YEOSHE

P-MS11.MSE11

Hydraulic Motors

www.yeoshehydraulic.com

Efficient Performance

Innovative Technology

Reliable Quality and Service

YEOSHE HYDRAULICS CO.,LTD.

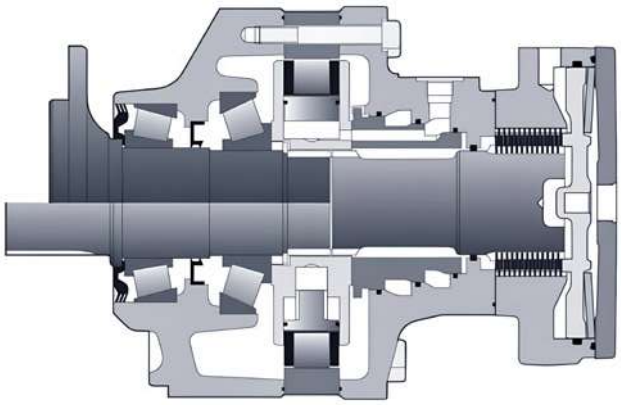
characteristics

- **P-MS11 Max. pressure**

Cams with equal lobes	450 bar *[6 527 PSI]*
Cams with unequal lobes	450 bar *[6 527 PSI]*

- **P-MSE11 Max. pressure**

Cams with equal lobes	400 bar *[5 802 PSI]*
Cams with unequal lobes	400 bar *[5 802 PSI]*



C		Cams with unequal lobes				Cams with equal lobes									
		P-MS11		P-MSE11		P-MS08				P-MSE08					
		A		A		2	1	0	9	2	1	0	9	8	7
1	cm³/tr *[cu.in/rev.]*	1,048 *[63.9]*		1,404 *[85.6]*		1,687 *[102.9]*	1,536 *[93.7]*	1,404 *[85.6]*	1,263 *[77.0]*	1,259 *[76.8]*	1,147 *[70.0]*	1,048 *[63.9]*	943 *[57.5]*	837 *[51.0]*	730 *[44.5]*
2	cm³/tr *[cu.in/rev.]*	629 *[38.4]*	419 *[25.6]*	843 *[51.4]*	561 *[34.2]*	843.5 *[51.4]*	768 *[46.8]*	702 *[42.8]*	631.5 *[38.5]*	629.5 *[38.4]*	573.5 *[35.0]*	524 *[32.0]*	471.5 *[28.8]*	418.5 *[25.5]*	365 *[22.3]*
Theoretical torque	at 100 bar Nm	2,232		1,666		2,682	2,442	2,232	2,008	2,002	1,824	1,666	1,499	1,331	1,161
1	at 1000 PSI *[lb.ft]*	*[1,135]*		*[847]*		*[1,364]*	*[1,242]*	*[1,135]*	*[1,021]*	*[1,018]*	*[927]*	*[847]*	*[762]*	*[677]*	*[590]*
1	kW *[HP]*	50 *[67]*		50 *[67]*		50 *[67]*				50 *[67]*					
Max.power 2	preferred kW *[HP]*	33 *[44]*		33 *[44]*		33 *[44]*				33 *[44]*					
2	non-preferred kW *[HP]*	25 *[34]*		25 *[34]*		25 *[34]*				25 *[34]*					
Max. speed 1	tr/min *[RPM]*	120				130	140	155	170	170	180	185	190	195	200
2	tr/min *[RPM]*					165	180	185	190	175					

Motor inertia = 0.05 kg.m²

1 First displacement
2 Second displacement

* See option ''M'' for higher speed.

Max. power obtained at max speed, with Peek bushings.

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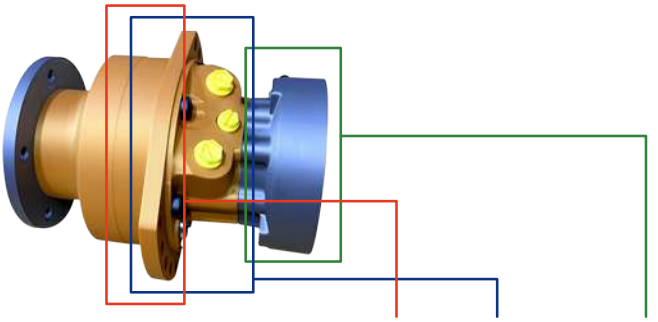
Modularity



C

P-M S 1 1

P-M S E 1 1

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

Bearing supports

Torque module

Wheel motor

1310

1110

1210

1G10

1610

1710

MS11

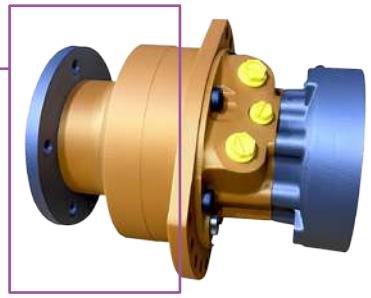
MSE11

Shaft motor

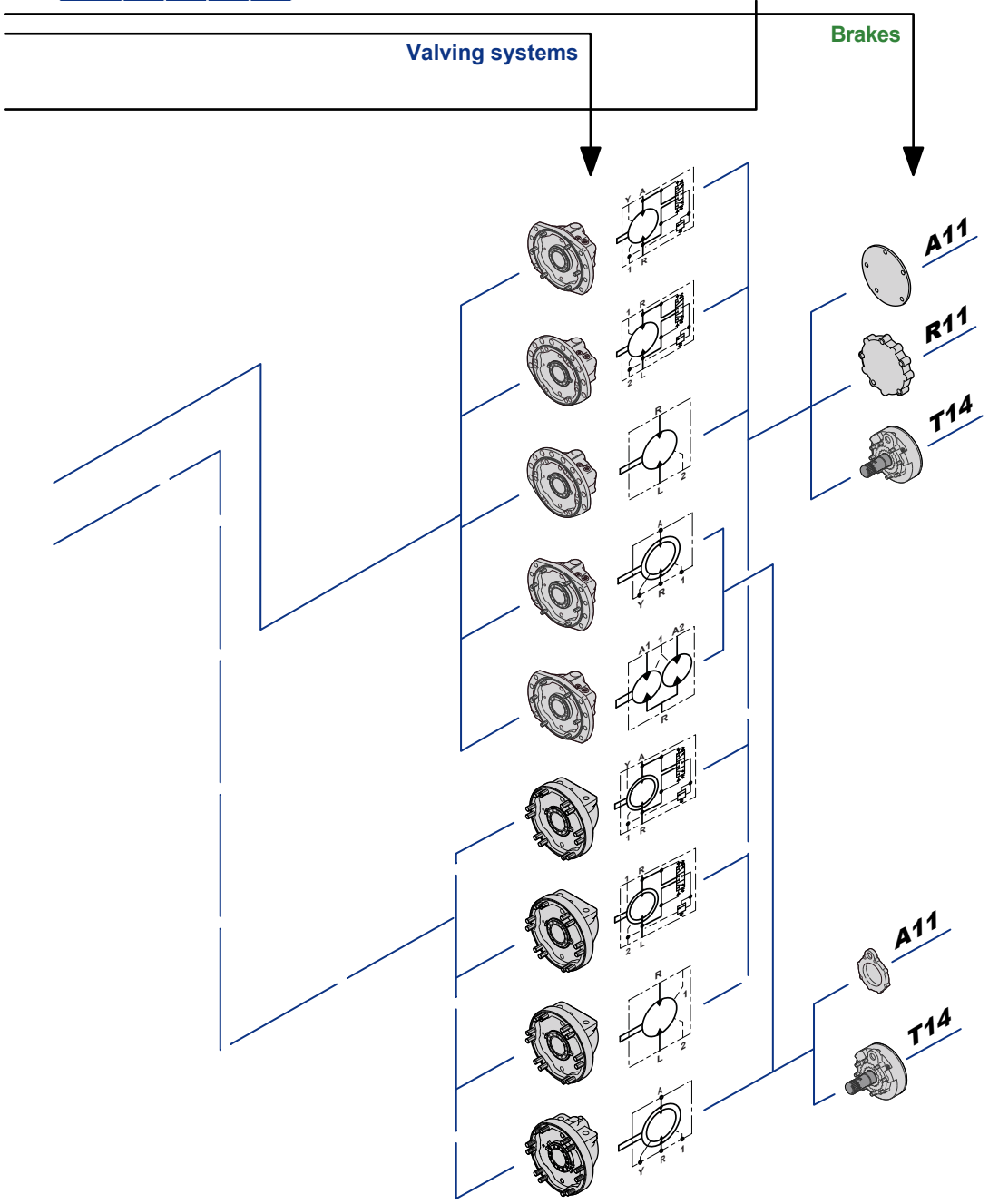
2A10

2A50

Modularity



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



Hydrobases

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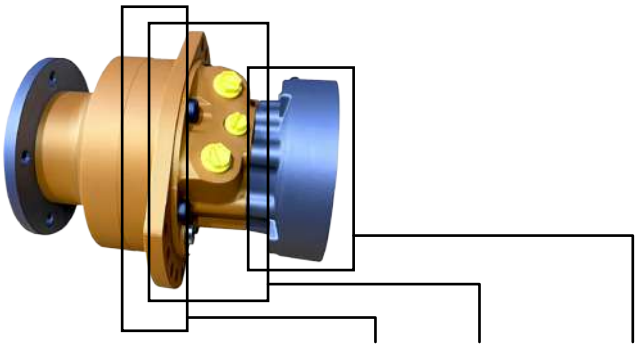
Modelcode



