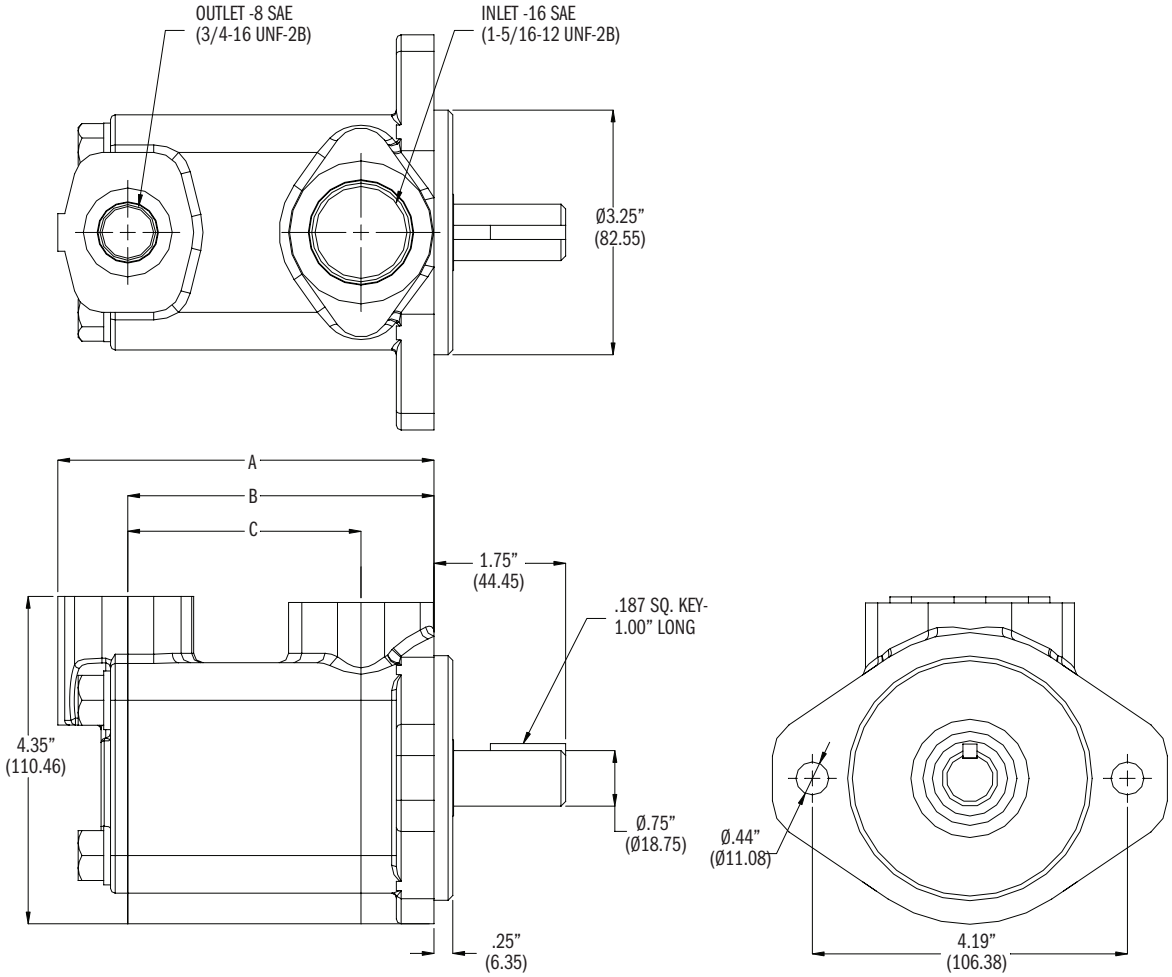
Dimensions:
inches (± .125")
millimeters (± 1 mm)

Schematic Symbol



GPM CODE
1.5
3.0
4.5
5.9
7.5

PRESSURE	
CODE	Pressure
25	2500 psi (172 bar)



