

PGP 500 pumps offer superior performance, high efficiency and low noise operation at high operating pressures. They are produced in four frame sizes (PGP 502, PGP 505, PGP 511, PGP 517) with displacements ranging from 0.8 to 70 cm³/rev. A wide variety of standard options is available to meet specific application requirements.



Characteristics

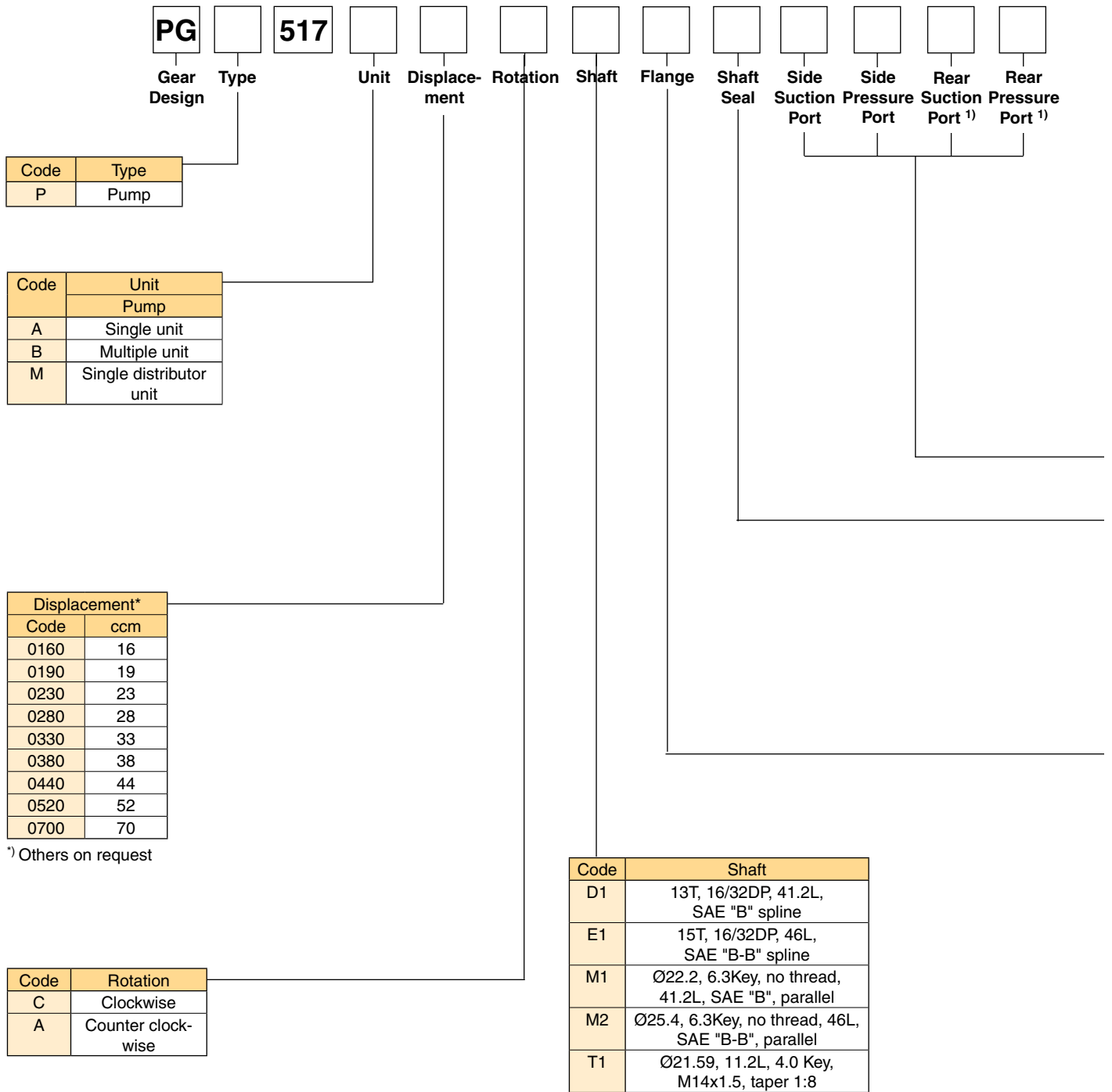
- **Up to 280 bar continuous operation**
High strength materials and large journal diameters provide low bearing loads for high pressure operation.
- **Low noise**
PGP 502 - 9 tooth gear profile, PGP 505 and 517 - 13 tooth gear profile, PGP 511 - 12 tooth gear profile and optimized flow metering provide reduced pressure pulsation and exceptionally quiet operation.

- **High efficiency**
Pressure balanced bearing blocks assure maximum efficiency under all operating conditions.
- **Application flexibility**
International mounts and connections, integrated valve capabilities and common inlet multiple pump configurations provide unmatched design and application versatility.
- **Large range of integrated valves**

