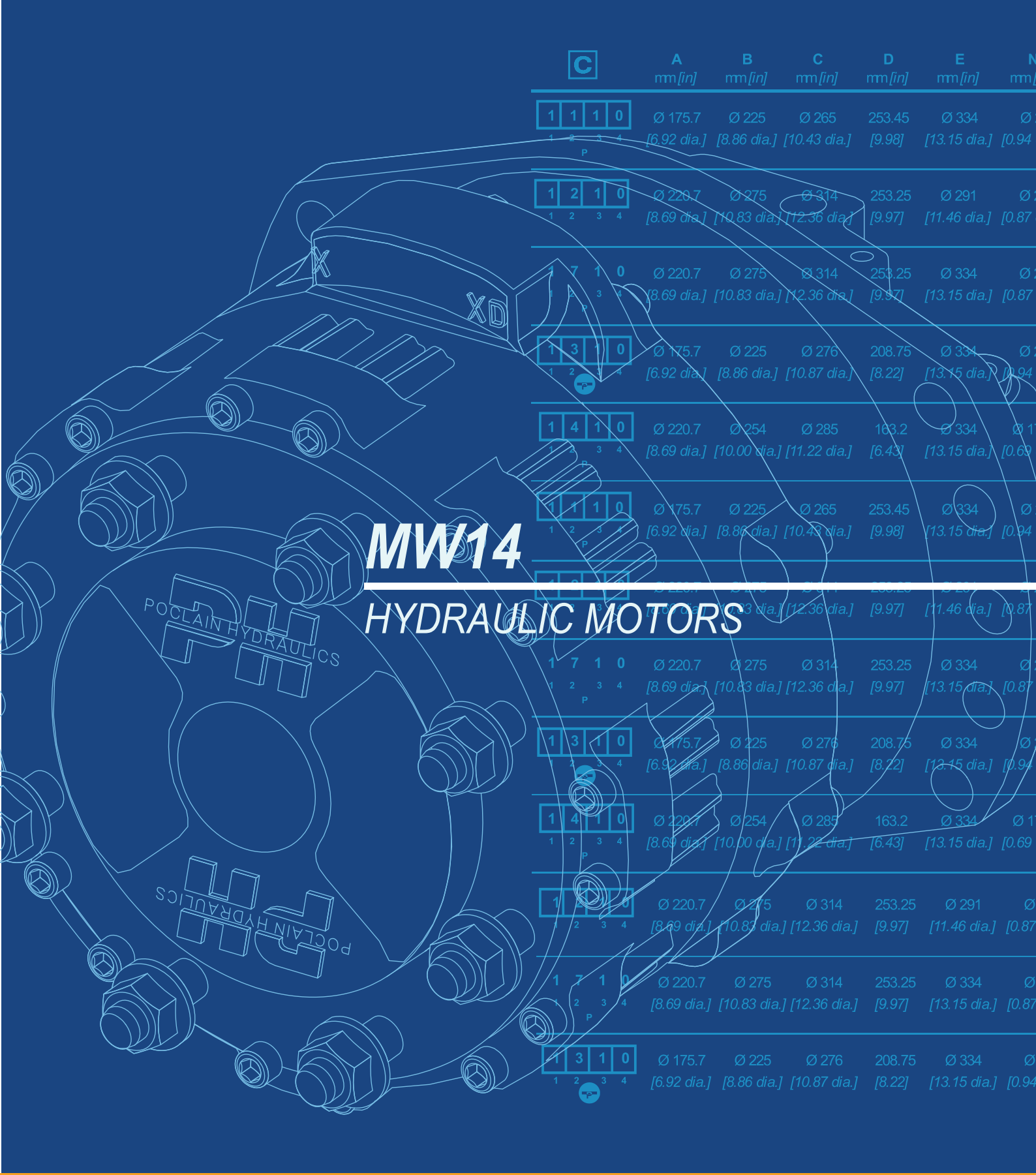


MW14

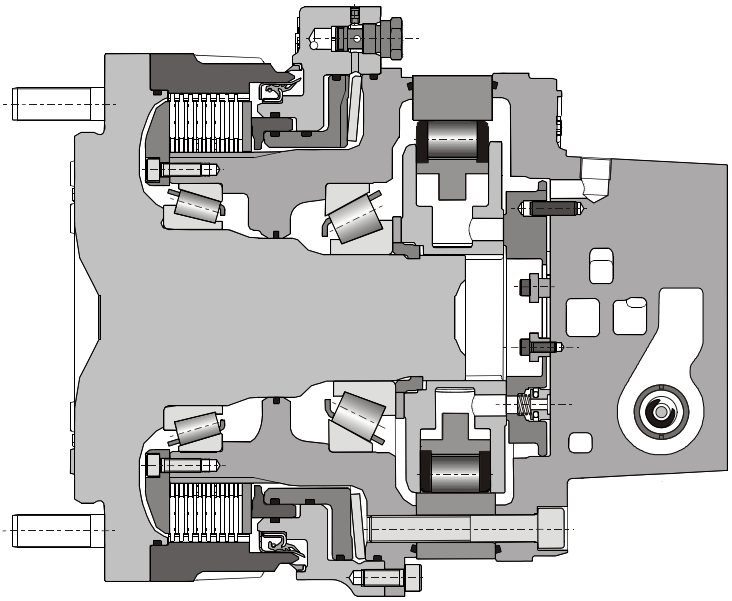
HYDRAULIC MOTORS

TECHNICAL CATALOG

POCLAIN HYDRAULICS

Poclain

CHARACTERISTICS



3-displacement motor

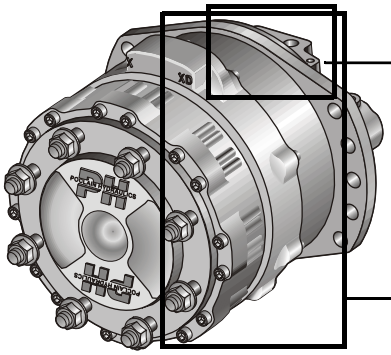
				❶	❷	❸
Cams	**2**	**Displacement**	**cm³/tr** *[cu.in/rev.]*	1 401 *[85,4]*	934 *[57,0]*	467 *[28,5]*
		Th. torque at 100 bar **Th. torque at 1000 PSI**	Nm *[lb.ft]*	2 230 *[1 133]*	1 486 *[755]*	743 *[378]*
		Max.speed	tr/min *[RPM]*	120	145	175
		Max.power	kW *[HP]*	50 *[67]*	40 *[54]*	33 *[44]*
		Max. pressure	bar *[PSI]*		450 *[6 530]*	

For other cams: Please contact your Poclain Hydraulics application engineer.

Contact your Poclain Hydraulics application engineer to find out how the displacement shift from the third to the second displacement is controlled and to find out transmission capabilities in terms of displacement shift when the vehicle is in motion.

