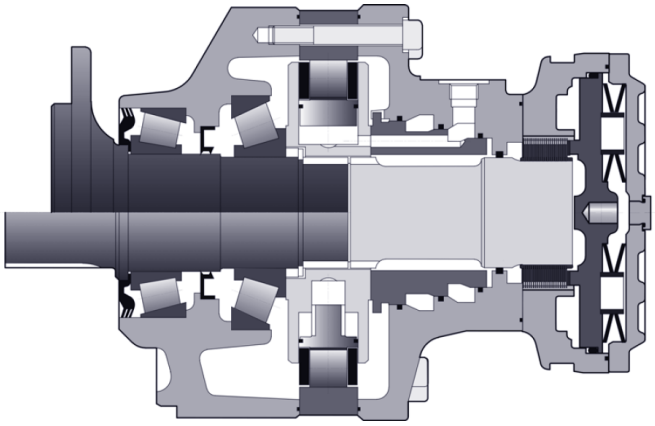
characteristics

- **P-MS35 Max. pressure**

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



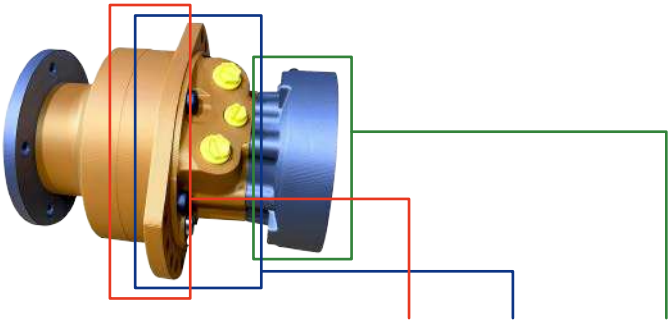
C			Cams with equal lobes				Cams with unequal lobes			
			7	9	0	2	K		A	
	1	cm³/tr *[cu.in/rev.]*	2,439 *[148.8]*	3,143 *[191.7]*	3,494 *[213.1]*	4,198 *[256.0]*	3,000 *[183.0]*		3,494 *[213.1]*	
	2	cm³/tr *[cu.in/rev.]*	1,220 *[74.4]*	1,572 *[95.8]*	1,747 *[106.5]*	2,099 *[128.0]*	1,911 *[116.6]*	1,091 *[66.5]*	2,099 *[128.0]*	1,395 *[85.1]*
Theoretical torque	1	at 100 bar Nm	3,878	4,997	5,555	6,675	4,770		1,666	
		at 1000 PSI *[lb.ft]*	*[1,972]*	*[2,541]*	*[2,825]*	*[3,394]*	*[2,426]*		*[847]*	
Max. power	1	kW *[HP]*	110 *[148]*				110 *[148]*			
	2	preferred kW *[HP]*	73 *[98]*				73 *[98]*			
	2	non-preferred kW *[HP]*	55 *[74]*				55 *[74]*			
Max. speed	1	tr/min *[RPM]*	140	140	130	110	120		110	
	2	tr/min *[RPM]*	140	140	130	110	120		110	

1 First displacement
2 Second displacement

Motor inertia = 0.4 kg.m²

YEOSHE

Modularity



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

Bearing supports

Torque module

Wheel motor

1110
1310
1510
1610
1110
1710
1G10
ET30
FT30
U210
W210
P310
R210
V210
Y210
Q310
S210

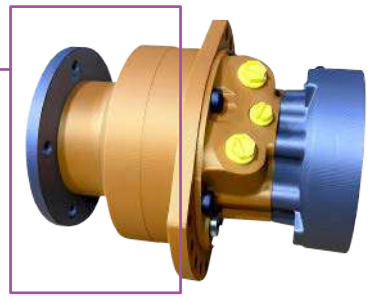
MS35

Shaft motor

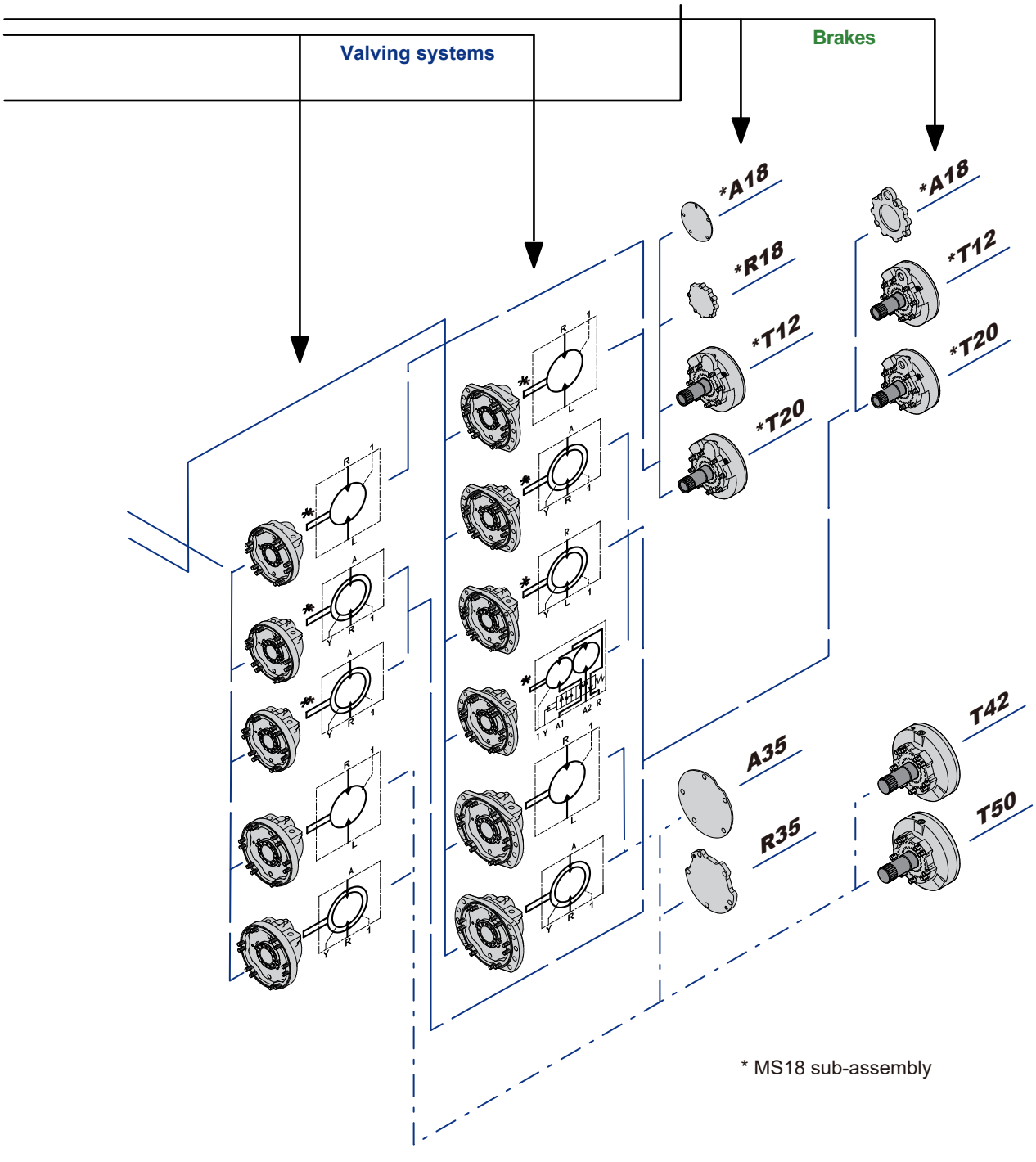
2A10
2A50
*2A10
*2A50

* MS18 sub-assembly

Modularity



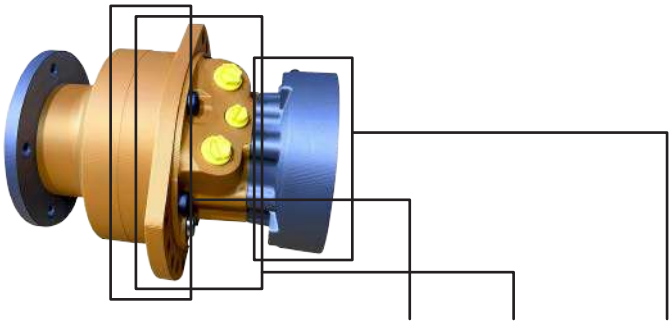
	C	D			F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
C	P-M	S	3	5													
											0						



Hydrobases

YEOSHE

Modelcode



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

Came type

	1 cm³/tr [cu.in/rev.]	2	
C1 Cams with equal lobes	2,439 [148.8]	1,220 [74.4]	7
	3,143 [191.7]	1,572 [95.8]	9
	3,494 [213.1]	1,747 [106.5]	0
	4,198 [256.0]	2,099 [128.0]	2
Cams with unequal lobes	3,000 [183.0]	1,911 [116.6]	K
		1,091 [66.5]	
	3,494 [213.1]	2,099 [128.0]	A
		1,395 [85.1]	

1 First displacement
2 Dual displacement

Valving cover

				Standard	Twin-Lock or 2-displacement
D2 Valving	S18	Without mounting	1	D	P
		Lug fixing	2	E	Q
	S35	Without mounting	B	-	
		Lug fixing	C	-	

Connection type

D3	No transmission cover		0
	ISO DP6162 Flanges **ISO 9974-1** connections	**DN25**	1
	ISO DP6162 Flanges **ISO 1179-1** connections		2
	ISO 9974-1 connections		4
	ISO DP6162 Flanges **ISO 11926-1** connections		7
	ISO DP6162 Flanges **ISO 9974-1** connections	**DN32**	9
	ISO 11926-1 connections		A

Valving type

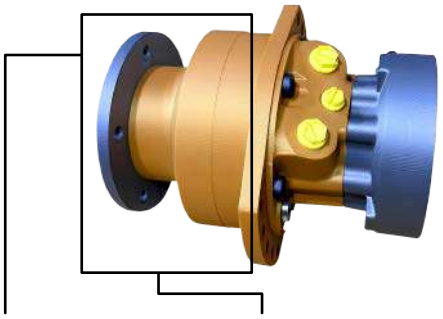
D1	1-displacement valving		1
	Symmetrical	Ratio 2	A
		Ratio < 2	B
		Ratio > 2	C
	2-displacement & Twin-Lock valving (Clockwise)	Ratio 2	D+
		Ratio < 2	E
		Ratio > 2	F+
	2-displacement & Twin-Lock valving (Counterclockwise)	Ratio 2	G
		Ratio < 2	H+
		Ratio > 2	J+

+ For Boosted Braking (option U becomes mandatory).

Rear brake

F1 ~ F3	Valving	S18	Without brake	Standard plate			A18
				Reinforced plate			R18
			Brakes	Bearing mounting or valving cover mounting	Parking brake	Screwed environmental cover	T12
							T20
		S35	Without brake	Standard plate			A35
				Reinforced plate			R35
			Brakes	Bearing mounting or valving cover mounting	Parking brake	Screwed environmental cover	T42
							T50

Modelcode



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

Front unit

P1	Without bearing support			0
	Without mounting			1
	Lug mounting			2
	Brakes C27	valving cover fixation		E
		chassis fixation		F
	Brakes P27	valving cover fixation		P
		chassis fixation		Q
	Brakes P20	valving cover fixation		R
		chassis fixation		S
	Brakes S20	valving cover fixation	single control command	U
		chassis fixation		V
		valving cover fixation	double control command	W
		chassis fixation		Y

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
	10 x Ø24 on Ø225	1
	8 x Ø22 on Ø275 (Standard for S20/P20 brake)	2
	10 x Ø24 on Ø225 (Standard for P27 brake)	3
	10 x Ø24 on Ø335 (for studs length of 80 mm)	5
	10 x Ø24 on Ø335 (Standard for C27 brake) (for studs length of 65 mm)	T
	10 x Ø24 on Ø225	6
	12 x Ø24 on Ø275	7
	Support without drum brake	G
	For male shaft bearing support	A

Options

S1 ~ S6	Without options or adaptations	0
	Fluorinated elastomer seals	1
	T4 Speed sensor installed	2
	Brake environmental cover without plug	3
	Drainage	5
	Industrial bearing support	6
	Diamond	7
	Predisposition for speed sensor	8
	Hollow shaft	A
	Drain on the bearing support	B
	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
	Boosted Braking	U

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.

