



MK MOTORS



MK/MKE12. COMPACT MOTOR.

Methodology :

This document is intended for manufacturers of machines that incorporate Poclairn Hydraulics products. It describes the technical characteristics of Poclairn Hydraulics products and specifies installation conditions that will ensure optimum operation. This document includes important comments concerning safety. They are indicated in the following way:



Safety comment.

This document also includes essential operating instructions for the product and general information. These are indicated in the following way:



Essential instructions.



General information .



Information on the model number. Information on the model code.



Weight of component without oil.



Volume of oil.



Units.



Tightening torque.



Screws.



Information intended for Poclairn-Hydraulics personnel.

The views in this document are created using metric standards.

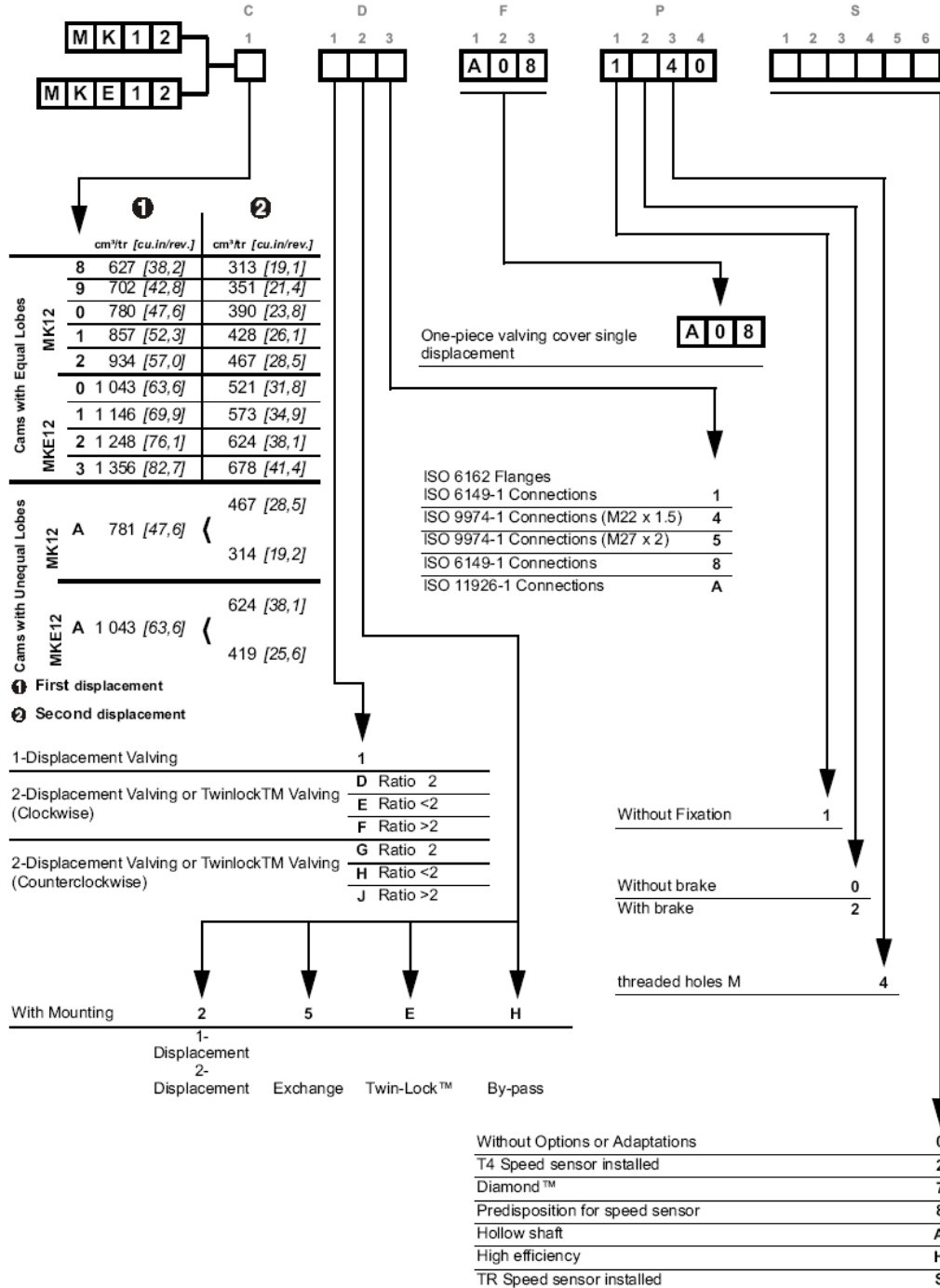
The dimensional data is given in mm and in inches (inches are between brackets and italic)