CONTENT

MODEL



H D

1	2	3	4		1	2	3	4
M	W	1	4			0	2	0		3			

Pistons

Standard	Standard rings	**3**
	High efficiency rings	**4**
Diamond™	Standard rings	**C**
	High efficiency rings	**D**

3-displacement valving	**3**

Displacement
cm³/tr*[cu.in/rev.]*

1401/934/497 [85.5/57/28.5]	**2**

Preferential direction of rotation

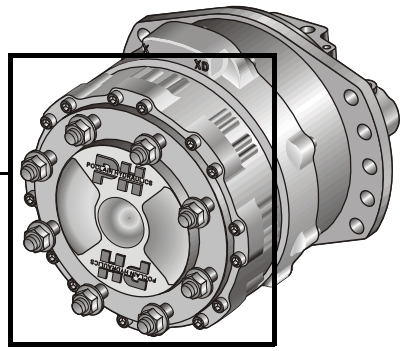
Clockwise	**D**
Counterclockwise	**G**

Without mounting	**1**
Lug fixing	**2**

Hydraulic connections

ISO 6162 ISO 9974-1	**1**
ISO 6162 ISO 11926-1	**7**

CODE



P				S					
1	2	3	4	1	2	3	4	5	6
7	7		1						

7 Dyna+™ bearing

With studs + nuts	**2**
With studs	**3**

Wheel rim mountings

8 x M20 x 1.5 Ø 275	**7**

Dyna+™ brake	**1**

Without Options or Adaptations	**0**
T4 Speed sensor installed	**2**
Predisposition for speed sensor	**8**
TR Speed sensor installed	**S**

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) 

