



P-MS08.MSE08

Hydraulic Motors



www.yeoshehydraulic.com

Efficient Performance
Innovative Technology
Reliable Quality and Service

YEOSHE HYDRAULICS CO.,LTD.

Introduction

M

1

P-MS08.MSE08 series



- **P-MS08.MSE08 Classic**

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

- **MP-MS08.MSE08 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 :

1. **Integrated exchange valve**
2. **New ports geometry**
3. **New valving**



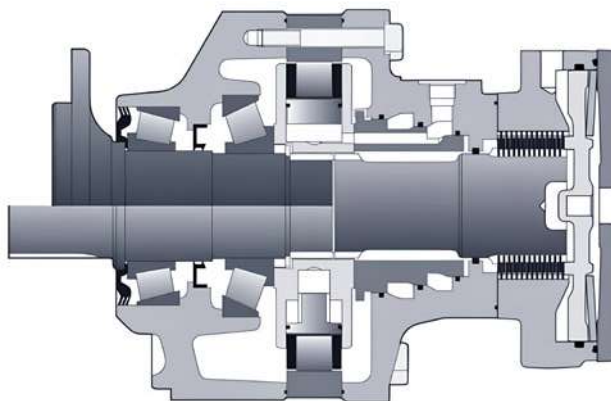


characteristics

M

2

P-MS08.MSE08 series



High Flow

Max.power

1C motor	2C motor, 1 st displacement	2C motor, 2 nd displacement
41 kW	41 kW	27 kW

C		Cams with equal lobes									Cams with unequal lobes					
		MS08						MSE08			MS08			MSE08		
		6	8	9	0	1	2	0	1	2	Q	D	A	Q	D	A
1	cm ³ /tr [cu.in/rev.]	467 [28.5]	627 [38.2]	702 [42.8]	780 [47.6]	857 [52.3]	934 [57.0]	1 043 [63.6]	1 146 [69.9]	1 248 [76.1]	624 [38.1]	700 [42.7]	780 [47.6]	834 [50.9]	936 [57.1]	1 043 [63.6]
	2	234 [14.3]	314 [19.2]	351 [21.4]	390 [23.8]	429 [26.2]	467 [28.5]	522 [31.8]	573 [34.9]	624 [38.1]	390 [23.8] 233 [14.2]	467 [28.5] 233 [14.2]	467 [28.5] 314 [19.2]	522 [31.8] 312 [19.0]	624 [38.1] 312 [19.0]	624 [38.1] 419 [25.6]
Motor High Flow 1C Max. speed*	1 tr/min [RPM]	450	340	310	280	250	230	210	185	170	294	236	235	217	171	170
	2	420	330	310	260	235	220	190	175	160	328	276	271	243	205	200
Motor HighFlow 2C Max. speed*	1 tr/min [RPM]	450	350	330	280	260	240	220	200	180	320	259	259	170	186	186
	2	450	350	330	280	260	240	220	200	180	320	259	259	170	186	186

1 First displacement

2 Second displacement

Motor inertia = 0.05 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 preferred	2C motor non-preferred
41 kW	27 kW	21 kW

C		Cams with equal lobes									Cams with unequal lobes					
		MS08						MSE08			MS08			MSE08		
		6	8	9	0	1	2	0	1	2	Q	D	A	Q	D	A
1	cm ³ /tr [cu.in/rev.]	467 [28.5]	627 [38.2]	702 [42.8]	780 [47.6]	857 [52.3]	934 [57.0]	1 043 [63.6]	1 146 [69.9]	1 248 [76.1]	624 [38.1]	700 [42.7]	780 [47.6]	834 [50.9]	936 [57.1]	1 043 [63.6]
	2	234 [14.3]	314 [19.2]	351 [21.4]	390 [23.8]	429 [26.2]	467 [28.5]	522 [31.8]	573 [34.9]	624 [38.1]	390 [23.8] 233 [14.2]	467 [28.5] 233 [14.2]	467 [28.5] 314 [19.2]	522 [31.8] 312 [19.0]	624 [38.1] 312 [19.0]	624 [38.1] 419 [25.6]
Classic motor 1C Max. speed	1 tr/min [RPM]	255	200	180	160	145	135	125	110	100						
	2	235	172	155	130	120	110	100	90	80	140	110	110	105	80	80
Classic motor 2C Max. speed	1 tr/min [RPM]	250	185	165	150	125	115	110	95	85	250	115	110	110	85	85
	2	250	185	165	150	125	115	110	95	85	250	115	110	110	85	85

1 First displacement

2 Second displacement

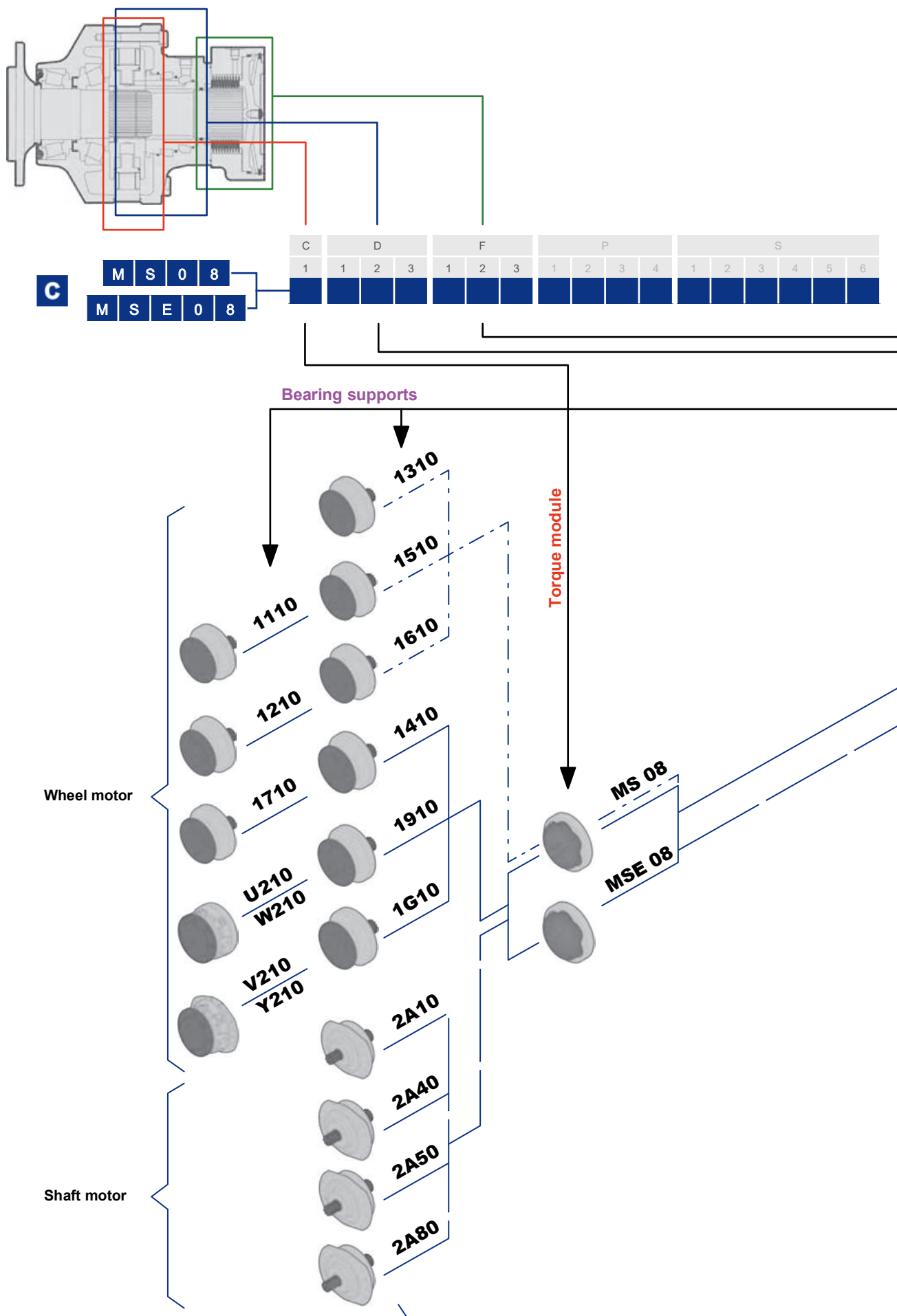
Motor inertia = 0.05 kg.m²

Modularity

M

3

P-MS08.MSE08 series



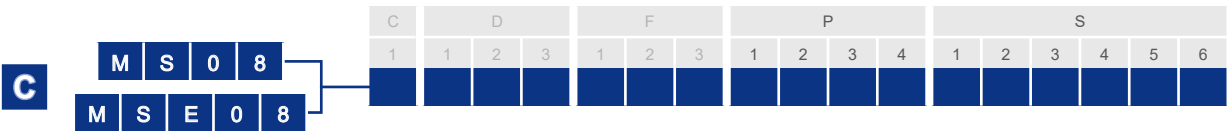
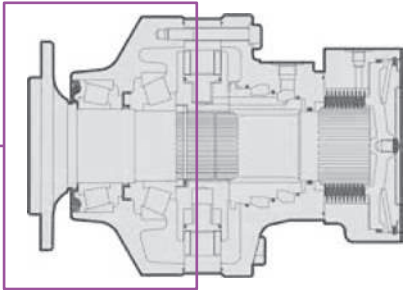
Modularity



