



# 125 Series

**POWER to be the Best!**

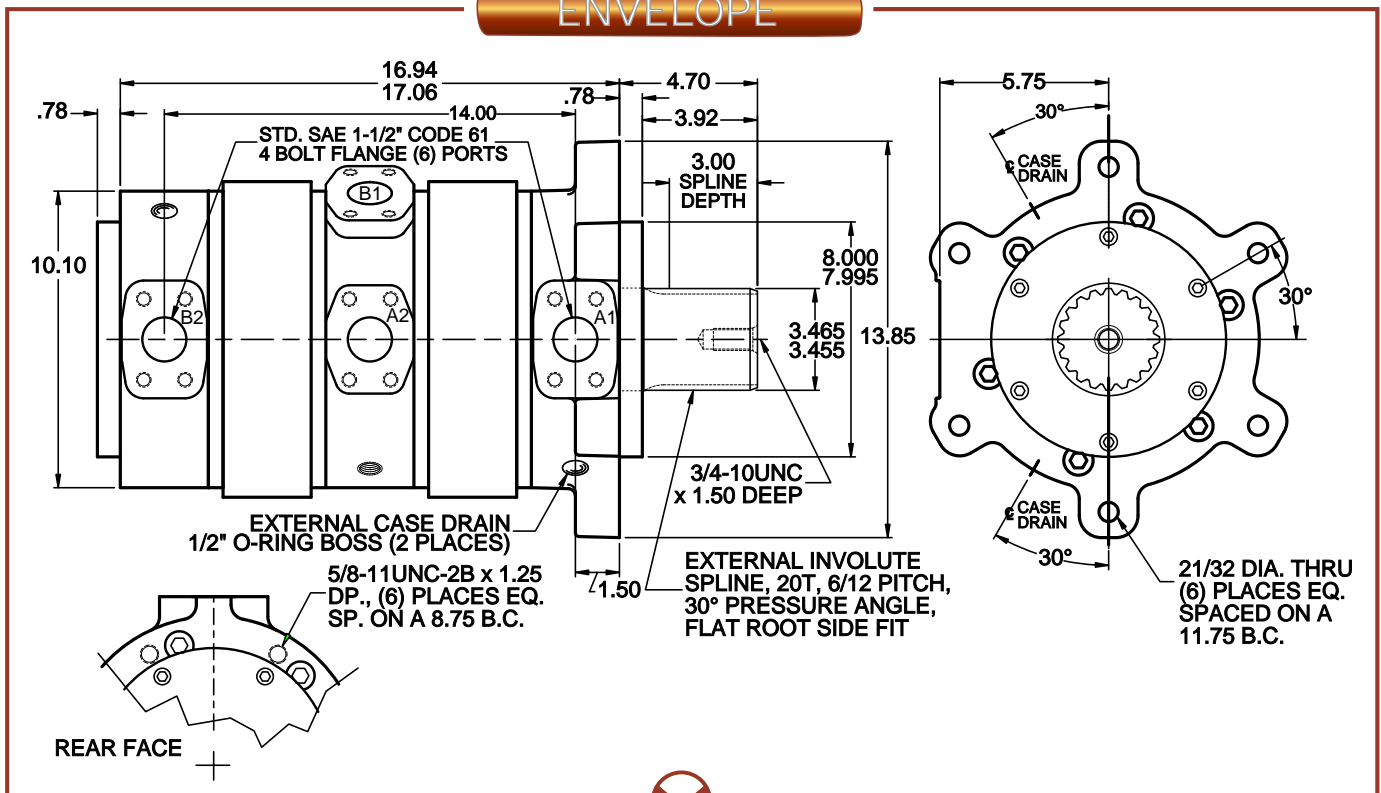
## MOTOR SELECTION GUIDE

### Features of the 125 Series 4-Port Motor: Standard Motor Series- 3000 PSI (Code 61)

- A variety of fixed displacement motors ranging from 120 in<sup>3</sup> to 250 in<sup>3</sup>.
- 4-Port double motors providing 2-Speed operation with external valving.
- Starting and stall torques equal to 90-94% of theoretical torque.
- Speed to 350 RPM continuous.
- Up to 300 HP continuous.
- Compact envelope - 10" diameter x 23".
- Weighs 380 lbs.



