Features of the 37-57 Series 4-Port Motor: Standard Motor - 3000 PSI (Code 61)

- A variety of fixed displacement motors ranging from 24 in³ to 111 in³.
- Two-speed operation with external valving.
- Starting and stall torques equal to 90-94% of theoretical torque.
- Speeds to 1,000 RPM continuous.
- Up to 190 HP continuous.
- Modified SAE 'D' mounting specification.
- Weight - 37S 171 lbs. / 57S - 205 lbs.
Bearing Data - Standard Motor

BEARING LOADING - The bearings in the 37-57 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 37 Series standard motor above 175 HP, or the 57 Series standard motor above 190 HP, consult a Rineer Application Engineer.

CONFIGURATION - 4-Port motors have displacements ranging from 24 in³ to 111 in³ and are comprised of two rotor stator packages, one located on either side of a center housing. Any of the single stacked rotor stator packages may be used to form a 4-Ported motor. This would include combining a 37 and 57 package, if desired.

Performance of the Rineer 37 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.

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.

**Envelope - 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 37-57 Series has four stator cavities and 10 rotor vanes. Each rotor vane works in each stator cavity once per revolution, which results in 40 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 24 in³ to 111 in³ (in a 57 package configuration) 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 37 Series 4-Ported Motor is available with the standard splined shaft extending through both the front and rear housings.

**BEARING DATA - THRUST CAPABLE**

The bearings in the 37-57 Series 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 the female shaft type shown below. 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 37 Series standard motor above 175HP, or the 57 Series above 190HP, consult a Rineer Application Engineer.

**CASE DRAIN AND CROSS PORT LEAKAGE**
The combined case drain and cross port leakage of the 37 Series motor is approximately 1 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 37 C.I.D. + 12 C.I.D. = 49 C.I.D. with speed ratios of 4:08:1 or 1:32:1.

**FILTRATION**
25 micron minimum.
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.

Model Code

<table>
<thead>
<tr>
<th>M037(057) - A4</th>
<th>-1S</th>
<th>-037</th>
<th>-31</th>
<th>-B1</th>
<th>-TBB</th>
<th>-000</th>
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<tbody>
<tr>
<td>M037 = Motor Series</td>
<td>M057 = Motor Series</td>
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</tbody>
</table>

Port Options:
A4 = 4-Port model w/ 4-Bolt Flange ports
C4 = 4-Port model w/ O-Ring Boss ports

Rotary Group Designation
1S = Code 61 - Standard
1L = Code 61 Low Speed

Displacement Options
4-PORT 37:
024 = 24 in³ (393cc)/rev.
032 = 32 in³ (525cc)/rev.
036 = 36 in³ (590cc)/rev.
040 = 40 in³ (656cc)/rev.
046 = 46 in³ (754cc)/rev.
052 = 52 in³ (852cc)/rev.

4-PORT 57:
096 = 96 in³ (1573cc)/rev.
104 = 104 in³ (1705cc)/rev.
111 = 111 in³ (1819cc)/rev.

Bearing Package Selection
30 = Keyed Shaft
31 = Splined Shaft
34 = Double Key
35 = Female Key
36 = Female Spline
40 = Double Spline
41 = Tapered Thrust
42 = Keyed w/Opt
43 = Splined w/Opt
44 = Tapered w/Opt
52 = Smooth Shaft
53 = API Thread

Seal - Package Selection

Special Code Designator
058 = 58 in³ (951cc)/rev.
064 = 64 in³ (1049cc)/rev.
068 = 68 in³ (1115cc)/rev.
069 = 69 in³ (1131cc)/rev.
074 = 74 in³ (1213cc)/rev.
096 = 96 in³ (1573cc)/rev.
104 = 104 in³ (1705cc)/rev.
111 = 111 in³ (1819cc)/rev.

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.