

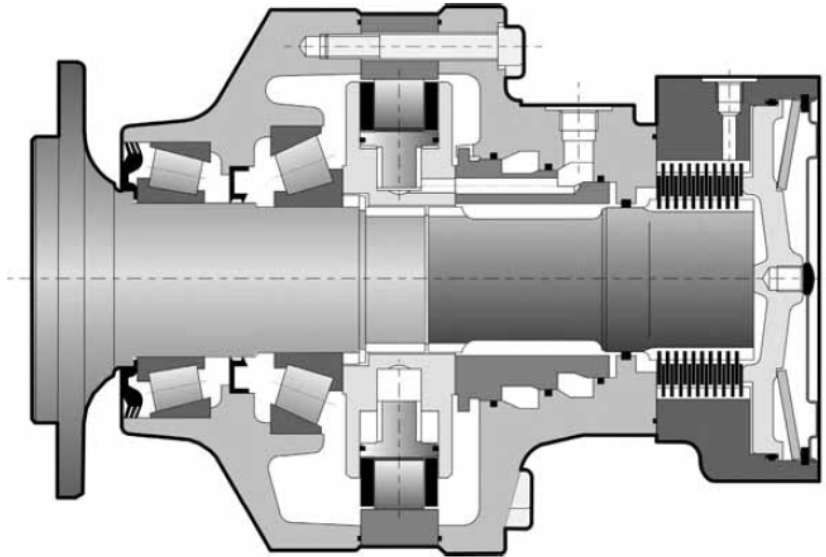


# MS MOTORS



MSE03. HYDRAULIC MOTOR.

CHARACTERISTICS



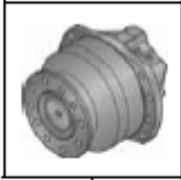


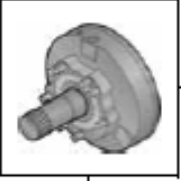
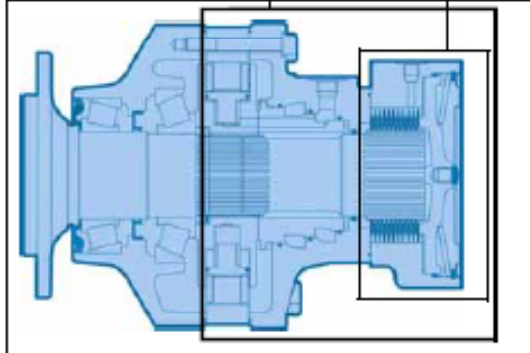
Motor inertia = 0.01 kg.m<sup>2</sup>  
 Noise emissions = 60 dBA

Cams with equal lobes	C	Displacement		Theoretical torque		Max.power			Max.speed			Max. pressure
		1	2	1	1	2	2	1	1	2		
		cm <sup>3</sup> /tr [cu.in./rev.]	cm <sup>3</sup> /tr [cu.in./rev.]	at 100 bar Nm [lb.ft]	at 1000 PSI [lb.ft]	kW [HP]	preferred kW [HP]	non-preferred kW [HP]	tr/min [RPM]	1 tr/min [RPM]	2 tr/min [RPM]	
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

