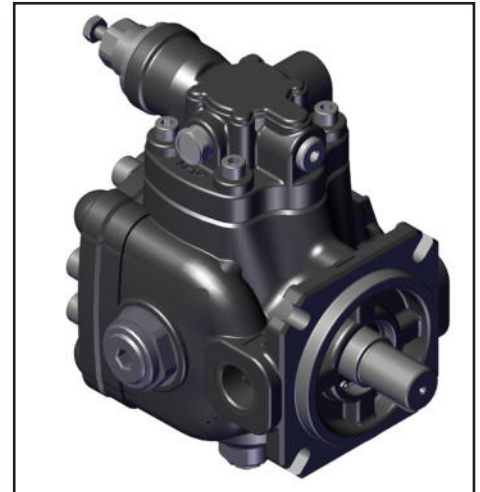


Variable displacement vane pumps (with hydraulic pressure compensator)

PHP Type



Key Features:

- Rotation:** Right (viewed from shaft end)
- Mounting flanges:** 4-hole flange (UNI ISO 3019/2) and flange
Rectangular like gear pump Size 2 (only for size 05)
- Connections:** GAS BSP (UNI ISO 228/1) and SAE
- Integrated mechanical displacement limiter as standard on all pumps**
- Set-up for combined pumps on request**
- Wide choice of pressure and flow regulation controls**

| Series/Name | Rated Displacement (cm ³ /rev) | Maximum Flow Capacity at 1450 rpm (L/min) | Maximum Pressure (bar) |
|--------------------|--|---|---------------------------|
| 01-PHP-05-16 | 16 | 23 | 250 |
| 01-PHP-1-20 | 20 | 29 | 250 |
| 01-PHP-1-25 | 25 | 36 | 250 |
| 01-PHP-1-32 | 32 | 47 | 250 |
| 01-PHP-2-40 | 40 | 58 | 250 |
| 01-PHP-2-50 | 50 | 73 | 250 |
| 01-PHP-2-63 | 63 | 92 | 250 |
| 01-PHP-3-80 | 80 | 116 | 250 |
| 01-PHP-3-100 | 100 | 145 | 250 |
| 01-PHP-3-120 | 120 | 174 | 210 |

TECHNICAL DATA

| NOMINAL SIZE | SIZE 05 | SIZE 1 | | | SIZE 2 | | | SIZE 3 | | |
|---|---|---------|-----|----|---------|------------|-------|-------------|-------------|-----|
| Geometric displacement according to UNI-ISO 3662 (cm ³ /r) | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 120 |
| Actual displacement (cm ³ /rev) Due to manufacturing tolerances, the value can vary by approx. ± 3% | 17 | 21 | 26 | 33 | 42 | 51 | 63 | 80 | 100 | 123 |
| Maximum working pressure (bar) Pressure peak exceeding 30%(10% only for size 3) of the maximum operating pressure must be eliminated | 250 | | | | | | | | 210 | |
| Pressure setting range (bar) | H: 20 ÷ 250 | | | | | | | H: 40 ÷ 250 | H: 40 ÷ 210 | |
| Permitted maximum drain port pressure (bar) | 1 | | | | | | | | | |
| Inlet pressure (bar) | 0.8 - 1.5 absolute | | | | | | | | | |
| Speed range (rev/min) | 800 ÷ 1800 | | | | | 800 ÷ 1500 | | | | |
| Rotation direction (viewed from shaft end) | R - Right | | | | | | | | | |
| Loads on drive shaft | NO RADIAL OR AXIAL LOADS ALLOWED | | | | | | | | | |
| Maximum torque on primary shaft (Nm) | Tmax | 130 | 250 | | | 586 | | 900 | | |
| Hydraulic fluid | HM hydraulic oil according to ISO 6743/4 HLP according to DIN 5124/2 for other fluids contact Berarma Technical-Sales Service | | | | | | | | | |
| Viscosity range (cSt, mm ² /s) | 22 - 68 at operating temperature | | | | | | | | | |
| Starting viscosity under full flow conditions (cSt, mm ² /s) | 400 max | | | | | | | | | |
| Viscosity index according to ISO 2909 | 100 min | | | | | | | | | |
| Inlet fluid temperature range (°C) | +15 / +60 - pay attention to viscosity range | | | | | | | | | |
| Maximum acceptable fluid contamination level | 20/18/15 according to ISO 4406/99, CLASS 9 according to NAS 1638 | | | | | | | | | |
| Recommended fluid contamination level for a longer pump working life | 18/16/13 according to ISO 4406/99, CLASS 7 according to NAS 1638 | | | | | | | | | |
| Moment of inertia (kgm ²) | 0,00019 | 0,00050 | | | 0,00909 | | 0,015 | | | |
| Single pump weight (kg) | | | | | | | | | | |
| Single stage pressure compensator | 16.5 | 18.5 | | | 43.7 | | 57.2 | | | |
| PCS002 | 18.5 | 20.5 | | | 45.7 | | 59.2 | | | |
| PCS003 | 18.0 | 20 | | | 45.2 | | 58.7 | | | |
| PCS004 | 19.0 | 21.3 | | | 46.2 | | 59.7 | | | |
| PCS005 | 18.0 | 20 | | | 45.2 | | 58.7 | | | |
| PCLS001 | 19.0 | 21 | | | 46.2 | | 59.7 | | | |
| PCLS002 | 19.5 | 21.3 | | | 46.7 | | 60.2 | | | |
| PCLS003 | 19.0 | 21 | | | 46.2 | | 59.7 | | | |
| PCLS004 | 20.0 | 22 | | | 47.2 | | 60.7 | | | |
| PCLS005 | 19.0 | 21 | | | 46.2 | | 59.7 | | | |
| For further information and/or different operating conditions, please contact Berarma Technical-Sales Service | | | | | | | | | | |