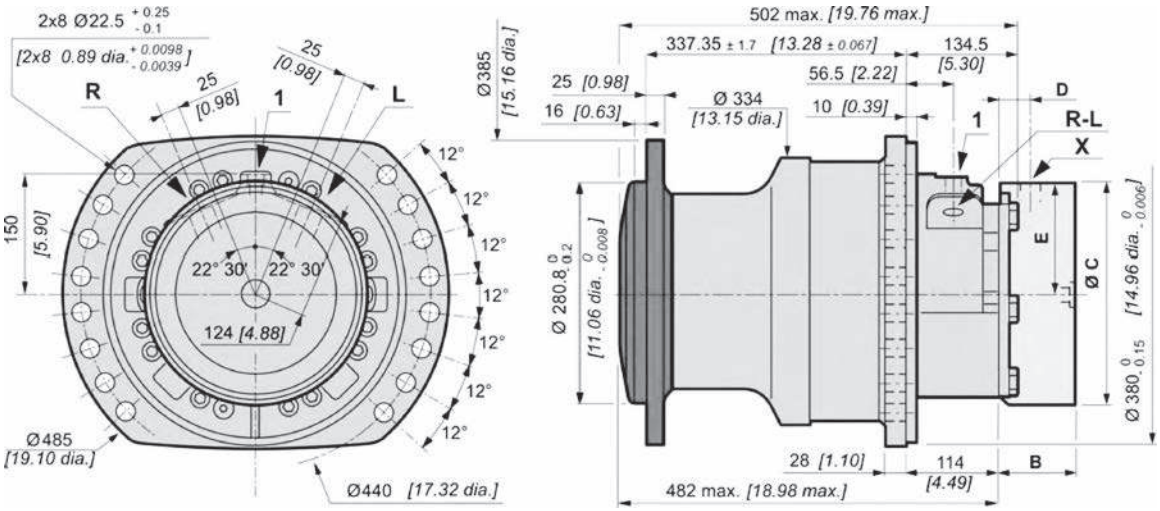
Expressed as follows

- 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).

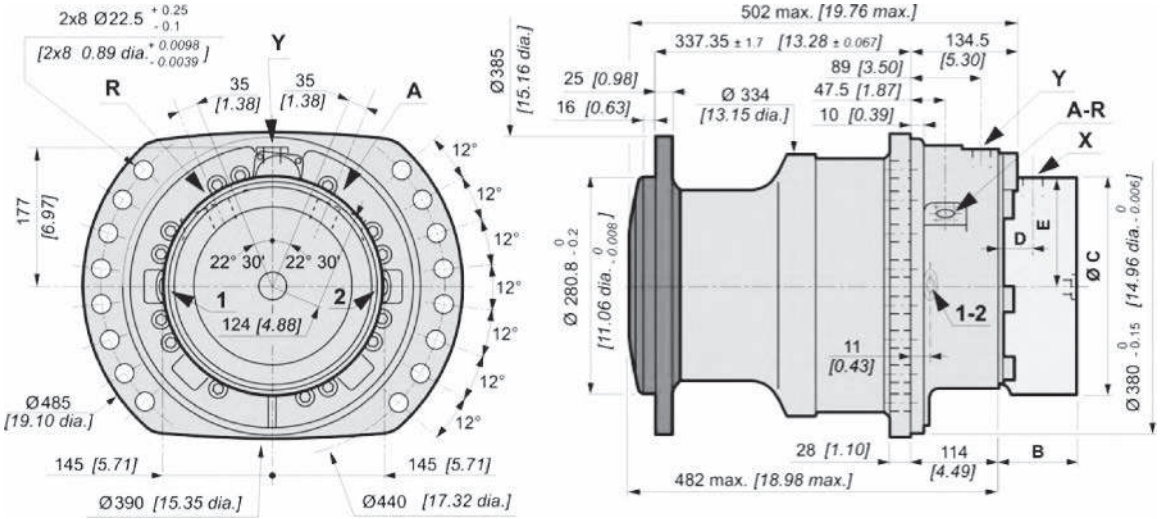
Wheel Motor

Dimensions for standard (1110) 1-displacement motor

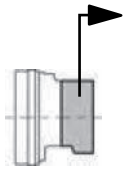


KG	209 kg *[460 lb]*	269 kg *[592 lb]*
	5.00 L *[300 cu.in]*	4.00 L *[240 cu.in]*

Dimensions for standard (1110) 2-displacement motor



KG	209 kg *[460 lb]*	269 kg *[592 lb]*
	5.00 L *[300 cu.in]*	4.00 L *[240 cu.in]*



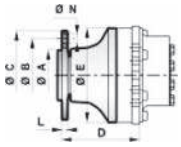
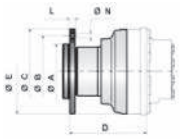
C	T 4 2	T 5 0
B	148.0 *[5.83]*	157.5 *[6.20]*
C	Ø375 *[14.76]*	Ø375 *[14.76]*
D	63.5 *[2.50]*	63.5 *[2.50]*
E	183.5 *[7.22]*	183.5 *[7.22]*

Also see "Brake" section
(thumb nail opposite).

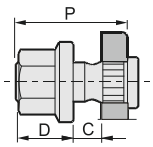
Wheel Motor

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	3	5															

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 280.8 *[11.06 dia.]*	Ø 335 *[13.19 dia.]*	Ø 386 *[15.20 dia.]*	319 *[12.56]*	Ø 334 *[13.15 dia.]*	Ø 24 *[0.94 dia.]*	10 x M22x1.5	24 *[0.94]*	
P 1 2 3 4 **1 3 1 0**	Ø 220.7 *[8.69 dia.]*	Ø 275 *[10.83 dia.]*	Ø 314 *[12.36 dia.]*	282 *[11.10]*	Ø 334 *[13.15 dia.]*	Ø 22 *[0.87 dia.]*	8 x M20x1.5	14 *[0.55]*	
P 1 2 3 4 **1 4 1 0**	Ø 152.27 *[5.99 dia.]*	Ø 235 *[9.25 dia.]*	Ø 280 *[11.02 dia.]*	213 *[8.39]*	Ø 334 *[13.15 dia.]*	Ø 17.5 *[0.69 dia.]*	-	15 *[0.59]*	
P 1 2 3 4 **1 5 1 0**	Ø 220.7 *[8.69 dia.]*	Ø 275 *[10.83 dia.]*	Ø 314 *[12.36 dia.]*	282 *[11.10]*	Ø 334 *[13.15 dia.]*	Ø 22 *[0.87 dia.]*	(8+4) x M20x1.5	14 *[0.55]*	
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.]*	282 *[11.10]*	Ø 334 *[13.15 dia.]*	Ø 24 *[0.94 dia.]*	10 x M22x1.5	15 *[0.59]*	
P 1 2 3 4 **1 G 1 0**	Ø 280.7 *[11.05 dia.]*	Ø 335 *[13.19 dia.]*	Ø 385 *[15.16 dia.]*	352 *[13.86]*	Ø 334 *[13.15 dia.]*	Ø 24 *[0.94 dia.]*	10 x M22x1.5	17 *[0.67]*	

Studs



		P mm *[in]*	C min. mm *[in]*	C max. mm *[in]*	D mm *[in]*	Class
Various studs	M16 x 1.5	50 *[1.97]*	*5 [0.20]*		21 *[0.83]*	12.9
	M20 x 1.5	60 *[2.36]*			25 *[0.98]*	
	M20 x 1.5	70 *[2.76]*				
	M22 x 1.5	64 *[2.52]*			26 *[1.02]*	
	M22 x 1.5	80 *[3.15]*				
Screws	M16 x 1.5	-	-		23 *[0.91]*	10.9

See generic installation motors N°B59689D.

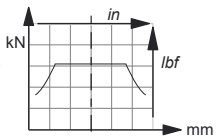
Wheel Motor

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

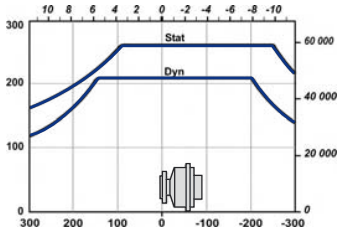


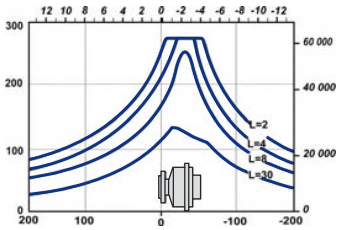
Service life of bearings

Test conditions :

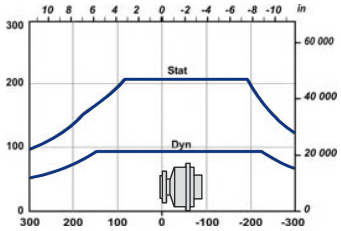
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

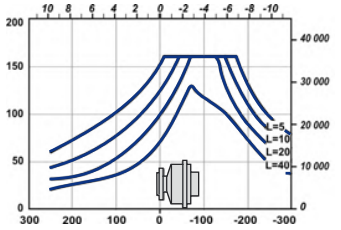
P			
1	2	3	4
1	1	1	0



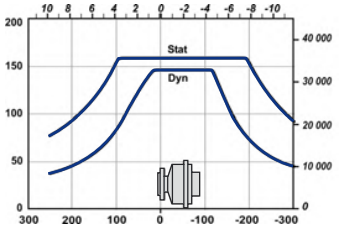


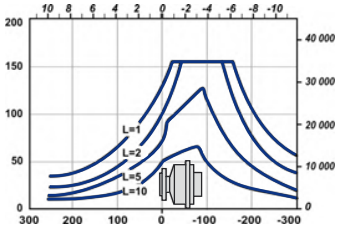
P			
1	2	3	4
1	3	1	0



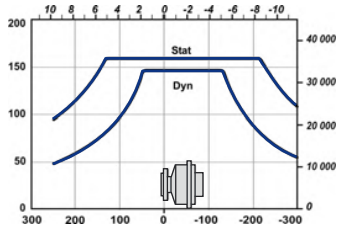


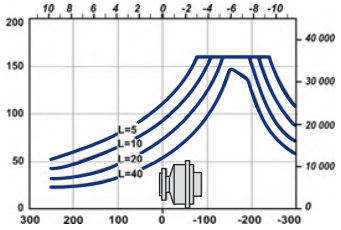
P			
1	2	3	4
1	5	1	0





P			
1	2	3	4
1	6	1	0



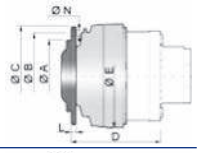
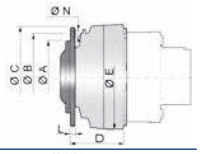
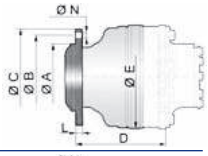
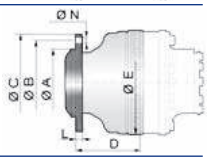
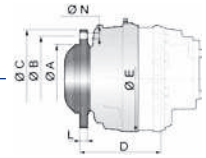
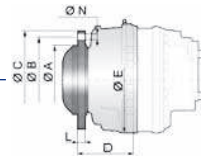


The service life of the components is influenced by the pressure.You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components complies with the application's specifications.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

Wheel Motor

Support types (continued)

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

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 E T 3 0	Ø 280.7 *[11.05 dia.]*	Ø 335 *[13.19 dia.]*	Ø 386 *[15.20 dia.]*	317 *[12.48]*	Ø 405 *[15.94 dia.]*	Ø 24 *[0.94 dia.]*	10 x M22x1.5	19 *[0.75]*	
P 1 2 3 4 F T 3 0	Ø 280.7 *[11.05 dia.]*	Ø 335 *[13.19 dia.]*	Ø 392 *[15.43 dia.]*	205 *[8.07]*	Ø 408 *[16.06 dia.]*	Ø 24 *[0.94 dia.]*	10 x M22x1.5	19 *[0.75]*	
P 1 2 3 4 P 3 1 0	Ø 220.7 *[8.69 dia.]*	Ø 275 *[10.83 dia.]*	Ø 313 *[12.34 dia.]*	288.2 *[11.34]*	Ø 338 *[13.31 dia.]*	Ø 22 *[0.87 dia.]*	8 x M22x1.5	23 *[0.91]*	
P 1 2 3 4 Q 3 1 0	Ø 220.7 *[8.69 dia.]*	Ø 275 *[10.83 dia.]*	Ø 318 *[12.52 dia.]*	205 *[8.07]*	Ø 338 *[13.31 dia.]*	Ø 22 *[0.87 dia.]*	8 x M22x1.5	23 *[0.91]*	
P 1 2 3 4 R 2 1 0	Ø 220.7 *[8.69 dia.]*	Ø 275 *[10.83 dia.]*	Ø 314 *[12.36 dia.]*	304.8 *[12.00]*	Ø 338 *[13.31 dia.]*	Ø 22 *[0.87 dia.]*	8 x M20x1.5	31 *[1.22]*	
P 1 2 3 4 U 2 1 0 W 2 1 0	Ø 220.7 *[8.69 dia.]*	Ø 275 *[10.83 dia.]*	Ø 314 *[12.36 dia.]*	305.1 [12.01]	Ø 338 *[13.31 dia.]*	Ø 22 *[0.87 dia.]*	8 x M20x1.5	31 *[1.22]*	
P 1 2 3 4 S 2 1 0	Ø 220.7 *[8.69 dia.]*	Ø 275 *[10.83 dia.]*	Ø 314 *[12.36 dia.]*	177.6 *[6.99]*	Ø 338 *[13.31 dia.]*	Ø 22 *[0.87 dia.]*	8 x M20x1.5	31 *[1.22]*	
P 1 2 3 4 V 2 1 0 Y 2 1 0	Ø 220.7 *[8.69 dia.]*	Ø 275 *[10.83 dia.]*	Ø 314 *[12.36 dia.]*	177.6 *[6.99]*	Ø 338 *[13.31 dia.]*	Ø 22 *[0.87 dia.]*	8 x M20x1.5	31 *[1.22]*	

Also see “Brake” section (thumbnail opposite).

