

MS HYDROBASES

HYDRAULIC MOTORS

T E C H N I C A L C A T A L O G

PH
POCLAIN HYDRAULICS

Poclain

**Methodology :**

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

**Safety comment.**

This document also includes essential operating instructions for the product and general information. These are indicated in the following way:

**Essential instructions.****General information .****Information on the model code.****Weight of component without oil.****Volume of oil.****Units.****Tightening torque.****Screws.****Information intended for Poclain-Hydraulics personnel.**

The views in this document are created using metric standards.

The dimensional data is given in mm and in inches (inches are between brackets and italic)





CONTENT



MSE02 - MSE02

4

MS02 - MSE02

MSE03

12

MSE03

MS05 - MSE05

20

MS05 - MSE05

MS08 - MSE08

30

MS08 - MSE08

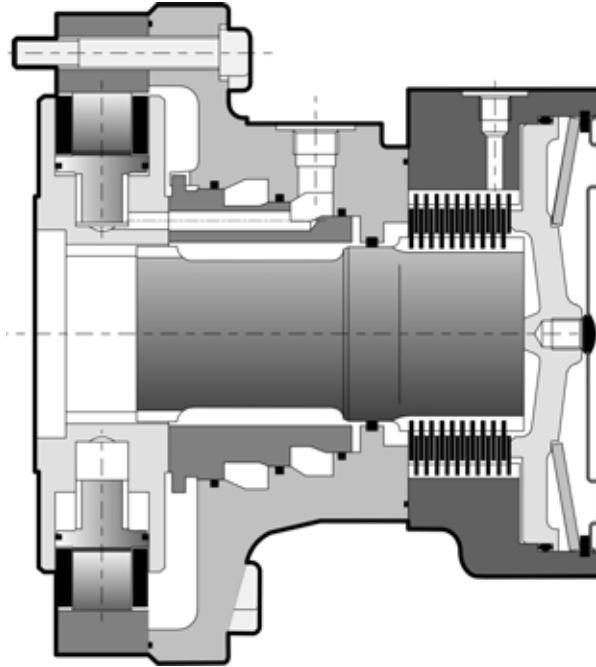
MS11 - MSE11

40

MS11 - MSE11



CHARACTERISTICS



				Theoretical torque			Max.power		Max.speed			Max. pressure				
									 							
									at 100 bar	at 1000 PSI	preferred		non-preferred	tr/min[RPM]	tr/min [RPM]	
		cm³/tr [cu.in/rev.]	cm³/tr [cu.in/rev.]	Nm	[lb.ft]	kW [HP]	kW [HP]	kW [HP]				bar [PSI]				
Cams with equal lobes	MS02	8	172 [10.5]	86 [5.2]	273 [139]	18 [24]	12 [16]	9 [12]	390*	409*	510*	450 [6 527]				
		0	213 [13.0]	107 [6.5]	339 [172]				310*	330*	410					
		1	235 [14.3]	118 [7.2]	374 [190]				285*	299*	372*					
		2	255 [15.6]	128 [7.8]	405 [206]				260*	276*	343*					
	MSE02	0	332 [20.2]	166 [10.1]	528 [268]	22 [30]	16.5 [22]	11 [15]	200	250	275	400 [5 802]				
		1	364 [22.2]	182 [11.1]	579 [294]				182	228	250					
		2	398 [24.3]	199 [12.1]	633 [322]				165	208	230					
Cams with unequal lobes	MS02	A	213 [13.0]	86 [5.2]	339 [172]	18 [24]	12 [16]	9 [12]	260*	276*	343*	450 [6 527]				
				128 [7.8]						276*						
		N	192 [11.7]	85 [5.2]	305 [155]					310*	330*		410*			
				107 [6.5]							330*					
	MSE02	A	332 [20.2]	133 [8.1]	528 [268]	22 [30]	16.5 [22]	11 [15]	165		208	230	400 [5 802]			
				199 [12.1]							208					

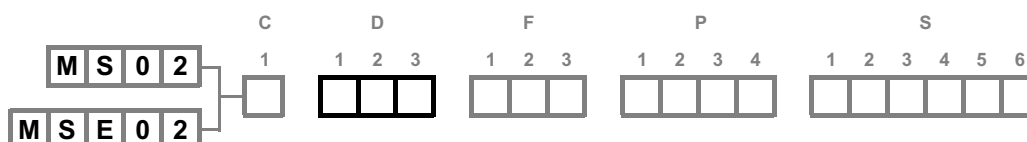
* See option "M" for higher speed.

① First displacement

② Second displacement

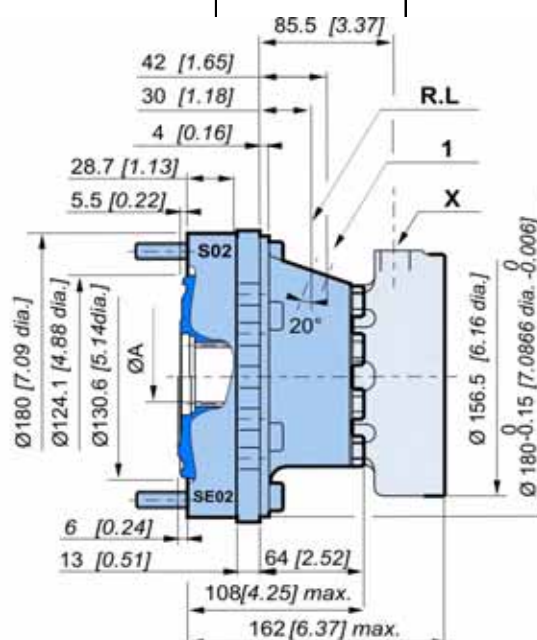
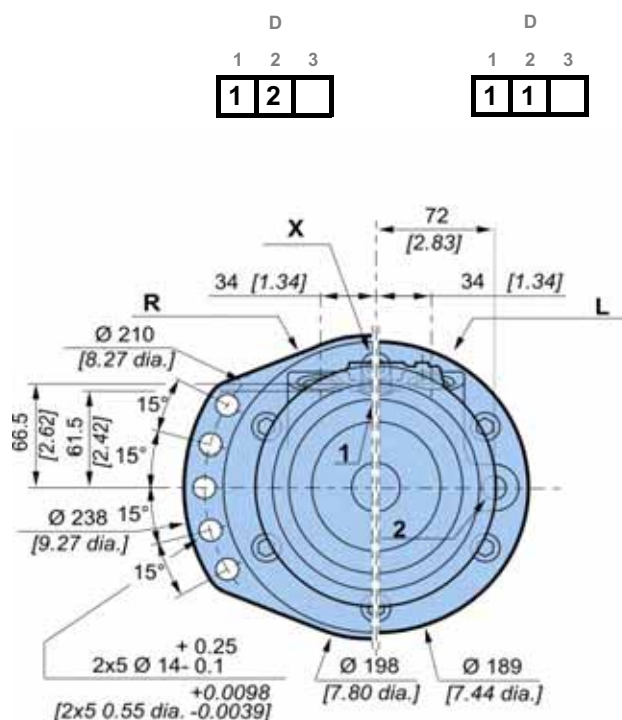
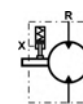
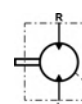


VALVING SYSTEMS AND HYDROBASES



Dimensions for 1-displacement valving

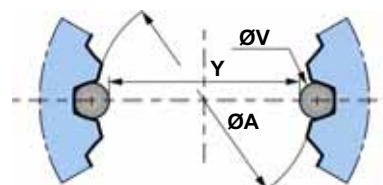
	13,8 kg [30 lb]	19,9 kg [44 lb]
	0,35 L [21 cu.in]	0,45 L [27 cu.in]



Cylinder block splines

(as per standard NF E22-141)

ØA	Module	Z	Dimension on 2 pins	
			Y	ØV
40 [1,575]	1,667	22	33,446 [1,317]	3,33 [0,131]



You are advised to have the installation validated by your Poclain Hydraulics 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 your Poclairn Hydraulics sales engineer.

MS02 - MSE02

MSE03

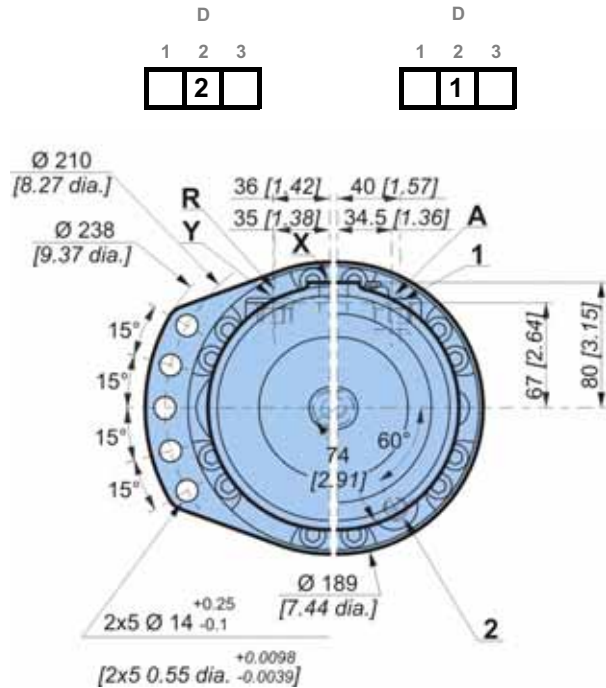
MS05 - MSE05

MS08 - MSE08

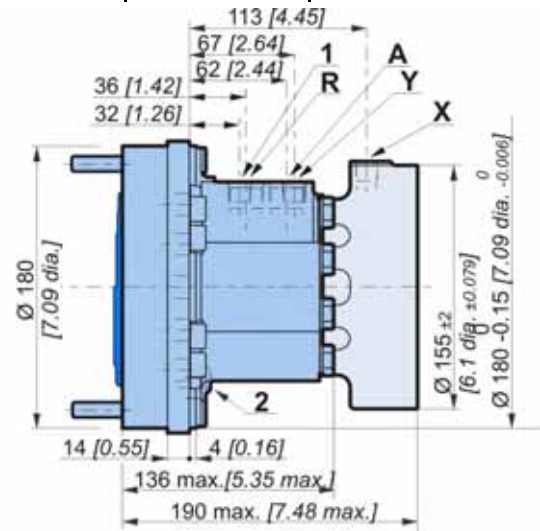
MS11 - MSE11



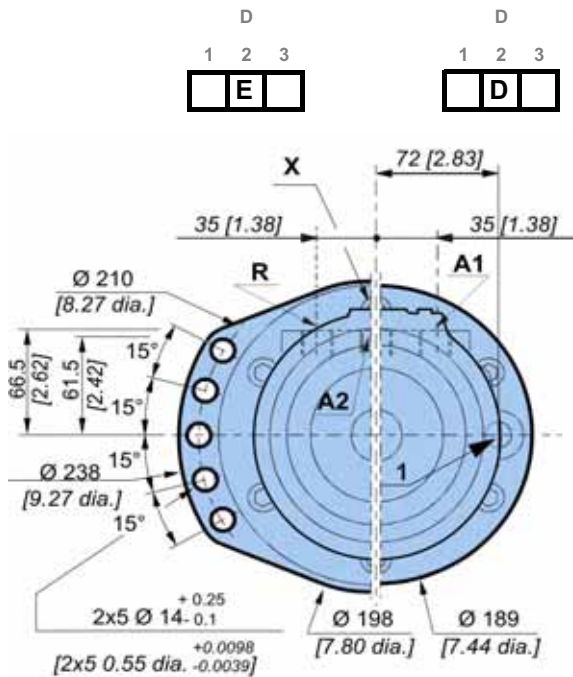
Dimensions for 2-displacement valving



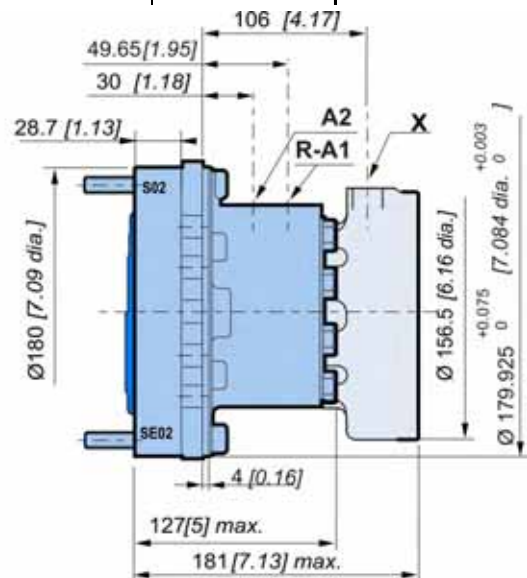
	18,8 kg [41 lb]	24,9 kg [55 lb]
	0,35 L [21 cu.in.]	0,45 L [27 cu.in.]



Dimensions for Twin-Lock™ valving



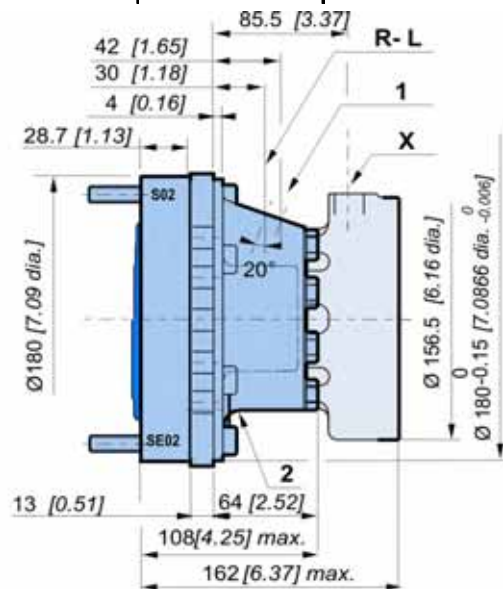
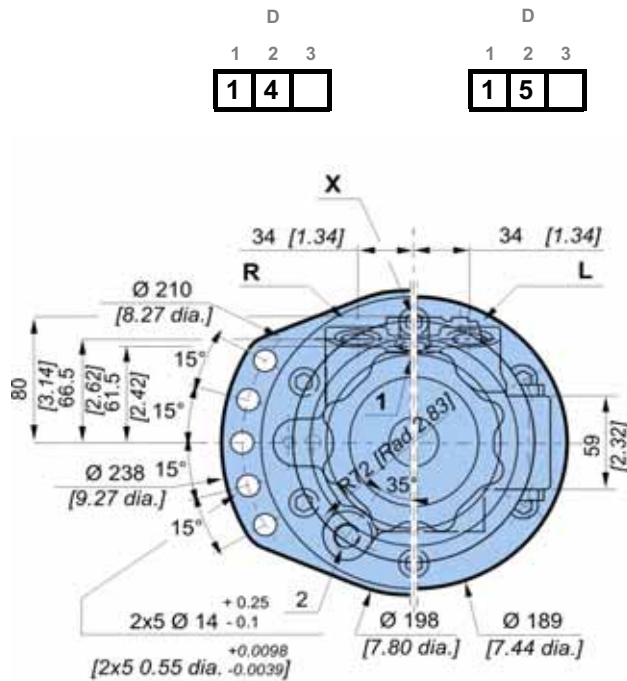
	18,8 kg [41 lb]	24,9 kg [55 lb]
	0,35 L [21 cu.in.]	0,45 L [27 cu.in.]





Dimensions for 1-displacement valving with built-in exchange

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



MS02 - MSE02

MSE03

MS05 - MSE05

MS08 - MSE08

MS11 - MSE11

Exchange



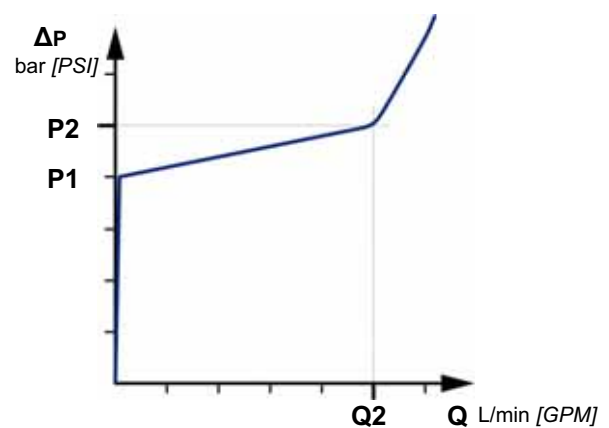
When a coding request is made, you must specify information on the threshold of the selector and the valve.

- Selector spool

Selector threshold bar [PSI]	Opening pressure of selector bar [PSI]
6 [87]	6.4±0.8 [93±11.6]

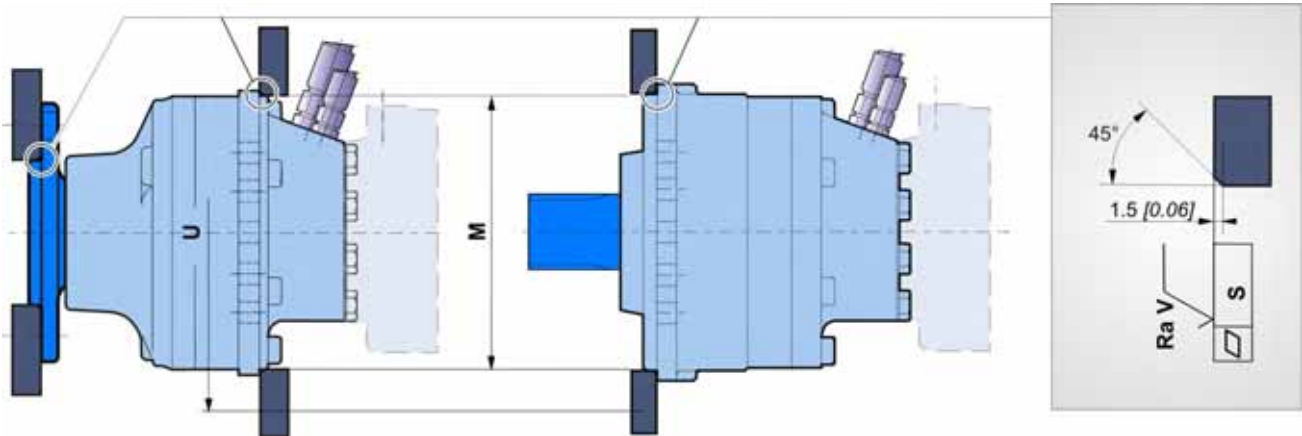
- Fitted valve

P1		Q2	P2	
bar	[PSI]	L/min [GPM]	bar	[PSI]
16±0.5	[232±7.25]	3,4±0.5 [0,898±0.13]	20	[290]
20±0.5	[290±7.25]	3,7±0.5 [0,977±0.13]	24	[348]
18±0.5	[261±7.25]	8,5±1 [2,245±0.26]	23	[334]





Chassis mountings



Take care over the immediate environment of the connections.