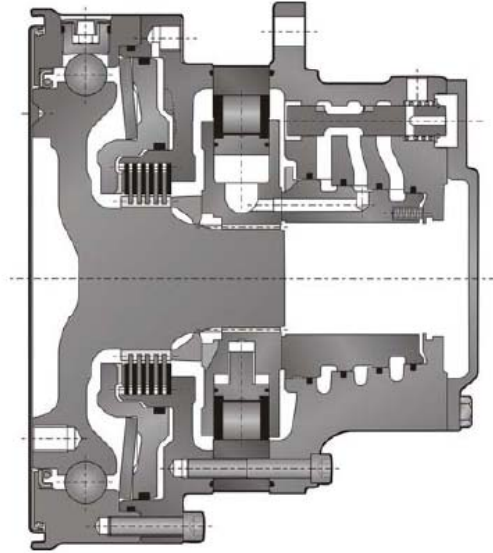


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MODEL CODE





Motor Inertia 0.09 kg.m²

	①		Theoretical torque		①	Max.power		②	Max. * speed		Max. pressure		
	cm ³ /tr [cu.in./rev.]	cm ³ /tr [cu.in./rev.]	at 100 bar			kW [HP]	② preferred kW [HP]		non-preferred kW [HP]	①		bar [PSI]	
			Nm	at 1000 PSI [lb.ft]						trimin			② [RPM]
Cams with equal lobes	MK12	8	627 [38,2]	313 [19,1]	997 [507]	41 [55]	27 [36]	21 [28]	100	[100]	450 [6 527]		
		9	702 [42,8]	351 [21,4]	1 116 [568]								
		0	780 [47,6]	390 [23,8]	1 240 [631]								
		1	857 [52,3]	428 [26,1]	1 363 [693]								
		2	934 [57,0]	467 [28,5]	1 485 [755]								
		0	1 043 [63,6]	521 [31,8]	1 658 [843]								
Cams with unequal lobes	MK12	A	781 [47,6]	467 [28,5]	1 242 [631]	41 [55]	27 [36]	21 [28]	100	[100]	450 [6 527]		
				314 [19,2]									
		A	1 043 [63,6]	624 [38,1]	1 658 [843]								
				419 [25,6]									

① First displacement

② Second displacement

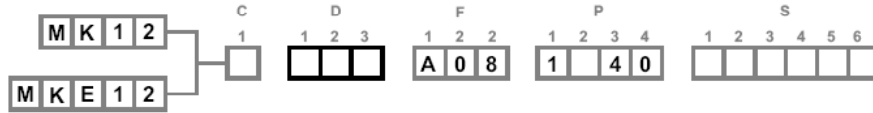
(*)For an offset below 2.95 million ft.lbs.



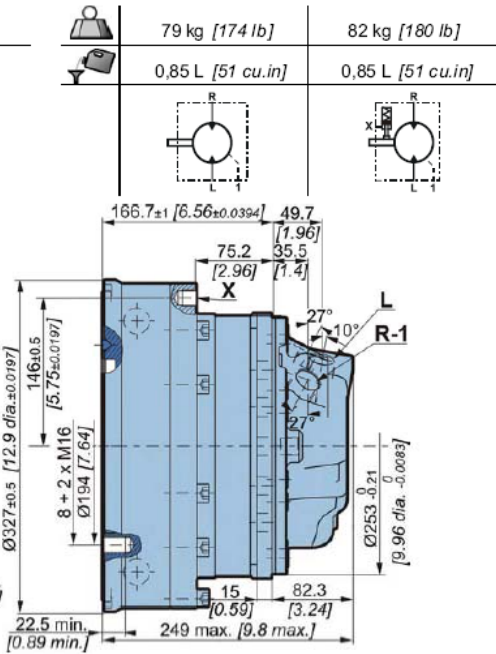
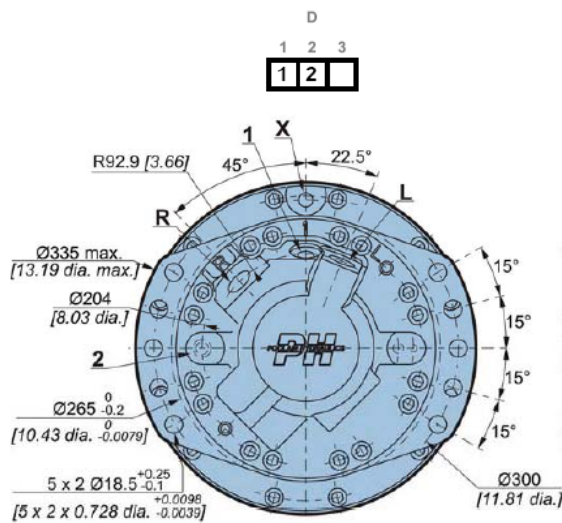
Higher speeds are available: consult your Poclain Hydraulics application engineer



