

MZ02 - MZE02

HYDRAULIC MOTORS



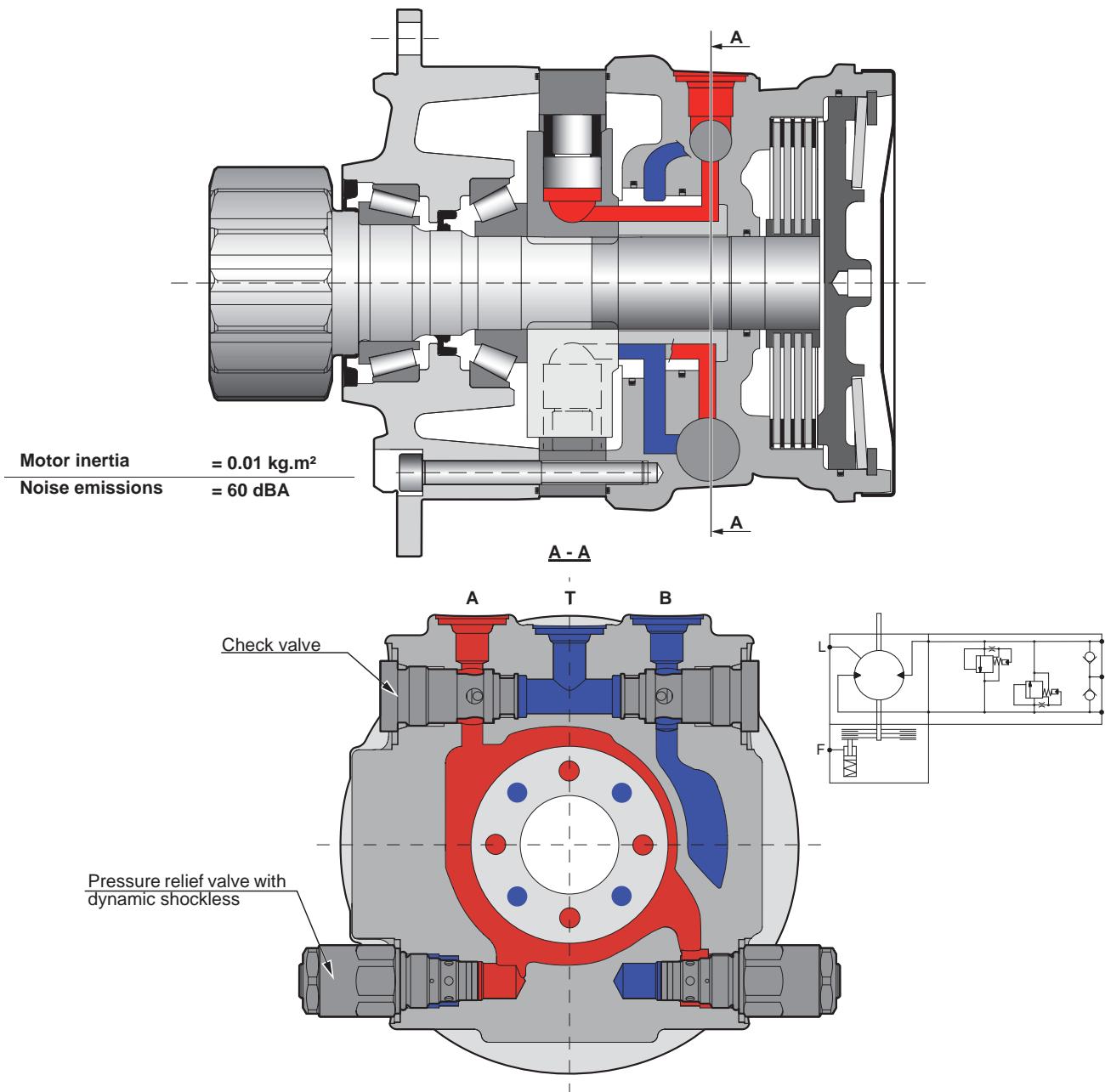
T E C H N I C A L C A T A L O G



POCTAIN
Hydraulics



OVERVIEW



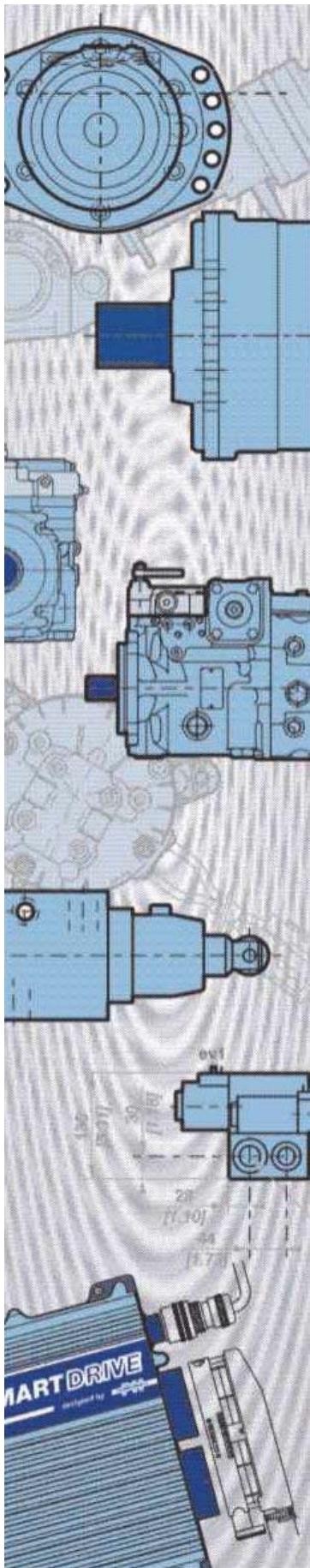
C	① cm ³ /rev [cu.in/rev.]	Theoretical torque		Max.power ① kW [HP]	Max. speed ① rev/min/RPM	Max. pressure bar [PSI]
		at 100 bar Nm	at 1000 PSI [lb.ft]			
MZ02	0	213 [13.0]	339 [172]	18 [24]	470*	260 [3 771]
	1	235 [14.3]	374 [190]		430*	
	2	255 [15.6]	405 [206]		395*	
MZE02	0	332 [20.2]	528 [268]	22 [30]	265*	260 [3 771]
	1	364 [22.2]	579 [294]		245*	
	2	398 [24.3]	633 [322]		225*	

