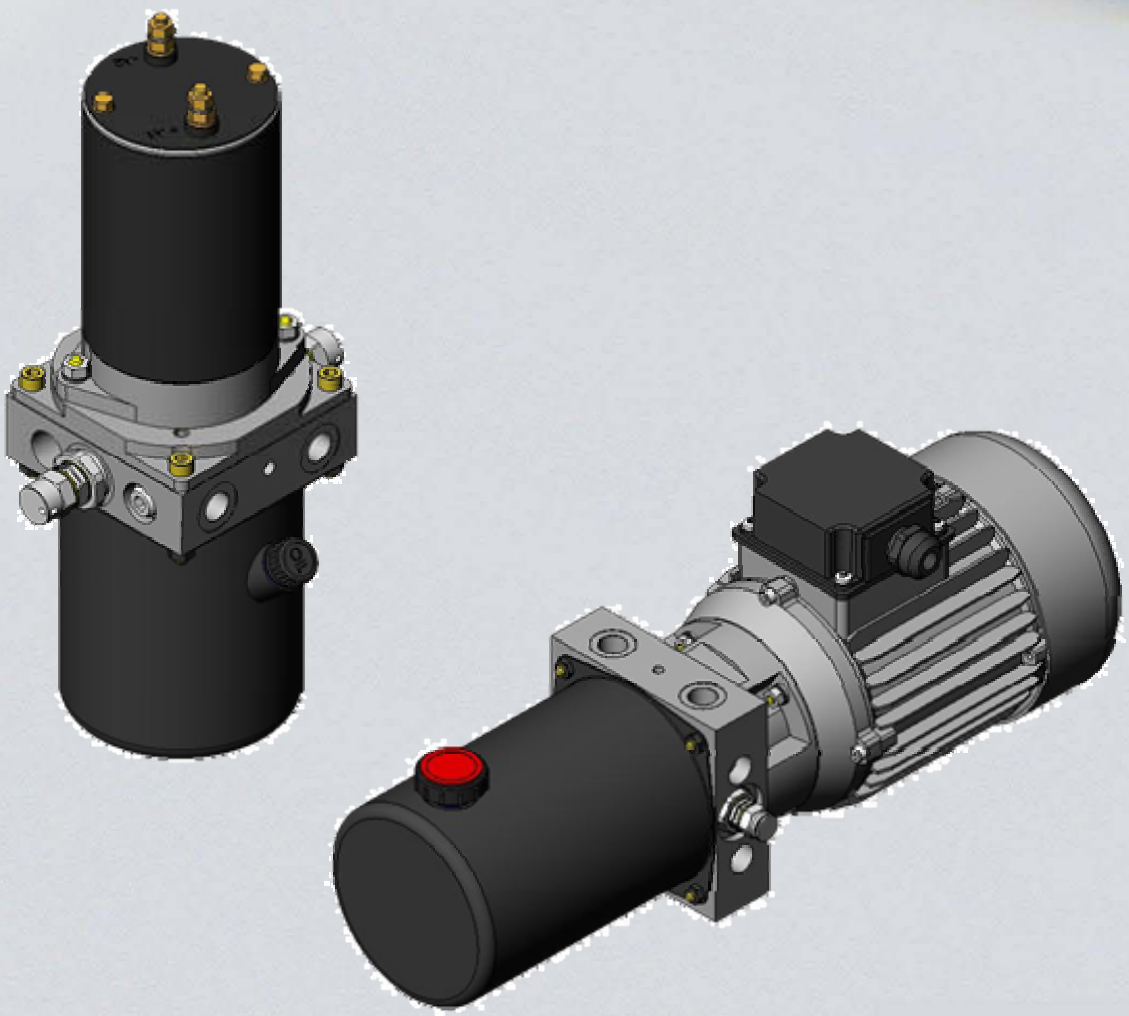
findynamica

drive and control products



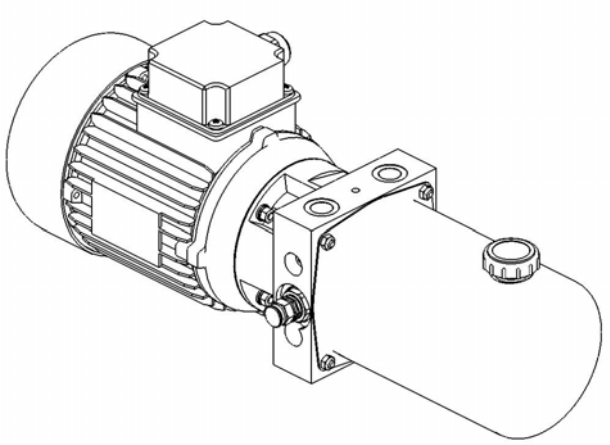
oil sistem

REVERSIBLE HYDRAULIC POWER PACKS

Introduction

Oil Sistem is a leader in power packs production and offers a wide range of solutions suitable for every type of application. Oil Sistem developed in years of experience a high evoluted modular system that became powerful, flexible and economically competitive. This catalogue is intended to be an almost complete reference for the available reversible power pack types.

In its easier configuration a *power pack* is an assembly of electric motor, pump, central manifold with valves, oil tank and few other connection elements. You will notice that a large variety of driving circuits would be realizable with only the central manifold and its built-in valves. If more complex circuits are needed, modular blocks will be mounted on the central manifold to extend its capabilities.



Typical applications

General characteristics

Max working pressure	From 170 to 210 bar, according to pump model.
Pump type	External gear pump.
Pump displacement	From 0,18 cm^3/rev to 9,8 cm^3/rev.
Electric motors	D.C. from 150 to 2000 W, A.C. from 90 to 4000 W.
Oil tank capacity	From 0,5 to 60 litres.

Direction for use

Installation
There are no limits in mounting positions, just avoid any installation that could compromise pump's suction.
When power pack is to be fitted on structures liable to vibrations, it is better to place vibration-clamping blocks in fixing points.
Oil tank and temperature
Tank size should always be enough to assure proper pump's suction and advised maximum working temperature of 60°C. The gaskets of these power packs allow a correct working between -15°C and 80°C. After the first setting in motion it is necessary to rest the oil level. You must use oil for hydraulic units having viscosity in 15 ÷ 68 cSt (1 cSt = 1 mm^2/s), suggested between 25 and 40 cSt (3.5°E ÷ 5.5°E). Different oil grades must be chosen according to ambient temperature and to which temperature would be reached during the unit activity.
Cleaning and maintenance
The set must be cleaned in each part because the group has only one suction filter. In case of defective work, you should check:
- oil level and conditions;
- pump efficiency;
- valves calibrations;
- battery and electric equipment efficiency.

