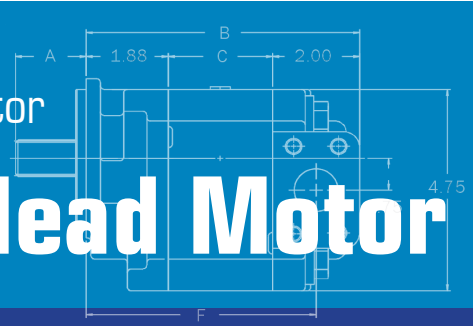
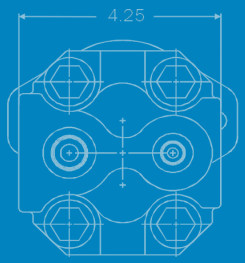
3100 / 5100 Series Two Speed Motor

Hydraulic Drive Head Motor





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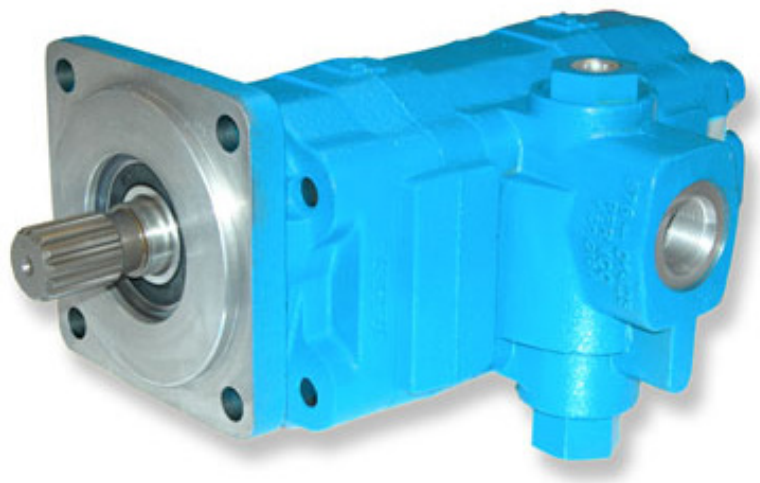
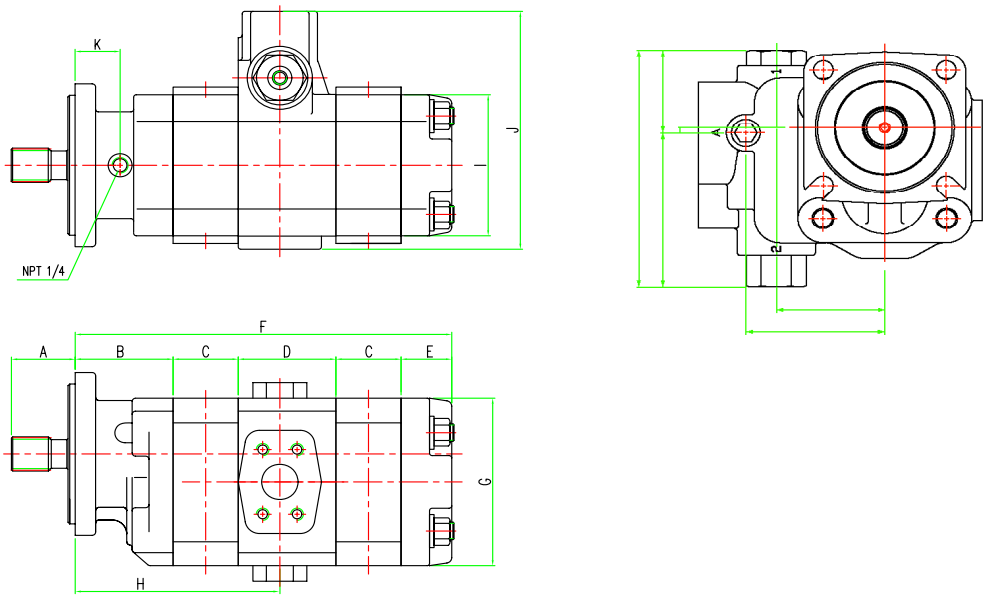


Features

- Roller bearing design in small and medium frame sizes
- High start-up torque values for winch and low-speed applications
- Built-in two-speed valving for either low-speed/high torque or high-speed/low torque modes with shift on the fly capabilities
- Utilizes standard tooth count or winch motor high tooth count alloy steel gear and shaft sets depending on application
- Special ring seals and pressure balanced wear plates maintain high motor efficiency throughout all operating ranges
- Doweled and high strength cast iron construction
- A wide range of porting, mounting, and shaft options available
- NPT & SAE ports are available
- Cubic inch displacements from 3.00 through 12.85
- Maximum pressure up to 3000 PSI
- Speeds to 2400 RPM
- 100% factory tested

PERMCO

Dimensional Data (inches)



Model	A	B	C	D	E	F	G	H	I	J
3000/3100	See Drive Shaft Codes in Engineers Handbook	2.94	.75 + GW	3.58	1.75	8.27 + TGW	5.50	(CW) 4.98 + GW(F) (CCW) 4.48 + GW(F)	4.81	8.50
5000/5100		3.38	.75 + GW	3.58	1.75	8.71 + TGW	6.25	(CW) 5.42 + GW(F) (CCW) 4.92 + GW(F)	5.06	8.50

GW = GEAR WIDTH TGW = TOTAL GEAR WIDTH (FRONT AND REAR GEAR SECTIONS) GW(F) = GEAR WIDTH (FRONT SECTION)
CW = CLOCKWISE ROTATION CCW = COUNTER CLOCKWISE ROTATION

Product Information

Permco's Two-Speed motors have the two-speed valve built into the bearing carrier providing compact packaging and offering lower system cost by eliminating expensive external components. The two-speed valve can be shifted on the fly to either low speed/high torque or high speed/low torque modes.

Two-Speed motors are ideal for winch, crawler, conveyer, auger and many other types of applications with low speed/high torque and high speed/low torque requirements. In winch or over hung load applications a counterbalance valve should be included in the hydraulic circuit; the counterbalance valve can be mounted directly to the bearing carrier outlet port if needed. It should be noted that two-speed motors should not be used in applications where counterbalancing in both directions is required.

Two-speed motors can be constructed with our ten-tooth count standard motor (M) gears or our thirteen-tooth count winch motor (W) gears depending on the application. In low speed/high torque applications (below 400 RPM) it is best to utilize the thirteen-tooth winch motor (W) gears; this will provide improved starting torque, smoother low speed operation and lower torque ripple.

Typical running torque is 28 in-lbs per 1" of gear per 100 PSI for the M3100 and W3100 series (2.00 CID per 1" gear) and 36 in-lbs per 1" of gear per 100 PSI for the M5100 and W5100 series (2.57 CID per 1" gear). Operating pressures range up to 3000 PSI dependent on gear size and configuration. Refer to Permco's Engineer's Handbook for available gear sizes and maximum operating pressures.

Note: When ordering please specify right (CW) or left hand (CCW) orientation, low or high speed start-up, operating RPM's and pressures for high and low speed modes.

Permco USA | 1500 Frost Road | P. O. Box 2068 | Streetsboro, Ohio 44241

Permco is a leading manufacturer of high-pressure hydraulic gear/vane pumps and motors, flow dividers, intensifiers, and accessories. Available in a wide variety of sizes and configurations to suit your application needs.

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