

MSE03

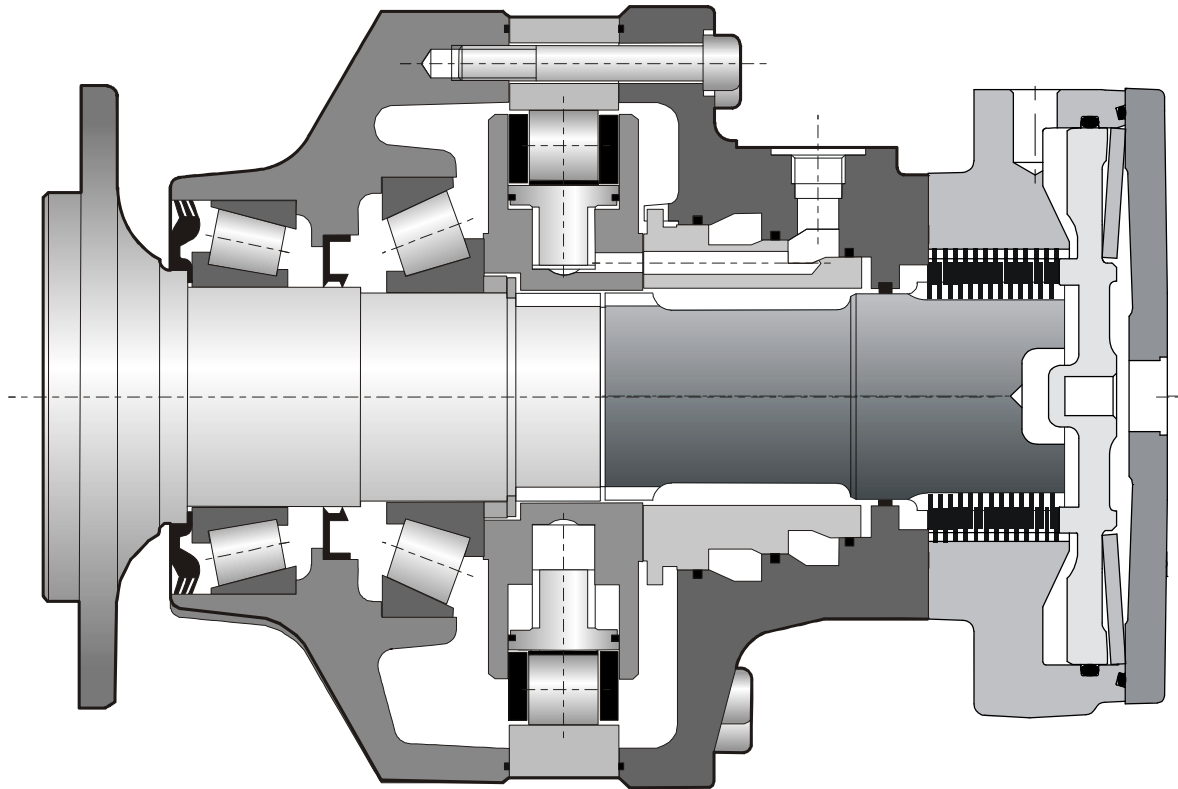
HYDRAULIC MOTORS



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



CHARACTERISTICS



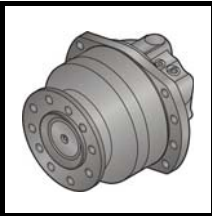
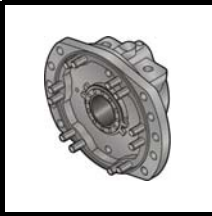
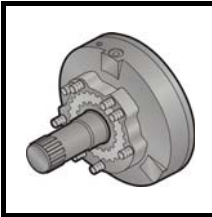
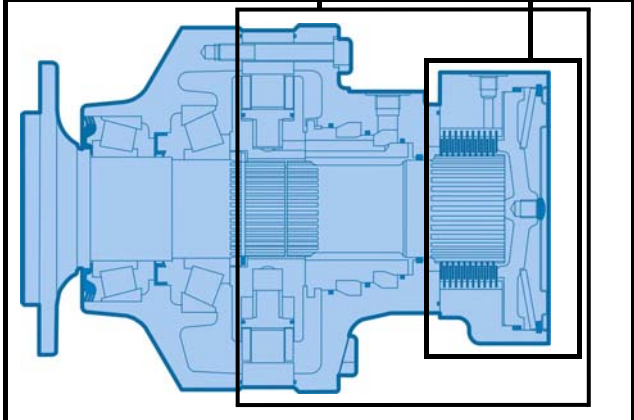
Motor inertia = 0.01 kg.m²

	C	Displacement		Theoretical torque		Max. power			Max. speed			Max. pressure
		1	2	1		1	2 preferred	2 non-preferred	tr/min [RPM]	1	2	
		cm ³ /tr [cu.in./rev.]	cm ³ /tr [cu.in./rev.]	at 100 bar	at 1000 PSI	kW [HP]	kW [HP]	kW [HP]	tr/min [RPM]	tr/min [RPM]	tr/min [RPM]	
Cams with equal lobes	1	450 [27.4]	225 [13.7]	716	[364]	22 [30]	16.5 [22]	11 [15]	155			350 [5 076]
	2	500 [30.5]	250 [15.2]	795	[404]				140	166	183	

