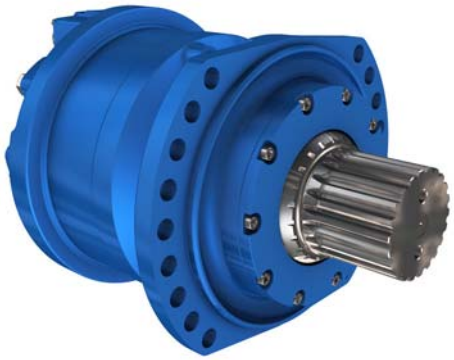
MS50

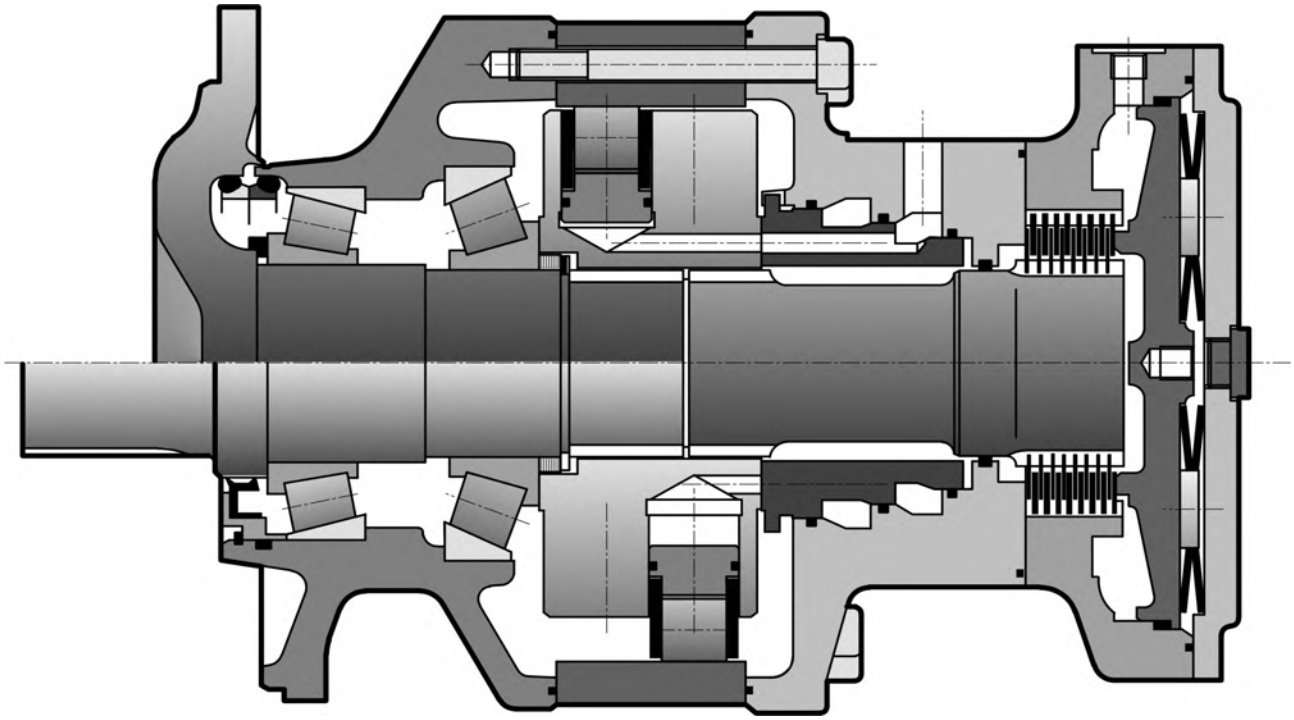
HYDRAULIC MOTORS



TECHNICAL CATALOG

POCLAIN Hydraulics

CHARACTERISTICS



Motor inertia **1 kg.m²**

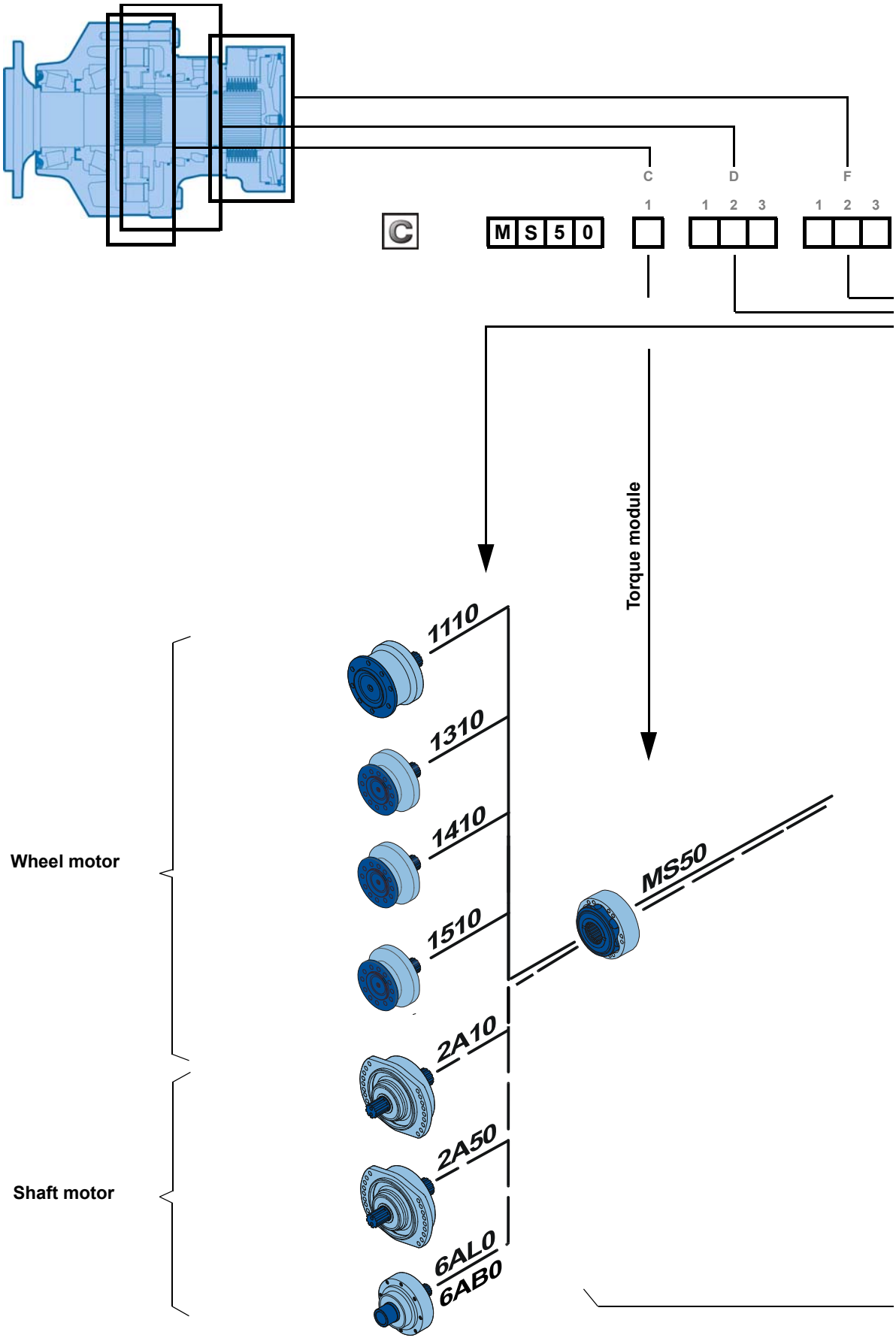
	C	❶ cm³/tr *[cu.in/rev.]*	❷ cm³/tr *[cu.in/rev.]*	Theoretical torque ❶ at 100 bar Nm	Theoretical torque ❶ *at 1000 PSI [lb.ft]*	Max.power ❶ kW *[HP]*	Max.power ❷ preferred kW *[HP]*	Max.power ❷ non-preferred kW *[HP]*	Max.speed ❶ 1C tr/min*[RPM]*	Max.speed ❶ 2C tr/min*[RPM]*	Max.speed ❷ 2C tr/min*[RPM]*	Max. pressure bar *[PSI]*
Cams with equal lobes	**7**	3,500 *[213.5]*	1,750 *[106.7]*	5,565	*[2,830]*				205	200	225	
	8	4,008 *[244.4]*	2,004 *[122.2]*	6,373	*[3,241]*				180	180	200	
	9	4,498 *[274.3]*	2,249 *[137.2]*	7,152	*[3,637]*				160	160	175	
	0	4,997 *[304.8]*	2,499 *[152.4]*	7,945	*[4,040]*				145	145	160	
	1	5,504 *[335.7]*	2,752 *[167.8]*	8,751	*[4,450]*				132	130	150	
	2	6,011 *[366.6]*	3,006 *[183.3]*	9,557	*[4,860]*				122	120	135	
Cams with unequal lobes	**K**	4,252 *[259.3]*	2,752 *[167.8]* / 1,500 *[91.5]*	6,761	*[3,438]*	140 *[188]*	93 *[125]*	*70 [94]*	135	130	150 / 185	450 *[6,527]*
	A	5,010 *[305.6]*	3,006 *[183.3]* / 2,004 *[122.2]*	7,966	*[4,051]*				122	120	135 / 200	