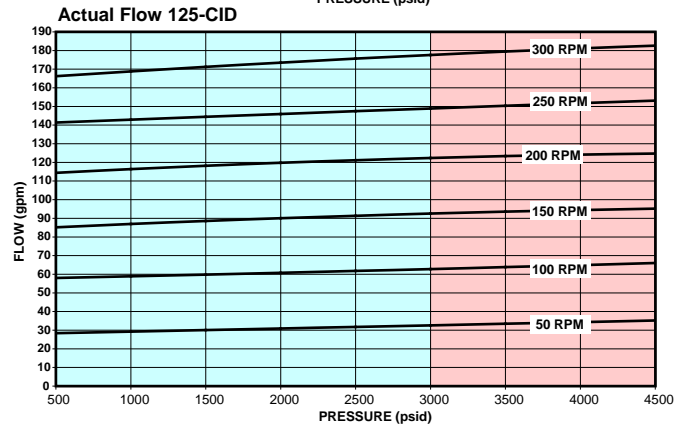
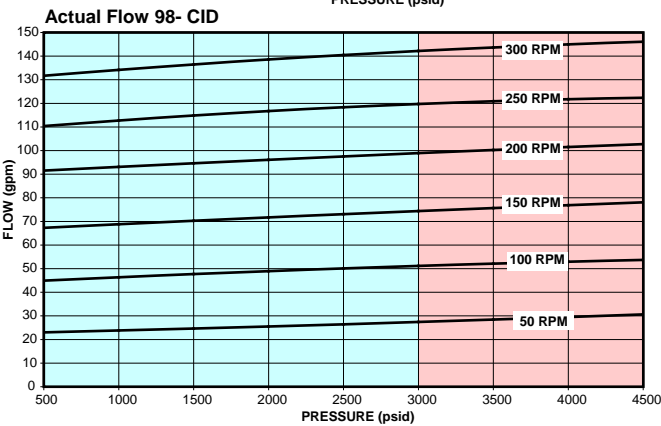
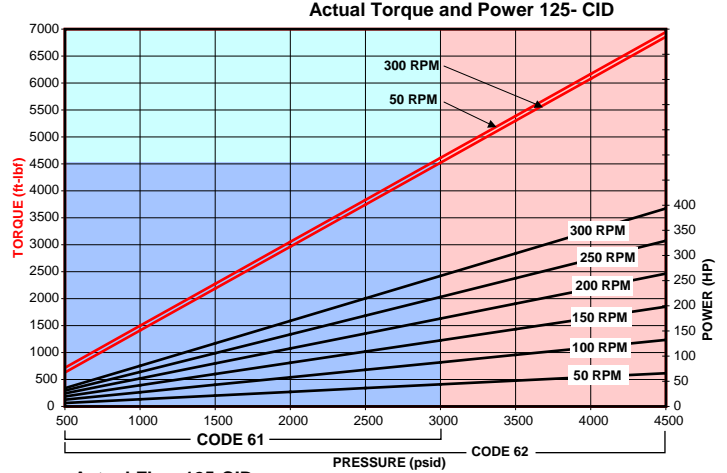
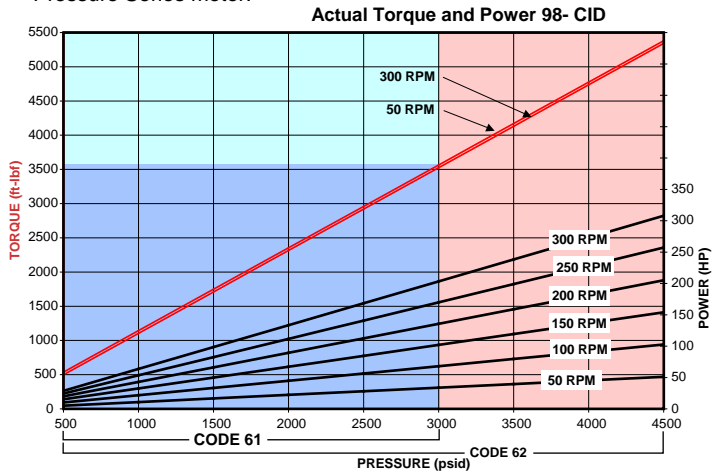
### ENVELOPE