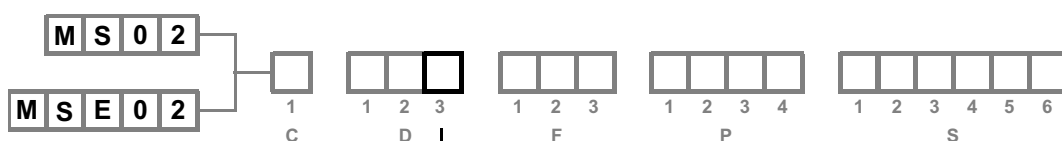
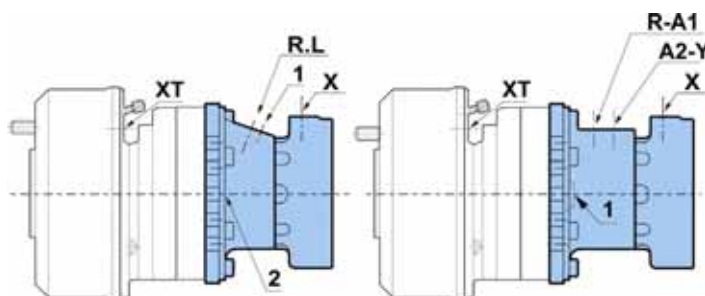
	$\varnothing M$ ⁽¹⁾	$\varnothing U$	S	Ra V		Class	 *
	180,25 [7,10]	240 [9,45]	0,2 [0,008]	12,5 μ m [0,49 μ in]	10 M12 x 2	10,9	120 N.m [89 lb.ft]

(1) +0,3 [+0,012]
+0,2 [+0,008]

* : Min. values for torque and load to be transmitted



Hydraulic connections



	Old standards	Standards	Power supply	Case drain	2 nd displacement control	Control of parking break	Control of drum break
			R-L	1, 2		X	XT
	A	SAE J514	ISO 11 926-1	7/8"-14 UNF	3/4"-16 UNF		9/16"-18 UNF
	3	BSPP	ISO 1 179-1	Ø21 [1/2" dia.]	Ø17 [3/8" dia.]		Ø13 [1/4" dia.]
	4	NF E48 050	ISO 9 974-1	M22x1.5	M18x1.5		M18x1.5
			R-A	1, 2	Y	X	
	A	SAE J514	ISO 11 926-1	7/8"-14 UNF	9/16"-18 UNF	9/16"-18 UNF	9/16"-18 UNF
	3	BSPP	ISO 1 179-1	Ø21 [1/2" dia.]	Ø13 [1/4" dia.]	Ø13 [1/4" dia.]	Ø13 [1/4" dia.]
	4	NF E48 050	ISO 9 974-1	M22x1.5	M14x1.5	M14x1.5	M18x1.5
			R-A1-A2	1, 2		X	
	A	SAE J514	ISO 11 926-1	7/8"-14 UNF	9/16"-18 UNF		9/16"-18 UNF
	3	BSPP	ISO 1 179-1	Ø21 [1/2" dia.]	Ø13 [1/4" dia.]		Ø13 [1/4" dia.]
	4	NF E48 050	ISO 9 974-1	M22x1.5	M14x1.5		M18x1.5
			ISO 9 974-1				M10x1
Max. pressures		MS MSE	bar [PSI]	450 [6 527] 400 [5 802]	1 [15]	30 [435]	30 [435] 120 [1 740]



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



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

MS02 - MSE02

MSE03

MS05 - MSE05

MS08 - MSE08

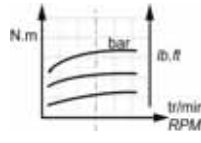
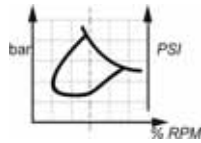
MS11 - MSE11



Efficiency

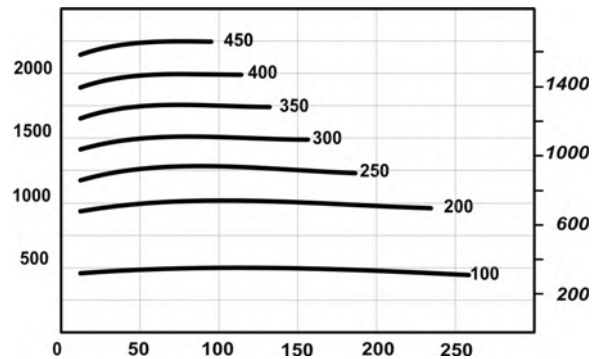
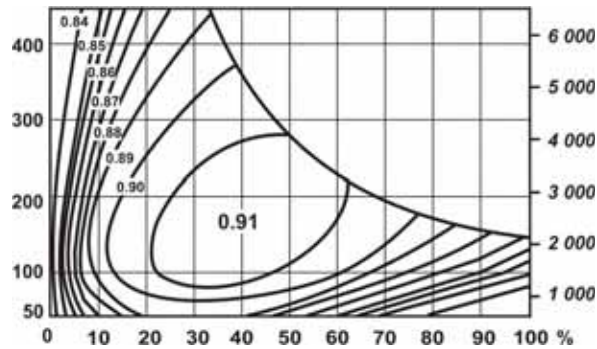
Overall efficiency

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

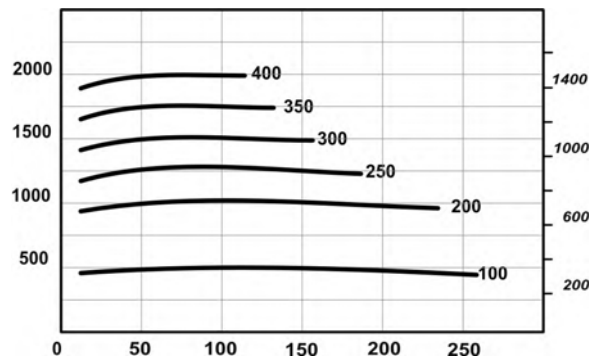
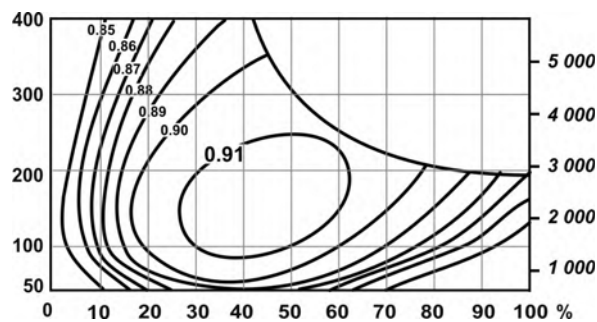


Actual output torque

MS02



MSE02



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



OPTIONS

C				D			F			P				S					
1	2	3	4	1	2	3	1	2	3	4	5	6	7	8	9	10			
M	S	0	2																
M	S	E	0	2						0	0	0	0						



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

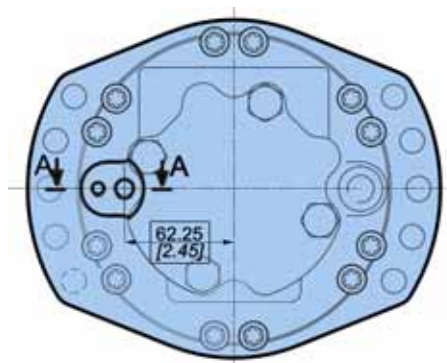
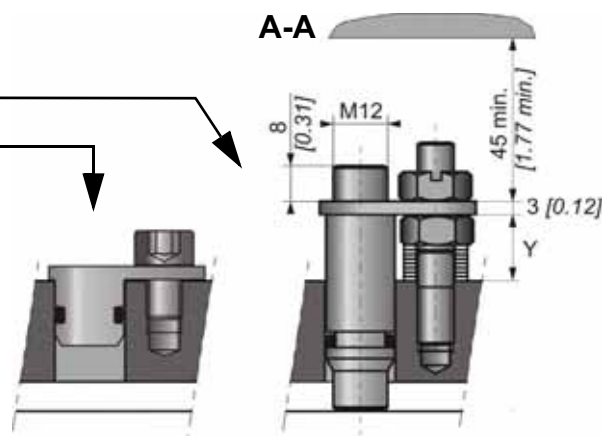
2 - S - 8 Installed speed sensor or predisposition

Designation

T4 Speed sensor installed	2
TR Speed sensor installed	S
Predisposition for speed sensor	8



A-A



Max. length Y = 19

Standard number of pulses per revolution = 40



Hydrobases with option 2 or S are provided with a plug and supplied with a sensor assembly kit.



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



To install the sensor, look at the "Installation guide" brochure No. 801478197L.

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.

H - High efficiency

Reinforced piston sealing to improve volumetric efficiency.



For a precise calculation, consult your Poclain Hydraulics application engineer.

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 your Poclain Hydraulics application engineer.

MS02 - MSE02

MSE03

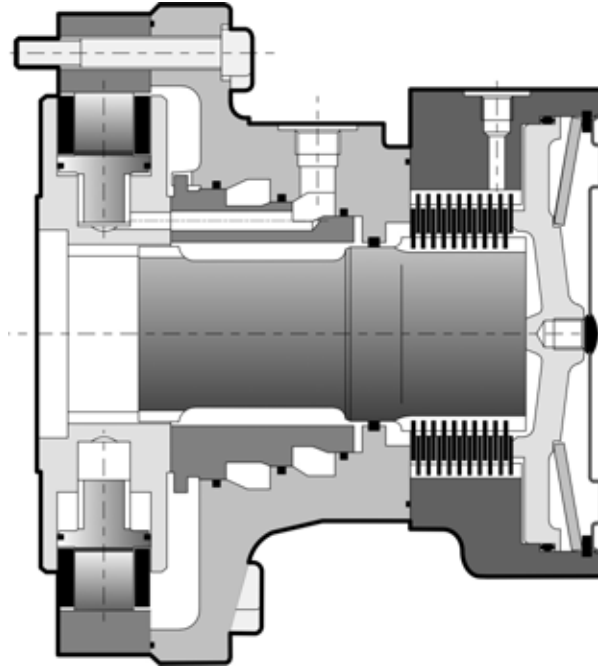
MS05 - MSE05

MS08 - MSE08

MS11 - MSE11



CHARACTERISTICS



Cams with equal lobes				Theoretical torque			Max.power		Max.speed			Max. pressure
												
				at 100 bar	at 1000 PSI							
	cm³/tr [cu.in/rev.]	cm³/tr [cu.in/rev.]	Nm	[lb.ft]	kW [HP]	preferred kW [HP]	non-preferred kW [HP]	tr/min[RPM]	tr/min[RPM]		bar [PSI]	
1	450 [27.4]	225 [13.7]	716	[364]	22 [30]	16.5 [22]	11 [15]	155			350 [5 076]	
2	500 [30.5]	250 [15.2]	795	[404]				140	166	183		

First displacement

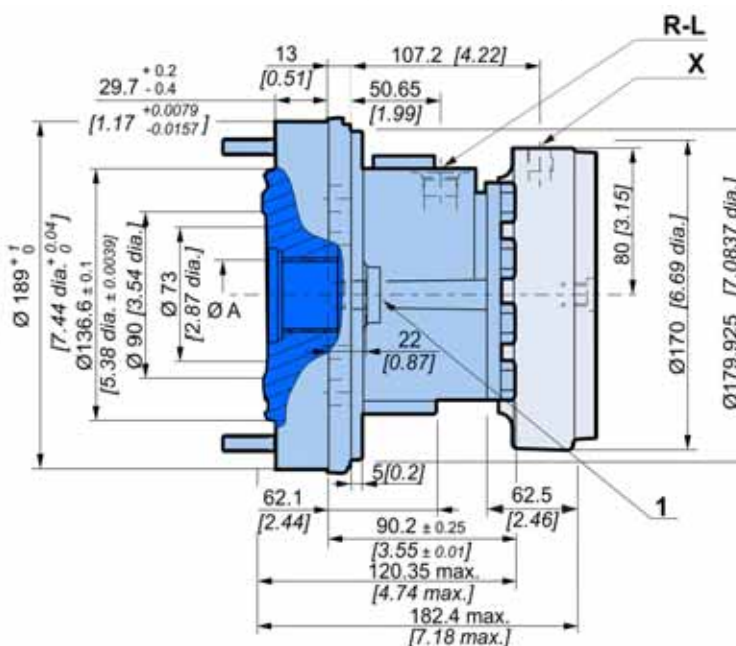
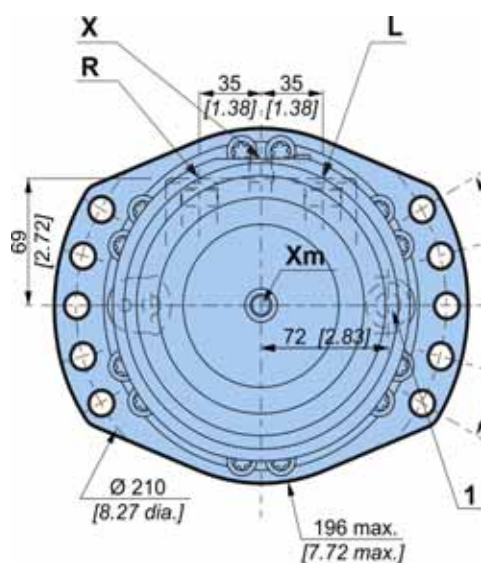
Second displacement



VALVING SYSTEMS AND HYDROBASES

Dimensions for 1-displacement valving

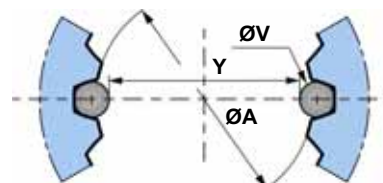
	18,3 kg [40 lb]	24 kg [53 lb]
	0,30 L [18 cu.in]	0,40 L [24 cu.in]



Cylinder block splines

(as per standard NF E22-141)

ØA	Module	Z	Dimension on 2 pins	
			Y	ØV
40 [1,575]	1,667	22	33,446 [1,317]	3,33 [0,131]



You are advised to have the installation validated by your Poclain Hydraulics 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 your Poclain Hydraulics sales engineer.

MS02 - MSE02

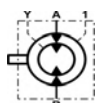
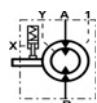
MSE03

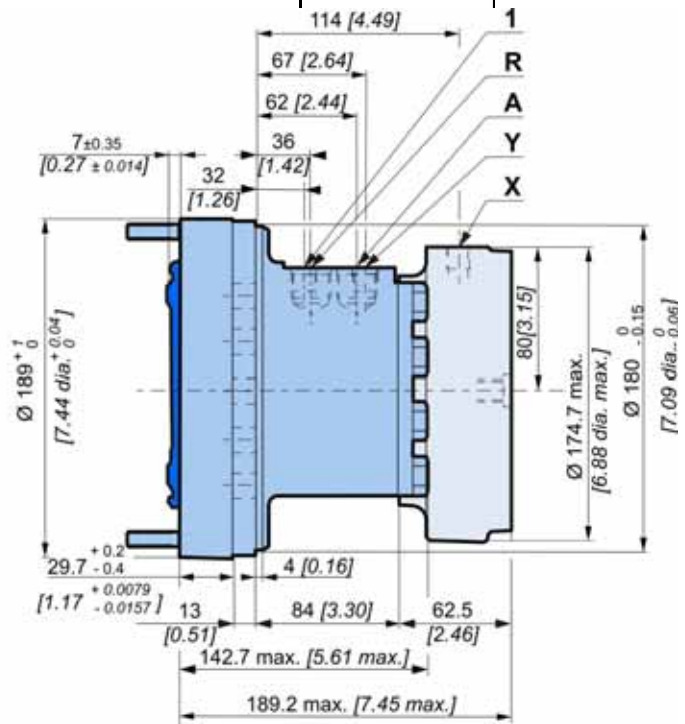
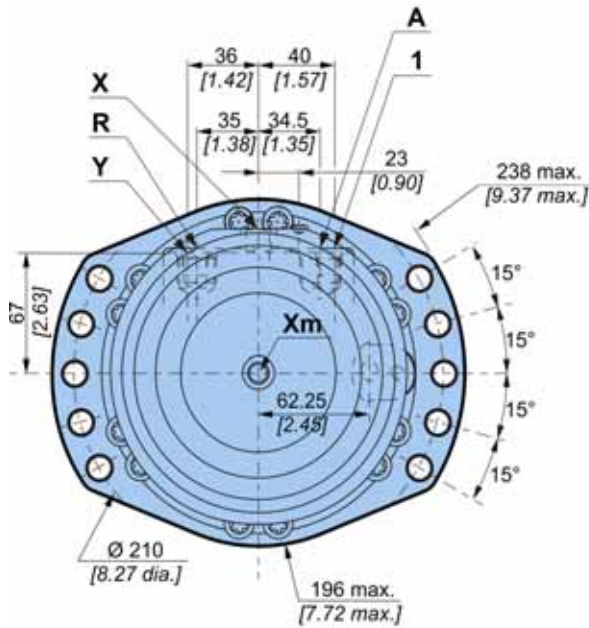
MS05 - MSE05