Characteristics

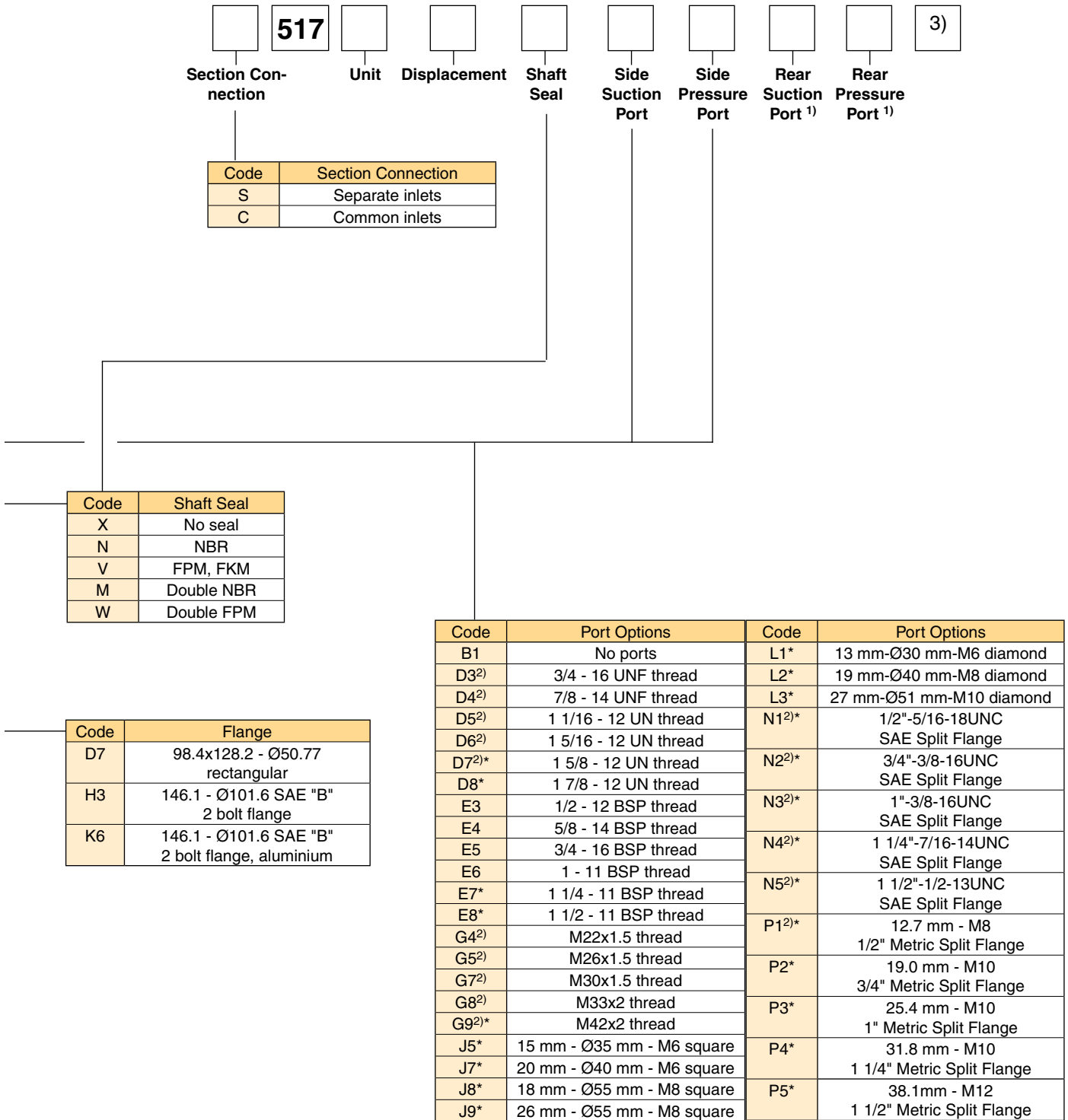
| | |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pump type | Heavy-duty, aluminium, external gear. |
| Mounting | SAE, rectangular, thru-bolt standard specials on request. |
| Ports | SAE and metric split flanges and others |
| Shaft style | SAE splined, keyed, tapered, cylindrical tang drive, specials on request |
| Speed | 500 - 5000 rpm, see Technical Data |
| Theor. displacement | See Technical Data |
| Drive | Drive direct with flexible coupling is recommended. |
| Axial / Radial load | Units subject to axial or radial loads must be specified with an outboard bearing. |
| Inlet pressure | Operating range 0.8 to 2 bar abs. Min. inlet pressure 0.5 bar abs. Short time without load. Consultation is recommended. |
| Outlet pressure | See Technical Data |
| Pressure rising rate | Max. 3000 bar/s |
| Flow velocity | See Nomograph for Pipe Velocity |
| Hydraulic fluids | Hydraulic oil HLP, DIN 51524-2 |
| Fluid temperature | Range of operating temperature -15 to +80 °C. Max. permissible operating pressure dependent on fluid temperature. Temperature for cold start -20 to -15 °C at speed ≤ 1500 rpm. Max. permissible operating pressure dependent on fluid temperature. |

| | |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fluid viscosity | Range of operating viscosity 8 to 1000 mm ² /s (511 & 517) 20 to 1000 mm ² /s (502 & 505) Max. permissible operating pressure dependent on viscosity. Viscosity range for cold start 1000 to 2000 mm ² /s at operating pressure p ≤ 10 bar and speed n ≤ 1500 rpm. |
| Range of ambient temperature | -40 °C to +70 °C |
| Filtration | According to ISO 4406 Cl. 19/17/13 |
| Direction of rotation (looking at the drive shaft) | Clockwise, counter-clockwise or double. Attention! Drive pump only in indicated direction of rotation. |
| Multiple pump assemblies | <ul style="list-style-type: none"> • Available in two or three section the limitations shown in the shaft loading rating table in this catalogue. • Max. load is determined by adding the torque values for each pumping section that will be simultaneously loaded. |
| Separate or common inlet capability | Separate inlet configuration: <ul style="list-style-type: none"> • Each gear housing has individual inlet and outlet ports. Common inlet configuration: <ul style="list-style-type: none"> • Two gear sets share a common inlet. |



Not all variances of ordering codes can be offered. Please check available part numbers first. For not yet implemented part numbers or special requests please contact Parker Hannifin.

¹⁾ Only coded for the last section.

