

MZE03

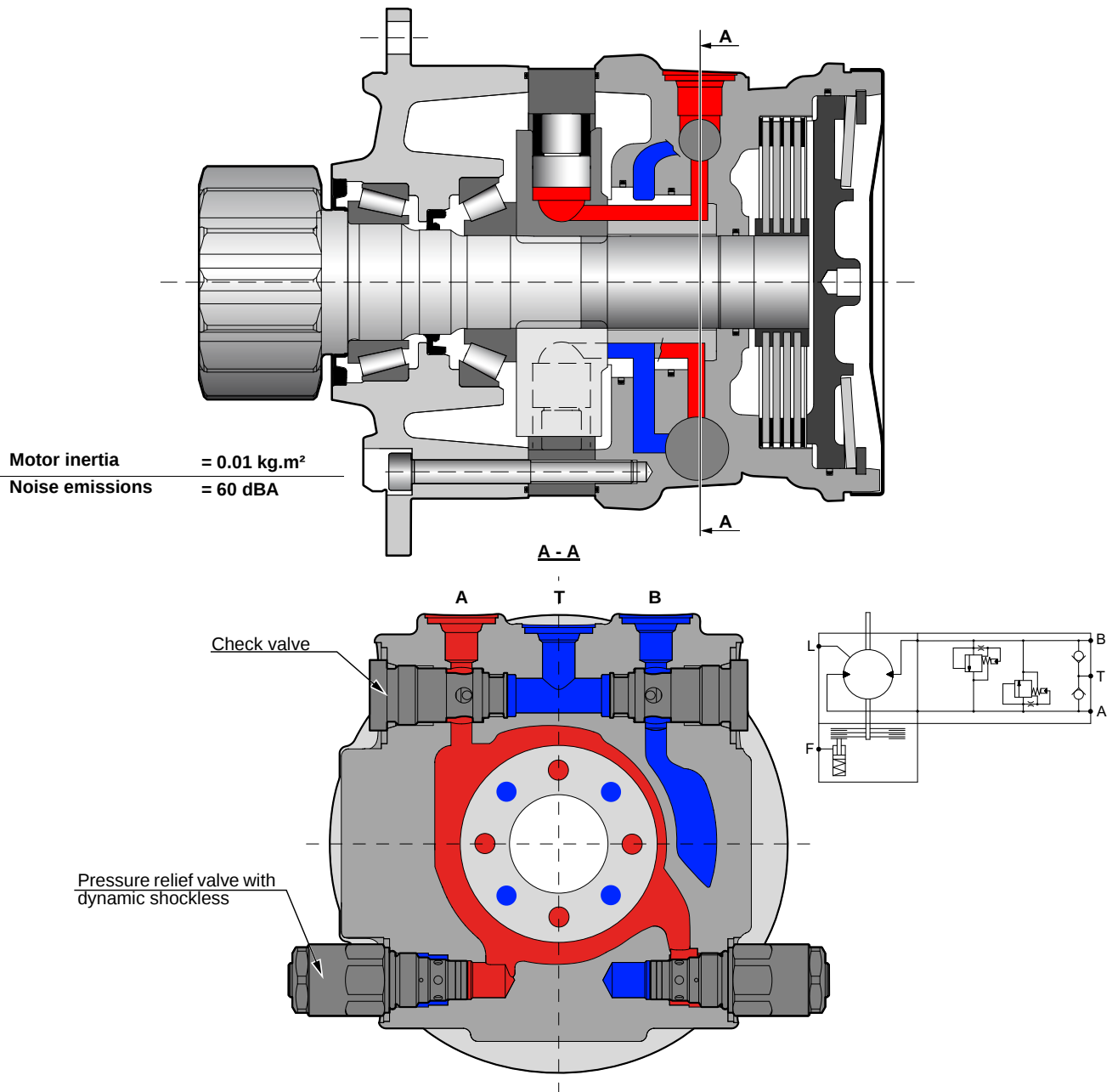
HYDRAULIC MOTORS



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



OVERVIEW



	C	①	Theoretical torque		Max.power ① kW [HP]	Max. speed ① rev/min[RPM]	Max. pressure bar [PSI]
			at 100 bar Nm	at 1000 PSI [lb.ft]			
MZE03	1	cm ³ /rev [cu.in/rev.]	716	[364]	22 [30]	155*	260 [3 771]
	2		795	[404]		140*	

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

① First displacement



CONTENT

MODEL CODE

4

Model code

CHARACTERISTICS

7

Dimensions for standard 1-displacement motor
Pinion characteristics

7

8

Characteristics

VALVING SYSTEMS

9

Hydraulic connections
Valves description

9

10

Valving
systems

BRAKES

11

Rear brake
Automatic hydraulic de-braking valve
Automatic electrical de-braking valve