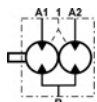
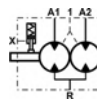
MS08 - MSE08

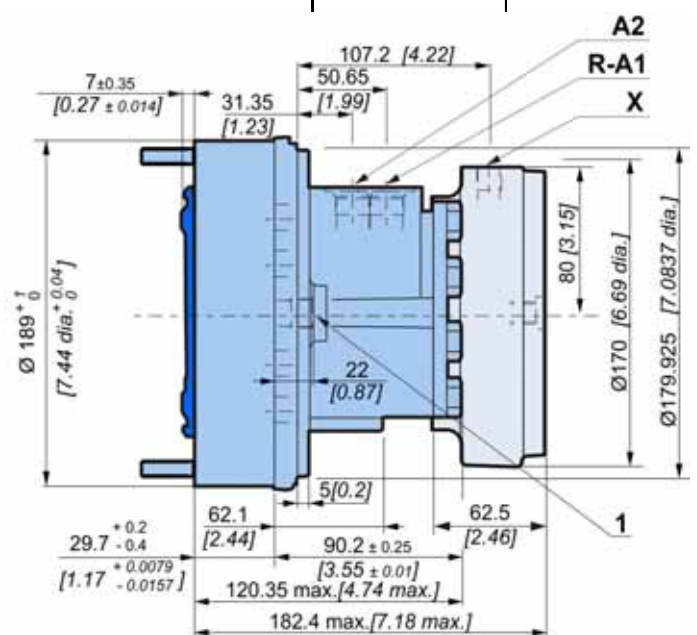
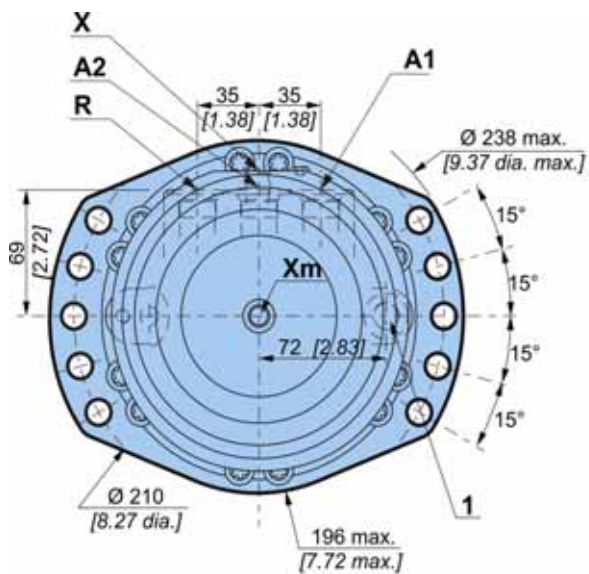
MS11 - MSE11

**Dimensions for 2-displacement valving**

	17,3 kg [38 lb]	23,0 kg [51 lb]
	0,30 L [18 cu.in]	0,40 L [24 cu.in]
		

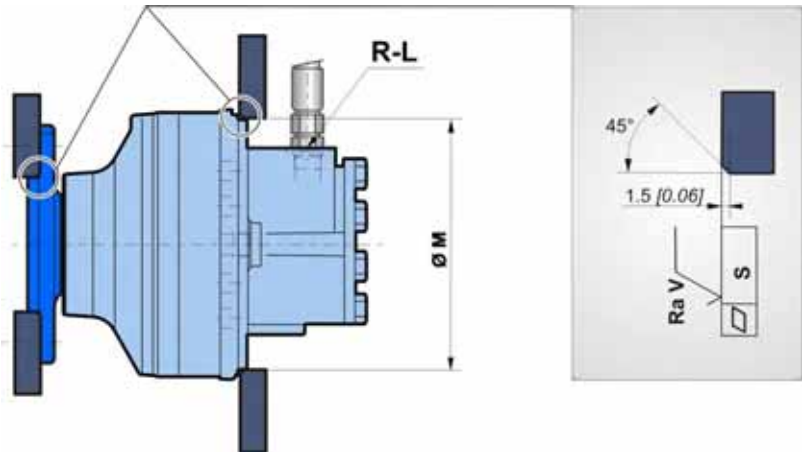
**Dimensions for Twin-Lock™ valving**

	17,3 kg [38 lb]	23,0 kg [51 lb]
	0,30 L [18 cu.in]	0,40 L [24 cu.in]
		





Chassis mountings



Take care over the immediate environment of the connections.

Ø M ⁽¹⁾	Ø U	S	Ra V		Class	 (*)
180,25 [7,10]	210 [8,27]	0,2 [0,008]	12,5µm [0,49µin]	2 x 5 M12 x 2	10,9	120 N.m [88,5 lb.ft]

(1) +0,3 [+0,012]
+0,2 [+0,008]

* : Min. values for torque and load to be transmitted.

MS02 - MSE02

MSE03

MS05 - MSE05

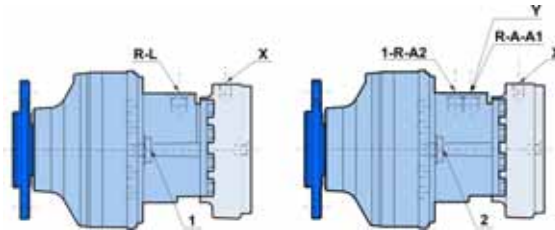
MS08 - MSE08

MS11 - MSE11



Hydraulic connections

connections



M S E 0 3

C

D

F

P

S

	Old standards	Standards	Power supply	Case drain	2 nd displacement control	Control of parking break
			R-L	1, 2		X
	A	SAE J514 ISO 11 926-1	7/8"-14 UNF Ø21 [1/2" dia.]	9/16"-18 UNF Ø13 [1/4" dia.]		9/16"-18 UNF Ø13 [1/4" dia.]
3	BSPP	ISO 1 179-1				
			R-A	1, 2	Y	X
	A	SAE J514 ISO 11 926-1	7/8"-14 UNF	9/16"-18 UNF	9/16"-18 UNF	9/16"-18 UNF
			R-A1-A2	1, 2		X
	A	SAE J514 ISO 11 926-1	7/8"-14 UNF	9/16"-18 UNF		9/16"-18 UNF
3	BSPP	ISO 1 179-1	Ø21 [1/2" dia.]	Ø13 [1/4" dia.]		Ø13 [1/4" dia.]
Max. pressures		MS bar [PSI]	350 [5 076]	1 [15]	30 [435]	30 [435]



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

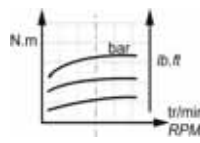
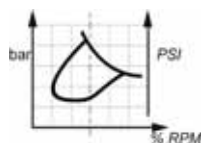


To find the connections' tightening torques, see the brochure "Installation guide" N° 801478197L.

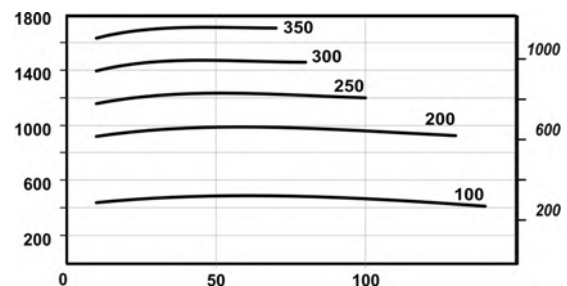
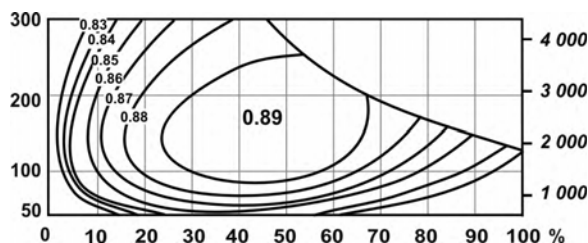
Efficiency

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



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



OPTIONS

					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	3								0	0	0	0						

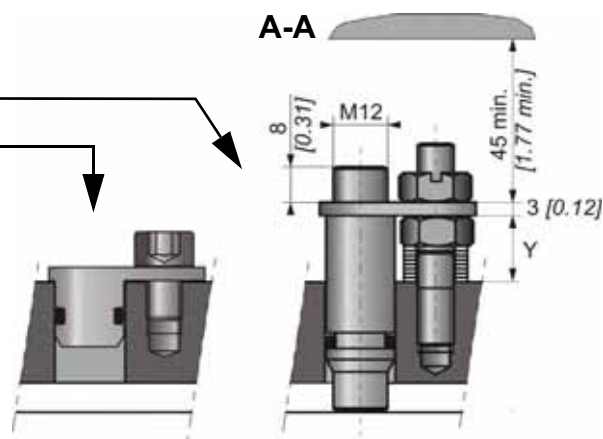
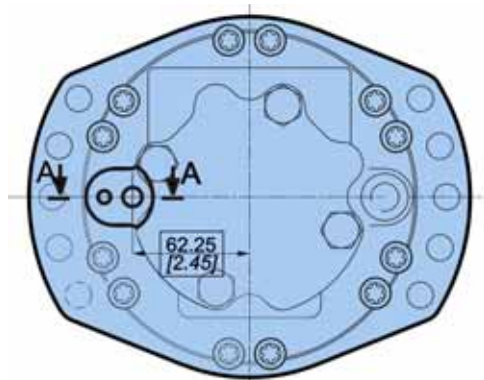


You can accumulate more than one optional part. Consult your Poclain Hydraulics sales engineer.

2 - S - 8 Installed speed sensor or predisposition

Designation

T4 Speed sensor installed	2
TR Speed sensor installed	S
Predisposition for speed sensor	8



Max. length Y = 19

Standard number of pulses per revolution = 40



Hydrobases with option 2 or S are provided with a plug and supplied with a sensor assembly kit.



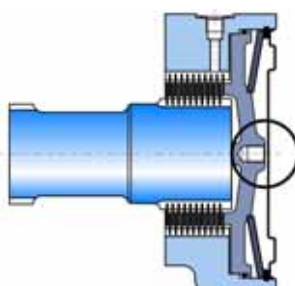
Look at the "Mobile Electronic" N° A01889D technical catalogue for the sensor specifications and its connection.



To install the sensor, look at the "Installation guide" brochure No. 801478197L.

3 - Brake environmental cover without plug

No plug or hole in the cover.
(see figure opposite)



MS02 - MSE02

MSE03

MS05 - MSE05

MS08 - MSE08

MS11 - MSE11



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.

H - High efficiency

Reinforced piston sealing to improve volumetric efficiency.



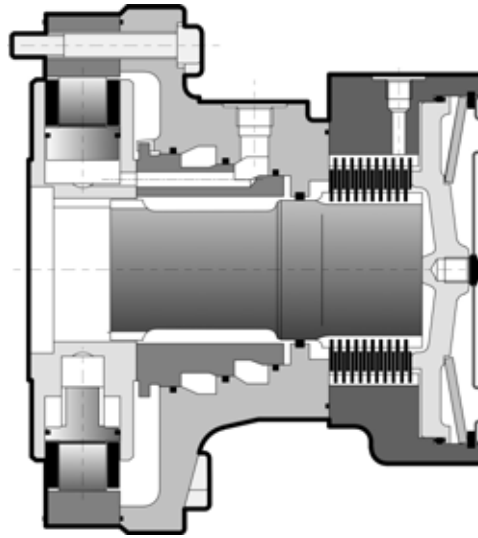
For a precise calculation, consult your Poclain Hydraulics application engineer.



MS02 - MSE02
MSE03
MS05 - MSE05
MS08 - MSE08
MS11 - MSE11



CHARACTERISTICS



Motor inertia = 0.03 kg.m²
Noise emissions = 60 dBA

				Theoretical torque		Max.power			Max. speed		Max. pressure
	①	②	①		①	② preferred	② non-preferred	① ②			
			at 100 bar	at 1000 PSI							
	cm³/tr [cu.in./rev.]	cm³/tr [cu.in./rev.]	Nm	[lb.ft]				kW [HP]	kW [HP]	kW [HP]	
Cams with equal lobes	MS05	6	260 [15,9]	130 [7,9]	413 [210]	29 [39]	19 [25]	15 [20]		265	450 [6 527]
		8	376 [22,9]	188 [11,5]	598 [304]					250	
		0	468 [28,5]	234 [14,3]	744 [378]					240	
		1	514 [31,3]	257 [15,7]	817 [416]					220	
		2	560 [34,2]	280 [17,1]	890 [453]					200	
	MSE05	8	530 [32,3]	265 [16,2]	843 [429]	29 [39]	19 [25]	15 [20]		200	400 [5 802]
		0	625 [38,1]	312,5 [19,1]	994 [505]					190	
		1	688 [42,0]	344 [21,0]	1094 [556]					175	
		2	750 [45,7]	375 [22,9]	1193 [606]					160	
		3	820 [50,0]	410 [25,0]	1304 [663]					145	
Cams with unequal lobes	MS05	D	419 [25,6]	$\left\langle \begin{matrix} 280 [17,1] \\ 138 [8,4] \end{matrix} \right\rangle$	666 [339]	29 [39]	19 [25]	15 [20]		200	450 [6 527]
		N	422 [25,7]	$\left\langle \begin{matrix} 234 [14,3] \\ 188 [11,5] \end{matrix} \right\rangle$	671 [341]					240	
		H	445 [27,1]	$\left\langle \begin{matrix} 257 [15,7] \\ 188 [11,5] \end{matrix} \right\rangle$	708 [360]					220	
		A	468 [28,5]	$\left\langle \begin{matrix} 280 [17,1] \\ 188 [11,5] \end{matrix} \right\rangle$	744 [378]					200	
	MSE05	D	560 [34,2]	$\left\langle \begin{matrix} 374 [22,8] \\ 185 [11,3] \end{matrix} \right\rangle$	890 [453]	29 [39]	19 [25]	15 [20]		160	400 [5 802]
		N	564 [34,4]	$\left\langle \begin{matrix} 313 [19,1] \\ 251 [15,3] \end{matrix} \right\rangle$	897 [456]					190	
		H	595 [36,3]	$\left\langle \begin{matrix} 344 [21,0] \\ 251 [15,3] \end{matrix} \right\rangle$	946 [481]					175	
		A	625 [38,1]	$\left\langle \begin{matrix} 374 [22,8] \\ 251 [15,3] \end{matrix} \right\rangle$	994 [505]					160	

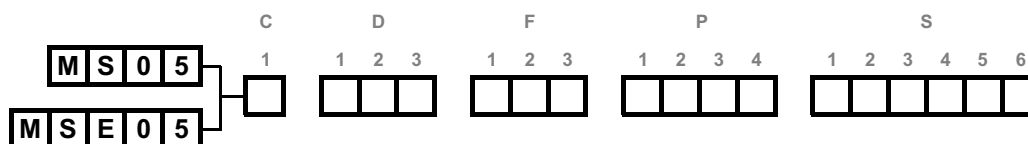
1 First displacement

2 Second displacement

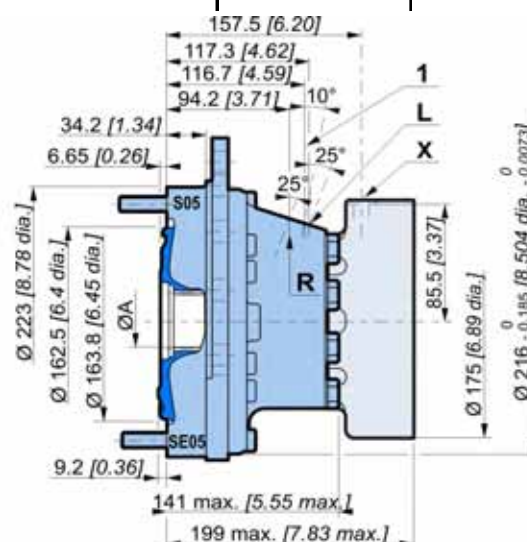
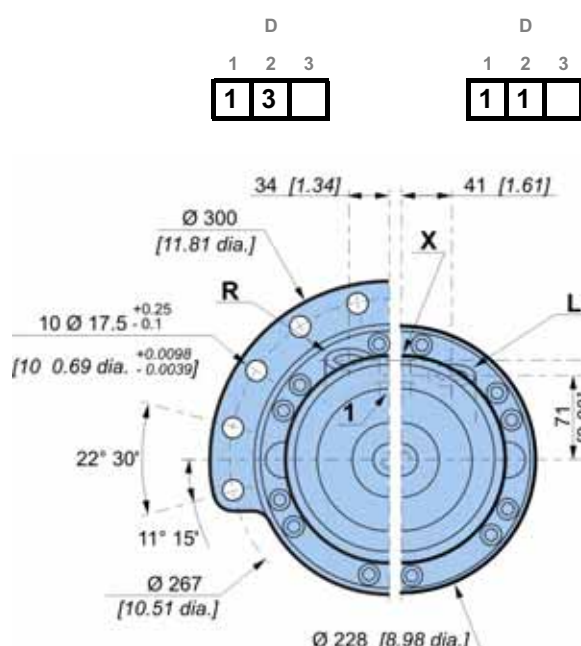
* See option "M" for higher speed.



VALVING SYSTEMS AND HYDROBASES



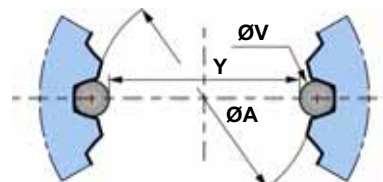
Dimensions for 1-displacement valving



Cylinder block splines

(as per standard NF E22-141)

ØA	Module	Z	Dimension on 2 pins	
			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 your Poclain Hydraulics 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 your Poclain Hydraulics sales engineer.