CHARACTERISTICS

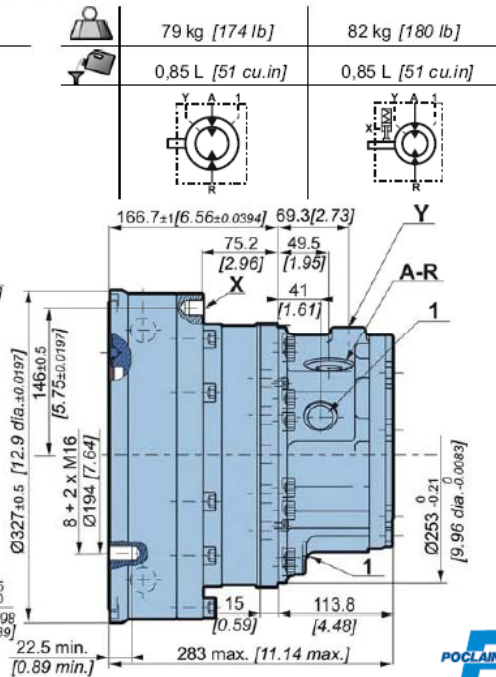
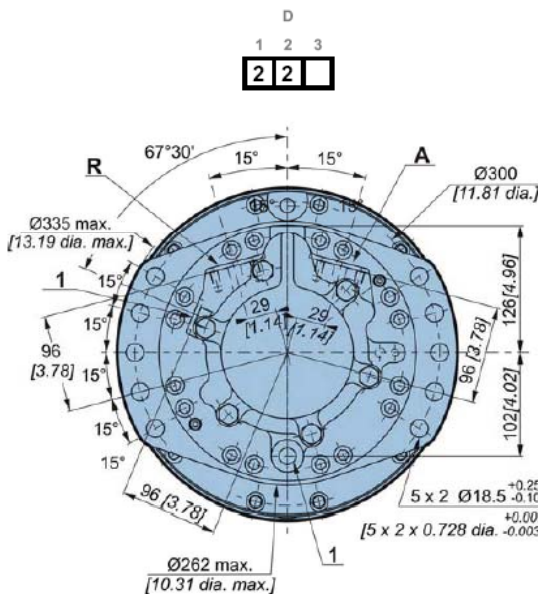


Dimensions for standard 1-displacement motor



	79 kg [174 lb]	82 kg [180 lb]
	0,85 L [51 cu.in.]	0,85 L [51 cu.in.]