M

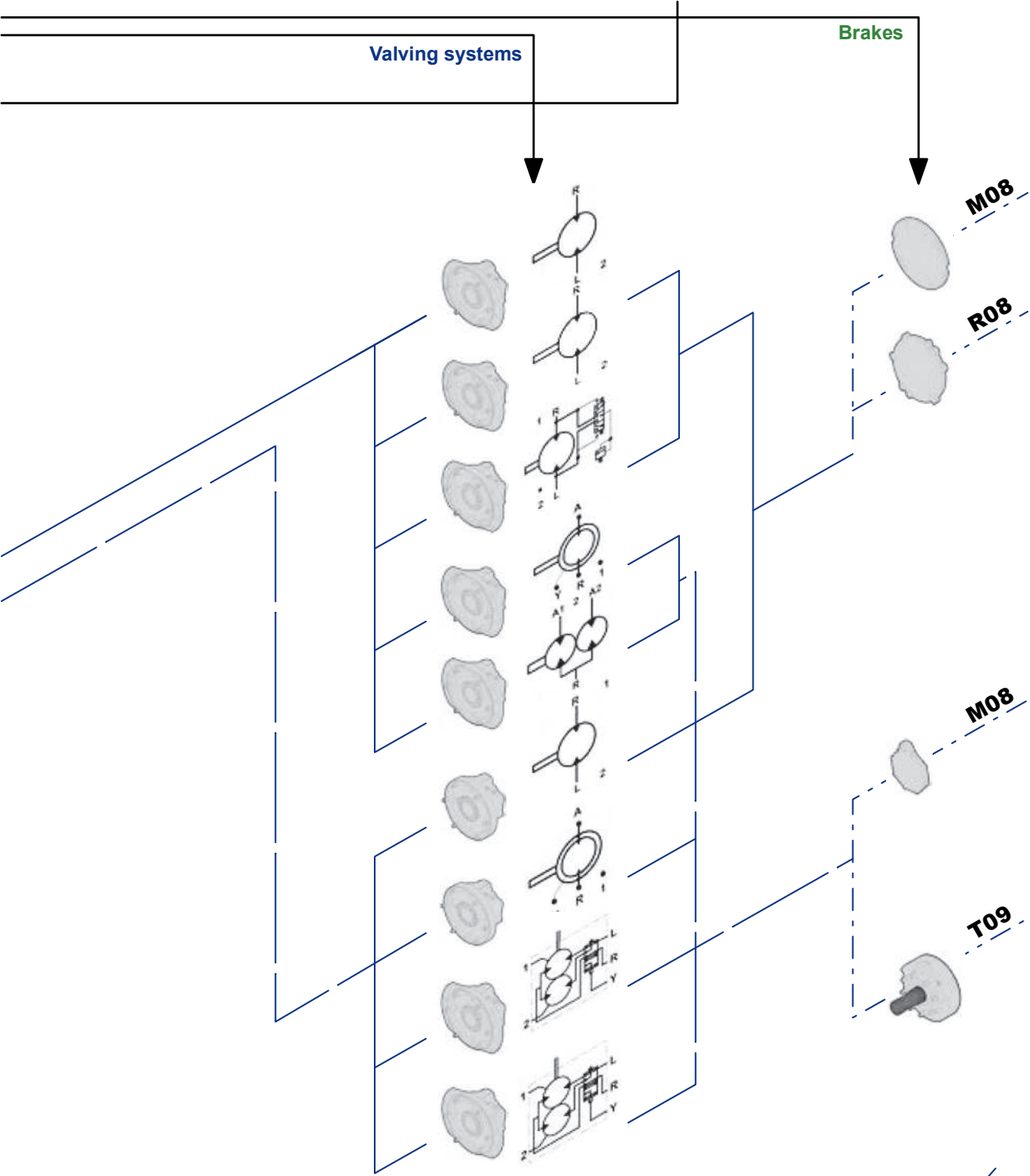
4

P-MS08.MSE08 series



Valving systems

Brakes



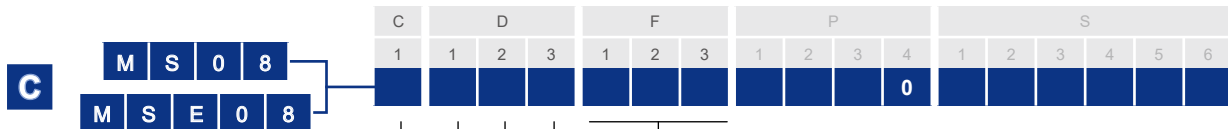
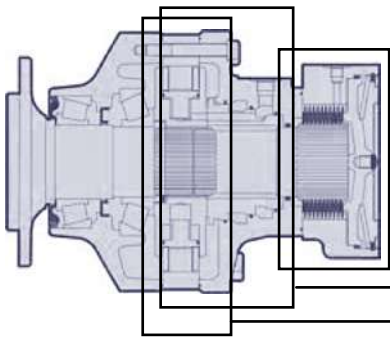
Hydrobases

Modelcode

M

5

P-MS08.MSE08 series



Came type

		1 displacement cm ³ /tr [cu.in/rev.]	2 displacements cm ³ /tr [cu.in/rev.]	
C1	Cams with equal lobes	MS08	467 [28.5]	234 [14.3] 6
			627 [38.2]	314 [19.2] 8
			702 [42.8]	351 [21.4] 9
			780 [47.6]	390 [23.8] 0
			857 [52.3]	429 [26.2] 1
			934 [57.0]	467 [28.5] 2
	Cams with unequal lobes	MSE08	1 043 [63.6]	522 [31.8] 0
			1 146 [69.9]	573 [34.9] 1
			1 248 [76.1]	624 [38.1] 2
			624 [38.1]	390 [23.8] Q
			233 [14.2]	467 [28.5] D
			700 [42.7]	233 [14.2] A
			780 [47.6]	467 [28.5] Q
			314 [19.2]	522 [31.8] D
			834 [50.9]	312 [19.0] A
			936 [57.1]	624 [38.1] D
			312 [19.0]	624 [38.1] A
			1 043 [63.6]	419 [25.6]

Valving type

D1	1-displacement valving		1
	2-displacement symmetrical 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	

Valving cover

D2	Classic motor	Without mounting	1	4	D
		Lug fixing	2	5	E
	High Flow motor	Without mounting	B	L	-
		Lug fixing	C	N	-

1 Displacement
2 Displacement
Exchange
Twin-Lock

Connection type

D3	ISO 6162	Flanges connections	DN13	1
	ISO 9974-1	Flanges connections	DN13	2
	ISO 1179-1	connections	G3/4	3
	ISO 9974-1	connections	M22 x 1.5	4
	ISO 9974-1	connections	M27 x 2	5
	ISO 6149-1	connections	M22 x 1.5	8
	ISO 11 926-1	connections	1" 1/16 - 12 UNF	A

Rear brake

F1	One-piece valving cover single displacement	C03
F2	Without brake (reinforced plate)	T03
F3	Brake Parking brakeScrewed enviromental cover	R02

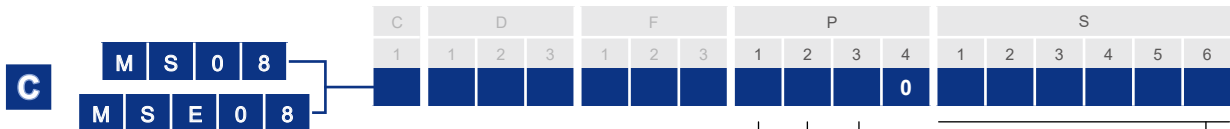
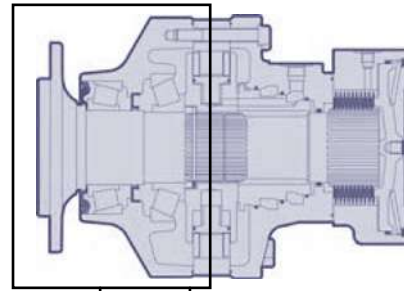


Modelcode

M

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P-MS08.MSE08 series



Front unit

P1	Without bearing support	0
		1
		2
	Lug mounting	U
		V
		W
P1	Brake	Y

Bearing support

P2	Without shaft	0
	6 x Ø20 on Ø205	1
	8 x Ø22 on Ø203.2	2
	6 x Ø20 on Ø205	3
	10 x Ø18 on Ø225	4
	6 x Ø18 on Ø152.4	5
	12 x M12 on Ø205	6
	8 x Ø22 on Ø275	7
	12 x Ø14 on Ø165	9
	Support without drum brake	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
	ANSI B92.1 - 1996 splines	8

Options

S1 S6	Without option	0
	Fluorinated elastomer seals compatible with C and D fluids	1
	T4 speed sensor (without rotation direction)	2
	Brake environmental cover without plug	3
	Drainage (additional drain in the cover)	5
	Industrial bearing support	6
	Diamond	7
	Predisposition for speed sensor	8
	Hollow shaft	A
	Drain on the bearing support	B
	Abrasive environment (mechanical seal)	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

Methodology

M

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P-MS08.MSE08 series

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.

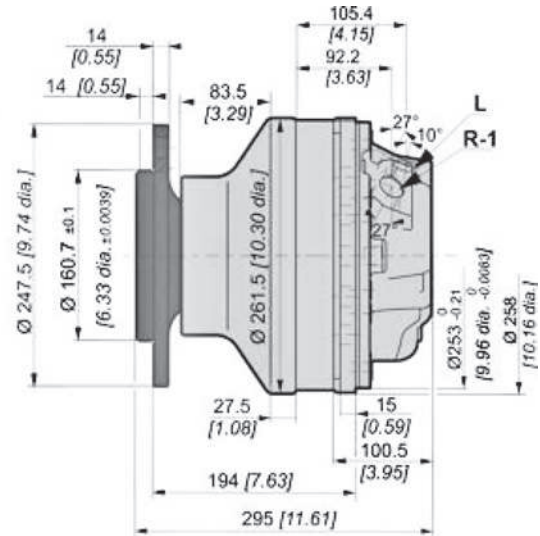
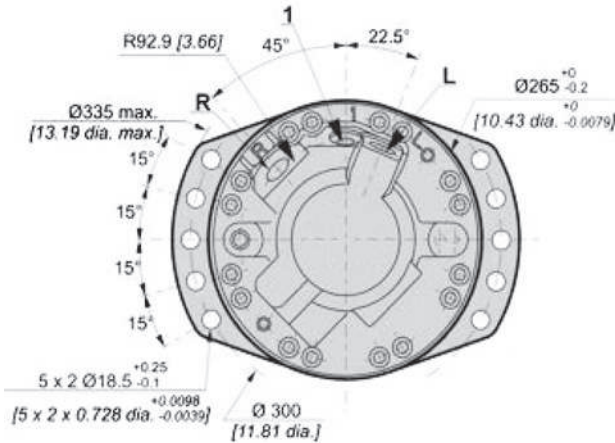
The dimensional data is given in mm and in inches (inches are given in brackets in italics).





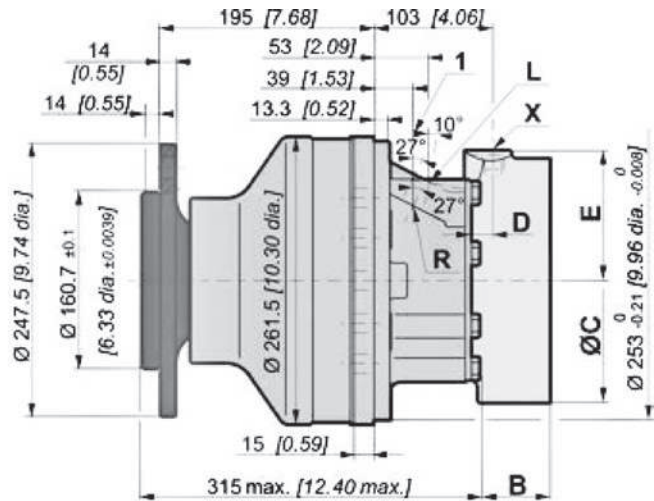
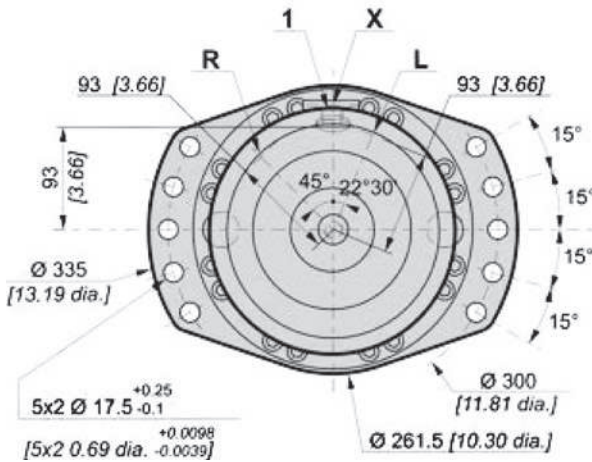
Wheel Motor Classic

Dimensions for Classic (1110) 1-displacement motor

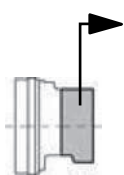


 60 kg [132 lb]	79 kg [174 lb]
 1.50 L [90 cu.in]	1.00 L [60 cu.in]
	

Dimensions for Classic (1110) 1-displacement motor



 60 kg [132 lb]	79 kg [174 lb]
 1.50 L [90 cu.in]	1.00 L [60 cu.in]
	



C	T 0 9
B	87.10 [3.43]
C	Ø255 [10.02 dia.]
D	19.0 [0.75]
E	115.0 [4.53]



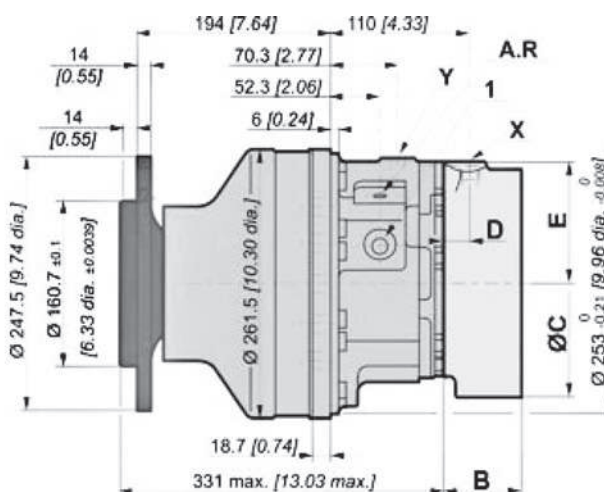
Also see "Brake" section.
(thumbnail opposite).



