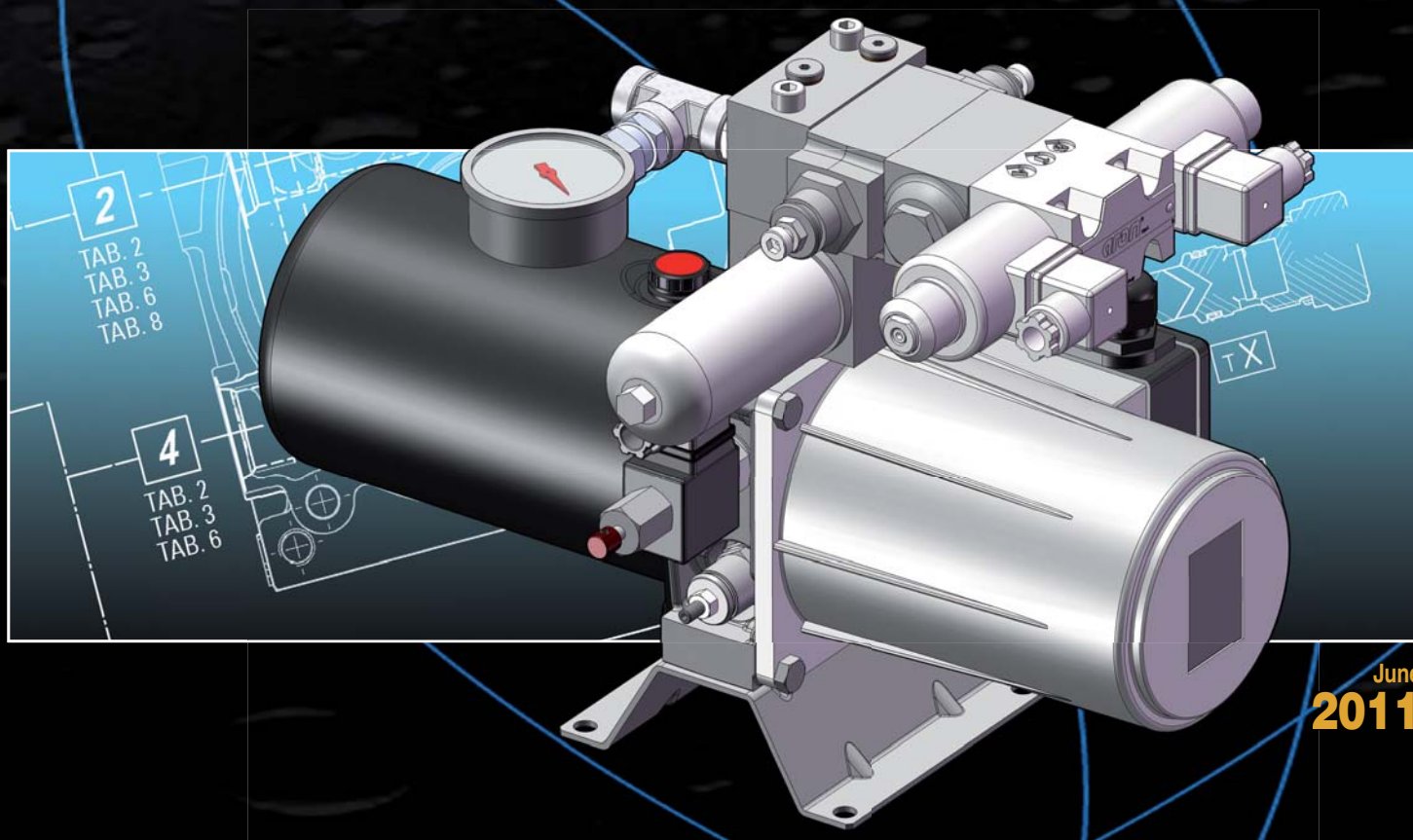


■ FP HYDRAULIC POWER PACK



June  
2011

# Symbols used



Side where flange is attached



Ground floor














Electrical connection boxes on AC motors



Poles and/or starting relays on DC motors



Important! (Important data/information)

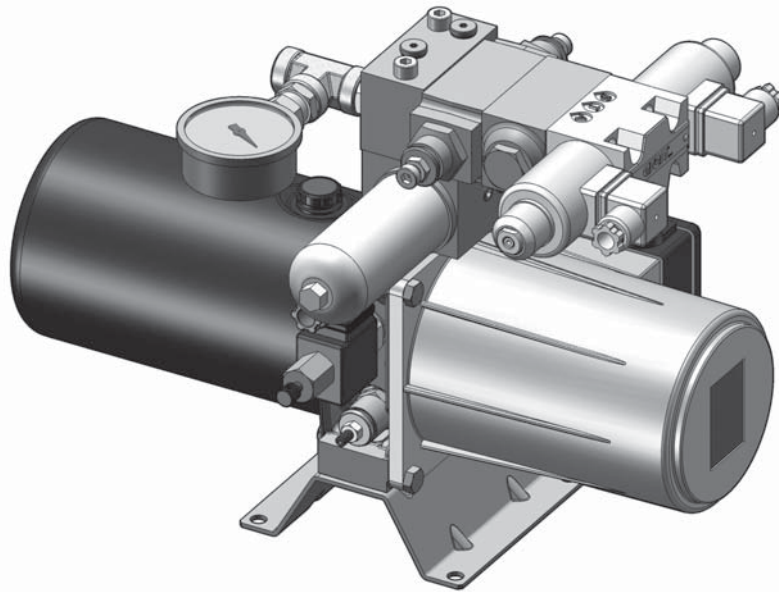
	TCSAL	Fill plug with breather and level stick
	TCAL	Fill plug with breather and level stick
		Standard plug (closed)
		Standard oil fill plug
	TCS	Fill plug with breather
	TC	Fill plug
	TCR	Fill plug with check valve
	TCA	Fill plug with back check
	TSM	Drain plug with magnet
	TSLV	Plug (or level stick) with visual indicator
	TS	Drain plug

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<b>Introduction</b> .....	2	Tab. 5.12.1 Variants - Vertical Installation .....	30
<b>Illustration</b> .....	3	Tab. 5.13 Rectangular tanks in sheet steel - 9 litres .....	31
<b>Selection code</b> .....	4	Tab. 5.13.1 Variants - Horizontal Installation .....	31
<b>Sect. I - Central bodies</b> .....	6	Tab. 5.14 Rectangular tanks in sheet steel - 14 litres .....	32
Tab. 1.1 Body selection .....	6	Tab. 5.14.1 Variants - Vertical Installation .....	32
Tab. 1.2 Maximum pressure valve or plug .....	7	Tab. 5.15 Rectangular tanks in sheet steel - 25 litres .....	33
<b>Sect. II - Valves for FPA body</b> .....	8	Tab. 5.15.1 Variants - Horizontal Installation .....	33
<b>Sect. II - Valves for FPC body</b> .....	9	Tab. 5.15.2 Variants - Vertical Installation .....	33
Tab. 2.1 Cavity used .....	10	Tab. 5.16 Square polypropylene tanks 180x180 - 5 / 7 litres .....	34
Tab. 2.2 Selection index .....	11	Tab. 5.17 Square polyethylene tanks 140x130 - 1.5 / 3 / 4 litres .....	35
Tab. 2.2.1 Maximum pressure valves (A.) .....	11	Tab. 5.18 Square polyethylene tanks 180x180 - 4 litres .....	36
Tab. 2.2.2 Unidirectional check valves (B.) .....	11	Tab. 5.19 Square polyethylene tanks 180x180 - 7 / 10 litres .....	37
Tab. 2.2.3 Manual controls (C.) .....	11	<b>Sect. VII - DC Motors</b> .....	38
Tab. 2.2.4 Cartridge-type solenoid valves (D...) .....	12	Tab. 7.1.1 Permanent magnets, light-duty service - Ø 80 - 12 VDC .....	39
Tab. 2.2.5 Flow control valves (F.) .....	12	Tab. 7.1.2 Permanent magnets, light-duty service - Ø 80 - 24 VDC .....	39
Tab. 2.2.6 Emergency valves (H.) .....	12	Tab. 7.1.3 Wound fields, light-duty service - Ø 114 - 12 VDC .....	40
Tab. 2.2.7 Plugs and connectors (T.) .....	13	Tab. 7.1.4 Wound fields, light-duty service - Ø 114 - 12 VDC .....	40
Tab. 2.2.8 Manually operated pumps (Z.) .....	14	Tab. 7.1.5 Wound fields, light-duty service - Ø 125 - 24 VDC .....	41
Tab. 2.3 Flow regulator on drain cavity .....	14	Tab. 7.2 Table of accessories for DC motors .....	42
Tab. 2.4 Flow regulator on peripheral cavities .....	14	<b>Sect. VII - AC Motors</b> .....	43
Tab. 2.5 Port plugs .....	14	Tab. 7.01 B14 - Three-phase, 2-Pole Motor - 230/400 VAC 50Hz .....	44
<b>Sect. III - Pumps</b> .....	15	Tab. 7.02 B14 - Three-phase, 4-Pole Motor - 230/400 VAC 50Hz .....	45
Tab. 3.1.1 Selection of DISPLACEMENT of Group 05 pumps .....	16	Tab. 7.03 Single-phase, 2-Pole motor - 230 VAC 50Hz - special .....	46
Tab. 3.1.2 Selection of DISPLACEMENT of Group 1 pumps .....	16	Tab. 7.04 Single-phase, 4-Pole motor - 230 VAC 50Hz - special .....	46
Tab. 3.2 Selection of ACCESSORIES of Group 1 pumps .....	17	Tab. 7.05 Three-phase, 2-Pole Motor - 230/400 VAC 50Hz .....	47
<b>Sect. V - Tanks</b> .....	18	Tab. 7.06 Three-phase, 4-Pole Motor - 230/400 VAC 50Hz .....	47
Tab. 5.1 Tanks in sheet steel Ø 123 - 1 litre .....	19	Tab. 7.07 Three-phase, 2-Pole Motor - 230/400 VAC 50Hz .....	48
Tab. 5.2 Tanks in sheet steel Ø 123 - 2 litres .....	20	Tab. 7.08 Three-phase, 4-Pole Motor - 230/400 VAC 50Hz .....	48
Tab. 5.3 Tanks in sheet steel Ø 123 - 3 litres .....	21	Tab. 7.09 Three-phase, 4-Pole Motor - 230/400 VAC 50Hz .....	49
Tab. 5.4 Tanks in sheet steel Ø 175 - 5 litres .....	22	Tab. 7.10 Three-phase, 2-Pole Motor - 230/400 VAC 50Hz .....	50
Tab. 5.4.1 Variants - Horizontal Installation .....	22	Tab. 7.11 Three-phase, 4-Pole Motor - 230/400 VAC 50Hz .....	50
Tab. 5.5 Tanks in sheet steel Ø 175 - 6 litres .....	23	Tab. 7.12 Three-phase, 2-Pole Motor - 230 VAC 50Hz .....	51
Tab. 5.5.1 Variant - Horizontal Installation .....	23	Tab. 7.13 Three-phase, 4-Pole Motor - 230 VAC 50Hz .....	51
Tab. 5.6 Tanks in sheet steel Ø 175 - 8 litres .....	24	<b>Sect. VIII - Position and orientation of installation</b> .....	52
Tab. 5.6.1 Variant - Horizontal Installation .....	24	Tab. 8.1 Power pack in horizontal position .....	53
Tab. 5.7 Tanks in sheet steel Ø 200 - 5 litres .....	25	Tab. 8.2 Power pack in vertical position .....	54
Tab. 5.8 Tanks in sheet steel Ø 200 - 8 litres .....	26	Tab. 8.3 Orientation of installed motor .....	55
Tab. 5.9 Tanks in sheet steel Ø 200 - 10 litres .....	27	<b>Sect. IX - Accessories</b> .....	56
Tab. 5.10 Tanks in sheet steel Ø 217 - 10 litres .....	28	Tab. 9.1 Accessories .....	57
Tab. 5.11 Tanks in sheet steel Ø 217 - 12 litres .....	29	<b>Overall dimensions of flange</b> .....	58
Tab. 5.12 Rectangular tanks in sheet steel - 7 litres .....	30	<b>Example of order code for FPA power pack</b> .....	59
		<b>Example of order code for FPC power pack</b> .....	60



The FP series power pack is an easy-to-assemble, compact, electro-hydraulic unit. With its versatility and modularity, it offers many combinations of hydraulic circuits to suit various requirements of plant design. This catalogue has been written to help the user choose the components for the power pack required for the specific application. However, the catalogue cannot foresee all the combinations that may be executed, so in some cases it may be necessary to consult our commercial engineering department.

For applications with very complex circuits, standard modular blocks for Cetop valves and other special blocks can be installed on the power pack, or blocks built to order can be included.

### A few applications:

- Fork lifts
- Lifting platforms and beds
- Automotive lifts
- Cranes for small trucks
- Snowplows
- Industrial automation (machine tools, food industry, textile industry)

You can choose from a wide variety of components with the following specifications:

- Gear pumps - Group 05 / 1 - from 0.25 to 9.8 cc.
- DC motors, 12/24 V, light-duty service, from 0.35 to 3 Kw
- Single and triple-phase motors with power ratings of up to 4 Kw - in a standard version or built to the customer's specifications (with minimum overall dimensions)
- Tanks in sheet steel with capacities of up to 25 litres
- Tanks in plastic with capacities of up to 10 litres

A fundamental part of the power pack is the flange body, which is made of die-cast aluminum alloy. The parts and dimensions of this component are shown below.

### Operating limits

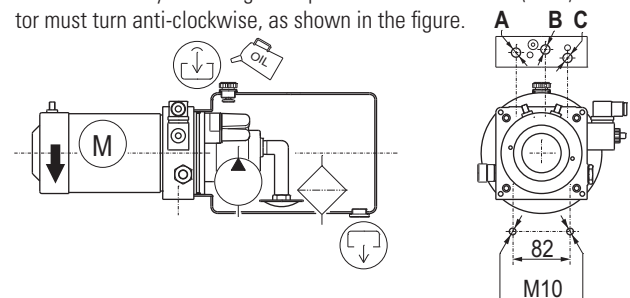
- Intermittent operating pressure: 290 bar (depending on pump type)
- Maximum flow rate: 20 l/min
- Maximum operating temperature:
  - 80°C (with sheet steel tank)
  - 70°C (with polyethylene tank)
  - 60 (with polypropylene tank)
- Mineral-based hydraulic fluid: ISO 6743-4 (DIN 51524)
  - Minimum viscosity: 12 mm<sup>2</sup>/s
  - Maximum viscosity: 80 mm<sup>2</sup>/s
  - Maximum viscosity at start-up: 500 mm<sup>2</sup>/s
- Minimum ambient temperature – 15°C
- Maximum ambient temperature 40°C (with peaks of 50°C)



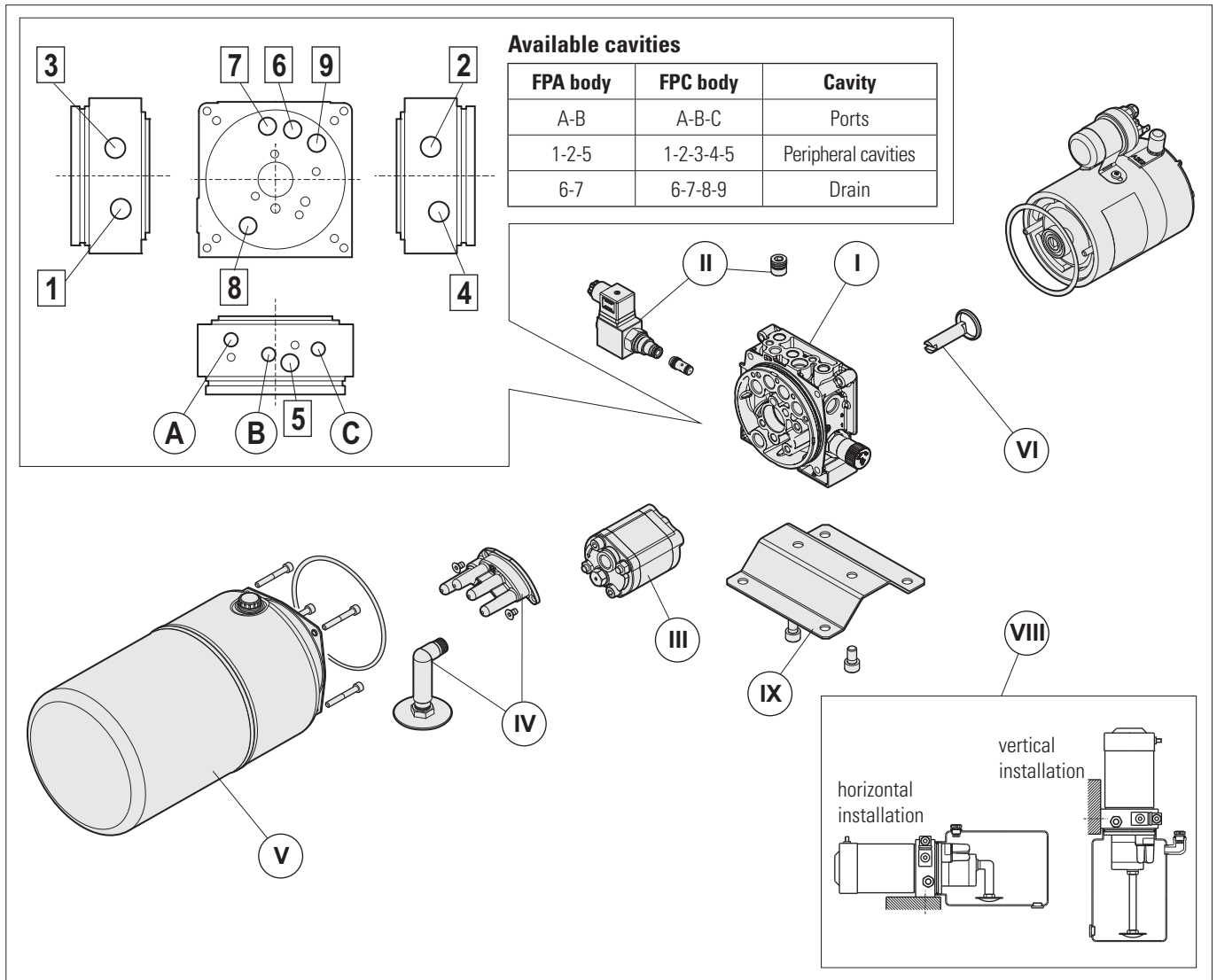
Operating pressure is controlled by the maximum pressure valve (therefore, by the choice of valve), and the type of pump used (in terms of performance) may be determined by the maximum pressure valve. Therefore, it is essential not to change the maximum pressure valve. If necessary, contact our technical service department.