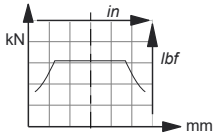
Wheel Motor

Load curves (continued)

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

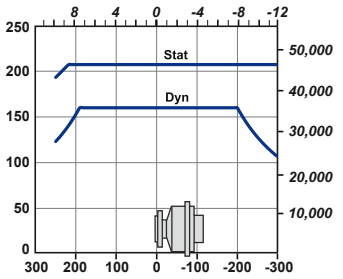


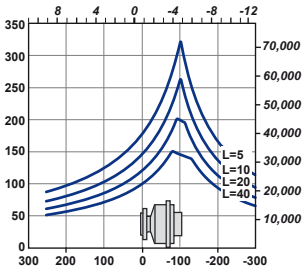
Service life of bearings

Test conditions :

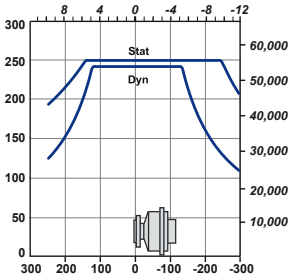
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

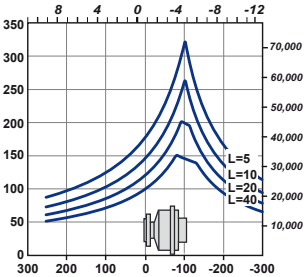
P			
1	2	3	4
E	T	3	0



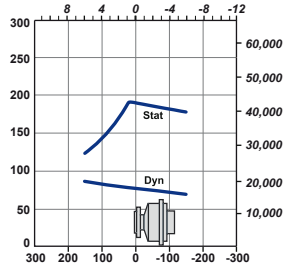


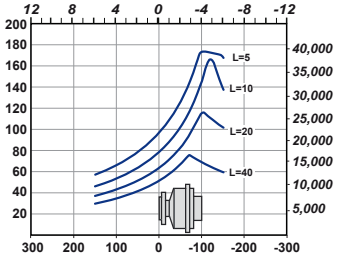
P			
1	2	3	4
F	T	3	0



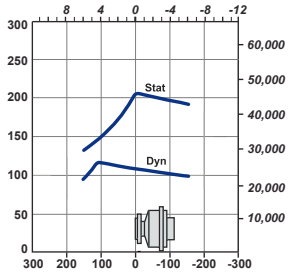


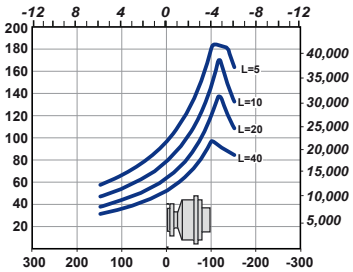
P			
1	2	3	4
P	3	1	0





P			
1	2	3	4
Q	3	1	0





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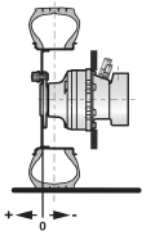


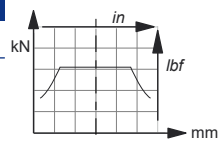
Wheel Motor

Load curves (continued)

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

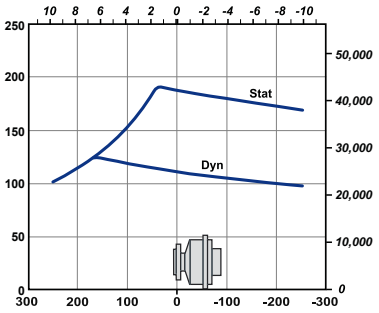


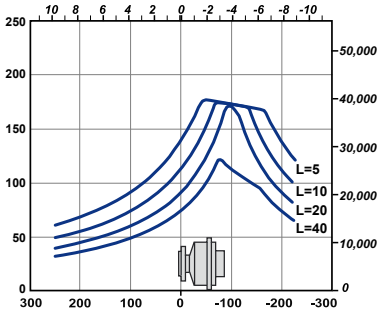
Service life of bearings

Test conditions :

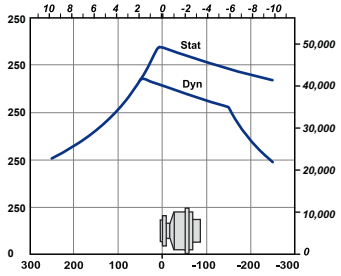
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

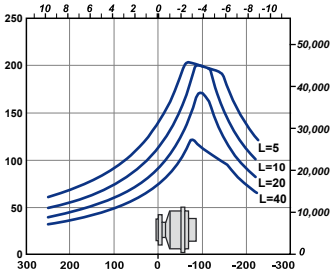
P			
1	2	3	4
R	2	1	0



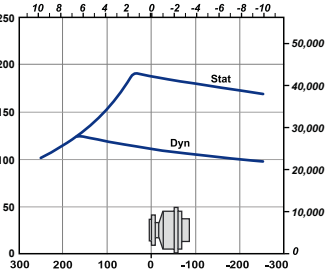


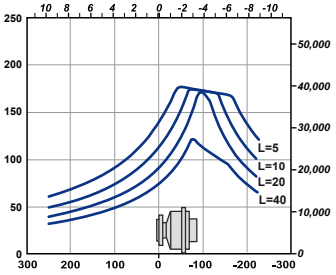
P			
1	2	3	4
S	2	1	0



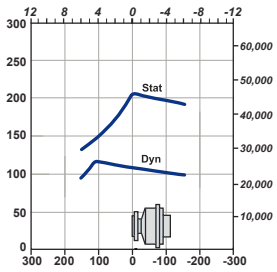


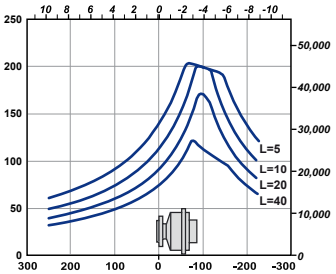
P			
1	2	3	4
U	2	1	0
W	2	1	0





P			
1	2	3	4
V	2	1	0
Y	2	1	0





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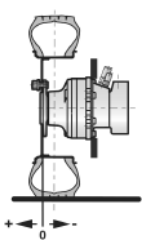
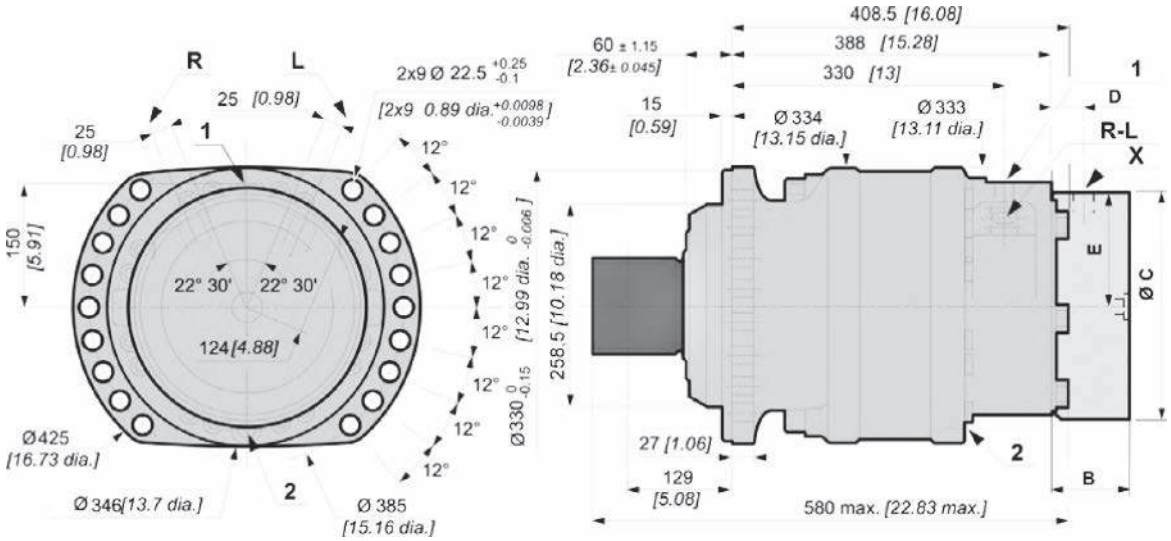
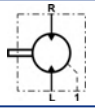
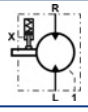


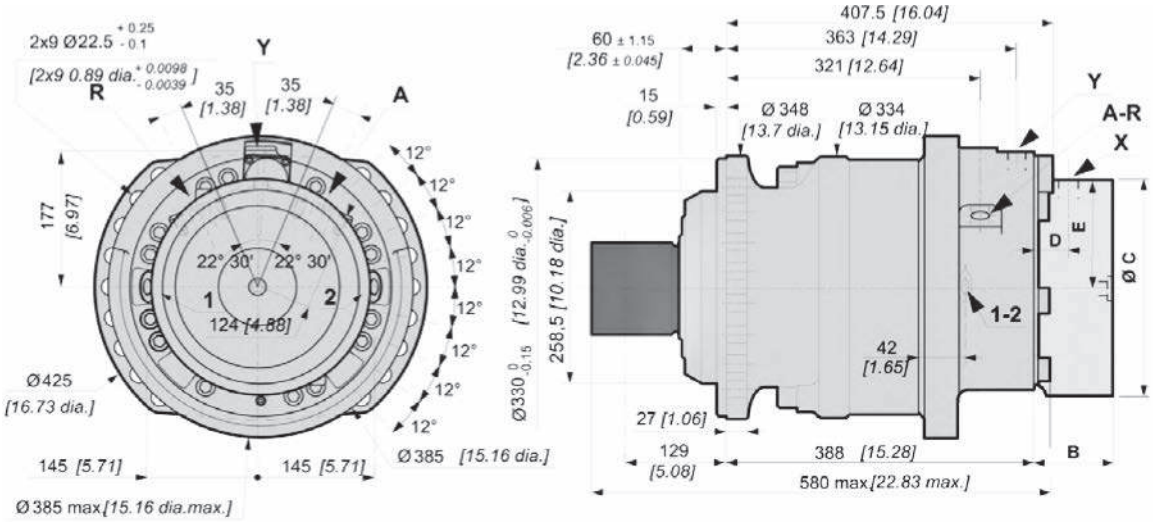
Shaft Motor

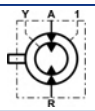
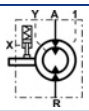
Dimensions for standard (2A50) 1-displacement motor

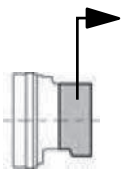


KG	188 kg *[414 lb]*	248 kg *[546 lb]*
	5.00 L *[300 cu.in]*	4.00 L *[240 cu.in]*
		

Dimensions for standard (2A50) 2-displacement motor



KG	198 kg *[436 lb]*	152 kg *[334 lb]*
	3.00 L *[180 cu.in]*	2.50 L *[150 cu.in]*
		



C	T 4 2	T 5 0
B	148.0 *[5.83]*	157.5 *[6.20]*
C	Ø375 *[14.76 dia.]*	Ø375 *[14.76 dia.]*
D	63.5 *[2.50]*	63.5 *[2.50]*
E	183.5 *[7.22]*	183.5 *[7.22]*