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

① First displacement



CONTENT



MODEL CODE

4

Model code

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Installation

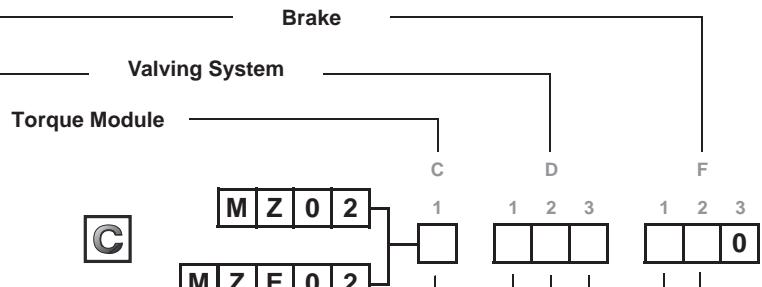
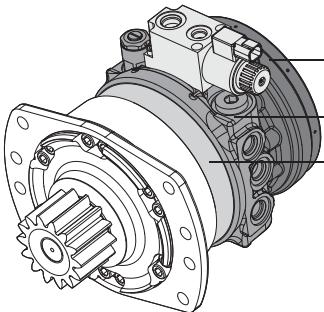
OPTIONS

17

Options



MODEL



C1

Cam ring type

1 displacement cm ³ /rev. [cu.in/rev.]	
213 [13.0]	0
MZ02	235 [14.3]
	1
	255 [15.6]
	2
MZE02	332 [20.2]
	0
	364 [22.2]
	1
	398 [24.3]
	2

D1

Valves

Check valve	Pressure relief valve	Pressure relief valve with dynamic shockless	A
Yes	Yes	No	B
Yes	No	Yes	

D2

Pressure relief valve setting

Pressure settings and Dynamic shockless timing will be precisely determined based on machine design.
(see possible settings on page 12)

D3

Connection type

UNF (SAE) ISO 11926-1
GAZ (BSPP) JIS B2351

A
F

F1

Rear brake

mini./max. torque (N.m /lb.ft)
1 480 [1 092] / 1 830 [1 350]
890 [656] / 1100 [811]