### Installation

- 1) The power pack must be mounted using the M10 holes on the central body.
- 2) The power pack must not come into contact with sheet metal, protective guards or any parts that may vibrate and transmit noise.
- 3) The ports on the central body have been identified by the letters A – B – C. The hydraulic connection must be made with fittings with cylindrical thread and with copper or rubber sealing gaskets (O-rings).
- 4) After the electrical connections have been made, check the direction of motor rotation by executing short pulses of 1 second each (max.): the motor must turn anti-clockwise, as shown in the figure.



The tank must be filled with new mineral-based, ISO 6743/4 fluid: it is important to filter the fluid while filling the tank.



## ILLUSTRATION

With its great modularity, the FP series of power packs can create multiple configurations which satisfy requirements in a wide range of applications. To make it easier to choose components, the power pack is subdivided into sections.

### Section I - CENTRAL BODY

This is the base of the power pack where the valves, motor and tank will be installed.

In its standard versions, the body is available in 2 configurations:

FPA with two 3/4 16 UNF peripheral cavities

FPC with four 3/4 16 UNF peripheral cavities

When choosing the body, the type of maximum pressure valve must be determined. If the valve is not required, the plug used to close the cavity must be chosen.

### Section II - VALVES

Valves can be chosen to suit the type of flange desired (FPA or FPC).

### Section III - PUM

Gear pumps - Group 05 - 1 with displacement of 0.25 to 9.8 cc.

### Section IV - TUBE KIT - *code assigned by our office*

### Section V - TANK

Tanks in sheet steel (with capacity of up to 25 litres) or plastic (up to 10 litres)

### Section VI - TRANSMISSION - *code assigned by our office*

### Section VII - MOTOR

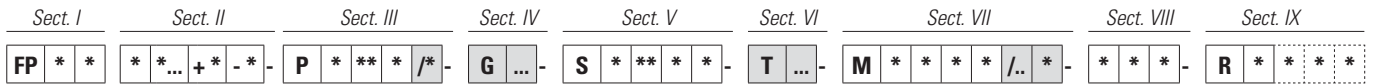
Single or triple-phase AC motors with power ratings of up to 4 Kw, or 12 or 24 VDC motors with power ratings of up to 3 Kw.

### Section VIII - POSITION

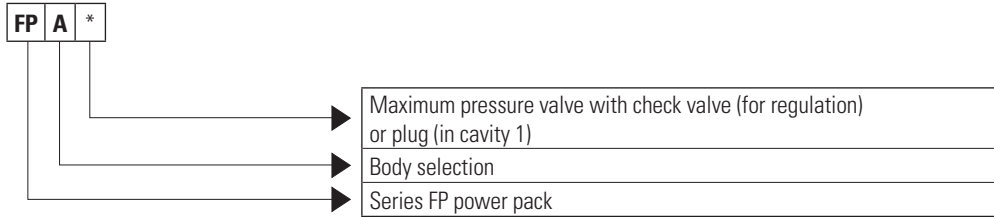
Position and orientation of power pack installation.

### Section IX - ACCESSORIES

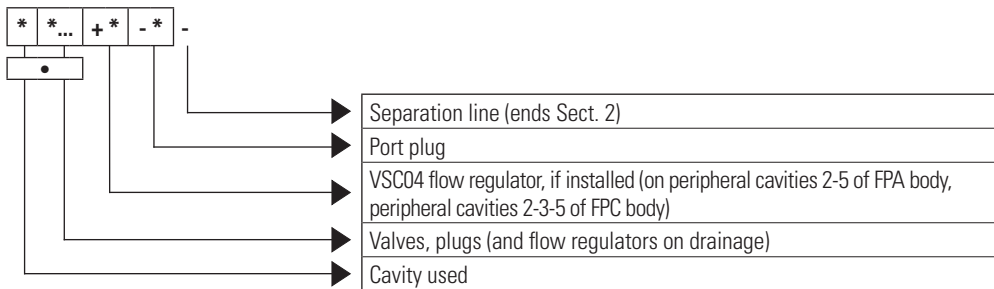
Accessories, mounting foot, protection systems, etc.



### Sect. I - Body and maximum pressure valve

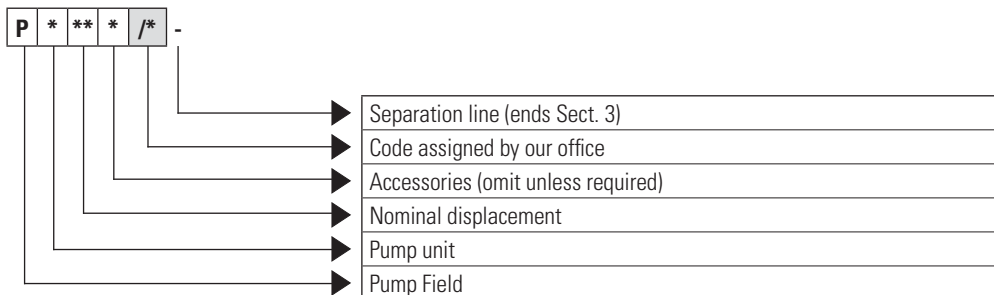


### Sect. II - Valves installed on body

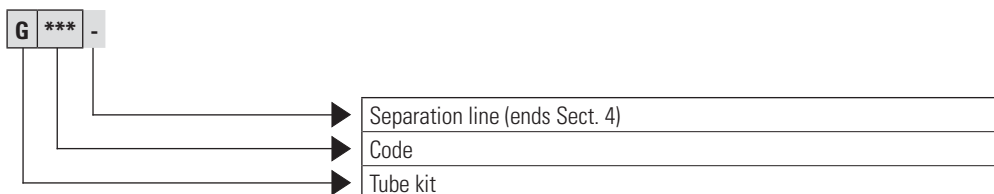


- Repeat for each external peripheral cavity in ascending order; cavities 2-5 of FPA body, cavities 2-3-4-5 of FPC body. Continue for each drain cavity in ascending order, but only if connected to a VCDF06 flow regulator; cavities 6-7 of FPA body, cavities 6-7-8-9 of FPC body.

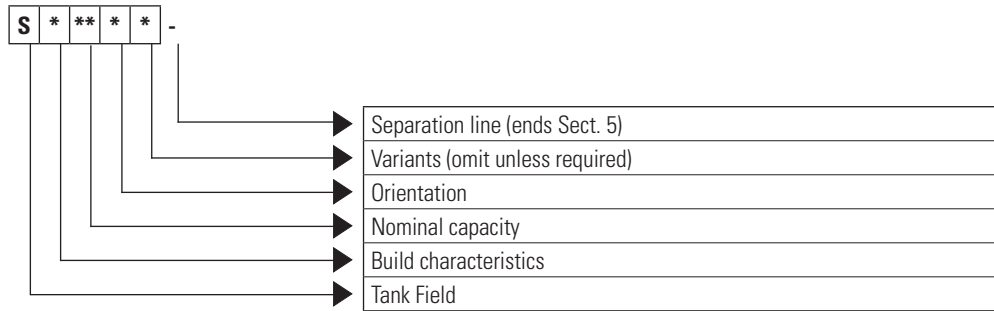
### Sect. III - Pump



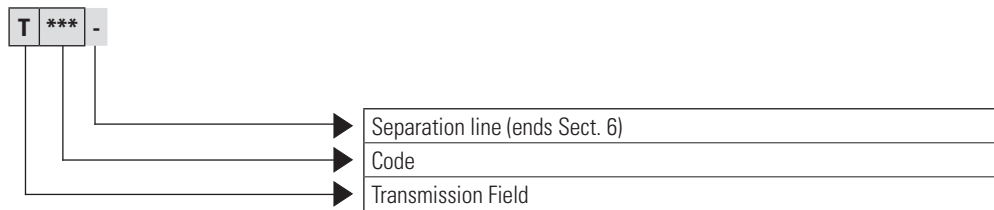
### Sect. IV - Tube kit (leave blank, code is assigned by our office)



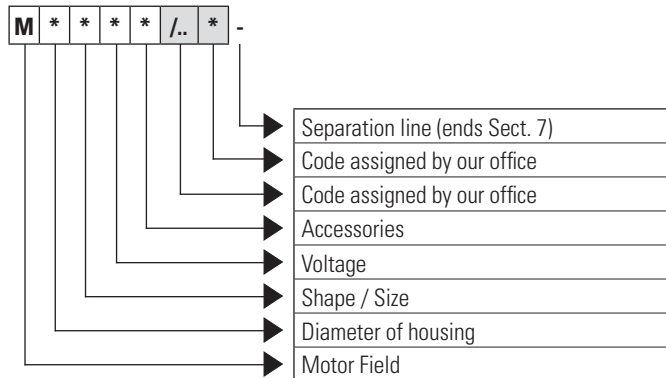
## Sect. V - Tank



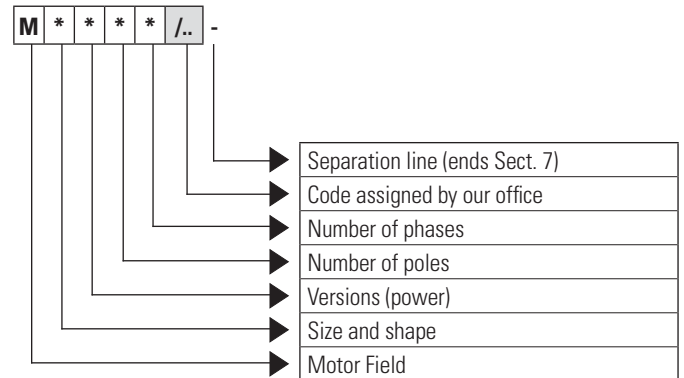
## Sect. VI - Transmission (leave blank, code is assigned by our office)



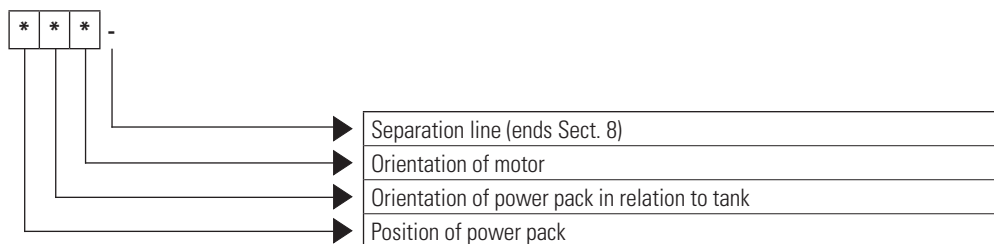
## Sect. VII - DC Motors



## Sect. VII - AC Motors



## Sect. VIII - Position and orientation



## Sect. IX - Accessories (omit unless required)



<b>Sect. I</b>	<i>Sect. II</i>	<i>Sect. III</i>	<i>Sect. IV</i>	<i>Sect. V</i>	<i>Sect. VI</i>	<i>Sect. VII</i>	<i>Sect. VIII</i>	<i>Sect. IX</i>
FP * *	* * ... + * - *	P * * * * / *	G ...	S * * * * *	T ...	M * * * * * / .. *	* * *	R * * * *
Body selection					Tab. 1.1			
Series FP power pack					—			

**Tab. 1.1 Body selection**

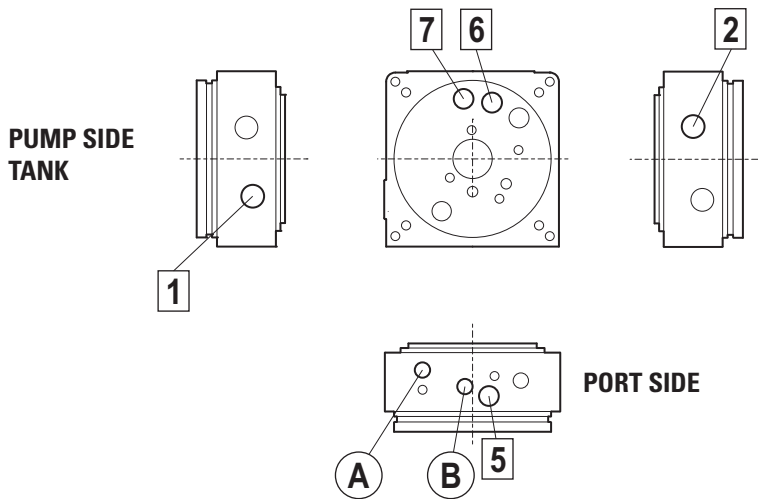
Code	Peripheral cavity	Drain cavity	Ports
<b>A</b>	1-2-5	6-7	A-B
<b>C</b>	1-2-3-4-5	6-7-8-9	A-B-C

The finished bodies differ in the number of cavities executed (these cavities are used to contain valves, connectors or plugs)

There are three types of cavities:

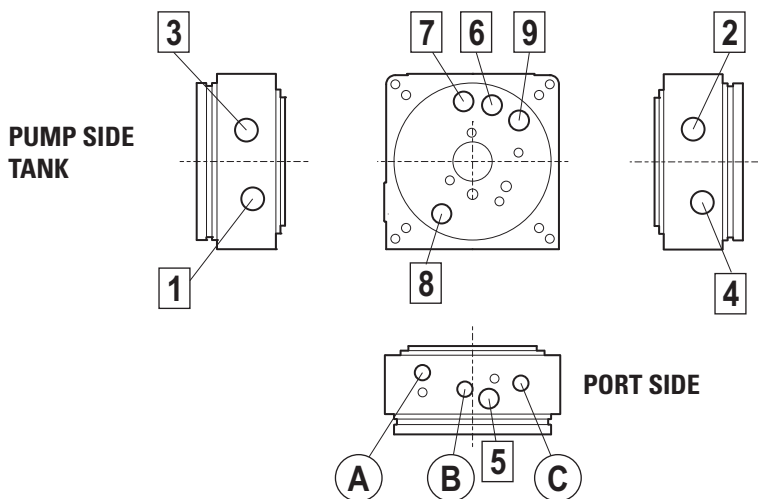
- **Peripheral cavities**, which can be accessed externally.
- **Drain cavities**, facing the inside of the tank.
- **Ports**

## FPA body



Cavity	Executed in the FPA body	Thread
Ports	A-B	G1/4
Peripheral cavity	1-2	3/4 16 UNF
Peripheral cavity	5	M16x1.5
Drain	6-7	G3/8

## FPC Body



Cavity	Executed in the FPC body	Thread
Ports	A-B-C	G1/4
Peripheral cavity	1-2-3-4	3/4 16 UNF
Peripheral cavity	5	M16x1.5
Drain	6-7-8-9	G3/8

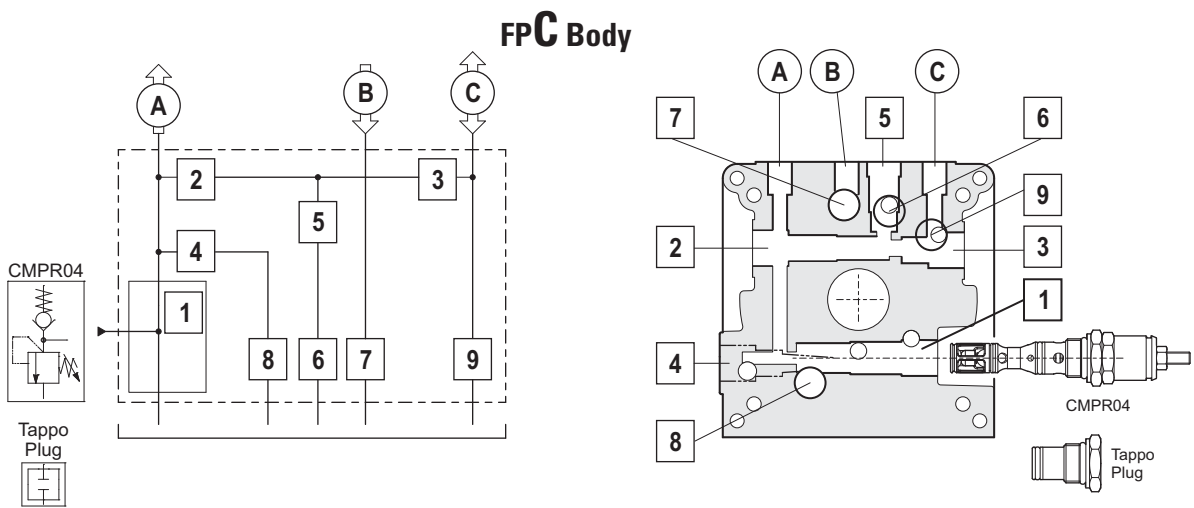
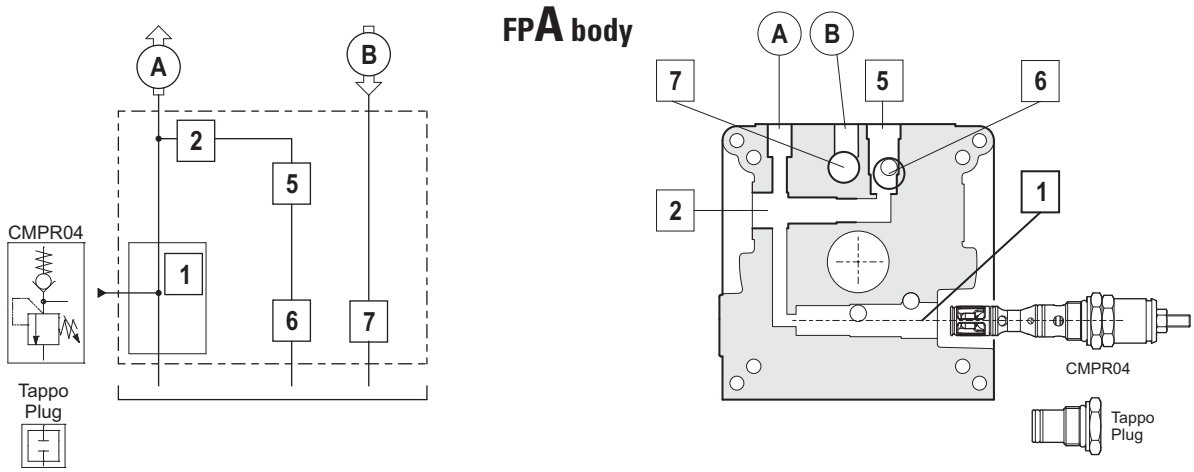