MS02 - MSE02

MSE03

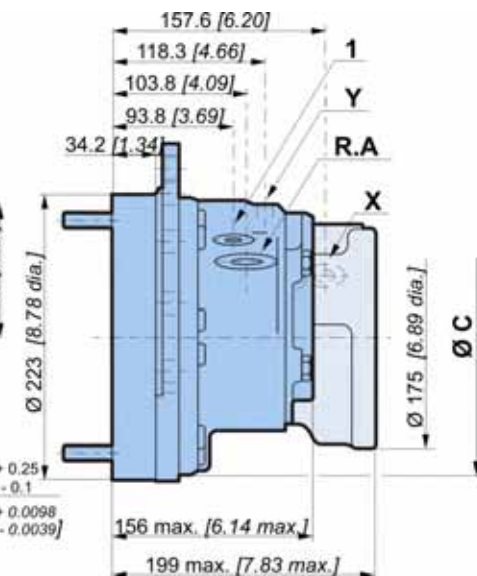
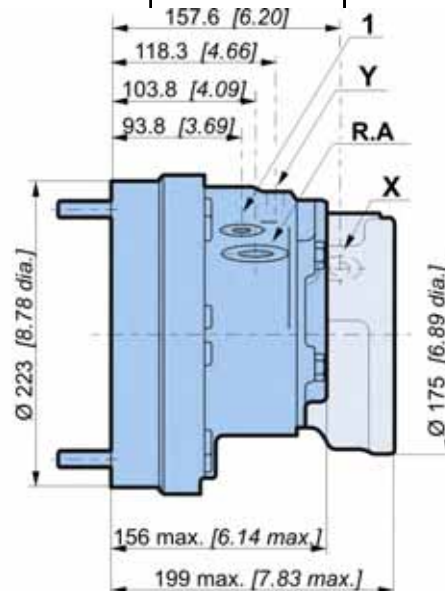
MS05 - MSE05

MS08 - MSE08

MS11 - MSE11



	27,6 kg [61 lb]	35,2 kg [77 lb]
	0,50 L [30 cu.in]	1,00 L [60 cu.in]

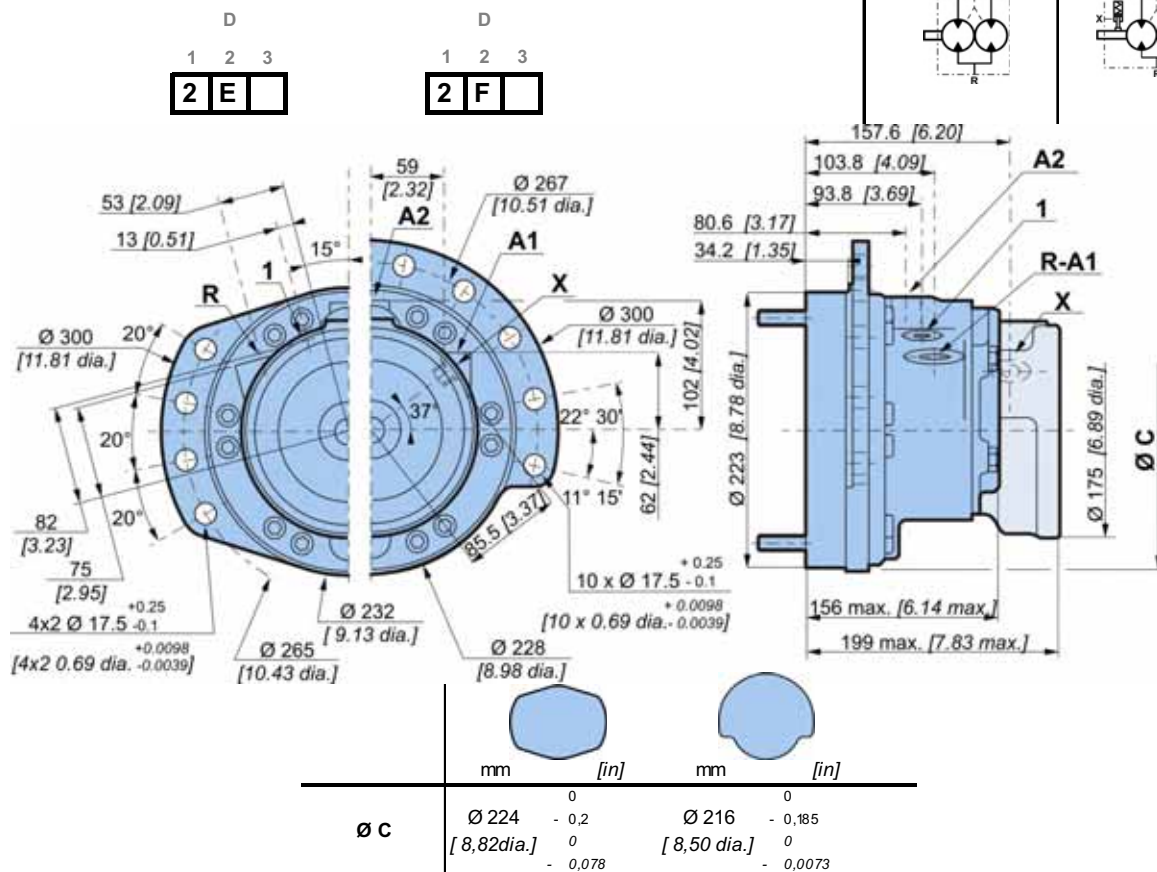
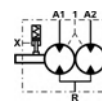
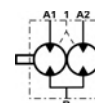


		
	mm [in]	mm [in]
Ø C	Ø 224	Ø 216
	- 0,2	- 0,185
	[8,82 dia.]	[8,50 dia.]
	0 - 0,078	0 - 0,0073



Dimensions for Twin-Lock™ valving

	27,6 kg [61 lb]	35,2 kg [77 lb]
	0,50 L [30 cu.in]	1,00 L [60 cu.in]



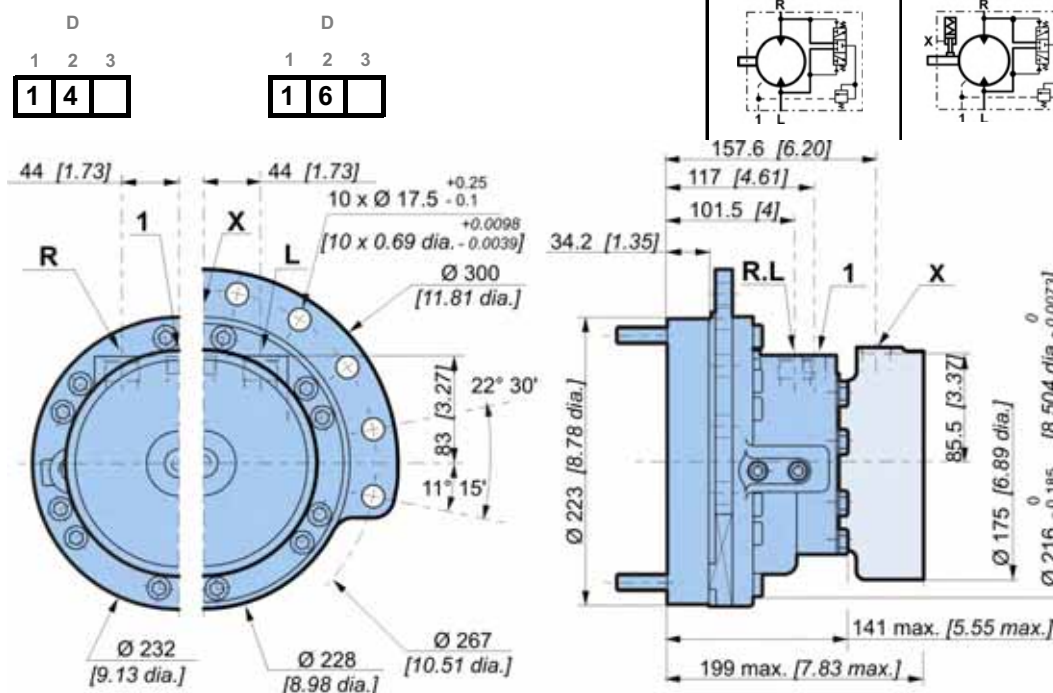
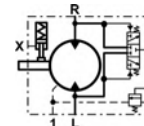
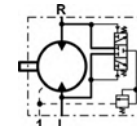
MS02 - MSE02

MSE03

MS05 - MSE05

Dimensions for 1-displacement valving with built-in exchange

	23,7 kg [52 lb]	31,7 kg [70 lb]
	0,50 L [30 cu.in]	1,00 L [60 cu.in]



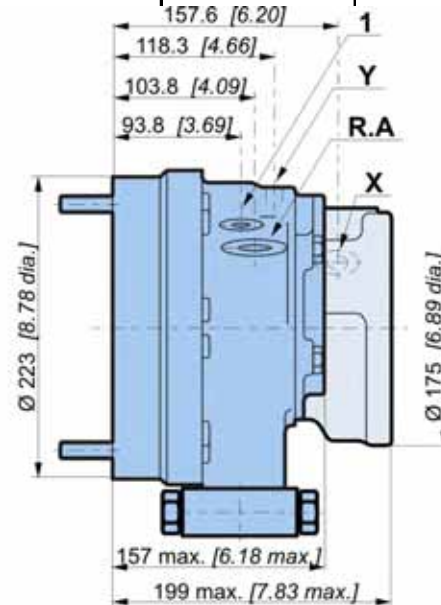
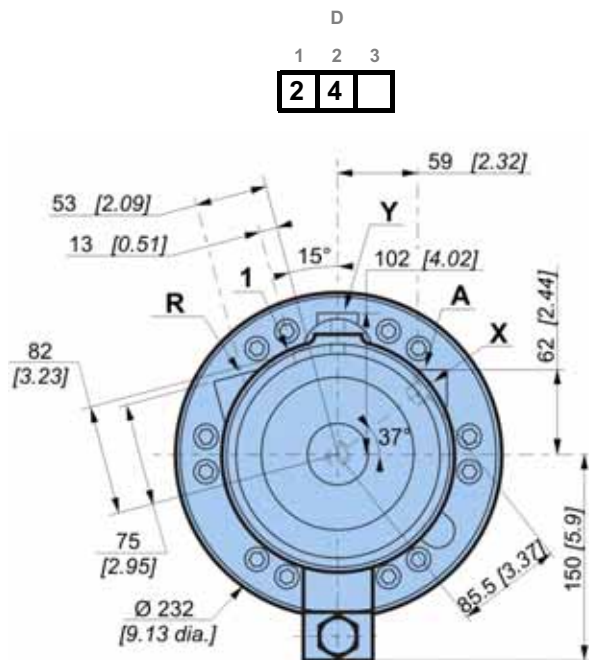
MS08 - MSE08

MS11 - MSE11



Dimensions for 2-displacement valving with add-on exchange

	27,6 kg [61 lb]	35,2 kg [77 lb]
	0,50 L [30 cu.in]	1,00 L [60 cu.in]



Exchange

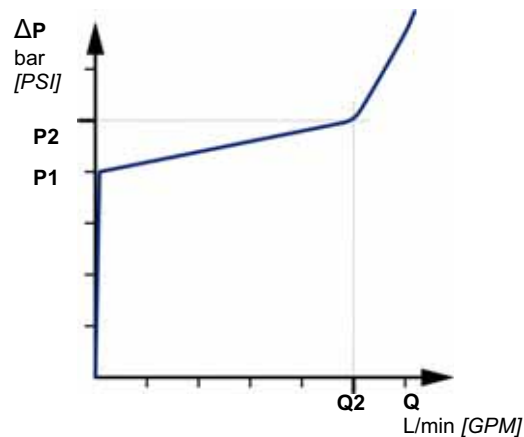
When a coding request is made, you must specify information on the threshold of the selector and the valve.

Selector spool

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

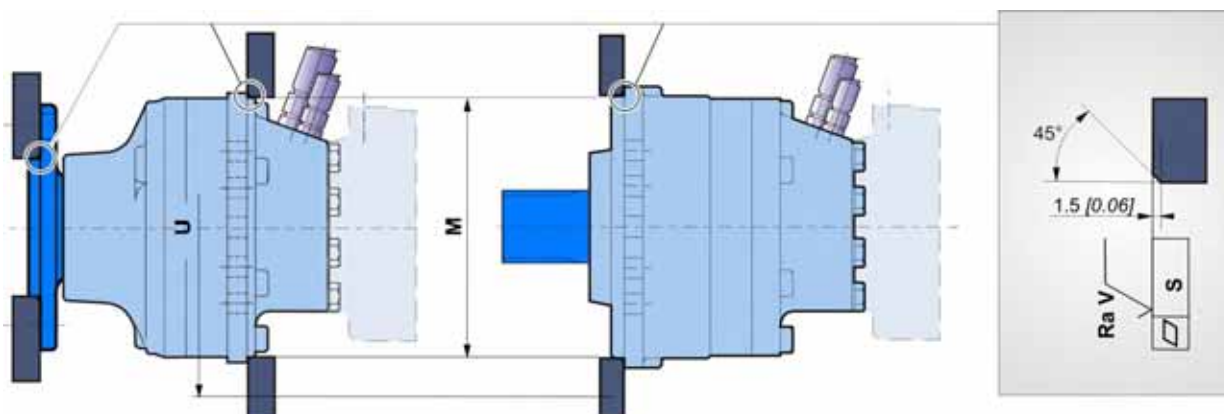
Fitted valve

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]





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	210 N.m [155 lb.ft]
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]

* : Min. values for torque and load to be transmitted.



See generic installation motors N°801478197L.

MS02 - MSE02

MSE03

MS05 - MSE05

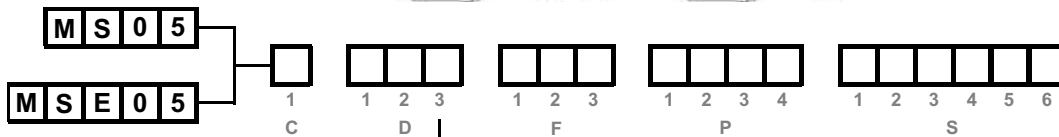
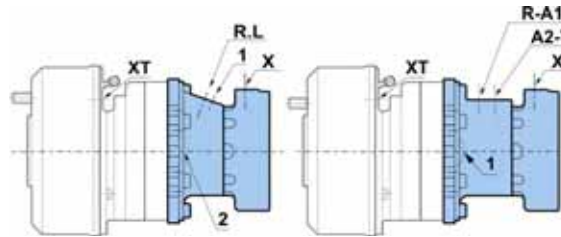
MS08 - MSE08

MS11 - MSE11



Hydraulic connections

connections



		Old standards	Standards	Power supply	Case drain	2 nd displacement control	Control of parking break	Control of drum break
				R-L	1, 2		X	XT
	A	SAE J514	ISO 11 926-1	1"1/16-12 UNF	3/4"-16 UNF		9/16"-18 UNF	
	3	BSPP	ISO 1 179-1	Ø27 [3/4" dia.]	Ø17 [3/8" dia.]		Ø13 [1/4" dia.]	
	8	NF E48 050	ISO 6 149-1	M18x1.5	M16x1.5		M14x1.5	
	A	SAE J514	ISO 11 926-1	1"1/16-12 UNF	3/4"-16 UNF	9/16"-18 UNF	9/16"-18 UNF	
	3	BSPP	ISO 1 179-1	Ø27 [3/4" dia.]	Ø17 [3/8" dia.]	Ø13 [1/4" dia.]	Ø13 [1/4" dia.]	
	4	NF E48 050	ISO 9 974-1	M27x2	M16x1.5	M14x1.5	M14x1.5	
	A	SAE J514	ISO 11 926-1	1"1/16-12 UNF	3/4"-16 UNF	3/4"-16 UNF	9/16"-18 UNF	
	3	BSPP	ISO 1 179-1	Ø27 [3/4" dia.]	Ø21 [1/2" dia.]	Ø17 [3/8" dia.]	Ø13 [1/4" dia.]	
	4	NF E48 050	ISO 9 974-1	M27x2	M22x1.5	M16x1.5	M14x1.5	
			ISO 9 974-1					M10x1
Max. pressures	MS		bar [PSI]	450 [6 527]	450 [6 527]	1 [15]	30 [435]	30 [435]
	MSE			400 [5 802]	400 [5 802]			120 [1 740]



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



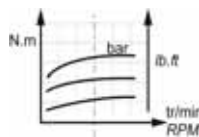
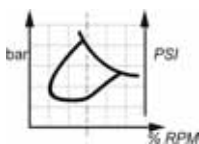
To find the connections' tightening torques, see the brochure "Installation guide" N° 801478197L.