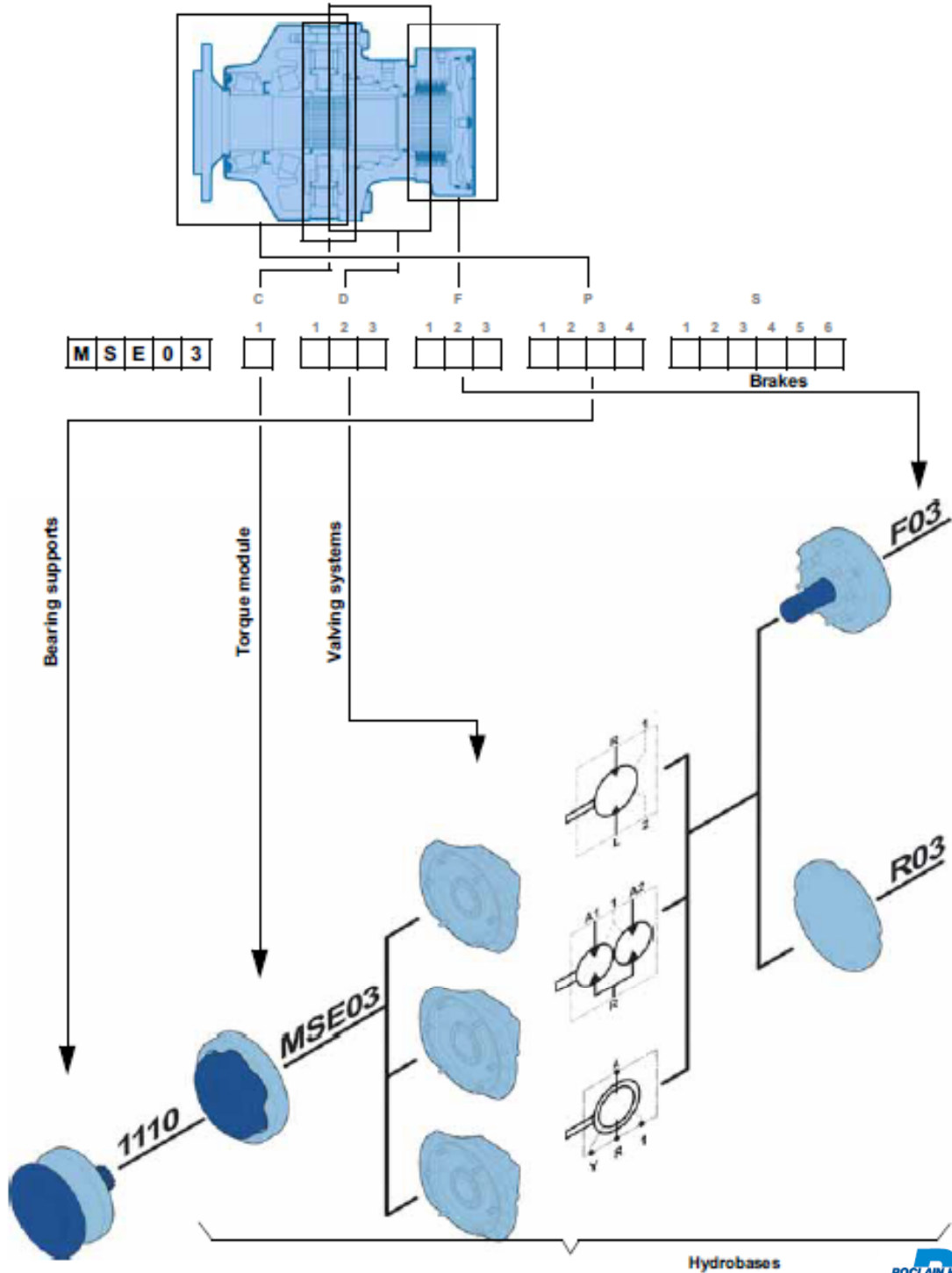


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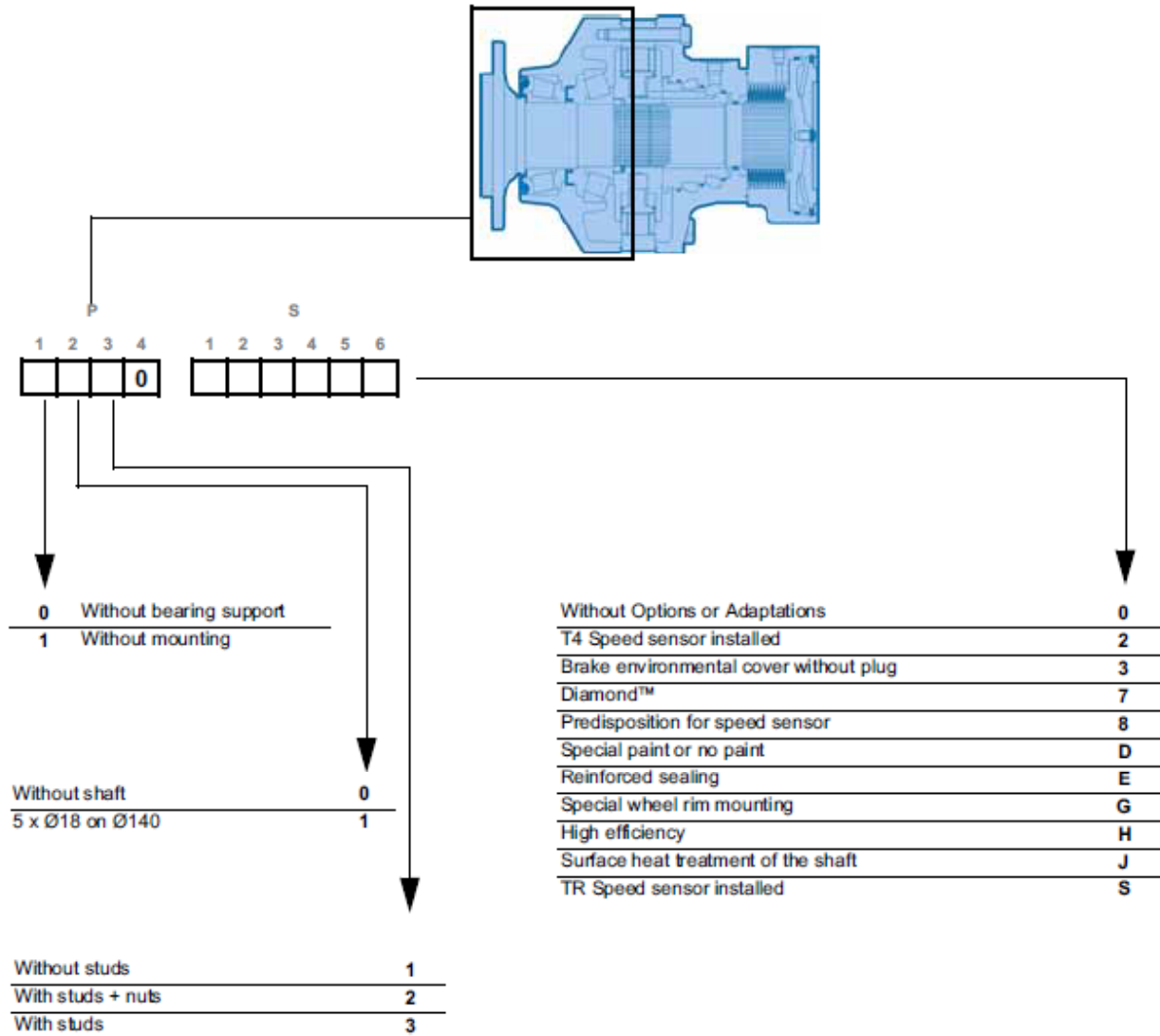