- 1 First displacement
- 2 Second displacement



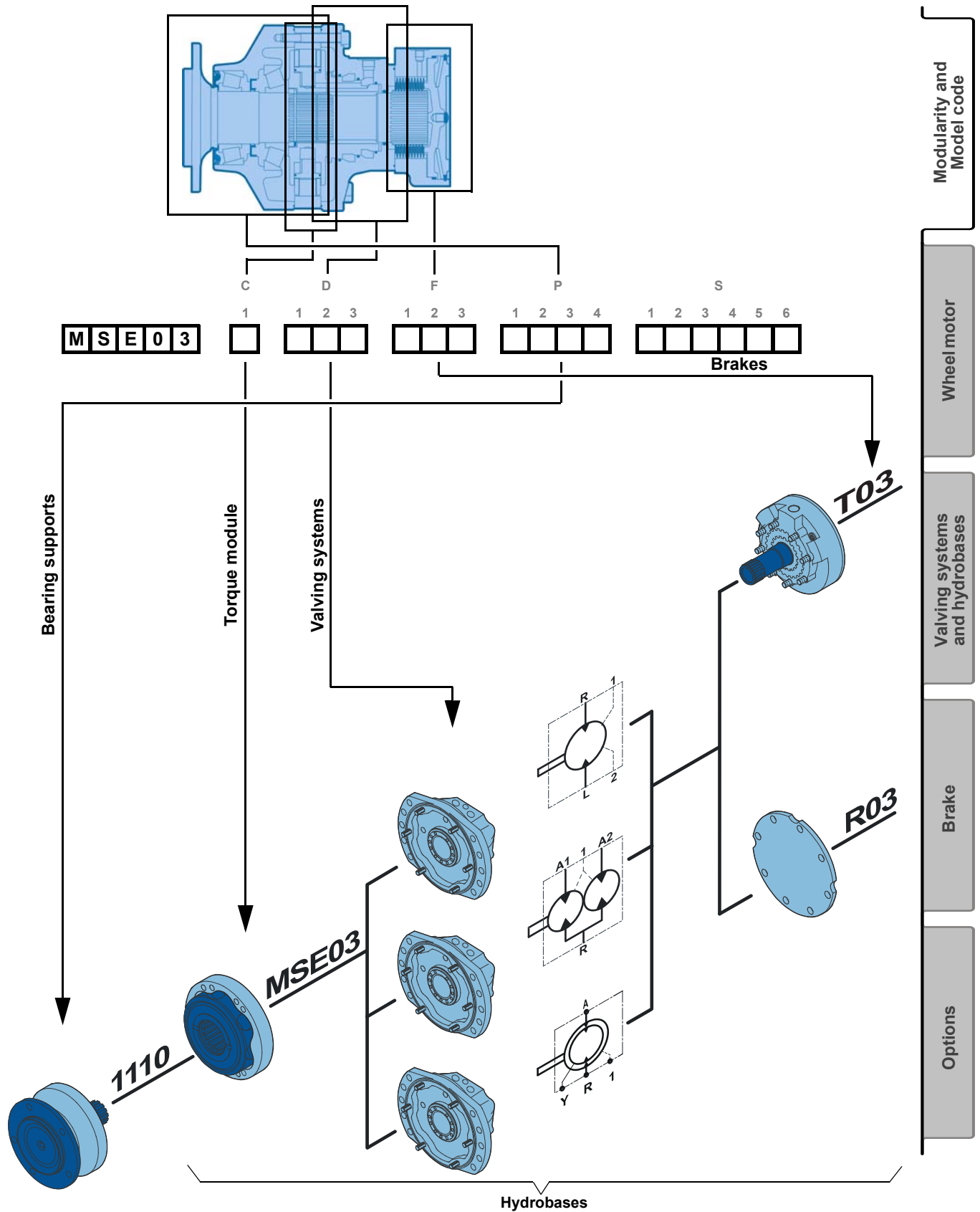
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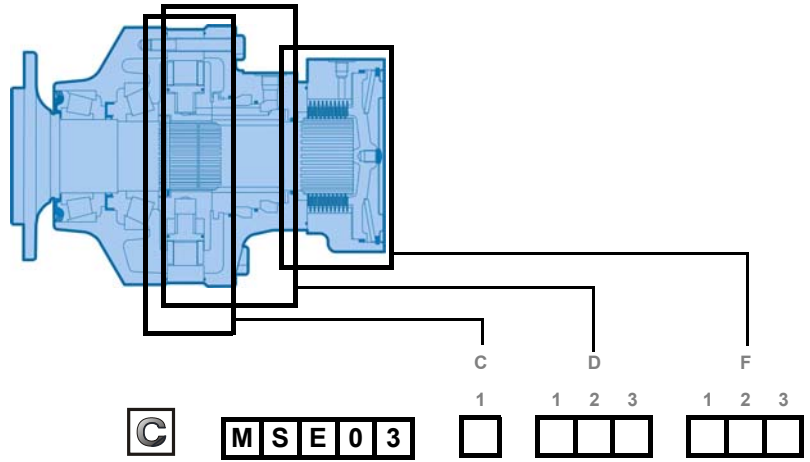


MODULARITY





MODEL



		cm ³ /tr [cu.in./rev.]	
Cams with equal lobes	1	450 [27.4]	225 [13.7]
	2	500 [30.5]	250 [15.2]

