YEOSHE

P-MS05.MSE05

Hydraulic Motors

www.yeoshehydraulic.com

Efficient Performance

Innovative Technology

Reliable Quality and Service

YEOSHE HYDRAULICS CO.,LTD.

Introduction

- **P-MS05.MSE05 Classic**

MS working pressure	450 bar *[6 526 PSI]*
MSE working pressure	400 bar *[5 801 PSI]*

- **P-MS05.MSE05 High Flow**

MS working pressure	450 bar *[6 526 PSI]*
MSE working pressure	400 bar *[5 801 PSI]*

Features

Given their optimized and modular design capable of delivering high performance, motors from the MS Classic range have established themselves as a benchmark on the hydraulic motor market.

MS Classic range can be characterize by :

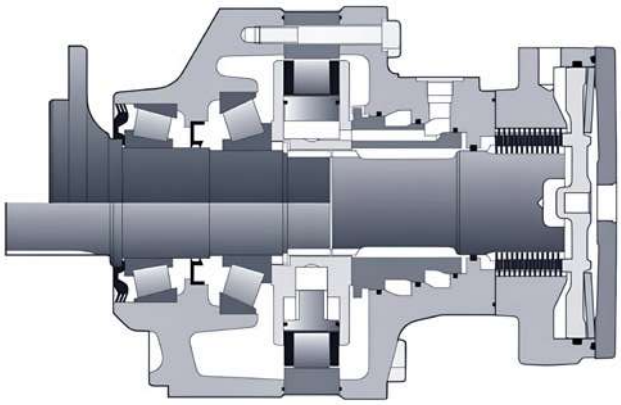
1. **Compacity**
2. **Optimized cost**
3. **Power density**

The MS HighFlow motor range has all the qualities that have made the MS Classic range such a success : they are modular and robust, offering performance advantages (speed and power) at the same time.MS HighFlow motor range is different by :

MS High Flow motor range is different by :

1. **New closed cover**
2. **ntegrated exchange valve**
3. **New ports geometry**
4. **New valving**

Characteristics



High Flow

Max.power

1C motor	2C motor, 1st displacement	2C motor, 2nd displacement
50 kW	50 kW	30 kW

C		Cams with equal lobes								
		P-MS05					P-MSE05			
		6	8	0	1	2	8	0	1	2
1	cm³/tr *[cu.in/rev.]* cm³/tr *[cu.in/rev.]*	260 *[15.9]*	376 *[22.9]*	468 *[28.5]*	515 *[31.4]*	560 *[34.2]*	503 *[30.7]*	625 *[38.1]*	688 *[42.0]*	750 *[45.7]*
2	cm³/tr *[cu.in/rev.]*	130 *[7.9]*	188 *[11.5]*	234 *[14.3]*	258 *[15.7]*	280 *[17.1]*	252 *[15.4]*	313 *[19.1]*	344 *[21.0]*	375 *[22.9]*
Motor High Flow 1C Max. speed* 1	tr/min *[RPM]*	700	520	420	370	340	380	300	270	250
Motor HighFlow 2C Max. speed* 1	tr/min *[RPM]*	630	455	370	330	300	330	270	240	220
Motor HighFlow 2C Max. speed* 2	tr/min *[RPM]*	630	520	430	400	350	370	300	270	240

1 First displacement
2 Second displacement

Motor inertia = 0.03 kg.m²

* Based on nominal no-load Δp of 20 bar *[290 PSI]*.

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

Classic

Max.power

1C motor	2C motor, 1st displacement	2C motor, 2nd displacement
29 kW	19 kW	15 kW

C		Cams with equal lobes								
		P-MS05					P-MSE05			
		6	8	0	1	2	8	0	1	2
1	cm³/tr *[cu.in/rev.]* cm³/tr *[cu.in/rev.]*	260 *[15.9]*	376 *[22.9]*	468 *[28.5]*	515 *[31.4]*	560 *[34.2]*	503 *[30.7]*	625 *[38.1]*	688 *[42.0]*	750 *[45.7]*
2	cm³/tr *[cu.in/rev.]*	130 *[7.9]*	188 *[11.5]*	234 *[14.3]*	258 *[15.7]*	280 *[17.1]*	252 *[15.4]*	313 *[19.1]*	344 *[21.0]*	375 *[22.9]*
Motor High Flow 1C Max. speed* 1	tr/min *[RPM]*	300	250	210	200	180	230	190	170	155
Motor HighFlow 2C Max. speed* 1	tr/min *[RPM]*	350	310	260	240	220	250	220	180	160
Motor HighFlow 2C Max. speed* 2	tr/min *[RPM]*	360	320	275	250	230	300	250	210	190

1 First displacement
2 Second displacement

Motor inertia = 0.03 kg.m²

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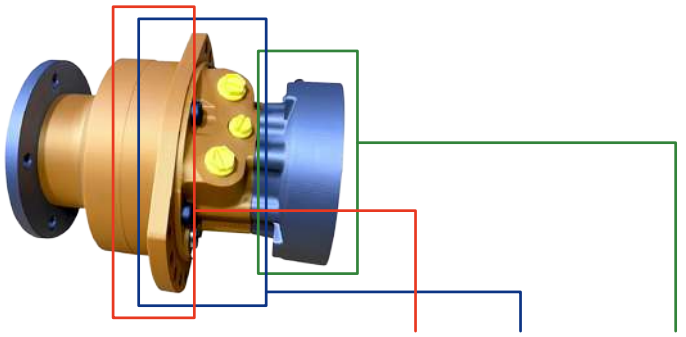
Modularity



C

P-M S 0 5

P-M S E 0 5

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

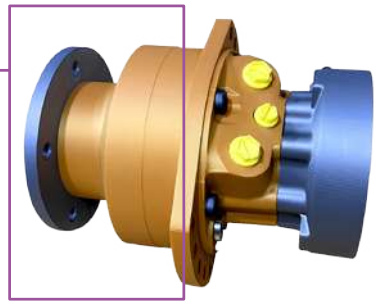
1540
1610
1710
1210
1G10
1310
1940

Shaft motor

2A10
2A50
2AC0
2A40

MS05
MSE05

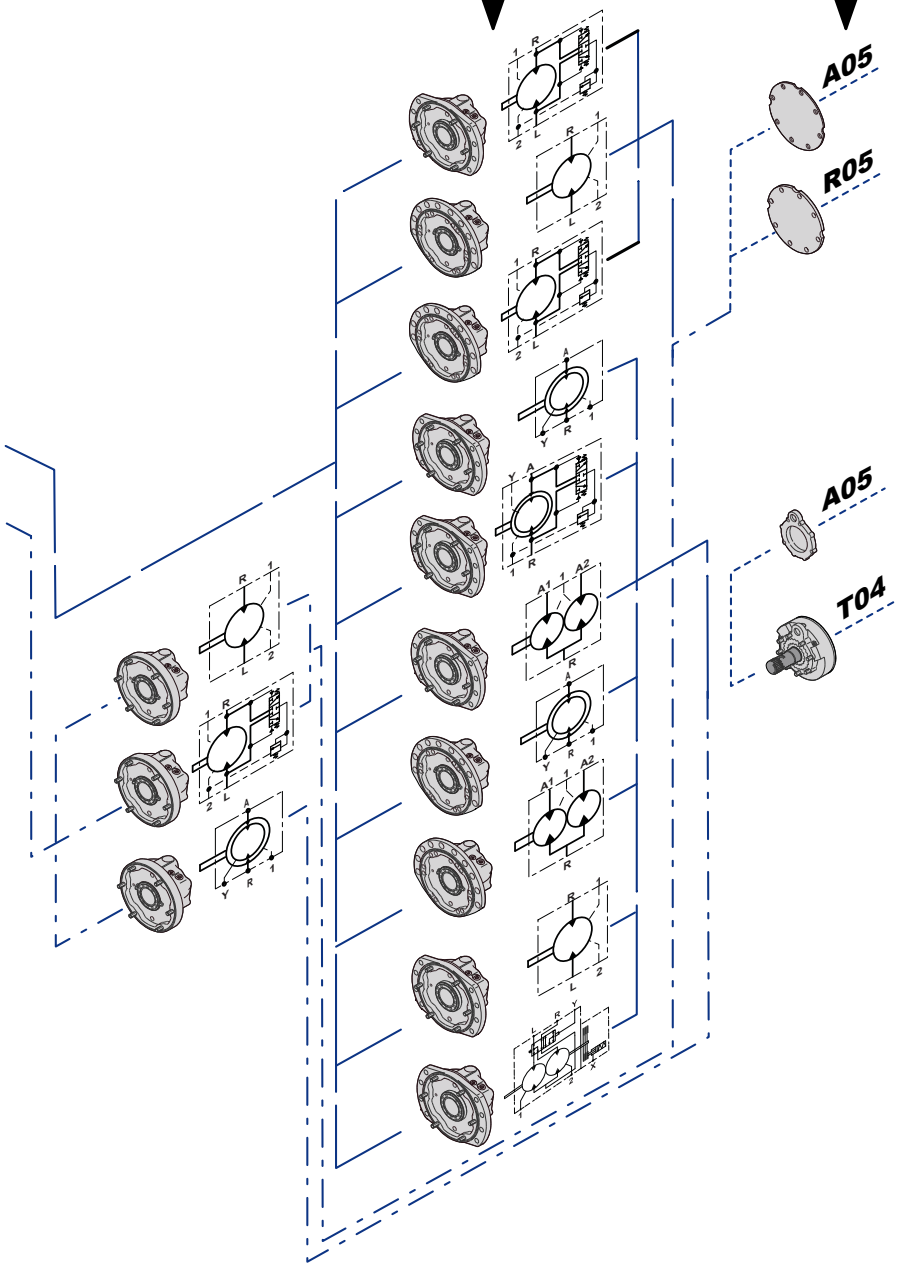
Modularity



	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	0	5													
	P-M	S	E	0	5												

Valving systems

Brakes



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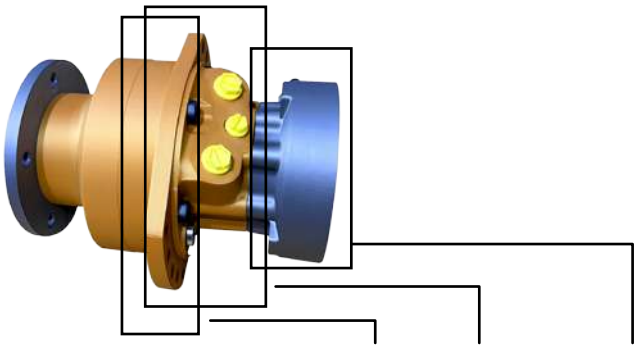
Modelcode



