



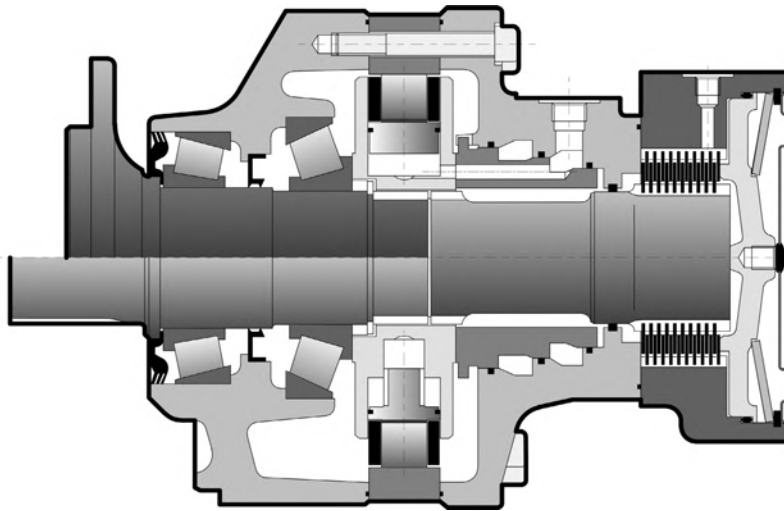
MS05 - MSE05

HYDRAULIC MOTORS










T E C H N I C A L C A T A L O G



CHARACTERISTICS



Motor inertia = 0.03 kg.m²
Noise emissions = 60 dBA

				Theoretical torque		1	Max.power		Max. speed		Max. pressure	
		1	2	1	2		1	2				
		at 100 bar	at 1000 PSI	preferred	non-preferred		tr/min					
		cm³/tr [cu.in./rev.]	cm³/tr [cu.in./rev.]	Nm	[lb.ft]	kW [HP]	kW [HP]	kW [HP]	tr/min [RPM]		bar [PSI]	
Cams with equal lobes	MS05	6	260 [15.9]	130 [7.9]	413	[210]	29 [39]	19 [25]	15 [20]		265	450 [6 530]
		8	376 [22.9]	188 [11.5]	598	[304]					250	
		0	468 [28.5]	234 [14.3]	744	[378]					240	
		1	514 [31.3]	257 [15.7]	817	[416]					220	
		2	560 [34.2]	280 [17.1]	890	[453]					200	
	MSE05	8	530 [32.3]	265 [16.2]	843	[429]	29 [39]	19 [25]	15 [20]		200	400 [5 800]
		0	625 [38.1]	312.5 [19.1]	994	[505]					190	
		1	688 [42.0]	344 [21.0]	1094	[556]					175	
		2	750 [45.7]	375 [22.9]	1193	[606]					160	
		3	820 [50.0]	410 [25.0]	1304	[663]					145	
Cams with unequal lobes	MS05	D	419 [25.6] 	280 [17.1] 138 [8.4]	666	[339]	29 [39]	19 [25]	15 [20]		200	450 [6 530]
		N	422 [25.7] 	234 [14.3] 188 [11.5]	671	[341]					240	
		H	445 [27.1] 	257 [15.7] 188 [11.5]	708	[360]					220	
		A	468 [28.5] 	280 [17.1] 188 [11.5]	744	[378]					200	
	MSE05	D	560 [34.2] 	374 [22.8] 185 [11.3]	890	[453]	29 [39]	19 [25]	15 [20]		160	400 [5 800]
		N	564 [34.4] 	313 [19.1] 251 [15.3]	897	[456]					190	
		H	595 [36.3] 	344 [21.0] 251 [15.3]	946	[481]					175	
		A	625 [38.1] 	374 [22.8] 251 [15.3]	994	[505]					160	





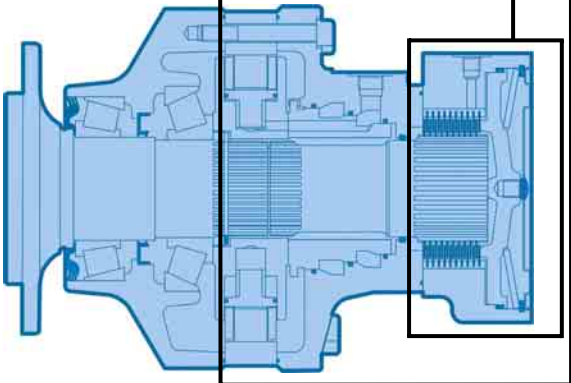
① First displacement

② Second displacement

* See option "M" for higher speed.

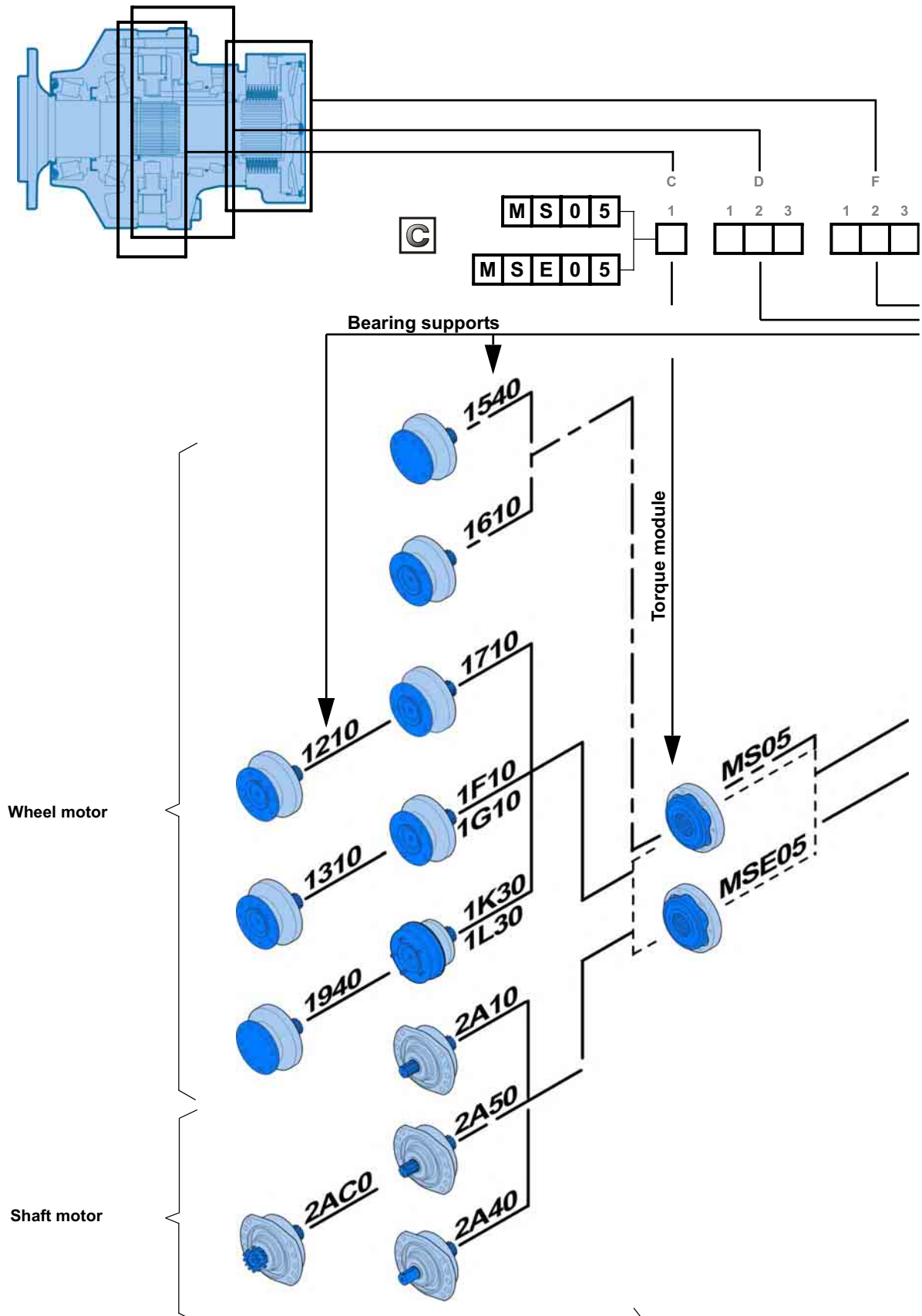


CONTENT

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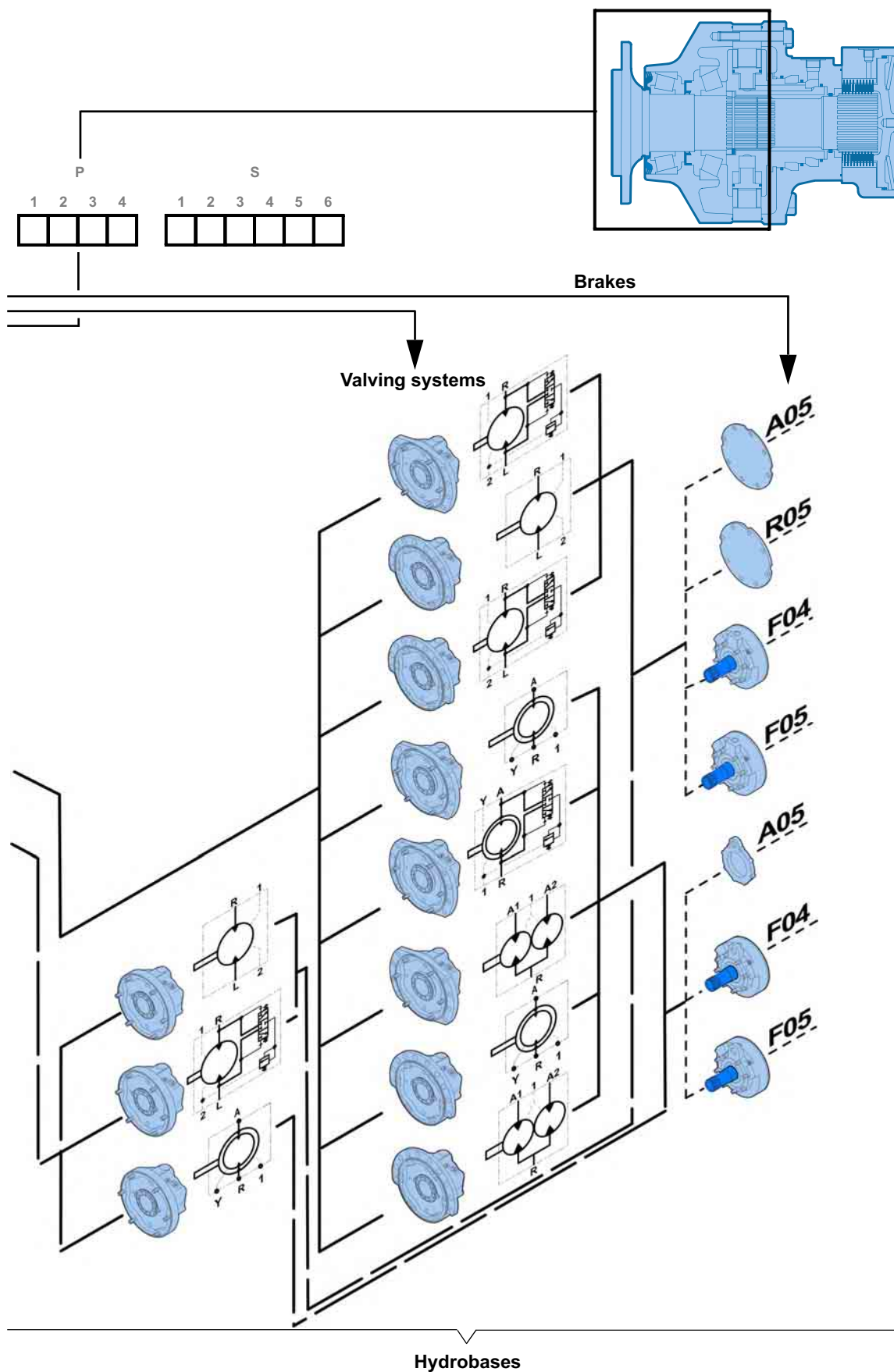