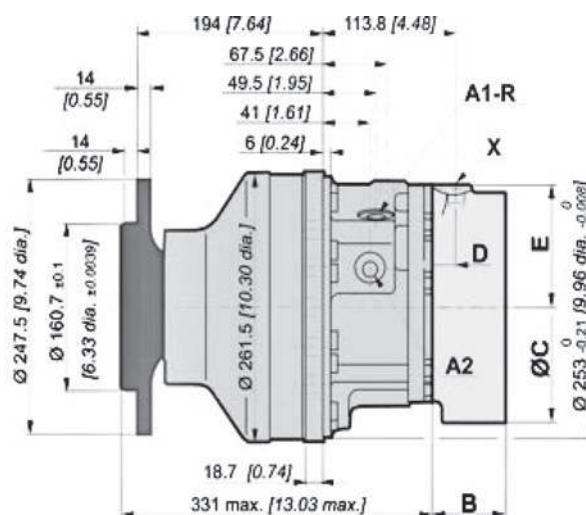
Also see 'Valving systems and hydrobases' section
(thumbnail opposite).

9

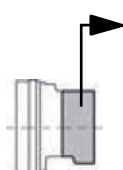
P-MS08.MSE08 series

[illegible]

 65 kg [143 lb]	84 kg [185 lb]
 1.50 L [90 cu.in]	1.00 L [60 cu.in]
	

[illegible]

	65 kg [143 lb]	84 kg [185 lb]
	1.50 L [90 cu.in]	1.00 L [60 cu.in]
		



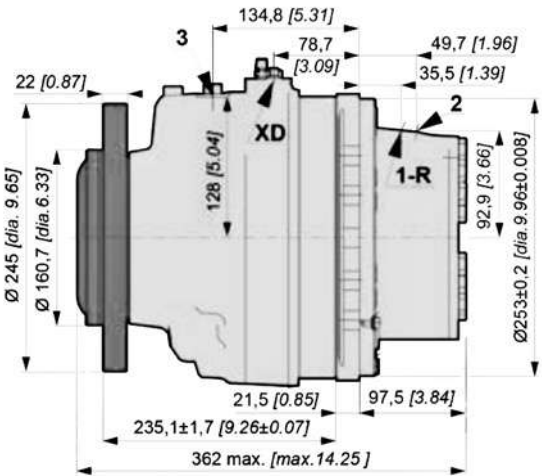
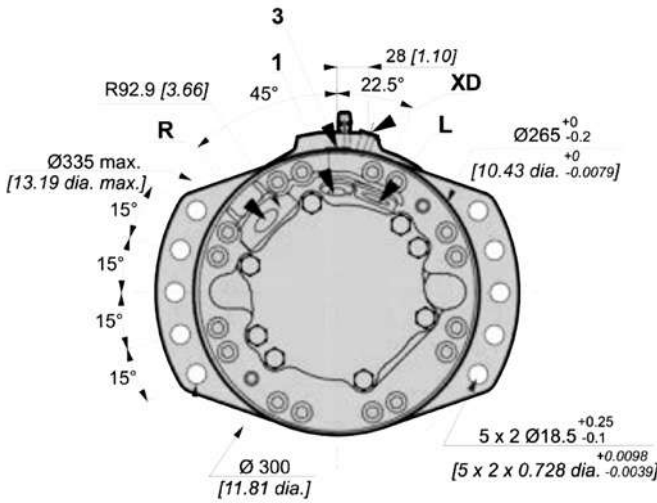
C	T 0 9
B	87.10 [3.43]
C	Ø255 [10.02 dia.]
D	19.0 [0.75]
E	115.0 [4.53]

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



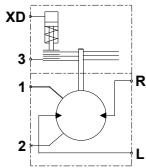
Wheel Motor Classic

Dimensions for Standard (U310) 1-displacement motor



 75 kg [165 lb]

 1.10 L [66 cu.in]



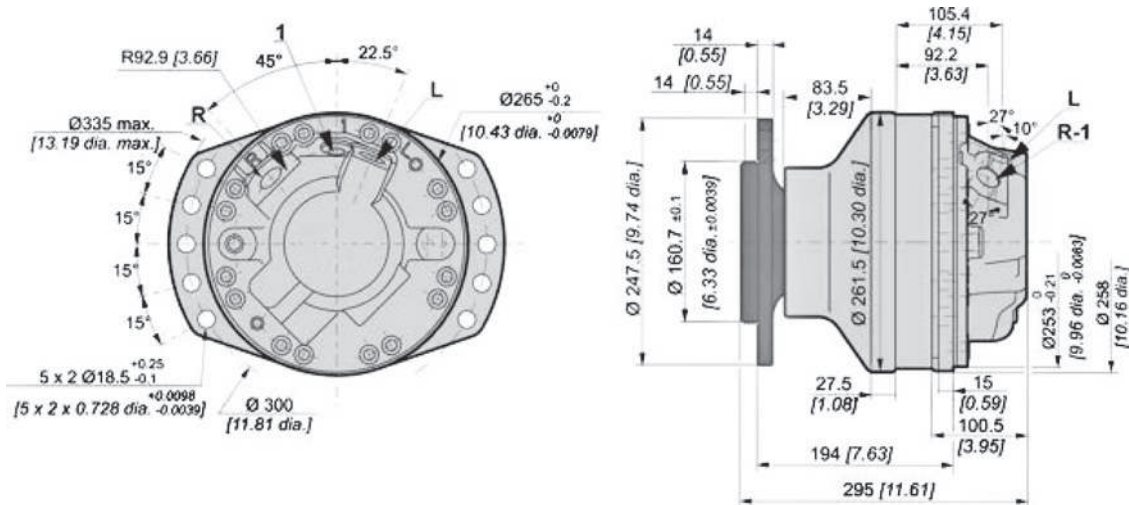
M

10

P-MS08.MSE08 series

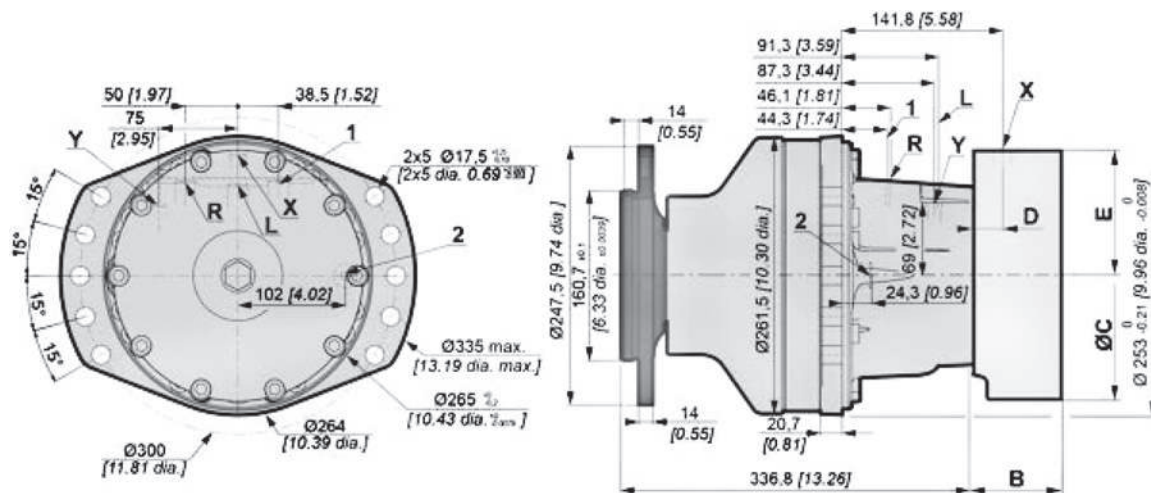
Wheel Motor Highflow

Dimensions for HighFlow (1110) 1-displacement motor

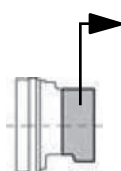


	60 kg [132 lb]	79 kg [174 lb]
	1.50 L [90 cu.in]	1.00 L [60 cu.in]
		

Dimensions for HighFlow (1110) 2-displacement motor



	60 kg [132 lb]	79 kg [174 lb]
	1.50 L [90 cu.in]	1.00 L [60 cu.in]
		



C	T 0 9
B	88.2 [3.47]
C	Ø238 [9.37 dia.]
D	21.0 [0.83]
E	114.0 [4.49]



Also see "Brake" section.
(thumbnail opposite).