C		D			F			P				S					
C	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
P-MS05											0						
P-MSE05											0						

Cam ring type

			1 displacement cm³/tr *[cu.in/rev.]*	2 displacements	
C1	Cams with equal lobes	P-MS05	260 *[15.9]*	130 *[7.9]*	6
			376 [22.9]	188 *[11.5]*	8
			468 *[28.6]*	234 *[14.3]*	0
			515 *[31.4]*	258 *[15.7]*	1
			560 *[34.2]*	280 *[17.1]*	2
		P-MSE05	503 *[30.7]*	251 *[15.3]*	8
			625 *[38.1]*	313 *[19.1]*	0
			688 *[42.0]*	344 *[21.0]*	1
			750 *[45.7]*	375 *[22.9]*	2

Valving cover

			1 Displacement	2 Displacement	Exchange	Twin-Lock
D2	Classic motor	Without mounting	1	4	-	
		Lug fixing	2	-	E	
		Horseshoe fixing	8	9	G	
	High Flow motor	Without mounting	B	L	-	
		Lug fixing	C	N	-	

Valving type

D1	1-displacement valving		1
	2-displacement symetrical valving	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

Connection type

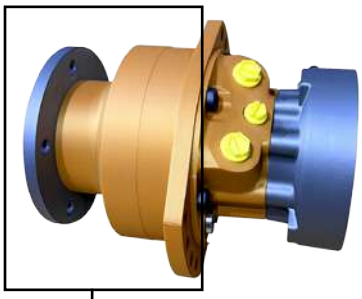
D3	**ISO 11926-1**	connection	1" 1/16-12 UNF	A
	ISO 1179-1	connection	G3/4	3
	ISO 9974-1	connection	M27 x 2	4
	ISO 9974-1	connection	M18 x 1.5	8

Rear brake

F1 ~ F3	Without brake (simple plate)				A05
	Without brake (closed cover)*				M05
	Brake	Bearing mounting or valving cover mounting	Parking brake	Screwed enviromental cover**	T04
	Without brake (reinforced plate)				R05

* Mandatory for High Flow valving withouth brake
**Only with HighFlow valving

Modelcode



C | P-M S 0 5 / P-M S E 0 5 | C 1 | D 1 2 3 | F 1 2 3 | P 1 2 3 4 (0) | S 1 2 3 4 5 6

Front unit

P1	Without bearing support	0
	Without mounting	1
	Lug mounting	2

Bearing support

P2	Without shaft	0
	10 x Ø18 on Ø140	2
	5+3 x Ø18 on Ø140	3
	10 x M12 onØ100	5
	5 x Ø18 on Ø140	6
	6 x Ø20 on Ø205	7
	10 x M12 on Ø100	9
	Support without drum brake	F
		G
	For male shaft bearing support	A

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
	Cylindrical with key	4
	DIN 5480 splines	5
	Dual sprocket for chain	C

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
	Hollow shaft	A
	Drain on the bearing support	B
	Abrasive environment	C
	Special paint or no paint	D
	Reinforced sealing	E
	Special wheel rim mounting	G
	High efficiency	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.

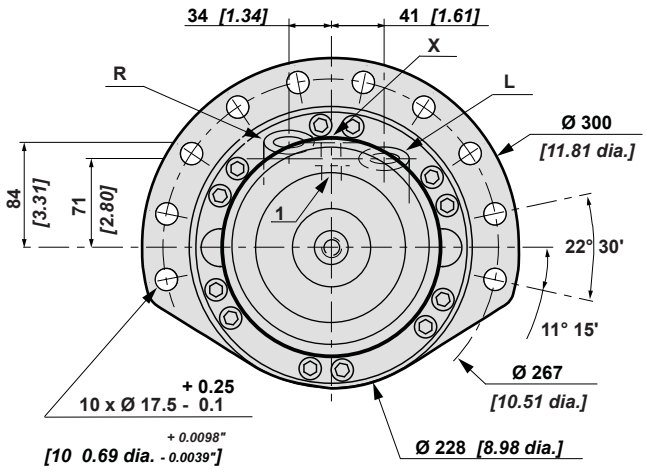
This document also includes essential operating instructions for the product and general information.

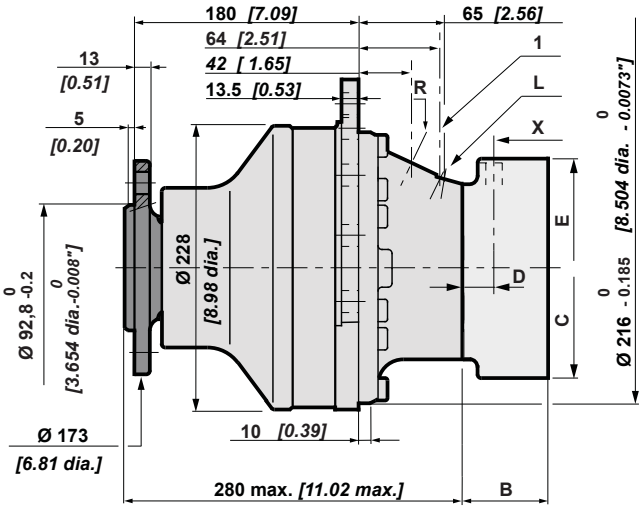
Expressed as follows

- 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 Classic (1210) 1-displacement motor

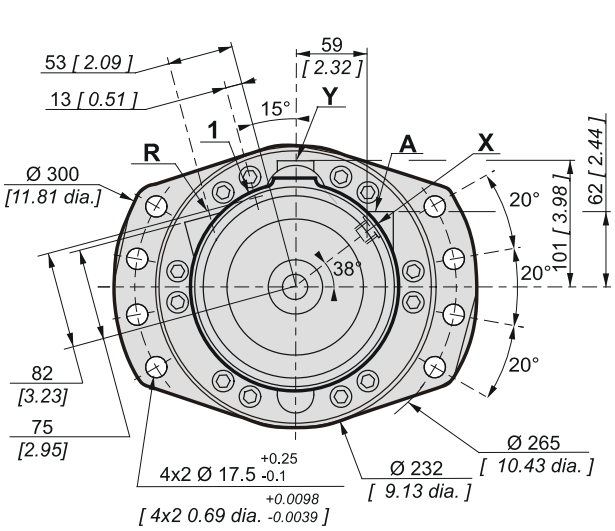


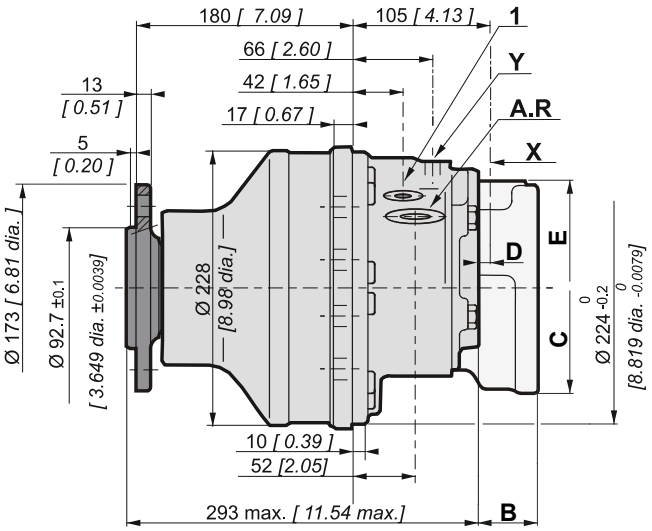


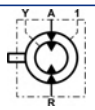
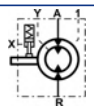
KG	40 kg *[88 lb]*	50 kg *[110 lb]*
	0.50 L *[30 cu.in]*	1.00 L *[60 cu.in]*
		

Wheel Motor Classic

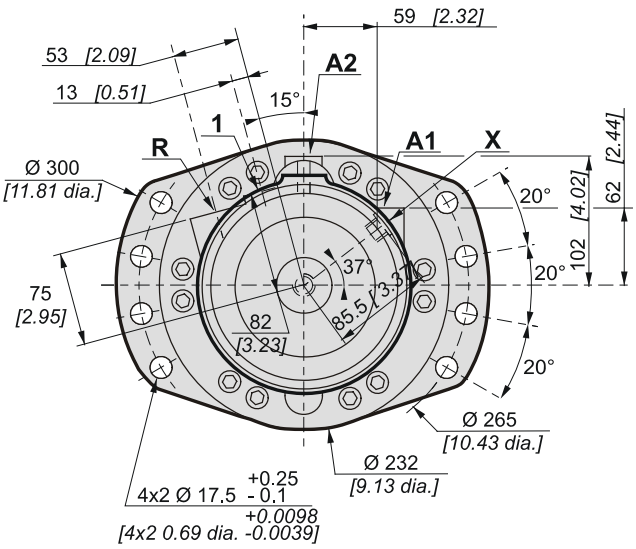
Dimensions for Classic (1210) 2-displacement motor

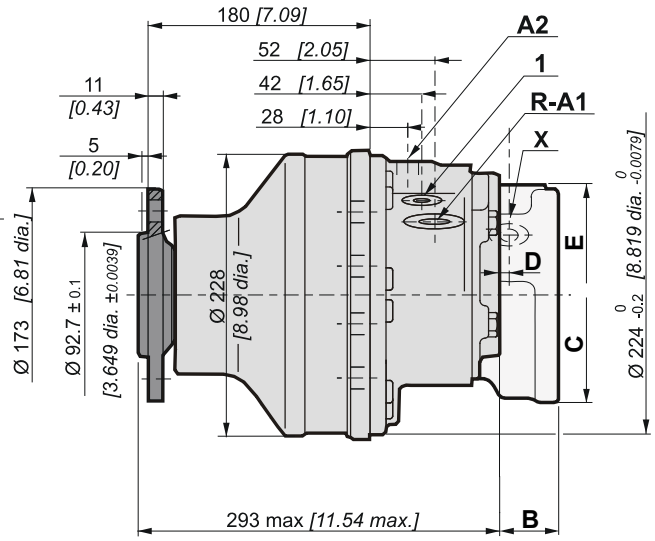


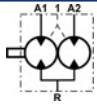
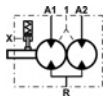


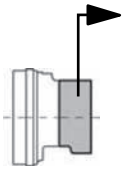
KG	41 kg *[90 lb]*	52 kg *[114 lb]*
	0.50 L *[30 cu.in]*	1.00 L *[60 cu.in]*
		