Efficiency

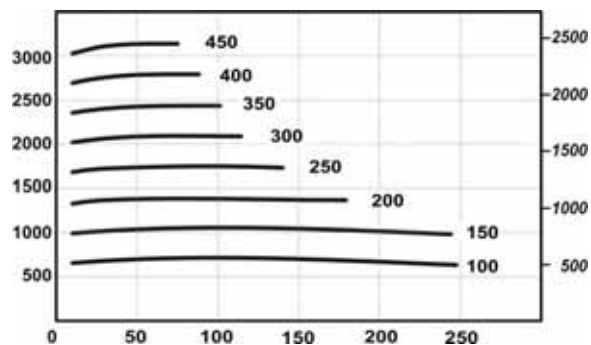
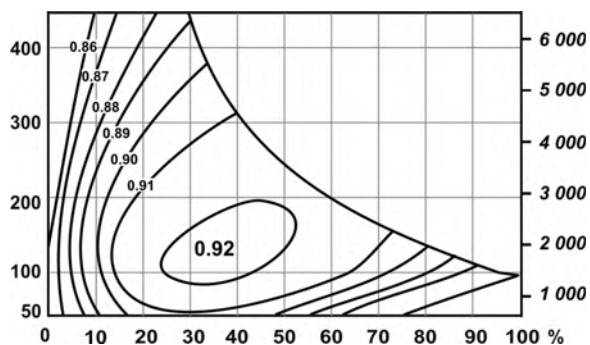
Overall efficiency

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

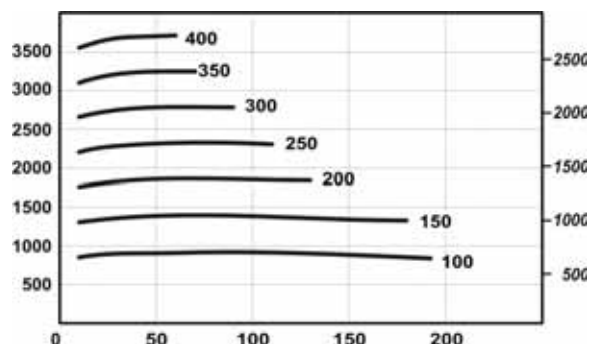
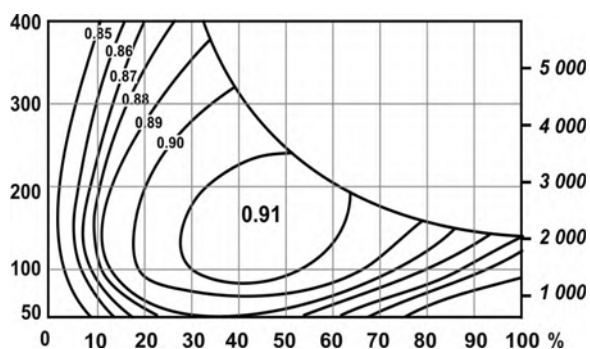


Actual output torque

MS05



MSE05



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

MS02 - MSE02

MSE03

MS05 - MSE05

MS08 - MSE08

MS11 - MSE11



OPTIONS

				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								0	0	0	0						
M	S	E	0	5																

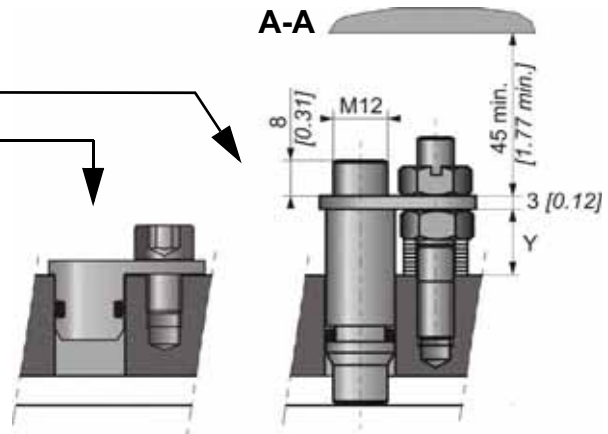
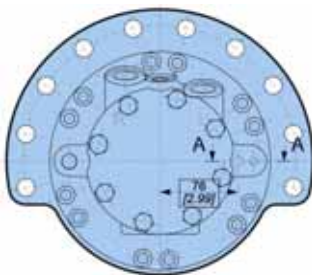


You can accumulate more than one optional part. Consult your Poclain Hydraulics sales engineer.

2 - S - 8 Installed speed sensor or predisposition

Designation

T4 Speed sensor installed	2
TR Speed sensor installed	S
Predisposition for speed sensor	8

**A-A**

Max. length Y = 20.7
Standard number of pulses per revolution = 53



Hydrobases with option 2 or S are provided with a plug and supplied with a sensor assembly kit.



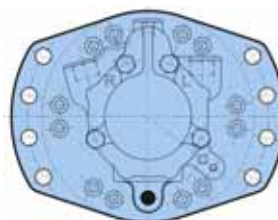
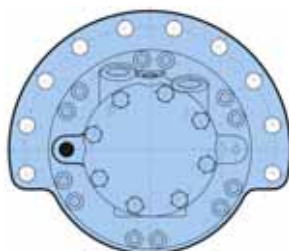
Look at the "Mobile Electronic" N° A01889D technical catalogue for the sensor specifications and its connection.



To install the sensor, look at the "Installation guide" brochure No. 801478197L.

5 - Drainage

Additional drain in the cover.



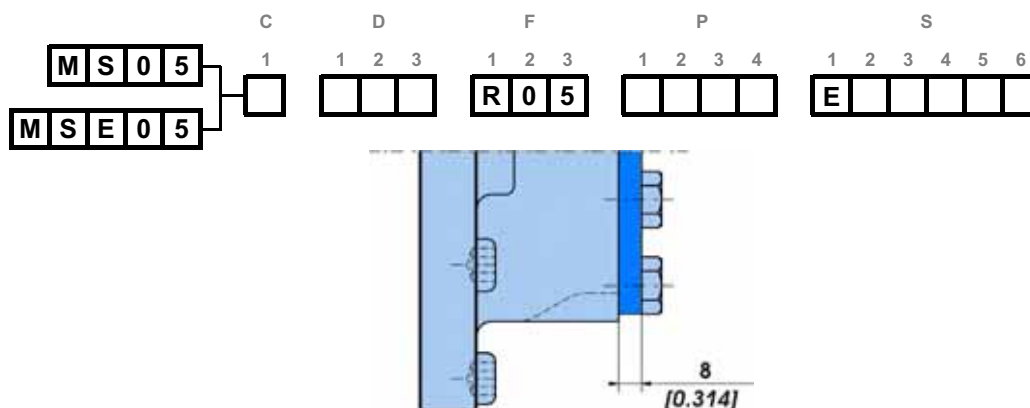


7 - Diamond™

Special treatment of the motor core which considerably increases its strength, making the motor much more tolerant to temporary instances of the operating conditions being exceeded.

E - Reinforced sealing

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



H - High efficiency

Reinforced piston sealing to improve volumetric efficiency.



For a precise calculation, consult your Poclain Hydraulics application engineer.

M - High speed

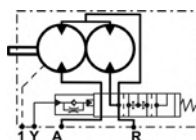
Under certain conditions, an increase in the maximum speed of 30% above the values indicated in the table on page 2 is possible.



For a precise calculation, consult your Poclain Hydraulics application engineer.

T - Soft Shift™

Progressive displacement change (cushioned slide-valve)



Consult your Poclain Hydraulics sales engineer.

MS02 - MSE02

MSE03

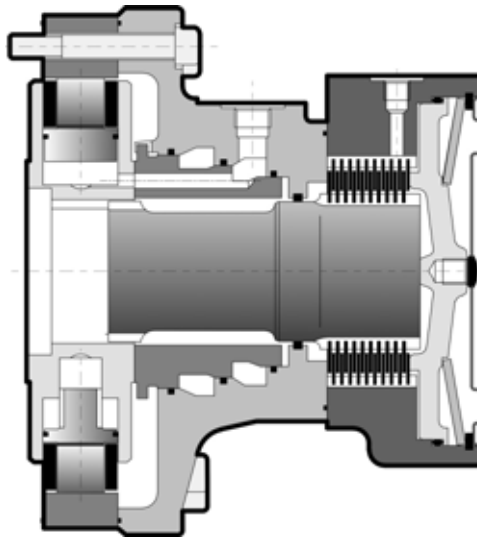
MS05 - MSE05

MS08 - MSE08

MS11 - MSE11



CHARACTERISTICS



Motor inertia = 0.05 kg.m²
Noise emissions = 60 dBA

		Theoretical torque				Max.power			Max. speed		Max. pressure
											
			at 100 bar	at 1000 PSI							preferred
		cm³/tr <i>[cu.in/rev.]</i>	cm³/tr <i>[cu.in/rev.]</i>	Nm	<i>[lb.ft]</i>	kW <i>[HP]</i>	kW <i>[HP]</i>	kW <i>[HP]</i>			
Cams with equal lobes	MS08	6	467 <i>[28,5]</i>	234 <i>[14,2]</i>	743 <i>[378]</i>	41 <i>[55]</i>	27 <i>[36]</i>	21 <i>[28]</i>		210	450 <i>[6 527]</i>
		8	627 <i>[38,2]</i>	314 <i>[19,1]</i>	997 <i>[507]</i>					210	
		9	702 <i>[42,8]</i>	351 <i>[21,4]</i>	1116 <i>[568]</i>					185	
		0	780 <i>[47,6]</i>	390 <i>[23,8]</i>	1240 <i>[631]</i>					170	
		1	857 <i>[52,3]</i>	429 <i>[26,1]</i>	1363 <i>[693]</i>					155	
		2	934 <i>[57,0]</i>	467 <i>[28,5]</i>	1485 <i>[755]</i>					140	
	MSE08	0	1 043 <i>[63,6]</i>	522 <i>[31,8]</i>	1658 <i>[843]</i>	41 <i>[55]</i>	27 <i>[36]</i>	21 <i>[28]</i>		130	400 <i>[5 802]</i>
		1	1 146 <i>[69,9]</i>	573 <i>[34,9]</i>	1822 <i>[927]</i>					110	
		2	1 248 <i>[76,1]</i>	624 <i>[38,1]</i>	1984 <i>[1 009]</i>					105	
	Cams with unequal lobes	MS08	Q	623 <i>[38,0]</i> 	390 <i>[23,8]</i> 233 <i>[14,2]</i>	991 <i>[504]</i>	41 <i>[55]</i>	27 <i>[36]</i>	21 <i>[28]</i>		170
D			700 <i>[42,7]</i> 	467 <i>[28,5]</i> 233 <i>[14,2]</i>	1113 <i>[566]</i>					140	
A			780 <i>[47,6]</i> 	467 <i>[28,5]</i> 313 <i>[19,1]</i>	1240 <i>[631]</i>					140	
MSE08		Q	833 <i>[50,8]</i> 	522 <i>[31,8]</i> 312 <i>[19,0]</i>	1324 <i>[674]</i>	41 <i>[55]</i>	27 <i>[36]</i>	21 <i>[28]</i>		125	400 <i>[5 802]</i>
		D	936 <i>[57,1]</i> 	624 <i>[38,1]</i> 312 <i>[19,0]</i>	1488 <i>[757]</i>					105	
		A	1 043 <i>[63,6]</i> 	624 <i>[38,1]</i> 418 <i>[25,5]</i>	1658 <i>[843]</i>					105	

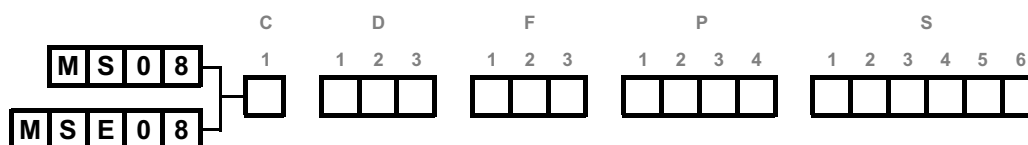
1 First displacement

2 Second displacement

* See option "M" for higher speed.

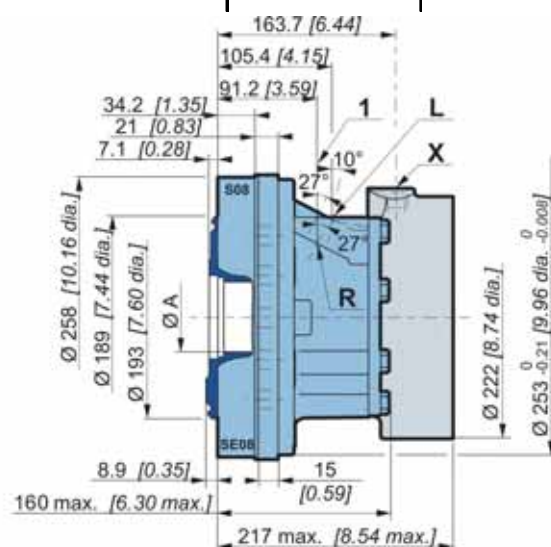
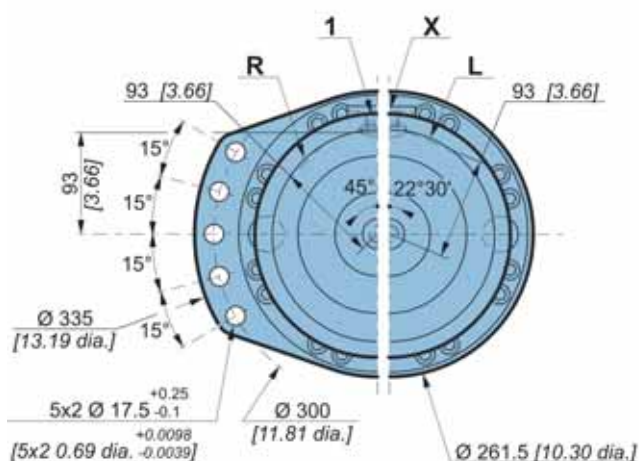
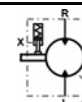
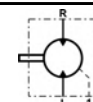


VALVING SYSTEMS AND HYDROBASES



Dimensions for 1-displacement valving

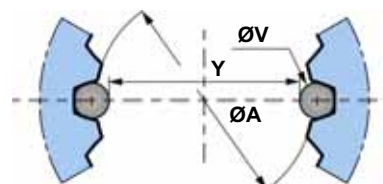
	34,4 kg [76 lb]	51,8 kg [114 lb]
	0,50 L [30 cu.in]	1,00 L [60 cu.in]



Cylinder block splines

(as per standard NF E22-141)

ØA	Module	Z	Dimension on 2 pins	
			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 your Poclain Hydraulics application engineer before using the hydraulic unit in an application.



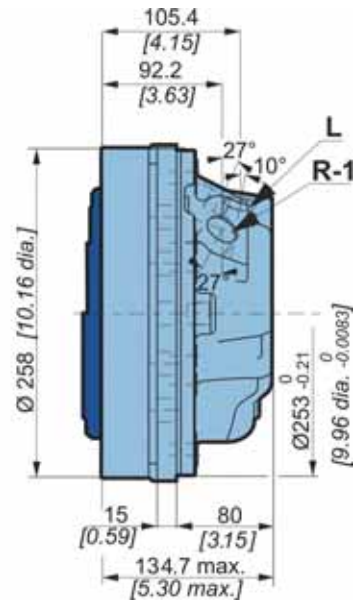
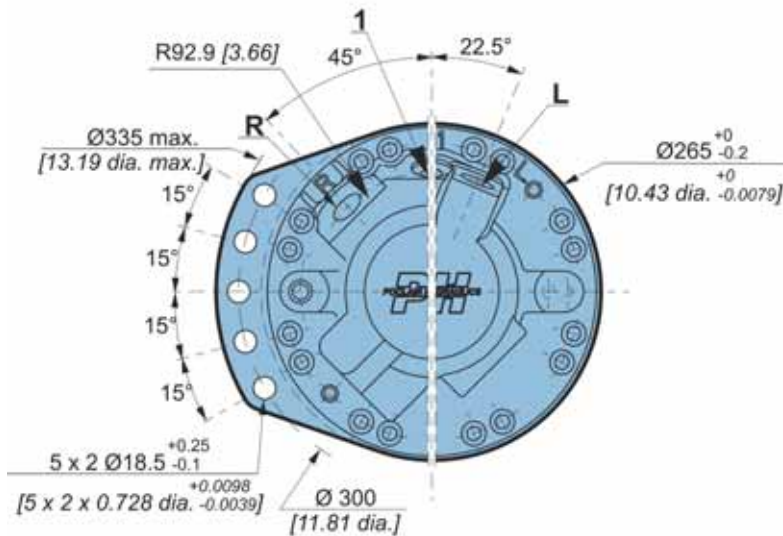
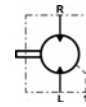
We must provide you with a detailed plan of the interface for any hydraulic unit use, consult your Poclain Hydraulics sales engineer.