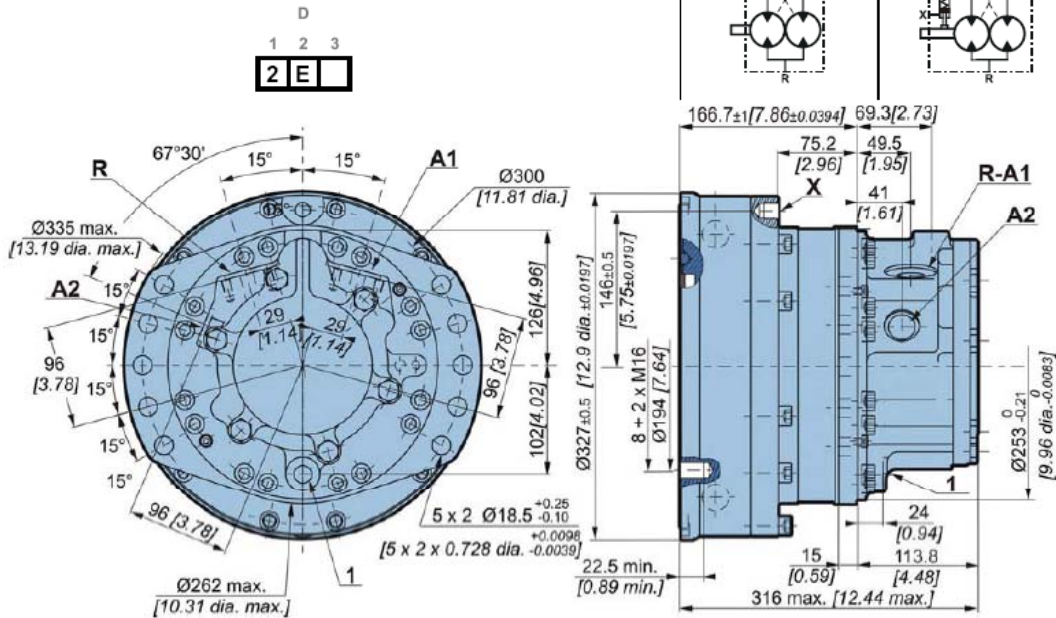
Dimensions for standard 2-displacement motor



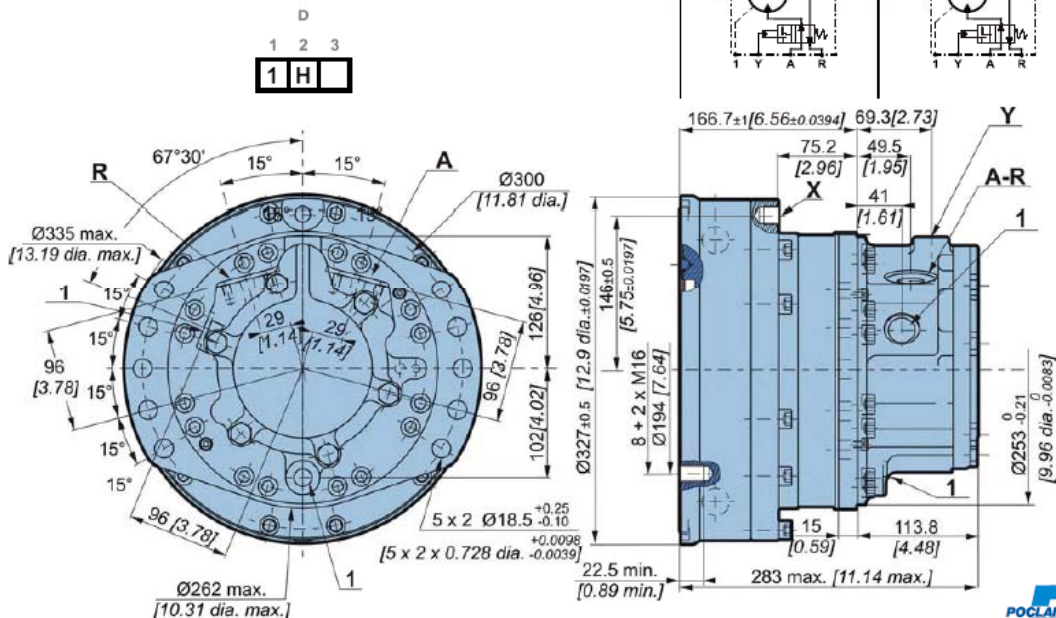
	79 kg [174 lb]	82 kg [180 lb]
	0,85 L [51 cu.in.]	0,85 L [51 cu.in.]



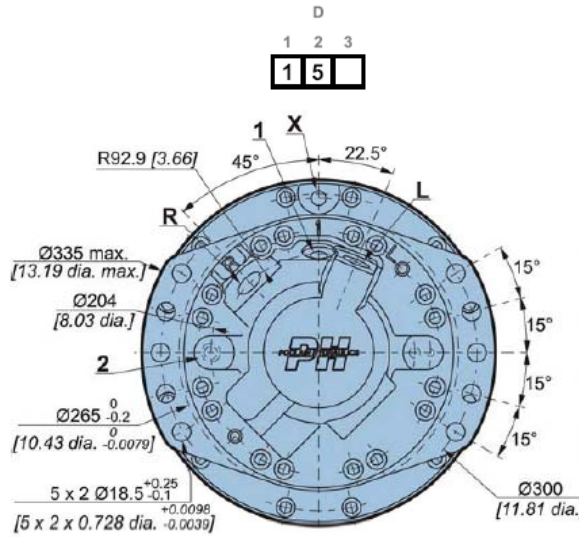
Dimensions for standard Twin-Lock™ motor



