

GT Series Hydraulic Motors

Options

- Flange and wheel mount
- Bearingless motor
- Motor with brake
- Tachometer connection
- Speed sensing
- Side and rear ports
- Straight, splined and tapered shafts
- Metric and BSPP ports
- Other special features

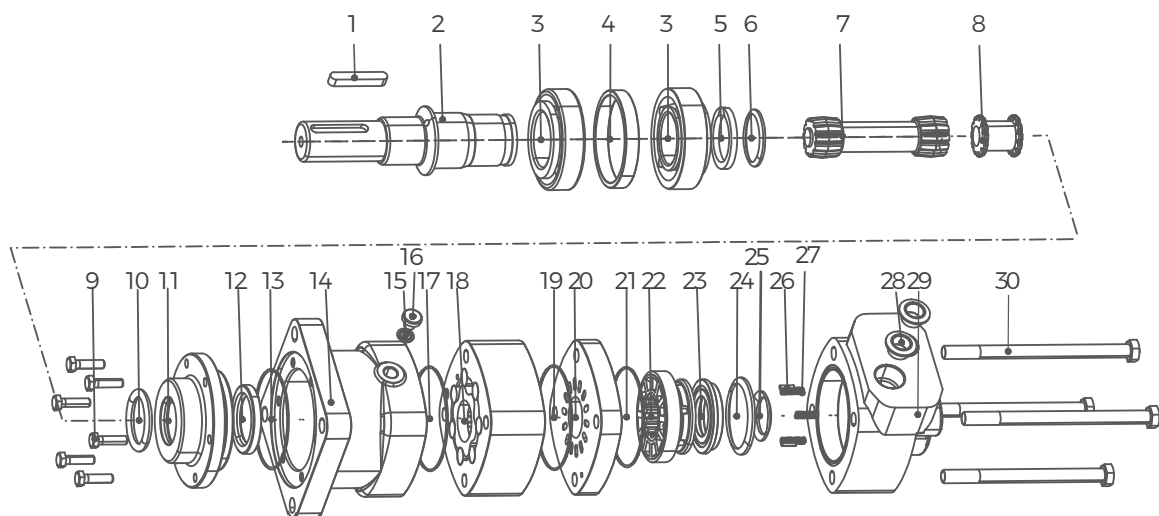
Applications

- Metal working machines
- Agricultural machines
- Road building machines
- Mining machines
- Food industries
- Special vehicles
- Injection molding machines
- Conveyors




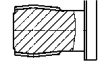

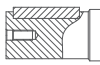

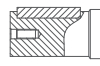

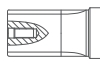

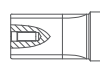
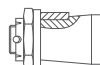

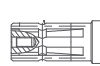

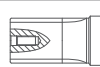
General

| | | |
|-------------------------|---|--|
| Max. Displacement | cm ³ /rev [in ³ /rev] | 724.3 [44.2] |
| Max. Speed | RPM | 775 |
| Max. Torque | daNm [lb-in] | cont.: 130 [11500] int.: 148 [13100] |
| Max. Output | kW [HP] | 40 [54] |
| Max. Pressure Drop | bar [PSI] | cont.: 200 [2900] int.: 240 [3480] |
| Max. Oil Flow | lpm [GPM] | 150 [39.6] |
| Min. Speed | RPM | 5 |
| Pmissible Shaft Loads | | Pa=1000 [2250] |
| Operating Fluid | | Mineral based- HLP (DIN 51524) or HM (ISO 6743/4) |
| Temperature Range | °C [°F] | -40÷140 [-40÷284] |
| Optimal Viscosity range | mm ² /s [SUS] | 20÷75 [98÷347] |
| Filtration | | ISO code 20/16 (Min. recommended fluid filtration of 25 microns) |



- | | | | | |
|--------------------------|----------------------|---------------------|----------------------------|-----------------------|
| 1 Parallel key | 7 Transmission shaft | 13 O-ring | 19 O-ring | 25 Small special ring |
| 2 Output shaft | 8 Coupling shaft | 14 Housing | 20 Balance plate | 26 Positioning pins |
| 3 Tapered roller bearing | 9 Hexagon screws | 15 Washer | 21 O-ring | 27 Spring |
| 4 Bearing outer retainer | 10 O-ring | 16 Plug | 22 Flow distribution plate | 28 Oil port plug cap |
| 5 Washers | 11 Front cover | 17 O-ring | 23 Flow pressure plate | 29 Rear housing |
| 6 Special shape ring | 12 Shaft seal | 18 Rotor and stator | 24 Large special ring | 30 Screw |