# Sect. I - Maximum pressure valve

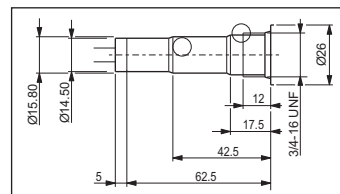
Sect. I	Sect. II	Sect. III	Sect. IV	Sect. V	Sect. VI	Sect. VII	Sect. VIII	Sect. IX
FP * *	* * ... + * - *	P * * * * / *	G ...	S * * * * *	T ...	M * * * * * / .. *	* * *	R * * * *
Maximum pressure valve with check valve (for regulation) or plug (in cavity 1)						Tab. 1.2		

**Tab. 1.2 Maximum pressure valve or plug**

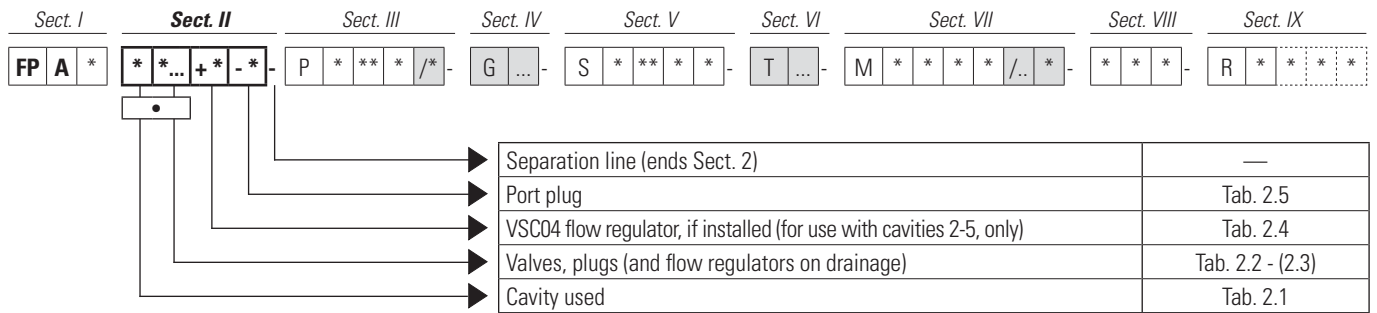
Code	P (bar)	Valve Calibration	Type	Symbol	Drawing	
A	10 ÷ 60	50 bar	Adjustable CMPR04C01***			
B	> 60 ÷ 180	150 bar				CMPR04C02***
C	> 180 ÷ 320	210 bar				CMPR04C03***
D	10 ÷ 60	50 bar	Plumbed CMPR04P01***			
E	> 60 ÷ 180	150 bar				CMPR04P02***
F	> 180 ÷ 320	210 bar				CMPR04P03***
X	Plug					



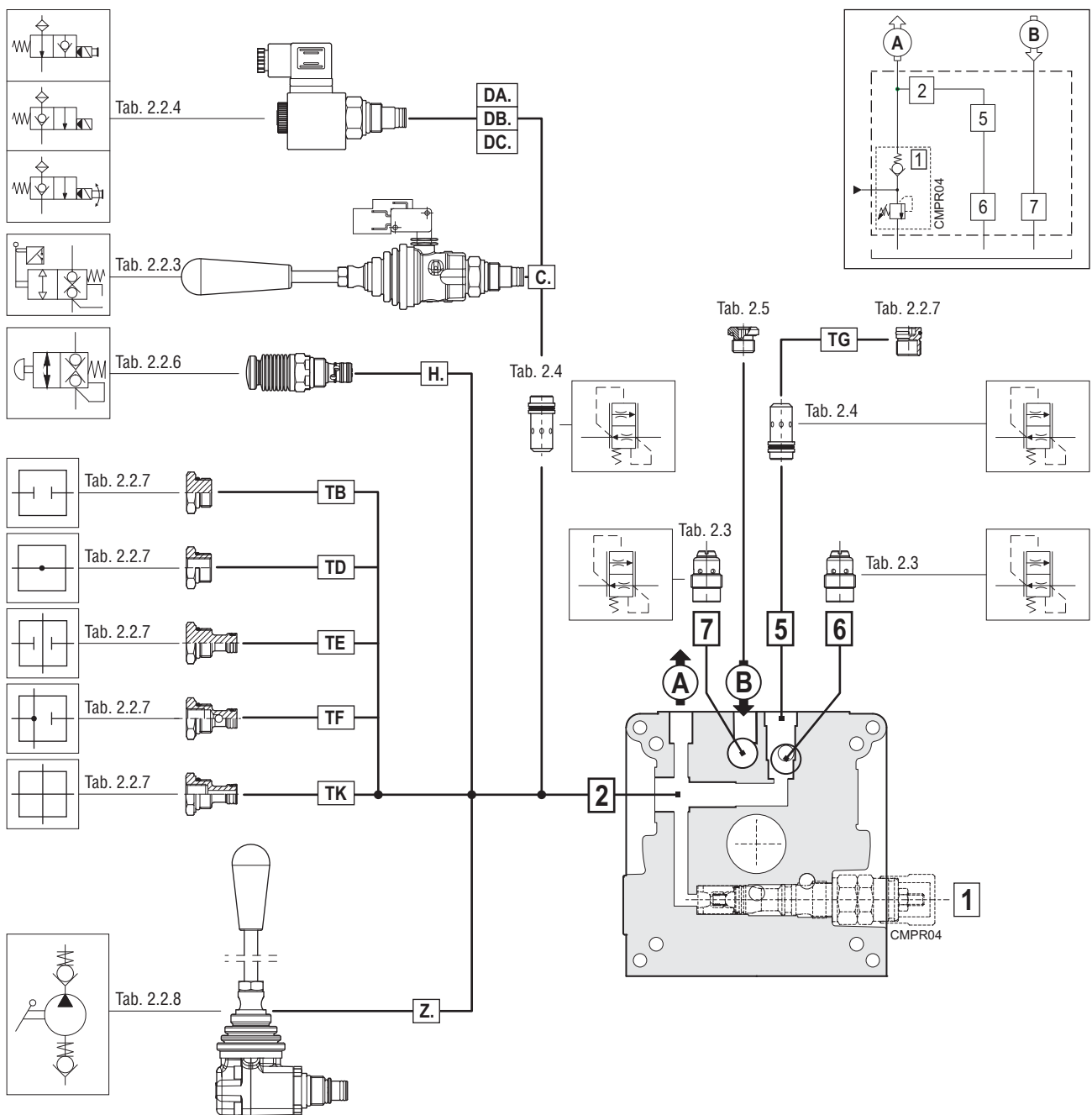
Overall dimensions of cavity 1  
(CD018013)



# Sect. II - Valves for FPA body



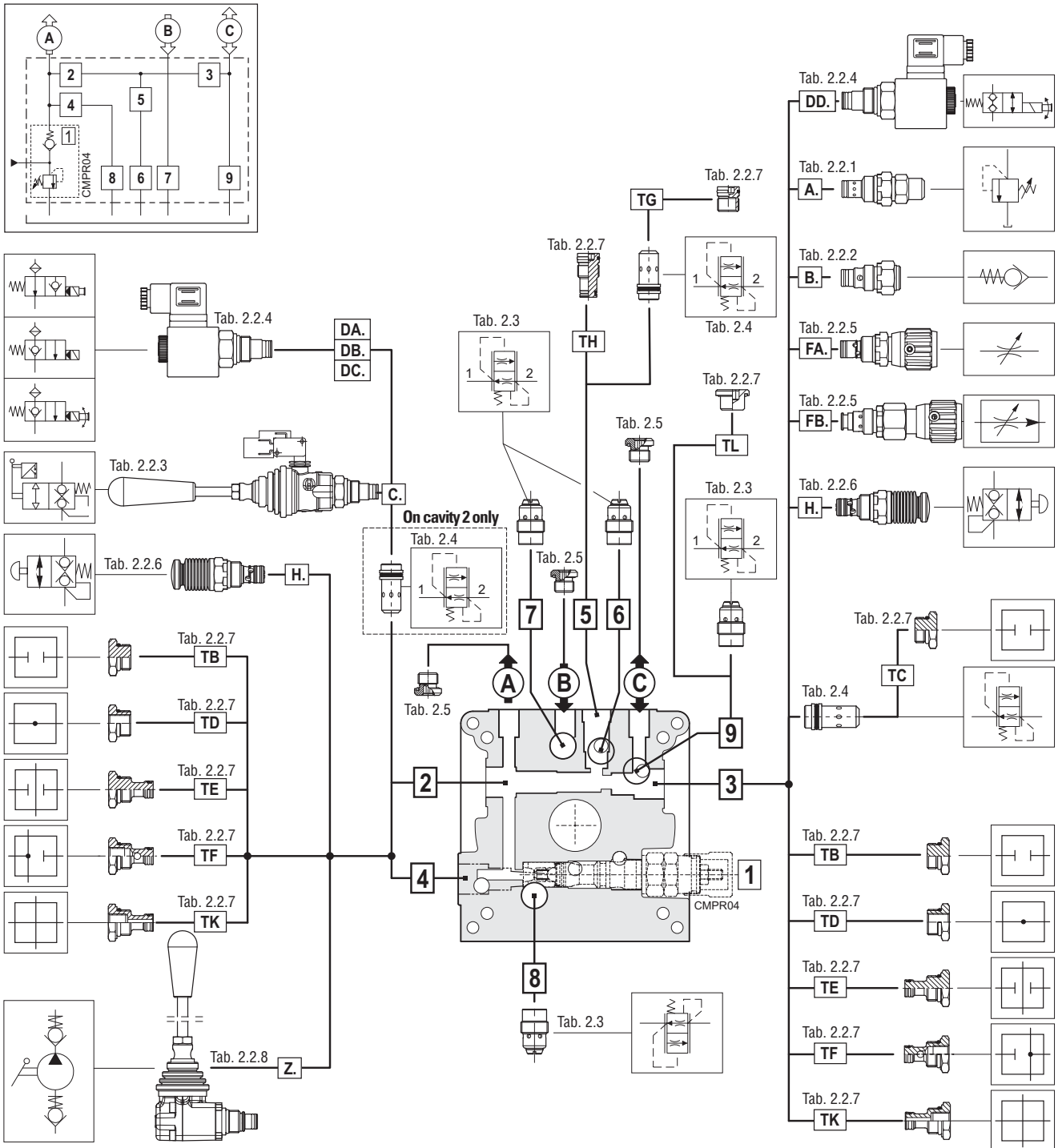
(●) Repeat the codes for each cavity, in ascending order (1\*\*\*2\*\*\*... etc)



# Sect. II - Valves for FPC body

Sect. I	Sect. II	Sect. III	Sect. IV	Sect. V	Sect. VI	Sect. VII	Sect. VIII	Sect. IX
FP C *	* * ... + * - *	P * * * * / *	G ...	S * * * * *	T ...	M * * * * * / .. *	* * * *	R * * * * *
	<ul style="list-style-type: none"> <li>→ Separation line (ends Sect. 2)</li> <li>→ Port plugs</li> <li>→ VSC04 flow regulator, if installed (for use with cavities 2-3-5, only)</li> <li>→ Valves, plugs (and flow regulators on drainage)</li> <li>→ Cavity used</li> </ul>							<ul style="list-style-type: none"> <li>→ —</li> <li>→ Tab. 2.5</li> <li>→ Tab. 2.4</li> <li>→ Tab. 2.2 - (2.3)</li> <li>→ Tab. 2.1</li> </ul>

(●) Repeat the codes for each cavity, in ascending order (1\*\*2\*\*\*... etc)



# Sect. II - List of cavities

\* \*... + \* - \* - Tab. 2.1 Cavity used

Cavity code	Cavity	Thread	Valves, plugs, flow regulators, see Table	Drawing
2	Peripheral cavity	3/4 16 UNF	2.2	
			2.4	
3	Peripheral cavity	3/4 16 UNF	2.2	
			2.4	
4	Peripheral cavity	3/4 16 UNF	2.2	
5	Peripheral cavity	M16x1.5	2.2	
			2.4	
6	Drain	G3/8	2.3	
7	Drain	G3/8	2.3	
8	Drain	G3/8	2.3	
9	Drain	G3/8	2.3	

\* \*... + \* - \* - **Tab. 2.2 Selection index**

Code	Valves/Plugs	FPA on cavity	FPC on cavity	See Tab.
<b>A ..</b>	Maximum pressure valves	—	3	<b>2.2.1</b>
<b>B .</b>	Unidirectional check valves	—	3	<b>2.2.2</b>
<b>C .</b>	Manual controls	2	2-4	<b>2.2.3</b>
<b>D ...</b>	Cartridge-type solenoid valves	2	2-4	<b>2.2.4</b>
<b>F ..</b>	Flow control valves	—	3	<b>2.2.5</b>
<b>H .</b>	Emergency valves	2	2-3-4	<b>2.2.6</b>
<b>T .</b>	Plugs and connectors	2-5	2-3-4-5-9	<b>2.2.7</b>
<b>Z .</b>	Hand-operated pump	2	2-3-4	<b>2.2.8</b>

\* \*\*\* + \* - \* - **Tab. 2.2.1 Maximum pressure valves (A..)**

Code	Description	Adjustment	FPA on cavity	FPC on cavity	Valve	Symbol	Drawing		
<b>AAA</b>	With short screw	70 bar max.	—	3	CMP04E100*				
<b>AAB</b>		140 bar max.			CMP04E200*				
<b>AAC</b>		330 bar max.			CMP04E300*				
<b>ABA</b>	With screw	70 bar max.	—	3	CMP04C100*				
<b>ABB</b>		140 bar max.			CMP04C200*				
<b>ABC</b>		330 bar max.			CMP04C300*				
<b>ACA</b>	With hand wheel	70 bar max.	—	3	CMP04V100*				
<b>ACD</b>		140 bar max.			CMP04V200*				
<b>ACC</b>		330 bar max.			CMP04V300*				
<b>ADA</b>	With plug	70 bar max.	—	3	CMP04P100*				
<b>ADB</b>		140 bar max.			CMP04P200*				
<b>ADC</b>		330 bar max.			CMP04P300*				

\* \*\* + \* - \* - **Tab. 2.2.2 Unidirectional check valves (B..)**

Code	Description	Trigger pressure	FPA on cavity	FPC on cavity	Valve	Symbol	Drawing
<b>BA</b>	Unidirectional check valve	0.5 bar (standard)	—	3	CRU040000*		
<b>BB</b>		4.5 bar			CRU040400*		
<b>BC</b>		10 bar			CRU041000*		

\* \*\* + \* - \* - **Tab. 2.2.3 Manual controls (C..)**

Code	Pressure on side: specifications	FPA on cavity	FPC on cavity	Valve	Symbol	Drawing
<b>CA</b>	Without microswitch	2	2-4	CMF04L*0*		
<b>CB</b>	With microswitch (12/24V)	2	2-4	CMF04M*0*		

# Sect. II - List of valves

\* \*\*\*\* + \* - \* - **Tab. 2.2.4 Cartridge-type solenoid valves (D..)**

Code	PILOTED valves	FPA on cavity	FPC on cavity	Valve	Symbol	Drawing
<b>DAAA</b>	12 VDC - Normally closed, without emergency valve	2	2-4	CRP0418NCASL00*		
<b>DAAB</b>	24 VDC - Normally closed, without emergency valve			CRP0418NCASM00*		
<b>DAAC</b>	24 VAC 50 Hz - Normally closed, without emergency valve			CRP0418NCASA00*		
<b>DAAD</b>	110 VAC 50 Hz - Normally closed, without emergency valve			CRP0418NCASJ00*		
<b>DAAE</b>	230 VAC 50 Hz - Normally closed, without emergency valve			CRP0418NCASIO0*		
<b>DBAA</b>	12 VDC - Normally closed, with emergency valve	2	2-4	CRP0418NCAEL00*		
<b>DBAB</b>	24 VDC - Normally closed, with emergency valve			CRP0418NCAEM00*		
<b>DBAC</b>	24 VAC 50 Hz - Normally closed, with emergency valve			CRP0418NCAEA00*		
<b>DBAD</b>	110 VAC 50 Hz - Normally closed, with emergency valve			CRP0418NCAEJ00*		
<b>DBAE</b>	230 VAC 50 Hz - Normally closed, with emergency valve			CRP0418NCAEI00*		
<b>DCAA</b>	12 VDC - Normally open, with emergency valve	2	2-4	CRP0418NAAEL00*		
<b>DCAB</b>	24 VDC - Normally open, with emergency valve			CRP0418NAAEM00*		
<b>DCAC</b>	24 VAC 50/60 Hz (RAC) - Normally open, with emergency valve			CRP0418NAAE200*		
<b>DCAD</b>	110 VAC 50/60 Hz (RAC) - Normally open, with emergency valve			CRP0418NAAEZ00*		
<b>DCAE</b>	230 VAC 50/60 Hz (RAC) - Normally open, with emergency valve			CRP0418NAAEX00*		
<b>DCAF</b>	48 VDC - Normally open, with emergency valve			CRP0418NAAEN00*		

Supplied with connector code no. V86050002 or V86200002 (RAC)

Code	Directly operated valves	FPA on cavity	FPC on cavity	Valve	Symbol	Drawing
<b>DDAA</b>	12 VDC	2	2-4	CRD0418NCAEL00*		
<b>DDAB</b>	24 VDC			CRD0418NCAEM00*		

Supplied with connector code no. V86050002

\* \*\*\* + \* - \* - **Tab. 2.2.5 Flow control valves (F..)**

Code	Bidirectional NON-COMPENSATED	FPA on cavity	FPC on cavity	Valve	Symbol	Drawing
<b>FAA</b>	Adjusted with wrench	—	3	CSB04C00*		
<b>FAB</b>	With hand wheel			CSB04V00*		

Code	Bidirectional COMPENSATED	FPA on cavity	FPC on cavity	Valve	Symbol	Drawing
<b>FBA</b>	Adjusted with wrench	—	3	CSC04C00*		
<b>FBB</b>	Adjusted with handwheel			CSC04V00*		

\* \*\* + \* - \* - **Tab. 2.2.6 Emergency valves (H..)**

Code	Control	FPA on cavity	FPC on cavity	Valve	Symbol	Drawing
<b>HA</b>	With pushbutton	2	2-3-4	CPE04P00*		

# Sect. II - List of plugs

\* \*\* + \* - \* - Tab. 2.2.7 Plugs and connectors (T..)

