

INDEX

PUMPS AND MOTORS

FLOW DIVIDERS

D033-002/01.98

INDEX

| | Pag. |
|----------------------------------------------------------------|------|
| GENERAL DATA | 1 |
| SHAFT OPTIONS | 2 |
| MOUNTING FLANGE OPTIONS | 3 |
| PORT OPTIONS | 5 |
| SIDE PORTS PUMPS AND MOTORS DIMENSIONS | 6 |
| REAR PORTS PUMPS AND MOTORS DIMENSIONS | 7 |
| MAX. PRESSURE RELIEF VALVE FIXED SETTING | 8 |
| MAX. PRESSURE RELIEF VALVE ADJUSTABLE SETTING | 9 |
| HOW TO ORDER SINGLE PUMPS AND MOTORS | 10 |
| HOW TO ORDER MULTIPLE PUMPS | 11 |
| ORDER EXAMPLE | 12 |

D033-002/01.98

POLARIS 10 SERIES

Hydraulic Gear Pumps and Motors

Replaces edition: 10.1995

| PRESSURE | |
|-------------------|--------------------|
| Max. continuous | 3770 psi (260 bar) |
| Max. intermittent | 4060 psi (280 bar) |
| Max. peak | 4350 psi (300 bar) |

| DISPLACEMENT | |
|--------------|------------------------------------------------------|
| From | 0.06 in ³ /rev (1 cm ³ /rev) |
| To | 0.60 in ³ /rev (9,9 cm ³ /rev) |



| SPEED | |
|------------|----------|
| Min. speed | 650 rpm |
| Max. speed | 4000 rpm |

POLARIS 10 gear pumps and motors meet a wide range of mobile and industrial applications. SAE and EUROPEAN mounting flanges and rear covers are available in both cast iron and aluminum for reduced weight. The extruded aluminum body houses single piece gear, journal, shaft assemblies with a pressure balancing system that provides the highest volumetric and overall efficiencies available. Exceptionally large bearings make possible longer life at high pressure. A complete range of drive shafts in spline, parallel keyed, and tapered versions to meet all SAE, and EUROPEAN standards.

Edition: 01.1998

| | POLARIS pump size | POLARIS motor size | Theoretical displacement | | Min. (1) speed rpm | Max. (1) speed rpm | Max. (2) continuous pressure p ₁ | | Pump flow (3) @ 1800 rpm @ p ₁ | Motor torque (4) @ 100 psi | Approx. (5) weight | |
|-------------------|-----------------------|-----------------------|--------------------------|----------------------|-----------------------|-----------------------|---------------------------------------------|------|-------------------------------------------------|-------------------------------|--------------------|--------|
| | | | in ³ /rev | cm ³ /rev | | | psi | bar | | | US gpm | lbf in |
| POLARIS 10 | PLP 10-1 | PLM 10-1 | 0.06 | 1 | 650 | 4000 | 3770 | 260 | 0.46 | 0.84 | 1.40 | 3.09 |
| | PLP 10-1,5 (6) | PLM 10-1,5 (6) | 0.09 | 1.5 | 650 | 4000 | 3770 | 260 | 0.69 | 1.26 | 1.45 | 3.20 |
| | PLP 10-2 | PLM 10-2 | 0.12 | 2 | 650 | 4000 | 3770 | 260 | 0.92 | 1.68 | 1.50 | 3.31 |
| | PLP 10-2,5 (6) | PLM 10-2,5 (6) | 0.15 | 2.5 | 650 | 4000 | 3770 | 260 | 1.15 | 2.10 | 1.52 | 3.35 |
| | PLP 10-3,15 | PLM 10-3,15 | 0.19 | 3.1 | 650 | 4000 | 3770 | 260 | 1.42 | 2.60 | 1.54 | 3.40 |
| | PLP 10-4 | PLM 10-4 | 0.24 | 4 | 650 | 4000 | 3625 | 250 | 1.84 | 3.35 | 1.58 | 3.48 |
| | PLP 10-5 | PLM 10-5 | 0.30 | 4.9 | 650 | 4000 | 3625 | 250 | 2.25 | 4.10 | 1.65 | 3.64 |
| | PLP 10-5,8 (7) | PLM 10-5,8 (7) | 0.35 | 5.8 | 650 | 3500 | 3300 | 230 | 2.67 | 4.86 | 1.70 | 3.75 |
| | PLP 10-6,3 | PLM 10-6,3 | 0.38 | 6.2 | 650 | 3500 | 3300 | 230 | 2.85 | 5.20 | 1.73 | 3.81 |
| | PLP 10-8 | PLM 10-8 | 0.48 | 7.9 | 650 | 3500 | 2610 | 180 | 3.69 | 6.62 | 1.80 | 3.97 |
| PLP 10-10 | PLM 10-10 | 0.60 | 9.9 | 650 | 3500 | 2030 | 140 | 4.64 | 8.30 | 1.90 | 4.19 | |

- (1) Minimum speeds can be reduced, maximum speeds can be increased. For specific operating conditions consult CASAPPA technical dept. for recommendations and approval.
 - (2) Significantly higher intermittent pressures are allowed. Consult catalog or contact CASAPPA technical dept.
 - (3) Flow shown is minimum allowed for production pump at rated pressure with 10 wt oil at 110° Fahrenheit and can be used to calculate minimum volumetric efficiency under these conditions.
 - (4) Indicated torque is obtained by considering the average mechanical efficiency.
 - (5) Weight shown is for pump and motor with cast iron end-covers. There is a weight reduction for aluminum covers.
 - (6) Available only for single units with shaft code 81.
 - (7) Available only for single units with shafts code 81 and 86.
- Please contact your CASAPPA distributor for further assistance.

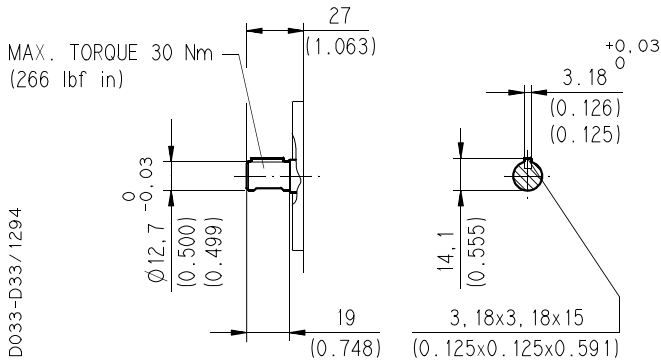
SHAFT OPTIONS

SAE "A-A" STRAIGHT

30

Mounting flange availability:

| | | | | | | |
|-----------|-----------|-----------|-----------|-----------|--|--|
| S0 | R9 | R8 | B1 | K2 | | |
|-----------|-----------|-----------|-----------|-----------|--|--|

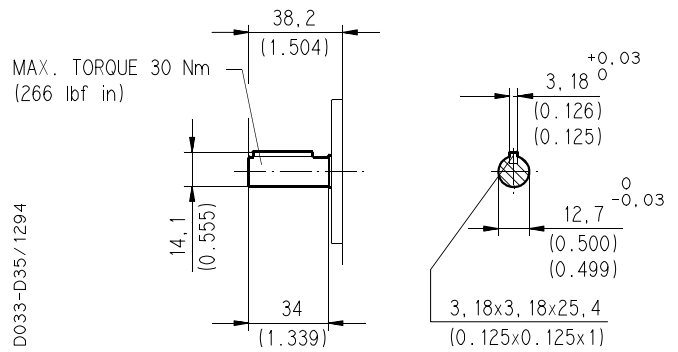
 Dimensions refer to flange code **S0**


SAE STRAIGHT

36

Mounting flange availability:

| | | | | | | |
|-----------|-----------|-----------|--|--|--|--|
| R8 | R9 | W9 | | | | |
|-----------|-----------|-----------|--|--|--|--|

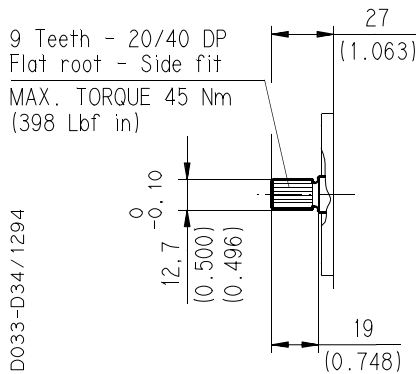
 Dimensions refer to flange code **R8**


SAE "A-A" SPLINE

02

Mounting flange availability:

| | | | | | | |
|-----------|-----------|-----------|-----------|--|--|--|
| R9 | R8 | B1 | K2 | | | |
|-----------|-----------|-----------|-----------|--|--|--|

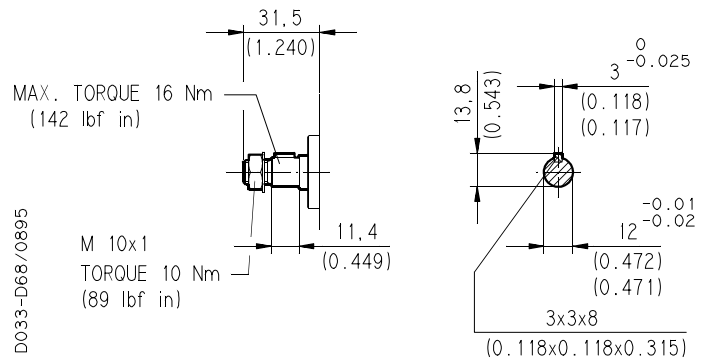
 Dimensions refer to flange code **R9**


STRAIGHT

29

Mounting flange availability:

| | | | | | | |
|-----------|-----------|-----------|--|--|--|--|
| E8 | E1 | E7 | | | | |
|-----------|-----------|-----------|--|--|--|--|

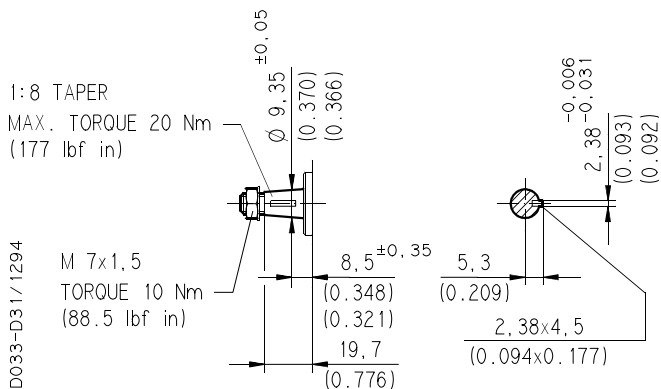
 Dimensions refer to flange code **E8**


EUROPEAN TAPERED 1:8

81

Mounting flange availability:

| | | | | | | |
|-----------|--|--|--|--|--|--|
| E1 | | | | | | |
|-----------|--|--|--|--|--|--|

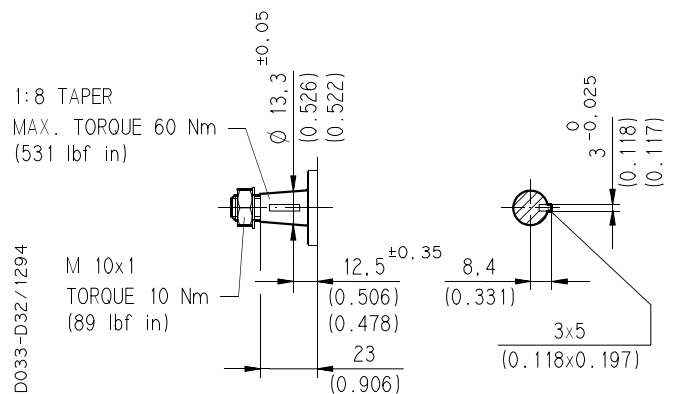
 Dimensions refer to flange code **E1**


EUROPEAN TAPERED 1:8

86

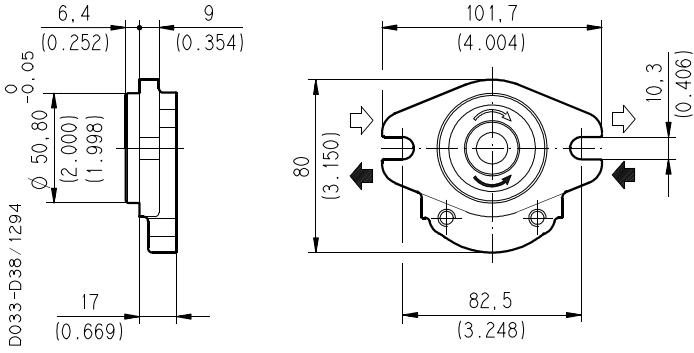
Mounting flange availability:

| | | | | | | |
|-----------|-----------|-----------|--|--|--|--|
| E7 | E1 | E8 | | | | |
|-----------|-----------|-----------|--|--|--|--|

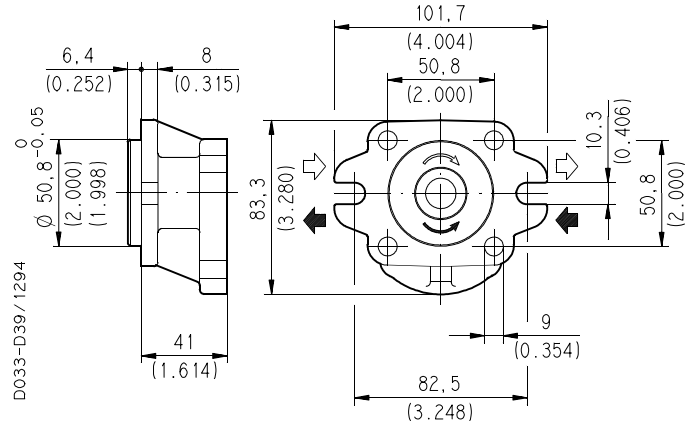
 Dimensions refer to flange code **E7**


MOUNTING FLANGE OPTIONS

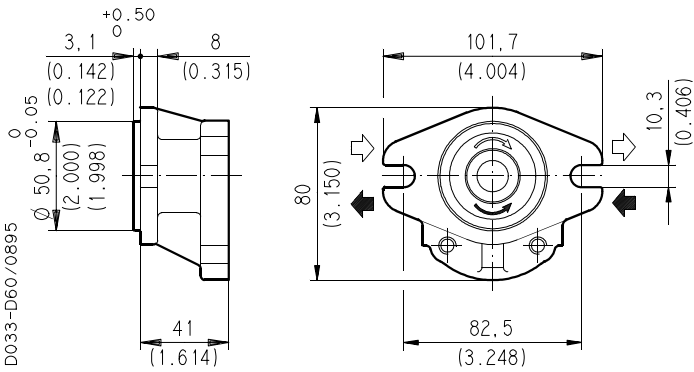
SAE "A-A" 2 BOLT **S0**



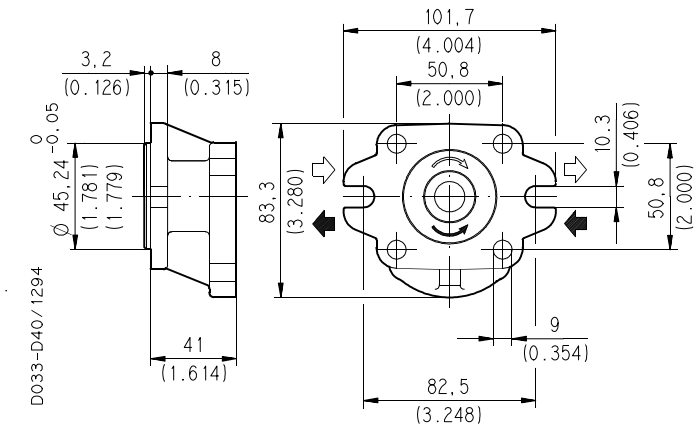
SAE "A-A" 2-4 BOLT **R9**



SAE 2 BOLT **W9**



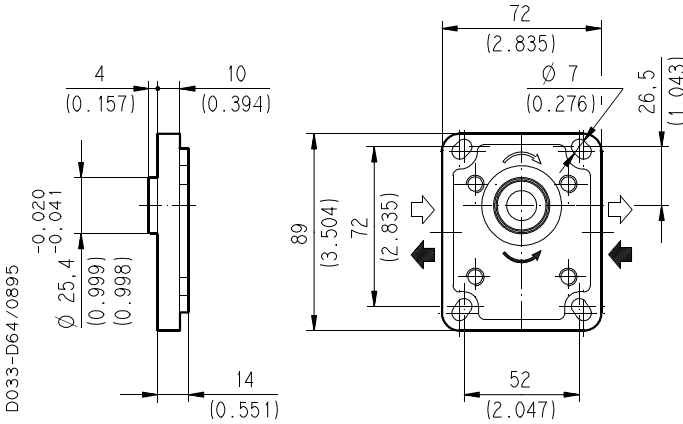
SAE 2-4 BOLT **R8**



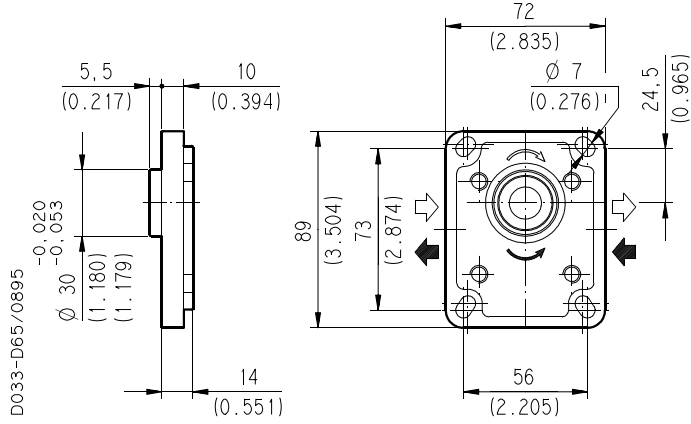
D033-001/10.95

MOUNTING FLANGE OPTIONS

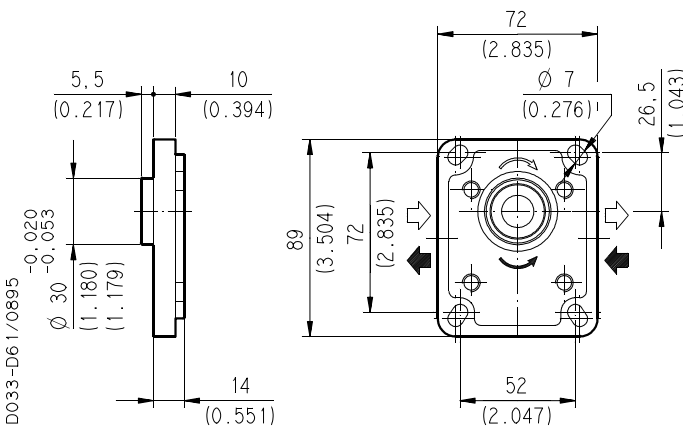
EUROPEAN RECTANGULAR E1



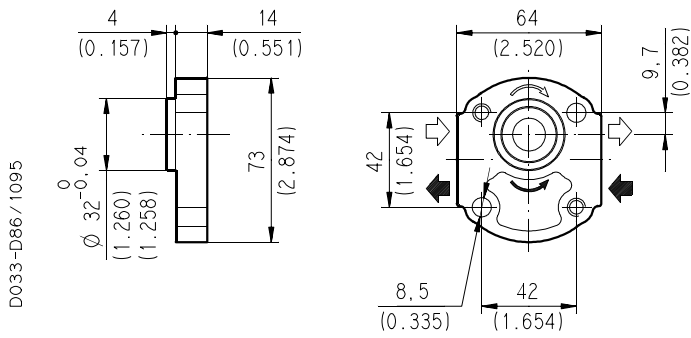
EUROPEAN RECTANGULAR E7



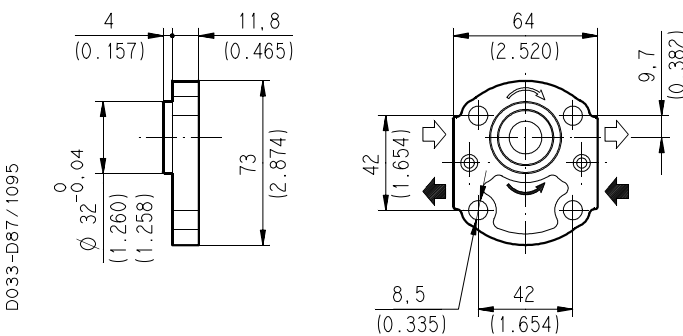
EUROPEAN RECTANGULAR E8



THROUGH 2 BOLTS (32 mm pilot) B1



THROUGH 4 BOLTS (32 mm pilot) K2

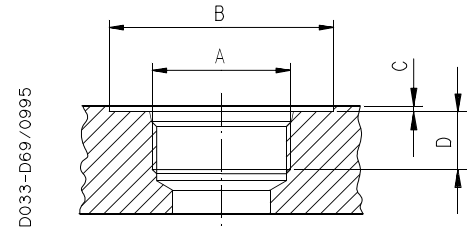


PORT OPTIONS

SAE STRAIGHT THREAD PORTS O-RING BOSS

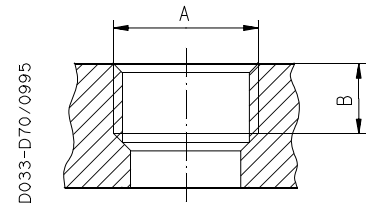
Replaces: D033-001/10.95

| CODE | NOMINAL SIZE | A | B | C | D |
|---------------|--------------|----------------|---------------|----------------|---------------|
| | | | mm (in) | mm (in) | mm (in) |
| 03 (•) | 1/4 | 7/16-20 UNF-2B | 21 (0.827) | 0,5 (0.020) | 14 (0.551) |
| 0A (•) | 3/8 | 9/16-18 UNF-2B | 26 (1.024) | 0,5 (0.020) | 15 (0.591) |
| 0B | 1/2 | 3/4-16 UNF-2B | 32 (1.260) | 0,5 (0.020) | 15 (0.591) |
| 0C | 5/8 | 7/8-14 UNF-2B | 35 (1.378) | 0,5 (0.020) | 17 (0.669) |



BSP STRAIGHT THREAD PORTS

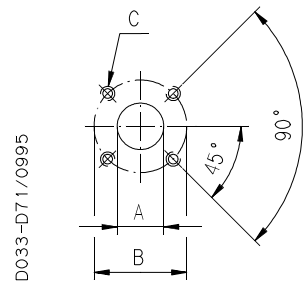
| CODE | NOMINAL SIZE | A | B |
|---------------|--------------|-------|---------------|
| | | | mm (in) |
| GA (•) | 1/8 | G 1/8 | 11 (0.433) |
| GC | 3/8 | G 3/8 | 14 (0.551) |
| GD | 1/2 | G 1/2 | 14 (0.551) |



