

PUMP RANGE



POCLAIN HYDRAULICS

SOLUTIONS FOR THE MOST DEMANDING MARKETS

Poclain hydraulics specializes in the design, manufacturing and marketing of hydrostatic transmissions.

Our internationally recognized expertise allows us to expand on highly diversified markets such as the construction, agricultural, public works, material handling, industrial, environment and on-road markets. Poclain hydraulics' development is driven by our innovative spirit and our ability to anticipate the needs of a wide range of cutting edge applications.

- > Construction
- > Agricultural
- > Mining
- > Forestry
- > Environment
- > Material handling
- > Industry
- > Marine
- > On-Road
- > Etc





Closed loop and variable displacement

HEAVY DUTY PUMPS

P90

Max. Pressure	480 bar [7,000 PSI]
Displacement range	55 to 250 cm ³ /rev. [3.35 to 15.25 cu.in/rev]
Max. Speed	4 250 RPM

> p.6



MEDIUM DUTY PUMPS

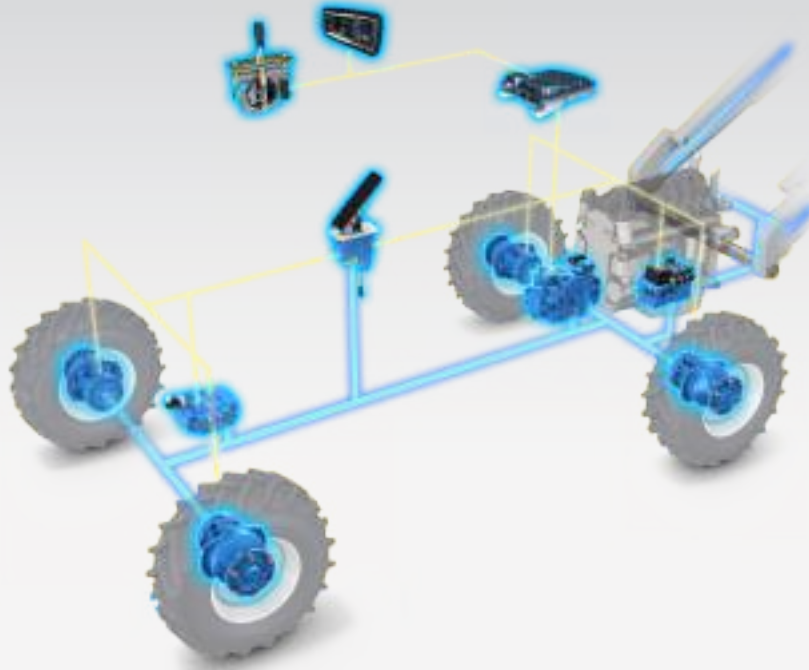
**PM
PMe**

Max. Pressure	400 bar [5,800 PSI]
Displacement range	7 to 65 cm ³ /rev. [0.43 to 3.97 cu.in/rev]
Max. Speed	3 650 RPM

> p.10



Hydraulic Pumps for open and closed loops



Open loop and fixed displacement

HEAVY DUTY PUMPS



Max. Pressure	480 bar [7,000 PSI]
Displacement range	35 to 444 cm ³ /rev. [2.13 to 27.10 cu.in/rev]
Max. Speed	4 250 RPM

> p.16





P90

Axial piston technology
Variable displacement
High design flexibility
Low noise level
High torque for throughdrive
Overpressure protection

HEAVY DUTY CYCLE **FOR ROBUST AND PRECISE TRANSMISSIONS**

P90-055 ▪ **P90-075** ▪ **P90-100**
P90-130 ▪ **P90-180** ▪ **P90-250**

From 55 to 250 cm³/rev. [3.35 to 15.25 cu.in/rev.]