MODUL





ARITY

Modularity and
Model code

Wheel motor

Shaft motor

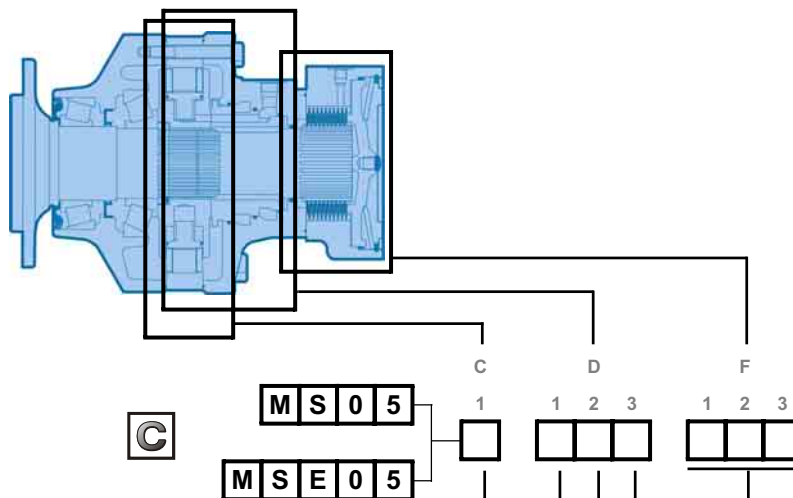
Valving systems
and hydrobases

Brake

Options



MODEL



		①	②
		cm³/tr [cu.in/rev.]	cm³/tr [cu.in/rev.]
Cams with equal lobes	MS05	6 260 [15.9]	130 [7.9]
		8 376 [22.9]	188 [11.5]
		0 468 [28.5]	234 [14.3]
		1 514 [31.3]	257 [15.7]
		2 560 [34.2]	280 [17.1]
	MSE05	8 530 [32.3]	265 [16.2]
		0 625 [38.1]	312.5 [19.1]
		1 688 [42.0]	344 [21.0]
		2 750 [45.7]	375 [22.9]
		3 820 [50.0]	410 [25.0]

Cams with unequal lobes	MS05	D 419 [25.6]	280 [17.1] 138 [8.4]
		N 422 [25.7]	234 [14.3] 188 [11.5]
		H 445 [27.1]	257 [15.7] 188 [11.5]
		A 468 [28.5]	280 [17.1] 188 [11.5]
	MSE05	D 560 [34.2]	374 [22.8] 185 [11.3]
		N 564 [34.4]	313 [19.1] 251 [15.3]
		H 595 [36.3]	344 [21.0] 251 [15.3]
		A 625 [38.1]	374 [22.8] 251 [15.3]

① First displacement
② Dual displacement

1-displacement valving	1
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

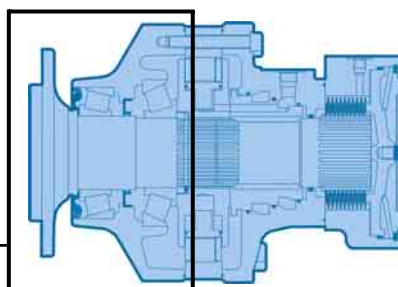
Without mounting	1	4	-
Lug fixing	2	-	E
Horseshoe fixing	3	6	F
	1 Displacement	Exchange	Twin-Lock™
	2 Displacement		

ISO 11926-1 connection	A
ISO 1179-1 connection	3
ISO 9974-1 connection	4
ISO 6419.1 connection	8

Without brake (simple plate)	A 0 5
Brake	F 0 4
Without brake (reinforced plate)	F 0 5
	R 0 5



CODE



0	Without bearing support
1	Without mounting
2	Lug mounting

Without shaft	0
10 x Ø18 on Ø140	2
5+3 x Ø18 on Ø140	3
10 x M12 on Ø100	5
5 x Ø18 on Ø140	6
6 x Ø20 on Ø205	7
10 x M12 on Ø100	9
Support without drum brake	F
	G
Drum brake (250 x 60)	K
	L
For male shaft bearing support	A

Without studs	1
With studs + nuts	2
With studs	3
M threaded holes	4

Male shafts

NF E 22141 splines	1
Cylindrical with key	4
DIN 5480 splines	5
Dual sprocket for chain	C

Without cable	7	10 x Ø18 on Ø140
Right-hand cable outlet	8	
Left-hand cable outlet	9	6 x Ø28 on Ø205 For drum brake (250 x 60)
Without cable	A	
Right-hand cable outlet	B	
Left-hand cable outlet	C	

Without Options or Adaptations	0
Fluorinated elastomer seals	1
Speed sensor with connector	2
Brake environmental cover without plug	3
Drainage	5
Industrial bearing support	6
Diamond™	7
Predisposition for speed sensor	8
Hollow shaft	A
Drain on the bearing support	B
Abrasive environment	C
Special paint or no paint	D
Reinforced sealing	E
Special wheel rim mounting	G
High efficiency	H
Reinforced bearing stop	J
Reinforced shaft	K
High speed	M
Speed sensor with cable	Q
Soft Shift™	T

Modularity and
Model code

Wheel motor

Shaft motor

Valving systems
and hydrobases

Brake

Options

**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:

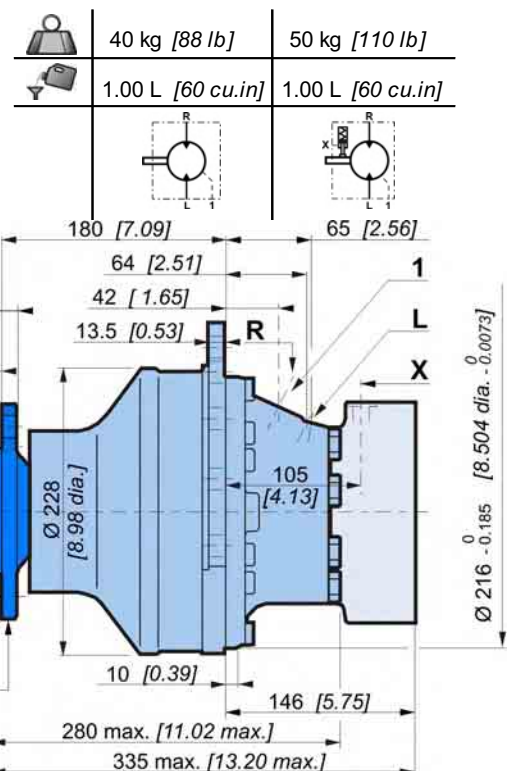
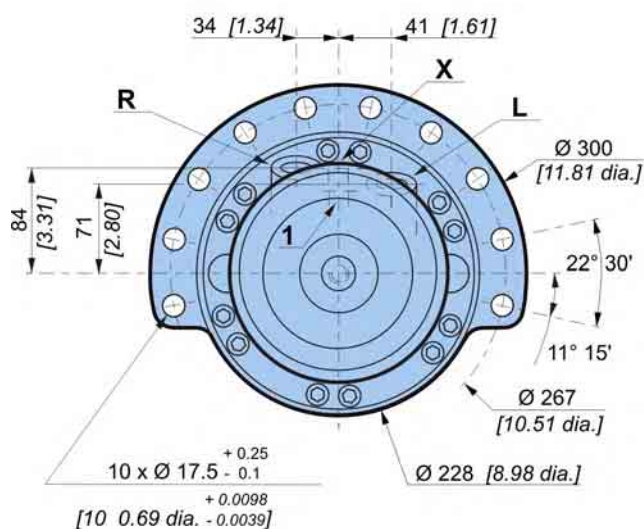
**Safety comment.**

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.****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.

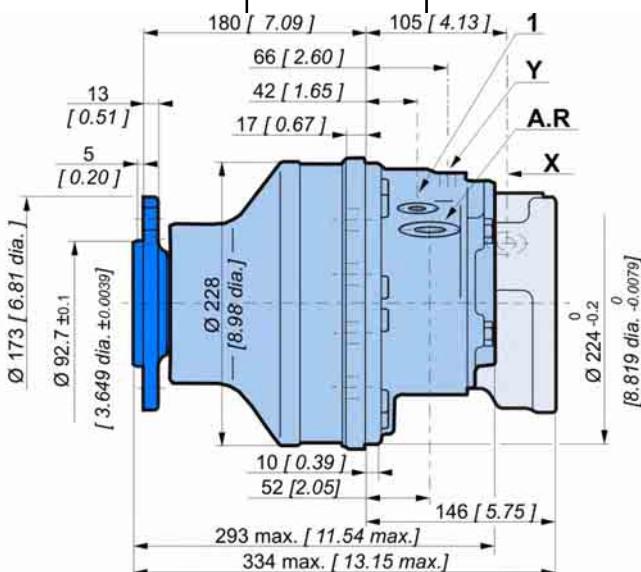
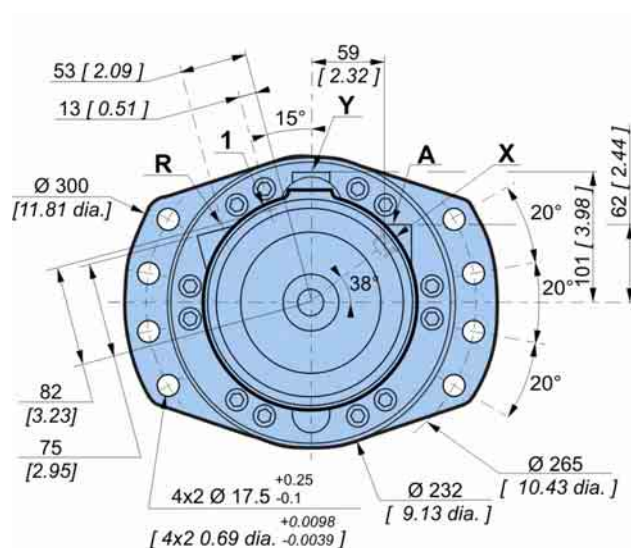
The dimensional data is given in mm and in inches (inches are between brackets and italic)