Code	Description	FPA on cavity	FPC on cavity	Symbol	Drawing
TA	Long connector 3/4 16 UNF - G1/4	2	2-3-4		(20012100)
TB	Plug 3/4 16 UNF	2	2-3-4		(20001900)
TC	Plug for VSC04 valve 3/4 16 UNF	—	3		(R78150099)
TD	Connector 3/4 16 UNF - G1/4	2	2-3-4		(20001700)
TE	Long plug 3/4 16 UNF	2	2-3-4		(20003800)
TF	Long plug 3/4 16 UNF - G1/4	2	2-3-4		(20009400)
TG	Plug for VSC04 valve M16x1.5	5	5		(R78150104)
TH	Long plug M16x1.5	—	5		(R78150101)
TL	Plug G3/8	—	9		(M78100020)
TK	3/4 16 UNF plug DIN - G1/4	2	2-3-4		(20018000)

# Sect. II - List of plugs and valves

\* \*\* +\* -\* - Tab. 2.2.8 Manually operated pumps (Z.)

Code	Displacement	FPA on cavity	FPC on cavity	Valve	Symbol	Drawing
ZA	1 cc	2	2-3-4	CPM041*00*		
ZB	2 cc			CPM042*00*		

\* \* +\* -\* - Tab. 2.3 Flow regulator on drain cavity

Code	Flow rate l/min	FPA on cavity	FPC on cavity	Valve	Symbol	Drawing
C	2.0	6-7	6-7-8-9	VCDF0601*		
E	3.0	6-7	6-7-8-9	VCDF0602*		
G	4.5	6-7	6-7-8-9	VCDF0603*		
K	6.0	6-7	6-7-8-9	VCDF0604*		
N	7.5	6-7	6-7-8-9	VCDF0606*		
Q	9.5	6-7	6-7-8-9	VCDF0608*		
U	12.0	6-7	6-7-8-9	VCDF0611*		
V	15.0	6-7	6-7-8-9	VCDF0616*		

\* \* ... +\* -\* - Tab. 2.4 Flow regulator on peripheral cavities

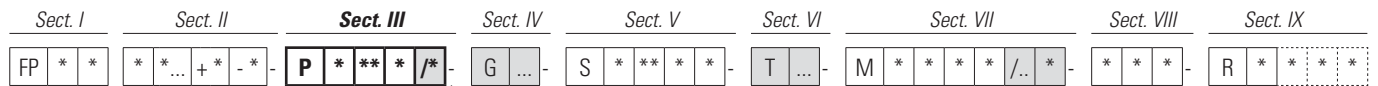
Code	Flow rate l/min	FPA on cavity*	FPC on cavity*	Valve	Symbol	Drawing
+B	1.4	2-5	2-3-5	VSC04010*		
+C	2.1	2-5	2-3-5	VSC04020*		
+E	3.1	2-5	2-3-5	VSC04030*		
+G	4.2	2-5	2-3-5	VSC04040*		
+J	5.0	2-5	2-3-5	VSC04060*		
+L	6.4	2-5	2-3-5	VSC04080*		
+N	7.3	2-5	2-3-5	VSC04110*		
+Q	9.3	2-5	2-3-5	VSC04160*		

(\*) In cavity 3, usable only with plug **TC**  
In cavity 5, usable only with plug **TG**

\* \* ... +\* -\* - Tab. 2.5 Port plugs

Code	Closes this port...			... on this power pack		Symbol	Drawing	Cavities A-B-C
	A	B	C	FPA	FPC			
-A	●	—	—	—	●			
-B	—	●	—	●	●			
-C	—	—	●	—	●			
-D	—	●	●	—	●			
-N	No closure			●	●			





Separation line (ends Sect. 3)	—
Code assigned by our office	—
Accessories (omit unless required)	Tab. 3.2
Nominal displacement	
Pump unit	
Pump Field	—

### Pump unit

Code	Type	See Tab.
0	Group 05	3.1.1
1	Group 1	3.1.2

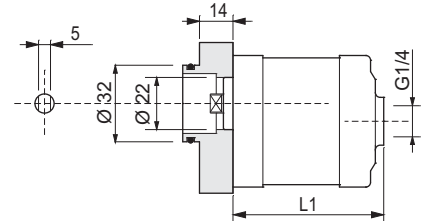
### Nominal displacement

Code	GR 05 (See Tab.3.1.1)	GR 1 (See Tab.3.1.2)
02	0.25 cc	—
04	0.45 cc	—
05	0.56 cc	—
07	0.75 cc	0.80 cc
09	0.92 cc	0.90 cc
10	—	1.00 cc
12	1.20 cc	1.20 cc
17	—	1.70 cc
22	—	2.20 cc
26	—	2.60 cc
32	—	3.20 cc
38	—	3.80 cc
43	—	4.30 cc
48	—	4.80 cc
60	—	6.00 cc
63	—	6.30 cc
78	—	7.80 cc
98	—	9.80 cc

**P 0 \*\* \*** - Tab. 3.1.1 Selection of **DISPLACEMENT** of pumps in Group 05 (with adapter)

Code	Nominal displacement	Tolerance on geometric displacement	P2 bar	P3 bar	L1 mm
02	0.25 cc	0.20 ÷ 0.30	230	250	56
04	0.45 cc	0.40 ÷ 0.50			63
05	0.56 cc	0.50 ÷ 0.60			64
07	0.75 cc	0.70 ÷ 0.80			66
09	0.92 cc	0.85 ÷ 0.95			67
12	1.20 cc	1.10 ÷ 1.30			69

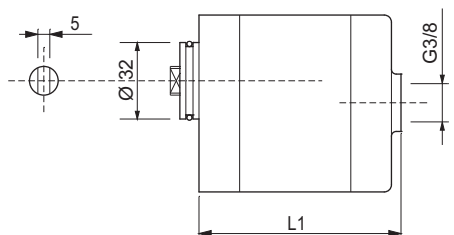
P2 = Intermittent operating pressure  
 P3 = Intermittent peak pressure (20 sec. max)



**P 1 \*\* \*** - Tab. 3.1.2 Selection of **DISPLACEMENT** of pumps in Group 1

Code	Nominal displacement	Tolerance on geometric displacement	P2 bar	P3 bar	L1 mm
07	0.80 cc	0.70 ÷ 0.80	230	250	depends on type of pump
09	0.90 cc	0.85 ÷ 0.95			
10	1.00 cc	0.96 ÷ 1.09			
12	1.20 cc	1.10 ÷ 1.30	250	290	
17	1.70 cc	1.50 ÷ 1.70			
22	2.20 cc	2.10 ÷ 2.30			
26	2.60 cc	2.50 ÷ 2.70			
32	3.20 cc	3.10 ÷ 3.30			
38	3.80 cc	3.60 ÷ 3.80			
43	4.30 cc	4.00 ÷ 4.40	210	250	
48	4.80 cc	4.60 ÷ 5.00			
60	6.00 cc	5.50 ÷ 5.90			
63	6.30 cc	6.00 ÷ 6.40	190	210	
78	7.80 cc	7.50 ÷ 7.90	150	170	
98	9.80 cc	9.60 ÷ 10.00	100	—	

P3 = Intermittent operating pressure  
 P3 = Intermittent peak pressure (20 sec. max)



If lower pressure values are required, pumps with performance that is suitable at the required pressures may be used.

**P 1 \*\* \*** - Tab. 3.2 Selection of ACCESSORIES for pumps in Group 1

Code	Accessory	Description	Valve	Symbol	Drawing
<b>A</b>	Auxiliary outlet	VAM 0.8 ÷ 2.5 l/min	VAM0400LQ		
<b>B</b>		VAM over 2.5 ÷ 8.0 l/min	VAM0400MQ		
<b>C</b>		VAM over 8.0 ÷ 14 l/min	VAM0400HQ		
<b>D</b>	Auxiliary outlet	VAMS with hole Ø of 0.4 mm	VAMS040400*		

Note: accessories can be installed only on pumps equipped with an auxiliary outlet with G1/4" thread.  
For further details, contact our office.

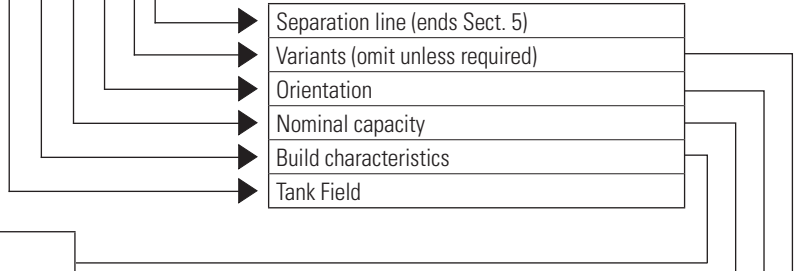
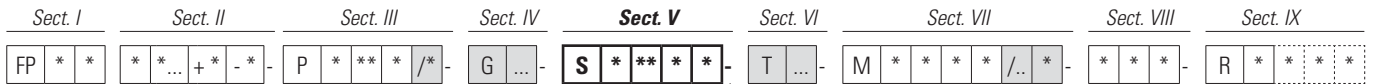
P2 = Intermittent operating pressure  
P3 = Intermittent peak pressure (20 sec. max)



If lower pressure values are required, pumps with performance that is suitable at the required pressures may be used.

### Available pumps

Code	Nominal displacement	P2 bar	P3 bar
<b>P 1</b>	<b>12</b>	250	290
	<b>17</b>		
	<b>22</b>		
	<b>26</b>		
	<b>32</b>		
	<b>38</b>		
	<b>43</b>	210	250
<b>48</b>	4.80 cc	210	250



### Build specifications

Code	Specifications	Tables
1	In sheet steel, with Ø 123 mm	5.1 - 5.2 - 5.3
2	In sheet steel, with Ø 175 mm	5.4 - 5.5 - 5.6
3	In sheet steel, with Ø 200 mm	5.7 - 5.8 - 5.9
4	In sheet steel, with Ø 217 mm	5.10 - 5.11
5	In sheet steel, rectangular	5.12 - 5.13 - 5.14 - 5.15
6	Natural polypropylene, square (180 x 180 mm)	5.16
7	Natural polyethylene, square (140 x 130 mm)	5.17
8	Natural polyethylene, square (180 x 180 mm)	5.18 - 5.19
C	Collar in weldable sheet steel, without tubes	—
X	Without tank, without tubes	—

### Nominal capacity (litres)

Code	Build characteristics							
	1	2	3	4	5	6	7	8
01	1 L							
02	2 L						1.5 L	
03	3 L						2.5 L	
04							4 L	4 L
05		5 L	5 L			5 L		
06		6 L						
07					7 L	7 L		7 L
08		8 L	8 L					
09					9 L			
10			10 L	10 L				10 L
12				12 L				
14					14 L			
15								
25					25 L			

Installation:

- 4 screws, M6x45 UNI 5931 (Q26074091)
- O-ring, 110, 72x3.53 (Q25830248)

**S \* \*\* \* C** - Collar in welded sheet steel, with tubes

To identify the tubes, it is necessary to fill in the first part of the field, which identifies the tank (even if the tank will not be supplied).

**S \* \*\* \* X** - Without tank, with tubes

### Orientation

Code	Description
H	Horizontal
V	Vertical

### Variants

Code	Description
C	With weldable collar, with tubes
X	Without tank, with tubes
...	Variants in the position and type of plugs on the standard tank

# Sect. V - Tanks in sheet steel

S 1 01 \* \* - Tab. 5.1 Tanks in sheet steel Ø 123 - 1 litre

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
H	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000900)</p>	1	1	0.7	
V	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000900)</p>	1	0.9	0.7	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS Fill plug with breather G1/2"	49149800
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# Sect. V - Tanks in sheet steel

S 1 02 \* \* - Tab. 5.2 Tanks in sheet steel Ø 123 - 2 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>H</b>	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000400)</p>	2	1.6	1.5	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000400)</p>	2	1.6	1.5	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS Fill plug with breather G1/2"	49149800
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# Sect. V - Tanks in sheet steel

S 1 03 \* \* - Tab. 5.3 Tanks in sheet steel Ø 123 - 3 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>H</b>	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000500)</p>	3	3	2.8	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000500)</p>	3	2.9	2.9	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)



TCS Fill plug with breather G1/2"

49149800

# Sect. V - Tanks in sheet steel

S 2 05 \* \* - Tab. 5.4 Tanks in sheet steel Ø 175 - 5 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
H	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000100)</p>	5	4.7	4.5	
V	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000100)</p>	5	4.3	4.1	

S 2 05 H \* - Tab. 5.4.1 Variants - Horizontal Installation

Code	Drawing	Code	Drawing
A		D	
B		E	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS	Fill plug with breather, G1/2"	49149800
	TS	Drain plug, G1/2"	R78100021



# Sect. V - Tanks in sheet steel

S 2 06 \* \* - Tab. 5.5 Tanks in sheet steel Ø 175 - 6 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>H</b>	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000800)</p>	6	6	5.9	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000800)</p>	6	5.8	5.5	

S 2 06 H \* - Tab. 5.5.1 Variants - Horizontal Installation

Code	Drawing
<b>D</b>	<p>49107500</p>

Installation:

- 4 screws, M6x45 UNI 5931 (Q26074091)
- O-ring, 110.72x3.53 (Q25830248)

	TCS Fill plug with breather, G1/2"	49149800
	TS Drain plug, G1/2"	R78100021

# Sect. V - Tanks in sheet steel

S 2 08 \* \* - Tab. 5.6 Tanks in sheet steel Ø 175 - 8 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>H</b>	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000700)</p>	8	8	7.3	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22000700)</p>	8	7.5	7.2	

S 2 08 H \* - Tab. 5.6.1 Variants - Horizontal Installation

Code	Drawing
<b>D</b>	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS	Fill plug with breather, G1/2"	49149800
	TS	Drain plug, G1/2"	R78100021

# Sect. V - Tanks in sheet steel

S 3 05 \* \* - Tab. 5.7 Tanks in sheet steel Ø 200 - 5 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>H</b>	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(M72210005)</p>	5	5.3	5	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(M72210005)</p>	5	4.6	4.3	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS	Fill plug with breather, G1/2"	49149800
	TS	Drain plug, G1/2"	R78100021

# Sect. V - Tanks in sheet steel

S 3 08 \* \* - Tab. 5.8 Tanks in sheet steel Ø 200 - 8 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>H</b>	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(SPS3398X.001)</p>	8	8	7.7	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(SPS3398X.001)</p>	8	7.5	7.1	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS	Fill plug with breather, G1/2"	49149800
	TS	Drain plug, G1/2"	R78100021

# Sect. V - Tanks in sheet steel

S 3 10 \* \* - Tab. 5.9 Tanks in sheet steel Ø 200 - 10 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>H</b>	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(M72210001)</p>	10	10	9.3	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(M72210001)</p>	10	9.5	9.1	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS	Fill plug with breather, G1/2"	49149800
	TS	Drain plug, G1/2"	R78100021

# Sect. V - Tanks in sheet steel

S 4 10 \* \* - Tab. 5.10 Tanks in sheet steel Ø 217 - 10 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>H</b>	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22001000)</p>	10	8	7.6	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22001000)</p>	10	7	6.8	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS	Fill plug with breather, G3/4"	49105800
	TS	Drain plug, G3/4"	20018500

# Sect. V - Tanks in sheet steel

S 4 12 \* \* - Tab. 5.11 Tanks in sheet steel Ø 217 - 12 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>H</b>	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22003800)</p>	12	12	11	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22003800)</p>	12	10.3	10.1	

**Installation:**

- 4 screws, M6x45 UNI 5931 (Q26074091)
- O-ring, 110.72x3.53 (Q25830248)



TCS Fill plug with breather, G3/4"

49105800



TS Drain plug, G3/4"

20018500

**S 5 07 \* \*** - Tab. 5.12 Rectangular tanks in sheet steel - 7 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22001200)</p>	7	5.5	5.1	

**S 5 07 V \* \*** - Tab. 5.12.1 Variants - Vertical Installation

Code	Drawing
<b>A</b>	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS Fill plug with breather, G1/2"	49149800
	TS Drain plug, G1/2"	49154200



**S 5 09 \* \*** - Tab. 5.13 Rectangular tanks in sheet steel - 9 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22007800)</p>	9	8.6	7.5	

**S 5 09 H \*** - Tab. 5.4.1 Variants - Horizontal Installation

Code	Drawing
<b>A</b>	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS Fill plug with breather, G1/2"	49149800
	TS Drain plug, G1/2"	R78100021

**S 5 14 \* \*** - Tab. 5.14 Rectangular tanks in sheet steel - 14 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22002200)</p>	14	14	13	

**S 5 14 V \* \*** - Tab. 5.14.1 Variants - Vertical Installation

Code	Drawing
<b>A</b>	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS	Fill plug with breather, G1/2"	49149800
	TS	Drain plug, G1/2"	49154200

# Sect. V - Tanks in sheet steel

**S 5 25 \* \*** - Tab. 5.15 Rectangular tanks in sheet steel - 25 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
<b>H</b>	<p>STANDARD <b>Horizontal Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22004200)</p>	25	22	21	
<b>V</b>	<p>STANDARD <b>Vertical Installation</b></p> <p>Cataphoretic paint finish in semi-matt black (primer)</p> <p>(22004100)</p>	25	25	22	

**S 5 25 H \*** - Tab. 5.15.1 Variants - Horizontal Installation

Code	Drawing
<b>A</b>	

**S 5 25 V \*** - Tab. 5.15.2 Variants - Vertical Installation

Code	Drawing
<b>A</b>	

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - O-ring, 110.72x3.53 (Q25830248)

	TCS	Fill plug with breather, G1" 1/4	49118000
	TS	Drain plug, G1" 1/4	20022600

# Sect. V - Tanks in polypropylene

S 6 \*\* \* \* - Tab. 5.16 Square polypropylene tanks 180x180 - 5 / 7 litres

Code	Description	Capacity (litres)			L (mm)	Drawing
		Nominal	Full	Usable		
05 H	STANDARD <b>Horizontal Installation</b>	5	5.4	4.5	242	
07 H	Natural polypropylene Operating temperature: -10 ÷ +60 °C	7	7.4	6.5	306	

5 litres: 61211000  
7 litres: 61209400

Code	Description	Capacity (litres)			L (mm)	Drawing
		Nominal	Full	Usable		
05 V	STANDARD <b>Vertical Installation</b>	5	5.4	4.5	242	
07 V	Natural polypropylene Operating temperature: -10 ÷ +60 °C	7	7.4	6.5	306	

5 litres: 61211000  
7 litres: 61209400

Installation:  
 - 4 screws, M6x45 UNI 5931 (Q26074091)  
 - 4 brackets, (61016600)  
 - O-ring, 110.72x3.53 (Q25830248)