❶ **First displacement**

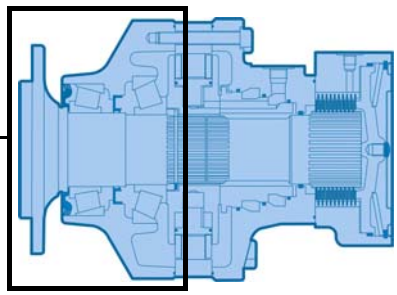
❷ **Second displacement**

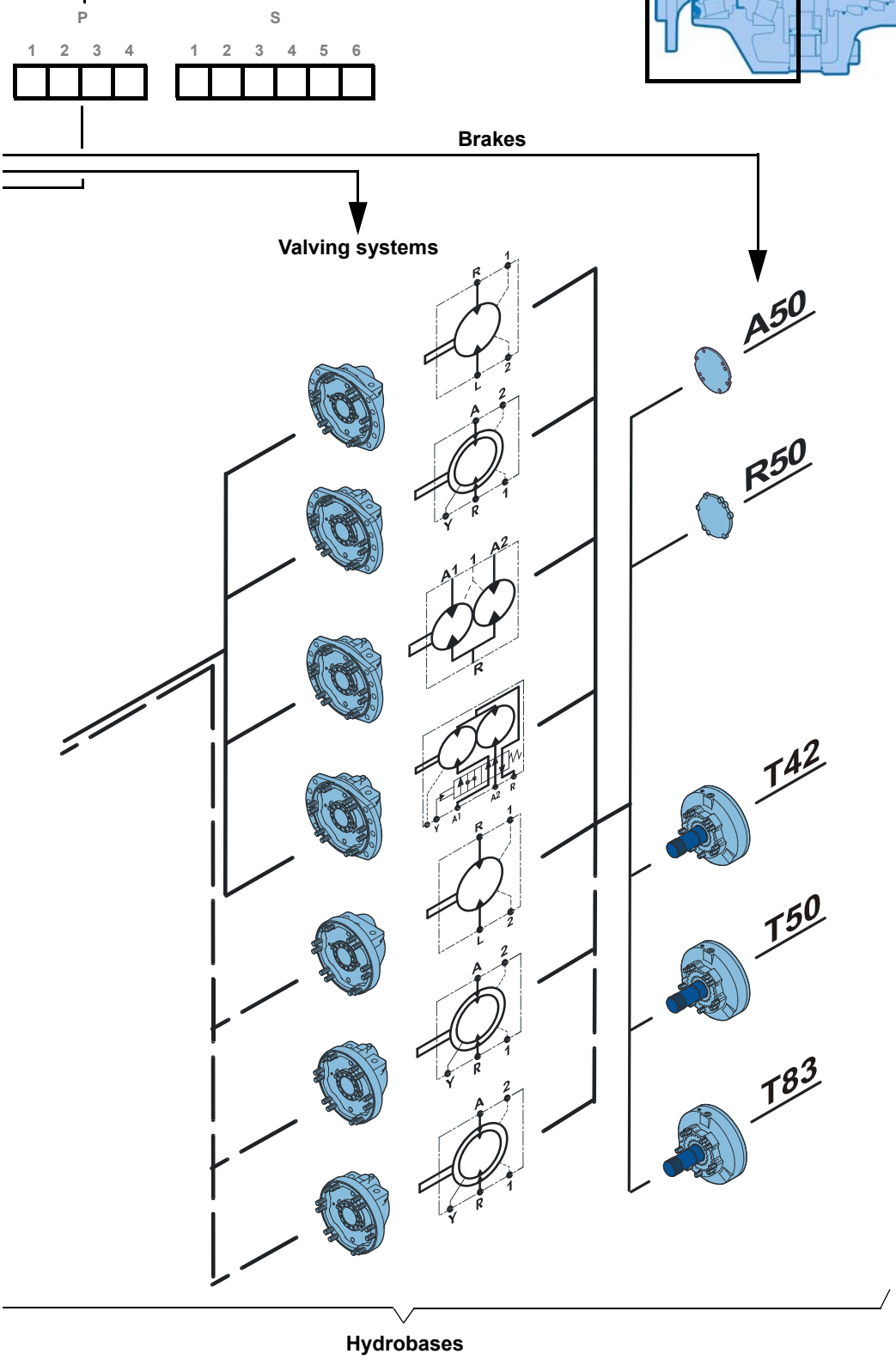
CONTENT

MODUL

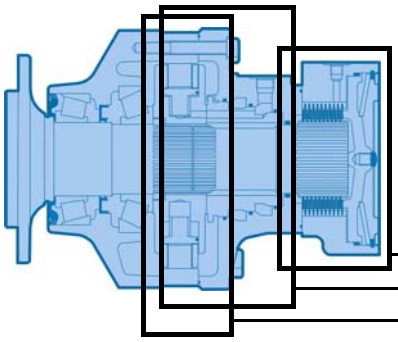

C
D
F
1
1 2 3
1 2 3
C
M S 5 0
Torque module
1110
1310
1410
1510
2A10
2A50
6AL0
6AB0
MS50
Wheel motor
Shaft motor

ARITY




P
S
1 2 3 4
1 2 3 4 5 6
Brakes
Valving systems
A50
R50
T42
T50
T83
Hydrobases

MODEL



	C	D	F
	1	1 2 3	1 2 3
C	M S 5 0		

Cams		❶ cm³/tr	❶ [cu.in/rev.]	❷ cm³/tr	❷ [cu.in/rev.]
Cams with equal lobes	7	3,500	[213.5]	1,750	[106.7]
	8	4,008	[244.4]	2,004	[122.2]
	9	4,498	[274.3]	2,249	[137.2]
	0	4,997	[304.8]	2,499	[152.4]
	1	5,504	[335.7]	2,752	[167.8]
	2	6,011	[366.6]	3,006	[183.3]
Cams with unequal lobes	K	4,252	[259.3]	2,752	[167.8]
				1,500	[91.5]
	A	5,010	[305.6]	3,006	[183.3]
				2,004	[122.2]

❶ **First displacement**
❷ **Dual displacement**

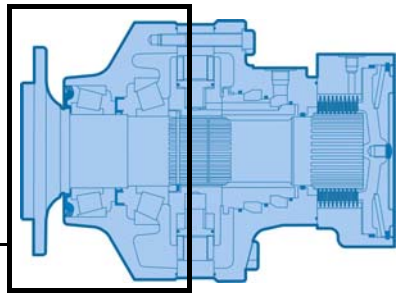
	1	1	D	K
Without mounting				
Lug fixing	2	2	E	V
	1-displacement	2-displacement	Twin-Lock™	Twin-Lock™ or 2-displacement

Without cover	**0**
ISO 6162 DN 25 SAE flanges **ISO 9974-1** metric connections	**1**
ISO 6162 DN 32 SAE flanges **ISO 9974-1** metric connections	**6**
ISO 6162 DN 25 SAE flanges **ISO 11926-1** connections	**7**

1-displacement valving	**1**	
2-displacement valving (No special direction)	**A**	Ratio 2
	B	Ratio <2
	C	Ratio >2
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

Without brake	Simple plate	A 5 0
	Reinforced plate	R 5 0
Brakes	Screwed environmental cover	T 4 2
		T 5 0
		T 8 3

CODE



P S

1 2 3 4 | 1 2 3 4 5 6

0

0	Without bearing support
1	Without mounting
2	Lug mounting
6	Motor torque
8	Fixation on the spindle

Without shaft	**0**
12 x Ø26 on Ø425	**1**
10 x Ø24 on Ø335	**3**
10 x Ø24 on Ø335	**4**
12 x Ø22 on Ø275	**5**
Bearing support for shaft	**A**

Flange	
Without studs	**1**
With studs + nuts	**2**
With studs	**3**

Spline (if P2 = A)	
NF E22-141 splines	**1**
DIN 5480 splines	**5**
Female splines DIN 5480	**B**

Shrink disks (if P2 = A)	
Shaft for shrink disks	**L**

Without Options or Adaptations	**0**
Fluorinated elastomer seals	**1**
T4 Speed sensor installed	**2**
Drainage	**5**
Industrial bearing support	**6**
Diamond™	**7**
Predisposition for speed sensor	**8**
Double-centering valving cover	**9**
Hollow shaft	**A**
Drain on the bearing support	**B**
Hostile environment	**C**
Reinforced sealing	**E**
Special wheel rim mounting	**G**
Surface heat treatment of the shaft	**J**
TD speed sensor (two phase shifted frequencies)	**Q**
TR Speed sensor installed	**S**
For vertical mounting (shaft upward)	**N**

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.

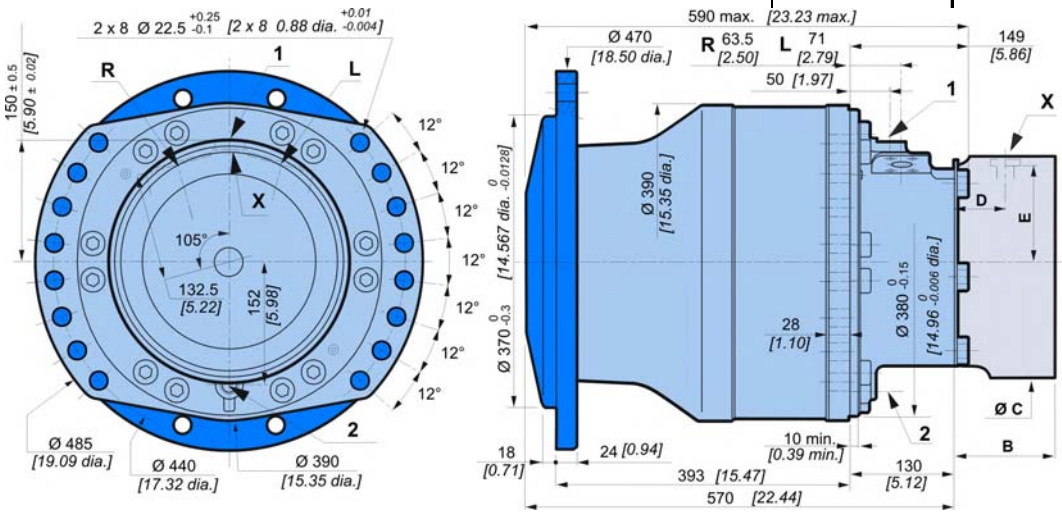
This document also includes essential operating instructions for the product and general information. These are indicated in the following way:

	Essential instructions.
	General information.
	Information on the model number.
	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 given in brackets in italics).