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

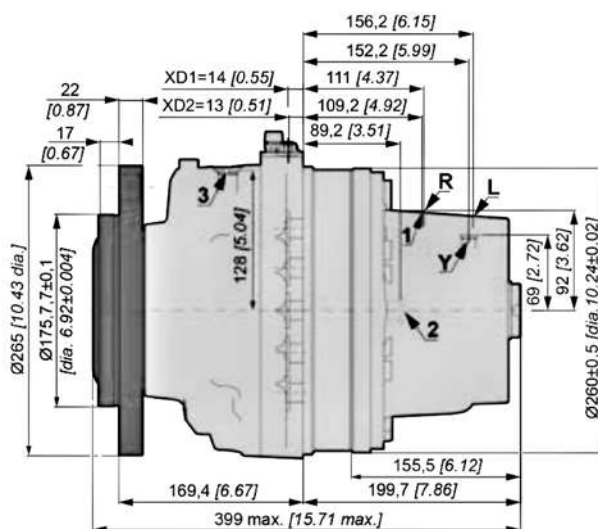
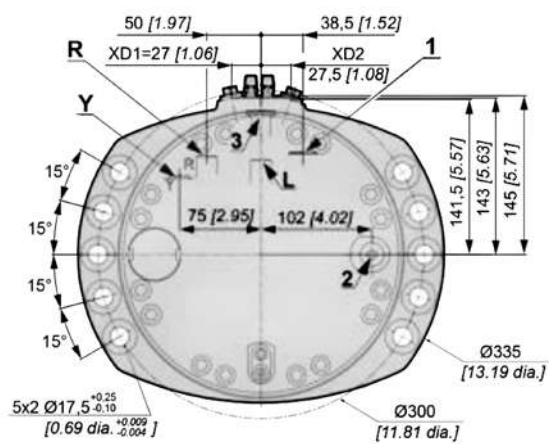
Wheel Motor Highflow

Dimensions for HighFlow (Y610) 2-displacement motor

M

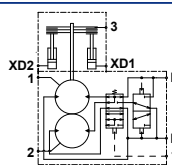
12

P-MS08.MSE08 series



 75 kg [165 lb]

 1.10 L [66 cu.in.]



Wheel Motor

M

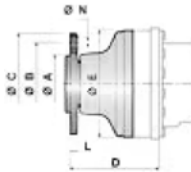
13

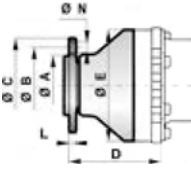
P-MS08.MSE08 series

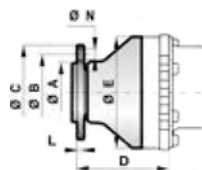
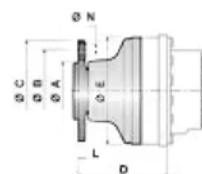
Bearing support for Classic and HighFlow motor

C				D			F			P				S					
1	2	3	4	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
M	S	0	8																
M	S	E	0	8															

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 160.7 [6.33 dia.]	Ø 205 [8.07 dia.]	Ø 245 [9.65 dia.]	195 [7.68]	Ø 261.5 [10.30 dia.]	6 x Ø 20 [6 x 0.79 dia.]	M18x1.5	13.5 [0.53]
P 1 2 3 4 1 2 1 0	Ø 150.9 [5.94 dia.]	Ø 203.2 [8.00 dia.]	Ø 238 [9.37 dia.]	194.1 [7.64]	Ø 261.5 [10.30 dia.]	8 x Ø 22 [8 x 0.87 dia.]	M20x1.5	13.5 [0.53]
P 1 2 3 4 1 4 1 0	Ø 175.7 [6.92 dia.]	Ø 225 [8.86 dia.]	Ø 270 [10.63 dia.]	188.8 [7.43]	Ø 261.5 [10.30 dia.]	10 x Ø 18 [10 x 0.71 dia.]	M16x1.5	15 [0.59]
P 1 2 3 4 1 3 1 0 —	Ø 160.7 [6.33 dia.]	Ø 205 [8.07 dia.]	Ø 245 [9.65 dia.]	163 [6.42]	Ø 261.5 [10.30 dia.]	6 x Ø 20 [6 x 0.79 dia.]	M18x1.5	14 [0.55]
P 1 2 3 4 1 5 1 0 —	Ø 117.5 [4.63 dia.]	Ø 152.4 [6.00 dia.]	Ø 181 [7.13 dia.]	163 [6.42]	Ø 261.5 [10.30 dia.]	6 x Ø 18 [6 x 0.71 dia.]	M14x1.5	11 [0.43]
P 1 2 3 4 1 6 1 0 —	Ø 160.7 [6.33 dia.]	Ø 205 [8.07 dia.]	Ø 245 [9.65 dia.]	163 [6.42]	Ø 261.5 [10.30 dia.]	12 x M12	-	14.8 [0.58]







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



Wheel Motor

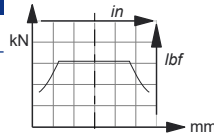
Load curves for Classic and HighFlow motor

Permissible radial loads

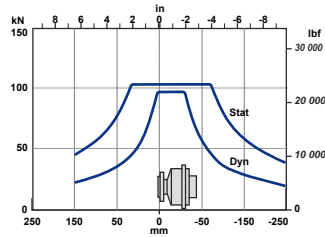
Test conditions :

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

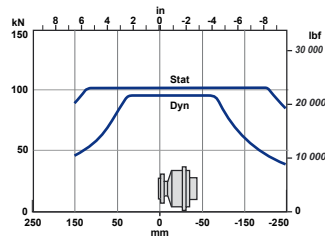
Dynamic : 0 tr/min [0 RPM], code 0 displacement, without axial load at max. torque



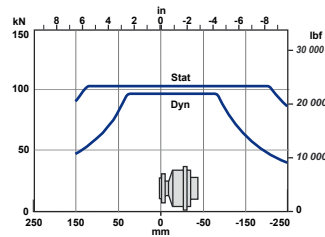
P			
1	2	3	4
1	1	1	0



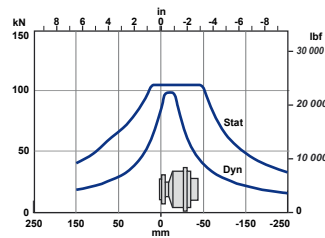
P			
1	2	3	4
1	2	1	0



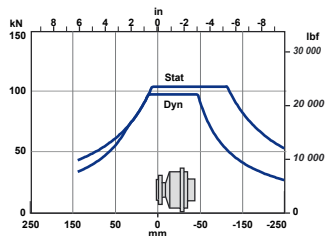
P			
1	2	3	4
1	4	1	0



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



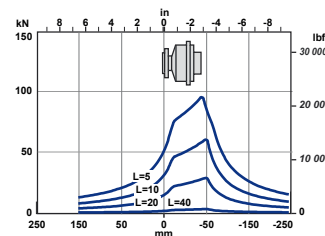
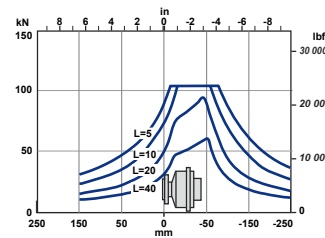
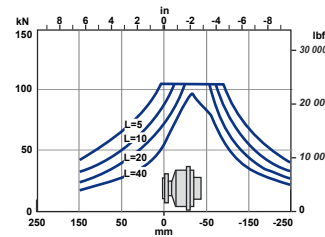
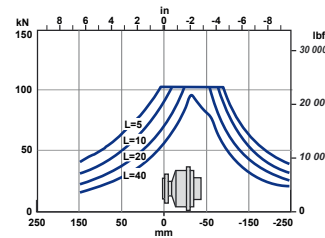
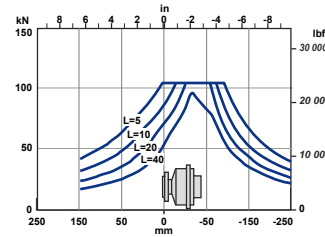
P			
1	2	3	4
1	5	1	0



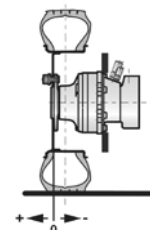
Service life of bearings

Test conditions :

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



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

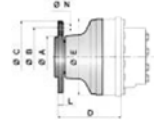
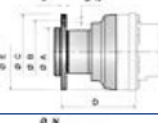
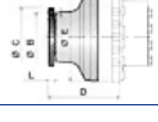
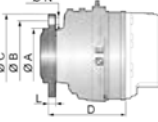
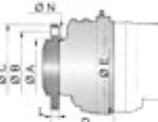
M

15

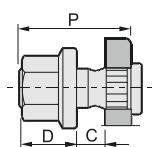
P-MS08.MSE08 series

Bearing support for Classic and HighFlow motor (continued)

C				D			F			P				S					
1	2	3	4	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
M	S	0	8																
M	S	E	0	8															

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]																	
<table><tr><td colspan="4">P</td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>1</td><td>9</td><td>1</td><td>0</td></tr></table>	P				1	2	3	4	1	9	1	0	Ø 117.5 [4.63 dia.]	Ø 165 [6.50 dia.]	Ø 186 [7.32 dia.]	163.2 [6.43]	Ø 261.5 [10.30 dia.]	12 x Ø 14 [12 x 0.55 dia.]	-	12 [0.47]					
P																									
1	2	3	4																						
1	9	1	0																						
<table><tr><td colspan="4">P</td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>1</td><td>G</td><td>1</td><td>0</td></tr></table>	P				1	2	3	4	1	G	1	0	Ø 175.7 [6.92 dia.]	Ø 225 [8.86 dia.]	Ø 265 [10.43 dia.]	228.6 [9.00]	Ø 261.5 [10.30 dia.]	10 x Ø 24 [10 x 0.94 dia.]	M22x1.5	15 [0.59]					
P																									
1	2	3	4																						
1	G	1	0																						
<table><tr><td colspan="4">P</td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>1</td><td>7</td><td>1</td><td>0</td></tr></table>	P				1	2	3	4	1	7	1	0	Ø 220.7 [8.69 dia.]	Ø 275 [10.83 dia.]	Ø 314 [12.36 dia.]	194 [7.64]	Ø 261.5 [10.30 dia.]	8 x Ø 22 [8 x 0.87 dia.]	M20x1.5	14 [0.55]					
P																									
1	2	3	4																						
1	7	1	0																						
<table><tr><td colspan="4">P</td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>U</td><td>3</td><td>1</td><td>0</td></tr><tr><td>W</td><td>3</td><td>1</td><td>0</td></tr></table>	P				1	2	3	4	U	3	1	0	W	3	1	0	Ø 160.7 [6.33 dia.]	Ø 205 [8.07 dia.]	Ø 245 [9.65 dia.]	235.0 [9.25]	Ø 267.0 [10.51 dia.]	6 x Ø 20 [6 x 0.79 dia.]	6 x M18x1.5	22 [0.87]	
P																									
1	2	3	4																						
U	3	1	0																						
W	3	1	0																						
<table><tr><td colspan="4">P</td></tr><tr><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>V</td><td>3</td><td>1</td><td>0</td></tr><tr><td>Y</td><td>3</td><td>1</td><td>0</td></tr></table>	P				1	2	3	4	V	3	1	0	Y	3	1	0	Ø 160.7 [6.33 dia.]	Ø 205 [8.07 dia.]	Ø 245 [9.65 dia.]	169.4 [6.67]	Ø 267.0 [10.51 dia.]	6 x Ø 20 [6 x 0.79 dia.]	6 x M18x1.5	22 [0.87]	
P																									
1	2	3	4																						
V	3	1	0																						
Y	3	1	0																						

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]	15 [0.57]	16.5 [0.65]	12.9
	M18x1.5	55 [2.17]		18 [0.71]	23 [0.91]	
	M18x1.5	65 [2.56]		23 [0.91]	23 [0.91]	
	M20x1.5	60 [2.36]		21 [0.83]	25 [0.98]	
	M22x1.5	55 [2.17]		15 [0.59]	26 [1.02]	
	M22x1.5	80 [3.15]		40 [1.57]	26 [1.02]	
Screws	M12x1.75	-	-	-	-	10.9
	1/2"-20 UNF	-	-	-	-	10.9



See generic installation motors N°B59689D.



