

HOW TO ORDER POLARIS 20 SINGLE UNITS

| | | | | | | | | | | | | | | | | | | | |
|-----------------|----------|----------|----------|-----------|-----------|----------|----------|--------------|----------|----------|----------|-----------|----------|----------|----------|----------|-----------|----------|-----------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | | | | | | | |
| PLP 20-4 | L | 0 | - | 82 | E2 | - | L | EA/EA | - | N | - | EL | - | C | - | * | GB | - | FS |

| 1 | Type | Pump type | Motor type |
|---|------|--------------------|--------------------|
| 4,95 cm ³ /rev (0.30 in ³ /rev) | | PLP 20-4 | PLM 20-4 |
| 6,61 cm ³ /rev (0.40 in ³ /rev) | | PLP 20-6,3 | PLM 20-6,3 |
| 7,29 cm ³ /rev (0.44 in ³ /rev) | | PLP 20-7,2 | PLM 20-7,2 |
| 8,26 cm ³ /rev 0.50 in ³ /rev) | | PLP 20-8 | PLM 20-8 |
| 9,17 cm ³ /rev 0.56 in ³ /rev) | | PLP 20-9 | PLM 20-9 |
| 10,9 cm ³ /rev (0.66 in ³ /rev) | | PLP 20-10,5 | PLM 20-10,5 |
| 11,23 cm ³ /rev (0.69 in ³ /rev) | | PLP 20-11,2 | PLM 20-11,2 |
| 14,53 cm ³ /rev (0.89 in ³ /rev) | | PLP 20-14 | PLM 20-14 |
| 16,85 cm ³ /rev (1.03 in ³ /rev) | | PLP 20-16 | PLM 20-16 |
| 19,09 cm ³ /rev (1.16 in ³ /rev) | | PLP 20-19 | PLM 20-19 |
| 21,14 cm³/rev (1.29 in³/rev) | | PLP 20-20 | PLM 20-20 |
| 24,84 cm ³ /rev 1.52 in ³ /rev) | | PLP 20-24,5 | PLM 20-24,5 |
| 26,42 cm ³ /rev (1.61 in ³ /rev) | | PLP 20-25 | PLM 20-25 |
| 28,21 cm ³ /rev (1.72 in ³ /rev) | | PLP 20-27,8 | PLM 20-27,8 |
| 33,03 cm ³ /rev (2.01 in ³ /rev) | | PLP 20-31,5 | PLM 20-31,5 |

| 2 | Rotation | Code |
|--------------------------------|----------|----------|
| Left | | S |
| Right | | D |
| Reversible rear external drain | | R |
| Reversible side external drain | | L |
| Reversible internal drain | | B |

| 3 | Versions - Outboard bearing options | Code |
|---------------------------------|-------------------------------------|-----------|
| Without outboard bearing | | 0 |
| With outboard bearing | | W8 |
| With outboard bearing | | 5 |
| With outboard bearing | | 6 |
| With outboard bearing | | 7 |
| With outboard bearing | | 9 |

| 4 | Drive shaft | Code |
|---------------------------|-------------|-----------|
| European tapered 1:8 | | 82 |
| German tapered 1:5 | | 54 |
| German tapered 1:5 | | 55 |
| Straight | | 46 |
| SAE "A" spline (9 teeth) | | 03 |
| SAE spline (10 teeth) | | 01 |
| SAE "A" spline (11 teeth) | | 07 |
| SAE "A" straight | | 31 |

| Code | Drive shaft | 4 |
|-----------|--------------------------------|---|
| 49 | Straight | |
| 50 | Straight | |
| 04 | SAE "B" spline | |
| 32 | SAE "B" straight | |
| 12 | DIN 54 82 | |
| 48 | Straight (only for version 6) | |
| B1 | Straight (for version 5 and 8) | |
| 95 | Tang | |

| Code | Mounting flange | 5 |
|-----------|----------------------|---|
| E2 | European | |
| B2 | German | |
| B4 | German 2 bolt | |
| B5 | German 2 bolt | |
| B6 | German 4 bolt | |
| U2 | German 2 bolt | |
| S1 | SAE "A" 2 bolt | |
| S2 | SAE "A" 2 bolt | |
| S9 | SAE "A" 2 bolt | |
| S5 | SAE "B" 2 bolt | |
| W8 | German | |

| Code | Ports position | 6 |
|----------|----------------|---|
| L | Side | |
| P | Rear | |

| Code | Ports IN/OUT | 7 |
|-------------------------------|--------------|-------------------------------|
| GERMAN FLANGED PORTS | | |
| Side | Rear | Type |
| BE/BC | PLP 20 | 4-6,3-7,2-8-9-10,5-11,2 |
| BC/BE | PLM 20 | 14-16-19-20-24,5-25-27,8-31,5 |
| EUROPEAN FLANGED PORTS | | |
| Side | Rear | Type |
| EA/EA | PLP 20 | 4-6,3-7,2-8-9-10,5-11,2 |
| EA/EA | PLM 20 | 14-16-19-20-24,5-25-27,8-31,5 |
| EB/EA | PLP 20 | 14-16-19-20-24,5-25-27,8-31,5 |
| EA/EB | PLM 20 | 14-16-19-20-24,5-25-27,8-31,5 |