F
J

F2

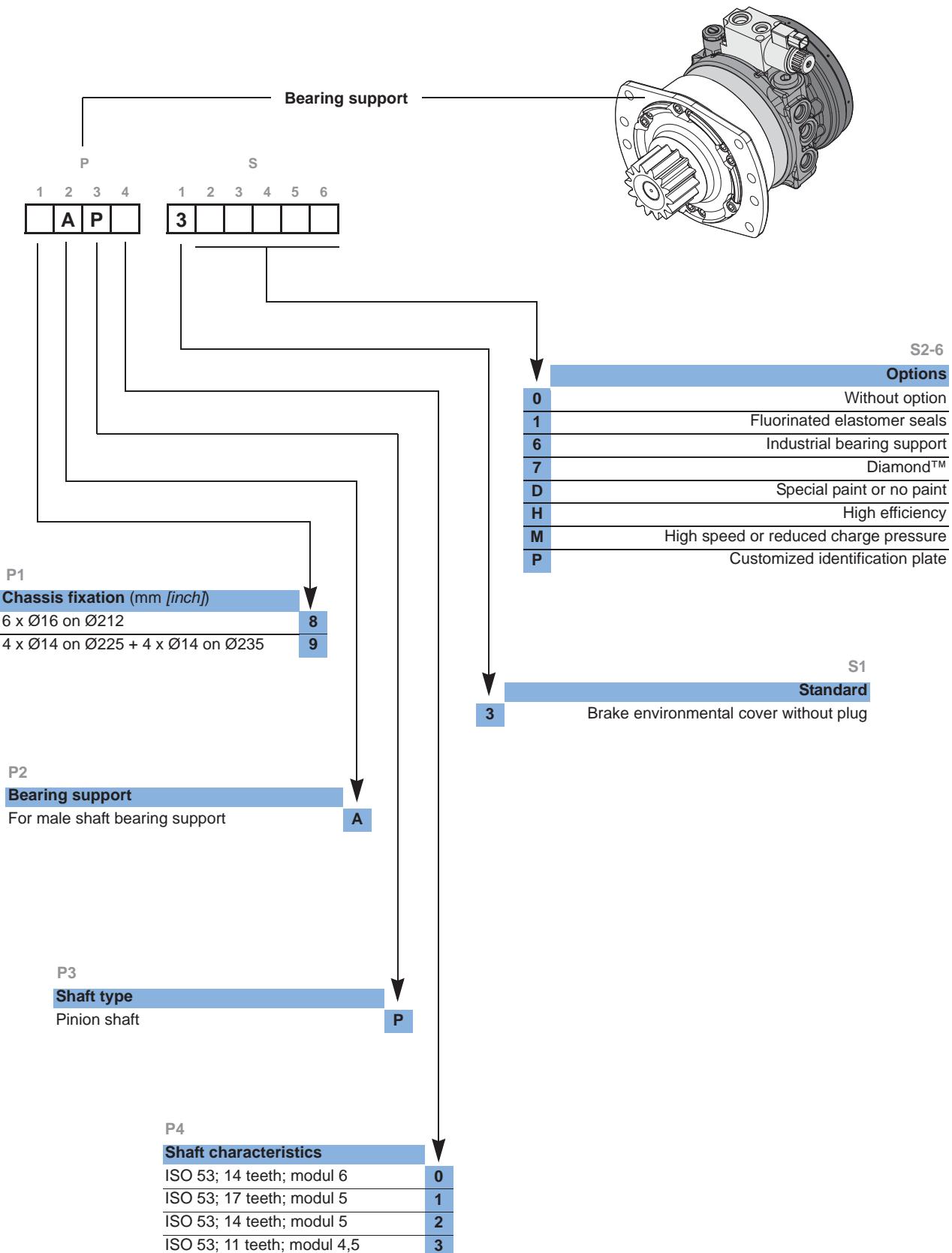
Debraking valve

Without debraking valve
Automatic electrical debraking valve

1
3



CODE



Model code

Characteristics

Valving systems

Brakes

Installation

Options

**Methodology :**

This document is intended for manufacturers of machines that incorporate Poiclein Hydraulics products. It describes the technical characteristics of Poiclein 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 Poiclein-Hydraulics personnel.**

The views in this document are created using metric standards.

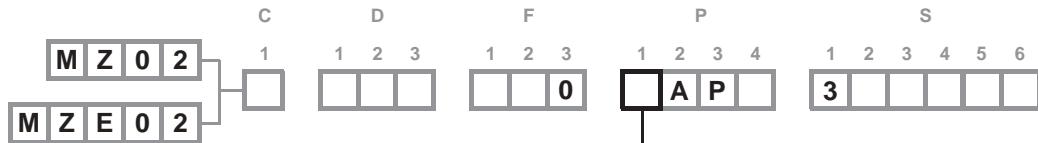
The dimensional data is given in mm and in inches (inches are between brackets and italic)