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

Came type

			① cm³/tr	② [cu.in/rev.]	
C1	Cams with equal lobes	P-MS11	730 [44.5]	365 [22.3]	7
			837 [51.0]	418.5 [25.5]	8
			943 [57.5]	471.5 [28.8]	9
			1,048 [63.9]	524 [32.0]	0
			1,147 [70.0]	573.5 [35.0]	1
			1,259 [76.8]	629.5 [38.4]	2
		P-MSE11	1,263 [77.0]	631.5 [38.5]	9
			1,404 [85.6]	702 [42.8]	0
			1,536 [93.7]	768 [46.8]	1
			1,687 [102.9]	843.5 [51.4]	2
	Cams with unequal lobes	P-MS11	1,048 [63.9]	629 [38.4]	A
				419 [25.6]	
		P-MSE11	1,404 [85.6]	843 [51.4]	A
				561 [34.2]	

① First displacement
② Second displacement

Valving type

D1	1-displacement valving		1
	2-displacement & Twin-Lock valving (Clockwise)	Ratio 2	D
		Ratio < 2	E
		Ratio > 2	F
	2-displacement & Twin-Lock valving (Counterclockwise)	Ratio 2	G
		Ratio < 2	H
		Ratio > 2	J

Valving cover

D2	Without mounting	1	4	D
	Lug fixing	2	5	E
		1 Displacement 2 Displacement	Exchange	Twin-Lock

Connection type

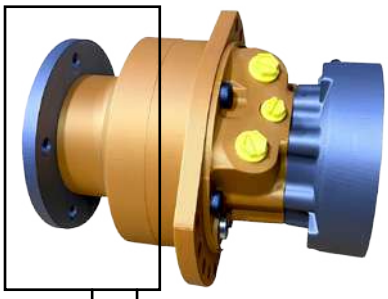
D3	No transmission cover			0
	ISO 6162 **ISO 9974-1**	Flanges connections	① **DN19** ② **DN13**	1
	ISO 6162 **ISO 1179-1**	Flanges connections	① **DN19** ② **DN13**	2
	ISO 1179-1	connections	G3/4	3
	ISO 9974-1	connections	M27 x 2	4
	ISO 6162 **ISO 11926-1**	Flanges connections	① **DN13** ② **DN19**	7
	ISO 11926-1	connections	1" 1/16 - 12 UNF	A

① First displacement
② Second displacement

Rear brake

F1 ~ F3	Without brake	Simple plate	A11
		Reinforced plate	R11
	Brake	Screwed environmental cover	T14

Modelcode



C | P-M S 1 1 | P-M S E 1 1

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

Front unit

P1	Without bearing support	0
	Without mounting	1
	Lug mounting	2

Shaft Specifications

P3	**Shaft type**	
	Without studs	1
	With studs + nuts	2
	With studs	3
	M threaded holes	4
	Male shafts	
	NF E22-141 splines	1
	DIN 5480 splines	5

Bearing support

P2	Without shaft	0
	5 x Ø24 on Ø225	1
	10 x Ø22 on Ø225	2
	8 x Ø22 on Ø275	7
	12 x Ø20 on Ø205	3
	10 x Ø22 on Ø225	6
	10 x Ø24 on Ø225	G
	For male shaft bearing support	A

Options

S1 ~ S6	Without Options or Adaptations	0
	Fluorinated elastomer seals	1
	T4 speed sensor (without rotation direction)	2
	Brake environmental cover without plug	3
	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
	Abrasive environment	C
	Special paint or without paint	D
	Reinforced sealing	E
	Special wheel rim mounting	G
	High performance	H
	Surface heat treatment of the shaft	J
	High speed	M
	TD speed sensor (two phase shifted frequencies)	Q
	TR speed sensor (digital rotation direction)	S
	Soft Shift	T

Methodology

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

Important notes and warnings are indicated

Safety comment.

This document also includes essential operating instructions for the product and general information.

Expressed as follows

Essential instructions.

General information.

Information on the model number.

Weight of component without oil.

Volume of oil.

Units.

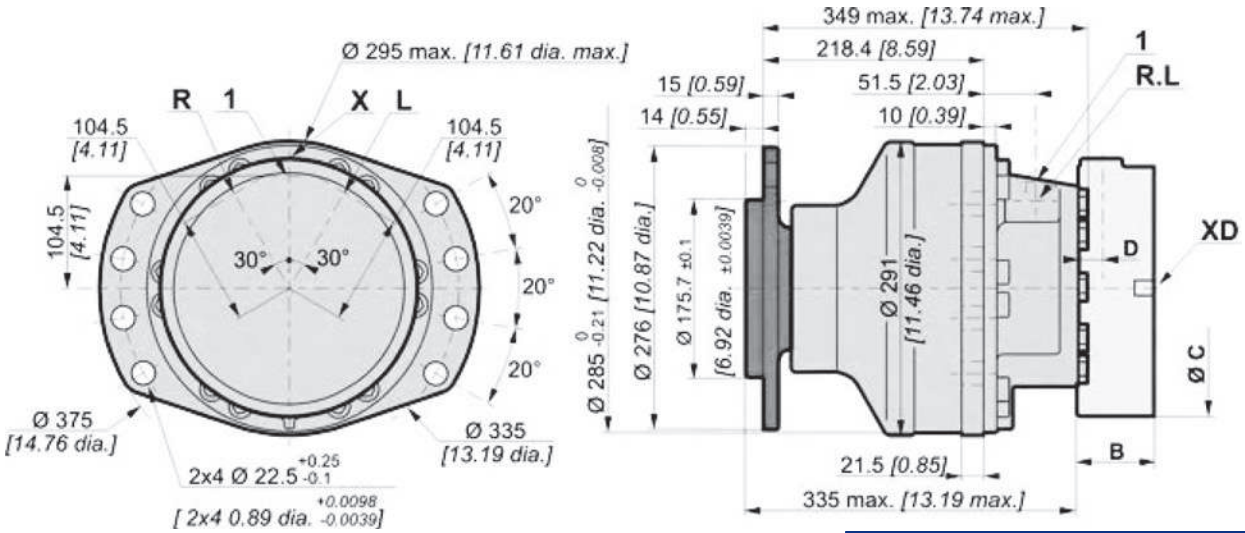
Tightening torque.

Screws.

Information intended for 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).

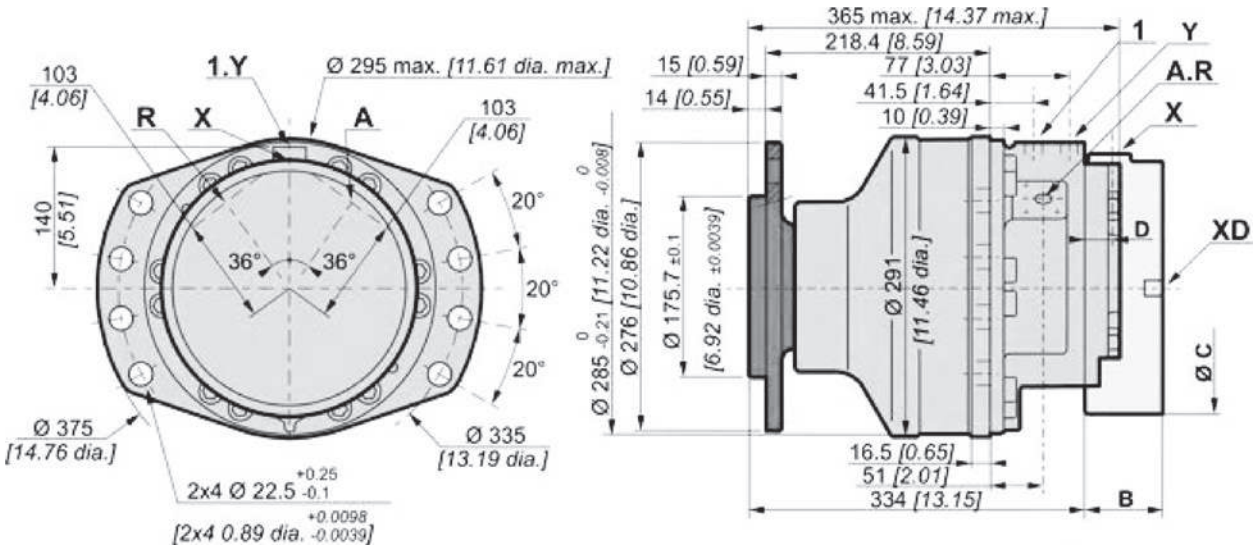
Dimensions for standard (1110) 1-displacement motor

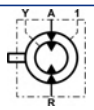
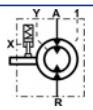