Dimensions for standard (1110) 1-displacement motor

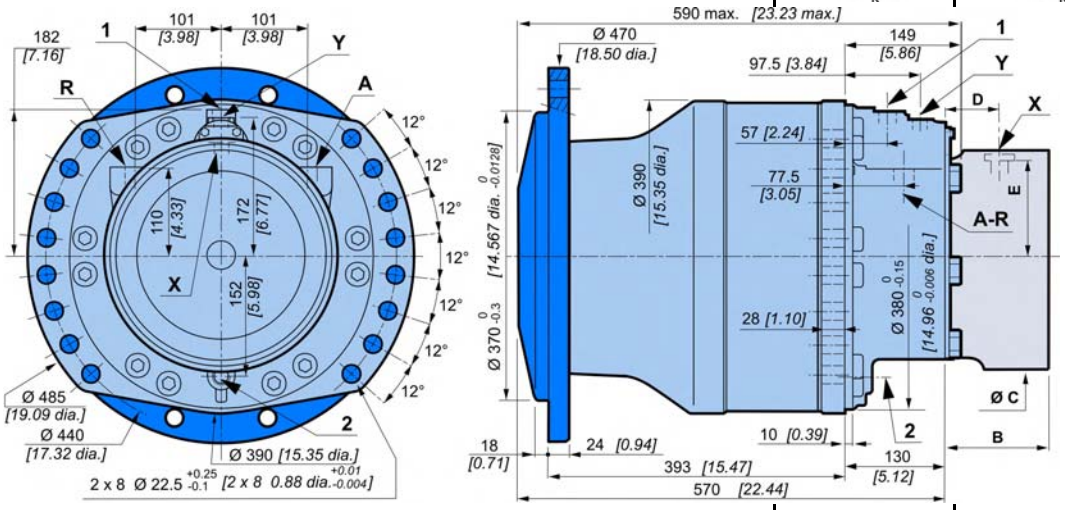
	310 kg *[682 lb]*	415 kg *[913 lb]*
	6.00 L *[360 cu.in]*	4.50 L *[270 cu.in]*



WHEEL MOTOR

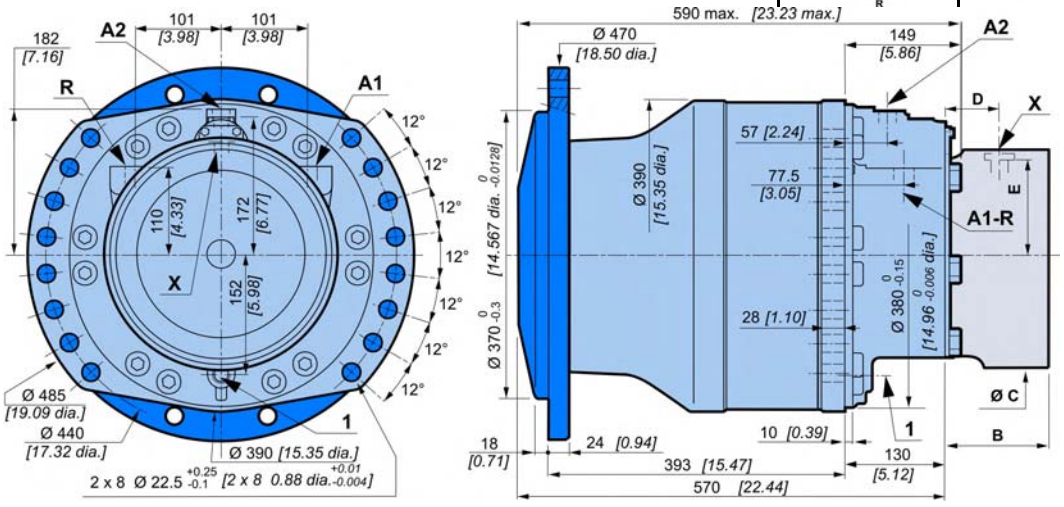
Dimensions for standard (1110) 2-displacement motor

	310 kg *[682 lb]*	415 kg *[913 lb]*
	6.00 L *[360 cu.in]*	4.50 L *[270 cu.in]*

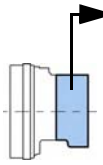


Dimensions for standard (1110) Twin-Lock™ motor

	310 kg *[682 lb]*	415 kg *[913 lb]*
	6.00 L *[360 cu.in]*	4.50 L *[270 cu.in]*



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

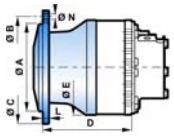
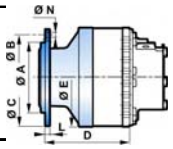


C	T42	T50	T83
B	148,0 *[5,83]*	157,5 *[6,20]*	159,0 *[6,26]*
C	Ø375 *[14,76 dia.]*	Ø375 *[14,76 dia.]*	Ø375 *[14,76 dia.]*
D	63,5 *[2,50]*	63,5 *[2,50]*	63,5 *[2,50]*
E	183,5 *[7,22]*	183,5 *[7,22]*	183,5 *[7,22]*

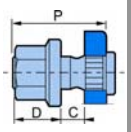
Also see "Brake" section (thumbnail opposite).

Support types

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

C	A mm *[in]*	B mm *[in]*	C mm *[in]*	D mm *[in]*	E mm *[in]*	N mm *[in]*	Wheel rim mountings	L mm *[in]*	
1 1 1 0 (P)	Ø 370 *[14.57 dia.]*	Ø 425 *[16.73 dia.]*	Ø 472 *[18.58 dia.]*	393 *[15.47]*	Ø 390 *[15.35 dia.]*	Ø 26 *[1.02 dia.]*	12 x M 24x2	24 *[0.94]*	
1 3 1 0 (P)	Ø 280.7 *[11.05 dia.]*	Ø 335 *[13.19 dia.]*	Ø 379 *[14.92 dia.]*	335 *[13.19]*	Ø 390 *[15.35 dia.]*	Ø 24 *[0.94 dia.]*	10 x M 22x1.5	17 *[0.67]*	
1 4 1 0 (P)	Ø 280.7 *[11.05 dia.]*	Ø 335 *[13.19 dia.]*	Ø 379 *[14.92 dia.]*	296 *[11.65]*	Ø 390 *[15.35 dia.]*	10 x Ø 24 *[10 x 0.94 dia.]*	-	17 *[0.67]*	
1 5 1 0 (P)	Ø 220.7 *[8.69 dia.]*	Ø 275 *[10.83 dia.]*	Ø 314.5 *[12.38 dia.]*	348 *[13.70]*	Ø 390 *[15.35 dia.]*	(8+4) x Ø 22 *[0.87 dia.]*	-	18 *[0.71]*	

Studs

		P mm *[in]*	C min. mm *[in]*	C max. mm *[in]*	D mm *[in]*		Class
Various studs	M22 x 1.5	80 *[3.15]*	5 *[0.20]*	36 *[1.42]*	26 *[1.02]*		**12.9**
	M24 x 2	95 *[3.74]*		38 *[1.50]*	30 *[1.18]*		
Screws	M20	-	-				**12.9**

See generic installation motors N°B59689D.

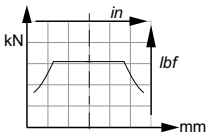
Load curves

Permissible radial loads

Test conditions :

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

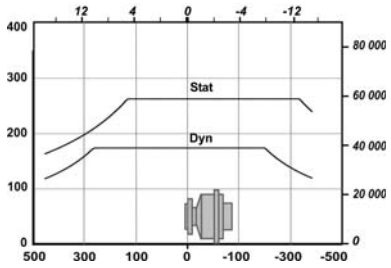
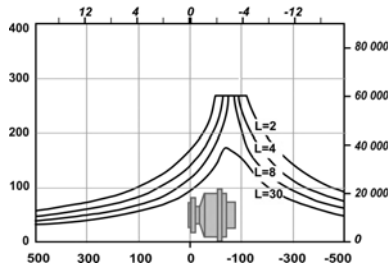
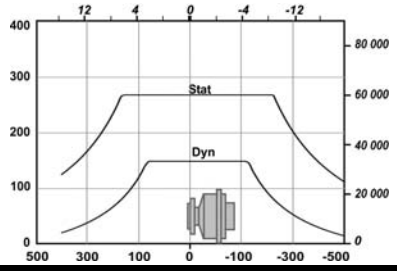
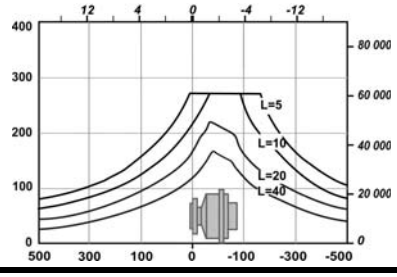
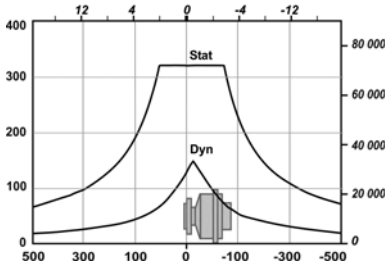
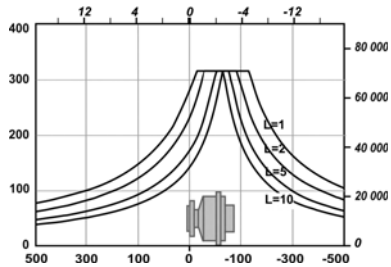
Dynamic : 0 tr/min *[0 RPM]*, code 0 displacement, without axial load at max. torque



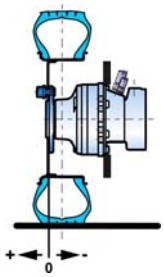
Service life of bearings

Test conditions :

L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

1 1 1 0 1 2 3 4 P		
1 3 1 0 1 2 3 4 P		
1 4 1 0 1 5 1 0 1 2 3 4 P		

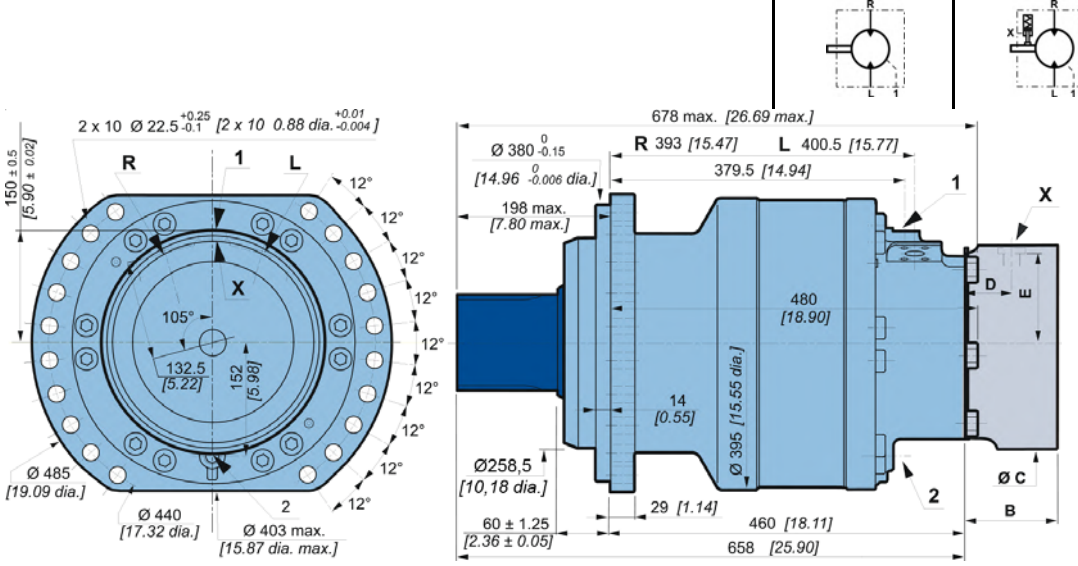
The service life of the components is influenced by the pressure.You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components complies with the application's specifications.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