**Dimensions for one-piece valving single displacement**

35 kg [77 lb]

0,50 L [30 cu.in]

D			F			D			F		
1	2	3	1	2	3	1	2	3	1	2	3
1	2		A	0	8	1	1		A	0	8

**Dimensions for 2-displacement valving**

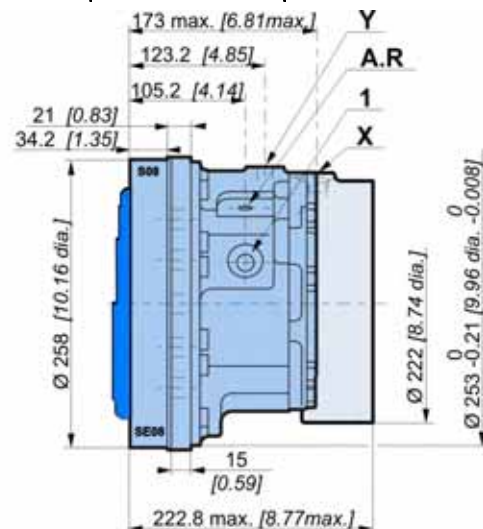
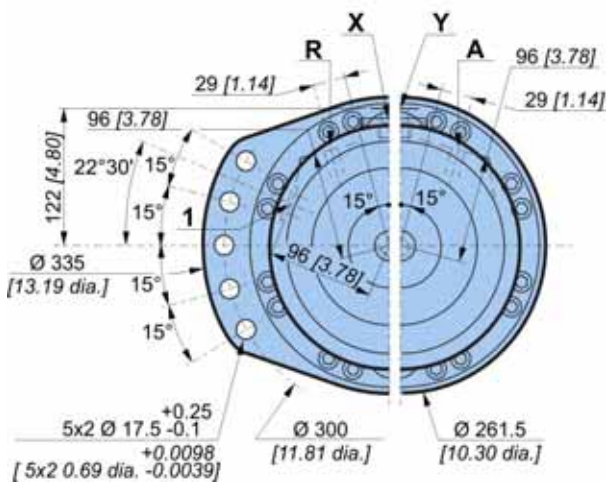
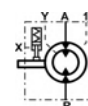
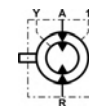
37,8 kg [83 lb]

0,50 L [30 cu.in]

54,7 kg [120 lb]

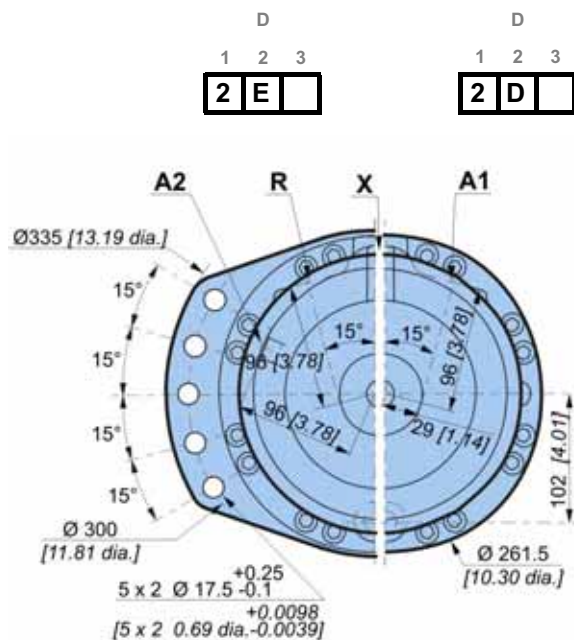
1,00 L [60 cu.in]

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

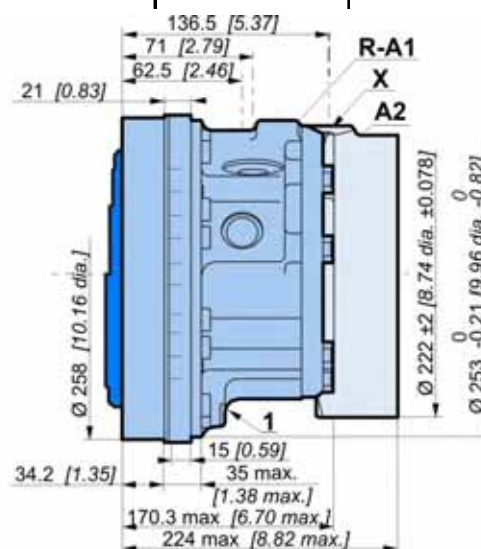




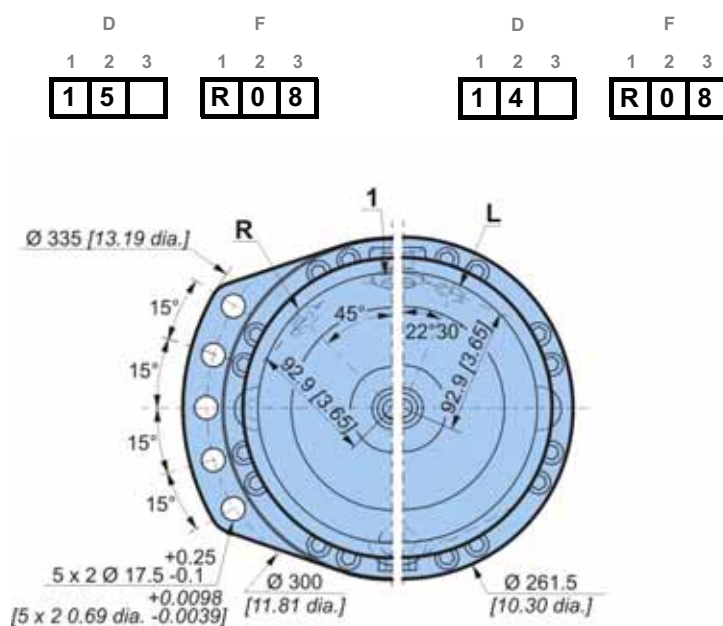
Dimensions for Twin-Lock™ valving



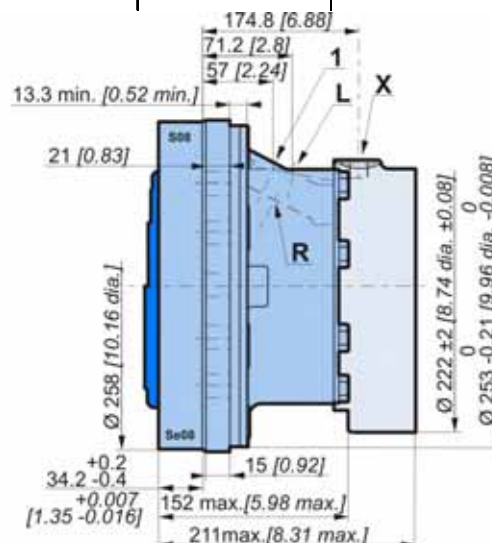
	37,8 kg [83 lb]	54,7 kg [120 lb]
	0,50 L [30 cu.in]	1,00 L [60 cu.in]



Dimensions for 1-displacement valving with built-in exchange



	34,4 kg [76 lb]	51,8 kg [114 lb]
	0,50 L [30 cu.in]	1,00 L [60 cu.in]





Exchange

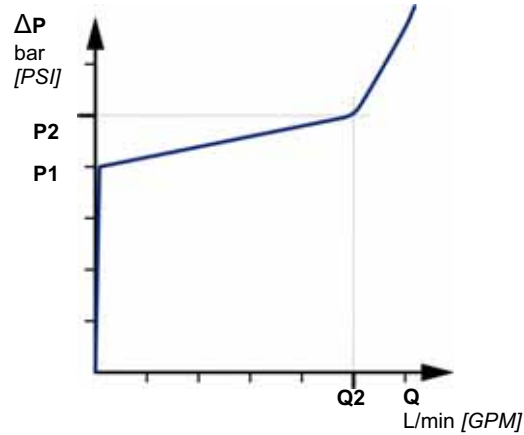
When a coding request is made, you must specify information on the threshold of the selector and the valve.

Selector spool

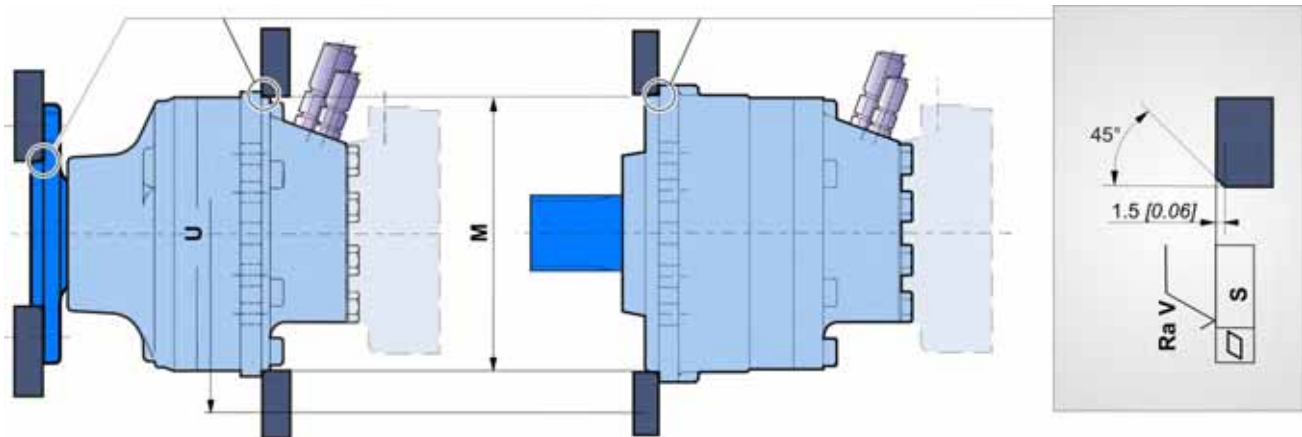
Selector threshold bar [PSI]	Opening pressure of selector bar [PSI]
8 [116]	9.9 ± 1.2 [144 ± 17]

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]



Chassis mountings



Take care over the immediate environment of the connections.

	$\emptyset M$ ⁽¹⁾	$\emptyset U$	S	Ra V		Class	 *
Wheel motor	253 [9,96]	300 [11,81]	0,2	12,5 μm [0,49 μin]	2 x 5 M16 x 2	8,8	210 Nm [155 lb.ft]
Shaft motor	224 [8,82]	300 [11,81]	[0,008]				

(1) +0,3 [+0,012]
+0,2 [+0,008]

* : Min. values for torque and load to be transmitted.

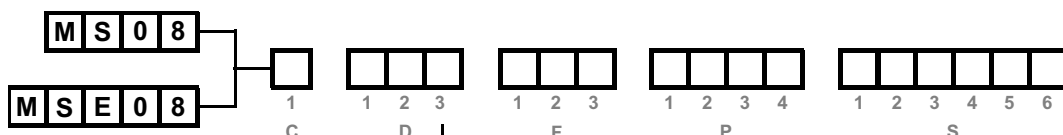
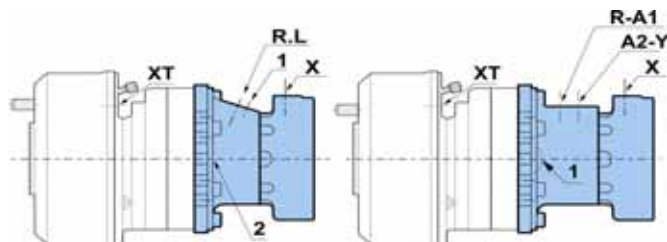


See generic installation motors N°801478197L.



Hydraulic connections

connections



	Old standards	Standards	Power supply	Case drain	2 nd displacement control	Control of parking break	Control of drum break
			R-L	1, 2		X	XT
	A	SAE J514 ISO 11 926-1	1"1/16-12 UNF	3/4"-16 UNF		9/16"-18 UNF	
	1	ISO 6 162 DIN 3 852	ISO 6 162 ISO 9 974-1	DN13 PN400	M18x1.5	M16x1.5	
	2	ISO 6 162 BSPP	ISO 6 162 ISO 1 179-1	DN13 PN400	Ø17 [3/8" dia.]	Ø17 [3/8" dia.]	
	4	NF E48 050	ISO 9 974-1	M22x1.5	M18x1.5	M16x1.5	
	5	DIN 3 852	ISO 9 974-1	M27x2	M18x1.5	M16x1.5	
	8	NF E48 050	ISO 6 149-1	M22x1.5	M18x1.5	M16x1.5	
			R-A	1, 2	Y	X	
	A	SAE J514 ISO 11 926-1	1"1/16-12 UNF	3/4"-16 UNF	9/16"-18 UNF	9/16"-18 UNF	
	1	ISO 6 162 DIN 3 852	ISO 6 162 ISO 9 974-1	DN13 PN400	M18x1.5	M14x1.5	M16x1.5
	5	DIN 3 852	ISO 9 974-1	M27x2	M18x1.5	M14x1.5	M16x1.5
			R-A1-A2	1, 2	Y	X	
	A	SAE J514 ISO 11 926-1	1"1/16-12 UNF	3/4"-16 UNF	9/16"-18 UNF	9/16"-18 UNF	
	3	BSPP	ISO 1 179-1	Ø27 [3/4" dia.]	Ø17 [3/8" dia.]	Ø13 [1/4" dia.]	Ø13 [1/4" dia.]
	5	DIN 3 852	ISO 9 974-1	M27x2	M18x1.5	M14x1.5	M16x1.5
		ISO 9 974-1					M12x1.5 M14x1.5
Max. pressures	MS MSE	bar [PSI]	450 [6 527] 400 [5 802]	1 [15]	30 [435]	30 [435]	120 [1 740]



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



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

MS02 - MSE02

MSE03

MS05 - MSE05

MS08 - MSE08

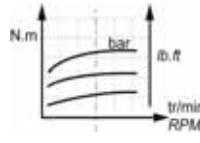
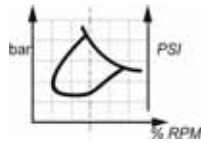
MS11 - MSE11



Efficiency

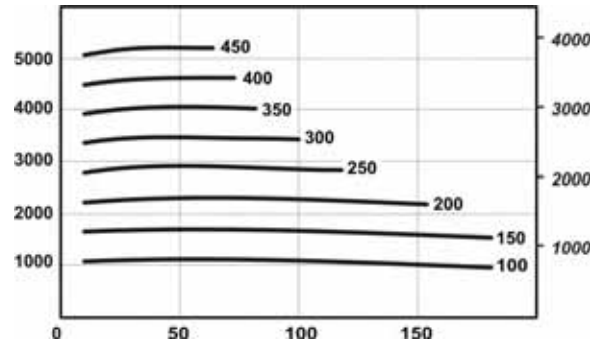
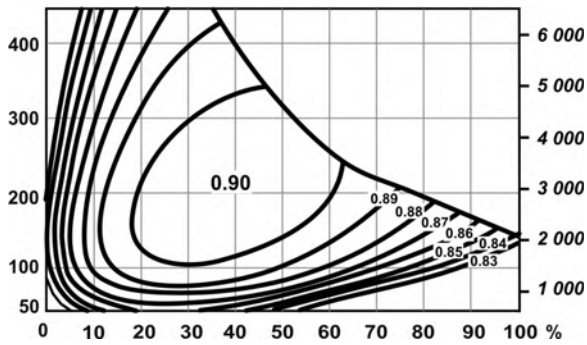
Overall efficiency

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

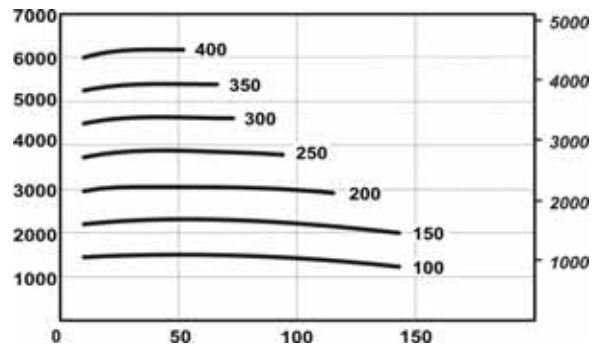
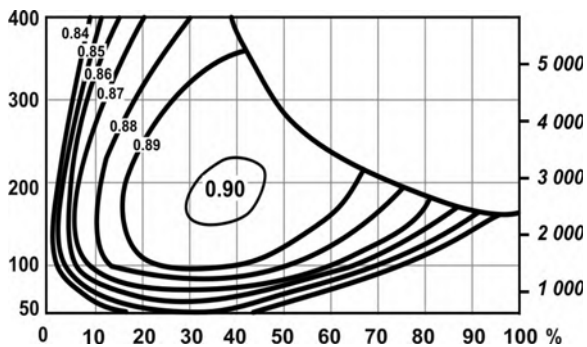


Actual output torque

MS08



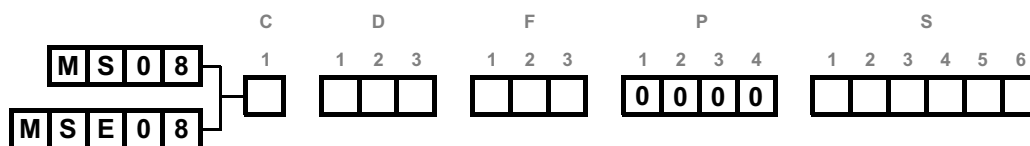
MSE08



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



OPTIONS

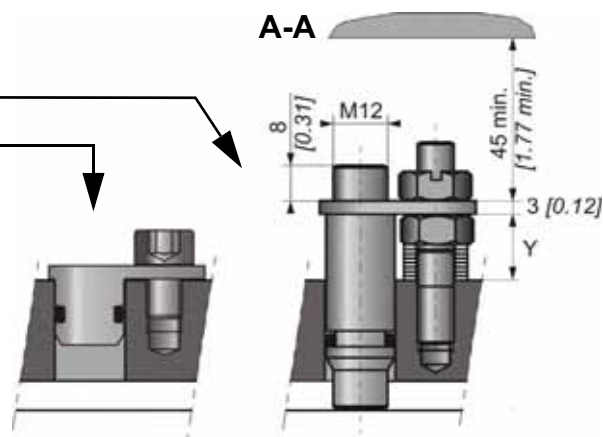
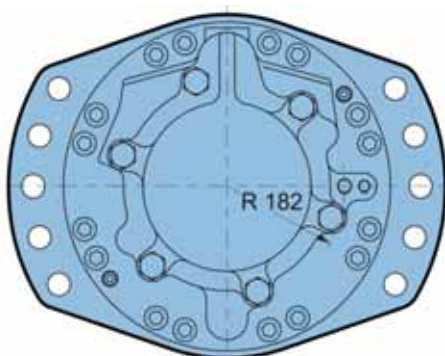


You can accumulate more than one optional part. Consult your Poclain Hydraulics sales engineer.

2 - S - 8 Installed speed sensor or predisposition

Designation

T4 Speed sensor installed	2
TR Speed sensor installed	S
Predisposition for speed sensor	8



Max. length Y = 21.1

Standard number of pulses per revolution = 60



Hydrobases with option 2 or S are provided with a plug and supplied with a sensor assembly kit.



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



To install the sensor, look at the "Installation guide" brochure No. 801478197L.

MS02 - MSE02

MSE03

MS05 - MSE05

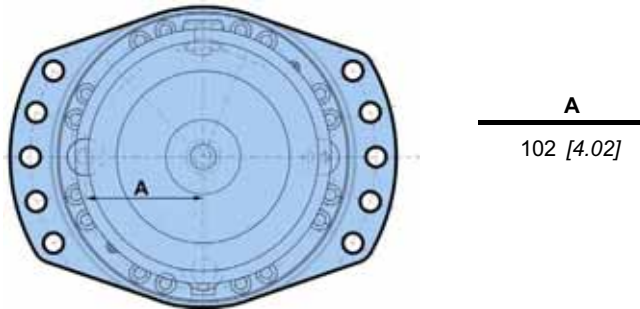
MS08 - MSE08

MS11 - MSE11



5 - Drainage

Fit an additional drain on the valving cover.