**Dimensions for standard (1210) 1-displacement motor**

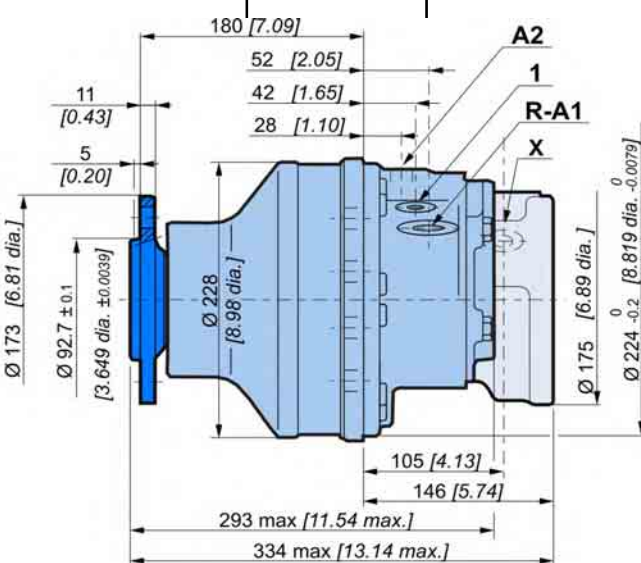
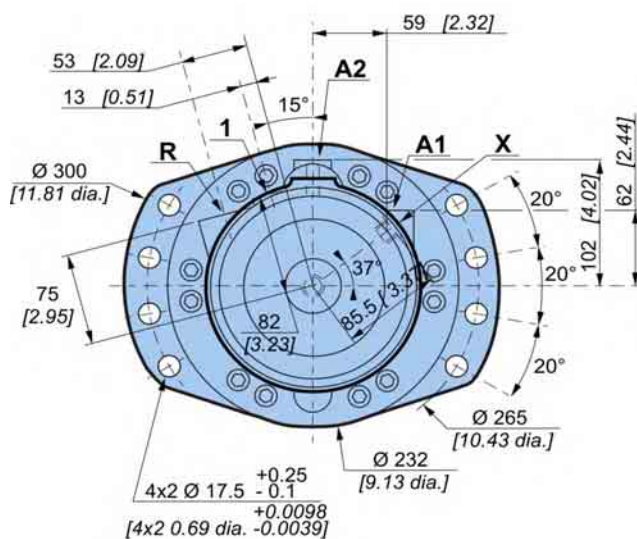


WHEEL MOTOR

Dimensions for standard (1210) 2-displacement motor



Dimensions for standard (1210) Twin-Lock™



Also see 'Valving systems and hydrobases' section (thumbnail opposite).

Modularity and
Model code

Wheel motor

Shaft motor

Valving systems
and hydrobases

Brake

Options



Support types

	C				D			F				P				S					
	1				1 2 3			1 2 3			1 2 3 4				1 2 3 4 5 6						
	M S 0 5																				
	M S E 0 5																				
	A	B	C	D	E	N	Wheel rim mountings	L													
	mm [in]	mm [in]	mm [in]	mm [in]	mm [in]	mm [in]		mm [in]													
1 2 1 0	Ø 92.7 [3.65 dia.]	Ø 140 [5.51 dia.]	Ø 170 [6.69 dia.]	178.6 [7.03]	Ø 228 [8.98 dia.]	Ø 18 [0.71 dia.]	10 x M14x1.5	11 [0.43]													
P																					
1 7 1 0	Ø 160.7 [6.33 dia.]	Ø 205 [8.07 dia.]	Ø 245 [9.65 dia.]	178.5 [7.03]	Ø 228 [8.98 dia.]	Ø 20 [0.79 dia.]	6 x M18x1.5	14 [0.55]													
P																					
1 3 1 0	Ø 95.7 [3.77 dia.]	Ø 140 [5.51 dia.]	Ø 180 [7.09 dia.]	145.4 [5.72]	Ø 228 [8.98 dia.]	Ø 18 [0.71 dia.]	5 x M14x1.5	10.5 [0.41]													
P																					
1 6 1 0	Ø 92.7 [3.65 dia.]	Ø 140 [5.51 dia.]	Ø 180 [7.09 dia.]	145.4 [5.72]	Ø 228 [8.98 dia.]	Ø 18 [0.71 dia.]	5 x M14x1.5	10.5 [0.41]													
P																					
1 5 4 0	-	Ø 100 [3.94 dia.]	Ø 120 h7 [4.72 dia.]	145.4 [5.72]	Ø 228 [8.98 dia.]	10 x M12x1.75	-	11.3 [0.44]													
P																					
1 9 4 0	-	Ø 100 [3.94 dia.]	Ø 120 h7 [4.72 dia.]	178.7 [7.04]	Ø 228 [8.98 dia.]	10 x M12x1.75	-	11.25 [0.44]													
P																					
1 K 3 0	Ø 92.7 [3.65 dia.]	Ø 140 [5.51 dia.]	Ø 276 [10.87 dia.]	209 [8.23]			10 x M14x1.5	30 [1.18]													
1 L 3 0	Ø 160.7 [6.33 dia.]	Ø 205 [8.07 dia.]	Ø 276 [10.87 dia.]	209 [8.23]			6 x M18x1.5	35 [1.38]													
P																					
	Also see 'Brakes' section (thumbnail opposite).																				
1 G 1 0	Ø 92.7 [3.65 dia.]	Ø 140 [5.51 dia.]	Ø 170 [6.69 dia.]	201.2 [7.92]	Ø 228 [8.98 dia.]	Ø 18 [0.71 dia.]	10 x M14x1.5	-													
F																					
1 F 1 0	Ø 160.7 [6.33 dia.]	Ø 205 [8.07 dia.]	Ø 245 [9.65 dia.]	201.2 [7.92]	Ø 228 [8.98 dia.]	Ø 20 [0.79 dia.]	6 x M18x1.5	-													
F																					



The supports in gray must not be assembled with an MSE hydrobase.

Studs

		P mm [in]	C min. mm [in]	C max. mm [in]	D mm [in]	Class		(1) N.m [lb.ft]		(2) N.m [lb.ft]
Various studs	M14x1.5	45 [1.77]	5 [0.20]	18 [0.71]	16.5 [0.65]		12.9	200 [147.5]		250 [184.4]
	M14x1.5	50 [1.97]		23 [0.91]						
	M14x1.5	62 [2.44]		33 [1.30]						
	M18x1.5	65 [2.56]		28 [1.10]	23.0 [0.91]			420 [309.8]		550 [405.7]
Screws	M12x1.75	-	-	-	-	-	10.9	120 [88.5]	-	120 [88.5]
	1/2"-20 UNF	-	-	-	-	-	8.8		-	

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

(1) **Wheel rim** : Suggested tightening torque for wheel rim mountings (Re steel disc > 240 N/mm² [>34 800 PSI]).

(2) **Standard** : Suggested tightening torque in other cases (Re steel flange 360 > N/mm² [>52 215 PSI]).



See generic installation motors N°801478197L.



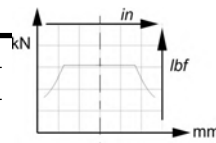
Load curves

Permissible radial loads

Test conditions :

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

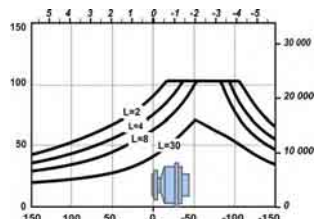
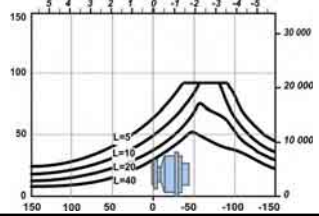
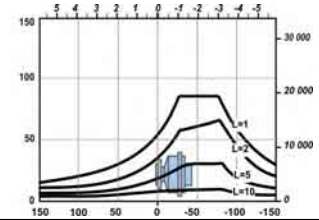
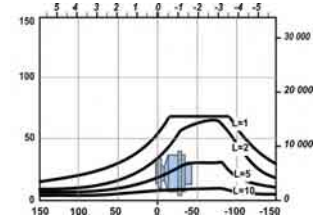
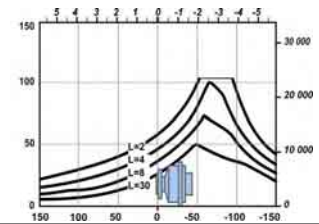
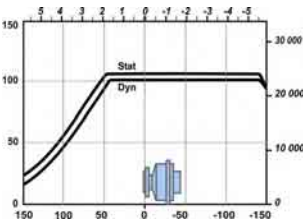
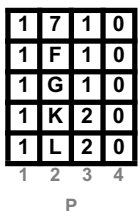
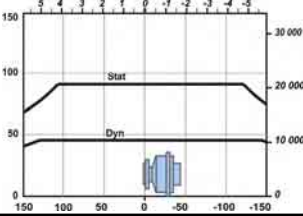
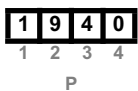
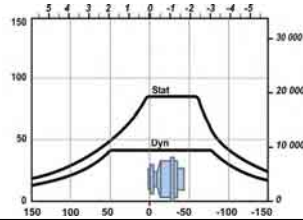
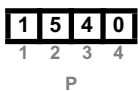
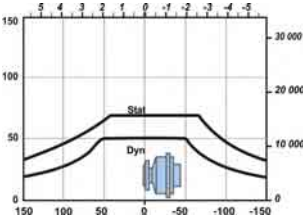
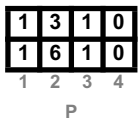
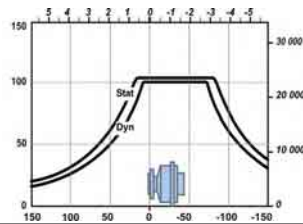
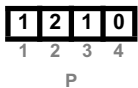
Dynamic : 0 tr/min [0 RPM], code 0 displacement, without axial load at max. torque



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.