KG	86 kg *[189 lb]*	112 kg *[246 lb]*
	2 L *[120 cu.in]*	1.5 L *[90 cu.in]*
		

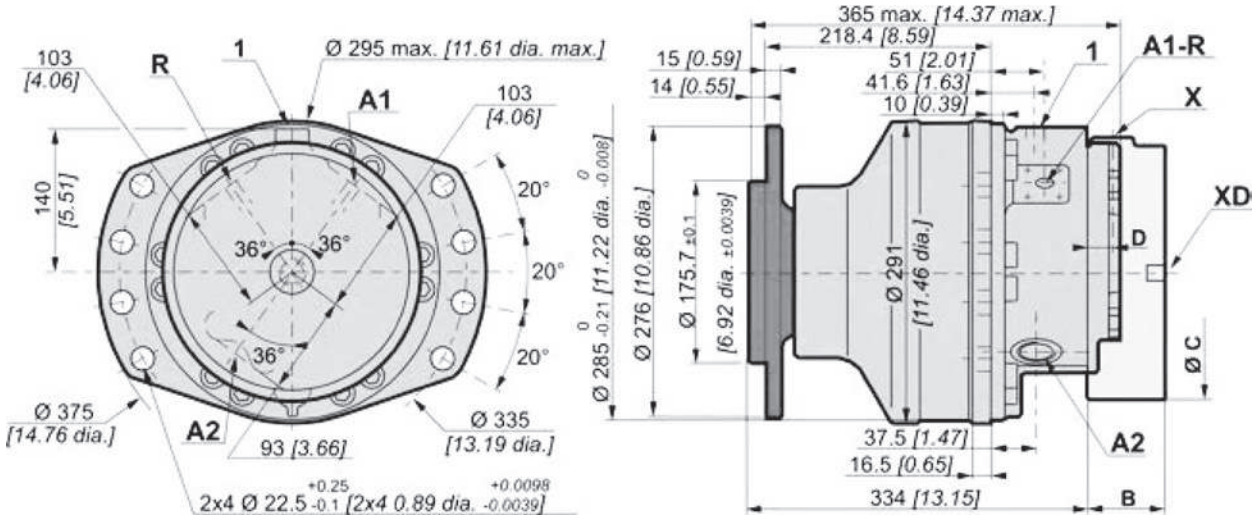
Wheel Motor

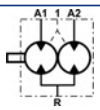
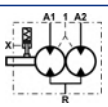
Dimensions for standard (1110) 2-displacement motor



KG	90 kg *[198 lb]*	116 kg *[255 lb]*
	2 L *[120 cu.in]*	1.5 L *[90 cu.in]*
		

Dimensions for standard (1110) Twin-Lock



KG	90 kg *[198 lb]*	116 kg *[255 lb]*
	2 L *[120 cu.in]*	1.5 L *[90 cu.in]*
		

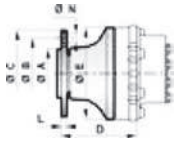
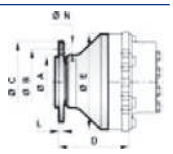
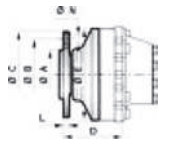
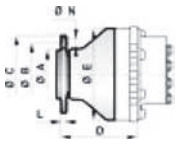
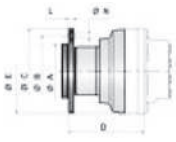
C	T 1 4
B	87.5 *[3.44]*
C	Ø280 *[11.02 dia.]*
D	25.0 *[0.96]*

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

Wheel Motor

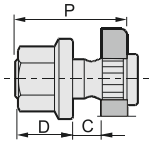
Support types

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

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]*	
P 1 2 3 4 = 1 1 1 0	Ø 175.7 *[6.92 dia.]*	Ø 225 *[8.86 dia.]*	Ø 276 *[10.87 dia.]*	218.6 *[8.61]*	Ø 291 *[11.46 dia.]*	Ø 24 *[0.94 dia.]*	5 x M22x1.5	14 *[0.55]*	
P 1 2 3 4 = 1 2 1 0	Ø 175.7 *[6.92 dia.]*	Ø 225 *[8.86 dia.]*	Ø 276 *[10.87 dia.]*	218.6 *[8.61]*	Ø 291 *[11.46 dia.]*	Ø 22 *[0.87 dia.]*	10 x M20x1.5	14 *[0.55]*	
P 1 2 3 4 = 1 3 1 0 ⊖	Ø 160.7 *[6.33 dia.]*	Ø 205 *[8.07 dia.]*	Ø 250 *[9.84 dia.]*	174.4 *[6.87]*	Ø 289.5 *[11.40 dia.]*	Ø 20 *[0.79 dia.]*	12 x M18x1.5	15 *[0.59]*	
P 1 2 3 4 = 1 6 1 0	Ø 175.7 *[6.92 dia.]*	Ø 225 *[8.86 dia.]*	Ø 276 *[10.87 dia.]*	219.6 *[8.65]*	Ø 291 *[11.46 dia.]*	Ø 22 *[0.87 dia.]*	10 x M20x1.5	21 *[0.83]*	
P 1 2 3 4 = 1 7 1 0	Ø 220.7 *[8.69 dia.]*	Ø 275 *[10.83 dia.]*	Ø 314 *[12.36 dia.]*	218.6 *[8.61]*	Ø 291 *[11.46 dia.]*	Ø 22 *[0.87 dia.]*	8 x M20x1.5	14 *[0.55]*	
P 1 2 3 4 = 1 G 1 0	Ø 175.7 *[6.92 dia.]*	Ø 225 *[8.86 dia.]*	Ø 270 *[10.63 dia.]*	284.6 *[11.20]*	Ø 291 *[11.46 dia.]*	Ø 24 *[0.94 dia.]*	10 x M22x1.5	16 *[0.63]*	

⊖ The supports in gray must not be assembled with an MSE hydrobase.

Studs



		P mm *[in]*	C min. mm *[in]*	C max. mm *[in]*	D mm *[in]*	Class
Various studs	M18 x 1.5	55 *[2.17]*	5 *[0.20]*	17 *[0.67]*	23 *[0.91]*	12.9
	M20 x 1.5	60 *[2.36]*		14 *[0.55]*	25 *[0.98]*	
	M22 x 1.5	65 *[2.56]*		24 *[0.94]*	26 *[1.02]*	
Screws	M12	-	-	-	-	-

⚠ You can accumulate more than one optional part. Consult YEOSHE.

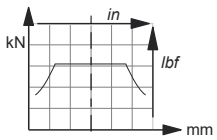
Wheel Motor

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

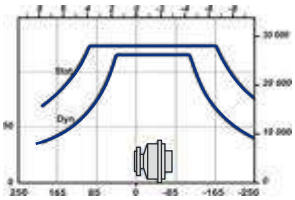


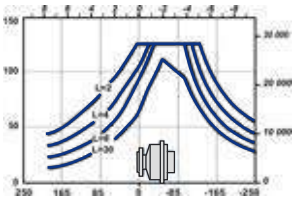
Service life of bearings

Test conditions :

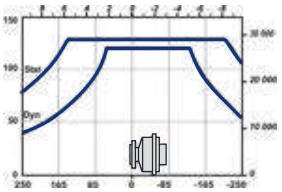
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