Ordering Code

| GT SERIES | | DISP | | FLANGE | | SHAFT | | PORTS | | ROTATION | | PAINT | | FUNCTION | |
|-----------|-------------------|------|--|--------|--|-------|---|-------|----------------------------------|----------|-------------|-------|--------------|----------|-------------|
| CODE | TYPE | CODE | DISP | CODE | FLANGE | CODE | SHAFT | CODE | PORTS | CODE | ROTATION | CODE | PAINT | CODE | FUNCTION |
| GT | Orbital motor | 160 | 161.1cm ³ /rev [9.83in ³ /rev] | H6 | 4-Ø14square Ø160, pilot Ø125×9  | C2 | Cardan 16-DP 12/24  | G3 | G3/4, G1/4 manifold 4×M10 | A | Standard | A | No Paint | A | Standard |
| GTS | Bearingless motor | 200 | 201.4cm ³ /rev [12.29in ³ /rev] | H7 | 4-Ø14.5 square Ø162, pilot Ø127×9  | SK | Ø40 parallel key 12×8×70  | M5 | M27×2, M14×1.5 manifold 4×M10 | B | Blue | F | Free running | B | Blue |
| | | 250 | 251.8cm ³ /rev [15.36in ³ /rev] | W2 | 4-Ø18 wheel Ø200, pilot Ø160×7  | SL | Ø38.1 parallel key 9.53×9.53×57.15  | U4 | 1-1/16-12UN O-ring, 9/16-18UNF | C | Black | L | Low speed | C | Black |
| | | 315 | 326.3cm ³ /rev [19.90in ³ /rev] | B2 | 4-Ø14 circle Ø160, pilot Ø125×8  | R9 | Ø38.1 splined tooth 17-DP 12/24  | U5 | 1-1/16-12UN O-ring, 7/16-20UNF | S | Silver grey | V | High Temp. | S | Silver grey |
| | | 400 | 410.9cm ³ /rev [25.06in ³ /rev] | H8 | 4-Ø14.5 square Ø162, pilot Ø127×10  | RA | Ø38.1 splined tooth 17-DP 12/24  | G4 | G3/4, G1/4 | | | S | Low Temp. | | |
| | | 500 | 523.6cm ³ /rev [31.95in ³ /rev] | | | T6 | Tapered 1:10 Ø45 parallel key B12×8×28  | M9 | M27×2, M14×1.5 | | | | | | |
| | | 630 | 631.2cm ³ /rev [38.52in ³ /rev] | | | T7 | Tapered 1:8 Ø45 parallel key 11.13×11.13×31.75  | | | | | | | | |
| | | 725 | 724.3cm ³ /rev [44.2in ³ /rev] | | | R7 | Ø34.85 splined tooth 6-34.85×28.14×8.64  | | | | | | | | |
| | | | | | | SM | Ø31.75 parallel key 7.96×7.96×40  | | | | | | | | |
| | | | | | | R3 | Ø31.75 splined tooth 14-DP 12/24  | | | | | | | | |

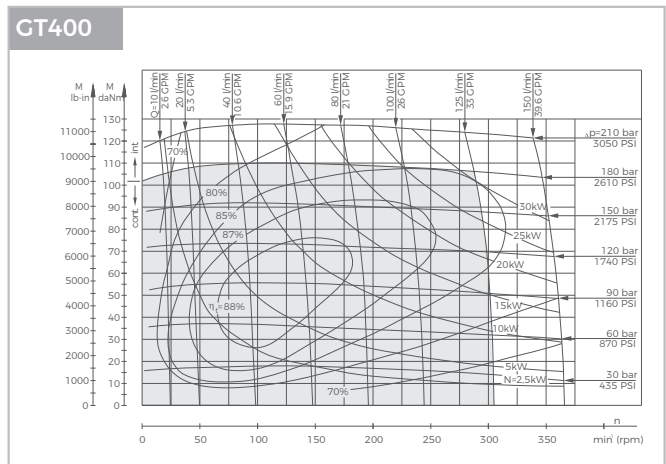
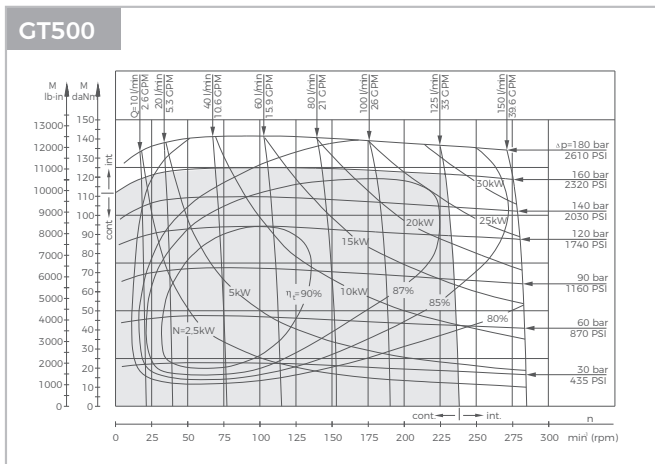
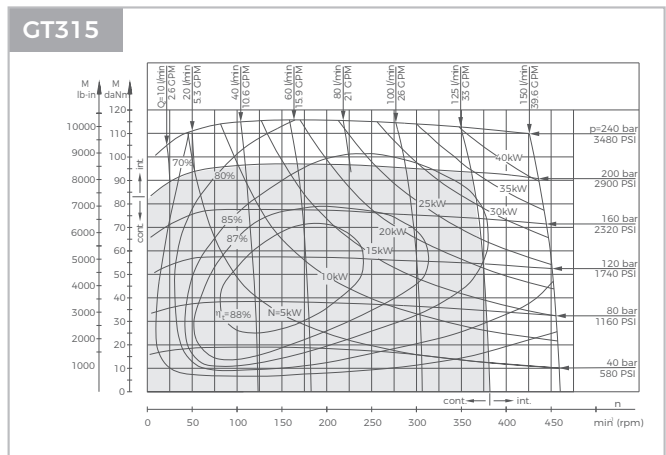
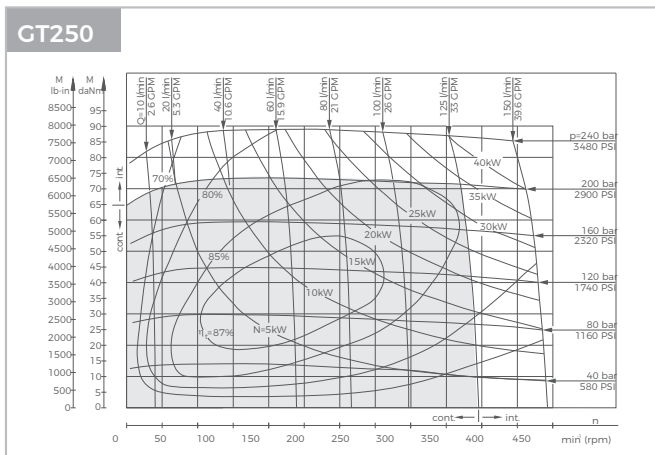
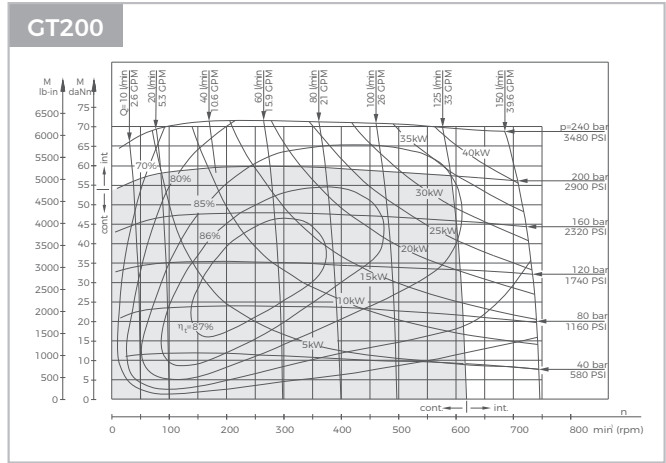
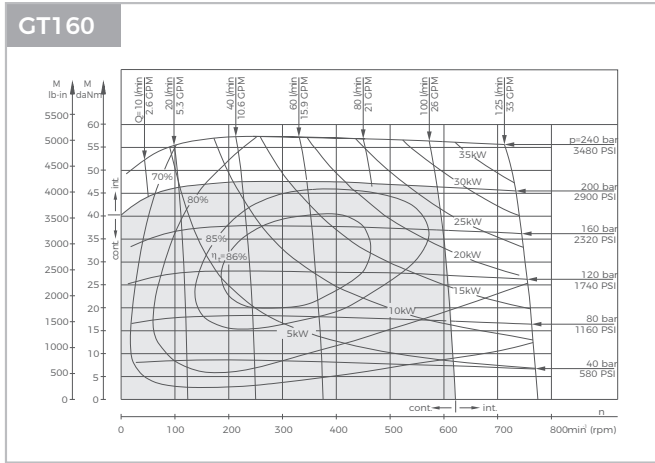
Specifications