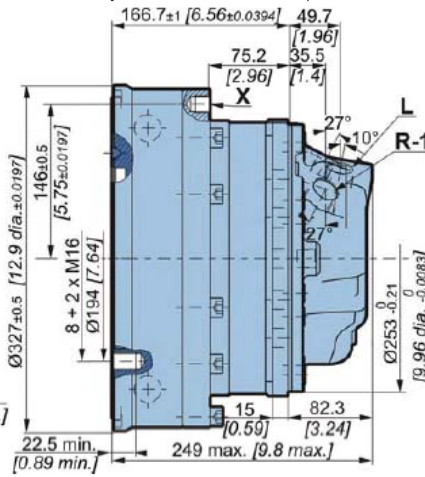
Dimensions for standard 1-displacement motor with by-pass



Dimensions for standard 1-displacement motor with built-in exchange



	79 kg [174 lb]	82 kg [180 lb]
	0,85 L [51 cu.in]	0,85 L [51 cu.in]



Exchange

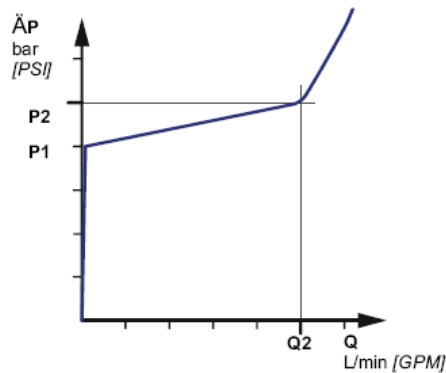
When a coding request is made, you must specify information on the threshold of the selector and the valve.

- Selector spool

Selector threshold		Opening pressure of selector
bar	[PSI]	bar [PSI]
6	[87]	6,4±0,8 [93±11,6]

- Fitted valve

P1	Q2	P2
bar [PSI]	L/min [GPM]	bar [PSI]
16±0.5 [232±7.25]	3,4±0.5 [0,898±0.13]	20 [290]
20±0.5 [290±7.25]	3,7±0.5 [0,977±0.13]	24 [348]
18±0.5 [261±7.25]	8,5±1 [2,245±0.26]	23 [334]



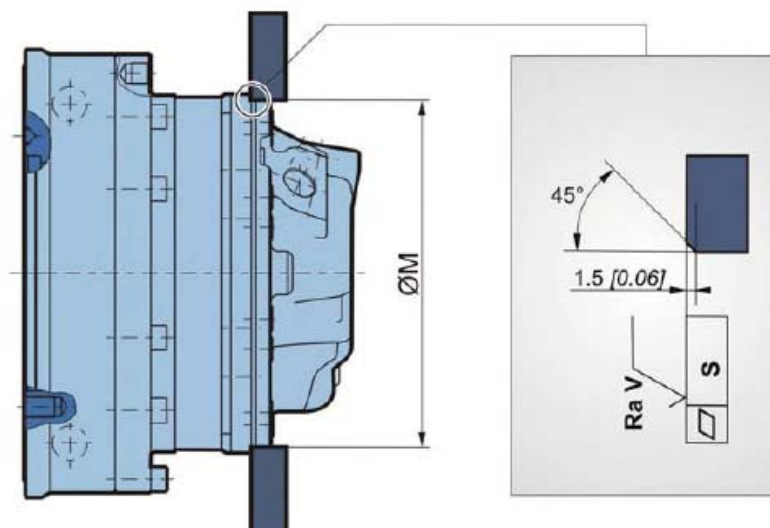
Rotating fastening screw


	Classe	N.m	[lb.ft]
8 + 2 M16 x 2	12,9	310	[229]

(*) The tightening torques are given for the indicated loads.