GERMAN 4 BOLT FLANGE

D033-001/01.98

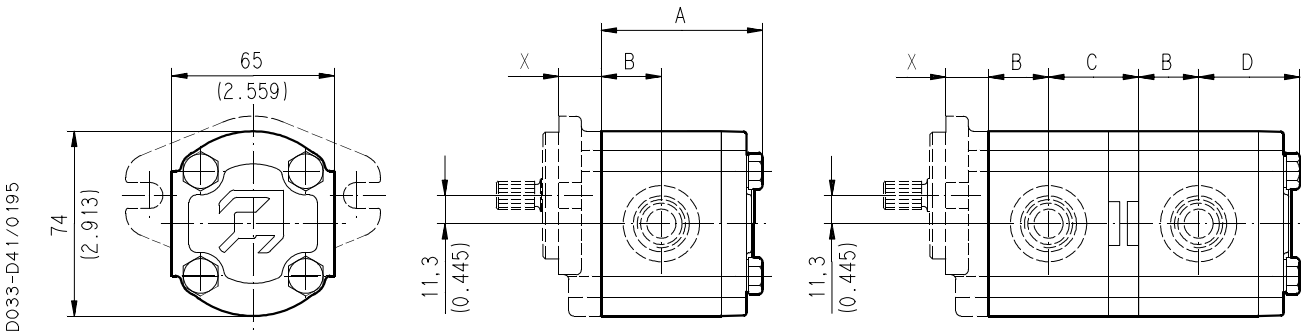
| CODE | A | B | C |
|-----------|---------------|---------------|----------------------|
| | mm (in) | mm (in) | Thread Depth mm (in) |
| BA | 8 (0.315) | 30 (1.181) | M 6 12 (0.472) |
| BB | 13 (0.512) | 30 (1.181) | M 6 12 (0.472) |



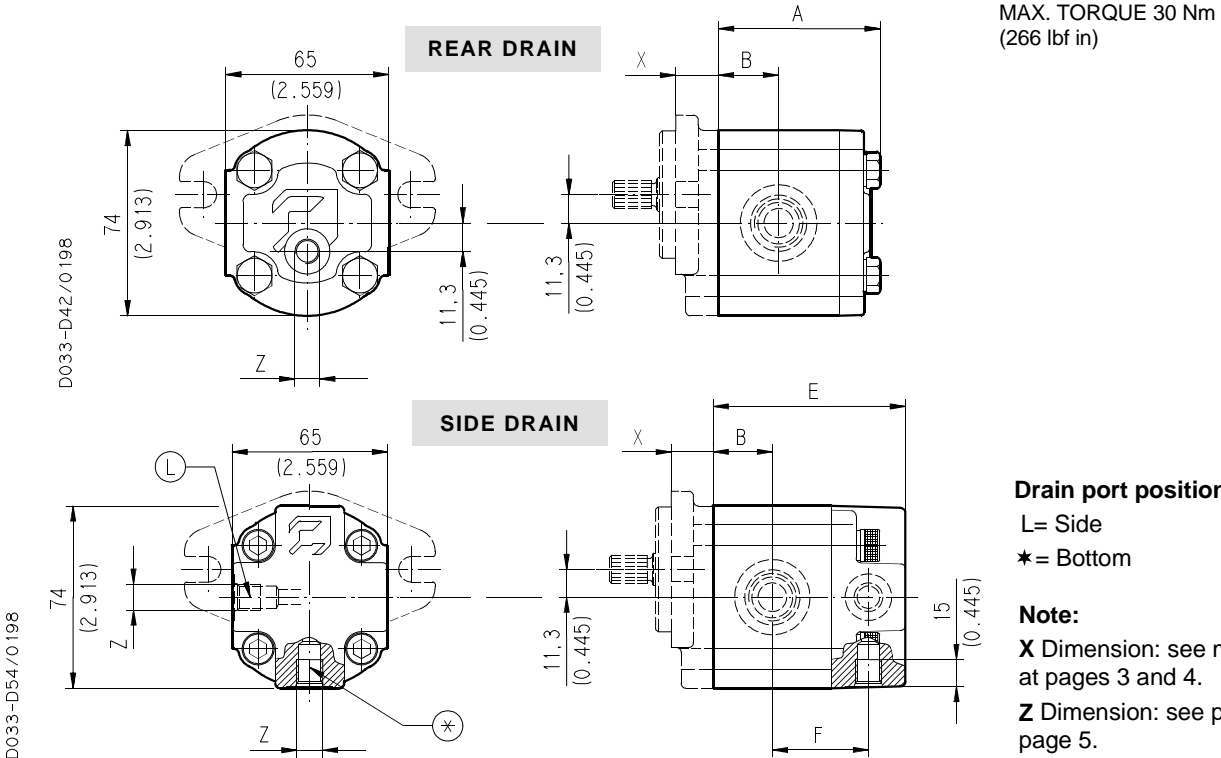
(•): Drain ports options.

SIDE PORTS PUMPS AND MOTORS DIMENSIONS

Unidirectional and bidirectional rotation with internal drain



Bidirectional rotation with external drain



| Pump size | Motor size | A (*) | | B | | C | | D | | E | | F | |
|-------------|-------------|-------|---------|------|---------|------|---------|------|---------|------|---------|------|---------|
| | | mm | (in) | mm | (in) | mm | (in) | mm | (in) | mm | (in) | mm | (in) |
| PLP 10-1 | PLM 10-1 | 51,7 | (2.035) | 17,6 | (0.693) | 29,6 | (1.165) | 34,1 | (1.343) | 65,2 | (2.567) | 32,6 | (1.283) |
| PLP 10-1,5 | PLM 10-1,5 | 53,3 | (2.098) | 18,4 | (0.724) | | | | | 66,8 | (2.630) | 33,4 | (1.315) |
| PLP 10-2 | PLM 10-2 | 54,9 | (2.161) | 19,2 | (0.756) | 31,2 | (1.228) | 35,7 | (1.406) | 68,4 | (2.693) | 34,2 | (1.346) |
| PLP 10-2,5 | PLM 10-2,5 | 56,5 | (2.224) | 20 | (0.787) | | | | | 70 | (2.756) | 35 | (1.378) |
| PLP 10-3,15 | PLM 10-3,15 | 58,5 | (2.303) | 21 | (0.827) | 33 | (1.299) | 37,5 | (1.476) | 72 | (2.835) | 36 | (1.417) |
| PLP 10-4 | PLM 10-4 | 61,3 | (2.413) | 22,4 | (0.882) | 34,4 | (1.354) | 38,9 | (1.531) | 74,8 | (2.945) | 37,4 | (1.472) |
| PLP 10-5 | PLM 10-5 | 64,5 | (2.539) | 24 | (0.945) | 36 | (1.417) | 40,5 | (1.594) | 78 | (3.071) | 39 | (1.535) |
| PLP 10-5,8 | PLM 10-5,8 | 67,1 | (2.642) | 25,3 | (0.996) | | | | | 80,6 | (3.173) | 40,3 | (1.587) |
| PLP 10-6,3 | PLM 10-6,3 | 68,5 | (2.697) | 26 | (1.024) | 38 | (1.496) | 42,5 | (1.673) | 82 | (3.228) | 41 | (1.614) |
| PLP 10-8 | PLM 10-8 | 74 | (2.913) | 28,8 | (1.134) | 40,8 | (1.606) | 45,2 | (1.780) | 87,5 | (3.445) | 43,8 | (1.724) |
| PLP 10-10 | PLM 10-10 | 80,5 | (3.169) | 32 | (1.260) | 44 | (1.732) | 48,5 | (1.909) | 94 | (3.701) | 47 | (1.850) |

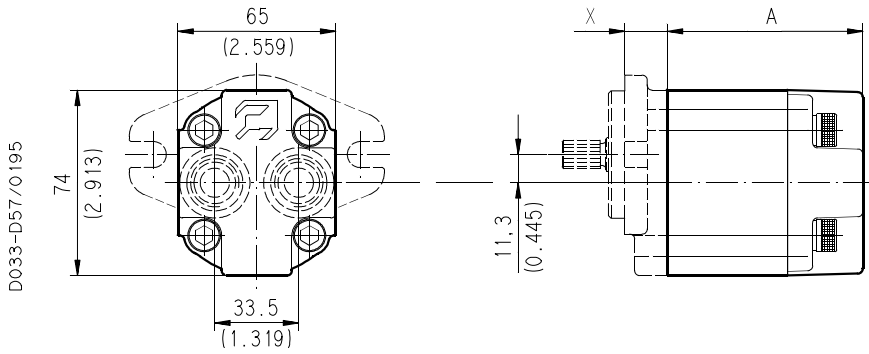
(*) For bidirectional rotation with internal drain pumps and motors, A dimension is replaced by E dimension.

Replaces: D033-001/10.95

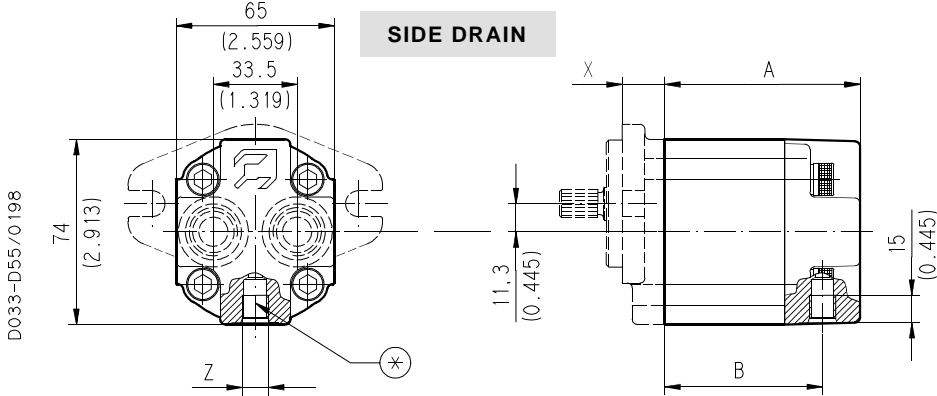
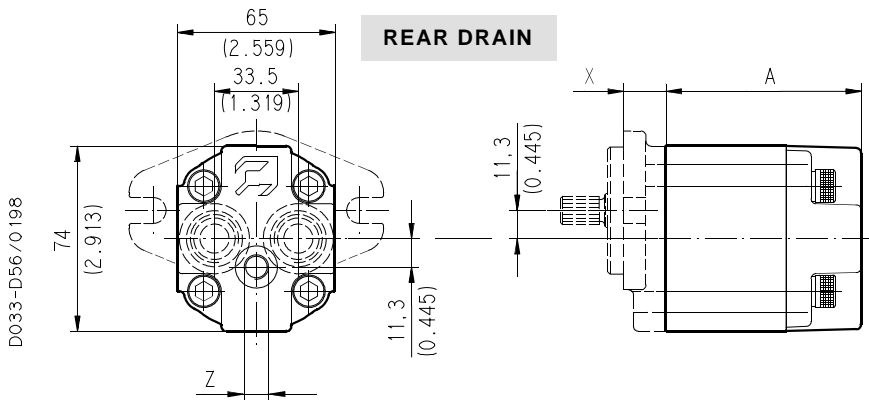
D033-001/01.98

REAR PORTS PUMPS AND MOTORS DIMENSIONS

Unidirectional and bidirectional rotation with internal drain



Bidirectional rotation with external drain



Drain port position

* = Bottom

Note:

X Dimension: see mounting flanges at pages 3 and 4.

Z Dimension: see ports options at page 5.

| Pump size | Motor size | A | | B | |
|-------------|-------------|------|---------|------|---------|
| | | mm | (in) | mm | (in) |
| PLP 10-1 | PLM 10-1 | 65,2 | (2.567) | 50,2 | (1.976) |
| PLP 10-1,5 | PLM 10-1,5 | 66,8 | (2.630) | 51,8 | (2.039) |
| PLP 10-2 | PLM 10-2 | 68,4 | (2.693) | 53,4 | (2.102) |
| PLP 10-2,5 | PLM 10-2,5 | 70 | (2.756) | 55 | (2.165) |
| PLP 10-3,15 | PLM 10-3,15 | 72 | (2.835) | 57 | (2.244) |
| PLP 10-4 | PLM 10-4 | 74,8 | (2.945) | 59,8 | (2.354) |
| PLP 10-5 | PLM 10-5 | 78 | (3.071) | 63 | (2.480) |
| PLP 10-5,8 | PLM 10-5,8 | 80,6 | (3.173) | 65,6 | (2.583) |
| PLP 10-6,3 | PLM 10-6,3 | 82 | (3.228) | 67 | (2.638) |
| PLP 10-8 | PLM 10-8 | 87,5 | (3.445) | 72,5 | (2.854) |
| PLP 10-10 | PLM 10-10 | 94 | (3.701) | 79 | (3.110) |

Replaces: D033-001/10.95

D033-001/01.98

D033-D57/0.195

D033-D56/0.198

D033-D55/0.198

MAX. PRESSURE RELIEF VALVE FIXED SETTING

VPEF **35**

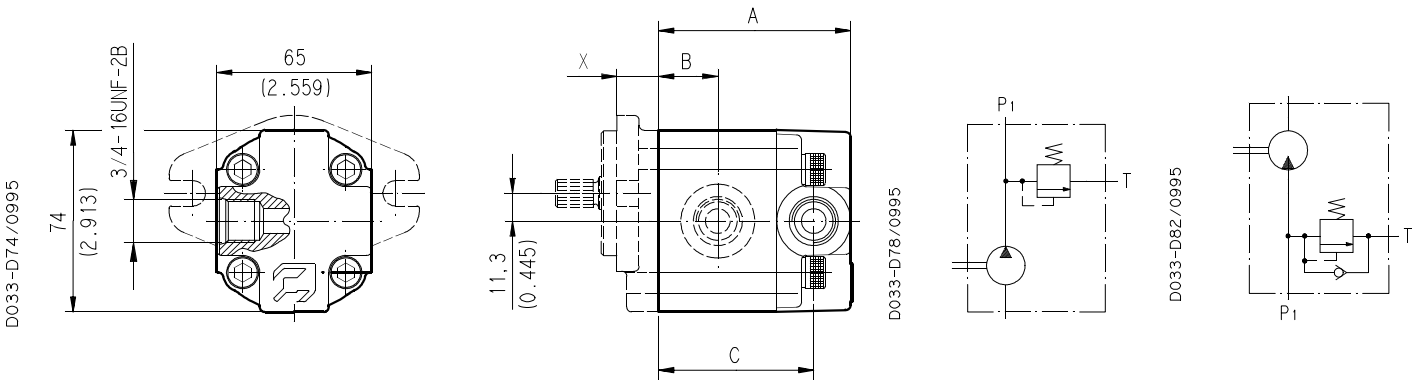
Valve type:
VPEF: Fixed setting valve with external drain
VPIF: Fixed setting valve with internal drain

Fixed setting pressure value [bar]:
 (see table below)

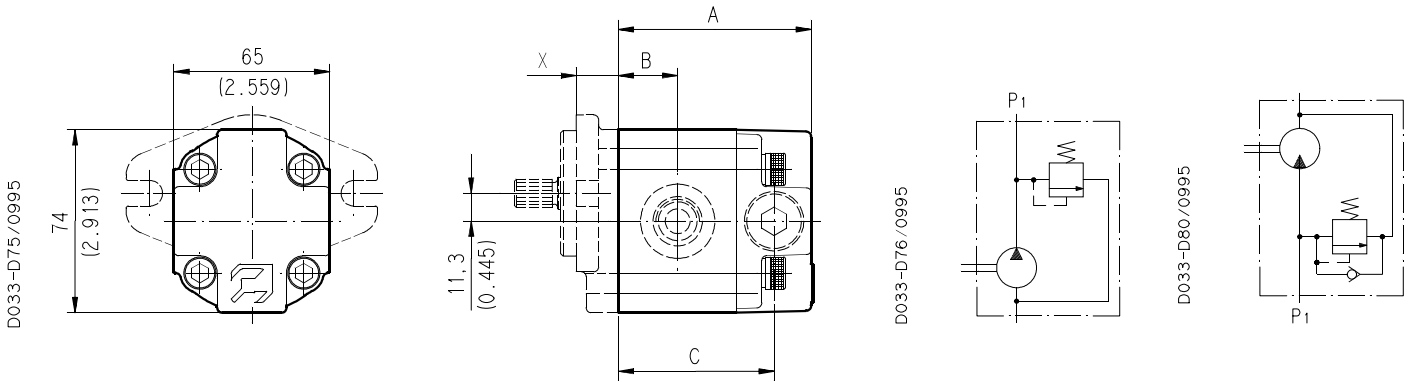
FIXED SETTING PRESSURE VALUE

| | | | | | | | | | | | | | | | | | | | |
|------------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| bar | 17 | 35 | 44 | 50 | 80 | 100 | 120 | 125 | 140 | 150 | 160 | 175 | 190 | 210 | 250 | 280 | 300 | 330 | 350 |
| psi | 247 | 508 | 638 | 725 | 1160 | 1450 | 1740 | 1813 | 2030 | 2175 | 2320 | 2538 | 2755 | 3045 | 3625 | 4060 | 4350 | 4785 | 5075 |

VPEF



VPIF



| Pump size | Motor size | A | | B | | C | |
|--------------------|--------------------|------|---------|------|---------|------|---------|
| | | mm | (in) | mm | (in) | mm | (in) |
| PLP 10-1 | PLM 10-1 | 65,2 | (2.567) | 17,6 | (0.693) | 50,2 | (1.976) |
| PLP 10-1,5 | PLM 10-1,5 | 66,8 | (2.630) | 18,4 | (0.724) | 51,8 | (2.039) |
| PLP 10-2 | PLM 10-2 | 68,4 | (2.693) | 19,2 | (0.756) | 53,4 | (2.102) |
| PLP 10-2,5 | PLM 10-2,5 | 70 | (2.756) | 20 | (0.787) | 55 | (2.165) |
| PLP 10-3,15 | PLM 10-3,15 | 72 | (2.835) | 21 | (0.827) | 57 | (2.244) |
| PLP 10-4 | PLM 10-4 | 74,8 | (2.945) | 22,4 | (0.882) | 59,8 | (2.354) |
| PLP 10-5 | PLM 10-5 | 78 | (3.071) | 24 | (0.945) | 63 | (2.480) |
| PLP 10-5,8 | PLM 10-5,8 | 80,6 | (3.173) | 25,3 | (0.996) | 65,6 | (2.583) |
| PLP 10-6,3 | PLM 10-6,3 | 82 | (3.228) | 26 | (1.024) | 67 | (2.638) |
| PLP 10-8 | PLM 10-8 | 87,5 | (3.445) | 28,8 | (1.134) | 72,5 | (2.854) |
| PLP 10-10 | PLM 10-10 | 94 | (3.701) | 32 | (1.260) | 79 | (3.110) |

Note:
X Dimension: see mounting flanges at page 3 and 4.

MAX. PRESSURE RELIEF VALVE ADJUSTABLE SETTING

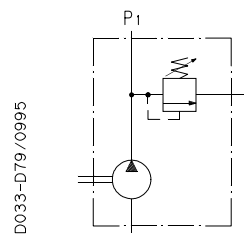
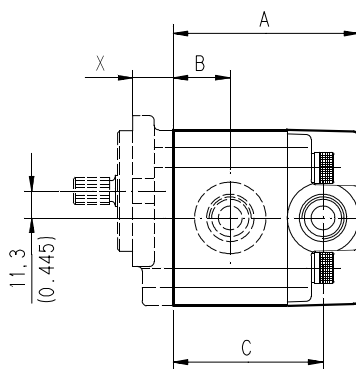
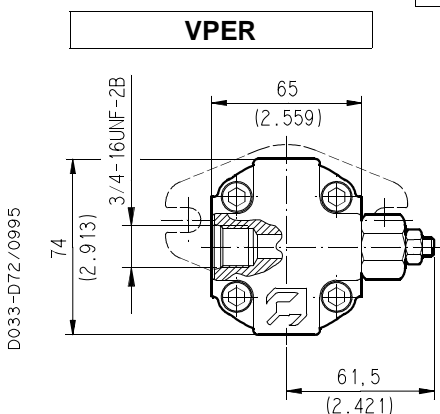
VPER / **TS**

Valve type:
VPER:Adjustable setting valve with external drain
VPIR:Adjustable setting valve with internal drain

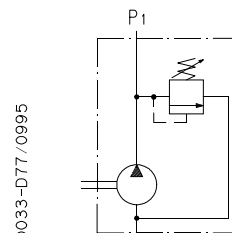
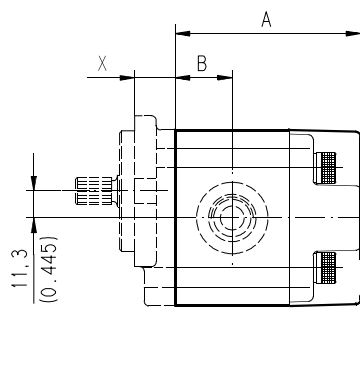
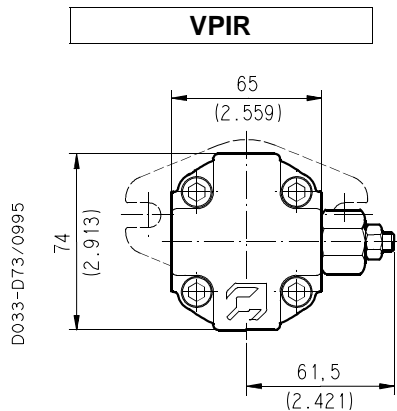
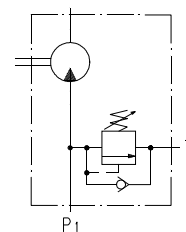
Pressure range code:
 (see table below)

| SETTING PRESSURE RANGE | | |
|------------------------|----------|-------------|
| Code | bar | psi |
| TV | 20 ÷ 75 | 290 ÷ 1090 |
| TS | 75 ÷ 220 | 1090 ÷ 3190 |

Replaces: D033-001/10.95

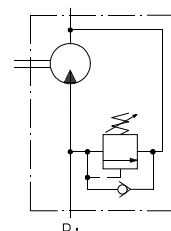


D033-D83/0995



D033-D77/0995

D033-D81/0995



D033-001/01.98

| Pump size | Motor size | A | | B | | C | |
|-------------|-------------|------|---------|------|---------|------|---------|
| | | mm | (in) | mm | (in) | mm | (in) |
| PLP 10-1 | PLM 10-1 | 65,2 | (2.567) | 17,6 | (0.693) | 50,2 | (1.976) |
| PLP 10-1,5 | PLM 10-1,5 | 66,8 | (2.630) | 18,4 | (0.724) | 51,8 | (2.039) |
| PLP 10-2 | PLM 10-2 | 68,4 | (2.693) | 19,2 | (0.756) | 53,4 | (2.102) |
| PLP 10-2,5 | PLM 10-2,5 | 70 | (2.756) | 20 | (0.787) | 55 | (2.165) |
| PLP 10-3,15 | PLM 10-3,15 | 72 | (2.835) | 21 | (0.827) | 57 | (2.244) |
| PLP 10-4 | PLM 10-4 | 74,8 | (2.945) | 22,4 | (0.882) | 59,8 | (2.354) |
| PLP 10-5 | PLM 10-5 | 78 | (3.071) | 24 | (0.945) | 63 | (2.480) |
| PLP 10-5,8 | PLM 10-5,8 | 80,6 | (3.173) | 25,3 | (0.996) | 65,6 | (2.583) |
| PLP 10-6,3 | PLM 10-6,3 | 82 | (3.228) | 26 | (1.024) | 67 | (2.638) |
| PLP 10-8 | PLM 10-8 | 87,5 | (3.445) | 28,8 | (1.134) | 72,5 | (2.854) |
| PLP 10-10 | PLM 10-10 | 94 | (3.701) | 32 | (1.260) | 79 | (3.110) |

Note: For X dimension see mounting flanges at page 3 and 4.

