

165T-5 Triplex Plunger Pump

Specifications

- Pump Size

(maximum plunger size x stroke length in.(mm)

4 x 5 (102 x 127)
- Rated bhp at 400 rpm (kw)

165 (123)
- Rated plunger load, pounds (Kg)

9800 (4445.2)
- Maximum discharge pressure: psi (kPa)

"L" model: 1650 (11,376)

"M" model: 3120 (21,512)

"H" model: 5000 (34,474)
- Crankshaft extension: in.(mm)

Diameter: 4.125 (104.8)

Length long side: 8 1/8 (206.4)

Length short side: 5 7/8 (149.2)

Keyway (width x depth): 1 x 1/2 (25.4 x 12.7)

Maximum recommended sheave in.(mm):

50 (1270)

Minimum recommended sheave in.(mm):

36 (914)

For larger sizes: **Contact Factory**
- Pinion shaft extension, in.(mm):

if gear reducer is supplied

For belt or chain drive: **Contact Factory**

For direct drive: Diameter: 3.0 (76.2)

Length: 6 3/16 (157.2)

Keyway (width x depth):

3/4 x 3/8 (19.05 x 9.53)
- Accessory gear reduction unit:

2.8:1, 3.22:1, 3.46:1, 4.00:1,

4.38:1, 4.78:1, 4.96:1, 5.74:1
- Oil Capacity, gallons (L)

Crankcase: 8 (30)

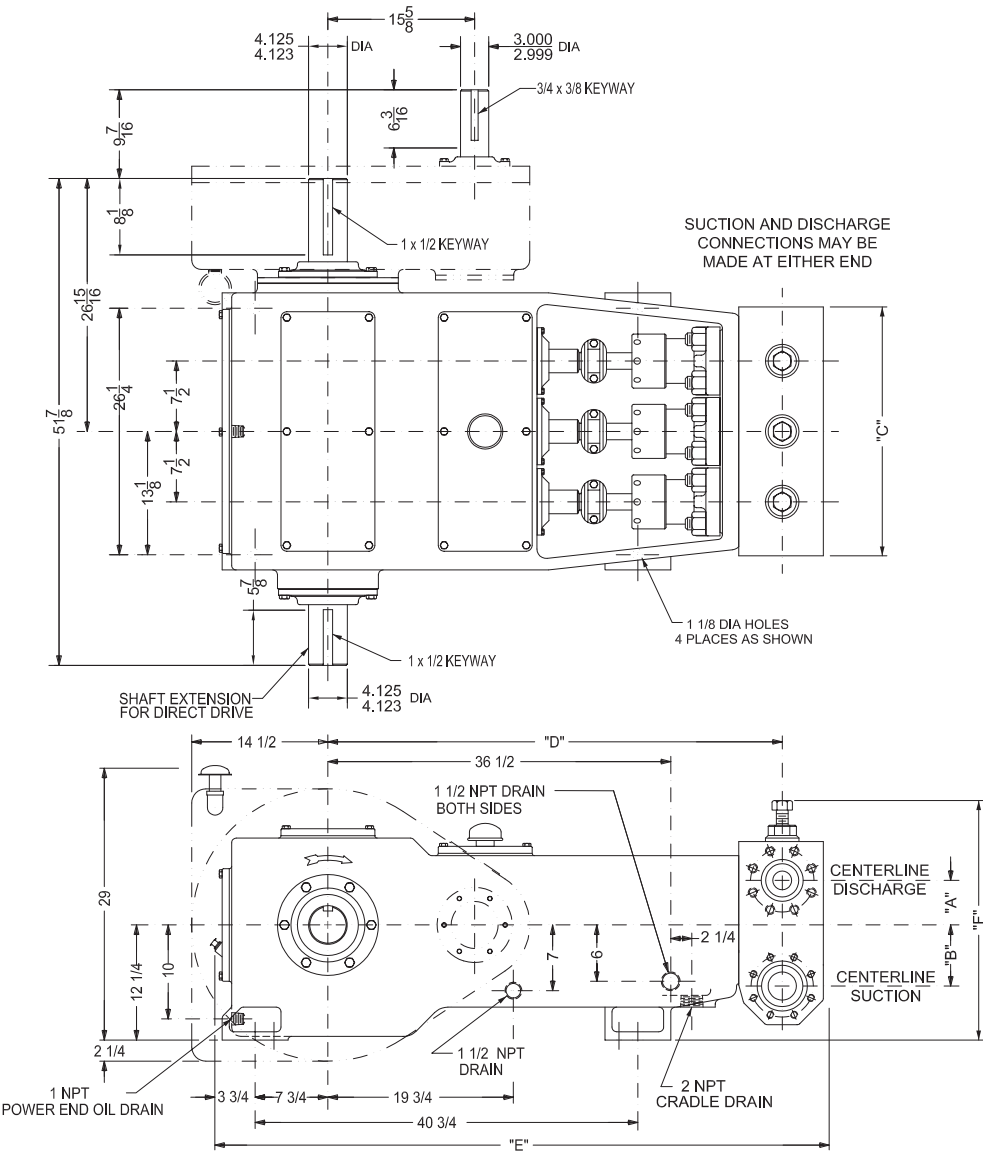
Gear Reducer-varies with ratio:

2.25 to 3.5 (8.52 to 13.25)
- Weight, pump only on wood shipping skids

pounds (Kg): 4000 (1814)

Gear reducer, approximate pounds (Kg):

800 (363)



| Pump Model | Flange Connections         |                          | Dimensions (Inches) |       |        |        |        |         |  |
|------------|----------------------------|--------------------------|---------------------|-------|--------|--------|--------|---------|--|
|            | Discharge Connection Sizes | Suction Connection Sizes | A                   | B     | C      | D      | E      | F       |  |
| 165-5L     | 3 (76.2) API-2000 RJ       | 6 (152.4) ANSI-150 FF    | 5 11/16             | 7 5/8 | 27 3/4 | 48 3/4 | 65 3/4 | 23      |  |
| 165-5M     | 2 (50.8) API-5000 RJ       | 4 (101.6) ANSI-150 FF    | 4 3/4               | 6 1/2 | 26 1/2 | 48 3/8 | 64 7/8 | 25 5/16 |  |
| 165-5H     | 2 (50.8) ANSI-2500 RJ      | 3 (76.2) API-2000 RJ     | 4 3/4               | 6 1/2 | 26 1/2 | 48 3/8 | 64 1/4 | 25 5/16 |  |

# 165T-5 Triplex Plunger Pump

## Performance Data

| PUMP    | English Units             |                      |             |             |                 | 100 RPM |      | 200 RPM |       | 250 RPM |       | 300 RPM |       | 350 RPM |       | 400 RPM |       |
|---------|---------------------------|----------------------|-------------|-------------|-----------------|---------|------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
|         | Plunger Dia. In.          | Plunger Area Sq. In. | BPD per RPM | GPM per RPM | Max. Press. PSI | BPD     | GPM  | BPD     | GPM   | BPD     | GPM   | BPD     | GPM   | BPD     | GPM   | BPD     | GPM   |
| 165T-5L | 4.000                     | 12.5664              | 27.9770     | 0.8160      | 780             | 2798    | 81.6 | 5596    | 163.2 | 6995    | 204.0 | 8394    | 244.8 | 9792    | 285.6 | 11191*  | 326*  |
|         | 3.750                     | 11.0447              | 24.5892     | 0.7172      | 887             | 2459    | 71.7 | 4918    | 143.4 | 6148    | 179.3 | 7377    | 215.2 | 8607    | 251.0 | 9836    | 286.9 |
|         | 3.500                     | 9.6211               | 21.4199     | 0.6247      | 1019            | 2142    | 62.5 | 4284    | 124.9 | 5355    | 156.2 | 6426    | 187.4 | 7497    | 218.7 | 8568    | 249.9 |
|         | 3.250                     | 8.2958               | 18.4692     | 0.5387      | 1181            | 1847    | 53.9 | 3694    | 107.7 | 4618    | 134.7 | 5541    | 161.6 | 6465    | 188.5 | 7388    | 215.5 |
|         | 3.000                     | 7.0686               | 15.7371     | 0.4590      | 1386            | 1574    | 45.9 | 3148    | 91.8  | 3935    | 114.7 | 4722    | 137.7 | 5508    | 160.6 | 6295    | 183.6 |
|         | 2.750                     | 5.9396               | 13.2235     | 0.3857      | 1650            | 1323    | 38.6 | 2645    | 77.1  | 3306    | 96.4  | 3968    | 115.7 | 4629    | 135.0 | 5290    | 154.3 |
| 165T-5M | 2.750                     | 5.9396               | 13.2235     | 0.3857      | 1650            | 1323    | 38.6 | 2645    | 77.1  | 3306    | 96.4  | 3968    | 115.7 | 4629    | 135.0 | 5290    | 154.3 |
|         | 2.500                     | 4.9087               | 10.9285     | 0.3187      | 1996            | 1093    | 31.9 | 2186    | 63.7  | 2733    | 79.7  | 3279    | 95.6  | 3825    | 111.6 | 4372    | 127.5 |
|         | 2.375                     | 4.4301               | 9.8630      | 0.2877      | 2212            | 987     | 28.8 | 1973    | 57.5  | 2466    | 71.9  | 2959    | 86.3  | 3453    | 100.7 | 3946    | 115.1 |
|         | 2.250                     | 3.9761               | 8.8521      | 0.2582      | 2465            | 886     | 25.8 | 1771    | 51.6  | 2214    | 64.5  | 2656    | 77.5  | 3099    | 90.4  | 3541    | 103.3 |
|         | 2.125                     | 3.5466               | 7.8959      | 0.2303      | 2763            | 790     | 23.0 | 1580    | 46.1  | 1974    | 57.6  | 2369    | 69.1  | 2764    | 80.6  | 3159    | 92.1  |
|         | 2.000                     | 3.1416               | 6.9943      | 0.2040      | 3120            | 700     | 20.4 | 1399    | 40.8  | 1749    | 51.0  | 2099    | 61.2  | 2448    | 71.4  | 2798    | 81.6  |
| 165T-5H | 2.000                     | 3.1416               | 6.9943      | 0.2040      | 3120            | 700     | 20.4 | 1399    | 40.8  | 1749    | 51.0  | 2099    | 61.2  | 2448    | 71.4  | 2798    | 81.6  |
|         | 1.875                     | 2.7612               | 6.1473      | 0.1793      | 3549            | 615     | 17.9 | 1230    | 35.9  | 1537    | 44.8  | 1845    | 53.8  | 2152    | 62.8  | 2459    | 71.7  |
|         | 1.750                     | 2.4053               | 5.3550      | 0.1562      | 4074            | 536     | 15.6 | 1071    | 31.2  | 1339    | 39.0  | 1607    | 46.9  | 1875    | 54.7  | 2142    | 62.5  |
|         | 1.625                     | 2.0739               | 4.6173      | 0.1347      | 4725            | 462     | 13.5 | 924     | 26.9  | 1155    | 33.7  | 1386    | 40.4  | 1617    | 47.1  | 1847    | 53.9  |
|         | 1.500                     | 1.7671               | 3.9343      | 0.1147      | 5000            | 394     | 11.5 | 787     | 22.9  | 984     | 28.7  | 1181    | 34.4  | 1377    | 40.2  | 1574    | 45.9  |
|         | Brake Horsepower Required |                      |             |             |                 | 42      |      | 83      |       | 104     |       | 124     |       | 144     |       | 165     |       |