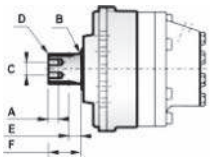
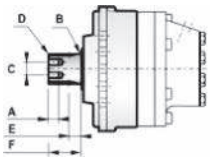
Also see “Brake” section.
(thumbnail opposite)

Shaft Motor

YEOSHE

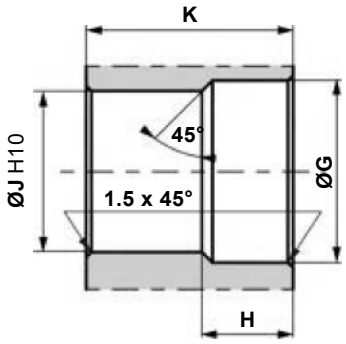
Support types

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

C			A mm *[in]*	B mm *[in]*	C mm *[in]*	D mm *[in]*	E mm *[in]*	F mm *[in]*	
P 1 2 3 4 **2 A 5 0**	**DIN 5480** splines		40 *[1.57]*	R 3 *[R 0.12]*	60 *[2.36]*	2 x M16	28 *[1.10]*	110 *[4.33]*	
	Nominal Ø	120 *[4.72]*							
	Module	5							
	Z	22							
P 1 2 3 4 **2 A 1 0**	**NF E22-141** splines		40 *[1.57]*	R 3 *[R 0.12]*	60 *[2.36]*	2 x M16	28 *[1.10]*	110 *[4.33]*	
	Nominal Ø	120 *[4.72]*							
	Module	3.75							
	Z	30							
P 1 2 3 4 **2 A 5 0** *MS18 bearing	**DIN 5480** splines		23 *[0.91]*	R 3 *[R 0.12]*	35 *[1.38]*	2 x M14	23 *[0.91]*	90 *[3.54]*	
	Nominal Ø	90 *[3.54]*							
	Module	3							
	Z	28							
P 1 2 3 4 **2 A 1 0** *MS18 bearing	**NF E22-141** splines		23 *[0.91]*	R 3 *[R 0.12]*	35 *[1.38]*	2 x M14	27 *[1.06]*	90 *[3.54]*	
	Nominal Ø	90 *[3.54]*							
	Module	2.5							
	Z	34							

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

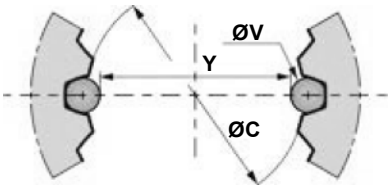
Splined coupling



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

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

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



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 5 0**	122 *[4.80]*	29 *[1.14]*	110 *[4.33]*	109 *[4.29]*	120 *[4.72]*	5	22	2.25 *[0.09]*	110 *[4.33]*	9 *[0.35]*	101.104 *[3.98]*	+87 / 0 *[+3.425 / 0]*
P 1 2 3 4 **2 A 1 0**	121 *[4.76]*	29 *[1.14]*	112.5 *[4.43]*	109 *[4.29]*	120 *[4.72]*	3.75	30	3 *[0.1181]*	112.5 *[4.43]*	7.5 *[0.30]*	105.253 *[4.14]*	+ 104 / 0 *[+4.094 / 0]*
P 1 2 3 4 **2 A 5 0** *MS18 bearing	91.5 *[3.60]*	25 *[0.98]*	84 *[3.31]*	89 *[3.50]*	90 *[3.54]*	3	28	1.35 *[0.05]*	84 *[3.31]*	5.25 *[0.21]*	79.110 *[3.11]*	+ 68 / 0 *[+2.874 / 0]*
P 1 2 3 4 **2 A 1 0** *MS18 bearing	91 *[3.58]*	28 *[1.10]*	85.0 *[3.35]*	89 *[3.50]*	90 *[3.54]*	2.5	34	2 *[0.0787]*	85 *[3.35]*	5 *[0.20]*	80.169 *[3.16]*	+ 104 / 0 *[+4.094 / 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]*.

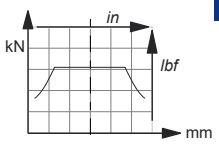
Shaft Motor

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]*.

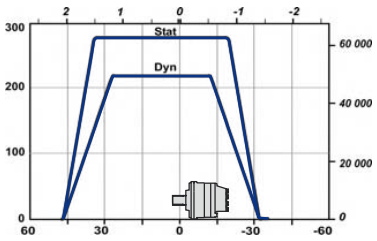


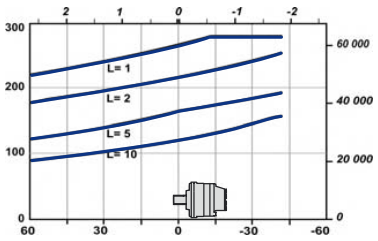
Service life of bearings

Test conditions :

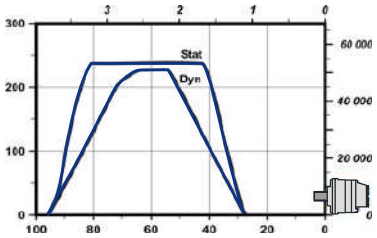
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

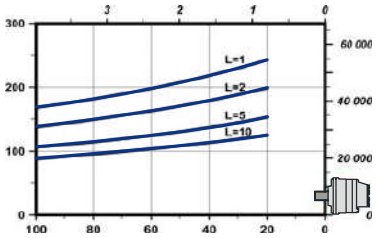
P			
1	2	3	4
2	A	5	0
2	A	1	0





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





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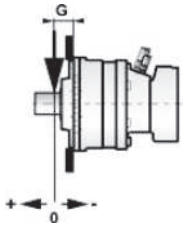
C	G mm *[in]*
2 A 1 0	129 *[5.08]*
2 A 5 0	129 *[5.08]*

C	G mm *[in]*
2 A 1 0	108.5 *[4.272]*
2 A 5 0	106.5 *[4.193]*

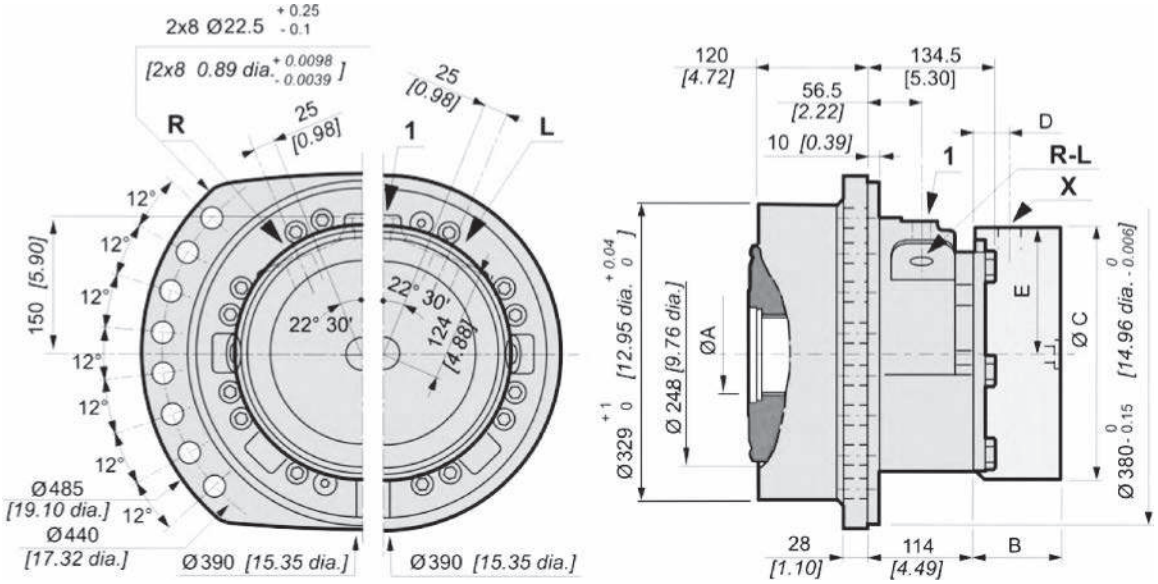
*MS18 bearing



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
P-M	S	3	5														

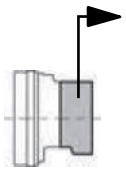
Dimensions for 1-displacement valving



D		
1	2	3
1	C	9

D		
1	2	3
1	B	9

KG	100 kg *[221 lb]*	140 kg *[307 lb]*
	2.70 L *[162 cu.in]*	3.40 L *[204 cu.in]*



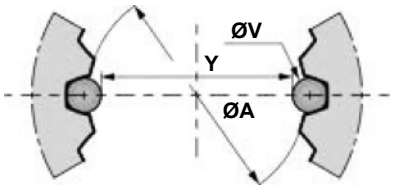
C	T 4 2	T 5 0
B	148.0 *[5.83]*	157.5 *[6.20]*
C	Ø375 *[14.76 dia.]*	Ø375 *[14.76 dia.]*
D	63.5 *[2.50]*	63.5 *[2.50]*
E	183.5 *[7.22]*	183.5 *[7.22]*

Also see "Brake" section.
(thumbnail opposite)

Cylinder block splines

(as per standard NF E22-141)

			Dimension on 2 pins	
ØA	Module	Z	Y	ØV
90 *[3.543]*	2.5	34	80.169 *[3.156]*	5 *[0.197]*

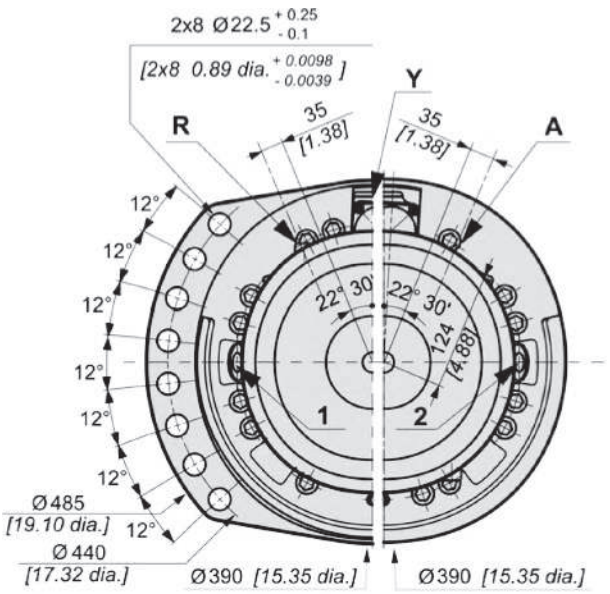


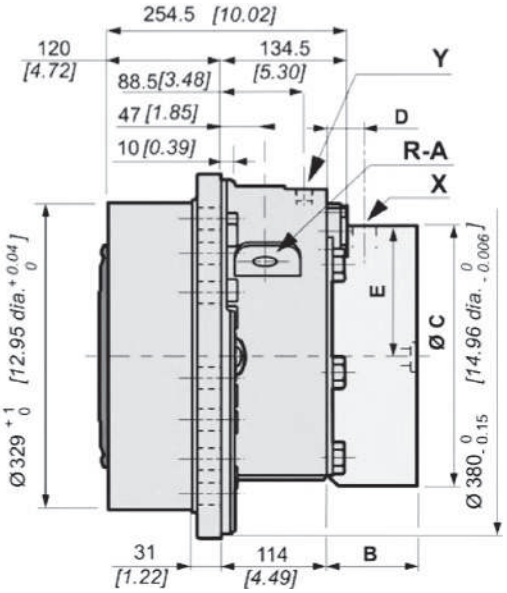
You are advised to have the installation validated by YEOSHE application engineer before using the hydraulic unit in an application.