SHAFT MOTOR

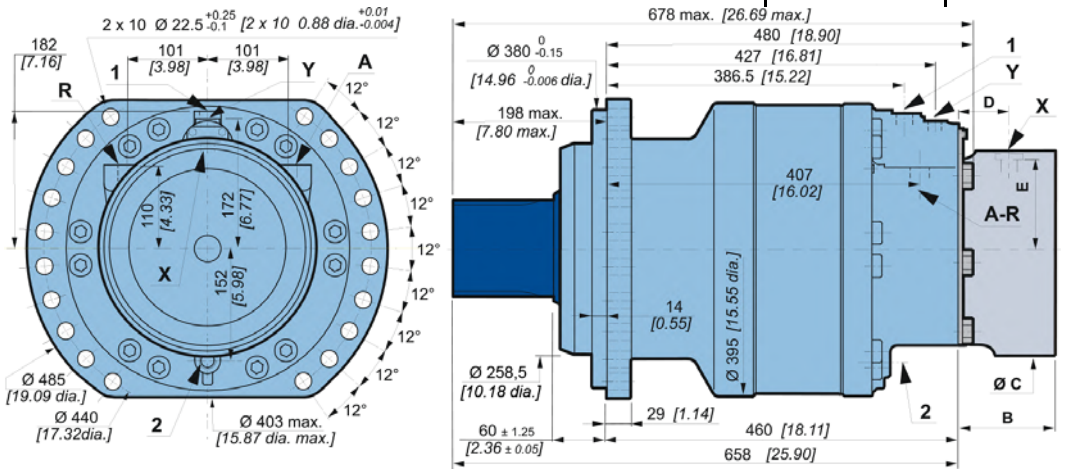
Dimensions for standard (2A50) 1-displacement motor

	265 kg *[583 lb]*	370 kg *[814 lb]*
	6.00 L *[360 cu.in]*	4.50 L *[270 cu.in]*

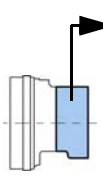


Dimensions for standard (2A50) 2-displacement motor

	265 kg *[583 lb]*	370 kg *[814 lb]*
	6.00 L *[360 cu.in]*	4.50 L *[270 cu.in]*



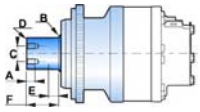
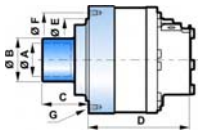
Also see 'Valving systems and hydrobases' section (thumbnail opposite).



	T42	T50	T83
B	148,0 *[5,83]*	157,5 *[6,20]*	159,0 *[6,26]*
C	Ø375 *[14,76 dia.]*	Ø375 *[14,76 dia.]*	Ø375 *[14,76 dia.]*
D	63,5 *[2,50]*	63,5 *[2,50]*	63,5 *[2,50]*
E	183,5 *[7,22]*	183,5 *[7,22]*	183,5 *[7,22]*

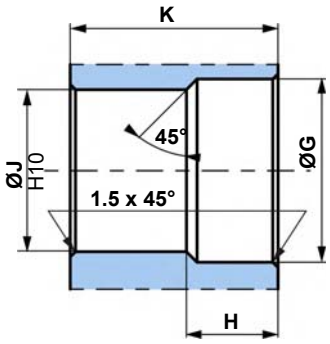
Also see "Brake" section (thumbnail opposite).

Support types

			A mm *[in]*	B mm *[in]*	C mm *[in]*	D mm *[in]*	E mm *[in]*	F mm *[in]*	
2 A 5 0 (P)	**DIN 5480** splines Nominal Ø 130 *[5.12]* Module 5 Z 24		40 *[1.57]*	R 4 *[R 0.16]*	60 *[2.36]*	2 x M16	32 *[1.26]*	136 *[5.35]*	
2 A 1 0 (P)	**NF E22-141** splines Nominal Ø 130 *[5.12]* Module 3.75 Z 33		40 *[1.57]*	R 4 *[R 0.16]*	60 *[2.36]*	2 x M16	32 *[1.26]*	136 *[5.35]*	
6 A L 0 (P)			Ø 115 *[4.53 dia.]*	Ø 155 *[6.10 dia.]*	170 *[6.69]*	388 *[15.28]*	Ø 258.5 *[10.18 dia.]*	Ø 340 *[13.39 dia.]*	
6 A B 0 (P)	**DIN 5480** splines Nominal Ø 120 *[4.72]* Module 5 Z 22		Ø 122 *[4.80 dia.]*	Ø 159 *[6.26 dia.]*	166 *[6.54]*	373.2 *[14.69]*	Ø 258.5 *[10.18 dia.]*	Ø 340 *[13.39 dia.]*	

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

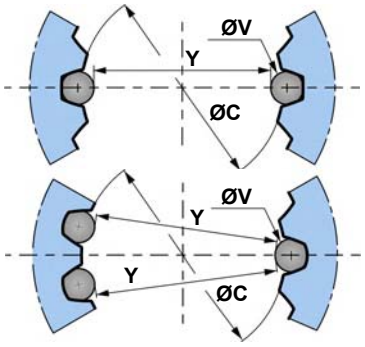
Splined coupling



N : Nominal Ø.
Mo : Module.
Z : Number of teeth.

Standard DIN 5480
Pressure angle 30°.
Centering on flanks.
Slide fit (7H quality).

Standard NF E22-141
Pressure angle 20°.
Centering on flanks.
Slide fit (7H quality).



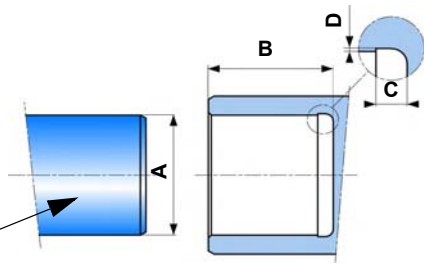
	Ø G mm *[in]*	H mm *[in]*	Ø J mm *[in]*	K mm *[in]*	N mm *[in]*	Mo	Z	Offset mm *[in]*	(H10) mm *[in]*	Ø V mm *[in]*	Y mm *[in]*	Tolerance µm *[µin]*
2 A 5 0 (P)	132 *[5,20]*	33 *[1,30]*	120 *[4,72]*	135 *[5,31]*	130 *[5,12]*	5	24	2,25 *[0,09]*	120 *[4,72]*	9 *[0,35]*	111,104 *[4,37]*	+ 87 / 0 *[+3.425 / 0]*
2 A 1 0 (P)	131 *[5,16]*	33 *[1,30]*	122,5 *[4,82]*	135 *[5,31]*	130 *[5,12]*	3,75	33	2,373 *[0,093]*	122,5 *[4,82]*	7,5 *[0,30]*	115,081 *[4,53]*	+ 113 / 0 *[+4.448 / 0]*

General tolerances : ± 0.25 *[±0.0098]*.
Material: Ex: 42CrMo4.
Hardening treatment to obtain R = 800 to 900 N/mm² *[R = 116 030 to 130 533 PSI]*.

Cylindrical bushed coupling

	A mm *[in]*	B mm *[in]*	C mm *[in]*	D mm *[in]*
6 A L 0 (1 2 3 4) P	Ø 115 *[4.53 dia.]*	105 *[4.13]*	10 *[0.394]*	0.5 *[0.0197]*

R min. : 640 N/mm² [132 800 PSI]

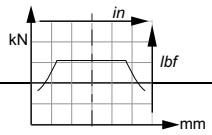


Load curves

Permissible radial loads

Max. permissible loads: 0 tr/min *[0 RPM]*; 0 bar *[0 PSI]*

Continuous permissible loads:
> 0 tr/min *[> 0 RPM]*; 275 bar *[3 988 PSI].*

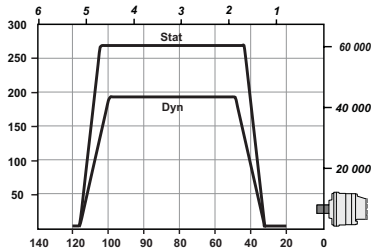


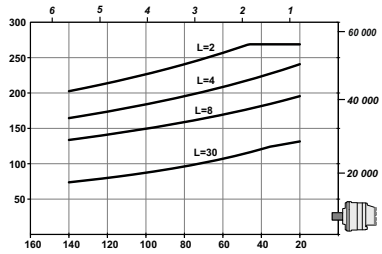
Service life of bearings

Test conditions :

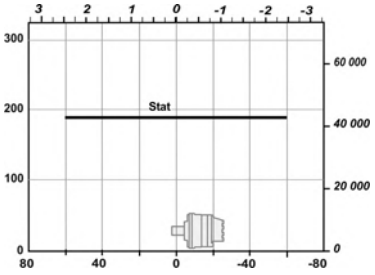
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

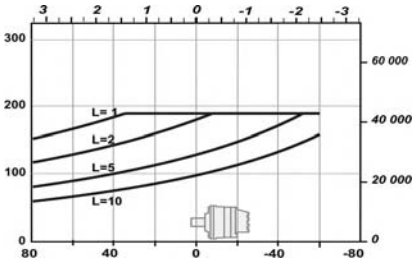
2 A 5 0 / 2 A 1 0 (1 2 3 4) P



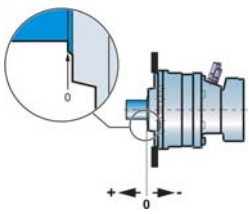


6 A L 0 / 6 A B 0 (1 2 3 4) P





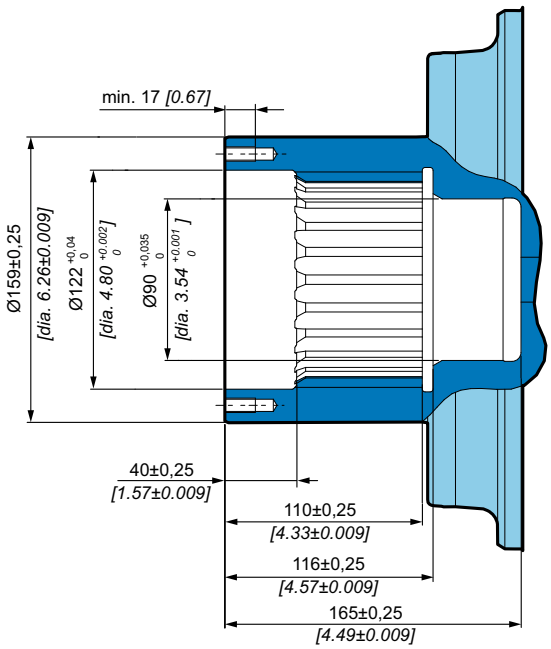
The service life of the components is influenced by the pressure.You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components complies with the application's specifications.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



