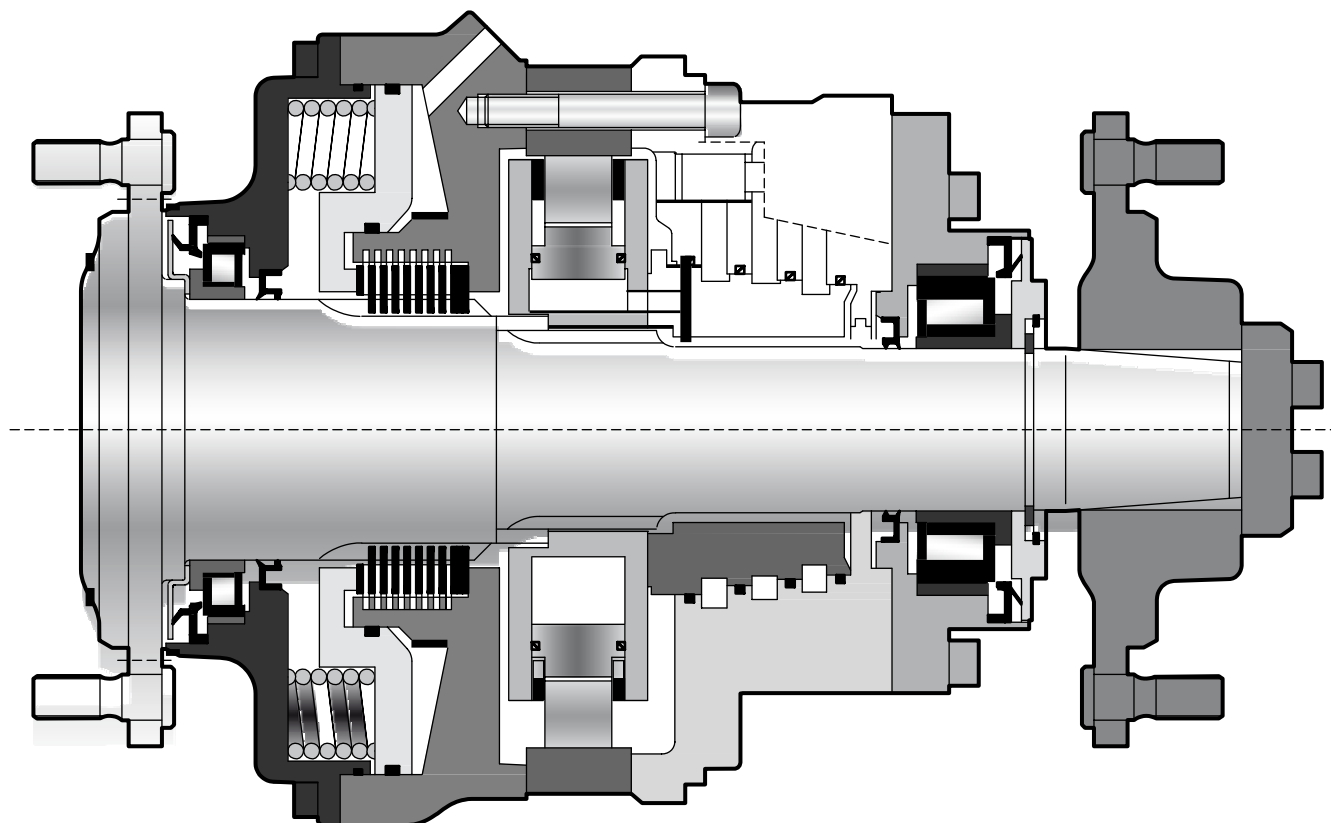




# MD MOTORS



# MD11. HYDRAULIC MOTOR. CHARACTERISTICS



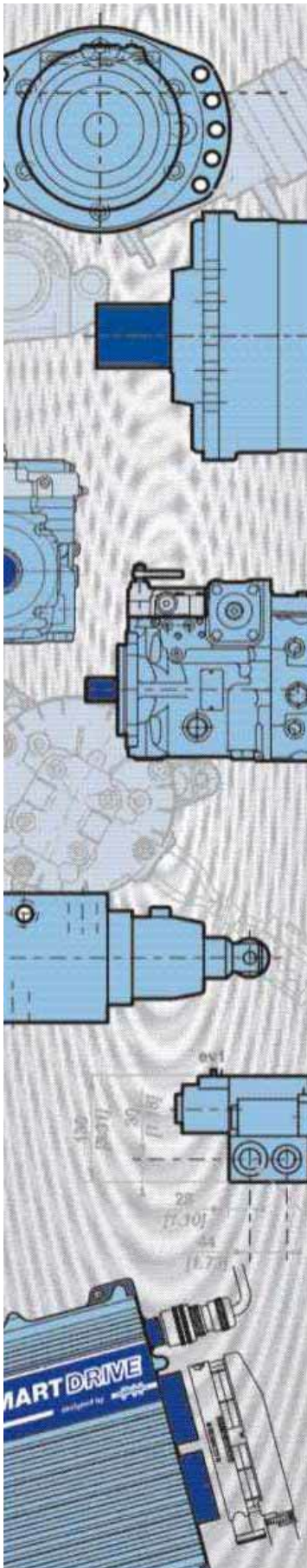
Motor inertia = 0.15  
kg.m<sup>2</sup>  
Noise emissions = 60  
dBA