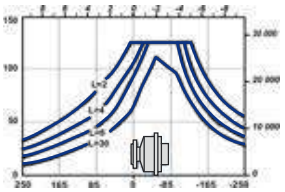
P			
1	2	3	4
1	**1**	**1**	**0**



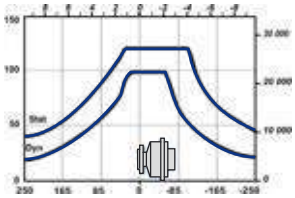


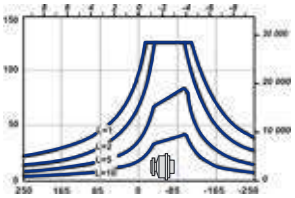
P			
1	2	3	4
1	**2**	**1**	**0**



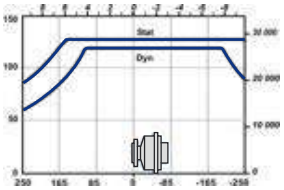


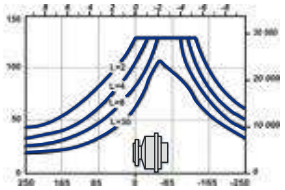
P			
1	2	3	4
1	**3**	**1**	**0**



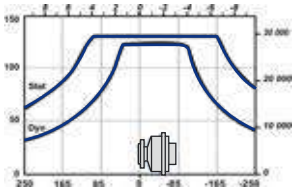


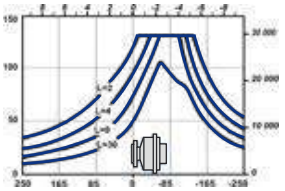
P			
1	2	3	4
1	**6**	**1**	**0**



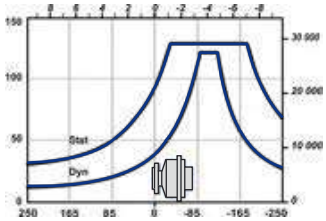


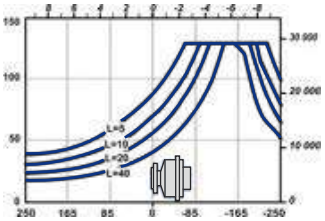
P			
1	2	3	4
1	**7**	**1**	**0**



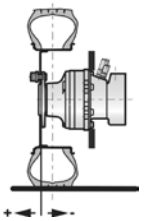


P			
1	2	3	4
1	**G**	**1**	**0**



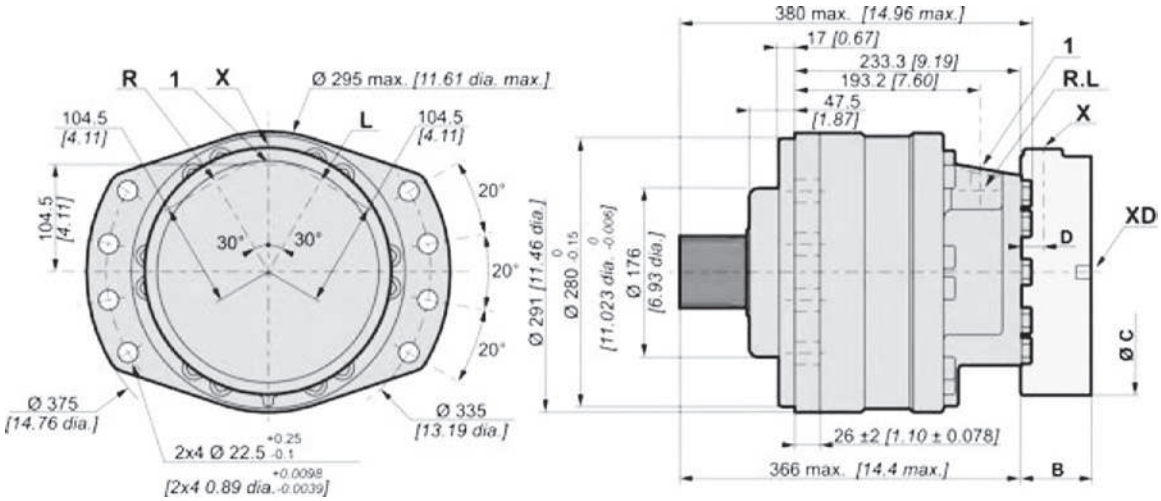


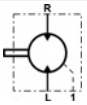
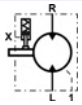
The service life of the components is influenced by the pressure.You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components complies with the application's specifications.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



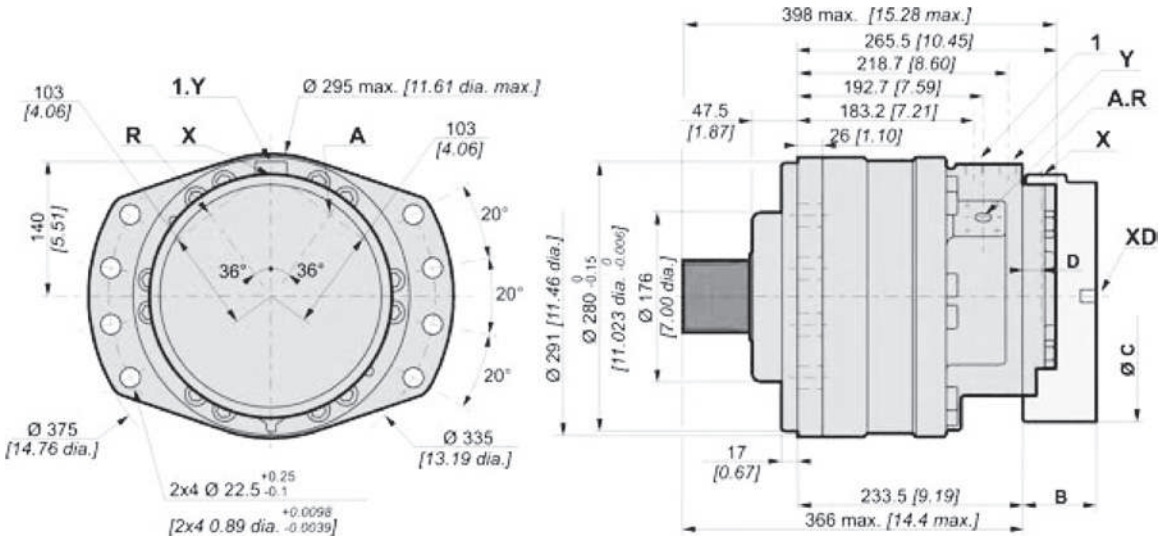
Shaft Motor

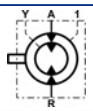
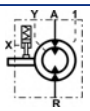
Dimensions for standard (2A50) 1-displacement motor

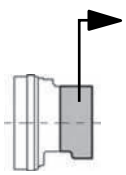


KG	88 kg *[194 lb]*	114 kg *[251 lb]*
	2 L *[120 cu.in]*	1.5 L *[90 cu.in]*
		

Dimensions for standard (2A50) 2-displacement motor



KG	88 kg *[194 lb]*	114 kg *[251 lb]*
	2 L *[120 cu.in]*	1.5 L *[90 cu.in]*
		



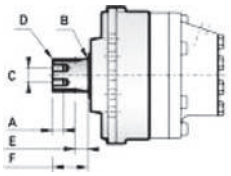
C	T 1 4
B	87.5 *[3.44]*
C	Ø280 *[11.02]*
D	25.0 *[0.96]*

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

Shaft Motor

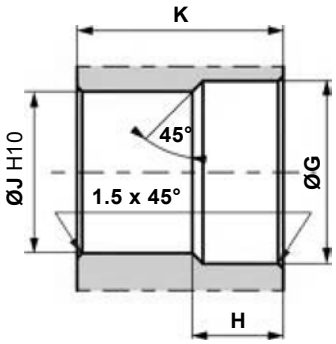
Support types

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

C			A	B	C	D	E	F	
P 1 2 3 4 = 2 A 1 0	**NF E22-141** splines		15 *[0.59]*	R 2.75 *[R 0.11]*	35 *[1.38]*	2 x M10	24 *[0.94]*	70 *[2.76]*	
	Nominal Ø	75 *[2.95]*							
	Module	2.5							
	Z	28							
P 1 2 3 4 = 2 A 5 0	**DIN 5480** splines		15 *[0.59]*	R 2.75 *[R 0.11]*	35 *[1.38]*	2 x M10	23 *[0.91]*	80 *[3.15]*	
	Nominal Ø	80 *[3.15]*							
	Module	3							
	Z	25							

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

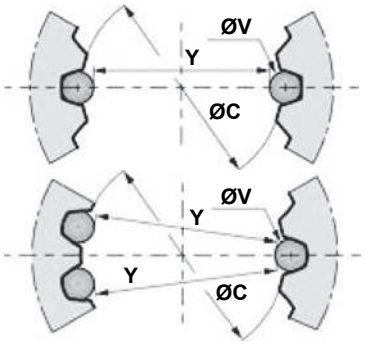
Splined coupling



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).



C	Ø G	H	Ø J	K	N	Mo	Z	Offset	Ø C (H10)	Ø V	Y	Tolerance µm *[µin]*
P 1 2 3 4 = 2 A 1 0	76 *[2.99]*	25 *[0.98]*	70 *[2.76]*	69 *[2.72]*	75 *[2.95]*	2.5	28	2 *[0.08]*	70 *[2.76]*	5 *[0.20]*	65.169 *[2.57]*	+103 / 0 *[+4.055 / 0]*
P 1 2 3 4 = 2 A 5 0	81.5 *[3.21]*	25 *[0.98]*	74 *[2.91]*	79 *[3.11]*	80 *[3.15]*	3	25	0.85 *[0.0335]*	74 *[2.91]*	5.25 *[0.21]*	68.957 *[2.71]*	+ 71 / 0 *[+2.795 / 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]*.

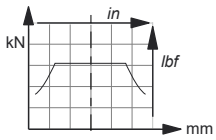
Shaft Motor

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]*.

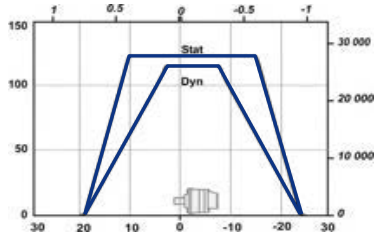


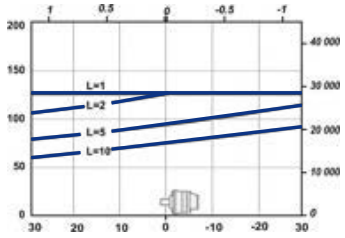
Service life of bearings

Test conditions :

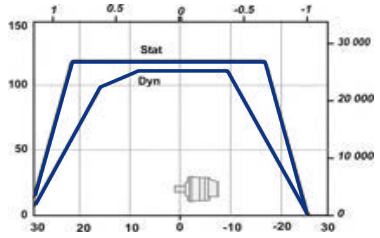
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

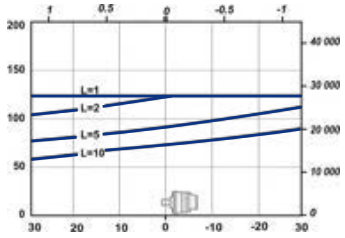
P			
1	2	3	4
2	A	1	0



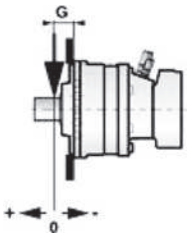


P			
1	2	3	4
2	A	5	0





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 YEOSHE.