Replaces: 01/10.2003

04/10.2020

HOW TO ORDER POLARIS 20 SINGLE UNITS

Replaces: 02/07.2006

| 7 | Ports IN/OUT | | Code |
|---|--------------|--------------|--------------|
| SAE FLANGED PORTS (SSM) | | | |
| Type | Side | Rear | |
| 4-6,3-7,2-8-9-10,5-11,2 | PLP 20 | MA/MA | |
| | PLM 20 | | |
| 14-16-19-20 | PLP 20 | MB/MA | |
| | PLM 20 | | |
| 24,5-25-27,8-31,5 | PLP 20 | MC/MB | |
| | PLM 20 | | |
| SAE FLANGED PORTS (SSS) | | | |
| Type | Side | Rear | |
| 4-6,3-7,2-8-9-10,5-11,2 | PLP 20 | SA/SA | |
| | PLM 20 | | |
| 14-16-19-20 | PLP 20 | SB/SA | |
| | PLM 20 | | |
| 24,5-25-27,8-31,5 | PLP 20 | SC/SB | |
| | PLM 20 | | |
| GAS STRAIGHT THREAD PORTS (BSPP) | | | |
| Type | Side | Rear | |
| 4-6,3-7,2-8-9 10,5-11,2 | PLP 20 | GD/GD | GD/GD |
| | PLM 20 | | |
| 14-16-19-20-24,5-25-27,8-31,5 | PLP 20 | GE/GD | GE/GD |
| | PLM 20 | | |
| SAE STRAIGHT THREAD PORTS (ODT) | | | |
| Type | Side | Rear | |
| 4-6,3-7,2-8-9-10,5-11,2 | PLP 20 | OC/OC | OC/OC |
| | PLM 20 | | |
| 14-16-19-20-24,5-25-27,8-31,5 | PLP 20 | OD/OC | OD/OC |
| | PLM 20 | | |

| 8 | | Seals (a) | Code |
|---|--|---|-------------|
| | | Buna (standard) | N |
| | | Viton | V |
| | | Hydrogenated buna HNBR seals with Viton-FKM shaft seals | T-PV |

| 9 | | Cover options (b) | Code |
|---|--|---|-----------|
| | | Cast iron mounting flange and rear cover (standard - no code) | |
| | | Aluminium mounting flange and cast iron rear cover | E |
| | | Cast iron mounting flange and aluminium rear cover | L |
| | | Aluminium mounting flange and rear cover | EL |

| 10 | | Shaft seal options | Code |
|----|--|-------------------------------|-----------|
| | | Standard seal with wiper seal | D |
| | | High back pressure seal | C1 |

| Code | Drain port position - Rev. rotation L | 11 |
|----------|---------------------------------------|----|
| L | Side drain with side port position | |
| * | Side drain with bottom port position | |

| Code | Drain port | | 12 |
|--------------------------------------|------------|--------|-------------------------|
| IN/OUT GERMAN FLANGED PORTS | | | |
| Side | Rear | Type | |
| TA | | PLP 20 | 4-6,3-7,2-8-9-10,5-11,2 |
| | | PLM 20 | |
| IN/OUT EUROPEAN FLANGED PORTS | | | |
| Side | Rear | Type | |
| GB | | PLP 20 | 4-6,3-7,2-8-9-10,5-11,2 |
| | | PLM 20 | |

| Code | Drain port | | 12 |
|---------------------------------------|------------|--------|-------------------------|
| IN/OUT SAE FLANGED PORTS (SSM) | | | |
| Side | Rear | Type | |
| GB | | PLP 20 | 4-6,3-7,2-8-9-10,5-11,2 |
| | | PLM20 | |
| IN/OUT SAE FLANGED PORTS (SSS) | | | |
| Side | Rear | Type | |
| 03 | | PLP 20 | 4-6,3-7,2-8-9-10,5-11,2 |
| | | PLM 20 | |

| Code | Drain port | | 12 |
|--|------------|--------|-------------------------|
| IN/OUT GAS STRAIGHT THREAD PORTS (BSPP) | | | |
| Side | Rear | Type | |
| GB | | PLP 20 | 4-6,3-7,2-8-9-10,5-11,2 |
| | | PLM20 | |

| Code | Drain port | | 12 |
|---|------------|--------|-------------------------|
| IN/OUT SAE STRAIGHT THREAD PORTS (ODT) | | | |
| Side | Rear | Type | |
| 03 | | PLP 20 | 4-6,3-7,2-8-9-10,5-11,2 |
| | | PLM 20 | |

| Code | Drain port | | 12 |
|---|------------|--------|-------------------------|
| IN/OUT SAE STRAIGHT THREAD PORTS (ODT) | | | |
| Side | Rear | Type | |
| 03 | 03 | PLP 20 | 4-6,3-7,2-8-9-10,5-11,2 |
| | | PLM 20 | |

| Code | Drain port | | 12 |
|---|------------|--------|-------------------------|
| IN/OUT SAE STRAIGHT THREAD PORTS (ODT) | | | |
| Side | Rear | Type | |
| 03 | 03 | PLP 20 | 4-6,3-7,2-8-9-10,5-11,2 |
| | | PLM 20 | |

| Code | Shaft arrangement | | 13 |
|-----------|-------------------|----------------------|----|
| FS | | Female spline | |

- (a) Choose the seals according to the temperature shown on page 4.
- (b) Mounting flange material on page 61 ÷ 66
Rear cover material on page 34 ÷ 35