MODULARITY















## MODEL CODE



**Methodology :**

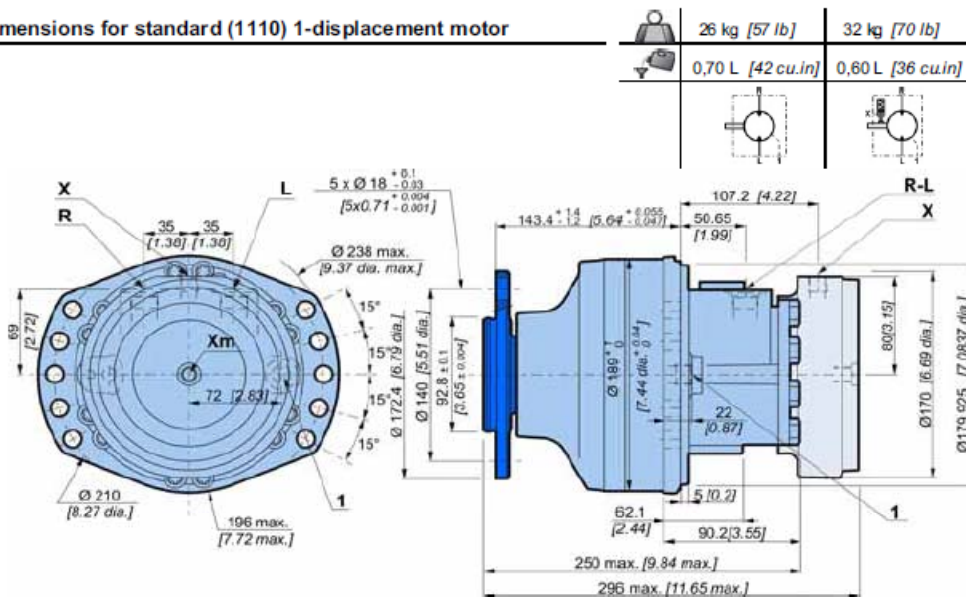
This document is intended for manufacturers of machines that incorporate Poclain Hydraulics products. It describes the technical characteristics of Poclain Hydraulics products and specifies installation conditions that will ensure optimum operation. This document includes important comments concerning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

-  Safety comment.
-  Essential instructions.
-  General information .
-  Information on the model code.
-  Weight of component without oil.
-  Volume of oil.
-  Units.
-  Tightening torque.
-  Screws.
-  Information intended for Poclain-Hydraulics personnel.

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

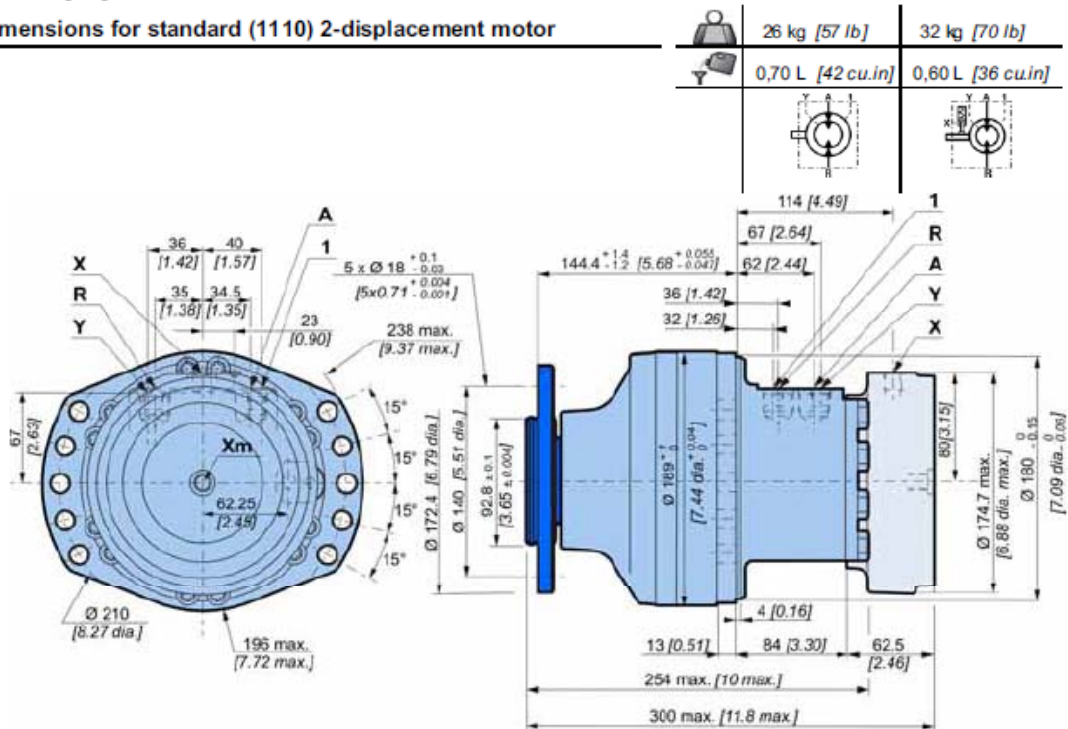
The views in this document are created using metric standards. The dimensional data is given in mm and in inches (inches are between brackets and italic).