Chassis mounting

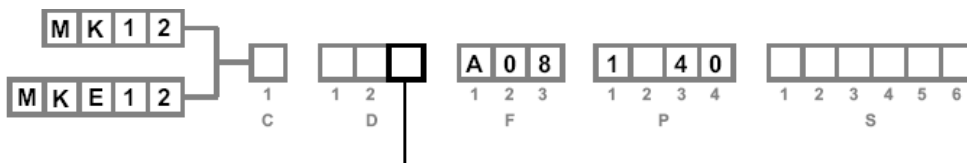
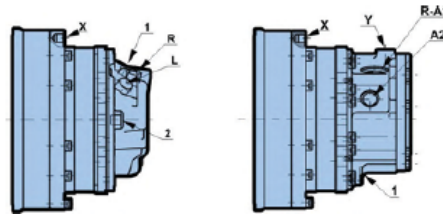


ØM (1) mm [in]	S mm [in]	Ra V μm [μin]	Mounting	Class of screw	 N.m [lb.ft]
253 [9,96]	0,2 [0,01]	12,5 [0,49]	10 x M16 x 2	10,9	250 [184]

(1) + 0.3 [+0.012]
+ 0.2 [+0.008]

Hydraulic connections

connections



	Old standards	Standards	Power supply R,L A,R A1,A2	2 nd displacement control Y	Drainage 1,2	Control of brake X
A	SAEJ514	ISO 11 926-1	1"1/16 - 12 UNF	9/16" - 18 UNF	3/4" - 16 UNF	3/4" - 16 UNF
1	ISO 6 162 DIN 3 852	ISO DP6162 ISO 9 974-1	DN13 FN400	M14 x 1.5	M18 x 1.5	M16 x 1.5
4	DIN 3 852 NFE 48 050	ISO 9 974-1	M22 x 1.5	M14 x 1.5	M18 x 1.5	M16 x 1.5
5	DIN 3 852 NFE 48 050	ISO 9 974-1	M27 x 2	M14 x 1.5	M18 x 1.5	M16 x 1.5
8	ISO 6 149-1	ISO 6 149-1	M22 x 1.5	M14 x 1.5	M18 x 1.5	M16 x 1.5



For the available port locations according to the valving, please consult your Poclain Hydraulics Applications Engineer

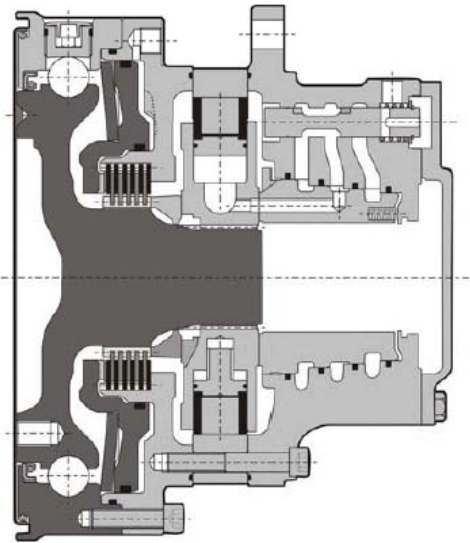
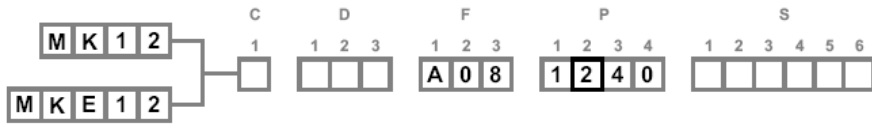


To find the connections' tightening torques, see the brochure "Installation guide" N° 801478197L.



You are strongly advised to use the fluids specified in brochure "Installation guide" N° 801478197L.

Brakes



Brake principle

This is a multidisc brake which is activated by a lack of pressure. The spring exerts a force on the piston, which presses on the fixed and mobile discs, and immobilizes the shaft. The braking torque decreases in linear proportion to the brake release pressure.

Parking brake torque with 0 bars in the housing (new brake)	9 000 N.m	[6 640 lb.ft]
Emergency dynamic braking torque with 0 bars in the housing (gives a maximum of 10 emergency braking operations)	5 850 N.m	[4 310 lb.ft]
Residual parking torque at 0 bars in the housing*	6 750 N.m	[4 980 lb.ft]
Minimum brake release pressure	12 bar	[174 PSI]
Maximum brake release pressure	30 bar	[435 PSI]
Capacity	132 cm ³	[8.1 cu.in]
Brake release capacity	28 cm ³	[1.7 cu.in]
Max. energy dissipation	100 KJ	

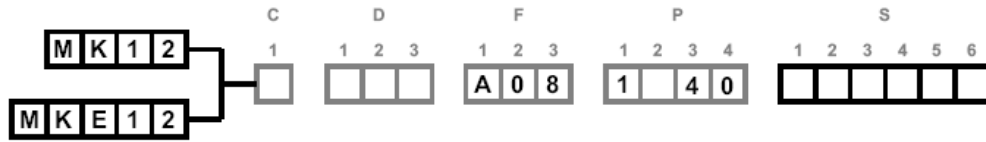
* After being used as emergency brake



The brake is integral to the bearing; refer to the model code (tab opposite).