ORDERING CODE

ORDERING CODE

| Series/ Name | Size Displacement | Flange | Pressure setting | Rotation | Seals | Combined pumps | Pressure controls |
|-----------------|----------------------|----------|---------------------|----------|----------|-------------------|----------------------|
| 01 PHP | 240 | F | H | R | M | | |

| Code | Size | Displacement (cm ³ /rev) |
|---------------|----------|--|
| 05 - 16 | 05 | 16 |
| 1 - 20 | 1 | 20 |
| 1 - 25 | 1 | 25 |
| 1 - 32 | 1 | 32 |
| 2 - 40 | 2 | 40 |
| 2 - 50 | 2 | 50 |
| 2 - 63 | 2 | 63 |
| 3-80 | 3 | 80 |
| 3-100 | 3 | 100 |
| 3-120 | 3 | 120 |

| Code | Flange | Thread |
|-----------------------------------|-------------------------|------------------------|
| F | UNI ISO3019/2 - 4 fori | GAS UNI ISO 228/1; SAE |
| FGR2 (only for size 05) | As for gear pump size 2 | GAS UNI ISO 228/1 |

| Code | Pressure setting |
|----------|--|
| H | 20 – 250 bar (for size 05, 1 e 2) 40 – 250 bar (for size 3-80 and 3-100) 40 – 210 bar (for size 3-120) |

| Code | Rotation Direction |
|----------|-------------------------------|
| R | Right (viewed from shaft end) |