Wheel Motor

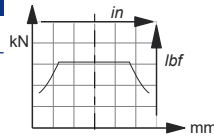
Load curves for Classic and HighFlow motor (continued)

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 :

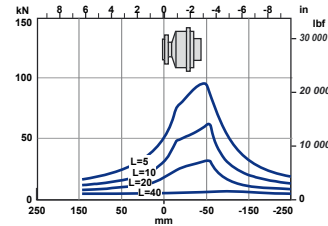
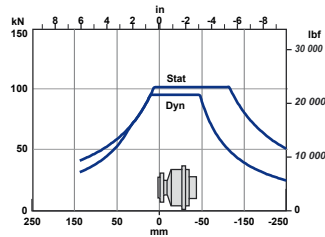
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

M

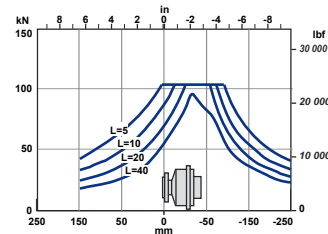
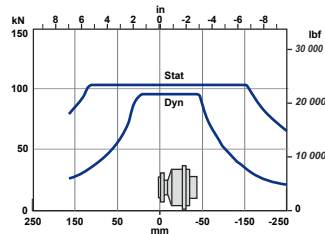
16

P-MS08.MSE08 series

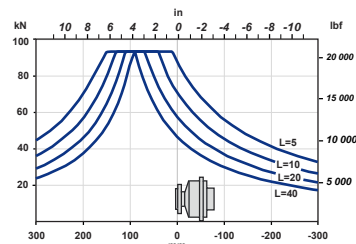
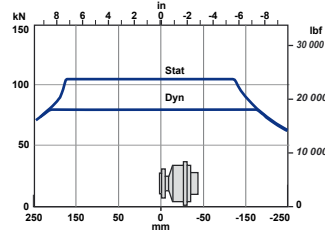
P			
1	2	3	4
1	9	1	0



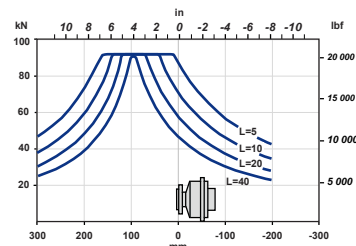
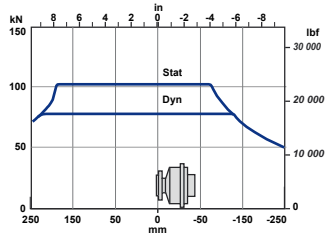
P			
1	2	3	4
1	7	1	0



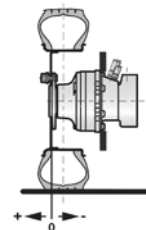
P			
1	2	3	4
U	3	1	0
W	3	1	0



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

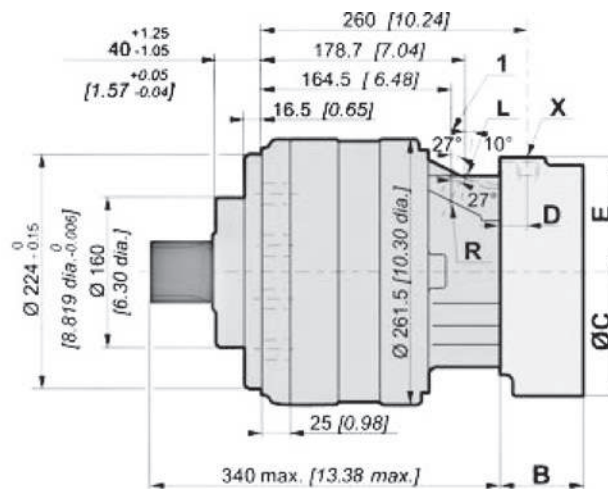
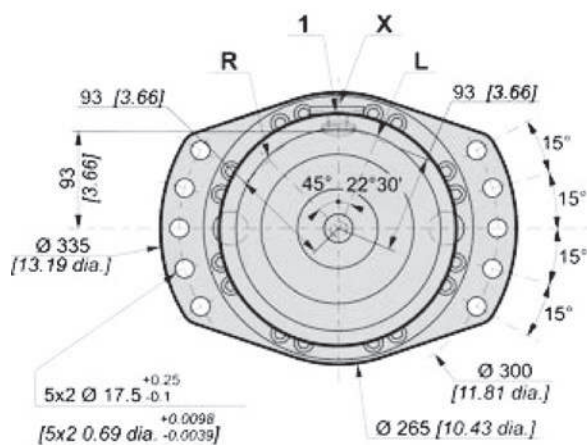


The service life of the components is influenced by the pressure. You must check that the combination of forces applied (Axial load / Radial load) is compatible with the permissible loads for the components, and that the resulting service lives of these components complies with the application's specifications.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



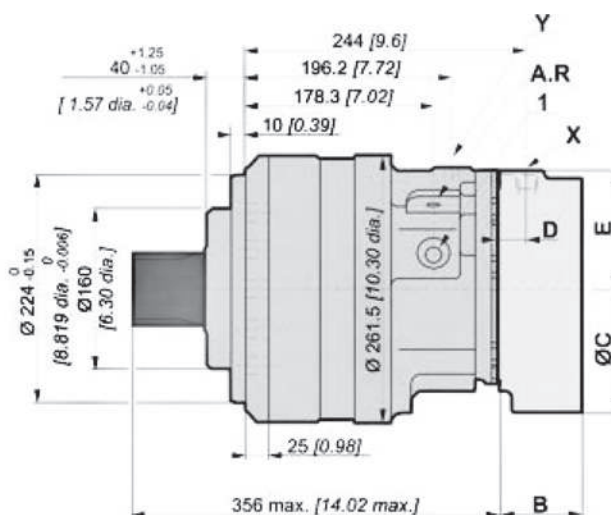
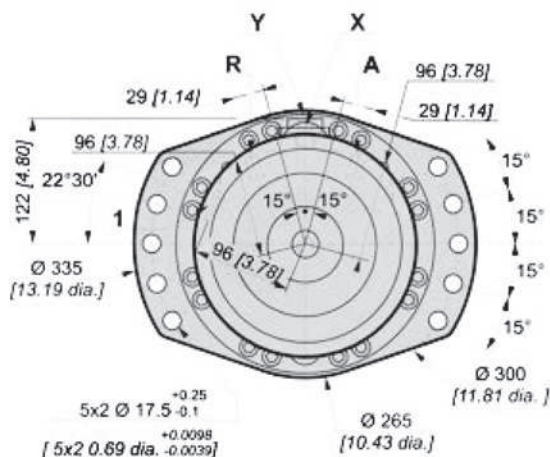
Shaft Motor Classic

Dimensions for Classic (2A50) 1-displacement motor

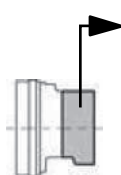


 62 kg [136 lb]	80 kg [176 lb]
 1.50 L [90 cu.in]	1.00 L [60 cu.in]
	

Dimensions for Classic (2A50) 2-displacement motor



 67 kg [147 lb]	85 kg [187 lb]
 1.50 L [90 cu.in]	1.00 L [60 cu.in]
	



C	T 0 9
B	87.10 [3.43]
C	Ø255 [10.02 dia.]
D	19.0 [0.75]
E	115.0 [4.53]



Also see "Brake" section.
(thumbnail opposite).



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

 62 kg [136 lb]	80 kg [176 lb]
 1.50 L [90 cu.in]	1.00 L [60 cu.in]
	

 67 kg [147 lb]	85 kg [187 lb]
 1.50 L [90 cu.in]	1.00 L [60 cu.in]
	

C	T 0 9
B	88.2 [3.47]
C	Ø238 [9.37 dia.]
D	21.0 [0.83]
E	114.0 [4.49]

Shaft Motor

M

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P-MS08.MSE08 series

Bearing support for Classic and HighFlow motor

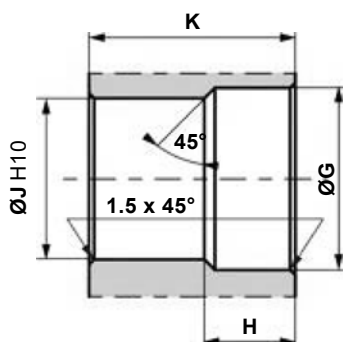
C				D				F				P				S					
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5	6
M	S	0	8																		
M	S	E	0	8																	

C				A				B				C				D				E				F			
NF E22-141 splines																											
Nominal Ø				65 [2.56]				15				R 2.5				35				2 x M10				24			
Module				2.5				[0.59]				[R 0.10]				[1.38]								[0.94]			
Z				24																				70			
DIN 5480 splines																											
Nominal Ø				70 [2.76]				15				R 2.5				35				2 x M10				23			
Module				3				[0.59]				[R 0.10]				[1.38]								[0.91]			
Z				22																				70			
ANSI B92.1 - 1996 splines																											
Nominal Ø				74.5 [2.93]				35				R 2.8				74.5				M12				23			
Module				16/32				[1.38]				[R 0.11]				[2.93]								[0.91]			
Z				46																				70			
DIN 6885 Key																											
X 20				[0.79]				30				R 2.5				Ø 69.99				M16				90			
Y 74				max.				[1.18]				[0.10 R.]				[2.76 dia.]								[3.54]			
				[2.91] max.																				106			



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

Splined coupling



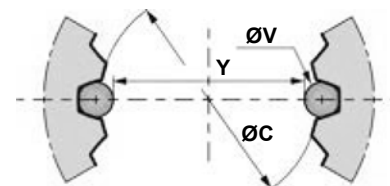
Standard NF E22-141

Pressure angle 20°.
Centering on flanks.
Slide fit (7H quality).

Standard DIN 5480, ANSI B92.1-1996

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]			
NF E22-141				66				25				60				69				65				2.5				24				2				60				5				55.169				+ 86 / 0			
				[2.60]				[0.98]				[2.36]				[2.72]				[2.56]												[0.08]				[2.36]				[0.20]				[2.17]				[+3.386 / 0]			
DIN 5480, ANSI B92.1-1996				71.5				25				64				69				70.0				3				22				+0.35				64.0				5.25				59.042				+ 76 / +28			
				[2.81]				[0.98]				[2.52]				[2.72]				[2.76]												[+0.0138]				[2.52]				[0.21]				[2.32]				[+2.992 / +1.1]			
ANSI B92.1-1996				76.0				24				71.438				69				63.242				16/32				46				-				71.438				2.743				69.201				+ 32 / -32			
				[2.99]				[0.94]				[2.81]				[2.72]				[2.49]																[2.81]				[0.11]				[2.72]				[+2.992 / +1.1]			

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 for Classic and HighFlow motor

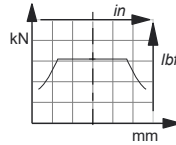
Permissible radial loads

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 :

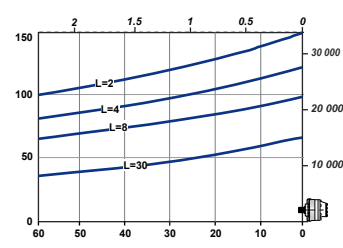
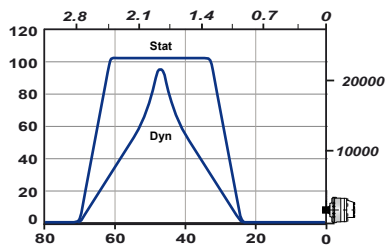
L : Millions B10 revolutions at 150 bars (average pressure), with 25 cSt fluid, code 0 displacement, without axial load.