Dimensions for Classic (1210) Twin-Lock





KG	41 kg *[90 lb]*	52 kg *[114 lb]*
	0.50 L *[30 cu.in]*	1.00 L *[60 cu.in]*
		



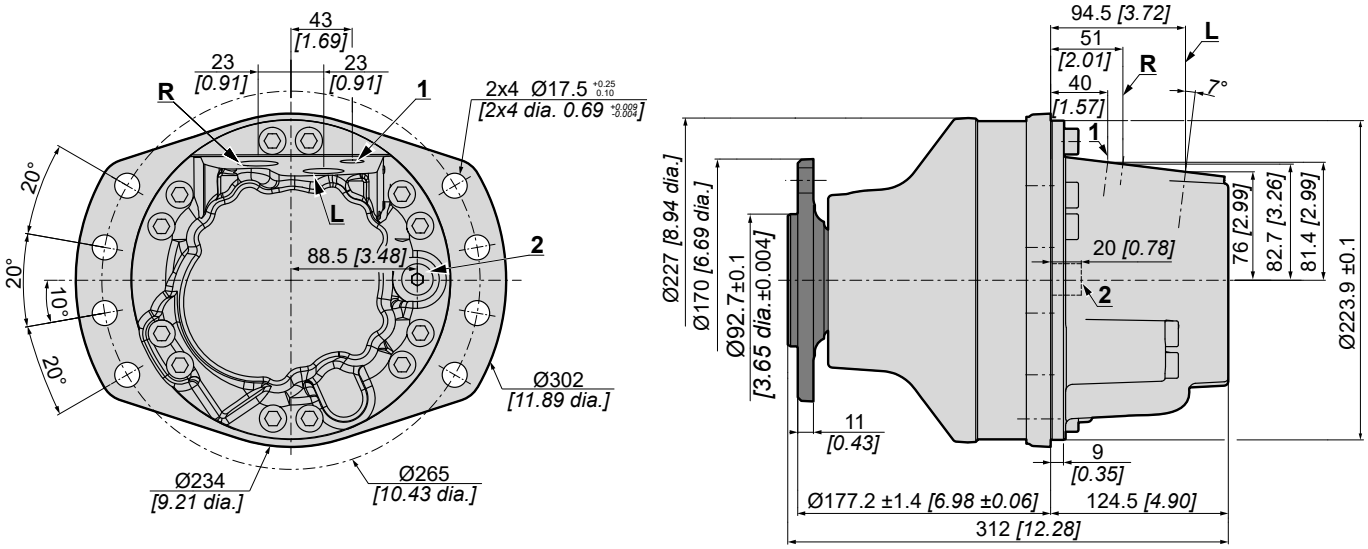
C	T 0 4
B	68.5 *[2.70]*
C	Ø200 *[7.87 dia.]*
D	28.0 *[1.10]*
E	87.5 *[3.44]*

Also see “Brake” section.
(thumbnail opposite).

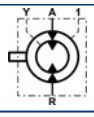
Also see 'Valving systems and hydrobases' section
(thumbnail opposite).

Wheel Motor High Flow

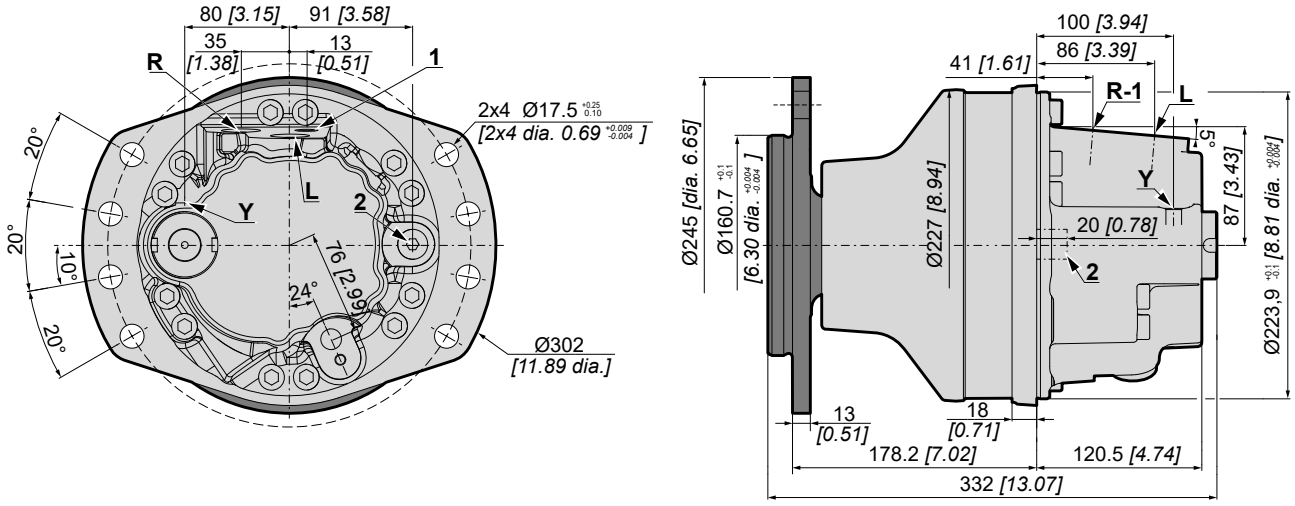
Dimensions for HighFlow (1210) 1-displacement motor



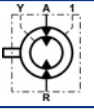
KG	41 kg *[90 lb]*
	0.50 L *[30 cu.in]*



Dimensions for HighFlow (1710) 2-displacement motor

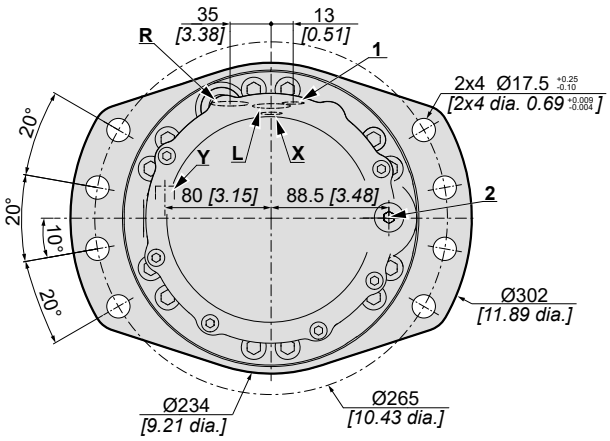


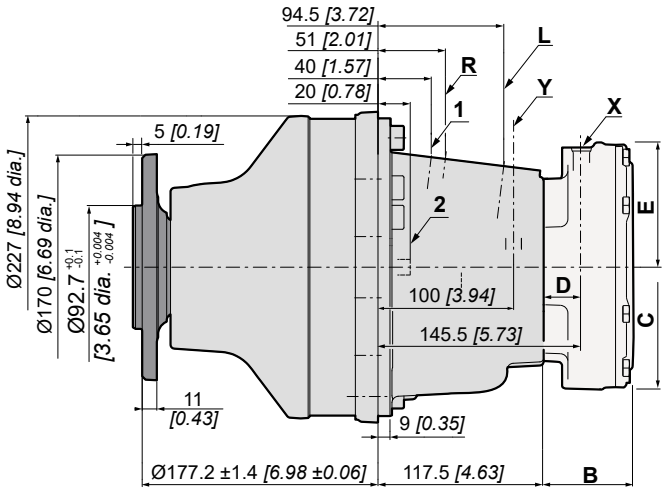
KG	41 kg *[90 lb]*
	0.50 L *[30 cu.in]*

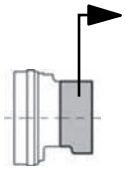


Wheel Motor High Flow

Dimensions for HighFlow (1210) 2-displacement motor



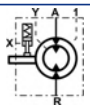




C	T 0 4
B	68.5 [2.70]
C	Ø200 [7.87 dia.]
D	28.0 [1.10]
E	87.5 [3.44]

60 kg [132 lb]

0.50 L [30 cu.in]

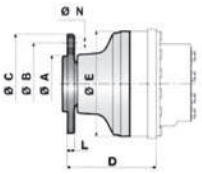
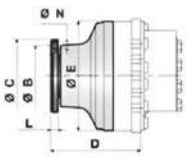
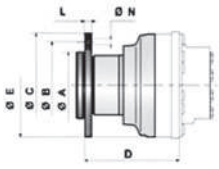


Also see “Brake” section.
(thumbnail opposite).

Wheel Motor High Flow

Bearing support for Classic and HighFlow motor

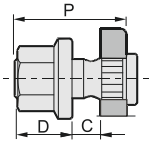
	C	D			F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
MS05																	
MSE05																	

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 2 1 0**	Ø 92.7 *[3.65 dia.]*	Ø 140 *[5.51 dia.]*	Ø 170 *[6.69 dia.]*	178.6 *[7.03]*	Ø 228 *[8.98 dia.]*	Ø 18 *[0.71 dia.]*	10 x M14x1.5	11 *[0.43]*	
P 1 2 3 4 **1 7 1 0**	Ø 160.7 *[6.33 dia.]*	Ø 205 *[8.07 dia.]*	Ø 245 *[9.65 dia.]*	178.5 *[7.03]*	Ø 228 *[8.98 dia.]*	Ø 20 *[0.79 dia.]*	6 x M18x1.5	14 *[0.55]*	
P 1 2 3 4 **1 3 1 0**	Ø 95.7 *[3.77 dia.]*	Ø 140 *[5.51 dia.]*	Ø 180 *[7.09 dia.]*	145.4 *[5.72]*	Ø 228 *[8.98 dia.]*	Ø 18 *[0.71 dia.]*	5 x M14x1.5	10.5 *[0.41]*	
P 1 2 3 4 **1 6 1 0** ⛔	Ø 92.7 *[3.65 dia.]*	Ø 140 *[5.51 dia.]*	Ø 180 *[7.09 dia.]*	145.4 *[5.72]*	Ø 228 *[8.98 dia.]*	Ø 18 *[0.71 dia.]*	5 x M14x1.5	10.5 *[0.41]*	
P 1 2 3 4 **1 5 4 0** ⛔	-	Ø 100 *[3.94 dia.]*	Ø 120 h7 *[4.72 dia.]*	145.4 [5.72]	Ø 228 *[8.98 dia.]*	10 x M12x1.75	-	11.3 *[0.44]*	
P 1 2 3 4 **1 9 4 0**	-	Ø 100 *[3.94 dia.]*	Ø 120 h7 *[4.72 dia.]*	178.7 *[7.04]*	Ø 228 *[8.98 dia.]*	10 x M12x1.75	-	11.25 *[0.44]*	
P 1 2 3 4 **1 G 1 0**	Ø 92.7 *[3.65 dia.]*	Ø 140 *[5.51 dia.]*	Ø 170 *[6.69 dia.]*	201.2 *[7.92]*	Ø 228 *[8.98 dia.]*	Ø 18 *[0.71 dia.]*	10 x M14x1.5	-	
P 1 2 3 4 **1 F 1 0**	Ø 160.7 *[6.33 dia.]*	Ø 205 *[8.07 dia.]*	Ø 245 *[9.65 dia.]*	201.2 *[7.92]*	Ø 228 *[8.98 dia.]*	Ø 20 *[0.79 dia.]*	6 x M18x1.5	-	

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

ℹ For stronger bearings, consult with YEOSHE.