| Type | | GT160 | GT200 | GT250 | GT315 |
|---|---------------------------|-------------|--------------|--------------|--------------|
| Displacement, cm ³ /rev [in ³ /rev] | | 161,1[9.83] | 201,4[12.29] | 251,8[15.36] | 326,3[19.90] |
| Max. Speed, | Cont. | 622 | 620 | 496 | 382 |
| RPM | Int.* | 775 | 752 | 601 | 461 |
| Max. Torque | Cont. | 47[4160] | 59[5220] | 73[6460] | 95[8410] |
| daNm [lb-in] | Int.* | 56[4960] | 71[6285] | 88[7790] | 114[10090] |
| | Peak** | 66[5840] | 82[7260] | 102[9030] | 133[11770] |
| Max. Output | Cont. | 26,5[36] | 33,5[45] | 33,5[45] | 33,5[45] |
| kW [HP] | Int.* | 32[43] | 40[54] | 40[54] | 40[54] |
| Max. Pressure Drop | Cont. | 200[2900] | 200[2900] | 200[2900] | 200[2900] |
| bar [PSI] | Int.* | 240[3480] | 240[3480] | 240[3480] | 240[3480] |
| | Peak** | 280[4050] | 280[4050] | 280[4050] | 280[4050] |
| Max. Oil Flow | Cont. | 100[26] | 125[33] | 125[33] | 125[33] |
| lpm [GPM] | Int.* | 125[33] | 150[39.6] | 150[39.6] | 150[39.6] |
| Max. Inlet Pressure | Cont. | 210[3050] | 210[3050] | 210[3050] | 210[3050] |
| bar [PSI] | Int.* | 250[3600] | 250[3600] | 250[3600] | 250[3600] |
| | Peak** | 300[4350] | 300[4350] | 300[4350] | 300[4350] |
| Max. Return Pressure | Cont. | 140[2030] | 140[2030] | 140[2030] | 140[2000] |
| without Drain Line | Int.* | 175[2540] | 175[2540] | 175[2540] | 175[2500] |
| bar [PSI] | Peak** | 210[3050] | 210[3050] | 210[3050] | 210[3000] |
| Max. Starting Pressure with Unloaded Shaft, bar [PSI] | | 10[150] | 10[150] | 10[150] | 10[150] |
| Min. Starting Torque daNm [lb-in] | At max. press. drop Cont. | 34[3010] | 43[3800] | 53[4690] | 74[6550] |
| | At max. press. drop Int.* | 41[3630] | 52[4600] | 63[5580] | 89[7880] |
| Min. Speed***, RPM | | 10 | 9 | 8 | 7 |
| Weight, kg [lb] | GT | 20[44.1] | 21,5[47.4] | 21[46.3] | 22[48.5] |
| For Reare Ports +0,450 [992] | GTS | 15[33.1] | 15,5[34.2] | 16[35.3] | 17[37.5] |