HOW TO ORDER SINGLE PUMPS AND MOTORS

| | | | | | | | | | | | | | | | | |
|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|---|----|---|---|----|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | | | | | |
| PLP 10-2 | S | 0 | - | 30 | S0 | - | L | OB/OA | - | N | - | EL | - | L | OA | - |
| 12 | 13 | | | | | | | | | | | | | | | |
| H | - | VPER ... | | | | | | | | | | | | | | |

| 1 | Size | | PUMP CODE | MOTOR CODE |
|------|----------------------|----------------------|-------------|------------|
| | in ³ /rev | cm ³ /rev | | |
| 0.06 | 1 | PLP 10-1 | PLM 10-1 | |
| 0.09 | 1.5 | PLP 10-1,5 | PLM 10-1,5 | |
| 0.12 | 2 | PLP 10-2 | PLM 10-2 | |
| 0.15 | 2.5 | PLP 10-2,5 | PLM 10-2,5 | |
| 0.19 | 3.1 | PLP 10-3,15 | PLM 10-3,15 | |
| 0.24 | 4 | PLP 10-4 | PLM 10-4 | |
| 0.30 | 4.9 | PLP 10-5 | PLM 10-5 | |
| 0.35 | 5.8 | PLP 10-5,8 | PLM 10-5,8 | |
| 0.38 | 6.2 | PLP 10-6,3 | PLM 10-6,3 | |
| 0.48 | 7.9 | PLP 10-8 | PLM 10-8 | |
| 0.60 | 9.9 | PLP 10-10 | PLM 10-10 | |

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

| 3 | Version | CODE |
|----------------------------------------|---------|------|
| No outboard bearing | 0 | |
| With outboard bearing (only W9 flange) | 1 | |

| 4 | Drive shaft | CODE |
|----------------------|-------------|------|
| SAE "A-A" straight | 30 | |
| SAE straight | 36 | |
| SAE "A-A" spline | 02 | |
| Straight | 29 | |
| European tapered 1:8 | 81 | |
| European tapered 1:8 | 86 | |

| 5 | Mounting flange | CODE |
|-------------------------------------------------------------|-----------------|------|
| SAE "A-A" 2 bolt | S0 | |
| SAE "A-A" 2-4 bolt | R9 | |
| SAE 2 bolt | W9 | |
| SAE 2-4 bolt | R8 | |
| European rectangular (25,4 mm pilot, 52x72 mm bolt pattern) | E1 | |
| European rectangular (30 mm pilot, 56x73 mm bolt pattern) | E7 | |
| European rectangular (30 mm pilot, 52x72 mm bolt pattern) | E8 | |
| Through 2 bolt (32 mm pilot, 42x42 mm bolt pattern) | B1 | |
| Through 4 bolt (32 mm pilot, 42x42 mm bolt pattern) | K2 | |

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

| CODE | | Inlet/outlet ports | | 7 |
|----------------------------------------------|------------|--------------------|----------------------------|---|
| SAE STRAIGHT THREAD PORTS O-RING BOSS | | | | |
| Side ports | Rear ports | Series and size | | |
| OB/OA | OB/OA | PLP 10 | 1 - 1,5 - 2 - 2,5 - 3,15 | |
| OA/OB | OA/OB | PLM 10 | 4 - 5 - 5,8 - 6,3 | |
| OC/OB | OB/OB | PLP 10 | 8 - 10 | |
| OB/OC | OB/OB | PLM 10 | | |
| BSPP STRAIGHT THREAD PORTS | | | | |
| Side ports | Rear ports | Series and size | | |
| GC/GC | GC/GC | PLP 10 | 1 - 1,5 - 2 - 2,5 | |
| | | PLM 10 | 3,15 - 4 | |
| GD/GD | GD/GD | PLP 10 | 5 - 5,8 - 6,3 - 8 - 10 | |
| | | PLM 10 | | |
| GERMAN 4 BOLT FLANGE | | | | |
| Side ports | Rear ports | Series and size | | |
| BB/BA | | PLP 10 | 1 - 1,5 - 2 - 2,5 - 3,15 | |
| BA/BB | | PLM 10 | 4 - 5 - 5,8 - 6,3 - 8 - 10 | |

| CODE | Seals | 8 |
|------|-----------------|---|
| N | Buna (standard) | |
| V | Viton | |

| CODE | Cover options | 9 |
|------|---------------------------------------------------|---|
| EL | Aluminum mounting flange and rear cover | |
| L | Cast iron mounting flange and aluminum rear cover | |

| CODE | Drain port positions | 10 |
|------|----------------------|----|
| L | Side | |
| * | Bottom | |

| CODE | Drain ports | 11 |
|----------------------------------------------|----------------|----|
| SAE STRAIGHT THREAD PORTS O-RING BOSS | | |
| 03 | 7/16-20 UNF-2B | |
| OA | 9/16-18 UNF-2B | |
| BSPP STRAIGHT THREAD PORTS | | |
| GA | G 1/8 | |

| CODE | Shaft seal options | 12 |
|------|-----------------------------------------|----|
| C | High back pressure seal with wiper seal | |
| D | Standard seal with wiper seal | |
| H | High back pressure seal | |

| CODE | Max. pressure relief valve | 13 |
|----------|----------------------------------------|----|
| VPEF ... | Fixed setting with external drain | |
| VPIF ... | Fixed setting with internal drain | |
| VPER ... | Adjustable setting with external drain | |
| VPIR ... | Adjustable setting with internal drain | |

Replaces: D033-001/10.98

D033-001/01.98

HOW TO ORDER MULTIPLE PUMPS

DOUBLE PUMPS

1
2
3
4
5
1
4
5
6
7
8

| | | | | | | | | | | | | | | | | | |
|---------------|---|----|----|---|---|--------------|---|------|---|---|-------|---|---|---|---|---|----|
| PLP 10-2 | - | 30 | S0 | - | L | OB/OA | / | 10-2 | - | L | OB/OA | - | S | - | N | - | EL |
| Front section | | | | | | Rear section | | | | | | | | | | | |

| 1 | Pump size | | CODE |
|---|----------------------|----------------------|-------------|
| | in ³ /rev | cm ³ /rev | |
| | 0.06 | 1 | PLP 10-1 |
| | 0.09 | 1.5 | PLP 10-1,5 |
| | 0.12 | 2 | PLP 10-2 |
| | 0.15 | 2.5 | PLP 10-2,5 |
| | 0.19 | 3.1 | PLP 10-3,15 |
| | 0.24 | 4 | PLP 10-4 |
| | 0.30 | 4.9 | PLP 10-5 |
| | 0.35 | 5.8 | PLP 10-5,8 |
| | 0.38 | 6.2 | PLP 10-6,3 |
| | 0.48 | 7.9 | PLP 10-8 |
| | 0.60 | 9.9 | PLP 10-10 |

| 2 | Drive shaft | CODE |
|---|----------------------|------|
| | SAE "A-A" straight | 30 |
| | SAE straight | 36 |
| | SAE "A-A" spline | 02 |
| | Straight | 29 |
| | European tapered 1:8 | 81 |
| | European tapered 1:8 | 86 |

| 3 | Mounting flange | CODE |
|---|----------------------------------------------------------------|------|
| | SAE "A-A" 2 bolt | S0 |
| | SAE "A-A" 2-4 bolt | R9 |
| | SAE 2 bolt | W9 |
| | SAE 2-4 bolt | R8 |
| | European rectangular (25,4 mm pilot, 52x72 mm bolt pattern) | E1 |
| | European rectangular (30 mm pilot, 56x73 mm bolt pattern) | E7 |
| | European rectangular (30 mm pilot, 52x72 mm bolt pattern) | E8 |
| | Through 2 bolt (32 mm pilot, 42x42 mm bolt pattern) | B1 |
| | Through 4 bolt (32 mm pilot, 42x42 mm bolt pattern) | K2 |

| 4 | Ports position | CODE |
|---|----------------|------|
| | Side | L |
| | Rear | P |

| CODE | Inlet/outlet ports | 5 |
|----------------------------------------------|--------------------------------------------------------------------|---|
| SAE STRAIGHT THREAD PORTS O-RING BOSS | | |
| Side ports | Pump size | |
| OB/OA | PLP 10 1 - 1,5 - 2 - 2,5 - 3,15 4 - 5 - 5,8 - 6,3 | |
| OC/OB | PLP 10 8 - 10 | |
| BSPP STRAIGHT THREAD PORTS | | |
| Side ports | Series and size | |
| GC/GC | PLP 10 1 - 1,5 - 2 - 2,5 - 3,15 - 4 | |
| GD/GD | PLP 10 5 - 5,8 - 6,3 - 8 - 10 | |
| GERMAN 4 BOLT FLANGE | | |
| Side ports | Pump size | |
| BB/BA | PLP 10 1 - 1,5 - 2 - 2,5 - 3,15 4 - 5 - 5,8 - 6,3 - 8 - 10 | |

| CODE | Rotation | 6 |
|------|----------|---|
| S | Left | |
| D | Right | |

| CODE | Seals | 7 |
|------|-----------------|---|
| N | Buna (standard) | |
| V | Viton | |

| CODE | Cover options | 8 |
|------|---------------------------------------------------|---|
| EL | Aluminum mounting flange and rear cover | |
| L | Cast iron mounting flange and aluminum rear cover | |

D033-001/10.95

TRIPLE PUMPS

1
2
3
4
5
1
4
5
1
4
5
6
7
8

| | | | | | | | | | | | | | | | | | | | | | | |
|---------------|---|----|----|---|---|----------------------|---|------|---|---|-------|---------------|------|---|---|-------|---|---|---|---|---|----|
| PLP10-2 | - | 30 | S0 | - | L | OB/OA | / | 10-2 | - | L | OB/OA | / | 10-2 | - | L | OB/OA | - | S | - | N | - | EL |
| Front section | | | | | | Intermediate section | | | | | | Rear sections | | | | | | | | | | |

ORDER EXAMPLE

SINGLE PUMPS AND MOTORS

Standard pump **PLP 10-2 S 0-30 S0-L OB/OA-N**

Standard motor **PLM10-2 S 0-30 S0-L OA/OB-N**

Pump with special features **PLP 10-2 S 0-30 S0-L OB/OA-N-EL-VPER/TS**

MULTIPLE PUMPS

Standard double pump **PLP 10-2 02 S0-L OB/OA / 10-2 L OB/OA-S-N**

TRIPLE PUMPS

Standard triple pump **PLP 10-2 02 S0-L OB/OA / 10-2 L OB/OA / 10-2 L OB/OA-S-N**

Triple pump with special features **PLP 10-2 02 S0-L OB/OA / 10-2 L OB/OA / 10-2 L OB/OA-S-N-EL**

Replaces: D033-001/10.95

D033-001/01.98



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e-mail: info@casappa.com

INDEX

PUMPS AND MOTORS

FLOW DIVIDERS

D033-002/02.98

INDEX

| | Pag. |
|---------------------------------------------------------|------|
| GENERAL DATA | 1 |
| SHAFT OPTIONS | 2 |
| MOUNTING FLANGE OPTIONS | 4 |
| PORT OPTIONS | 5 |
| SIDE PORTS PUMPS AND MOTORS DIMENSIONS | 7 |
| REAR PORTS PUMPS AND MOTORS DIMENSIONS | 8 |
| MULTIPLE PUMPS DIMENSIONS | 9 |
| HOW TO ORDER SINGLE PUMPS AND MOTORS | 10 |
| HOW TO ORDER MULTIPLE PUMPS | 11 |
| ORDER EXAMPLE | 12 |

D033-002/02.98

POLARIS 20 SERIES

Hydraulic Gear Pumps and Motors

Replaces edition: 02.2996

PRESSURE

| | |
|-------------------|--------------------|
| Max. continuous | 4060 psi (280 bar) |
| Max. intermittent | 4350 psi (300 bar) |
| Max. peak | 4640 psi (320 bar) |

DISPLACEMENT

| | |
|------|-------------------------------------------------------|
| From | 0.29 in ³ /rev (4,8 cm ³ /rev) |
| To | 1.99 in ³ /rev (32,6 cm ³ /rev) |



SPEED

| | |
|------------|----------|
| Min. speed | 500 rpm |
| Max. speed | 4000 rpm |

POLARIS 20 gear pumps and motors meet a wide range of mobile and industrial applications. SAE and EUROPEAN mounting flanges and rear covers are available in both cast iron and aluminum for reduced weight. The extruded aluminum body houses single piece gear, journal, shaft assemblies with a pressure balancing system that provides the highest volumetric and overall efficiencies available. Exceptionally large bearings make possible the most complete range of drive shafts in spline, parallel keyed, and tapered versions to meet all SAE, DIN, and EUROPEAN standards.

Edition: 02.1998

| | POLARIS pump size | POLARIS motor size | Theoretical displacement | | Min. (1) speed | Max. (1) speed | Max. (2) continuous pressure p ₁ | | Pump flow (3) @ 1800 rpm @ p ₁ | Motor torque (4) @ 100 psi | Approx. (5) weight | |
|------------|--------------------|--------------------|--------------------------|----------------------|----------------|----------------|---------------------------------------------|-----|-------------------------------------------|----------------------------|--------------------|--------|
| | | | in ³ /rev | cm ³ /rev | rpm | rpm | psi | bar | | | US gpm | lbf in |
| POLARIS 20 | PLP 20-4 | PLM 20-4 | 0.29 | 4.8 | 600 | 4000 | 4060 | 280 | 2.14 | 4.03 | 3.80 | 8.38 |
| | PLP 20-6,3 | PLM 20-6,3 | 0.39 | 6.5 | 600 | 4000 | 4060 | 280 | 2.90 | 5.45 | 3.85 | 8.48 |
| | PLP 20-8 | PLM 20-8 | 0.50 | 8.3 | 600 | 3500 | 4060 | 280 | 3.75 | 6.96 | 3.90 | 8.60 |
| | PLP 20-9 | PLM 20-9 | 0.55 | 9 | 600 | 3500 | 4060 | 270 | 4.06 | 7.52 | 3.98 | 8.78 |
| | PLP 20-11,2 | PLM 20-11,2 | 0.67 | 11.1 | 600 | 3500 | 3900 | 270 | 5.01 | 9.31 | 4.05 | 8.93 |
| | PLP 20-14 | PLM 20-14 | 0.87 | 14.4 | 500 | 3500 | 3770 | 260 | 6.61 | 12.08 | 4.15 | 9.15 |
| | PLP 20-16 | PLM 20-16 | 1.01 | 16.6 | 500 | 3000 | 3625 | 250 | 7.67 | 13.92 | 4.30 | 9.48 |
| | PLP 20-20 | PLM 20-20 | 1.27 | 20.8 | 500 | 3000 | 2900 | 200 | 9.61 | 17.44 | 4.45 | 9.81 |
| | PLP 20-25 | PLM 20-25 | 1.58 | 26 | 500 | 2500 | 2465 | 170 | 11.8 | 21.80 | 4.70 | 10.36 |
| | PLP 20-31,5 | PLM 20-31,5 | 1.99 | 32.6 | 500 | 2000 | 1855 | 130 | 15.11 | 27.34 | 4.90 | 10.80 |

- (1) Minimum speeds can be reduced, maximum speeds can be increased. For specific operating conditions consult CASAPPA technical dept. for recommendations and approval.
- (2) Significantly higher intermittent pressures are allowed. Consult catalog or contact CASAPPA technical dept.
- (3) Flow shown is minimum allowed for production pump at rated pressure with 10 wt oil at 110° Fahrenheit and can be used to calculate minimum volumetric efficiency under these conditions.
- (4) Indicated torque is obtained by considering the average mechanical efficiency.
- (5) Weight shown is for standard pump and motor with cast iron end-covers. There is a weight reduction for aluminum covers. Please contact your CASAPPA distributor for further assistance.



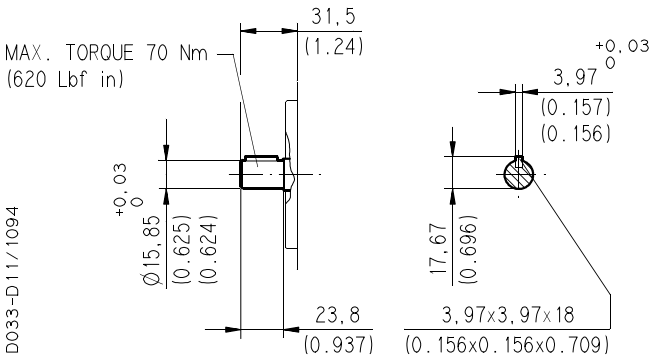
SHAFT OPTIONS

SAE "A" STRAIGHT (5/8" dia) 31

Mounting flange availability:

| | | | | | |
|-----------|-----------|--|--|--|--|
| S1 | S2 | | | | |
|-----------|-----------|--|--|--|--|

Dimensions refer to flange code **S1**



SAE "B" STRAIGHT 32

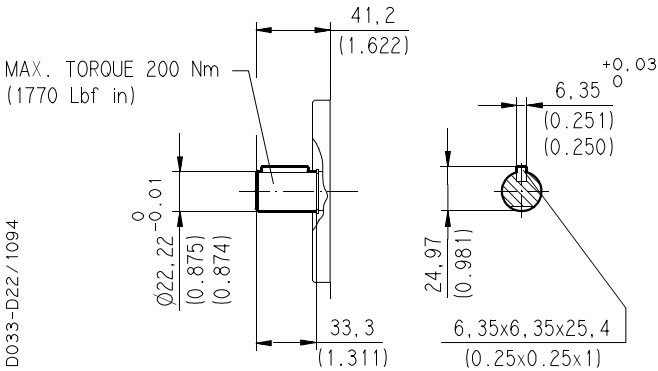
Not available with size:

| | | | | | |
|-------------|-------------|-------------|----------------|--|--|
| 20-4 | 20-8 | 20-9 | 20-11,2 | | |
|-------------|-------------|-------------|----------------|--|--|

Mounting flange availability:

| | | | | | |
|-----------|-----------|-----------|--|--|--|
| S1 | S2 | S5 | | | |
|-----------|-----------|-----------|--|--|--|

Dimensions refer to flange code **S5**

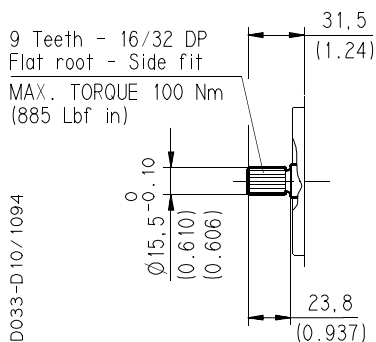


SAE "A" SPLINE (9 T) 03

Mounting flange availability:

| | | | | | |
|-----------|-----------|--|--|--|--|
| S1 | S2 | | | | |
|-----------|-----------|--|--|--|--|

Dimensions refer to flange code **S1**

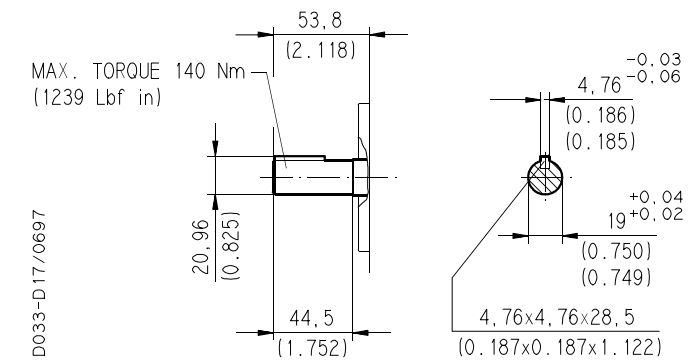


STRAIGHT (3/4" dia 2" length) 49

Mounting flange availability:

| | | | | | |
|-----------|-----------|--|--|--|--|
| S1 | S2 | | | | |
|-----------|-----------|--|--|--|--|

Dimensions refer to flange code **S1**

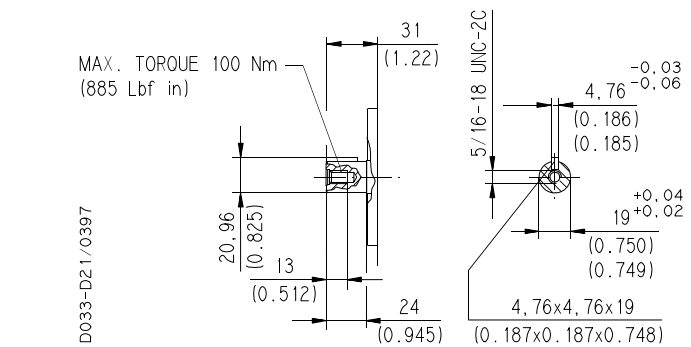


STRAIGHT (3/4" dia) 50

Mounting flange availability:

| | | | | | |
|-----------|-----------|--|--|--|--|
| S1 | S2 | | | | |
|-----------|-----------|--|--|--|--|

Dimensions refer to flange code **S1**

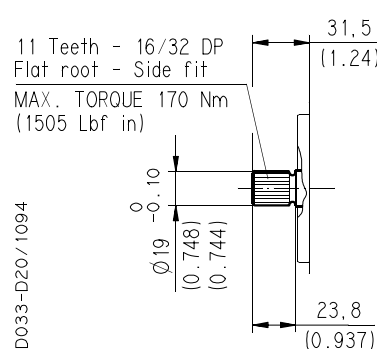


SAE SPLINE (11 T) 07

Mounting flange availability:

| | | | | | |
|-----------|-----------|--|--|--|--|
| S1 | S2 | | | | |
|-----------|-----------|--|--|--|--|

Dimensions refer to flange code **S1**



Replaces: D033-001/02.96

D033-001/02.98

SHAFT OPTIONS

SAE "B" SPLINE (13 T)

04

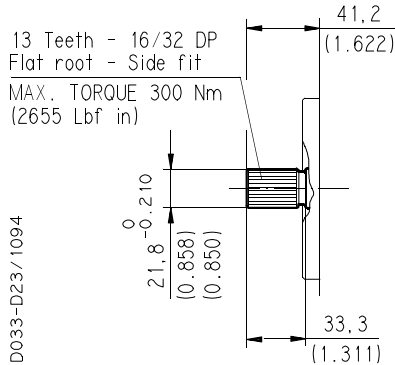
Not available with size:

| | | | | | |
|------|------|------|--|--|--|
| 20-4 | 20-8 | 20-9 | | | |
|------|------|------|--|--|--|