Studs



		P mm *[in]*	C min. mm *[in]*	C max. mm *[in]*	D mm *[in]*	Class
Various studs	M14x1.5	45 *[1.77]*	5 *[0.20]*	18 *[0.71]*	16.5 *[0.65]*	12.9
	M14x1.5	50 *[1.97]*		23 *[0.91]*		
	M14x1.5	62 *[2.44]*		33 *[1.30]*		
	M18x1.5	65 *[2.56]*		28 *[1.10]*	23.0 *[0.91]*	
Screws	M12x1.75	-	-			10.9
	1/2"-20 UNF	-	-			8.8

⚠ See generic installation motors N°B59689D.

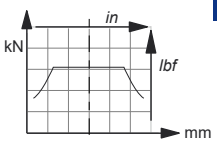
Wheel Motor High Flow

Load curves for Classic and HighFlow motor

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

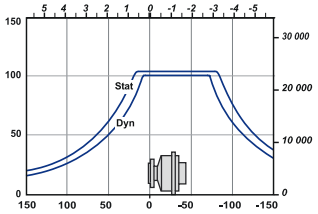


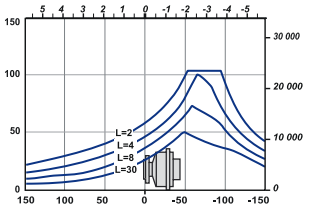
Service life of bearings

Test conditions :

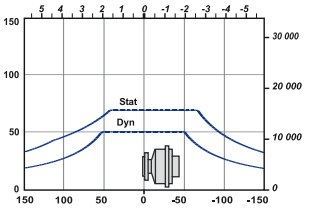
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

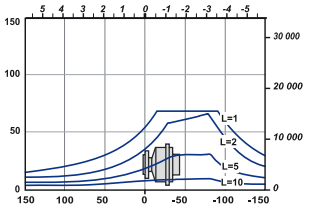
P			
1	2	3	4
1	**2**	**1**	**0**



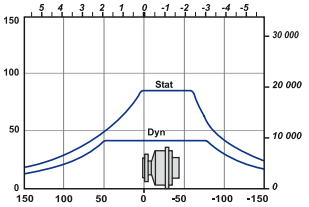


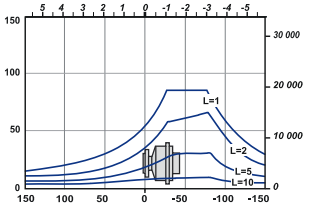
P			
1	2	3	4
1	**3**	**1**	**0**
1	**6**	**1**	**0**



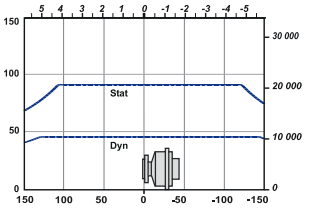


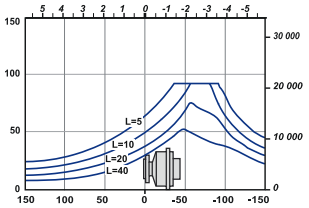
P			
1	2	3	4
1	**5**	**4**	**0**



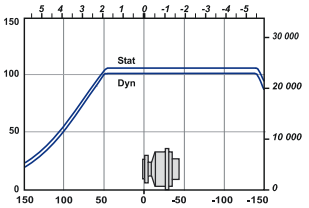


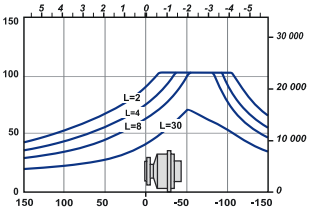
P			
1	2	3	4
1	**9**	**4**	**0**



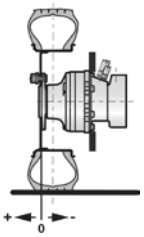


P			
1	2	3	4
1	**F**	**1**	**0**
1	**G**	**1**	**0**



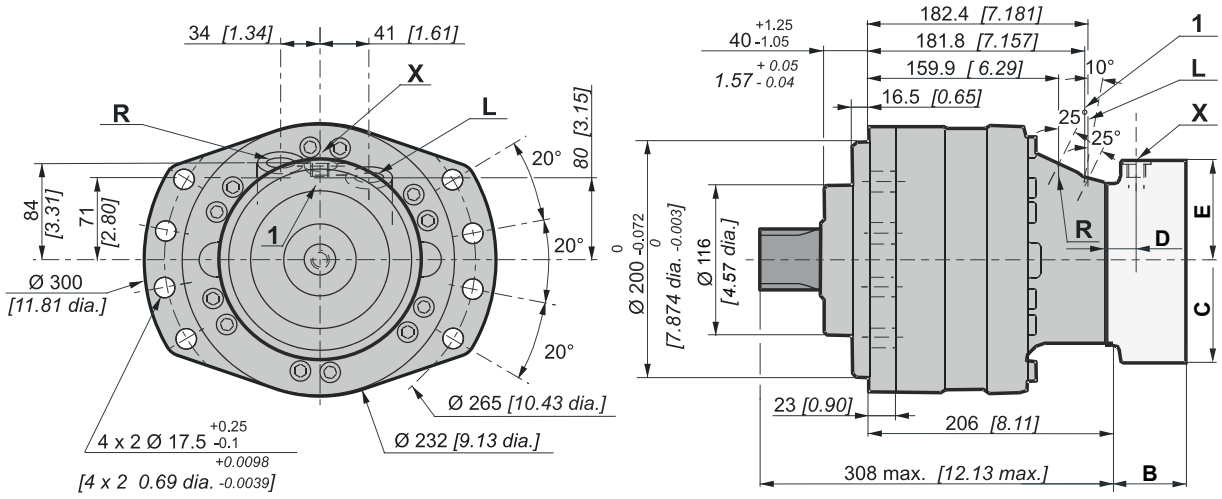


The service life of the components is influenced by the pressure.You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components complies with the application's specifications.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



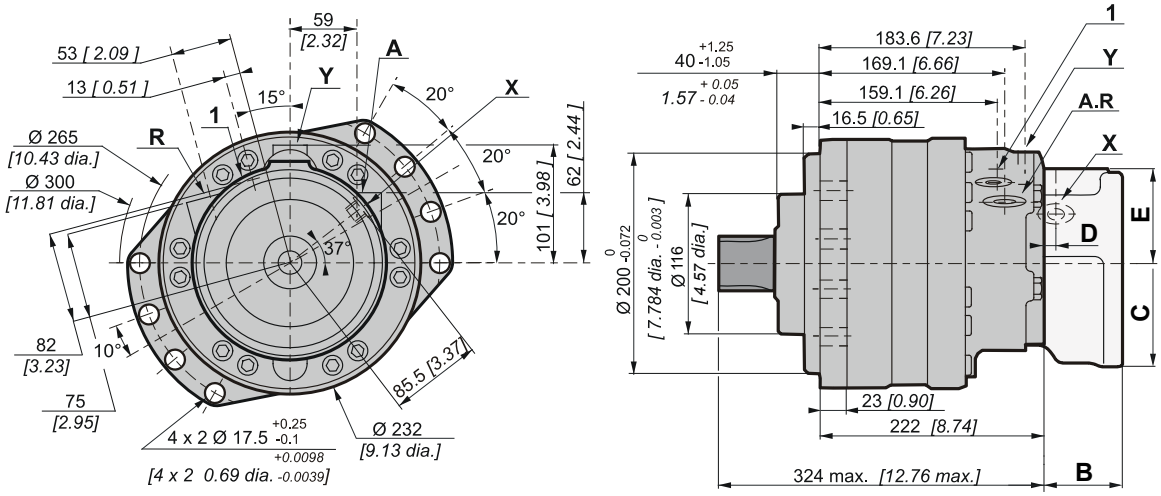
Shaft Motor Classic

Dimensions for Classic (2A50) 1-displacement motor

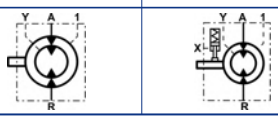


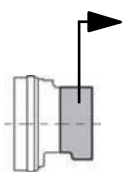
KG	41 kg *[90 lb]*	47 kg *[103 lb]*
	0.50 L *[30 cu.in]*	1.00 L *[60 cu.in]*

Dimensions for Classic (2A50) 2-displacement motor



KG	45 kg *[99 lb]*	55 kg *[121 lb]*
	1.00 L *[60 cu.in]*	1.00 L *[60 cu.in]*





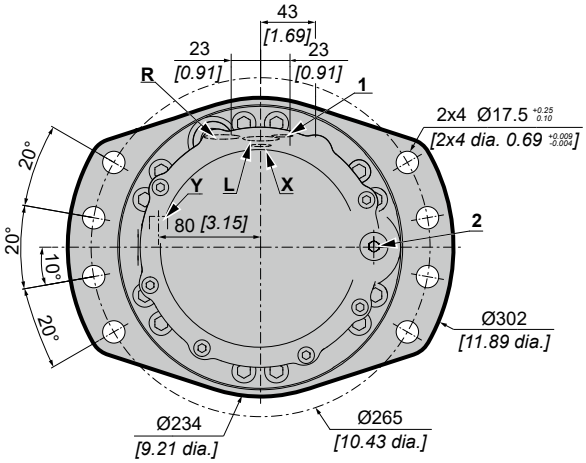
C	T 0 4
B	68.5 *[2.70]*
C	Ø200 *[7.87 dia.]*
D	28.0 *[1.10]*
E	87.5 *[3.44]*

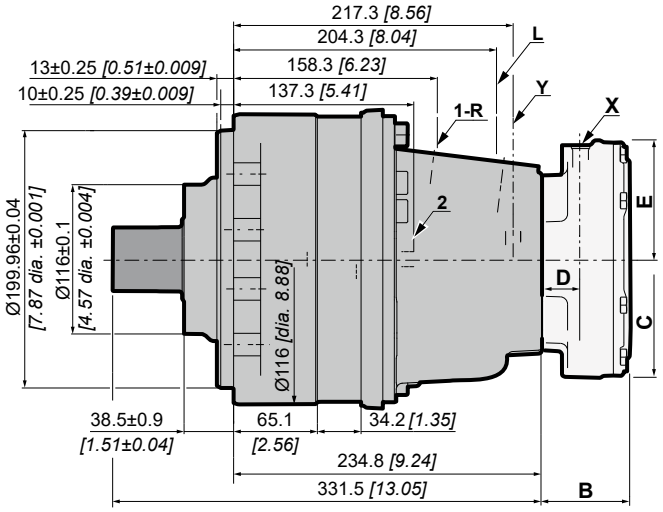
Also see “Brake” section
(thumbnail opposite).