Specifications

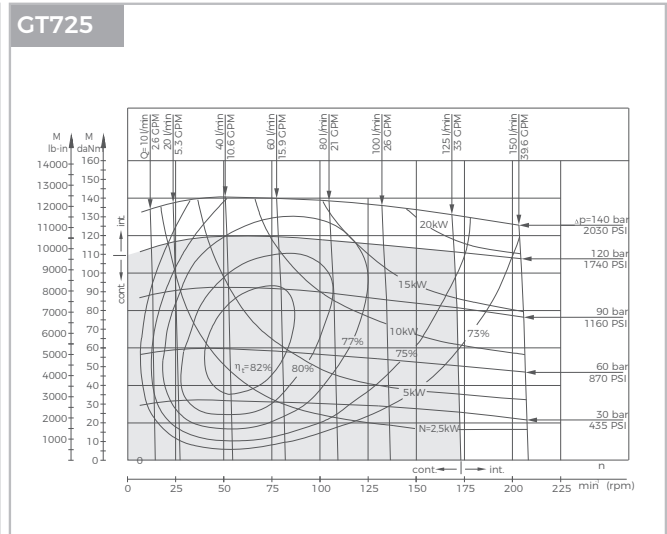
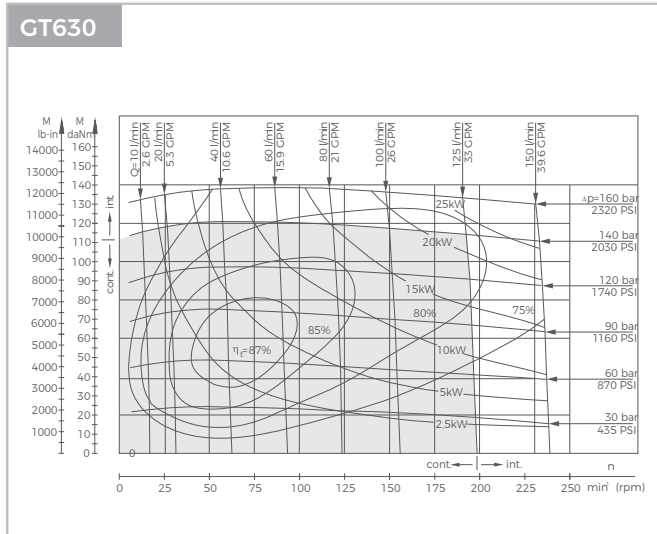
| Type | | GT400 | GT500 | GT630 | GT725 |
|---|---------------------------|--------------|--------------|--------------|-------------|
| Displacement, cm ³ /rev [in ³ /rev] | | 410,9[25.06] | 523,6[31.95] | 631,2[38.52] | 724,3[44.2] |
| Max. Speed | Cont. | 304 | 238 | 197 | 172 |
| RPM | Int.* | 368 | 289 | 234 | 209 |
| Max. Torque | Cont. | 108[9560] | 122[10800] | 130[11500] | 127[11240] |
| daNm [lb-in] | Int.* | 126[11150] | 137[12125] | 148[13100] | 147[13010] |
| | Peak** | 144[12745] | 160[14160] | 176[15580] | 175[15490] |
| Max. Output | Cont. | 30[40] | 26,5[36] | 24,3[33] | 20,2[27] |
| kW [HP] | Int.* | 35[47] | 30[40] | 27,5[37] | 26,8[36] |
| Max. Pressure Drop | Cont. | 180[2610] | 160[2320] | 140[2010] | 120[1740] |
| bar [PSI] | Int.* | 210[3050] | 180[2610] | 160[2320] | 140[2010] |
| | Peak** | 240[3480] | 210[3050] | 190[2760] | 165[2395] |
| Max. Oil Flow | Cont. | 125[33] | 125[33] | 125[33] | 125[33] |
| lpm [GPM] | Int.* | 150[39.6] | 150[39.6] | 150[39.6] | 150[39.6] |
| Max. Inlet Pressure | Cont. | 210[3050] | 210[3050] | 210[3050] | 210[3050] |
| bar [PSI] | Int.* | 250[3600] | 250[3600] | 250[3600] | 250[3600] |
| | Peak** | 300[4350] | 300[4350] | 300[2000] | 300[4350] |
| Max. Return Pressure | Cont. | 140[2000] | 140[2000] | 140[2500] | 140[2000] |
| without Drain Line | Int.* | 175[2500] | 175[2500] | 175[3000] | 175[2500] |
| bar [PSI] | Peak** | 210[3000] | 210[3000] | 210[3000] | 210[3000] |
| Max. Starting Pressure with Unloaded Shaft, bar [PSI] | At max. press. drop Cont. | 10[150] | 10[150] | 10[150] | 10[150] |
| Min. Starting Torque daNm [lb-in] | At max. press. drop Int.* | 84[7435] | 95[8410] | 95[8410] | 95[8410] |
| Min. Speed***, RPM | | 97[8585] | 106[9380] | 110[9740] | 115[10180] |
| Min. Speed***, RPM | | 6 | 5 | 5 | 5 |
| Weight, kg [lb] | GT | 23[50.7] | 24[52.9] | 23,5[51.8] | 24,5[54.0] |
| For Reare Ports +0,450 [.992] | GTS | 18[39.7] | 19[41.9] | 18,5[40.8] | 19,5[43.0] |

