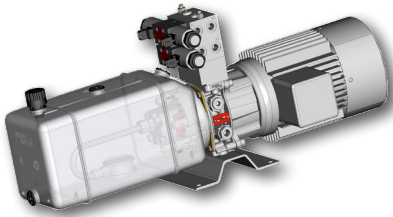
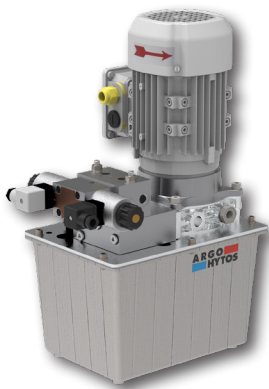


Example: plastic tank version



Example: steel tank version



**Technical Features**

- › AC and DC electro-hydraulic unit, easy-to-assemble, compact
- › Modularity offers many combinations of hydraulic circuits to suit various requirements
- › Main applications are fork lifts, lifting platforms, automotive lifts, cranes for small trucks, snow plows, machine tools, food and textile industry
- › 7 central block basic circuits options
- › Possibility of building up an additional circuit in the form of vertical or horizontal stacking assembly
- › Rated power up to 5 HP with DC and AC
- › Single and triple-phase motors with power ratings of up to 5HP
- › Tank capacities from 0.578 - 11.62 Gallons with optional plastic tanks for cost saving
- › In the standard version, the aluminium basic block is without surface protection and steel plate are zinc coated for 240 h protection acc. to ISO 9227

**Functional Description**

Each power pack consists of an electric motor, a pump, a manifold and a tank. The aluminum Die-cast Body forms the base of the power pack, on which all the main components, including the hydraulic elements, are mounted. The function of the power packs is apparent from the respective hydraulic circuit diagrams. The desired combination of particular components and hydraulic elements can be defined by reference to the ordering code and the respective tables. The lay-out of additional circuits is defined by an application number which determines the manufacturer. The hydraulic circuits can be accomplished in sizes 03, 04 and 06. The size 03 is in a form of sectional directional valves.

The mounting position of the power pack is either horizontal or vertical - see the Power Pack Dimensions on pages 11 to 18. All ports have 9/16-18 UNF SAE J1926-1 internal threads. With the standard model the connecting ports A, B of the components of the vertical stacking assembly are oriented onto one side. Orientation of ports A, B each onto another side is to be agreed with the manufacturer.

The basic combinations of electric motors and pumps, as well as their code designations, are shown in tables 1, 2 and 3.

Information regarding the basic power pack surface treatment is are on this page, see below

**Technical Data**

Flow rate	GPM	see table 1, 2, 3, 4 and 5		
Working pressure	PSI	see table 1, 2, 3, 4 and 5		
Max. operating pressure	PSI	see table 1, 2, 3 and 4		
Tank capacity	gal (L)	0.578 - 11.62 (2-74)		
Type of hydraulic pump		gear pump, COUNTER-CLOCKWISE		
Electrical Motor power ratings	HP (kW)	1/4 - 5 (0.188-3.75)		
Type of electric motor		one-phase	three phase	DC
Voltage of the electric motor (specials for request)	V	115-230	230/460	12/24
Frequency	HZ	60	60	-
Voltage of directional valves		2DC, 24DC, 115AC/ 60Hz Other voltages - CF		
Duty cycle S3 of electric motor	%	AC 100, DC see table		
Viscosity range	SUS (mm2/s)	98 ... 461(20 ... 100)		
Fluid temperature range	°F (°C)	+32 ... 158 (0 ... +70)		
Fluid temperature range for a short term 10 minute max.	°F (°C)	-68 (-20) minimum +176 (+80) maximum		
Ambient temperature max.	°F (°C)	-77 ... +122 (-25 ... +50)		
Thread of functional ports P, T, M, A, B		9/16-18 UNF SAE J1926-1(6 SAE)		

	Data Sheet	Type	
General information	GI_0060		Products and operating conditions

**Standard Surface Treatment**

Model	Material used	Surface treatment
Cylindrical steel tank	sheet steel	Komaxit RAL 7030
Square steel tank / cover	sheet steel	Komaxit RAL 7030
Cylindrical plastic tank	BOREALIS ME 8131 (transparent)	without surface treatment
Square plastic tank	MOSTEN (transparent)	without surface treatment
DC electric motor		zinc-coated
AC electric motor		RAL 7030
Other components acc. to manufacturer standard		

For other surface treatment consult factory.