7 - Diamond™

Special treatment of the motor core which considerably increases its strength, making the motor much more tolerant to temporary instances of the operating conditions being exceeded.

M - High speed

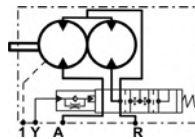
Under certain conditions, an increase in the maximum speed of 30% above the values indicated in the table on page 2 is possible.



For a precise calculation, consult your Poclain Hydraulics application engineer.

T - Soft Shift™

Progressive displacement change (cushioned slide-valve)



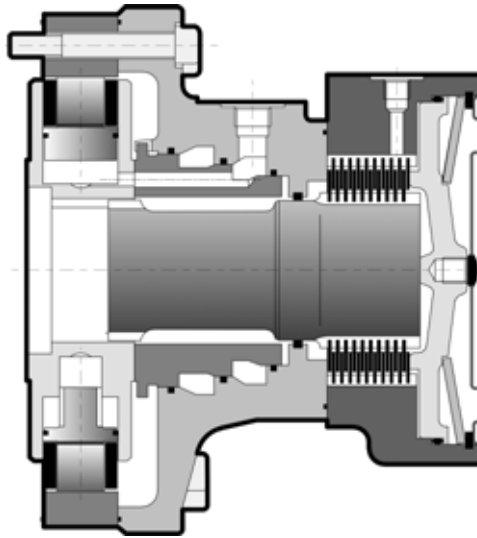
Consult your Poclain Hydraulics sales engineer.



MS02 - MSE02
MSE03
MS05 - MSE05
MS08 - MSE08
MS11 - MSE11



CHARACTERISTICS



Motor inertia

0.05 kg.m²

			Theoretical torque			Max.power		Max. speed		Max. pressure		
							 					
							at 100 bar	at 1000 PSI	preferred		non-preferred	tr/min[RPM]
	cm³/tr [cu.in/rev.]	cm³/tr [cu.in/rev.]	Nm	[lb.ft]	kW [HP]	kW [HP]	kW [HP]					
Cams with equal lobes	MS11	7	730 [44,5]	365 [22,3]	1 161	50 [67]	33 [44]	25 [34]	200		450 [6 527]	
		8	837 [51,0]	419 [25,5]	1 331				[677]	195		
		9	943 [57,5]	472 [28,8]	1 499				[762]	190		
		0	1 048 [63,9]	524 [32,0]	1 666				[847]	185		
		1	1 147 [70,0]	574 [35,0]	1 824				[927]	180		
		2	1 259 [76,8]	630 [38,4]	2 002				[1 018]	170		175
	MSE11	9	1 263 [77,0]	632 [38,5]	2 008	[1 021]	50 [67]	33 [44]	25 [34]	170	190	400 [5 802]
		0	1 404 [85,6]	702 [42,8]	2 232	[1 135]				155	185	
		1	1 536 [93,7]	768 [46,8]	2 442	[1 242]				140	180	
		2	1 687 [102,9]	844 [51,4]	2 682	[1 364]				130	165	
Cams with unequal lobes	MS11	A	1 048 [63,9]	629 [38,4]	1 666	[847]	50 [67]	33 [44]	25 [34]			450 [6 527]
				419 [25,6]								
	MSE11	A	1 404 [85,6]	843 [51,4]	2 232	[1 135]	50 [67]	33 [44]	25 [34]	120		400 [5 802]
				561 [34,2]								

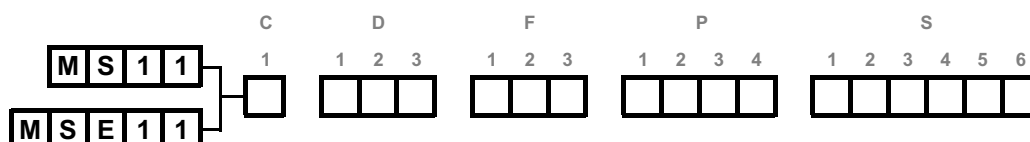
① First displacement

② Second displacement

* See option "M" for higher speed.

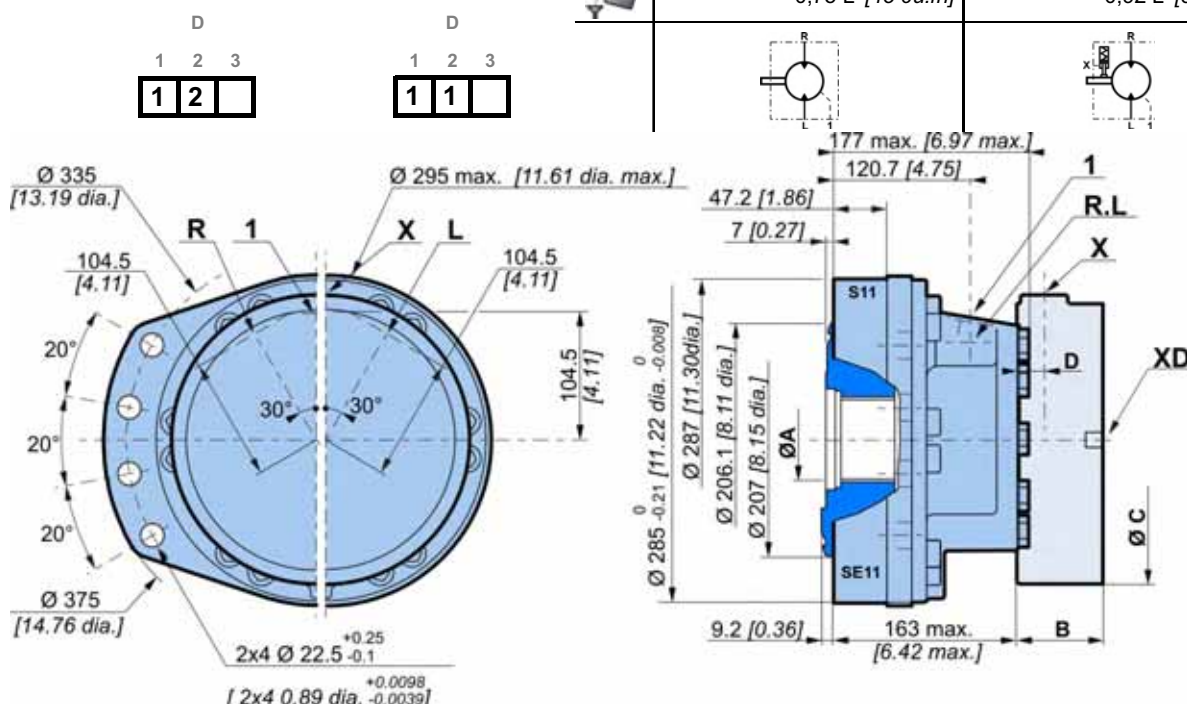


VALVING SYSTEMS AND HYDROBASES



Dimensions for 1-displacement valving

	1 1	44 kg [97 lb]	F 1 2	67,5 kg [148,5 lb]
	1 2	48,9 kg [107,6 lb]		72,4 kg [159,3 lb]
		0,75 L [45 cu.in]		0,92 L [55 cu.in]

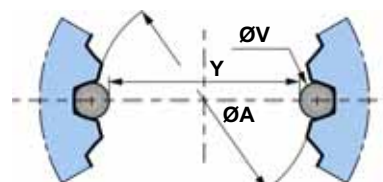


C	F12
B	76,7 [3,02]
C	Ø247 [9,72]
D	26 [1,02]

Cylinder block splines

(as per standard NF E22-141)

ØA	Module	Z	Dimension on 2 pins	
			Y	ØV
75 [2,953]	2,5	28	65,169 [2,739]	5 [0,197]



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

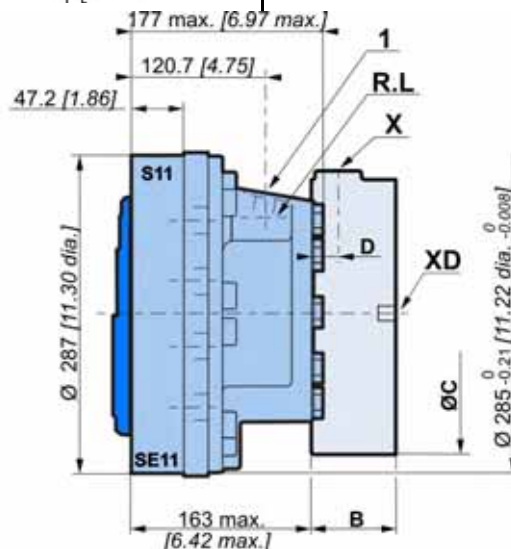
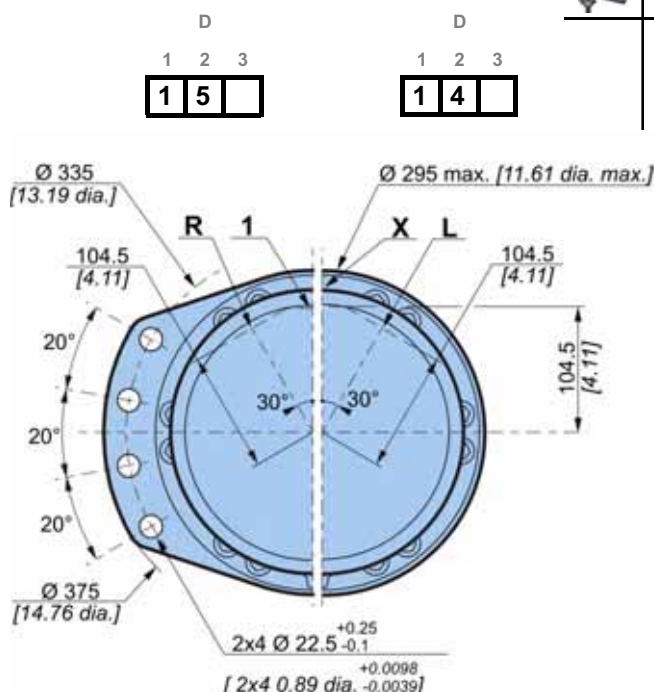


We must provide you with a detailed plan of the interface for any hydraulic unit use, consult your Poclain Hydraulics sales engineer.



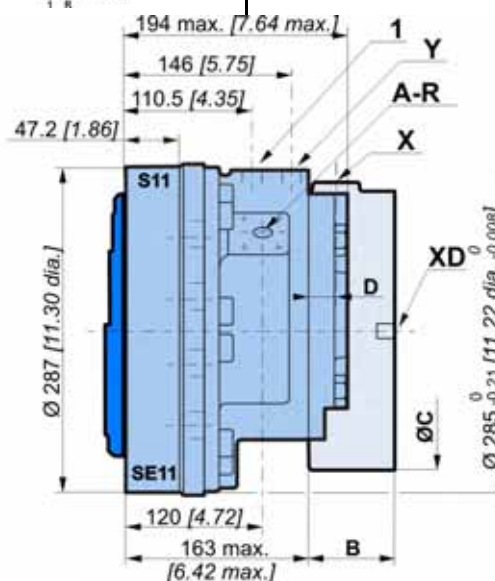
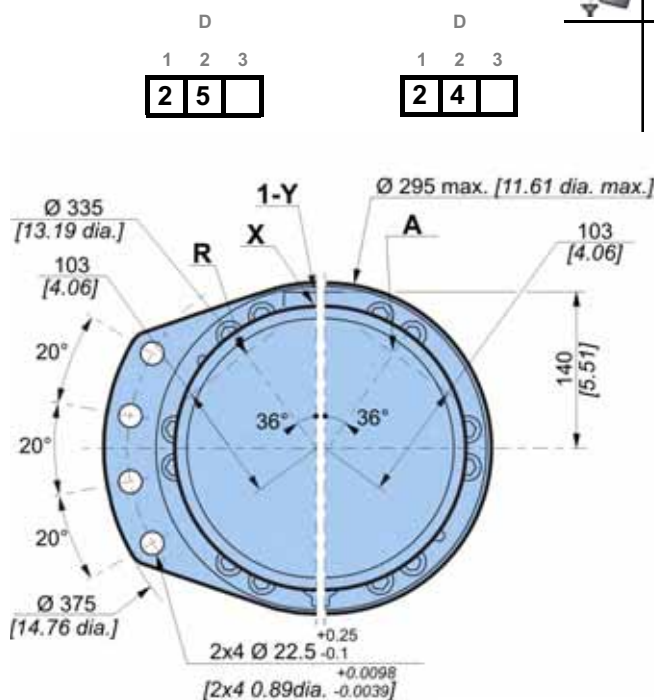
Dimensions for 1-displacement valving with built-in exchange

	15 44 kg [97 lb]	F12 67,5 kg [148,5 lb]
	14 48,9 kg [107,6 lb]	72,4 kg [159,3 lb]
	0,75 L [45 cu.in] 	0,92 L [55 cu.in] 



Dimensions for 2-displacement valving with built-in exchange

	1 5 1 4	44 kg [97 lb] 48,9 kg [107,6 lb]		F 1 2	67,5 kg [148,5 lb] 72,4 kg [159,3 lb]
		0,75 L [45 cu.in]			0,92 L [55 cu.in]
					



C	F12
B	76,7 [3,02]
C	Ø247 [9,72]
D	26 [1,02]

MS02 - MSE02

MSE03

MS05 - MSE05

MS08 - MSE08

MS11 - MSE11



Dimensions for 2-displacement valving or Twin-Lock™ valving

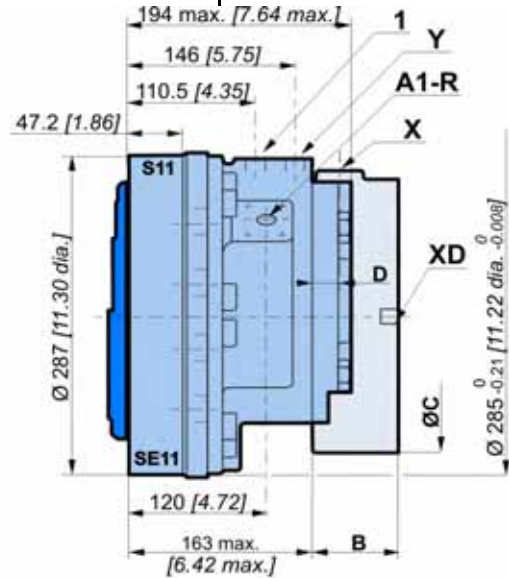
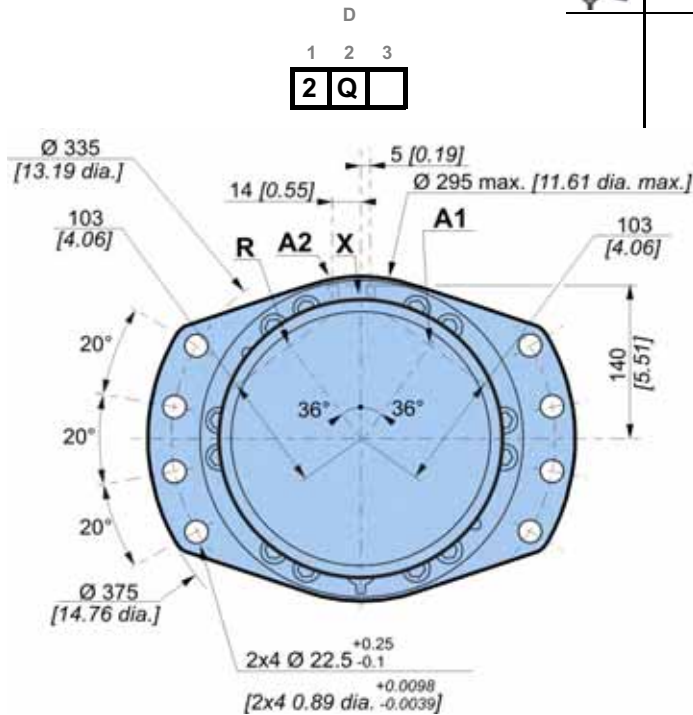
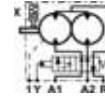
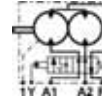


48,9 kg [107,6 lb]

F 1 2 72,4 kg [159,3 lb]


0,75 L [45 cu.in]

0,92 L [55 cu.in]



Exchange

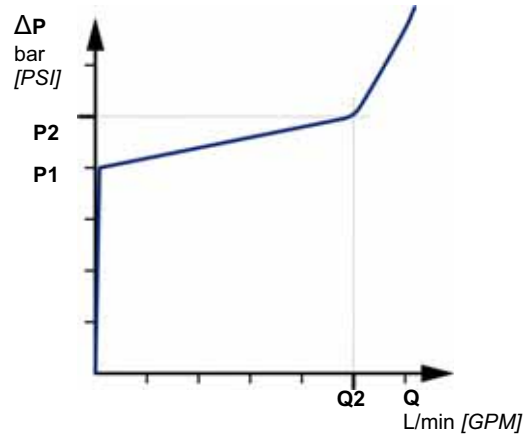
When a coding request is made, you must specify information on the threshold of the selector and the valve.