Without mounting	1	D
With mounting	2	E

1 Displacement
2 Displacement Twin-Lock™

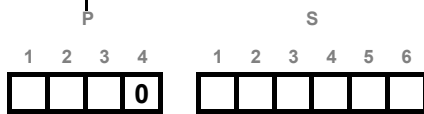
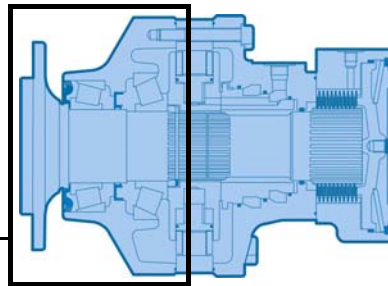
ISO 11926-1 connection	A
ISO 1179-1 connection	3

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

Brake	T 0 3
Without brake (reinforced plate)	R 0 3



CODE



- 0 Without bearing support
- 1 Without mounting
- 2 Lug mounting

- Without shaft 0
- 5 x Ø18 on Ø140 1
- For male shaft bearing support 2

- Without studs 1
- With studs + nuts 2
- With studs 3

- Without Options or Adaptations 0
- T4 Speed sensor installed 2
- Diamond™ 7
- Predisposition for speed sensor 8
- TD Speed sensor installed Q
- Special paint or no paint D
- Reinforced sealing E
- Special wheel rim mounting G
- High efficiency H
- Surface heat treatment of the shaft J
- TR Speed sensor installed S

Modularity and Model code

Wheel motor

Valving systems and hydrobases

Brake

Options



Methodology :

This document is intended for manufacturers of machines that incorporate Poclair Hydraulics products. It describes the technical characteristics of Poclair 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.



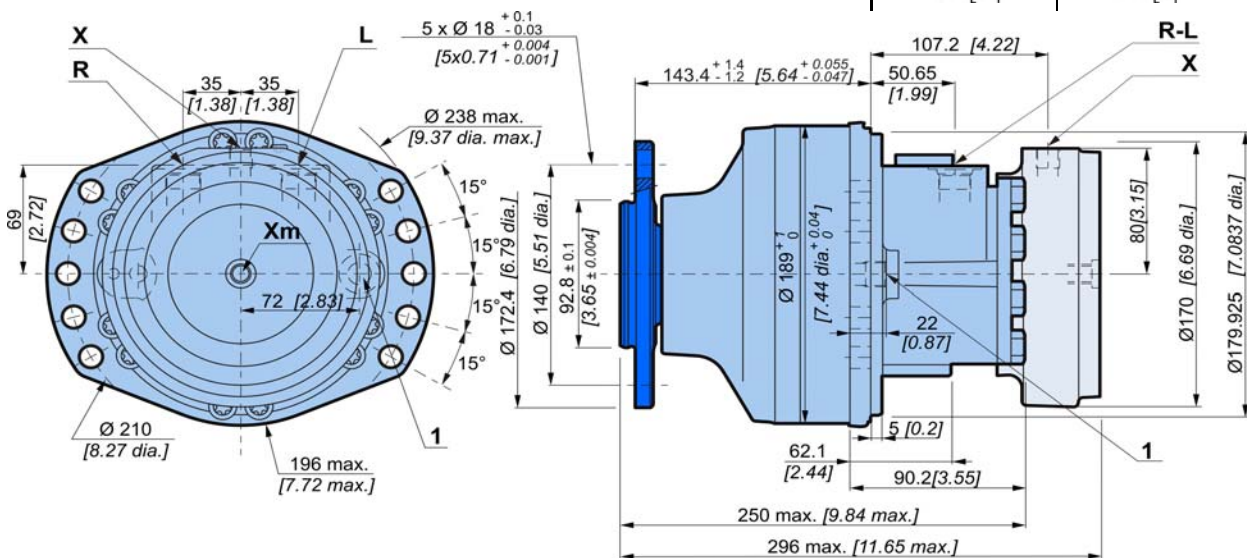
Information intended for Poclair-Hydraulics personnel.

The views in this document are created using metric standards. The dimensional data is given in mm and in inches (inches are given in brackets in italics).



Dimensions for standard (1110) 1-displacement motor

	26 kg [57 lb]	32 kg [70 lb]
	0.70 L [42 cu.in]	0.60 L [36 cu.in]