USMA 05- [ ] / [ ] . [ ] - [ ] - [ ] [ ] . [ ] - [ ] [ ] [ ] / [ ]

Compact power pack

Pump displacement in cm<sup>3</sup>

Series GP1

0.8	08
1.2	12
1.6	16
2.1	21
2.5	25
3.3	33
3.6	36
4.4	44
4.8	48
5.8	58
6.2	62
7.9	79

Code of the electric motor  
(see tables 1-6)

DC electric motor with switch	R
one-phase electric motor without starting module	0
with starting module	M
three-phase electric motor	0

Type of hydraulic circuit  
(see table on pages 8)

Code of the tank  
see pages 13, 14-18

Solenoid voltage	
01200	12 V DC
02400	24 V DC
20500	205 V DC
23050	230 V AC 50 (60) Hz

Nominal size of stacking  
assembly elements

0	without
3	size 03
4	size 04
6	size 06

(see page 13)

Parallel plate

0	without
1	1 section
2	2 sections
3	3 sections
4	4 sections
5	5 sections

(see page 13)

Base platte

0	without
A	configuration A
B	configuration B
C	configuration C
D	configuration D
E	configuration E
F	configuration F

(see page 8)

Foot bracket

0	without foot bracket
F	low foot bracket

Type of filter used

0	without filter
S	suction filter
R*	return line filter without indication
E*	return line filter with el. indication
M*	return line filter with manometer

\*only for tank codes 56-60 and 30-32

USMA05- [ ] / [ ] . 0 - G - [ ] [ ] . [ ] - [ ] [ ] [ ] / [ ]

Compact power pack

**Pump displacement in cm<sup>3</sup>**

**Series GP1**

4.8 + 1.2 cm <sup>3</sup>	<b>4812</b>
4.8 + 1.6 cm <sup>3</sup>	<b>4816</b>
4.8 + 2.1 cm <sup>3</sup>	<b>4821</b>
5.8 + 1.2 cm <sup>3</sup>	<b>5812</b>
5.8 + 1.6 cm <sup>3</sup>	<b>5816</b>
5.8 + 2.1 cm <sup>3</sup>	<b>5821</b>
6.2 + 1.2 cm <sup>3</sup>	<b>6212</b>
6.2 + 1.6 cm <sup>3</sup>	<b>6216</b>
6.2 + 2.1 cm <sup>3</sup>	<b>6221</b>
7.9 + 1.2 cm <sup>3</sup>	<b>7912</b>
7.9 + 1.6 cm <sup>3</sup>	<b>7916</b>
7.9 + 2.1 cm <sup>3</sup>	<b>7921</b>

**Code of the e-motor**

1 - 8, 9 - 24, 27 - 35

(see tables 4, 5)

**Code of the tank**

24, 31, 32, 44, 45, 55, 58, 59, 60, 69, 70

**Type of filter used**

without filter	<b>0</b>
suction filter	<b>S</b>
return line filter without indication	<b>R*</b>
return line filter with el. indication	<b>E*</b>
return line filter with manometer	<b>M*</b>

\*only for tank codes 58-60 and 31-32

<b>Solenoid voltage</b>	
<b>01200</b>	12 V DC
<b>02400</b>	24 V DC
<b>20500</b>	205 V DC
<b>23050</b>	230 V AC 50 (60) Hz

**Nominal size of stacking assembly elements**

<b>0</b>	without stacking assembly
<b>3</b>	size 03
<b>4</b>	size 04
<b>6</b>	size 06
(see page 13)	

**Parallel plate**

<b>0</b>	without stacking assembly
<b>1</b>	1 section
<b>2</b>	2 sections
<b>3</b>	3 sections
<b>4</b>	4 sections
<b>5</b>	5 sections
(see page 13)	

**Base platte**

<b>0</b>	without stacking assembly
<b>A</b>	configuration A
<b>B</b>	configuration B
<b>C</b>	configuration C
<b>D</b>	configuration D
<b>E</b>	configuration E
<b>F</b>	configuration F
(see page 8)	

**Foot bracket**

<b>0</b>	without foot bracket
<b>F</b>	low foot bracket
<b>K</b>	high foot bracket (only for tank codes 40-45)