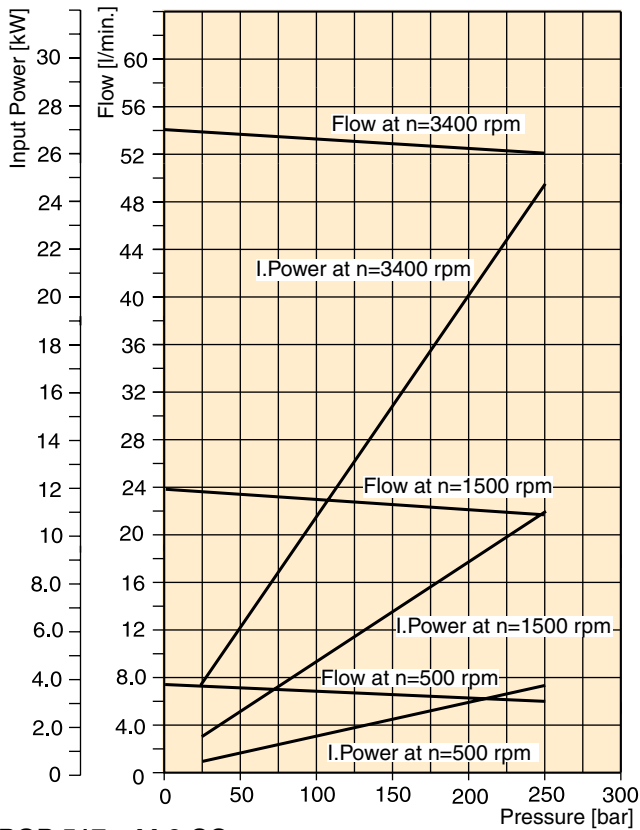


2) Non standard, on request only

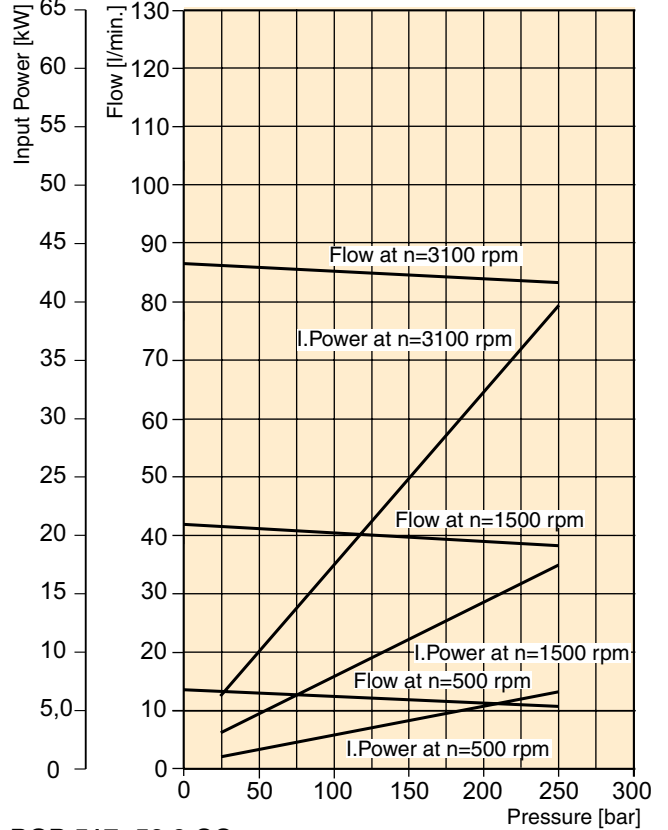
*) Not usable for rear ports

3) For further "B" triple unit repeat displacement, shaft seal between sections, side suction port, side pressure port, rear suction port, rear pressure port.