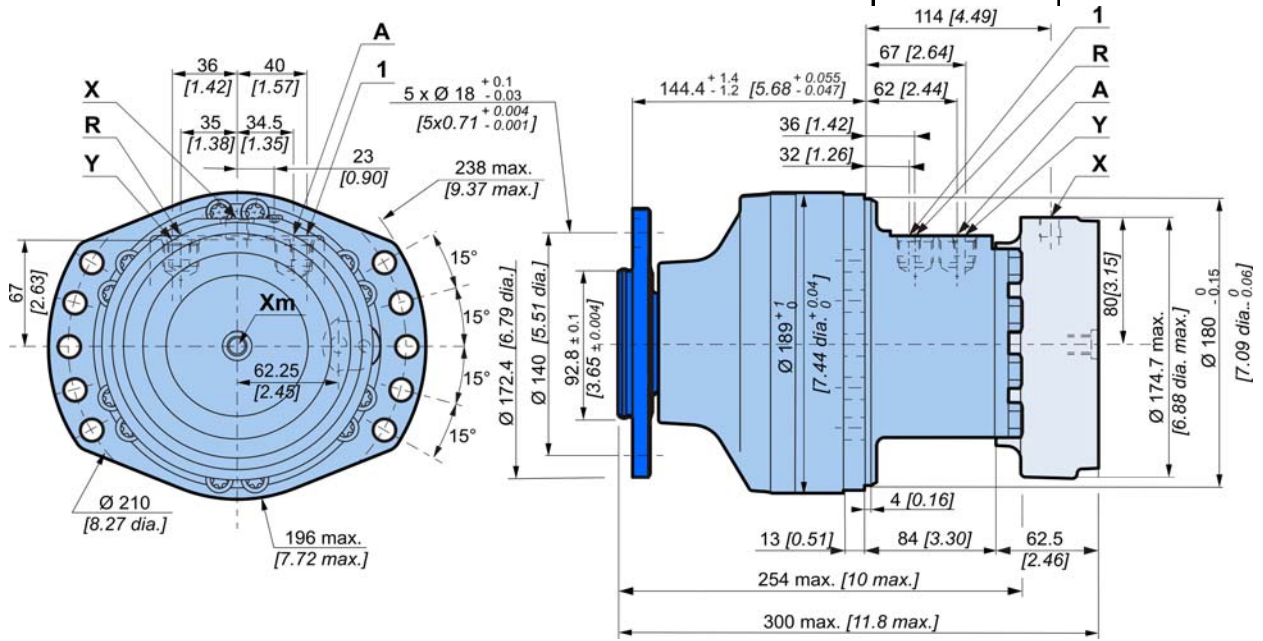




WHEEL MOTOR

Dimensions for standard (1110) 2-displacement motor

	26 kg [57 lb]	32 kg [70 lb]
	0.70 L [42 cu.in]	0.60 L [36 cu.in]

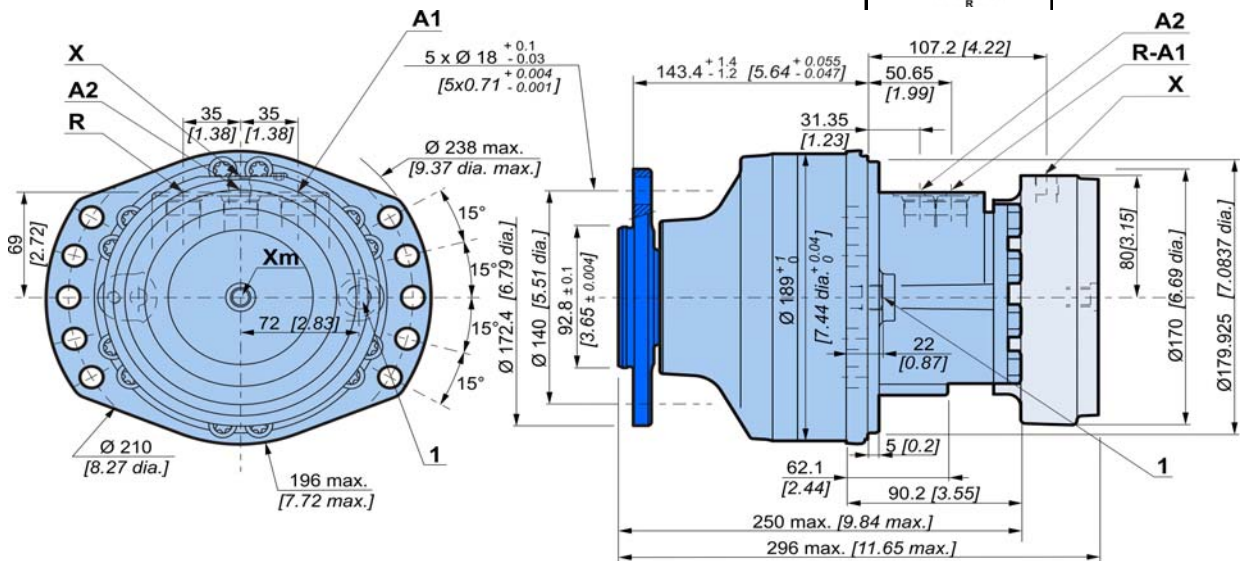


Modularity and Model code

Wheel motor

Dimensions for standard (1110) Twin-Lock™ motor

	26 kg [57 lb]	32 kg [70 lb]
	0.70 L [42 cu.in]	0.60 L [36 cu.in]



Valving systems and hydrobases

Brake

Options



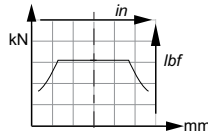
Load curves

Permissible radial loads

Test conditions :

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

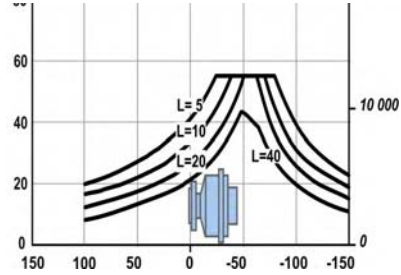
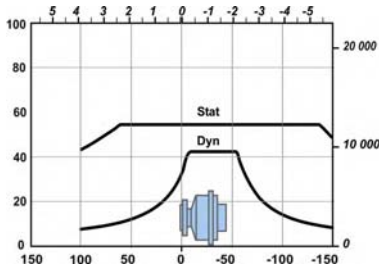
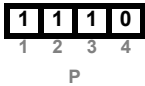
Dynamic : 0 tr/min [0 RPM], code 0 displacement, without axial load at max. torque



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.