Modularity and
Model code

Wheel motor

Shaft motor

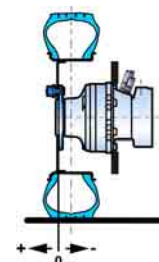
Valving systems
and hydrobases

Brake

Options



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.

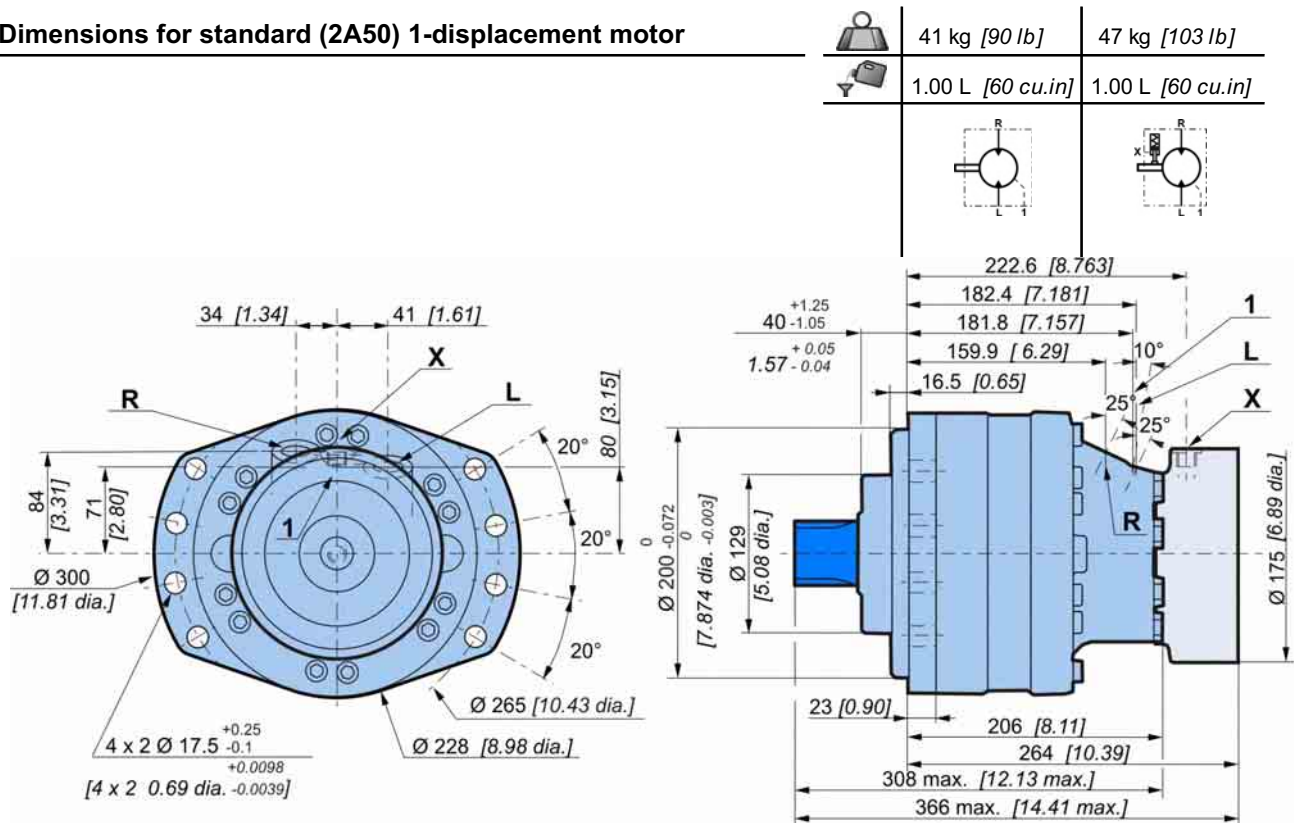




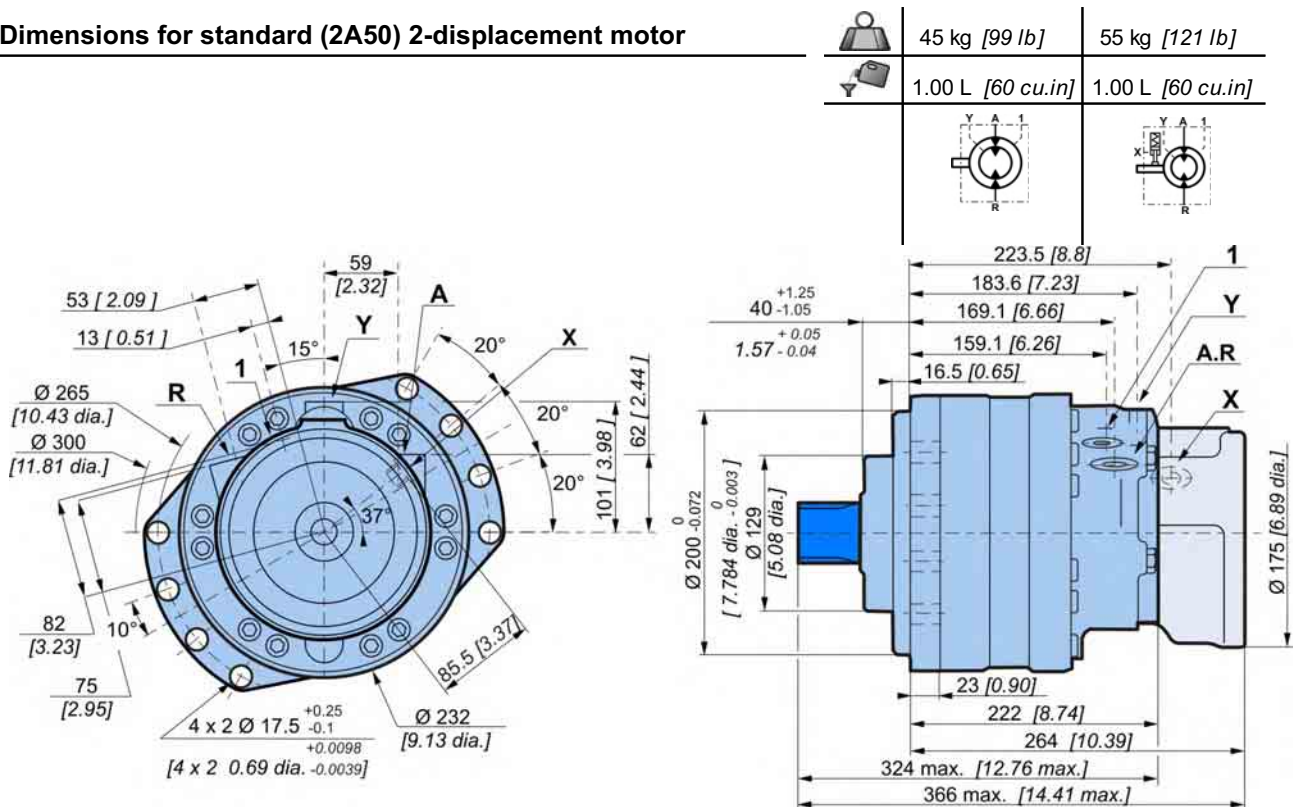


SHAFT MOTOR

Dimensions for standard (2A50) 1-displacement motor



Dimensions for standard (2A50) 2-displacement motor


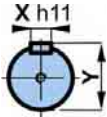
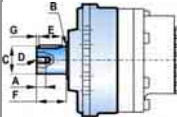
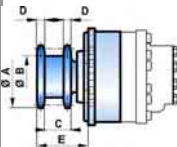


Also see 'Valving systems and hydrobases' section (thumbnail opposite).



Support types

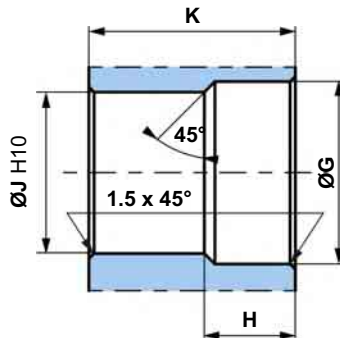


				A	B	C	D	E	F	G		
DIN 5480 splines												
2	A	5	0	Nominal Ø	55 [2.17]	15 [0.59]	R 2.3 [R 0.09]	23.8 [0.94]	2 x M10	23 [0.91]	60 [2.36]	-
1	2	3	4	Module	3							
P				Z	17							
NF E22-141 splines												
2	A	1	0	Nominal Ø	50 [1.97]	15 [0.59]	R 2.3 [R 0.09]	23.8 [0.94]	2 x M10	20 [0.79]	54 [2.13]	-
1	2	3	4	Module	1.667							
P				Z	28							
DIN 6885 Key												
2	A	4	0	X 14 [0.551]	25 [0.98]	R 2 [0.08 R.]	Ø 49.99 [1.97dia.]	M12	71.5 [2.81]	82 [3.23]	5 [0.20]	
1	2	3	4	Y 52.5 max. [2.07] max								
P												
ANSI B29-1 or ISO 606 pinion												
2	A	C	0	Chain no.	100	158.2 [6.23]	106 [1.97]	49 [1.91]	17.6 [0.69]	117 [4.61]	-	-
1	2	3	4	Z	12							
P				Pitch	31.75							
				Pitch Ø	122.7 [4.83]							



Also see 'Valving systems and hydrobases' section (thumbnail opposite).

Splined coupling



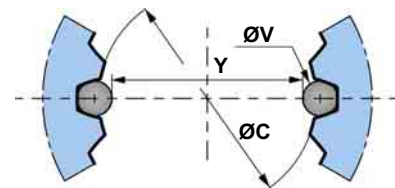
N : Nominal Ø.
Mo : Module.
Z : Number of teeth.

Standard DIN 5480

Pressure angle 30°.
Centering on flanks.
Slide adjustment (7H quality).

Standard NF E 22-141

Pressure angle 20°.
Centering on flanks.
Slide adjustment (7H quality).



C	Ø G	H	Ø J	K	N	Mo	Z	Offset	Ø C (H10)	Ø V	Y	Tolerance µm [µin]
2	A	1	0									
1	2	3	4									
P												
2	A	5	0									
1	2	3	4									
P												

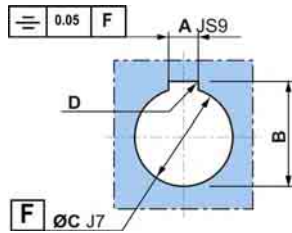
General tolerances : ± 0.25 [±0.0098].

Material : 35CD4 [4135].

Hardening treatment to obtain R = 800 to 900 N/mm² [R = 116 to 130 PSI].