11

12

13

Brake

INSTALLATION

15

Hydraulic motor setting
Customer's chassis recommendations

15

15

Installation

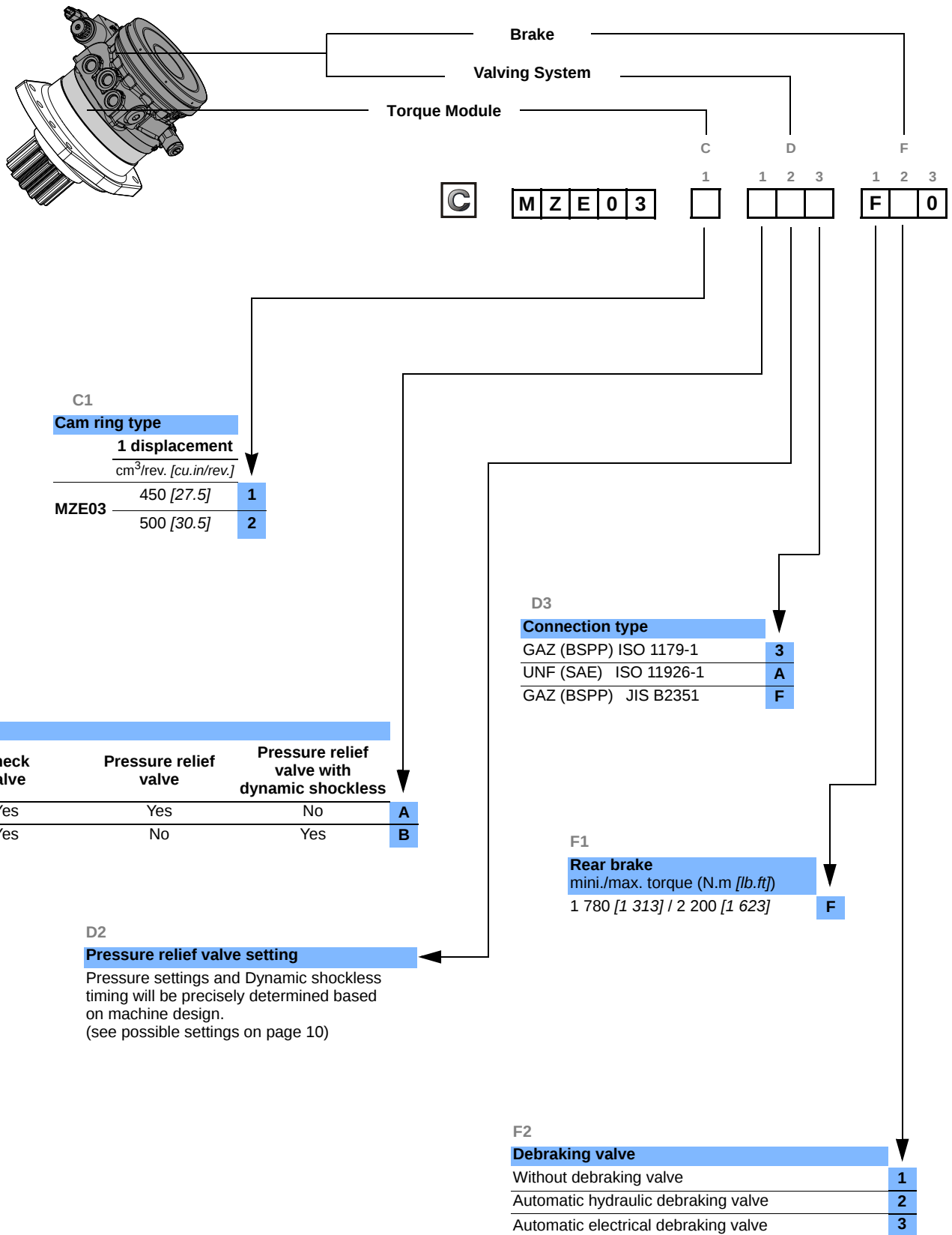
OPTIONS

17

Options

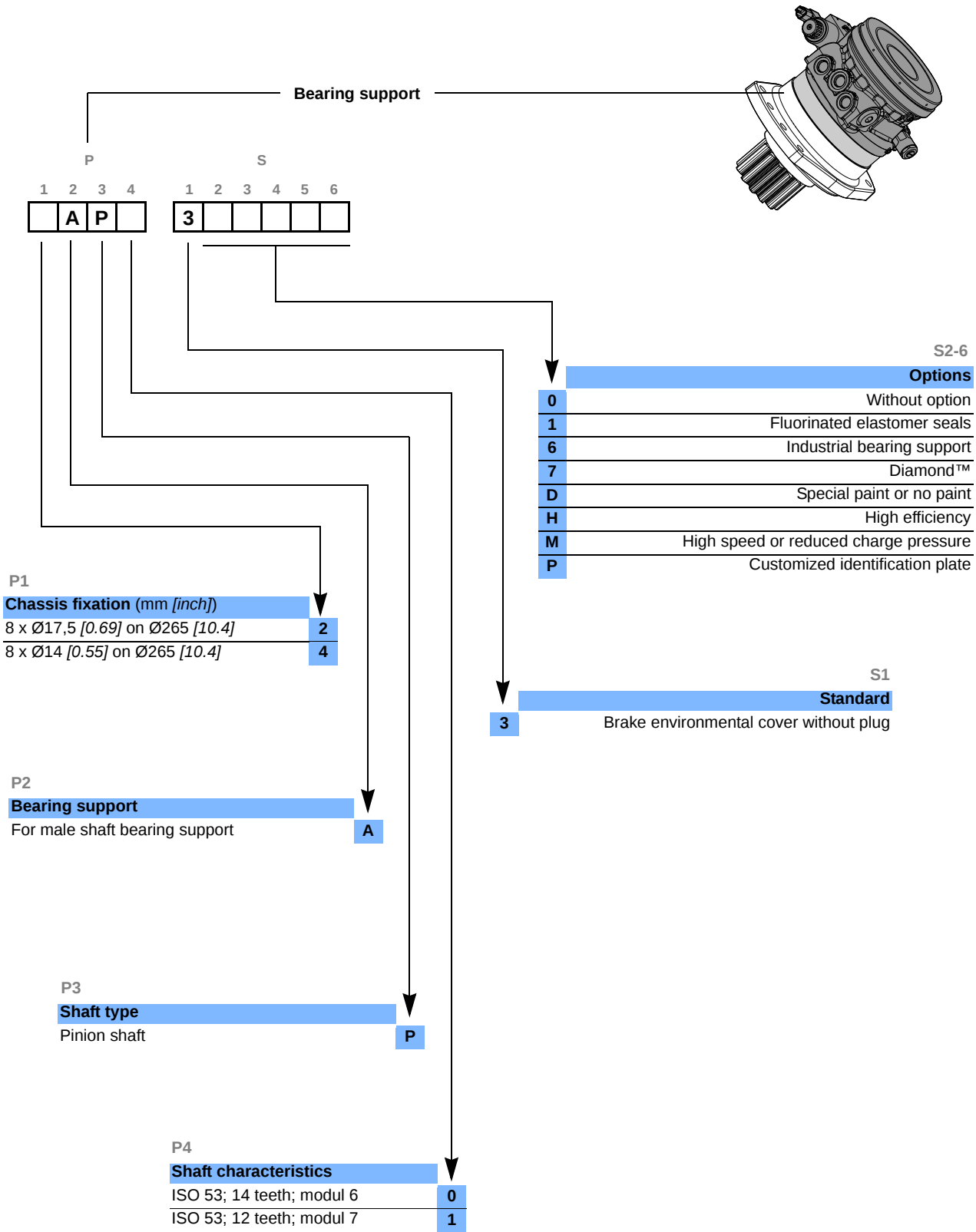


MODEL





CODE



Model code

Characteristics

Valving systems

Brake

Installation

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.Information on the model code.****Weight of component without oil.****Volume of oil.****Units.****Tightening torque.****Screws.****Information intended for Poclain-Hydraulics personnel.**

The views in this document are created using metric standards.