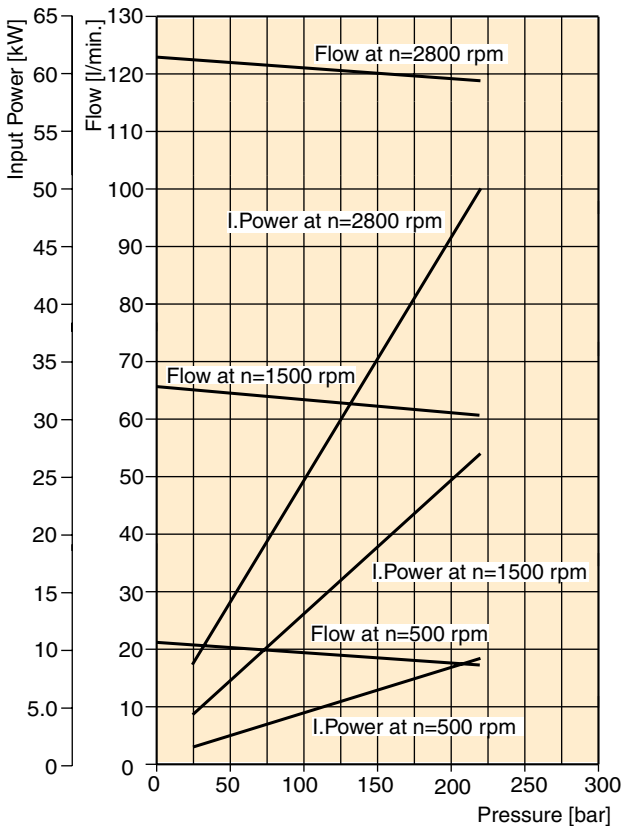
PGP 517- 16.0 CC



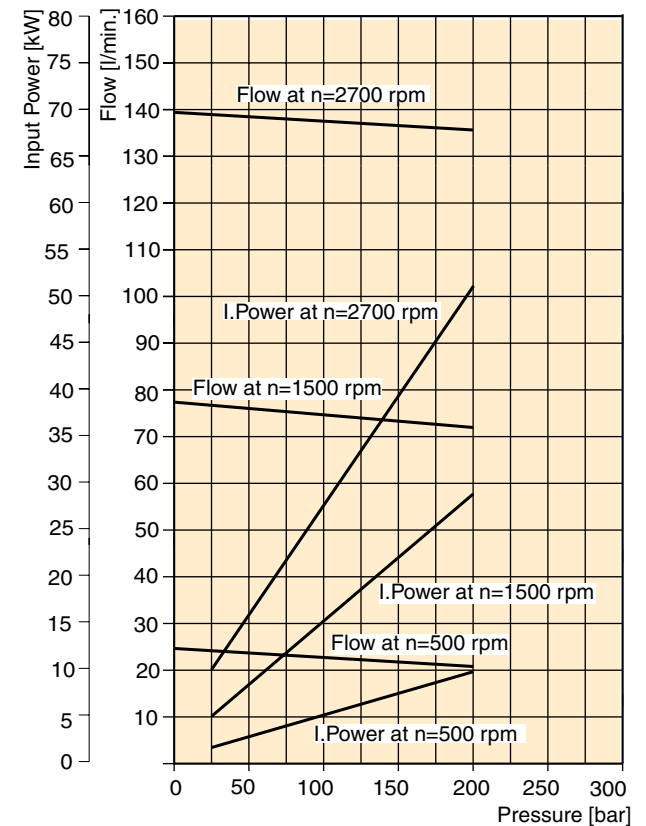
PGP 517 -28.0 CC



PGP 517 - 44.0 CC



PGP 517- 52.0 CC



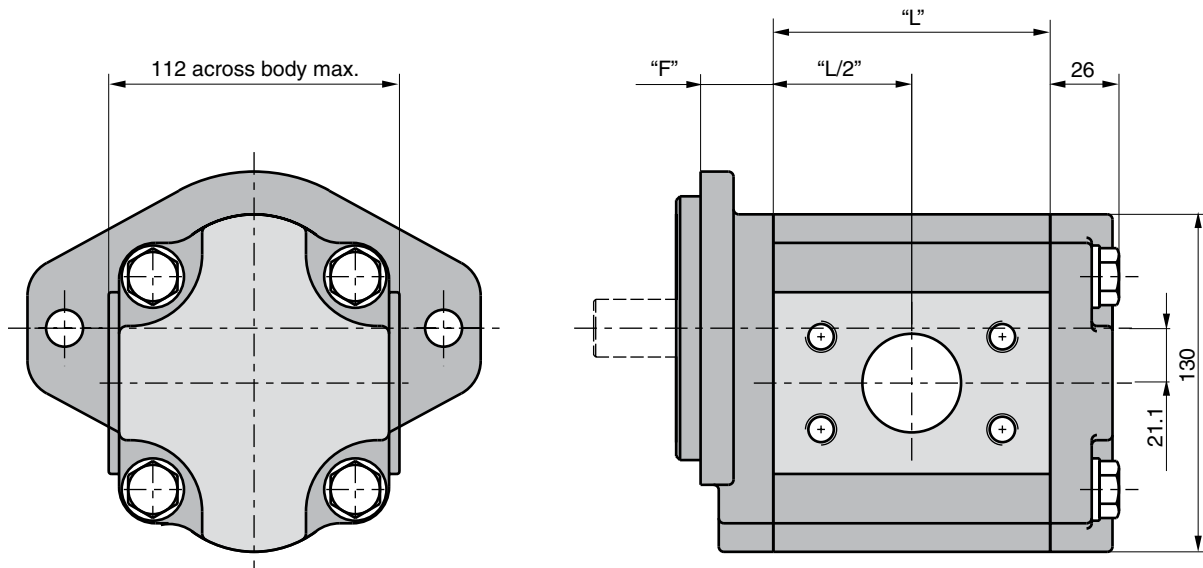
Fluid Temperature = 45± 2°C
 Viscosity = 36 mm²/s
 Inlet Pressure = 0.9 + 0.1 bar absolute

PGP 517 Specification - Standard Displacements

| Pump Displacement | Code | 0160 | 0190 | 0230 | 0280 | 0330 | 0380 | 0440 | 0520 | 0700 |
|----------------------------------------------------------|----------------------|------|------|------|------|------|------|------|-------|-------|
| | cm ³ /rev | 16.0 | 19.0 | 23.0 | 28.0 | 33.0 | 38.0 | 44.0 | 52.0 | 70.0 |
| Max. Continuous Pressure | bar | 250 | 250 | 250 | 250 | 250 | 250 | 220 | 200 | 160 |
| Minimum Speed @ Max. outlet pressure | rpm | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| Maximum Speed @ 0 Inlet & Max. outlet pressure | rpm | 3400 | 3300 | 3300 | 3100 | 3000 | 3000 | 2800 | 2700 | 2400 |
| Pump Input Power @ Max. Pressure and 1500 rpm | kW | 11 | 13.1 | 15.8 | 19.3 | 22.7 | 26.1 | 27 | 28.6 | 31.2 |
| Dimension "L" | mm | 70.3 | 73.3 | 77.4 | 82.4 | 87.5 | 92.5 | 98.6 | 106.7 | 124.9 |
| Approximate Weight ¹⁾ | kg | 8.00 | 8.12 | 8.29 | 8.50 | 8.70 | 8.91 | 9.16 | 9.49 | 10.24 |