Mounting flange availability:

| | | | | | |
|----|----|----|--|--|--|
| S1 | S2 | S5 | | | |
|----|----|----|--|--|--|

Dimensions refer to flange code **S5**



D033-D23/1094

DIN 5482 SPLINE

12

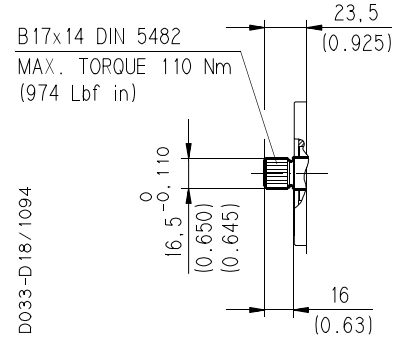
Not available with size:

| | | | | | |
|------|---------|--|--|--|--|
| 20-9 | 20-31,5 | | | | |
|------|---------|--|--|--|--|

Mounting flange availability:

| | | | | | |
|----|----|----|----|----|----|
| S1 | S2 | B2 | B4 | B5 | E2 |
|----|----|----|----|----|----|

Dimensions refer to flange code **B2**



D033-D18/1094

GERMAN TAPERED 1:5

54

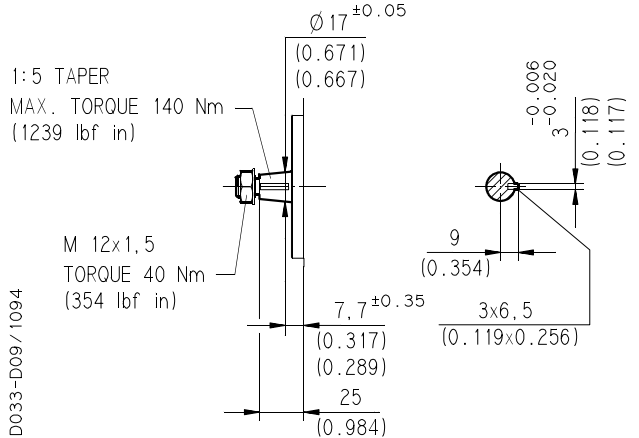
Not available with size:

| | | | | | |
|------|---------|--|--|--|--|
| 20-9 | 20-31,5 | | | | |
|------|---------|--|--|--|--|

Mounting flange availability:

| | | | | | |
|----|----|----|--|--|--|
| B2 | B4 | B5 | | | |
|----|----|----|--|--|--|

Dimensions refer to flange code **B4 and B5**



D033-D09/1094

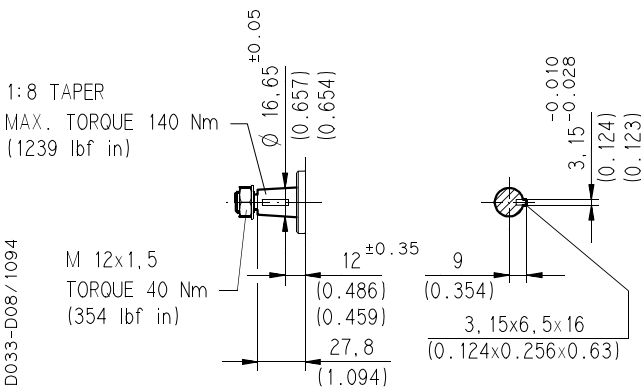
EUROPEAN TAPERED 1:8

82

Mounting flange availability:

| | | | | | |
|----|----|----|--|--|--|
| S1 | S2 | E2 | | | |
|----|----|----|--|--|--|

Dimensions refer to flange code **E2**



D033-D08/1094

EUROPEAN STRAIGHT

46

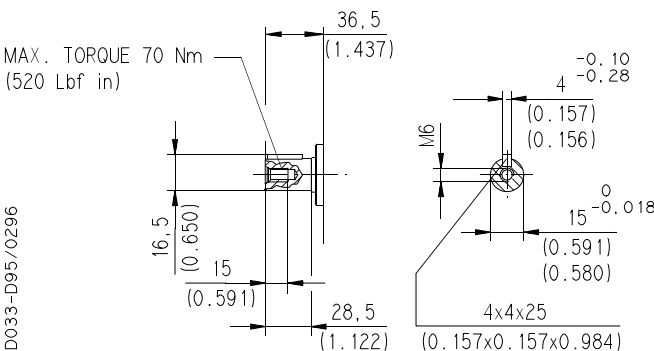
Not available with size:

| | | | | | |
|------|-------|---------|--|--|--|
| 20-9 | 20-25 | 20-31,5 | | | |
|------|-------|---------|--|--|--|

Mounting flange availability:

| | | | | | |
|----|--|--|--|--|--|
| E2 | | | | | |
|----|--|--|--|--|--|

Dimensions refer to flange code **E2**



D033-D95/0296

TANG

95

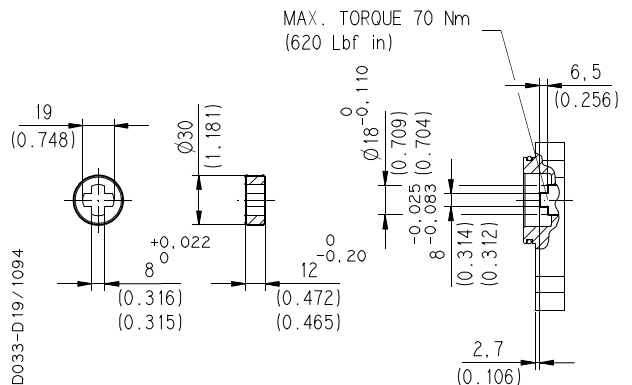
Not available with size:

| | | | | | |
|------|---------|--|--|--|--|
| 20-9 | 20-31,5 | | | | |
|------|---------|--|--|--|--|

Mounting flange availability:

| | | | | | |
|----|--|--|--|--|--|
| B6 | | | | | |
|----|--|--|--|--|--|

Dimensions refer to flange code **B6**



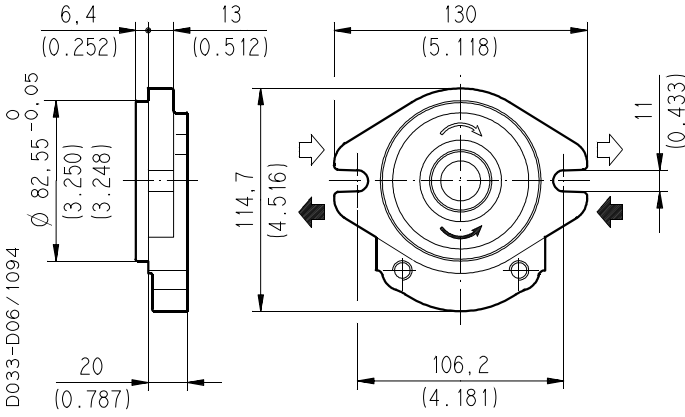
D033-D19/1094

Replaces: D033-001/02.96

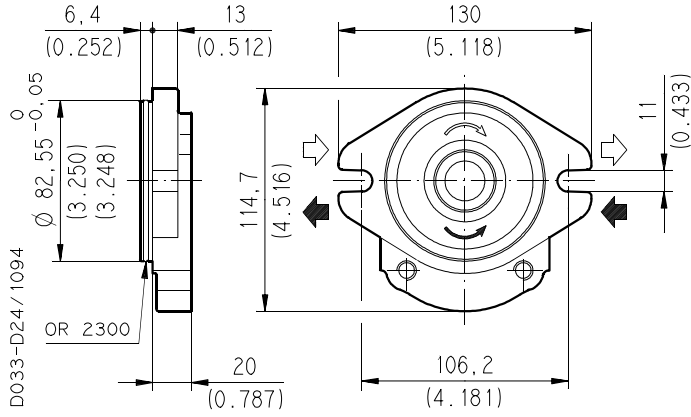
D033-001/02.98

MOUNTING FLANGE OPTIONS

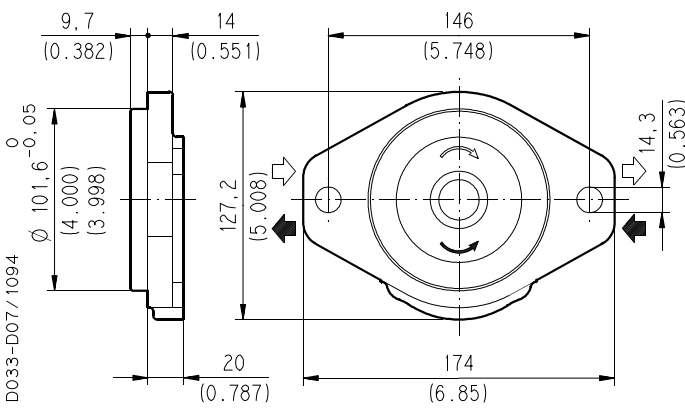
SAE "A" 2 BOLT S1



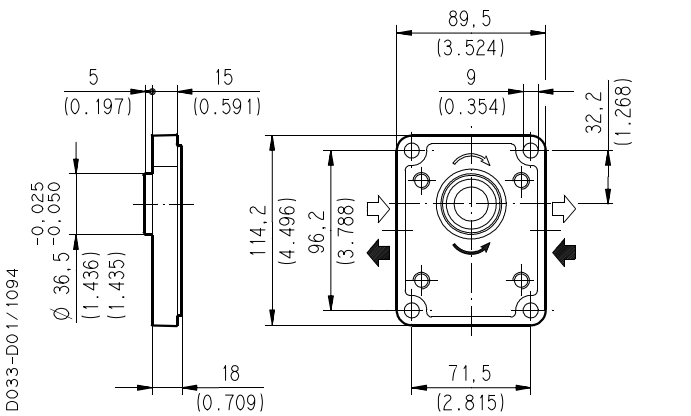
SAE "A" 2 BOLT S2



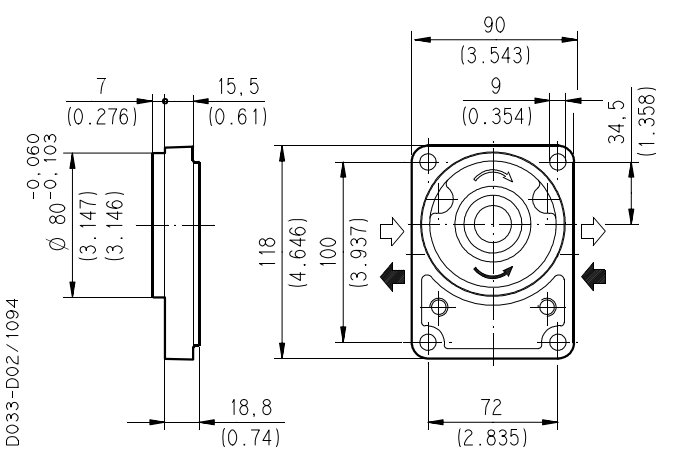
SAE "B" 2 BOLT S5



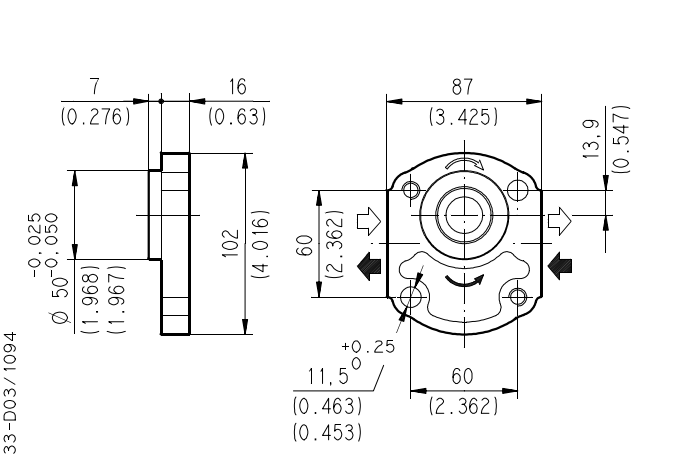
EUROPEAN RECTANGULAR E2



GERMAN RECTANGULAR B2



THROUGH 2 BOLT (50 mm pilot) B4



Replaces: D033-001/12.94

D033-001/02.96

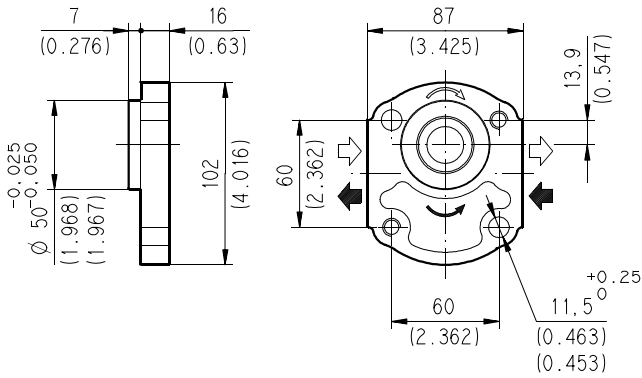
MOUNTING FLANGE OPTIONS

THROUGH 2 BOLT (50 mm pilot) B5

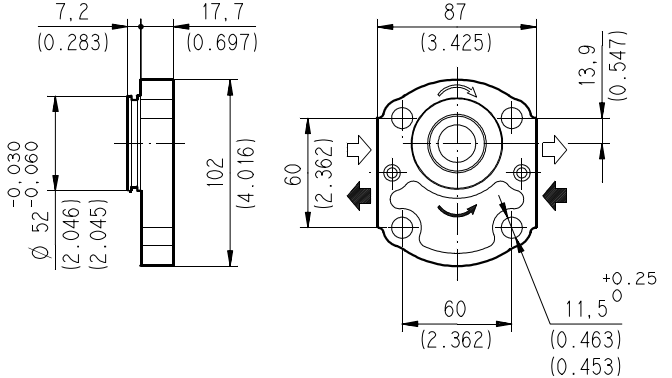
THROUGH 4 BOLT (52 mm pilot) B6

Replaces: D033-001/02.96

D033-D04/1094



D033-D05/0296

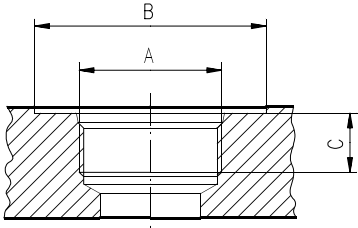


PORT OPTIONS

SAE STRAIGHT THREAD PORTS O-RING BOSS

| CODE | NOMINAL SIZE | A | B | C |
|---------------|--------------|------------------|------------|------------|
| | | | mm (in) | mm (in) |
| 03 (•) | 1/4 | 7/16-20 UNF-2B | 21 (0.827) | 12 (0.472) |
| OA (•) | 3/8 | 9/16-18 UNF-2B | 26 (1.024) | 12 (0.472) |
| OC | 5/8 | 7/8-14 UNF-2B | 34 (1.339) | 17 (0.669) |
| OD | 3/4 | 1-1/16-12 UNF-2B | 41 (1.614) | 20 (0.787) |

D033-D15/0298



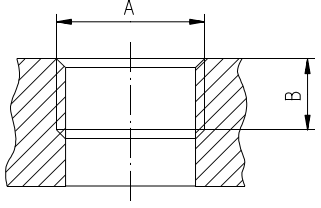
(•): Drain ports options.

BSPB STRAIGHT THREAD PORTS

D033-001/02.98

| CODE | NOMINAL SIZE | A | B |
|---------------|--------------|-------|------------|
| | | | mm (in) |
| GB (•) | 1/4 | G 1/4 | 12 (0.472) |
| GD | 1/2 | G 1/2 | 17 (0.669) |
| GE | 3/4 | G 3/4 | 18 (0.709) |

D033-D14/1094

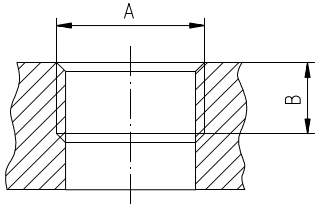


(•): Drain ports options.

METRIC THREAD PORTS

| CODE | NOMINAL SIZE | A | B |
|---------------|--------------|--------|------------|
| | | | mm (in) |
| TA (•) | 1/8 | M 10x1 | 12 (0.472) |

D033-D14/1094

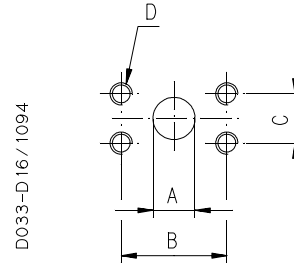


(•): Drain ports options.

PORT OPTIONS

METRIC SAE SPLIT PORTS SAE J518 C (STANDARD PRESSURE SERIES)

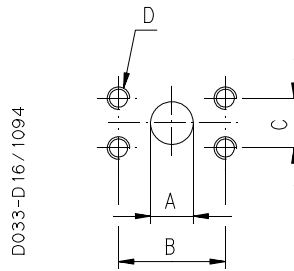
| CODE | NOMINAL SIZE | A | B | C | D |
|------|--------------|----------------|------------------|------------------|-------------------------|
| | | mm (in) | mm (in) | mm (in) | Thread Depth mm (in) |
| MA | 1/2 | 12,7 (0.5) | 38,1 (1.5) | 17,48 (0.688) | M 8 14 (0.55) |
| MB | 3/4 | 19,1 (0.75) | 47,63 (1.875) | 22,23 (0.875) | M 10 14 (0.55) |
| MC | 1 | 25,4 (1) | 52,37 (2.062) | 26,19 (1.031) | |



D033-D16 / 1094

SAE SPLIT PORTS SAE J518 C (STANDARD PRESSURE SERIES)

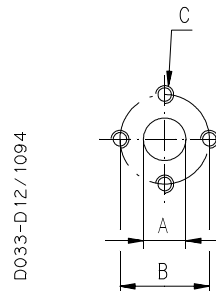
| CODE | NOMINAL SIZE | A | B | C | D |
|------|--------------|----------------|------------------|------------------|-----------------------------|
| | | mm (in) | mm (in) | mm (in) | Thread Depth mm (in) |
| SA | 1/2 | 12,7 (0.5) | 38,1 (1.5) | 17,48 (0.688) | 5/16-18 UNC-2B 14 (0.55) |
| SB | 3/4 | 19,1 (0.75) | 47,63 (1.875) | 22,23 (0.875) | 3/8-16 UNC-2B 14 (0.55) |
| SC | 1 | 25,4 (1) | 52,37 (2.062) | 26,19 (1.031) | |



D033-D16 / 1094

EUROPEAN 4 BOLT FLANGE

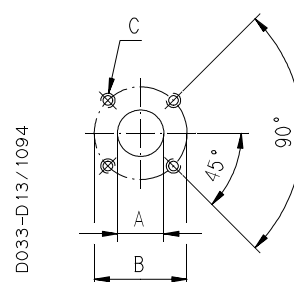
| CODE | A | B | C |
|------|---------------|---------------|-------------------------|
| | mm (in) | mm (in) | Thread Depth mm (in) |
| EA | 13 (0.512) | 30 (1.181) | M 6 12 (0.472) |
| EB | 19 (0.748) | 40 (1.57) | M 8 14 (0.551) |



D033-D12 / 1094

GERMAN 4 BOLT FLANGE

| CODE | A | B | C |
|------|---------------|---------------|-------------------------|
| | mm (in) | mm (in) | Thread Depth mm (in) |
| BC | 15 (0.59) | 35 (1.378) | M 6 13 (0.511) |
| BE | 20 (0.787) | 40 (1.57) | M 6 13 (0.511) |



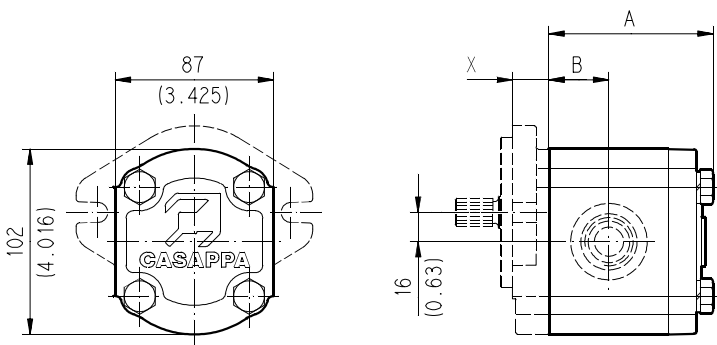
D033-D13 / 1094

Replaces: D033-001/02.96

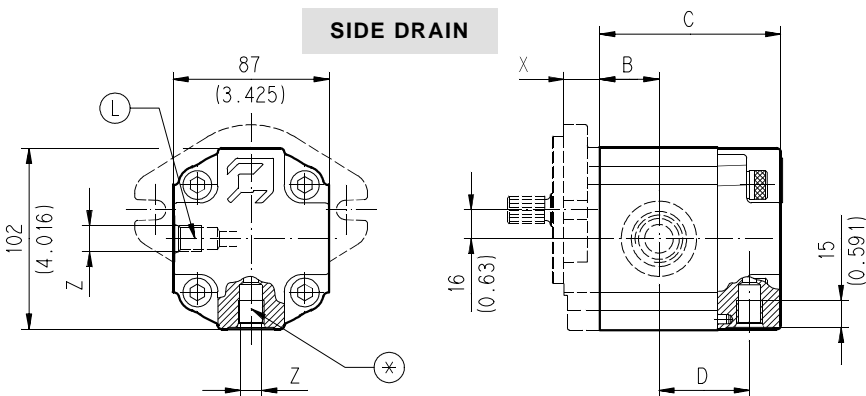
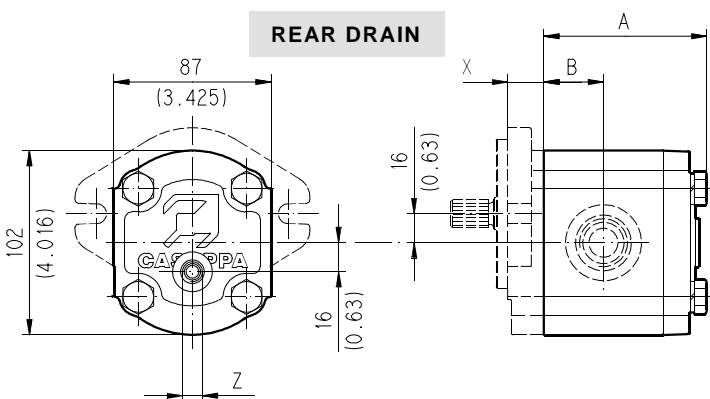
D033-001/02.98

SIDE PORTS PUMPS AND MOTORS DIMENSIONS

Unidirectional and bidirectional rotation with internal drain



Bidirectional rotation with external drain



Drain port position

- L= Side
- *= Bottom

Note:

X Dimension: see mounting flanges at pages 4 and 5.