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





CHARACTERISTICS

Dimensions for standard 1-displacement motor

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

Model code

Characteristics

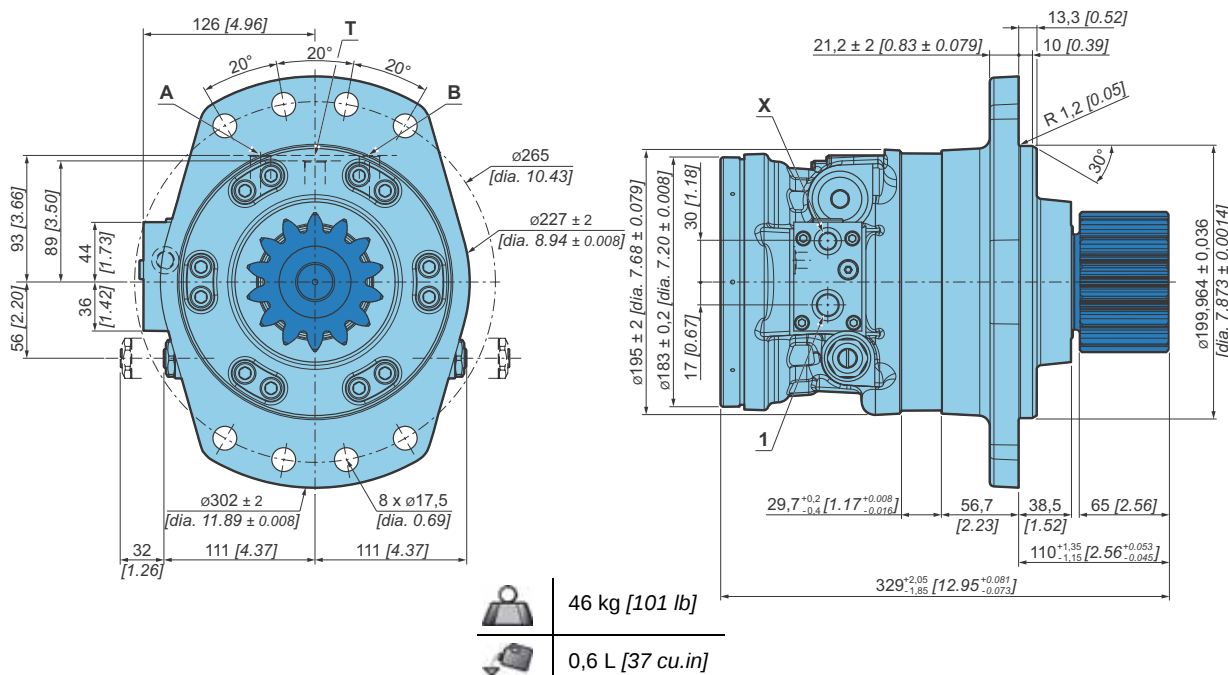
Valving systems

Brake

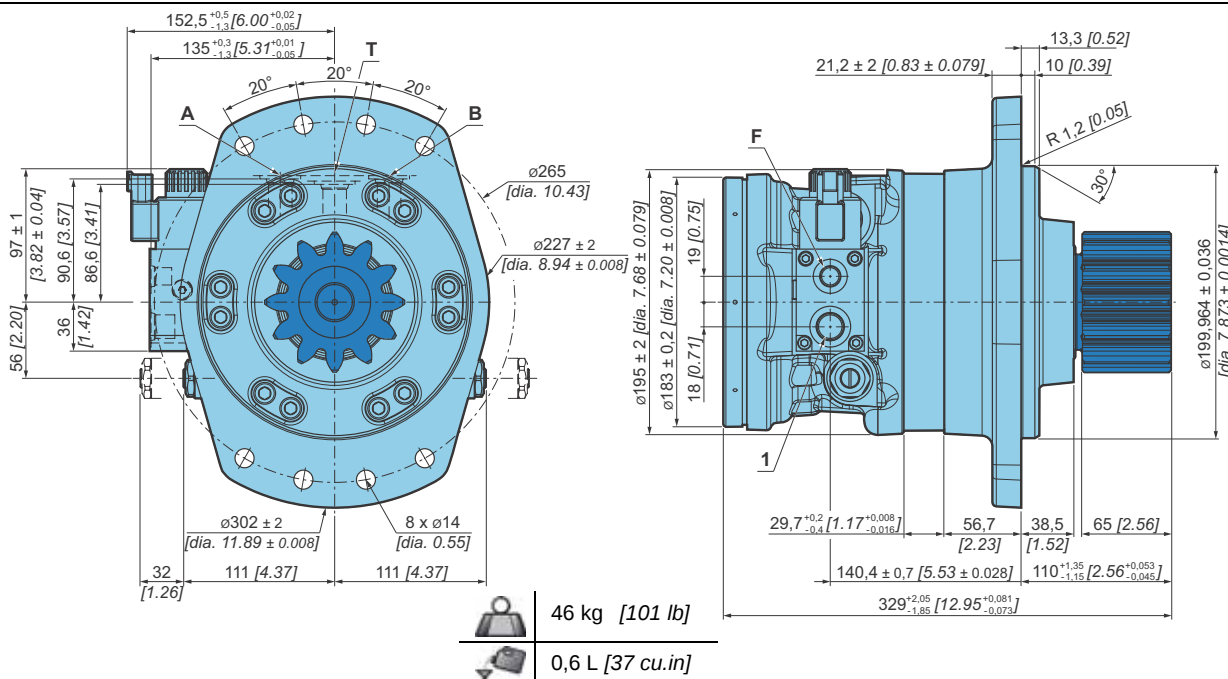
Installation

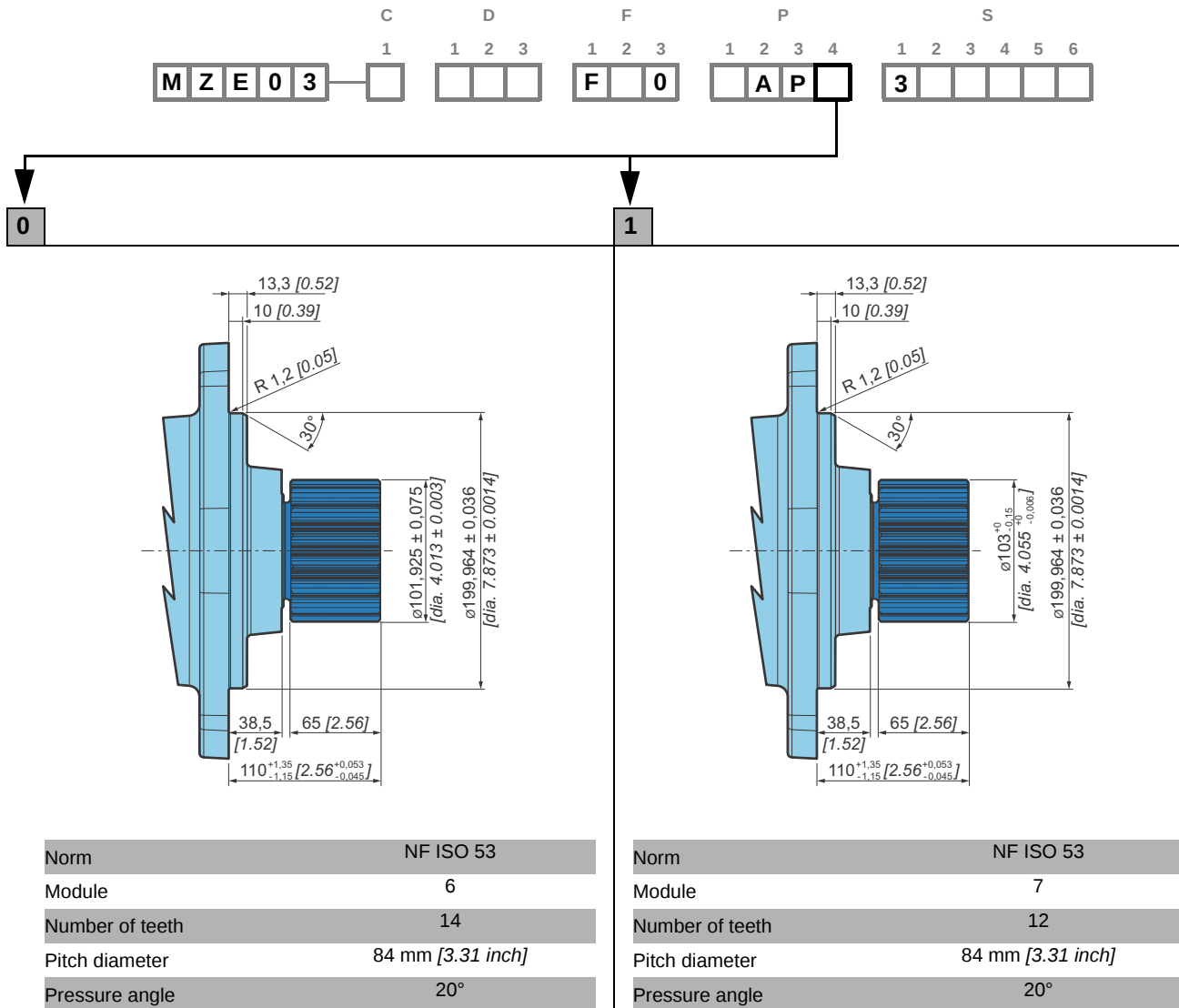
Options

2 Ear fixation 8 x Ø 17,5

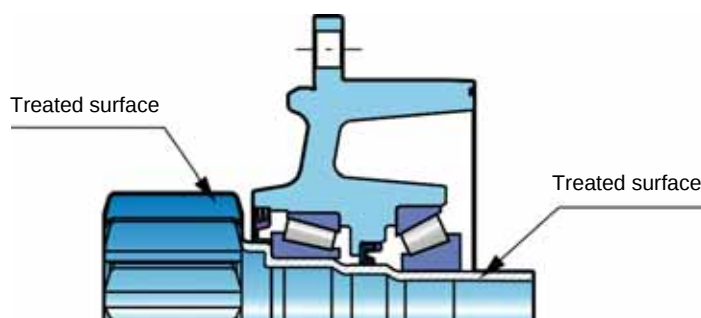


4 Ear fixation 8 x Ø 14



**Pinion characteristics****Treated shafts**

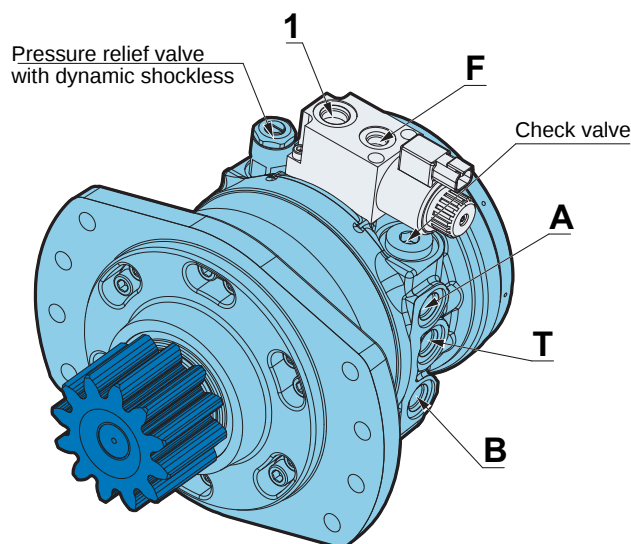
Heat treatment is applied on the whole surface of all shafts.





VALVING SYSTEMS