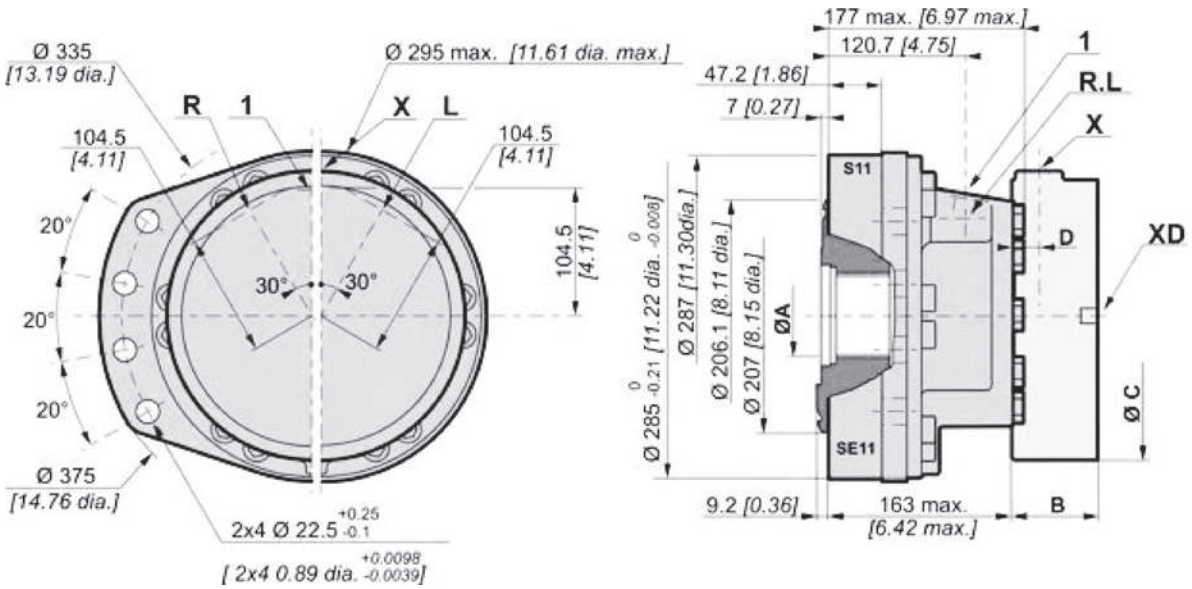


C	G
2 A 1 0	96.75 *[3.81]*
2 A 5 0	101.25 *[3.99]*

Shaft Motor

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

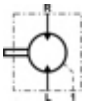
Dimensions for 1-displacement valving



	D		
	1	2	3
1 2			

	D		
	1	2	3
1 1			

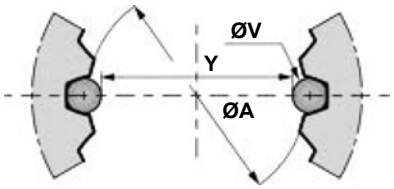
C	T 1 4
B	87.5 *[3.44]*
C	Ø280 *[11.02]*
D	25.0 *[0.96]*

	T 1 4	
1 1	44 kg *[97 lb]*	76.0 kg *[167.2 lb]*
1 2	48.9 kg *[107.6 lb]*	80.9 kg *[178.0 lb]*
	0.75 L *[45 cu.in]*	0.92 L *[55 cu.in]*
		

Cylinder block splines

(as per standard NF E22-141)

			Dimension on 2 pins	
ØA	Module	Z	Y	ØV
75 *[2.953]*	2.5	28	65.169 *[2.739]*	5 *[0.197]*

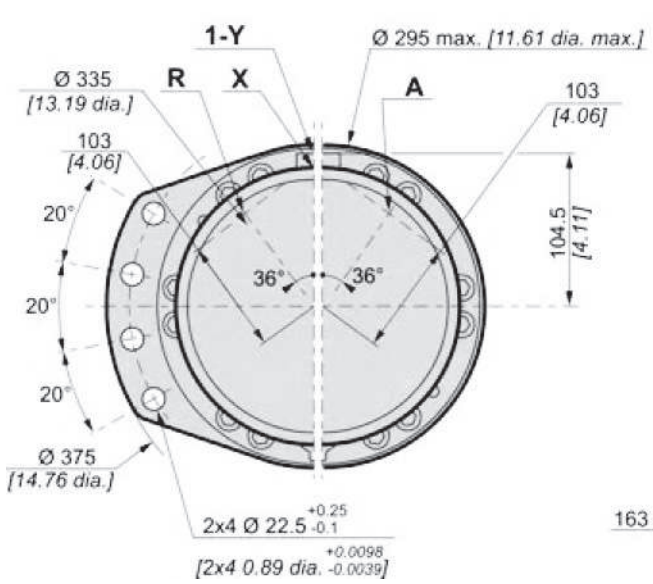


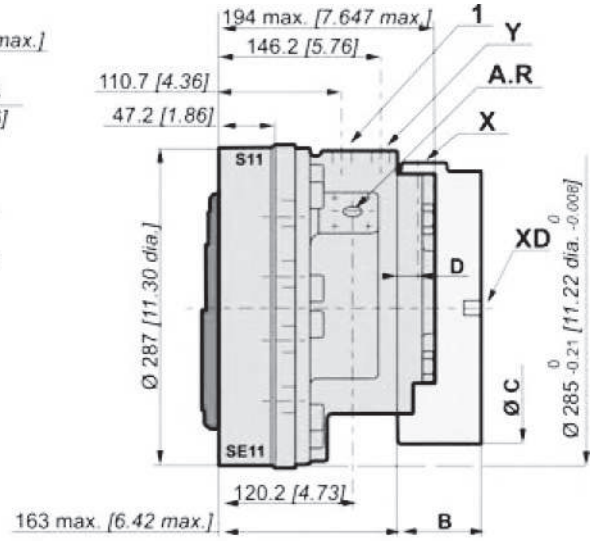
You are advised to have the installation validated by YEOSHE application engineer before using the hydraulic unit in an application.

We must provide you with a detailed plan of the interface for any hydraulic unit use, consult YEOSHE .

Valving Systems and Hydrobases

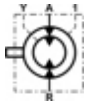
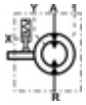
Dimensions for 2-displacement valving



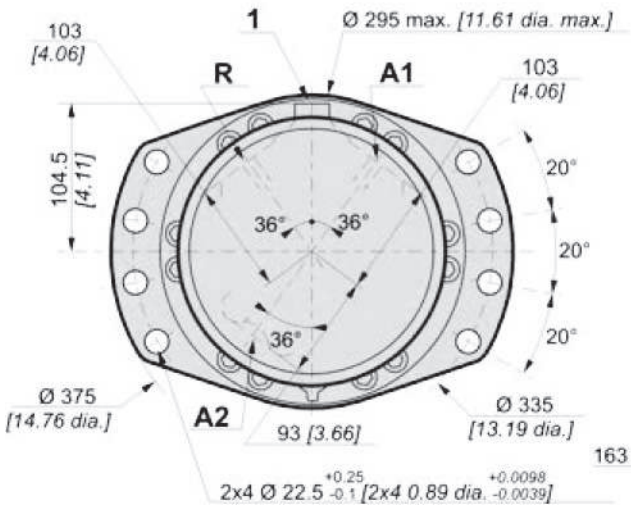


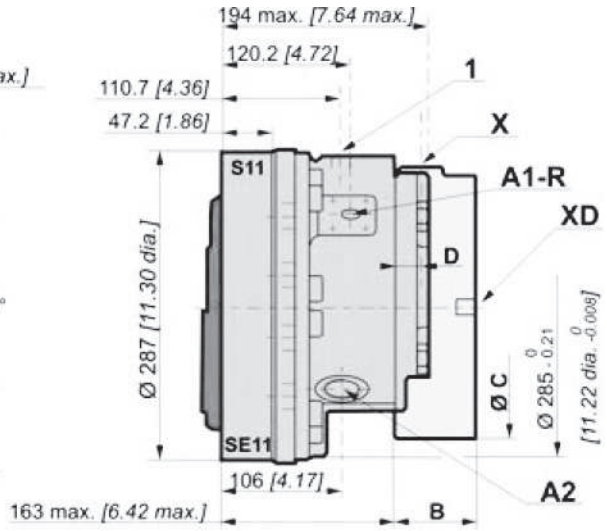
D		
1	2	3
2	2	

D		
1	2	3
2	1	

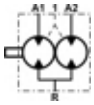
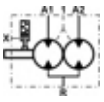
KG	2 1 : 44 kg [97 lb] 2 2 : 48.9 kg [107.6 lb]	T 1 4 : 76.0 kg [167.2 lb] 80.9 kg [178.0 lb]
	0.75 L [45 cu.in]	0.92 L [55 cu.in]
		