04/10.2020

FEATURES

| Series | Pump type PLP Motor type PLM | Displacement cm ³ /rev (in ³ /rev) | Max. pressure | | | Max. speed min ⁻¹ | Min. speed min ⁻¹ |
|--------------------|---------------------------------|---|-------------------|-------------------|-------------------|---------------------------------|---------------------------------|
| | | | P ₁ | P ₂ | P ₃ | | |
| | | | bar (psi) | | | | |
| POLARIS 10 | PL. 10•1 | 1,07 (0.07) | 260 (3770) | 280 (4060) | 290 (4205) | 4000 | 650 |
| | PL. 10•1,5 | 1,60 (0.10) | 260 (3770) | 280 (4060) | 290 (4205) | 4000 | 650 |
| | PL. 10•2 | 2,13 (0.13) | 260 (3770) | 280 (4060) | 290 (4205) | 4000 | 650 |
| | PL. 10•2,5 | 2,67 (0.16) | 260 (3770) | 280 (4060) | 290 (4205) | 4000 | 650 |
| | PL. 10•3,15 | 3,34 (0.20) | 260 (3770) | 280 (4060) | 290 (4205) | 4000 | 650 |
| | PL. 10•4 | 4,27 (0.26) | 250 (3625) | 270 (3915) | 280 (4060) | 4000 | 650 |
| | PL. 10•5 | 5,34 (0.33) | 250 (3625) | 270 (3915) | 280 (4060) | 4000 | 650 |
| | PL. 10•5,8 | 6,20 (0.38) | 230 (3335) | 250 (3625) | 260 (3770) | 3500 | 650 |
| | PL. 10•6,3 | 6,67 (0.41) | 230 (3335) | 250 (3625) | 260 (3770) | 3500 | 650 |
| | PL. 10•8 | 8,51 (0.52) | 180 (2610) | 200 (2900) | 210 (3045) | 3500 | 650 |
| PL. 10•10 | 10,67 (0.65) | 140 (2030) | 160 (2320) | 170 (2465) | 3500 | 650 | |
| POLARIS 20 | PL. 20•4 | 4,95 (0.30) | 250 (3625) | 280 (4060) | 300 (4350) | 4000 | 600 |
| | PL. 20•6,3 | 6,61 (0.40) | 250 (3625) | 280 (4060) | 300 (4350) | 4000 | 600 |
| | PL. 20•7,2 | 7,29 (0.44) | 250 (3625) | 280 (4060) | 300 (4350) | 4000 | 600 |
| | PL. 20•8 | 8,26 (0.50) | 250 (3625) | 280 (4060) | 300 (4350) | 3500 | 600 |
| | PL. 20•9 | 9,17 (0.56) | 250 (3625) | 280 (4060) | 300 (4350) | 3500 | 600 |
| | PL. 20•10,5 | 10,9 (0.66) | 250 (3625) | 280 (4060) | 300 (4350) | 3500 | 600 |
| | PL. 20•11,2 | 11,23 (0.69) | 250 (3625) | 280 (4060) | 300 (4350) | 3500 | 600 |
| | PL. 20•14 | 14,53 (0.89) | 250 (3625) | 280 (4060) | 300 (4350) | 3500 | 500 |
| | PL. 20•16 | 16,85 (1.03) | 250 (3625) | 280 (4060) | 300 (4350) | 3000 | 500 |
| | PL. 20•19 | 19,09 (1.16) | 200 (2900) | 220 (3190) | 3480 (240) | 3000 | 500 |
| | PL. 20•20 | 21,14 (1.29) | 200 (2900) | 220 (3190) | 3480 (240) | 3000 | 500 |
| | PL. 20•24,5 | 24,84 (1.52) | 170 (2465) | 190 (2755) | 210 (3045) | 2500 | 500 |
| | PL. 20•25 | 26,42 (1.61) | 170 (2465) | 190 (2755) | 210 (3045) | 2500 | 500 |
| | PL. 20•27,8 | 28,21 (1.72) | 130 (1885) | 150 (2175) | 170 (2465) | 2000 | 500 |
| PL. 20•31,5 | 33,03 (2.01) | 130 (1885) | 150 (2175) | 170 (2465) | 2000 | 500 | |
| POLARIS 30 | PL. 30•22 | 21,99 (1.34) | 250 (3625) | 270 (3915) | 280 (4060) | 3000 | 350 |
| | PL. 30•27 | 26,70 (1.63) | 250 (3625) | 270 (3915) | 280 (4060) | 3000 | 350 |
| | PL. 30•34 | 34,55 (2.11) | 240 (3480) | 260 (3770) | 270 (3915) | 3000 | 350 |
| | PL. 30•38 | 39,27 (2.40) | 240 (3480) | 260 (3770) | 270 (3915) | 3000 | 350 |
| | PL. 30•43 | 43,98 (2.68) | 230 (3335) | 250 (3625) | 260 (3770) | 3000 | 350 |
| | PL. 30•51 | 51,83 (3.16) | 210 (3045) | 230 (3335) | 240 (3480) | 2500 | 350 |
| | PL. 30•61 | 61,26 (3.74) | 190 (2755) | 210 (3045) | 220 (3190) | 2500 | 350 |
| | PL. 30•73 | 73,82 (4.50) | 170 (2465) | 190 (2755) | 200 (2900) | 2500 | 350 |
| | PL. 30•82 | 81,68 (4.98) | 160 (2320) | 170 (2465) | 180 (2610) | 2200 | 350 |
| PL. 30•90 | 91,10 (5.56) | 150 (2175) | 160 (2320) | 170 (2465) | 2200 | 350 | |

Pressure values in the table refer to side ports unidirectional pumps and motors.

For reversible pumps and motors, max pressures are 250 bar (3600 psi) excepted those with lower pressure values.