Coupling for female splines

	C	D		F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
MS50								6	A	B	0						

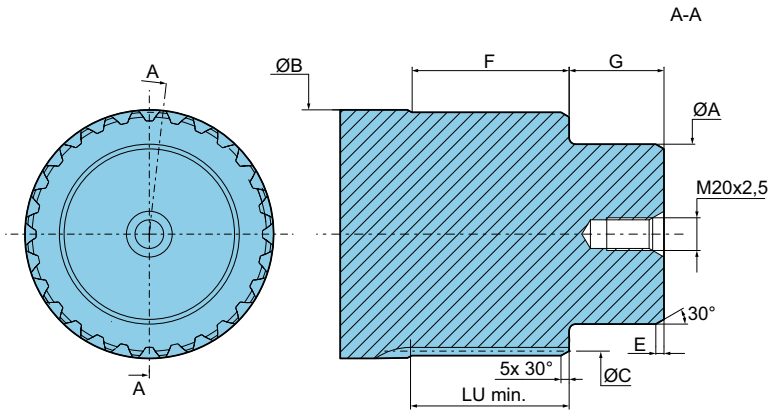
Splined DIN 5480
Pressure angle: 30°
Nominal diameter: 120
Teeth quantity: 22
Modulus: 5
Tolerance class:8



Recommended customer shaft design to be used with bearing support 6AB0

	Torque arm motor	Flange mounted motor
A(1)	Ø90 *[3.54 dia.]*	Ø90 *[3.54 dia.]*
B(2)	Ø122 *[4.80 dia.]*	Ø122 *[4.80 dia.]*
C	DIN 5480 W120x5x30x22x8f	
E	10.0 *[0.39]*	5.0 *[0.20]*
F	78.0 *[3.07]*	78.0 *[3.07]*
G	52.0 *[2.05]*	49.0 *[1.93]*
LU	79.0 *[3.11]*	79.0 *[3.11]*

(1) - 0,012 *[-0.0004]* - 0,034 *[- 0.001]*
(2) - 0,114 *[-0.004]* - 0,139 *[- 0.005]*



For torque arm mounting, both motor and customer shaft must be in axial contact (no axial play) and must have sealing between motor and customer shaft.

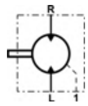
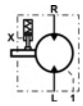
For chassis mounting, an axial play must be ensured between motor and customer shaft.

Consult your Poclain Hydraulics application engineer.

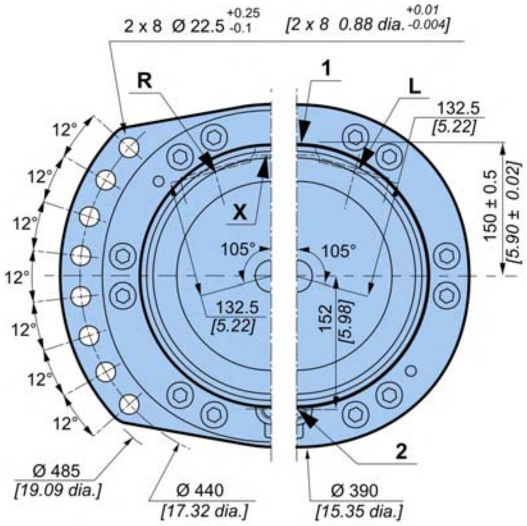
VALVING SYSTEMS AND HYDROBASES

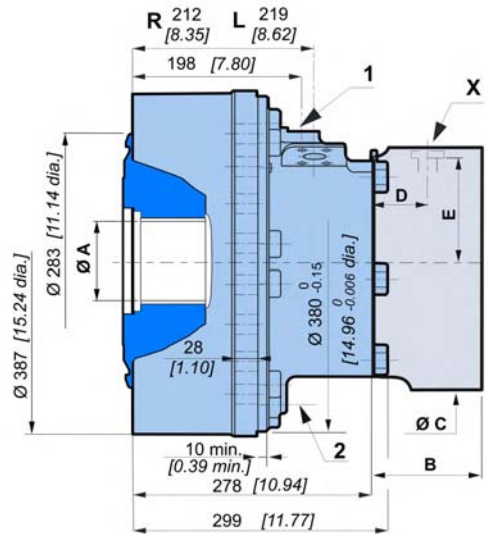
	C	D			F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
M S 5 0																	

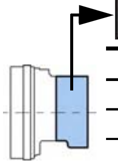
Dimensions for 1-displacement valving

Weight	145 kg *[318 lb]*	230 kg *[505 lb]*
Oil volume	2.20 L *[132 cu.in]*	2.50 L *[150 cu.in]*
		

D 1 2 3	D 1 2 3
1 2 _	1 1 _







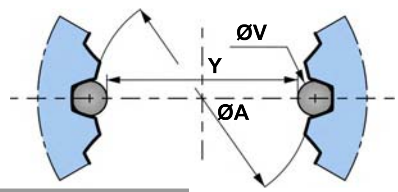
C	T 4 2	T 5 0	T 8 3
B	148,0 *[5,83]*	157,5 *[6,20]*	159,0 *[6,26]*
C	Ø375 *[14,76 dia.]*	Ø375 *[14,76 dia.]*	Ø375 *[14,76 dia.]*
D	63,5 *[2,50]*	63,5 *[2,50]*	63,5 *[2,50]*
E	183,5 *[7,22]*	183,5 *[7,22]*	183,5 *[7,22]*

Also see "Brake" section (thumbnail opposite).

Cylinder block splines

(as per standard NF E22-141)

ØA	Module	Z	Dimension on 2 pins Y	ØV
100 *[3.937]*	2.5	38	90.169 *[3.550]*	5 *[0.197]*

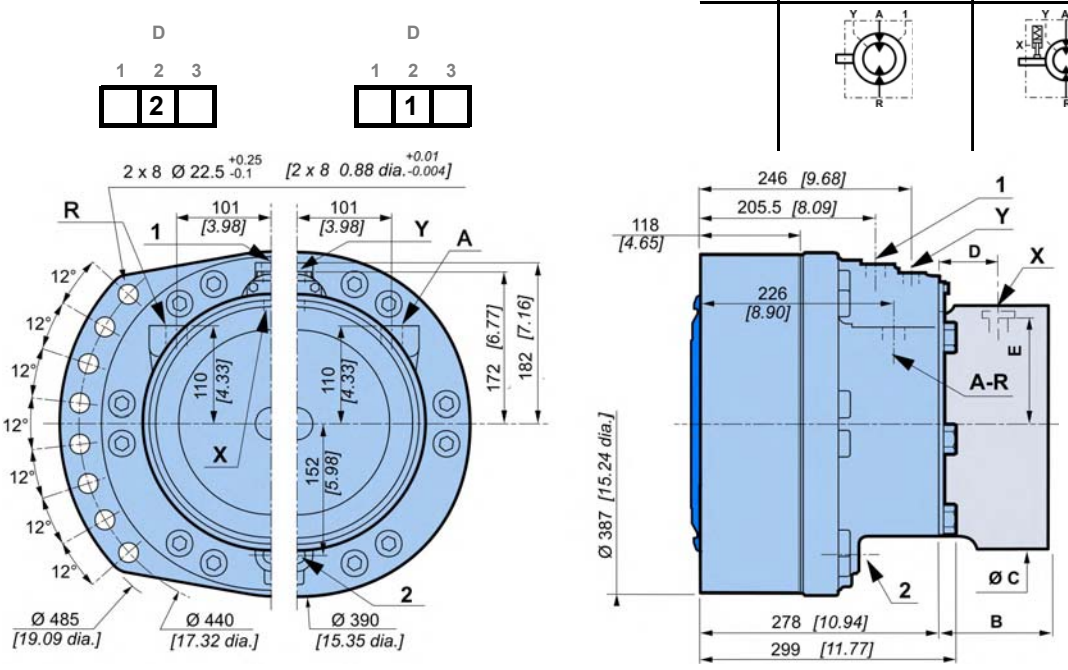


You are advised to have the installation validated by your Poclain Hydraulics application engineer before using the hydraulic unit in an application.

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

Dimensions for 2-displacement valving

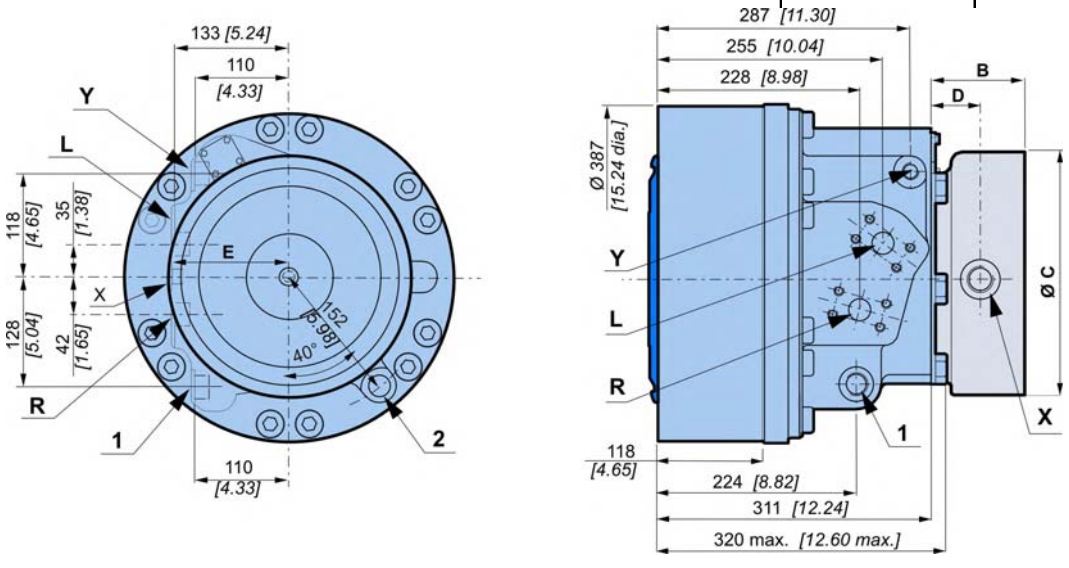
	160 kg *[352 lb]*	246 kg *[541 lb]*
	2.20 L *[132 cu.in]*	2.50 L *[150 cu.in]*

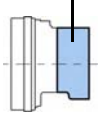


Dimensions for 2-displacement symetrical valving

For a small displacement, there is no preferred orientation for this motor.