¹⁾ Single pump with Flange H3 and Port end cover B1

Single Unit PGP 517

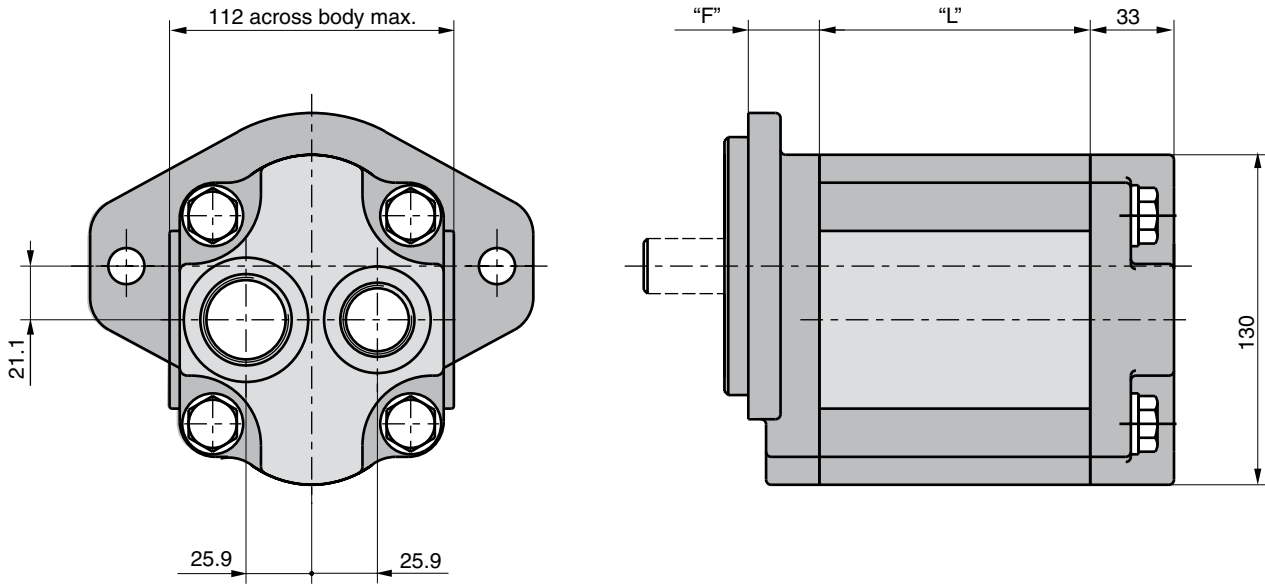


Dimension "L" see table above

Dimension "F" see flanges on page 43

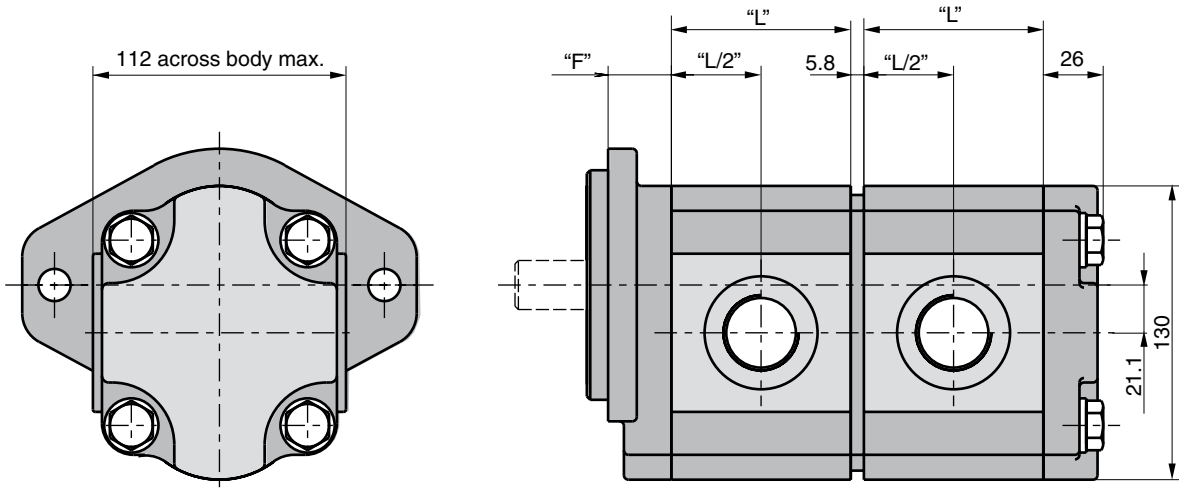
Dimension Shafts see pages 46 to 48

Single Unit PGP 517 with rear ports



Dimension "L" see table on page 41
Dimension "F" see flanges on page 43
Dimension Shafts see pages 46 to 48

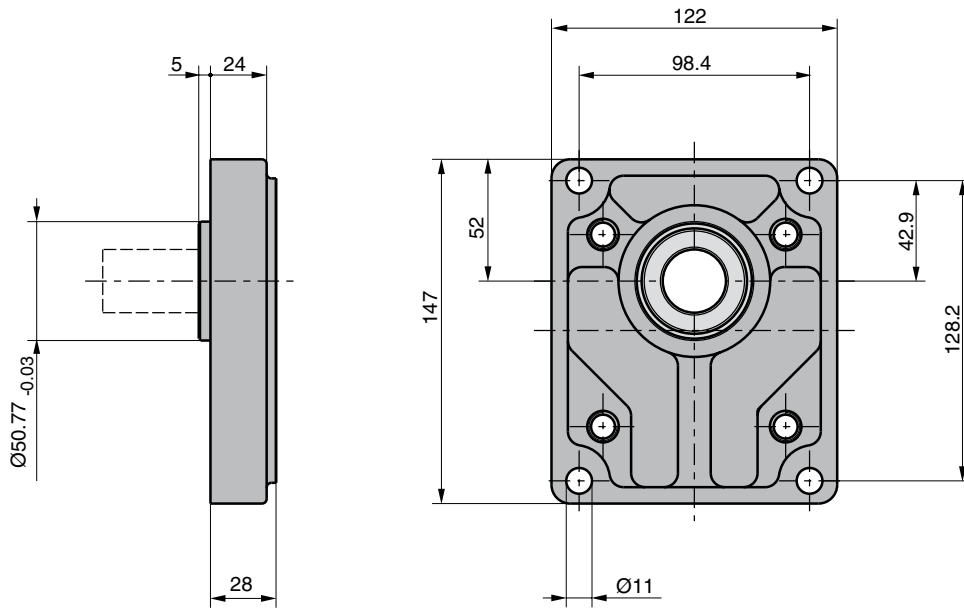
Tandem Unit PGP 517



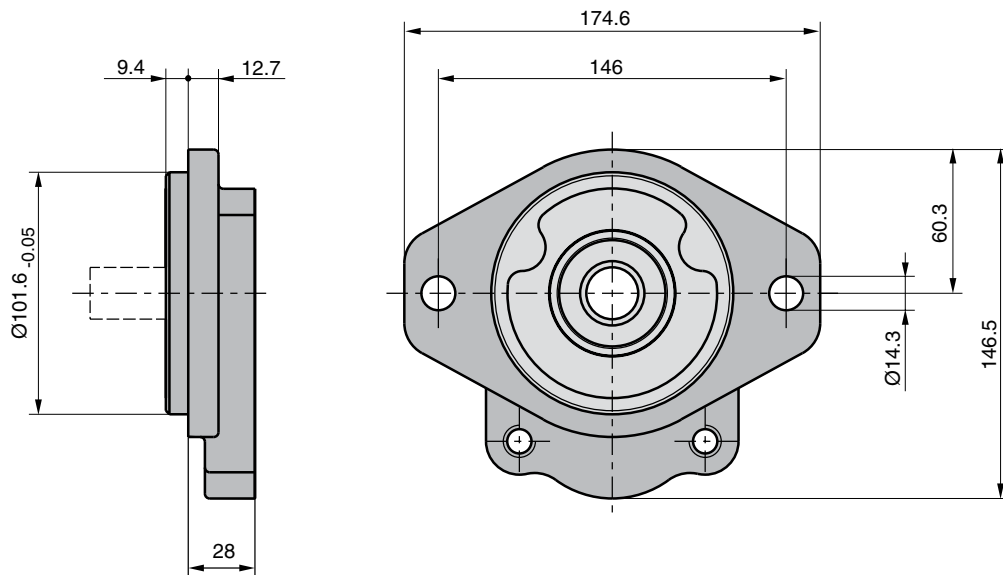
Dimension "L" see table on page 41
Dimension "F" see flanges on page 43
Dimension Shafts see pages 46 to 48

