

Oildyne

108 Series Hydraulic Power Units

Pressures to 241 bar (3500 psi)

Flows to 2.8 lpm ($\frac{3}{4}$ gpm)





Typical applications

Positioning

- Hydraulic door operators
- Conveyor belt tensioners
- Medical chairs, beds, and equipment

Recreational Vehicles

- Leveling
- Slideouts
- Tent Trailers

Clamping

- Tool fixtures and jigs
- Hydraulic brakes
- Crimping tools
- Arbor presses
- Truck restraints

Cycling

- Garbage compactors
- Valve operators
- Press controls
- Packing equipment
- Indexing tables

Lifting

- Handicap lifts
- Scissor lift tables
- Pallet movers

108 Series Self-contained Hydraulic Power Units

Our compact 108 Series power units let you put the power where you need it. They're completely self-contained with an AC or DC motor, gear pump, reservoir, internal valving, load hold checks and relief valves.

The 108 Series models are designed for intermittent service and come in four standard pump sizes which produce flows of .0098, .0187, .0246, and .0321 cubic inches per revolution. Locking check valves are available in all models. Performance will vary with the type of fluid used. Several hydraulic circuits are available.

108 Series units are available with single- or bi-directional rotation. Single units are commonly used to charge accumulators, power one-direction hydraulic motors and cylinders, provide pilot flow to servo valves, pressurize lube systems and supply multi-

function circuits with external valving.

Bi-directional, reversible units operate double-acting cylinders and two-way motors.

We'd like to work with you on your special hydraulic applications. Our people know small hydraulics. We know how to design them, how to make them and how to apply them. Therefore, we can offer you a practical, economical solution to your fluid power problems.

Oildyne has pioneered top quality, compact hydraulic components since 1955. We can provide standard products or custom design high pressure, space saving solutions to your specific needs.

Standard Product Ordering Code

108 108 POWER UNIT - includes relief valve(s)	MOTOR CODE AE 12 vdc Permanent Magnet AM 12 vdc Series Wound BE 24 vdc Permanent Magnet BI 24 vdc Series Wound HA 115 vac, 1 phase, Open HD 230 vac, 1 phase, Open IA 36 vdc Permanent Magnet	PUMP TYPE S Standard C Cold Temp	PUMP SIZE 10 .0098 CIPR 19 .0187 CIPR 25 .0249 CIPR 32 .0321 CIPR	RESERVOIR A 26 cu. in. (13 cu. in. usable) B 46 cu. in. (23 cu. in. usable) C 46 cu. in. (26 cu. in. usable) D Alternate orientation version of C F 122 cu. in. (82 cu. in. usable) G 69 cu. in. (46 cu. in. usable) H 1/2 gallon usable I 1 gallon usable J 1-1/2 gallon usable P 1/4 gal. usable (plastic) Q 1/2 gal. usable (plastic) R 1 gal. usable (plastic) S 3/4 gal. usable (plastic) NOTES: C and D reservoirs are available as Vertical Mount ONLY. A reservoir with pump 32 is available ONLY as vertical mount.	CIRCUIT TYPE NN Single direction WW Single direction with check RR Reversible LL Reversible locking RB Reversible with Back Pressure LB Reversible locking with Back Pressure Each Solenoid Valve option below includes the WW circuit: S1 12 vdc, Normally Closed S2 24 vdc, Normally Closed S3 120 vac, Normally Closed S4 240 vac, Normally Closed S5 12 vdc, Normally Open S6 24 vdc, Normally Open S7 120 vac, Normally Open S8 240 vac, Normally Open	PORTS 1 7/16-20 (SAE -4) 2 7/16-24 (Inv. Flare) 3 1/8" Pipe (NPSF) 4 1/8" Pipe (BSPP)	MOUNTING V Vertical (motor up) H Horizontal	UP RV SETTING (Left Hand Port) In multiples of 100 psi Examples 04 = 400 psi 12 = 1200 psi 29 = 2900 psi	DN RV SETTING (Right Hand Port) Use 00 for Single Dir. In multiples of 100 psi Examples 04 = 400 psi 12 = 1200 psi 29 = 2900 psi
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ORDERING CODE INSTRUCTIONS

Select the model code needed based on catalog information. All boxes above must be filled in before Oildyne can process the order. If the power unit is a single direction unit use '00' for the DN (Right Hand) relief valve box.