| PUMP    | Metric Units       |                              |                            |                |                 | 100 RPM            |        | 200 RPM            |        | 250 RPM            |        | 300 RPM            |        | 350 RPM            |        | 400 RPM            |        |
|---------|--------------------|------------------------------|----------------------------|----------------|-----------------|--------------------|--------|--------------------|--------|--------------------|--------|--------------------|--------|--------------------|--------|--------------------|--------|
|         | Plunger Dia. mm    | Plunger Area cm <sup>2</sup> | M <sup>3</sup> /Hr per RPM | L/Sec. per RPM | Max. Press. kPa | M <sup>3</sup> /Hr | L/Sec. | M <sup>3</sup> /Hr | L/Sec. | M <sup>3</sup> /Hr | L/Sec. | M <sup>3</sup> /Hr | L/Sec. | M <sup>3</sup> /Hr | L/Sec. | M <sup>3</sup> /Hr | L/Sec. |
| 165T-5L | 102                | 81.073                       | 0.1853                     | 0.0515         | 5377            | 18.5               | 5.1    | 37.1               | 10.3   | 46.3               | 12.9   | 55.6               | 15.4   | 64.9               | 18.0   | 74.1*              | 20.6*  |
|         | 95                 | 71.256                       | 0.1629                     | 0.0452         | 6118            | 16.3               | 4.5    | 32.6               | 9.0    | 40.7               | 11.3   | 48.9               | 13.6   | 57.0               | 15.8   | 65.1               | 18.1   |
|         | 89                 | 62.072                       | 0.1419                     | 0.0394         | 7023            | 14.2               | 3.9    | 28.4               | 7.9    | 35.5               | 9.9    | 42.6               | 11.8   | 49.7               | 13.8   | 56.8               | 15.8   |
|         | 83                 | 53.521                       | 0.1223                     | 0.0340         | 8145            | 12.2               | 3.4    | 24.5               | 6.8    | 30.6               | 8.5    | 36.7               | 10.2   | 42.8               | 11.9   | 48.9               | 13.6   |
|         | 76                 | 45.604                       | 0.1042                     | 0.0290         | 9559            | 10.4               | 2.9    | 20.8               | 5.8    | 26.1               | 7.2    | 31.3               | 8.7    | 36.5               | 10.1   | 41.7               | 11.6   |
|         | 70                 | 38.320                       | 0.0876                     | 0.0243         | 11376           | 8.8                | 2.4    | 17.5               | 4.9    | 21.9               | 6.1    | 26.3               | 7.3    | 30.7               | 8.5    | 35.0               | 9.7    |
| 165T-5M | 70                 | 38.320                       | 0.0876                     | 0.0243         | 11376           | 8.8                | 2.4    | 17.5               | 4.9    | 21.9               | 6.1    | 26.3               | 7.3    | 30.7               | 8.5    | 35.0               | 9.7    |
|         | 64                 | 31.669                       | 0.0724                     | 0.0201         | 13765           | 7.2                | 2.0    | 14.5               | 4.0    | 18.1               | 5.0    | 21.7               | 6.0    | 25.3               | 7.0    | 29.0               | 8.0    |
|         | 60                 | 28.581                       | 0.0653                     | 0.0181         | 15252           | 6.5                | 1.8    | 13.1               | 3.6    | 16.3               | 4.5    | 19.6               | 5.4    | 22.9               | 6.4    | 26.1               | 7.3    |