Up to 2 938 N.m [2,600 lbf.ft]

Up to 480 bar [7,000 PSI]

Up to 4 250 rpm

Up to 424 kW [568 HP]



Performance

		P90-055	P90-075	P90-100	P90-130	P90-180	P90-250
Displacement	cm ³ /rev [cu.in/rev]	55 [3.35]	75 [4.58]	100 [6.10]	130 [7.91]	180 [10.98]	250 [15.25]
	(Continuous) RPM	3 900	3 600	3 300	3 100	2 600	2 300
Max. Speed	(Intermittent) RPM	4 250	3 950	3 650	3 400	2 850	2 500
	(Continuous) bar [PSI]	420 [6,092]	420 [6,092]	420 [6,092]	420 [6,092]	420 [6,092]	420 [6,092]
Max. Pressure	(Intermittent) bar [PSI]	480 [6,962]	480 [6,962]	480 [6,962]	480 [6,962]	480 [6,962]	480 [6,962]

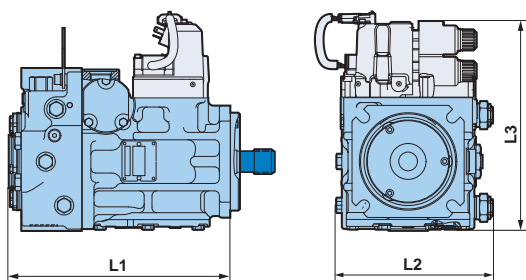
Dimensions

		P90-055	P90-075	P90-100	P90-130	P90-180	P90-250
L1	mm	288,8	306,1	339,1	370	398	419
	[in]	[11.37]	[12.05]	[13.35]	[14.58]	[15.67]	[16.5]
L2	mm	204,4	210	228,1	221,5	294,42	-
	[in]	[8.04]	[8.27]	[8.98]	[8.72]	[11.59]	[-]
L3	mm	282,3	265	283	311	360	360
	[in]	[11.11]	[10.43]	[11.14]	[12.24]	[14.17]	[14.17]
Weight max.*	kg	40	49	49	88	136	154
	[lb]	[88]	[108]	[108]	[194]	[300]	[340]

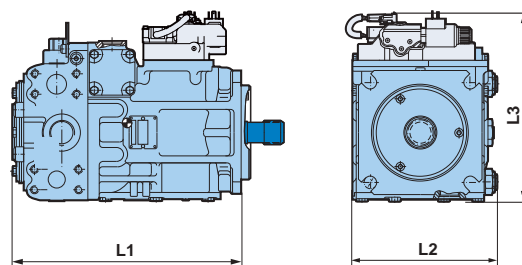


*Depending on the controls and the options.

P90-055



P90-075 / 100 / 130 / 180 / 250



Auxiliary mounting pads

		P90-055	P90-075	P90-100	P90-130	P90-180	P90-250
Flange SAE A	9 teeth coupling	●	●	●	●	●	●
	15 teeth coupling	●	●	●	●	●	●
Flange SAE B	13 teeth coupling	●	●	●	●	●	●
	14 teeth coupling	●	●	●	●	●	●
Flange SAE D	13 teeth coupling				●	●	●
	27 teeth coupling				●	●	●
Flange SAE E	13 teeth coupling					●	●
	27 teeth coupling					●	●
No auxiliary mounting pad		●	●	●	●	●	●

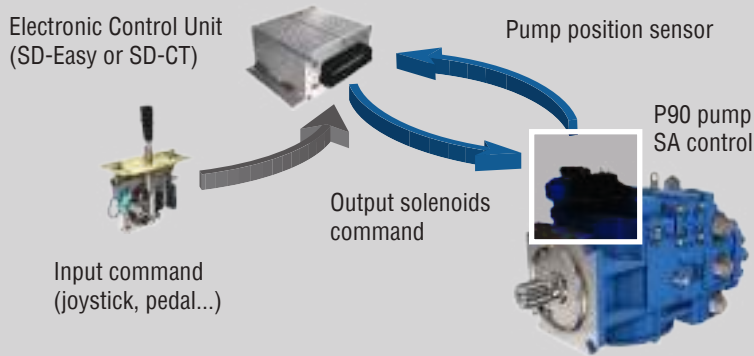
ELECTRONIC CONTROL OF THE P90

SmartDrive system

The P90 control logic relies on a closed loop regulation of the pump.

The control system's brain is the ECU (SD-Easy or SD-CT), which sends PWM (Pulse Width Modulation) signals to the two main control solenoid valves that pilot the servo cylinder of the pump.

