

MK23 MKE23

COMPACT MOTORS

TECHNICAL CATALOG

POCLAIN HYDRAULICS

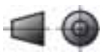
Poclain

Methodology :
This document is intended for manufacturers of machines that incorporate Poclain Hydraulics products. It describes the technical characteristics of Poclain 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 Poclain-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) 

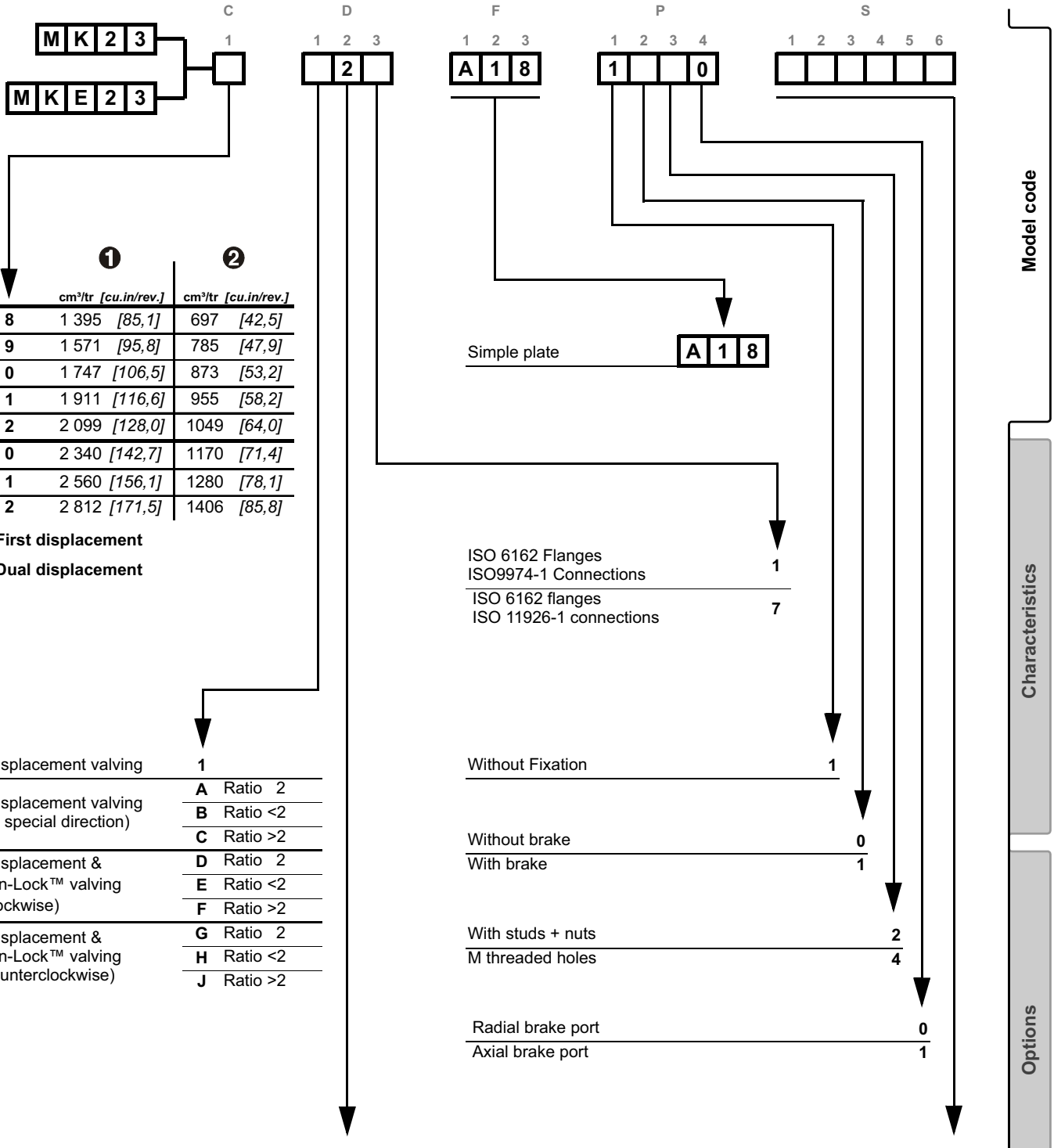
CONTENT

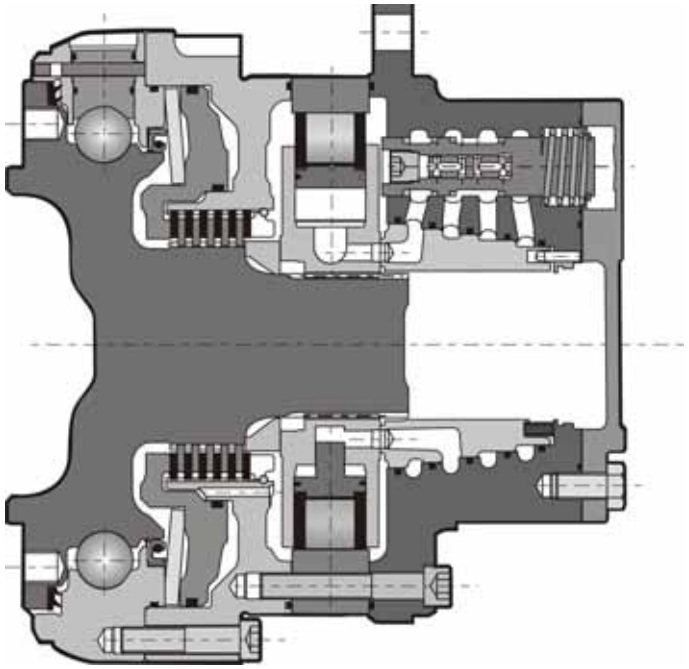
MODEL CODE **5**

CHARACTERISTICS **7**
Dimensions for standard 1-displacement motor 7
Dimensions for standard 2-displacement motor 7
Dimensions of symmetrical 2-displacement valving cover standard motor 8
Rotating fastening screw 8
Efficiency 10
Chassis mounting 11
Hydraulic connections 12
Brakes 13
Brake principle 13

OPTIONS **15**

MODEL CODE


C
D
F
P
S
1
1 2 3
1 2 3
1 2 3 4
1 2 3 4 5 6
M K 2 3
M K E 2 3
2
A 1 8
1 0
❶
❷
cm³/tr [cu.in/rev.]
cm³/tr [cu.in/rev.]
MK23
8 1 395 [85,1] 697 [42,5]
9 1 571 [95,8] 785 [47,9]
0 1 747 [106,5] 873 [53,2]
1 1 911 [116,6] 955 [58,2]
2 2 099 [128,0] 1049 [64,0]
MKE23
0 2 340 [142,7] 1170 [71,4]
1 2 560 [156,1] 1280 [78,1]
2 2 812 [171,5] 1406 [85,8]
❶ First displacement
❷ Dual displacement
Simple plate A 1 8
ISO 6162 Flanges ISO9974-1 Connections 1