Dimensions and Specifications

Code	Part No.	A	B	C	Cu. in./ (cu. cm/) Revolution	gpm* (lpm) @ 1725 rpm	Continuous Pressure	Maximum Speed (rpg)
FV1.5B25	**1005530**	4.55 (115.6)	3.62 (91.9)	2.65 (67.3)	0.20 (3.3)	1.49 (5.6)	2500 psi (172 bar)	4800
FV3.0B25	**604580AA**	4.55 (115.6)	3.62 (91.9)	2.65 (67.3)	0.40 (6.6)	2.99 (11.3)	2500 psi (172 bar)	4500
FV4.5B25	**1005531**	4.55 (115.6)	3.62 (91.9)	2.65 (67.3)	0.60 (9.8)	4.48 (17.0)	2500 psi (172 bar)	4000
FV5.9B25	**1005529**	4.80 (121.9)	3.87 (98.3)	2.90 (73.7)	0.80 (13.1)	5.97 (22.6)	2500 psi (172 bar)	3400
FV7.5B25	**1005532**	4.85 (123.2)	3.87 (98.3)	2.90 (73.7)	1.00 (16.4)	7.47 (28.3)	2500 psi (172 bar)	3200

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

► FIXED VANE PUMPS - SAE A

MODEL CODE: **F V** [ ] **B** [ ]

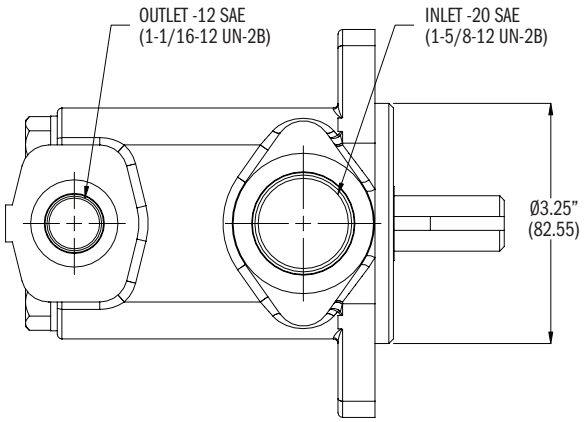
Fixed Vane **1725 rpm**

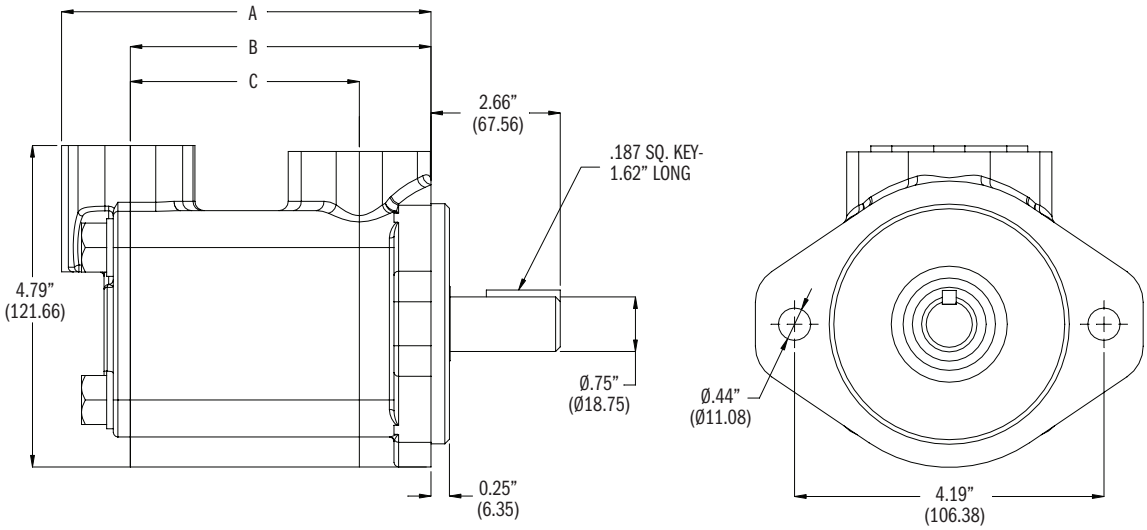
Dimensions:
inches (± .125")
millimeters (± 1 mm)