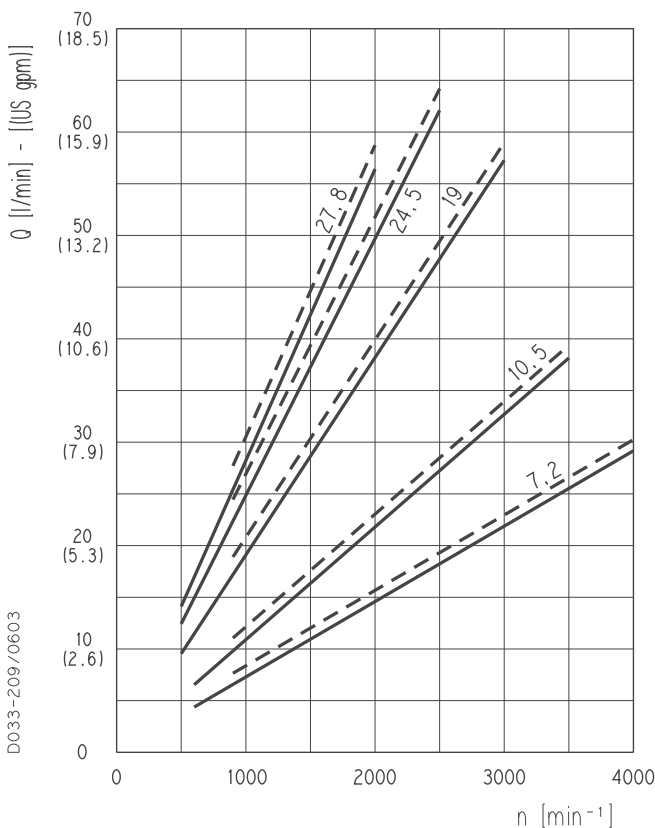
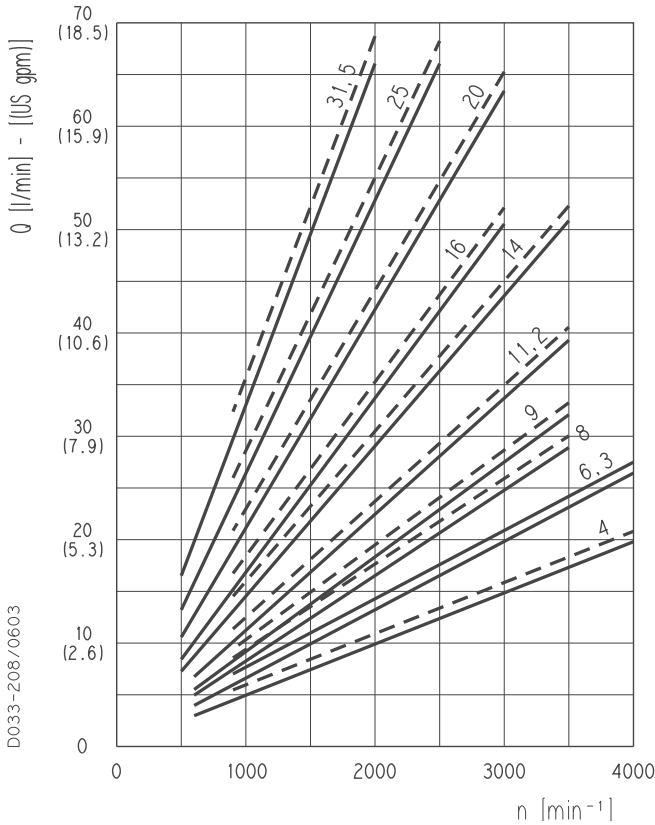
For different configurations and working conditions please consult our pre-sales department.

PLM 20

POLARIS 20 GEAR MOTORS PERFORMANCE CURVES

PLM 20

Each curve has been obtained at 50 °C (122 °F), using oil with viscosity 46 cSt (210 SSU) at 40 °C (104 °F) and at these pressures.



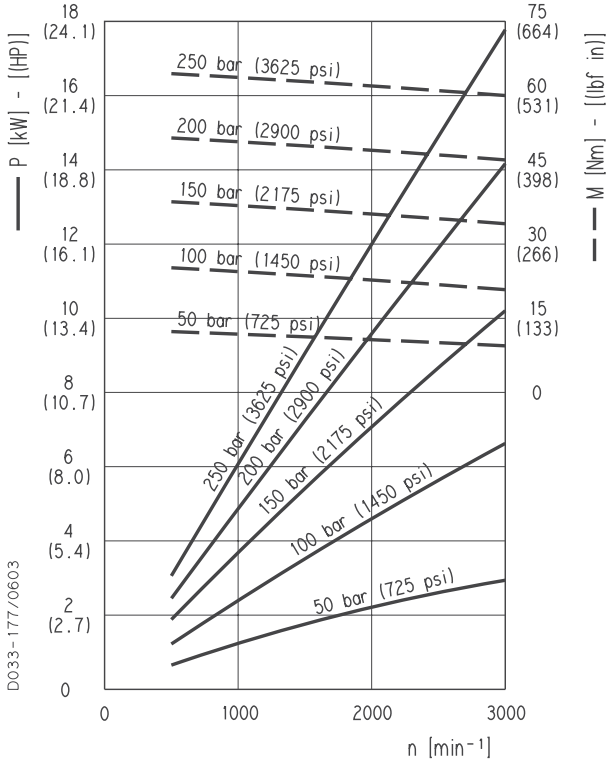
| | | |
|--------------------|-------|--------------------|
| PLM 20•4 | — | 20 bar (290 psi) |
| | - - - | 250 bar (3625 psi) |
| PLM 20•6,3 | — | 20 bar (290 psi) |
| | - - - | 250 bar (3625 psi) |
| PLM 20•8 | — | 20 bar (290 psi) |
| | - - - | 250 bar (3625 psi) |
| PLM 20•9 | — | 20 bar (290 psi) |
| | - - - | 250 bar (3625 psi) |
| PLM 20•11,2 | — | 20 bar (290 psi) |
| | - - - | 250 bar (3625 psi) |
| PLM 20•14 | — | 20 bar (290 psi) |
| | - - - | 250 bar (3625 psi) |
| PLM 20•16 | — | 20 bar (290 psi) |
| | - - - | 250 bar (3625 psi) |
| PLM 20•20 | — | 20 bar (290 psi) |
| | - - - | 200 bar (2900 psi) |
| PLM 20•25 | — | 20 bar (290 psi) |
| | - - - | 170 bar (2465 psi) |
| PLM 20•31,5 | — | 20 bar (290 psi) |
| | - - - | 130 bar (1885 psi) |
| PLM 20•7,2 | — | 20 bar (290 psi) |
| | - - - | 250 bar (3625 psi) |
| PLM 20•10,5 | — | 20 bar (290 psi) |
| | - - - | 250 bar (3625 psi) |
| PLM 20•19 | — | 20 bar (290 psi) |
| | - - - | 200 bar (2900 psi) |
| PLM 20•24,5 | — | 20 bar (290 psi) |
| | - - - | 270 bar (2465 psi) |
| PLM 20•27,8 | — | 20 bar (290 psi) |
| | - - - | 130 bar (1885 psi) |