Selector spool

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

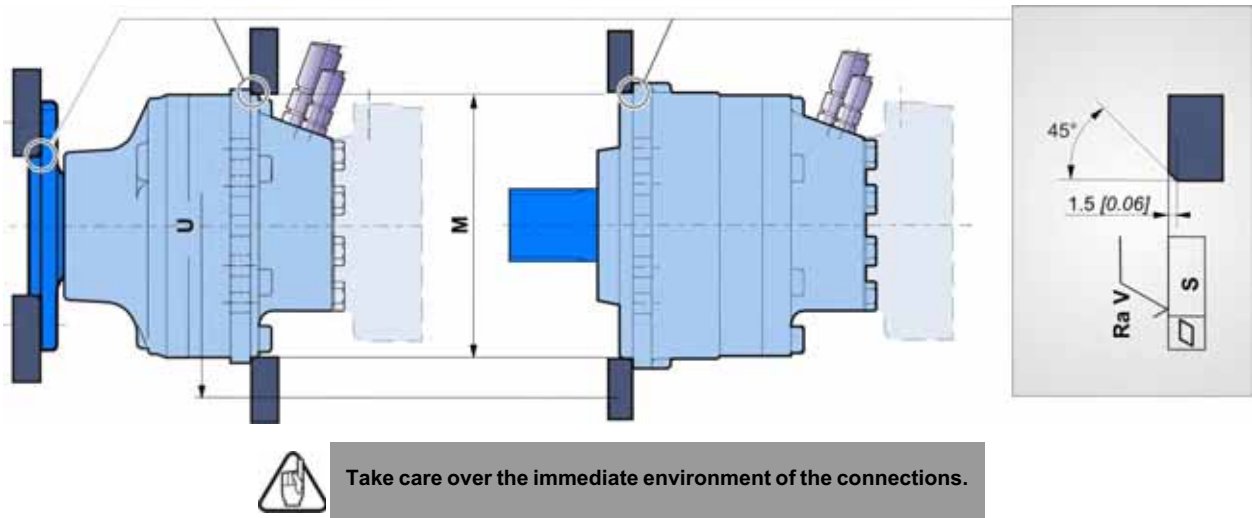
Fitted valve

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





Chassis mountings



	ØM ⁽¹⁾	ØU	S	Ra V		Class	 *
Wheel motor	285 [11,22]	335 [13,19]	0,2 [0,008]	12,5µm [0,49µin]	2 x 4 4 x M20	8,8	410 N.m [302 lb.ft]
Shaft motor	280 [11,02]	335 [13,19]					

(1) +0,3 [+0,012]
+0,2 [+0,008]

* : Min. values for torque and load to be transmitted.

MS02 - MSE02

MSE03

MS05 - MSE05

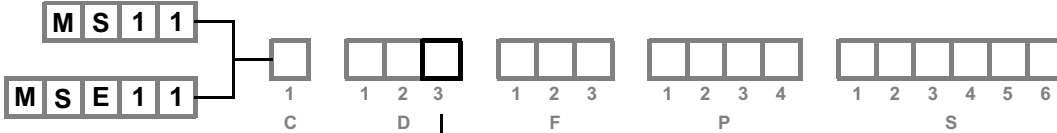
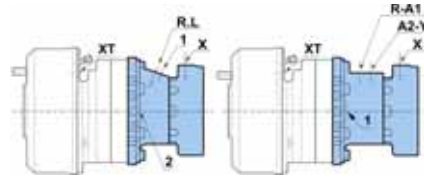
MS08 - MSE08

MS11 - MSE11



Hydraulic connections

connections



	Old standards	Standards	Power supply	Case drain	2 nd displacement control	Control of parking break	Control of drum break
			R-L	1, 2	X	XT	
A	SAE J514	ISO 11926-1	1" 1/16"-12 UNF	3/4"-16 UNF		9/16"-18 UNF	
1	ISO 6 162 DIN 3 852	ISO 6 162 ISO 9 974-1	DN19 PN400	M 18x15		M 16x15	
2	ISO 6 162 BSPP	ISO 6 162 ISO 1 179-1	DN19 PN400	Ø21 [1/2" dia.]		Ø17 [3/8" dia.]	
3	BSPP	ISO 1 179-1	Ø27 [3/4" dia.]	Ø21 [1/2" dia.]		Ø17 [3/8" dia.]	
4	NF E48 050	ISO 9 974-1	M 27x2	M 18x15		M 16x15	
5	DIN 3 852	ISO 9 974-1	M 33x2	M 18x15		M 16x15	
7	ISO 6 162 SAE J514	ISO 6 162 ISO 11926-1	DN19 PN400	3/4"-16 UNF		9/16"-18 UNF	
			R-A	1, 2	Y	X	
A	SAE J514	ISO 11926-1	1" 1/16"-12 UNF	3/4"-16 UNF	9/16"-18 UNF	9/16"-18 UNF	
1	ISO 6 162 DIN 3 852	ISO 6 162 ISO 9 974-1	DN13 PN400	M 18x15	M 16x15	M 16x15	
2	ISO 6 162 BSPP	ISO 6 162 ISO 1 179-1	DN13 PN400	Ø21 [1/2" dia.]	Ø17 [3/8" dia.]	Ø17 [3/8" dia.]	
3	BSPP	ISO 1 179-1	Ø27 [3/4" dia.]	Ø21 [1/2" dia.]	Ø17 [3/8" dia.]	Ø17 [3/8" dia.]	
4	NF E48 050	ISO 9 974-1	M 27x2	M 18x15	M 16x15	M 16x15	
			R-A1	A2	1, 2	Y	X
A	SAE J514	ISO 11926-1	1" 1/16"-12 UNF	9/16"-18 UNF	3/4"-16 UNF	9/16"-18 UNF	9/16"-18 UNF
1	ISO 6 162 DIN 3 852	ISO 6 162 ISO 9 974-1	DN13 PN400	M 27x2	M 18x15	M 16x15	M 16x15
4	NF E48 050	ISO 9 974-1	M 27x2	M 27x2 M 22x15	M 18x15	M 16x15	M 16x15
							M 10x1 M 14x15
		ISO 9 974-1					
Max. pressures	MS MSE	bar [PSI]	450 [6 527] 400 [5 802]	450 [6 527] 400 [5 802]	1 [15]	30 [435]	30 [435] 120 [1740]



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



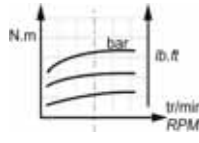
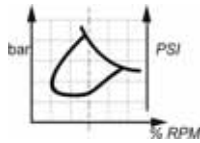
To find the connections' tightening torques, see the brochure "Installation guide" N° 801478197L.



Efficiency

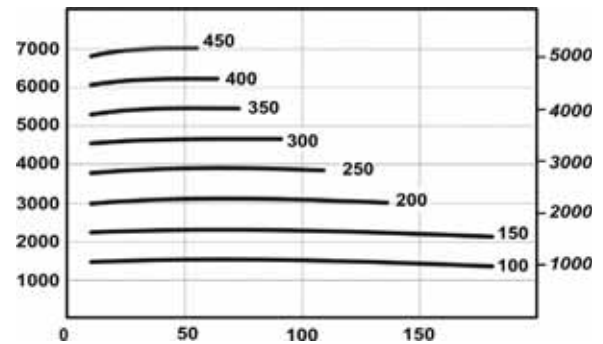
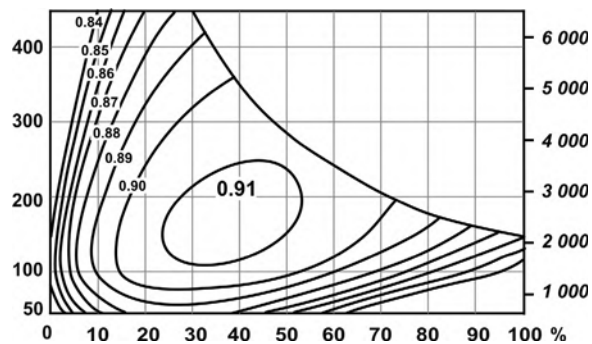
Overall efficiency

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

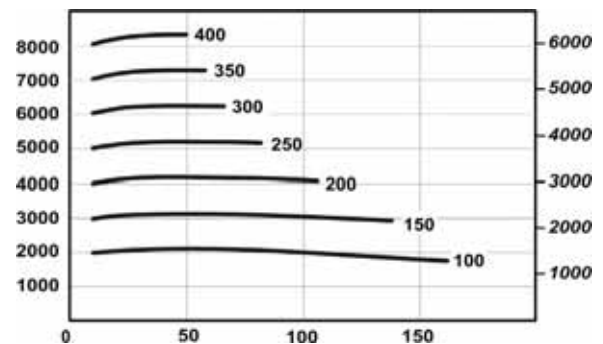
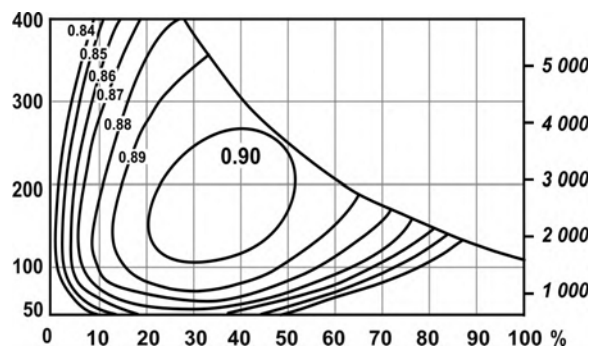


Actual output torque

MS11



MSE11



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

MS02 - MSE02

MSE03

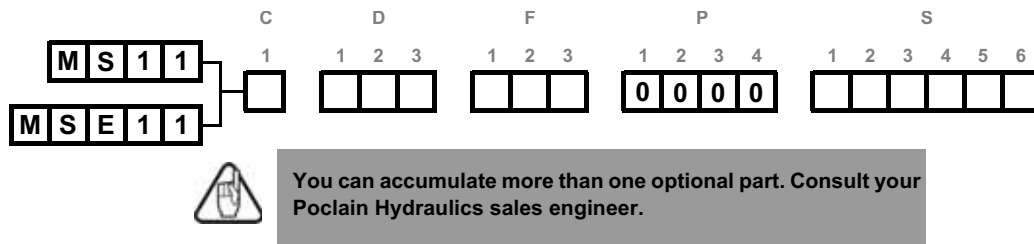
MS05 - MSE05

MS08 - MSE08

MS11 - MSE11

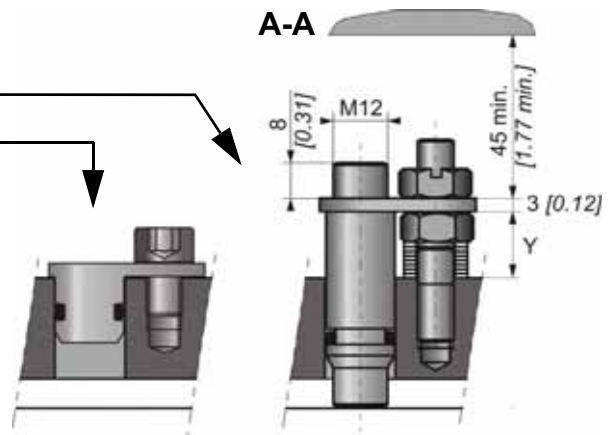
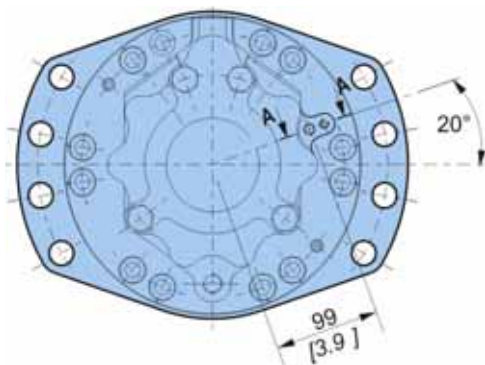


OPTIONS



2 - S - 8 Installed speed sensor or predisposition

Designation	C
T4 Speed sensor installed	2
TR Speed sensor installed	S
Predisposition for speed sensor	8



Max. length Y = 20.9
Standard number of pulses per revolution = 56



Hydrobases with option 2 or S are provided with a plug and supplied with a sensor assembly kit.



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



To install the sensor, look at the "Installation guide" brochure No. 801478197L.

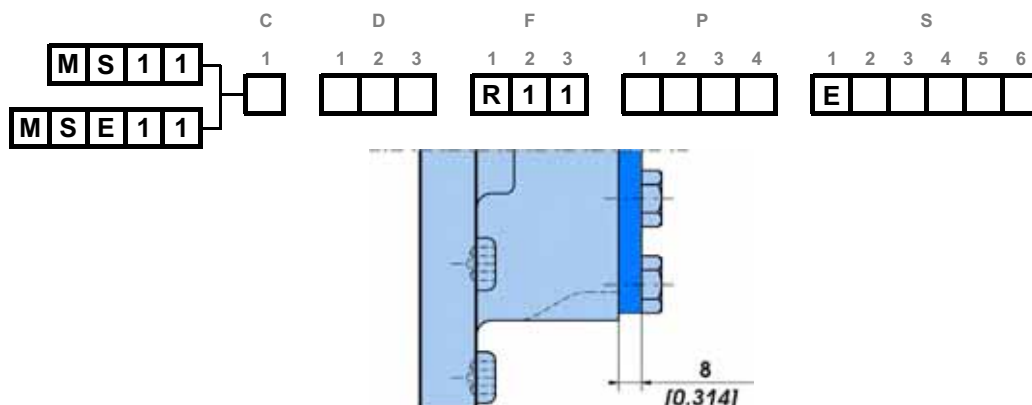
7 - Diamond™

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.



E - Reinforced sealing

Requires reinforced seals and, for an unbraked motor, a rear reinforced plate (R08 - 8 [0.314] thick, instead of 4 [0.157]).



H - High efficiency

Reinforced piston sealing to improve volumetric efficiency.



For a precise calculation, consult your Poclain Hydraulics application engineer.

M - High speed

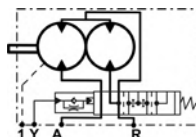
Under certain conditions, an increase in the maximum speed of 30% above the values indicated in the table on page 2 is possible.



For a precise calculation, consult your Poclain Hydraulics application engineer.

T - Soft Shift™

Progressive displacement change (cushioned slide-valve)



Consult your Poclain Hydraulics sales engineer.

MS02 - MSE02

MSE03

MS05 - MSE05

MS08 - MSE08

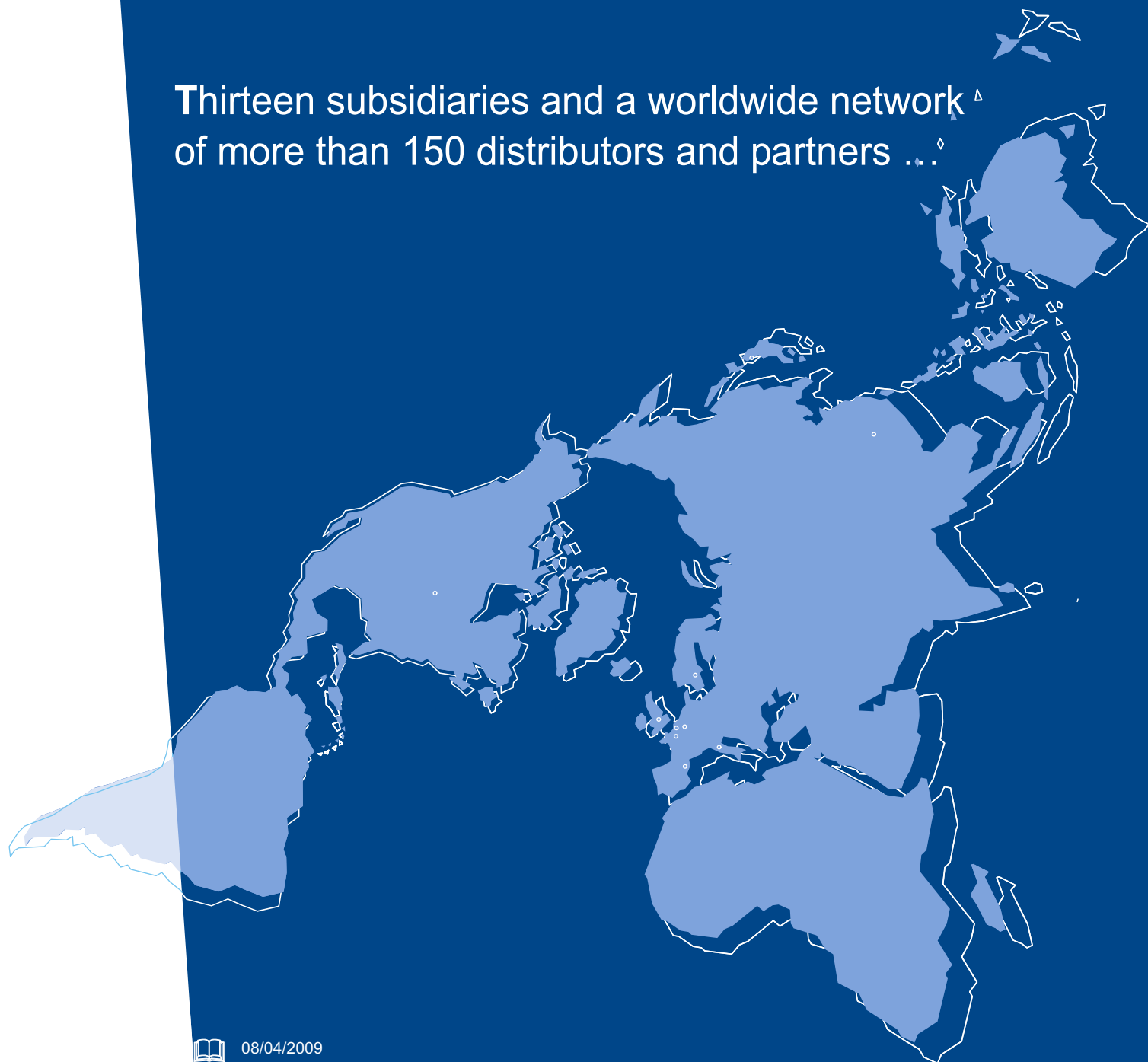
MS11 - MSE11





MS02 - MSE02
MSE03
MS05 - MSE05
MS08 - MSE08
MS11 - MSE11

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



08/04/2009

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A15763J

A15764K

A15765L



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