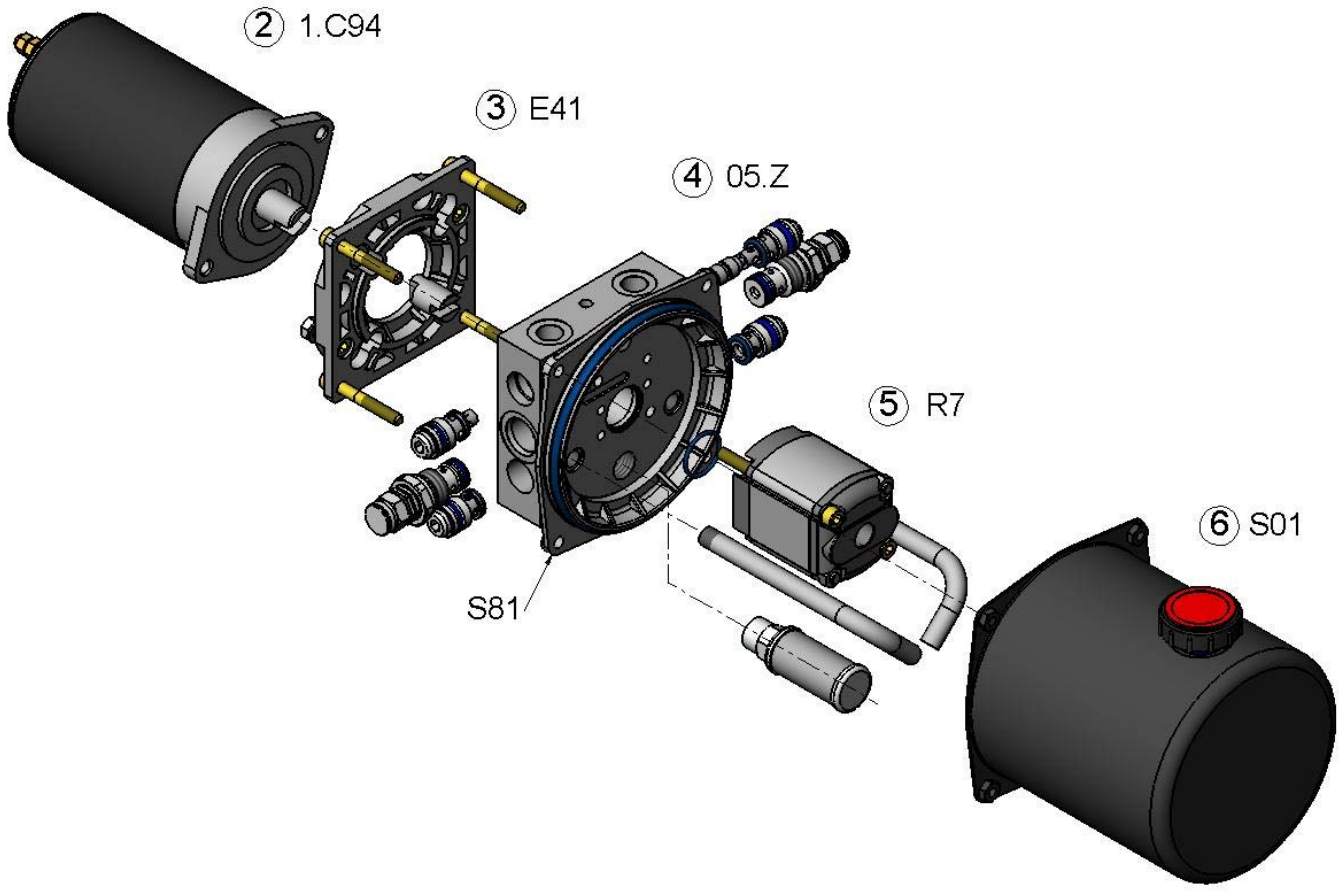
You have to substitute the oil after 100 hours of duty the first time, and then every 3000 hours of duty (in any case at least once a year).
Wiring and starting
The wiring between batteries and electric control panel must be chosen according to the electrical inputs indicated in diagrams

How to order

Example code:

KR	2 . 210	F18	20 . Z	R18	S90	O1
1	**2**	**3**	**4**	**5**	**6**	**7**

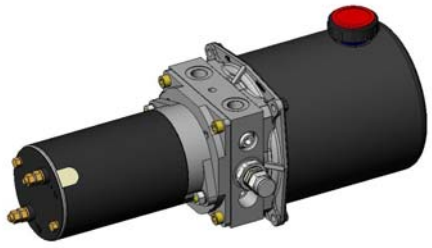
1. Power Pack type
2. Electric motor
3. Junction elements
4. Central manifold and relief valve setting
5. Pump
6. Oil tank
7. Mounting position



Code:	MR	1 . C94	E41	05 . Z	R7	S81 . S01	O1
	1	**2**	**3**	**4**	**5**	**6**	**7**

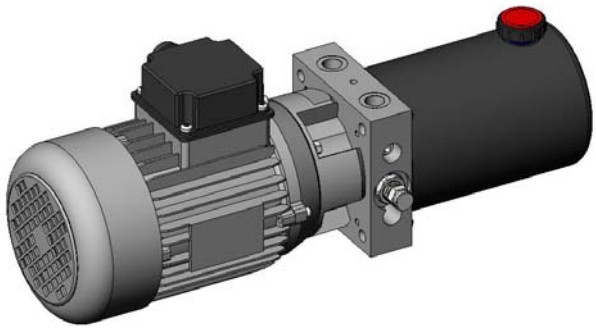
Table of contents

1 Power pack type



MR

- Ports: 1/4" BSPP.
- Pumps from 0,18 to 1,5 cm^3/rev.



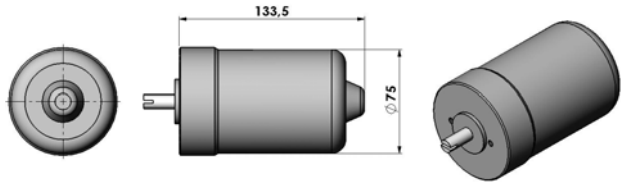
KR

- Ports: 3/8" BSPP.
- Pumps from 1,2 to 9,8 cm^3/rev.