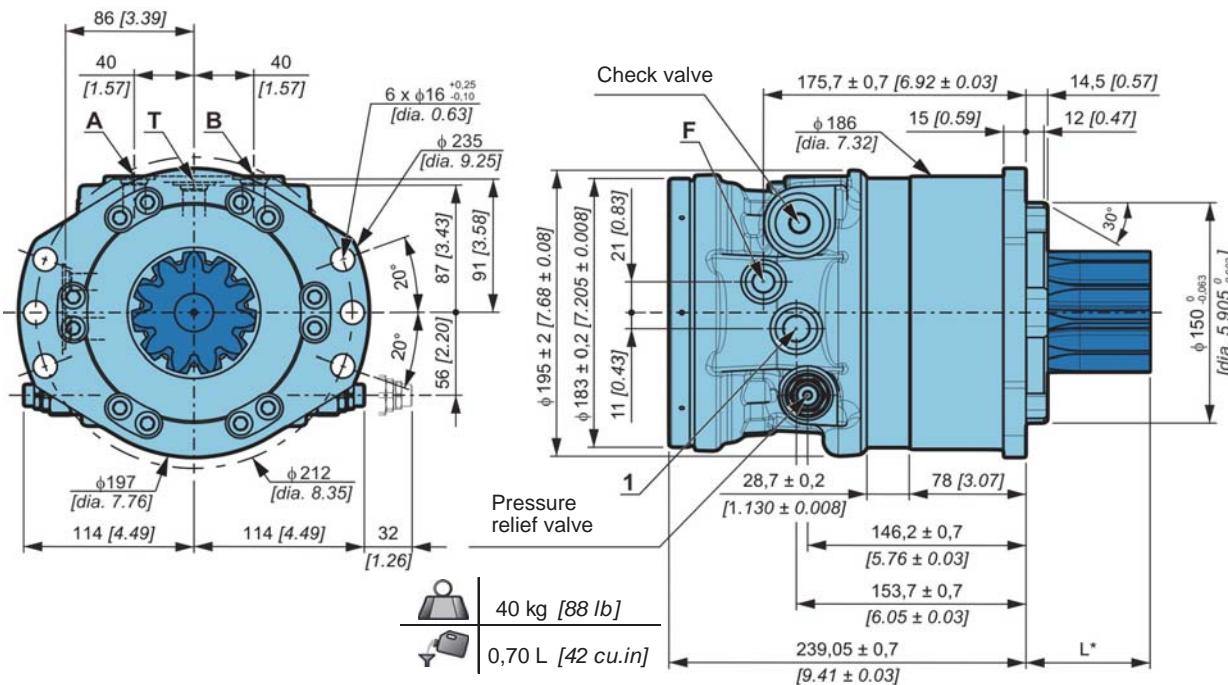


CHARACTERISTICS

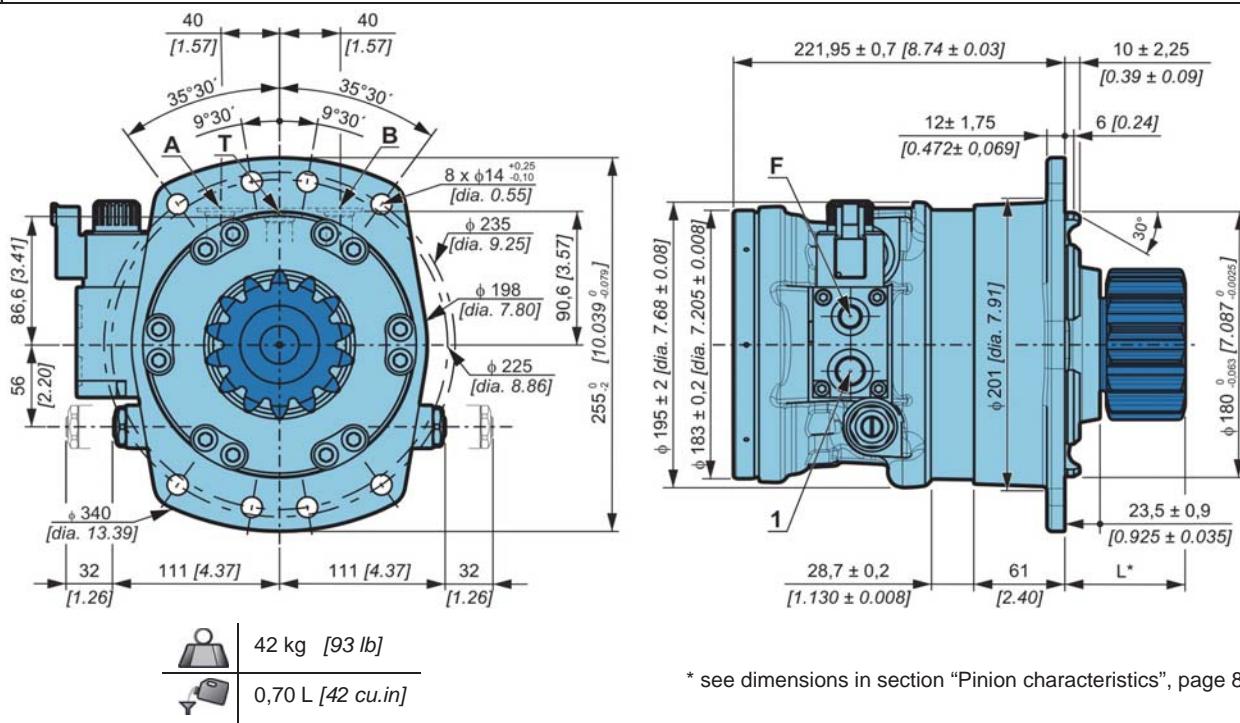
Dimensions for standard 1-displacement motor



8 Ear fixation 6 x Ø 16



9 Ear fixation 8 x Ø 14