C	①		②		Theoretical torque		①	Max.power		②	Max.speed		Pression max.	
	cm <sup>3</sup> /tr [cu.in./rev.]	[51.0]	cm <sup>3</sup> /tr [cu.in./rev.]	[25.5]	at ΔP 100 bar			kW [HP]	②		tr/min [RPM]	bar [PSI]		
					Nm	[lb.ft]			preferred kW [HP]					non-preferred kW [HP]
8	837 [51.0]	419 [25.5]	1 331	[677]	50 [67]	33 [44]	25 [34]			195	450 [6 527]			
9	943 [57.5]	472 [28.8]	1 499	[762]						190				
0	1 048 [63.9]	524 [32.0]	1 666	[847]						185				
1	1 147 [70.0]	574 [35.0]	1 824	[927]						180				
2	1 259 [76.8]	630 [38.4]	2 002	[1 018]						170		175		

\* See option "M" for higher speed or lower charge pressure.

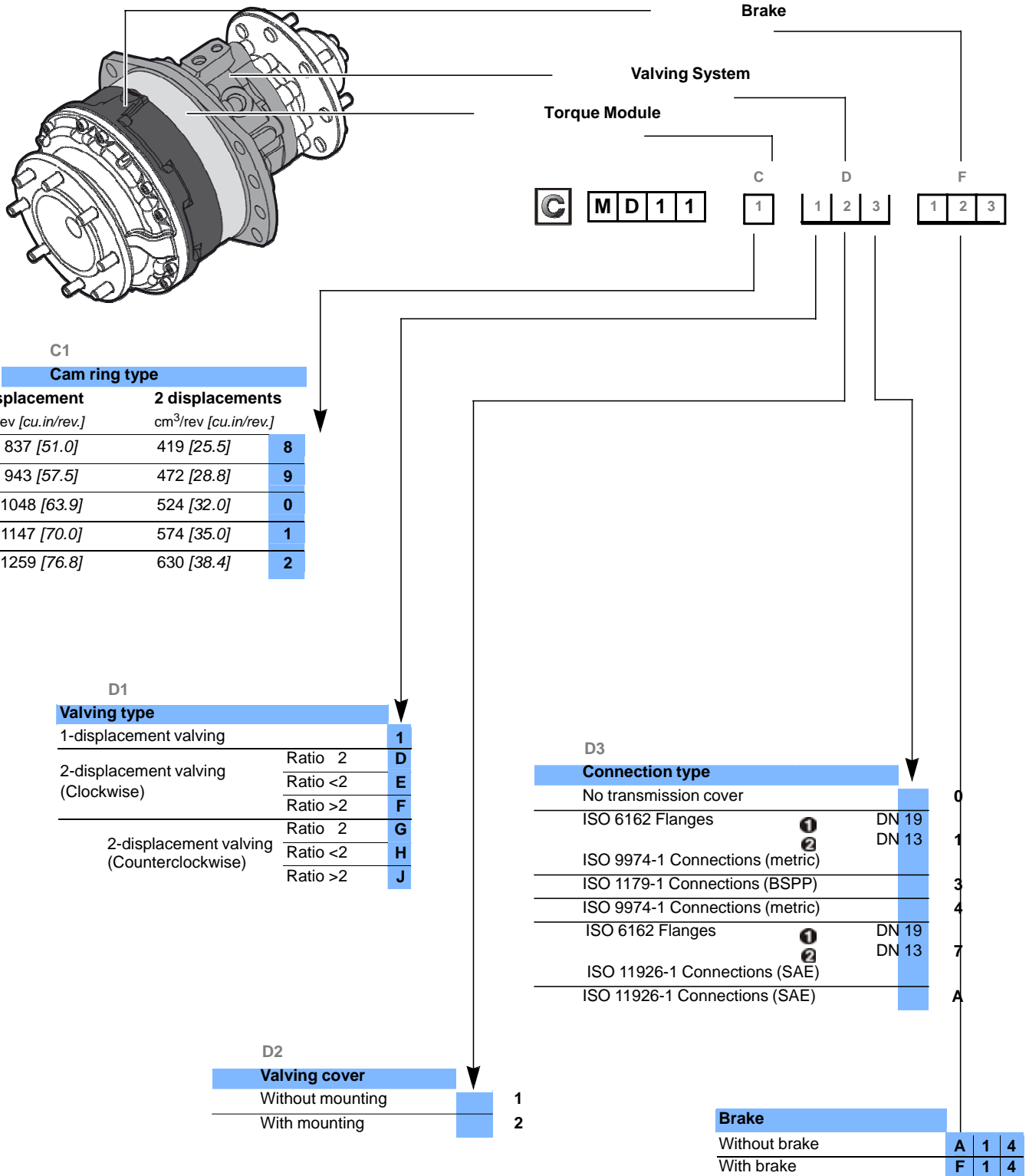
- ① First displacement
- ② Second displacement