GPM CODE
8.9
10.4
12.1
13.4
16.6
17.8
19.3

PRESSURE	
CODE	Pressure
25	2500 psi (172 bar)

Schematic Symbol





Dimensions and Specifications

Code	Part No.	A	B	C	Cu. in./ (cu. cm/) Revolution	gpm* (lpm) @ 1725 rpm	Continuous Pressure	Maximum Speed (rpg)
FV8.9B25	**1005539**	4.93 (125.2)	4.02 (102.1)	2.80 (71.1)	1.19 (19.5)	8.89 (33.7)	2500 psi (172 bar)	3400
FV10.4B25	**1005540**	5.18 (131.6)	4.27 (108.5)	3.05 (77.5)	1.39 (22.8)	10.38 (39.3)	2500 psi (172 bar)	3000
FV12.1B25	**1005541**	5.18 (131.6)	4.27 (108.5)	3.05 (77.5)	1.62 (26.5)	12.10 (46.5)	2500 psi (172 bar)	2800
FV13.4B25	**1005542**	5.18 (131.6)	4.27 (108.5)	3.05 (77.5)	1.81 (29.7)	13.44 (50.9)	2500 psi (172 bar)	2800
FV16.6B25	**1005543**	5.38 (136.7)	4.47 (113.5)	3.25 (82.6)	2.22 (36.4)	16.58 (62.8)	2500 psi (172 bar)	2500
FV17.8B25	**615804AC**	5.52 (140.2)	4.61 (117.1)	3.39 (86.1)	2.38 (39.0)	17.77 (67.3)	2500 psi (172 bar)	2400
FV19.3B25	**611342**	5.52 (140.2)	4.61 (117.1)	3.39 (86.1)	2.59 (42.4)	19.34 (73.2)	2500 psi (172 bar)	2400

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

► PUMP MOTOR ADAPTERS AND COUPLINGS

Pump	Adaptor and Couplings	PVR6, HPVR6 PVX8	PVR15, HPVR10/15 PVX11/15	HPVR20-29 PVX20/29/36	PVX46-75	PVR50	G0.5B36-G3.4B26	G2.0B34-G14.4B21	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	
1 HP - 2 HP 143/145TC 7/8 x 3/16K	C-Face	902497					974064	902497	PM90
	Motor Cplg	954847					1011154	954847	
	Pump Cplg	954846					1010337	965294	
	Insert	954855					1011156	954855	
3 HP, 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	
7.5 HP, 10 HP 213/215TC 1-3/8 x 5/16K	C-Face	903606	166719	606616		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	
15 HP, 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	
25 HP, 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			
40 HP, 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			
60 HP, - 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				