The exact position of the pump swashplate is tracked by a Hall effect feedback potentiometer whose inputs are constantly processed by the ECU to reach a very high pump displacement control accuracy.



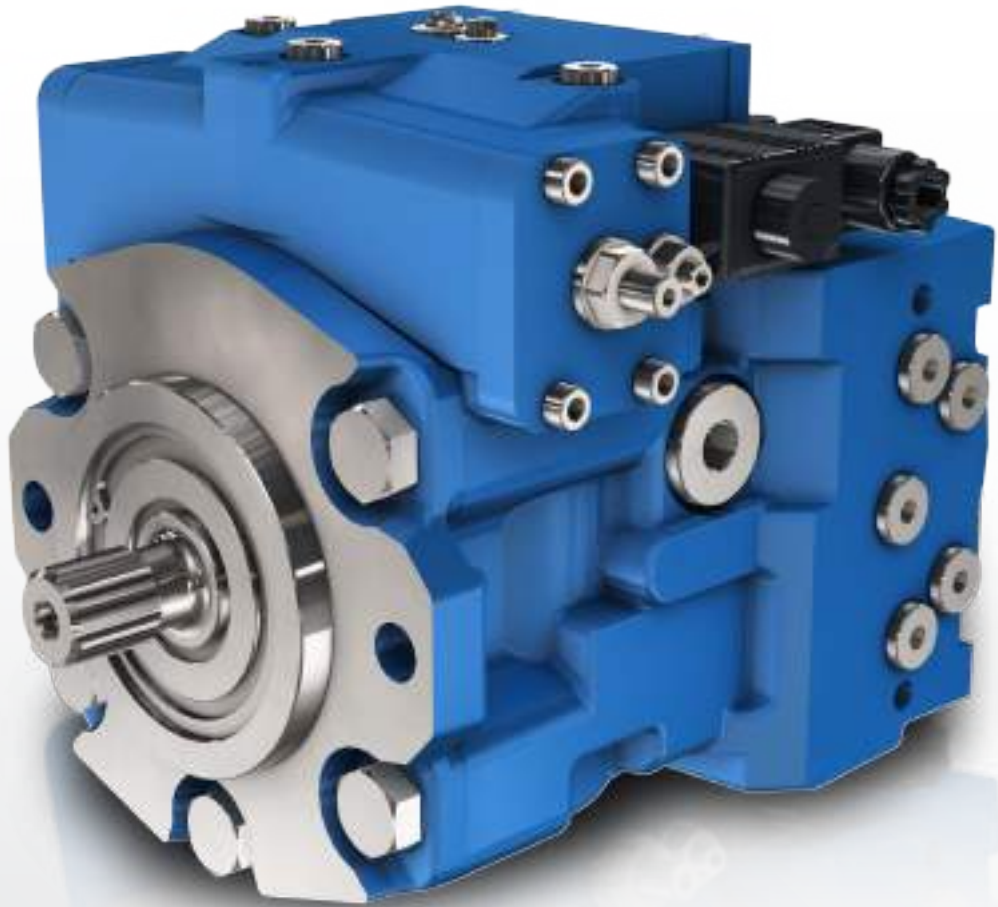
	Proportional electronic control	
	12V	24V
P90-055	●	●
P90-075	●	●
P90-100	●	●
P90-130	●	●
P90-180	●	●
P90-250	●	●

Mounting flanges and shafts

		P90-055	P90-075	P90-100	P90-130	P90-180	P90-250
Flange SAE C	Splined shaft 14 teeth, pitch 12/24	●	●	●			
	Splined shaft 21 teeth, pitch 16/32	●	●	●			
	Splined shaft 23 teeth, pitch 16/32		●	●			
Flange SAE D	Splined shaft 27 teeth, pitch 16/32				●		
	Splined shaft 13 teeth, pitch 8/16			●	●		
Flange SAE E	Splined shaft 27 teeth, pitch 16/32					●	●
	Splined shaft 13 teeth, pitch 8/169					●	●

Optional features

	P90-055	P90-075	P90-100	P90-130	P90-180	P90-250
Speed sensor	●	●	●	●	●	●
Suction filtration	●	●	●	●	●	●
Charge pressure filtration	●	●	●	●	●	●
Integral pressure filter	●	●	●	●	●	●
Remote pressure	●	●	●	●	●	●



PM
PMe

Axial piston technology
Variable displacement
Compact design
A large choice of controls
Embedded electronics
Plug & Drive™ solution

MEDIUM DUTY PUMPS

DESIGN FOR PERFORMANCE AND EASY INTEGRATION

PMV0 - PM10 - PM20 - PM30 - PMe30
PM50 - PMe50 - PM65

From 7 to 65 cm³/rev. [0.43 to 3.97 cu.in/rev.]