Hydraulic Fluid

ATF, OD18, or other clean hydraulic oil with a viscosity of 150 to 300 SUS at 38°C (100°F) is acceptable. If another type of fluid is needed, please consult the factory.

Temperature Range

Normal operating range is +20°F to +140°F. Please review your application with the factory for uses below -7°C and over +60°C (+20°F and over +140°F).

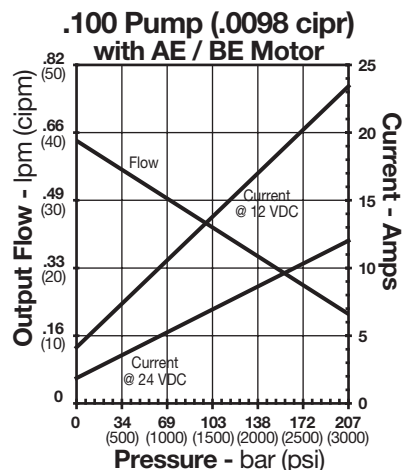
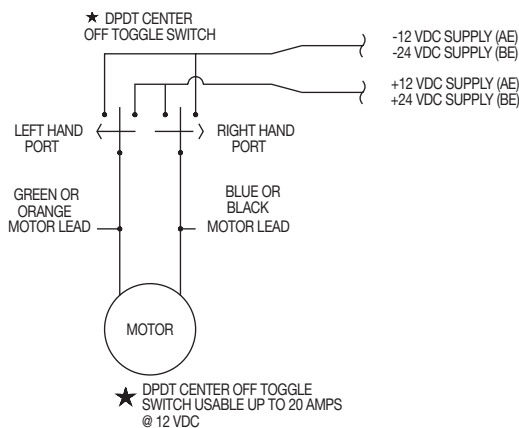
ALL DATA SUBJECT TO CHANGE WITHOUT NOTICE
FOR POWER UNIT CONFIGURATIONS OTHER THAN THOSE SHOWN PLEASE CONSULT OILDYNE.

12/24 V DC Permanent Magnet Motor • Code AE • BE

Motor Type: AE and BE
For intermittent duty cycles.



Wiring Diagram: AE • BE

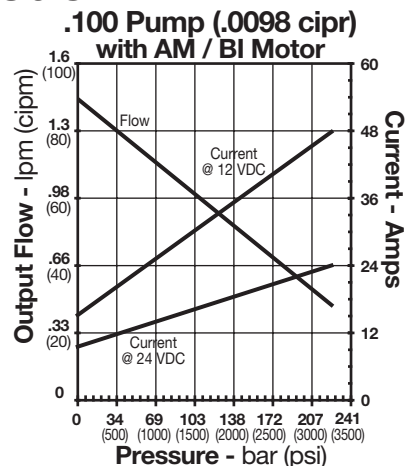
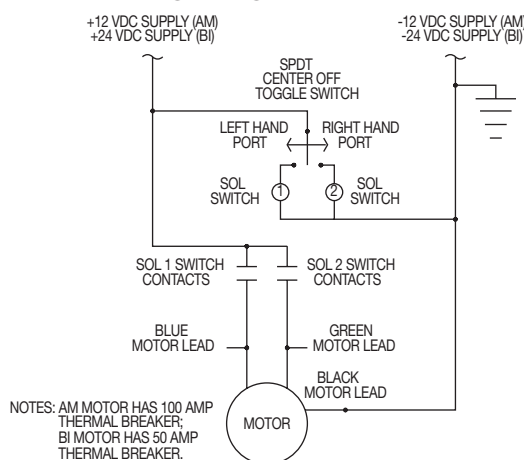


12/24 V DC Series Wound Motor • Code AM • BI

Motor Type: AM and BI
For intermittent duty cycles.