## CONTENT



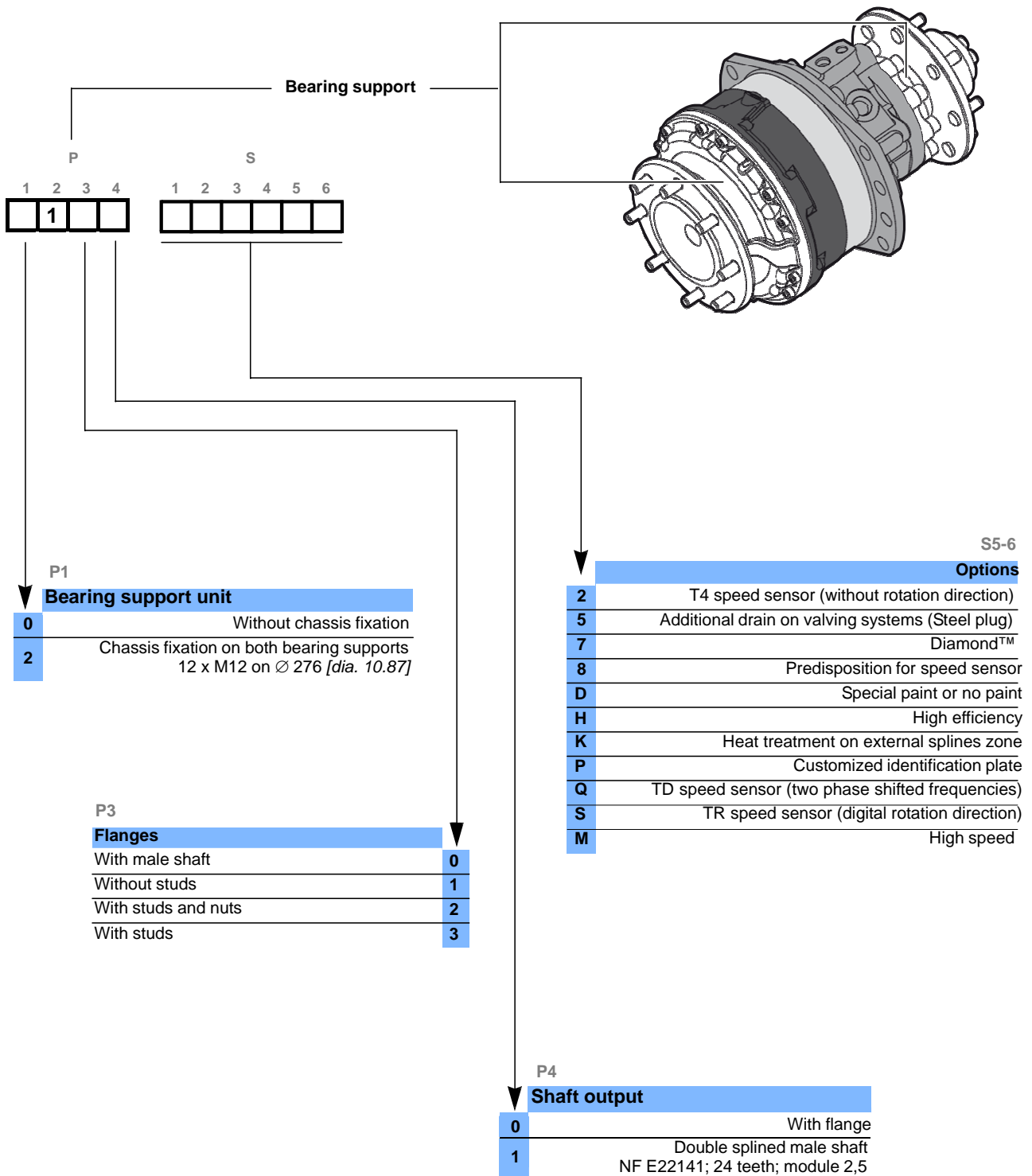
<b>MODEL CODE</b>	<b>4</b>	
<b>CHARACTERISTICS</b>	<b>7</b>	Characteristics
Wheel motor	7	
Shaft motor	8	
Radial load curves	9	
<b>VALVING SYSTEM</b>	<b>10</b>	Valving systems
Hydraulic connections	10	
<b>BRAKES</b>	<b>11</b>	Brake
Front brake	11	
<b>INSTALLATION</b>	<b>12</b>	Installation
Customer's chassis and wheel rim mountings	12	
<b>OPTIONS</b>	<b>14</b>	Options