Dimensions for Twin-Lock valving





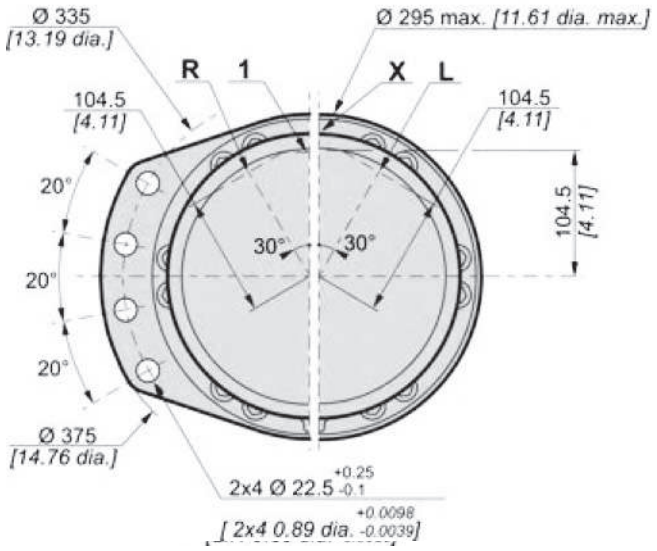
D		
1	2	3
2	E	

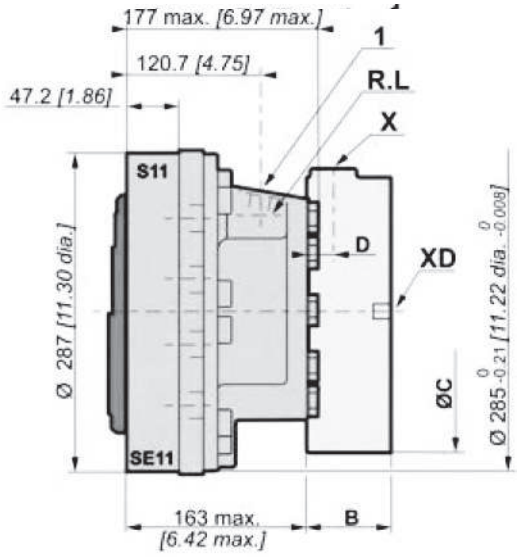
KG	2 E : 48.9 kg [107.6 lb]	T 1 4 : 80.9 kg [178.0 lb]
	0.75 L [45 cu.in]	0.92 L [55 cu.in]
		

C	T 1 4
B	87.5 [3.44]
C	Ø280 [11.02]
D	25.0 [0.96]

Valving Systems and Hydrobases

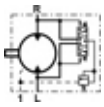
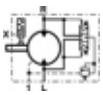
Dimensions for 1-displacement valving with built-in exchange



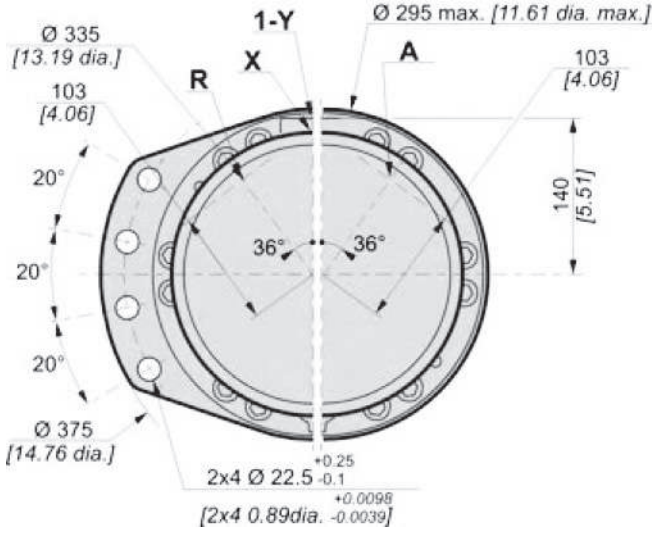


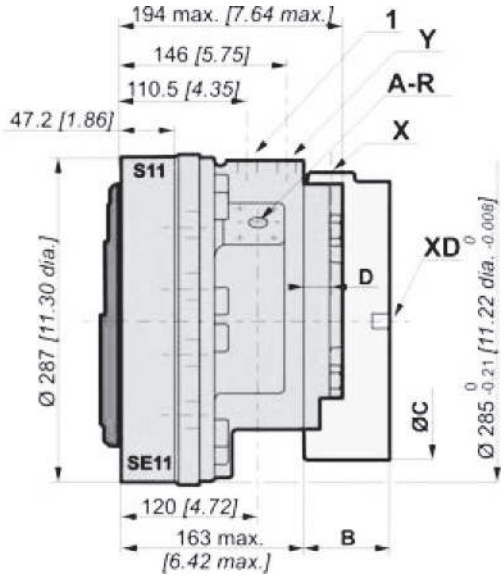
D		
1	2	3
1	5	

D		
1	2	3
1	4	

KG	1 5 : 44 kg *[97 lb]* 1 4 : 48.9 kg *[107.6 lb]*	T 1 4 : 76.0 kg *[167.2 lb]* 80.9 kg *[178.0 lb]*
	0.75 L *[45 cu.in]*	0.92 L *[55 cu.in]*
		

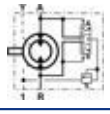
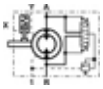
Dimensions for 2-displacement valving with built-in exchange





D		
1	2	3
2	5	

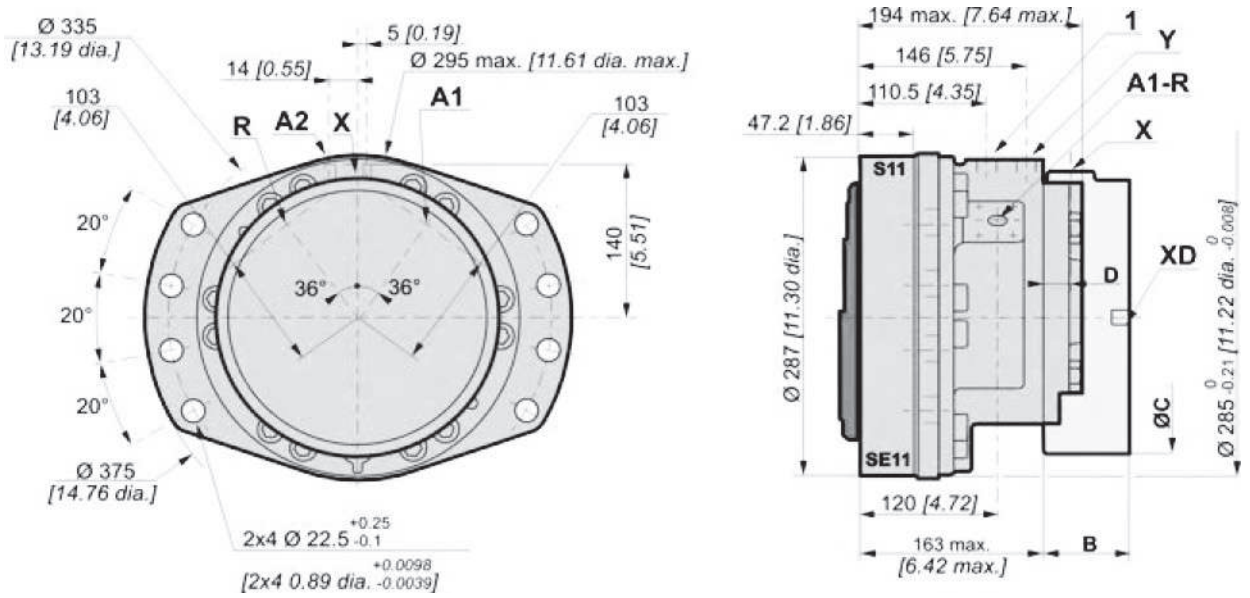
D		
1	2	3
2	4	

KG	2 5 : 44 kg *[97 lb]* 2 4 : 48.9 kg *[107.6 lb]*	T 1 4 : 76.0 kg *[167.2 lb]* 80.9 kg *[178.0 lb]*
	0.75 L *[45 cu.in]*	0.92 L *[55 cu.in]*
		

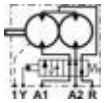
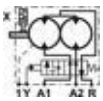
C	T 1 4
B	87.5 *[3.44]*
C	Ø280 *[11.02]*
D	25.0 *[0.96]*

Valving Systems and Hydrobases

Dimensions for 2-displacement valving or Twin-Lock valving



D		
1	2	3
2	Q	

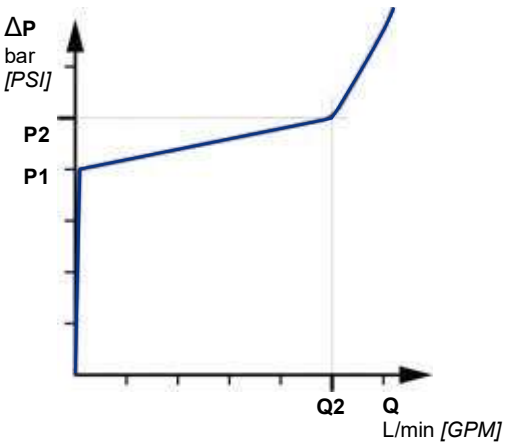
KG	48.9 kg *[107.6 lb]*	T 1 4	80.9 kg *[178.0 lb]*
	0.75 L *[45 cu.in]*		0.92 L *[55 cu.in]*
			

Exchange

When a coding request is made, you must specify information on the threshold of the selector and the valve.