Hydraulic connections



		Standards	Power supply	Case drain	Pilot	Control of parking brake	Charge pressure
			A-B	1	X	F	T
3	GAZ (BSPP)	ISO 1179-1	17G-G3/8	17G-G3/8	13G-G1/4	13G-G1/4	17G-G3/8
A	UNF (SAE)	ISO 11 926-1	3/4"-16 UNF	3/4"-16 UNF		9/16"-18 UNF	3/4"-16 UNF
F	GAZ (BSPP)	JIS B2351	3/8"	3/8"		1/4"	3/8"

Max. pressures	MZE bar [PSI]	260 [3 771] 260 [3 771]	2.5 [36]		35 [508]	260 [3 771]
Instantaneous pressure peaks resistance		15 [218]				



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



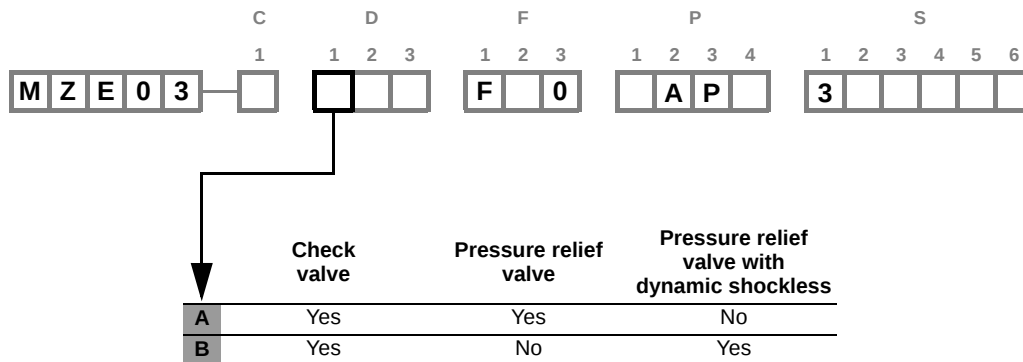
You are strongly advised to use the fluids specified in brochure "Installation guide" N° 801478197L.