	173 kg *[380 lb]*	258 kg *[568 lb]*
	2.20 L *[132 cu.in]*	2.50 L *[150 cu.in]*



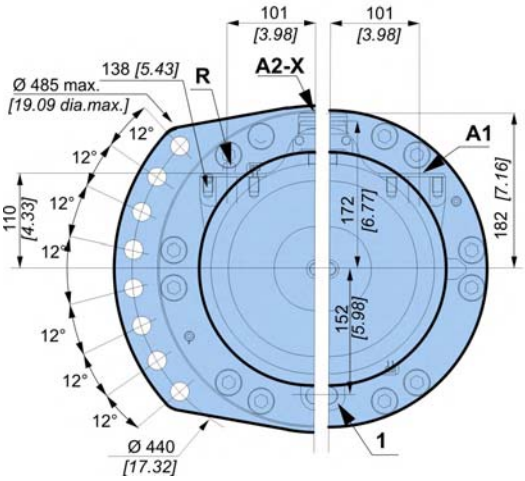


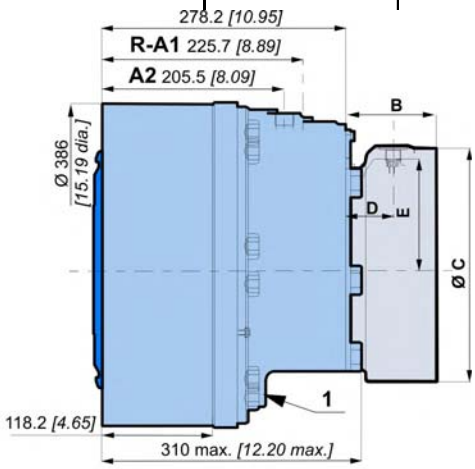
C	T 4 2	T 5 0	T 8 3
B	148,0 *[5,83]*	157,5 *[6,20]*	159,0 *[6,26]*
C	Ø375 *[14,76 dia.]*	Ø375 *[14,76 dia.]*	Ø375 *[14,76 dia.]*
D	63,5 *[2,50]*	63,5 *[2,50]*	63,5 *[2,50]*
E	183,5 *[7,22]*	183,5 *[7,22]*	183,5 *[7,22]*

Also see “Brake” section (thumbnail opposite).

Dimensions for Twin-Lock™ valving

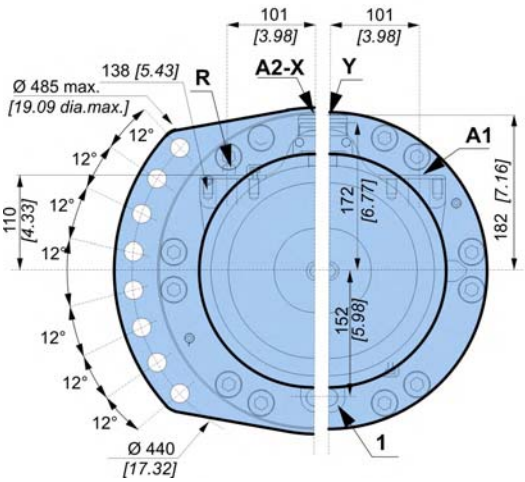
	160 kg *[352 lb]*	246 kg *[541 lb]*
	2.20 L *[132 cu.in]*	2.50 L *[150 cu.in]*

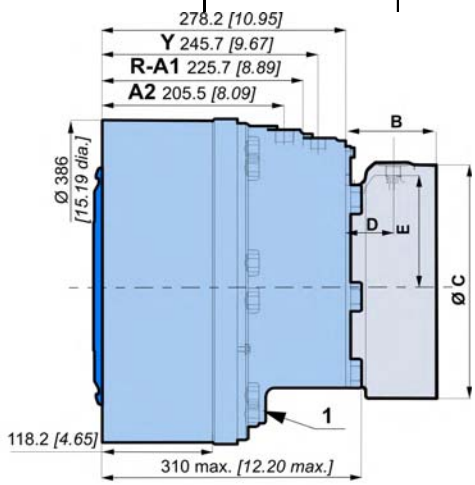


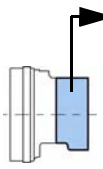


Dimensions for Twin-Lock™ / 2-displacement valving

	160 kg *[352 lb]*	246 kg *[541 lb]*
	2.20 L *[132 cu.in]*	2.50 L *[150 cu.in]*



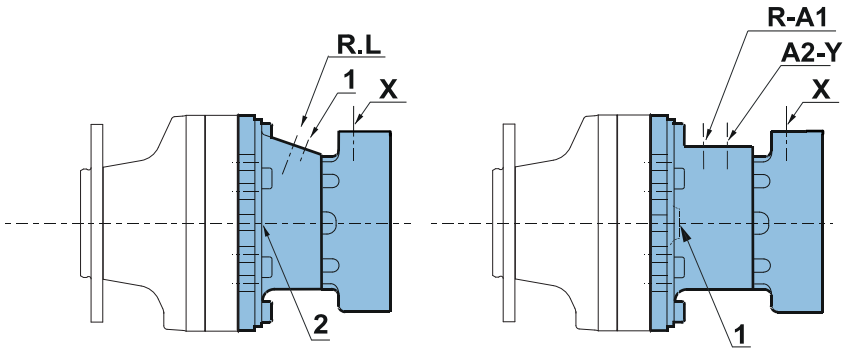


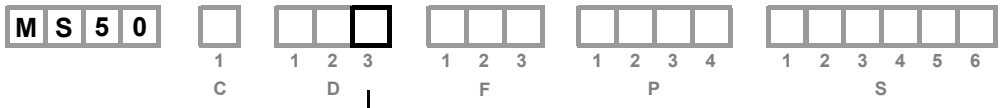


	T 4 2	T 5 0	T 8 3
B	148,0 *[5,83]*	157,5 *[6,20]*	159,0 *[6,26]*
C	Ø375 *[14,76 dia.]*	Ø375 *[14,76 dia.]*	Ø375 *[14,76 dia.]*
D	63,5 *[2,50]*	63,5 *[2,50]*	63,5 *[2,50]*
E	183,5 *[7,22]*	183,5 *[7,22]*	183,5 *[7,22]*

Also see “Brake” section (thumbnail opposite).

Hydraulic connections





		Old standards	Standards	Power supply		Case drain	2nd displacement control	Control of parking brake
				R-L		1, 2		X
	1	ISO 6 162 DIN 3 852	**ISO 6 162** **ISO 9 974-1**	DN25 PN400		M22x1.5		M18x1.5
	6	DIN 3 852 NF E48 050	**ISO 6 162** **ISO 9 974-1**	DN32 PN400		M22x1.5		M18x1.5
	7	ISO 6 162 SAE J514	**ISO 6 162** **ISO 11 926-1**	DN25 PN400		7/8"-14 UNF		9/16"-18 UNF
				R-A		1, 2	Y	X
	1	ISO 6 162 DIN 3 852	**ISO 6 162** **ISO 9 974-1**	DN25 PN400		M22x1.5	M18x1.5	M18x1.5
	1*	ISO 6 162 DIN 3 852	**ISO 6 162** **ISO 9 974-1**	DN25 PN400		M27x2	M20x1.5	M18x1.5
	7*	ISO 6 162 SAE J514	**ISO 6 162** **ISO 11 926-1**	DN25 PN400		1"1/16-12 UNF	3/4"-16 UNF	9/16"-18 UNF
				R-A1	A2	1, 2	Y	X
	1	ISO 6 162 DIN 3 852	**ISO 6 162** **ISO 9 974-1**	DN25 PN400	M27x2	M22x1.5	M18x1.5	M18x1.5
			ISO 9 974-1					
Max. pressures			**MS** bar *[PSI]*	450 *[6 527]*		1 *[15]*	30 *[435]*	30 *[435]*

***** : Only symmetrical valving

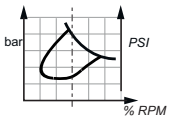
You are strongly advised to use the fluids specified in brochure "Installation guide" N° B59689D.

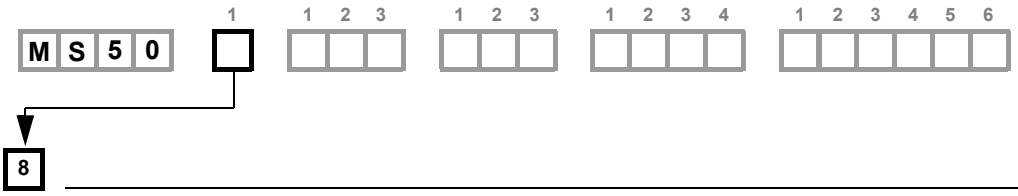
To find the connections' tightening torques, see the brochure "Installation guide" N° B59689D.

Efficiency

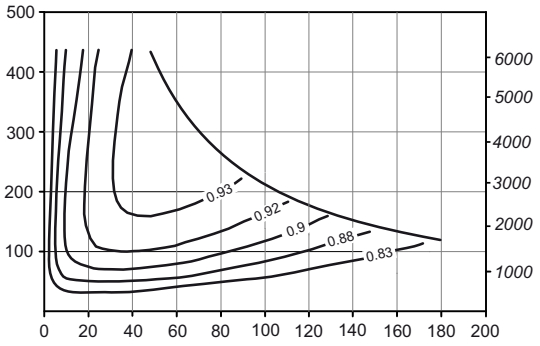
Overall efficiency

Average values given for guidance for code 0 displacement after 100 hours of operation with HV46 hydraulic fluid at 50°C *[122°F]*.

