

# Oildyne

## 108 Series Hydraulic Power Units

Pressures to 241 bar (3500 psi)  
Flows to 2.8 lpm (<sup>3</sup>/<sub>4</sub> gpm)





## 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-

## 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

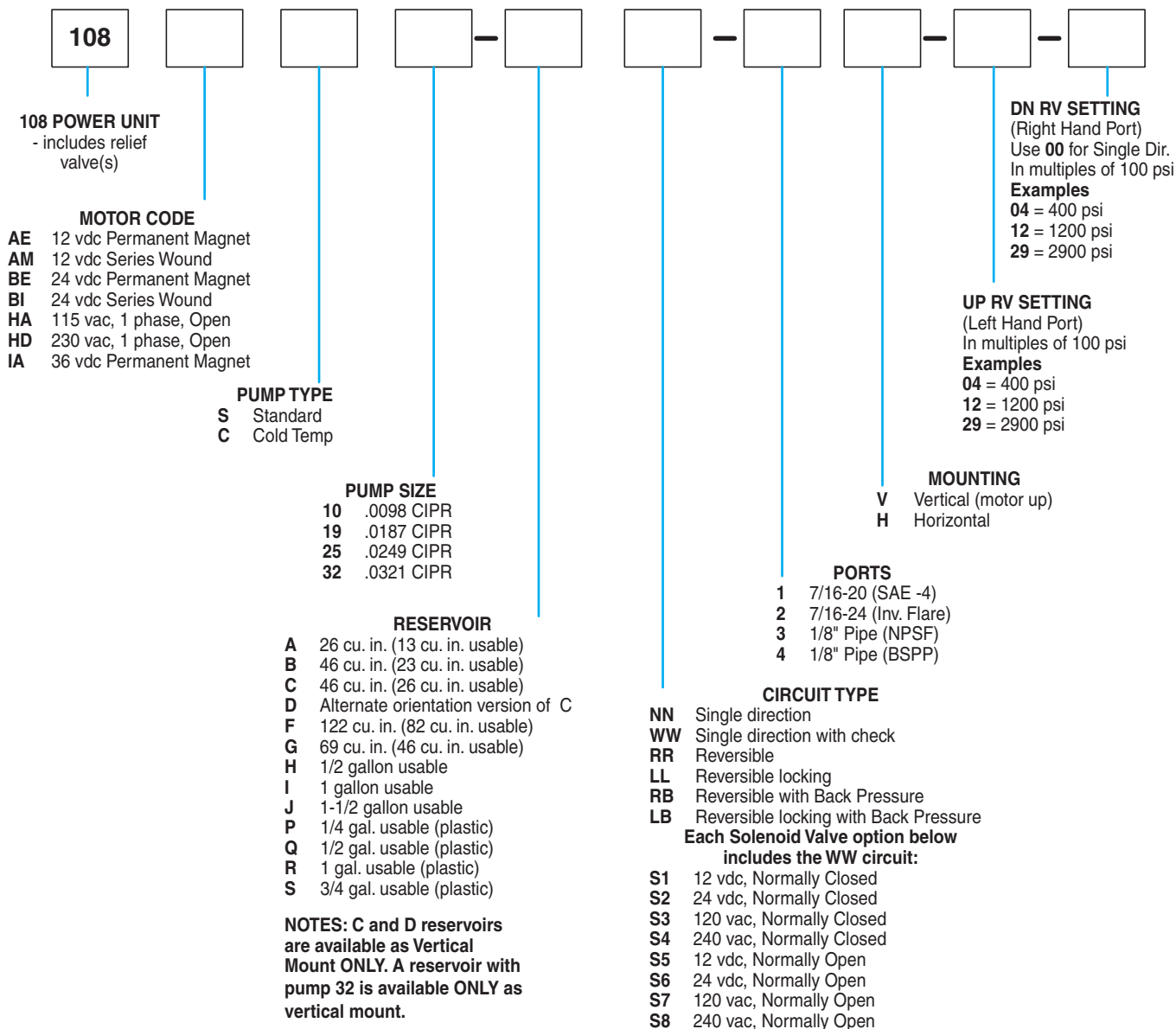
function circuits with external valving.