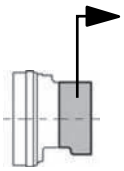
Also see 'Valving systems and hydrobases' section
(thumbnail opposite).

Shaft Motor - Highflow Motor

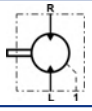
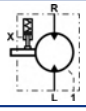
Dimensions for HighFlow (2A50) 1-displacement motor







C	T 0 4
B	68.5 [2.70]
C	Ø200 [7.87 dia.]
D	28.0 [1.10]
E	87.5 [3.44]

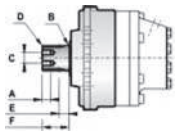
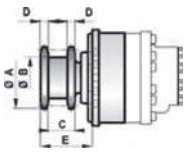
KG	55 kg [121 lb]	64 kg [141 lb]
	1.00 L [60 cu.in]	1.00 L [60 cu.in]
		

Also see “Brake” section (thumbnail opposite).

Shaft Motor

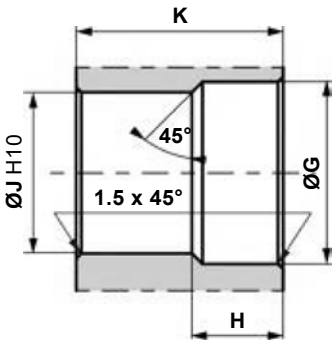
Bearing support for Classic and HighFlow motor

	C	D		F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
MS05																	
MSE05																	

C		A	B	C	D	E	F	G	
P 1 2 3 4 = 2 A 1 0	**NF E22-141** splines Nominal Ø 50 *[1.97]* Module 1,667 Number of teeth 28	15 *[0.59]*	R 2.3 *[R 0.09]*	23.8 *[0.94]*	2 x M10	20 *[0.79]*	54 *[2.13]*	-	
P 1 2 3 4 = 2 A 5 0	**DIN 5480** splines Nominal Ø 55 *[2.17]* Module 3 Number of teeth 17	15 *[0.59]*	R 2.3 *[R 0.09]*	23.8 *[0.94]*	2 x M10	23 *[0.91]*	60 *[2.36]*	-	
P 1 2 3 4 = 2 A C 0	**ANSI B29-1** or **ISO 606** pinion Chain no. 100 Number of teeth 12 Pitch 31.8 Pitch Ø 123 *[4.84]*	137.5 *[5.41]*	75 *[1.97]*	45 *[1.77]*	17.0 *[0.67]*	117 *[4.61]*	-	-	

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

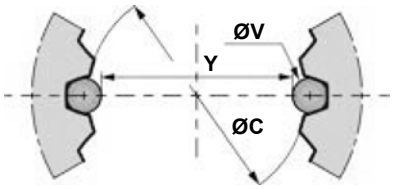
Splined coupling



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.

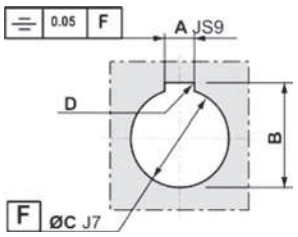


C	Ø G	H	Ø J	K	N	Mo	Z	Offset	Ø C (H10)	Ø V	Y	Tolerance µm *[µin]*
P 1 2 3 4 = 2 A 1 0	51 *[2.01]*	23 *[0.91]*	46.7 *[1.84]*	53 *[2.09]*	50 *[1.97]*	1.667	28	+1.333 *[+0.052]*	46.7 *[1.84]*	3.333 *[0.1312]*	43.446 *[1.71]*	+ 86 / 0 *[+3.386 / 0]*
P 1 2 3 4 = 2 A 5 0	56.5 *[2.22]*	24 *[0.94]*	49 *[1.93]*	59 *[2.32]*	55 *[2.17]*	3	17	+0.35 *[+0.0138]*	49 *[1.93]*	5.25 *[0.21]*	43.807 *[1.7247]*	+ 78 / 0 *[+3.071 / 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

Cylindrical keyed coupling



C	A	B	Ø C	D
P: 2 A 4 0	14 ± 0.021 *[0.55] [± 0.0008]*	53 $^{+0.2}_{0}$ *[2.07]* $^{+0.007}_{0}$	50 *[1.97]*	0.5 *[0.02]*

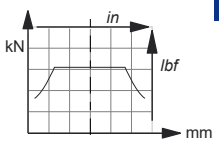
Torque limitation : 800 N.m *[590 lb.ft]*

Load curves for Classic and HighFlow motor

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]*.

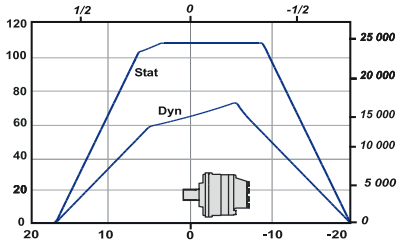


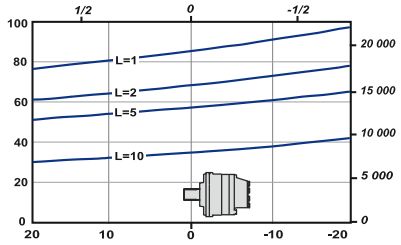
Service life of bearings

Test conditions :

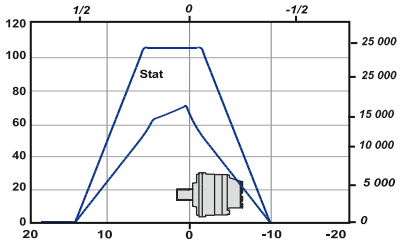
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

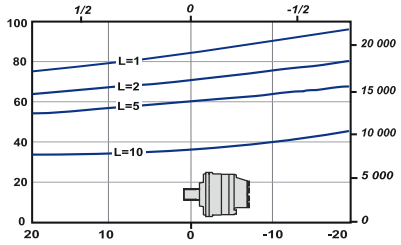
P: 2 A 5 0



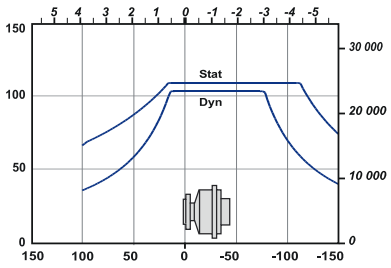


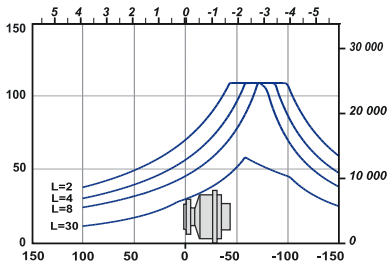
P: 2 A 1 0 / 2 A 4 0



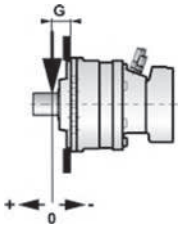


P: 2 A C 0





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.



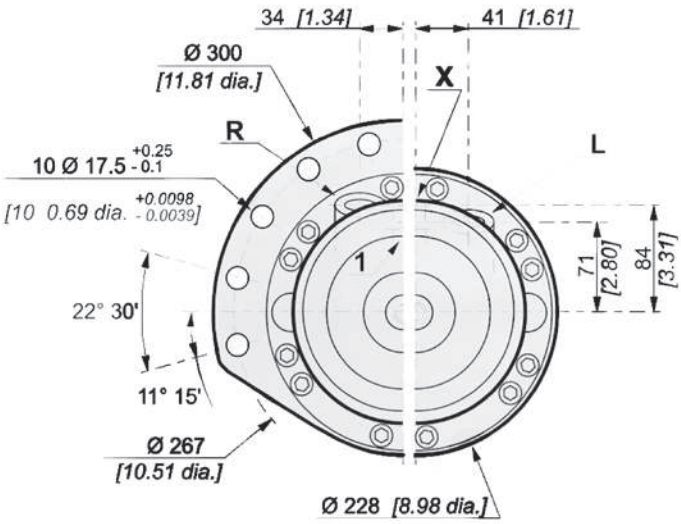
C	G
2 A 1 0	77.25 *[3.04]*
2 A 5 0	81.75 *[3.22]*
2 A C 0	61.45 *[2.42]*

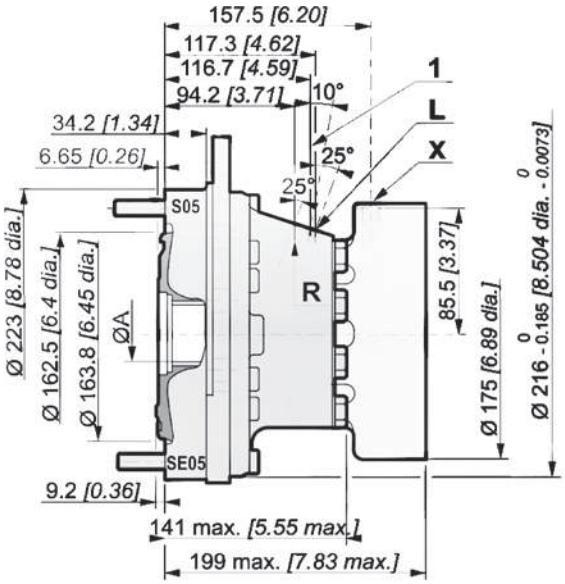
Valving Systems And Hydrobases

for Classic motor on demand for HighFlow motor

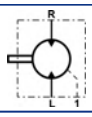
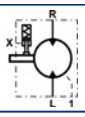
	C	D			F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
MS05																	
MSE05																	

Dimensions for 1-displacement valving





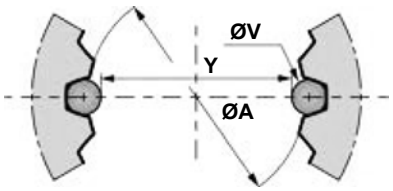
D		
1	2	3
1	1	

KG	27.6 kg *[61 lb]*	35.2 kg *[77 lb]*
	0.50 L *[30 cu.in]*	1.00 L *[60 cu.in]*
		

Cylinder block splines

(as per standard NF E22-141)

			Dimension on 2 pins	
ØA	Module	Z	Y	ØV
50 *[1.968]*	1.667	28	43.446 *[1.710]*	3.33 *[0.131]*