Z Dimension: see ports options at pages 5 and 6.

| Pump size | Motor size | A | | B | | C | | D | |
|-------------|-------------|-------|---------|------|---------|-------|---------|------|---------|
| | | mm | (in) | mm | (in) | mm | (in) | mm | (in) |
| PLP 20-4 | PLM 20-4 | 75,1 | (2.957) | 25,8 | (1.016) | 86,6 | (3.409) | 43,3 | (1.705) |
| PLP 20-6,3 | PLM 20-6,3 | 77,5 | (3.051) | 27 | (1.063) | 89 | (3.504) | 44,5 | (1.752) |
| PLP 20-8 | PLM 20-8 | 80,1 | (3.154) | 28,3 | (1.114) | 91,6 | (3.606) | 45,8 | (1.803) |
| PLP 20-9 | PLM 20-9 | 81,3 | (3.200) | 28,9 | (1.138) | 92,8 | (3.654) | 46,4 | (1.827) |
| PLP 20-11,2 | PLM 20-11,2 | 84,5 | (3.327) | 30,5 | (1.201) | 96 | (3.780) | 48 | (1.890) |
| PLP 20-14 | PLM 20-14 | 89,5 | (3.524) | 33 | (1.299) | 101 | (3.976) | 50,5 | (1.988) |
| PLP 20-16 | PLM 20-16 | 93,1 | (3.665) | 34,8 | (1.370) | 104,6 | (4.118) | 52,3 | (2.059) |
| PLP 20-20 | PLM 20-20 | 99,5 | (3.917) | 38 | (1.496) | 111 | (4.370) | 55,5 | (2.185) |
| PLP 20-25 | PLM 20-25 | 107,5 | (4.232) | 42 | (1.654) | 119 | (4.685) | 59,5 | (2.343) |
| PLP 20-31,5 | PLM 20-31,5 | 117,5 | (4.626) | 47 | (1.850) | 129 | (5.079) | 64,5 | (2.539) |

Replaces: D033-001/02.96

D033-D25/1094

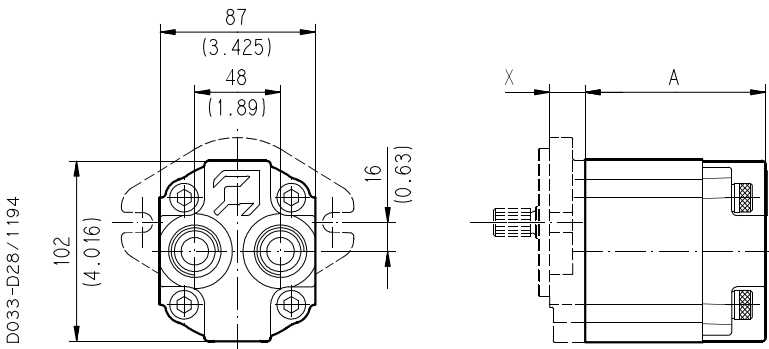
D033-D26/0298

D033-D27/0298

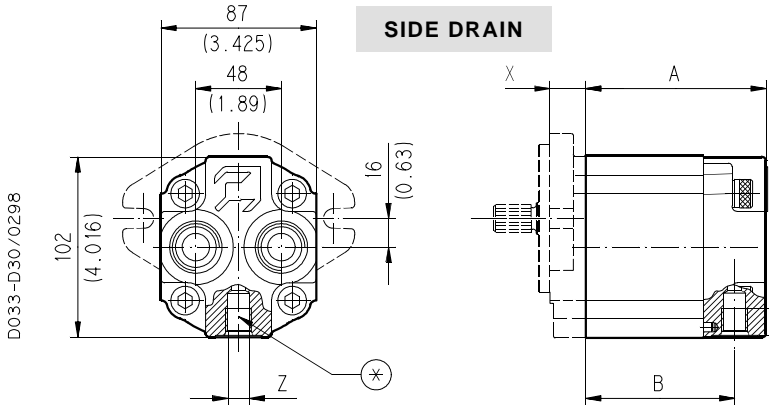
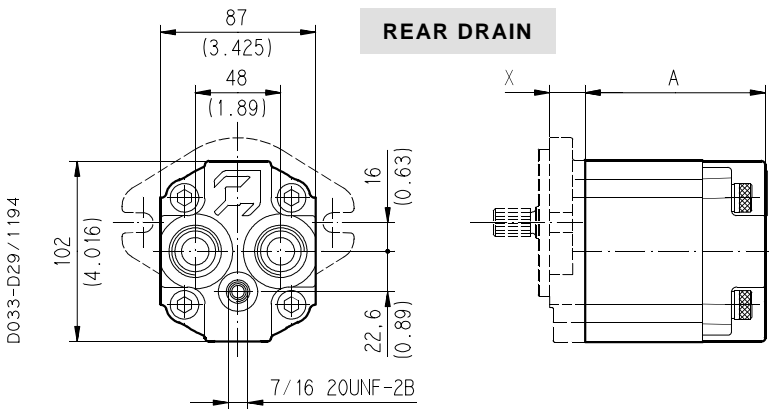
D033-001/02.98

REAR PORTS PUMPS AND MOTORS DIMENSIONS

Unidirectional and bidirectional rotation with internal drain



Bidirectional rotation with external drain



Drain port position

*= Bottom

Note:

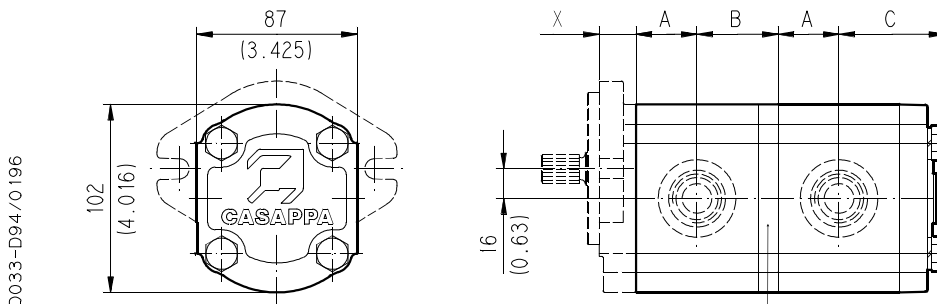
X Dimension: see mounting flanges at pages 4 and 5.

Z Dimension: see ports options at pages 5 and 6.

| Pump size | Motor size | A | | B | |
|-------------|-------------|-------|---------|-------|---------|
| | | mm | (in) | mm | (in) |
| PLP 20-4 | PLM 20-4 | 86,6 | (3.409) | 69,1 | (2.720) |
| PLP 20-6,3 | PLM 20-6,3 | 89 | (3.504) | 71,5 | (2.815) |
| PLP 20-8 | PLM 20-8 | 91,6 | (3.606) | 74,1 | (2.917) |
| PLP 20-9 | PLM 20-9 | 92,8 | (3.654) | 75,3 | (2.965) |
| PLP 20-11,2 | PLM 20-11,2 | 96 | (3.780) | 78,5 | (3.091) |
| PLP 20-14 | PLM 20-14 | 101 | (3.976) | 83,5 | (3.287) |
| PLP 20-16 | PLM 20-16 | 104,6 | (4.118) | 87,1 | (3.429) |
| PLP 20-20 | PLM 20-20 | 111 | (4.370) | 93,5 | (3.681) |
| PLP 20-25 | PLM 20-25 | 119 | (4.685) | 101,5 | (3.996) |
| PLP 20-31,5 | PLM 20-31,5 | 129 | (5.079) | 111,5 | (4.390) |

MULTIPLE PUMPS DIMENSION

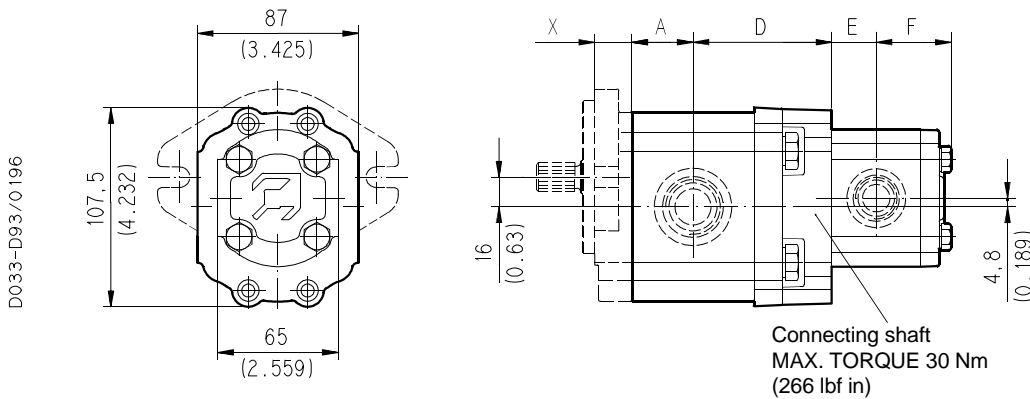
Multiple pumps same groups PLP 20/20



D033-D94/0196

Connecting shaft
MAX. TORQUE 110 Nm
(974 lbf in)

Multiple pumps different groups PLP 20/10



D033-D93/0196

Connecting shaft
MAX. TORQUE 30 Nm
(266 lbf in)

D033-001/02.96

| Pump size | A | | B | | C | | D | |
|-------------|------|---------|------|---------|------|---------|------|---------|
| | mm | (in) | mm | (in) | mm | (in) | mm | (in) |
| PLP 20-4 | 25,8 | (1.016) | 36,8 | (1.449) | 49,3 | (1.941) | 67,8 | (2.669) |
| PLP 20-6,3 | 27 | (1.063) | 38 | (1.496) | 50,5 | (1.988) | 69 | (2.717) |
| PLP 20-8 | 28,3 | (1.114) | 39,3 | (1.547) | 51,8 | (2.039) | 70,3 | (2.768) |
| PLP 20-9 | 28,9 | (1.138) | 39,9 | (1.571) | 52,4 | (2.063) | 70,9 | (2.791) |
| PLP 20-11,2 | 30,5 | (1.201) | 41,5 | (1.634) | 54 | (2.126) | 72,5 | (2.854) |
| PLP 20-14 | 33 | (1.299) | 44 | (1.732) | 56,5 | (2.224) | 75 | (2.953) |
| PLP 20-16 | 34,8 | (1.370) | 45,8 | (1.803) | 58,3 | (2.295) | 76,8 | (3.024) |
| PLP 20-20 | 38 | (1.496) | 49 | (1.929) | 61,5 | (2.421) | 80 | (3.150) |
| PLP 20-25 | 42 | (1.654) | 53 | (2.087) | 65,5 | (2.579) | 84 | (3.307) |
| PLP 20-31,5 | 47 | (1.850) | 58 | (2.283) | 70,5 | (2.776) | 89 | (3.504) |

| Pump size (1) | E | | F | |
|---------------|------|---------|------|---------|
| | mm | (in) | mm | (in) |
| PLP 10-1 | 17,6 | (0.693) | 34,1 | (1.343) |
| PLP 10-2 | 19,2 | (0.756) | 35,7 | (1.406) |
| PLP 10-3,15 | 21 | (0.827) | 37,5 | (1.476) |
| PLP 10-4 | 22,4 | (0.882) | 38,9 | (1.531) |
| PLP 10-5 | 24 | (0.945) | 40,5 | (1.594) |
| PLP 10-6,3 | 26 | (1.024) | 42,5 | (1.673) |
| PLP 10-8 | 28,8 | (1.134) | 45,3 | (1.783) |
| PLP 10-10 | 32 | (1.260) | 48,5 | (1.909) |

(1) Technical data of POLARIS 10 are shown in the respective catalogue.

HOW TO ORDER SINGLE PUMPS AND MOTORS

| | | | | | | | | | | | | | | | | | |
|----------|---|---|---|----|----|---|---|-------|----|----|----|----|---|---|----|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 11 | | | | | | |
| PLP 20-8 | S | 0 | - | 03 | S1 | - | L | OC/OC | - | N | - | EL | - | L | OA | - | H |

| 1 Size | | PUMP CODE | MOTOR CODE |
|----------------------|----------------------|-------------|-------------|
| in ³ /rev | cm ³ /rev | | |
| 0.29 | 4.8 | PLP 20-4 | PLM 20-4 |
| 0.39 | 6.5 | PLP 20-6,3 | PLM 20-6,3 |
| 0.50 | 8.3 | PLP 20-8 | PLM 20-8 |
| 0.55 | 9 | PLP 20-9 | PLM 20-9 |
| 0.67 | 11.1 | PLP 20-11,2 | PLM 20-11,2 |
| 0.87 | 14.4 | PLP 20-14 | PLM 20-14 |
| 1.01 | 16.6 | PLP 20-16 | PLM 20-16 |
| 1.27 | 20.8 | PLP 20-20 | PLM 20-20 |
| 1.58 | 26 | PLP 20-25 | PLM 20-25 |
| 1.99 | 32.6 | 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 Version | CODE |
|---------------------|------|
| No outboard bearing | 0 |

| 4 Drive shaft | CODE |
|-----------------------------------|------|
| SAE "A" straight (5/8" dia) | 31 |
| Straight (3/4" dia 2" length) | 49 |
| SAE "B" straight | 32 |
| Straight (3/4" dia) | 50 |
| SAE "A" spline (9T - 16/32 DP) | 03 |
| SAE "A" spline (11T - 16/32 DP) | 07 |
| SAE "B" spline (13T - 16/32 DP) | 04 |
| DIN 5482 Spline shaft (B17x14 9T) | 12 |
| European tapered 1:8 | 82 |
| German tapered 1:5 | 54 |
| Tang | 95 |

| 5 Mounting flange | CODE |
|-----------------------------------------------------------------|------|
| SAE "A" 2 bolt | S1 |
| SAE "A" 2 bolt | S2 |
| SAE "B" 2 bolt | S5 |
| European rectangular (36,5 mm pilot, 71,4x96,2 mm bolt pattern) | E2 |
| German rectangular (80 mm pilot, 72x100 mm bolt pattern) | B2 |
| Through 2 bolt (50 mm pilot, 60x60 mm bolt pattern) | B4 |
| Through 2 bolt (50 mm pilot, 60x60 mm bolt pattern) | B5 |
| Through 4 bolt (52 mm pilot, 60x60 mm bolt pattern) | B6 |

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

| 1 Pump size | | CODE | |
|----------------------------------------------|--------|------------|------------|
| SAE STRAIGHT THREAD PORTS O-RING BOSS | | | |
| Series and size | | Side ports | Rear ports |
| 4 - 6,3 - 8 9 - 11,2 | PLP 20 | OC/OC | OC/OC |
| | PLM 20 | | |
| 14 - 16 - 20 25 - 31,5 | PLP 20 | OD/OC | OD/OC |
| | PLM 20 | OC/OD | OC/OD |

| CODE | | Inlet/outlet ports | | 7 |
|-----------------------------------|------------|--------------------|--------------|---|
| BSPB STRAIGHT THREAD PORTS | | | | |
| Side ports | Rear ports | Series and size | | |
| GD/GD | GD/GD | PLP 20 | 4 - 6,3 - 8 | |
| | | PLM 20 | 9 - 11,2 | |
| GE/GD | GE/GD | PLP 20 | 14 - 16 - 20 | |
| GD/GE | GD/GE | PLM 20 | 25 - 31,5 | |

| METRIC SAE SPLIT PORTS SAE J518 C | | | | |
|-----------------------------------|------------|-----------------|--------------|--|
| Side ports | Rear ports | Series and size | | |
| MA/MA | | PLP 20 | 4 - 6,3 - 8 | |
| | | PLM 20 | 9 - 11,2 | |
| MB/MA | | PLP 20 | 14 - 16 - 20 | |
| MA/MB | | PLM 20 | | |
| MC/MB | | PLP 20 | 25 - 31,5 | |
| MB/MC | | PLM 20 | | |

| SAE SPLIT PORTS SAE J518 C | | | | |
|----------------------------|------------|-----------------|--------------|--|
| Side ports | Rear ports | Series and size | | |
| SA/SA | | PLP 20 | 4 - 6,3 - 8 | |
| | | PLM 20 | 9 - 11,2 | |
| SB/SA | | PLP 20 | 14 - 16 - 20 | |
| SA/SB | | PLM 20 | | |
| SC/SB | | PLP 20 | 25 - 31,5 | |
| SB/SC | | PLM 20 | | |

| EUROPEAN 4 BOLT FLANGE | | | | |
|------------------------|------------|-----------------|--------------|--|
| Side ports | Rear ports | Series and size | | |
| EA/EA | | PLP 20 | 4 - 6,3 - 8 | |
| | | PLM 20 | 9 - 11,2 | |
| EB/EA | | PLP 20 | 14 - 16 - 20 | |
| EA/EB | | PLM 20 | 25 - 31,5 | |

| GERMAN 4 BOLT FLANGE | | | | |
|----------------------|------------|-----------------|----------------|--|
| Side ports | Rear ports | Series and size | | |
| BE/BC | | PLP 20 | 4-6,3-8-9-11,2 | |
| BC/BE | | PLM 20 | 14-16-20-25 | |

| CODE | Seals | 8 |
|------|-----------------|---|
| N | Buna (standard) | |
| V | Viton | |

| CODE | Cover options | 9 |
|------|-----------------------------------------|---|
| EL | Aluminum mounting flange and rear cover | |

| CODE | Drain port positions | 10 |
|------|----------------------|----|
| L | Side | |
| * | Bottom | |

| CODE | Drain ports | 11 |
|----------------------------------------------|----------------|----|
| SAE STRAIGHT THREAD PORTS O-RING BOSS | | |
| 03 | 7/16-20 UNF-2B | |
| OA | 9/16-18 UNF-2B | |
| BSPB STRAIGHT THREAD PORTS | | |
| GB | G 1/4 | |
| METRIC PORTS | | |
| TA | M 10x1 | |

| CODE | Shaft seal options | 12 |
|------|-----------------------------------------|----|
| C | High back pressure seal with wiper seal | |
| D | Standard seal with wiper seal | |
| H | High back pressure seal | |

Replaces: D033-001/02.98

D033-001/02.98

HOW TO ORDER MULTIPLE PUMPS

DOUBLE PUMPS

1
2
3
4
5
1
4
5
6
7
8

PLP 20-8
-
03
-
S1
-
L
/
OC/OC
/
20-8
-
L
/
OC/OC
-
S
-
N
-
EL

Front section

Rear section

| 1 | Pump size | | CODE |
|---|----------------------|----------------------|-------------|
| | in ³ /rev | cm ³ /rev | |
| | 0.29 | 4.8 | PLP 20-4 |
| | 0.39 | 6.5 | PLP 20-6,3 |
| | 0.50 | 8.3 | PLP 20-8 |
| | 0.55 | 9 | PLP 20-9 |
| | 0.67 | 11.1 | PLP 20-11,2 |
| | 0.87 | 14.4 | PLP 20-14 |
| | 1.01 | 16.6 | PLP 20-16 |
| | 1.27 | 20.8 | PLP 20-20 |
| | 1.58 | 26 | PLP 20-25 |
| | 1.99 | 32.6 | PLP 20-31,5 |

| 2 | Drive shaft | CODE |
|---|-----------------------------------|------|
| | SAE "A" straight (5/8" dia) | 31 |
| | Straight (3/4" dia 2" lenght) | 49 |
| | SAE "B" straight | 32 |
| | Straight (3/4" dia) | 50 |
| | SAE "A" spline (9T - 16/32 DP) | 03 |
| | SAE "A" spline (11T - 16/32 DP) | 07 |
| | SAE "B" spline (13T - 16/32 DP) | 04 |
| | DIN 5482 Spline shaft (B17x14 9T) | 12 |
| | European tapered 1:8 | 82 |
| | German tapered 1:5 | 54 |
| | Tang | 95 |

| 3 | Mounting flange | CODE |
|---|-----------------------------------------------------------------|------|
| | SAE "A" 2 bolt | S1 |
| | SAE "A" 2 bolt | S2 |
| | SAE "B" 2 bolt | S5 |
| | European rectangular (36,5 mm pilot, 71,4x96,2 mm bolt pattern) | E2 |
| | German rectangular (80 mm pilot, 72x100 mm bolt pattern) | B2 |
| | Through 2 bolt (50 mm pilot, 60x60 mm bolt pattern) | B4 |
| | Through 2 bolt (50 mm pilot, 60x60 mm bolt pattern) | B5 |
| | Through 4 bolt (52 mm pilot, 60x60 mm bolt pattern) | B6 |

| 4 | Ports position | CODE |
|---|----------------|------|
| | Side | L |

| CODE | Inlet/outlet ports | | 5 |
|----------------------------------------------|--------------------|---------------------------------------------|---|
| SAE STRAIGHT THREAD PORTS O-RING BOSS | | | |
| Side ports | Pump size | | |
| OC/OC | PLP 20 | 4 - 6,3 - 8 - 9 - 11,2 | |
| OD/OC | PLP 20 | 14 - 16 - 20 - 25 - 31,5 | |
| BSP STRAIGHT THREAD PORTS | | | |
| Side ports | Series and size | | |
| GD/GD | PLP 20 | 4 - 6,3 - 8 - 9 - 11,2 | |
| GE/GD | PLP 20 | 14 - 16 - 20 - 25 - 31,5 | |
| METRIC SAE SPLIT PORTS SAE J518 C | | | |
| Side ports | Pump size | | |
| MA/MA | PLP 20 | 4 - 6,3 - 8 - 9 - 11,2 | |
| MB/MA | PLP 20 | 14 - 16 - 20 | |
| MC/MB | PLP 20 | 25 - 31,5 | |
| SAE SPLIT PORTS SAE J518 C | | | |
| Side ports | Pump size | | |
| SA/SA | PLP 20 | 4 - 6,3 - 8 - 9 - 11,2 | |
| SB/SA | PLP 20 | 14 - 16 - 20 | |
| SC/SB | PLP 20 | 25 - 31,5 | |
| EUROPEAN 4 BOLT FLANGE | | | |
| Side ports | Pump size | | |
| EA/EA | PLP 20 | 4 - 6,3 - 8 - 9 - 11,2 | |
| EB/EA | PLP 20 | 14 - 16 - 20 - 25 - 31,5 | |
| GERMAN 4 BOLT FLANGE | | | |
| Side ports | Pump size | | |
| BE/BC | PLP 20 | 4 - 6,3 - 8 - 9 - 11,2 14 - 16 - 20 - 25 | |

| CODE | Rotation | 6 |
|------|----------|---|
| S | Left | |
| D | Right | |

| CODE | Seals | 7 |
|------|-----------------|---|
| N | Buna (standard) | |
| V | Viton | |

| CODE | Cover options | 8 |
|------|----------------------------------|---|
| EL | Front and rear cover in aluminum | |

TRIPLE PUMPS

1
2
3
4
5
1
4
5
1
4
5
6
7
8

PLP 20-8
-
03
-
S1
-
L
/
OC/OC
/
20-8
-
L
/
OC/OC
/
20-8
-
L
/
OC/OC
-
S
-
N
-
EL

Front section

Intermediate section

Rear sections

ORDER EXAMPLE

SINGLE PUMPS AND MOTORS

Standard pump **PLP 20-8 S 0-03 S1-L OC/OC-N**

Standard motor **PLM 20-8 S 0-03 S1-L OC/OC-N**

Pump with special features **PLP 20-8 S 0-03 S1-L OC/OC-N-EL**

DOUPLE PUMPS

Standard double pump **PLP 20-8 03 S1-L OC/OC / 20-8 L OC/OC-S-N**

Standard double pump different groups **PLP 20-8 03 S1-L OC/OC / 10-2 L OB/OA-S-N**

Double pump with special features **PLP 20-8 03 S1-L OC/OC / 20-8 L OC/OC-S-N-EL**

TRIPLE PUMPS

Standard triple pumps **PLP 20-8 03 S1-L OC/OC / 20-8 L OC/OC/20-8 L OC/OC-S-N**

Standard triple pump different groups **PLP 20-8 03 S1-L OC/OC / 20-8 L OC/OC/ 10-2 OB/OA-S-N**

Triple pump with special features **PLP 20-8 03 S1-L OC/OC / 20-8 L OC/OC/ 20-8 L OC/OC-S-N-EL**

Replaces: D033-001/12.94

D033-001/02.96



CASAPPA S.p.A. - Parma - Italy - Tel.: + 39 521 304111 - Fax: + 39 521 804600

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INDEX

| | Pag. |
|--------------------------------------------------------------------------|------|
| GENERAL DATA | 1 |
| SHAFT OPTIONS | 2 |
| MOUNTING FLANGE OPTIONS | 4 |
| PORT OPTIONS | 5 |
| SINGLE PUMPS AND MOT. - MULTIPLE PUMPS 30/30 DIMENSIONS | 7 |
| MULTIPLE PUMPS DIFFERENT GROUPS DIMENSIONS | 8 |
| HOW TO ORDER SINGLE PUMPS AND MOTORS | 10 |
| HOW TO ORDER MULTIPLE PUMPS | 11 |
| ORDER EXAMPLE | 12 |

POLARIS 30 SERIES

Hydraulic Gear Pumps and Motors

Replaces edition: 10.1995

PRESSURE

| | |
|-------------------|--------------------|
| Max. continuous | 3625 psi (250 bar) |
| Max. intermittent | 3900 psi (270 bar) |
| Max. peak | 4060 psi (280 bar) |

DISPLACEMENT

| | |
|------|--------------------------------------------------------|
| From | 1.33 in ³ /rev (21,89 cm ³ /rev) |
| To | 5.53 in ³ /rev (90,66 cm ³ /rev) |



SPEED

| | |
|------------|----------|
| Min. speed | 350 rpm |
| Max. speed | 3000 rpm |

POLARIS 30 gear pumps and motors meet a wide range of mobile and industrial applications. SAE and EUROPEAN mounting flanges and cast iron covers with extruded aluminum body houses single piece gear, journal, shaft assemblies with a pressure balancing system that provides the highest volumetric and overall efficiencies available. Exceptionally large bearings make possible longer life at high pressure. A complete range of drive shafts in spline, parallel keyed, and tapered versions to meet all SAE and EUROPEAN standards.