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



**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).

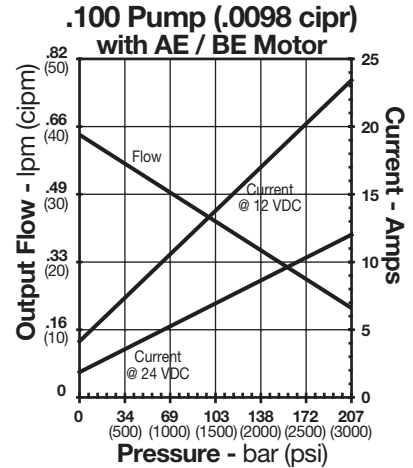
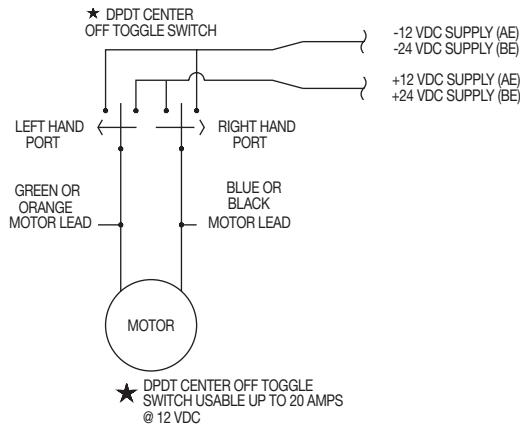
ALL DATA SUBJECT TO CHANGE WITHOUT NOTICE  
 FOR POWER UNIT CONFIGURATIONS OTHER THAN THOSE SHOWN PLEASE CONSULT OILDYNE.

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

**Motor Type: AE and BE**  
 For intermittent duty cycles.



**Wiring Diagram: AE • BE**

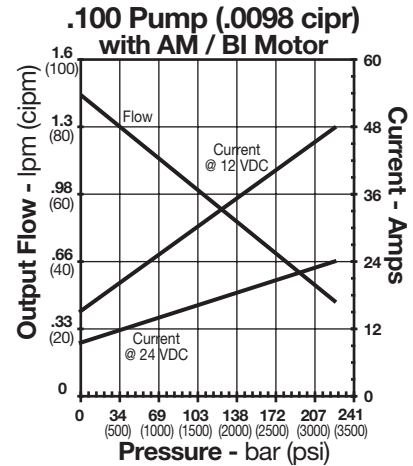
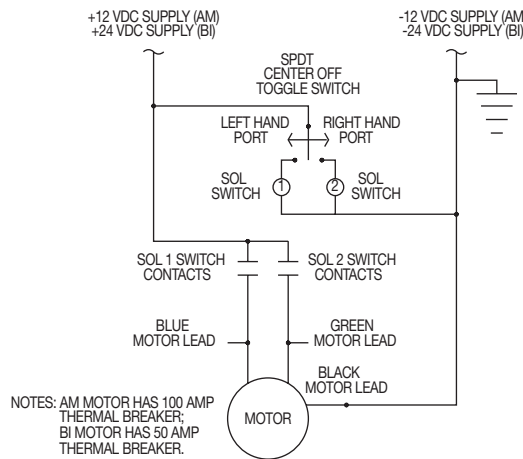