**Dimensions for standard (1110) 1-displacement motor**

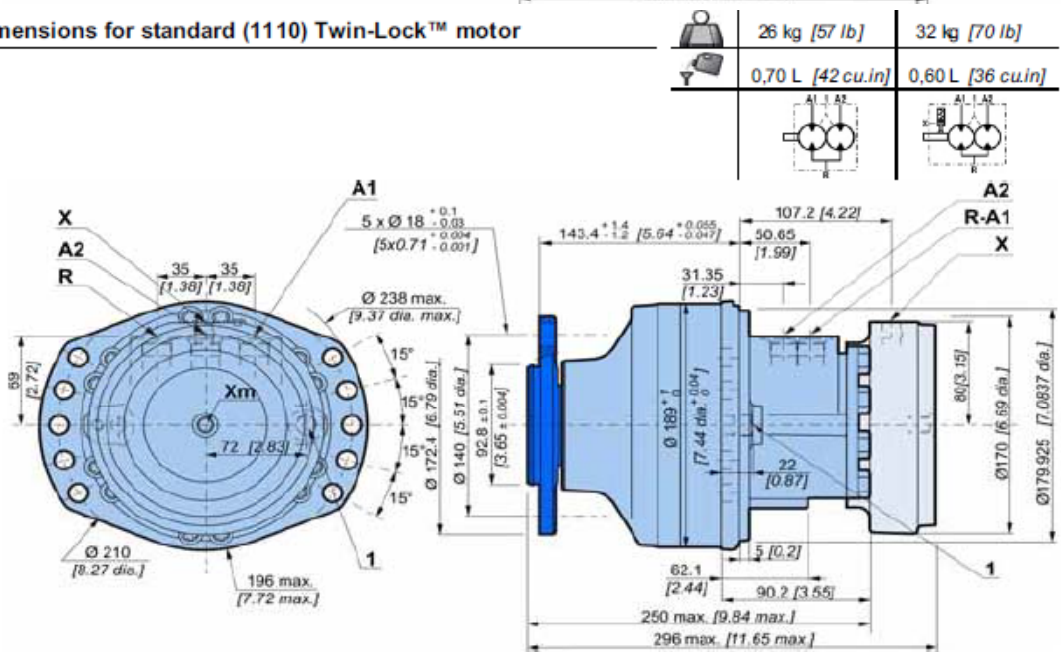


WHEEL MOTOR

Dimensions for standard (1110) 2-displacement motor



Dimensions for standard (1110) Twin-Lock™ motor



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





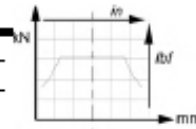
**Load curves**

**Permissible radial loads**

Test conditions :

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

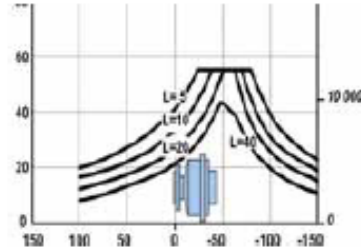
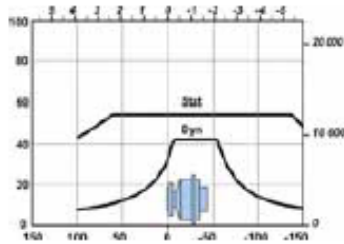
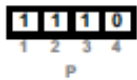
**Dynamic** : 0 tr/min [0 RPM], code 0 displacement, without axial load at max. torque



**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 Poclain Hydraulics application engineer.



**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]
M14x1.5	45 [1,77]	5 [0,20]	10 [0,39]	16,5 [0,65]		12,9	200 [147,5]	250 [184,4]