M

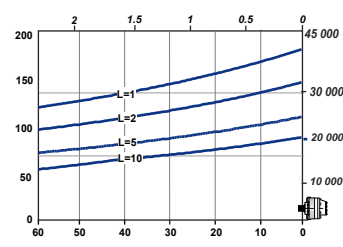
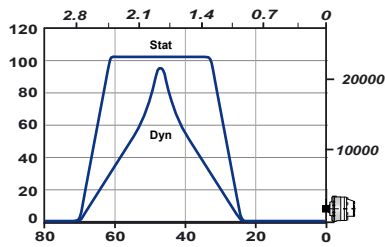
20

P-MS08.MSE08 series

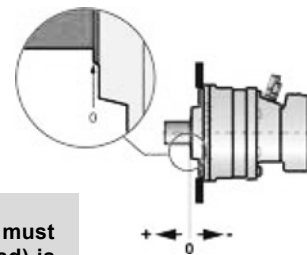
P			
1	2	3	4
2	A	1	0



P			
1	2	3	4
2	A	5	0



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



Valving Systems And Hydrobases

M

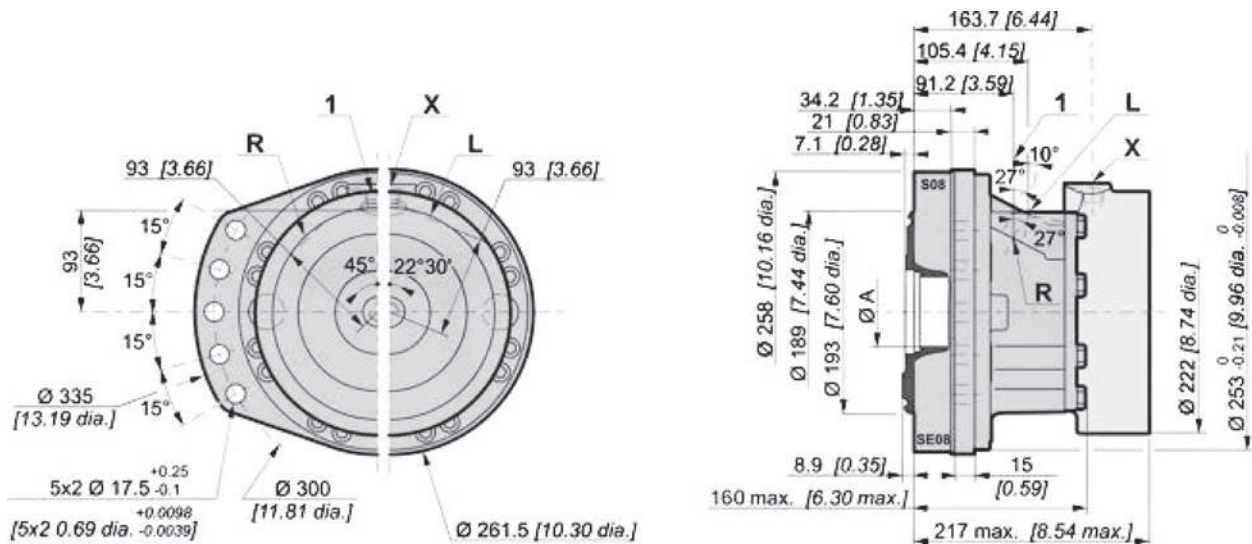
21

P-MS08.MSE08 series

for Classic motor on demand for HighFlow motor

C				D			F			P				S					
1	1	2	3	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
M	S	O	8																
M	S	E	0	8															

Dimensions for 1-displacement valving



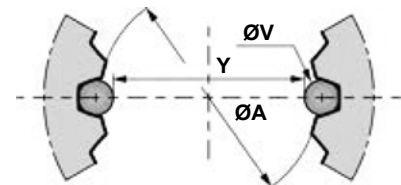
D			D		
1	2	3	1	2	3
1	2		1	1	

	34.4 kg [76 lb]	51.8 kg [114 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
60 [2.362]	2.5	24	69.580 [2.739]	4.5 [0.177]



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

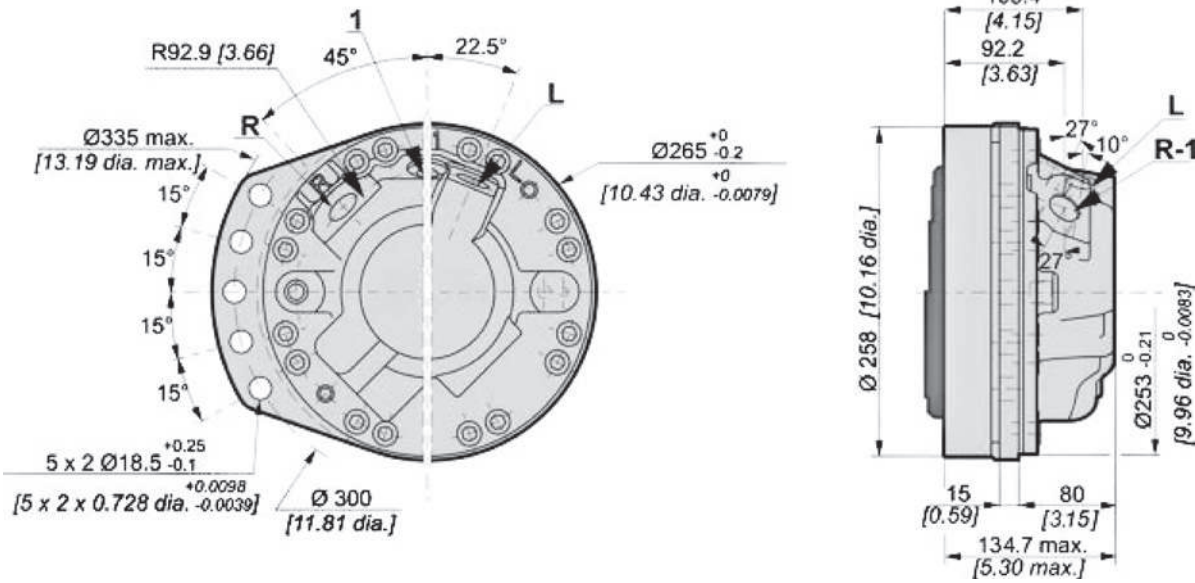


We must provide you with a detailed plan of the interface for any hydraulic unit use, consult YEOSHE .



Valving Systems And Hydrobases

Dimensions for one-piece valving single displacement



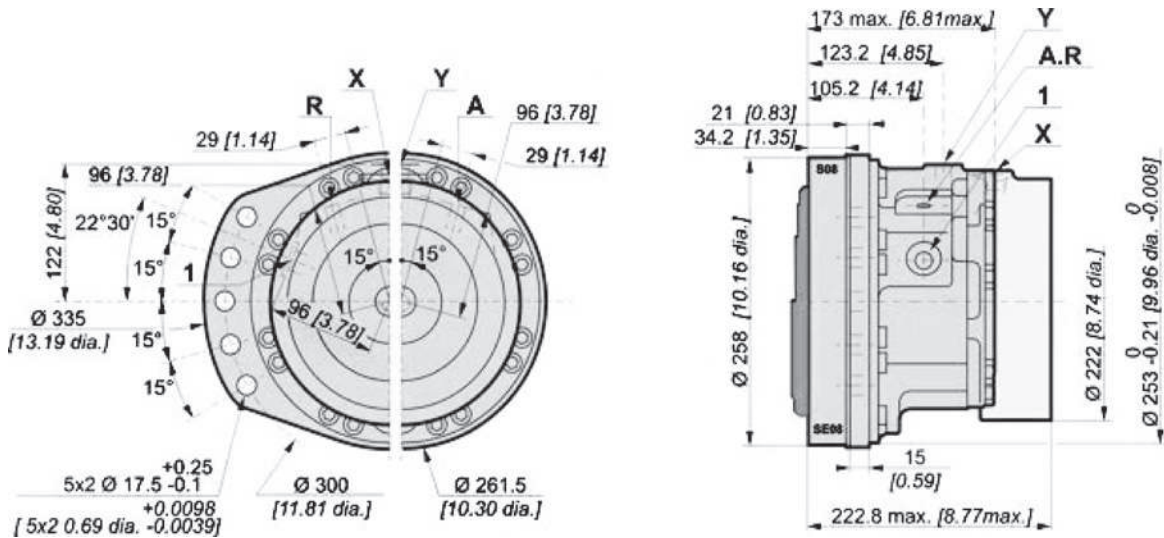
D			F		
1	2	3	1	2	3
1	2		M	0	8

D			F		
1	2	3	1	2	3
1	1		M	0	8

35 kg [77 lb]

0.50 L [30 cu.in]

Dimensions for 2-displacement valving



D			D		
1	2	3	1	2	3
A	2		A	1	

D			D		
1	2	3	1	2	3
B	2		B	1	

D			D		
1	2	3	1	2	3
C	2		C	1	

37.8 kg [83 lb]	54.7 kg [120 lb]
0.50 L [30 cu.in]	1.00 L [60 cu.in]

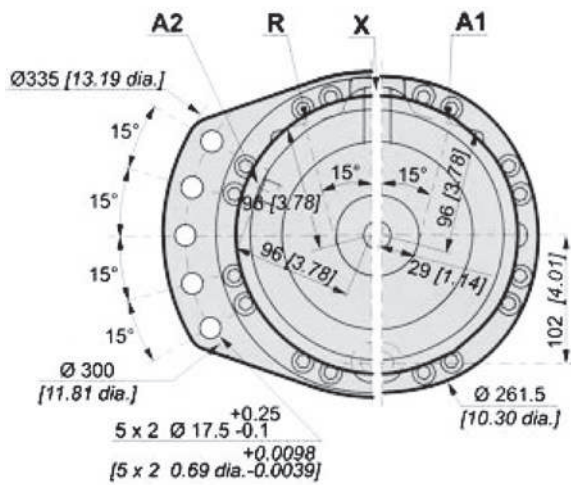
Valving Systems And Hydrobases

M

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P-MS08.MSE08 series

Dimensions for Twin-Lock valving



D	1	2	3
G	E		

D	1	2	3
D	E		

D	1	2	3
D	D		

D	1	2	3
G	D		

D	1	2	3
H	E		

D	1	2	3
E	E		

D	1	2	3
E	D		

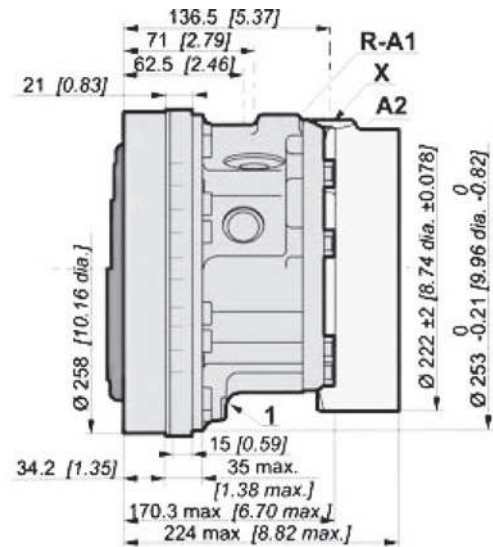
D	1	2	3
H	D		

D	1	2	3
J	E		

D	1	2	3
F	E		

D	1	2	3
F	D		

D	1	2	3
J	D		



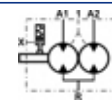
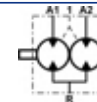
37.8 kg [83 lb]