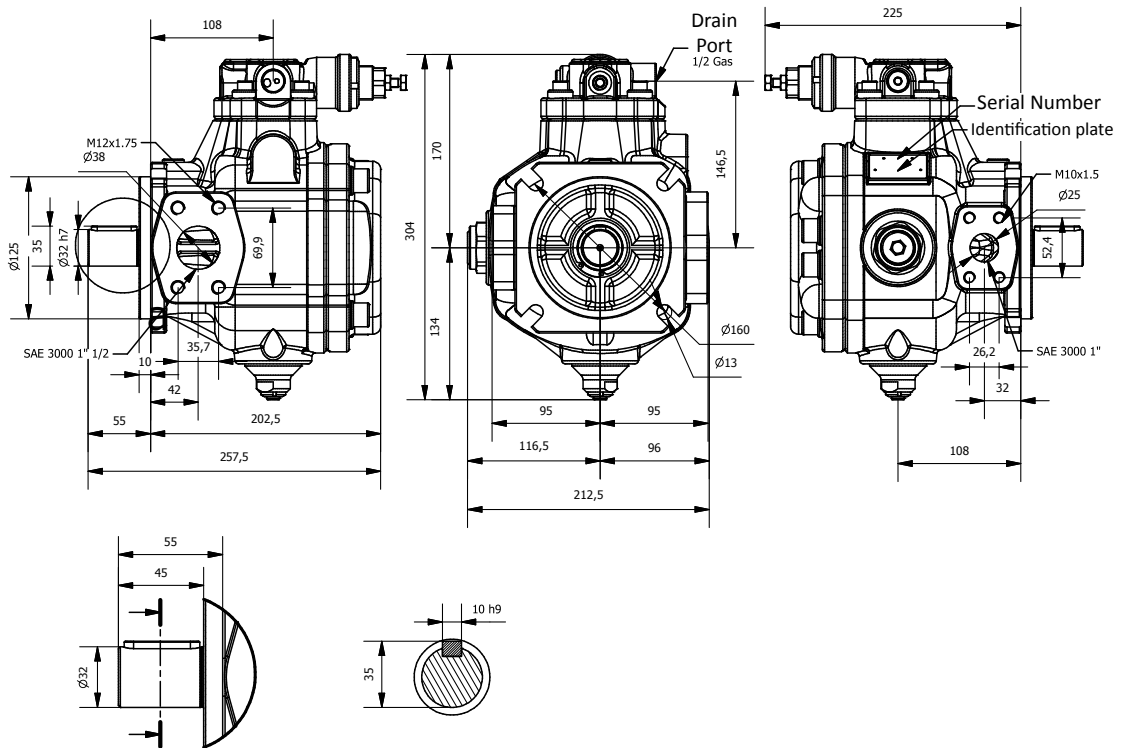
| Code | Seals |
|----------|-------------|
| M | NBR |
| E | FPM (viton) |

| Code | Combined pumps |
|------|---|
| / | Omit for single pump |
| A | Primary pump and/or intermediate pump (available only for F flange) |

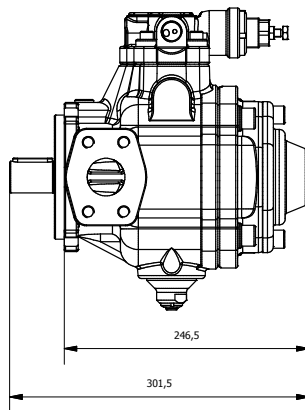
| Code | Pressure controls |
|---------|---|
| / | Omit for single stage pressure compensator |
| PCS002 | Pump with remote pressure control |
| PCS003 | Pump with two-stage pressure control, one with fixed setting |
| PCS004 | Pump with two-stage pressure control, both adjustable |
| PCS005 | Pump with proportional pressure control |
| PCLS001 | LOAD SENSING pump with single-stage pressure compensator |
| PCLS002 | LOAD SENSING pump with remote pressure control |
| PCLS003 | LOAD SENSING pump with two-stage pressure control, one with fixed setting |
| PCLS004 | LOAD SENSING pump with two adjustable pressure stages |
| PCLS005 | LOAD SENSING pump with proportional pressure control |

For further information regarding pressure control solutions, please see pages 14 ÷ 23

01 PHP 2 40-50-63 F



THRU-DRIVE SHAFT (-A)



For combined pump solutions, please see pages 24-27

Mounting surface ISO 4401-03 (CETOP 03) for pressure/flow-rate controls PCS 003/004 and PCLS 003/004 (pages 16, 17, 21, 22)

| Designation | Dimension |
|-------------|-----------|
| C | 40.5 |
| D | 21.5 |
| E | 12.7 |
| F | 0.75 |
| G | 5.1 |
| H | 15.5 |
| J | 25.9 |
| K | 31 |
| L | 31.75 |

Note: "A" port is available only for PCS004 and PCLS004 controls