|         | 57                 | 25.652                       | 0.0586                     | 0.0163         | 16994           | 5.9                | 1.6    | 11.7               | 3.3    | 14.7               | 4.1    | 17.6               | 4.9    | 20.5               | 5.7    | 23.5               | 6.5    |
|         | 54                 | 22.881                       | 0.0523                     | 0.0145         | 19052           | 5.2                | 1.5    | 10.5               | 2.9    | 13.1               | 3.6    | 15.7               | 4.4    | 18.3               | 5.1    | 20.9               | 5.8    |
|         | 51                 | 20.268                       | 0.0463                     | 0.0129         | 21512           | 4.6                | 1.3    | 9.3                | 2.6    | 11.6               | 3.2    | 13.9               | 3.9    | 16.2               | 4.5    | 18.5               | 5.1    |
| 165T-5H | 51                 | 20.268                       | 0.0463                     | 0.0129         | 21512           | 4.6                | 1.3    | 9.3                | 2.6    | 11.6               | 3.2    | 13.9               | 3.9    | 16.2               | 4.5    | 18.5               | 5.1    |
|         | 48                 | 17.814                       | 0.0407                     | 0.0113         | 24471           | 4.1                | 1.1    | 8.1                | 2.3    | 10.2               | 2.8    | 12.2               | 3.4    | 14.3               | 4.0    | 16.3               | 4.5    |
|         | 44                 | 15.518                       | 0.0355                     | 0.0099         | 28092           | 3.5                | 1.0    | 7.1                | 2.0    | 8.9                | 2.5    | 10.6               | 3.0    | 12.4               | 3.4    | 14.2               | 3.9    |
|         | 41                 | 13.380                       | 0.0306                     | 0.0085         | 32580           | 3.1                | 0.8    | 6.1                | 1.7    | 7.6                | 2.1    | 9.2                | 2.5    | 10.7               | 3.0    | 12.2               | 3.4    |
|         | 38                 | 11.401                       | 0.0261                     | 0.0072         | 34474           | 2.6                | 0.7    | 5.2                | 1.4    | 6.5                | 1.8    | 7.8                | 2.2    | 9.1                | 2.5    | 10.4               | 2.9    |
|         | Kilowatts Required |                              |                            |                |                 | 31                 |        | 62                 |        | 78                 |        | 92                 |        | 108                |        | 123                |        |

Volumetric Rate is based on 100% Volumetric Efficiency. Brake Horsepower/Kilowatts Required is based on 90% Mechanical Efficiency. For Operation below 200 RPM, an auxiliary lubrication system is required. Not all plunger sizes are shown. Contact National-Oilwell for additional information. \*Spherical Valves must be installed when the pump is fitted with 4.0" (102mm) plungers

The information and data on this sheet is accurate to the best of our knowledge and belief, but are intended for general information only. Applications suggested for the materials are described only to help readers make their own evaluations and decisions, and are neither guarantees nor to be construed as express or implied warranties of suitability for these or other applications. National Oilwell makes no warranty either express or implied beyond that stipulated in National Oilwell Standard Terms and Conditions of Sale.

Authorized Distributor:



www.nov.com • mission.sales@nov.com  
10000 Richmond, Houston, Texas 77042  
(713)346-7500 (phone) • (713)346-7366 (fax)