(\*) The tightening torques are given for the indicated loads.  
 (1) **Wheel rim** : Suggested tightening torque for wheel rim mountings (Re steel disc > 240 N/mm<sup>2</sup> (>34 800 PSI)).  
 (2) **Standard** : Suggested tightening torque in other cases (Re steel flange 360 > N/mm<sup>2</sup> (>52 215 PSI))

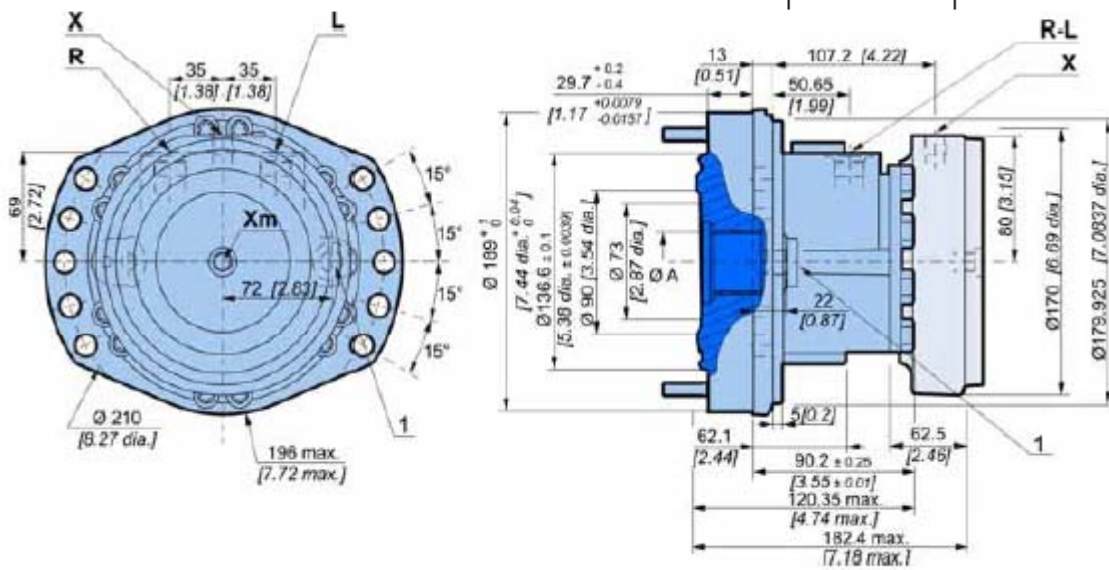


See generic installation motors N°80 1478197L.

VALVING SYSTEM AND HYDROBASES

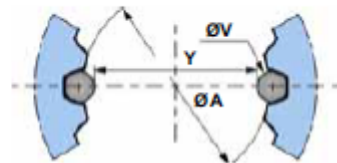
Dimensions for 1-displacement valving

	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)

ØA	Module	Z	Dimension on 2 pins	
			Y	ØV
40 [1,575]	1,667	22	33,446 [1,317]	3,33 [0,131]