# Performance Data

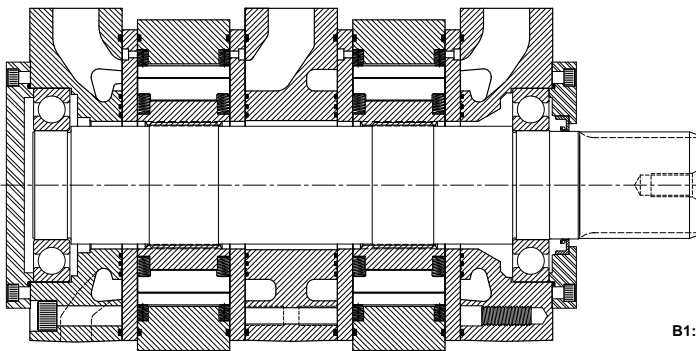
Charts shown are for 98 and 125 CID. See website at [www.rineer.com](http://www.rineer.com) for additional charts. Performance data obtained at 140°F with ISO 46 (DTE 25). Code 61 and 62 data shown. Code 62 extended data applies only to Code 62 High Pressure Series motor.

**VANE CROSSING VANE** - With its vane crossing vane design, the Rineer motor produces much higher volumetric and mechanical efficiencies than is possible with a standard vane type design. This design provides a sealing vane between stator cavities to improve mechanical and volumetric efficiencies.



Performance of the Rineer 125 Series Motor has been greatly enhanced by internal design changes resulting in a pressure balanced rotating group. Benefits of this new design include reduced cross port leakage and increased efficiency as well as greater reliability at higher pressures. This patented design has been in effect for over 5 years.

## Bearing Data - Standard Motor

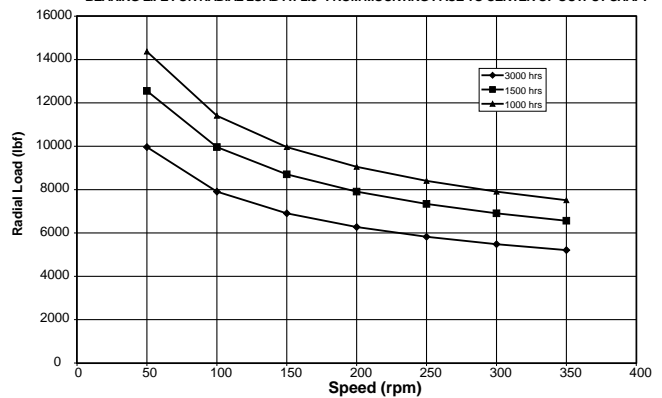


**BEARING LOADING** - The bearings in the 125 Series 4-Port can accept radial load per the radial capacity charts to the right. Thrust loading is not recommended for the standard motor. For thrust-type applications, see the thrust capable motor bearing chart on the opposite page.