* see dimensions in section "Pinion characteristics", page 8

Model code

Characteristics

Valving systems

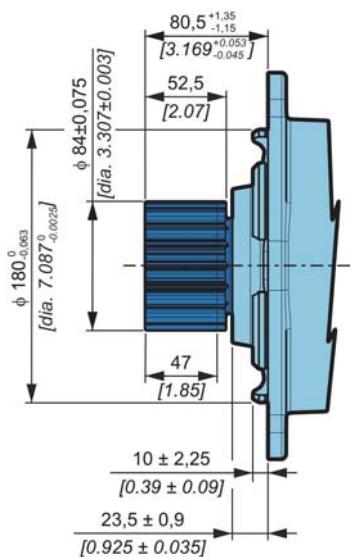
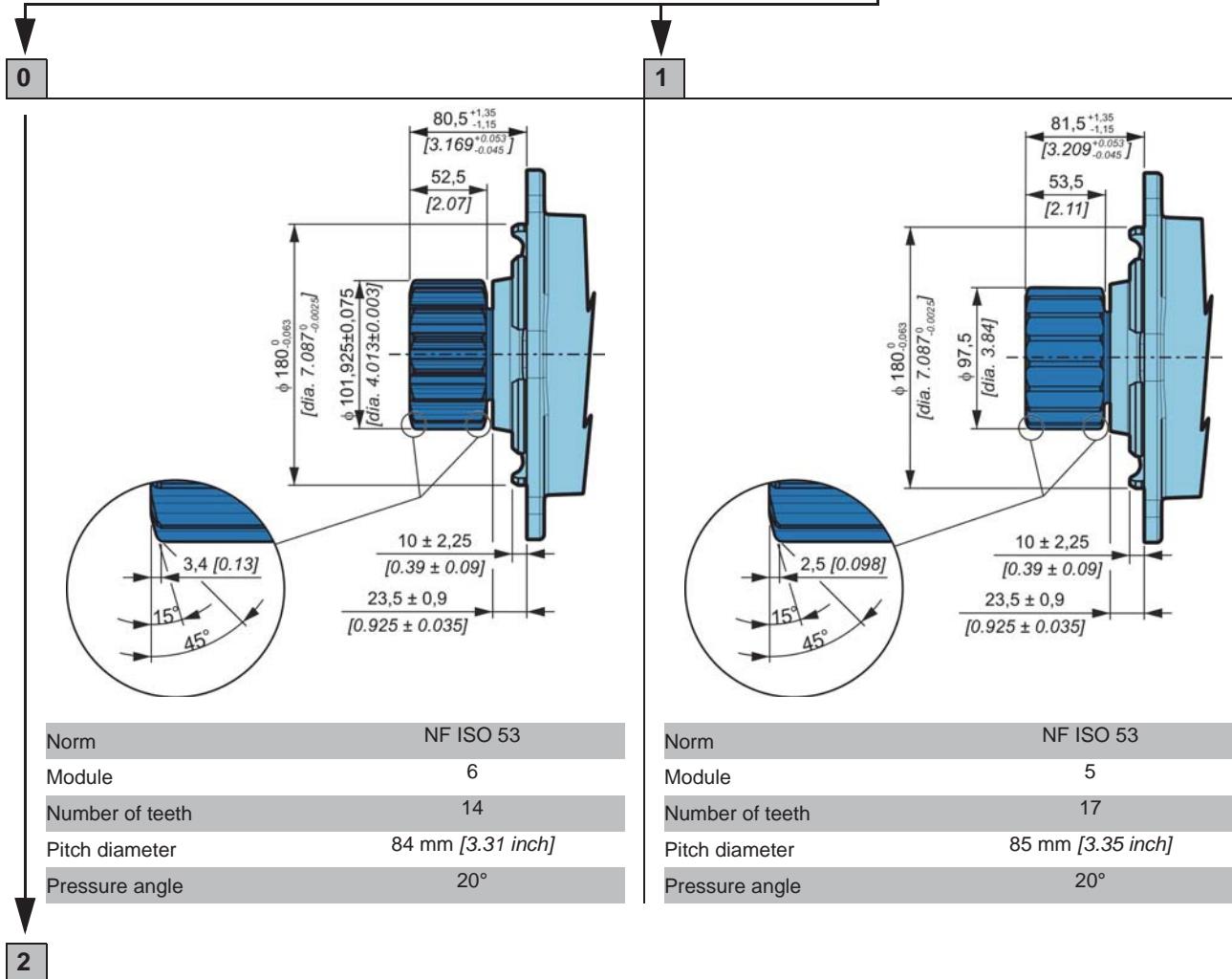
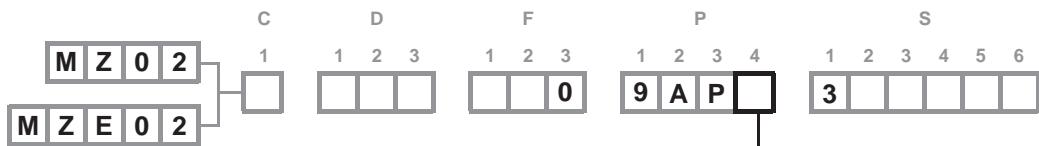
Brakes