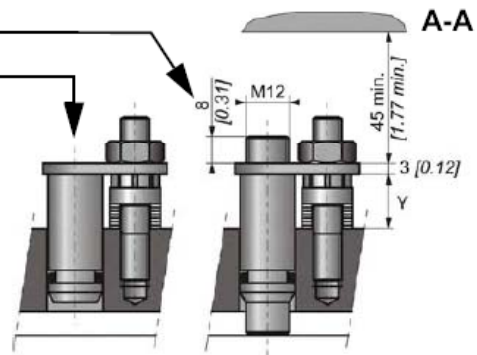
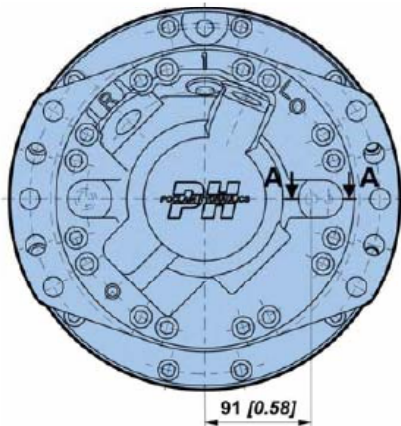
OPTIONS



You can accumulate more than one optional part. Consult your Poclair Hydraulics sales engineer.

2 - S - 8 - Installed speed sensor or predisposition

Designation	
T4 Speed sensor installed	2
TR Speed sensor installed (direction of rotation)	S
Predisposition for speed sensor	8



Max. length Y = 21
Standard number of pulses per revolution = 53



Look at the "Mobile Electronic" N° A01889D technical catalogue for the sensor specifications and its connection.

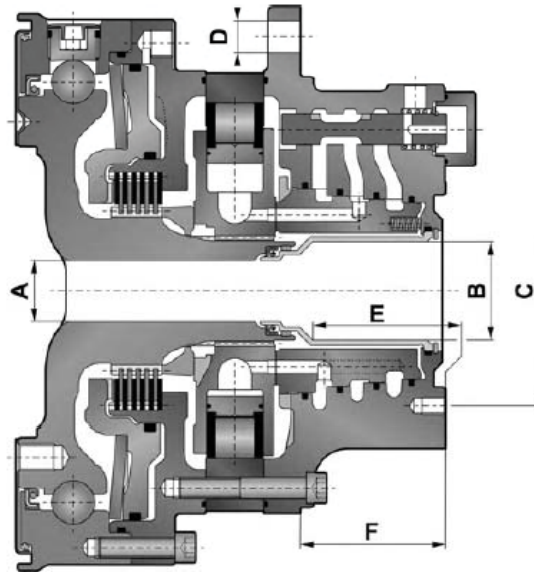


To install the sensor, see the "Installation guide" brochure No. 801478197L.

7 - Diamond™

Special treatment of the motor core which considerably increases its strength, making the motor much more tolerant to temporary instances of the operating conditions being exceeded.

A - Hallow shaft



	A mm [in]	B mm [in]	C mm [in]	D mm [in]	E mm [in]	F mm [in]
1 Displacement	Ø 36,0 [1,42 dia.]	Ø 58,0 [2,28 dia.]	4 M10 x 1.5 Ø 140,0 [5,51 dia.]	Ø 18,5 [0,73 dia.]	69,0 [2,72]	76,9 [3,03]
2 Displacement	Ø 36,0 [1,42 dia.]	Ø 58,0 [2,28 dia.]	4 M10 x 1.5 Ø 140,0 [5,51 dia.]	Ø 18,5 [0,73 dia.]	78,0 [3,07]	85,6 [3,37]

H - High efficiency

Reinforced piston sealing to improve volumetric efficiency.



For a precise calculation, consult your Poclain Hydraulics application engineer.