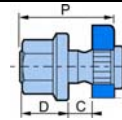


The service life of the components is influenced by the pressure. You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components complies with the application's specifications.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



Studs

	P mm [in]	C min. mm [in]	C max. mm [in]	D mm [in]	Class
M14x1.5	45 [1.77]	5 [0.20]	10 [0.39]	16.5 [0.65]	12.9



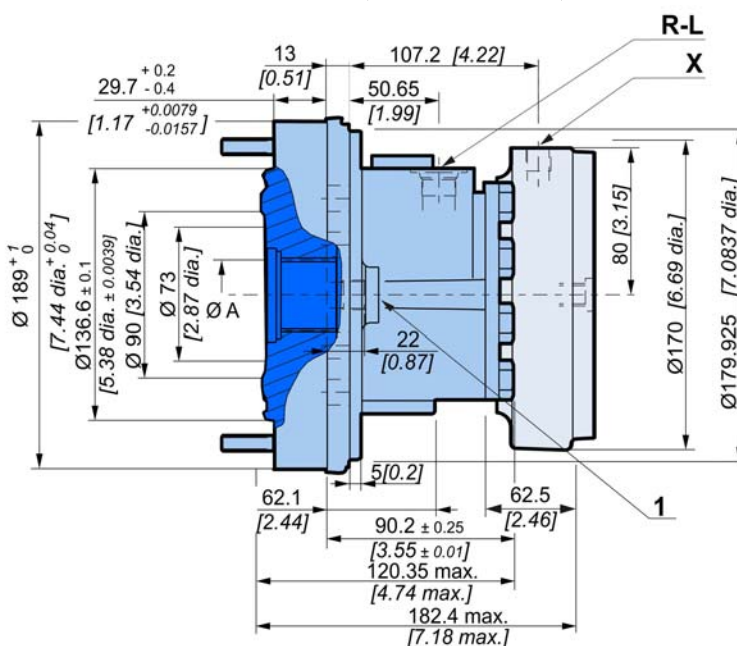
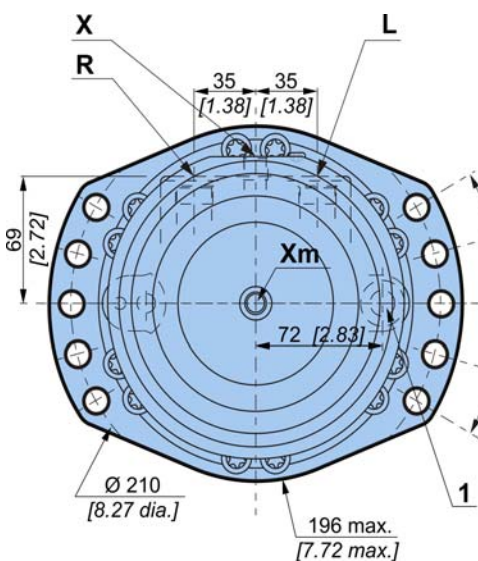
See generic installation motors N°B59689D.



VALVING SYSTEMS AND HYDROBASES

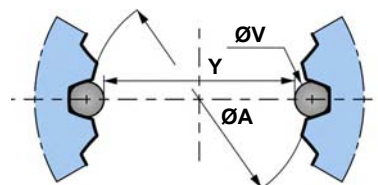
Dimensions for 1-displacement valving

	18.3 kg [40 lb]	24 kg [53 lb]
	0.30 L [18 cu.in]	0.40 L [24 cu.in]



Cylinder block splines (as per standard NF E22-141)

Dimension on 2 pins				
Ø A	Module	Z	Y	Ø V
40 [1.575]	1.667	22	33.446 [1.317]	3.33 [0]



You are advised to have the installation validated by your Poclair 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 Poclair Hydraulics sales engineer.