## 12/24 V DC Series Wound Motor • Code AM • BI

**Motor Type: AM and BI**  
 For intermittent duty cycles.



**Wiring Diagram: AM • BI**

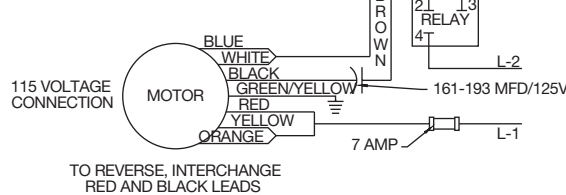


## 115/230 V AC Capacitor Start Motor • Code HA • HD

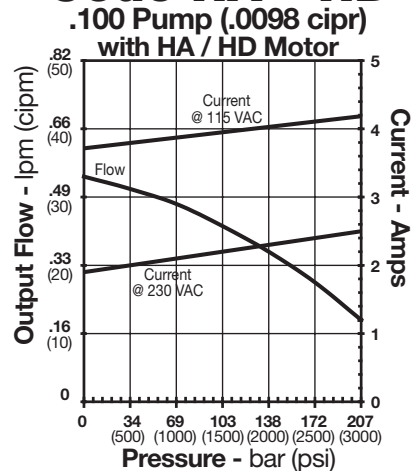
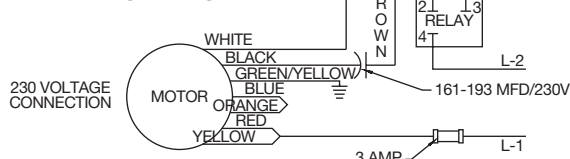
**Motor Type: HA and HD**  
 Dual voltage 1/3 HP, 60/50 hz, 3450/2850 rpm, intermittent duty, single phase, open frame. Capacitor and relay included.