Selector spool

Selector threshold bar *[PSI]*	Opening pressure of selector bar *[PSI]*
8 *[116]*	9.9 ±1.2 *[144 ±17]*

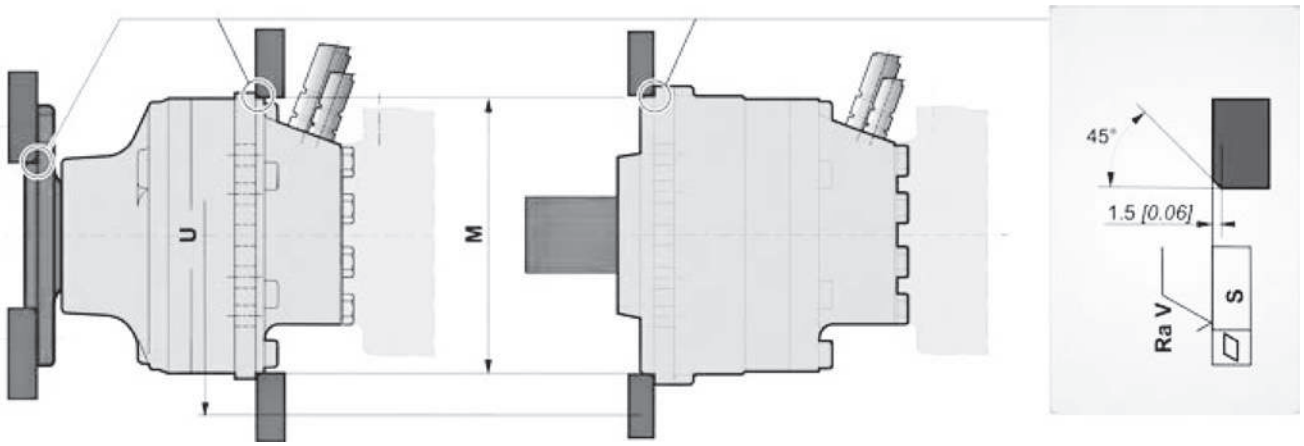


Fitted valve

P1 bar *[PSI]*	Q2 L/min *[GPM]*	P2 bar *[PSI]*
13.5 *[195]*	14 *[3.7]*	16 *[232]*
18 *[261]*	15 *[3.9]*	21 *[305]*
22 *[319]*	16 *[4.2]*	25 *[363]*

Valving Systems and Hydrobases

Chassis mountings

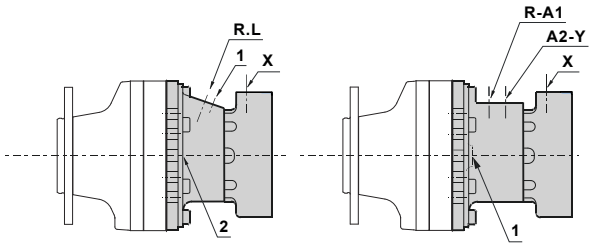


Take care over the immediate environment of the connections.

	ØM (1)	ØU	S	Ra V		Class
Wheel motor	285 *[11.22]*	335 *[13.19]*	0.2 *[0.008]*	12.5µm *[0.49µin]*	2 x 4 M20 x 4	**8.8**
Shaft motor (1) +0.3 *[+0.012]* +0.2 *[+0.008]*	280 *[11.02]*	335 *[13.19]*				

Valving Systems and Hydrobases

Hydraulic connections



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

		Old standards	Standards	Power supply		Case drain	2nd displacement control	Control of parking brake
				R - L		1 、2		X
1 displacement	A	SAE J514	**ISO 11 926-1**	1" 1/16-12 UNF		3/4"-16 UNF		9/16"-18 UNF
	1	ISO 6162 DIN 3852	**ISO 6162** **ISO 9974-1**	DN19 PN400		M18 x 1.5		M16 x 1.5
	2	ISO 6162 BSPP	**ISO 6162** **ISO 1179-1**	DN19 PN400		Ø21 [1/2" dia.]		Ø17 [3/8" dia.]
	3	BSPP	**ISO 1179-1**	Ø27 [3/4" dia.]		Ø21 [1/2" dia.]		Ø17 [3/8" dia.]
	4	NF E48 050	**ISO 9974-1**	M27 x 2		M18 x 1.5		M16 x 1.5
	5	DIN 3852	**ISO 9974-1**	M33 x 2		M18 x 1.5		M16 x 1.5
	7	ISO 6162 SAE J514	**ISO 6162** **ISO 11 926-1**	DN19 PN400		3/4"-16 UNF		9/16"-18 UNF
				R - A		1 、2	Y	X
2 Displacement	A	SAE J514	**ISO 11 926-1**	1"1/16-12 UNF		3/4"-16 UNF	9/16"-18 UNF	9/16"-18 UNF
	1	ISO 6162 DIN 3852	**ISO 6162** **ISO 9974-1**	DN13 PN400		M18 x 1.5	M16 x 1.5	M16 x 1.5
	2	ISO 6162 BSPP	**ISO 6162** **ISO 1 179-1**	DN13 PN400		Ø21 [1/2" dia.]	Ø17 [3/8" dia.]	Ø17 [3/8" dia.]
	3	BSPP	**ISO 1 179-1**	Ø27 [3/4" dia.]		Ø21 [1/2" dia.]	Ø17 [3/8" dia.]	Ø17 [3/8" dia.]
	4	NF E48 050	**ISO 9974-1**	M27 x 2		M18 x 1.5	M16 x 1.5	M16 x 1.5
				R - A1	A2	1 、2	Y	X
Twin-Lock	A	SAE J514	**ISO 11 926-1**	1"1/16-12 UNF	9/16"-18 UNF	3/4"-16 UNF	9/16"-18 UNF	9/16"-18 UNF
	5	ISO 6162 DIN 3852	**ISO 6162** **ISO 9 974-1**	DN13 PN400	M27 x 2	M18 x 1.5	M16 x 1.5	M16 x 1.5
	5	NF E48 050	**ISO 9 974-1**	M27 x 2	M27 x 2 M22 x 15	M18 x 1.5	M16 x 1.5	M16 x 1.5
			ISO 9 974-1					
Max. pressures			**P-MS** **P-MSE** bar *[PSI]*	450 *[6,527]* 400 *[5,802]*	450 *[6,527]* 400 *[5,802]*	1 *[15]*	30 *[435]*	30 *[435]*

To find the connections' tightening torques, see the brochure "Installation guide" N° B61352L.

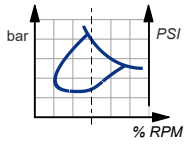
You are strongly advised to use the fluids specified in brochure "Installation guide" N°B61352L.

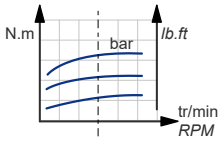
Do not put either a check valve or a poppet valve on the pilot lines (parking brake and displacement change) between the charge pump and the pilot valve. Do not use a piloting valve with integrated check valve.

Valving Systems and Hydrobases

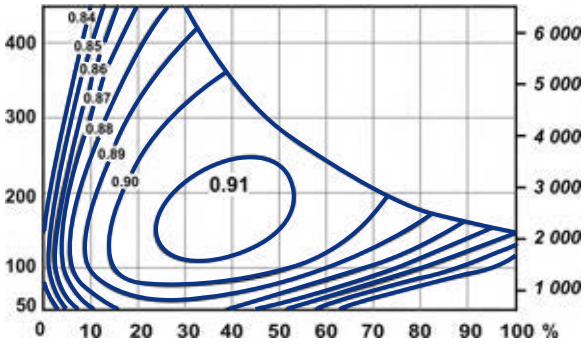
Efficiency

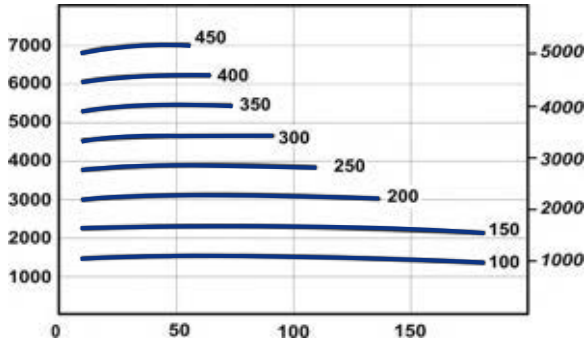
Overall efficiency	Actual output torque
Average values given for guidance for code 0 displacement after 100 hours of operation with HV46 hydraulic fluid at 50°C *[122°F]*.	



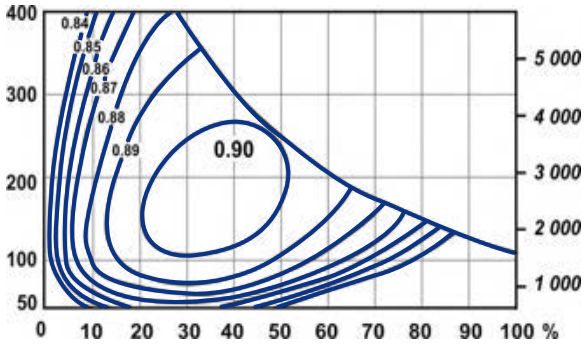


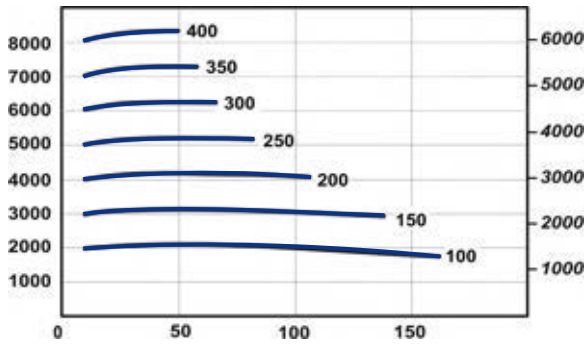
P-MS11





P-MSE11



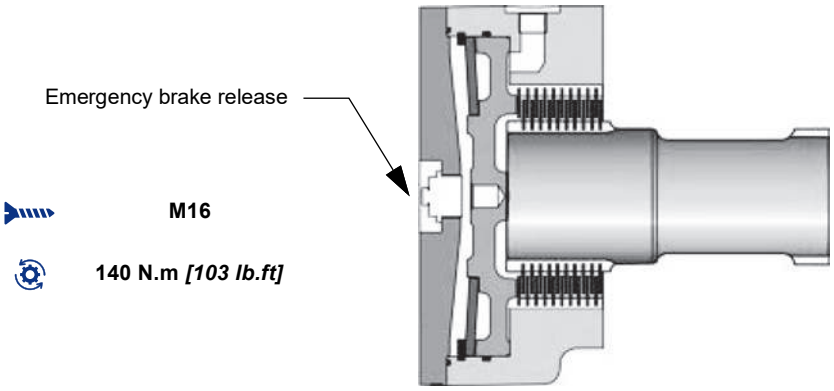


For a precise calculation, consult YEOSHE.