Function Diagrams



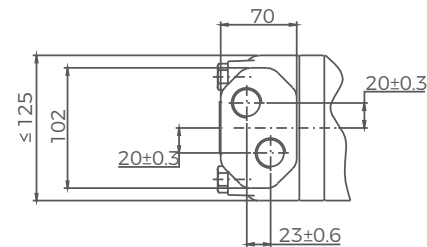
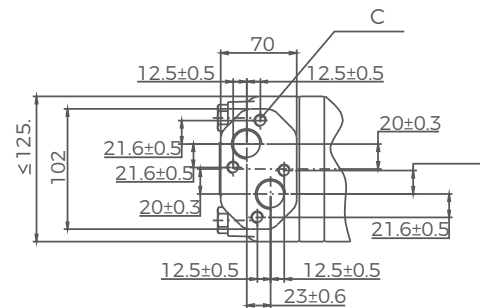
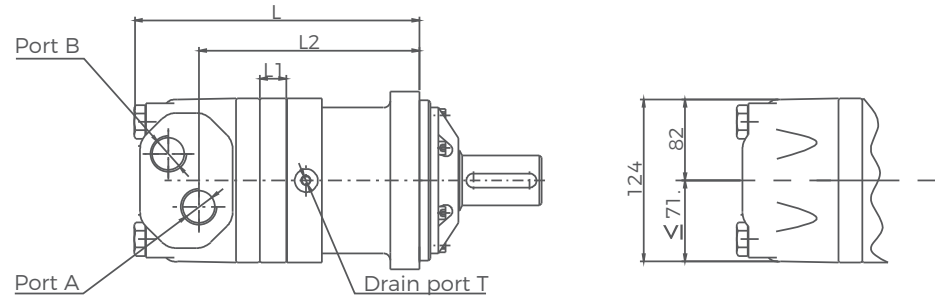
The function diagrams data is for average performance of randomly selected motors at backpressure. 5÷10 bar [72.5÷145 PSI] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].

Function Diagrams



The function diagrams data is for average performance of randomly selected motors at backpressure. 5 ÷ 10 bar [72.5 ÷ 145 PSI] and oil with viscosity of 32 mm²/s [150 SUS] at 50°C [122°F].

