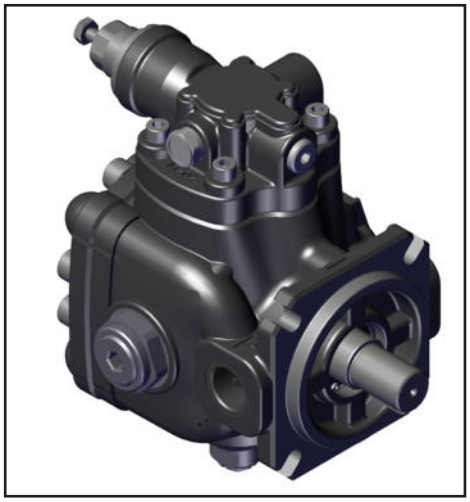
Variable displacement vane pumps (with hydraulic pressure compensator)

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 (cm³/r)		16	20	25	32	40	50	63	80	100	120
Actual displacement (cm³/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, mm²/s)		22 - 68 at operating temperature									
Starting viscosity under full flow conditions (cSt, mm²/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 (kgm²)		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

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ORDERING CODE

Series/ Name	Size Displacement	Flange	Pressure setting	Rotation	Seals	Combined pumps	Pressure controls
01 PHP	250	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)

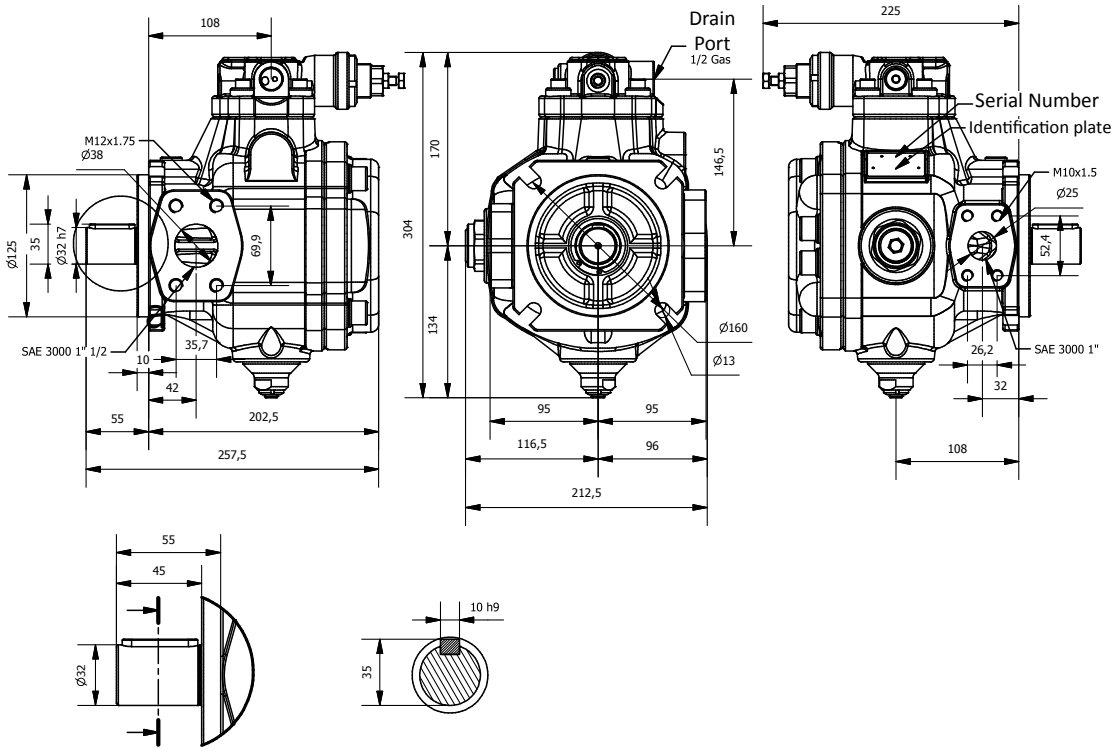
Code	Seals
M	NBR
E	FPM (viton)

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

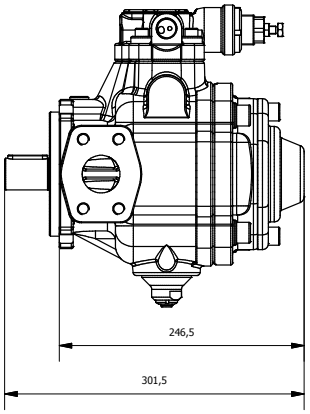
Code	Pressure controls
/	Omit for single stage pressure compensator
PCS002	Pump with remote pressure control
PCS003	Pump with two-stage pressure control, one with fixed setting
PCS004	Pump with two-stage pressure control, both adjustable
PCS005	Pump with proportional pressure control
PCLS001	LOAD SENSING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

OVERALL DIMENSIONS

01 PHP 2 40-50-63 F

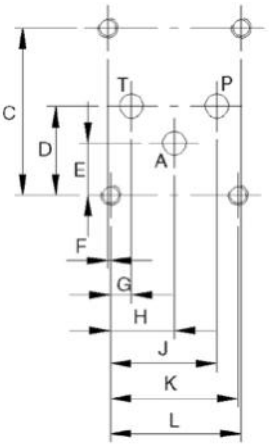


THRU-DRIVE SHAFT (-A)



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	