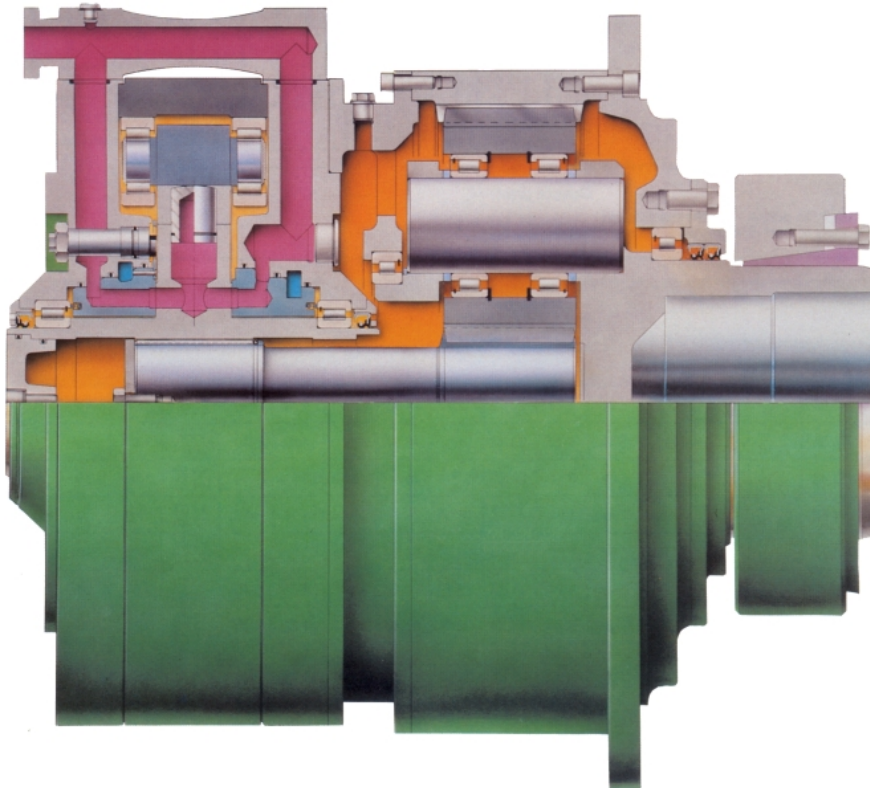


Titan Hydraulic Motor™

HMD/P1A Series

TITAN MOTOR / PLANETARY
TORQUE MULTIPLIER COMBINATION
GEAR RATIO = 5.5:1 (NOMINAL)



FEATURES:

- SHAFT MOUNTED - NO FOUNDATIONS, BEDPLATES OR ALIGNMENT CONCERNS
- EXTREMELY COMPACT
- VERY FAVORABLE WEIGHT / TORQUE RATIO
- EXCELLENT LOW SPEED CAPABILITY
- SUPERIOR SERVICE LIFE
- EXCEPTIONALLY QUIET RUNNING
- COMPETITIVELY PRICED
- VERY LOW MASS MOMENT OF INERTIA
- OUTPUT TORQUE CAPACITY UP TO 1,300,000 LB. FT. INTERMITTENTLY; 1,050,000 LB. FT. CONTINUOUSLY
- WIDE RANGE OF ACCESSORIES

OPTIONS:

- DOUBLE REDUCTION WITH NOMINAL RATIOS TO 40:1
- FLANGE MOUNTED WITH SOLID OUTPUT SHAFT
- FOOT MOUNTED WITH SOLID OUTPUT SHAFT

ACCESSORIES:

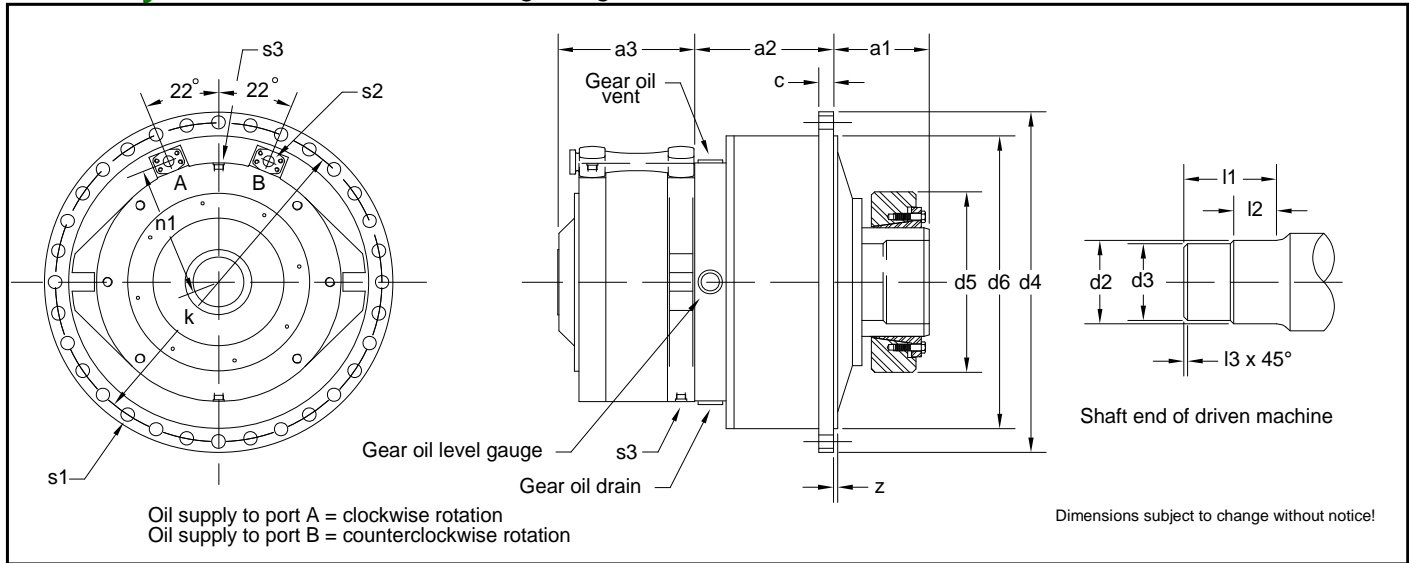
- THRUST BEARINGS
- ENCODERS
- TORQUE ARMS
- POWER UNITS and CONTROL SYSTEMS
- MULT-DISC BRAKES
- BACKSTOPS
- CROSS LINE RELIEF VALVES

R & L POWER SYSTEMS

1019 LIBRA PLACE
BILLINGS, MT 59105 USA

Telephone: +1 (406) 839 - 1211
Telefax: +1 (832) 565 - 1853
Email: sales@randlpowersystems.com

TITAN Hydraulic Motor™ • Single-Stage Gear Drive • Shaft Mounted • Hollow Shaft with Shrink Disc Connection ⁽¹⁾



Dimensions (inches)

| Type HMD | Planetary Torque Multiplier Type P1A | a1 | a2 | a3 | c | d2 | d3 | d4 | d5 | d6 | k | l1 | l2 | l3 | n1 | s1 | Qty | s2 SAE Flange | s3 Motor Drain Ports | Z |
|------------|--------------------------------------|-------|----------------|----------------|------|-------|-------|-------|-------|-------|-------|-------|------|-----|----------------|------|-----|---------------|----------------------|-----|
| 345 410 | 112 | 7.00 | 12.32 8.98 | 8.70 9.84 | .79 | 5.91 | 5.71 | 20.08 | 13.78 | 14.96 | 18.50 | 6.50 | 3.15 | .10 | 7.68 9.09 | .87 | 16 | ¾" 1" | G½ G¾ | .28 |
| 410 455 | 125 | 7.28 | 9.09 10.16 | 9.84 10.94 | .91 | 6.30 | 6.10 | 23.23 | 14.57 | 16.93 | 21.26 | 7.28 | 3.54 | .10 | 9.09 10.24 | 1.02 | 16 | 1" 1½" | G¾ | .28 |
| 455 515 | 140 | 8.43 | 13.31 13.74 | 10.94 12.24 | .98 | 7.09 | 6.89 | 24.80 | 15.94 | 18.50 | 22.83 | 7.68 | 3.74 | .10 | 10.24 11.57 | 1.02 | 18 | 1½" 1½" | G¾ | .35 |
| 515 575 | 150 | 8.46 | 10.83 15.16 | 12.24 13.58 | 1.10 | 7.48 | 7.28 | 27.56 | 15.94 | 20.87 | 25.59 | 7.68 | 3.74 | .10 | 11.57 12.80 | 1.02 | 24 | 1½" | G¾ | .35 |
| 575 635 | 170 | 9.17 | 13.90 13.19 | 13.58 14.92 | 1.26 | 7.87 | 7.68 | 29.92 | 16.93 | 23.23 | 27.95 | 8.07 | 3.94 | .10 | 12.80 13.98 | 1.02 | 30 | 1½" | G1 | .35 |
| 635 690 | 200 | 10.47 | 16.38 16.38 | 14.92 16.02 | 1.42 | 9.45 | 9.25 | 35.43 | 20.47 | 27.17 | 33.07 | 8.86 | 4.33 | .10 | 13.98 15.20 | 1.30 | 24 | 1½" | G1 | .43 |
| 690 745 | 224 | 11.02 | 17.40 18.07 | 16.02 17.24 | 1.57 | 10.24 | 10.04 | 38.19 | 22.44 | 29.92 | 35.83 | 9.65 | 4.72 | .10 | 15.20 16.30 | 1.30 | 30 | 1½" | G1 | .43 |
| 745 | 250 | 11.85 | 19.45 | 17.24 | 1.57 | 11.02 | 10.83 | 41.73 | 23.23 | 32.68 | 39.37 | 10.04 | 4.92 | .10 | 16.30 | 1.30 | 32 | 1½" | G1 | .43 |
| 910.1 | 265 | 11.89 | 20.39 | 21.06 | 1.81 | 11.81 | 11.61 | 45.67 | 25.98 | 35.83 | 42.91 | 10.24 | 5.02 | .10 | 19.80 | 1.54 | 28 | 2" | G1¼ | .63 |
| 910 | 280 | 11.57 | 22.72 | 21.06 | 2.05 | 12.99 | 12.80 | 49.21 | 27.17 | 38.58 | 46.46 | 10.83 | 5.31 | .10 | 19.80 | 1.54 | 32 | 2" | G1¼ | .63 |
| 1100.1 | 300 | 13.42 | 22.40 | 24.41 | 2.20 | 14.17 | 13.98 | 52.75 | 30.31 | 40.94 | 49.41 | 12.60 | 5.71 | .10 | 23.62 | 1.77 | 32 | 2" | G1¼ | .63 |
| 1100 | 355 | 15.03 | 27.36 | 24.41 | 2.44 | 15.75 | 15.55 | 59.05 | 33.46 | 46.45 | 55.51 | 13.58 | 6.20 | .10 | 23.62 | 1.77 | 32 | 2" | G1¼ | .71 |