01/10.2003

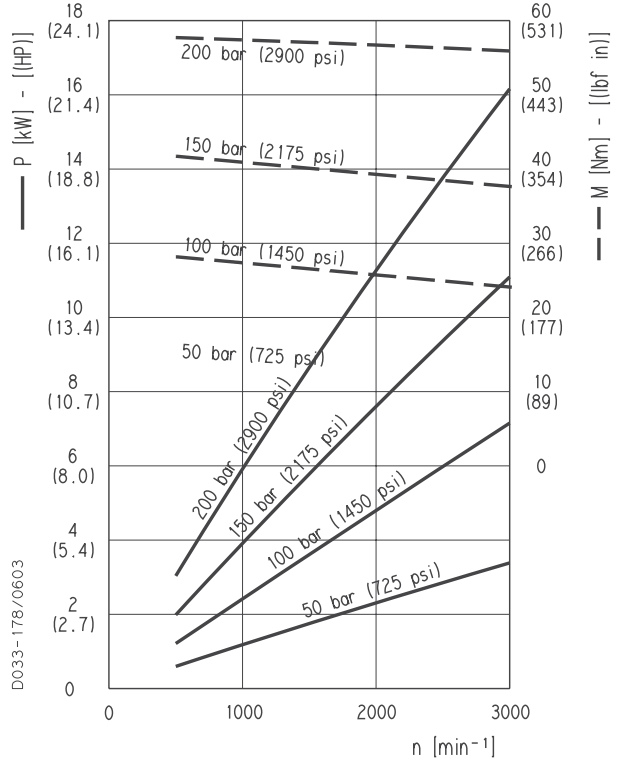
PLM 20

POLARIS 20 GEAR MOTORS PERFORMANCE CURVES

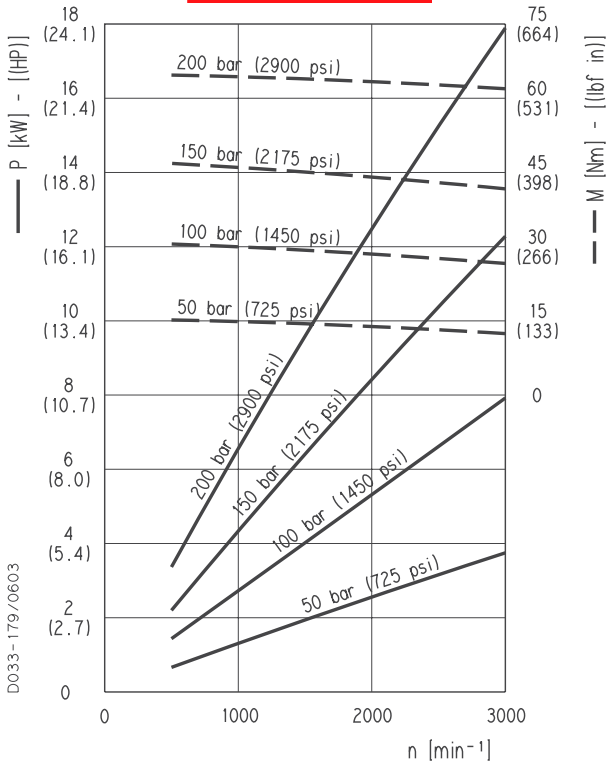
PLM 20•16



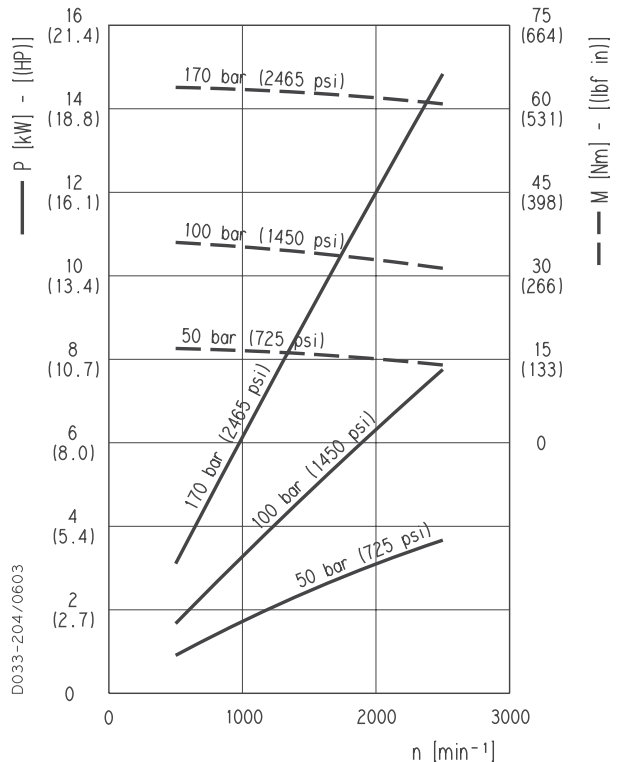
PLM 20•19



PLM 20•20



PLM 20•24,5



01/10.2003

POLARIS 20

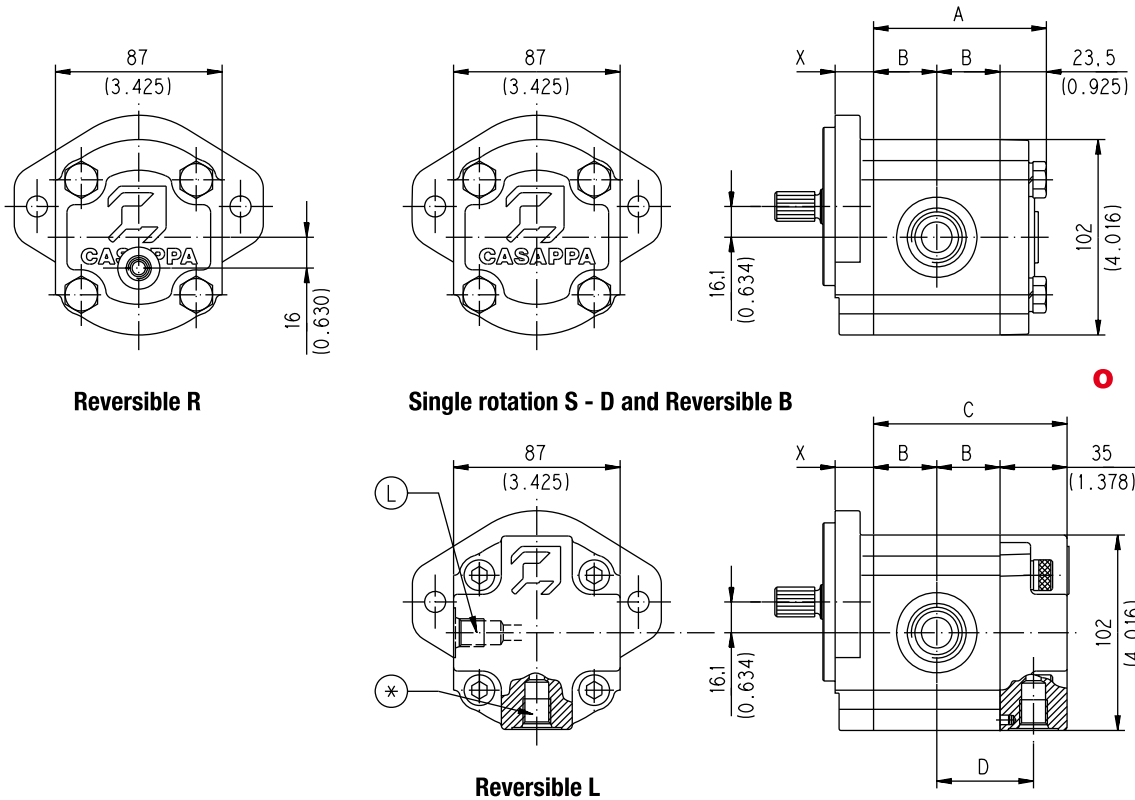
SINGLE UNITS DIMENSIONS - SIDE PORTS

L

Drive shafts: page 53 ÷ 55
Mounting flange: for X dimension see page 61 ÷ 66

Ports availability: European, Split, Gas, SAE German. See page 70

D033-182/0903



Replaces: 02/07.2006

For single rotation S - D and reversible B and R the rear cover is available in cast iron and aluminium.
For reversible rotation L the rear cover is in aluminium only.

Reversible L drain port position:
L = Side
* = Bottom

| Pump type Motor type | A | B | C | D |
|-------------------------|----------------------|--------------------|---------------------|----------------------|
| | mm (in) | mm (in) | mm (in) | mm (in) |
| PL. 20•4 | 75 (2.9528) | 25,75 (1.0138) | 86,5 (3.4055) | 43,25 (1.7028) |
| PL. 20•6,3 | 77,5 (3.0512) | 27 (1.0630) | 89 (3.5039) | 44,5 (1.7520) |
| PL. 20•7,2 | 78,5 (3.0917) | 27,5 (1.083) | 90 (3.5445) | 45 (1.7722) |
| PL. 20•8 | 80 (3.1496) | 28,25 (1.1122) | 91,5 (3.6024) | 45,75 (1.8012) |