Wiring Diagram: AM • BI

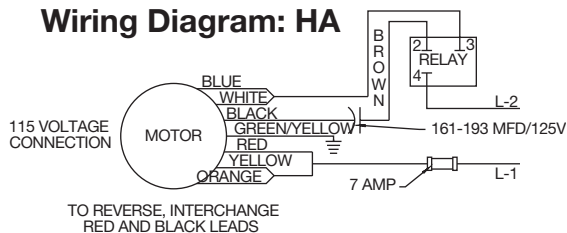


115/230 V AC Capacitor Start Motor • Code HA • HD

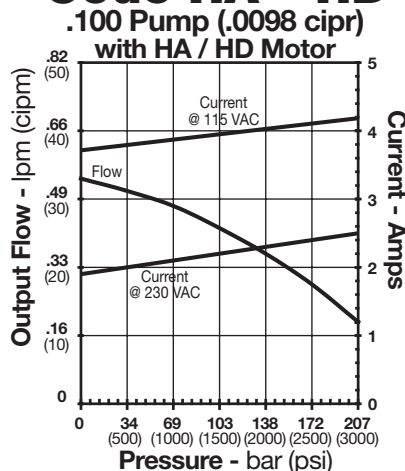
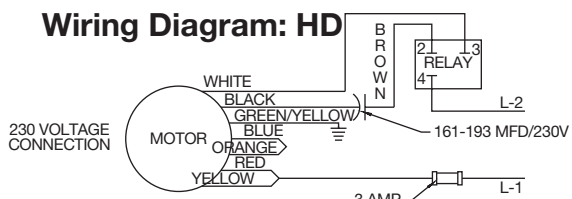
Motor Type: HA and HD
Dual voltage 1/3 HP, 60/50 hz, 3450/2850 rpm, intermittent duty, single phase, open frame. Capacitor and relay included.



Wiring Diagram: HA