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.

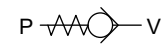


Valves description

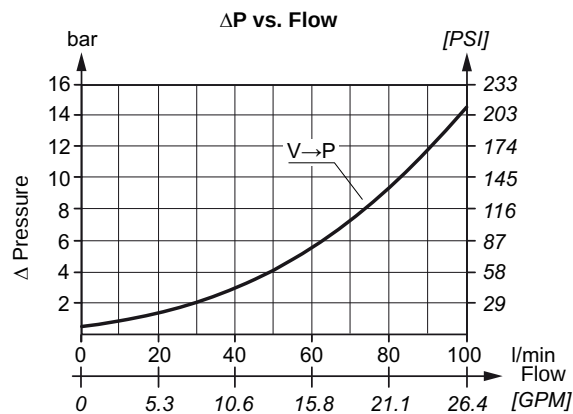


Check valve

The check valve allows to compensate for leakages to prevent cavitation.

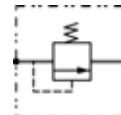


Flow rate l/min [GPM]	Operating pressure bar [PSI]	Cracking pressure bar [PSI]	Temperature range °C [°F]	Viscosity range mm ² /s	Filtration NAS 1638
100 [26.4]	350 [5 076]	0,5 [7.2]	-20 to +70 [-4 to 158]	15 to 380	8



Pressure relief valve

The pressure relief valve limits the pressure in the high pressure lines of the hydraulic motor.



