

Q3115 (103Q-3) Quintuplex Plunger Pump

Specifications

Pump Size:

maximum plunger size x stroke length, in.(mm):
3.000 x 3.500 (76.2 x 88.9)

Rated BHP (kW) at 435 RPM: 102 (76)

Rated plunger load, pounds (kg): 4760 (2159)

Maximum discharge pressure: psi (kPa)

"L" model: 970 (6686)

"M" model: 2295 (15825)

"MS" model: 4789 (33017)

"H" model: 10000 (68948)

Crankshaft extension:

Diameter, in.(mm): 2.500 (63.5)

Length : 5.250 (133.35)

Keyway (width x depth):

5/8 x 5/16 (15.875 x 7.938)

Maximum recommended sheave

in.(mm): 38 (965.2)

For larger sizes: **Contact Factory**

Pinion shaft extension,

if gear reducer is supplied, in.(mm)

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

For direct drive: Diameter: 2.000 (50.8)

Length: 4.250 (108.0)

Keyway width x depth:

1/2 x 1/4 (12.70 x 6.35)

Accessory gear reduction unit:

3.00:1, 3.12:1, 3.23:1, 3.36:1, 3.49:1,

3.62:1, 3.78:1, 3.94:1, 4.11:1, 4.29:1,

4.48:1, 4.69:1, 4.93:1, 5.17:1

Oil Capacity, gallons (L)

Crankcase: 5 (18.93)

Gear Reducer - varies with ratio:

1.25 to 1.50 (4.73 to 5.68)

Weight, pump only on

wood shipping skids, pounds (kg)

"L" model: 1620 (735)

"M" model: 1450 (658)

"MS" model: 1600 (726)

"H" model: 1700 (771)

Standard Materials for Fluid Ends:

"L" model

Cast Ductile Iron

Cast Nickel-Aluminum-Bronze

Cast Duplex Stainless Steel

Forged/Plate Carbon Steel

"M" model

Cast Ductile Iron,

Cast Nickel-Aluminum-Bronze

Cast Duplex Stainless Steel

Forged/Plate Carbon Steel

"MS" model

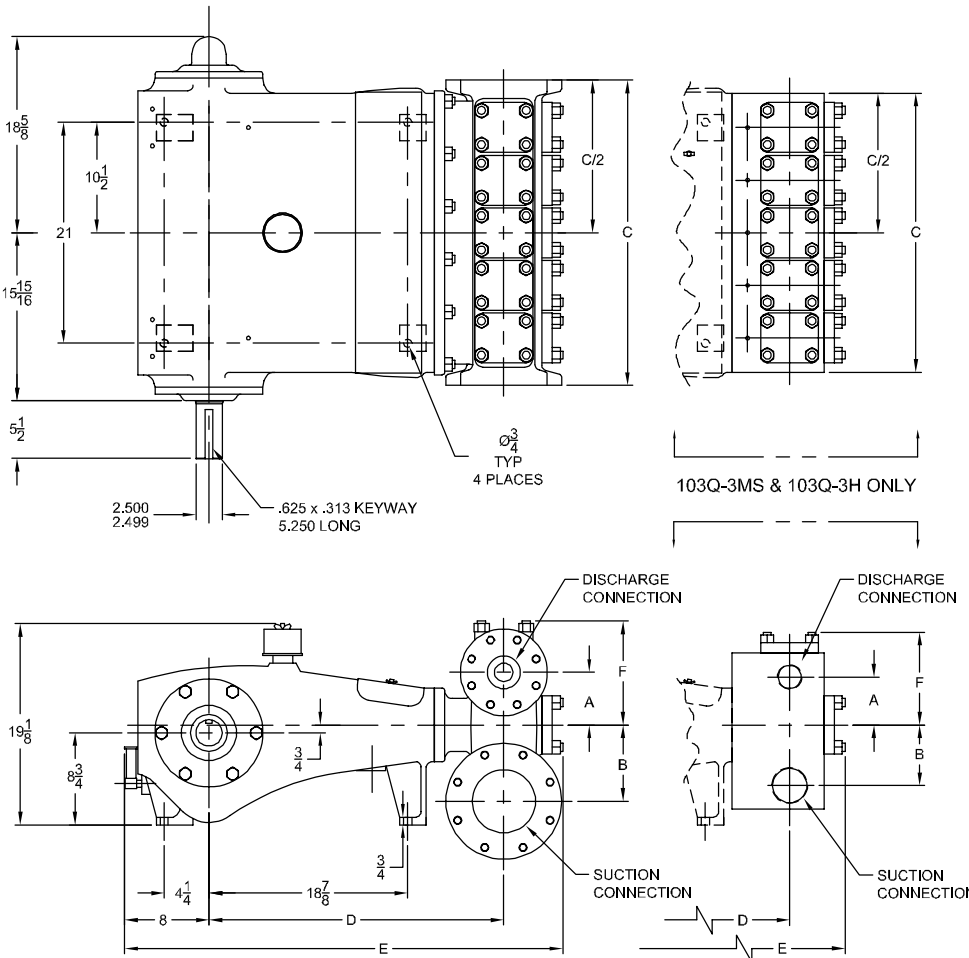
Forged Nickel-Aluminum-Bronze

Forged/Plate Carbon Steel

Forged 316 Stainless Steel

"H" model

Forged 15-5 Stainless Steel



| Pump Model | Flange Connections | | Dimensions (Inches) | | | | | |
|------------|----------------------------|--------------------------|---------------------|-------|--------|---------|--------|-------|
| | Discharge Connection Sizes | Suction Connection Sizes | A | B | C | D | E | F |
| 103Q-3L | 3 (76.2)-ANSI 600 FF | 6 (152.4)-ANSI 150 FF | 5 | 7 1/4 | 29 | 28 | 41 5/8 | 9 7/8 |
| 103Q-3M | 2 (50.8)-ANSI 1500 FF | 3 (76.2)-ANSI 300 FF | 3 7/16 | 5 3/4 | 30 | 27 3/16 | 40 7/8 | 8 1/8 |
| 103Q-3MS | 2 (50.8)-11 1/2 NPT | 3 (76.2)-8 NPT | 4 9/16 | 5 3/4 | 26 1/2 | 26 7/8 | 40 1/8 | 8 7/8 |
| 103Q-3H | 1 (25.4)-11 1/2 NPT | 1 1/2 (38.1)-11 1/2 NPT | 3 7/8 | 4 3/8 | 28 | 25 3/4 | 39 7/8 | 7 3/4 |