Edition: 02.1998

| | POLARIS pump size | POLARIS motor size | Theoretical displacement | | Min. (1) speed | Max. (1) speed | Max. (2) continuous pressure p ₁ | | Pump flow (3) @ 1800 rpm @ p ₁ | Motor torque (4) @ 100 psi | Approx. weight | |
|-------------------|-------------------|--------------------|--------------------------|----------------------|----------------|----------------|---------------------------------------------|-----|-------------------------------------------|----------------------------|----------------|--------|
| | | | in ³ /rev | cm ³ /rev | rpm | rpm | psi | bar | | | US gpm | lbf in |
| POLARIS 30 | PLP 30-22 | PLM 30-22 | 1.33 | 21.89 | 350 | 3000 | 3625 | 250 | 9.83 | 18.36 | 11.00 | 24.26 |
| | PLP 30-27 | PLM 30-27 | 1.62 | 26.58 | 350 | 3000 | 3625 | 250 | 11.94 | 22.30 | 11.10 | 24.47 |
| | PLP 30-34 | PLM 30-34 | 2.09 | 34.39 | 350 | 3000 | 3480 | 240 | 15.45 | 28.84 | 11.20 | 24.70 |
| | PLP 30-38 | PLM 30-38 | 2.35 | 38.53 | 350 | 3000 | 3480 | 240 | 17.31 | 32.31 | 11.30 | 24.92 |
| | PLP 30-43 | PLM 30-43 | 2.67 | 43.77 | 350 | 3000 | 3300 | 230 | 19.66 | 36.71 | 11.55 | 25.47 |
| | PLP 30-51 | PLM 30-51 | 3.15 | 51.59 | 350 | 2500 | 3040 | 210 | 23.42 | 43.26 | 11.80 | 26.02 |
| | PLP 30-61 | PLM 30-61 | 3.72 | 60.97 | 350 | 2500 | 2755 | 190 | 27.97 | 51.13 | 12.00 | 26.46 |
| | PLP 30-73 | PLM 30-73 | 4.48 | 73.47 | 350 | 2500 | 2465 | 170 | 33.35 | 61.61 | 12.50 | 27.56 |
| | PLP 30-82 | PLM 30-82 | 4.96 | 81.29 | 350 | 2200 | 2320 | 160 | 36.90 | 68.17 | 12.70 | 28.00 |
| | PLP 30-90 | PLM 30-90 | 5.53 | 90.66 | 350 | 2200 | 2175 | 150 | 42.02 | 76.03 | 13.00 | 28.66 |

- (1) Minimum speeds can be reduced, maximum speeds can be increased. For specific operating conditions consult CASAPPA technical dept. for recommendations and approval.
- (2) Significantly higher intermittent pressures are allowed. Consult catalog or contact CASAPPA technical dept.
- (3) Flow shown is minimum allowed for production pump at rated pressure with 10 wt oil at 110° Fahrenheit and can be used to calculate minimum volumetric efficiency under these conditions.
- (4) Indicated torque is obtained by considering the average mechanical efficiency. Please contact your CASAPPA distributor for further assistance.



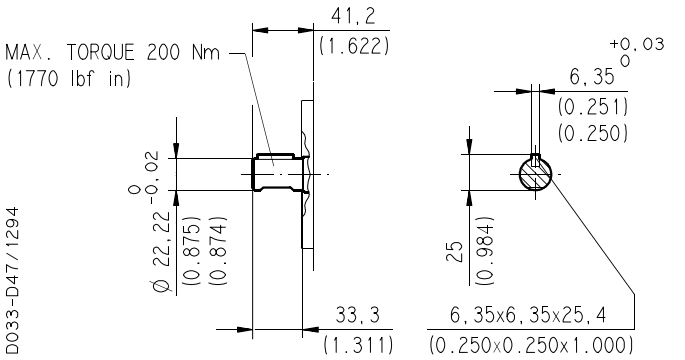
SHAFT OPTIONS

SAE "B" STRAIGHT 32

Mounting flange availability:

| | | | | | |
|-----------|--|--|--|--|--|
| S5 | | | | | |
|-----------|--|--|--|--|--|

 Dimensions refer to flange code **S5**



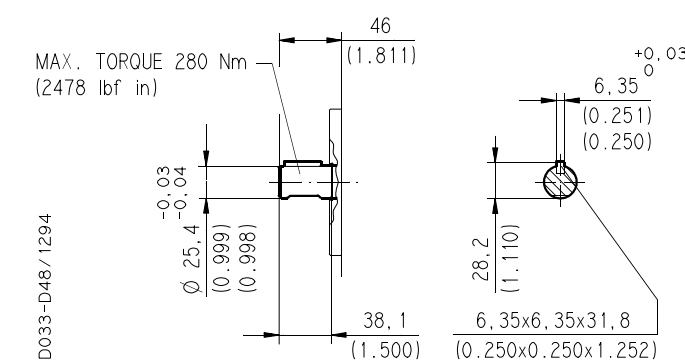
D033-D47/1294

SAE "B-B" STRAIGHT 33

Mounting flange availability:

| | | | | | |
|-----------|--|--|--|--|--|
| S5 | | | | | |
|-----------|--|--|--|--|--|

 Dimensions refer to flange code **S5**



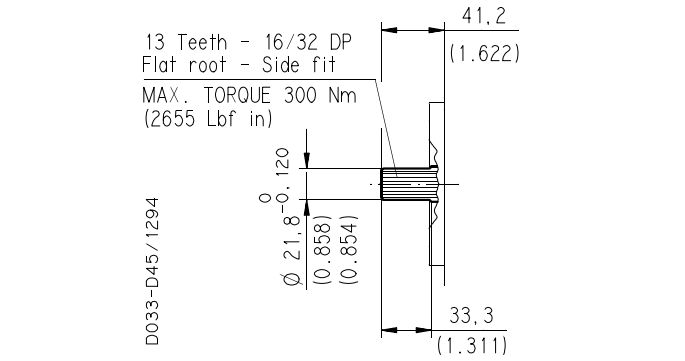
D033-D48/1294

SAE "B" SPLINE 04

Mounting flange availability:

| | | | | | |
|-----------|--|--|--|--|--|
| S5 | | | | | |
|-----------|--|--|--|--|--|

 Dimensions refer to flange code **S5**



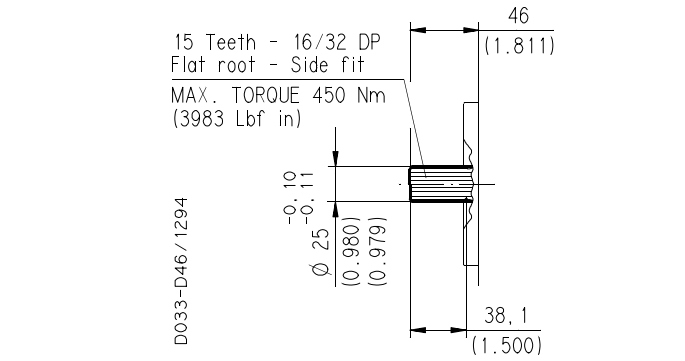
D033-D45/1294

SAE "B-B" SPLINE 05

Mounting flange availability:

| | | | | | |
|-----------|--|--|--|--|--|
| S5 | | | | | |
|-----------|--|--|--|--|--|

 Dimensions refer to flange code **S5**



D033-D46/1294

SAE "B" SPLINE (Special) A8

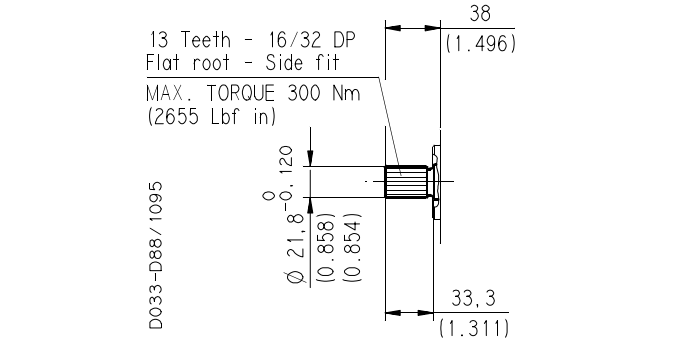
Not available with size:

| | | | | | |
|--------------|--------------|--|--|--|--|
| 30-82 | 30-90 | | | | |
|--------------|--------------|--|--|--|--|

 Mounting flange availability:

| | | | | | |
|-----------|--|--|--|--|--|
| E3 | | | | | |
|-----------|--|--|--|--|--|

 Dimensions refer to flange code **E3**



D033-D88/1095

STRAIGHT 41

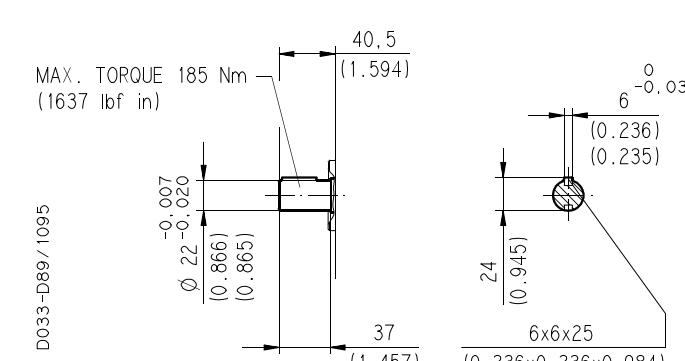
Not available with size:

| | | | | | |
|--------------|--------------|--|--|--|--|
| 30-82 | 30-90 | | | | |
|--------------|--------------|--|--|--|--|

 Mounting flange availability:

| | | | | | |
|-----------|-----------|--|--|--|--|
| E3 | E4 | | | | |
|-----------|-----------|--|--|--|--|

 Dimensions refer to flange code **E3**



D033-D89/1095

Replaces: D033-001/10.95

D033-001/02.98

SHAFT OPTIONS

EUROPEAN TAPERED 1:8 **83**

Not available with size:

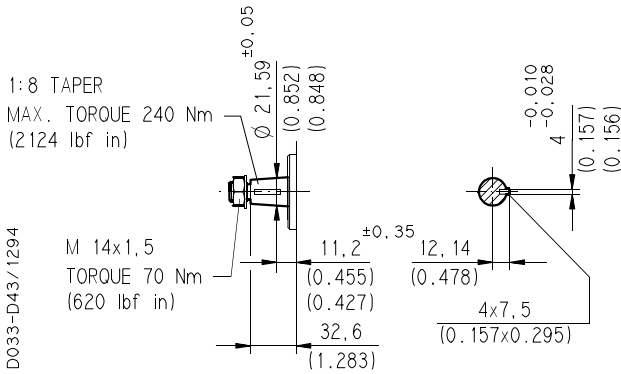
| | | | | | |
|--------------|--------------|--|--|--|--|
| 30-82 | 30-90 | | | | |
|--------------|--------------|--|--|--|--|

Mounting flange availability:

| | | | | | |
|-----------|--|--|--|--|--|
| E3 | | | | | |
|-----------|--|--|--|--|--|

Dimensions refer to flange code **E3**

Replaces: D033-001/10.95



GERMAN TAPERED 1:5 **56**

Not available with size:

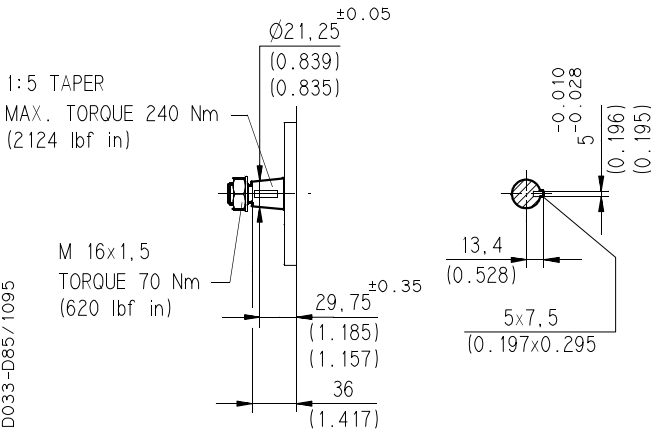
| | | | | | |
|--------------|--------------|--------------|--------------|--|--|
| 30-61 | 30-73 | 30-82 | 30-90 | | |
|--------------|--------------|--------------|--------------|--|--|

Mounting flange availability:

| | | | | | |
|-----------|--|--|--|--|--|
| B3 | | | | | |
|-----------|--|--|--|--|--|

Dimensions refer to flange code **B3**

D033-001/02.98



EUROPEAN TAPERED 1:8 **84**

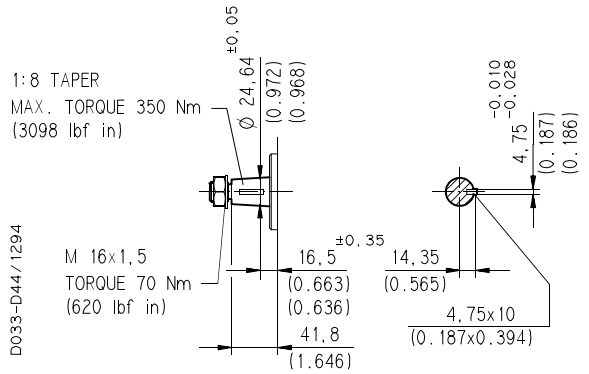
Not available with size:

| | | | | | |
|--------------|--------------|--------------|--------------|--|--|
| 30-22 | 30-27 | 30-34 | 30-38 | | |
|--------------|--------------|--------------|--------------|--|--|

Mounting flange availability:

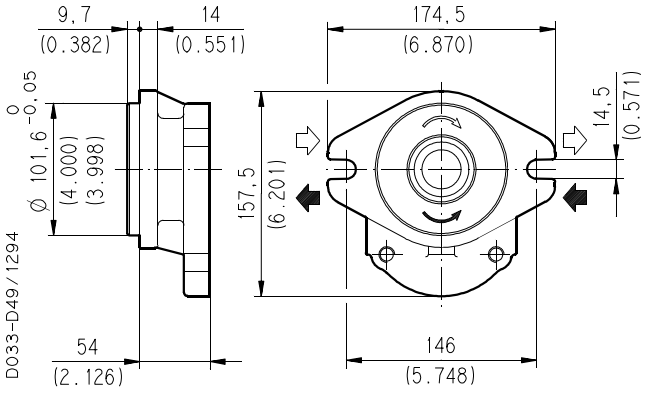
| | | | | | |
|-----------|--|--|--|--|--|
| E4 | | | | | |
|-----------|--|--|--|--|--|

Dimensions refer to flange code **E4**

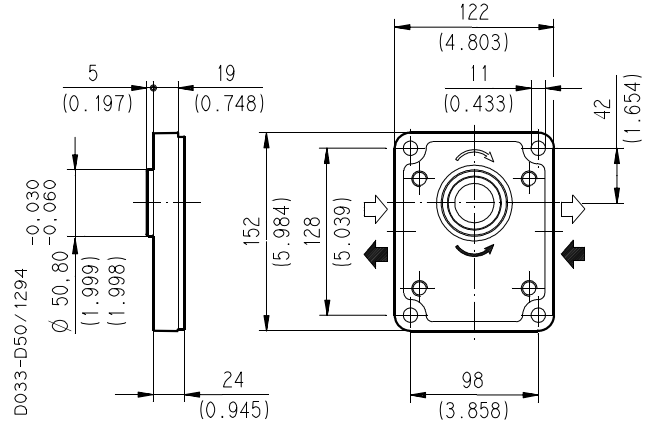


MOUNTING FLANGE OPTIONS

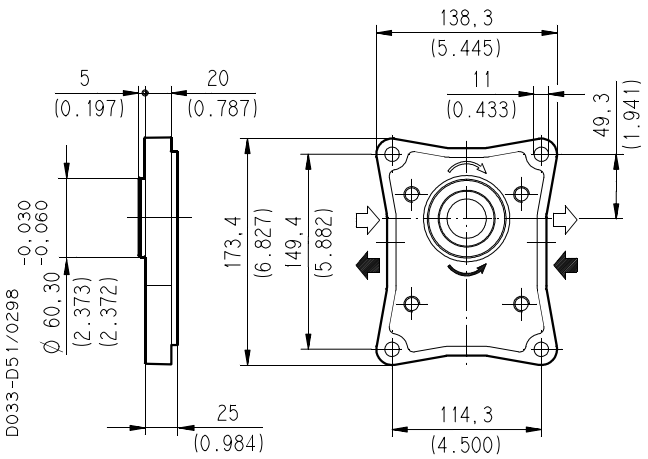
SAE "B" 2 BOLT S5



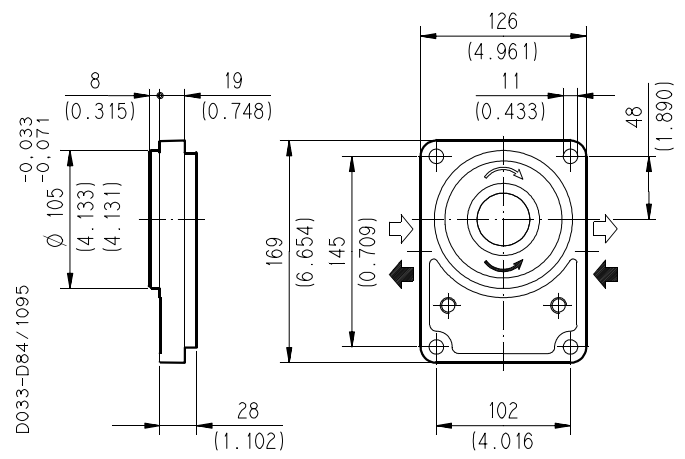
EUROPEAN RECTANGULAR E3



EUROPEAN RECTANGULAR E4



GERMAN RECTANGULAR B3



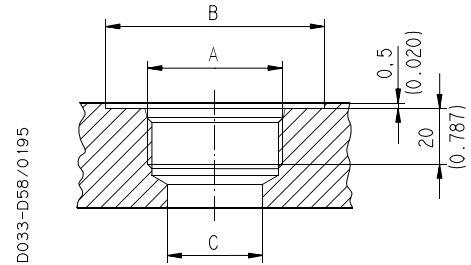
Replaces: D033-001/10.95

D033-001/02.98

PORT OPTIONS

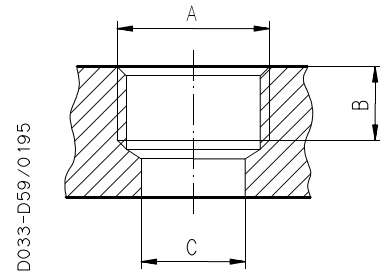
SAE STRAIGHT THREAD PORTS O-RING BOSS

| CODE | NOMINAL SIZE | A | B | C |
|------|--------------|-----------------|---------------|---------------|
| | | | mm (in) | mm (in) |
| OD | 5/8 | 1-1/16-12 UN-2B | 41 (1.614) | 19 (0.748) |
| OF | 1 | 1-5/16-12 UN-2B | 49 (1.929) | 27 (1.063) |
| OG | 1-1/4 | 1-5/8-12 UN-2B | 58 (2.283) | 32 (1.260) |
| OH | 1-1/2 | 1-7/8-12 UN-2B | 65 (2.559) | 32 (1.260) |



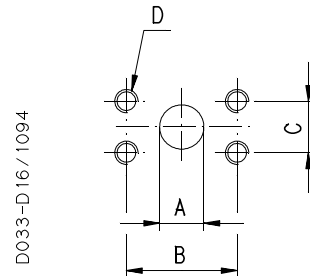
BSPG STRAIGHT THREAD PORTS

| CODE | NOMINAL SIZE | A | B | C |
|------|--------------|---------|---------------|---------------|
| | | | mm (in) | mm (in) |
| GF | 1 | G 1 | 22 (0.866) | 27 (1.063) |
| GG | 1-1/4 | G 1-1/4 | 22 (0.866) | 33 (1.299) |
| GH | 1-1/2 | G 1-1/2 | 24 (0.945) | 38 (1.496) |



METRIC SAE SPLIT PORTS SAE J518 C (STANDARD PRESSURE SERIES)

| CODE | NOMINAL SIZE | A | B | C | D |
|------|--------------|-----------------|-----------------|-----------------|----------------------|
| | | mm (in) | mm (in) | mm (in) | Thread Depth mm (in) |
| MA | 1/2 | 12,5 (0.492) | 38,1 (1.500) | 17,5 (0.689) | M 8 22 (0.866) |
| MB | 3/4 | 19 (0.748) | 47,6 (1.874) | 22,2 (0.874) | M 10 22 (0.866) |
| MC | 1 | 25,4 (1.000) | 52,4 (2.063) | 26,2 (1.031) | |
| MD | 1 1/4 | 30,5 (1.201) | 58,7 (2.311) | 30,2 (1.189) | |
| ME | 1 1/2 | 39,3 (1.547) | 69,8 (2.748) | 35,7 (1.406) | M 12 22 (0.866) |
| MF | 2 | 51 (2.008) | 77,8 (3.063) | 42,9 (1.689) | |