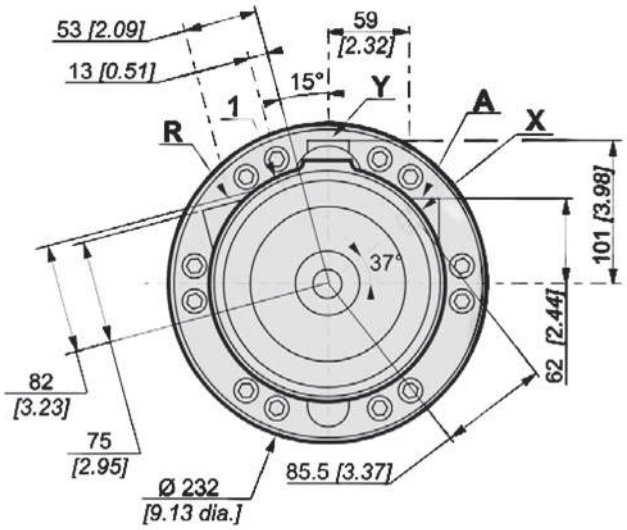


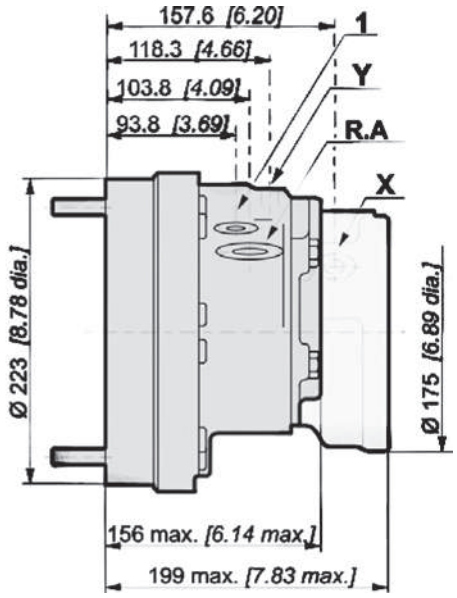
You are advised to have the installation validated by YEOSHE application engineer before using the hydraulic unit in an application.

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

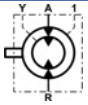
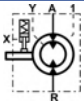
Valving Systems And Hydrobases

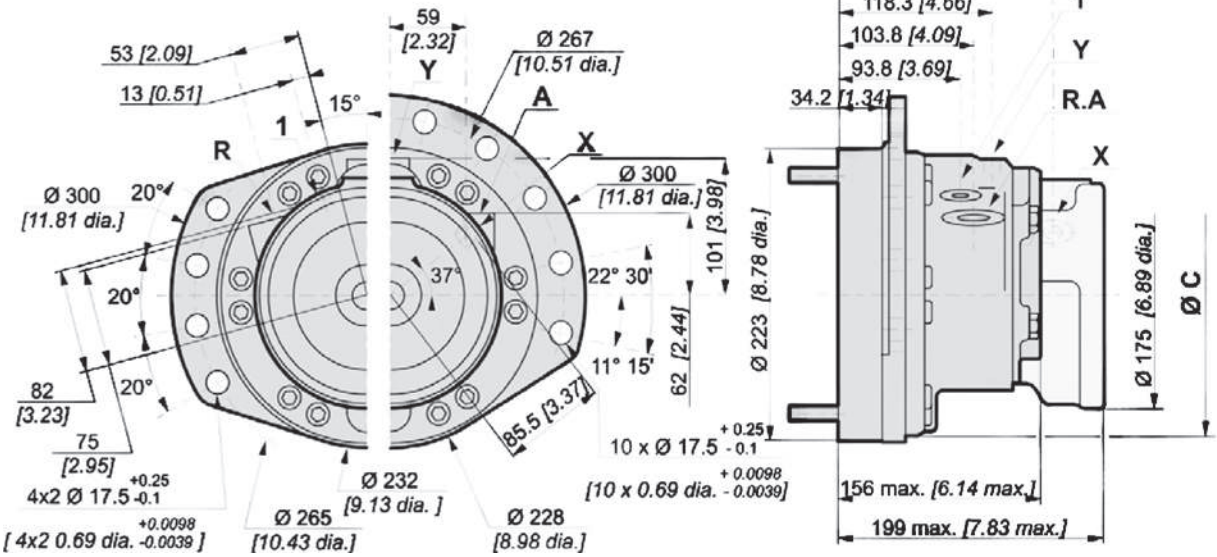
Dimensions for 2-displacement valving





D		
1	2	3
	1	

KG	27.6 kg *[61 lb]*	35.2 kg *[77 lb]*
	0.50 L *[30 cu.in]*	1.00 L *[60 cu.in]*
		



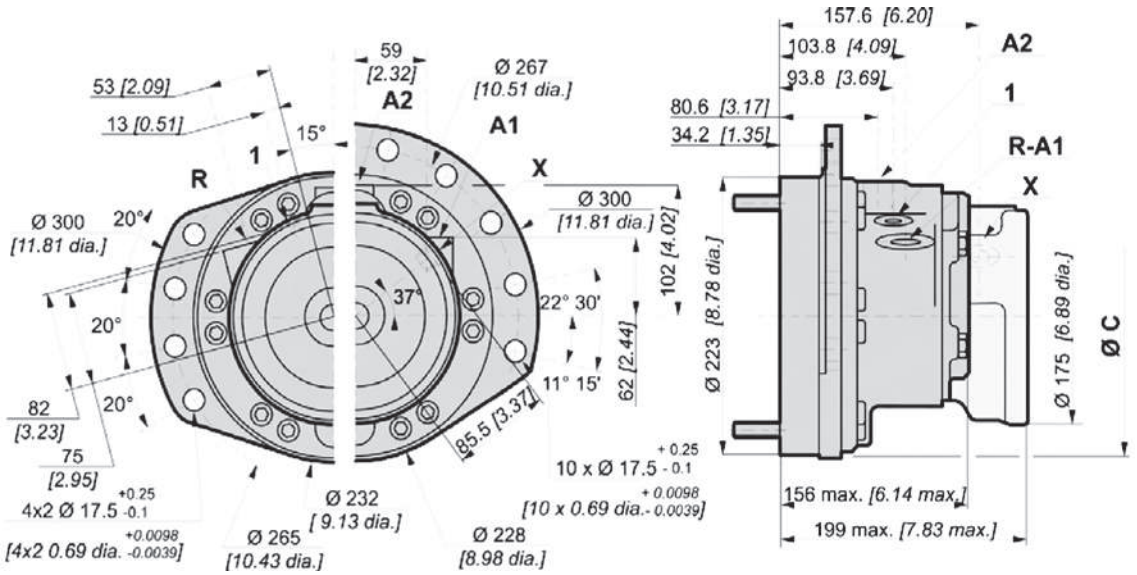
D		
1	2	3
	2	

D		
1	2	3
	8	

	mm	[in]	mm	[in]
Ø C	Ø 224 [8.82dia.]	0 -0.2 / 0 -0.078	Ø 216 [8.50 dia.]	0 -0.185 / 0 -0.0073

Valving Systems And Hydrobases

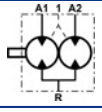
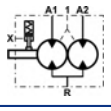
Dimensions for Twin-Lock valving



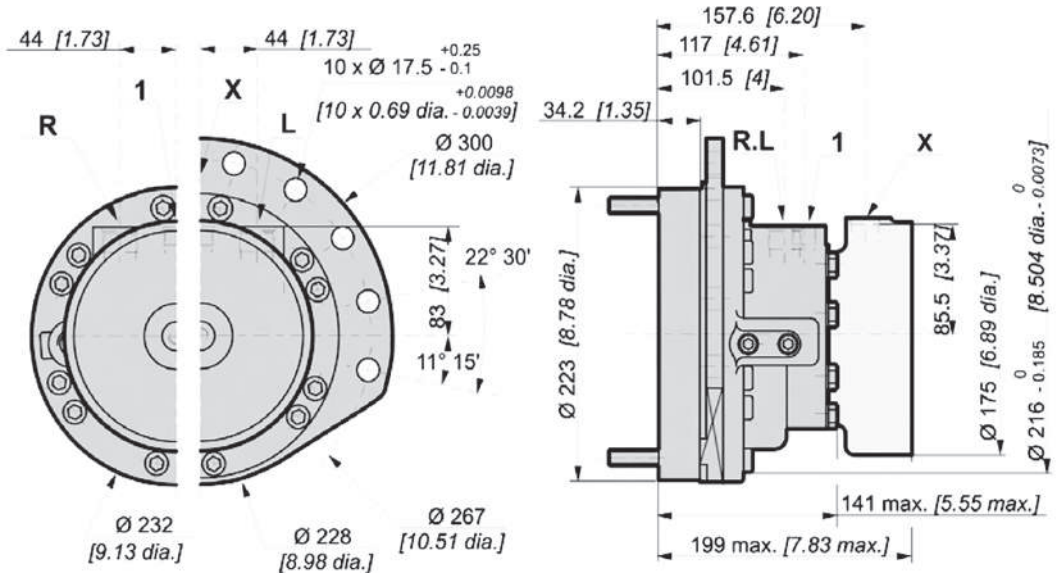
D		
1	2	3
	E	

D		
1	2	3
	G	

	mm	[in]	mm	[in]
ø C	Ø 224 [8.82dia.]	0 -0.2 / 0 -0.078	Ø 216 [8.50 dia.]	0 -0.185 / 0 -0.0073

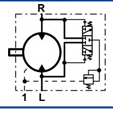
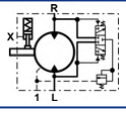
KG	27.6 kg [61 lb]	35.2 kg [77 lb]
	0.50 L [30 cu.in]	1.00 L [60 cu.in]
		