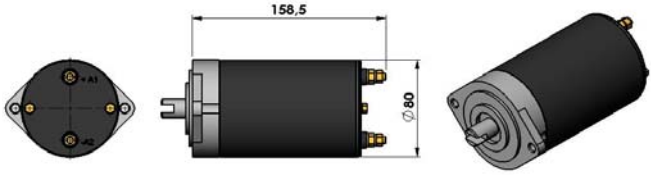
Direct current motors

Code	Voltage (V)	Power (W)	Duty cicles S3% S2 min	Thermal switch	Protection Index
C26	12	150	5% 1min	no	IP44
C105	12	150	50% 25min	no	IP65
C27	24	150	5% 2min	no	IP44
C40	12	500	17% 5min	no	IP54
C41	24	500	17% 5min	no	IP54
C67	12	800	9% 4min	no	IP54
C94	24	800	8% 2,5min	no	IP54
C127	24	2000	4% 1,5min	no	IP54

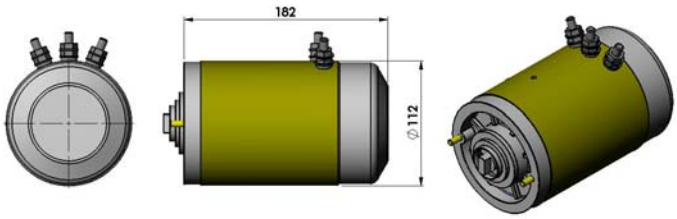
C26-C27



C105-C40-C41-C67-C94



C127



Alternate current motors 2 poles (2900 rpm at 50Hz)

Three phase motors (230-400V 50Hz IP54)

Code	Power (kW)	Power (CV)	Duty cycle	Size MEC	A (mm)	ØB (mm)	C (mm)	D (mm)
200	0,13	0,175	S1	56	169	110	95	56
201	0,25	0,34	S1	63	189	124	104	63
202	0,37	0,5	S1	71	218	140	109	71
203	0,55	0,75	S1	71	218	140	109	71
204	0,75	1	S1	80	237	156	123	80
205	1,1	1,5	S1	80	237	156	123	80
206	1,5	2	S1	90	255	178	128	90
207	2,2	3	S1	90	279	178	128	90
208	3	4	S1	90	279	178	128	90
210	4	5,5	S1	112	331	219	150	112

Single phase motors (220V 50Hz IP54)

Code	Power (kW)	Power (CV)	Duty cycle	Size MEC	A (mm)	ØB (mm)	C (mm)	D (mm)
200M	0,13	0,175	S1	56	169	110	95	56
201M	0,25	0,34	S1	63	189	124	104	63
202M	0,37	0,5	S1	71	218	140	109	71
203M	0,55	0,75	S1	71	218	140	109	71
204M	0,75	1	S1	80	237	156	123	80
205M	1,1	1,5	S1	80	237	156	123	80
206M	1,5	2	S1	90	255	178	128	90
207M	2,2	3	S1	90	279	178	128	90

Alternate current motors 4 poles (1450 rpm at 50Hz)

Three phase motors (230-400V 50Hz IP54)

Code	Power (kW)	Power (CV)	Duty cycle	Size MEC	A (mm)	ØB (mm)	C (mm)	D (mm)
400	0,09	0,12	S1	56	169	110	95	56
401	0,18	0,25	S1	63	189	124	104	63
402	0,25	0,35	S1	71	218	140	109	71
403	0,37	0,5	S1	71	218	140	109	71
404	0,55	0,75	S1	80	237	156	123	80
405	0,75	1	S1	80	237	156	123	80
406	1,1	1,5	S1	90	255	178	128	90
407	1,5	2	S1	90	279	178	128	90
408	2,2	3	S1	90	279	178	128	90
409	3	4	S1	100	309	194	137	100
410	4	5,5	S1	112	331	219	150	112

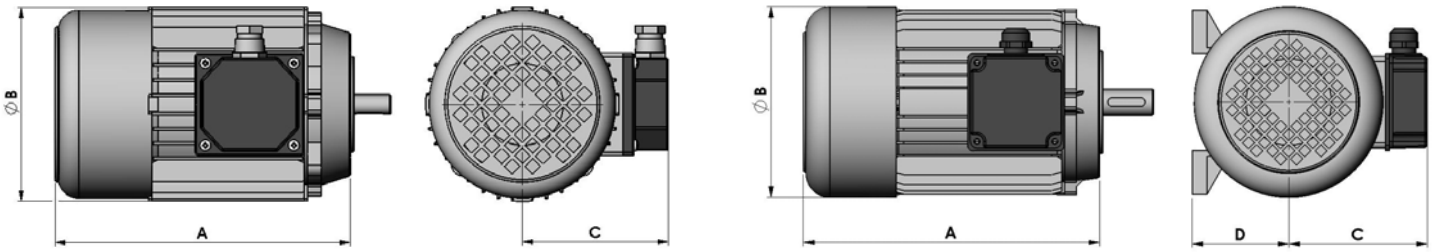
Single phase motors (220V 50Hz IP54)

Code	Power (kW)	Power (CV)	Duty cycle	Size MEC	A (mm)	ØB (mm)	C (mm)	D (mm)
400M	0,09	0,12	S1	56	169	110	95	56
401M	0,18	0,25	S1	63	189	124	104	63
402M	0,25	0,35	S1	71	218	140	109	71
403M	0,37	0,5	S1	71	218	140	109	71
404M	0,55	0,75	S1	80	237	156	123	80
405M	0,75	1	S1	80	237	156	123	80
406M	1,1	1,5	S1	90	255	178	128	90
407M	1,5	2	S1	90	279	178	128	90
408M	2,2	3	S1	100	309	194	137	100

A.C. motor form specification

Our standard A.C. motors are in B14 form. On request the same motors in B34 form are available.
In this case, please put “B34” after the code of the motor when filling in the description.

Example: | 4 | 0 | 8 | B | 3 | 4 | A.C. 3-phase motor 4 poles 2,2 kW in B34 form.