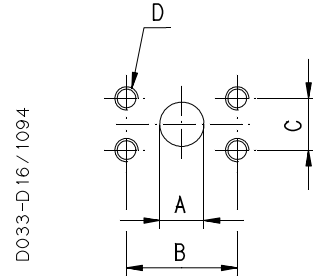


D033-001/10.95

PORT OPTIONS

SAE SPLIT PORTS SAE J518 C (STANDARD PRESSURE SERIES)

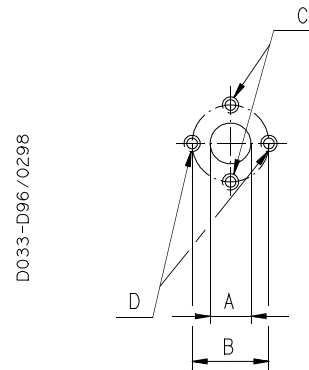
| CODE | NOMINAL SIZE | A | B | C | D |
|-----------|--------------|-----------------|-----------------|-----------------|------------------------------|
| | | mm (in) | mm (in) | mm (in) | Thread Depth mm (in) |
| SA | 1/2 | 12,5 (0.492) | 38,1 (1.500) | 17,5 (0.689) | 5/16-18 UNC-2B 22 (0.866) |
| SB | 3/4 | 19 (0.748) | 47,6 (1.874) | 22,2 (0.874) | 3/8-16 UNC-2B 22 (0.866) |
| SC | 1 | 25,4 (1.000) | 52,4 (2.063) | 26,2 (1.031) | |
| SD | 1 1/4 | 30,5 (1.201) | 58,7 (2.311) | 30,2 (1.189) | 7/16-14 UNC-2B 22 (0.866) |
| SE | 1 1/2 | 39,3 (1.547) | 69,8 (2.748) | 35,7 (1.406) | 1/2-13 UNC-2B 22 (0.866) |
| SF | 2 | 51 (2.008) | 77,8 (3.063) | 42,9 (1.689) | |



Replaces: D033-001/10.95

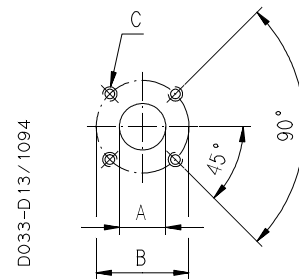
EUROPEAN 4 BOLT FLANGE

| CODE | A | B | C | D |
|-----------|---------------|---------------|----------------------|----------------------|
| | mm (in) | mm (in) | Thread Depth mm (in) | Thread Depth mm (in) |
| EB | 19 (0.748) | 40 (1.575) | M 8 18 (0.709) | M 8 18 (0.709) |
| ED | 27 (1.063) | 51 (2.008) | M 10 18 (0.709) | M 10 18 (0.709) |
| EF | 33 (1.299) | 62 (2.441) | M12 10 (0.394) | M12 18 (0.709) |



EUROPEAN 4 BOLT FLANGE

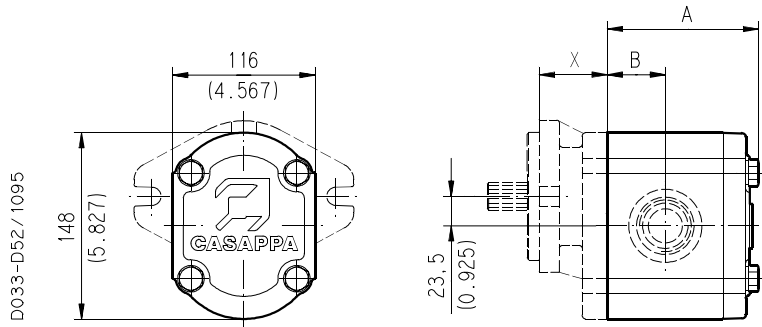
| CODE | A | B | C |
|-----------|---------------|---------------|----------------------|
| | mm (in) | mm (in) | Thread Depth mm (in) |
| BL | 19 (0.748) | 55 (2.165) | M 8 18 (0.709) |
| BM | 27 (1.063) | 55 (2.165) | M 8 18 (0.709) |



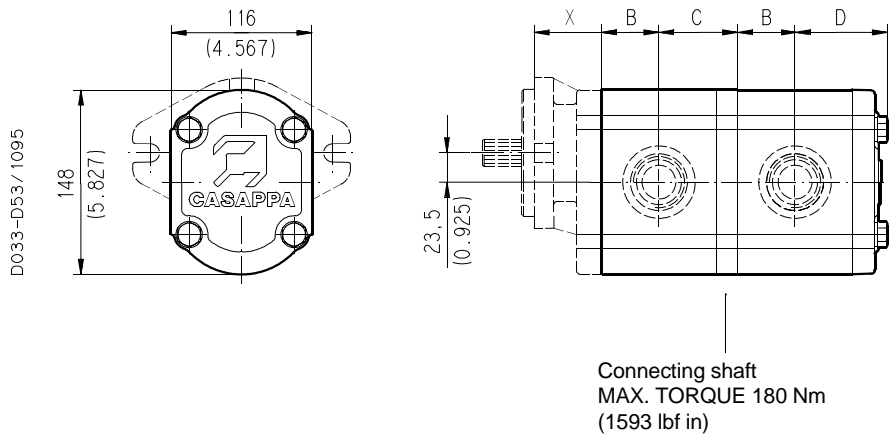
D033-001/02.98

DIMENSIONS

Single pumps and motors



Multiple pumps same groups PLP 30/30



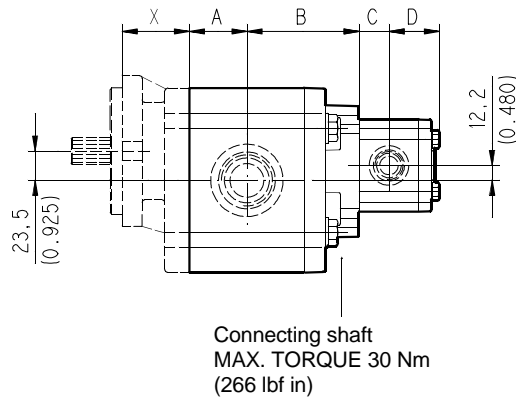
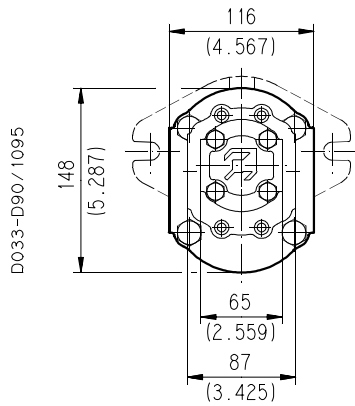
Note: For X dimension see mounting flanges at page 4.

D033-001/10.95

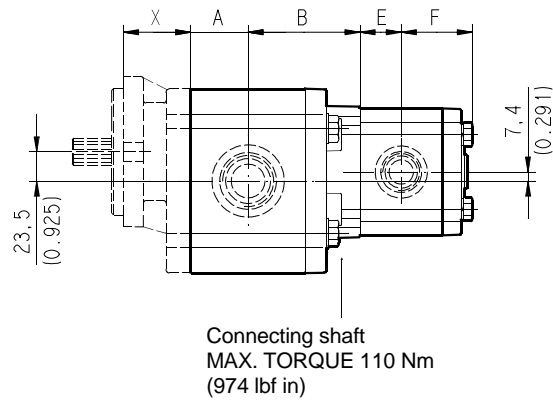
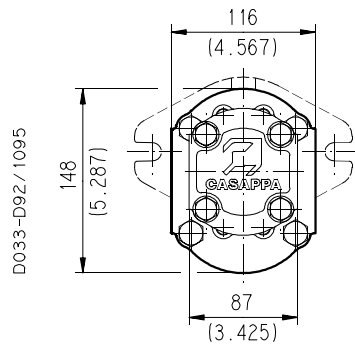
| Pump size | Motor size | A | | B | | C | | D | |
|-----------|------------|-----|---------|------|---------|------|---------|------|---------|
| | | mm | (in) | mm | (in) | mm | (in) | mm | (in) |
| PLP 30-22 | PLM 30-22 | 106 | (4.173) | 39 | (1.535) | 56 | (2.205) | 67 | (2.638) |
| PLP 30-27 | PLM 30-27 | 109 | (4.291) | 40,5 | (1.594) | 57,5 | (2.264) | 68,5 | (2.697) |
| PLP 30-34 | PLM 30-34 | 114 | (4.488) | 43 | (1.693) | 60 | (2.362) | 71 | (2.795) |
| PLP 30-38 | PLM 30-38 | 117 | (4.606) | 44,5 | (1.752) | 61,5 | (2.421) | 72,5 | (2.854) |
| PLP 30-43 | PLM 30-43 | 120 | (4.724) | 46 | (1.811) | 63 | (2.480) | 74 | (2.913) |
| PLP 30-51 | PLM 30-51 | 125 | (4.921) | 48,5 | (1.909) | 65,5 | (2.579) | 76,5 | (3.012) |
| PLP 30-61 | PLM 30-61 | 131 | (5.157) | 51,5 | (2.028) | 68,5 | (2.697) | 79,5 | (3.130) |
| PLP 30-73 | PLM 30-73 | 139 | (5.472) | 55,5 | (2.185) | 72,5 | (2.854) | 83,5 | (3.287) |
| PLP 30-82 | PLM 30-82 | 144 | (5.669) | 58 | (2.283) | 75 | (2.953) | 86 | (3.386) |
| PLP 30-90 | PLM 30-90 | 150 | (5.906) | 61 | (2.402) | 78 | (3.071) | 89 | (3.504) |

MULTIPLE PUMPS DIFFERENT GROUPS DIMENSIONS

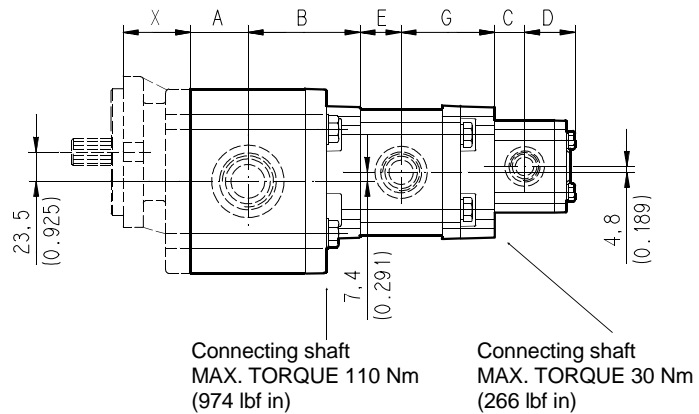
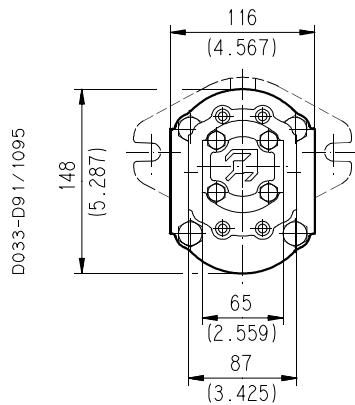
PLP 30/10



PLP 30/20



PLP 30/20/10



D033-001/10.95

MULTIPLE PUMPS DIFFERENT GROUPS DIMENSIONS
Polaris 30

| Pump size | A | | B | |
|-----------|------|---------|------|---------|
| | mm | (in) | mm | (in) |
| PLP 30-22 | 39 | (1.535) | 83 | (3.268) |
| PLP 30-27 | 40,5 | (1.594) | 84,5 | (3.327) |
| PLP 30-34 | 43 | (1.693) | 87 | (3.425) |
| PLP 30-38 | 44,5 | (1.752) | 88,5 | (3.484) |
| PLP 30-43 | 46 | (1.811) | 90 | (3.543) |
| PLP 30-51 | 48,5 | (1.909) | 92,5 | (3.642) |
| PLP 30-61 | 51,5 | (2.028) | 95,5 | (3.760) |
| PLP 30-73 | 55,5 | (2.185) | 99,5 | (3.917) |
| PLP 30-82 | 58 | (2.283) | 102 | (4.016) |
| PLP 30-90 | 61 | (2.402) | 105 | (4.134) |

Polaris 10

| Pump size (1) | C | | D | |
|---------------|------|---------|------|---------|
| | mm | (in) | mm | (in) |
| PLP 10-1 | 17,6 | (0.693) | 34,1 | (1.343) |
| PLP 10-2 | 19,2 | (0.756) | 35,7 | (1.406) |
| PLP 10-3,15 | 21 | (0.827) | 37,5 | (1.476) |
| PLP 10-4 | 22,4 | (0.882) | 38,9 | (1.531) |
| PLP 10-5 | 24 | (0.945) | 40,5 | (1.594) |
| PLP 10-6,3 | 26 | (1.024) | 42,5 | (1.673) |
| PLP 10-8 | 28,8 | (1.134) | 45,3 | (1.783) |
| PLP 10-10 | 32 | (1.260) | 48,5 | (1.909) |

Polaris 20

| Pump size (1) | E | | F | | G | |
|---------------|------|---------|------|---------|------|---------|
| | mm | (in) | mm | (in) | mm | (in) |
| PLP 20-4 | 25,8 | (1.016) | 49,3 | (1.941) | 67,8 | (2.669) |
| PLP 20-6,3 | 27 | (1.063) | 50,5 | (1.988) | 69 | (2.717) |
| PLP 20-8 | 28,3 | (1.114) | 51,8 | (2.039) | 70,3 | (2.768) |
| PLP 20-9 | 28,9 | (1.138) | 52,4 | (2.063) | 70,9 | (2.791) |
| PLP 20-11,2 | 30,5 | (1.201) | 54 | (2.126) | 72,5 | (2.854) |
| PLP 20-14 | 33 | (1.299) | 56,5 | (2.224) | 75 | (2.953) |
| PLP 20-16 | 34,8 | (1.370) | 58,3 | (2.295) | 76,8 | (3.024) |
| PLP 20-20 | 38 | (1.496) | 61,5 | (2.421) | 80 | (3.150) |
| PLP 20-25 | 42 | (1.654) | 65,5 | (2.579) | 84 | (3.307) |
| PLP 20-31,5 | 47 | (1.850) | 70,5 | (2.776) | 89 | (3.504) |

D033-001/10.95

(1) Technical data of POLARIS 10 and 20 are shown in the respective catalogues.

HOW TO ORDER SINGLE PUMPS AND MOTORS

| | | | | | | | | |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| PLP 30-34 | S | 0 | - 04 | S5 | - L | OF/OD | - N | - H |

| 1 | Size | | PUMP CODE | MOTOR CODE |
|---|----------------------|----------------------|-----------|------------|
| | in ³ /rev | cm ³ /rev | | |
| | 1.33 | 21.89 | PLP 30-22 | PLM 30-22 |
| | 1.62 | 26.58 | PLP 30-27 | PLM 30-27 |
| | 2.09 | 34.39 | PLP 30-34 | PLM 30-34 |
| | 2.35 | 38.53 | PLP 30-38 | PLM 30-38 |
| | 2.67 | 43.77 | PLP 30-43 | PLM 30-43 |
| | 3.15 | 51.59 | PLP 30-51 | PLM 30-51 |
| | 3.72 | 60.97 | PLP 30-61 | PLM 30-61 |
| | 4.48 | 73.47 | PLP 30-73 | PLM 30-73 |
| | 4.96 | 81.29 | PLP 30-82 | PLM 30-82 |
| | 5.53 | 90.66 | PLP 30-90 | PLM 30-90 |

| 2 | Rotation | CODE |
|-------|----------|------|
| Left | | S |
| Right | | D |

| 3 | Version | CODE |
|---------------------|---------|------|
| No outboard bearing | | 0 |

| 4 | Drive shaft | CODE |
|--------------------------|-------------|------|
| SAE "B" straight | | 32 |
| SAE "B-B" straight | | 33 |
| SAE "B" spline | | 04 |
| SAE "B-B" spline | | 05 |
| SAE "B" spline (special) | | 08 |
| Straight | | 41 |
| European tapered 1:8 | | 83 |
| European tapered 1:8 | | 84 |
| German tapered 1:5 | | 56 |

| 5 | Mounting flange | CODE |
|-------------------------------------------------------------------|-----------------|------|
| SAE "B" 2 bolt | | S5 |
| European rectangular (50,8 mm pilot, 98x128 mm bolt pattern) | | E3 |
| European rectangular (60,3 mm pilot, 114,3x149,4 mm bolt pattern) | | E4 |
| German rectangular (105 mm pilot, 102x145 mm bolt pattern) | | B3 |

| 6 | Ports position | CODE |
|------|----------------|------|
| Side | | L |

| 7 | Inlet/outlet ports | CODE |
|----------------------------------------------|--------------------|------------|
| SAE STRAIGHT THREAD PORTS O-RING BOSS | | |
| | Series and size | Side ports |
| PLP 30 | 22 - 27 - 34 | OF/OD |
| PLM 30 | | OD/OF |
| PLP 30 | 38 - 43 - 51 | OG/OF |
| PLM 30 | | OF/OG |
| PLP 30 | 61 - 73 - 82 - 90 | OH/OG |
| PLM 30 | | OG/OH |

| CODE | Inlet/outlet ports | | 7 |
|------------------------------------------|--------------------|-------------------------------------------------------------------|---|
| BSPB STRAIGHT THREAD PORTS | | | |
| Side ports | Series and size | | |
| GF/GF | PLP 30 | 22 - 27 - 34 - 38 - 43 - 51 | |
| | PLM 30 | | |
| GG/GF | PLP 30 | 61 - 73 | |
| | PLM 30 | | |
| GF/GG | PLP 30 | 82 - 90 | |
| | PLM 30 | | |
| GH/GG | PLP 30 | | |
| GG/GH | PLM 30 | | |
| METRIC SAE SPLIT PORTS SAE J518 C | | | |
| Side ports | Series and size | | |
| MB/MA | PLP 30 | 22 | |
| | PLM 30 | | |
| MA/MB | PLM 30 | 27 - 34 | |
| MC/MB | PLP 30 | | |
| MB/MC | PLM 30 | 38 - 43 - 51 | |
| MD/MC | PLP 30 | | |
| MC/MD | PLM 30 | 61 - 73 - 82 | |
| ME/MD | PLP 30 | | |
| MD/ME | PLM 30 | 90 | |
| MF/ME | PLP 30 | | |
| ME/MF | PLM 30 | | |
| SAE SPLIT PORTS SAE J518 C | | | |
| Side ports | Series and size | | |
| SB/SA | PLP 30 | 22 | |
| | PLM 30 | | |
| SA/SB | PLM 30 | 27 - 34 | |
| SC/SB | PLP 30 | | |
| SB/SC | PLM 30 | 38 - 43 - 51 | |
| SD/SC | PLP 30 | | |
| SC/SD | PLM 30 | 61 - 73 - 82 | |
| SE/SD | PLP 30 | | |
| SD/SE | PLM 30 | 90 | |
| SF/SE | PLP 30 | | |
| SE/SF | PLM 30 | | |
| EUROPEAN 4 BOLT FLANGE | | | |
| Side ports | Series and size | | |
| ED/EB | PLP 30 | 22 - 27 - 34 - 38 - 43 - 51 - 61 (mounting flange E3) | |
| | PLM 30 | | |
| EB/ED | PLM 30 | 43 - 51 (mounting flange E4) | |
| ED/ED | PLP 30 | | |
| ED/ED | PLM 30 | 73 (mounting flange E3 - E4) 61 - 82 - 90 (mounting flange E4) | |
| EF/ED | PLP 30 | | |
| ED/EF | PLM 30 | | |
| GERMAN 4 BOLT FLANGE | | | |
| Side ports | Series and size | | |
| BM/BL | PLP 30 | 22 - 27 - 34 - 38 - 43 - 51 | |
| | PLM 30 | | |
| BL/BM | PLM 30 | | |

| CODE | Seals | 8 |
|------|-----------------|---|
| N | Buna (standard) | |
| V | Viton | |

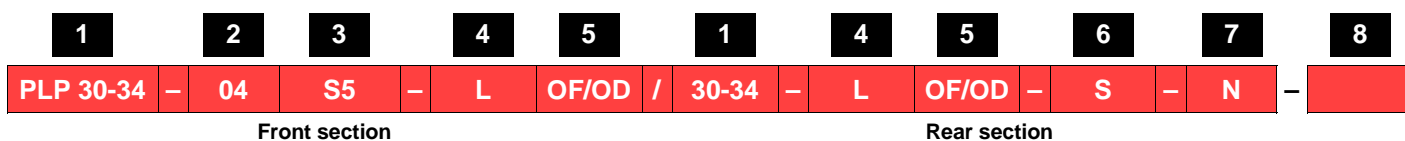
| CODE | Shaft seal options | 9 |
|------|-----------------------------------------|---|
| C | High back pressure seal with wiper seal | |
| D | Standard seal with wiper seal | |
| H | High back pressure seal | |

Replaces: D033-001/10.95

D033-001/02.98

HOW TO ORDER MULTIPLE PUMPS

DOUBLE PUMPS



Replaces: D033-001/10.95

| 1 | Pump size | | CODE |
|---|----------------------|----------------------|-----------|
| | in ³ /rev | cm ³ /rev | |
| | 1.33 | 21.89 | PLP 30-22 |
| | 1.62 | 26.58 | PLP 30-27 |
| | 2.09 | 34.39 | PLP 30-34 |
| | 2.35 | 38.53 | PLP 30-38 |
| | 2.67 | 43.77 | PLP 30-43 |
| | 3.15 | 51.59 | PLP 30-51 |
| | 3.72 | 60.97 | PLP 30-61 |
| | 4.48 | 73.47 | PLP 30-73 |
| | 4.96 | 81.29 | PLP 30-82 |
| | 5.53 | 90.66 | PLP 30-90 |

| 2 | Drive shaft | CODE |
|---|--------------------------|------|
| | SAE "B" straight | 32 |
| | SAE "B-B" straight | 33 |
| | SAE "B" spline | 04 |
| | SAE "B-B" spline | 05 |
| | SAE "B" spline (special) | 08 |
| | Straight | 41 |
| | European tapered 1:8 | 83 |
| | European tapered 1:8 | 84 |
| | German tapered 1:5 | 56 |

| 3 | Mounting flange | CODE |
|---|-------------------------------------------------------------------|------|
| | SAE "B" 2 bolt | S5 |
| | European rectangular (50,8 mm pilot, 98x128 mm bolt pattern) | E3 |
| | European rectangular (60,3 mm pilot, 114,3x149,4 mm bolt pattern) | E4 |
| | German rectangular (105 mm pilot, 102x145 mm bolt pattern) | B3 |

| 4 | Ports position | CODE |
|---|----------------|------|
| | Side | L |

| 5 | Inlet/outlet ports | CODE |
|----------------------------------------------|--------------------------|------------|
| SAE STRAIGHT THREAD PORTS O-RING BOSS | | |
| | Series and size | Side ports |
| | PLP 30 22 - 27 - 34 | OF/OD |
| | PLP 30 38 - 43 - 51 | OG/OF |
| | PLP 30 61 - 73 - 82 - 90 | OH/OG |

| CODE | Inlet/outlet ports | | 5 |
|------------------------------------------|--------------------|---------------------------------------------------------------------|---|
| BSPP STRAIGHT THREAD PORTS | | | |
| Side ports | Series and size | | |
| GF/GF | PLP 30 | 22 - 27 - 34 - 38 - 43 - 51 | |
| GG/GF | PLP 30 | 61 - 73 | |
| GH/GG | PLP 30 | 82 - 90 | |
| METRIC SAE SPLIT PORTS SAE J518 C | | | |
| Side ports | Series and size | | |
| MB/MA | PLP 30 | 22 | |
| MC/MB | PLP 30 | 22 - 27 - 34 | |
| MD/MC | PLP 30 | 38 - 46 - 51 | |
| ME/MD | PLP 30 | 61 - 73 - 82 | |
| MF/ME | PLP 30 | 90 | |
| SAE SPLIT PORTS SAE J518 C | | | |
| Side ports | Series and size | | |
| SB/SA | PLP 30 | 22 | |
| SC/SB | PLP 30 | 27 - 34 | |
| SD/SC | PLP 30 | 38 - 46 - 51 | |
| SE/SD | PLP 30 | 61 - 73 - 82 | |
| SF/SE | PLP 30 | 90 | |
| EUROPEAN 4 BOLT FLANGE | | | |
| Side ports | Series and size | | |
| ED/EB | PLP 30 | 22 - 27 - 34 - 38 - 43 - 51 - 61 (mounting flange E3) | |
| ED/ED | PLP 30 | 43 - 51 (mounting flange E4) | |
| EF/ED | PLP 30 | 73 (mounting flange E3 and E4) 61 - 82 - 90 (mounting flange E4) | |
| GERMAN 4 BOLT FLANGE | | | |
| Side ports | Series and size | | |
| BM/BL | PLP 30 | 22 - 27 - 34 - 38 - 43 - 51 | |

| CODE | Rotation | 6 |
|------|----------|---|
| S | Left | |
| D | Right | |

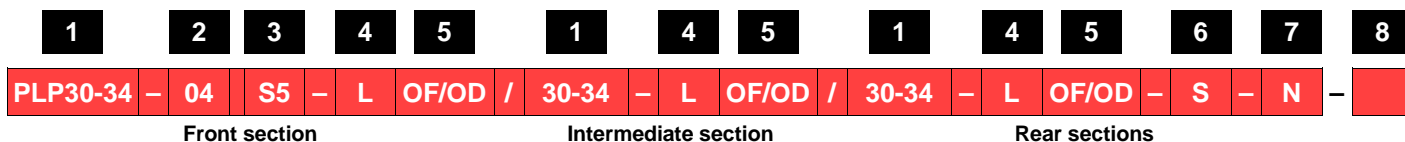
| CODE | Seals | 7 |
|------|-----------------|---|
| N | Buna (standard) | |
| V | Viton | |

| CODE | Special covers | 8 |
|------|-------------------------------------------------------|---|
| L | Cast iron mounting flange and aluminum rear cover (b) | |

(a) Technical data of POLARIS 10 and 20 are shown in the respective catalogue.