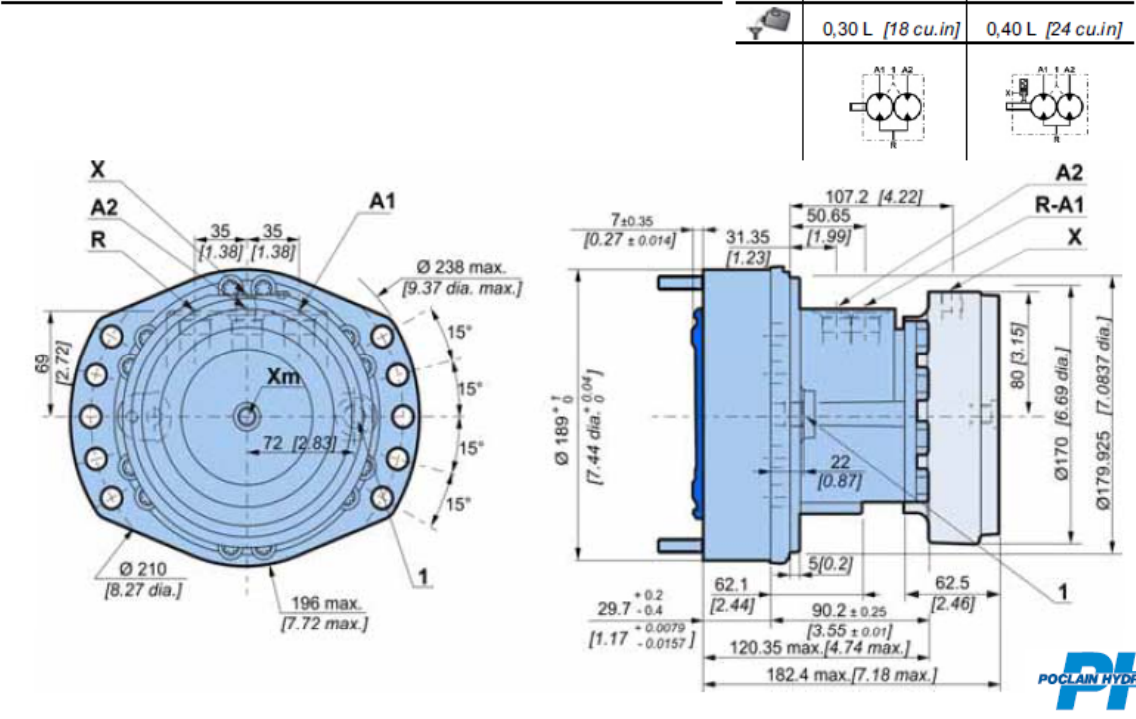
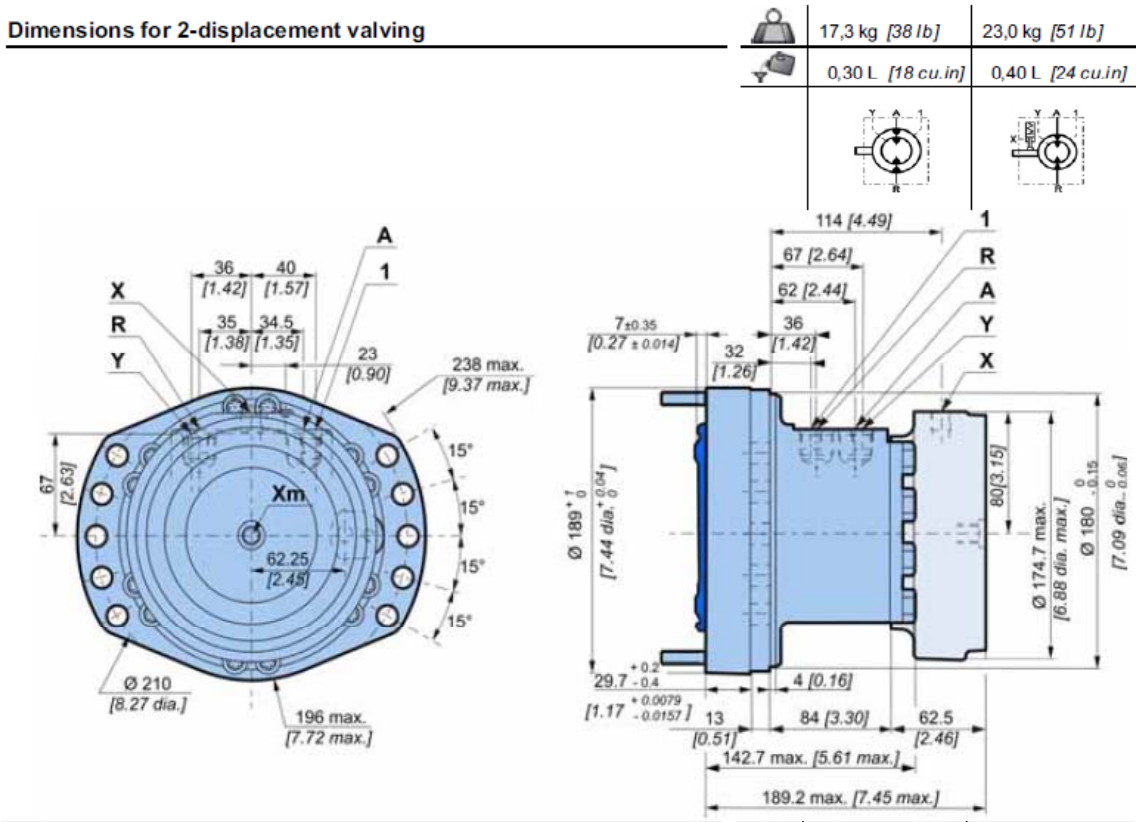


You are advised to have the installation validated by your Poclairn Hydraulics application engineer before using the hydraulic unit in an application.

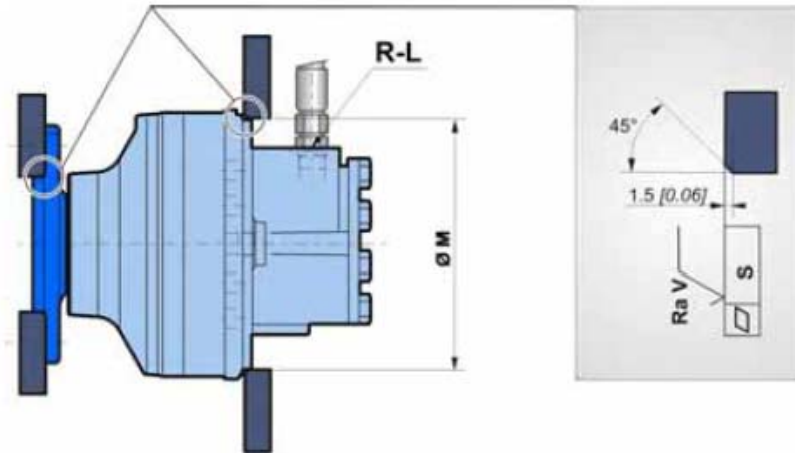


We must provide you with a detailed plan of the interface for any hydraulic unit use, consult your Poclairn Hydraulics sales engineer.