Associated documents

Document type	N°
Generic installation	801478197L

Poclain Hydraulics Patents

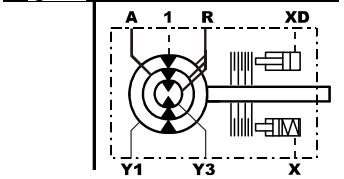
Document type	N°
MW **motor**	FR2796992
MW **motor**	US6347572
Dyna +™ **brake**	FR2796886
Dyna +™ **brake**	US6357558
Dyna +™ **brake**	FR2797008

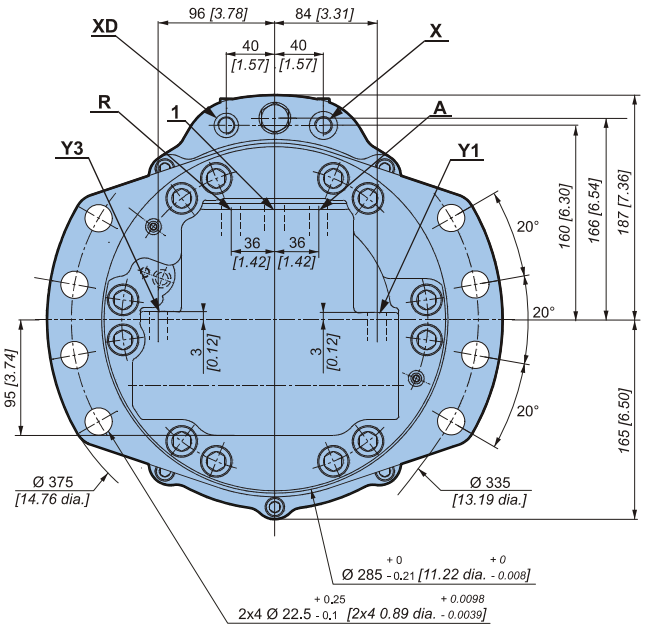
WHEEL MOTOR

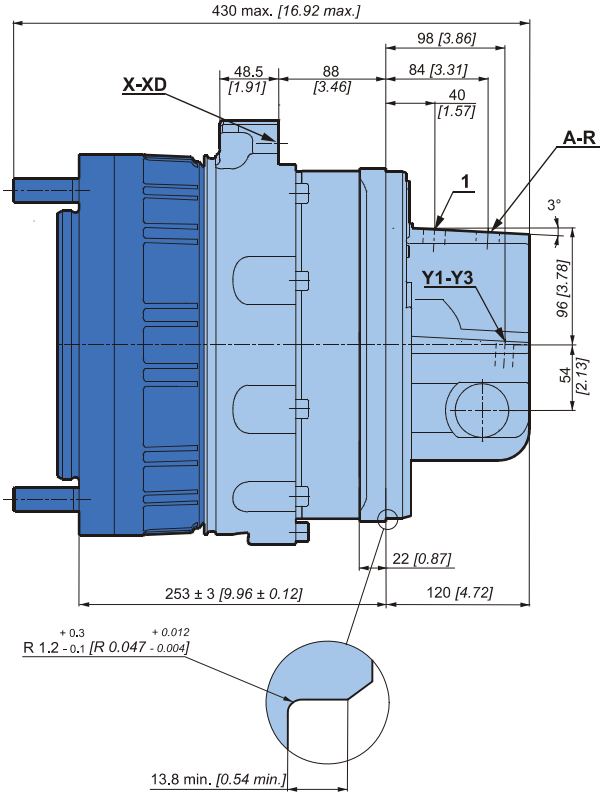
Dimensions for standard motor

149 kg *[328 lb]*

4,00 L *[240 cu.in]*







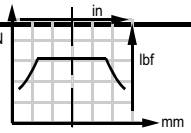
Load curves

Permissible radial loads

Test conditions :

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

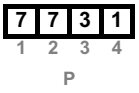
Dynamic : 0 tr/min *[0 RPM]*, code 2 displacement, without axial load at max. torque