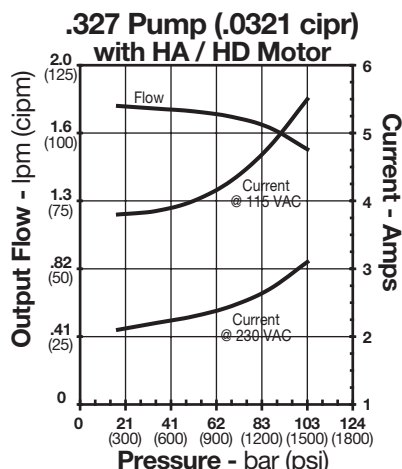
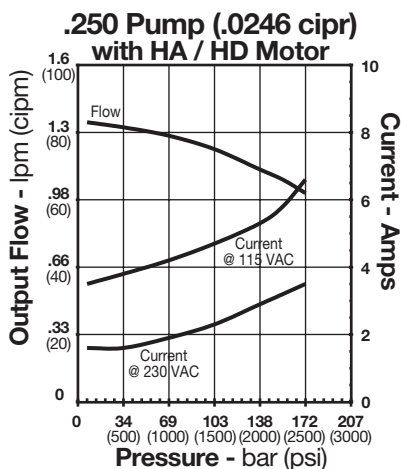
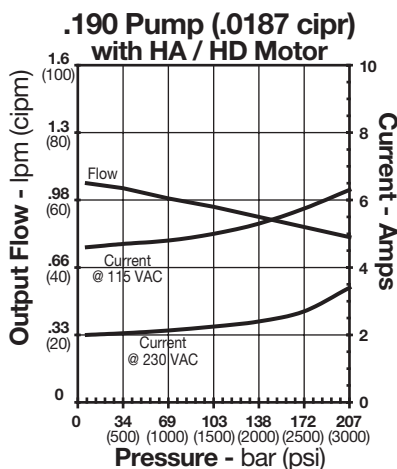
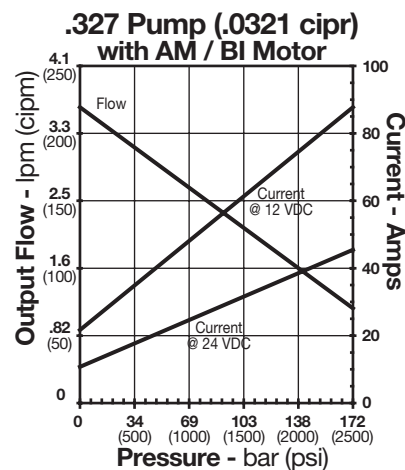
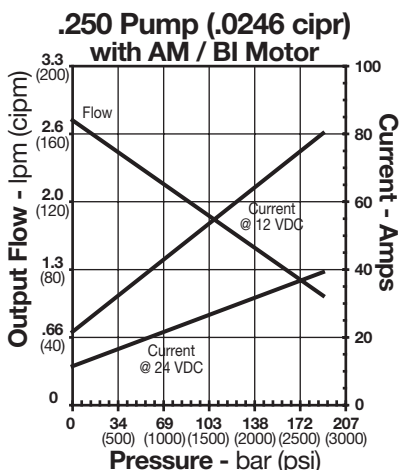
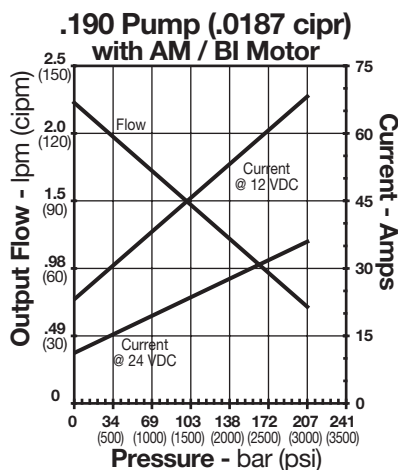
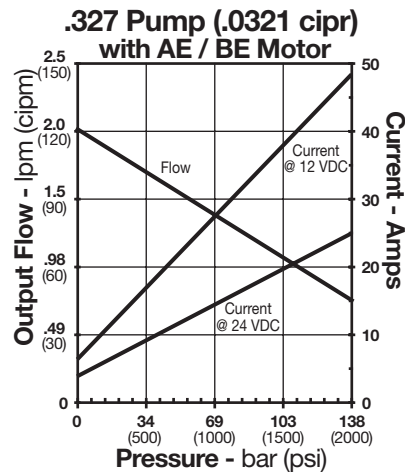
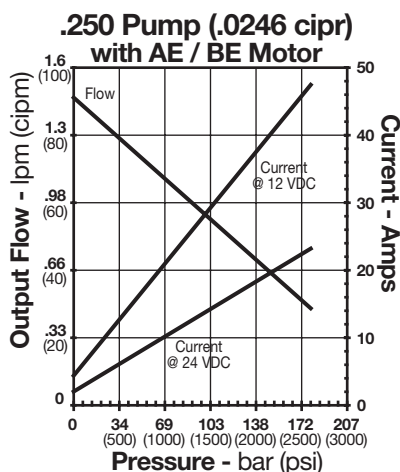
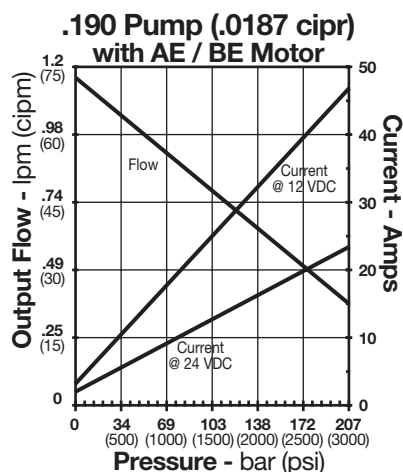