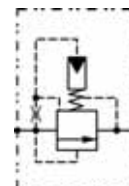
Pressure relief valve with dynamic shockless

The pressure relief valve with dynamic shockless:

- limits the pressure in the high pressure lines of the hydraulic motor.
- allows the absorption of the pressure peaks.

Valve characteristics:

- Max. flow: 60l/min [15.85 gal/min]
- Shockless time: from 0,05 to 0,3 s
- Max. pressure setting: 260 bar [3771 PSI]



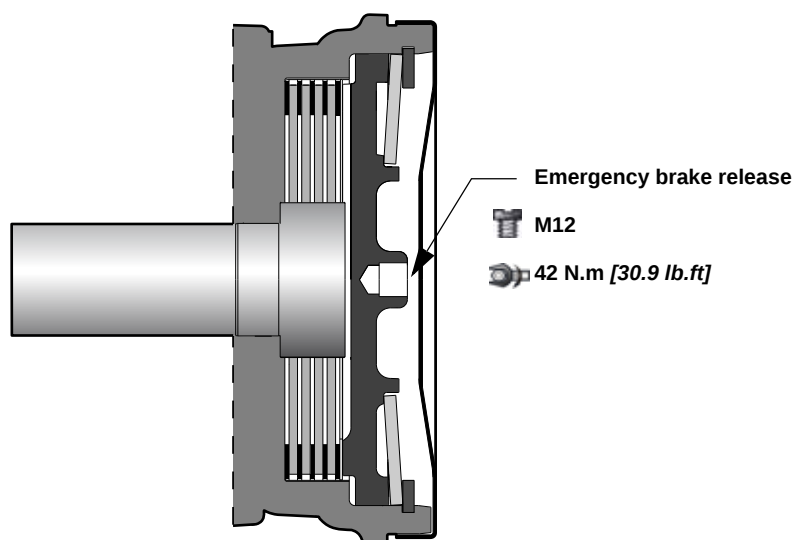
Other valve sizes are available. Consult your Poclain Hydraulics application engineer for further information.



BRAKES



Rear brake



Brake principle

This is a multidisc brake which functions through the absence of pressure. The spring exerts a force on the piston, which acts on the fixed and mobile discs, and thus immobilizes the shaft. The braking torque decreases in linear proportion to the brake release pressure.

		F		
		1	2	3
		F		0
Parking brake torque at 0 bars on housing	Max.	2 200 Nm [1 620 lb.ft]		
	Mini.	1 780 Nm [1 310 lb.ft]		
Min. brake release pressure		12 bar [174 PSI]		
Max. brake release pressure		30 bar [435 PSI]		
Volume for brake release		31 cm³ [1,9 cu.in]		



Do not run-in the multidisc brakes.



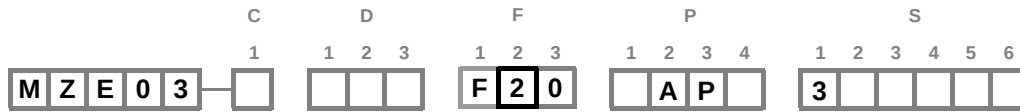
Your duty cycles and especially brake cycles must be validated by your Poclain Hydraulics application engineer.



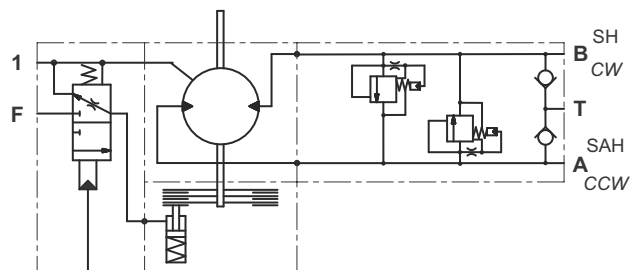
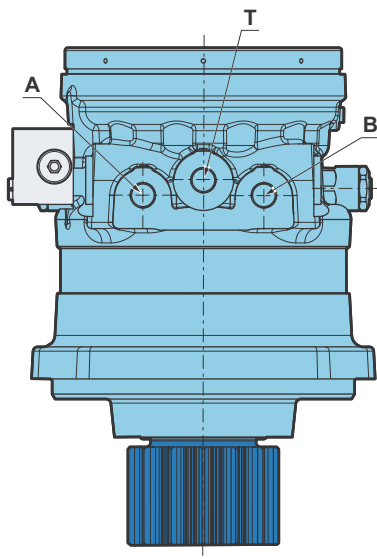
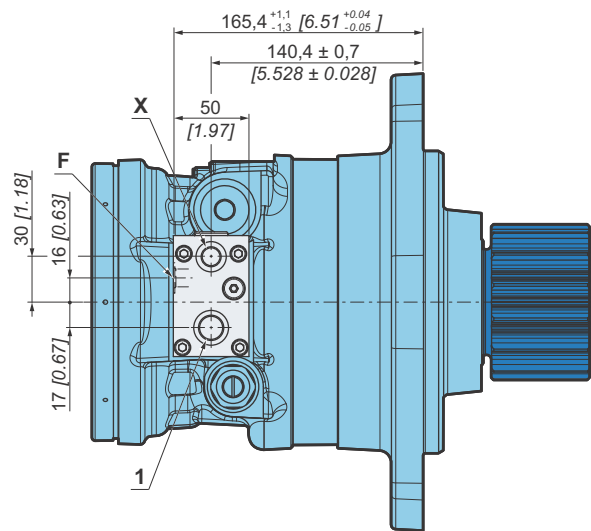
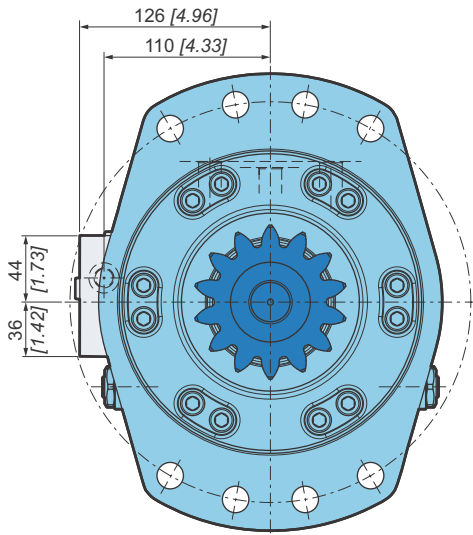
The use of certain oils, may not offer the characteristics stated above. Consult your Poclain Hydraulics sales engineer.