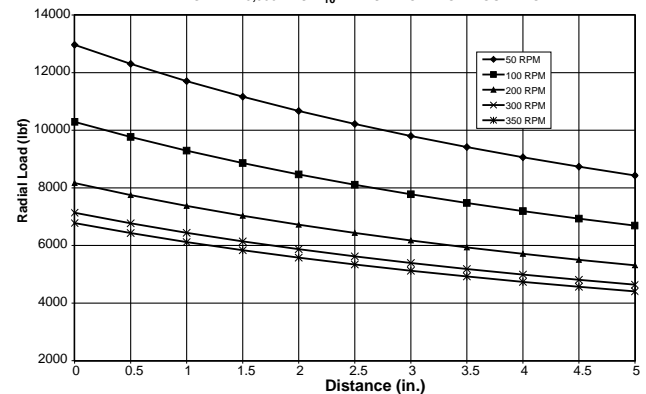
**HORSEPOWER LIMITATION** - Maximum horsepower limitation may vary with different applications. When using the 125 Series standard motor above 300HP, consult a Rineer Application Engineer.

**CONFIGURATION** - 4-Port motors have displacements ranging from 120 in<sup>3</sup> to 250 in<sup>3</sup> and are comprised of two rotor stator packages, one located on either side of a center housing and between front and rear housings. Any of the single stacked rotor stator packages may be used to form a 4-ported motor.

B1: 218, 218 BEARING LIFE FOR RADIAL LOAD AT 2.8" FROM MOUNTING FACE TO CENTER OF OUTPUT SHAFT



B1: 218, 218 BEARING LIFE - 3,000 HRS. L<sub>10</sub> AT DISTANCE FROM MOUNTING PLATE



## Envelope Information- Double Spline

### STARTING AND STALL TORQUE

The Rineer motor produces torque curves which are virtually flat, with starting and stall torque equal to approximately 90-94% of theoretical torque.

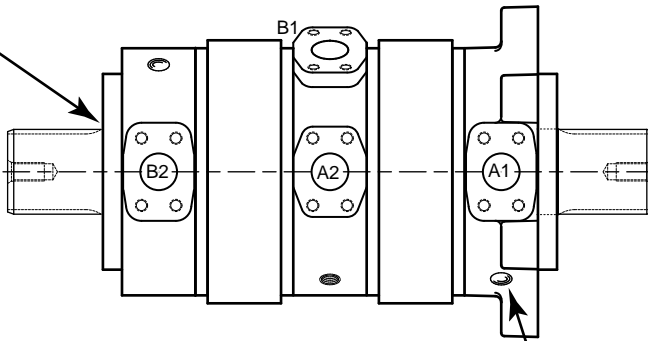
### MORE POWER STROKES PER REVOLUTION

The 125 Series has six stator cavities and 16 rotor vanes. Each rotor vane works in each stator cavity once per revolution, which results in 96 power strokes per revolution. This helps produce higher mechanical efficiency and flatter torque curves.

### 4-PORTED MOTOR CONFIGURATION

4-Ported motors have displacements normally ranging from 120 in<sup>3</sup> to 250 in<sup>3</sup> and are comprised of two rotor stator packages separated by a mid-inlet housing. This allows the packages to function individually or in parallel. Any of the standard displacement packages may be combined to satisfy total displacement requirements. The 125 Series 4-Ported Motor is available with the standard splined shaft extending through both the front and rear housings.

**SEALS** - Viton shaft seals are standard. Buna N static seals are supplied standard. Viton static seals may be ordered as an option.



**FLUID** - We suggest premium grade fluids containing high quality rust, oxidation and foam inhibitors, along with anti-wear additives. For best performance, minimum viscosity should be maintained at 100 SSU or higher. Fluid temperature should not exceed 180°F. Elevated fluid temperature will adversely affect seal life while accelerating oxidation and fluid breakdown. Fire resistant fluids may be used with certain limitations. Contact Rineer for additional information.

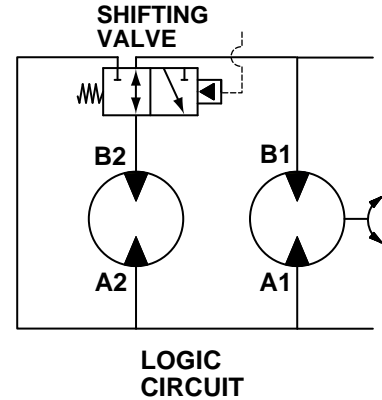
**FILTRATION** - 25 micron minimum.