Wiring Diagram: HD

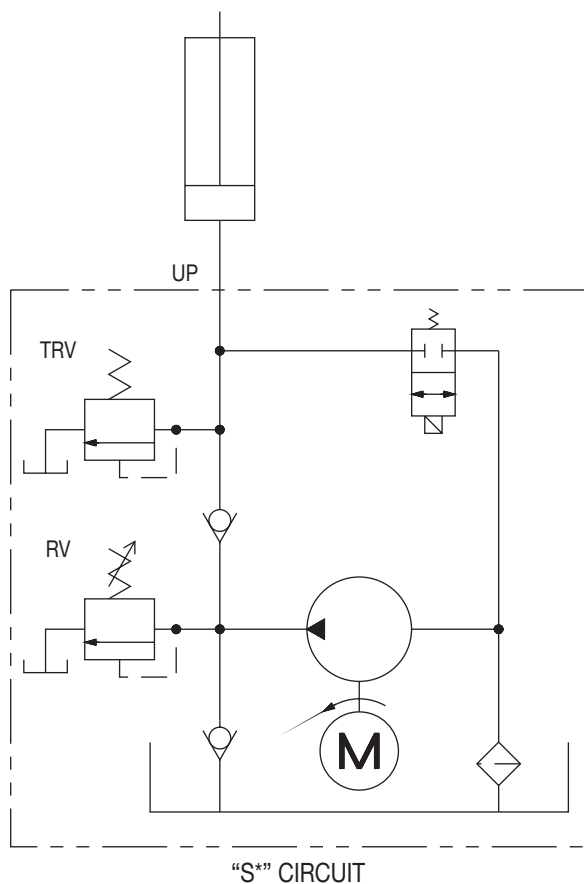
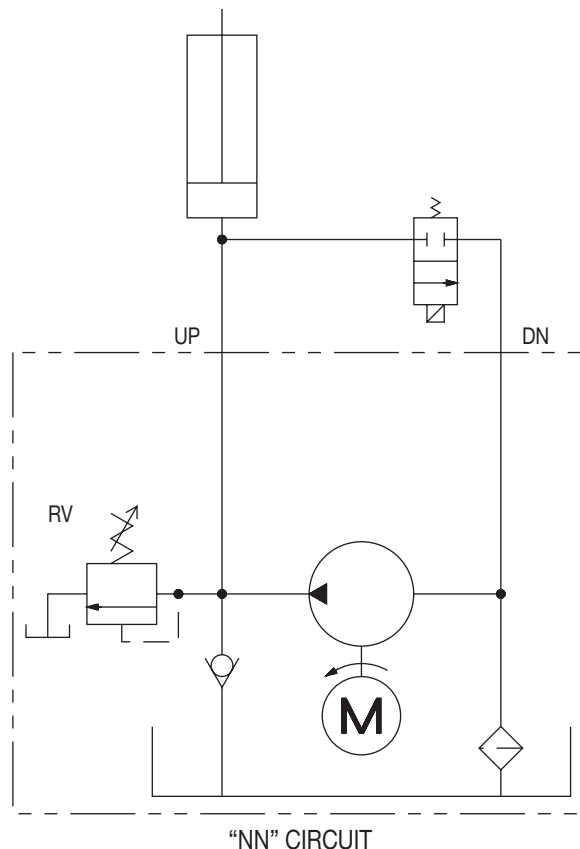
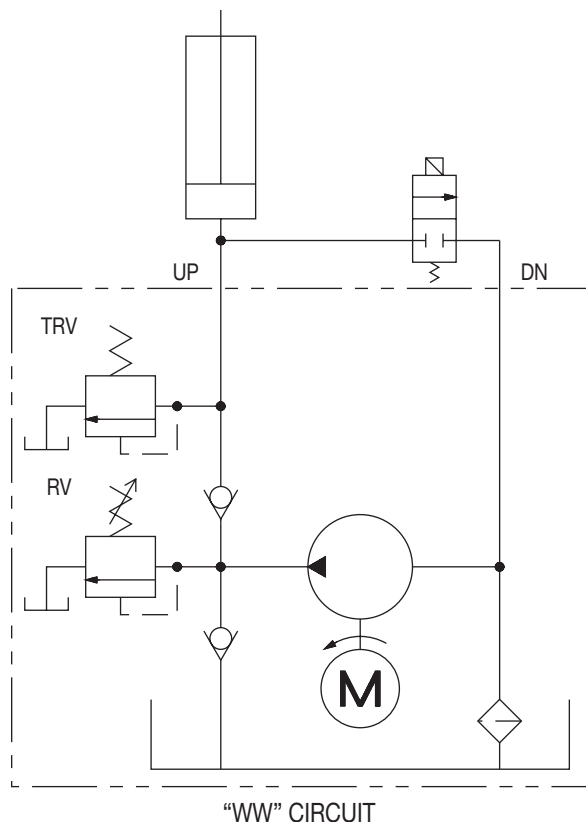


Note: 50 hz performance is 83% of curves shown.

Performance data based on ATF @ 21°C (70°F)