PGP 517 Mounting Flange

Code D7



Code H3/K6

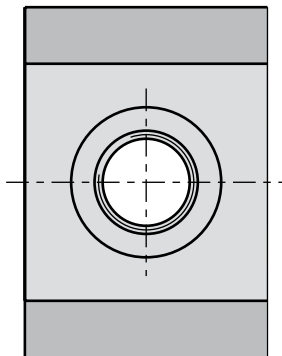
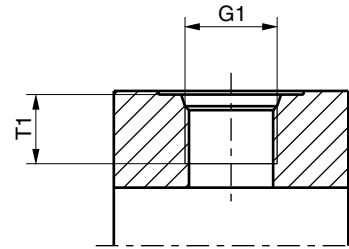
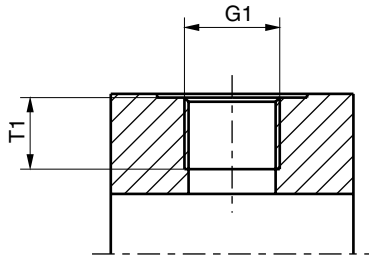


PGP 517 Porting

Code E
 British Standard Pipe

Code G
 Metric straight thread

Code D
 SAE straight thread



PGP 517

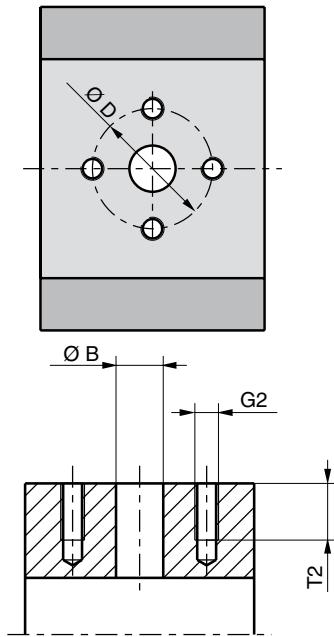
| Code | G1 Thread | T1 Dimensions |
|------|--------------|------------------|
| D2 | 9/16-18 UNF | 12.7 |
| D3 | 3/4-16 UNF | 14.3 |
| D4 | 7/8-14 UNF | 16.7 |
| D5 | 1 1/16-12 UN | 19.0 |
| D6 | 1 5/16-12 UN | 19.0 |
| D7 | 1 5/8-12 UN | 19.0 |
| D8 | 1 7/8-12 UN | 19.0 |
| E2 | 3/8-19 BSP | 12.0 |
| E3 | 1/2-14 BSP | 14.0 |
| E4 | 5/8-14 BSP | 16.3 |
| E5 | 3/4-16 BSP | 16.0 |
| E6 | 1-11 BSP | 18.0 |
| E7 | 1 1/4-11 BSP | 20.0 |
| E8 | 1 1/2-11 BSP | 22.0 |
| G4 | M 22x1.5 | 14.0 |
| G5 | M 26x1.5 | 16.0 |
| G7 | M 30x1.5 | 12.0 |
| G8 | M 33x2 | 18.0 |
| G9 | M 42x2 | 20.0 |