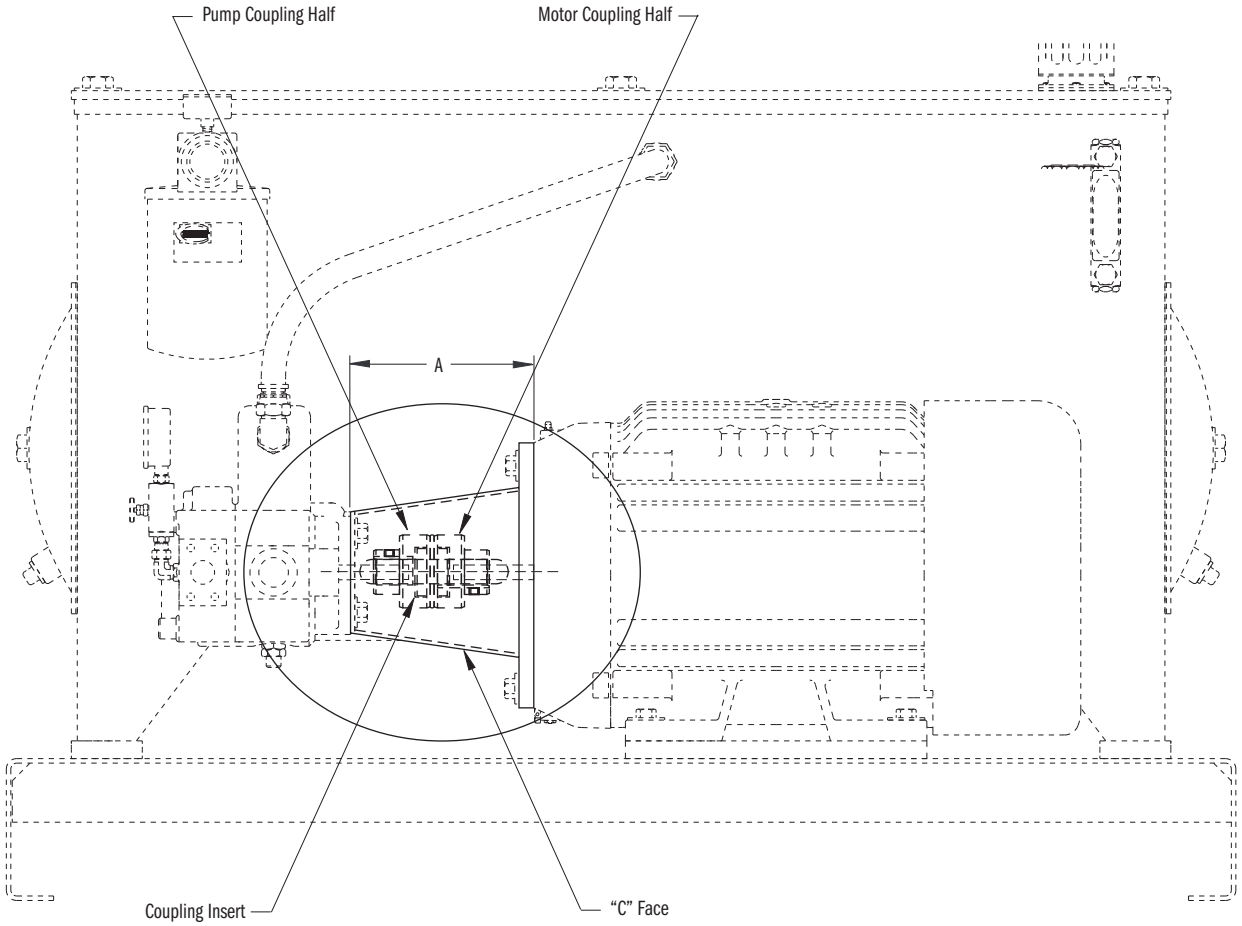
*NOTE: 300 Series

► PUMP MOTOR ADAPTERS AND COUPLINGS

Dimensions:
inches (± .125")
millimeters (± 1 mm)

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
148618	5.88 (149.4)
166616	6.88 (174.8)
166719	5.88 (149.4)
600616	5.88 (149.4)
600619	6.00 (152.4)
600620	5.50 (165.1)

Part No.	A
1021635	8.00 (203.2)
611670	9.00 (228.6)
902497	4.25 (107.9)
902778	8.75 (222.2)
903606	5.25 (133.3)
904081	8.25 (209.5)