ISO 6162 flanges ISO 11926-1 connections 7
1-displacement valving 1
2-displacement valving (No special direction)
A Ratio 2
B Ratio <2
C Ratio >2
2-displacement & Twin-Lock™ valving (Clockwise)
D Ratio 2
E Ratio <2
F Ratio >2
2-displacement & Twin-Lock™ valving (Counterclockwise)
G Ratio 2
H Ratio <2
J Ratio >2
Without Fixation 1
Without brake 0
With brake 1
With studs + nuts 2
M threaded holes 4
Radial brake port 0
Axial brake port 1
Lug fixing 2
Without Options or Adaptations 0
T4 Speed sensor installed 2
Drainage 5
Diamond™ 7
Predisposition for speed sensor 8
Hollow shaft A
TR Speed sensor installed S



Motor Inertia **0.5 kg.m²**

		❶ cm³/tr [cu.in/rev.]	❷ cm³/tr [cu.in/rev.]	Theoretical torque ❶ at 100 bar Nm	at 1000 PSI [lb.ft]	❶ kW [HP]	Max.power ❷ preferred kW [HP]	❷ non-preferred kW [HP]	Max. speed ❶ tr/min	❷ [RPM]	Max. pressure bar [PSI]
MK23	8	1 395 [85,1]	697 [42,5]	2 218	[1 128]	70 [94]	47 [63]	35 [47]	65	65	450 [6 530]
	9	1 571 [95,8]	785 [47,9]	2 498	[1 270]						
	0	1 747 [106,5]	873 [53,2]	2 778	[1 413]						
	1	1 911 [116,6]	955 [58,2]	3 038	[1 545]						
	2	2 099 [128,0]	1049 [64,0]	3 337	[1 697]						
MKE23	0	2 340 [142,7]	1170 [71,4]	3 721	[1 892]	70 [94]	47 [63]	35 [47]	65	65	400 [5 800]
	1	2 560 [156,1]	1280 [78,1]	4 070	[2 070]						
	2	2 812 [171,5]	1406 [85,8]	4 471	[2 274]						