TCS Fill plug with breather, Ø 18

49138700

# Sect. V - Tanks in polyethylene

S 7 \*\* \* \* - Tab. 5.17 Square polyethylene tanks 140x130 - 1.5 / 3 / 4 litres

Code	Description	Capacity (litres)			L (mm)	Drawing
		Nominal	Full	Usable		
02	<b>STANDARD Horizontal Installation</b> Natural polyethylene Operating temperature: -10 ÷ +70 °C	1.5	1.3	1	135	<p>V60513005 (G 3/4") C86100001 (G1/2")</p> <p>104.5 35 94 70 140 130</p> <p>1.5 litres: M72150150 3 litres: M72150151 4 litres: M72150152</p>
03		2.5	2.5	2	235	
04		4	3.4	2.5	295	

Code	Description	Capacity (litres)			L (mm)	Drawing
		Nominal	Full	Usable		
02	<b>STANDARD Vertical Installation</b> Natural polyethylene Operating temperature: -10 ÷ +70 °C	1.5	1.1	0.7	135	<p>C86200002 (D.18)</p> <p>TCNB0800 (G 1/2")</p> <p>L</p> <p>1.5 litres: M72150150 3 litres: M72150151 4 litres: M72150152</p>
03		2.5	2.7	2.3	235	
04		4	3.5	3.1	295	

**Installation:**

- 4 screws, M6x45 UNI 5931 (Q26074091)
- 1 clamp, (25004800)
- 4 nuts, M6 UNI 6923 (Q26580003)
- special gasket (61212400)

# Sect. V - Tanks in polyethylene

S 8 \*\* \* \* - Tab. 5.18 Square polyethylene tanks 180x180 - 4 litres

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
04 H	<p>STANDARD <b>Horizontal Installation</b></p> <p>Natural polyethylene Operating temperature: -15 ÷ +70 °C</p>	4	3.6	3	<p>4 litres: F80075004</p>

Code	Description	Capacity (litres)			Drawing
		Nominal	Full	Usable	
04 V	<p>STANDARD <b>Vertical Installation</b></p> <p>Natural polyethylene Operating temperature: -15 ÷ +70 °C</p>	4	3.7	3	<p>4 litres: F80075004</p>

**Installation:**

- 4 screws, M6x45 UNI 5931 (Q26074091)
- 1 clamp, (25004800)
- 4 nuts, M6 UNI 6923 (Q26580003)
- special gasket (61212400)

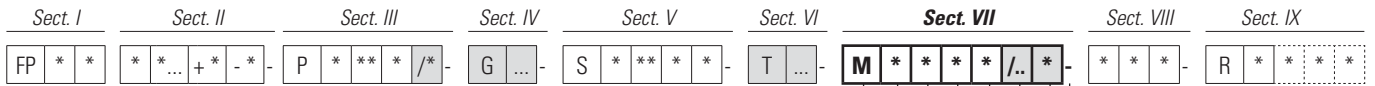
# Sect. V - Tanks in polyethylene

S 8 \*\* \* \* - Tab. 5.19 Square polyethylene tanks 180x180 - 7 / 10 litres

Code	Description	Capacity (litres)			L (mm)	Drawing
		Nominal	Full	Usable		
07 H	STANDARD Horizontal Installation	7	6.7	5.5	310	
10 H	Natural polyethylene Operating temperature: -15 ÷ +70°C	10	8.7	7.5	410	

Code	Description	Capacity (litres)			L (mm)	Drawing
		Nominal	Full	Usable		
07 V	STANDARD Vertical Installation	7	6.7	6	310	
10 V	Natural polyethylene Operating temperature: -15 ÷ +70°C	10	9.8	9	410	

- Installation:
- 4 screws, M6x45 UNI 5931 (Q26074091)
  - 1 clamp, (25004800)
  - 4 nuts, M6 UNI 6923 (Q26580003)
  - special gasket (61212400)



Motor Fields	—
Diameter of housing	—
Shape / Size	—
Voltage	—
Accessories	Tab. 7.2
Codes assigned by our office	—
Separation line (ends Sect. 7)	—

### Diameter of housing

Code	Diameter (mm)
1	80
2	114
3	125

### Shape / Size

Type and shape of motor
-------------------------

### Voltage

Code	Voltage (VDC)
2	12
4	24

Diameter of housing Shape / Size Voltage	Description	Nominal power	See Tab.
1 A 2	Ø 80 12 VDC	350 W	7.1.1
1 A 4	Ø 80 24 VDC	400 W	7.1.2
1 B 2	Ø 80 12 VDC	700 W	7.1.1
1 B 4	Ø 80 24 VDC	800 W	7.1.2
2 A 2	Ø 114 12 VDC	1500 W	7.1.3
2 A 4	Ø 114 24 VDC	2000 W	7.1.4
2 B 2	Ø 114 12 VDC	1600 W	7.1.3
2 B 4	Ø 114 24 VDC	2200 W	7.1.4
3 A 4	Ø 125 24 VDC	3000 W	7.1.5
* * X	Without motor, with transmission (●)	—	—
X	Without motor, without transmission	—	—

(●)NOTE: to order a transmission, the first part of the field (which identifies the motor) must be filled out, even if the motor will not be supplied.



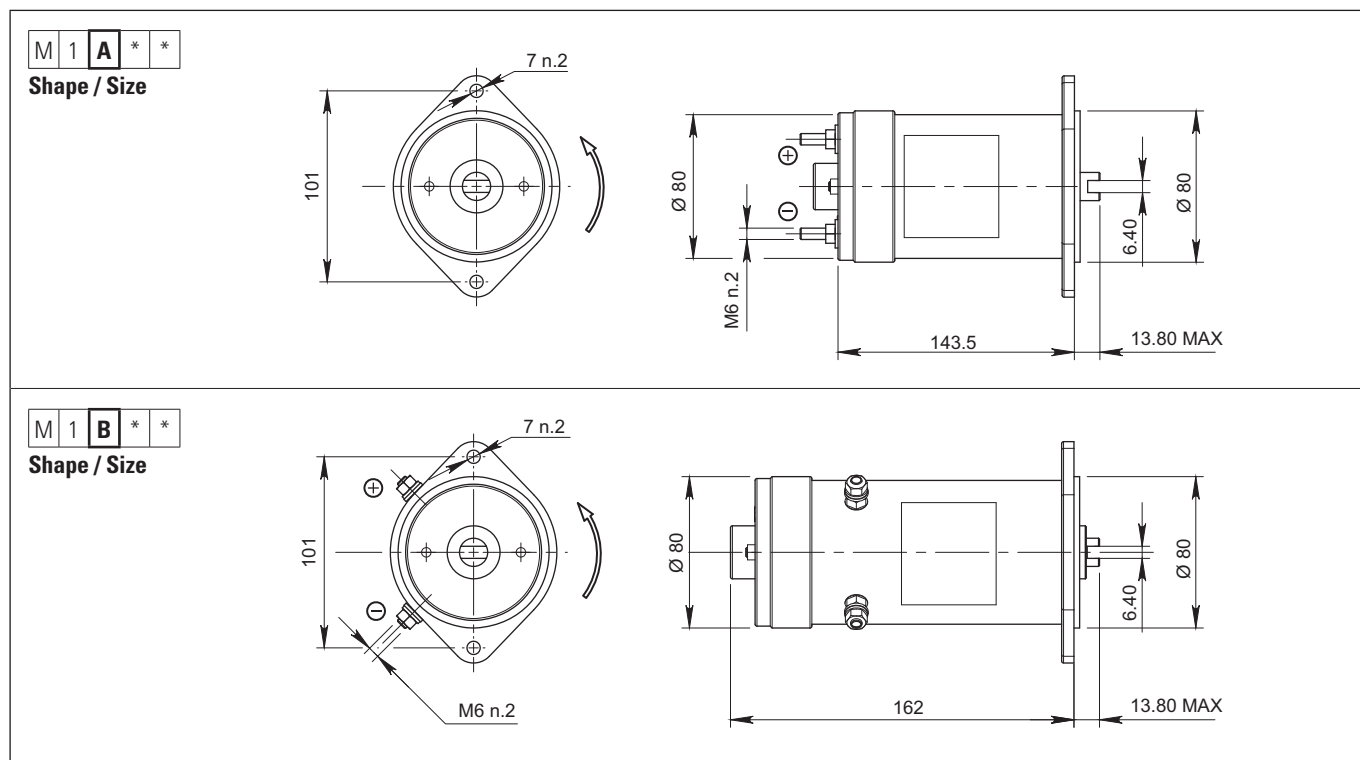
**M 1 \* 2 \*** - Tab. 7.1.1 Permanent magnets, light-duty service - Ø 80 - 12 VDC

Code	Data shown on ID plate									Part code
	VDC	A	W	RPM	Nm	S2 min.	S3 %	IP	IC	
<b>A</b>	12	40	350	3300	1.0	10	35	54	F	24010700
<b>B</b>	12	90	700	3300	2.0	2.5	10	54	F	24009500

**M 1 \* 4 \*** - Tab. 7.1.2 Permanent magnets, light-duty service - Ø 80 - 24 VDC

Code	Data shown on ID plate									Part code
	VDC	A	W	RPM	Nm	S2 min.	S3 %	IP	IC	
<b>A</b>	24	30	400	3100	1.2	5	20	54	F	24010800
<b>B</b>	24	70	800	3000	2.5	2	5	54	F	24009600

### Overall dimensions of Ø 80 12-24 VDC motors



**M 1 \* \* \*** - Accessories

Code	Description
<b>A</b>	Without accessories (standard)
<b>B</b>	With power relay

IP protection level becomes effective after installation on power pack body.

Installation:  
 - 2 screws, M6x20 UNI 5931 (40007300)  
 - gasket (61200800)

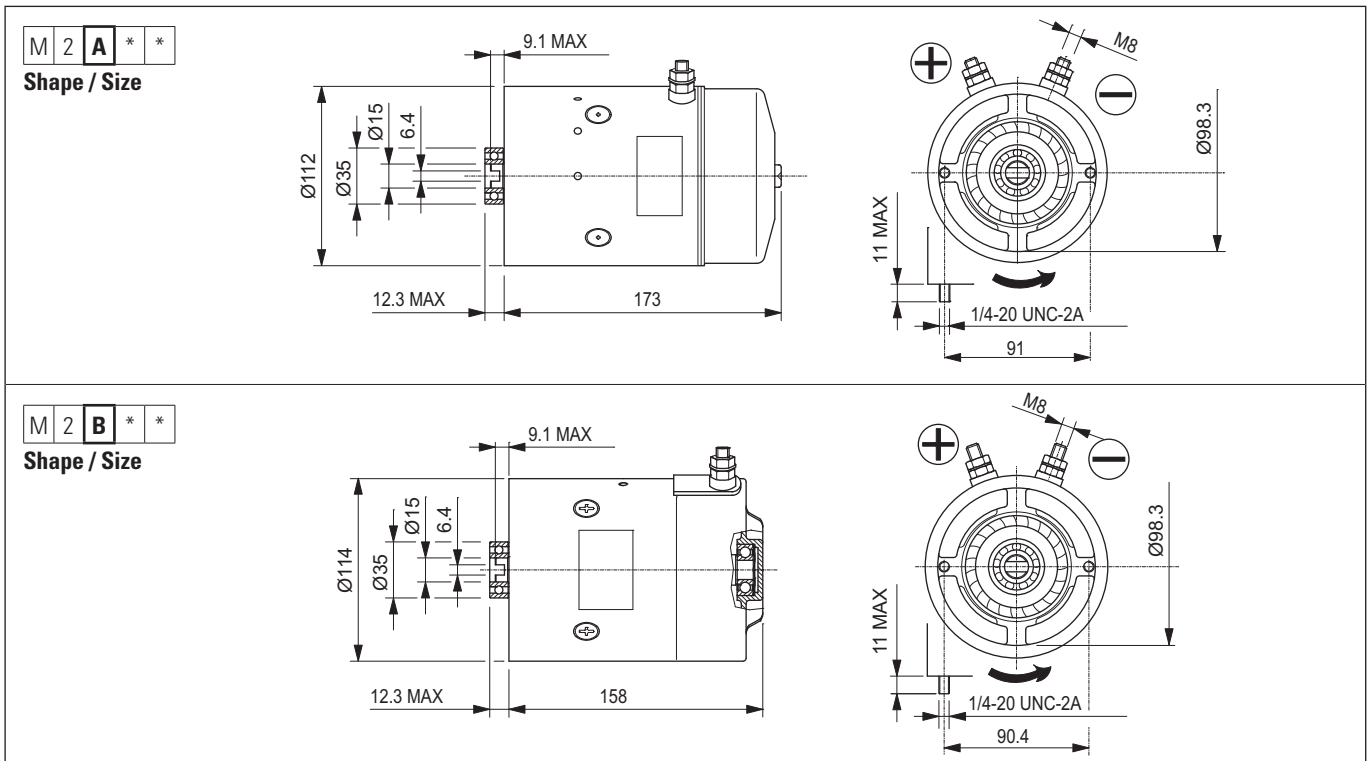
**M 2 \* 2 \*** - Tab. 7.1.3 Wound fields, light-duty service - Ø 114 - 12 VDC

Code	Data shown on ID plate									Part code
	VDC	A	W	RPM	Nm	S2 min.	S3 %	IP	IC	
<b>A</b>	12	225	1500	2500	5,5	1	5	54	F	24007500
<b>B</b>	12	230	1600	2600	5	2	10	54	F	24010600

**M 2 \* 4 \*** - Tab. 7.1.4 Wound fields, light-duty service - Ø 114 - 24 VDC

Code	Data shown on ID plate									Part code
	VDC	A	W	RPM	Nm	S2 min.	S3 %	IP	IC	
<b>A</b>	24	150	2000	2250	8	2	5	54	F	24007700
<b>B</b>	24	140	2200	270	8	1.2	5	54	F	24010900

### Overall dimensions of Ø 114 12-24 VDC motors



**M 2 \* \* \*** - Accessories

Code	Description	M2A	M2B	See Tab.
<b>A</b>	Without accessories (standard)	•	•	
<b>B</b>	With power relay	•	•	
<b>C</b>	With thermal protection device		•	
<b>D</b>	With ventilation	•		7.2
<b>E</b>	With relay + thermal protection device		•	
<b>F</b>	With relay + ventilation	•		7.2
<b>G</b>	With thermal protection device + ventilation	•		
<b>H</b>	With relay + thermal protection device + ventilation	•		7.2

IP protection level becomes effective after installation on power pack body. Acquires IP 10 level with "ventilation" accessory.

Installation:  
 - 2 tensioners, 1/4 UNC (supplied)  
 - gasket (61200100)  
 - spacer (60507900)

**M 3 \* 4 \*** - Tab. 7.1.5 Wound fields, light-duty service - Ø 125 - 24 VDC

Code	Data shown on ID plate									Part code
	VDC	A	W	RPM	Nm	S2 min.	S3 %	IP	IC	
<b>A</b>	24	200	3000	3300	8.5	4	15	20	F	25011600

### Overall dimensions of Ø 125 - 24 VDC motors

**M 3 A \* \***  
Shape / Size

Standard motor	24011300
Adapter*	61018900

\* not used with ventilation

**M 3 \* \* \*** - Accessories

Code	Description	See Tab.
<b>A</b>	Without accessories (standard)	
<b>B</b>	With power relay	
<b>C</b>	With thermal protection device	
<b>D</b>	With ventilation	7.2
<b>E</b>	With relay + thermal protection device	
<b>F</b>	With relay + ventilation	7.2

IP protection level becomes effective after installation on power pack body. Acquires IP 10 level with "ventilation" accessory.

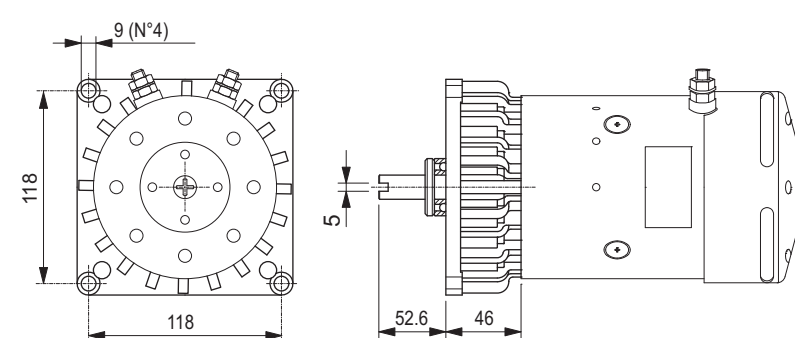
Installation:  
- 4 screws, M8x28 (40011500)

**M \* \* \* \*** - Tab. 7.2 Table listing accessories for light-duty DC motors

Code	Description	M1A	M1B	M2A	M2B	M3B	Motor compatibility
<b>A</b>	Without accessories (standard)	•	•	•	•	•	
<b>B</b>	With power relay	•	•	•	•	•	
<b>C</b>	With thermal protection device				•	•	
<b>D</b>	With ventilation			•		•	
<b>E</b>	With relay + thermal protection device				•	•	
<b>F</b>	With relay + ventilation			•		•	
<b>G</b>	With thermal protection device + ventilation			•		•	
<b>H</b>	With relay + thermal protection device + ventilation			•		•	

### Overall dimensions with ventilation

**M2A**



Installation:

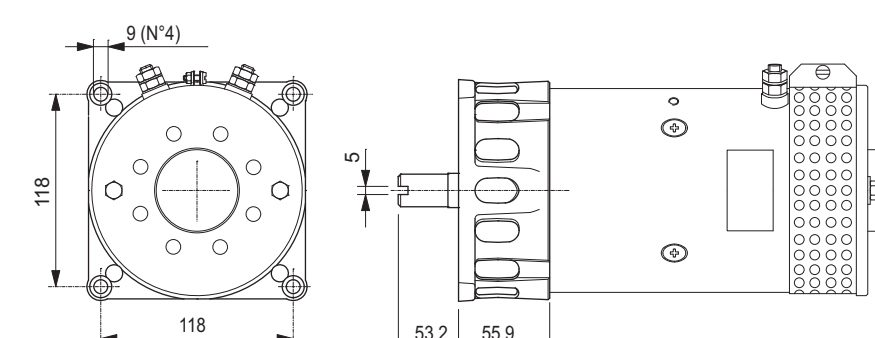
- 4 screws, M8x28 (40011500)
- adapter ring (39116000)
- spacer (60507900)

IP10 level of protection:

Motor including transmission joint

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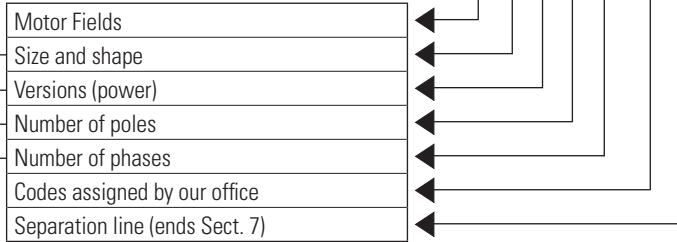
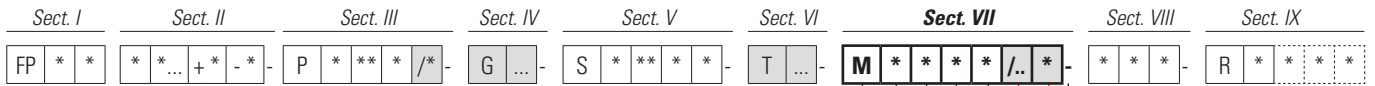
**M3B**



Installation:

- 4 screws, M8x28 (40011500)
- adapter ring (39116000)
- joint (M36050016)

IP10 level of protection:



### Number of phases

Code	Phases
<b>M</b>	Single-phase
<b>T</b>	Triple-phase

### Number of poles

Code	Poles
<b>2</b>	2 poles
<b>4</b>	4 poles

### Versions / Power

Code	Description
...	Power
<b>X</b>	Without motor, with transmission (1)

(1): to order a transmission, the first part of the field (which identifies the motor) must be filled out, even if the motor will not be supplied.