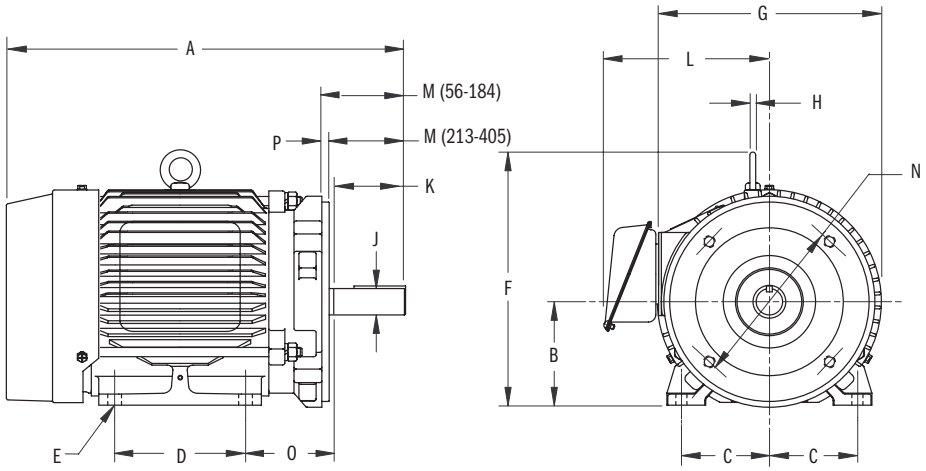
Part No.	A
904611	7.50 (190.5)
934782	7.50 (190.5)
934788	6.88 (174.8)
934791	7.63 (193.8)
954856	5.00 (127.0)
954858	5.25 (133.3)

Part No.	A
974064	4.25 (107.9)
974065	4.75 (120.6)
974066	5.00 (127.0)
974741	4.75 (120.6)
974817	7.50 (190.5)

ELECTRIC MOTORS

Schematic Symbol

Dimensions:
inches (± .125")
millimeters (± 1 mm)



Dimensions

Code	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
.5BMTCE	11.35 (288.3)	3.50 (88.9)	2.44 (62.0)	3.00 (76.2)	0.34 (8.6)	6.88 (174.8)	6.63 (168.4)	0.19 (4.8)	0.63 (16.0)	1.88 (47.8)	5.00 (127.0)	2.06 (52.3)	5.88 (149.4)	2.75 (69.8)	0.13 (3.3)
1BMTCE	12.54 (318.5)		2.75 (69.8)	4.00 (101.6)					0.88 (22.4)	2.25 (57.1)	5.25 (133.3)	2.13 (54.1)			
1.5BMTCE				5.00 (127.0)											
2BMTCE															
3BMTCE	14.43 (366.5)	4.50 (114.3)	3.75 (95.2)	4.50 (114.3)	0.41 (10.4)	8.69 (220.7)	7.88 (200.2)	0.25 (6.3)	1.13 (28.7)	2.75 (69.8)	5.88 (149.4)	2.63 (66.8)	7.25 (184.1)	3.50 (88.9)	0.25 (6.3)
5BMTCE	15.42 (291.7)			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)	0.31 (7.9)	1.38 (35.1)	3.38 (85.9)	7.38 (187.5)	3.13 (79.5)		4.25 (107.9)	
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)	0.53 (13.5)	12.88 (327.2)	12.94 (328.7)	0.38 (9.7)	1.63 (41.4)	4.00 (101.6)	9.63 (244.6)	3.75 (95.2)		4.75 (120.6)	
20BMTCF	25.10 (637.5)			10.00 (254.0)											
25BMTCF	26.90 (683.3)	7.00 (177.8)	5.50 (139.07)	9.50 (241.3)		15.63 (397.0)	14.63 (371.6)	0.50 (12.7)	1.88 (47.8)	4.63 (117.6)	13.13 (333.5)	4.38 (111.3)	9.00 (228.6)		
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)	0.66 (16.8)	16.50 (419.1)	16.50 (419.1)		2.13 (54.1)	5.25 (133.3)	14.13 (358.9)	5.00 (127.0)	11.00 (279.4)	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)	0.63 (16.0)	2.38 (60.5)	5.88 (149.4)	15.06 (382.5)	5.63 (243.0)		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)	0.81 (20.6)	20.31 (515.9)	20.13 (511.3)	0.75 (19.0)	2.88 (73.2)	7.25 (184.1)	18.00 (457.2)	7.00 (177.8)		6.63 (168.4)	
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)	0.88 (22.4)	3.38 (85.9)	8.50 (215.9)	23.38 (593.9)	8.25 (209.5)	14.00 (355.6)	7.50 (190.5)	