❶ **First displacement**

❷ **Second displacement**

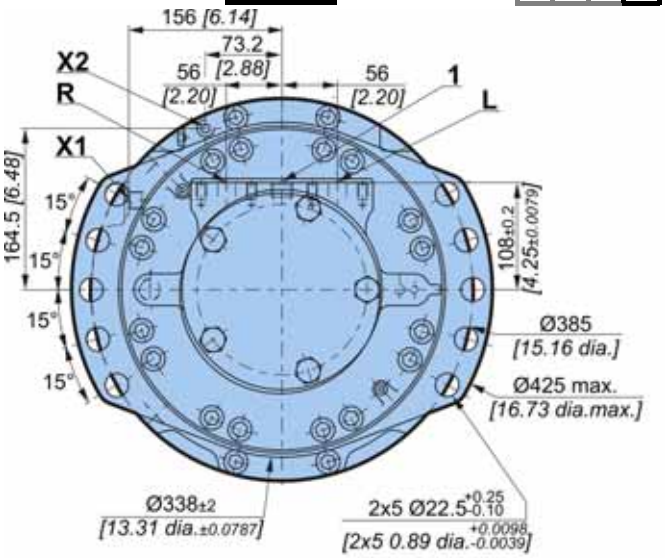
CHARACTERISTICS

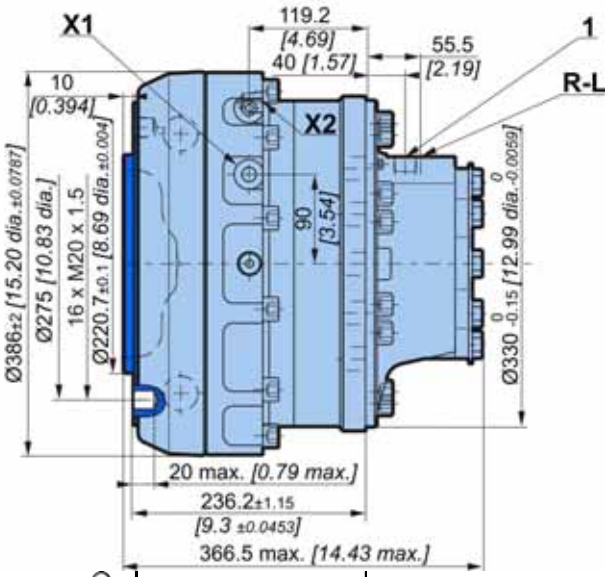
	C	D	F	P	S
MK23	1	1 2 3	1 2 3	1 2 3 4	1 2 3 4 5 6
MKE23					

Dimensions for standard 1-displacement motor

	124 kg *[273 lb]*	128 kg *[282 lb]*
	2,00 L *[120 cu.in]*	2,00 L *[120 cu.in]*

D	P	1	2	3	4
1 2 3	X1	1		4	0
1 2	X2	1		4	1

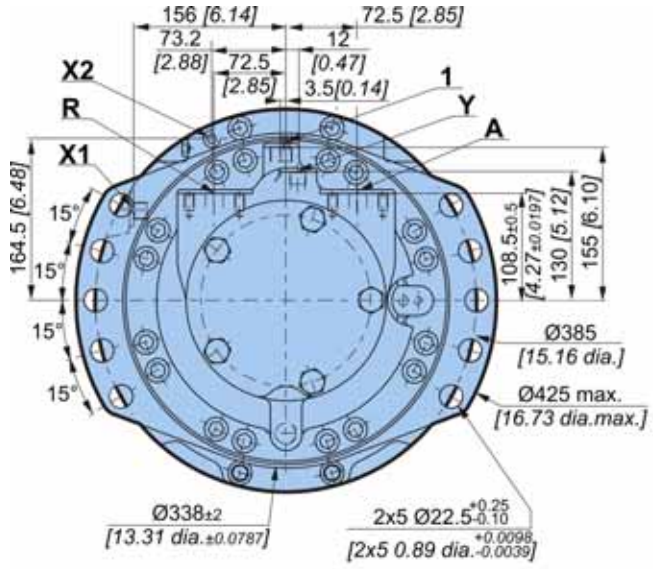


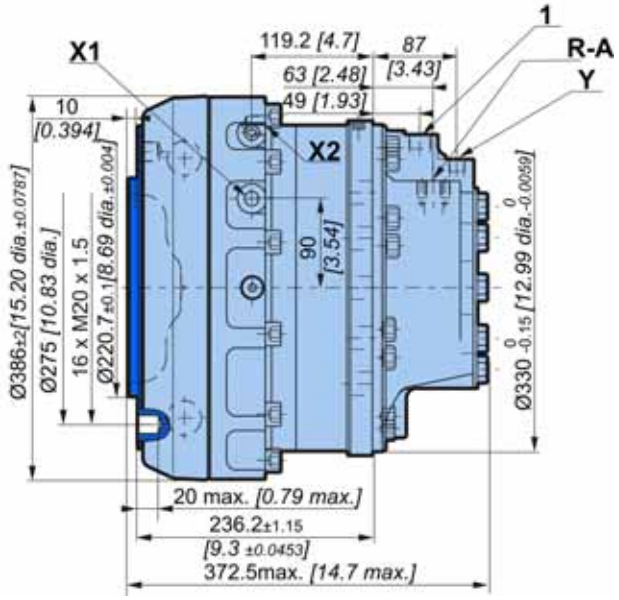


Dimensions for standard 2-displacement motor

	134 kg *[295 lb]*	138 kg *[304 lb]*
	2,00 L *[120 cu.in]*	2,00 L *[120 cu.in]*

D	P	1	2	3	4
1 2 3	X1	1		4	0
2	X2	1		4	1





Dimensions of symmetrical 2-displacement valving cover standard motor

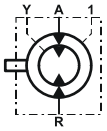
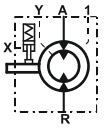
For a small displacement, there is no preferred orientation for this motor.