Port options

PGP 517 Porting

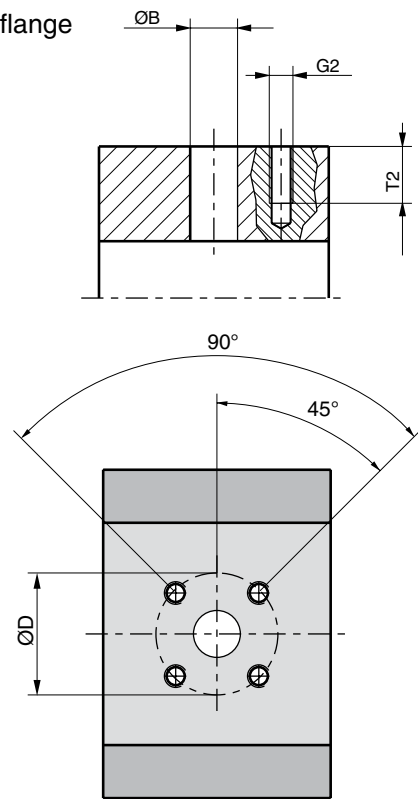
Code L

4-Bolt flange



Code J

European flange

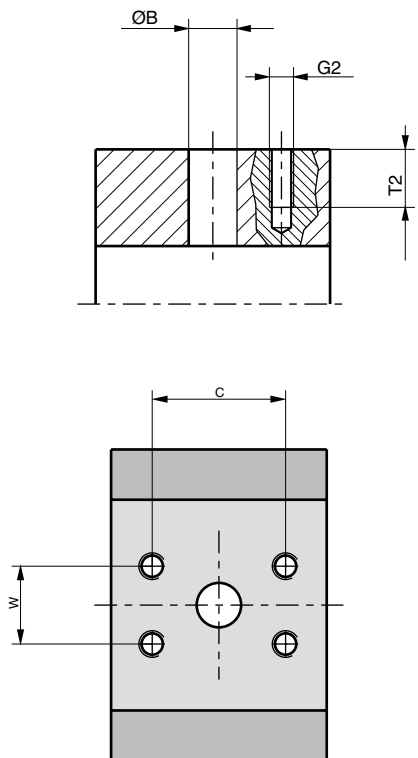


Code N

SAE split flange

Code P

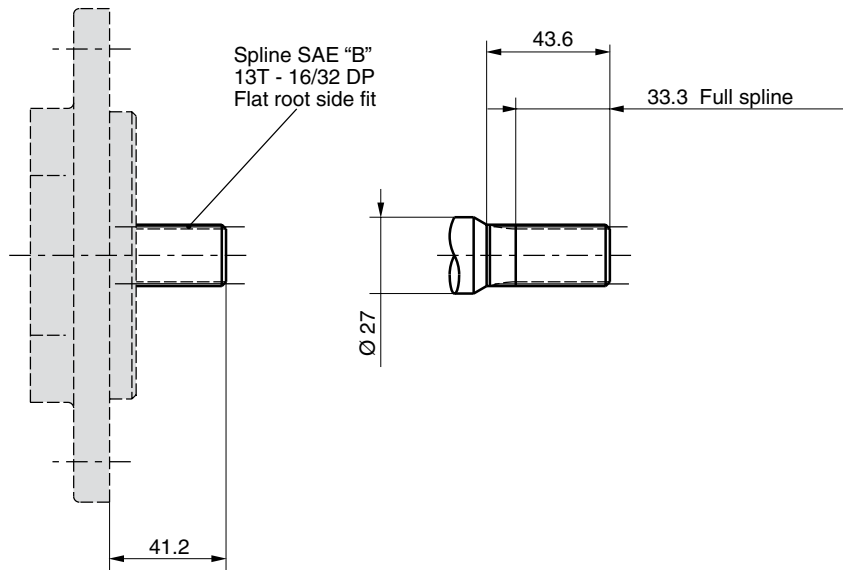
SAE split flange metric thread



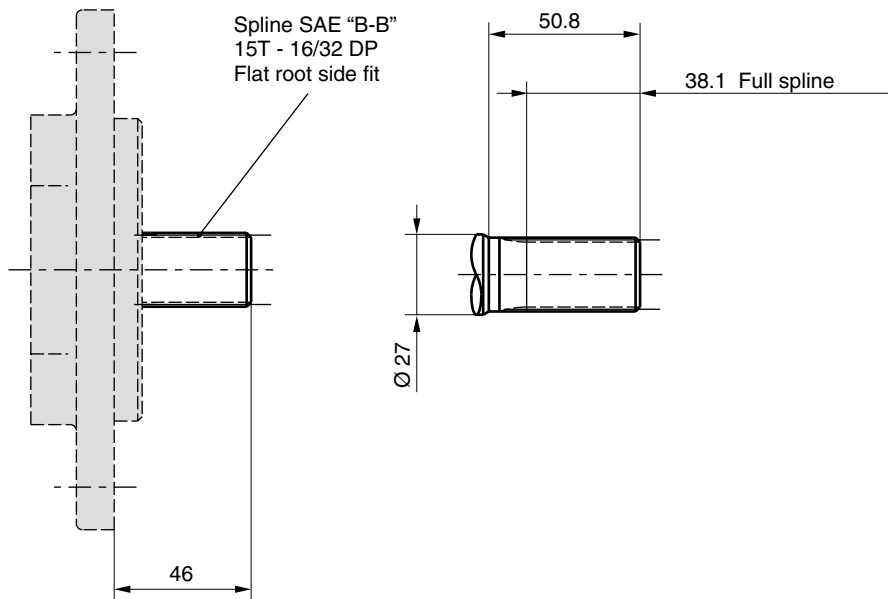
PGP 517

| Code | G2 | Ø B | Ø D | S | C | W | T2 |
|------|-------------|------|------|---|-------|-------|------|
| | Thread | | | | | | |
| J5 | M6 | 15.0 | 35.0 | | | | 12.5 |
| J7 | M6 | 20.0 | 40.0 | | | | 13.0 |
| J8 | M8 | 18.0 | 55.0 | | | | 15.0 |
| J9 | M8 | 26.0 | 55.0 | | | | 15.0 |
| L1 | M6 | 13.0 | 30.0 | | | | 13.0 |
| L2 | M8 | 19.0 | 40.0 | | | | 15.0 |
| L3 | M10 | 27.0 | 51.0 | | | | 18.0 |
| L4 | 1/4-20 UNF | 13.0 | 30.0 | | | | 13.0 |
| N1 | 5/16-18 UNC | 12.7 | | | 38.10 | 17.48 | 15.0 |
| N2 | 3/8-16 UNC | 19.0 | | | 47.63 | 22.23 | 14.0 |
| N3 | 3/8-16 UNC | 25.4 | | | 52.37 | 26.19 | 20.6 |
| N4 | 7/16-14 UNC | 31.8 | | | 58.72 | 30.17 | 20.6 |
| N5 | 1/2-13 UNC | 38.1 | | | 69.82 | 35.71 | 20.6 |
| P1 | M8 | 12.7 | | | 38.10 | 17.48 | 15.0 |
| P2 | M10 | 19.0 | | | 47.63 | 22.23 | 20.6 |
| P3 | M10 | 25.4 | | | 52.37 | 26.19 | 21.4 |
| P4 | M10 | 31.8 | | | 58.72 | 30.17 | 20.6 |
| P5 | M12 | 38.1 | | | 69.82 | 35.71 | 20.6 |