Cylindrical keyed coupling



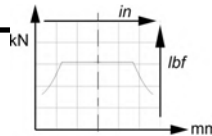
C				A	B	Ø C	D
2	A	4	0	14 ±0.021 [0.55] [±0.0008]	53 0 [2.07] + 0.007 0	50 [1.97]	0,5 [0.02]
1	2	3	4	P			

Torque limitation : 2 200 N.m [1 625 lb.ft]

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

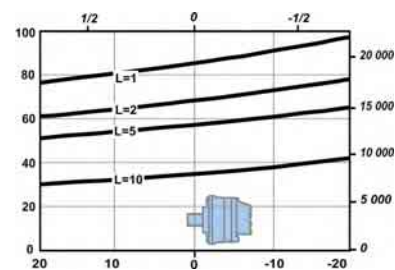
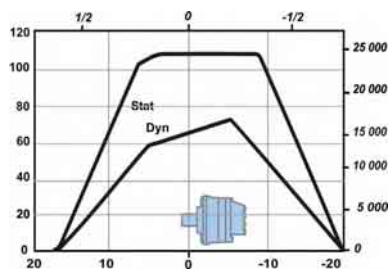
Service life of bearings

Test conditions :

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

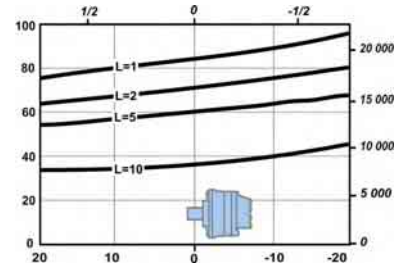
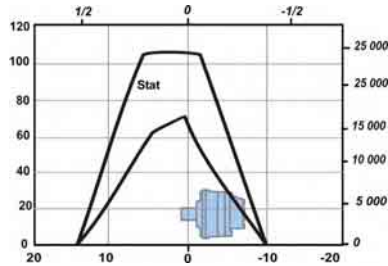
2	A	5	0
1	2	3	4

P



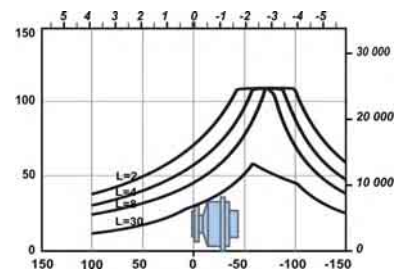
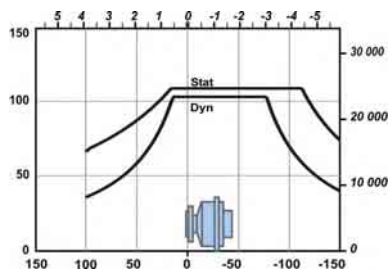
2	A	1	0
2	A	4	0
1	2	3	4

P

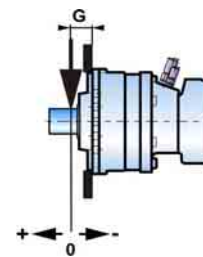


2	A	C	0
1	2	3	4

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.



C				G
2	A	1	0	77.25 [3.04]
2	A	5	0	81.75 [3.22]
2	A	C	0	61.45 [2.42]

Modularity and
Model code

Wheel motor

Shaft motor

Valving systems
and hydrobases

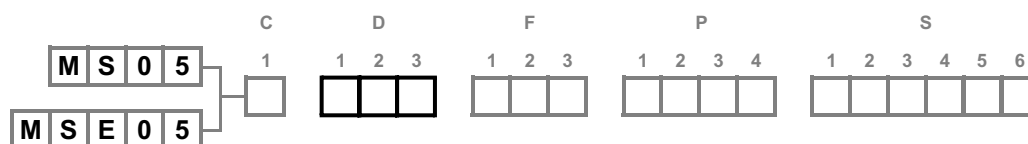
Brake

Options





VALVING SYSTEMS AND HYDROBASES



Dimensions for 1-displacement valving

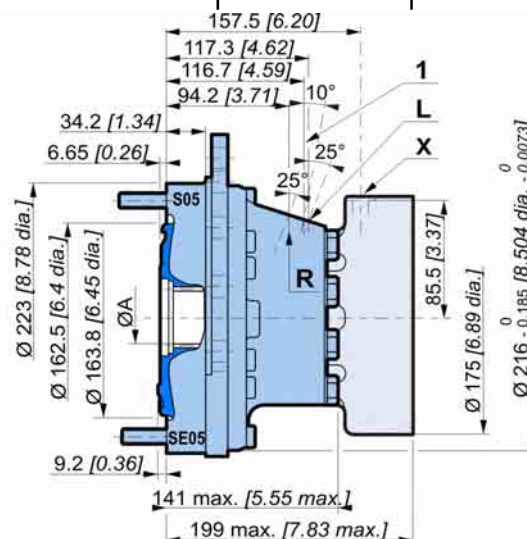
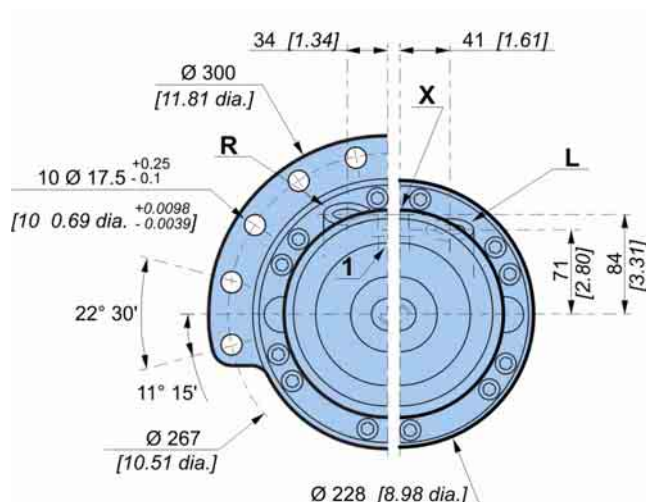
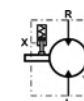
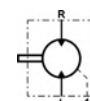
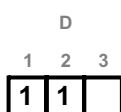
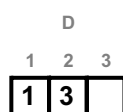


23.7 kg [52 lb]

31.7 kg [70 lb]

0.50 L [30 cu.in]

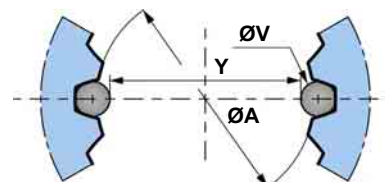
1.00 L [60 cu.in]



Cylinder block splines

(as per standard NF E22-141)

ØA	Module	Z	Dimension on 2 pins	
			Y	ØV
50 [1.968]	1.667	28	43.446 [1.710]	3.33 [0.131]



You are advised to have the installation validated by your Poclain Hydraulics application engineer before using the hydraulic unit in an application.



We must provide you with a detailed plan of the interface for any hydraulic unit use, consult your Poclain Hydraulics sales engineer.

Modularity and Model code

Wheel motor

Shaft motor

Valving systems and hydrobases

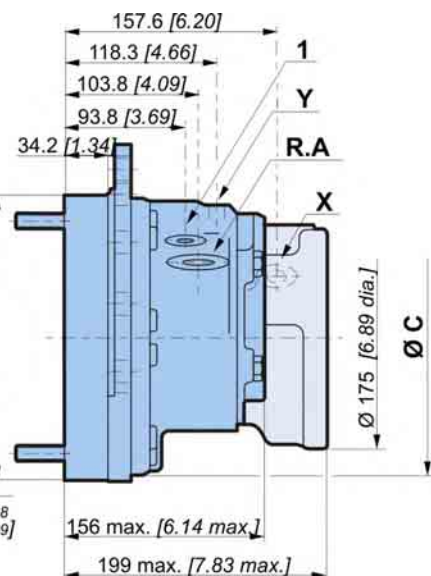
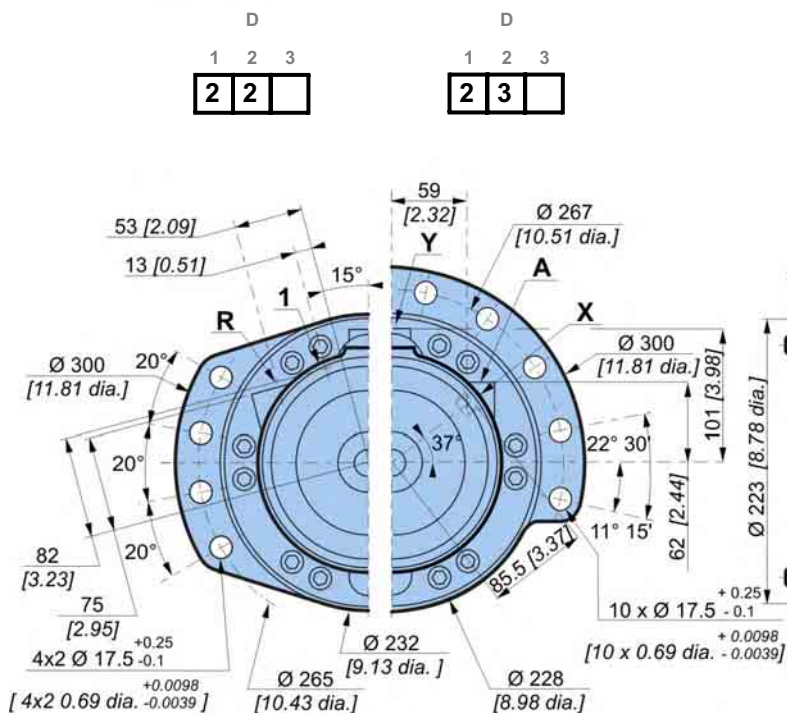
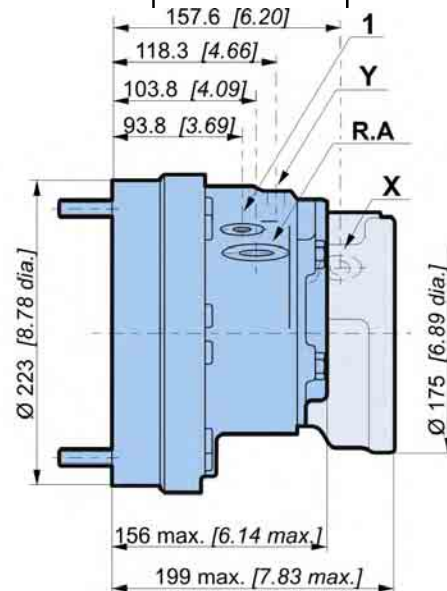
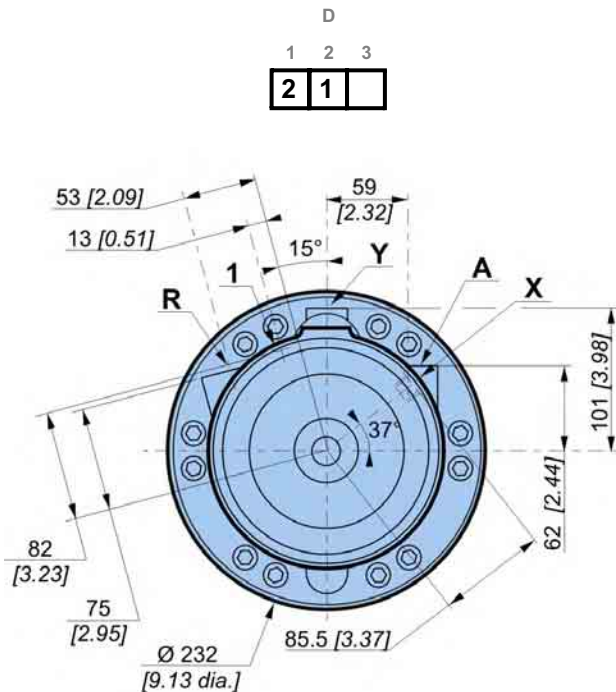
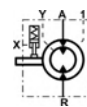
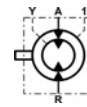
Brake