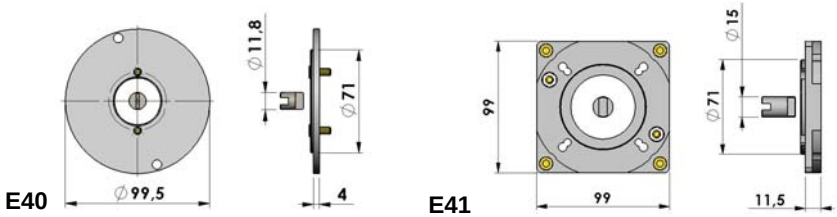


3 Junction elements

Junctions for power packs MR

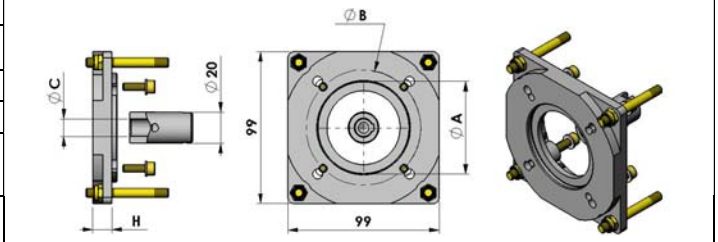
D.C. Motors

Code	Motor codes
E40	C26-C27
E41	C40-C41-C67-C94-C105



A.C. Motors

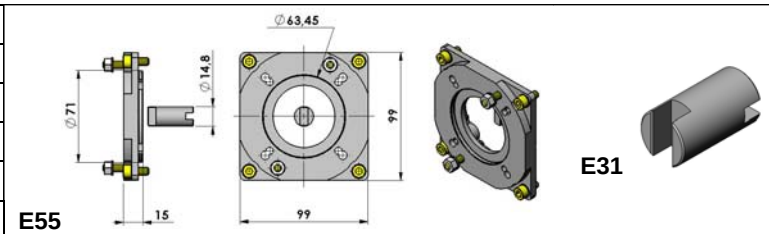
Code	Motor codes	Size MEC	A (mm)	B (mm)	C (mm)	H (mm)
F28	200-200M-400-400M	56	50	65	9	12,5
F29	201-201M-401-401M	63	60	75	11	12,5
F30	202-202M-402-402M	71	70	85	14	12,5
	203-203M-403-403M					



Junctions for power packs KR

D.C. Motors

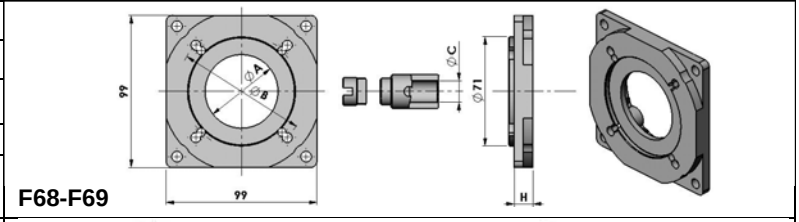
Code	Motor codes
E55	C40-C41-C67-C94-C105
E31	C127

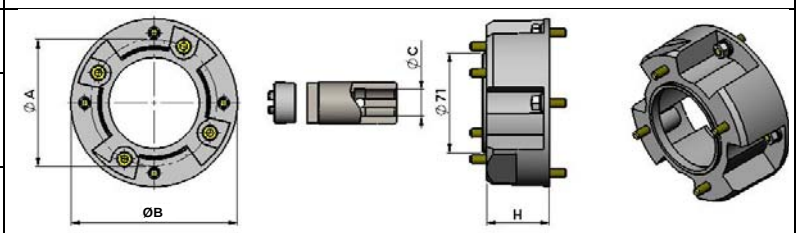


A.C. Motors

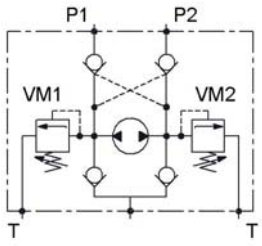
Standard couplings

Code	Motor codes	Size MEC	A (mm)	B (mm)	C (mm)	H (mm)
F69	201-201M-401-401M	63	60	-	11	12,5
F68	202-202M-402-402M	71	70	-	14	12,5
	203-203M-403-403M					
F14	204-204M-404-404M	80	80	120	19	45
	205-205M-405-405M					
F16	206-206M-406-406M	90	95	140	24	57
	207-207M-407-407M					
	208-208M-408-408M					
F18	409	110	110	160	28	67
	210--410	112				





Relief valve		Pressure range (bar)
VM15	W	5 ÷ 50
	Y	30 ÷ 120
	Z	80 ÷ 250



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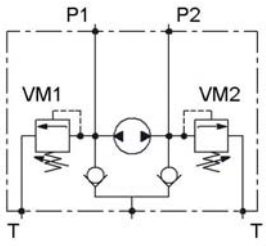

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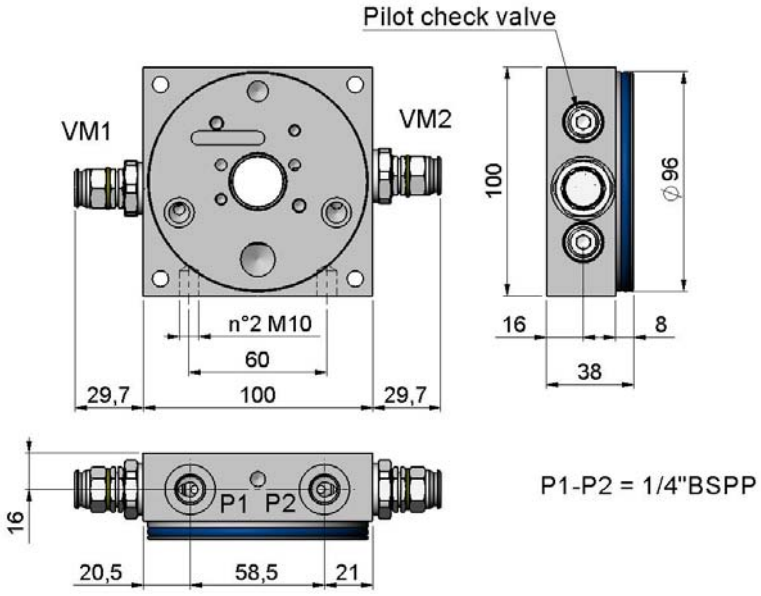
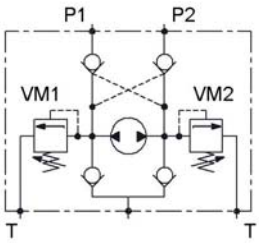
Please specify VM1 (anti-clockwise rotation) and VM2 (clockwise rotation) pressure range in the ordering code.



Relief valve		Pressure range (bar)
VM25	W	5 ÷ 50
	Y	10 ÷ 100
	Z	40 ÷ 200



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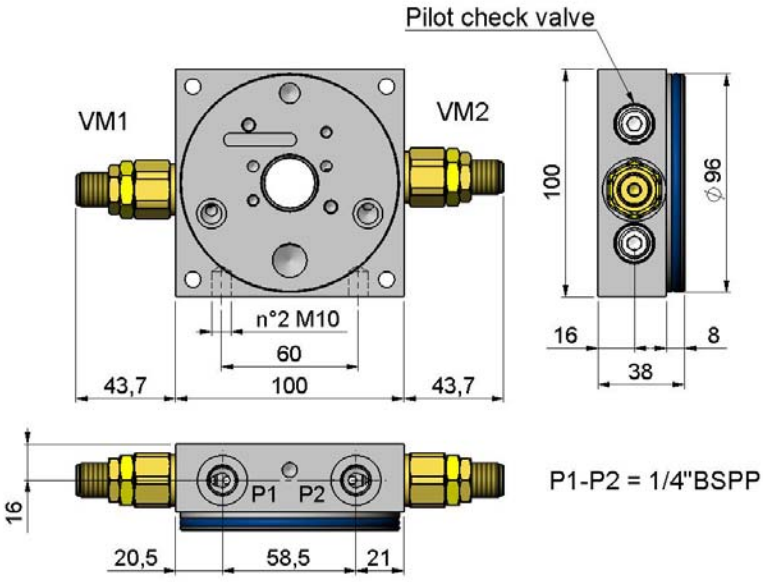
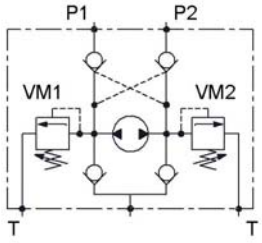
VM25 relief valve guarantees higher performance and lower noise level.