Automatic hydraulic de-braking valve



Hydraulic de-braking valve controls braking / brake release of the hydraulic motor's static brake after "left rotation" and "right rotation" information issued from hydraulic joystick.



Hydraulic de-braking ports characteristics

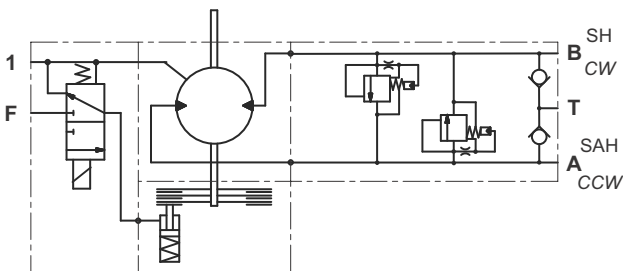
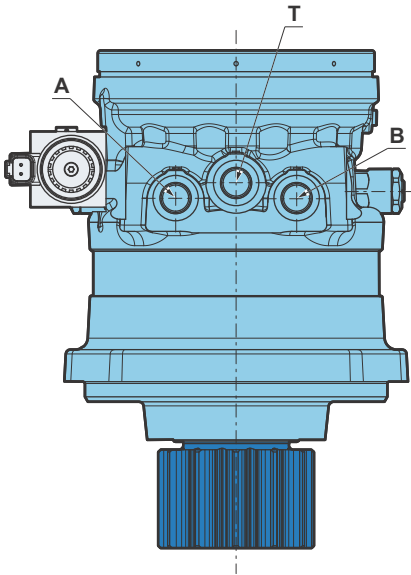
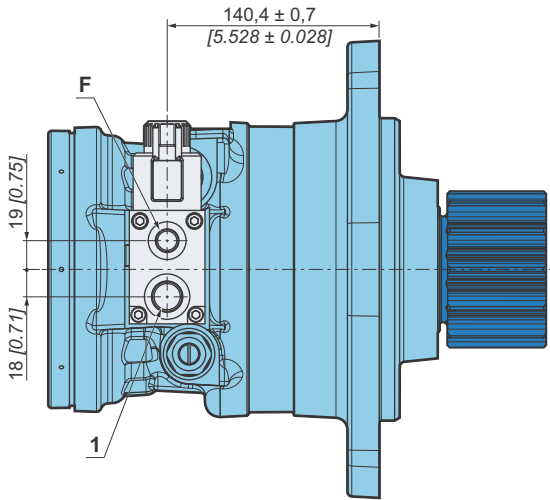
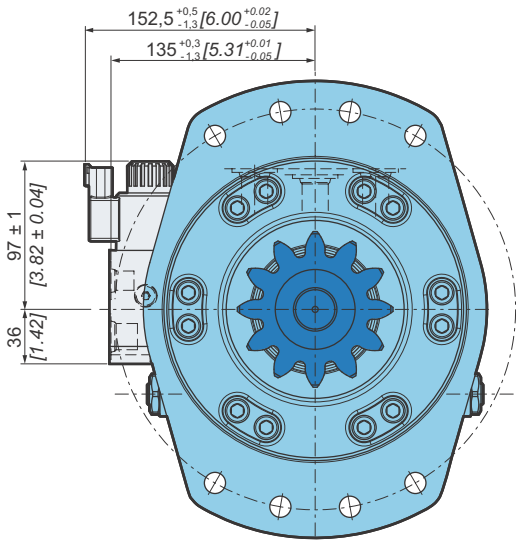
Port	Function	ISO 1179-1 (GAZ)	ISO 11926-1 (UNF)
F	Brake pressure	G 1/4"	9/16-18 UNF-2B
X	Pilot	G 1/4"	9/16-18 UNF-2B
1	Drain	G 3/8"	3/4-16 UNF-2B



Automatic electrical de-braking valve

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

Electrical de-braking valve controls braking / brake release of the hydraulic motor's static brake after "left rotation" and "right rotation" information issued from hydraulic joystick.