Installation

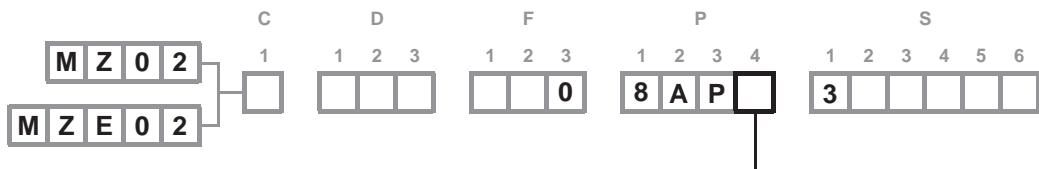
Options



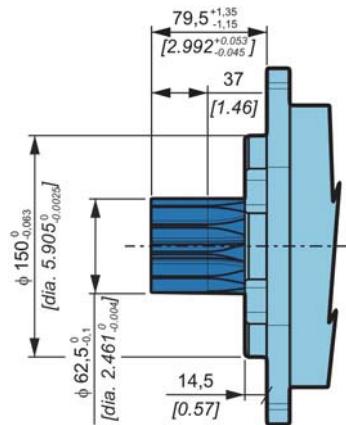
Pinion characteristics



Norm	NF ISO 53
Module	5
Number of teeth	14
Pitch diameter	70 mm [2.76 inch]
Pressure angle	20°



3



Norm	NF ISO 53
Module	4,5
Number of teeth	11
Pitch diameter	49,5 mm [1.95 inch]
Pressure angle	20°