Up to 103,5 N.m [916 lbf.ft]

Up to 400 bar [5,800 PSI]

Up to 3 600 rpm

Up to 124,8 kW [167.4 HP]



Performance

		PMV0	PM10	PM20	PM30 PMe30	PM50 PMe50	PM65
Displacement range	cm ³ /rev [cu.in/rev]	7 - 18 [0.43] - [1.10]	7 - 21 [0.43] - [1.28]	21 - 27.4 [1.28] - [1.67]	25 - 34,2 [1.53] - [2.09]	40 - 52 [2.44] - [3.17]	55 - 65 [3.36] - [3.97]
Rated Speed	RPM	3 600	3 600	3 600	3 600	3 600	3 600
Max. Pressure	(Continuous) bar [PSI]	210 [3,045]	210 [3,045]	250 [3,626]	300 [4,350]	300 [4,350]	250 [3,625]
	(Intermittent) bar [PSI]	300 [4,351]	350 [5,076]	350 [5,076]	400 [5,801]	400 [5,801]	350 [5,076]
Max. theoretical absorbed power	kW [HP]	12,7 - 30,5 [17.0] - [40.9]	14,9 - 42,6 [20.0] - [57.1]	32,6 - 44,4 [43.7] - [59.5]	48,0 - 65,6 [64.4] - [88.0]	74,8 - 99,8 [100.3] - [133.8]	106,0 - 124,8 [142.1] - [167.3]

Mounting flanges and shafts

			PMV0	PM10	PM20	PM30 PMe30	PM50 PMe50	PM65
Flange SAE A	Splined shaft	9 teeth, pitch 12/24	●	●				
		11 teeth, pitch 16/32	●	●				
	Key shaft mm [in]	Diameter 15,875 [0.624]	●					
		Diameter 18 [0.71]	●					
Flange SAE B	Splined shaft	Diameter 19,05 [0.75]		●				
		11 teeth, pitch 16/32		●				
		13 teeth, pitch 16/32		●	●	●	●	
	Key shaft mm [in]	14 teeth, pitch 12/24					●	
		Diameter 19,05 [0.75]		●				
		Diameter 22,22 [0.87]						●
Flange SAE BB	Splined shaft	Diameter 25,38 [0.99]				●		
		15 teeth, pitch 16/32			●	●	●	