Please specify VM1 (anti-clockwise rotation) and VM2 (clockwise rotation) pressure range in the ordering code.



Relief valve		Pressure range (bar)
VM15	W	5 ÷ 50
	Y	30 ÷ 120
	Z	80 ÷ 250



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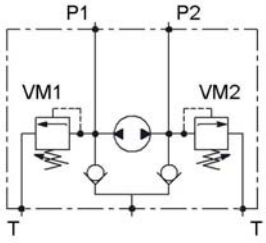
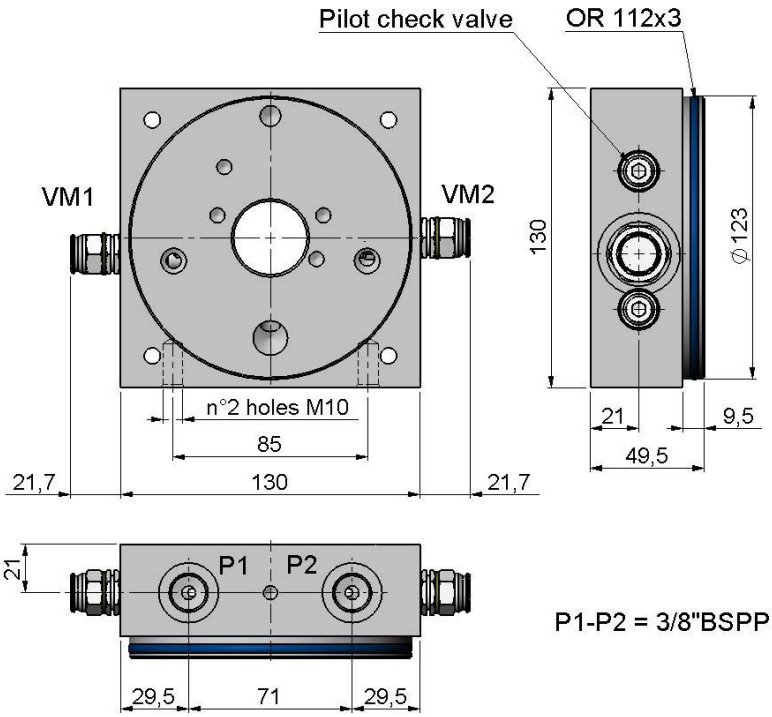
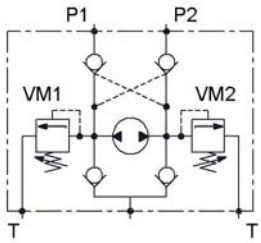


38

Please specify VM1 (anti-clockwise rotation) and VM2 (clockwise rotation) pressure range in the ordering code.



Relief valve		Pressure range (bar)
VM25	W	5 ÷ 50
	Y	10 ÷ 100
	Z	40 ÷ 200
	X	70 ÷ 350



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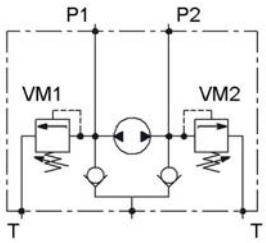

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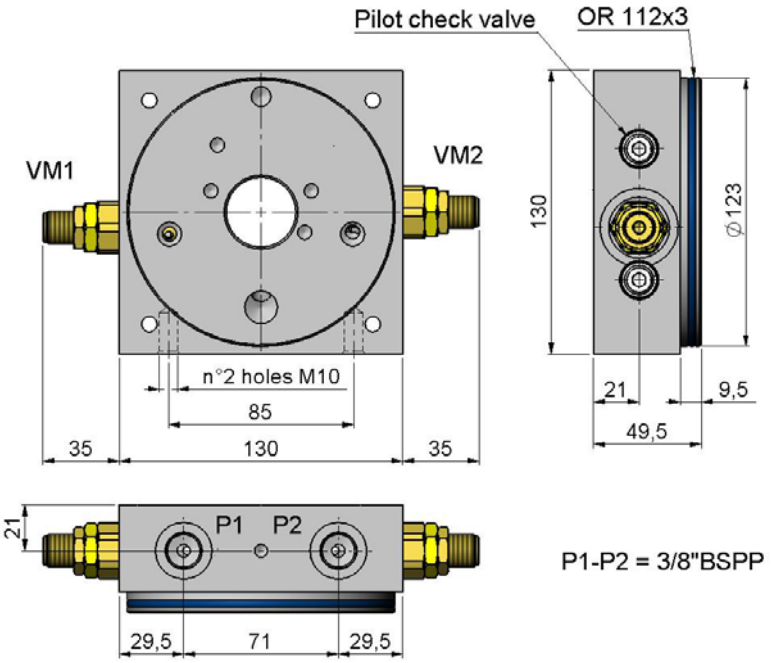
VM25 relief valve guarantees higher performance and lower noise level.

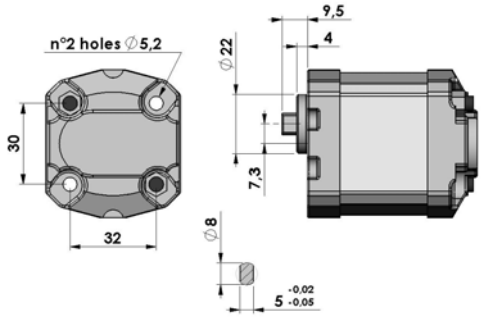
Please specify VM1 (anti-clockwise rotation) and VM2 (clockwise rotation) pressure range in the ordering code.