Model code

Characteristics

Valving systems

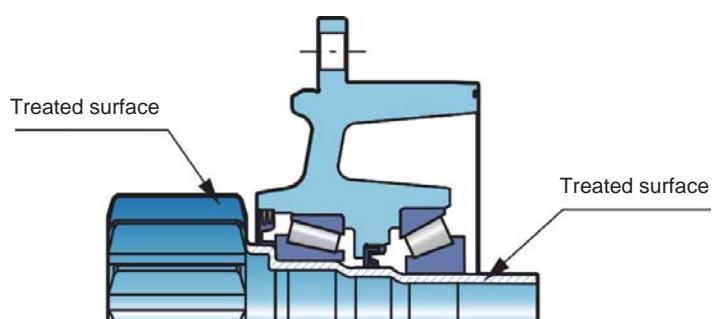
Brakes

Installation

Options

Treated shafts

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

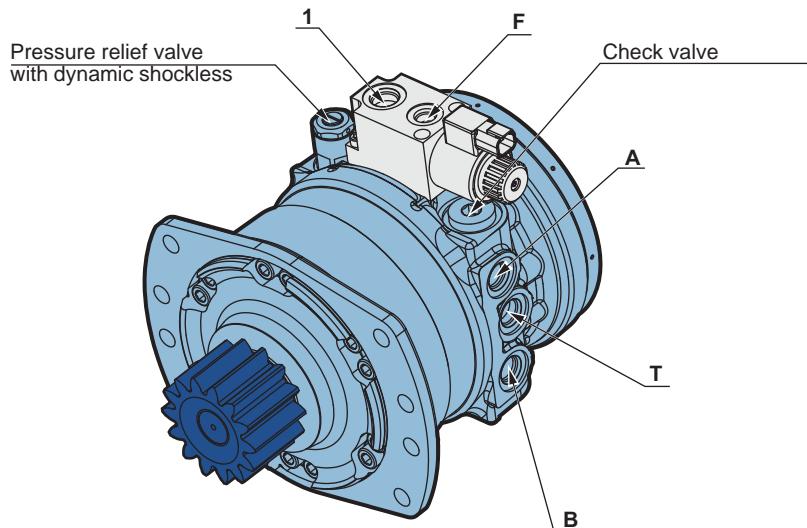






VALVING SYSTEMS

Hydraulic connections



M Z 0 2	C 1	D 1 2 3	F 1 2 3	P 1 2 3 4	S 1 2 3 4 5 6
M Z E 0 2					
↓					
	Standards	Power supply	Case drain	Control of parking brake	Charge pressure
A F	UNF (SAE) GAZ (BSPP)	ISO 11 926-1 JIS B2351	A-B 3/4"-16 UNF 3/8"	1 3/4"-16 UNF 3/8"	F 9/16"-18 UNF 1/4"
					T 3/4"-16 UNF 3/8"
Max. pressures	MZ MZE	bar [PSI]	$\frac{260 [3\,771]}{260 [3\,771]}$	2.5 [36] 35 [508]	260 [3\,771]
Instantaneous pressure peaks resistance				15 [218]	



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.

Model code

Characteristics

Valving systems

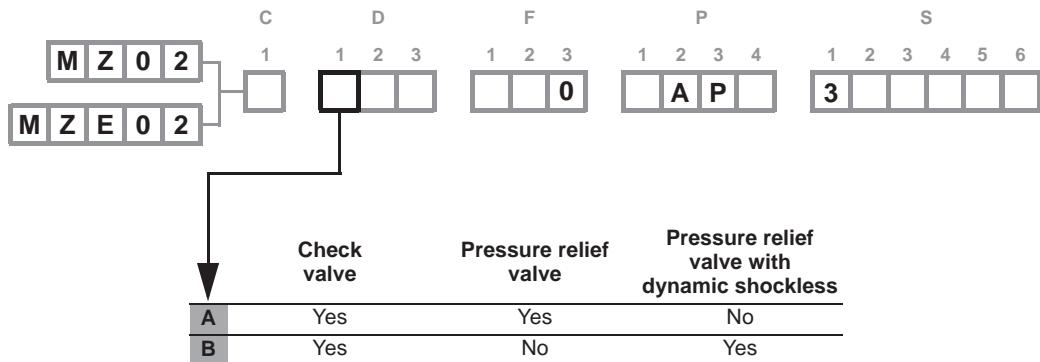
Brakes

Installation

Options



Valves description

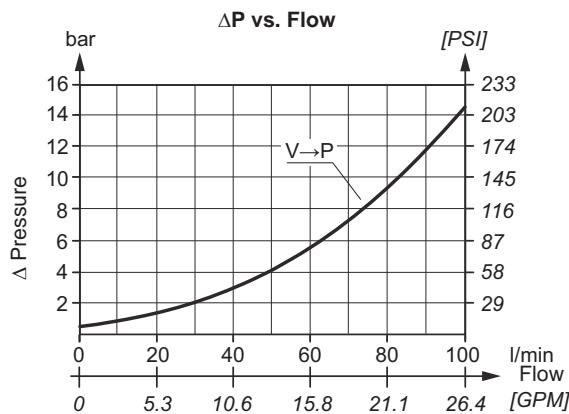


Check valve

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

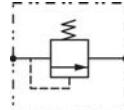


Flow rate l/min [GPM]	Operating pressure bar [PSI]	Cracking pressure bar [PSI]	Temperature range °C [°F]	Viscosity range mm²/s	Filtration NAS 1638
100 [26.4]	350 [5 076]	0,5 [7.2]	-20 to +70 [-4 to 158]	15 to 380	8



Pressure relief valve

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



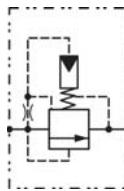
Pressure relief valve with dynamic shockless

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:

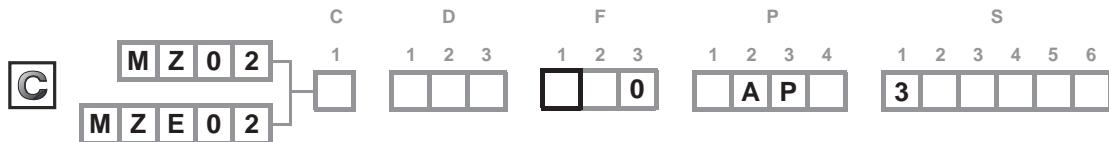
- Max. flow: 60 l/min [15.85 gal/min]
- Shockless time: from 0,05 to 0,3 s
- Max. pressure setting: 260 bar [3771 PSI]



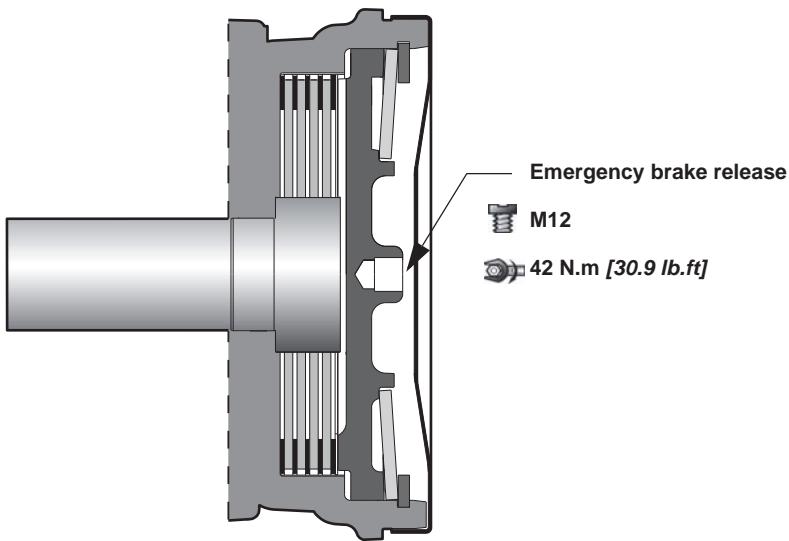
Other valve sizes are available. Consult your Poilain Hydraulics application engineer for further information.