ELECTRIC MOTORS

Dimensions:
inches (± .125")
millimeters (± 1 mm)

Specifications

Code	Part No.	Motor Frame	Voltage	RPM	Enclosure	Service Factor	Full Load Amps	Shipping Weight
.5BMTCE	1019403	56C	115-230V, 60 Hz, 1 Phase (110V/220V) (50 hz, 1 Phase)	1725 (1425)	TEFC	1.15 (1.00)	7.2/3.6/(7.2/3.6)	25 lbs. (11.3 kg)
3/4BMTC	1019396	56C					10.0/5.0/(9.6/4.8)	29 lbs. (13.2 kg)
1BMTCE	1019320	56C					13.0/6.5/(12.4/6.2)	36 lbs. (16.3 kg)
1.5BMTCE	1019404	56C					14.5/7.3/(14.0/7.0)	37 lbs. (16.8 kg)
2BMTCE	1019405	56C					19.6/9.8/(23.4/11.7)	44 lbs. (20.0 kg)
3BMTCE	1024703	184TC	115V/230V/60/1	1745		1.15	30.2/15.1	108 lbs. (49.0 kg)
.5BMTCE	1019398	56C	208-230V/460V 60 Hz, 3 Phase	1725	TEFC	1.25	1.9/0.95	19 lbs. (8.6 kg)
1BMTCE	1019400	56C				1.15	3.22/1.61	35 lbs. (15.9 kg)
1.5BMTCE	1019401	56C					4.52/2.26	43 lbs. (19.5 kg)
2BMTCE	10119337	56C					5.92/2.95	59 lbs. (26.8 kg)
3BMTCE	1005766	182TC					8.65-7.82/3.91	93 lbs. (42.2 kg)
5BMTCE	148682	184TC					13.9-13.4/6.7	93 lbs. (42.2 kg)
7.5BMTCE	148683	213TC					19.8-19/9.5	170 lbs. (77.1 kg)
10BMTCE	148684	215TC					26.5-24.4/12.2	195 lbs. (88.5 kg)
15BMTCF	148685	254TC	230V-460V, 60 Hz, 3 Phase				36.2/18.1	269 lbs. (122.0 kg)
20BMTCF	148686	256TC					48/24	298 lbs. (135.2 kg)
25BMTCF	954900	284TC					60/30	430 lbs. (195.0 kg)
30BMTCF	902588	286TC					76/38	515 lbs. (233.6 kg)
40BMTCF	1005779	324TC					92.6/46.3	531 lbs. (240.9 kg)
50BMTCF	1005780	326TC					118/59.2	611 lbs. (277.1 kg)
60BMTCF	1005781	364TC					143/71.6	412 lbs. (186.9 kg)
75BMTCF	1005782	365TC					168/85.1	963 lbs. (436.8 kg)
100BMTCF	1005783	405TC					226/113	546 lbs. (247.7 kg)
125BMTCF	1004975	444TC					278/139	1594 lbs. (723.0 kg)

.5 HP - 2 HP Are Word Wide Electric Motors
3 HP - 40 HP Are ABB(Baldor) Motors
50 HP - 125 HP Are WEG Motors or special request

► MOTOR STARTER

Dimensions:
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:

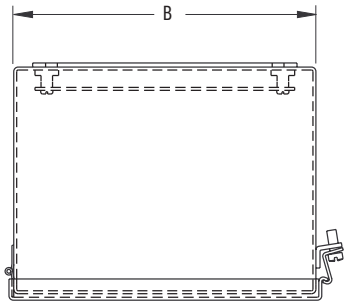
- 1 - 50 H.P. (.75 - 37.3 kW) Full Voltage Non-Reversing
- Voltages 208, 230, 460
- Three Phase
- I.E.C. Style Components
- Side by Side Push Button (Green/Start, Red/Stop)
- NEMA 12 Enclosure
- Starters Mounted, Wired and Fully Tested