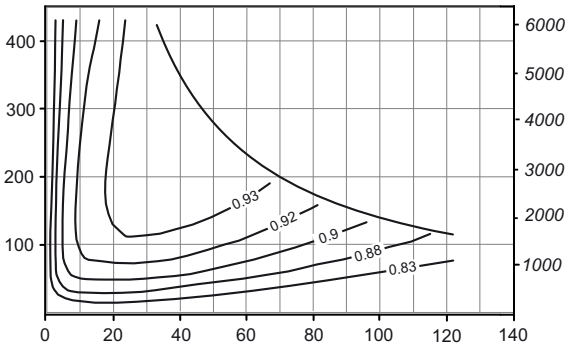




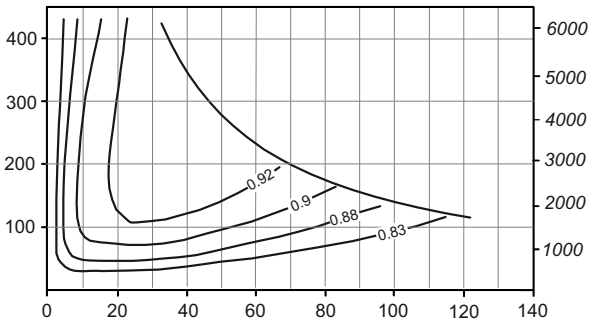
8



0



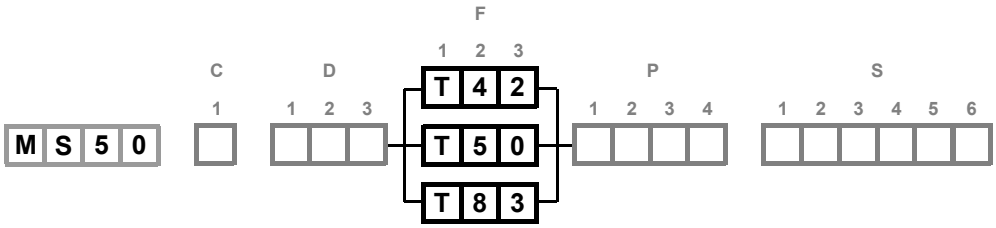
2

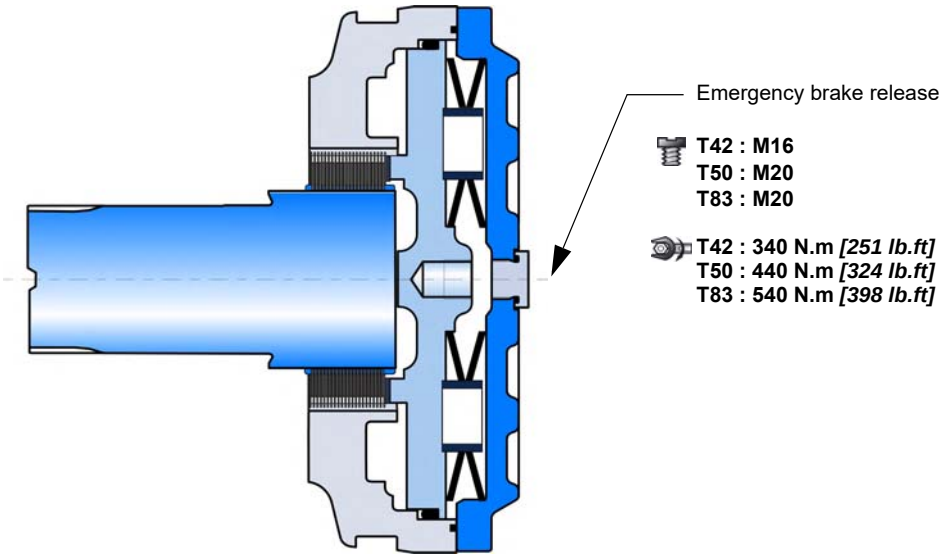


For a precise calculation, consult your Poclain Hydraulics application engineer.

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	T 4 2	T 5 0	T 8 3
Parking brake torque at 0 bars on housing (new brake)	25,000 Nm *[18,440 lb.ft]*	30,000 Nm *[22,130 lb.ft]*	42,000 Nm *[30,980 lb.ft]*
Dynamic emergency braking torque at 0 bars on housing	16,250 Nm *[11,990 lb.ft]*	19,500 Nm *[14,380 lb.ft]*	27,300 Nm *[20,140 lb.ft]*
Residual parking braking at 0 bars on housing *	18,750 Nm *[13,830 lb.ft]*	22,500 Nm *[16,600 lb.ft]*	31,500 Nm *[23,230 lb.ft]*
Min. brake release pressure	12 bar *[174 PSI]*	12 bar *[174 PSI]*	14 bar *[203 PSI]*
Max. brake release pressure	30 bar *[435 PSI]*	30 bar *[435 PSI]*	30 bar *[435 PSI]*
Oil capacity	400 cm³ *[24.4 cu.in]*	450 cm³ *[27.5 cu.in]*	450 cm³ *[27.5 cu.in]*
Volume for brake release	135 cm³ *[8.2 cu.in]*	135 cm³ *[8.2 cu.in]*	135 cm³ *[8.2 cu.in]*

* After emergency brake has been used

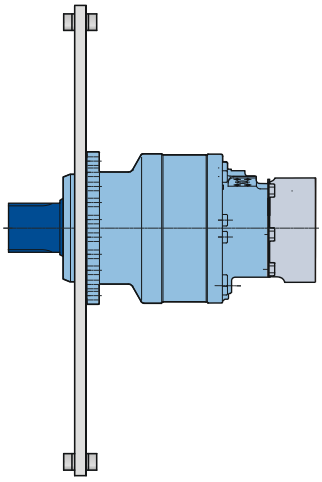
Do not run-in the multidisc brakes.

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 Poclain Hydraulics application engineer.

INSTALLATION

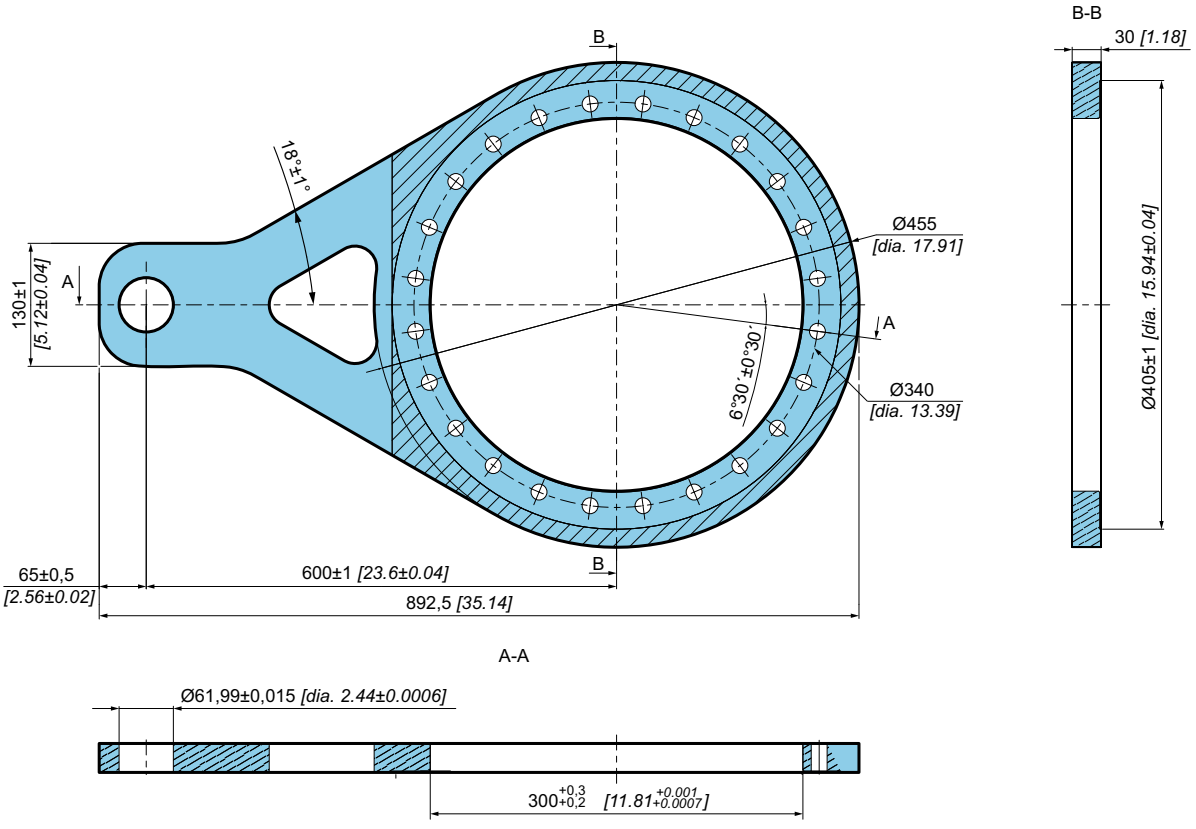
Torque arms mounting

We recommend a length of the torque arm of 600 mm *[23.6 in]*.
In order to avoid residual forces due to misalignment and twisting, the end of the arms must retain freedom of movement in 2 axis.



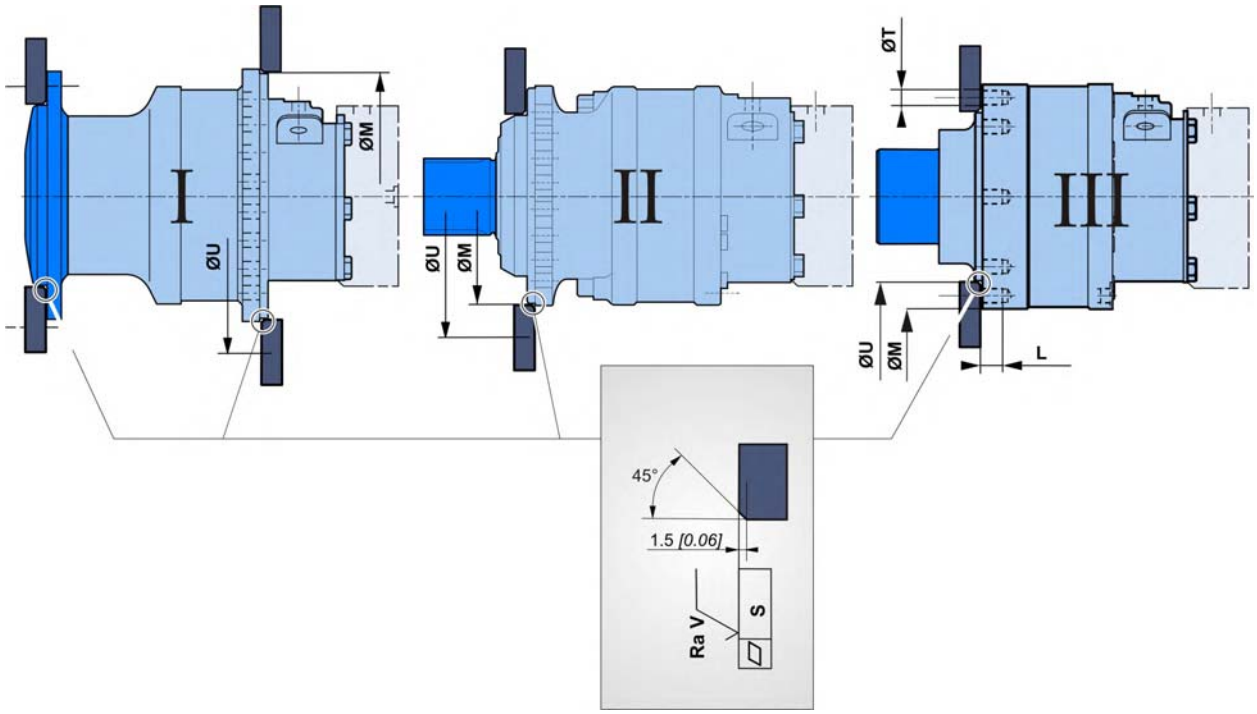
Recommended torque arm design

Torque arm can be supplied by Poclain Hydraulics. It must be ordered separately.