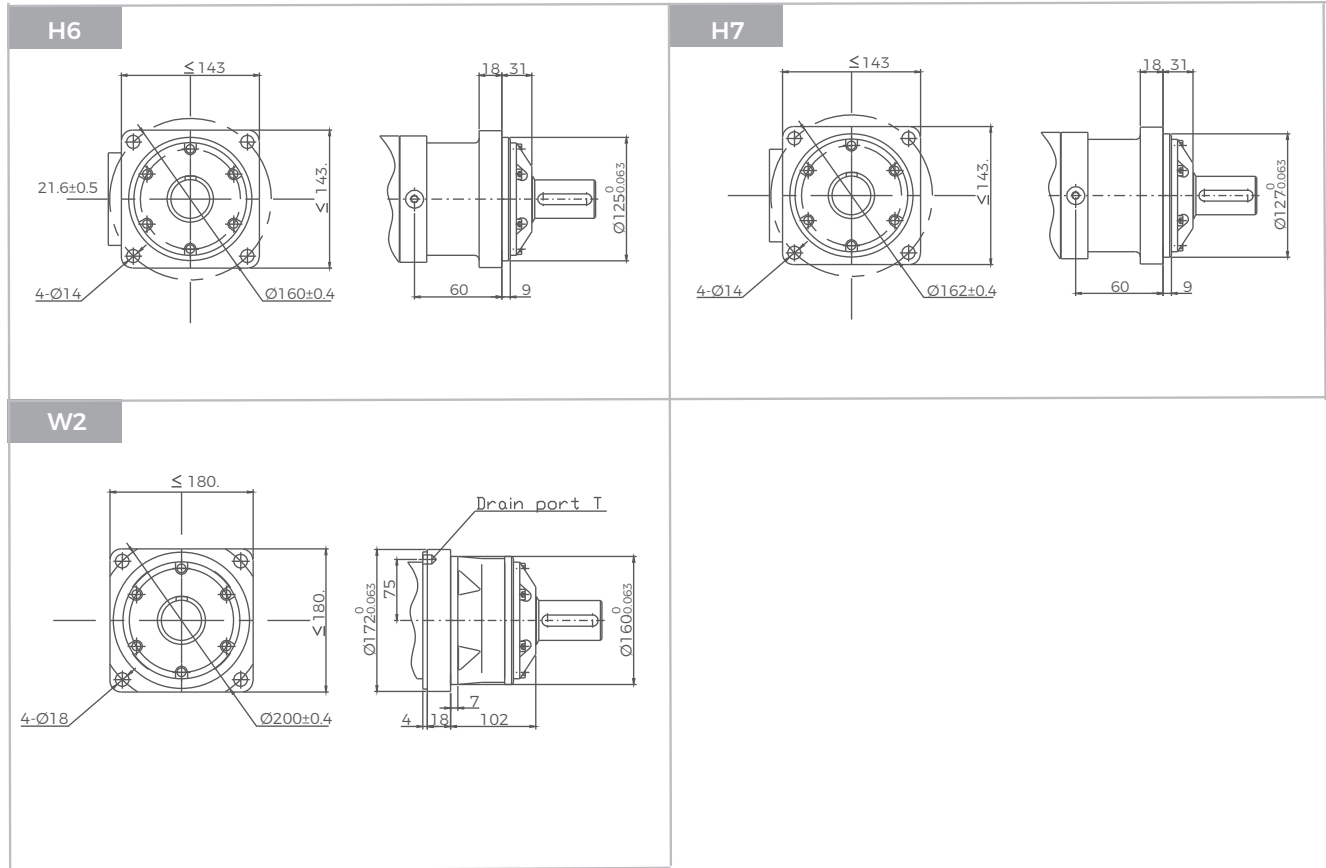
GT Dimensions and Mountings



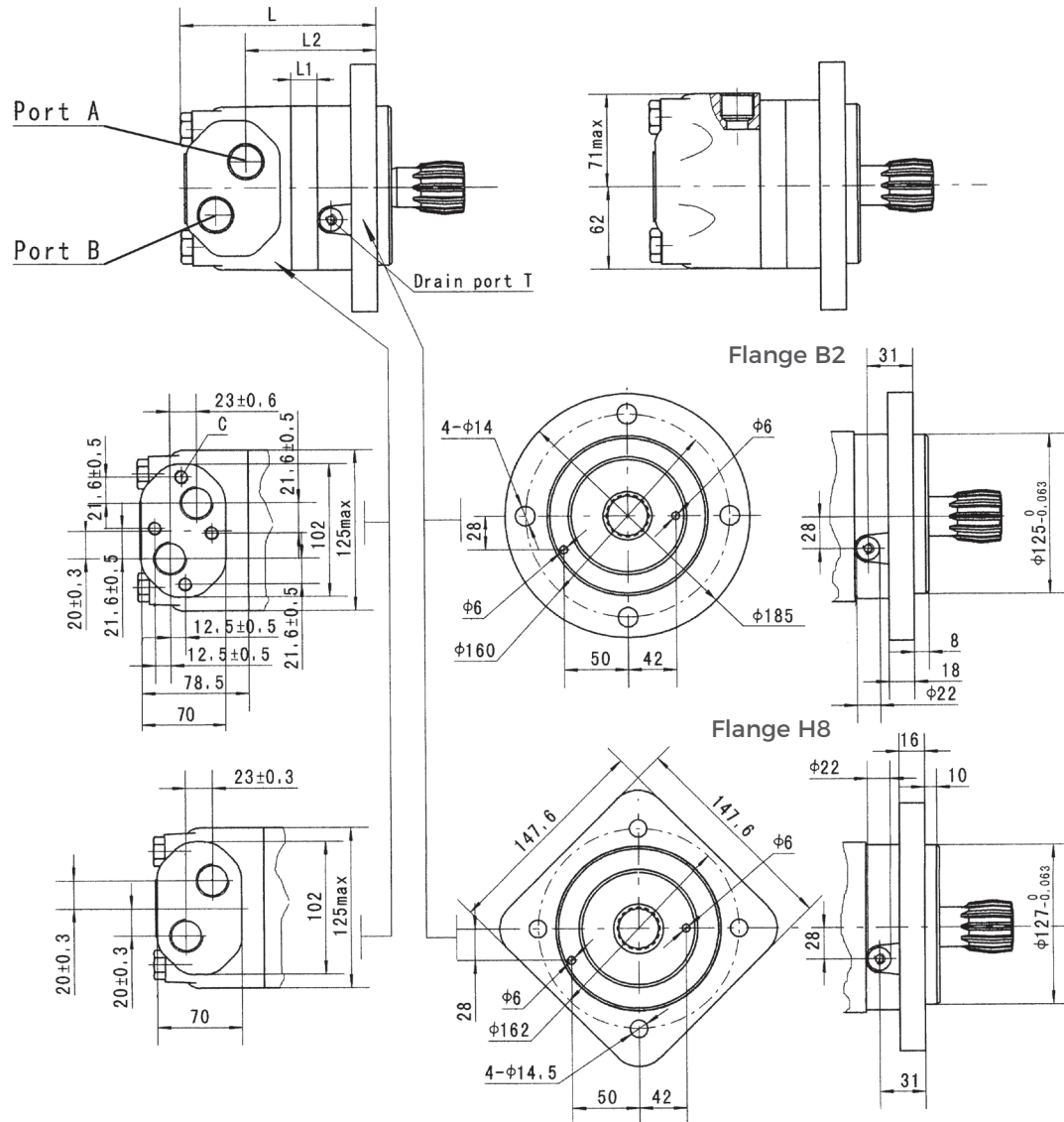
| Model | L | L1 | L2 |
|-------|-----|----|-------|
| GT160 | 193 | 17 | 142.5 |
| GT200 | 197 | 21 | 146.5 |
| GT250 | 204 | 14 | 152.5 |
| GT315 | 210 | 20 | 158.5 |
| GT400 | 217 | 27 | 165.5 |
| GT500 | 225 | 35 | 173.5 |
| GT630 | 237 | 47 | 185.5 |
| GT725 | 248 | 58 | 196.5 |

| Mounting | G3 (depth) | M5 (depth) | U4 (depth) | M9 (depth) | U5 (depth) |
|----------|---------------|---------------|------------------|---------------|------------------|
| P(A, B) | G3/4(18) | M27 x 2(18) | 1-1/16-12 UN(18) | M27 x 2(18) | 1-1/16-12 UN(18) |
| T | G1/4(12) | M14 x 1.5(12) | 9/16-18 UNF(12) | M14 x 1.5(12) | 7/16-20 UNF(12) |
| C | 4-M10(10) | 4-M10(10) | — | — | — |