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

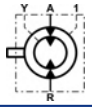
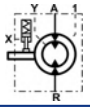
Valving Systems and Hydrobases

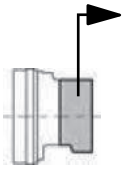
Dimensions for 2-displacement valving





D			D		
1	2	3	1	2	3
	C			B	

KG	98 kg *[215 lb]*	136 kg *[299 lb]*
	2.82 L *[169 cu.in]*	3.32 L *[199 cu.in]*
		

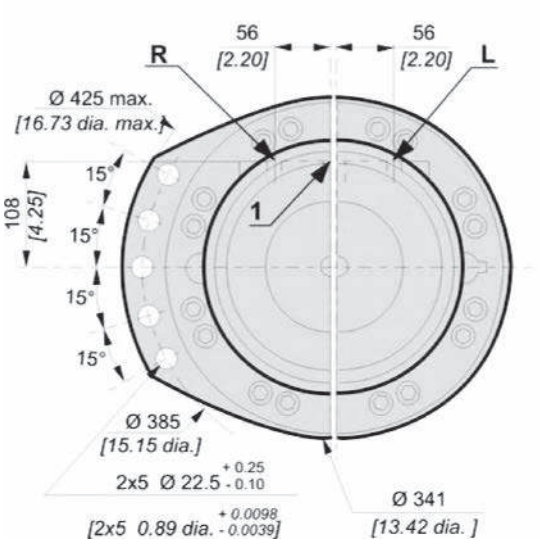


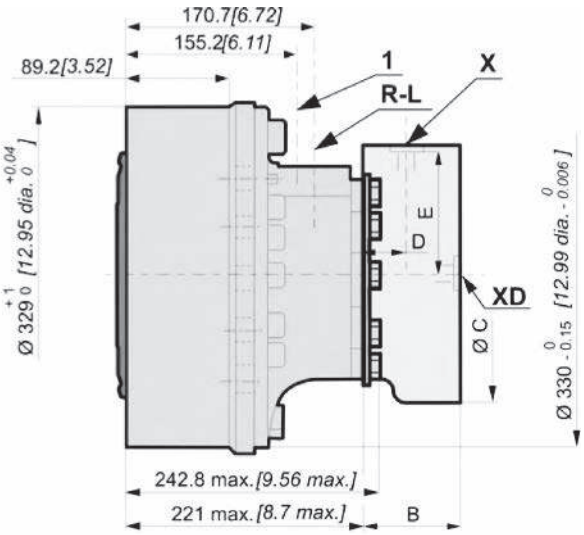
C	T 4 2	T 5 0
B	148.0 *[5.83]*	157.5 *[6.20]*
C	Ø375 *[14.76 dia.]*	Ø375 *[14.76 dia.]*
D	63.5 *[2.50]*	63.5 *[2.50]*
E	183.5 *[7.22]*	183.5 *[7.22]*

Also see “Brake” section.
(thumbnail opposite)

Valving Systems and Hydrobases

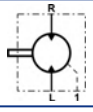
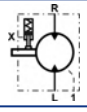
Dimensions for 1-displacement (MS18) valving



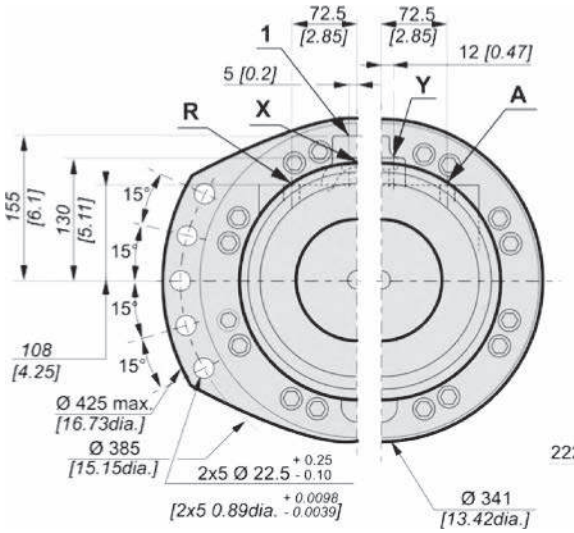


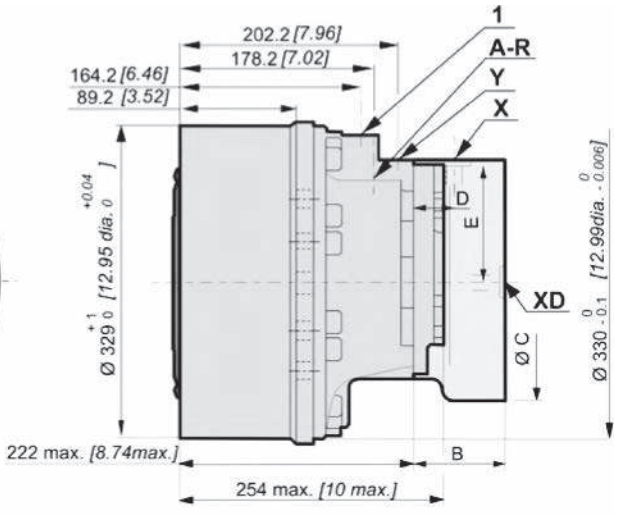
D		
1	2	3
1	2	

D		
1	2	3
1	1	

KG	82 kg *[180 lb]*	92 kg *[202 lb]*
	1.95 L *[117 cu.in]*	2.12 L *[127 cu.in]*
		

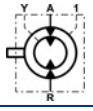
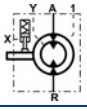
Dimensions for 2-displacement (MS18) valving

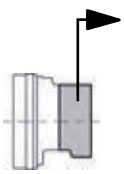




D		
1	2	3
	2	

D		
1	2	3
	1	

KG	91 kg *[200 lb]*	111 kg *[245 lb]*
	1.95 L *[117 cu.in]*	2.12 L *[127 cu.in]*
		



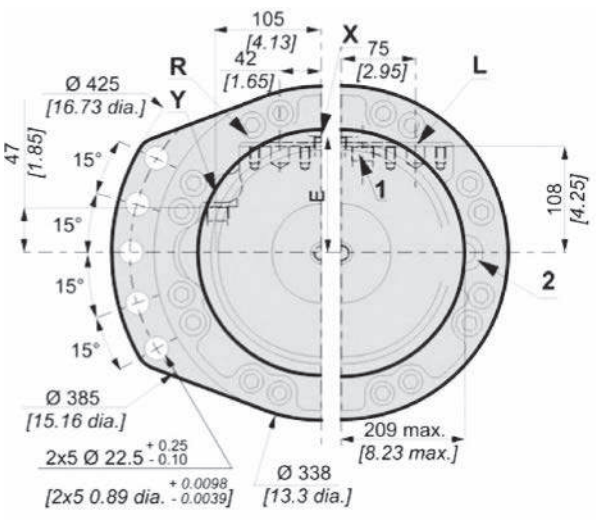
C	T 1 2	T 2 0
B	92.5 *[3.64]*	115 *[4.53]*
Ø C	273.6 *[10.77]*	282 *[11.10]*
D	24.5 *[0.96]*	45 *[1.77]*
E	128.5 *[5.06]*	128.5 *[5.06]*

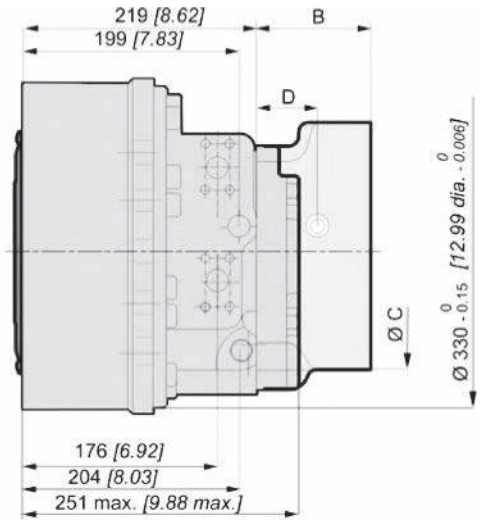
Also see “Brake” section.
(thumbnail opposite)

Valving Systems and Hydrobases

Dimensions for 2-displacement (MS18) symetrical valving

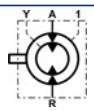
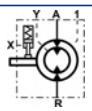
For a small displacement, there is no preferred orientation for this motor.



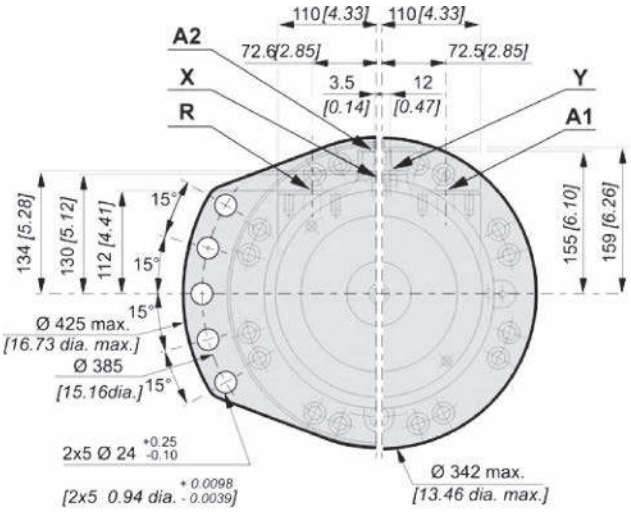


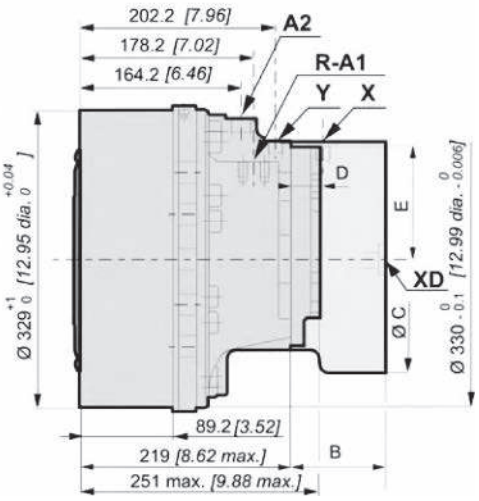
D		
1	2	3
	2	

D		
1	2	3
	1	

KG	19 kg *[42 lb]*	25.1 kg *[55 lb]*
	0.40 L *[24 cu.in]*	0.50 L *[30 cu.in]*
		

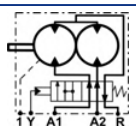
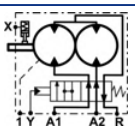
Dimensions for Twin-Lock / 2-displacement (MS18) valving

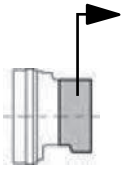




D		
1	2	3
	Q	

D		
1	2	3
	P	

KG	19 kg *[42 lb]*	25.1 kg *[55 lb]*
	0.40 L *[24 cu.in]*	0.50 L *[30 cu.in]*
		

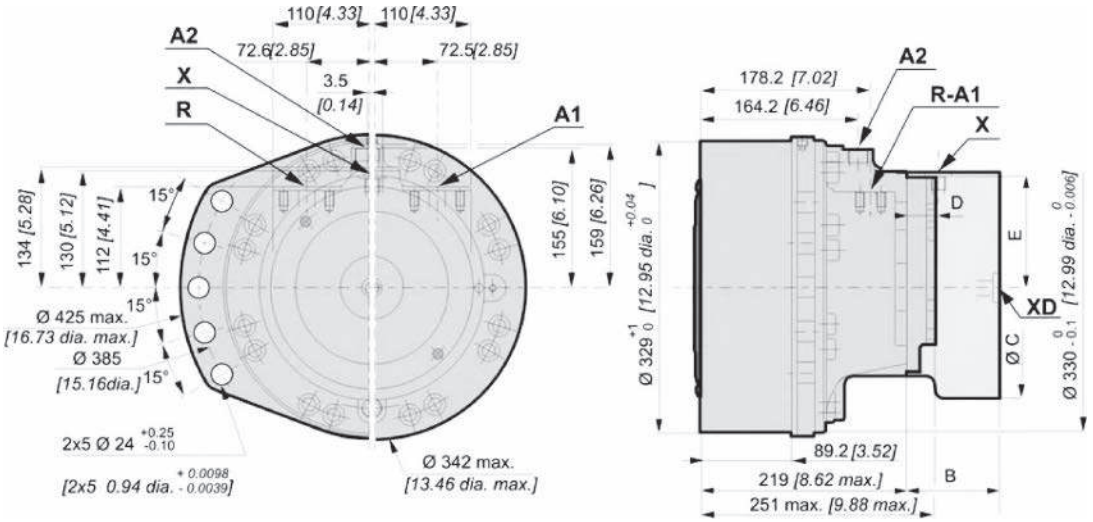


C	T 1 2	T 2 0
B	92.5 *[3.64]*	115 *[4.53]*
Ø C	273.6 *[10.77]*	282 *[11.10]*
D	24.5 *[0.96]*	45 *[1.77]*
E	128.5 *[5.06]*	128.5 *[5.06]*

Also see “Brake” section.
(thumbnail opposite)

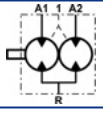
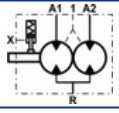
Valving Systems and Hydrobases