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

Chassis mountings



Take care over the immediate environment of the connections.

	ØM (1) mm *[in]*	ØU mm *[in]*	ØT mm *[in]*	L mm *[in]*	S mm *[in]*	Ra V µm *[µin]*		Class
I	380 *[14,96]*	440 *[17,32]*	-	-	0,2 *[0,008]*	12,5 *[0,49]*	2 x 8 M20 x 2	8,8
II		485 *[19,09]*	-	-				
III	300 *[11,81]*	392 *[15,43]*	22,5 *[0,886]*	30 *[1,181]*			12 x M20 x 2	

(1) +0,3 *[+0,012]*
+0,2 *[+0,008]*

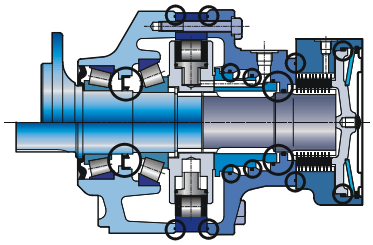
OPTIONS

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

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

1 - Fluorinated elastomer seals

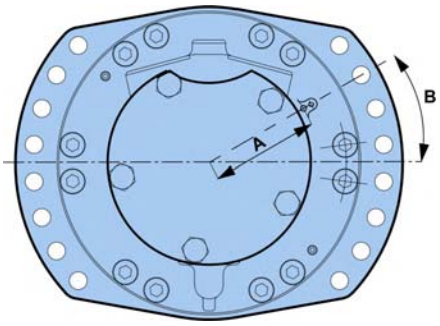
Nitrile seals marked in the figure below replaced by fluorinated elastomer seals.



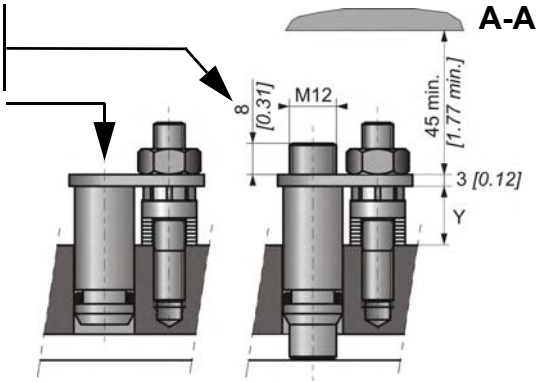
Consult your Poclain Hydraulics sales engineer.

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

Designation	C
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



	mm *[in]*	mm *[in]*
A	118.9 *[4.68]*	118.9 *[4.68]*
B	0°	20°
	2-displacement	1-displacement



Max. length Y= 17.3

Standard number of pulses per revolution= 56

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. B61352L.

6 - Industrial support

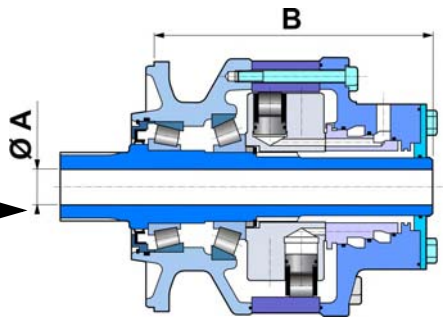
Reduction of around 50% from the rated value in the bearings' preload value.

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.

A - Hollow shaft

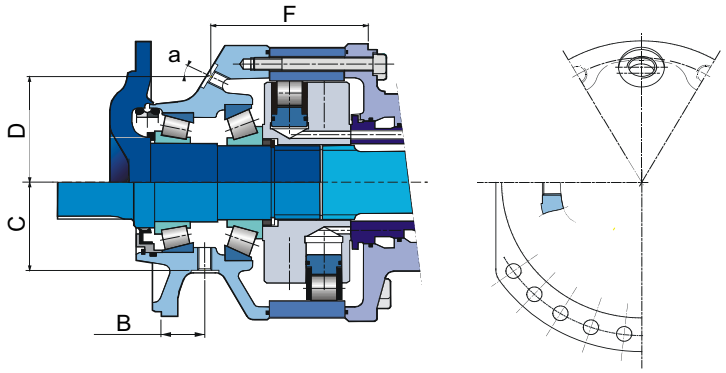


A mm *[in]*	B mm *[in]*
Ø 60 *[2.36 dia.]*	480 *[18.90]*

2 M8 screws: Ø 80mm *[3.14"dia.]* diametrically opposite.
Threaded depth
12 mm min. *[0.47"min.]*

Radial load x 0.75
No torque transmittable to the rear

B - Drain on the bearing support

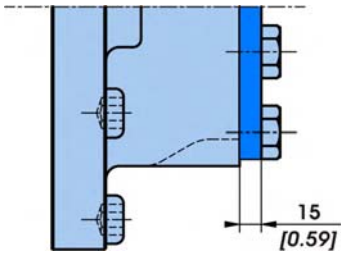


		B mm *[in]*	C mm *[in]*	D mm *[in]*	F mm *[in]*	a
Shaft motor	**M22 x 1.5**	56 *[2.20]*	133 *[5.24]*			
Wheel motor				159 *[6.26]*	221 *[8.70]*	45°

E - Reinforced sealing

Requires reinforced seals and, for an unbraked motor, a rear reinforced plate (**R50** - 15 *[0.594]*thick, instead of 6 *[0.237]*).

	C	D		F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
MS50					R	5	0					E					



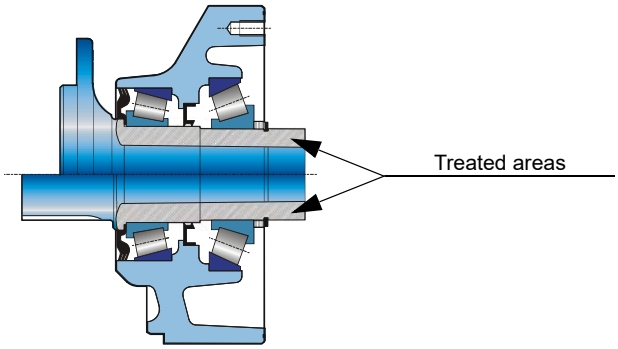
G - Special wheel rim mounting

Enables certain combinations different from the standard mountings.

Consult your Poclain Hydraulics sales engineer.

J - Treated shaft

Heat treatment on the indicated bearing radius and splines.



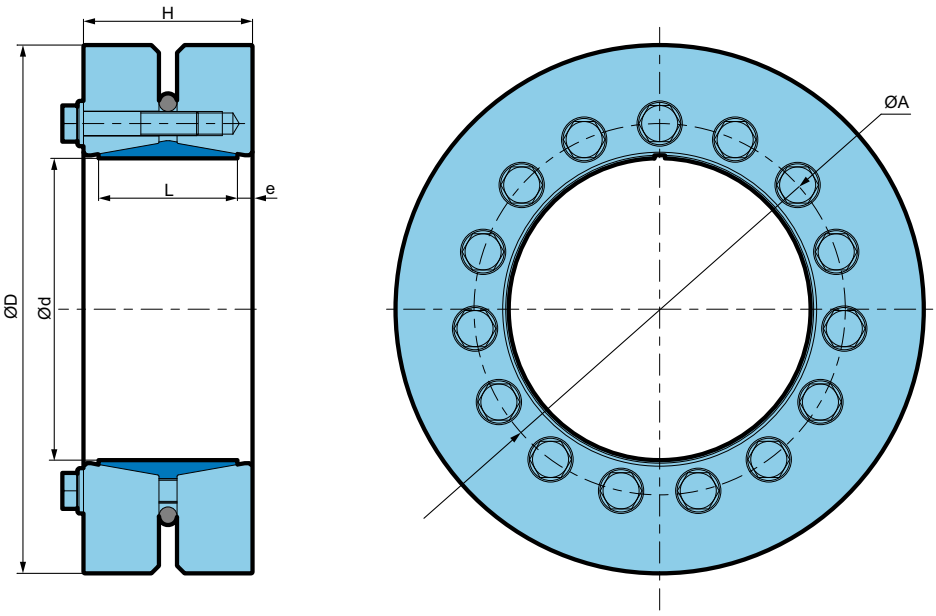
N - Drain on the bearing

A purge screw enables the motor to be mounted vertically, the shaft oriented upward.

ACCESSORIES

Shrink disc

Shrink disc can be supplied for motor MS50 using bearing support 6AL0.



d mm *[in]*	D mm *[in]*	H mm *[in]*	L mm *[in]*	e mm *[in]*	A mm *[in]*		Mt-max Nm *[lbf]*	kg *[lbs]*
155 *[6,10]*	265 *[10,43]*	80 *[3,15]*	66 *[2,60]*	7 *[0,28]*	198 *[7,80]*	15x M12x60	40 100 *[29 600]*	20 *[44]*

Consult your Poclain Hydraulics sales engineer.

POCLAIN
Hydraulics

01/08/2023
801 478 124G
801 478 194H
801 578 107J
801 578 119W
801 578 131K
A50153P
Not available
A14246K

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