### Size and shape

Code	Size					Configuration			
	63	71	80	90	100/112	B14 (IEC)	(1) Special open housing	(2) Standard open housing	(2) Standard closed housing
<b>L</b>		•				•			
<b>M</b>			•			•			
<b>N</b>				•		•			
<b>P</b>					•	•			
<b>R</b>	•					•			
<b>S</b>		•					•		
<b>T</b>			•						•
<b>V</b>				•					•
<b>Z</b>		•						•	
<b>X</b>	Without motor and without transmission								

(1) Special housing built to customer's design, without fins  
 (2) Housing obtained from standard components

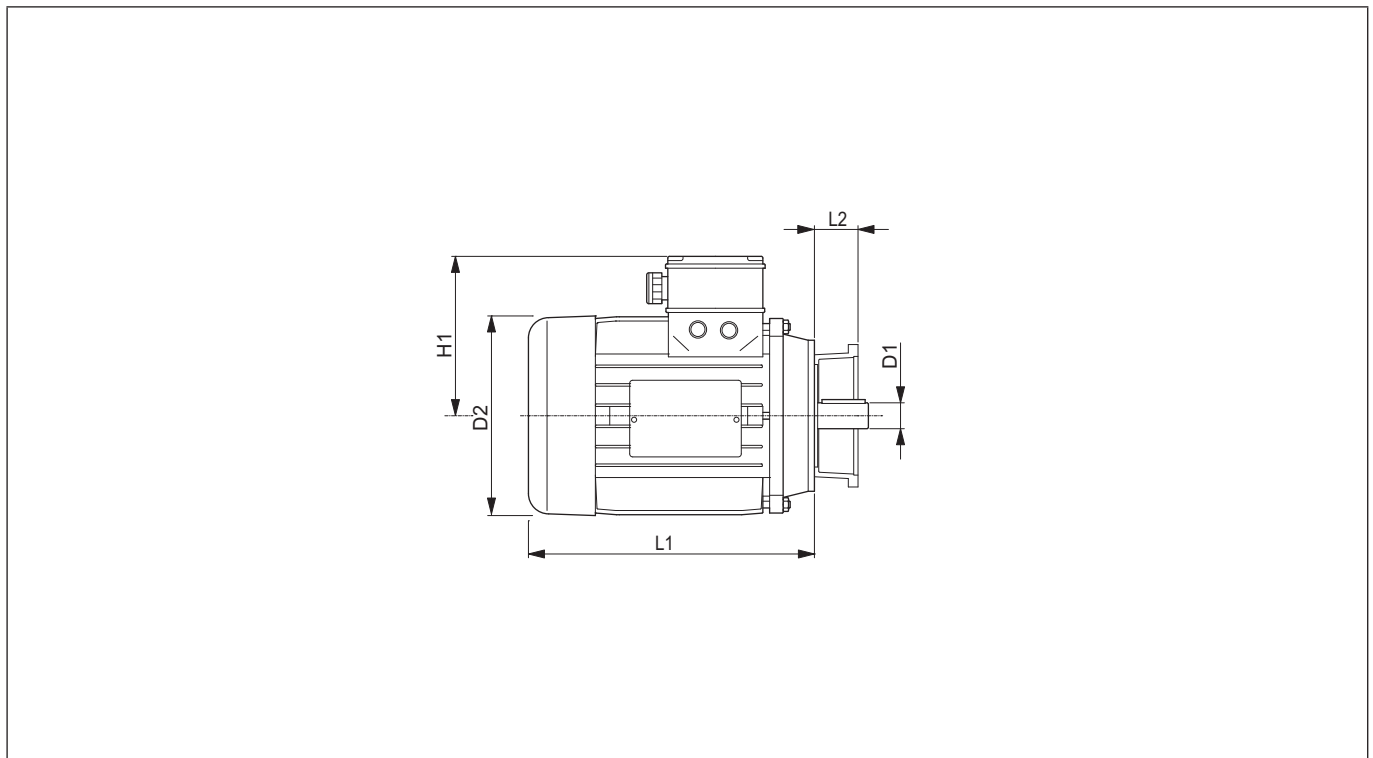
To ensure motors are available, Brevini Fluid Power uses a network of qualified suppliers. As a result, the motors may show slight differences in dimensions (which are approximate) and appearance.

**M \* \* 2 T** - Tab. 7.01 - B14 - Three-phase, 2-Pole Motor - 230/400 VAC 50Hz

Code		Kw	IP	IC	S1	Size	D1 (•)	D2 (•)	H1 (•)	L1 (•)	Cable gland metric thread (M)	Adapter	L2	Screws UNI 5931
<b>R</b>	<b>A</b>	0.18	54	F	SI	63	11	125	95	189	16 - 20	61004300	19.5	M5x16
<b>R</b>	<b>B</b>	0.25												
<b>L</b>	<b>A</b>	0.37	54	F	SI	71	14	148	115	208	20 - 25	61000700	19.5	M6x20
<b>L</b>	<b>B</b>	0.55												
<b>M</b>	<b>A</b>	0.75	54	F	SI	80	19	170	126	234	20 - 25	61000800	30.4	M8x21
<b>M</b>	<b>B</b>	1.10												
<b>N</b>	<b>A</b>	1.50	54	F	SI	90	24	185	142	247	20 - 25	61000900	40.4	M8x21
<b>N</b>	<b>B</b>	2.20								272				
<b>P</b>	<b>A</b>	3.00	54	F	SI	100	28	210	155	310	25 - 32	61001000	75	M8x28
<b>P</b>	<b>B</b>	4.00				112		225	182	325				

(•) Approximate

### Overall dimensions



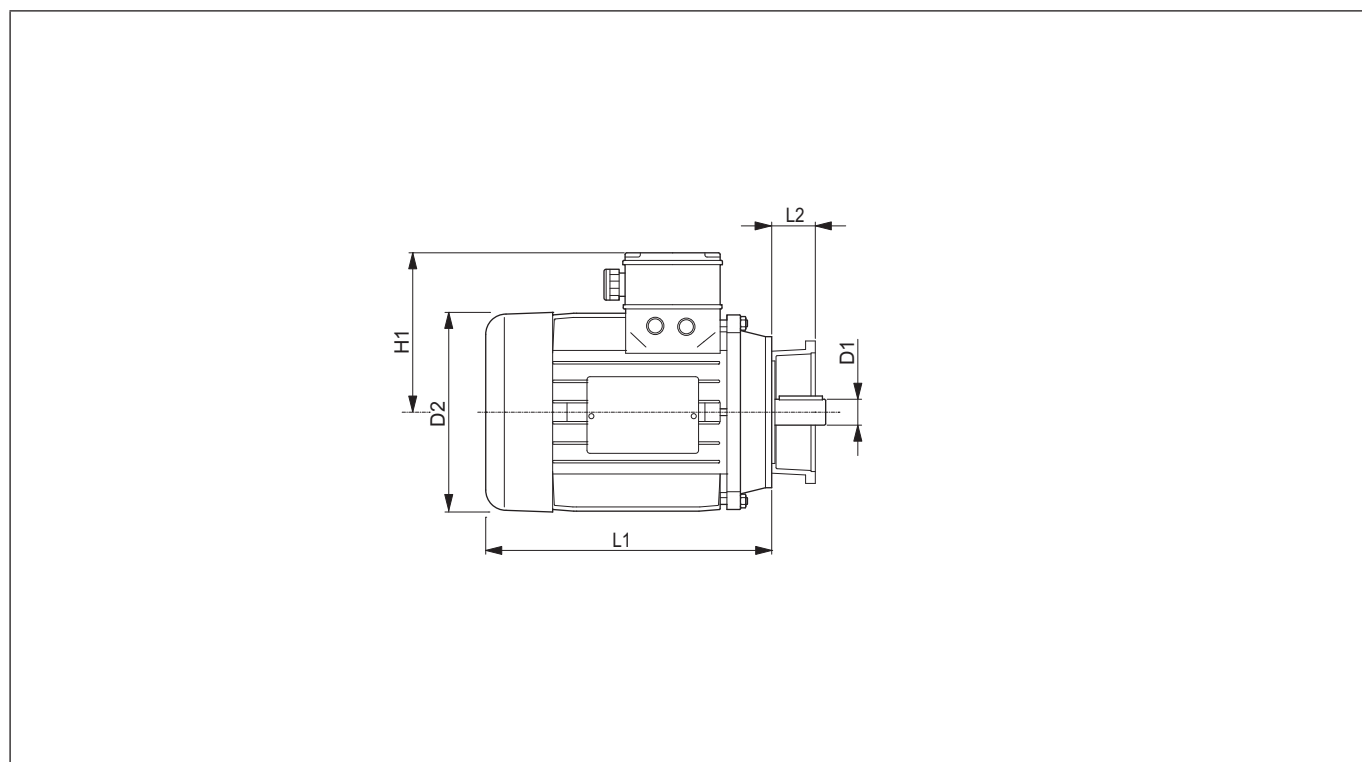
Installation:  
- 4 screws, M8x28 (40011500)

**M \* \* 4 T** - Tab. 7.02 - B14 - Three-phase, 4-Pole Motor - 230/400 VAC 50Hz

Code		Kw	IP	IC	S1	Size	D1 (•)	D2 (•)	H1 (•)	L1 (•)	Cable gland metric thread (M)	Adapter	L2	Screws UNI 5931
<b>R</b>	<b>A</b>	0.12	54	F	SI	63	11	125	95	189	16 - 20	61004300	19.5	M5x16
<b>R</b>	<b>B</b>	0.18												
<b>L</b>	<b>A</b>	0.25	54	F	SI	71	14	148	115	208	20 - 25	61000700	19.5	M6x20
<b>L</b>	<b>B</b>	0.37												
<b>M</b>	<b>A</b>	0.55	54	F	SI	80	19	170	126	234	20 - 25	61000800	30.4	M8x21
<b>M</b>	<b>B</b>	0.75												
<b>N</b>	<b>A</b>	1.10	54	F	SI	90	24	185	142	247	20 - 25	61000900	40.4	M8x21
<b>N</b>	<b>B</b>	1.50								272				
<b>P</b>	<b>A</b>	2.20	54	F	SI	100	28	210	155	310	25 - 32	61001000	75	M8x28
<b>P</b>	<b>B</b>	3.00												
<b>P</b>	<b>C</b>	4.00				112		225	182	325				

(•) Approximate

### Overall dimensions



Installation:  
- 4 screws, M8x28 (40011500)

**M S \* 2 M** - Tab. 7.03 - Single-phase, 2-Pole motor - 230 VAC 50Hz - special housing

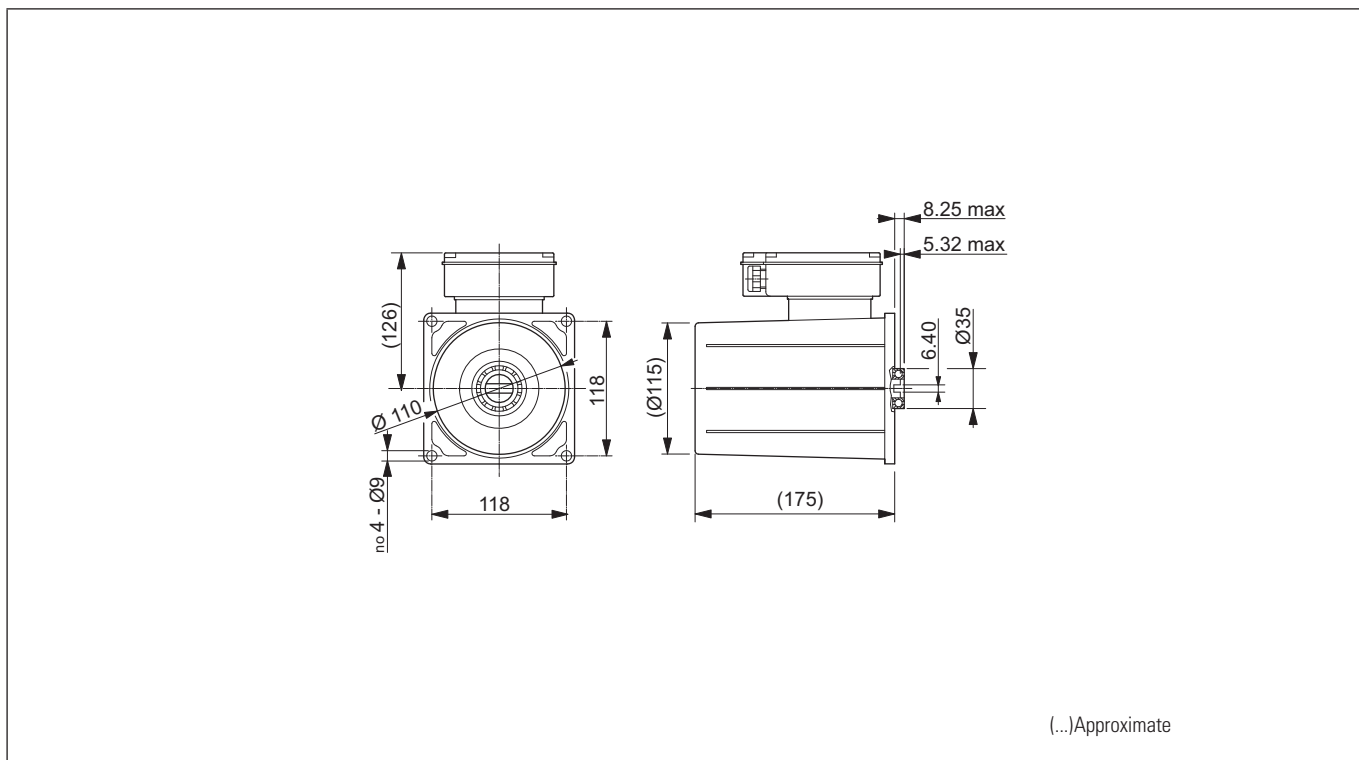
Code	Kw	IP ⚠	IC	Size	Service	Cable gland	Part code	Notes
A	0.75	54	F	71	Light-duty	M16-20 *	M12GY3FF.001	Without fan
B	1.10						M12HY3FF.000	

(\*)Cable gland PG11 until stocks are exhausted

**M S \* 4 M** - Tab. 7.04 - Single-phase, 4-Pole motor - 230 VAC 50Hz - special housing

Code	Kw	IP ⚠	IC	Size	Service	Cable gland	Part code	Notes
A	0.85	54	F	71	Light-duty	M16-20	M12YY3FF.001	Without fan

### Overall dimensions



IP protection level becomes effective after installation on power pack body.

- Installation:
- 4 screws, M8x28 (40011500)
  - spacer (60507900)
  - gasket (00007002)



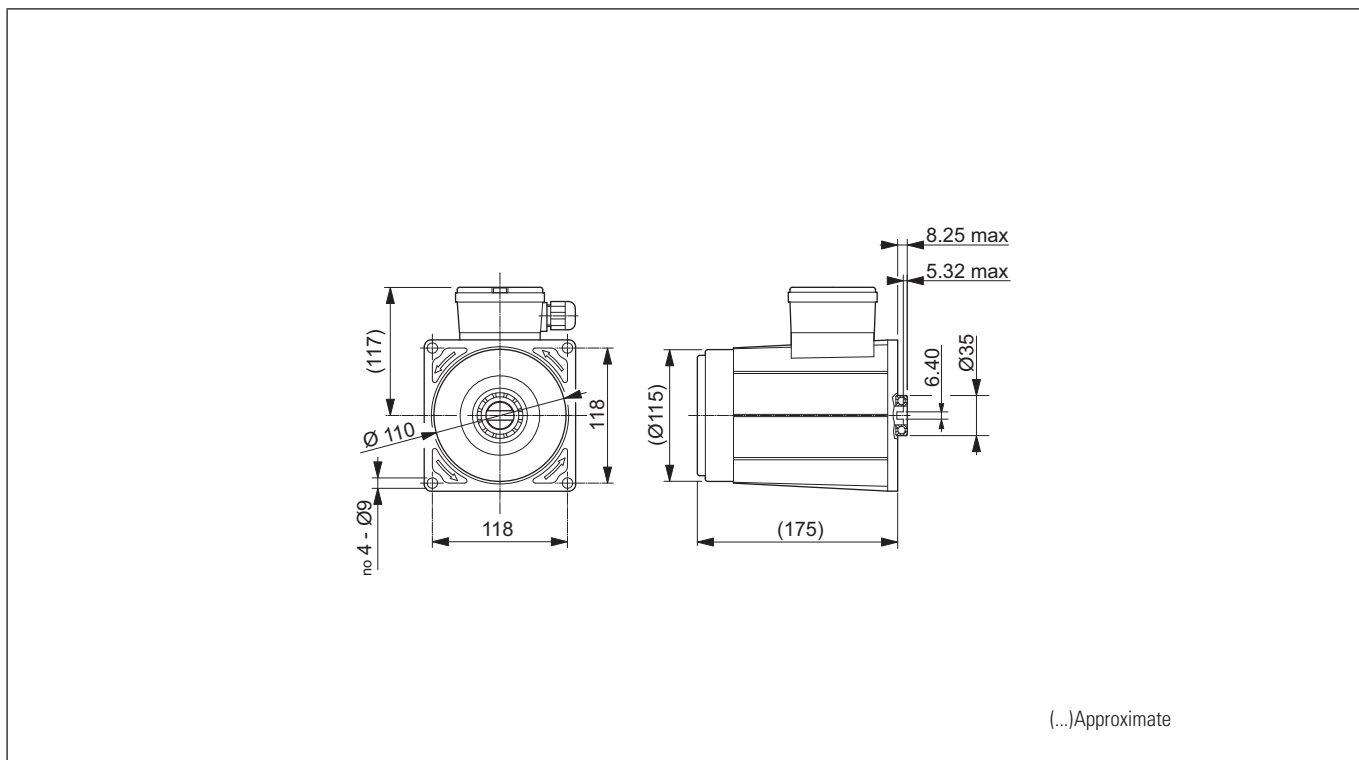
**M S \* 2 T** - Tab. 7.05 - Three-phase, 2-Pole Motor - 230/400 VAC 50Hz

Code	Kw	IP ⚠	IC	Size	Service	Cable gland	Part code	Notes
A	0.75	54	F	71	Light-duty	M20	M32GY3FL.003	Without fan
B	1.10						M32HY3FL.001	

**M S \* 4 T** - Tab. 7.06 - Three-phase, 4-Pole Motor - 230/400 VAC 50Hz

Code	Kw	IP ⚠	IC	Size	Service	Cable gland	Part code	Notes
A	0.75	54	F	71	Light-duty	M20	M32GY3FL.002	Without fan

### Overall dimensions



IP protection level becomes effective after installation on power pack body.