**Tab. 1a Single Pumps AC Electric Motors - three-phase**

Code of the three-phase motor			Code of the pump											
			08 P2-...		12 P2-...		16 P2-...		21P2 ..		25 P2-...		33 P2-...	
pmax. ** [PSI]			3626											
460V	n [R.P.M.]	p [HP]	Q/pn.* [GPM] / [PSI]											
9	1725	1/4	0.4	928	0.6	638	0.7	479	0.9	377				
10		1/3	0.4	1233	0.6	841	0.7	638	0.9	508	1.1	421		
11		1/2	0.4	1857	0.6	1262	0.7	957	0.9	769	1.1	638	1.4	479
12		3/4	0.4	2785	0.6	1900	0.7	1436	0.9	1146	1.1	957	1.4	725
13		1			0.6	2524	0.7	1915	0.9	1523	1.1	1276	1.4	957
14		1-1/2					0.7	2886	0.9	2292	1.1	1900	1.4	1436
15		2							0.9	2901	1.1	2538	1.4	1914
16		3											1.4	2886
17		5												
25	3450	1/3	0.7	624	1.1	421								
26		1/2	0.7	928	1.1	638	1.4	479	1.8	377				
27		3/4	0.7	1392	1.1	943	1.4	725	1.8	566	2.2	479	2.9	363
28		1	0.7	1857	1.1	1262	1.4	957	1.8	769	2.2	638	2.9	479
29		1-1/2	0.7	2785	1.1	1900	1.4	1436	1.8	1146	2.2	957	2.9	725
30		2			1.1	2524	1.4	1914	1.8	1523	2.2	1276	2.9	957
31		3							1.8	2292	2.2	1900	2.9	1436
32		5									2.2	2901	2.9	2393

**Tab. 1a Single Pumps AC Electric Motors - three-phase**

Code of the three-phase motor			Code of the pump											
			36 P2-...		44 P2-...		48 P2-...		58 P2-...		62 P2-...		79 P2-...	
pmax. ** [PSI]			3626						2901				2320	
460V	n [R.P.M.]	p [HP]	Q/pn.* [GPM] / [PSI]											
9	1725	1/4												
10		1/3												
11		1/2	1.6	435	1.9	363								
12		3/4	1.6	667	1.9	551	2.1	493	2.5	406	2.7	392		
13		1	1.6	885	1.9	725	2.1	667	2.5	551	2.7	508	3.4	406
14		1-1/2	1.6	1320	1.9	1088	2.1	1001	2.5	827	2.7	769	3.4	609
15		2	1.6	1769	1.9	1450	2.1	1334	2.5	1102	2.7	1030	3.4	812
16		3	1.6	2654	1.9	2176	2.1	2002	2.5	1653	2.7	1537	3.4	1218
17		5					2.1	2901	2.5	2741	2.7	2567	3.4	2016
25	3450	1/3												
26		1/2												
27		3/4	3.1	334										
28		1	3.1	435	3.8	363	4.2	334						
29		1-1/2	3.1	667	3.8	551	4.2	493						
30		2	3.1	885	3.8	725	4.2	667						
31		3	3.1	1320	3.8	1088	4.2	1001						
32		5	3.1	2205	3.8	1813	4.2	1668						

\*p<sub>n</sub> - nominal pressure = the highest working pressure allowed without time restriction

\*\* p<sub>max</sub> - maximum allowable pressure of the pump for max. 20 sec. Motor overload max. 30 % for max. 20 sec.

In the case of rotation speed control keep the speed limits of the gear pump - see Gear Pumps catalog.

**Tab. 2a Single Pumps AC Electric Motors - single-phase**

Code of the single-phase motor			Code of the pump											
			08 P2-...		12 P2-...		16 P2-...		21 P2 ..		25 P2-...		33 P2-...	
pmax. ** [PSI]			3626											
230 V	n [R.P.M.]	p [HP]	Q/pn.* [GPM] / [PSI]											
1		1/4	0.4	928	0.6	638	0.7	479	0.9	377	1.1	319		
2		1/3	0.4	1233	0.6	841	0.7	638	0.9	508	1.1	421	1.4	319
3		1/2	0.4	1857	0.6	1262	0.7	957	0.9	769	1.1	638	1.4	479
4		3/4			0.6	1900	0.7	1436	0.9	1146	1.1	957	1.4	725
5		1					0.7	1915	0.9	1523	1.1	1276	1.4	957
6		1-1/2							0.9	2901	1.1	1900	1.4	1436
7		2											1.4	1914
8		3												
18		1/3	0.7	624	1.1	421	1.4	319	1.8	261				
19		1/2	0.7	928	1.1	638	1.4	479	1.8	377	2.2	319		
20		3/4	0.7	1392	1.1	943	1.4	725	1.8	566	2.2	479	2.9	363
21		1	0.7	1857	1.1	1262	1.4	957	1.8	769	2.2	638	2.9	479
22		1-1/2	0.7	2785	1.1	1900	1.4	1436	1.8	1146	2.2	957	2.9	725
23		2			1.1	2524	1.4	1914	1.8	1523	2.2	1276	2.9	957
24		3					1.4	2886	1.8	2901	2.2	1900	2.9	1436