## MODEL CODE



F123

## MODEL CODE



## MODEL CODE

### Methodology :

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



**Safety comment.**

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



**Essential instructions.**



**General information .**



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



**Weight of component without oil.**



**Volume of oil.**



**Units.**



**Tightening torque.**



**Screws.**



**Information intended for Poclairn-Hydraulics personnel.**

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

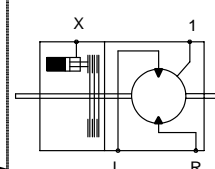
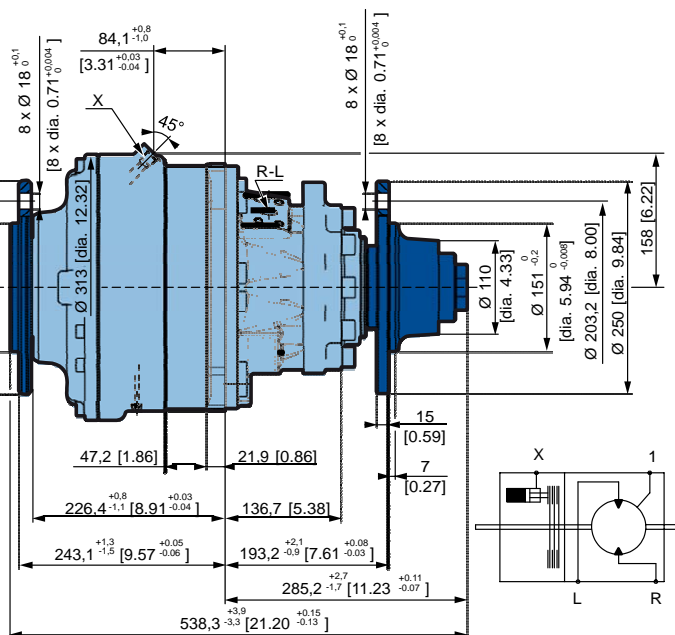
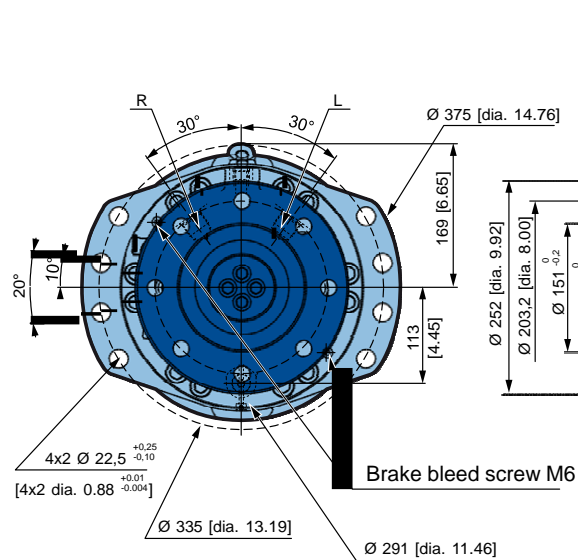
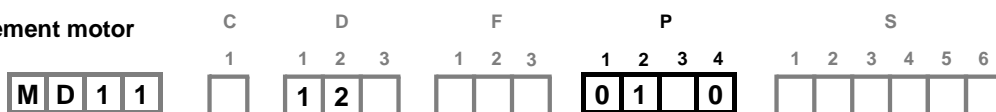


	A mm [ <i>in</i> ]	B mm [ <i>in</i> ]	C mm [ <i>in</i> ]
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-right: 5px;">0</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-right: 5px;">1</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-right: 5px;">2</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-right: 5px;">0</div> </div> <div style="text-align: center;"> <p>P</p> <p>1 2 3 4</p> </div> </div>	30 [1.18]	20 [0.79]	21 [0.83]
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-right: 5px;">0</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-right: 5px;">1</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-right: 5px;">3</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-right: 5px;">0</div> </div> <div style="text-align: center;"> <p>P</p> <p>1 2 3 4</p> </div> </div>	30 [1.18]	20 [0.79]	—

# CHARACTERISTICS

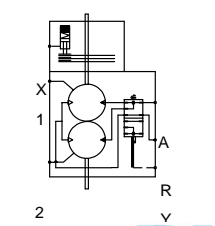
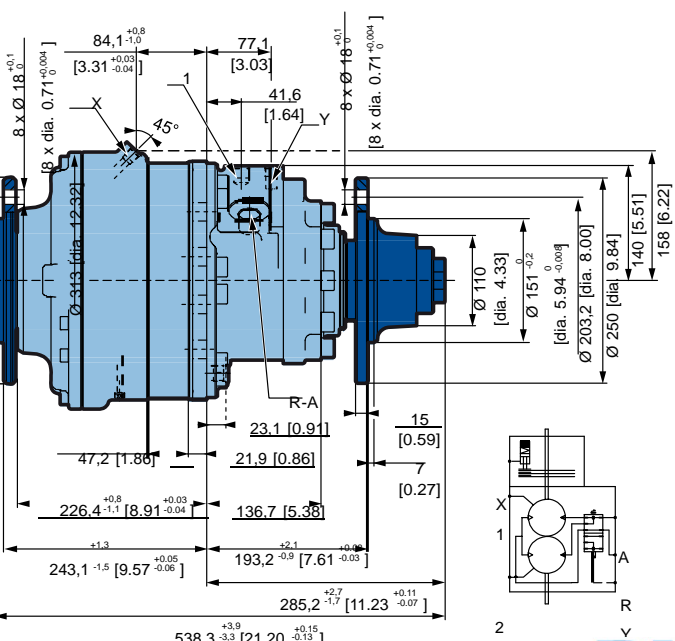
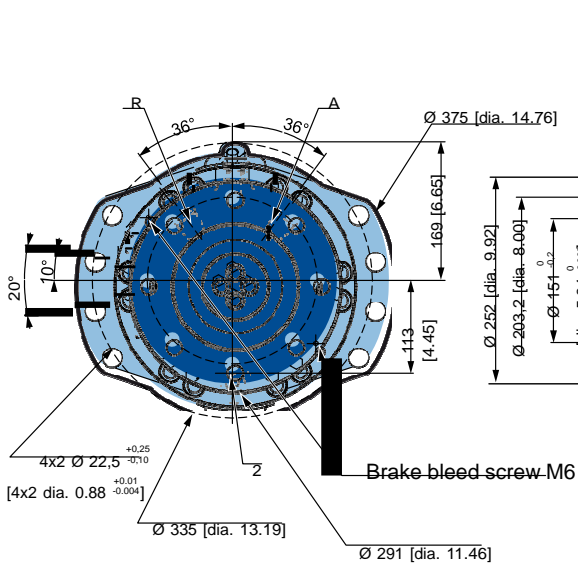
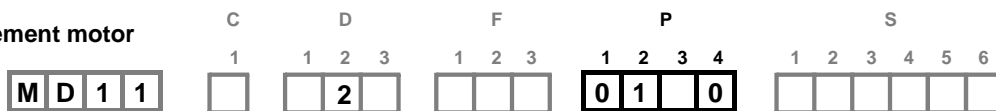
## Wheel motor