Dimensions for 2-displacement valving



### Chassis mountings

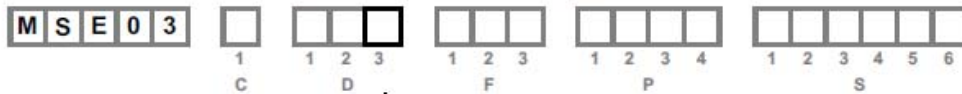
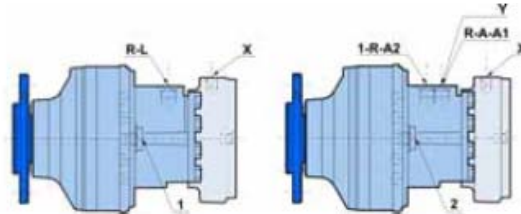


Take care over the immediate environment of the connections.

ØM <sup>(1)</sup>	ØU	S	Ra V		Class	 <sup>(*)</sup>
180,25 [7,10]	210 [8,27]	0,2 [0,008]	12,5µm [0,49µin]	2 x 5 M12 x 2	10,9	120 N.m [88,5 lb.ft]
<sup>(1)</sup> +0,3 [+0,012] +0,2 [+0,008]						

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

**Hydraulic connections**  
connections

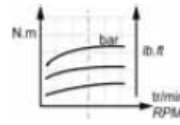
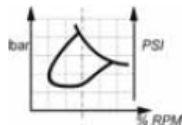


	Old standards	Standards	Power supply	Case drain	2 <sup>nd</sup> displacement control	Control of parking break
			R-L	1, 2		X
	A SAE J514	ISO 11 926-1	7/8"-14 UNF	9/16"-18 UNF		9/16"-18 UNF
	3 BSPP	ISO 1 179-1	Ø21 [1/2" dia.]	Ø13 [1/4" dia.]		Ø13 [1/4" dia.]
			R-A	1, 2	Y	X
	A SAE J514	ISO 11 926-1	7/8"-14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

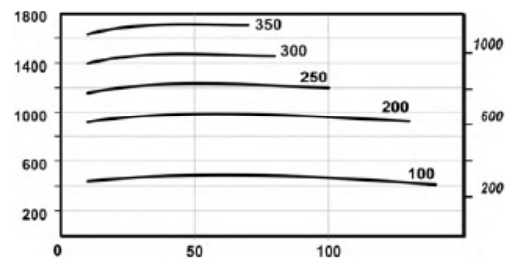
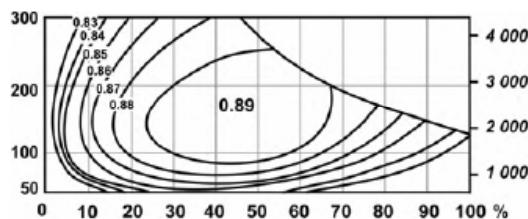
**Efficiency**

**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].



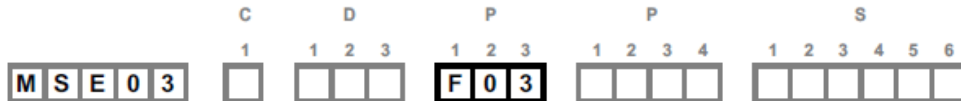
**Actual output torque**



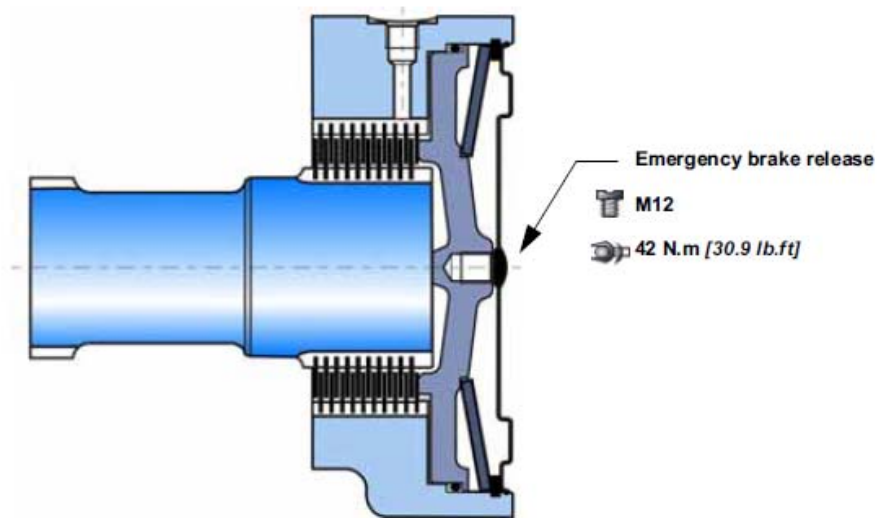
The starting torque is taken to be approximately 85% of the first value for available pressure. For a precise calculation, consult your Poclain Hydraulics application engineer.