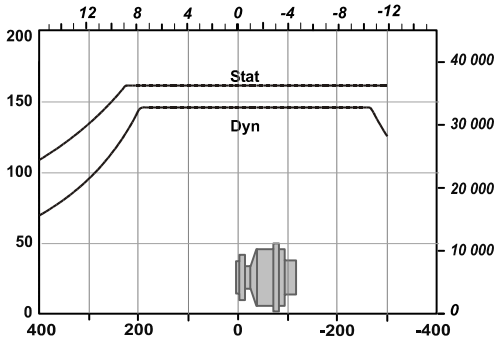


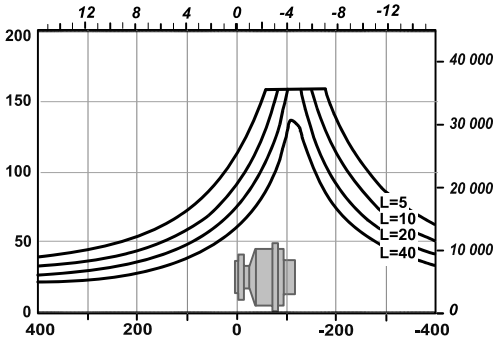
Service life of bearings

Test conditions :

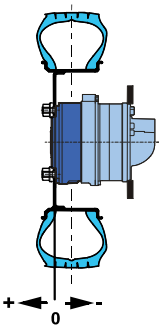
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 2 displacement, without axial load.







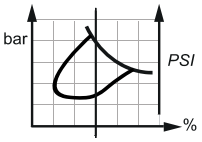
The service life of the components is influenced by the pressure.You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components complies with the application's specifications.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



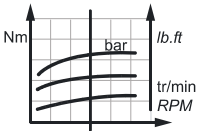
Efficiency

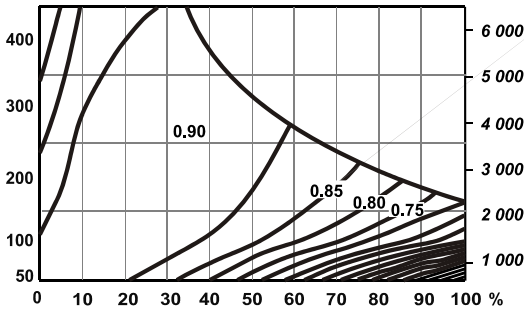
Overall efficiency

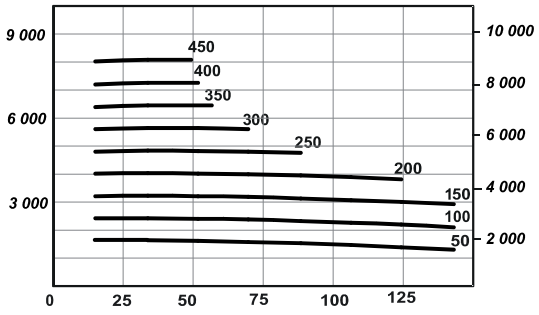
Average values given for guidance for code 2 displacement after 100 hours of operation with HV46 hydraulic fluid at 50°C *[122°F]*.



Actual output torque





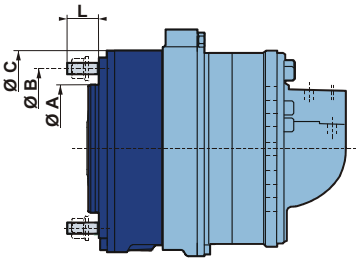


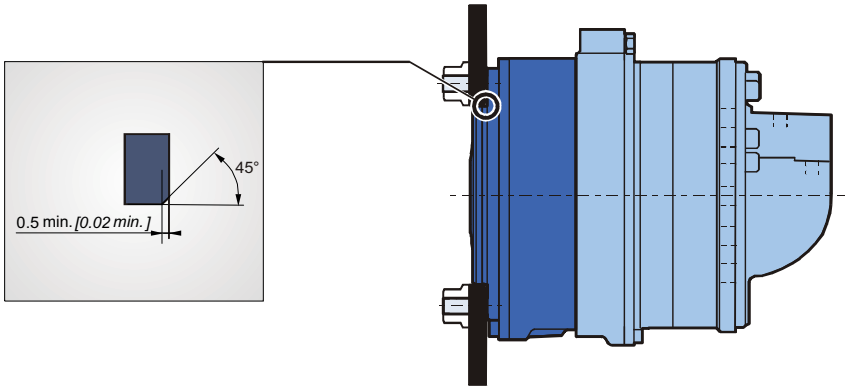
The starting torque is taken to be approximately 85% of the first value for available pressure. For a precise calculation, consult your Poclain Hydraulics application engineer.