### 1 - displacement motor



	1 - displacement	2 - displacement
kg [lb]	129 [284.4]	133 [293.2]
l [cu.in]	2,00 [122]	

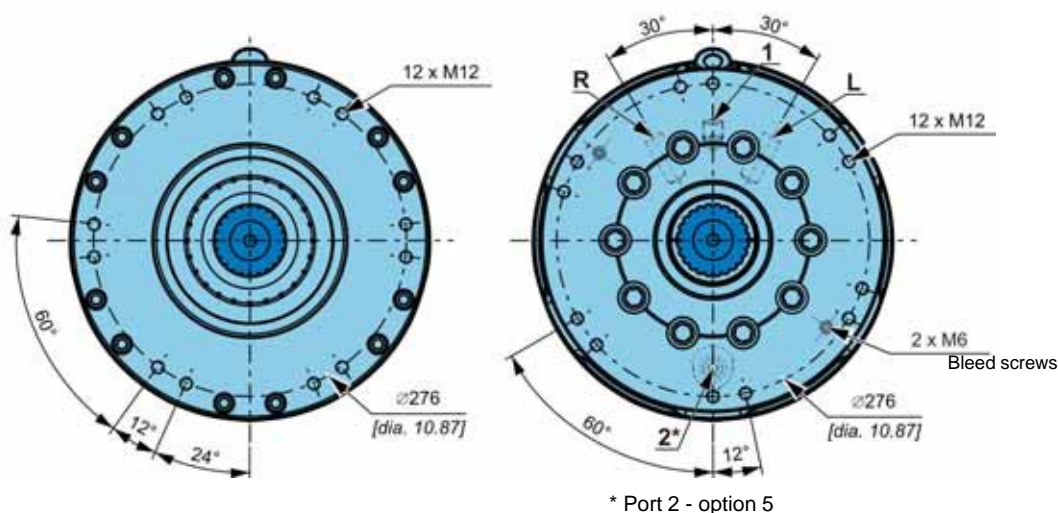
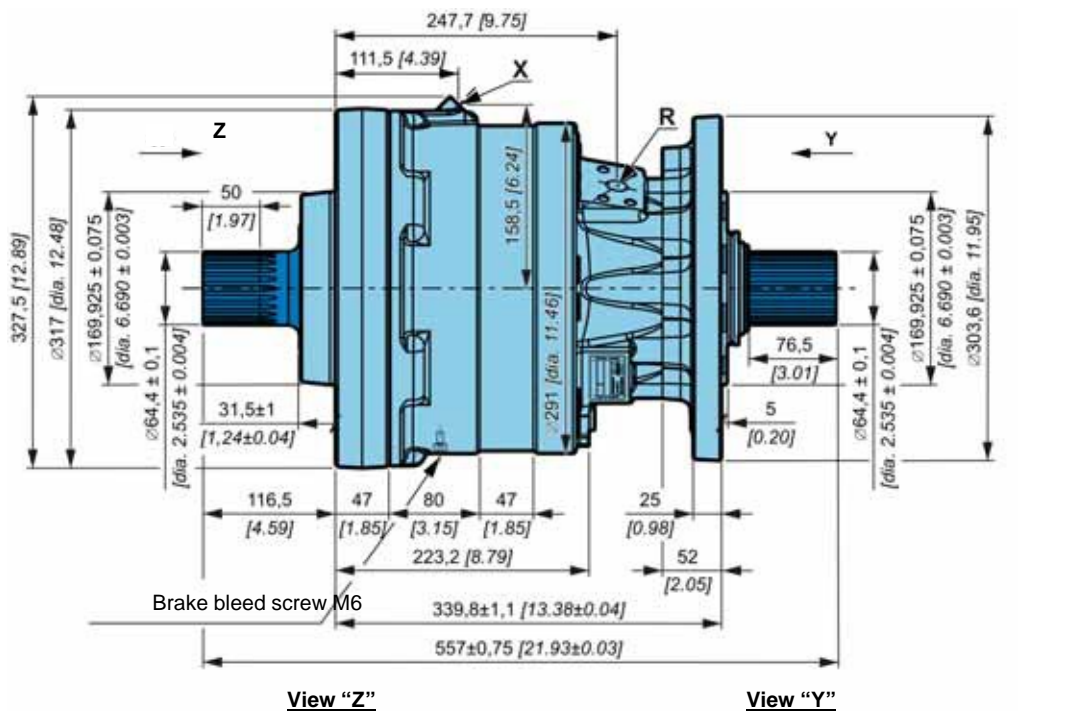
### 2 - displacement motor



# CHARACTERISTICS

## Shaft motor

		C			D			F			P			S				
		1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
M	D	1	1						2	1	0	1	5					



	kg [lb]	81 [178.6]
	l [cu.in]	2,00 [122]