| PL. 20•9 | 81,3 (3.2008) | 28,9 (1.1378) | 92,8 (3.6535) | 46,4 (1.8268) |
| PL. 20•10,5 | 84 (3.3070) | 30,25 (1.1909) | 95,5 (3.7598) | 47,75 (1.8799) |
| PL. 20•11,2 | 84,5 (3.3268) | 30,5 (1.2008) | 96 (3.7795) | 48 (1.8898) |
| PL. 20•14 | 89,5 (3.5236) | 33 (1.2992) | 101 (3.9764) | 50,5 (1.9882) |
| PL. 20•16 | 93 (3.6614) | 34,75 (1.3681) | 104,5 (4.1142) | 52,25 (2.0571) |
| PL. 20•19 | 96,4 (3.7952) | 36,45 (1.4350) | 107,9 (4.2480) | 53,9 (2.12) |
| PL. 20•20 | 99,5 (3.9173) | 38 (1.4961) | 111 (4.3701) | 55,5 (2.1850) |
| PL. 20•24,5 | 105,1 (4.1378) | 40,8 (1.6063) | 116,6 (4.5905) | 58,3 (2.2953) |
| PL. 20•25 | 107,5 (4.2323) | 42 (1.6535) | 119 (4.6850) | 59,5 (2.3425) |
| PL. 20•27,8 | 110,2 (4.3386) | 43,35 (1.7067) | 121,7 (4.7913) | 60,85 (2.3957) |
| PL. 20•31,5 | 117,5 (4.6260) | 47 (1.8504) | 129 (5.0787) | 64,5 (2.5394) |

04/10.2020

POLARIS 20

DRIVE SHAFTS

EUROPEAN TAPERED 1:8

82

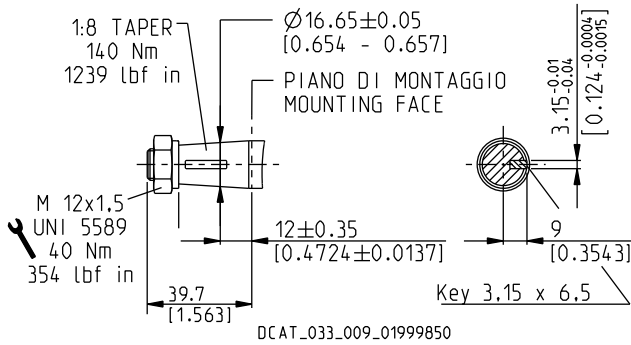
Not available with size:

20•24,5

Mounting face refer to flange code **E2**

○

Replaces: 01/10.2003



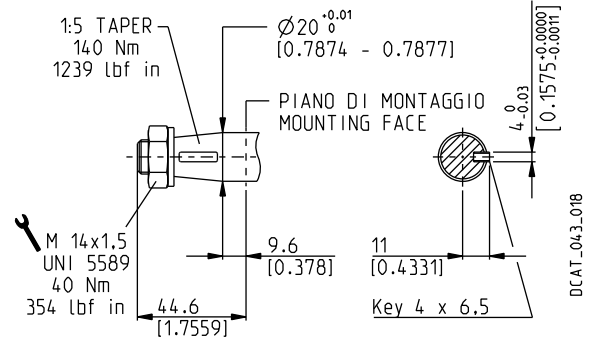
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GERMAN TAPERED 1:5