**Wiring Diagram: HA**



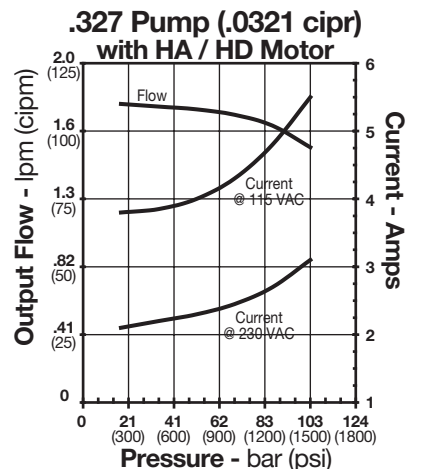
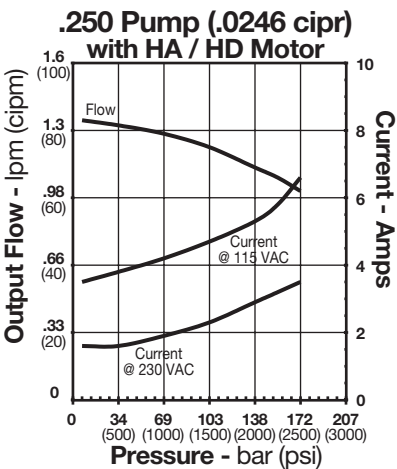
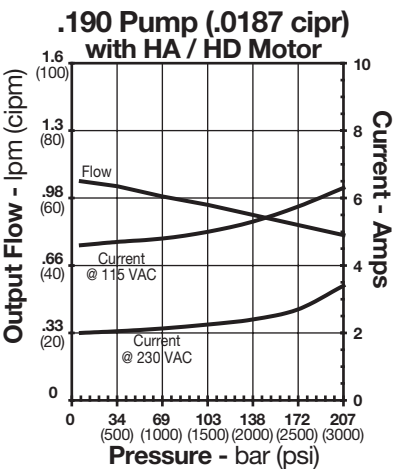
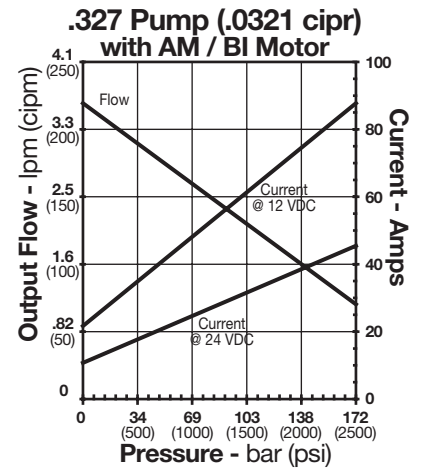
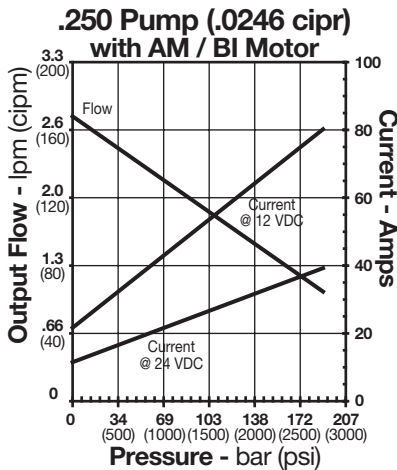
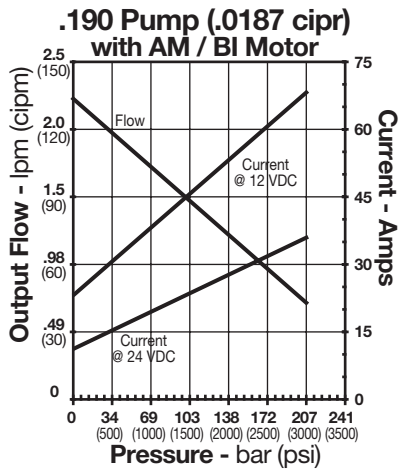
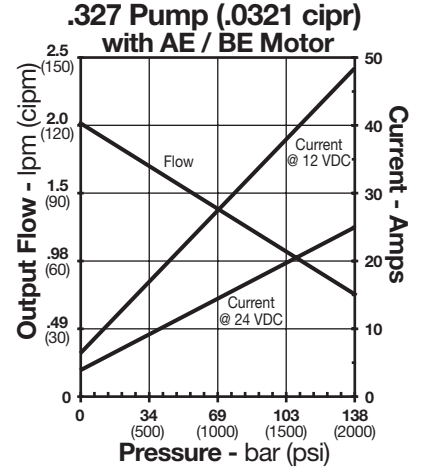
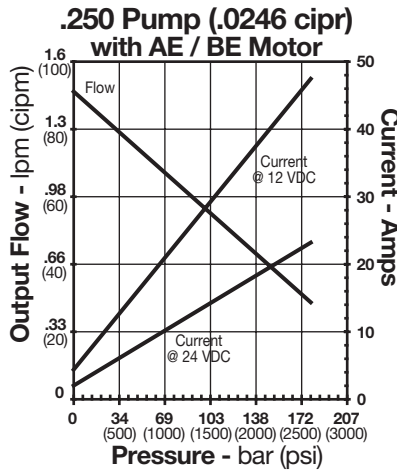
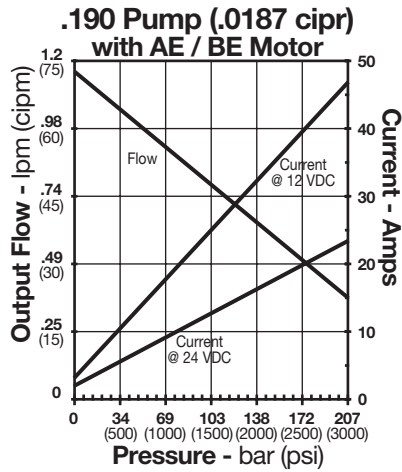
**Wiring Diagram: HD**