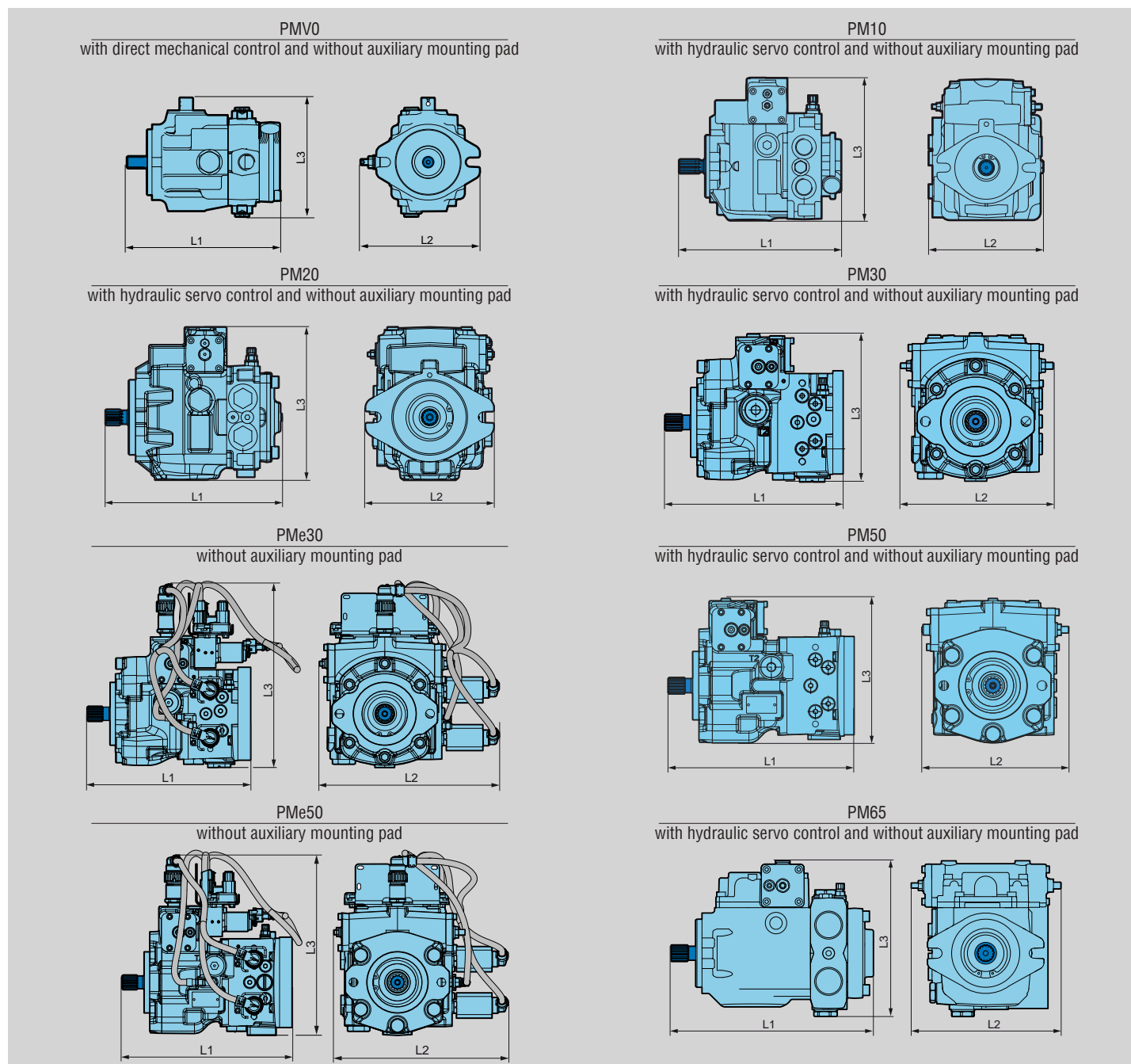
Auxiliary mounting pads

		PMV0	PM10	PM20	PM30 PMe30	PM50 PMe50	PM65
German group 1		●	●				
German group 2		●	●				
Flange SAE A	9 teeth coupling		●	●	●	●	●
	11 teeth coupling				●	●	●
Flange SAE B	13 teeth coupling				●	●	●
Flange SAE BB	15 teeth coupling				●	●	●
No auxiliary mounting pad		●	●	●	●	●	●

Dimensions

		PMV0	PM10	PM20	PM30	PMe30	PM50	PMe50	PM65
L1	mm	192,8	204,5	238	253,2	256,2	271,5	282,2	303,5
	[in]	[7.59]	[8.05]	[9.37]	[9.98]	[10.08]	[10.68]	[11.11]	[11.95]
L2	mm	107,4	144	174	221,7	290,5	218	289,5	223,5
	[in]	[4.23]	[5.67]	[6.85]	[8.72]	[11.44]	[8.58]	[11.40]	[8.8]
L3	mm	129	187,7	207,2	212,2	290,5	214,5	299,0	232,5
	[in]	[5.08]	[7.39]	[8.16]	[8.35]	[11.44]	[8.45]	[11.77]	[9.15]
Weight max.*	kg	9,5	18,8	20,8	29	31,5	32	32	30,5
	[lb]	[20.9]	[41.4]	[45.8]	[63.9]	[69.4]	[70.5]	[70.5]	[67.2]

*Depending on the controls and the options.