- Installation:
- 4 screws, M8x28 (40011500)
  - spacer (60507900)
  - gasket (00007002)

# Sect. VII - AC Motors

**M T \* 2 T** - Tab. 7.07 - Three-phase, 2-Pole Motor - 230/400 VAC 50Hz

Code	Kw	IP	IC	Size	Service	Cable gland	Part code	Notes
<b>A</b>	2.7	44	F	80	Light-duty	M20-25	M33YD1FF.000	With fan
<b>B</b>							M33YD1FF.001	Without fan

**M T \* 4 T** - Tab. 7.08 - Three-phase, 4-Pole Motor - 230/400 VAC 50Hz

Code	Kw	IP	IC	Size	Service	Cable gland	Part code	Notes
<b>A</b>	2.2	44	F	80	S3 - 4%	M20-25	M33NF1FF.001	Without fan
<b>B</b>		55					M33NF4FF.000	With fan
<b>C</b>		44					M33NF1FF.000	
<b>D</b>		3					54	

### Overall dimensions

**M T A 2 T**

**M T B 4 T**

**M T C 4 T**

**M T D 4 T**

(...)Approximate

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**M T B 2 T**

**M T A 4 T**

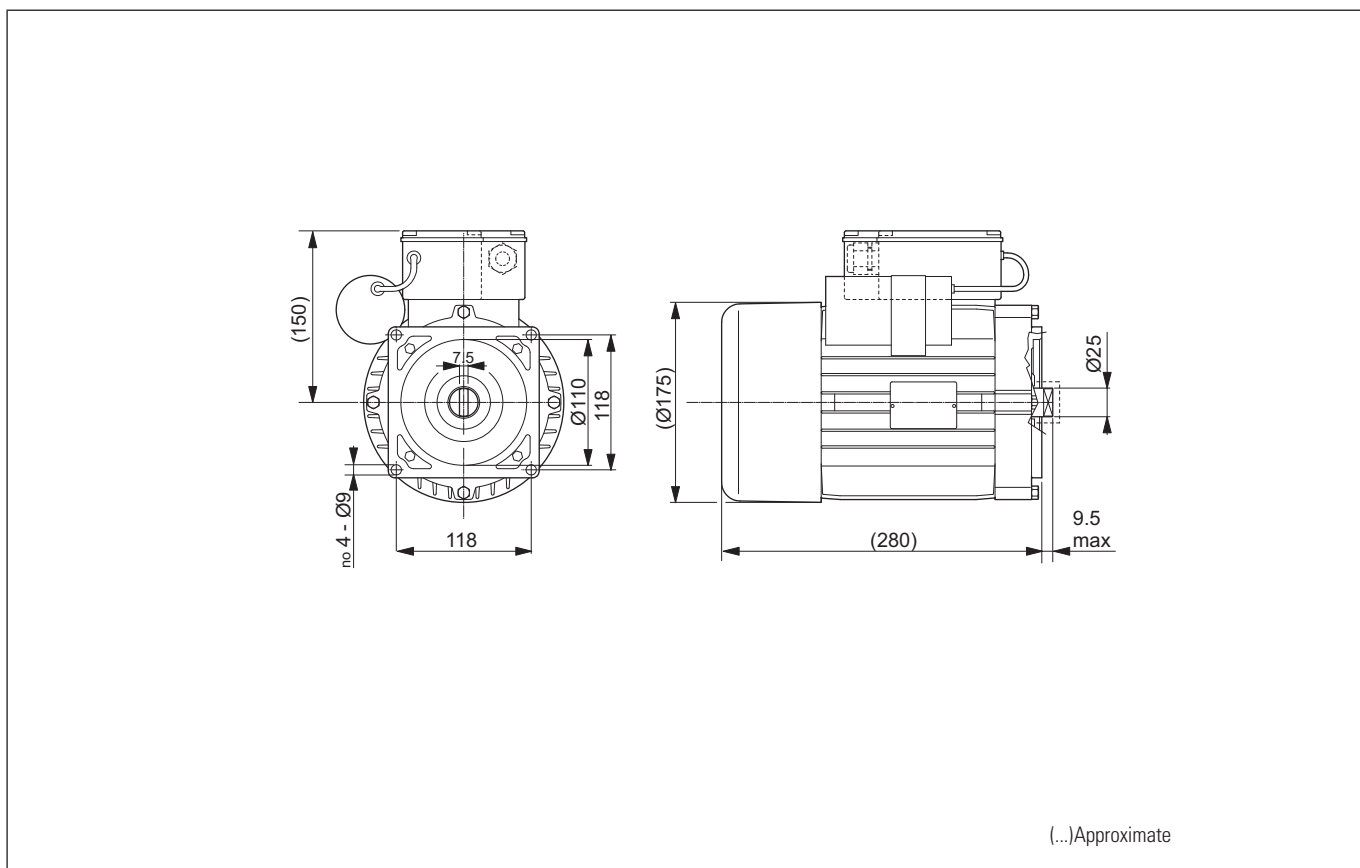
(...)Approximate

Installation:  
- 4 screws, M8x28 (40011500)

**M V \* 4 M** - Tab. 7.09 - Single-phase, 4-Pole Motor - 230/400 VAC 50Hz

Code	Kw	IP	IC	Size	Service	Cable gland	Part code	Notes	
<b>A</b>	1.8	44	F	90	Light-duty	M20-25	M14MF1FF.001	With fan	Starting torque: 13 Nm
<b>B</b>	3	55			S3 - 7%		M14PF4FF.000		

### Overall dimensions



Installation:  
- 4 screws, M8x28 (40011500)

# Sect. VII - AC Motors

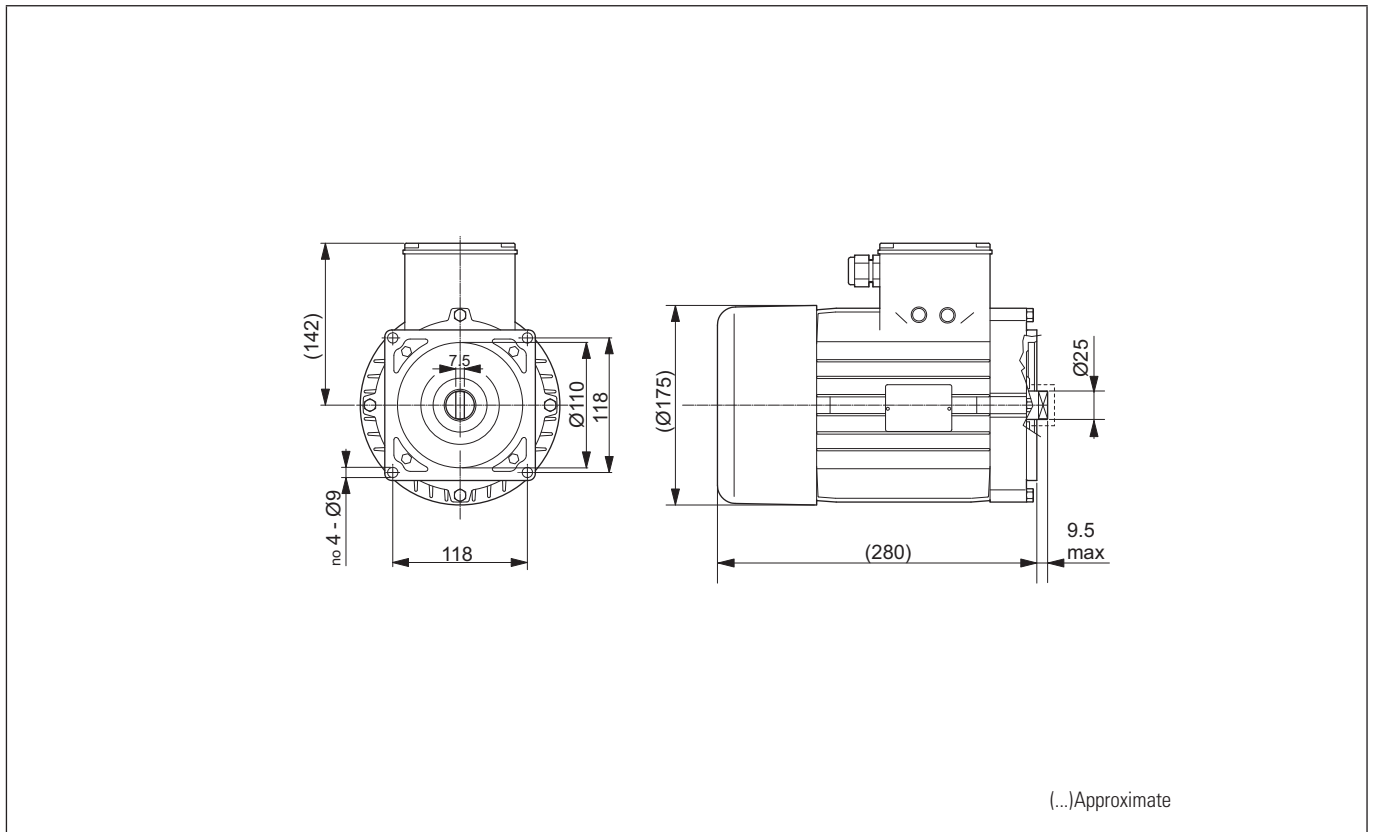
**M V \* 2 T** - Tab. 7.10 - Three-phase, 2-Pole Motor - 230/400 VAC 50Hz

Code	Kw	IP	IC	Size	Service	Cable gland	Part code	Notes
A	4	44	F	90	S3 - 10%	M20-25	M34QD1FF.000	With fan

**M V \* 4 T** - Tab. 7.11 - Three-phase, 4-Pole Motor - 230/400 VAC 50Hz

Code	Kw	IP	IC	Size	Service	Cable gland	Part code	Notes
A	1.5	44	F	90	S1	M20-25	M34LF1FF.000	With fan
B	2.2				S1		M34NF1FF.000	
C	3				Light-duty		M34PF1FF.000	

### Overall dimensions



Installation:  
- 4 screws, M8x28 (40011500)

**M Z \* 2 T** - Tab. 7.12 - Three-phase, 2-Pole Motor - 230/400 VAC 50Hz

Code	Kw	IP	IC	Size	Service	Cable gland	Part code	Notes
A	1.1	54	F	71	Light-duty	M20-25	M32HD3FF.000	With fan
B								

**M Z \* 4 T** - Tab. 7.13 - Three-phase, 4-Pole Motor - 230 VAC 50Hz

Code	Kw	IP	IC	Size	Service	Cable gland	Part code	Notes
A	0.37	44	F	71	S1	M20-25	M32EL1FF.000	With fan
B	0.75	54			Light-duty		M32GF3FF.000	
C	0.75						M92GY3FF.001	Without fan

### Overall dimensions

**M Z A 2 T**

**M Z A 4 T**

**M Z B 4 T**

(...)Approximate

**M Z C 4 T**

(...)Approximate

IP protection level becomes effective after installation on power pack body.

- Installation:
- 4 screws, M8x28 (40011500)
  - spacer (60507900)
  - gasket (00007002)



- Power pack position
- Tank orientation
- Motor orientation (omit if motor is not required)
- Separation line (ends Sect. 8)

### Orientation of motor (2)

Code	Type	See Tab.
1	Position 1	8.3
2	Position 2	8.3
3	Position 3	8.3
4	Position 4	8.3

(2) Orientation of poles and starting relay on DC motors, or orientation of connection box on AC motors, in relation to the side where the power pack body is fastened

### Orientation of tank (1)

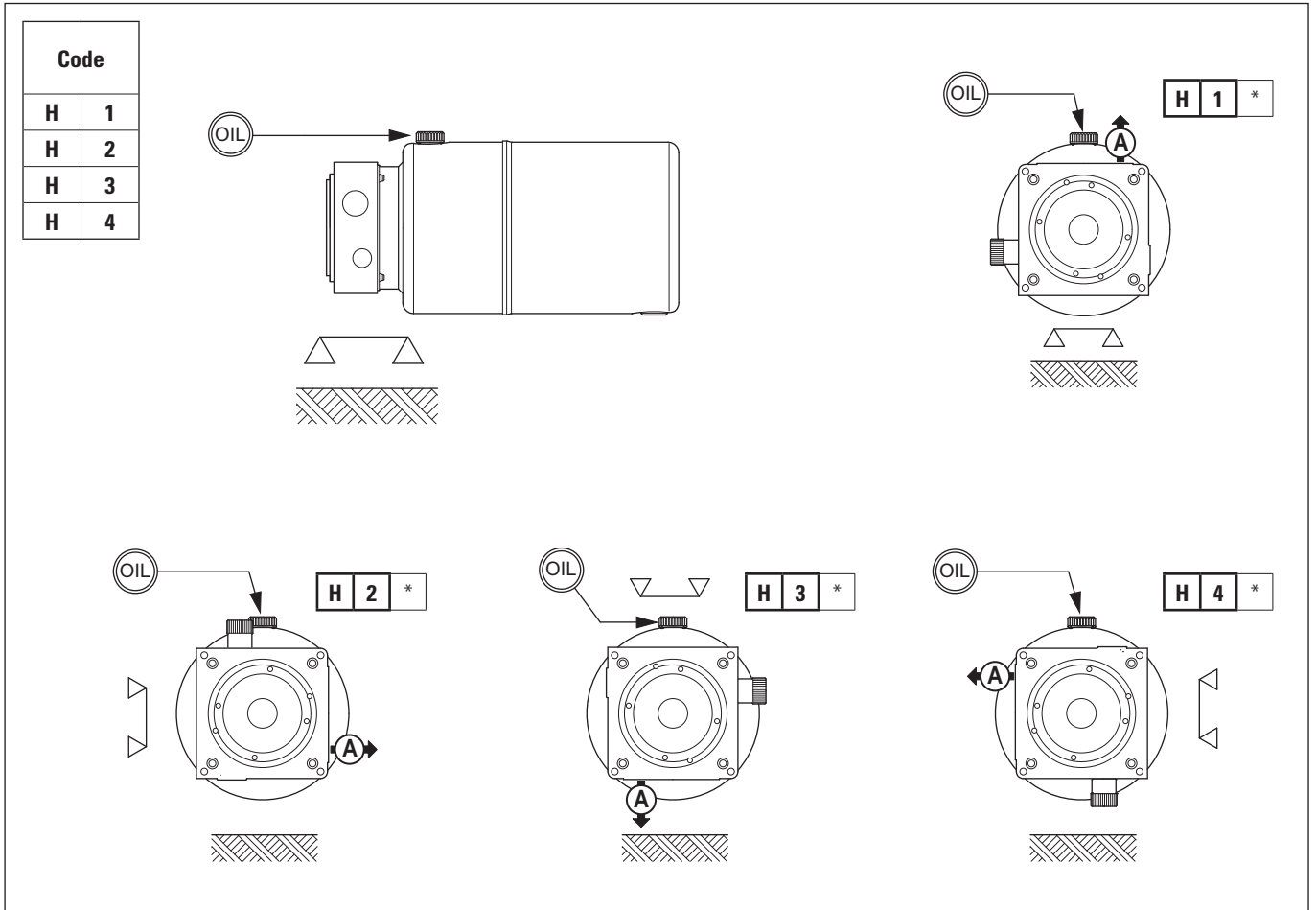
Code	Type	See Tab.
1	Position 1	8.1 - 8.2
2	Position 2	8.1 - 8.2
3	Position 3	8.1 - 8.2
4	Position 4	8.1 - 8.2
X	Without tank	—

(1) Position of fill plug on tank in relation to the side where power pack body is fastened.