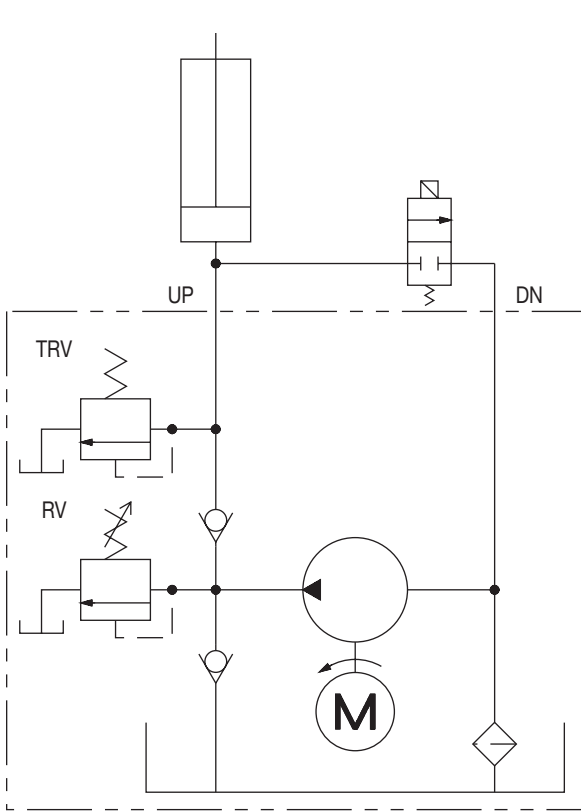
**Note:** 50 hz performance is 83% of curves shown.



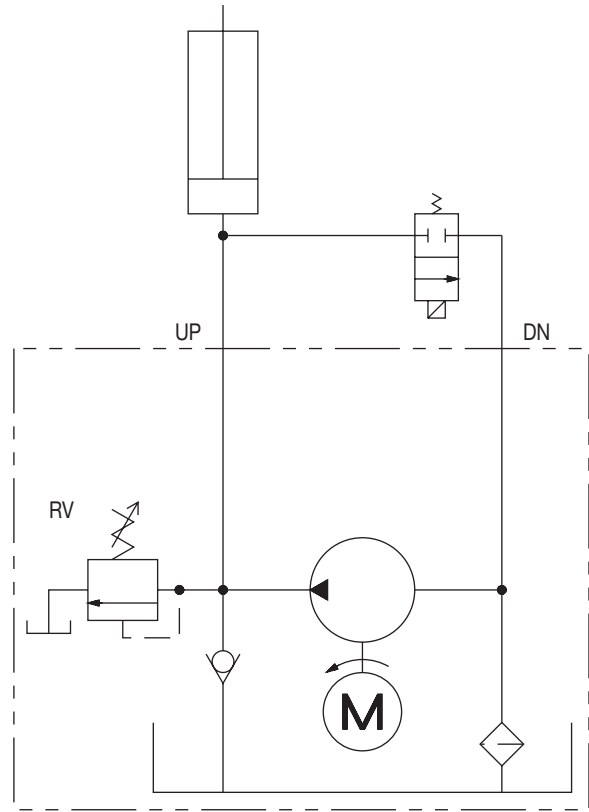
Performance data based on ATF @ 21°C (70°F)



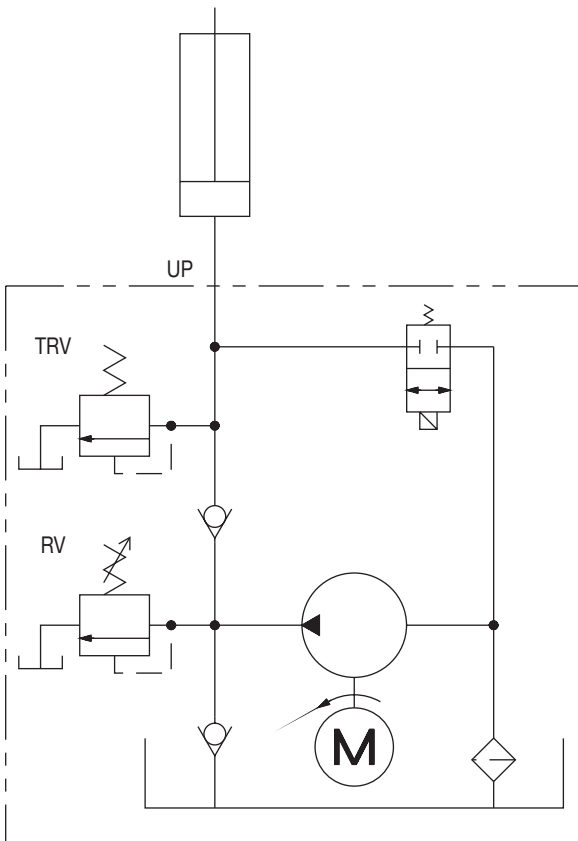
Note: Performance data is for reference only.