PMe: EMBEDDED ELECTRONIC

Reduce your development costs and time

The PMe is designed to be easily integrated into a wide variety of machines. The PMe's on-board ECU can withstand the harshest environments, including proximity to the combustion engine. The ECU is pre-wired and pre-programmed; after shipping, the system is ready to be connected to the driving devices (e.g. the travel pedal, joystick, brake pedal) and is ready to use.

The associated electronic devices are delivered already plugged onto the pump and wired to the ECU. The factory-installed harnesses are tested at the end of the assembly line prior to delivery. The two integrated CAN Buses allow configuring, machine diagnosing and information sharing with other machine components (e.g. engine, displays, hydraulic components).

Among the many pre-defined software functionalities included in the PMe packages, the speed control loop is available for specific applications that need constant driving speed, a pre-requisite being two speed sensors in the wheels. The PMe pump can also be used as a slave unit via CAN Bus. The CAN message redundancy allows for safe control of the pump. It ensures an accurate control thanks to an internal pump calibration. The PMe can also provide the plugged sensors' physical and electrical values (temperature, pressure, speed) via CAN Bus to the master ECU.



Controls

	PMV0	PM10	PM20	PM30	PMe30	PM50	PMe50	PM65
Direct mechanical (M)	●	●						
Direct mechanical with return spring (N)	●	●						
Direct mechanical with return spring and zero position setting (L)	●							
Mechanical servo control with feed-back (A)		●	●	●		●		●
Hydraulic servo control (S)	●	●	●	●		●		●
Hydraulic servo control with feed-back (T)		●	●*	●		●		
Hydraulic Automotive Control (D)		●	●*	●		●		●
Electrical on-off servo control without electrovalve (C)		●		●		●		●
Electrical on-off servo control with return spring without electrovalve (B)		●	●*	●		●		●
Electrical on-off servo control with electrovalve (C12/C24)		●		●		●		●
Electrical on-off servo control with return spring and electrovalve (B12/B24)		●	●*	●		●		●
Electro-proportional servo control (P)		●	●*	●	●	●	●	●
Electro-proportional servo control with feed-back (Q)		●	●	●	●	●	●	

* Under development

Additional features

Please take in consideration that all combinations are not possible.

	PMV0	PM10	PM20	PM30 PMe30	PM50 PMe50	PM65
Fitting for rear power take-off (through shaft)	●					
Electrical by-pass with brake engaged	●					
Mechanical inching		●		●	●	●
Hydraulic inching		●		●	●	●
Brake inching				●	●	
Lever by-pass	●					
Low noise valve plate	●					
Pressure filter	●	●	●	●	●	●
Flushing valve	●	●	●	●	●	●
Safety valve		●	●	●	●	
Pressure cut-off valve (option LP)		●		●*	●*	●
Anti-stall valve		●		●	●	●
Neutral position switch (only for control A)		●		●		●
Roller bearing	●	●	●	●	●	
UNF ports	●	●	●	●	●	●
SAE ports	●	●	●	●	●	●
Speed sensor				●	●	
Fluorinated elastomer seals	●	●	●	●	●	

* Under development



PMV0 with through shaft

PHAST PROGRAM

Fast delivery

Poclain Hydraulics is committed to supplying a number of standard pumps **within 10 business days**, excluding transport.

This delivery time applies to any order limited to one pump per Part Number, per customer and per month.

Making their selection from a predetermined list of pumps, machine manufacturers can choose from pumps with mechanical servo control (A) or hydraulic servo control (S) or electro proportional servo control (P) or electro proportional servo control with feedback (Q). All pumps are equipped with a high pressure relief valve setting, internal charge pump and charge relief valve setting, SAE A flange for the auxiliary mounting pad and a flushing valve.

Pump types

PMV0	PM10	PM30	PM50
●*	●	●	●

* Only available with M and L control



[More information > Page 20](#)

Visit our dedicated web page
www.poclain-hydraulics.com/en/services/phast





PL

Radial piston technology
Fixed displacement
High strength
Robust and dust resistant

HEAVY DUTY PUMPS FOR OPEN LOOPS

From 35 to 444 cm³/rev. [2.13 to 27.10 cu.in./rev.]