Options



Dimensions for 2-displacement valving

	27.6 kg [61 lb]	35.2 kg [77 lb]
	0.50 L [30 cu.in]	1.00 L [60 cu.in]



	mm	[in]	mm	[in]
$\varnothing C$	$\varnothing 224$ [8.82 dia.]	- 0.2	$\varnothing 216$ [8.50 dia.]	- 0.185
		0		0
		- 0.078		- 0.0073



Dimensions for Twin-Lock™ valving

[illegible]

Modularity and Model code

Wheel motor

Shaft motor

Valving systems and hydrobases

Brake

Options

Dimensions for 1-displacement valving with built-in exchange

Technical drawing of a mechanical part, showing front, side, and detail views. The drawing includes dimensions in millimeters and inches, and a table of dimensions in inches.

Front View: Shows a circular part with a central hole of diameter 232 mm [9.13 dia.]. The outer diameter is 300 mm [11.81 dia.]. The thickness is 44 mm [1.73]. The part has a flange with a diameter of 267 mm [10.51 dia.] and a central hole of diameter 228 mm [8.98 dia.]. The flange has a thickness of 83 mm [3.27]. The part has a flange with a diameter of 267 mm [10.51 dia.] and a central hole of diameter 228 mm [8.98 dia.]. The flange has a thickness of 83 mm [3.27]. The part has a flange with a diameter of 267 mm [10.51 dia.] and a central hole of diameter 228 mm [8.98 dia.]. The flange has a thickness of 83 mm [3.27].

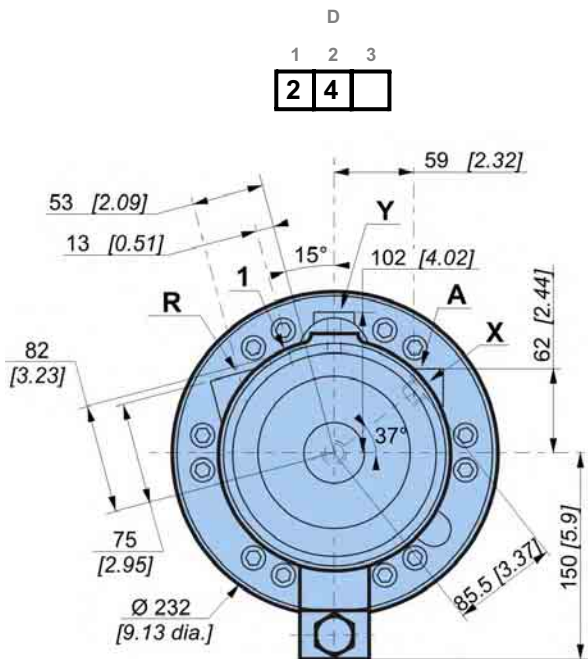
Side View: Shows the side profile of the part. The total height is 157.6 mm [6.20]. The distance from the top to the center of the central hole is 117 mm [4.61]. The distance from the top to the center of the outer hole is 101.5 mm [4]. The distance from the top to the center of the outer hole is 101.5 mm [4]. The distance from the top to the center of the outer hole is 101.5 mm [4].

Detail View: Shows a detail of the part with a diameter of 300 mm [11.81 dia.]. The detail has a thickness of 44 mm [1.73]. The detail has a flange with a diameter of 267 mm [10.51 dia.] and a central hole of diameter 228 mm [8.98 dia.]. The detail has a thickness of 83 mm [3.27]. The detail has a flange with a diameter of 267 mm [10.51 dia.] and a central hole of diameter 228 mm [8.98 dia.]. The detail has a thickness of 83 mm [3.27].

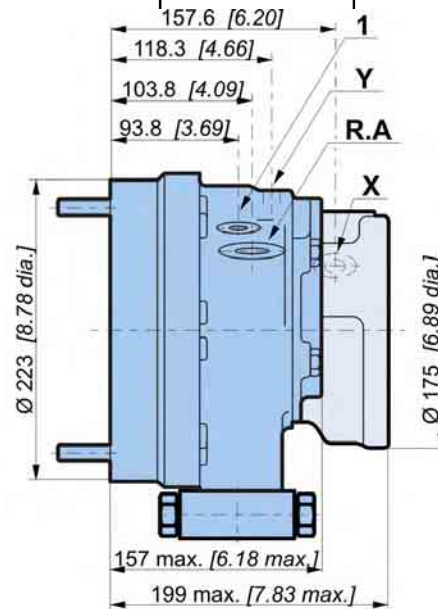
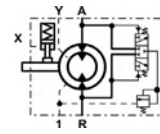
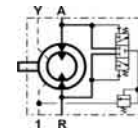
Table of Dimensions (inches):

D	1	2	3
1	4		

D	1	2	3
1	6		

**Dimensions for 2-displacement valving with add-on exchange**

	27.6 kg [61 lb]	35.2 kg [77 lb]
	0.50 L [30 cu.in]	1.00 L [60 cu.in]

**Exchange**

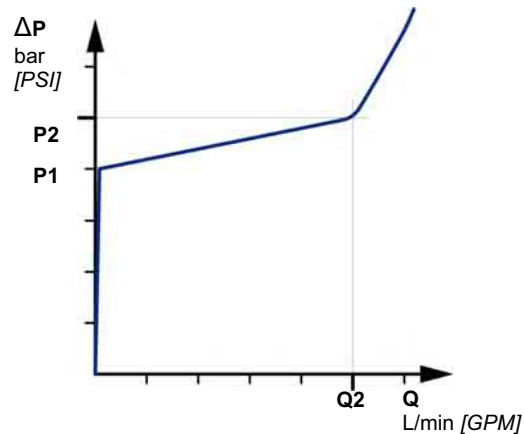
When a coding request is made, you must specify information on the threshold of the selector and the valve.

Selector spool

Selector threshold bar [PSI]	Opening pressure of selector bar [PSI]
8 [116]	9.9 ± 1.2 [144 ± 17]

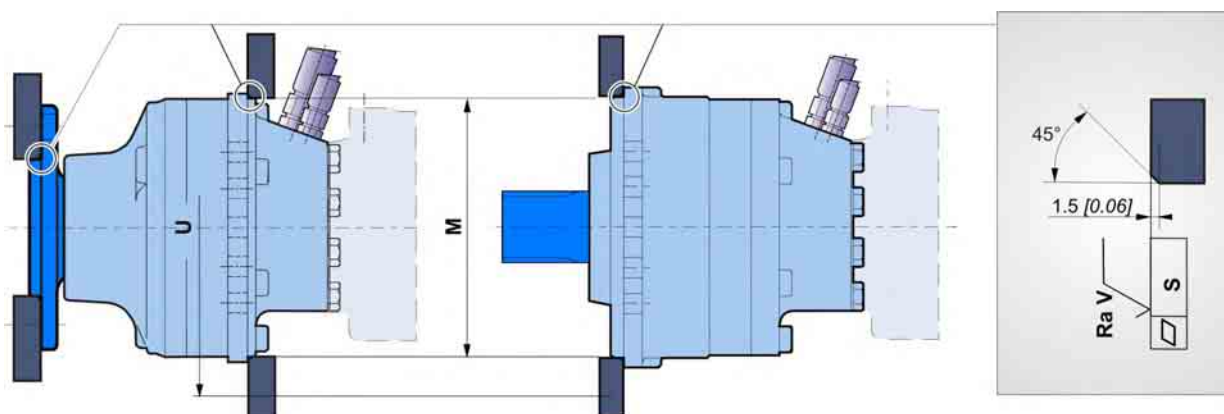
Fitted valve

P1 bar [PSI]	Q2 L/min [GPM]	P2 bar [PSI]
13.5 [195]	14 [3.7]	16 [232]
18 [261]	15 [3.9]	21 [305]
22 [319]	16 [4.2]	25 [363]











Chassis mountings



Take care over the immediate environment of the connections.

MS05 / MSE05	ØM ⁽¹⁾	ØU	S	Ra V		Class	 *
P	200 [7.87]	265 [10.43]	0.2 [0.008]	12.5µm [0.49µin]	2 x 4 M16 x 2	8.8	210 N.m [155 lb.ft]
R 	216 [8.50]	267 [10.51]			10 M16 x 2		
R 	224 [8.82]	265 [10.43]			2 x 4 M16 x 2		
P	200 [7.87]	265 [10.43]			2 x 4 M16 x 2		
R 	216 [8.50]	267 [10.51]			10 M16 x 2		
R 	224 [8.82]	265 [10.43]			2 x 4 M16 x 2		

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

* : Min. values for torque and load to be transmitted.



See generic installation motors N°801478197L.