Wheel rim mountings

	A (1)	B	C		L
7 7 3 1 (1 2 3 4 / P)	Ø 220,7 *[8,69 dia.]*	Ø 275 *[10,83 dia.]*	Ø 314,5 *[12,38 dia.]*	8 x M20x1.5	54 *[2,13]*

(1) ± 0.1 *[+0.004]*



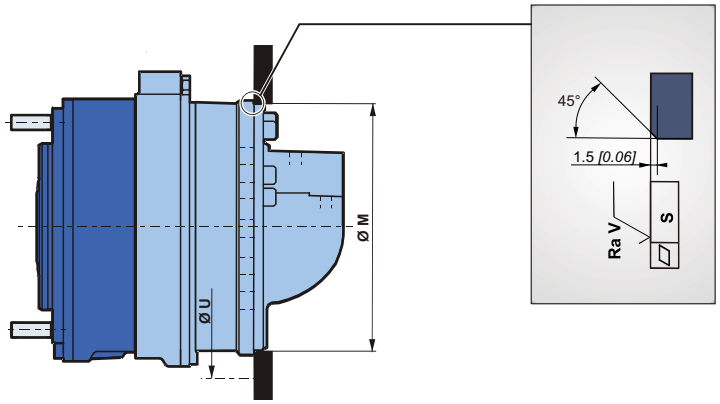


Studs

		C min.	C max.	D	Class	(*) (1)	(*) (2)
Studs	M20x1.5	3,5 *[0,14]*	27 *[1,06]*	25 *[0,98]*	12,9	600 *[442,5]*	770 *[567,9]*

(*) The tightening torques are given for the indicated loads.
(1) Wheel rim : Suggested tightening torque for wheel rim mountings (Re steel disc > 240 N/mm² *[>34 800 PSI]*).
(2) Standard : Suggested tightening torque in other cases (Re steel flange 360 > N/mm² *[>52 215 PSI]*)

Chassis mountings



ØM (1)	ØU	S	Ra V		Class	(*)
330 *[12,99]*	335 *[13,19]*	0,2 *[0,008]*	12,5µm *[0,49µin]*	2x4 M20	8,8	410 N.m *[302,4 lb.ft]*

) + 0
- 0.21 *[- 0.008]*

The tightening torques are given for the indicated loads.

Take care over the immediate environment of the connections.

For other chassis monuting possibilities, please consult your Poclain Hydraulics engineer.

Hydraulic connections

	H				D				P				S					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5	6
	M	W	1	4		0	2	0	3				7	7		1		

	Old standards	Standards	Power supply	Case drain	Return Power supply	1st or 3rd displacement control	Control of parking break	Control of service break
			A	1	R	Y1-Y3	X	XD
1	ISO 6162	ISO DP6162	DN 19 PN400		DN 19 PN400			
	DIN 3852	ISO 9974-1		M18 x 1.5		M16 x 1.5	M16 x 1.5	M14 x 1.5
7	ISO 6162	ISO DP6162	DN 19 PN400		DN 19 PN400			
	SAEJ514	ISO 11926-1		3/4" 16 UNF		3/4" 16 UNF	3/4" 16 UNF	9/16" 18 UNF

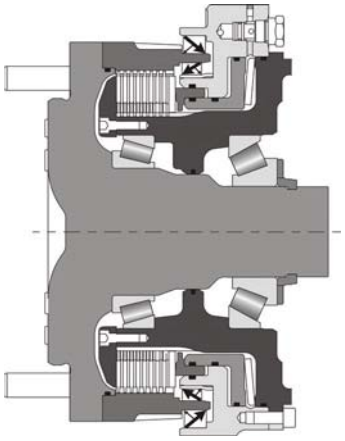
To find the connections' tightening torques, see the brochure "Installation guide" N° 801478197L.