Up to 2 938 N.m [2,600 lbf.ft]

Up to 480 bar [7,000 PSI]

Up to 4 250 rpm

Up to 666 kW [895 HP]



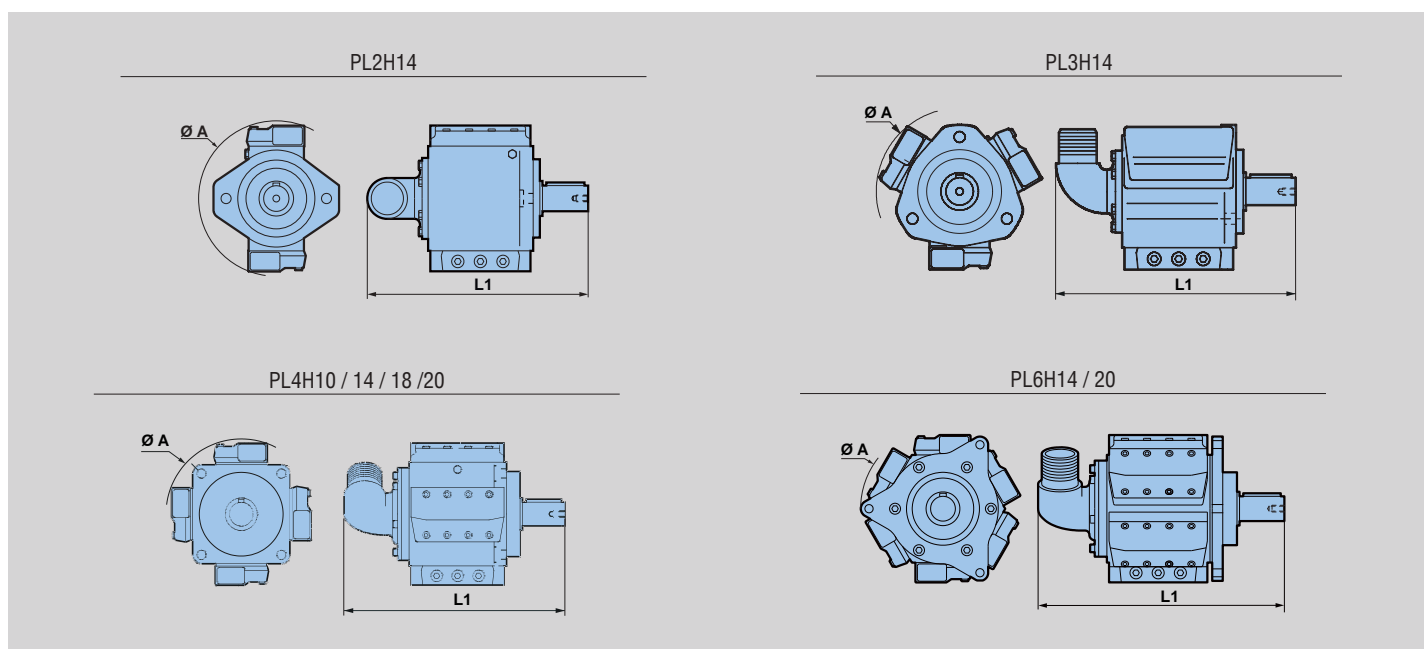
Performance

		2 outputs	3 outputs	4 outputs	4 outputs	4 outputs	4 outputs
		PL2H14	PL3H14	PL4H10	PL4H14	PL4H18	PL4H20
Displacement	cm ³ /rev	2 x 17.5 to 2 x 32	3 x 17.5 to 3 x 37	4 x 10.3 to 4 x 12.5	4 x 17.5 to 4 x 37	4 x 33 to 4 x 52	4 x 58 to 4 x 74
	[cu.in/rev]	[2 x 1.07 to 2 x 1.95]	[3 x 1.07 to 3 x 2.26]	[4 x 0.63 to 4 x 0.76]	[4 x 1.07 to 4 x 2.26]	[4 x 2.01 to 4 x 3.17]	[4 x 3.54 to 4 x 4.52]
Max. Pressure	bar [PSI]	450 [6,526]	450 [6,526]	450 [6,526]	450 [6,526]	450 [6,526]	450 [6,526]
Max. Speed	RPM	3 100 to 2 400	3 400 to 2 400	2 700	3 100 to 2 000	2 500 to 2 400	2 400 to 2 300
Max. Power	kW	81 to 115	134 to 200	84 to 102	163 to 222	246 to 376	417 to 510
	[HP]	[109 to 155]	[180 to 269]	[113 to 137]	[219 to 298]	[331 to 506]	[561 to 686]