## 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 rests 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 3

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 <sup>3</sup> [6.1 cu.in]
Volume for brake release	16 cm <sup>3</sup> [1.0 cu.in]
Max. energy dissipation	38 179 J

\* After emergency brake has been used



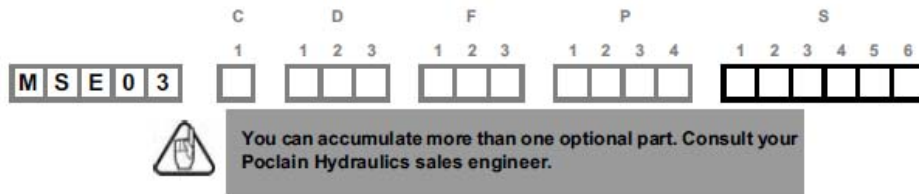
Do not run in multidisc brakes.



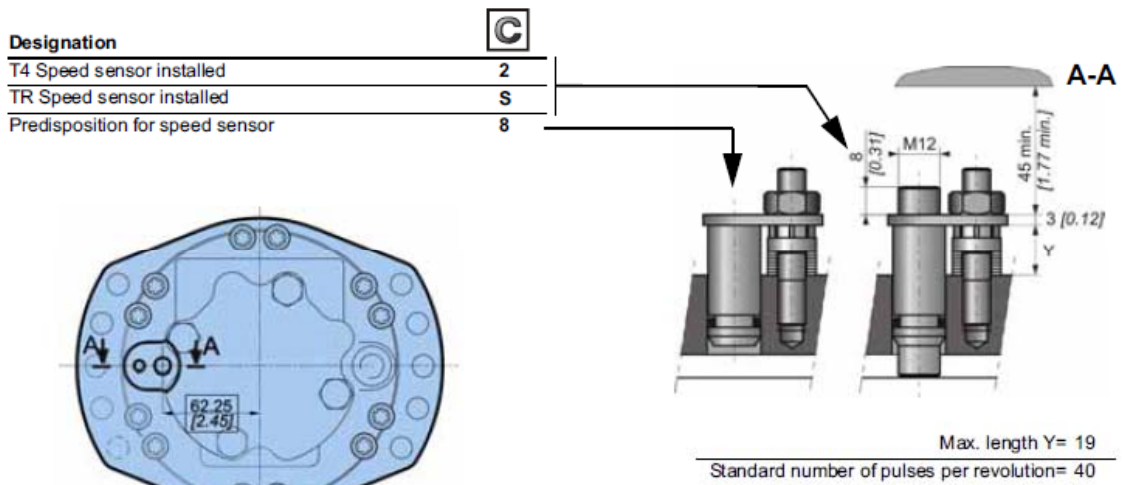
A functional check of the parking brake must be carried out each time it is used as an auxiliary brake (or emergency brake). For all vehicles capable of speeds over 25 km/hour, please contact your Poclairn Hydraulics application engineer.



OPTIONS



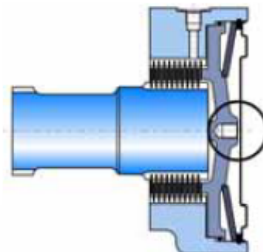
**2 - S - 8 - Installed speed sensor or predisposition**



- 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.

**3 - Brake environmental cover without plug**

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

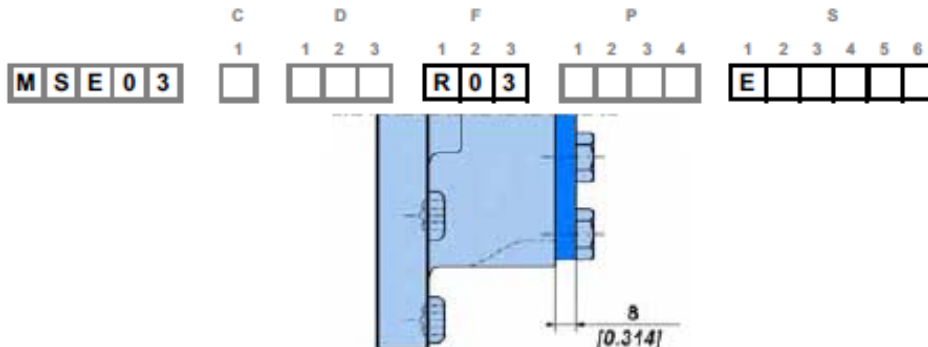


### 7 - Diamond™

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).



### G - Special wheel rim mounting

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



Consult your Poclair Hydraulics sales engineer.

### H - High efficiency

Reinforced piston sealing to improve volumetric efficiency.



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

### J - Treated shaft

Heat treatment on the indicated bearing radius and splines.