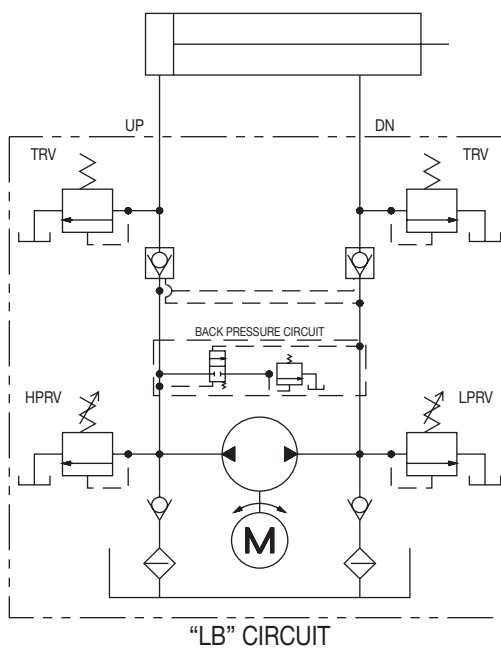
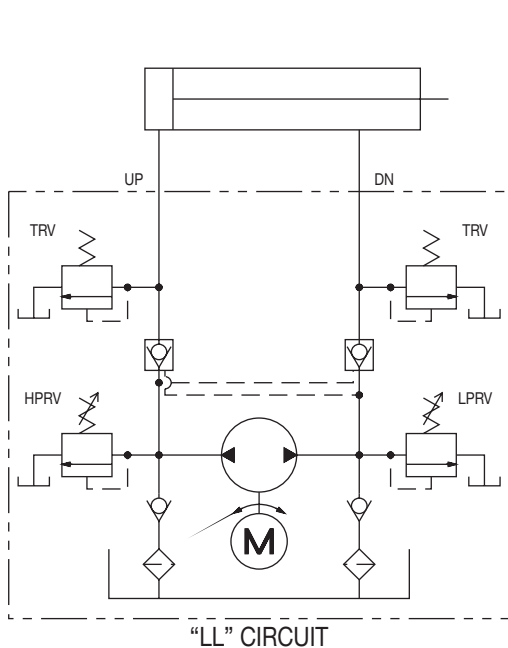
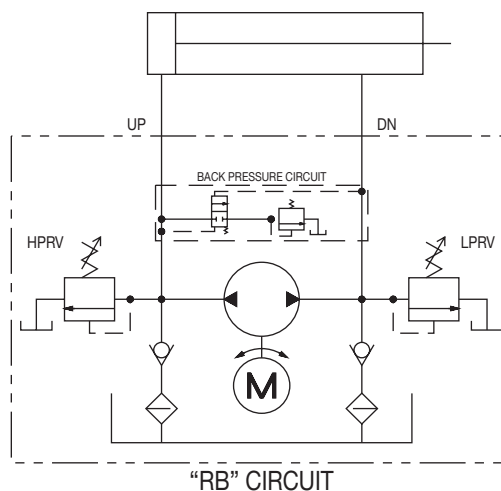
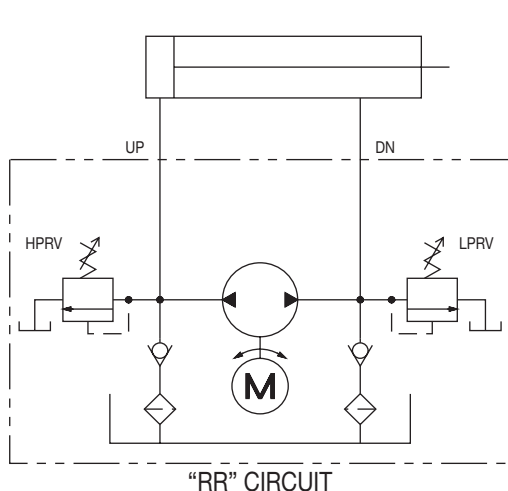
Note: Performance data is for reference only.



Thermal Relief Valves— Why?

The thermal relief valve's (TRV) purpose is to allow a bleed off of built up pressure due to thermal expansion of the fluid or to act as a (limited) shock load protection, should a cylinder in the system get bumped.

The thermal relief valve is included in circuits using a pilot operated check valve. The single direction units get one; the reversing units get two. It is located between the check valve and the 108 Series pump outlet port. It is a fixed relief valve with a pressure setting approximately 100-140 bar (1500-2000 psi) above the system relief valve pressure.



Back Pressure Circuits—Why?