55

Mounting face refer to flange code **B2**

○



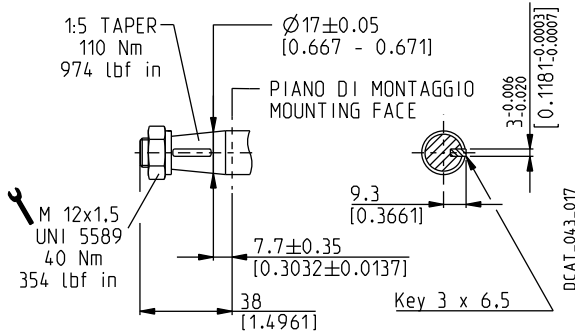
DCAT_043_018

GERMAN TAPERED 1:5

54

Mounting face refer to flange code **B2**

○



DCAT_043_017

STRAIGHT

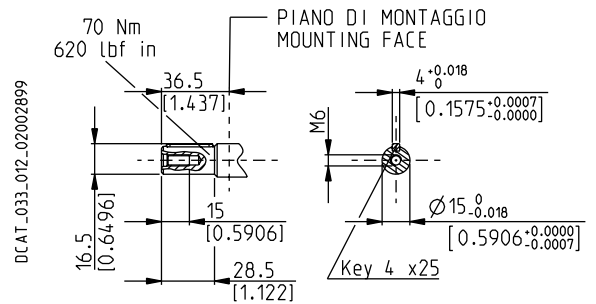
46

Not available with size:

20•7,2 20•19 20•24,5 20•27,8

Mounting face refer to flange code **E2**

○



DCAT_033_012_02002899

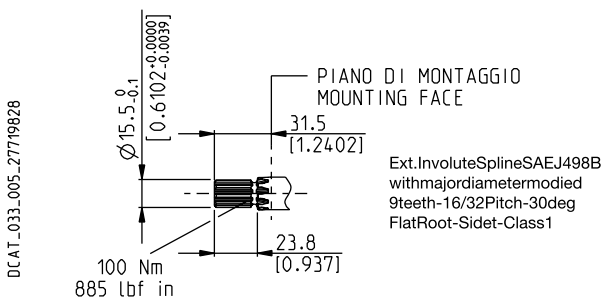
04/10.2020

SAE "A" SPLINE

03

Mounting face refer to flange code **S1**

○



DCAT_033_005_27719828

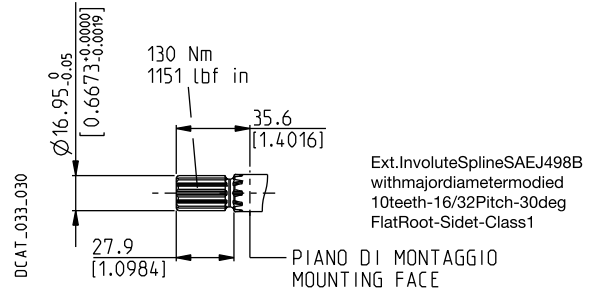
Ext.InvoluteSplineSAEJ498B
withmajordiametermodified
9teeth-16/32Pitch-30deg
FlatRoot-Sidet-Class1

SPLINE

01

Mounting face refer to flange code **S1**

○



DCAT_033_030

Ext.InvoluteSplineSAEJ498B
withmajordiametermodified
10teeth-16/32Pitch-30deg
FlatRoot-Sidet-Class1

POLARIS 20

MOUNTING FLANGES AND TABLE OF COMPATIBILITY

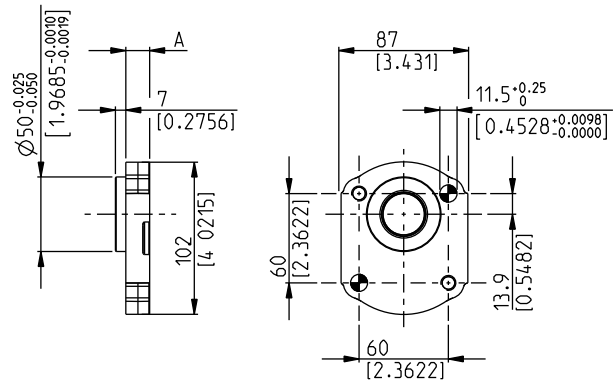
GERMAN 2 BOLTS

B4

Material: cast iron and aluminium

⊕ Through hole

DCAT_033_020_21912051



DRIVE SHAFTS

See page 53 ÷ 55

| VERSIONS See page 48 | A mm (in) | 54 | 03 | 12 | 31 | 49 | 82 |
|-------------------------|---------------|----|----|----|----|----|----|
| 0 | 16 (0.63) | # | x | x | x | x | x |
| 5 | 41,6 (1.6378) | x | x | | | x | x |

Standard combination

x Available combination

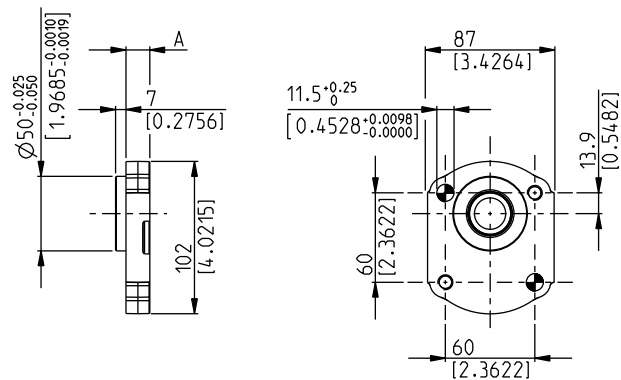
GERMAN 2 BOLTS

B5

Material: cast iron and aluminium

⊕ Through hole

DCAT_033_021_21912256



DRIVE SHAFTS

See page 53 ÷ 55

| VERSIONS See page 48 | A mm (in) | 54 | 03 | 12 | 31 | 49 | 82 |
|-------------------------|---------------|----|----|----|----|----|----|
| 0 | 16 (0.63) | # | x | x | x | x | x |
| 5 | 41,6 (1.6378) | x | x | | | x | x |