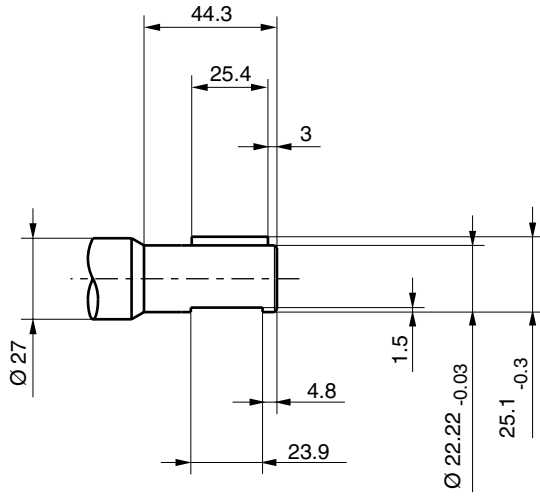
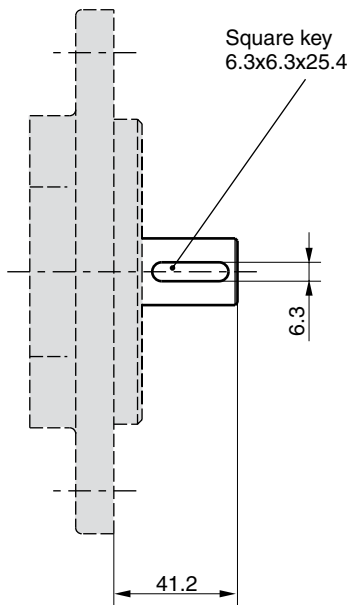
PGP 517 Drive Shaft
Code D1



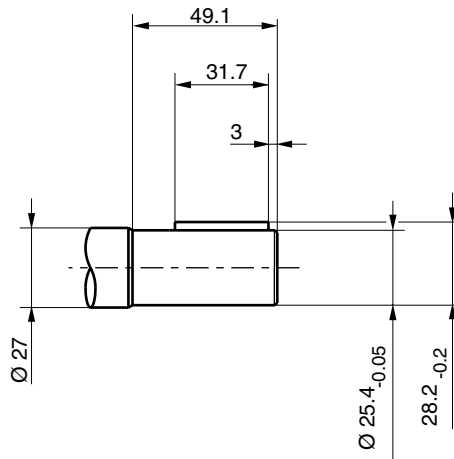
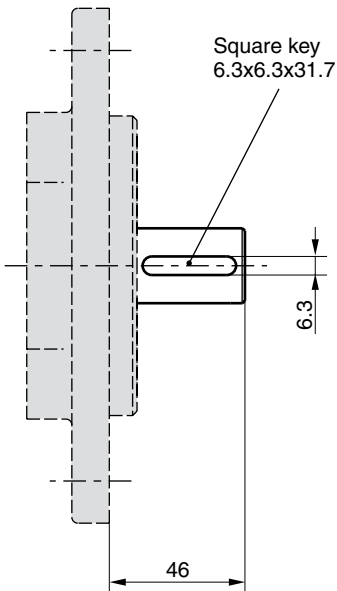
Code E1



PGP 517 Drive Shaft
Code M1

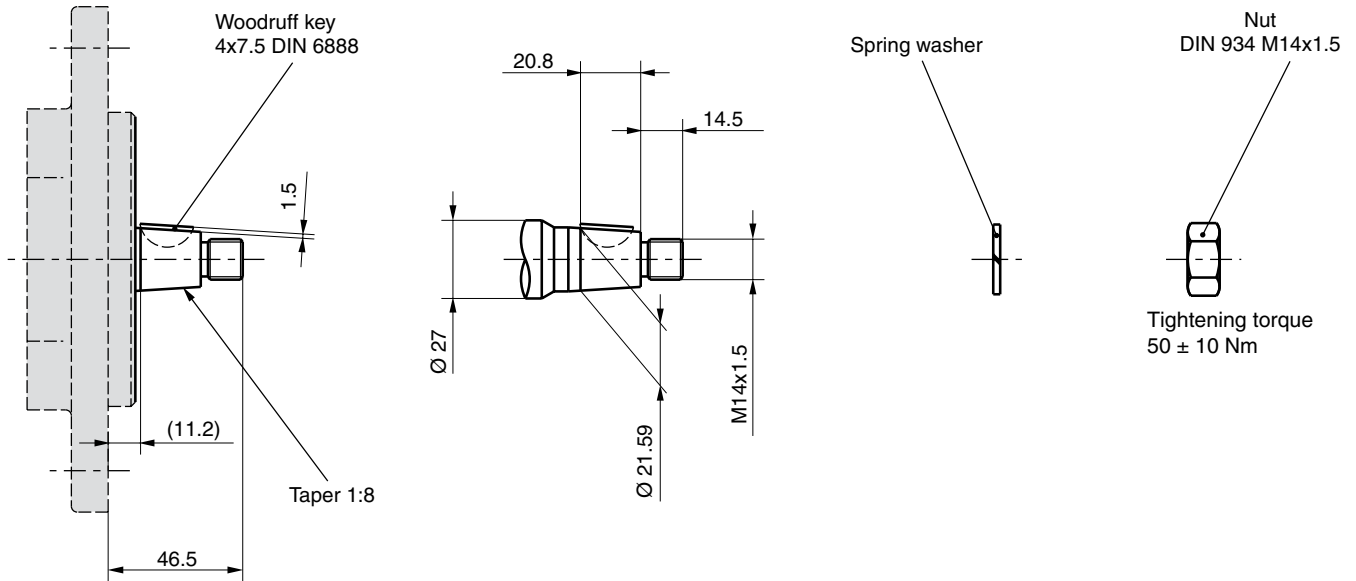


Code M2



PGP 517 Drive Shaft

Code T1



PGP/PGM 517 - Shaft Load Capacity

| Code | Description | Torque Rating [Nm] |
|------|------------------------------------------------|--------------------|
| D1 | 13T,16/32DP, 41.2L, SAE“B“ spline | 345 |
| E1 | 15T, 16/32DP, 46L, SAE“B-B“ spline | 530 |
| M1 | Ø22.2, 6.3 KEY, no thd, 41.2L, SAE“B“ parallel | 251 |
| M2 | Ø25.4, 6.3 KEY, no thd, 46L, SAE“B-B“ parallel | 395 |
| T1 | Ø21.59,11.2 L,4.0 KEY, M14x1.5 taper 1:8 | 250 |
| | Multiple pump connection shaft | 228 |

$$\text{Torque [Nm]} = \frac{\text{Displacement [cm}^3\text{/rev]} \times \text{Pressure [bar]}}{57.2}$$