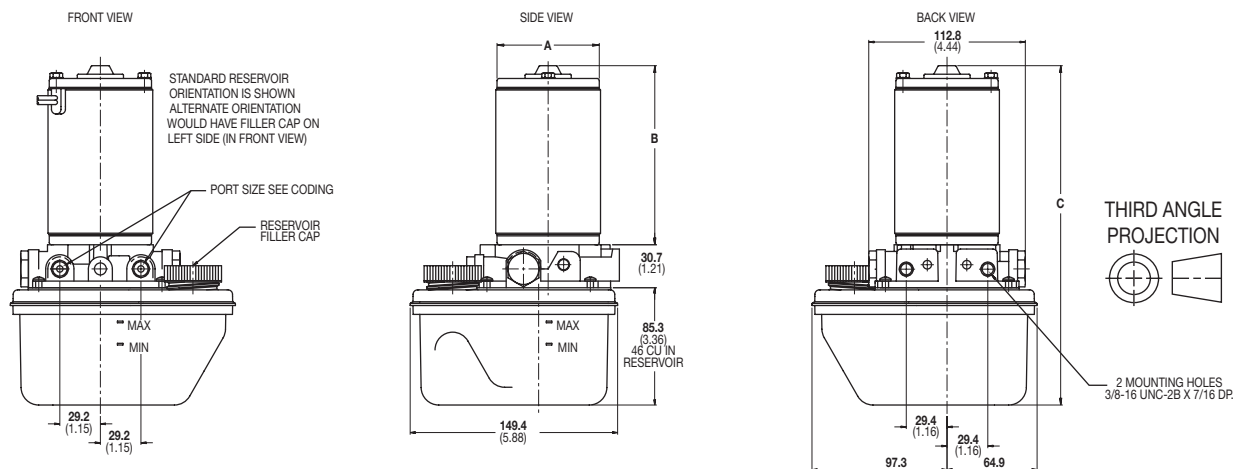
The basic reversible circuit is essentially a closed loop. The oil returning from the system is fed back into the pump inlet. When a cylinder is being retracted more oil is being returned to the power unit than is leaving it due to the rod volume. This results in the DN side relief valve cracking open allowing the rod volume of oil to go back to the tank. The larger the rod volume the more open the relief valve will be. In many applications this is not a problem. However, if work is being done on the retract stroke, or if a pressure switch is used to signal the cylinder is fully retracted, the back pressure circuit is required. This circuit allows the rod volume of

oil to return to the reservoir through a special shuttle spool, before it reaches the pump. Full relief valve pressure is then available to retract the cylinder, also preventing a pressure switch from tripping before the full retract position is achieved.

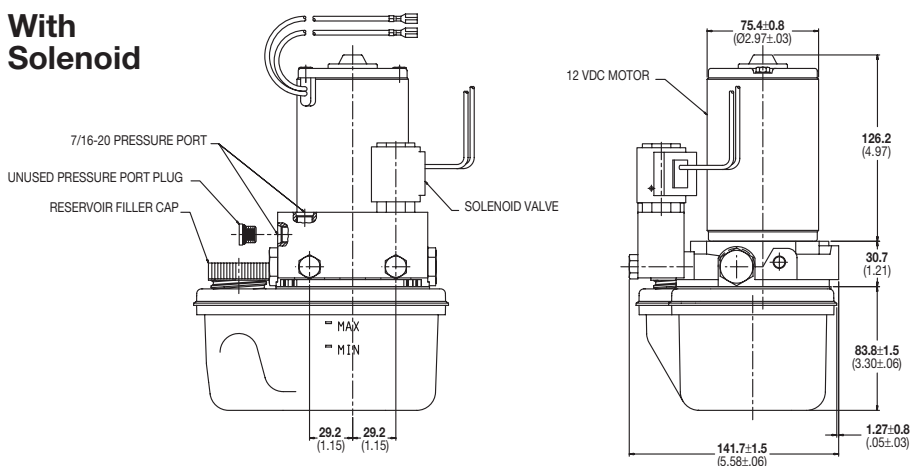
Recommended uses:

- In systems where work is being done on the retract stroke
- Where a pressure switch is used to signal the full retract position
- In systems requiring a faster retract than extend speed

Overall Dimensions



With Solenoid



Motor Dimensions ±1.3 (±.050)

	A	B	C
AE/BE	75.4 (2.97)	126.2 (4.97)	241.3 (9.50)
AM/BI	95.8 (3.77)	151.4 (5.96)	266.4 (10.49)
IA	75.4 (2.97)	128.8 (5.07)	244.1 (9.61)
HA/HD	100.1 (3.94)	161.0 (6.34)	276.4 (10.88)

Note: All dimensions in mm (inches).

Reservoir Dimensions

Note: refer to page 17 for information on the P, Q, R and S reservoirs.