(b) Only for multiple pumps different groups.

TRIPLE PUMPS



D033-001/02.98

ORDER EXAMPLE

SINGLE PUMPS AND MOTORS

Standard pump **PLP 30-34 S 0-04 S5-L OF/OD-N**

Standard motor **PLM 30-34 S 0-04 S5-L OD/OF-N**

Pump with special features **PLM 30-34 S 0-04 S5-L OD/OF-N-C**

DOUBLE PUMPS

Standard double pump same groups **PLP 30-34 04 S5-LOF/OD / 30-34 L OF/OD-S-N**

Standard double pump different groups **PLP 30-34 04 S5-LOF/OD / 10-2 L OB/OA-S-N**

Double pump with special features **PLP 30-34 04 S5-LOF/OD / 10-2 L OB/OA-S-N-L**

TRIPLE PUMPS

Standard triple pump same groups **PLP 30-34 04 S5-L OF/OD / 30-34 L OF/OD / 30-34 L OF/OD-S-N**

Standard triple pump different groups **PLP 30-34 04 S5-L OF/OD / 20-8 L OC/OC / 10-2 L OB/OA-S-N**

Triple pump with special features **PLP 30-34 04 S5-L OF/OD / 20-8 L OC/OC / 10-2 L OB/OA-S-N-L**

Replaces: D033-001/10.95

D033-001/02.98



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CASAPPA SARL - Janneyrias - France - Tel.: + 33 4 72462112 - Fax: + 33 4 72462100

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e-mail: info@casappa.com

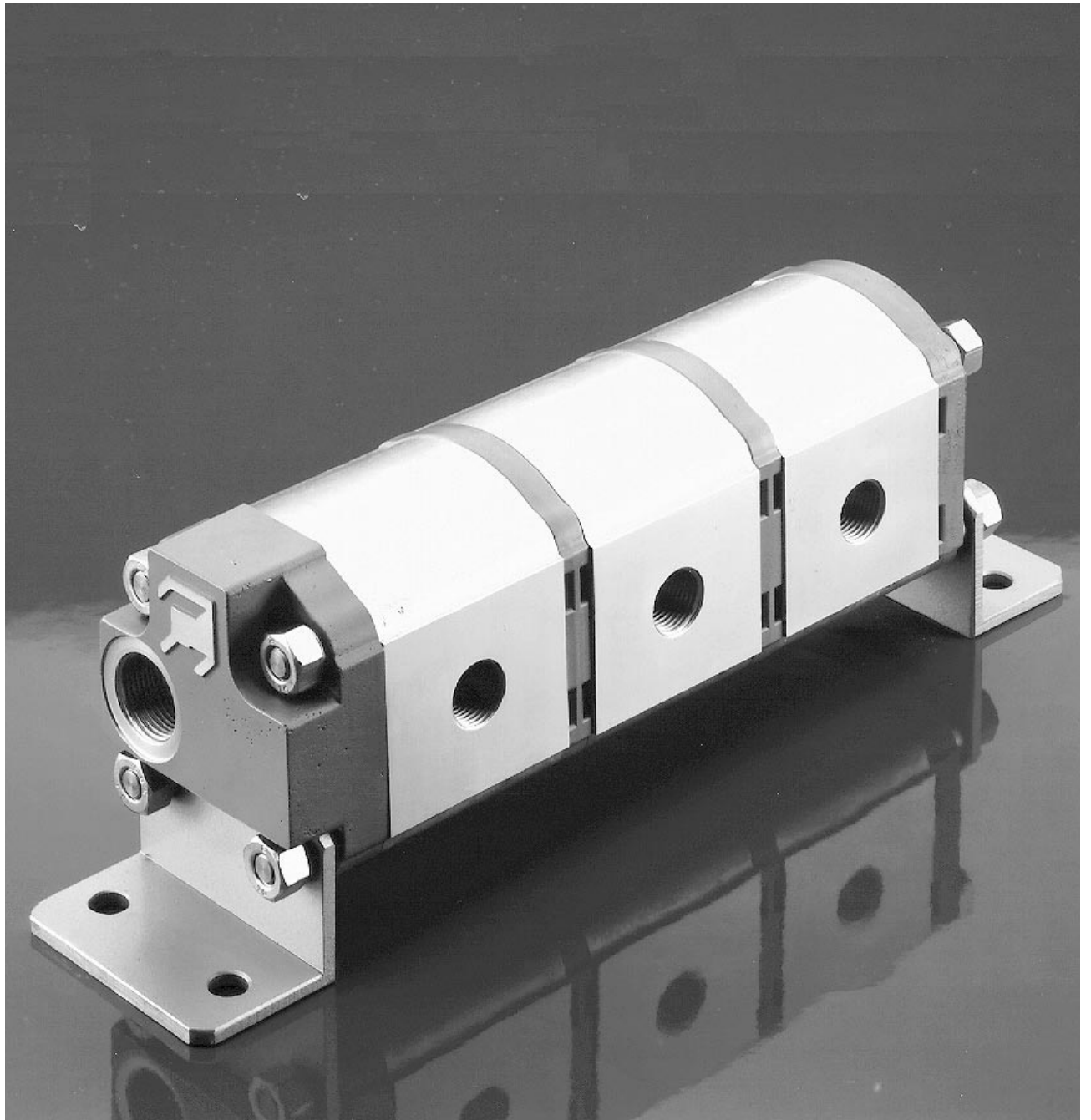
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DIVISORI DI FLUSSO

SERIE POLARIS

FLOW DIVIDERS

POLARIS SERIES



 **CASAPPA**[®]
FLUID POWER DESIGN

PARAMETRI DI FUNZIONAMENTO

General data

| Tipo Type | Cilindrata Displacement | Pressione max. Max. pressure | | Δp max. tra sezioni Max. Δp between sections | Velocità max. Max. speed | Velocità min. Min. speed |
|--------------------|------------------------------------|---------------------------------|-------------|-----------------------------------------------------------------|-----------------------------|-----------------------------|
| | | p1 | p2 | | | |
| | cm ³ /giro cu in/rev | bar psi | | bar psi | min ⁻¹ | |
| PLD 10•2 | 2 0.12 | 250 3625 | 280 4060 | 220 3190 | 2900 | 900 |
| PLD 10•3,15 | 3,1 0.19 | | | | | |
| PLD 10•4 | 4 0.24 | | | | | |
| PLD 10•5 | 4,9 0.30 | | | | 2700 | |
| PLD 10•6,3 | 6,2 0.38 | | | | | |

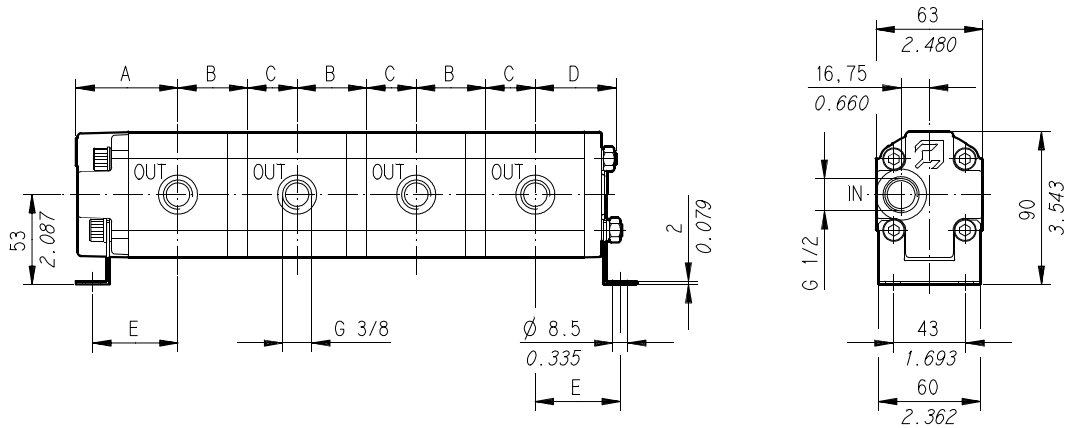
p1= Pressione max. continua
Max. continuous pressure

p2= Pressione max. di punta
Max. peak pressure

Portata massima in ingresso (1 collettore) = 35 (l/min). Con 2 collettori la portata raddoppia.

Max. inlet delivery (1 inlet section) = 35 (l/min). With 2 inlet sections delivery can double.

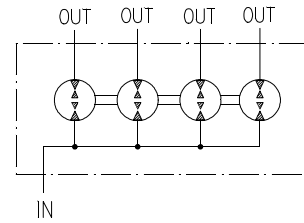
DIMENSIONI
Dimensions



Divisore con collettore sinistro.
Flow divider with left inlet section.

D024-D22/0497

MASSIMO 4 ELEMENTI
Max. 4 elements



| Tipo Type | A | B | C | D | E | Codice bocche Ports code | |
|--------------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|----------------|
| | mm in | mm in | mm in | mm in | mm in | IN (G 1/2) | OUT (G 3/8) |
| PLD 10•2 | 50,2 1.976 | 31,2 1.228 | 19,2 0.756 | 37,4 1.472 | 40,2 1.583 | GD | GC |
| PLD 10•3,15 | 52 2.047 | 33 1.299 | 21 0.827 | 39,5 1.555 | 42 1.654 | | |
| PLD 10•4 | 53,4 2.102 | 34,4 1.354 | 22,4 0.882 | 40,9 1.610 | 43,4 1.709 | | |
| PLD 10•5 | 55 2.165 | 36 1.417 | 24 0.945 | 42,5 1.673 | 45 1.772 | | |
| PLD 10•6,3 | 57 2.244 | 38 1.496 | 26 1.024 | 44,5 1.752 | 47 1.850 | | |

Come ordinare
How to order

PLD 10 CS - GD / 10•2 - GC / 10•2 - GC / 10•2 - GC / 10•2 - GC / 10•2 - GC / FS

Collettore - *Inlet section*
CS= Sinistro - *left*
CD= Destro - *right*

Tipo
Type

D024-011/04.97

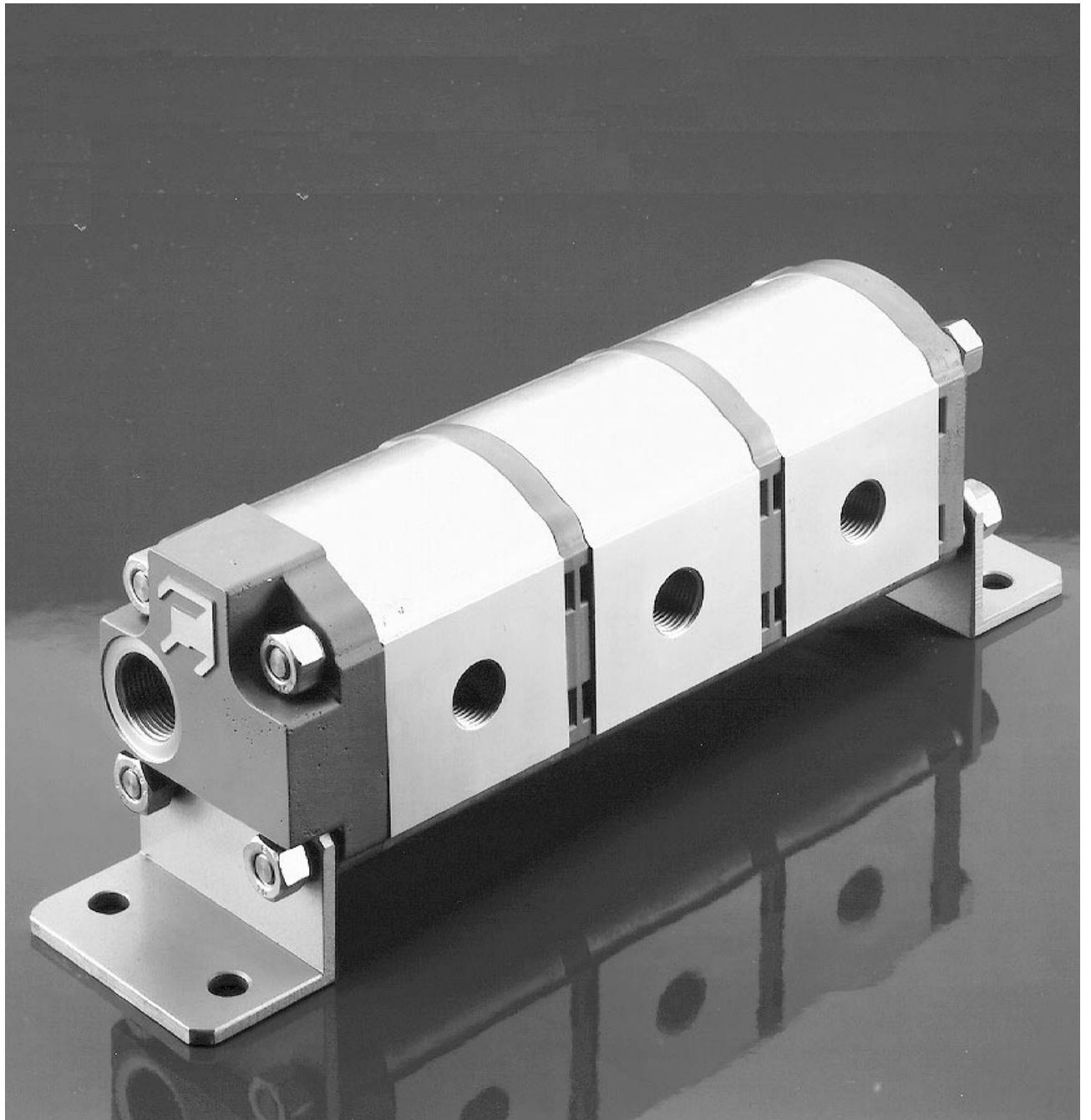
PD 02 T IE

DIVISORI DI FLUSSO

SERIE POLARIS

FLOW DIVIDERS

POLARIS SERIES



 **CASAPPA**[®]
FLUID POWER DESIGN

PARAMETRI DI FUNZIONAMENTO
General data

| Tipo Type | Cilindrata <i>Displacement</i> | Pressione max. <i>Max. pressure</i> | | Δp max. tra sezioni <i>Max. Δp between section</i> | Velocità max. <i>Max. speed</i> | Velocità min. <i>Min. speed</i> |
|--------------------|-------------------------------------------|----------------------------------------|-------------|----------------------------------------------------------------------------------|------------------------------------|------------------------------------|
| | | p1 | p2 | | | |
| | cm ³ /giro <i>cu in/rev</i> | bar <i>psi</i> | | bar <i>psi</i> | min ⁻¹ | |
| PLD 20•4 | 4,8 0.29 | 250 3625 | 280 4060 | 210 3045 | 3000 | 800 |
| PLD 20•6,3 | 6,5 0.39 | | | | | |
| PLD 20•8 | 8,3 0.50 | | | | | |
| PLD 20•11,2 | 11,1 0.67 | | | | | |
| PLD 20•14 | 14,4 0.87 | 200 2900 | 230 3335 | 180 2610 | 2800 | |
| PLD 20•16 | 16,6 1.01 | | | | | |
| PLD 20•20 | 20,8 1.27 | | | | | |
| PLD 20•25 | 26 1.58 | 180 2610 | 210 3045 | 150 2175 | 2000 | |
| PLD 20•31,5 | 32,6 1.99 | | | | | |

p1= Pressione max. continua
Max. continuous pressure

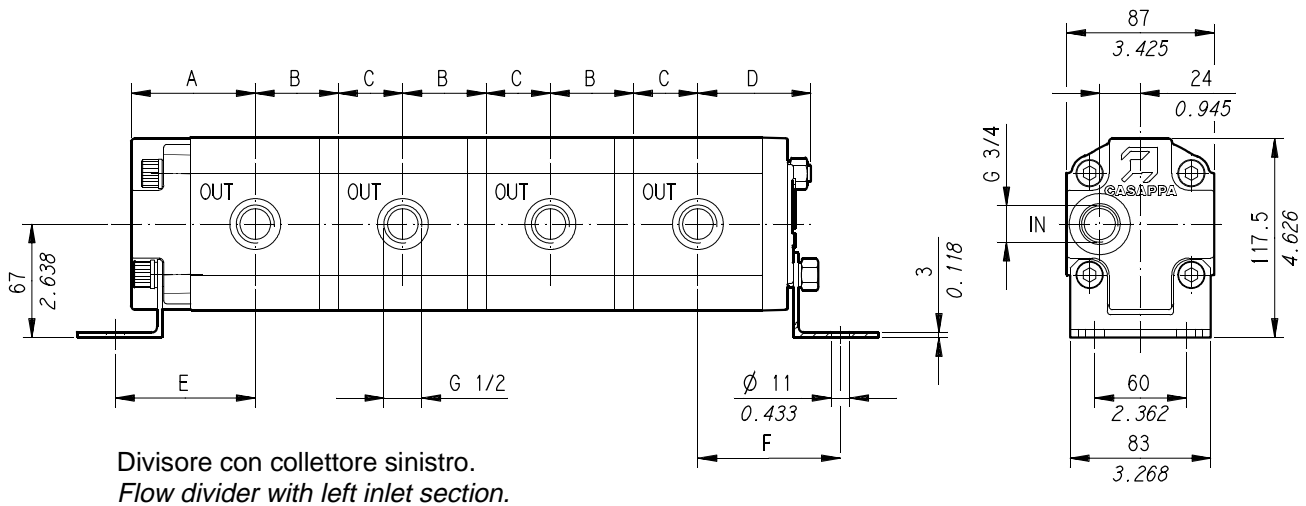
p2= Pressione max. di punta
Max. peak pressure

Portata massima in ingresso (1 collettore) = 80 (l/min). Con 2 collettori la portata raddoppia.

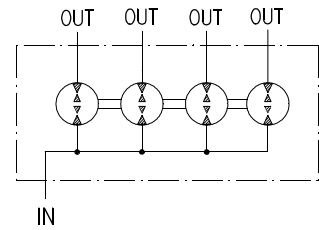
Max. inlet delivery (1 inlet section) = 80 (l/min). With 2 inlet sections delivery can double.

D024-011/04.97

DIMENSIONI
Dimensions



MASSIMO 4 ELEMENTI
Max. 4 elements



D024-D23/0497

| Tipo Type | A | B | C | ND | E | F | Codice bocche Ports code | |
|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------------------|----------------|
| | mm in | mm in | mm in | mm in | mm in | mm in | IN (G 3/4) | OUT (G 1/2) |
| PLD 20•4 | 60,8 2.394 | 36,8 1.449 | 25,8 1.016 | 54,5 2.146 | 70,3 2.768 | 71,8 2.827 | GE | GD |
| PLD 20•6,3 | 62 2.441 | 38 1.496 | 27 1.063 | 55,7 2.193 | 71,5 2.815 | 73 2.874 | | |
| PLD 20•8 | 63,3 2.492 | 39,3 1.547 | 28,3 1.114 | 57 2.244 | 72,8 2.866 | 74,3 2.925 | | |
| PLD 20•11,2 | 65,5 2.579 | 41,5 1.634 | 30,5 1.201 | 59,2 2.331 | 75 2.953 | 76,5 3.012 | | |
| PLD 20•14 | 68 2.677 | 44 1.732 | 33 1.299 | 61,7 2.429 | 77,5 3.051 | 79 3.110 | | |
| PLD 20•16 | 69,8 2.748 | 45,8 1.803 | 34,8 1.370 | 63,5 2.500 | 79,3 3.122 | 80,8 3.181 | | |
| PLD 20•20 | 73 2.874 | 49 1.929 | 38 1.496 | 66,7 2.626 | 82,5 3.248 | 84 3.307 | | |
| PLD 20•25 | 77 3.031 | 53 2.087 | 42 1.654 | 70,7 2.783 | 86,5 3.406 | 88 3.465 | | |
| PLD 20•31,5 | 82 3.228 | 58 2.283 | 47 1.850 | 75,7 2.980 | 91,5 3.602 | 93 3.661 | | |

Come ordinare
How to order

PLD 20 CS - GE / 20•4 - GD / 20•4 - GD / 20•4 - GD / 20•4 - GD / FS

Collettore - Inlet section
CS= Sinistro - left
CD= Destro - right

Tipo
Type

D024-011/04.97