GT Flange Covers Dimensions



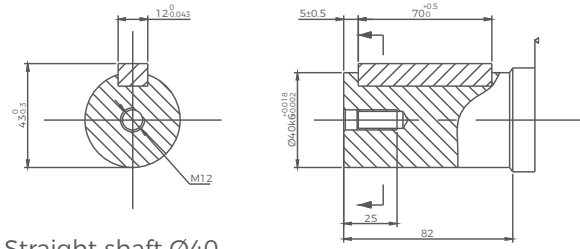
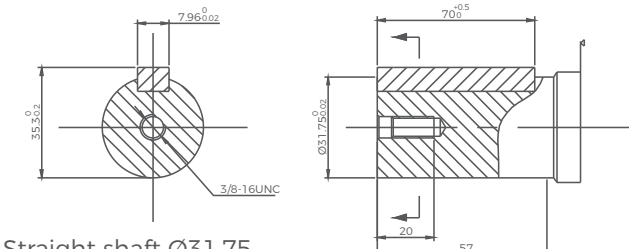
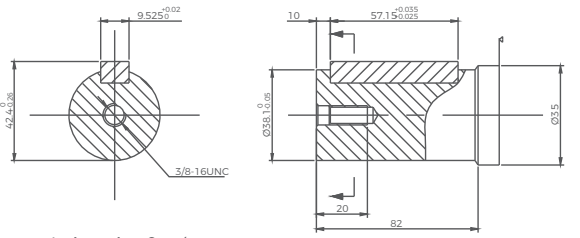
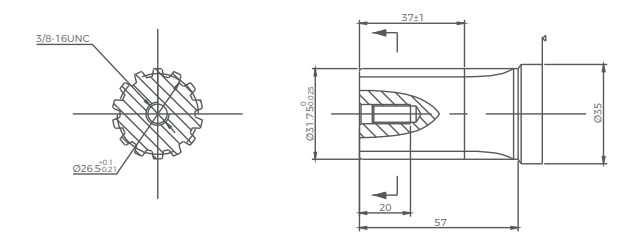
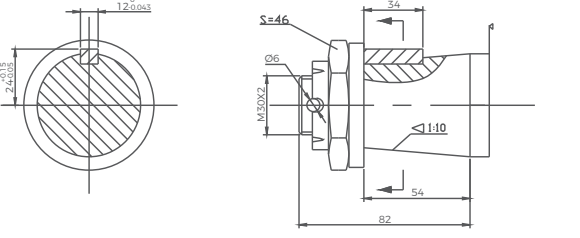
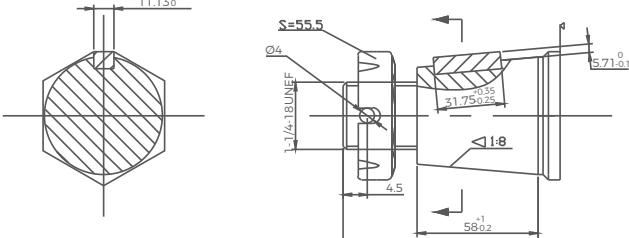
GTS Bearingless Motor Dimensions and Mounting



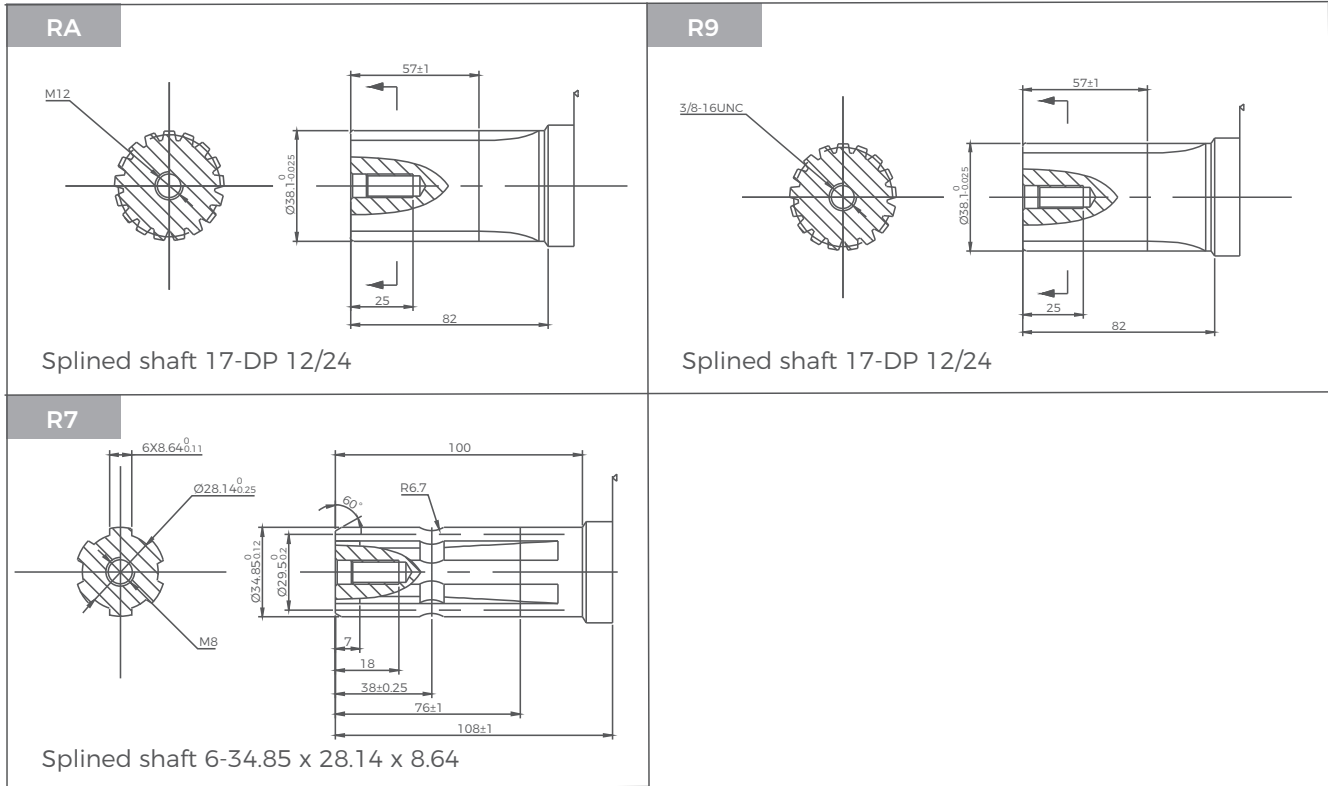
| Model | L | L1 | L2 |
|--------|-----|----|-------|
| GTS160 | 148 | 17 | 96.5 |
| GTS200 | 152 | 21 | 100.5 |
| GTS250 | 157 | 14 | 109 |
| GTS315 | 163 | 20 | 115 |
| GTS400 | 170 | 27 | 122 |
| GTS500 | 178 | 35 | 130 |
| GTS630 | 190 | 47 | 142 |
| GTS725 | 201 | 58 | 153 |