Modularity and Model code

Wheel motor

Valving systems and hydrobases

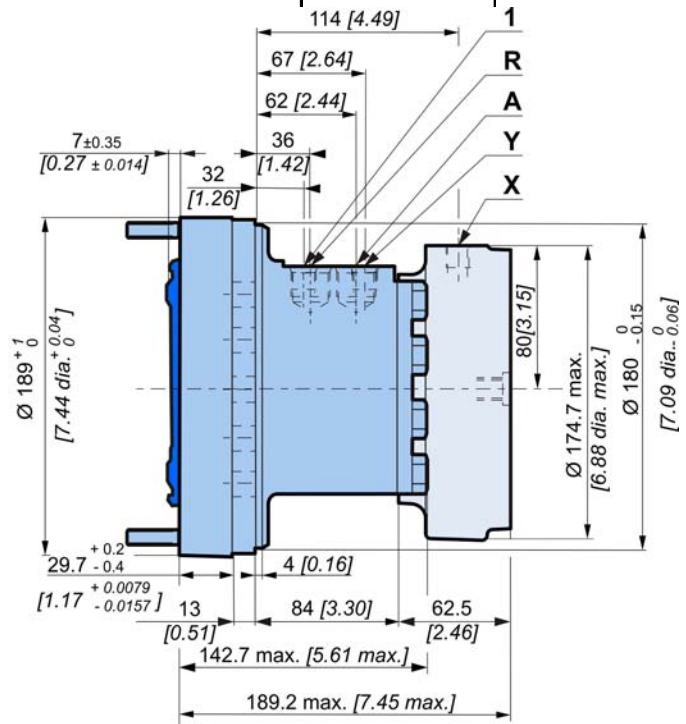
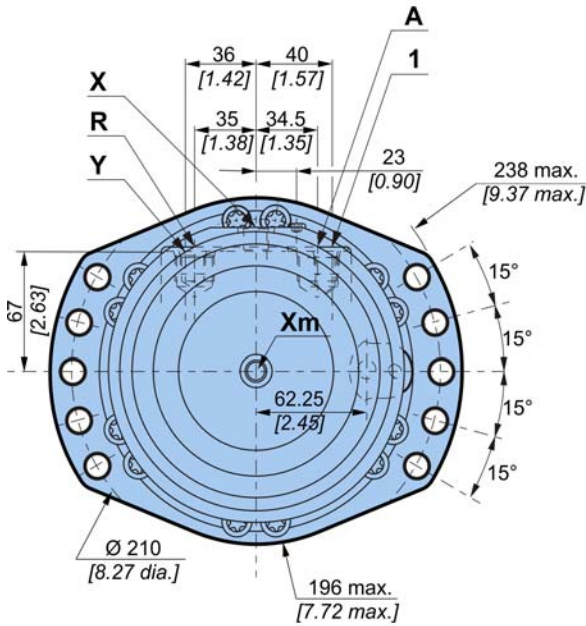
Brake

Options



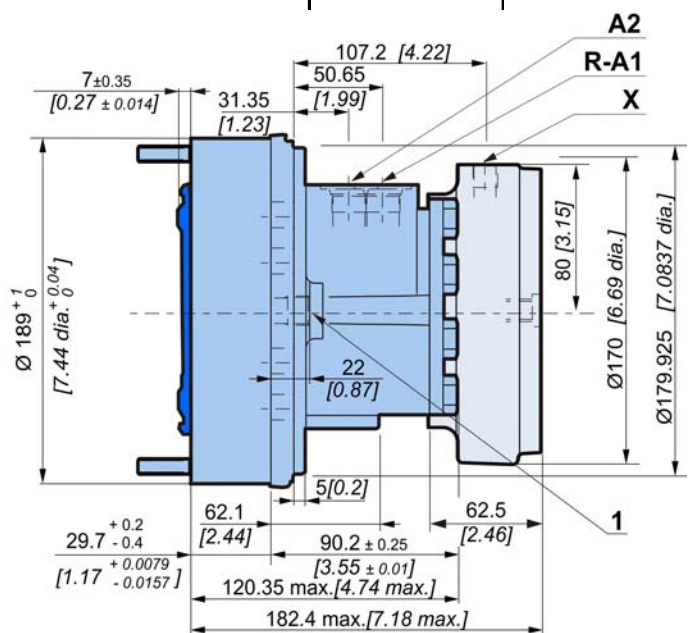
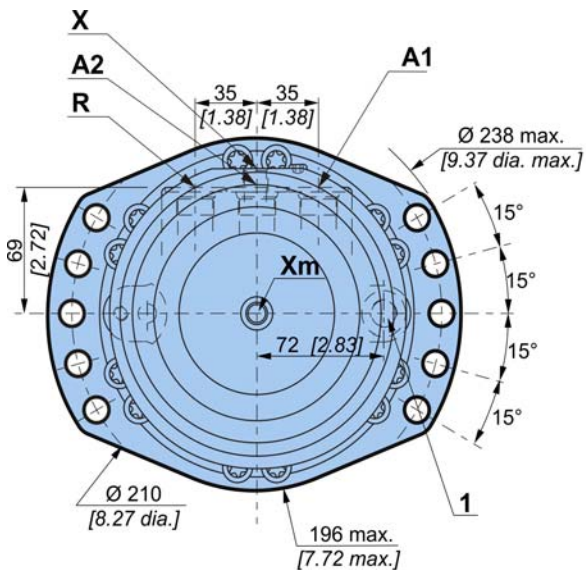
Dimensions for 2-displacement valving

	17.3 kg [38 lb]	23.0 kg [51 lb]
	0.30 L [18 cu.in]	0.40 L [24 cu.in]



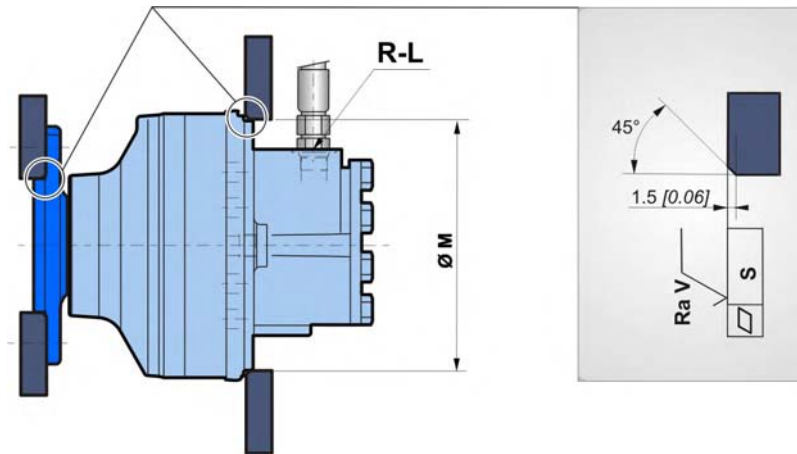
Dimensions for Twin-Lock™ valving

	17.3 kg [38 lb]	23.0 kg [51 lb]
	0.30 L [18 cu.in]	0.40 L [24 cu.in]






Chassis mountings



Take care over the immediate environment of the connections.