## CHARACTERISTICS

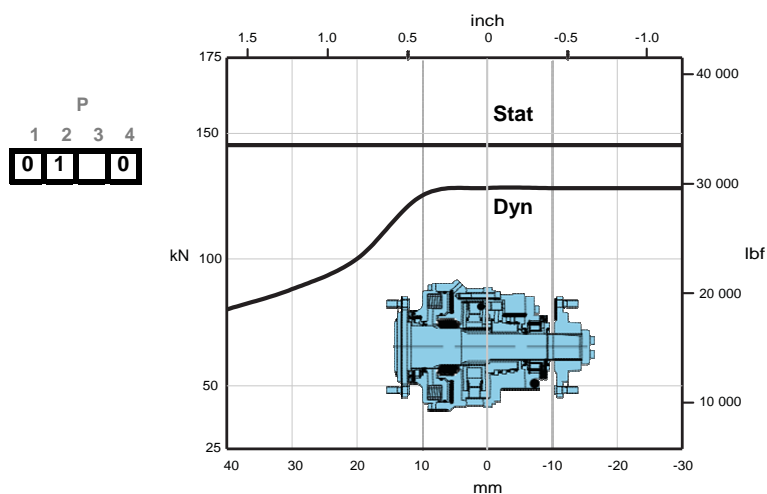
### Radial load curves

#### Permissible radial loads

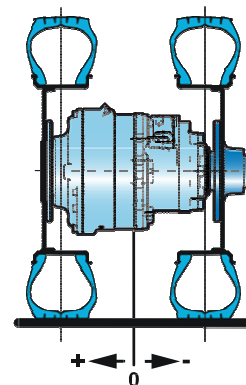
Test conditions:

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

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



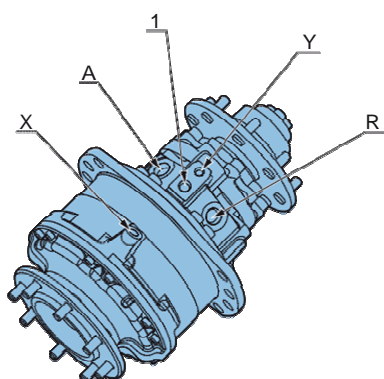
The service life of the components is influenced by the pressure. You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components complies with the application's specifications.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



## VALVING SYSTEM

### Hydraulic connections

	C		D			F			P				S					
	1		1 2 3			1 2 3			1 2 3 4				1 2 3 4 5 6					
	M D 1 1								1									
	Oldstandards	Standards	Power supply			Case drain		2 <sup>nd</sup> displacement control		Control of parking brake								
			R - L			1, 2		X										
1	ISO 6 162 DIN 3 852	ISO 6 162-2 ISO 9 974-1	PN400 DN 13-NF			M 18x1,5		M 16x1,5										
			R - A			1, 2		Y		X								
A	SA E J514	ISO 11 926-1	1" 1/16-12 UN F			3/4" -16 UN F		9/16" -18 UN F		9/16" -18 UN F								
1	ISO 6 162 DIN 3 852	ISO 6 162-2 ISO 9 974-1	PN400 DN 13-NF			M 18x1,5		M 16x1,5		Ø17 [3/8" dia.]								
	3	BSPF	Ø27 [3/4" dia.]			Ø21 [1/2" dia.]		Ø17 [3/8" dia.]		Ø17 [3/8" dia.]								
	4	NF E48 050	M 27x2			M 18x1,5		M 16x1,5		Ø17 [3/8" dia.]								
	7	ISO 6 162 DIN 3 852	PN400 DN 13-NF			3/4" -16 UN F		9/16" -18 UN F		9/16" -18 UN F								
			Max. pressures			bar [PSI]		15 [218]										
			Instantaneous pressure peaks resistance			bar [PSI]		350 [5076]		1 [15]		30 [435]		30 [435]				



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.

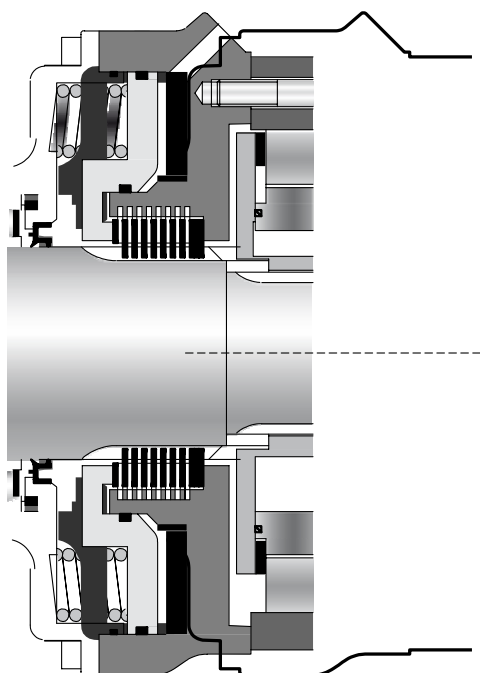


Do not put either a check valve or a poppet valve on the pilot lines (parking brake and displacement change) between the charge pump and the pilot valve. Do not use a piloting valve with integrated check valve.