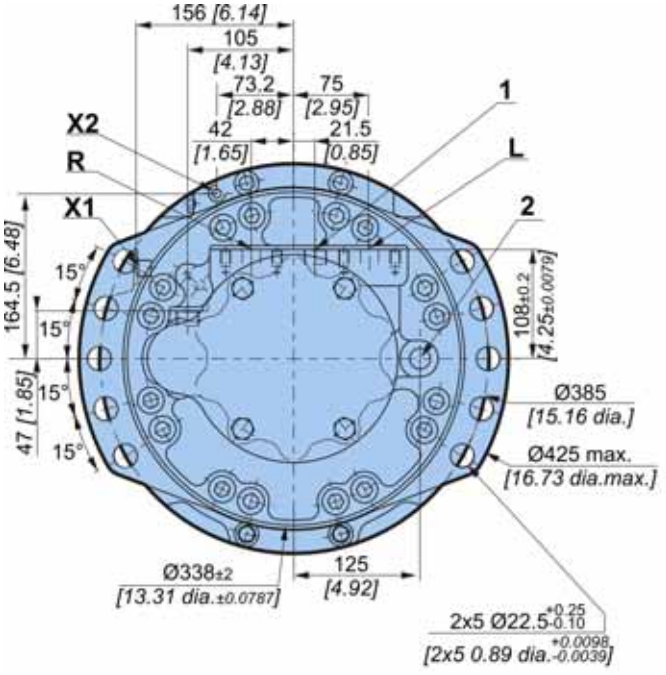
D

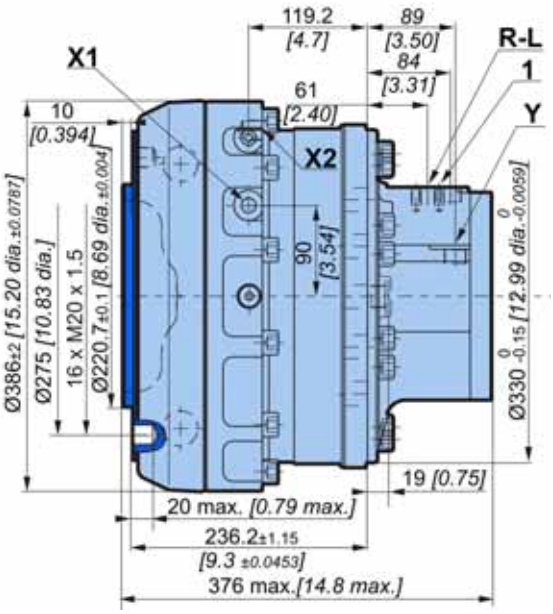
1	2	3
A	2	

P

	1	2	3	4
X1	1		4	0
X2	1		4	1

	136 kg *[299 lb]*	140 kg *[308 lb]*
	2,00 L *[120 cu.in]*	2,00 L *[120 cu.in]*
		





Rotating fastening screw

	Classe	N.m	*[lb.ft]*
16 x M20 x 1.5	10,9	690	*[509]*

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

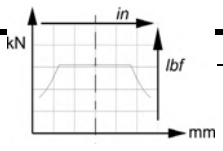
Load curves

Permissible radial loads

Test conditions :

Static : 0 tr/min *[0 RPM]* 0 bar *[0 PSI]*

Dynamic : 0 tr/min *[0 RPM]*, code 0 displacement, without axial load at max. torque



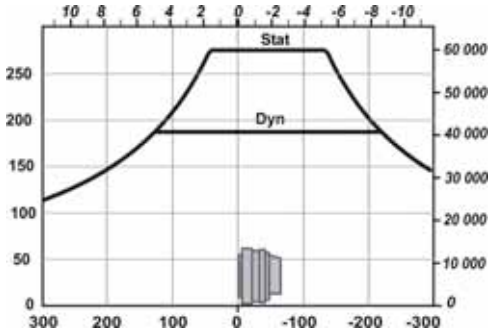
Service life of bearings

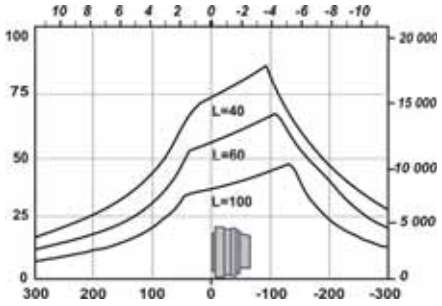
Test conditions :

L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

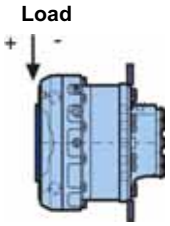
1	0	4	0
1	1	4	0
1	2	3	4

P





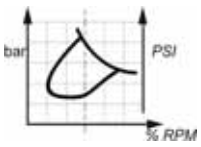
The service life of the components is influenced by the pressure.You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components complies with the application's specifications. For an accurate calculation, consult your Poclain Hydraulics application engineer.