	ØM ⁽¹⁾	ØU	S	Ra V		Class
	180,25 [7,10]	210 [8,27]	0,2 [0,008]	12,5µm [0,49µin]	2 x 5 M12 x 2	10,9
(1)	+0,3 [+0,012] +0,2 [+0,008]					

Modularity and Model code

Wheel motor

Valving systems and hydrobases

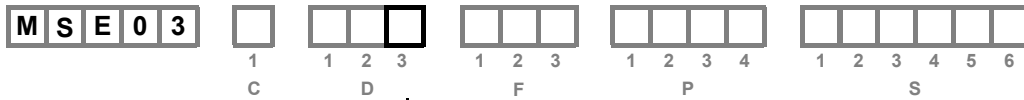
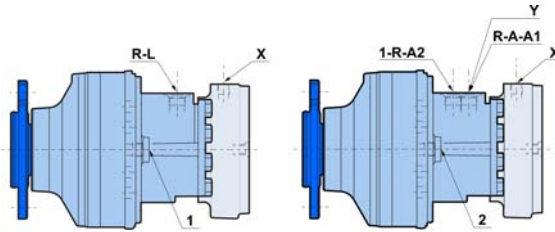
Brake

Options



Hydraulic connections

connections



	Old standards	Standards	Power supply	Case drain	2 nd displacement control	Control of parking break
			R-L	1, 2		X
	A	SAE J514 ISO 11 926-1	7/8"-14 UNF	9/16"-18 UNF		9/16"-18 UNF
	3	BSPP ISO 1 179-1	Ø21 [1/2" dia.]	Ø13 [1/4" dia.]		Ø13 [1/4" dia.]
			R-A	1, 2	Y	X
	A	SAE J514 ISO 11 926-1	7/8"-14 UNF	9/16"-18 UNF	9/16"-18 UNF	9/16"-18 UNF
			R-A1-A2	1, 2		X
	A	SAE J514 ISO 11 926-1	7/8"-14 UNF	9/16"-18 UNF		9/16"-18 UNF
	3	BSPP ISO 1 179-1	Ø21 [1/2" dia.]	Ø13 [1/4" dia.]		Ø13 [1/4" dia.]
Max. pressures		MS bar [PSI]	350 [5 076]	1 [15]	30 [435]	30 [435]



You are strongly advised to use the fluids specified in brochure "Installation guide" N° B59689D.

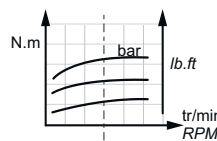
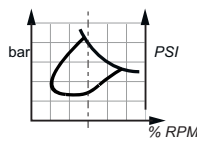


To find the connections' tightening torques, see the brochure "Installation guide" N° B59689D.

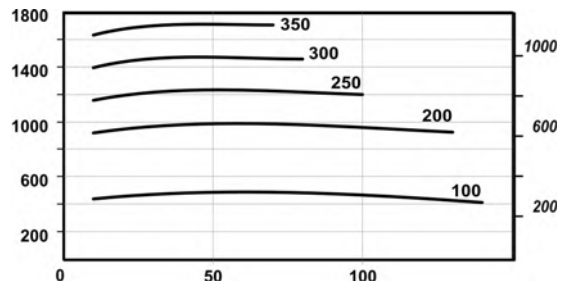
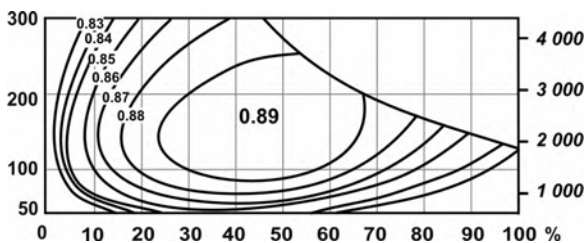
Efficiency

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].



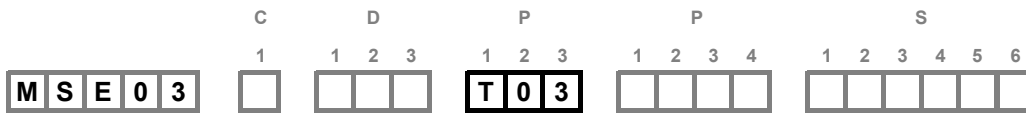
Actual output torque



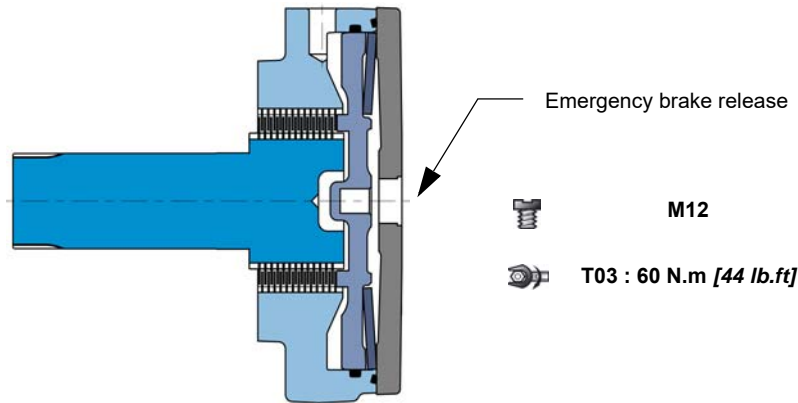
For a precise calculation, consult your Poclair Hydraulics application engineer.