Standard combination

x Available combination

02/07.2006

PORTS POSITION AND TYPE

| PORTS TYPE | SIDE PORTS | | | | | | | | | | | | REAR PORTS | | | | |
|--------------------|------------|-----|----------|-----|-----------|-----|----------|-----|----------|-----|---------|-----|------------|-----|---------|-----|----|
| | German | | European | | Split SSM | | Spit SSS | | Gas BSPP | | SAE ODT | | Gas BSPP | | SAE ODT | | |
| Pump type | IN | OUT | IN | OUT | IN | OUT | IN | OUT | IN | OUT | IN | OUT | IN | OUT | IN | OUT | |
| Motor type | OUT | IN | OUT | IN | OUT | IN | OUT | IN | OUT | IN | OUT | IN | OUT | IN | OUT | IN | |
| PL. 10•1 | BB | BA | | | | | | | | GC | GC | OB | OA | GC | GC | OB | OA |
| PL. 10•1,5 | BB | BA | | | | | | | | GC | GC | OB | OA | GC | GC | OB | OA |
| PL. 10•2 | BB | BA | | | | | | | | GC | GC | OB | OA | GC | GC | OB | OA |
| PL. 10•2,5 | BB | BA | | | | | | | | GC | GC | OB | OA | GC | GC | OB | OA |
| PL. 10•3,15 | BB | BA | | | | | | | | GC | GC | OB | OA | GC | GC | OB | OA |
| PL. 10•4 | BB | BA | | | | | | | | GC | GC | OB | OA | GC | GC | OB | OA |
| PL. 10•5 | BB | BA | | | | | | | | GD | GD | OB | OA | GD | GD | OB | OA |
| PL. 10•5,8 | BB | BA | | | | | | | | GD | GD | OB | OA | GD | GD | OB | OA |
| PL. 10•6,3 | BB | BA | | | | | | | | GD | GD | OB | OA | GD | GD | OB | OA |
| PL. 10•8 | BB | BA | | | | | | | | GD | GD | OC | OB | GD | GD | OB | OB |
| PL. 10•10 | BB | BA | | | | | | | | GD | GD | OC | OB | GD | GD | OB | OB |
| PL. 20•4 | BE | BC | EA | EA | MA | MA | SA | SA | GD | GD | OC | OC | GD | GD | OC | OC | |
| PL. 20•6,3 | BE | BC | EA | EA | MA | MA | SA | SA | GD | GD | OC | OC | GD | GD | OC | OC | |
| PL. 20•7,2 | BE | BC | EA | EA | MA | MA | SA | SA | GD | GD | OC | OC | GD | GD | OC | OC | |
| PL. 20•8 | BE | BC | EA | EA | MA | MA | SA | SA | GD | GD | OC | OC | GD | GD | OC | OC | |
| PL. 20•9 | BE | BC | EA | EA | MA | MA | SA | SA | GD | GD | OC | OC | GD | GD | OC | OC | |
| PL. 20•10,5 | BE | BC | EA | EA | MA | MA | SA | SA | GD | GD | OC | OC | GD | GD | OC | OC | |
| PL. 20•11,2 | BE | BC | EA | EA | MA | MA | SA | SA | GD | GD | OC | OC | GD | GD | OC | OC | |
| PL. 20•14 | BE | BC | EB | EA | MB | MA | SB | SA | GE | GD | OD | OC | GE | GD | OD | OC | |
| PL. 20•16 | BE | BC | EB | EA | MB | MA | SB | SA | GE | GD | OD | OC | GE | GD | OD | OC | |
| PL. 20•19 | BE | BC | EB | EA | MB | MA | SB | SA | GE | GD | OD | OC | GE | GD | OD | OC | |
| PL. 20•20 | BE | BC | EB | EA | MB | MA | SB | SA | GE | GD | OD | OC | GE | GD | OD | OC | |
| PL. 20•24,5 | BE | BC | EB | EA | MC | MB | SC | SB | GE | GD | OD | OC | GE | GD | OD | OC | |
| PL. 20•25 | BE | BC | EB | EA | MC | MB | SC | SB | GE | GD | OD | OC | GE | GD | OD | OC | |
| PL. 20•27,8 | BE | BC | EB | EA | MC | MB | SC | SB | GE | GD | OD | OC | GE | GD | OD | OC | |
| PL. 20•31,5 | BE | BC | EB | EA | MC | MB | SC | SB | GE | GD | OD | OC | GE | GD | OD | OC | |
| PL. 30•22 | BM | BL | ED | EB | MB | MA | SB | SA | GF | GF | OF | OD | | | | | |
| PL. 30•27 | BM | BL | ED | EB | MC | MB | SC | SB | GF | GF | OF | OD | | | | | |
| PL. 30•34 | BM | BL | ED | EB | MC | MB | SC | SB | GF | GF | OF | OD | | | | | |
| PL. 30•38 | BM | BL | ED | EB | MD | MC | SD | SC | GF | GF | OG | OF | | | | | |
| PL. 30•43 | BM | BL | ED | EB | MD | MC | SD | SC | GF | GF | OG | OF | | | | | |
| PL. 30•51 | BM | BL | ED | EB | MD | MC | SD | SC | GF | GF | OG | OF | | | | | |
| PL. 30•61 | BM | BL | ED | EB | ME | MD | SE | SD | GG | GF | OH | OG | | | | | |
| PL. 30•73 | BM | BL | EF | ED | ME | MD | SE | SD | GG | GF | OH | OG | | | | | |
| PL. 30•82 | BM | BL | EF | ED | ME | MD | SE | SD | GH | GG | OH | OG | | | | | |
| PL. 30•90 | BM | BL | EF | ED | MF | ME | SF | SE | GH | GG | OH | OG | | | | | |

01/10.2003