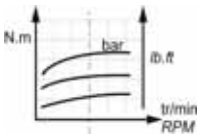


Efficiency

Overall efficiency

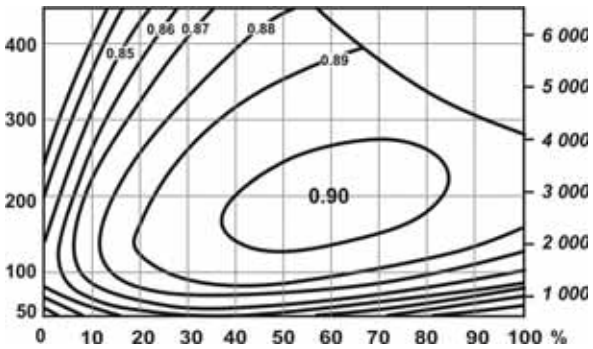
Average values given for guidance for code 0 displacement after 100 hours of operation with HV46 hydraulic fluid at 50°C *[122°F]*.

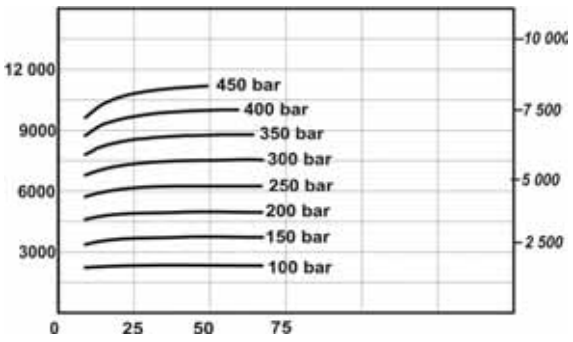




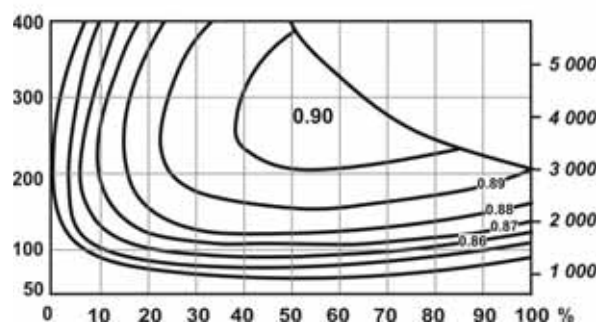
Actual output torque

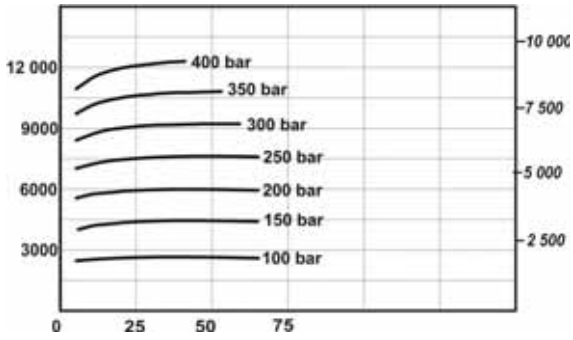
MK23





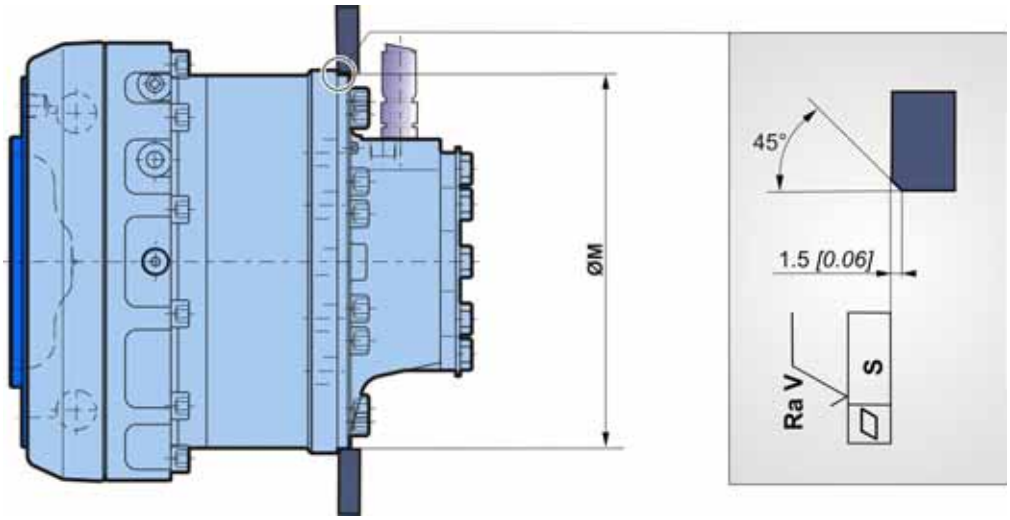
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The starting torque is taken to be approximately 85% of the first value for available pressure. For a precise calculation, consult your Poclain Hydraulics application engineer.