5 Gear pumps

Gear pumps group 05 for MR

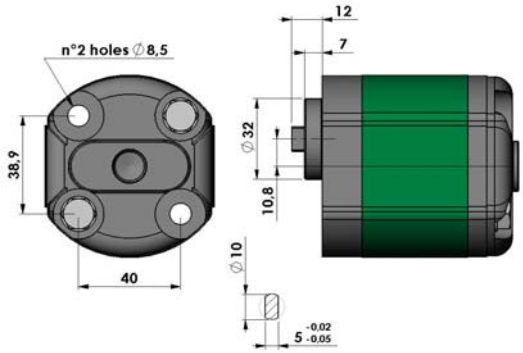
Code	Displacement (cc/rev)	Flow (l/min) @1500 rpm	P2 (bar)	P3 (bar)
R0	0,18	0,27	170	200
R1	0,24	0,36	170	200
R2	0,48	0,72	170	200
R3	0,61	0,92	170	200
R4	0,84	1,26	170	200
R5	0,97	1,45	170	200
R6	1,24	1,86	170	200
R7	1,5	2,25	170	200



P2= Intermittent max. pressure *P3= Peak max. pressure (max. 2 seconds)*

Gear pumps group 1 for KR

Code	Displacement (cc/rev)	Flow (l/min) @1500 rpm	P2 (bar)	P3 (bar)
R11	1,2	1,8	210	250
R12	1,6	2,4	210	250
R13	2,1	3,1	210	250
R14	2,6	3,9	210	250
R15	3,1	4,6	200	240
R16	3,7	5,5	200	240
R17	4,2	6,3	180	220
R18	4,9	7,3	180	220
R19	5,8	8,7	170	210
R20	7,5	11,3	160	200
R21	9,8	14,7	140	180

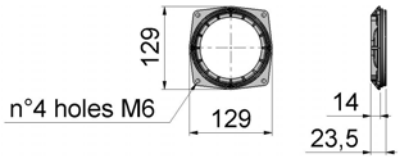


P2= Intermittent max. pressure *P3= Peak max. pressure (max. 2 seconds)*

6 Oil tank for MR

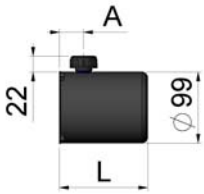
Adaptor for KR tanks

CODE				
S81	This adaptor allows you to use steel tanks designed for KR (Ø123 mm) with MR manifolds (Ø96 mm).			

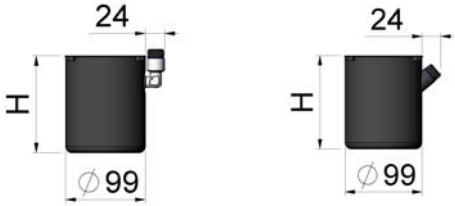


Steel tank

CODE	Tank capacity (l)	Useable capacity (l)	L (mm)	A (mm)
S266	0,5	0,4	120	32
S267	1	0,7	184	32
S183	1	0,7	184	154



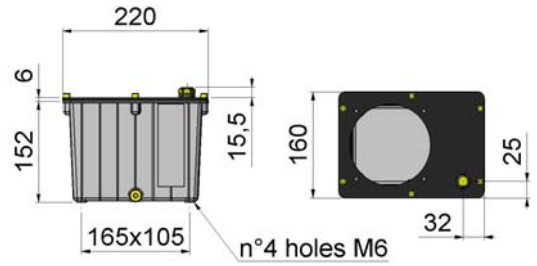
CODE	Tank capacity (l)	Useable capacity (l)	H (mm)	
S294	0,5	0,4	120	
S295	1	0,7	184	
S268	0,5	0,4	120	
S269	1	0,7	184	



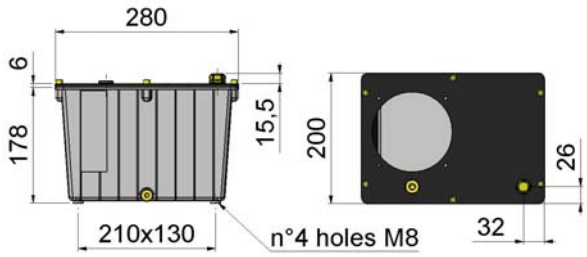
S294 - S295 **S268 - S269**

Alluminium tank

CODE	Tank capacity (l)	Useable capacity (l)	
S102	3	2,3	



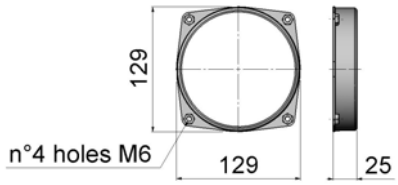
CODE	Tank capacity (l)	Useable capacity (l)	
S103	6	5	



6 Oil tank for KR

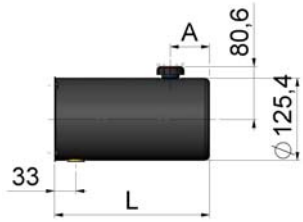
Steel collar for tank

CODE				
S00				

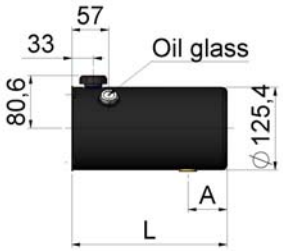


Steel tank

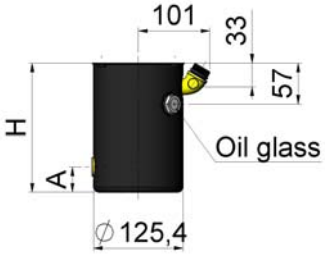
CODE	Tank capacity (l)	Useable capacity (l)	L (mm)	A (mm)
S01	1	0,7	133	35
S20	1,8	1,2	178	35
S02	2,5	1,7	238	60
S161	3	2,3	280	60
S107	4	3,2	409	60



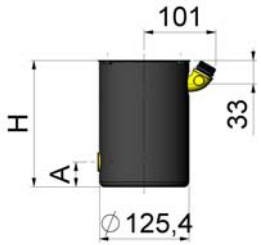
CODE	Tank capacity (l)	Useable capacity (l)	L (mm)	A (mm)
S145	1	0,7	133	35
S144	1,8	1,2	178	35
S142	2,5	1,7	238	60



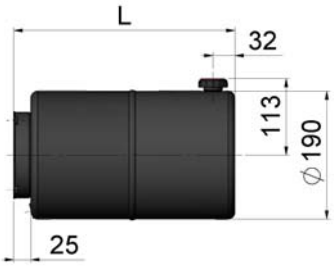
CODE	Tank capacity (l)	Useable capacity (l)	H (mm)	A (mm)
S01V	1	0,6	133	35
S20V	1,8	1,1	178	35
S02V	2,5	1,7	238	60



CODE	Tank capacity (l)	Useable capacity (l)	H (mm)	A (mm)
S216	1	0,6	133	35
S217	1,8	1,1	178	35
S218	2,5	1,7	238	60
S239	3	2,3	280	60
S107V	4	3,2	409	60