Displacements, Torques, Pressures, Speed Ranges and Weights

| Type HMD | Size P1A | Planetary Torque Multiplier Gear Ratio | Resultant Displacement In³/ Rev. | Torque Ratings (2) | | Max Pressure (PSI) | Speed Range (RPM) | Max Speed (RPM) | Weight (Lbs.) | (4) Gear Oil Quantity (Gallons.) |
|------------|----------|--|----------------------------------|--------------------|-------------------|--------------------|-------------------|-----------------|---------------|----------------------------------|
| | | | | Lb. Ft. / 1000 PSI | Nominal (Lb. Ft.) | | | | | |
| 345 410 | 112 | 5.437 | 417 652 | 5530 | 20650 | 4650 3400 | 0-29 | 34 | 1000 1245 | 1.6 |
| | | | | 8650 | | 4500 3050 | | 32 30 | | |
| 410 455 | 125 | 5.785 | 695 1024 | 9220 13580 | 31000 | 4650 3050 | 0-28 | 32 30 | 1435 1590 | 2.2 |
| | | | | 13170 | | 4550 | | 31 | | |
| 455 515 | 140 | 5.625 | 993 1429 | 18950 | 42000 | 3150 | 0-27 | 31 | 1655 1855 | 3.2 |
| | | | | 13170 | | 4550 | | 31 | | |
| 515 575 | 150 | 5.437 | 1379 1919 | 18290 25450 | 58250 | 4600 3300 | 0-28 | 32 30 | 2160 2450 | 4.4 |
| | | | | 24550 | | 4650 | | 31 | | |
| 575 635 | 170 | 5.250 | 1851 2499 | 24550 33140 | 79650 | 3300 3550 | 0-26 | 30 | 2865 3220 | 6.0 |
| | | | | 33140 | | 4650 | | 26 | | |
| 635 690 | 200 | 5.437 | 2586 3333 | 34300 44200 | 129100 | 4650 3850 | 0-22 | 25 21 | 4235 4610 | 9.5 |
| | | | | 44200 | | 4600 | | 21 | | |
| 690 745 | 224 | 5.437 | 3333 4186 | 44200 55500 | 166700 | 4600 4100 | 0-18 | 21 18 | 5060 5515 | 12.7 |
| | | | | 55500 | | 4100 | | 18 | | |
| 745 | 250 | 5.571 | 4291 | 56900 | 215400 | 4650 | 0-14 | 17 | 6160 | 15.9 |
| 910.1 | 265 | 5.600 | 6257 | 83000 | 272900 | 4000 | 0-11 | 13 | 9040 | 19.8 |
| 910 | 280 | 5.571 | 8067 | 107000 | 339300 | 4350 | 0-9 | 11 | 10585 | 24.6 |
| 1100.1 | 300 | 5.250 | 10101 | 133970 | 420130 | 4450 | 0-8 | 10 | 13670 | 30 |
| 1100 | 335 | 5.600 | 14341 | 190200 | 583770 | 4000 | 0-6 | 9 | 16540 | 42.7 |

- (1) Solid output shaft with foot or flange mounting is also available.
- (2) Theoretical Values
- (3) Planetary rating Service Factor 1.0
- (4) The gear oil quantity listed is a guide value only. The exact quantity depends on the oil sight glass.