Chassis mounting

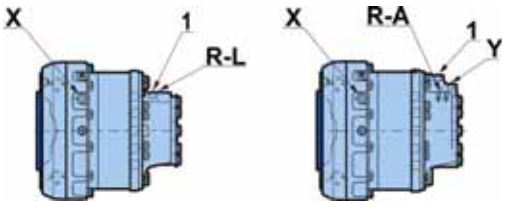


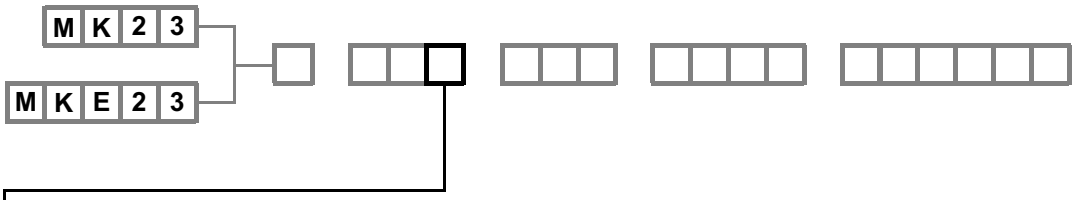
Take care over the immediate environment of the connections.

ØM (1) mm *[in]*	**S** mm *[in]*	**Ra V** µm *[µin]*		**Class of screw**	N.m *[lb.ft]*
330 *[12,99]*	0,2 *[0,01]*	12,5 *[0,49]*	2 x 5 x M20 x 2.5	8,8	410 *[302]*

Hydraulic connections

connections



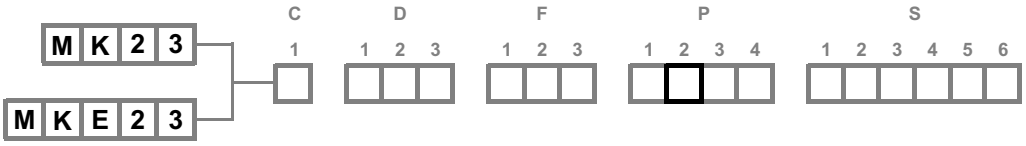


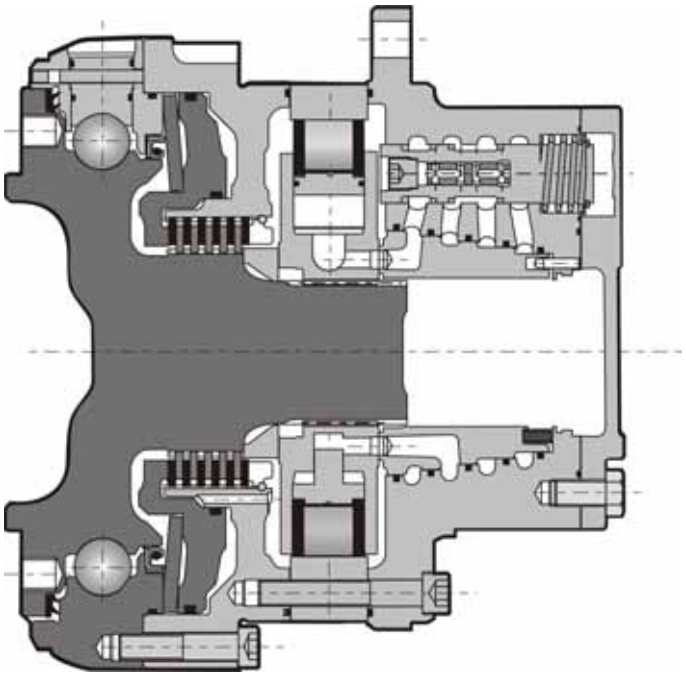
	Old standards	Standards	Power supply R, L, A	2nd displacement control Y	Drainage 1,2	Control of brake X
1	ISO 6 162 DIN 3 852	ISO DP6162 ISO 9 974-1	DN19 PN400	M16 x 1.5	M22 x 1.5	M16 x 1.5
7	DIN 6162 SAEJ514	ISO DP6162 ISO 11926-1	DN19 PN400	3/4" - 16 UNF	7/8" - 14 UNF	3/4" - 16 UNF

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

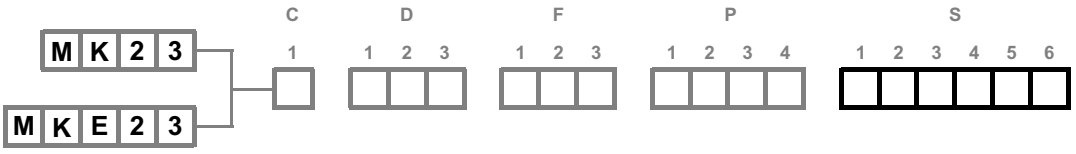
This is a multidisc brake which is activated by a lack of pressure. The spring exerts a force on the piston, which resses on the fixed and mobile discs, and immobilizes the shaft. The braking torque decreases in linear proportion to the brake release pressure.