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.

C	F	F	
	1 2 3	1 2 3	
Parking brake torque at 0 bars on housing	Max. Mini.	1 830 Nm [1 350 lb.ft] 1 480 Nm [1 090 lb.ft]	1 100 Nm [810 lb.ft] 890 Nm [660 lb.ft]
Min. brake release pressure		12 bar [174 PSI]	12 bar [174 PSI]
Max. brake release pressure		35 bar [508 PSI]	35 bar [508 PSI]
Volume for brake release		19 cm³ [1,2 cu.in]	19 cm³ [1,2 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.

Model code

Characteristics

Valving systems

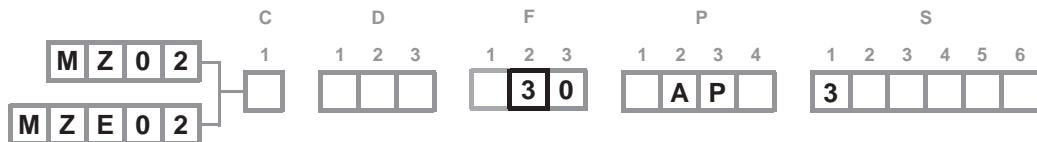
Brakes

Installation

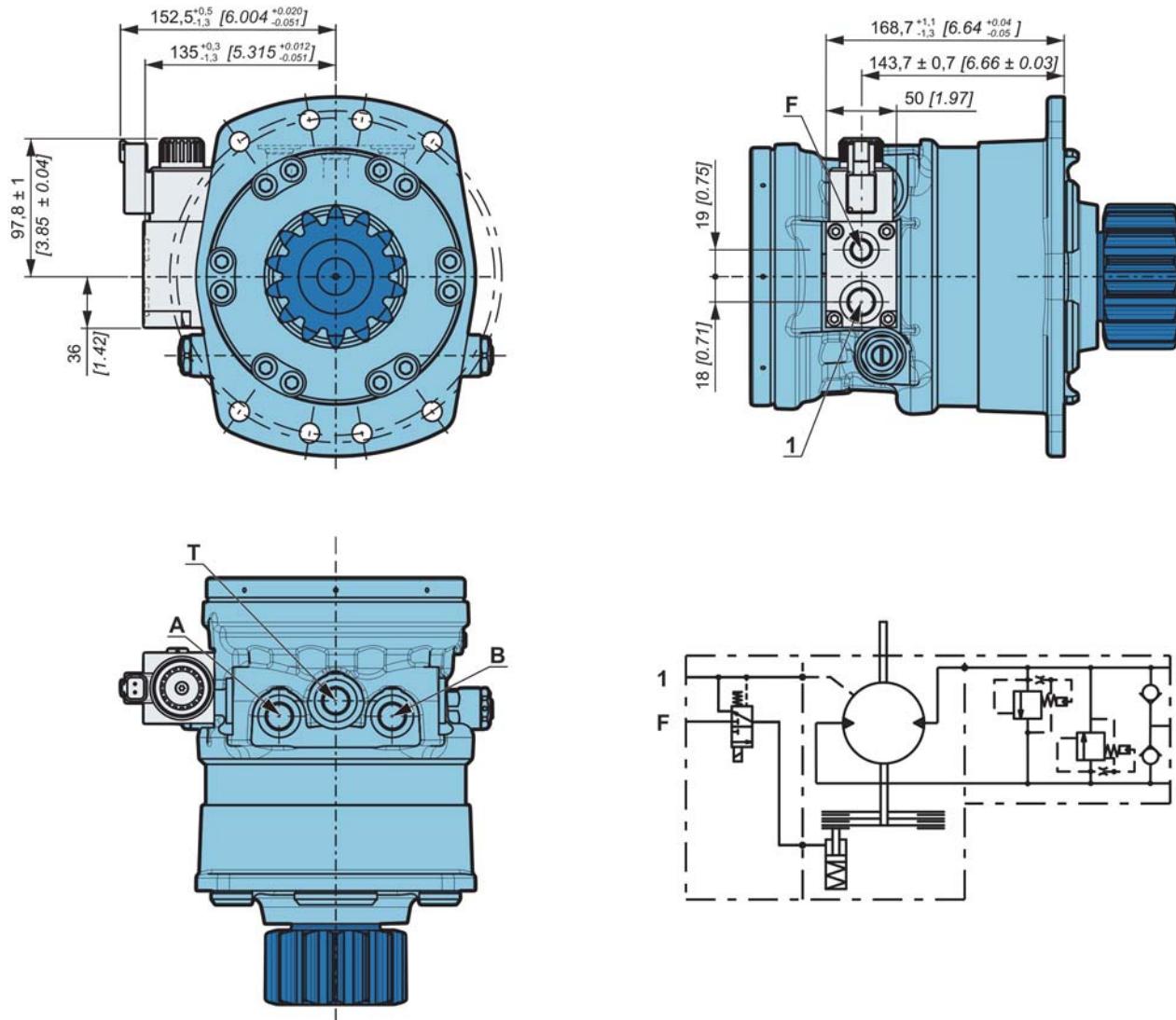
Options



Automatic electrical de-braking valve



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

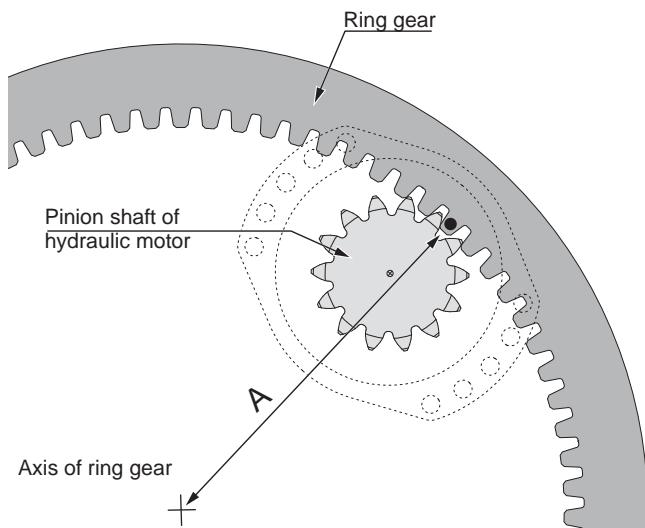
Port	Function	ISO 1179-1 (GAZ)	ISO 11926-1 (UNF)
F	Brake pressure	G 1/4"	9/16-18 UNF-2B
1	Drain	G 3/8"	3/4-16 UNF-2B



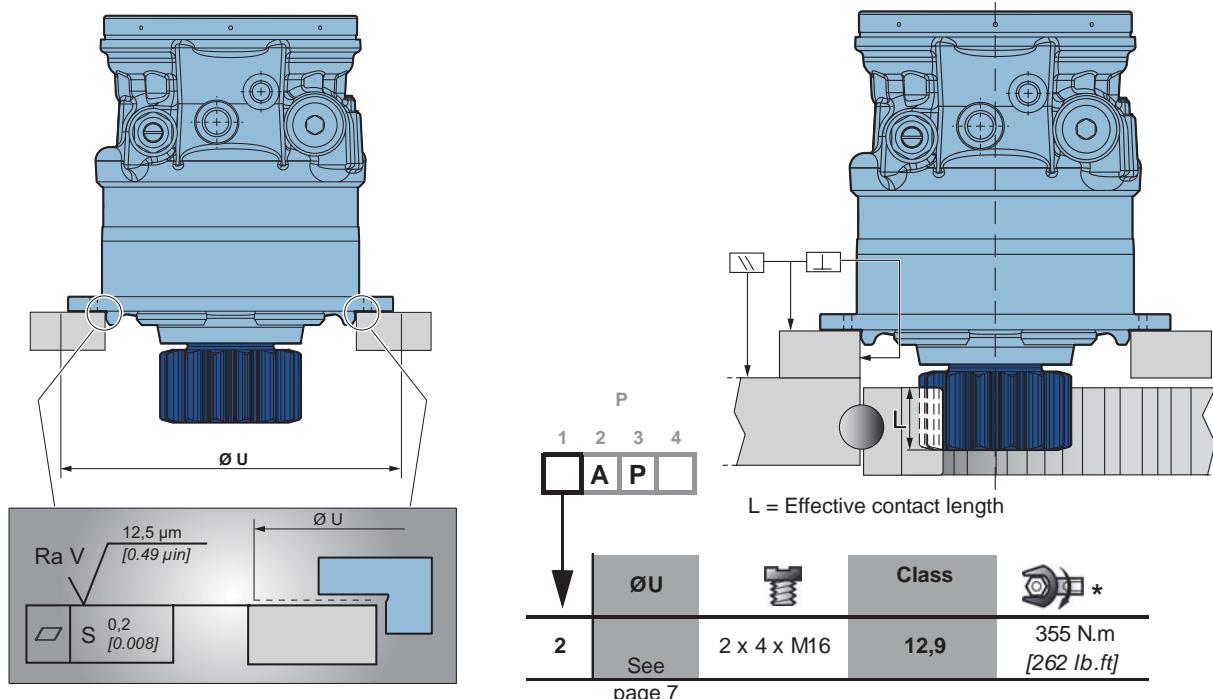
INSTALLATION

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



CHC type only

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



Take care over the immediate environment of the connections.

Model code

Characteristics

Valving systems

Brakes

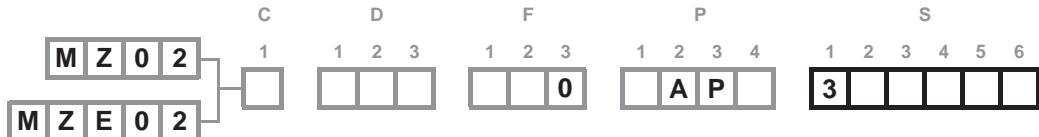
Installation

Options





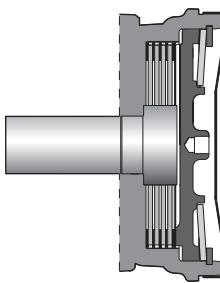
OPTIONS



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

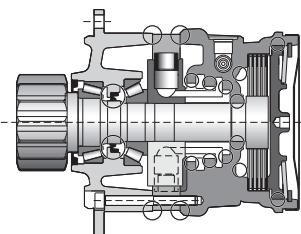
3 Brake environmental cover without plug

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

Brakes

Installation

Options



D Special paint or no paint

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



Consult your Poclamp 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 Poclamp 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 Poclamp Hydraulics application engineer.

P Customized identification plate

Your part number can be engraved on the plate.



Consult your Poclamp Hydraulics application engineer for other possibilities.



Model code

Characteristics

Valving systems

Brakes

Installation

Options



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15/03/2017

A40708X



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