		6 outputs	6 outputs
		PL6H14	PL6H20
Displacement	cm ³ /rev	6 x 17.5 to 6 x 32	6 x 58 to 6 x 74
	[cu.in/rev]	[6 x 1.07 to 6 x 1.95]	[6 x 3.5 to 6 x 4.51]
Max. Pressure	bar [PSI]	450 [6,526]	450 [6,526]
Max. Speed	RPM	3 200 to 2 300	2 400 to 2 000
Max. Power	kW	252 to 331	626 to 666
	[HP]	[339 to 445]	[842 to 895]

Dimensions

		PL2H14	PL3H14	PL4H10	PL4H14	PL4H18	PL4H20	PL6H14	PL6H20
Dia. A	mm	320	320	275	320	440	550	352	550
	[in]	[12.60]	[12.60]	[10.83]	[12.60]	[17.32]	[21.65]	[13.86]	[21.65]
L1	mm	397	397	376	435	550	656	463	659
	[in]	[15.63]	[15.63]	[14.80]	[17.13]	[21.65]	[25.83]	[18.23]	[25.94]
Weight	kg	38	47	42	68	140	250	84	360
	[lb]	[84]	[104]	[93]	[150]	[309]	[551]	[185]	[794]



FAST DELIVERY PROGRAM FOR MOTORS, PUMPS AND VALVES



More information

Visit our dedicated web page
www.poclain-hydraulics.com/en/services/phast



> The sales of PHast are subject to Poclain Hydraulics' General Terms & Conditions of sales.

MS and MI Motors

Poclain Hydraulics is committed to supplying a number of standard motors within 15 business days, excluding transport.

Making their selection from a predetermined list of motors, machine manufacturers can choose from wheel motors (for sizes 02 to 125) or shaft motors (for sizes 11 to 125), in a fixed displacement or double displacement version, with or without a brake. All motors are equipped with a pre-disposition for speed sensor. Pre-configured motors are equipped to guarantee a maximum level of performance.

> Order limited to four PHast motors, per motor size.

Motor types

MS02-E02	MS05-E05	MS08-E08	MS11-E11	MS18-E18	MS35	MS50	MS83	MS125	MI250
•	•	•	•	•	•	•	•	•	•



PM pumps

Poclain Hydraulics is committed to supplying a number of standard pumps within 10 business days, excluding transport.

Making their selection from a predetermined list of pumps, machine manufacturers can choose from pumps with mechanical servo control (A) or hydraulic servo control (S) or electro proportional servo control (P) or electro proportional servo control with feedback (Q). All pumps are equipped with a high pressure relief valve setting, internal charge pump and charge relief valve setting, SAE A flange for the auxiliary mounting pad and a flushing valve.

> Order limited to one pump per part number per customer and per month.

Pump types

PMV0	PM10	PM30	PM50
•*	•	•	•

* Only available with M and L control



Open Loop Valves

Poclain Hydraulics is committed to supplying a number of standard valves within 5 business days, excluding transport.

> Up to 5 pieces for each part number delivery within 5 days max.

> Up to 50 pieces for each part number delivery up to 4 weeks.



Valves type

Directional control valves	Bankable mounting	Vertical stacking	Check valves	Pressure control valves	Flow control valves
KV-6K/2-6 KV-6/2-6 KVC-3/2-10 KV-8/3-6 KVH-6/2 KV-4 Cetop KVC	KVM OB-KVM-6 ZB-KVM-6	KVM-VV-6 KVM-NDV-6 KVM-NOV-6	NOV VP-NDV VP-NOV	VP-RT	DTP TVTC TVTP



A WORLDWIDE SALES NETWORK



More than 200 distributors in the world



More information

To find the nearest distributor go to our dedicated web page
www.poclain-hydraulics.com/en/contact-us/distributors



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World Leading Specialist In Hydrostatic Transmissions



2018-12-03

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