Parking brake torque with 0 bars in the housing (new brake)	33 000 N.m	*[24 340 lb.ft]*
Emergency dynamic braking torque *with 0 bars in the housing* (gives a maximum of 10 emergency braking operations)	21 450 N.m	*[15 820 lb.ft]*
Residual parking torque *at 0 bars in the housing**	24 750 N.m	*[18 250 lb.ft]*
Minimum brake release pressure	16 bar	*[232 PSI]*
Maximum brake release pressure	30 bar	*[435 PSI]*
Capacity	320 cm³	*[19,5 cu.in]*
Brake release capacity	65 cm³	*[4,0 cu.in]*

* After being used as emergency brake

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

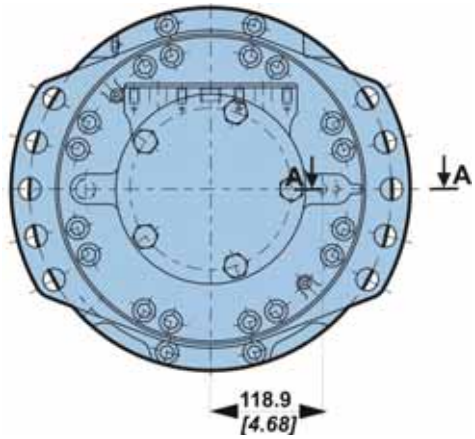
OPTIONS

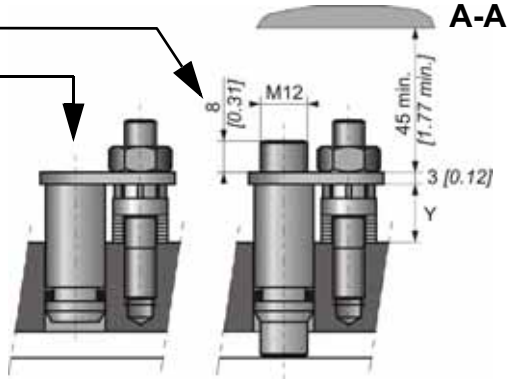


You can accumulate more than one optional part. Consult your Poclain Hydraulics sales engineer.

2 - S - 8 - Installed speed sensor or predisposition

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





Max. length Y= 17.6

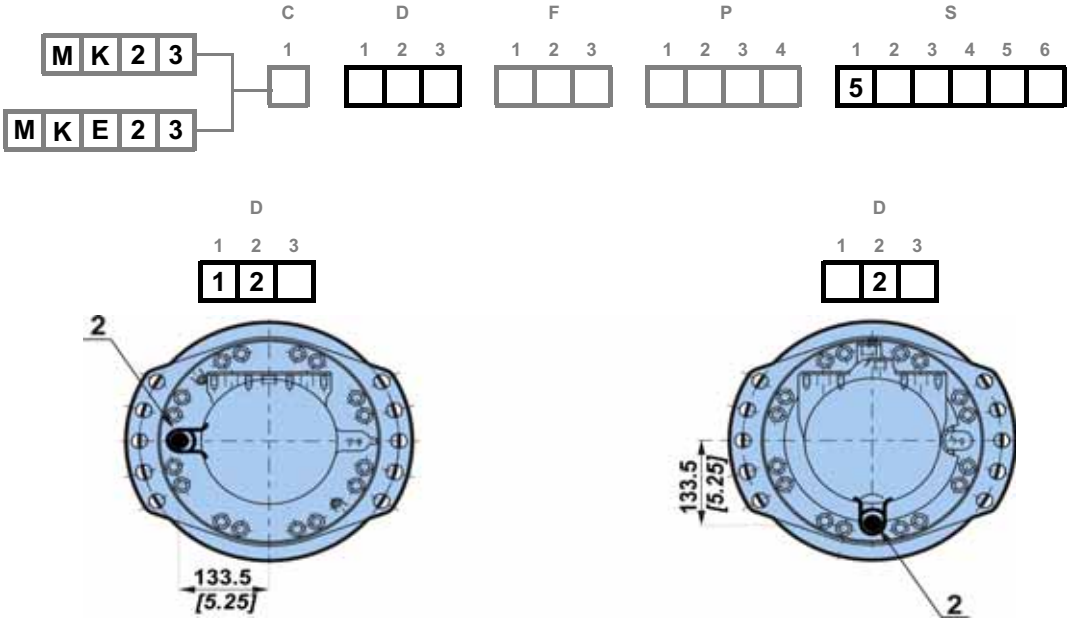
Standard number of pulses per revolution= 60

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.