Modularity and
Model code

Wheel motor

Shaft motor

Valving systems
and hydrobases

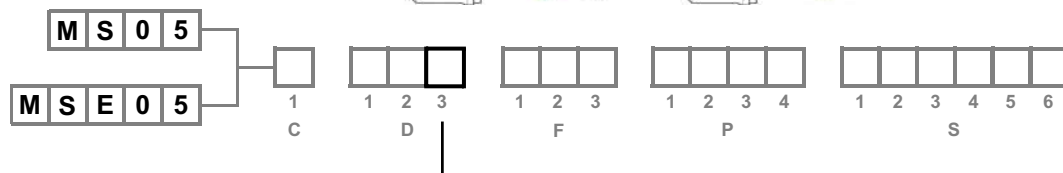
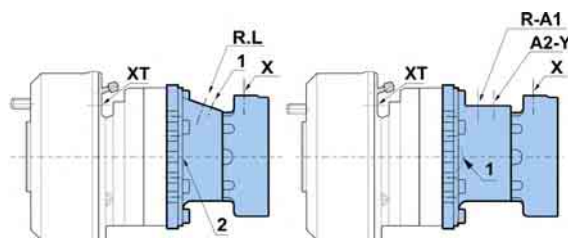
Brake

Options



Hydraulic connections

connections



	Old standards	Standards	Power supply		2 nd displacement control Y	Case drain	Control of parking break	Control of drum break
			A-R, R-L, A1	A2		1, 2	X	XT
A	SAE J514	ISO 11 926-1	1"1/16-12 UNF	3/4"-16 UNF	3/4"-16 UNF	3/4"-16 UNF	9/16"-18 UNF	M10 x 1.54
3	BSPP	ISO 1 179-1	Ø27 [3/4" dia.]	Ø21 [1/2" dia.]	Ø13 [1/4" dia.]	Ø17 [3/8" dia.]	Ø13 [1/4" dia.]	
4	DIN 3852	ISO 9 974-1	M27 x 2	M27 x 2	M14 x 1.5	M16 x 1.5	M14 x 1.5	
8	NF E48 050	ISO 6 149-1	M18 x 1.5	M18 x 1.5	M14 x 1.5	M14 x 1.5	M14 x 1.5	
		ISO 9 974-1						
Max. pressures		MS MSE bar [PSI]	450 [6 530] 400 [5 800]	450 [6 530] 400 [5 800]	30 [440]	1 [10]	30 [440]	120 [1 740]



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



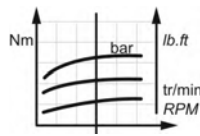
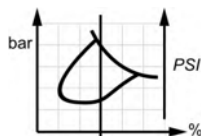
To find the connections' tightening torques, see the brochure "Installation guide" N° 801478197L.



Efficiency

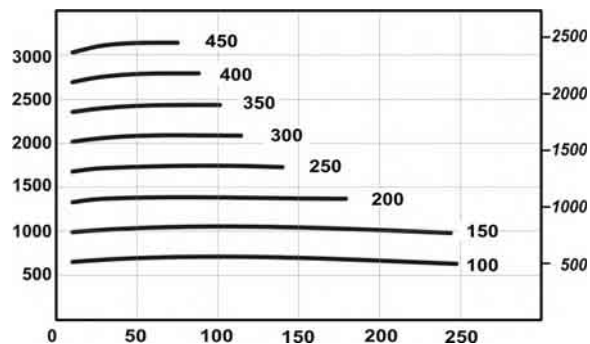
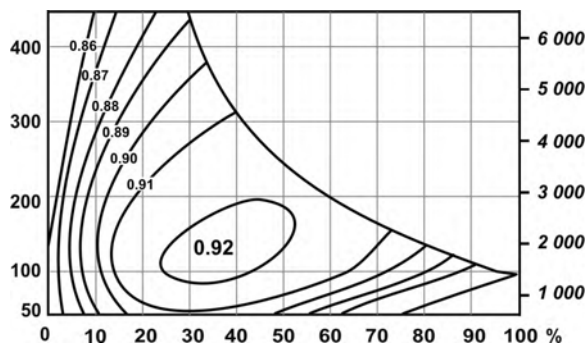
Overall efficiency

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

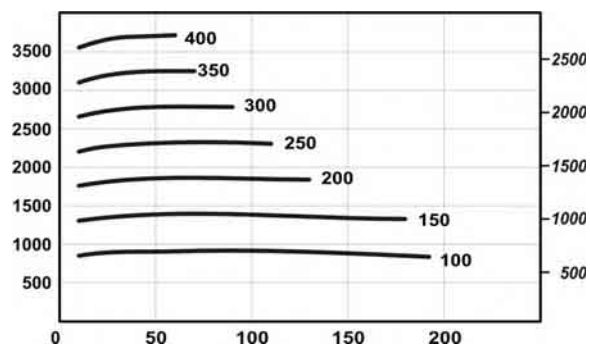
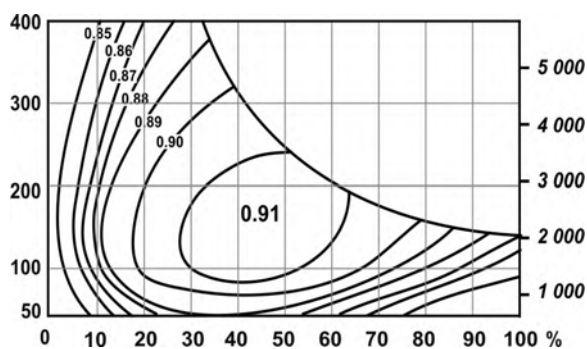


Actual output torque

MS05



MSE05



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.

Modularity and Model code

Wheel motor

Shaft motor

Valving systems and hydrobases

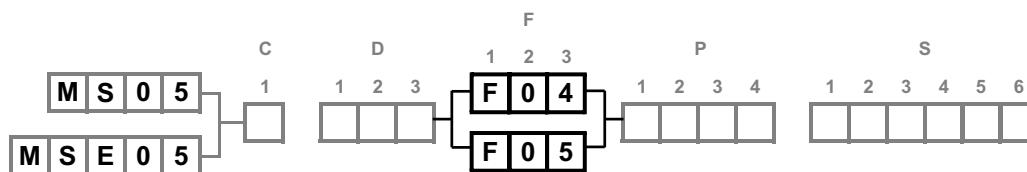
Brake

Options

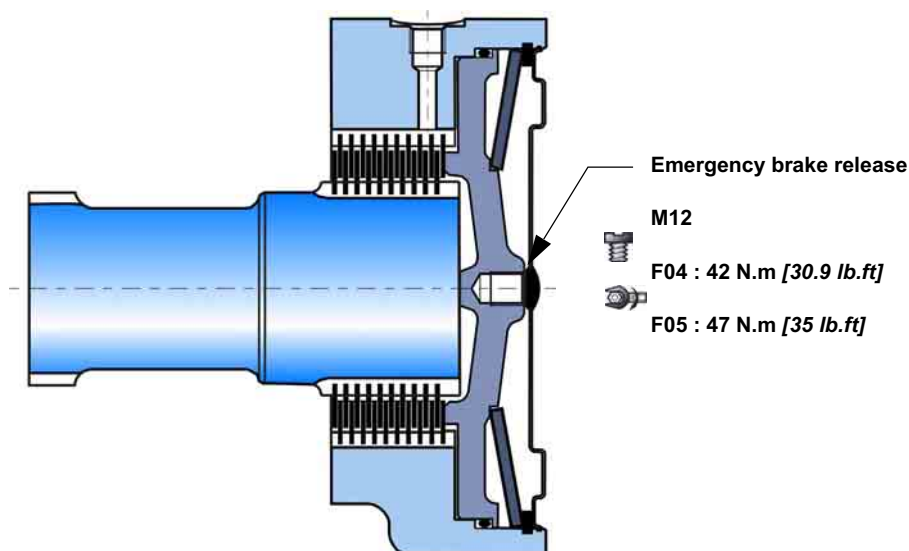




BRAKES



Rear brake



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.

C	F 0 4	F 0 5
Parking brake torque at 0 bars on housing (new brake)	4 220 Nm [3 110 lb.ft]	3 060 Nm [2 260 lb.ft]
Dynamic emergency braking torque at 0 bars on housing (max. 10 uses of emergency brakes)	2 740 Nm [2 020 lb.ft]	1 990 Nm [1 470 lb.ft]
Residual parking braking at 0 bars on housing *	3 165 Nm [2 330 lb.ft]	2 295 Nm [1 690 lb.ft]
Min. brake release pressure	12 bar [174 PSI]	12 bar [174 PSI]
Oil capacity	70 cm³ [4.3 cu.in]	70 cm³ [4.3 cu.in]
Volume for brake release	32 cm³ [2.0 cu.in]	32 cm³ [2.0 cu.in]
Max. energy dissipation	85 902 J	

* After emergency brake has been used



Do not run in multidisc brakes.



A functional check of the parking brake must be carried out each time it is used as an auxiliary brake (or emergency brake). For all vehicles capable of speeds over 25 km/hour, please contact your Poclain Hydraulics application engineer.

Modularity and Model code

Wheel motor

Shaft motor

Valving systems and hydrobases

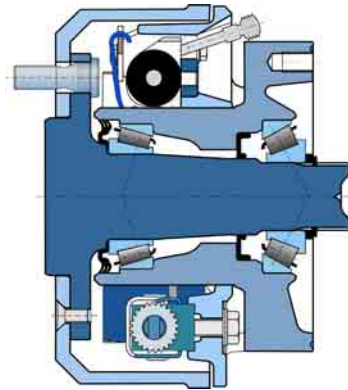
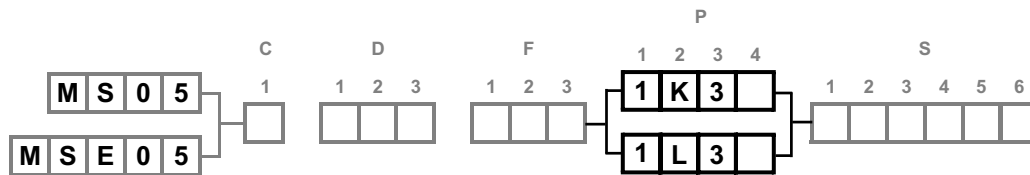
Brake

Options

**Drum brake (250 x 60)**

Diameter of brake pads : Ø 250 [9.84 dia.]

Width of friction surface : 60 [2.36]

**Brake pads**

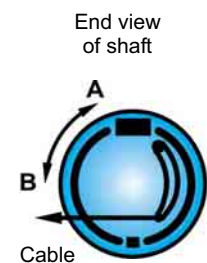
Asbestos free material	BERAL 1117
Compensation for wear	Automatic
Hydraulically controlled dynamic braking	
Max. braking torque	5 000 N.m [3 688 lb.ft]
Pressure in the cylinder to obtain max. torque	120 bar [1 740 PSI]
Max. permissible pressure in the control cylinder	120 bar [1 740 PSI]

Fluid

Mineral	Yes	K
DOT 3/DOT4/SAE J1703	Yes	L
Max. volume required to bring pads into contact	2.8 cm ³ [0.17 cu.in]	

Mechanically controlled parking brake

Max. braking torque	5 000 N.m [3 688 lb.ft]
Max permissible force on the cable	1 370 N [308 lb.ft]
Force required to bring pads into contact	33 N [7 lb.ft]
Stroke required to bring pads into contact	A 10.6 mm [0.42 "] B 11.0 mm [0.43 "]
Max. stroke before automatic brake adjustment	A 14.0 mm [0.55 "] B 14.5 mm [0.57 "]



The max. braking torque can only be obtained when the brake has been run in. Consult your Poclain Hydraulics application engineer.

Control

The drum brakes can be controlled hydraulically (service brake) and by a cable (mechanical control for parking brake).