54.7 kg [120 lb]

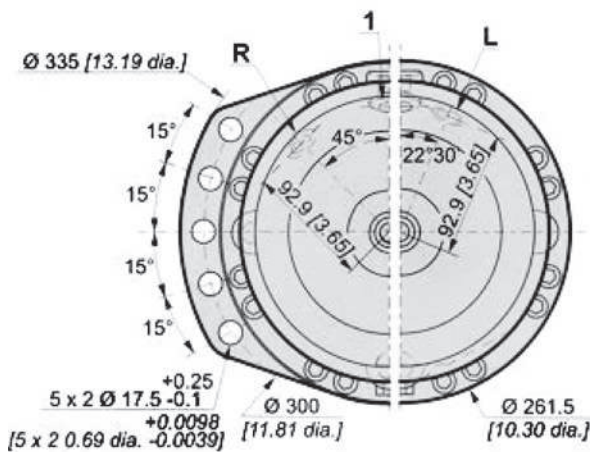


0.50 L [30 cu.in.]

1.00 L [60 cu.in.]



Dimensions for 1-displacement valving with built-in exchange

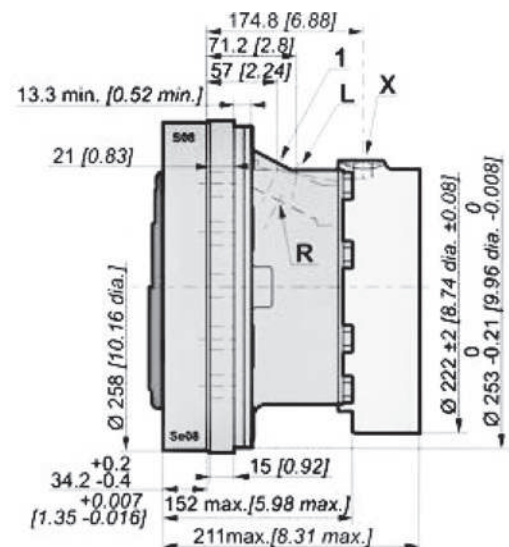


D	1	2	3
1	5		

F	1	2	3
R	0	8	

D	1	2	3
1	4		

F	1	2	3
R	0	8	



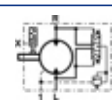
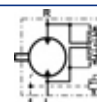
34.4 kg [76 lb]

51.8 kg [114 lb]



0.50 L [30 cu.in.]

1.00 L [60 cu.in.]





Valving Systems And Hydrobases

M

24

P-MS08.MSE08 series

Exchange

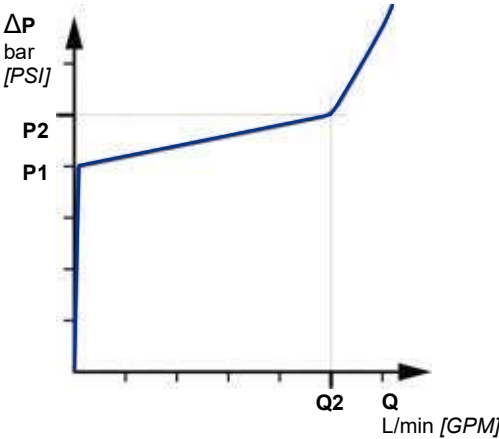
When a coding request is made, you must specify information on the threshold of the selector and the valve.

Selector spool

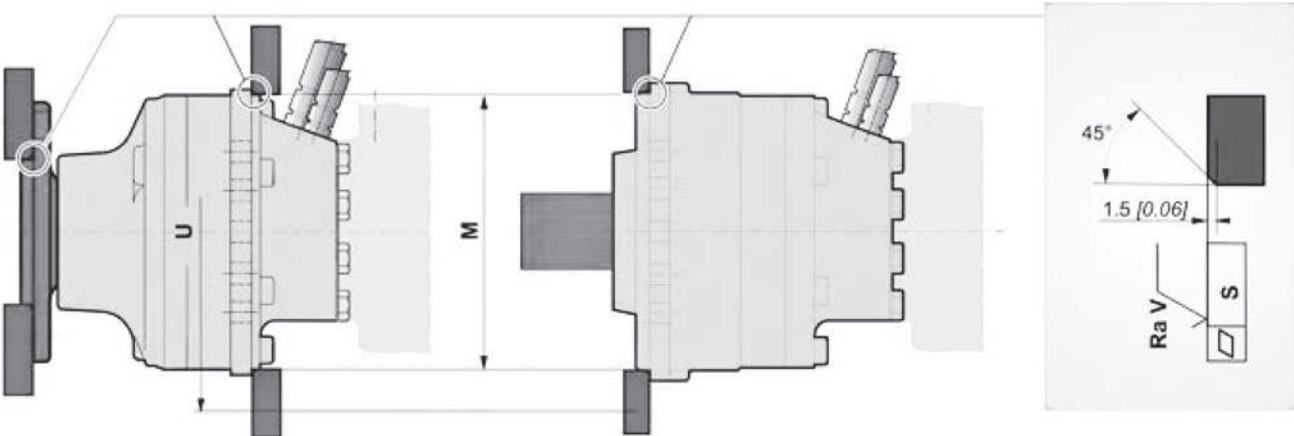
Selector threshold bar [PSI]	Opening pressure of selector bar [PSI]
8 [116]	9.9 ±1.2 [144 ±17]

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]



Chassis mountings



Take care over the immediate environment of the connections.

	Ø M ⁽¹⁾	Ø U	S	Ra V		Class
Wheel motor	253 [9.96]	300 [11.81]	0.2 [0.008]	12.5µm [0.49µin]	2 x 5 M16 x 2	8.8
Shaft motor ⁽¹⁾ +0.3 [+0.012] +0.2 [+0.008]	224 [8.82]	300 [11.81]				



See generic installation motors N°B59689D.

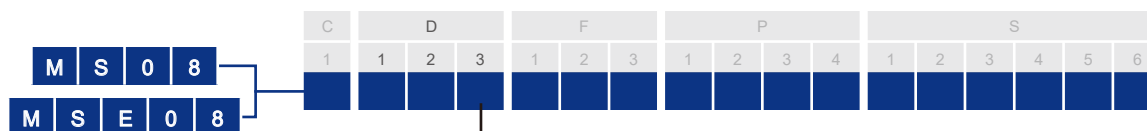
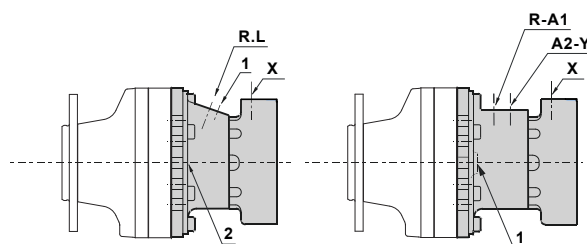
Valving Systems And Hydrobases

Hydraulic connections

M

25

P-MS08.MSE08 series



	Standards	Power supply	Standards	Case drain	2 nd displacement control	Control of parking brake
		R - L		1 - 2		X
	A ISO 11 926-1	1" 1/16-12 UNF	ISO 11 926-1	3/4"-16 UNF		9/16"-18 UNF
	1 ISO 6162	SAE 6000 PSI- 1/2"	ISO 9974-1	M18 x 1.5		M16 x 1.5
	2 ISO 6162	SAE 6000 PSI- 1/2"	ISO 1179-1	BSP 3/8		BSP 3/8
	4 ISO 9974-1	M22 x 2	ISO 9974-1	M18 x 1.5		M16 x 1.5
	5 ISO 9974-1	M27 x 2	ISO 9974-1	M18 x 1.5		M16 x 1.5
	8 ISO 6149-1	M22 x 2	ISO 6149-1	M18 x 1.5		M16 x 1.5
	A ISO 11 926-1	1"1/16-12 UNF	ISO 11 926-1	3/4"-16 UNF	9/16"-18 UNF	9/16"-18 UNF
	1 ISO 6 162	SAE 6000 PSI- 1/2"	ISO 9974-1	M18 x 1.5	M14 x 1.5	M16 x 1.5
	5 ISO 9974-1	M27 x 2	ISO 9974-1	M18 x 1.5	M14 x 1.5	M16 x 1.5
	A ISO 11 926-1	1"1/16-12 UNF	ISO 11 926-1	3/4"-16 UNF	9/16"-18 UNF	9/16"-18 UNF
	3 ISO 1179-1	BSP 3/4	ISO 1179-1	BSP 3/8	BSP 1/4	BSP 1/4
	5 ISO 9974-1	M27 x 2	ISO 9974-1	M18 x 1.5	M14 x 1.5	M16 x 1.5
Max. pressures	MS MSE bar [PSI]	450 [6,527] 400 [5,802]		1 [15]	30 [435]	30 [435]



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

M

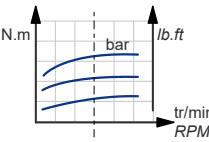
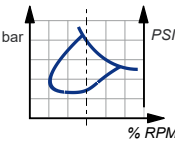
26

P-MS08.MSE08 series

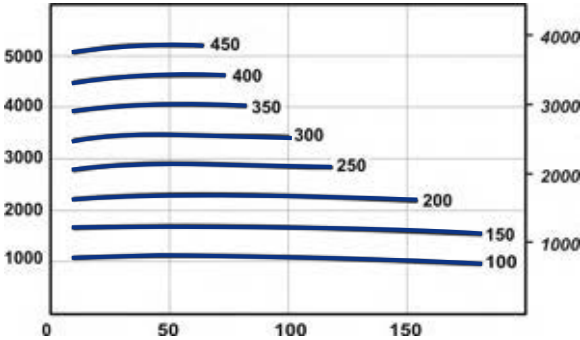
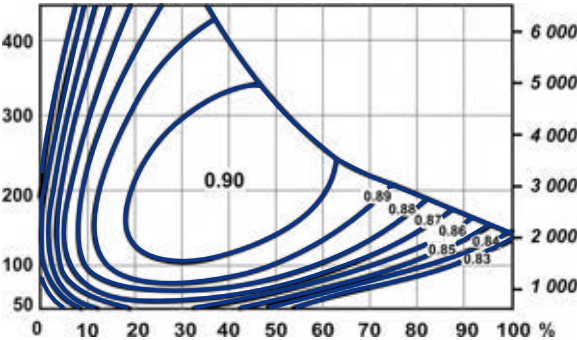
Overall efficiency

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

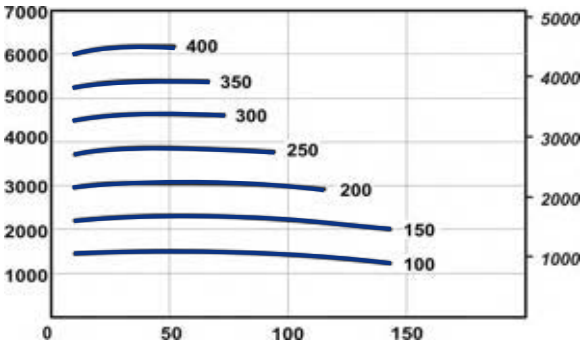
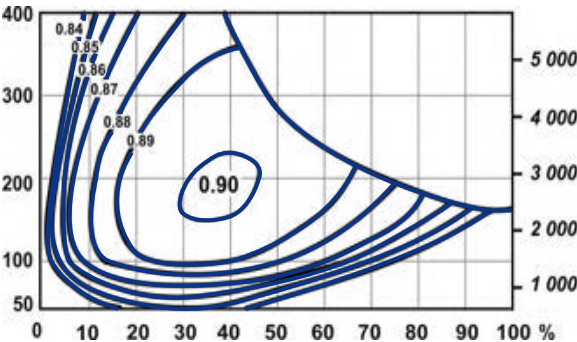
Actual output torque



MS08



MSE08



For a precise calculation, consult YEOSHE.