### CASE DRAIN AND CROSS PORT LEAKAGE

The combined case drain and cross port leakage of a 125 Series 4-ported motor is approximately 1 to 1-1/2 GPM per 1,000 PSI per package. This will vary with the oil viscosity and internal clearance selection.

### TWO SPEED OPERATION

The 4-ported motor can be used as a two-speed when combined with external valving. Either series/parallel or logic circuits can be used. Series/parallel circuits can only be used when both cartridges are of equal displacement. Logic circuits can be used with equal or unequal displacement cartridges. When using a logic circuit, it should be plumbed to insure adequate mixing and cooling of oil in the circulating cartridge while in partial displacement. Particular attention should be given to the size and flow capacity of the shifting valve, as it must handle the displacement of the circulating cartridge when in the high speed mode. For example, a 125 C.I.D. + 60 C.I.D. = 185 C.I.D. with speed ratios of 3.08:1 or 1.48:1.



**ROTATION** - The 125 Series motor rotates equally well in either direction and smoothly throughout its entire pressure and speed range. Looking into the end of the shaft, rotation is clockwise when oil is supplied to the ports nearest the shaft output end (A1 and A2). The mounting position is unrestricted. The shafts, pilots, and mounting faces should be within .002 TIR.

**CASE DRAIN** - The 125 Series 4-ported motor requires an external case drain. Three case drain ports are supplied; use the port at the highest elevation. We recommend case pressure of less than 35 PSI.

**CASE DRAIN CIRCULATION** - Fluid should be circulated through the two case drain ports when a temperature differential exists between the motor and the system in excess of 50°F. **Should this occur, contact a Rineer Application Engineer.**

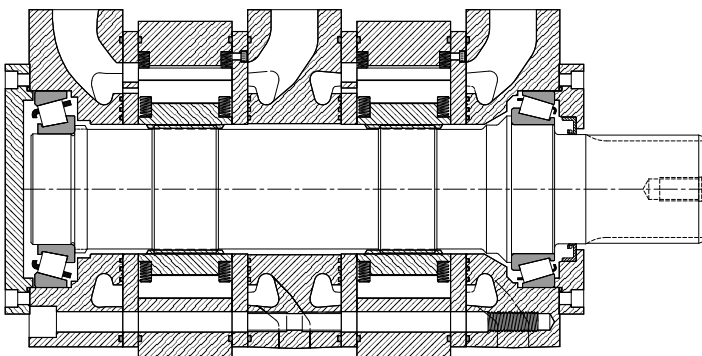
## Bearing Data - Thrust Capable

### BEARING LOADING THRUST CAPABLE -

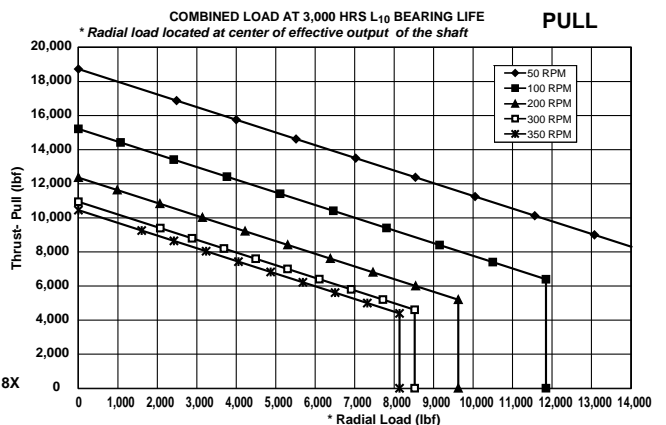
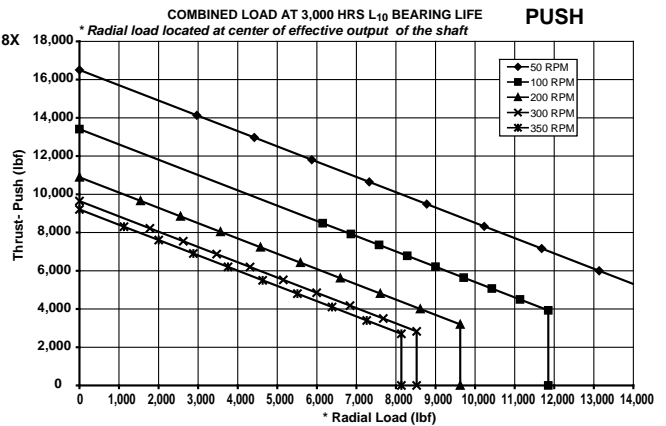
The bearings in the 125 Series 4-Port Thrust capable motor can accept thrust and radial load per the push/pull capacity charts to the right. Thrust loading is allowed up to the parameters indicated on the charts with shaft configurations including standard keyed and splined as well as a light duty API drill motor. For applications not requiring thrust, see the standard motor bearing charts on the opposite page.