## BRAKES



### Front brake



Parking brake torque at 0 bars on housing (new brake)	8 000 Nm [5 900 lb.ft]
Dynamic emergency braking torque at 0 bars on housing (max. 10 uses of emergency brakes)	5 200 Nm [3 840 lb.ft]
Residual parking braking at 0 bars on housing *	6 000 Nm [4 430 lb.ft]
Min. brake release pressure	10 bar [145 PSI]
Max. brake release pressure	30 bar [435 PSI]
Max. energy dissipation	90 500 J

\* After emergency brake has been used



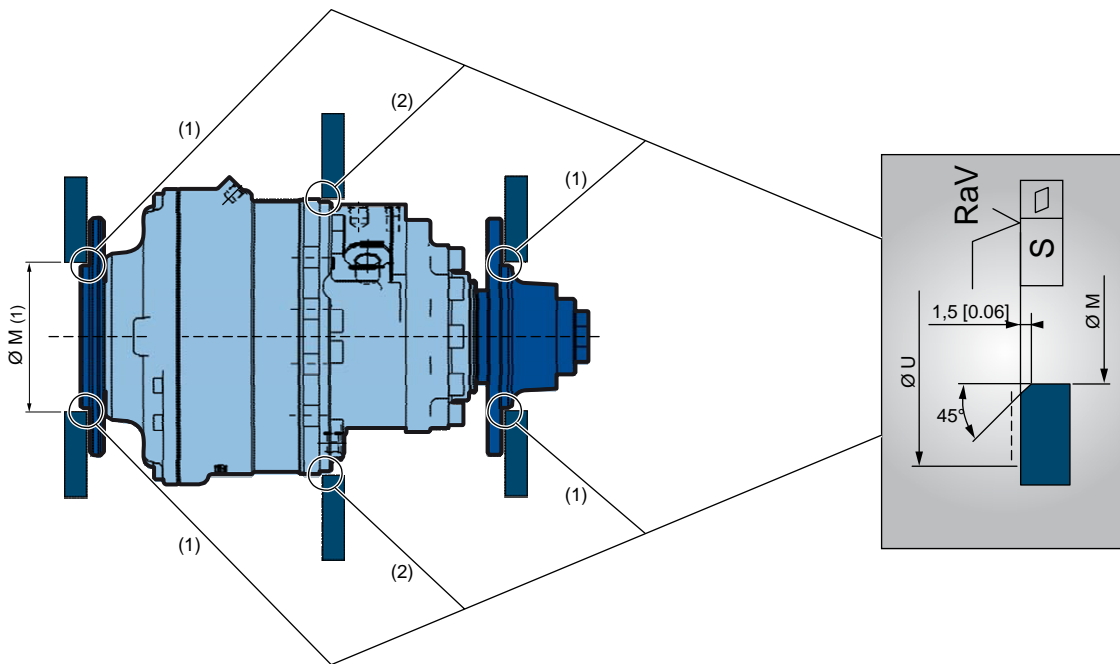
**Do not run-in the multidisc brakes.**



**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/hour, please contact your Poclair Hydraulics application engineer.**

# INSTALLATION

## Customer's chassis and wheel rim mountings



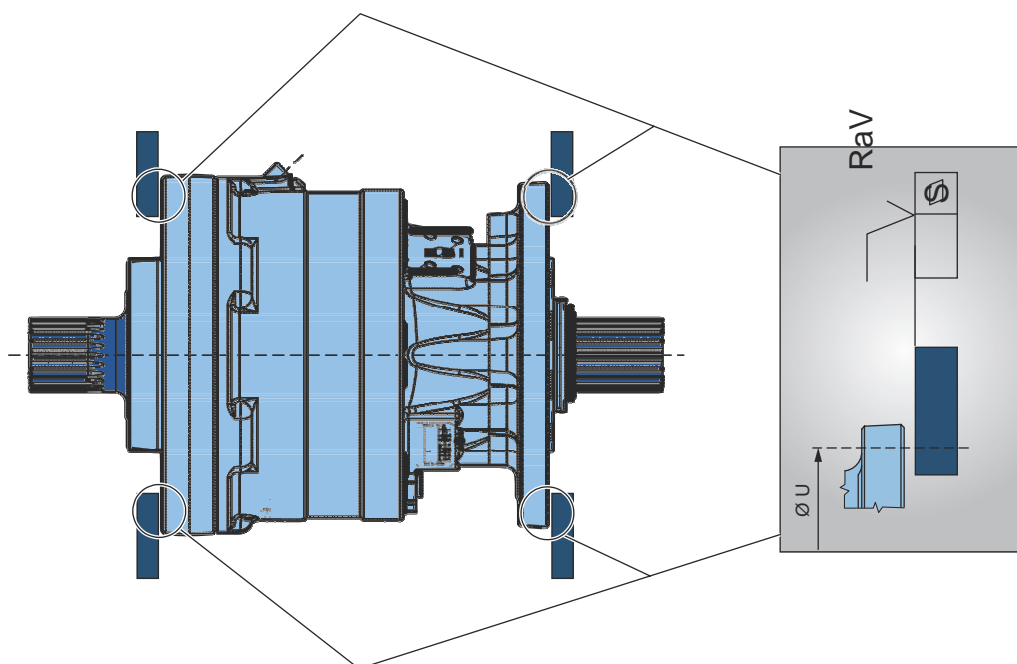
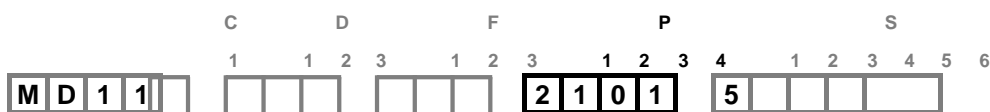
	ØU mm [in]	ØM (*) mm [in]	S	V µm [inch]	2 x 8 M16	Class	** 210 N.m [155 lb.ft]
(1)	203,20 [8,00]	151,00 [5,94]	0.2	12,5	2 x 8 M16	8.8	210 N.m [155 lb.ft]
(2)	335,00 [13,19]	285,00 [11.22]	[0.008]	[492]	8 x M20		410 N.m [302 lb.ft]