### Position of power pack

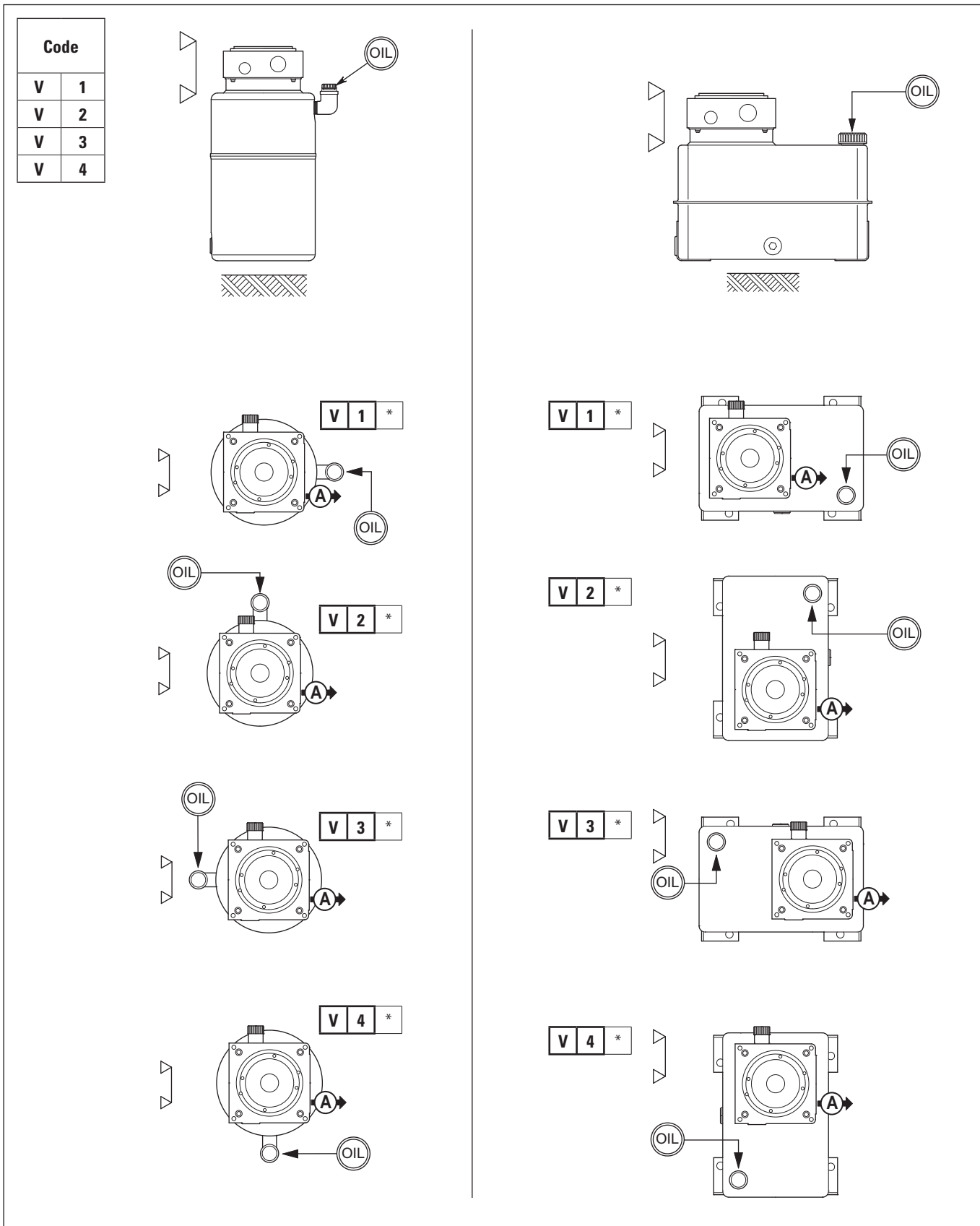
Code	Type	See Tab.
H	Power pack in horizontal position	8.1
V	Power pack in vertical position	8.2

**H \* \*** - Tab. 8.1 Power pack in horizontal position



Position of fill plug on tank in relation to the side where plug on the power pack is fastened.

**V \* \*** - Tab. 8.2 Power pack in vertical position



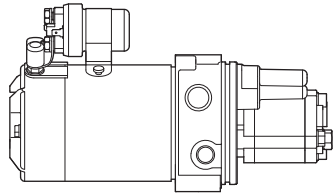
Position of fill plug on tank in relation to the side where plug on the power pack is fastened.



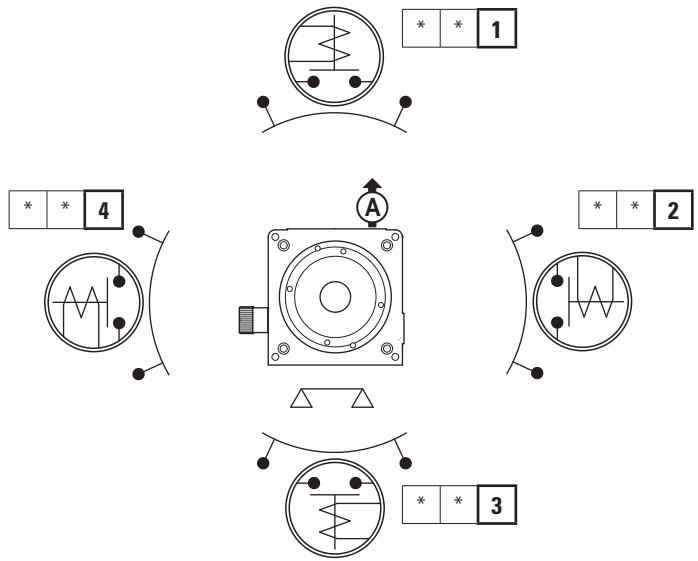
\* \* \* - Tab. 8.3 Position of motor (omit if motor is not required)

Code
1
2
3
4

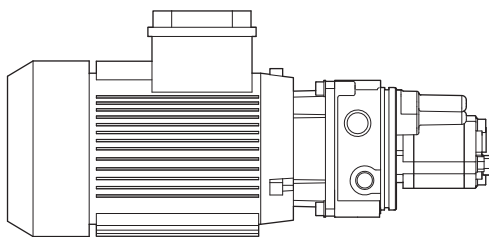
## DC Motor



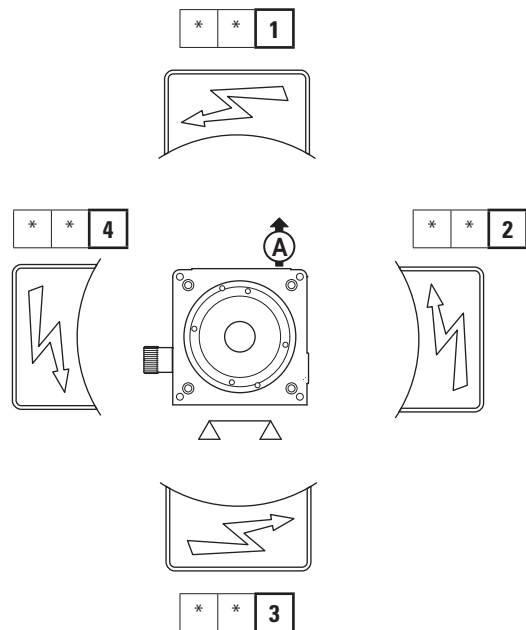
Orientation of starting relay poles in relation to side where power pack body is fastened.

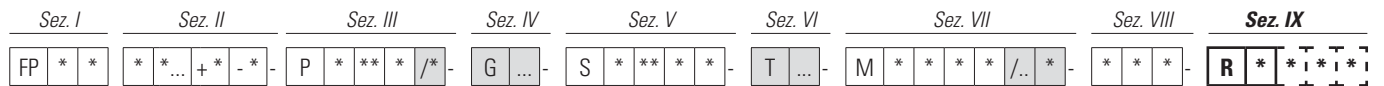


## AC Motor



Position of connection box in relation to side where power pack body is fastened.





Accessories field  
Type of accessory (in alphabetical order)

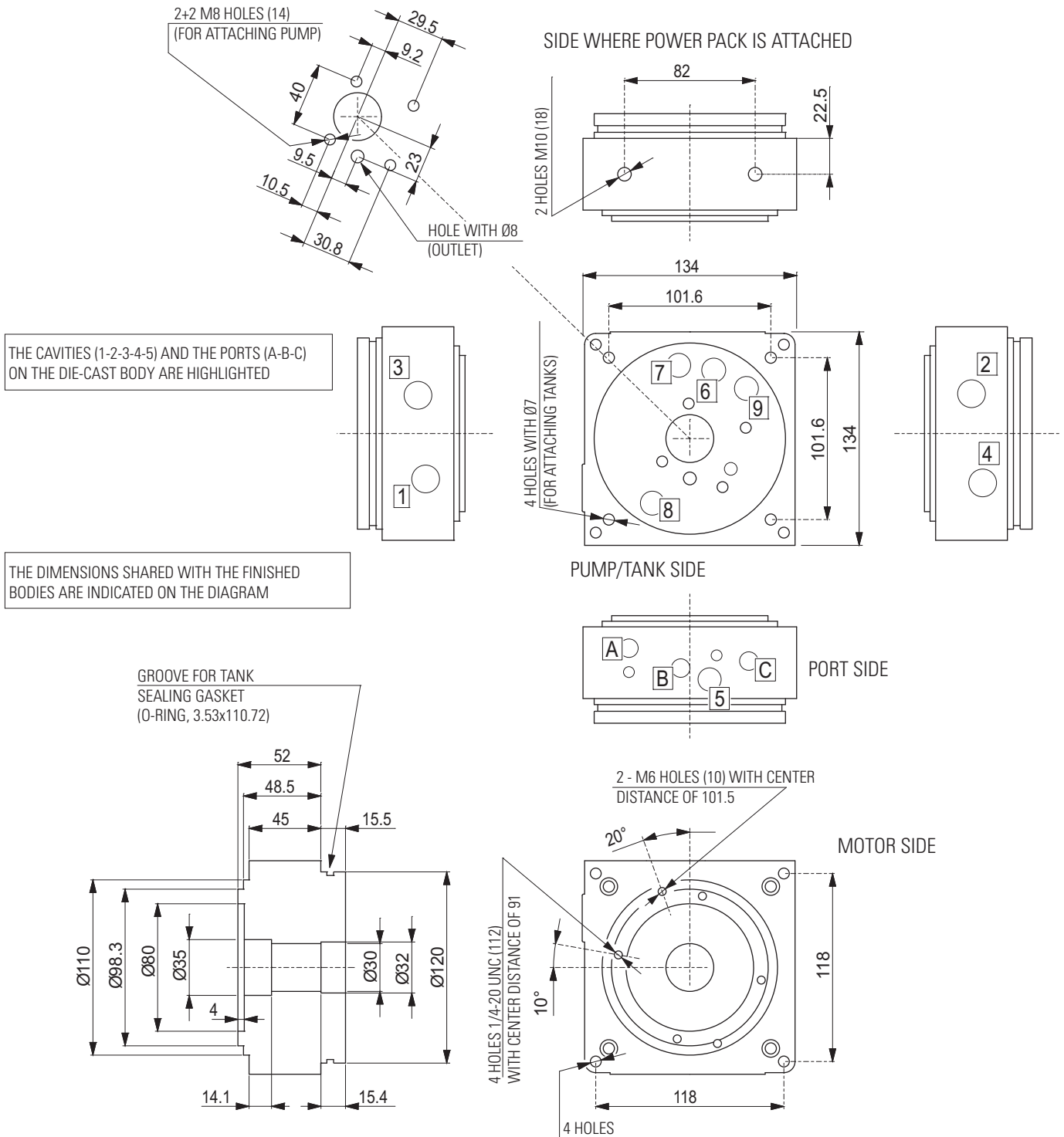
**Position of power pack**

Code	Type	See Tab.
<b>A</b>	Standard foot (in galvanised sheet steel)	9.1
<b>B</b>	Non-removable plug for max. pressure valve (in red plastic)	9.1
<b>C</b>	Protection device for DC motor (in black plastic)	9.1
<b>C</b>	High foot (BAJ)	9.1



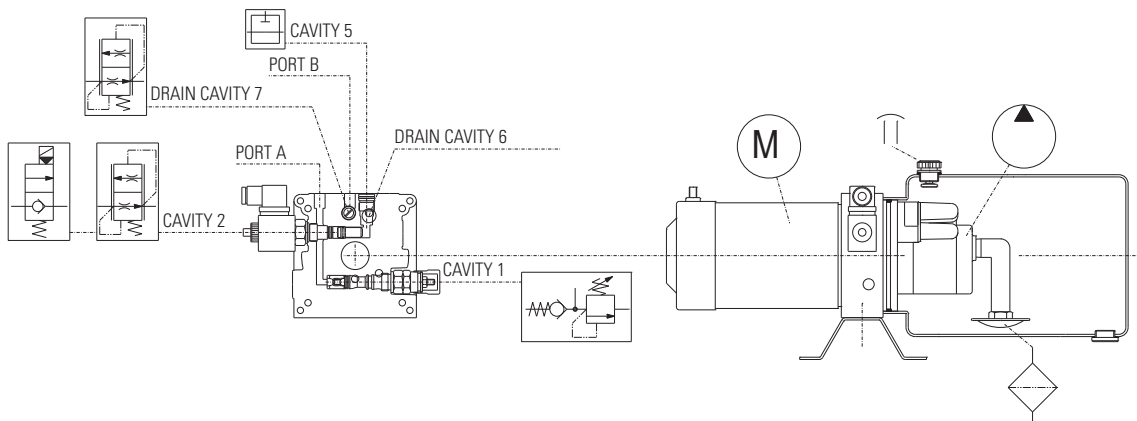
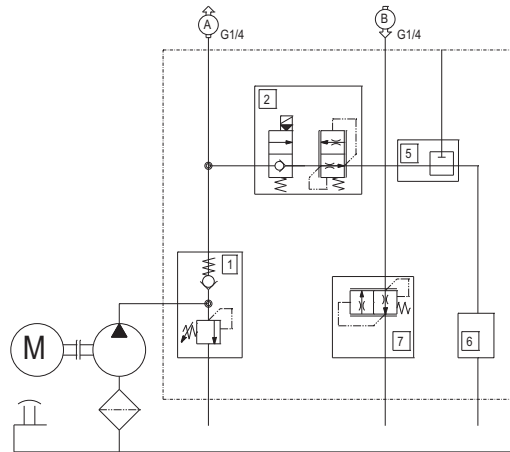
Tab. 9.1 Accessories

Code	Descrizione	Drawing	Notes	Part code	Code for complete kit
<b>A</b>	Standard foot		Galvanised sheet steel		17010075
<b>B</b>	Non-removable plug for max. pressure valve CMPR04		In red plastic (supplied)	60309200	
<b>C</b>	Protection device for DC motors (M2B**)		In black plastic		17010048
<b>D</b>	High foot (BAJ)		Galvanised sheet steel		17010053



Selection code of unit shown:

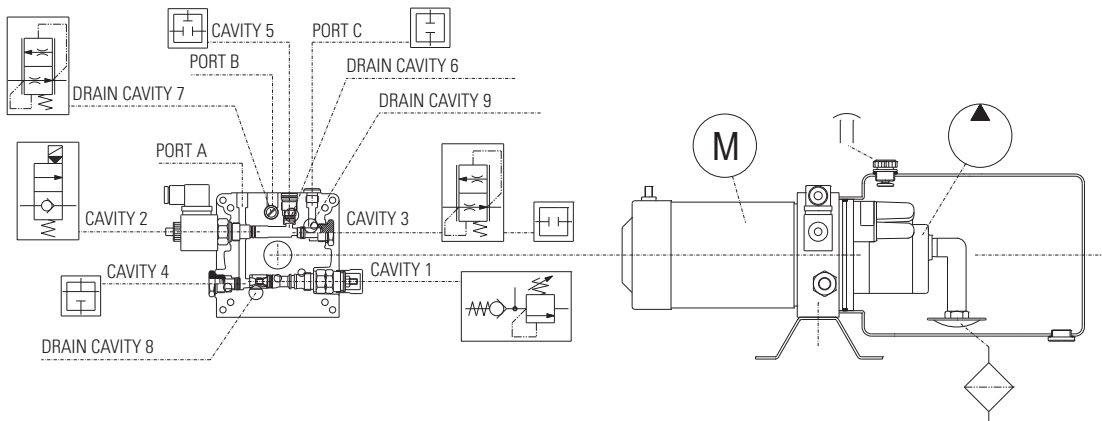
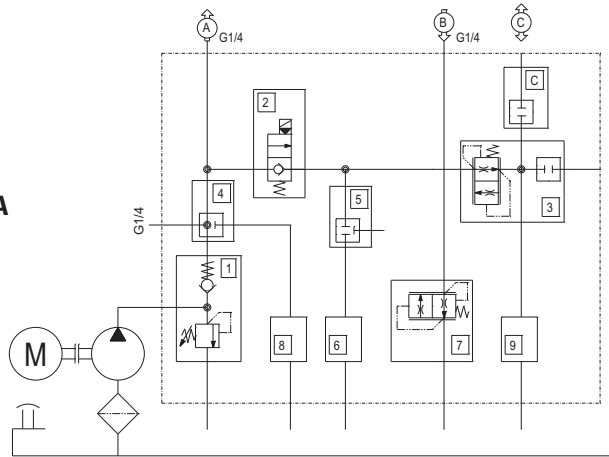
**FPAB2DAAB+E5TG7G-N-P117-S206H-M2A4A-H11-RA**



Sect. I	Sect. II	Sect. III	Sect. V	Sect. VII	Sect. VIII	Sect. IX
FP A B	2 D A AB+E 5 T G 7 G -N	P 1 17	S 2 06 H	M 2 A 4 A	H 1 1	R A
						Support foot (supplied)
						Unit in horizontal position with orientation of body/tank with orientation of motor
						DC motor with diameter of 114 2000 W (nominal) 24 volts, without accessories
						Tank in sheet steel with diameter of 175 6 litres of nominal capacity with horizontal orientation without variants
						Group 1 pump nominal displacement of 1.7
						No plug on port side
						On drain cavity 7 flow regulator VCDF06, with capacity of 4.5 litres
						On cavity 5 plug, M16x1.5
						On cavity 2 solenoid valve, NC, 24 VDC flow regulator, VSC04, 3.1 l/min.
						List of cavities used, with description of valves (connectors or plugs)
						Product series body according to number of cavities with maximum pressure valve with one-way check valve

Selection code of unit shown:

**FPCB2DAAB3TC+E4TF5TH7G-C-P117-S206H-M2A4A-H11-RA**



Sect. I	Sect. II	Sect. III	Sect. V	Sect. VII	Sect. VIII	Sect. IX
FP C B	2 D A AB 3 T C +E 4 T F 5 T H 7 G -C-	P 1 17-	S 2 06 H-	M 2 A 4 A-	H 1 1-	R A

Support foot (supplied)

Unit in horizontal position with orientation of body/tank with orientation of motor

DC motor with diameter of 114  
2000 W (nominal)  
24 volts, without accessories

Tank in sheet steel with diameter of 175  
6 litres of nominal capacity with horizontal orientation without variants

Group 1 pump nominal displacement of 1.7

On port C plug, G1/4

On drain cavity 7 flow regulator VCDF06, with capacity of 4.5 litres

On cavity 5 plug, M16x1.5

On cavity 4 plug, 3/4 16UNF with G1/4 outlet

On cavity 3 plug, 3/4 16UNF flow regulator VSC04, with capacity of 3.1 litres

On cavity 2 NC solenoid valve 24 VDC

*List of cavities used, with description of valves (connectors or plugs)*

Product series body according to number of cavities with maximum pressure valve with one-way check valve





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