### HORSEPOWER LIMITATION -

Maximum horsepower limitation may vary with different applications. When using the 125 Series standard motor above 300HP, consult a Rineer Application Engineer.



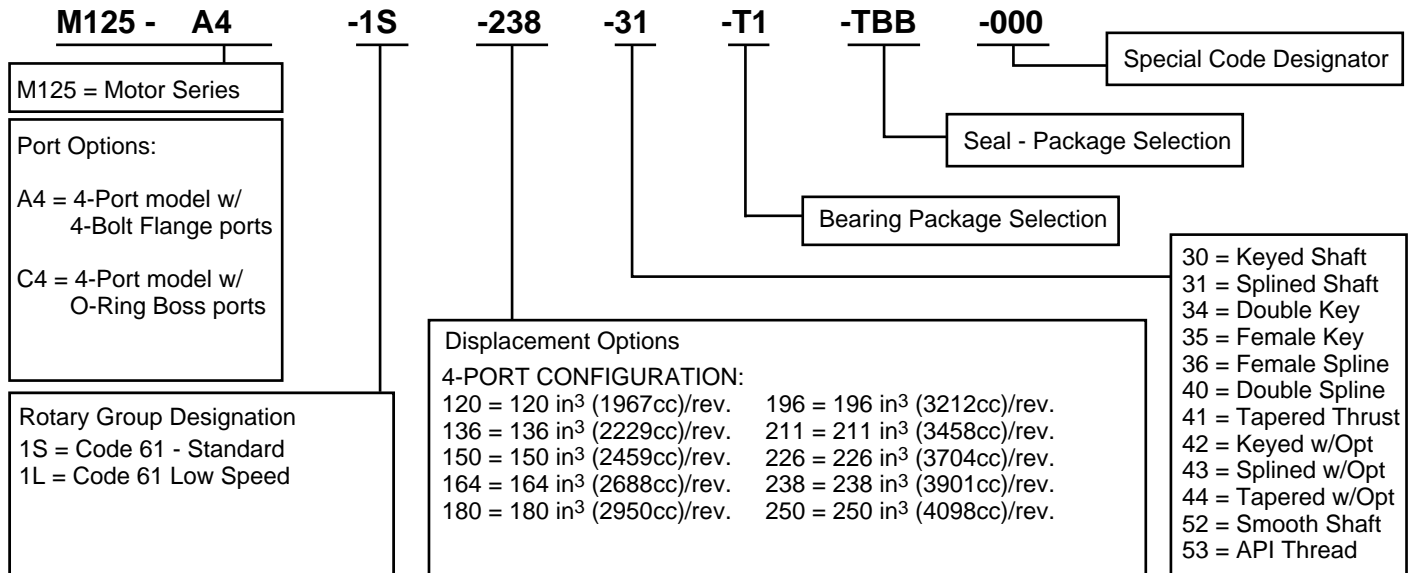
T1: 32021X, 30218X



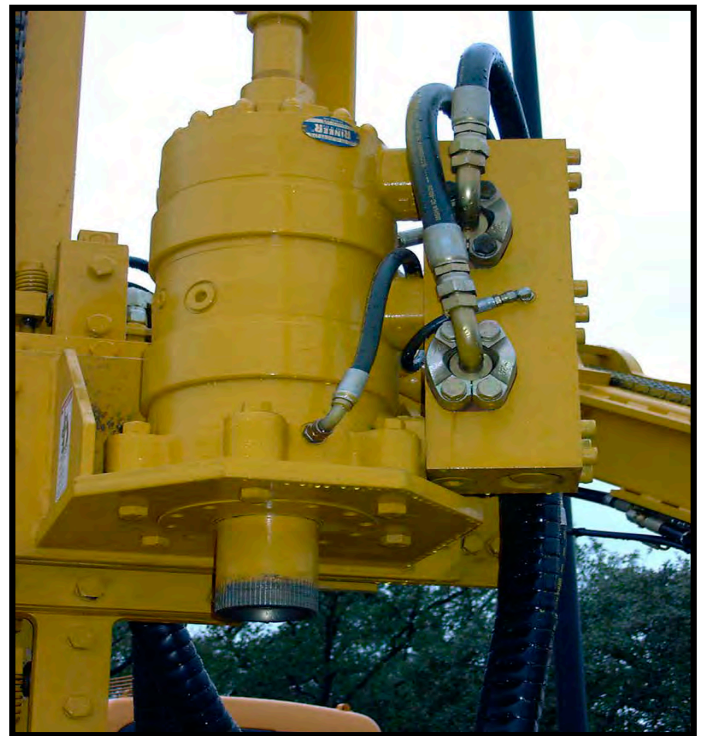
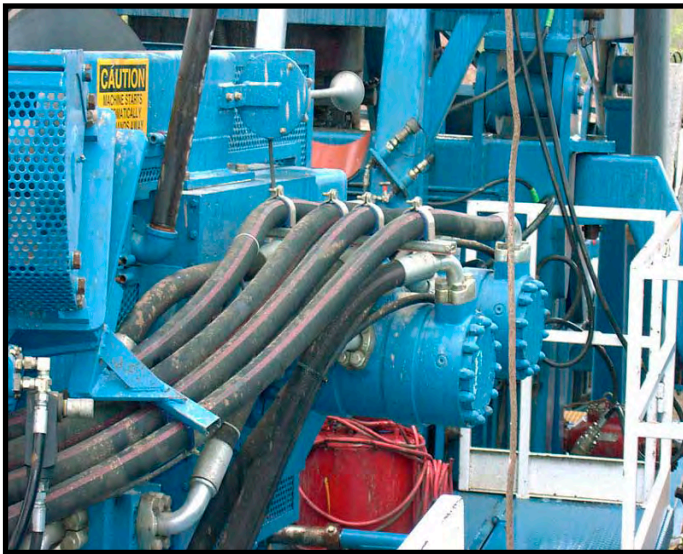
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# Model Code



# Applications



**For durable hydraulic motors that meet your demands, specify Rineer.**

For over 35 years, we have specialized in only one thing - engineering the right motor for your needs. Rineer delivers the performance you can count on.

Visit our website at [www.rineer.com](http://www.rineer.com)



### Limited Warranty Policy

Rineer Hydraulics, Inc. warrants that, at the time of shipment to Purchaser, our product will be free of defects in the material and workmanship. The above warranty is LIMITED to defective products returned by Purchaser to Rineer Hydraulics, Inc., freight prepaid within four hundred and fifty-five (455) days from date of shipment, or one (1) year from date of first use, whichever expires first. We will repair or replace any product or part thereof which is proved to be defective in workmanship or material. There is no other warranty, expressed or implied, and in no event shall Rineer Hydraulics, Inc. be liable for consequential or special damages. Dismantling the product, operation of the product beyond the published capabilities or for purposes other than that for which the product was designed, shall void this warranty.



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