Brakes

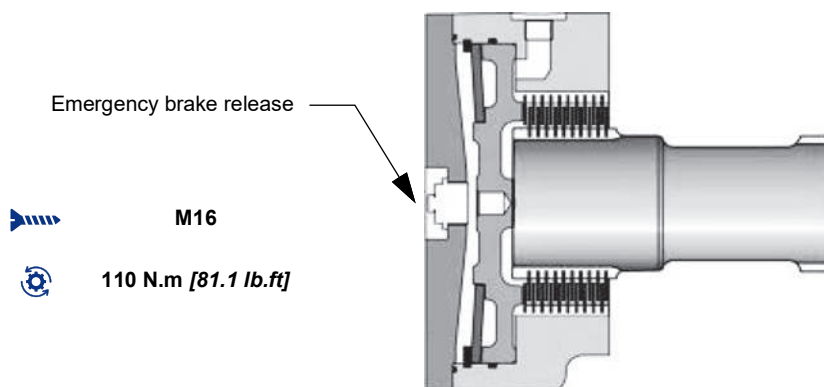
M

27

P-MS08.MSE08 series

M S 0 8				C	D				F			P				S					
				1	1	2	3		1	2	3	1	2	3	4	1	2	3	4	5	6
M	S	E	0	8					T	0	9										

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 9
Parking brake torque at 0 bars on housing (newbrake)	9,000 Nm [6,640 lb.ft]
Dynamic emergency braking torque at 0 bars on housing (max.10uses of emergency brakes)	5,850 Nm [4,310 lb.ft]
Residual parking braking at 0 bars on housing *	6,750 Nm [4,980 lb.ft]
Min. brake release pressure	12 bar [174 PSI]
Max. brake release pressure	30 bar [435 PSI]
Oil capacity	100 cm³ [6.1 cu.in]
Volume for brake release	40 cm³ [2.4 cu.in]
Max. energy dissipation	110 336 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.



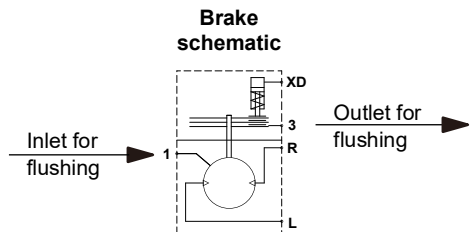
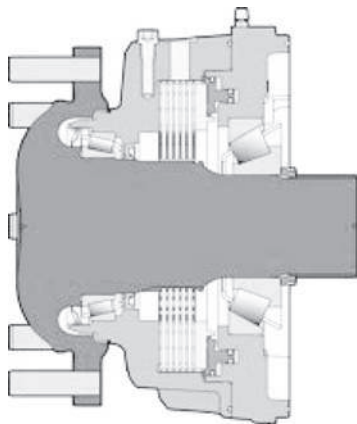
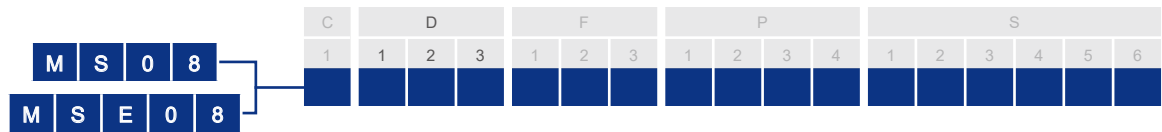
Brakes

S08 Service brake

M

28

P-MS08.MSE08 series

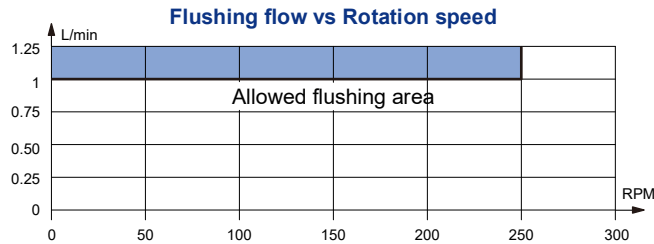


The dynamic brake must be flushed according to the brake schematics (flushing flow always goes of the bearing support).

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 1 0	W 1 0
		V 1 0	Y 1 0
Max. rotation speed		250 rp	
Max. energy dissipation		350 kJ	
Average torque during dynamic braking		13,000 Nm [9,590 lb.ft]	
Pressure to obtain max. permissible braking		140 bar	
Piston chamber piloting volume, worn brake		40.5 cm³	
Service brake max. allowed energy		290 kJ	



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 application engineer.



When using the Boosted brake option, the S08 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

M

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P-MS08.MSE08 series

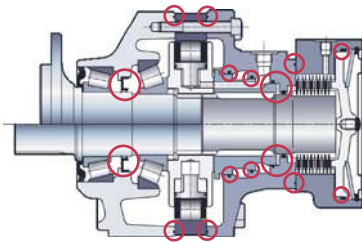
M S 0 8				C	D			F			P				S					
M	S	0	8	1	1	2	3	1	2	3	1	2	3	4	1	2	3	4	5	6
M	S	E	0	8																



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

1 Fluorinated elastomer seals

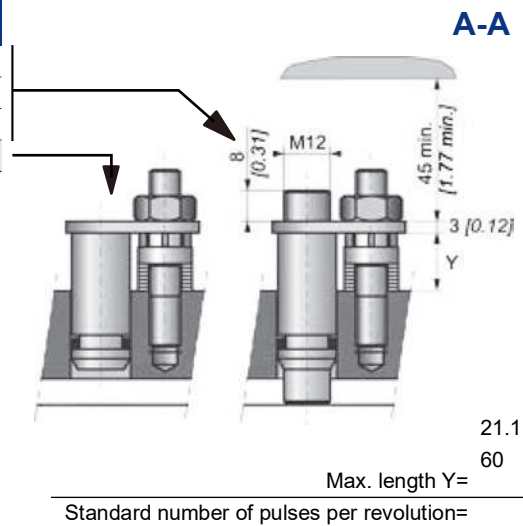
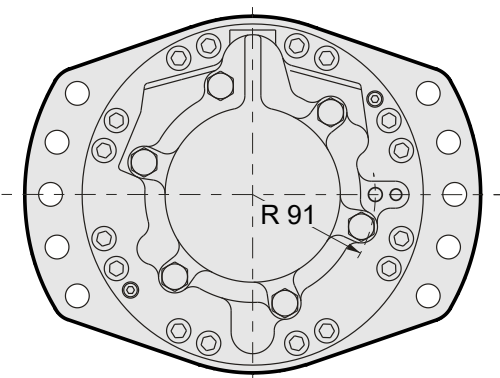
Nitrile seals marked in the figure below replaced by fluorinated elastomer seals.



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



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



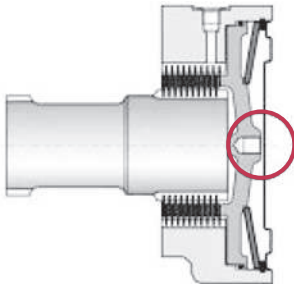
To install the sensor, see the "Installation guide" brochure No. B61352L.



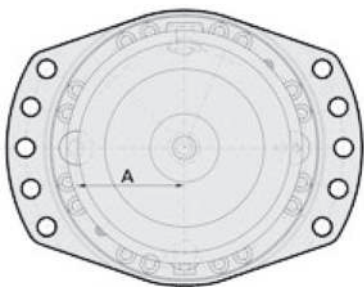
Options

3 Brake environmental cover without plug

No plug or hole in the cover.



5 Drainage



A

102 [4.02]

6 Industrial support

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

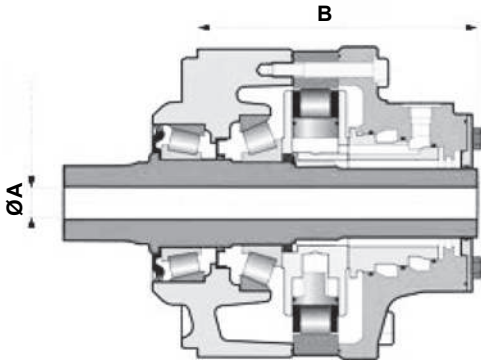


For a precise calculation, consult YEOSHE.

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 35 [1.38 dia.]	231.2 [9.10]

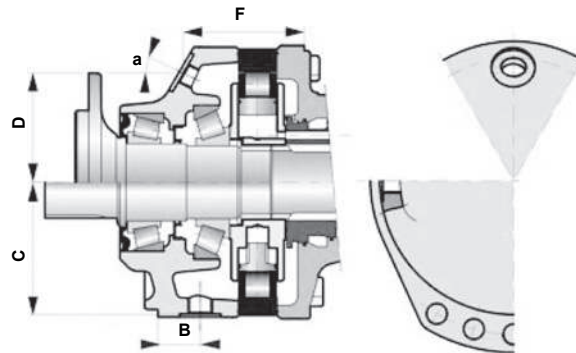
Radial load x 0.75
No torque transmittable to the rear

Options

M

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P-MS08.MSE08 series

B Drain on the bearing support

	ISO 6419-1	B mm [in]	C mm [in]	D mm [in]	F mm [in]	a
Wheel motor	M18 x 1.5	37.5 [1.5]	129 [5.08]			
Shaft motor	M18 x 1.5			105 [4.13]	89.5 [3.52]	35°
Wheel motor	M18 x 1.5					
Short wheel motor	M18 x 1.5			97 [3.82]	95 [3.74]	30°

C Abrasive environments
(mechanical seal)

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



Consult YEOSHE sales engineer.

E Reinforced sealing

Requires reinforcement of shaft bearings.

G Special wheel rim mounting

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



Consult YEOSHE sales engineer.

H High efficiency

Reinforced piston sealing to improve volumetric efficiency.



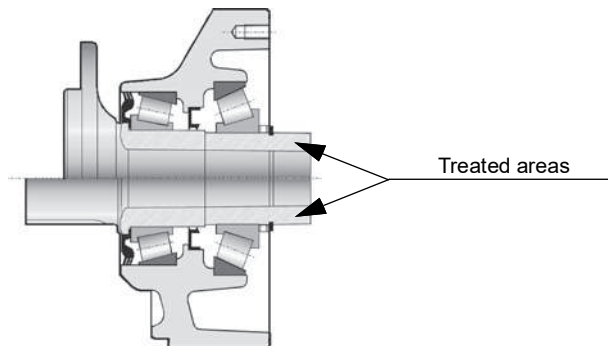
For a precise calculation,
consult YEOSHE application engineer.



Options

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.

M

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P-MS08.MSE08 series

YEOSHE BEST CHOICE
Innovative Technology

Efficient Performance
Reliable Quality and Service



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