Dimensions for 1-displacement valving with built-in exchange



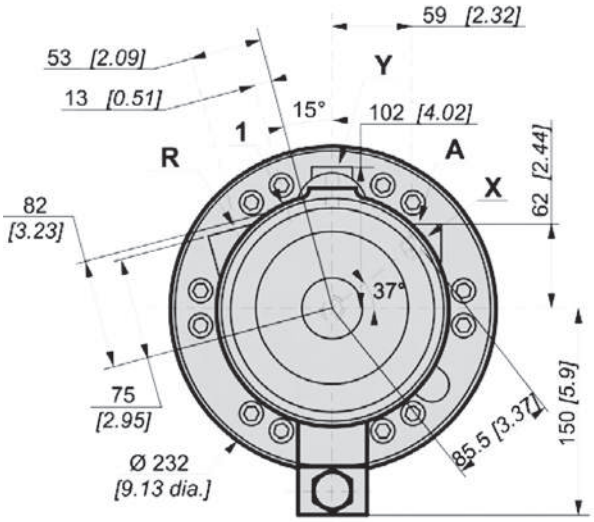
D		
1	2	3
	4	

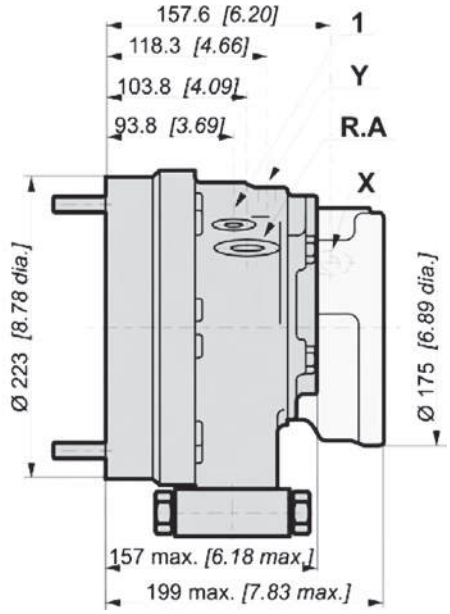
D		
1	2	3
	9	

KG	23.7 kg [52 lb]	31.7 kg [70 lb]
	0.50 L [30 cu.in]	1.00 L [60 cu.in]
		

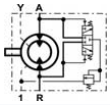
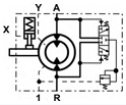
Valving Systems And Hydrobases

Dimensions for 2-displacement valving with add-on exchange





D		
1	2	3
	4	

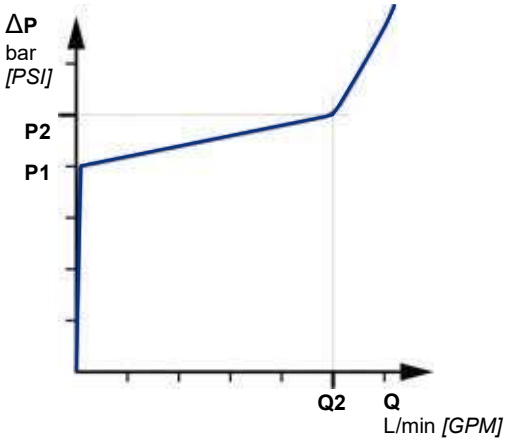
KG	27.6 kg *[61 lb]*	35.2 kg *[77 lb]*
	0.50 L *[30 cu.in]*	1.00 L *[60 cu.in]*
		

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]*

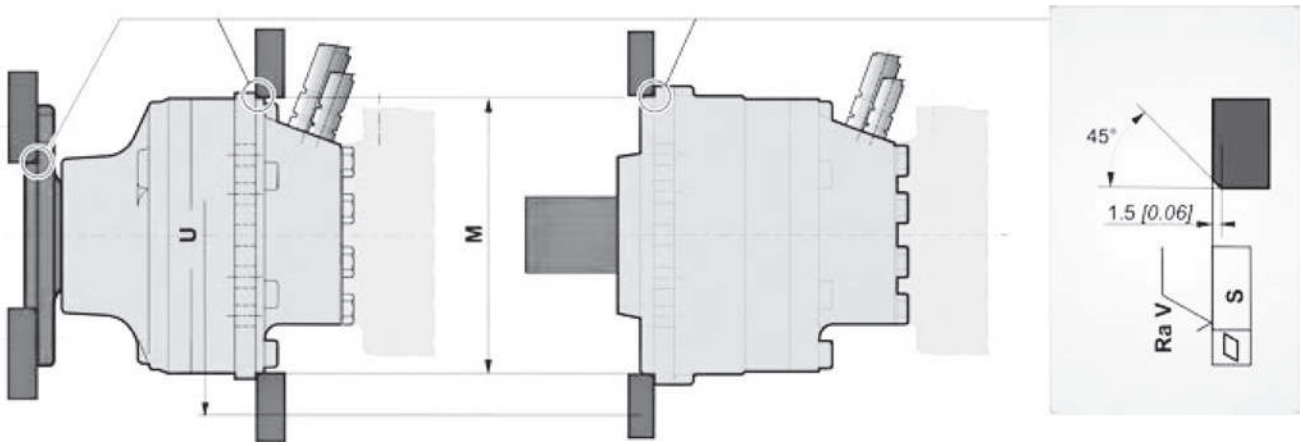


Fitted valve

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.

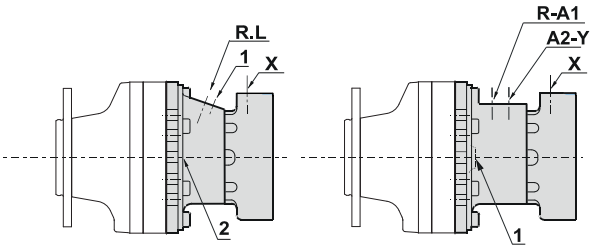
MS05 / MSE05	ØM (1)	ØU	S	Ra V		Class
P	200 *[7.87]*	265 *[10.43]*	0.2 *[0.008]*	12.5µm *[0.49µin]*	2 x 4 M16 x 2	8.8
R	216 *[8.50]*	267 *[10.51]*			10 M16 x 2	
R	224 *[8.82]*	265 *[10.43]*			2 x 4 M16 x 2	
P	200 *[7.87]*	265 *[10.43]*			2 x 4 M16 x 2	
R	216 *[8.50]*	267 *[10.51]*			10 M16 x 2	
R	224 *[8.82]*	265 *[10.43]*			2 x 4 M16 x 2	

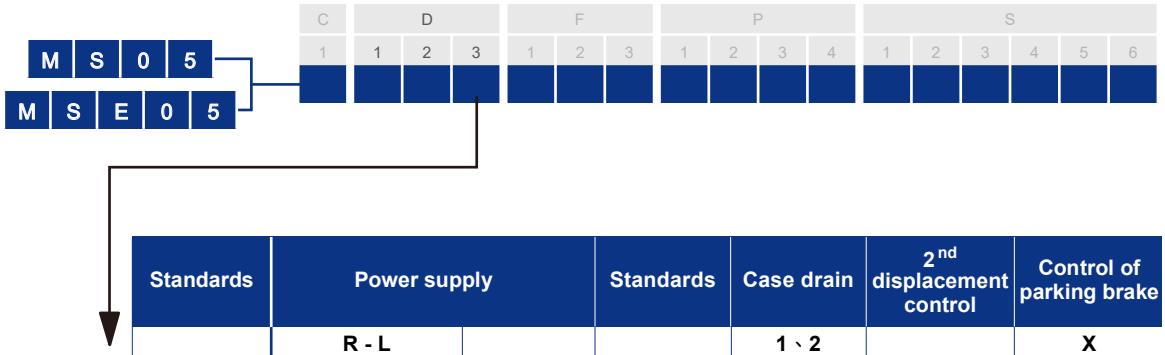
(1) +0.3 *[+0.012]*
+0.2 *[+0.008]*

See generic installation motors N°B59689D.

Valving Systems And Hydrobases

Hydraulic connections





		Standards	Power supply		Standards	Case drain	2nd displacement control	Control of parking brake
			R - L			**1 、2**		**X**
	A	**ISO 11 926-1**	1" 1/16-12 UNF		**ISO 11926**	3/4"-16 UNF		9/16"-18 UNF
	3	**ISO 1179**	BSP 3/4		**ISO 1179**	BSP 3/8		M16 x 1.5
	8	**ISO 9974-1**	M18 x 1.5		**ISO 9974-1**	M16 x 1.5		BSP 3/8
	1*	**ISO 6162**	SAE 6000PSI 1/2"		**ISO 9974-1**	M16 x 1.5		M16 x 1.5
	E*	**ISO 6162**	SAE 6000PSI 1/2"		**ISO 9974-1**	M16 x 1.5		M16 x 1.5
			R - A			**1 、2**	**Y**	**X**
	A	**ISO 11 926**	1" 1/16-12 UNF		**ISO 11 926**	3/4"-16 UNF	3/4"-16 UNF	9/16"-18 UNF
	3	**ISO 1 179**	BSP 3/4		**ISO 1179**	BSP 3/8	BSP 1/4	M16 x 1.5
	4	**ISO 9 974-1**	M27 x 2		**ISO 9974-1**	M16 x 1.5	M14 x 1.5	M16 x 1.5
	1*	**ISO 6162**	SAE 6000PSI 1/2"		**ISO 9974-1**	M16 x 1.5	M14 x 1.5	M16 x 1.5
			R - A1	**A2**		**1 、2**		**X**
	A	**ISO 11926**	1" 1/16-12 UNF	3/4"-16 UNF	**ISO 11926**	3/4"-16 UNF		9/16"-18 UNF
	3	**ISO 1179**	BSP 3/4	BSP 1/2	**ISO 1179**	BSP 3/8		BSP 1/4
	4	**ISO 9974-1**	M27 x 2	M22 x 1.5	**ISO 9974-1**	M16 x 1.5		M16 x 1.5
Max. pressures		**MS** bar *[PSI]* **MSE**	450 *[6,527]* 400 *[5,802]*	450 *[6,527]* 400 *[5,802]*		1 *[15]*	30 *[435]*	30 *[435]*

*only for 1C&2C HighFlow valving

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

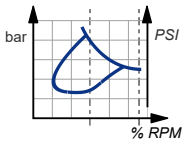
To find the connections’ tightening torques, see the brochure “Installation guide” N° B59689D.

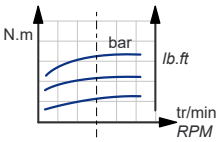
Do not put either a check valve or a poppet valve on the pilot lines (parking brake and displacement change) between the charge pump and the pilot valve. Do not use a piloting valve with integrated check valve.

Valving Systems And Hydrobases

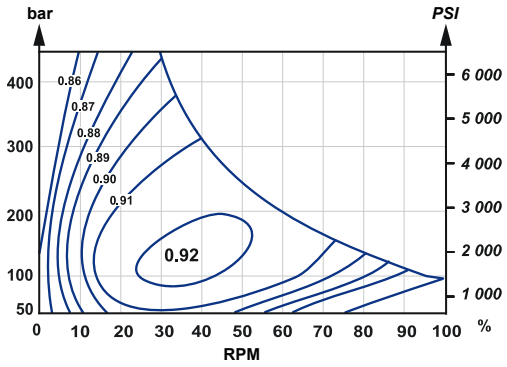
Efficiency for Classic and HighFlow motor

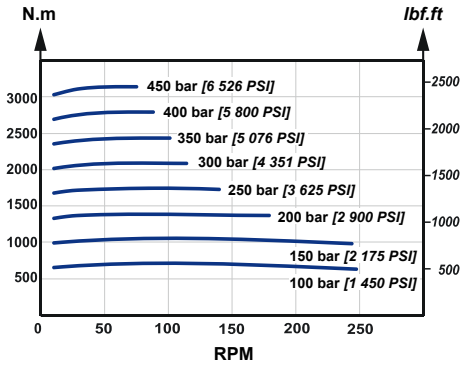
Overall efficiency	Actual output torque
Average values given for guidance for code 0 displacement after 100 hours of operation with HV46 hydraulic fluid at 50°C *[122°F]*.	