Brakes

	C	D			F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
P-M S 1 1					T	1	4										
P-M S E 1 1																	

Rear brake



Brake principle

This is a multidisc brake which is activated by a lack of pressure. The spring exerts a force on the piston, which presses on the fixed and mobile discs, and immobilizes the shaft. The braking torque decreases in linear proportion to the brake release pressure.

C	T 1 4
Parking brake torque at 0 bars on housing (newbrake)	11,840 Nm *[8,730 lb.ft]*
Dynamic emergency braking torque at 0 bars on housing (max.10uses of emergency brakes)	7,695 Nm *[5,680 lb.ft]*
Residual parking braking at 0 bars on housing *	8,880 Nm *[6,550 lb.ft]*
Min. brake release pressure	12 bar *[174 PSI]*
Max. brake release pressure	30 bar *[435 PSI]*
Oil capacity	170 cm³ *[10.4 cu.in]*
Volume for brake release	40 cm³ *[2.4 cu.in]*
Max. energy dissipation	123 699 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/h, please contact YEOSHE.

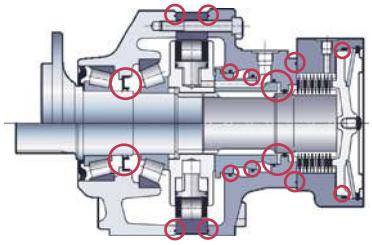
Options

	C	D			F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
P-M S 1 1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
P-M S E 1 1	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

You can accumulate more than one optional part.
Consult YEOSHE .

1 Fluorinated elastomer seals

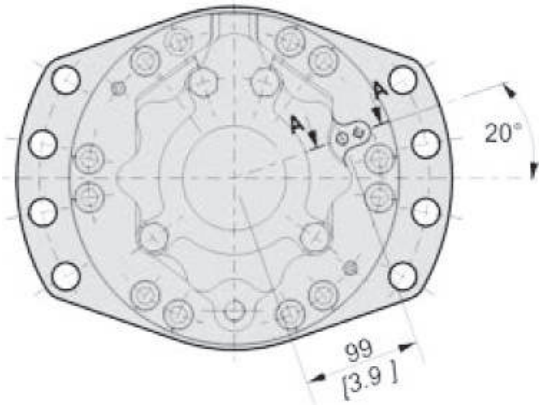
Nitrile seals marked in the figure below replaced by fluorinated elastomer seals.



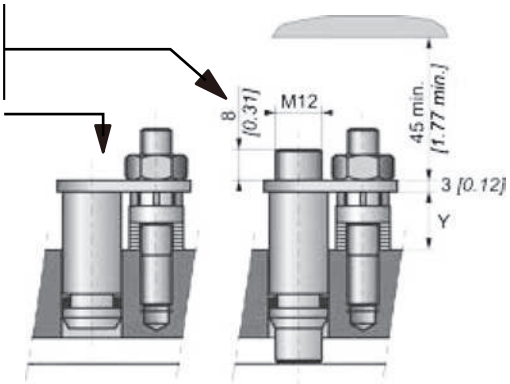
Consult YEOSHE sales engineer.

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



A-A



Max. length Y = 20.9

Standard number of pulses per revolution = 56

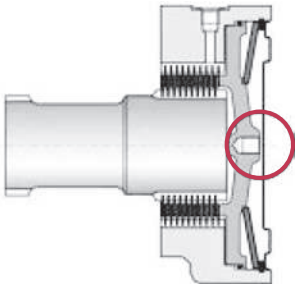
Look at the "Mobile Electronic" N° A01889D technical catalogue for the sensor specifications and its connection.

To install the sensor, see the "Installation guide" brochure No. B61352L.

Options

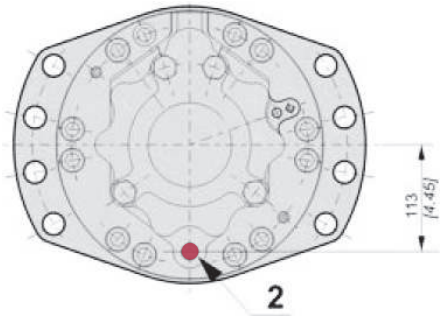
3 Brake environmental cover without plug

No plug or hole in the cover.



5 Drainage

Additional drain in the cover.

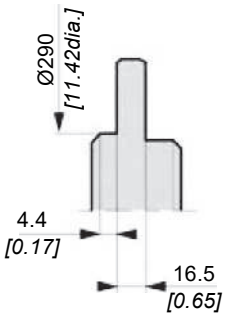


7 Diamond

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.

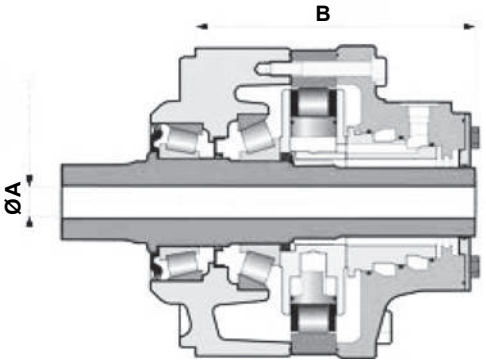
9 Double-centering valving cover

This option allows a motor to be installed from the front or the back.



Options

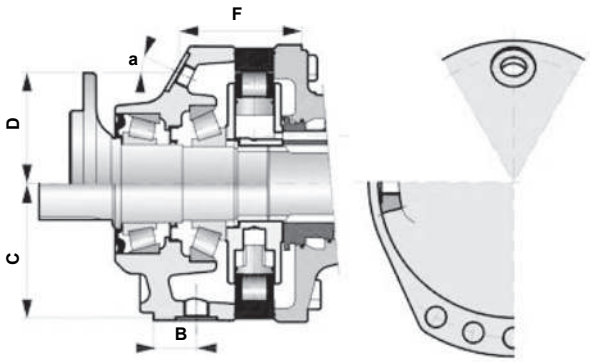
A Hollow shaft



A mm *[in]*	B mm *[in]*
Ø 45 *[1.77 dia.]*	247.5 *[9.74]*

Radial load x 0.75
No torque transmittable to the rear

B Drain on the bearing support



Wheel motor	ISO	B mm *[in]*	C mm *[in]*	D mm *[in]*	F mm *[in]*	a
Shaft motor	M18 x 1.5	32.5 *[1.28]*	143 *[5.63]*			
Wheel motor	M18 x 1.5			112 *[4.41]*	112.5 *[4.43]*	30°

C Abrasive environments (mechanical seal)

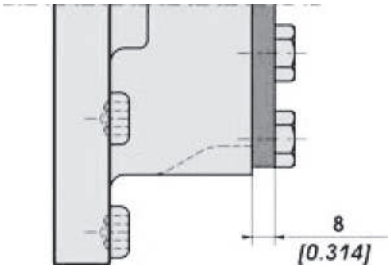
Certain environments can be very harmful. The mirror seal gives reinforced motor sealing.

Consult YEOSHE sales engineer.

E Reinforced sealing

Requires reinforcement of shaft bearings.

	C	D			F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
P-M S 1 1					R	1	1										
P-M S E 1 1																	



Options

G Special wheel rim mounting

Enables certain combinations different from the standard mountings defined on pages 11 and 13.

Consult YEOSHE sales engineer.

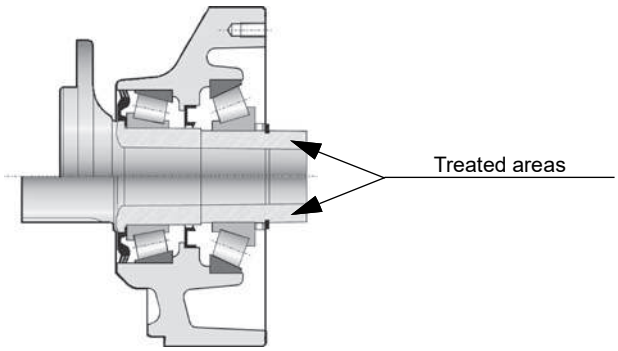
H High efficiency

Reinforced piston sealing to improve volumetric efficiency.

**For a precise calculation,
consult YEOSHE application engineer.**

J Treated shaft

Heat treatment on the indicated bearing radius and splines.



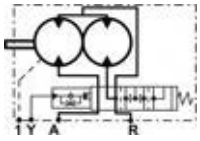
M High speed

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 YEOSHE application engineer.

T Soft Shift

Progressive displacement change (cushioned slide-valve).



Consult YEOSHE sales engineer

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Innovative Technology Reliable Quality and Service

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