Dimensions for Twin-Lock valving



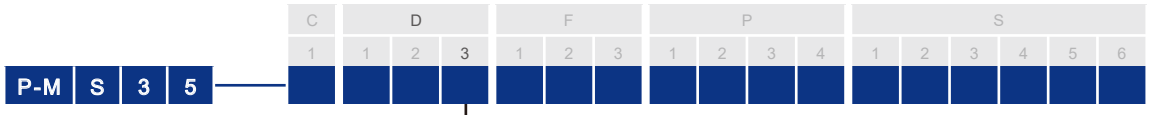
D		
1	2	3
	E	

D		
1	2	3
	D	

KG	19 kg *[42 lb]*	25.1 kg *[55 lb]*
	0.40 L *[24 cu.in]*	0.50 L *[30 cu.in]*
		

Valving Systems and Hydrobases

Hydraulic connections



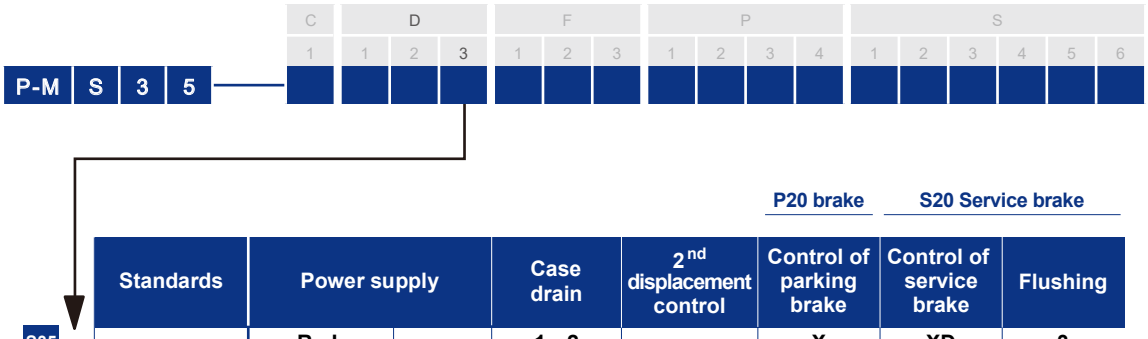
		Standards	Power supply		Case drain	2nd displacement control	P27 Parking brake: Control of parking brake	C27 Combined brake: Control of parking brake	C27 Combined brake: Control of service brake	Flushing
S35			R - L		1 、2		X	X	XD	3
1C	9	ISO 6 162 ISO 9 974-1	DN32 PN400		M22 x 1.5		M16 x 1.5	M20 x 1.5	M14 x 1.5	M22 x 1.5
			R - A		1 、2	Y	X	X	XD	3
2C	1	ISO 6 162 ISO 9 974-1	DN25 PN400		M22 x 1.5	M18 x 1.5	M16 x 1.5	M20 x 1.5	M14 x 1.5	M22 x 1.5
	7	ISO 6 162 ISO 11 926-1	DN25		1"1/16- 12 UNF	9/16"- 18 UNF	9/16"-18 UNF 3/4"16UNF	9/16"- 18 UNF	9/16"- 18 UNF	3/4"- 16 UNF
S18			R - L		1 、2		X	X	XD	3
1 Displacement	A	ISO 11 926-1	1"1/16- 12 UNF		7/8"- 14 UNF		9/16"-18 UNF 3/4"16UNF	9/16"- 18 UNF	9/16"- 18 UNF	3/4"- 16 UNF
	1	ISO 6 162 ISO 9 974-1	DN19 PN400		M22 x 1.5		M16 x 1.5	M20 x 1.5	M14 x 1.5	M22 x 1.5
	2	ISO 6 162 ISO 1 179-1	DN19 PN400		Ø21 *[1/2" dia.]*		Ø17 *[3/8" dia.]*	M20 x 1.5	M14 x 1.5	M22 x 1.5
	4	ISO 9 974-1	M27 x 2		M22 x 1.5		M16 x 1.5	M20 x 1.5	M14 x 1.5	M22 x 1.5
	7	ISO 6 162 ISO 11 926-1	DN19 PN400		7/8"- 14 UNF		9/16"-18 UNF 3/4"16UNF	9/16"- 18 UNF	9/16"- 18 UNF	3/4"- 16 UNF
			R - A		1 、2	Y	X	X	XD	3
2 Displacement	A	ISO 11 926-1	1"1/16- 12 UNF		7/8"- 14 UNF	3/4"- 16 UNF	9/16"- 18 UNF	9/16"- 18 UNF	9/16"- 18 UNF	3/4"- 16 UNF
	1	ISO 6 162 ISO 9 974-1	DN19 PN400		M22 x 1.5	M16 x 1.5	M16 x 1.5	M20 x 1.5	M14 x 1.5	M22 x 1.5
	1+	ISO 6 162 ISO 9 974-1	DN19 PN400		M22 x 1.5	M22 x 1.5	M16 x 1.5	M20 x 1.5	M14 x 1.5	M22 x 1.5
	4	ISO 9 974-1	M27 x 2		M22 x 1.5	M16 x 1.5	M16 x 1.5	M20 x 1.5	M14 x 1.5	M22 x 1.5
	4+	ISO 9 974-1	M27 x 2		M22 x 1.5	M22 x 1.5	M16 x 1.5	M20 x 1.5	M14 x 1.5	M22 x 1.5
	7	ISO 6 162 ISO 11 926-1	DN19 PN400		7/8"- 14 UNF	3/4"- 16 UNF	9/16"-18 UNF 3/4"16UNF	9/16"- 18 UNF	9/16"- 18 UNF	3/4"- 16 UNF
	7+	ISO 6 162 ISO 11 926-1	DN19 PN400		7/8"- 14 UNF	7/8"- 14 UNF	9/16"-18 UNF 3/4"16UNF	9/16"- 18 UNF	9/16"- 18 UNF	3/4"- 16 UNF
			R - A1	A2	1 、2	Y	X	X	XD	3
Twin-Lock	A	ISO 11 926-1	1"1/16- 12 UNF	1"1/16- 12 UNF	3/4"-16 UNF 7/8"-14 UNF	9/16"-18 UNF 3/4"-16 UNF	9/16"-18 UNF 3/4"16UNF	9/16"- 18 UNF	9/16"- 18 UNF	3/4"- 16 UNF
	1	ISO 6 162 ISO 9 974-1	DN19 PN400	M27 x 2	M22 x 1.5	M16 x 1.5	M16 x 1.5	M20 x 1.5	M14 x 1.5	M22 x 1.5
	7	ISO 6 162 ISO 11 926-1	DN19 PN400	1"1/16- 12 UNF	3/4"- 16 UNF	9/16"- 18 UNF	9/16"-18 UNF 3/4"16UNF	9/16"- 18 UNF	9/16"- 18 UNF	3/4"- 16 UNF
		ISO 9 974-1						X	XD	3
Max. pressures	P-MS	bar *[PSI]*	450 *[6,527]*	450 *[6,527]*	1 *[15]*	30 *[435]*	30 *[435]*	30 *[435]*	120 *[1,740]*	120 *[1,740]*
	P-MSE		400 *[5,802]*	400 *[5,802]*						

+ : Only symmetrical valving

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

Valving Systems and Hydrobases

Hydraulic connections



			P20 brake		S20 Service brake		
		Standards	Power supply		Case drain	2nd displacement control	Control of parking brake	Control of service brake	Flushing
S35			R - L		1 ↘ 2		X	XD	3
1C	9	ISO 6 162 ISO 9 974-1	DN32 PN400		M22 x 1.5		M16 x 1.5	M20 x 1.5	M22 x 1.5
			R - A		1 ↘ 2	Y	X	XD	3
2C	1	ISO 6 162 ISO 9 974-1	DN25 PN400		M22 x 1.5	M18 x 1.5	M16 x 1.5	M20 x 1.5	M22 x 1.5
	7	ISO 6 162 ISO 11 926-1	DN25		1"1/16- 12 UNF	9/16"- 18 UNF	9/16"- 18 UNF	9/16"- 18 UNF	3/4"- 16 UNF
S18			R - L		1 ↘ 2		X	XD	3
1 Displacement	A	ISO 11 926-1	1"1/16- 12 UNF		7/8"- 14 UNF		3/4"- 16 UNF	9/16"- 18 UNF	7/8"- 14 UNF
	1	ISO 6 162 ISO 9 974-1	DN19 PN400		M22 x 1.5		M16 x 1.5	M14 x 1.5	M22 x 1.5
	2	ISO 6 162 ISO 1 179-1	DN19 PN400		Ø21 *[1/2" dia.]*		M16 x 1.5	M14 x 1.5	M22 x 1.5
	4	ISO 9 974-1	M27 x 2		M22 x 1.5		M16 x 1.5	M14 x 1.5	M22 x 1.5
	7	ISO 6 162 ISO 11 926-1	DN19 PN400		7/8"- 14 UNF		3/4"- 16 UNF	9/16"- 18 UNF	7/8"- 14 UNF
			R - A		1 ↘ 2	Y	X	XD	3
2 Displacement	A	ISO 11 926-1	1"1/16- 12 UNF		7/8"- 14 UNF	3/4"- 16 UNF	3/4"- 16 UNF	9/16"- 18 UNF	7/8"- 14 UNF
	1	ISO 6 162 ISO 9 974-1	DN19 PN400		M22 x 1.5	M16 x 1.5	M16 x 1.5	M14 x 1.5	M22 x 1.5
	1+	ISO 6 162 ISO 9 974-1	DN19 PN400		M22 x 1.5	M22 x 1.5	M16 x 1.5	M14 x 1.5	M22 x 1.5
	4	ISO 9 974-1	M27 x 2		M22 x 1.5	M16 x 1.5	M16 x 1.5	M14 x 1.5	M22 x 1.5
	4+	ISO 9 974-1	M27 x 2		M22 x 1.5	M22 x 1.5	M16 x 1.5	M14 x 1.5	M22 x 1.5
	7	ISO 6 162 ISO 11 926-1	DN19 PN400		7/8"- 14 UNF	3/4"- 16 UNF	3/4"- 16 UNF	9/16"- 18 UNF	7/8"- 14 UNF
	7+	ISO 6 162 ISO 11 926-1	DN19 PN400		7/8"- 14 UNF	7/8"- 14 UNF	3/4"- 16 UNF	9/16"- 18 UNF	7/8"- 14 UNF
			R - A1	A2	1 ↘ 2	Y	X	XD	3
Twin-Lock	A	ISO 11 926-1	1"1/16- 12 UNF	1"1/16- 12 UNF	3/4"-16 UNF 7/8"-14 UNF	9/16"-18 UNF 3/4"-16 UNF	3/4"- 16 UNF	9/16"- 18 UNF	7/8"- 14 UNF
	1	ISO 6 162 ISO 9 974-1	DN19 PN400	M27 x 2	M22 x 1.5	M16 x 1.5	M16 x 1.5	M14 x 1.5	M22 x 1.5
	7	ISO 6 162 ISO 11 926-1	DN19 PN400	1"1/16- 12 UNF	3/4"- 16 UNF	9/16"- 18 UNF	3/4"- 16 UNF	9/16"- 18 UNF	7/8"- 14 UNF
		ISO 9 974-1					X	XD	3
Max. pressures		P-MS bar P-MSE *[PSI]*	450 *[6,527]* 400 *[5,802]*	450 *[6,527]* 400 *[5,802]*	1 *[15]*	30 *[435]*	30 *[435]*	120 *[1,740]*	120 *[1,740]*

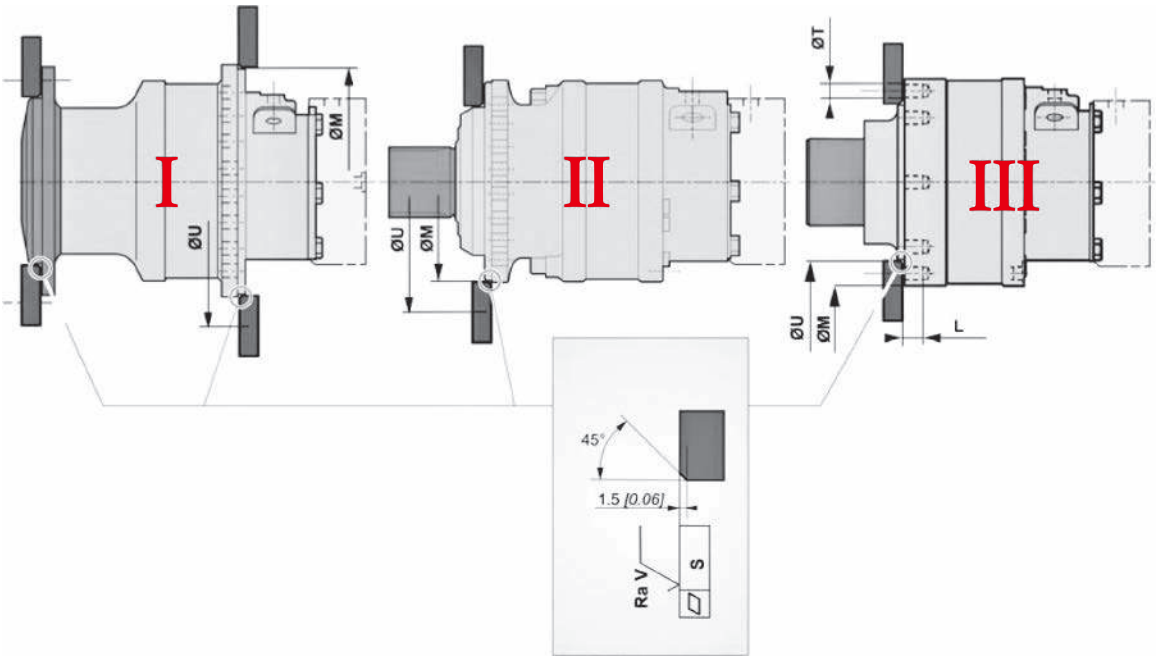
+ : Only symmetrical valving

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.