“WW” CIRCUIT



“NN” CIRCUIT

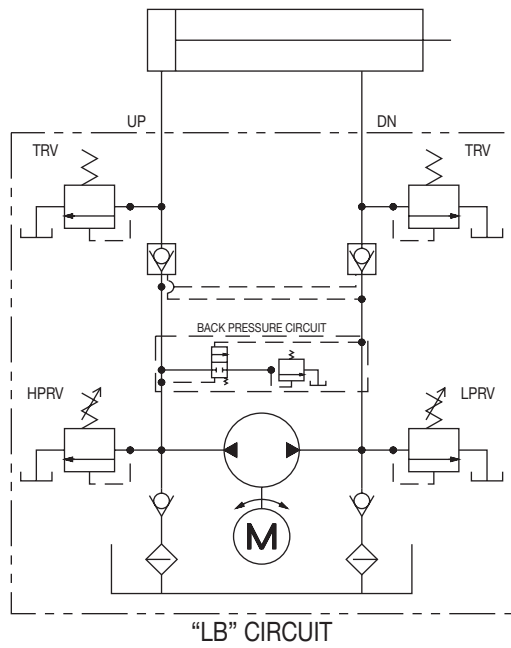
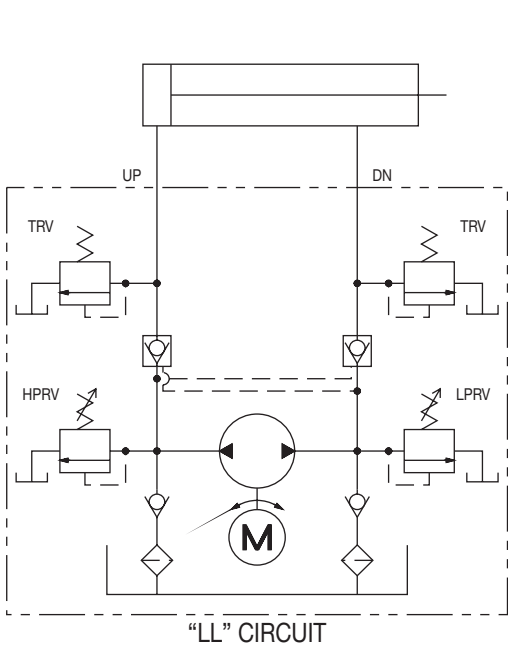
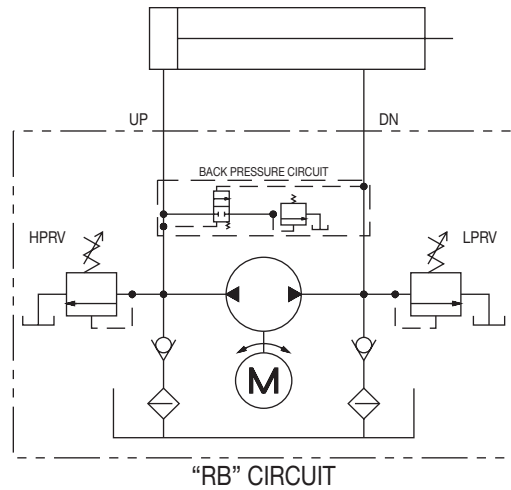
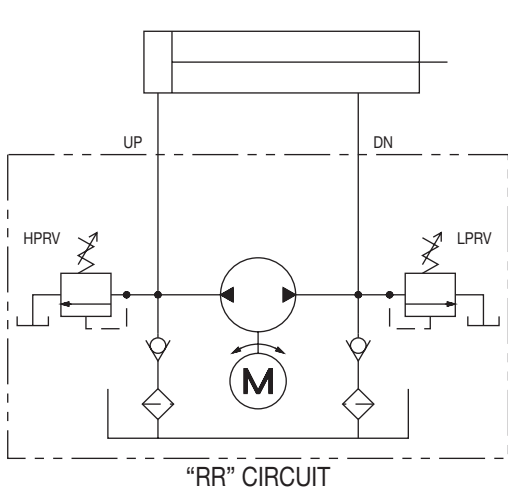