Electrical de-braking ports characteristics

Port	Function	ISO 1179-1 (GAZ)	ISO 11926-1 (UNF)
F	Brake pressure	G 1/4"	9/16-18 UNF-2B
1	Drain	G 3/8"	3/4-16 UNF-2B

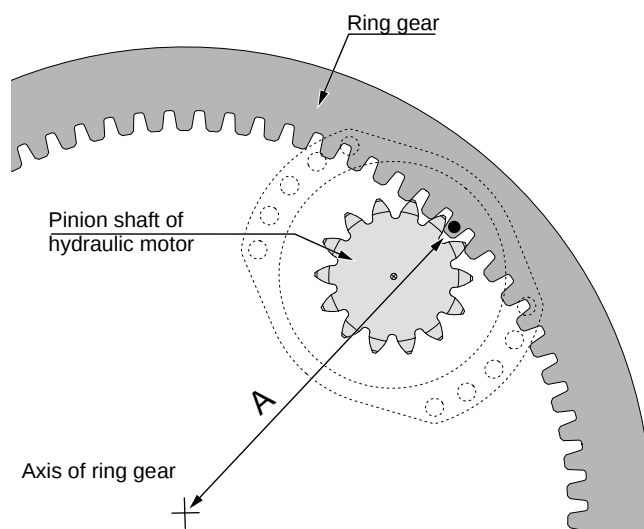




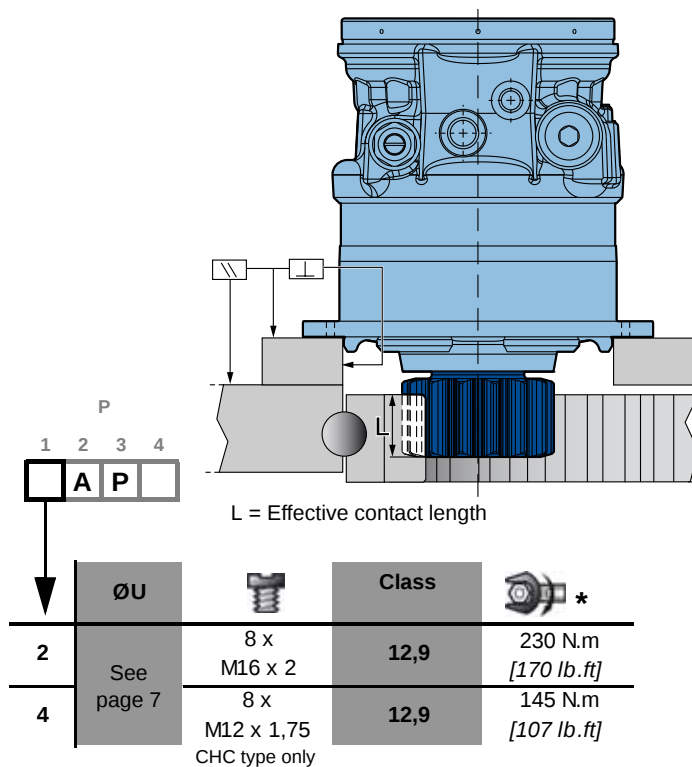
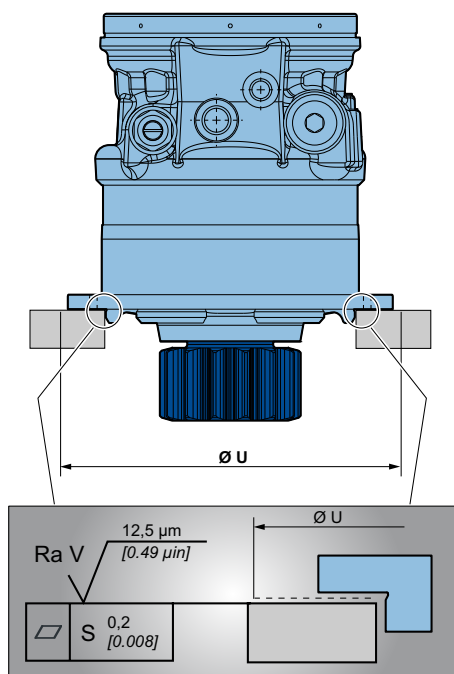
INSTALLATION

Hydraulic motor setting

Set the pinion shaft of hydraulic motor depending on the minimum radius of the ring gear (distance A), usually indicated with a point on the ring gear by the manufacturer.



Customer's chassis recommendations



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



Take care over the immediate environment of the connections.





OPTIONS

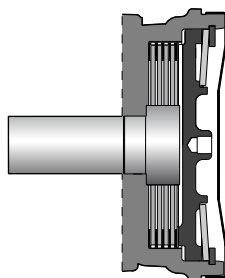
					C	D			F			P				S					
					1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
M	Z	E	0	3					F		0		A	P		3					



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

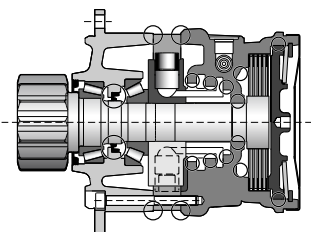
3 Brake environmental cover without plug

No plug or hole in the cover.



1 Fluorinated elastomer seals

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



Consult your Poclain Hydraulics sales engineer.

6 Industrial support

Reduction of around 50% from the rated value in the bearings' preload value. Without external loads, increases the lifetime of the bearing support.



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.

Model code

Characteristics

Valving systems

Brake

Installation

Options



D Special paint or no paint

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



Consult your Poclain 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 Poclain Hydraulics application engineer.

M High speed or reduced charge pressure

Option M leads to:

- In the case of MZ02: Reduction in charge pressure.
- In the case of MZE02: An increase in speed limit and a reduction in charge pressure.



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

P Customized identification plate

Your part number can be engraved on the plate.



Consult your Poclain Hydraulics application engineer for other possibilities.



Model code

Characteristics

Valving systems

Brake

Installation

Options



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.

The Poclain Hydraulics brand is the property of Poclain Hydraulics S.A.

 19/02/2014

  B09152W



www.poclain-hydraulics.com