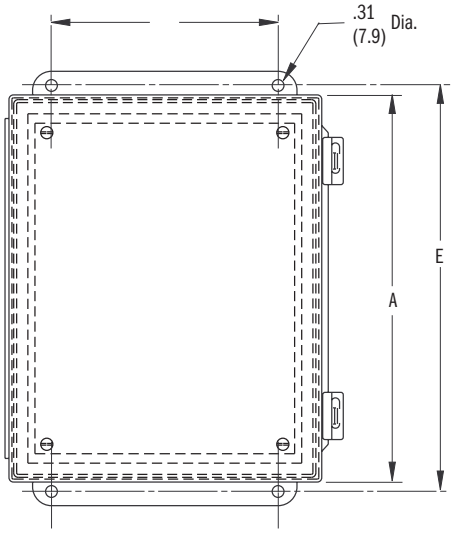
MODEL CODE: M S [ ] [ ] 3 12

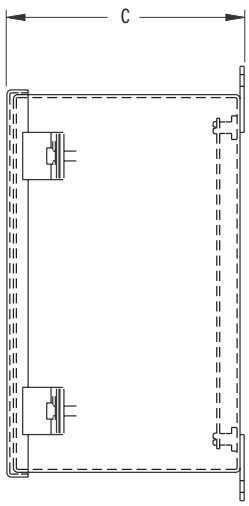
Motor Starter — Phase — Enclosure

HORSE-POWER CODE
1
1.5
2
3
5
7.5
10
15
20
25
30
40
50

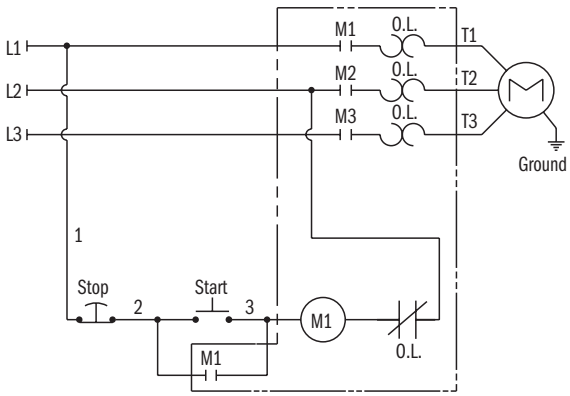
VOLTAGE CODE
208
230
460





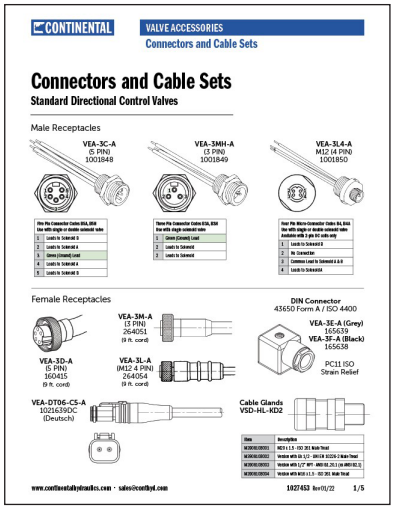


Wiring Schematic



Dimension

Horsepower	Voltage	A	B	C	D	E
1-10 (.75 - 7.5kW)	208	10.00 (254.0)	8.00 (203.2)	6.00 (152.4)	6.00 (152.4)	10.75 (273.0)
1-10 (.75 - 7.5kW)	230	10.00 (254.0)	8.00 (203.2)	6.00 (152.4)	6.00 (152.4)	10.75 (273.0)
1-20 (.75 - 14.9kW)	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 - 14.9kW)	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 - 29.8.5kW)	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 - 22.4kW)	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 - 37.3kW)	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)



Connectors and Cables Sets
Form #1027453

CONTINENTAL HYDRAULICS INC. / HYDRECO INC.

4895 12th Avenue East, Shakopee, Minnesota 55379

952.895.6400 • sales@conthyd.com • **www.continentalhydraulics.com** • **www.hydreco.com**