Q3115 (103Q-3) Quintuplex Plunger Pump

Performance Data

| PUMP | English Units | | | | | 50 RPM | | 150 RPM | | 250 RPM | | 300 RPM | | 350 RPM | | 435 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 |
| 103Q-3L (Q3115AL) | 3.000 | 7.0686 | 18.3599 | 0.5355 | 673 | 918 | 26.8 | 2754 | 80.3 | 4590 | 133.9 | 5508 | 160.6 | 6426 | 187.4 | 7987 | 232.9 |
| | 2.875 | 6.4918 | 16.8618 | 0.4918 | 733 | 844 | 24.6 | 2530 | 73.8 | 4216 | 123.0 | 5059 | 147.5 | 5902 | 172.1 | 7335 | 213.9 |
| | 2.750 | 5.9396 | 15.4274 | 0.4500 | 801 | 772 | 22.5 | 2315 | 67.5 | 3857 | 112.5 | 4629 | 135.0 | 5400 | 157.5 | 6711 | 195.7 |
| | 2.625 | 5.4119 | 14.0568 | 0.4100 | 880 | 703 | 20.5 | 2109 | 61.5 | 3515 | 102.5 | 4218 | 123.0 | 4920 | 143.5 | 6115 | 178.3 |
| 103Q-3M (Q3115AM) | 2.500 | 4.9087 | 12.7500 | 0.3719 | 970 | 638 | 18.6 | 1913 | 55.8 | 3188 | 93.0 | 3825 | 111.6 | 4463 | 130.2 | 5547 | 161.8 |
| | 2.375 | 4.4301 | 11.5068 | 0.3356 | 1074 | 576 | 16.8 | 1727 | 50.3 | 2877 | 83.9 | 3453 | 100.7 | 4028 | 117.5 | 5006 | 146.0 |
| | 2.250 | 3.9761 | 10.3275 | 0.3012 | 1197 | 517 | 15.1 | 1550 | 45.2 | 2582 | 75.3 | 3099 | 90.4 | 3615 | 105.4 | 4493 | 131.0 |
| | 2.125 | 3.5466 | 9.2118 | 0.2687 | 1342 | 461 | 13.4 | 1382 | 40.3 | 2303 | 67.2 | 2764 | 80.6 | 3225 | 94.0 | 4008 | 116.9 |
| | 2.000 | 3.1416 | 8.1600 | 0.2380 | 1515 | 408 | 11.9 | 1224 | 35.7 | 2040 | 59.5 | 2448 | 71.4 | 2856 | 83.3 | 3550 | 103.5 |
| | 1.875 | 2.7612 | 7.1718 | 0.2092 | 1724 | 359 | 10.5 | 1076 | 31.4 | 1793 | 52.3 | 2152 | 62.8 | 2511 | 73.2 | 3120 | 91.0 |
| | 1.750 | 2.4053 | 6.2475 | 0.1822 | 1979 | 313 | 9.1 | 938 | 27.3 | 1562 | 45.6 | 1875 | 54.7 | 2187 | 63.8 | 2718 | 79.3 |
| | 1.625 | 2.0739 | 5.3869 | 0.1571 | 2295 | 270 | 7.9 | 809 | 23.6 | 1347 | 39.3 | 1617 | 47.1 | 1886 | 55.0 | 2344 | 68.3 |
| 103Q-3MS (Q3115MS) | 1.500 | 1.7671 | 4.5900 | 0.1339 | 2694 | 230 | 6.7 | 689 | 20.1 | 1148 | 33.5 | 1377 | 40.2 | 1607 | 46.9 | 1997 | 58.2 |
| | 1.375 | 1.4849 | 3.8569 | 0.1125 | 3206 | 193 | 5.6 | 579 | 16.9 | 965 | 28.1 | 1158 | 33.7 | 1350 | 39.4 | 1678 | 48.9 |
| | 1.250 | 1.2272 | 3.1875 | 0.0930 | 3879 | 160 | 4.6 | 479 | 13.9 | 797 | 23.2 | 957 | 27.9 | 1116 | 32.5 | 1387 | 40.4 |
| 103Q-3H (Q3115H) | 1.125 | 0.9940 | 2.5819 | 0.0753 | 4789 | 130 | 3.8 | 388 | 11.3 | 646 | 18.8 | 775 | 22.6 | 904 | 26.4 | 1124 | 32.8 |
| | 1.000 | 0.7854 | 2.0400 | 0.0595 | 6061 | 102 | 3.0 | 306 | 8.9 | 510 | 14.9 | 612 | 17.8 | 714 | 20.8 | 888 | 25.9 |
| | 0.875 | 0.6013 | 1.5619 | 0.0456 | 7916 | 79 | 2.3 | 235 | 6.8 | 391 | 11.4 | 469 | 13.7 | 547 | 15.9 | 680 | 19.8 |
| | 0.750 | 0.4418 | 1.1475 | 0.0335 | 10000 | 58 | 1.7 | 173 | 5.0 | 287 | 8.4 | 345 | 10.0 | 402 | 11.7 | 500 | 14.6 |
| Brake Horsepower Required | | | | | | 12 | | 35 | | 59 | | 70 | | 82 | | 102 | |