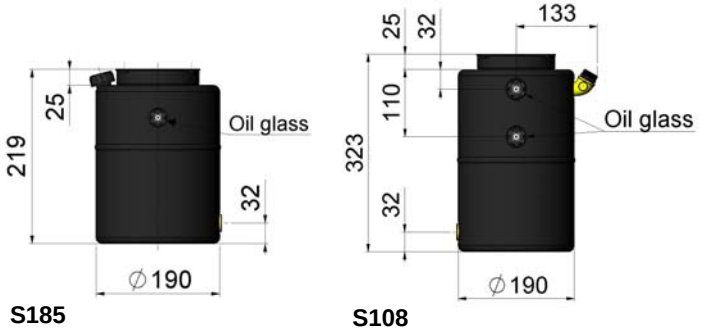


CODE	Tank capacity (l)	Useable capacity (l)	L (mm)
S03	5	4	219
S34	7	5,4	271
S04	8	6,6	323
S109	11	9,6	453

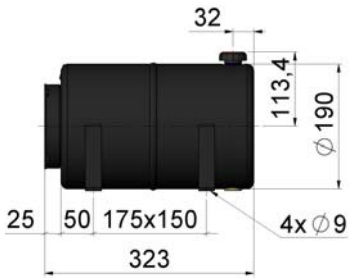


CODE	Tank capacity (l)	Useable capacity (l)	H (mm)
S03V	5	3	219
S34V	7	4,4	271
S04V	8	5,8	323
S109V	11	9,0	453

CODE	Tank capacity (l)	Useable capacity (l)	
S185	5	3	
S108	8	5,8	

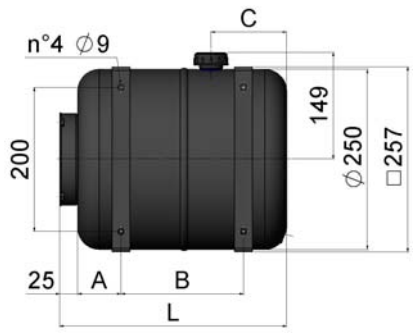


CODE	Tank capacity (l)	Useable capacity (l)	
S94	8	6,6	



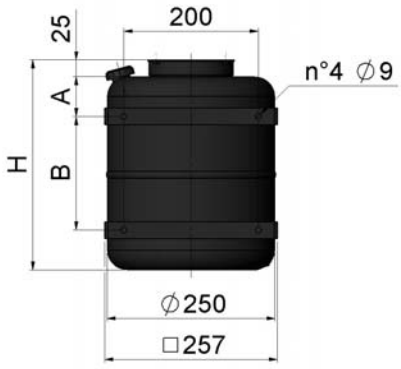
CODE	Tank capacity (l)	Useable capacity (l)	
S177	9	7,7	

CODE	Tank capacity (l)	Useable capacity (l)	A (mm)	B (mm)	C (mm)	L (mm)
S90	12	10,5	60	170	105	315
S128	16	13	60	170	158	368
S105	19	15	52,5	290	158	420
S92	23	19	102,5	290	158	520

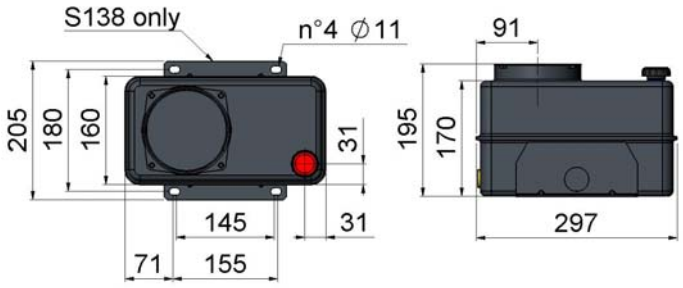


CODE	Tank capacity (l)	Useable capacity (l)		
S178	9	6,9		

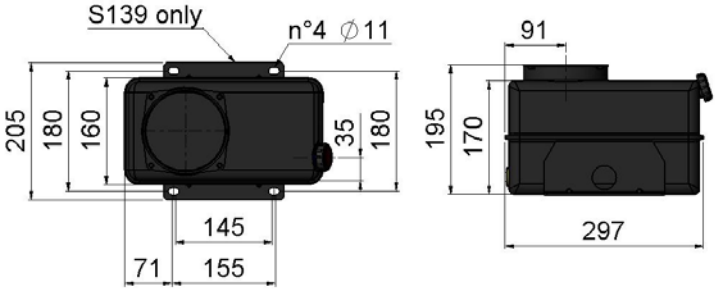
CODE	Tank capacity (l)	Useable capacity (l)	H (mm)	A (mm)	B (mm)
S90V	12	9	315	60	170
S92V	23	18	520	102,5	290



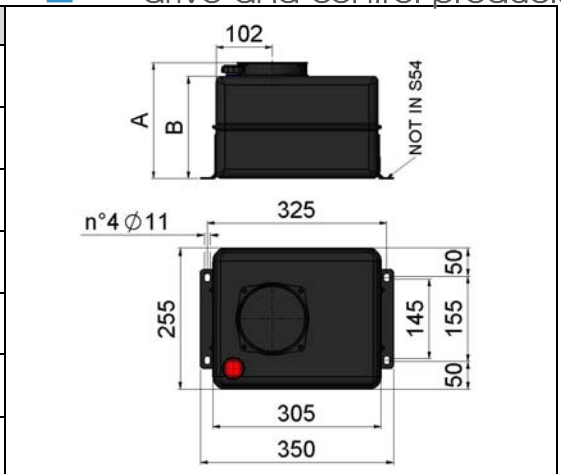
CODE	Tank capacity (l)	Useable capacity (l)	Brackets
S07	6	4	No
S138	6	4	Yes



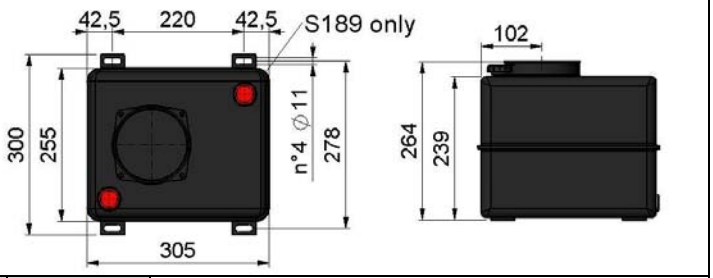
CODE	Tank capacity (l)	Useable capacity (l)	Brackets
S48	6	4	No
S139	6	4	Yes