“S\*” CIRCUIT

## 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?

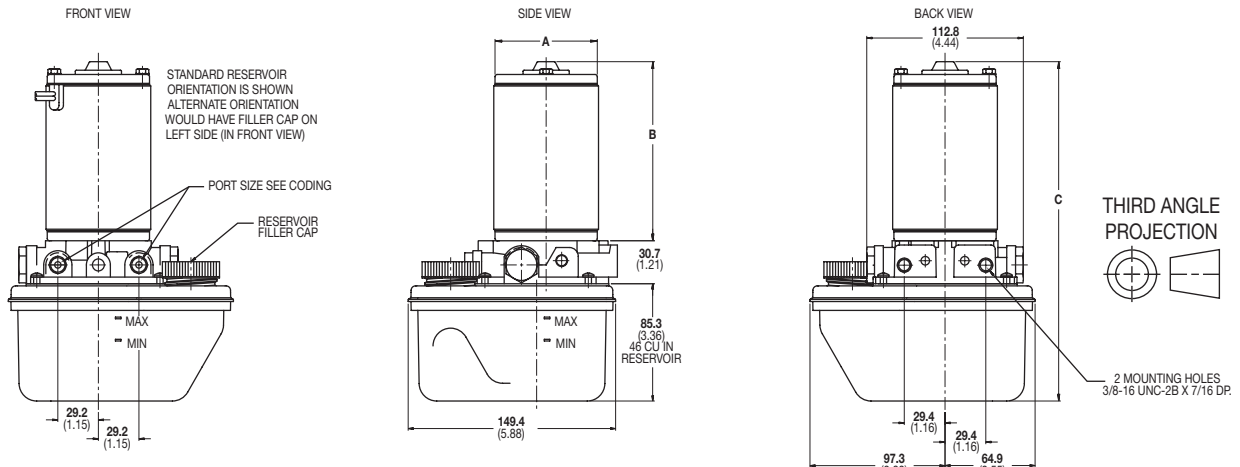
The basic reversible circuit is essentially a closed loop. The oil returning from the system is fed back into the pump inlet. When a cylinder is being retracted more oil is being returned to the power unit than is leaving it due to the rod volume. This results in the DN side relief valve cracking open 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.

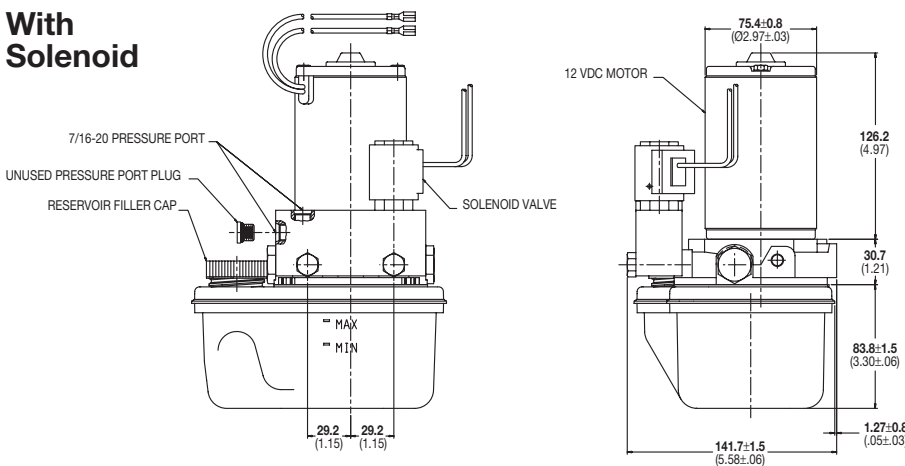
Recommended uses:

- 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.