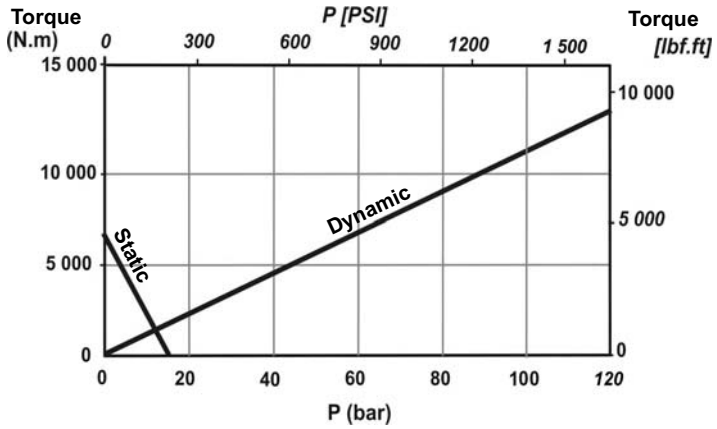
You are strongly advised to use the fluids specified in brochure "Installation guide" N° 801478197L.

BRAKES

DYNA+™ Brake

	H				D				P				S					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5	6
MW14		**0**	**2**	**0**	**3**				**7**	**7**		**1**						





Brake operation

This mutli-disk brake operates in two distinct ways:

- Either by an absence of pressure (static braking): The spring applies a force to the static piston that is transmitted to the dynamic piston, which clamps the fixed and free disks, preventing the shaft from turning. Braking torque decreases linearly as a function of unlocking pressure.
- Or by braking pressure (dynamic braking). The braking command creates a pressure on the dynamic braking piston, which clamps the fixed and free disks, preventing the shaft from turning. Braking torque increases linearly as a function of the unlocking pressure.

.

	C 7731
Hydraulically controlled dynamic braking	
Max. permissible brake torque	13 100 Nm *[9 660 lb.ft]*
Pressure to obtain max. permissible brake torque	120 bar *[1 740 PSI]*
Volume required for braking	15 cm³ *[0,92 cu.in]*
Mini. irrigation flow rate for dynamic braking	4 L/min *[1,06 GPM]*
Hydraulically controlled parking brake	
Parking brake torque (new brakes)	6 810 Nm *[5 020 lb.ft]*
Parking brake torque (after 500 dynamic braking)	5 450 Nm *[4 020 lb.ft]*
Parking brake torque mini. requiring renovation	4 850 Nm *[3 580 lb.ft]*
Max. release brake pressure	30 bar *[435 PSI]*
Volume for brake release	67 cm³ *[4,09 cu.in]*
Inlet conditions for brake release in towing (Flow rate of 2 L/min)	14 bar *[203 PSI]*
Emergency dynamical braking torque at 0 bar to the case (new brakes)	5 700 Nm *[4 200 lb.ft]*
Max. energy dissipation	583 kJ

Indicative values coming from fly-wheel test bench. Braking performance must be performed on machine by the manufacturer.

Brake release pressure vented.

Do not use both dynamic and parking brake simultaneously.

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

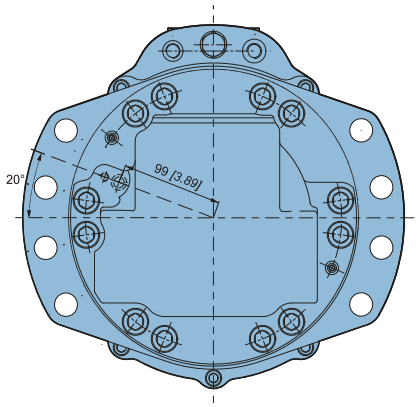
OPTIONS

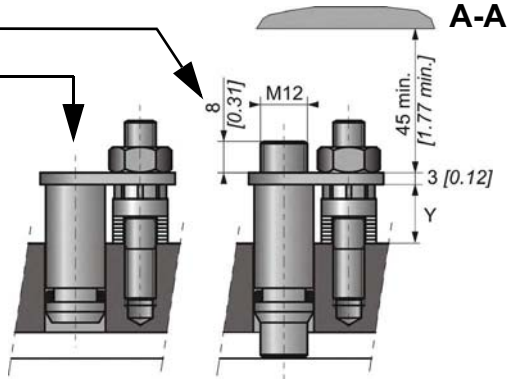
	H				D				P				S					
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5	6
MW14		0	2	0	3				7	7		1						

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

2 - S - 8 - Installed speed sensor or predisposition

Designation	C
T4 Speed sensor installed	2
TR Speed sensor installed (direction of rotation)	S
Predisposition for speed sensor	8