Valving Systems and Hydrobases

Chassis mountings



Take care over the immediate environment of the connections.

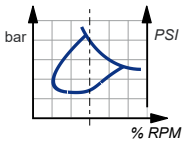
		ØM (1) *mm [in]*	ØU *mm [in]*	ØT *mm [in]*	L *mm [in]*	S *mm [in]*	Ra V *µm [µin]*		Class
MS18	I	330 *[12.99]*	385 *[15.16]*	-	-	0.2 *[0.008]*	12.5µm *[0.49µin]*	2 x 5 M20 x 2	8.8
	II	315 *[12.40]*		-	-				
MS35	I	380 *[14.96]*	485 *[19.09]*	-	-			2 x 8 M20 x 2	
	II	330 *[12.99]*		-	-				
	II	250 *[9.84]*	-	22.5 *[0.886]*	30 *[1.181]*			8 x M20 x 2	

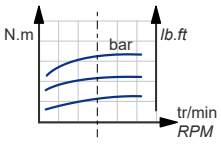
(1)
+0.3 *[+0.012]*
+0.2 *[+0.008]*

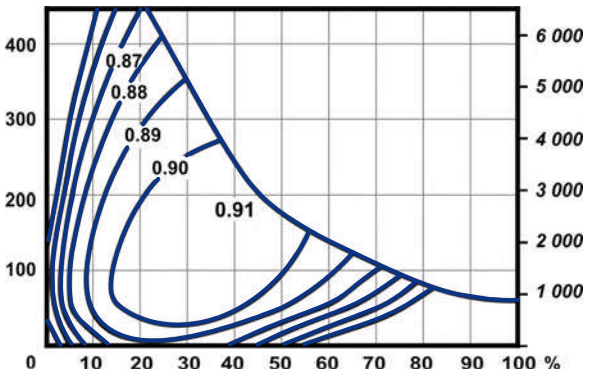
Valving Systems and Hydrobases

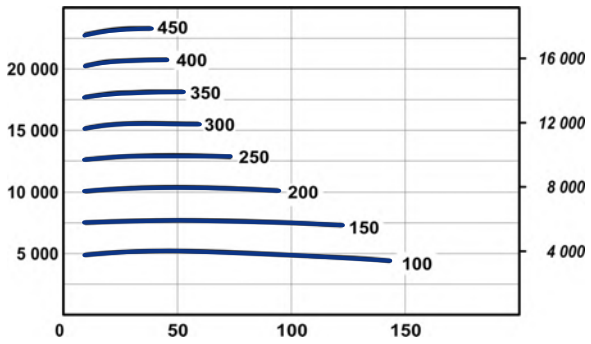
Efficiency

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]*.	







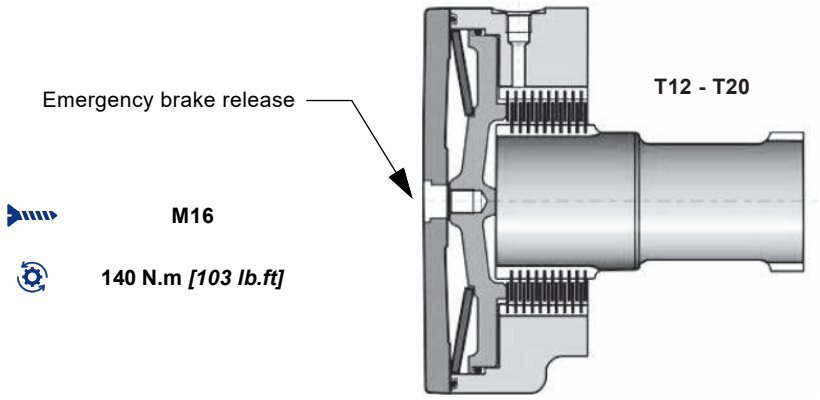


For a precise calculation, consult YEOSHE.

Brakes

Rear brake

				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	3	5					T	1	2										
								T	2	0										



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 2	T 2 0
Parking brake torque at 0 bars on housing (new brake)	11,840 Nm *[8,730 lb.ft]*	18,600 Nm *[13,720 lb.ft]*
Dynamic emergency braking torque at 0 bars on housing (max.10uses of emergency brakes)	7,695 Nm *[5,680 lb.ft]*	12,800 Nm *[9,440 lb.ft]*
Residual parking braking at 0 bars on housing *	8,880 Nm *[6,550 lb.ft]*	13,940 Nm *[10,280 lb.ft]*
Min. brake release pressure	12 bar *[174 PSI]*	12 bar *[174 PSI]*
Max. brake release pressure	30 bar *[435 PSI]*	30 bar *[435 PSI]*
Oil capacity	170 cm³ *[10.4 cu.in]*	180 cm³ *[11.0 cu.in]*
Volume for brake release	40 cm³ *[2.4 cu.in]*	70 cm³ *[4.3 cu.in]*
Max. energy dissipation	123 699 J	193 033 J

* After emergency brake has been used

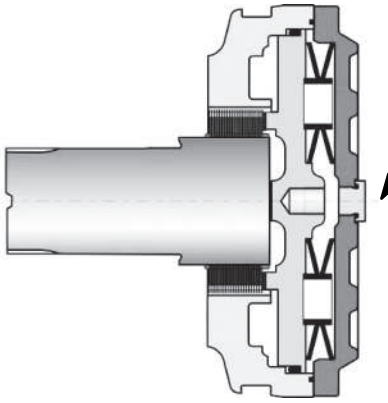
Do not run-in the multidisc brakes.

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.

Brakes

Rear brake

	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 3 5					T	4	2										
					T	5	0										



Emergency brake release

T42 : M20
T50 : M20

T42 : 340 N.m *[251 lb.ft]*
T50 : 440 N.m *[324 lb.ft]*

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 4 2	T 5 0
Parking brake torque at 0 bars on housing (new brake)	25,000 Nm *[18,440 lb.ft]*	30,000 Nm *[22,130 lb.ft]*
Dynamic emergency braking torque at 0 bars on housing (max. 10 uses of emergency brakes)	16,250 Nm *[11,990 lb.ft]*	19,500 Nm *[14,380 lb.ft]*
Residual parking braking at 0 bars on housing *	18,750 Nm *[13,830 lb.ft]*	22,500 Nm *[16,600 lb.ft]*
Min. brake release pressure	12 bar *[174 PSI]*	12 bar *[174 PSI]*
Max. brake release pressure	30 bar *[435 PSI]*	30 bar *[435 PSI]*
Oil capacity	400 cm³ *[24.4 cu.in]*	450 cm³ *[27.5 cu.in]*
Volume for brake release	135 cm³ *[8.2 cu.in]*	135 cm³ *[8.2 cu.in]*

* After emergency brake has been used

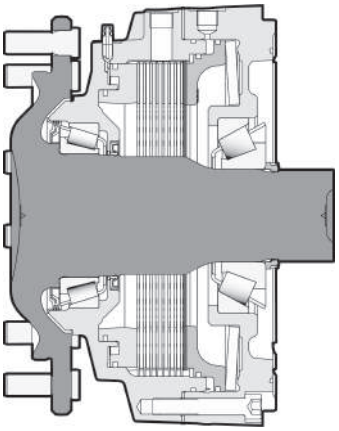
Do not run-in the multidisc brakes.

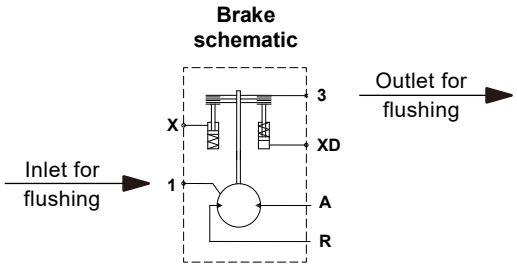
A functional check of the parking brake must be carried out each time it is used as an auxiliary brake (or emergency brake). For all vehicles capable of speeds over 25 km/h, please contact YEOSHE.

Brakes

C27 Combined brake

		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	3	5															





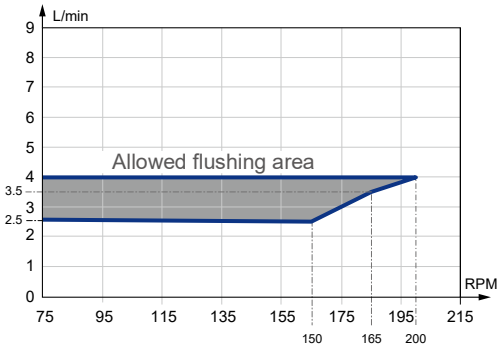
The dynamic brake must be flushed according to the brake schematics (flushing flow always goes of the bearing support).

Brake principle

This is a multidisc brake which is activated by a braking pressure (dynamic braking). The braking command creates a pressure on the dynamic braking piston, which damps the fixed and free discs, preventing the shaft from turning. Braking torque increases linearly as a function of the piloting pressure.

C	E T 3 0 F T 3 0
General information	
Max. rotation speed	200 rpm
Max. energy dissipation for 1 braking (maintenance needed)	1000 kJ
Dynamic brake information	
Permissible torque during dynamic braking	32,000 Nm *[23,600 lb.ft]*
Pressure to obtain max. permissible braking	70 bar *[1,015 PSI]*
Piston chamber piloting volume, worn brake	74 cm³ *[4.5 cu.in]*
Service brake max. allowed energy	500 kJ
Parking brake information	
Min. parking brake torque	18,000 Nm *[13,280 lb.ft]*
Min. dynamic brake torque in case of emergency brake with new brake	24,000 Nm *[17,700 lb.ft]*
Min. dynamic brake torque in case of emergency brake with worn brake	13,000 Nm *[9,590 lb.ft]*
Release brake pressure (min. / max.)	100 *[1,450]* / 135 *[1,958]*
Piston chamber piloting volume (worn brake)	48 cm³ *[2.9 cu.in]*
Number of parking brake applications	1,000,000

Flushing flow vs Rotation speed



Brake release pressure vented.

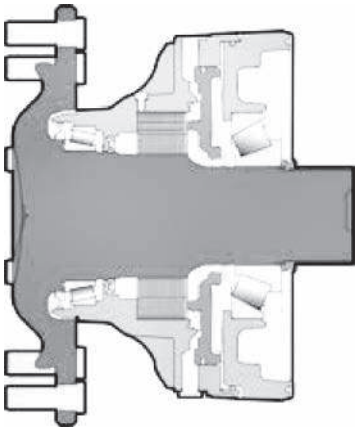
The use of certain oils may not offer the characteristics stated above. Consult YEOSHE application engineer.

When using the Boosted brake option, the C27 bearing support might not be able to withstand the combination of maximum hydrostatic torque and maximum service brake torque. Please contact YEOSHE application engineer for a detailed calculation.

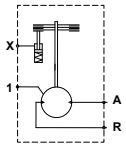
Brakes

P27 Parking brake

	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 3 5																	



Brake schematic

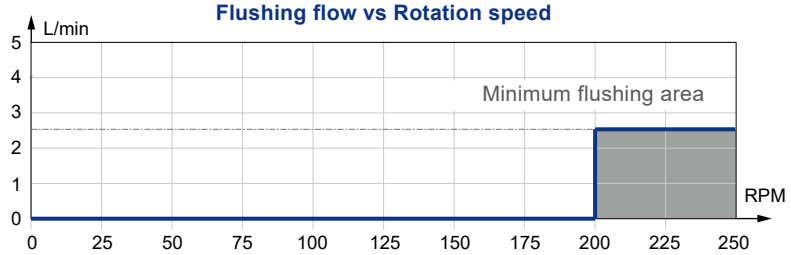


Brake principle

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. This is a multidisc brake which is activated by a lack of pressure.