| PUMP | Metric Units | | | | | 50 RPM | | 150 RPM | | 250 RPM | | 300 RPM | | 350 RPM | | 435 RPM | |
|-----------------------|-----------------|------------------------------|----------------------------|----------------|-----------------|--------------------|--------|--------------------|--------|--------------------|--------|--------------------|--------|--------------------|--------|--------------------|--------|
| | Plunger Dia. mm | Plunger Area cm ² | M ³ /Hr per RPM | L/Sec. per RPM | Max. Press. kPa | M ³ /Hr | L/Sec. | M ³ /Hr | L/Sec. | M ³ /Hr | L/Sec. | M ³ /Hr | L/Sec. | M ³ /Hr | L/Sec. | M ³ /Hr | L/Sec. |
| 103Q-3L (Q3115AL) | 76 | 45.604 | 0.1216 | 0.0338 | 4643 | 6.1 | 1.69 | 18.2 | 5.07 | 30.4 | 8.45 | 36.5 | 10.14 | 42.6 | 11.82 | 52.9 | 14.70 |
| | 73 | 41.883 | 0.1117 | 0.0310 | 5055 | 5.6 | 1.55 | 16.8 | 4.65 | 27.9 | 7.76 | 33.5 | 9.31 | 39.1 | 10.86 | 48.6 | 13.50 |
| | 70 | 38.320 | 0.1022 | 0.0284 | 5526 | 5.1 | 1.42 | 15.3 | 4.26 | 25.5 | 7.10 | 30.7 | 8.52 | 35.8 | 9.94 | 44.5 | 12.35 |
| | 67 | 34.915 | 0.0931 | 0.0259 | 6064 | 4.7 | 1.29 | 14.0 | 3.88 | 23.3 | 6.47 | 27.9 | 7.76 | 32.6 | 9.05 | 40.5 | 11.25 |
| 103Q-3M (Q3115AM) | 64 | 31.669 | 0.0845 | 0.0235 | 6686 | 4.2 | 1.17 | 12.7 | 3.52 | 21.1 | 5.87 | 25.3 | 7.04 | 29.6 | 8.21 | 36.7 | 10.21 |
| | 60 | 28.581 | 0.0762 | 0.0212 | 7408 | 3.8 | 1.06 | 11.4 | 3.18 | 19.1 | 5.29 | 22.9 | 6.35 | 26.7 | 7.41 | 33.2 | 9.21 |
| | 57 | 25.652 | 0.0684 | 0.0190 | 8254 | 3.4 | 0.95 | 10.3 | 2.85 | 17.1 | 4.75 | 20.5 | 5.70 | 23.9 | 6.65 | 29.8 | 8.27 |
| | 54 | 22.881 | 0.0610 | 0.0170 | 9254 | 3.1 | 0.85 | 9.2 | 2.54 | 15.3 | 4.24 | 18.3 | 5.09 | 21.4 | 5.93 | 26.5 | 7.37 |
| | 51 | 20.268 | 0.0540 | 0.0150 | 10447 | 2.7 | 0.75 | 8.1 | 2.25 | 13.5 | 3.75 | 16.2 | 4.50 | 18.9 | 5.26 | 23.5 | 6.53 |
| | 48 | 17.814 | 0.0475 | 0.0132 | 11886 | 2.4 | 0.66 | 7.1 | 1.98 | 11.9 | 3.30 | 14.3 | 3.96 | 16.6 | 4.62 | 20.7 | 5.74 |
| | 44 | 15.518 | 0.0414 | 0.0115 | 13645 | 2.1 | 0.57 | 6.2 | 1.72 | 10.3 | 2.87 | 12.4 | 3.45 | 14.5 | 4.02 | 18.0 | 5.00 |
| | 41 | 13.380 | 0.0357 | 0.0099 | 15825 | 1.8 | 0.50 | 5.4 | 1.49 | 8.9 | 2.48 | 10.7 | 2.97 | 12.5 | 3.47 | 15.5 | 4.31 |
| 103Q-3MS (Q3115MS) | 38 | 11.401 | 0.0304 | 0.0084 | 18572 | 1.5 | 0.42 | 4.6 | 1.27 | 7.6 | 2.11 | 9.1 | 2.53 | 10.6 | 2.96 | 13.2 | 3.67 |
| | 35 | 9.580 | 0.0255 | 0.0071 | 22102 | 1.3 | 0.35 | 3.8 | 1.06 | 6.4 | 1.77 | 7.7 | 2.13 | 8.9 | 2.48 | 11.1 | 3.09 |
| | 32 | 7.917 | 0.0211 | 0.0059 | 26744 | 1.1 | 0.29 | 3.2 | 0.88 | 5.3 | 1.47 | 6.3 | 1.76 | 7.4 | 2.05 | 9.2 | 2.55 |
| 103Q-H (Q3115H) | 29 | 6.413 | 0.0171 | 0.0048 | 33017 | 0.9 | 0.24 | 2.6 | 0.71 | 4.3 | 1.19 | 5.1 | 1.43 | 6.0 | 1.66 | 7.4 | 2.07 |
| | 25 | 5.067 | 0.0135 | 0.0038 | 41787 | 0.7 | 0.19 | 2.0 | 0.56 | 3.4 | 0.94 | 4.1 | 1.13 | 4.7 | 1.31 | 5.9 | 1.63 |
| | 22 | 3.879 | 0.0103 | 0.0029 | 54579 | 0.5 | 0.14 | 1.6 | 0.43 | 2.6 | 0.72 | 3.1 | 0.86 | 3.6 | 1.01 | 4.5 | 1.25 |
| | 19 | 2.850 | 0.0076 | 0.0021 | 68948 | 0.4 | 0.11 | 1.1 | 0.32 | 1.9 | 0.53 | 2.3 | 0.63 | 2.7 | 0.74 | 3.3 | 0.92 |
| Kilowatts Required | | | | | | 9 | | 26 | | 44 | | 52 | | 61 | | 76 | |

For operation below 50 RPM, an auxiliary lubrication system is required.

Volumetric Rate is based on 100% Volumetric Efficiency. Brake Horsepower/Kilowatts Required is based on 90% Mechanical Efficiency.

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