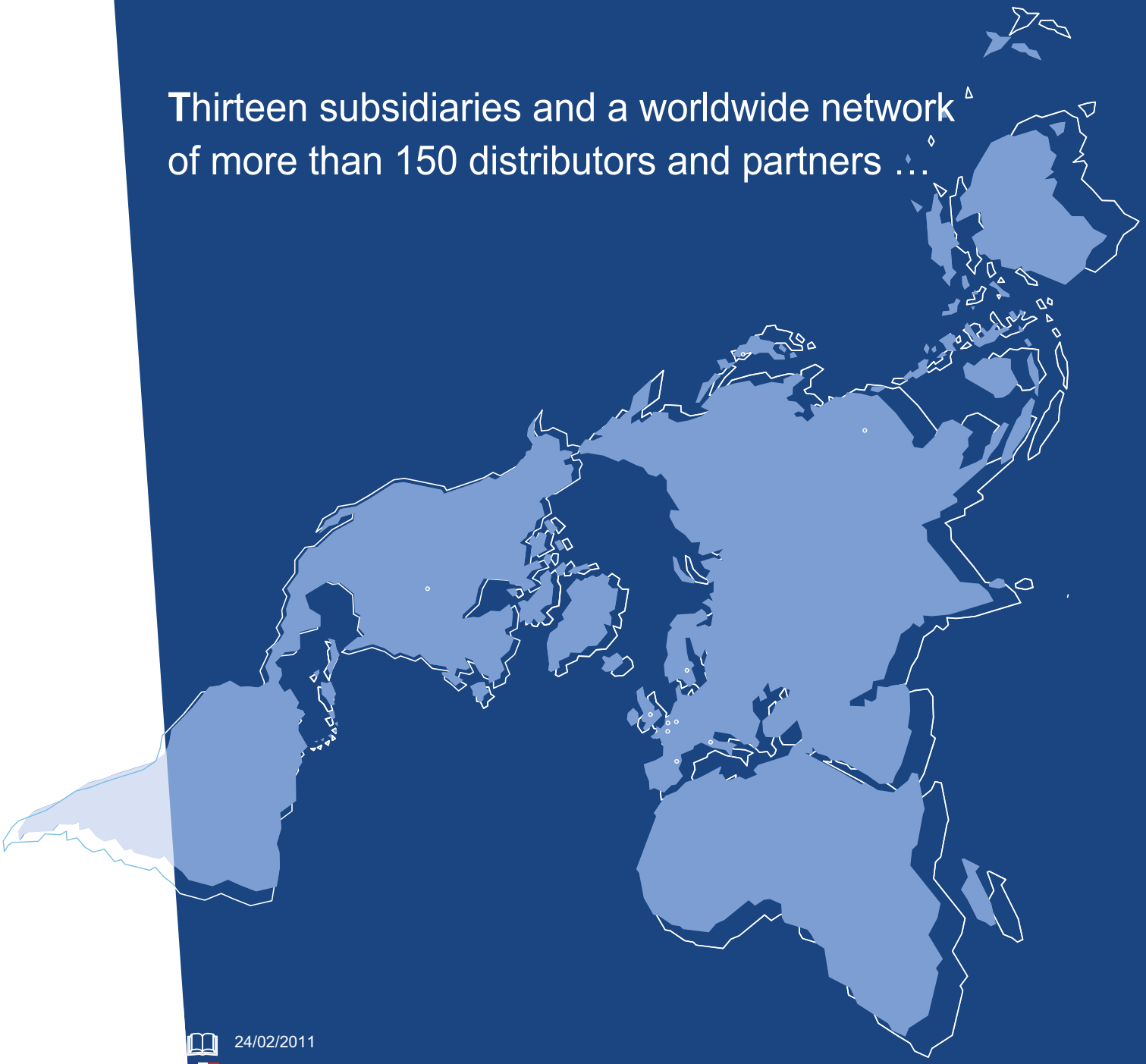
Max. length Y= 15.2

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. 801478197L.

Thirteen subsidiaries and a worldwide network of more than 150 distributors and partners ...



24/02/2011

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A05696R

A05697S

A05699U

A05698T

POCLAIN HYDRAULICS

More information on

www.poclain-hydraulics.com