(\*) +0,3 [+0,012]  
+0,2 [+0,008]

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

# INSTALLATION

**Customer's chassis mountings**



$\varnothing U$ mm [in]	S	V [ $\mu\text{m}$ inch]		Class		**
203,20 [8,00]	0.2 [0.008]	12,5 [492]	2 x 12 M12	8.8		86 N.m [63 lb.ft]
(*) +0,3 [+0,012] +0,2 [+0,008]						

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



Take care over the immediate environment of the connections.



For more information see technical catalogue "Installation guide" N° 801478197L.

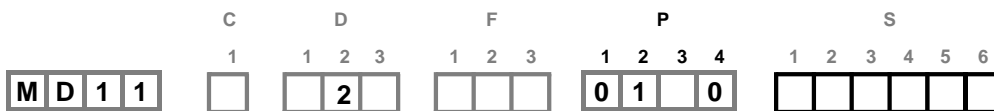


You are strongly advised to use the fluids specified in brochure "Installation guide" N° 801478197L.



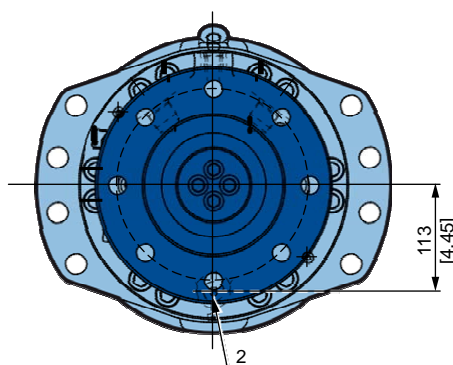
To find the connections' tightening torques, see the brochure "Installation guide" N° 801478197L.

### OPTIONS



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

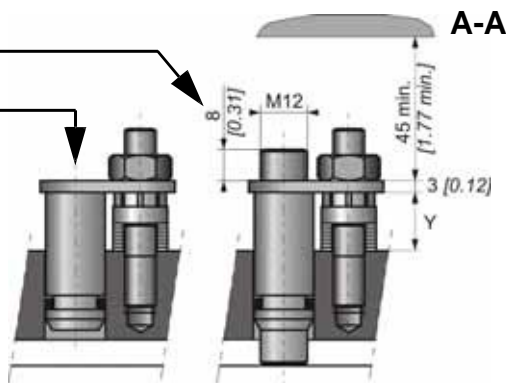
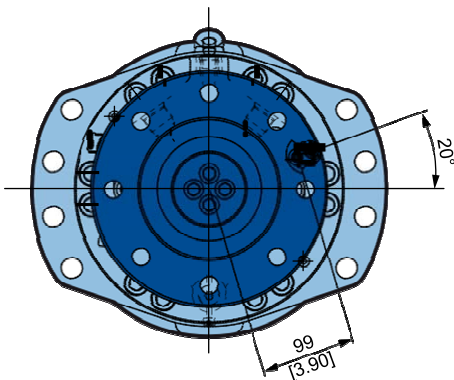
**5 Drain on the valving system**



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

**Designation**

T4 speed sensor (without rotation direction)	<b>2</b>
TR speed sensor (digital rotation direction)	<b>S</b>
TD speed sensor (two phase shifted frequencies)	<b>Q</b>
Predisposition for speed sensor	<b>8</b>

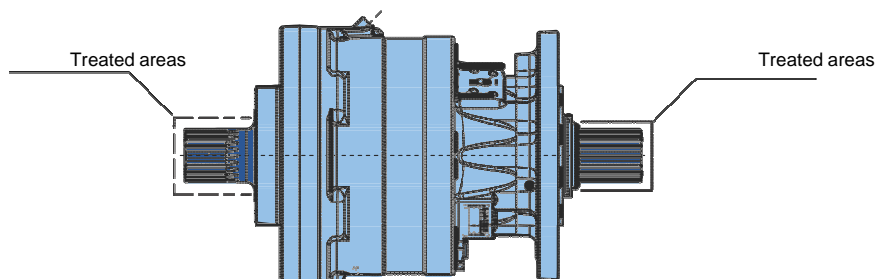


Max. length Y= 18,65 [0.73]  
 Standard number of pulses per revolution= 60

## OPTIONS

### **K** Treated external splines zone

Heat treatment on the external splines zones.



### **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.

### **D** Special paint or no paint

The motors are delivered with Poclairn Hydraulics yellow ochre primer as standard.



Consult your Poclairn Hydraulics application engineer for other colors of primer or topcoat.

### **H** High efficiency

Reinforced piston sealing to improve volumetric efficiency.



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

### **P** Customized identification plate

Your part number can be engraved on the plate.



Consult your Poclairn Hydraulics application engineer for other possibilities.

### **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 Poclairn Hydraulics application engineer.