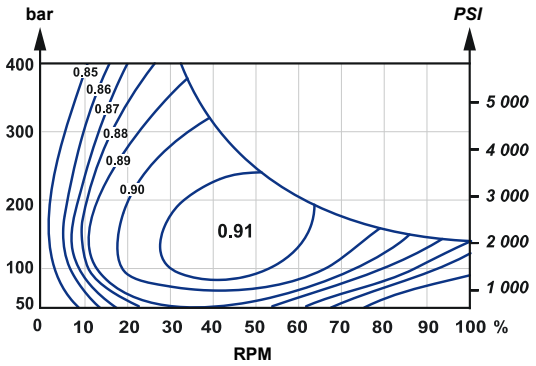


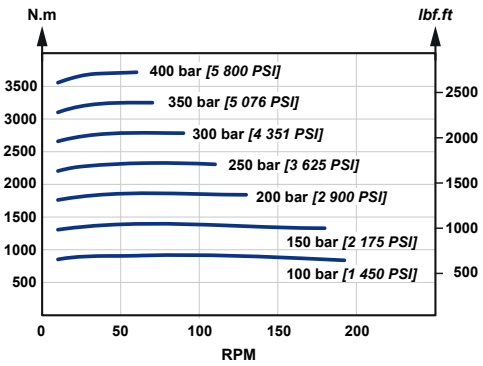
MS05





MSE05



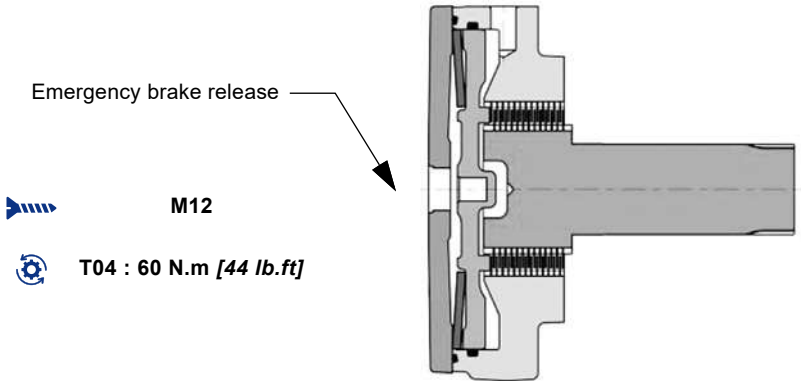


For a precise calculation, consult YEOSHE.

Brakes

	C	D			F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
MS05					T	0	4										
MSE05					T	0	4										

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 0 4
Parking brake torque at 0 bars on housing (new brake)	4,220 Nm *[3,110 lb.ft]*
Dynamic emergency braking torque at 0 bars on housing (max.10 uses of emergency brakes)	2,740 Nm *[2,020 lb.ft]*
Residual parking braking at 0 bars on housing *	3,165 Nm *[2,330 lb.ft]*
Min. brake release pressure	12 bar *[174 PSI]*
Max. brake release pressure	30 bar *[435 PSI]*
Oil capacity	70 cm³ *[4.3 cu.in]*
Volume for brake release	32 cm³ *[2.0 cu.in]*
Max. energy dissipation	85 902 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.

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

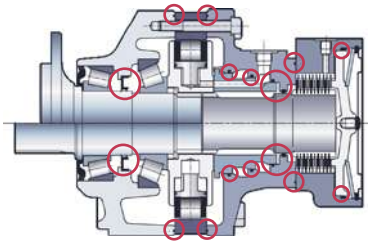
Options

	C	D			F			P				S					
	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
MS05																	
MSE05																	

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

1 Fluorinated elastomer seals

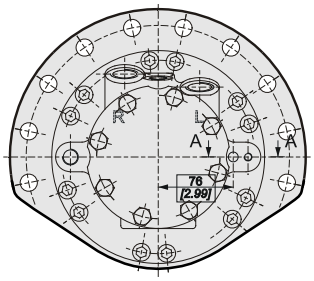
Nitrile seals marked in the figure below replaced by fluorinated elastomer seals.

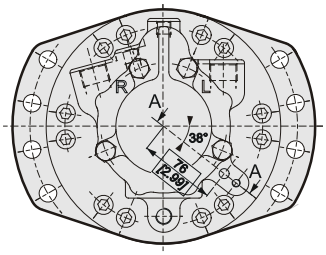


Consult YEOSHE sales engineer.

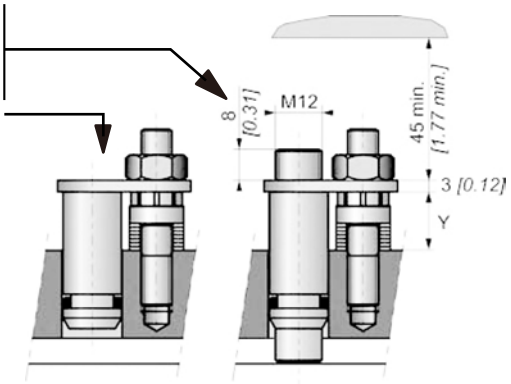
2 S Q 8 Installed speed sensor or predisposition

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 = 20.7

Standard number of pulses per revolution = 56

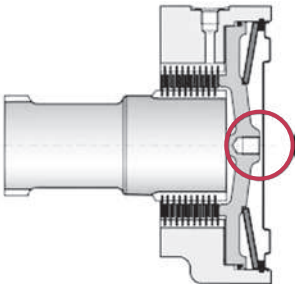
Look at the "Mobile Electronic" N° A01889D technical catalogue for the sensor specifications and its connection.

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

Options

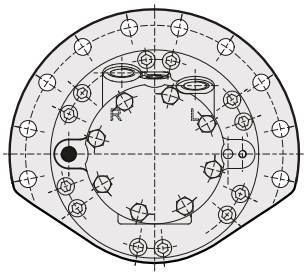
3 Brake environmental cover without plug

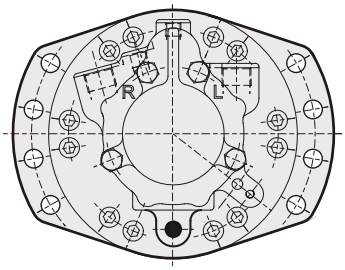
No plug or hole in the cover.



5 Drainage

Additional drain in the cover.





6 Industrial support

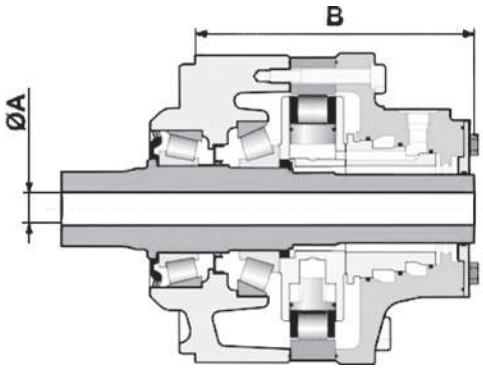
Reduction of around 50% from the rated value in the bearings' preload value.

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

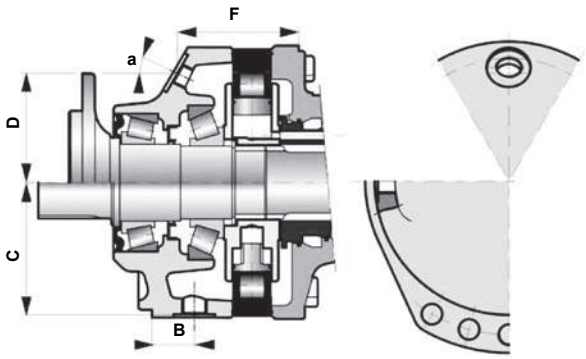


A mm *[in]*	B mm *[in]*
Ø 25 *[0.98 dia.]*	214.2 *[8.43]*

Radial load x 0.75
No torque allowed towards the rear

Options

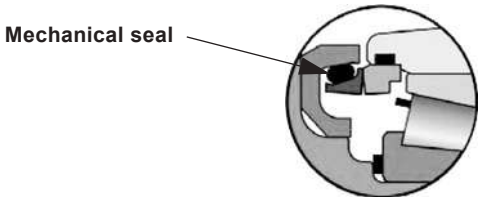
B Drain on the bearing support



	BSPP	B mm *[in]*	C mm *[in]*	D mm *[in]*	a	F mm *[in]*	a
Shaft motor	Ø 17	25 *[1.0]*	111 *[4.37]*		25°		
Wheel motor	Ø 17			87.5 *[3.44]*		84.0 *[3.31]*	36°

C Abrasive environments (mechanical seal)

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

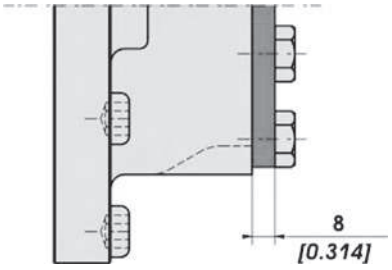


Consult YEOSHE sales engineer.

E Reinforced sealing

Reinforced seals and, for an unbraked motor, a rear reinforced plate (R02 - 8 mm thick, instead of 2 mm).

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



G Special wheel rim mounting

Enables certain combinations different from the standard mountings defined on page 11 are possible.

Consult YEOSHE sales engineer.

Options

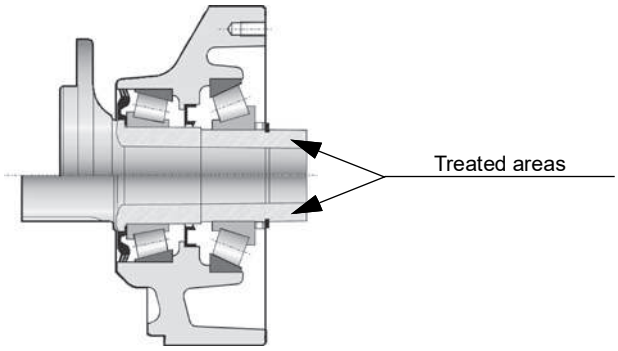
H High efficiency

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.

**Option “M” becomes mandatory when selecting
the HighFlow valving.**

YEOSHE BEST CHOICE Efficient Performance
Innovative Technology Reliable Quality and Service

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