5 - Drainage

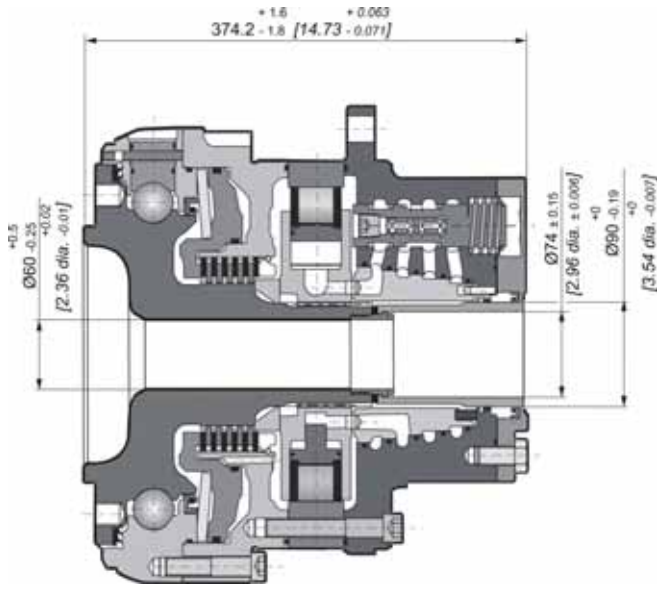
Additional drain in the cover.



7 - Diamond™

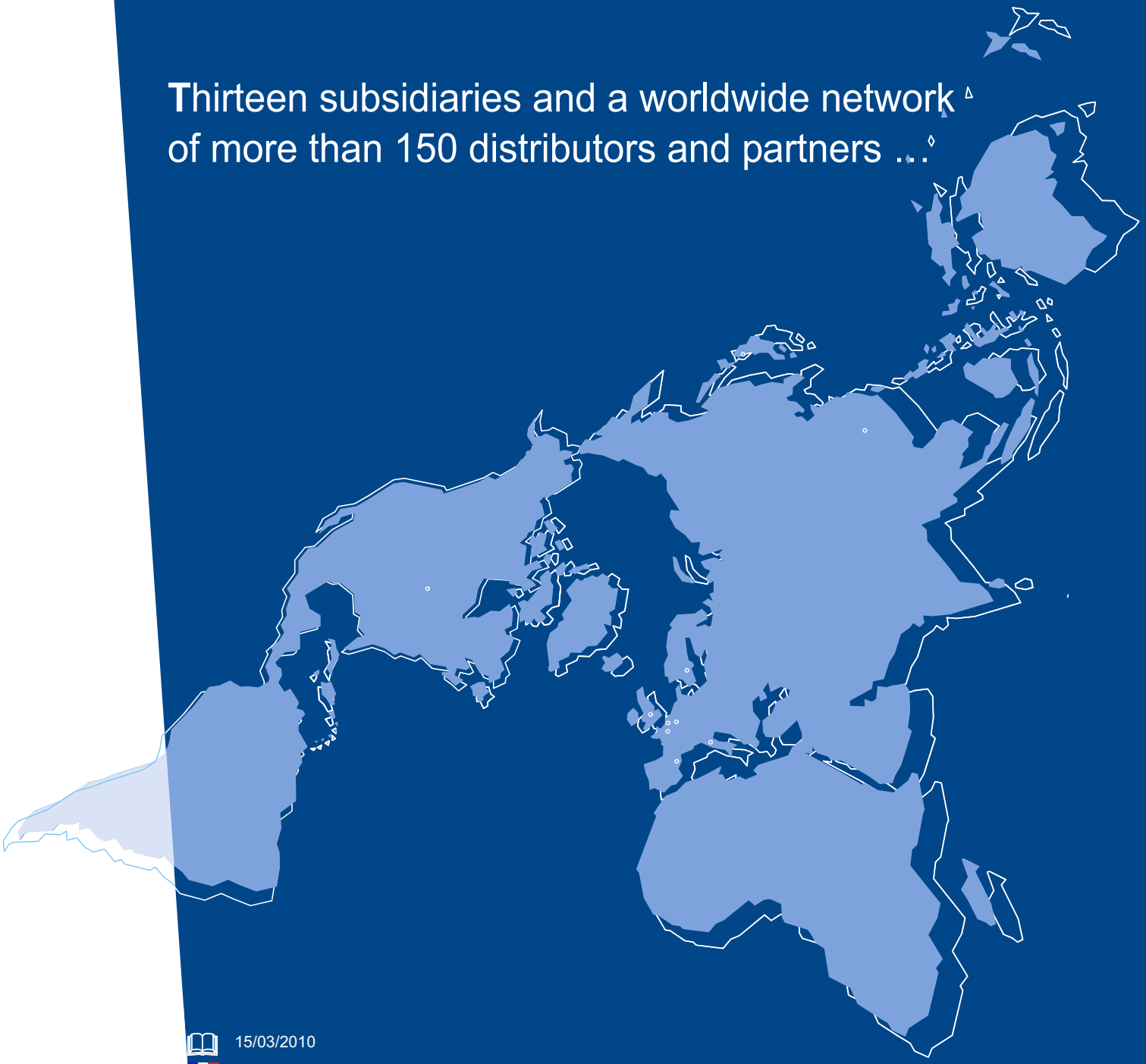
Special treatment of the motor core which considerably increases its strength, making the motor much more tolerant to temporary instances of the operating conditions being exceeded.

A-Hallow shaft





Thirteen subsidiaries and a worldwide network of more than 150 distributors and partners ...



15/03/2010

801 578 142W

801 578 153J

801 578 164V

801 578 175H

801 578 186U

A09220W

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