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.



Parking brake torque at 0 bars on housing (new brake)	2,500 Nm [1,840 lb.ft]
Dynamic emergency braking torque at 0 bars on housing (max. 10 uses of emergency brakes)	1,625 Nm [1,200 lb.ft]
Residual parking braking at 0 bars on housing *	1,875 Nm [1,380 lb.ft]
Min. brake release pressure	12 bar [174 PSI]
Max. brake release pressure	30 bar [435 PSI]
Oil capacity	100 cm ³ [6.1 cu.in]
Volume for brake release	16 cm ³ [1.0 cu.in]
Max. energy dissipation	38 179 J

* After emergency brake has been used



Do not run-in the 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/h, please contact your Poclair Hydraulics application engineer.

Modularity and Model code

Wheel motor

Valving systems and hydrobases

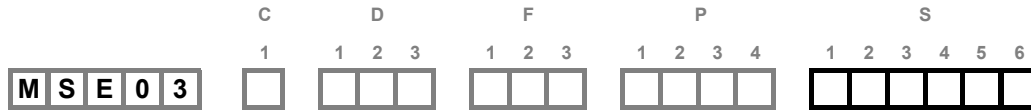
Brake

Options





OPTIONS

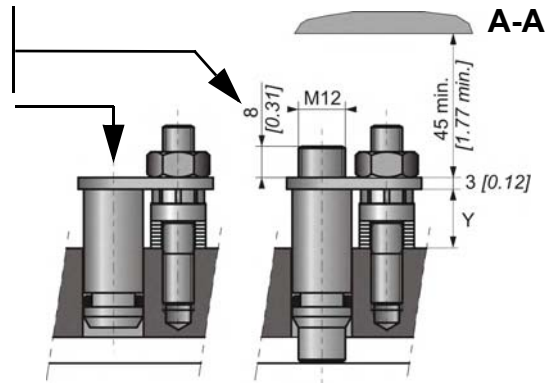
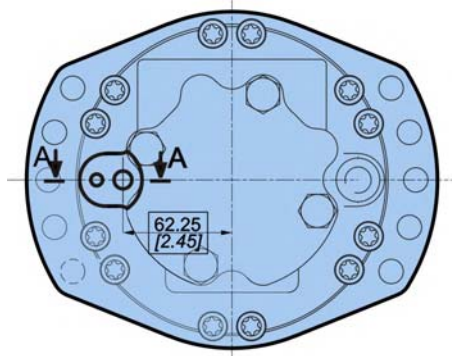


You can accumulate more than one optional part. Consult your Poclair Hydraulics sales engineer.

2 - S - Q - 8 - Installed speed sensor or predisposition

Designation

T4 Speed sensor (without rotation direction)	2
TR Speed sensor (digital rotation direction)	S
TD Speed sensor (two phase shifted frequencies)	Q
Predisposition for Speed sensor	8



Max. length Y= 19
Standard number of pulses per revolution= 40



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



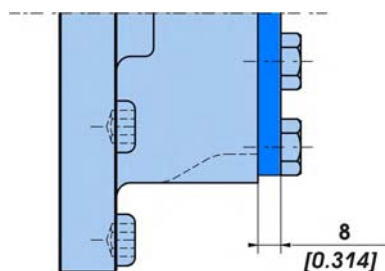
To install the sensor, see the "Installation guide" brochure No. B59689D.

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.

E - Reinforced sealing

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



Modularity and Model code

Wheel motor

Valving systems and hydrobases

Brake

Options



G - Special wheel rim mounting

Certain combinations different from the standard mountings defined on page 10 are possible.



Consult your Poclain Hydraulics sales engineer.

H - High efficiency

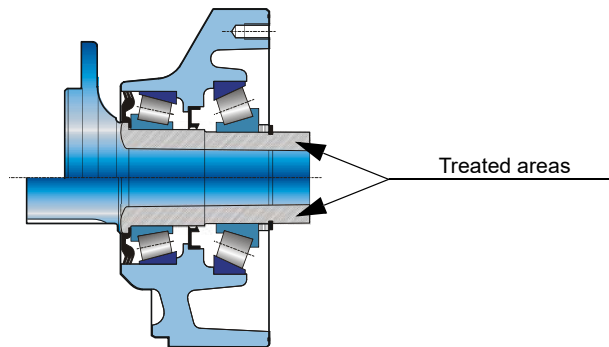
Reinforced piston sealing to improve volumetric efficiency.



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

J - Treated shaft

Heat treatment on the indicated bearing radius and splines.







Poclain Hydraulics reserves the right to make any modifications it deems necessary to the products described in this document without prior notification. The information contained in this document must be confirmed by Poclain Hydraulics before any order is submitted.

Illustrations are not binding.

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-  04/08/2023
-  801 478 117Z
-  801 478 187A
-  801 478 199N
-  801 578 112P
-  801 578 124C
-  A50151M
-  Not available
-  A14239C