C	Q 3 1 0 P 3 1 0
Max. rotation speed	200 rpm
Max. energy dissipation	200 kJ
Number of parking brake applications	1,000,000
Release brake pressure (min/max)	16 *[232]* / 30 *[435]*
Min. parking brake torque	19,800 Nm *[14,600 lb.ft]*
Min. static brake torque (after emergency braking)	16,400 Nm *[12,100 lb.ft]*
Min. dynamic brake torque in case of emergency brake with new brake	14,500 Nm *[10,690 lb.ft]*

Flushing flow vs Rotation speed



Do not run-in the multidisc brakes.

The use of certain oils may not offer the characteristics stated above. Consult YEOSHE application engineer.

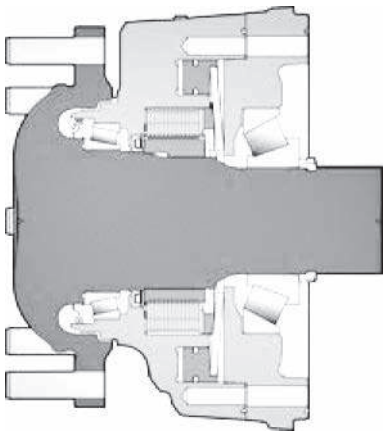
A functional check of the parking brake must be carried out each time it is used as an auxiliary brake (or emergency brake). For all vehicles capable of speeds over 25 km/h, please contact YEOSHE.

When using the Boosted brake option, the P27 bearing support might not be able to withstand the combination of maximum hydrostatic torque and maximum service brake torque. Please contact YEOSHE application engineer for a detailed calculation.

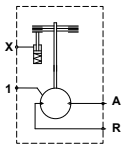
Brakes

P20 Parking brake

		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	3	5															



Brake schematic



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	R 2 1 0 S 2 1 0
Max. rotation speed	200 rpm
Max. energy dissipation	200 kJ
Number of parking brake applications	1,000,000
Release brake pressure (min/max)	16 bar *[232 PSI]* / 30 bar *[435 PSI]*
Min. parking brake torque	20,000 Nm *[14,750 lb.ft]*
Min. static brake torque (after emergency braking)	15,000 Nm *[11,060 lb.ft]*
Min. dynamic brake torque in case of emergency brake with new brake	13,000 Nm *[9,590 lb.ft]*

Do not run-in the multidisc brakes.

The use of certain oils may not offer the characteristics stated above. Consult YEOSHE application engineer.

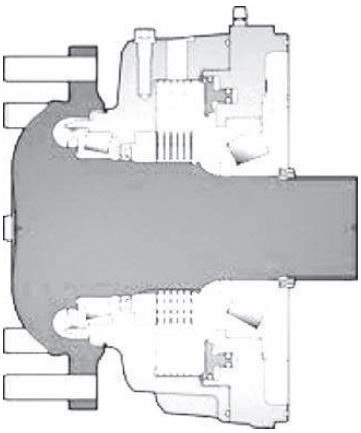
A functional check of the parking brake must be carried out each time it is used as an auxiliary brake (or emergency brake). For all vehicles capable of speeds over 25 km/h, please contact YEOSHE.

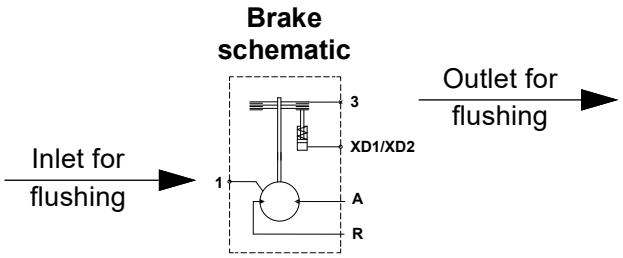
When using the Boosted brake option, the P20 bearing support might not be able to withstand the combination of maximum hydrostatic torque and maximum service brake torque. Please YEOSHE contact application engineer for a detailed calculation.

Brakes

S20 Service brake

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





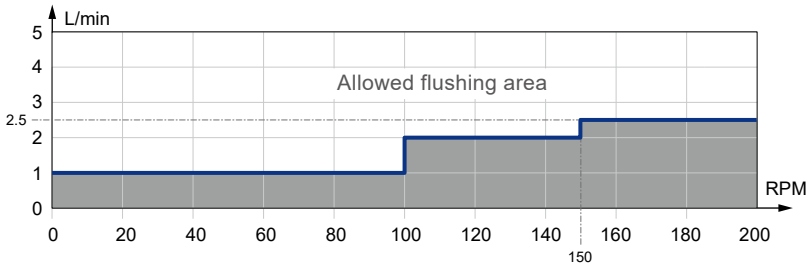
The dynamic brake must be flushed according to the brake schematics (flushing flow always goes of the bearing support).

Brake principle

This is a multidisc brake which is activated by a braking pressure (dynamic braking). The braking command creates a pressure on the dynamic braking piston, which damps the fixed and free discs, preventing the shaft from turning. Braking torque increases linearly as a function of the piloting pressure.

C	U 2 1 0 W 2 1 0	V 2 1 0 Y 2 1 0
Max. rotation speed	200 rpm	
Max. energy dissipation	1,250 kJ	
Permissible torque during dynamic braking	25,000 Nm *[18,440 lb.ft]*	
Pressure to obtain max. permissible braking	120 bar	
Piston chamber piloting volume, worn brake	97 cm³	
Service brake max. allowed energy	850 kJ	

Flushing flow vs Rotation speed



Do not run-in the multidisc brakes.

The use of certain oils may not offer the characteristics stated above. Consult YEOSHE application engineer.

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.

When using the Boosted brake option, the S20 bearing support might not be able to withstand the combination of maximum hydrostatic torque and maximum service brake torque. Please contact YEOSHE application engineer for a detailed calculation.

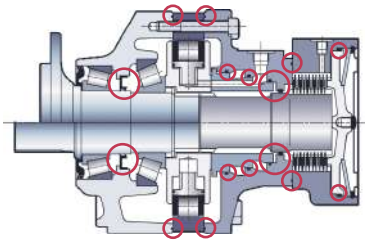
Options

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

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

1 Fluorinated elastomer seals

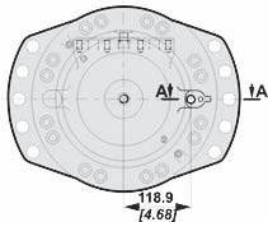
Nitrile seals marked in the figure below replaced by fluorinated elastomer seals.



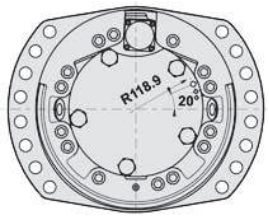
Consult YEOSHE sales engineer.

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

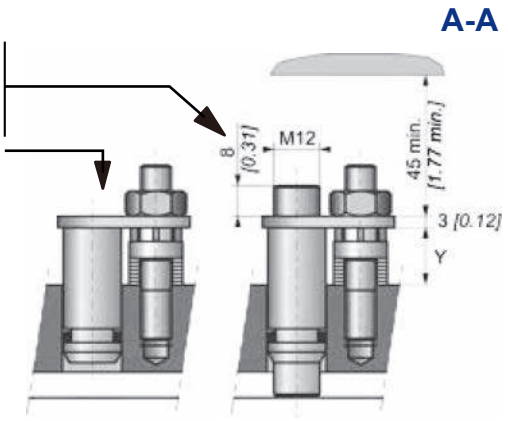


MS18



MS35

A-A



Max. length Y = 15.6

Standard number of pulses per revolution = 56

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

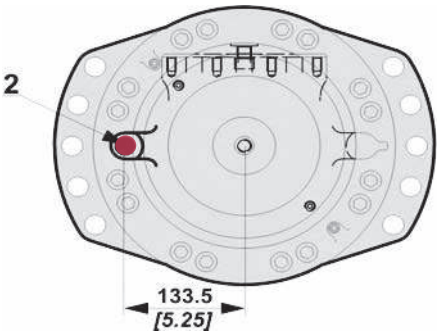
To install the sensor, see the "Installation guide" brochure No. B59689D.

Options

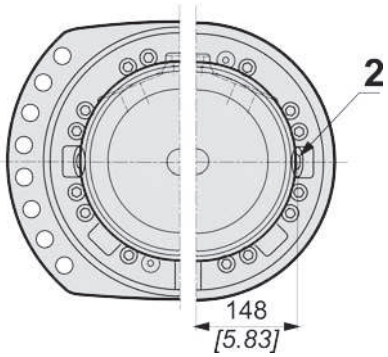
5 Drainage

Additional drain in the cover.

MS18



MS35
1 C



6 Industrial support

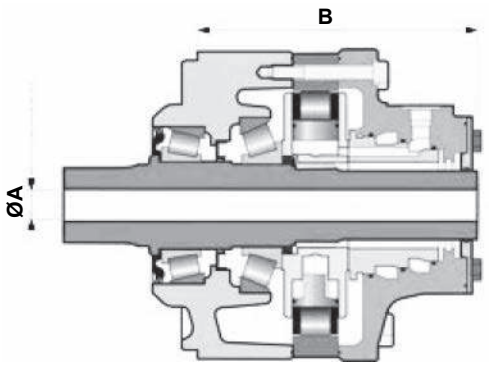
Reduction of around 50% from the rated value in the bearings' preload value.

For a precise calculation, consult YEOSHE.

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



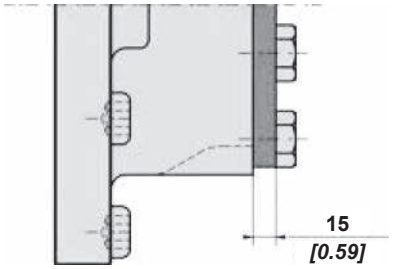
A mm *[in]*	B mm *[in]*
Ø 60 *[2.36 dia.]*	668 *[26.30]*

Radial load x 0.75
No torque transmittable to the rear

E Reinforced sealing

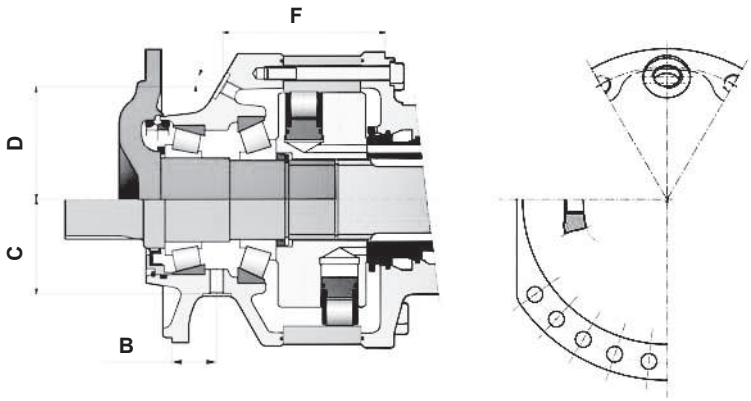
Requires reinforced seals and, for an unbraked motor, a rear reinforced plate (**R35** - 15 *[0.59]* thick, instead of 6 *[0.236]*).

				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	3	5					R	3	5					E					



Options

B Drain on the bearing support



	ISO	B mm *[in]*	C mm *[in]*	D mm *[in]*	F mm *[in]*	a
Shaft motor	M22 x 1.5	193 *[7.60]*	56 *[2.20]*			
Wheel motor						

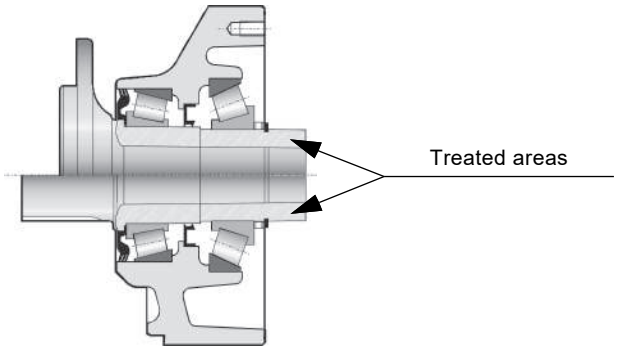
G Special wheel rim mounting

Enables certain combinations different from the standard mountings defined on pages 10.

Consult YEOSHE sales engineer.

J Treated shaft

Heat treatment on the indicated bearing radius and splines.



U Boosted braking

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