| Mounting | G3 | M5 | U4 | M9 | U5 |
|----------|-----------|---------------|------------------|---------------|------------------|
| | (depth) | (depth) | (depth) | (depth) | (depth) |
| P(A, B) | G3/4(18) | M27 x 2(18) | 1-1/16-12 UN(18) | M27 x 2(18) | 1-1/16-12 UN(18) |
| T | G1/4(12) | M14 x 1.5(12) | 9/16-18 UNF(12) | M14 x 1.5(12) | 7/16-20 UNF(12) |
| C | 4-M10(10) | 4-M10(10) | — | — | — |

GT Shafts Dimensions

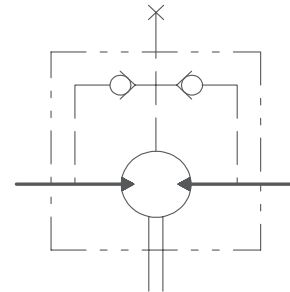
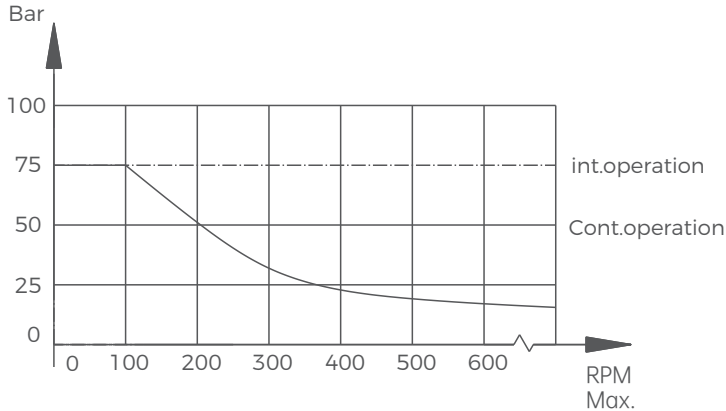
| | |
|--|--|
| <p>SK</p>  <p>Straight shaft Ø40 Parallel key 12 x 8 x 70</p> | <p>SM</p>  <p>Straight shaft Ø31.75 Parallel key 7.96 x 7.96 x 40</p> |
| <p>SL</p>  <p>Straight shaft Ø38.1 Parallel key 9.525 x 9.525 x 57.15</p> | <p>R3</p>  <p>Splined shaft 14-DP 12/24</p> |
| <p>T6</p>  <p>Tapered shaft Ø45 Parallel key B12 x 8 x 28 Tightening torque: 500 ± 10 Nm</p> | <p>T7</p>  <p>Tapered shaft Ø45 Parallel key 11.13 x 11.13 x 31.75 Tightening torque: 500 ± 10 Nm</p> |

GT Shafts Dimensions



GT Series Hydraulic Motors

Permissible shaft seal pressure



GT with standard shaft seal check valves and without use of drain connection: The pressure on the shaft seal never exceeds the pressure in the return line.

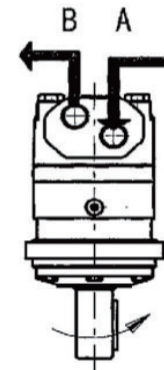
GT with standard shaft seal, check valves and with drain connection: The shaft seal pressure equals the pressure on the drain line.

Drain port

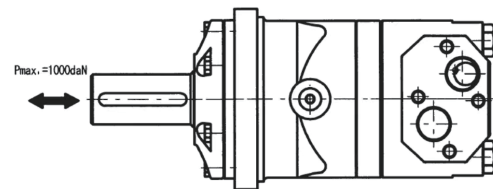
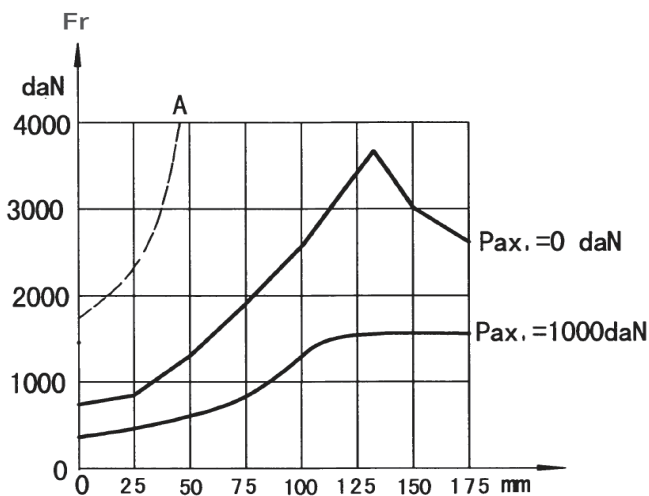
In applications without drain line, output shaft seal exceeds a bit of the pressure in the return line. In applications using the drain line, the pressure of output shaft seal equals the pressure in drain line.

Standard direction of shaft rotation: Standard

When facing shaft end of motor, shaft to rotate:
Clockwise. When port A is pressurized.
Counter-clockwise port B is pressurized.



Axial and radial force



The output shaft runs in tapered bearings that permit high axial and radial forces, Curve "A" shows max radial shaft load, Any shaft loads exceeding the values quoted in the curve will involve a risk of breakage, The two other curves apply to a B10 bearing life of 3000 hours at 200 RPM.