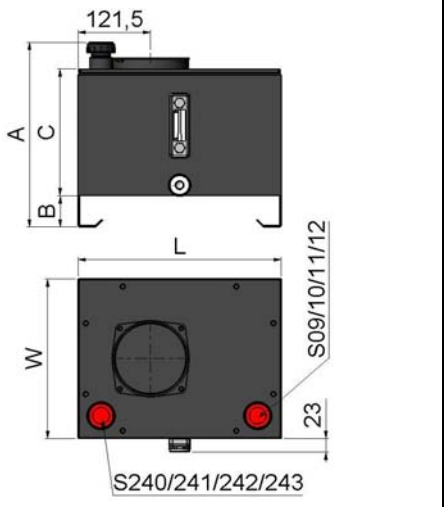
CODE	Tank capacity (l)	Useable capacity (l)	A (mm)	B (mm)
S223	8	6	156	131
S54	12	9,5	210	186
S140	12	9,5	210	186
S256	14	12	235	211
S141	15	13	261	236
S143	20	18	329	305



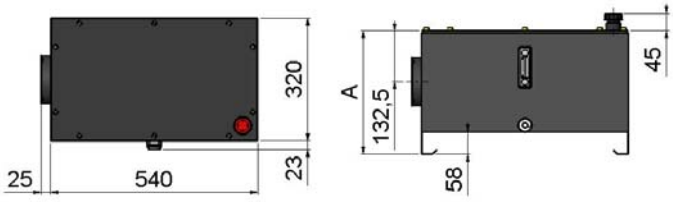
CODE	Tank capacity (l)	Useable capacity (l)	
S184	15	13	
S189	15	13	



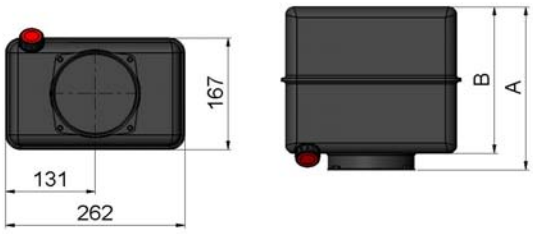
CODE	Tank capacity (l)	Useable capacity (l)	A (mm)	B (mm)	C (mm)	LxW (mm)
S09	20	12,5	285	53	207	340x270
S240	20	12,5	285	53	207	340x270
S10	30	22,5	405	58	322	340x270
S241	30	22,5	405	58	322	340x270
S11	45	30	344	58	261	540x320
S242	45	30	344	58	261	540x320
S12	60	44	435	58	352	540x320
S243	60	44	435	58	352	540x320



CODE	Tank capacity (l)	Useable capacity (l)	A (mm)
S13	45	30	321
S14	60	44	416

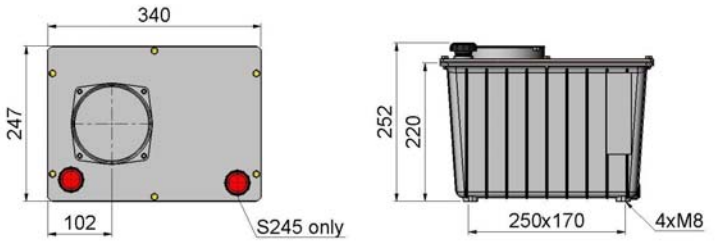


CODE	Tank capacity (l)	Useable capacity (l)	A (mm)	B (mm)
S211	3,5	3	125	100
S212	8	7	245	220



Alluminium tank

CODE	Tank capacity (l)	Useable capacity (l)	
S31	10	8,3	
S245	10	8,3	

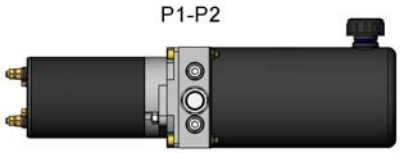


7 Mounting position

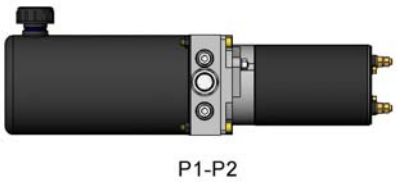
Mounting position

CODE	Image
O1	1
O2	2
O3	3
O4	4
V1	5
V2	6
-	7
O6	8
O7	9
O8	10

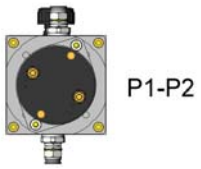
1



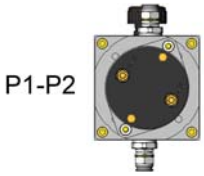
2



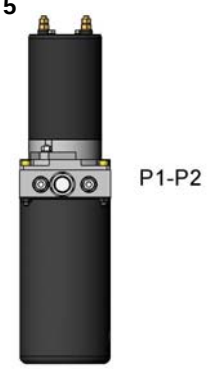
3



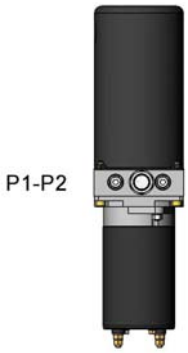
4



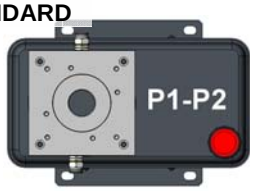
5



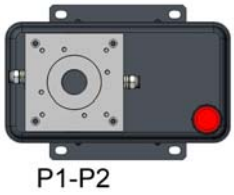
6



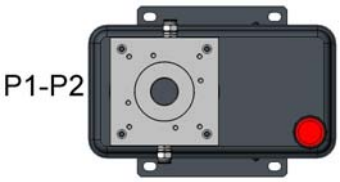
7 - STANDARD



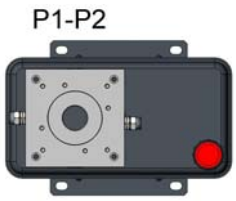
8



9



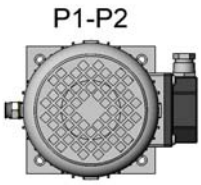
10



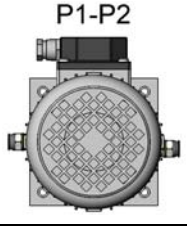
Terminal box positon for A.C. motors

CODE	Image
-	11
M2	12
M3	13
M4	14

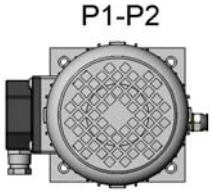
11 - STANDARD



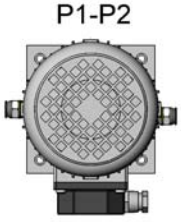
12



13



14



CODE	Image	19 - STANDARD	20
-	19	P1-P2 	P1-P2 
LU	20		
LO	21		
LP	22		
		21 P1-P2 	**22** P1-P2