Do not use hydraulic and mechanical brake controls simultaneously.



See also 'Wheel motor' section (thumbnail opposite)

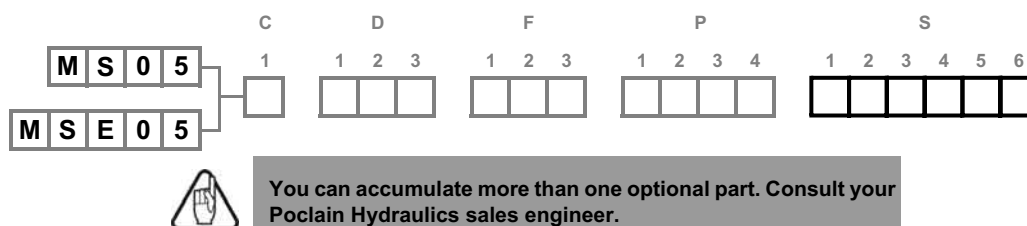


When making an encoding request, you must indicate the following information:

- The material of the brake linings,
- The type of connection at the end of the parking brake control cable,
- Fill out the technical questionnaire for validation of the brake.

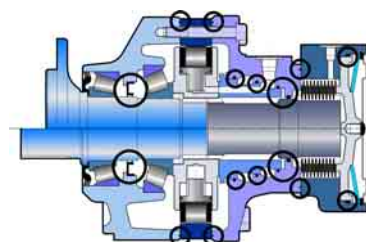


OPTIONS



1 - Fluorinated elastomer seals

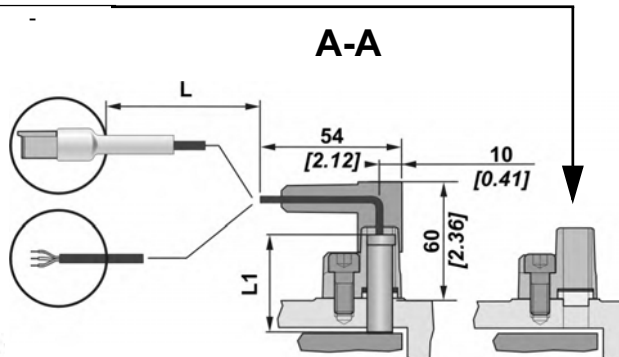
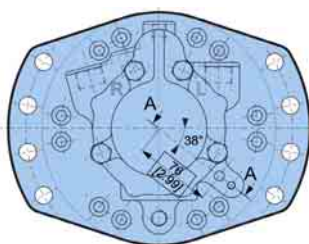
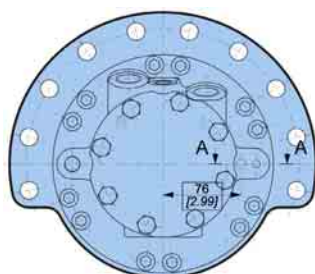
Nitrile seals marked in the figure below replaced by fluorinated elastomer seals.



Consult your Poclain Hydraulics sales engineer.

2 - 8 - Q - Installed speed sensor or predisposition

Designation	C	L mm [in]
Connection by connector part	2	100 [3.93]
Wire connection	Q	609 [23.97]
Predisposition for speed sensor	8	-



To install the sensor, see the "Motors Generic installation" brochure No. 801478197L.

Technical characteristics of the speed sensor

Supply voltage	10 - 30 V
Type of output	NPN
Residual fluctuation	< 10%
Max. load current (black wire)	20 mA
Voltage drop	< 1.5V
Operating temperature	-10°C to +110°C [14°F to 230°F]
Reference of male connector	DEUTSCH DTM04-3P
Number of pulses per revolution	56
L1	50
3-conductor cable	Ø 6 - 3 x 0.5 mm ² sheath PVC insulator

Connection of sensor

Function	Color	Number on connector
Power supply	Brown	1
Signal	Black	2
Earth	Blue	3



Modularity and Model code

Wheel motor

Shaft motor

Valving systems and hydrobases

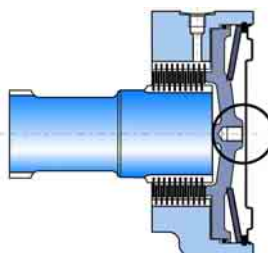
Brake

Options



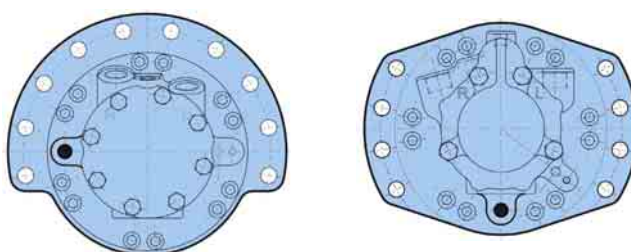
3 - Brake environmental cover without plug

No plug or hole in the cover.
(see figure opposite)



5 - Drainage

Additional drain in the cover.



6 - Industrial support

Reduction of around 50% from the rated value in the bearings' preload value.

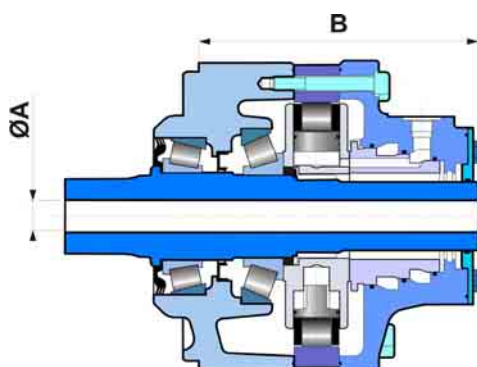


For a precise calculation, consult your Poclain Hydraulics application engineer.

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 - Hollow shaft

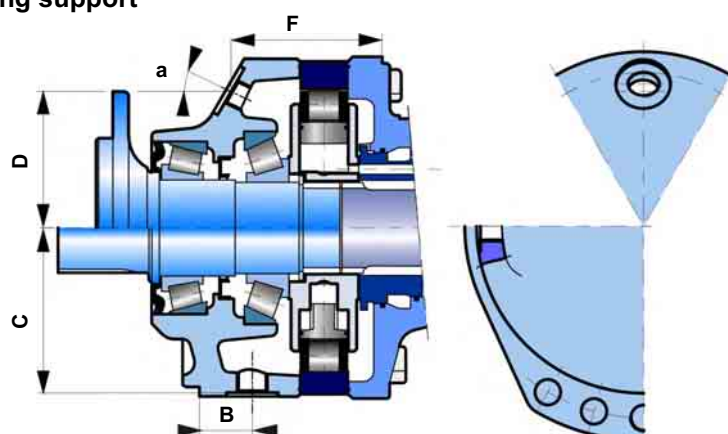


A	B
mm [in]	mm [in]
Ø 25	214.2
[0.98 dia.]	[8.43]

Radial load x 0.75
No torque allowed towards the rear



B - Drain on the bearing support



	BSPP	B mm [in]	C mm [in]	D mm [in]	E	F mm [in]	a
Shaft motor	Ø17	25 [1.0]	111 [4.37]		25°		
Wheel motor	Ø17			87.5 [3.44]		84.0 [3.31]	36°

C - Abrasive environments (mechanical seal)

Some environments can be very harmful. The mirror seal gives reinforced motor sealing.

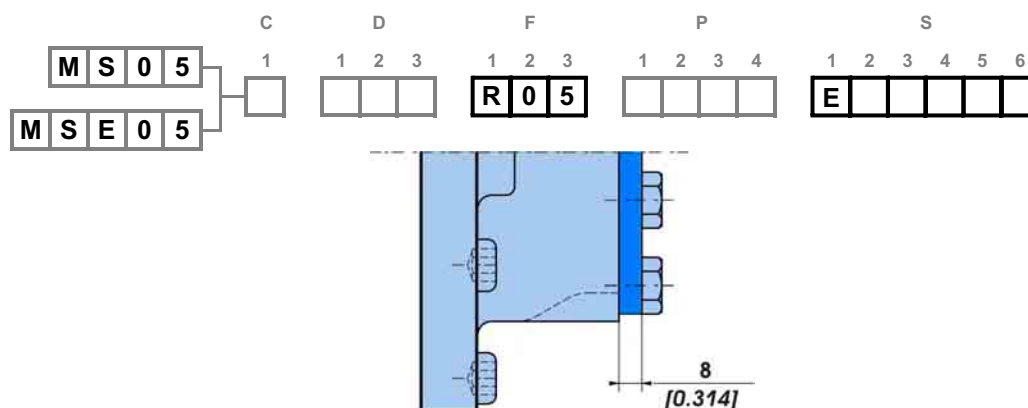
Mechanical seal



Consult your Poclain Hydraulics sales engineer.

E - Reinforced sealing

Reinforced seals and, for an unbraked motor, a rear reinforced plate (R02 - 8 mm thick, instead of 2 mm).



G - Special wheel rim mounting

Enables certain combinations different from the standard mountings defined on page 11 are possible.



Consult your Poclain Hydraulics sales engineer.

Modularity and
Model code

Wheel motor

Shaft motor

Valving systems
and hydrobases

Brake

Options



H - High efficiency

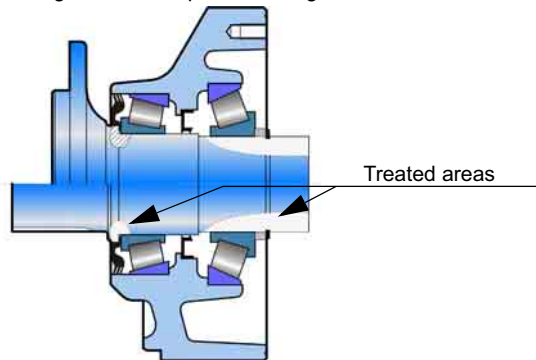
Reinforced piston sealing to improve volumetric efficiency.



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

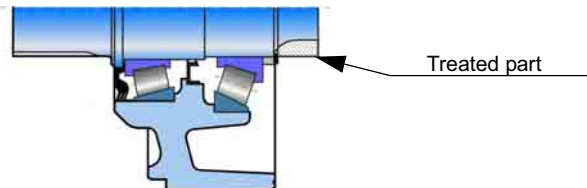
J - Reinforced bearing stop

Heat treatment on the indicated bearing radius and splines, see figure below.



K - Treated shaft

Heat treatment on the splines, see figure below.



M - High speed

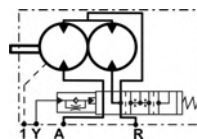
Under certain conditions, an increase in the maximum speed of 30% above the values indicated in the table on page 2 is possible.



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

T - Soft Shift™

Progressive displacement change (cushioned slide-valve)



Consult your Poclain Hydraulics sales engineer.



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