**Tab. 2b Single Pumps AC Electric Motors - single-phase**

Code of the single-phase motor			Code of the pump											
			36 P2-...		42 P2-...		48 P2-...		58 P2 ..		62 P2-...		79 P2-...	
pmax. ** [PSI]			3626											
230 V	n [R.P.M.]	p [HP]	Q/pn.* [GPM] / [PSI]											
1		1/4												
2		1/3	1.6	290	1.9	247								
3		1/2	1.6	435	1.9	363	2.1	334	2.5	276	2.7	261		
4		3/4	1.6	667	1.9	551	2.1	493	2.5	406	2.7	392	3.4	305
5		1	1.6	885	1.9	725	2.1	667	2.5	551	2.7	508	3.4	406
6		11/2	1.6	1320	1.9	1088	2.1	1001	2.5	827	2.7	769	3.4	609
7		2	1.6	1770	1.9	1450	2.1	1334	2.5	1102	2.7	1030	3.4	812
8		3			1.9	2176	2.1	2002	2.5	1653	2.7	1537	3.4	1218
18		1/3												
19		1/2												
20		3/4	3.1	334	3.8	276								
21		1	3.1	435	3.8	363	4.2	334						
22		11/2	3.1	667	3.8	551	4.2	493						
23		2	3.1	885	3.8	725	4.2	667						
24		3	3.1	1320	3.8	1088	4.2	1001						

\*p<sub>n</sub> - nominal pressure = the highest working pressure allowed without time restriction

\*\* p<sub>max</sub> - maximum allowable pressure of the pump for max. 20 sec. Motor overload max. 30 % for max. 20 sec.

In the case of rotation speed control keep the speed limits of the gear pump - see Gear Pumps catalog.

**Tab. 3a Double Pumps AC Electric Motors 400 V - three-phase**

Pump code P1+P2		4812		4816		4821		5812		5816		5821	
P2 p <sub>max</sub> [PSI]		250 for a short period only - max. 20 s											
P1 p <sub>max</sub> [PSI]		184		173		160		166		157		147	
3 phase E-motor		Q1	p <sub>1n</sub>			Q1, Q2 [l/min]		p <sub>1n</sub> , p <sub>2n</sub> [bar]		P1 p <sub>max</sub> is limited due to torque of the pump shaft			
code	P [HP]	Q2	p <sub>2n</sub>										
11	1/2	6.1	25	6.1	20								
		1.4	120	1.9	90								
12	3/4	6.1	35	6.1	35	6.1	30	7.4	30				
		1.4	180	1.9	135	2.6	105	1.4	180				
13	1	6.1	50	6.1	45	6.1	45	7.4	45	7.4	40	7.4	35
		1.4	200	1.9	180	2.6	140	1.4	200	1.9	180	2.6	140
14	1-1/2	6.1	75	6.1	70	6.1	65	7.4	65	7.4	60	7.4	55
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200
15	2	6.1	100	6.1	95	6.1	85	7.4	85	7.4	80	7.4	75
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200
16	3	6.1	150	6.1	140	6.1	130	7.4	130	7.4	120	7.4	110
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200
17	5	6.1	184	6.1	173	6.1	160	7.4	166	7.4	157	7.4	147
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200

**Tab. 3b Double Pumps AC Electric Motors 400 V - three-phase**

Pump code P1+P2		6212		6216		6221		7912		7916		7921	
P2 p <sub>max</sub> [PSI]		250 for a short period only - max. 20 s											
P1 p <sub>max</sub> [PSI]		151		143		134		139		133		127	
3 phase E-motor		Q1	p <sub>1n</sub>			Q1, Q2 [l/min]		p <sub>1n</sub> , p <sub>2n</sub> [bar]		P1 p <sub>max</sub> is limited due to torque of the pump shaft			
code	P [HP]	Q2	p <sub>2n</sub>										
12	3/4	8	30	8	25								
		1.4	180	1.9	135								
13	1	8	40	8	40	8	35	10.2	30				
		1.4	200	1.9	180	2.6	140	1.4	200				
14	1-1/2	8	60	8	55	8	50	10.2	50	10.2	45	10.2	45
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200
15	2	8	80	8	75	8	70	10.2	65	10.2	60	10.2	60
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200
16	3	8	120	8	115	8	105	10.2	95	10.2	90	10.2	90
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200
17	5	8	151	8	143	8	134	10.2	130	10.2	125	10.2	120
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200

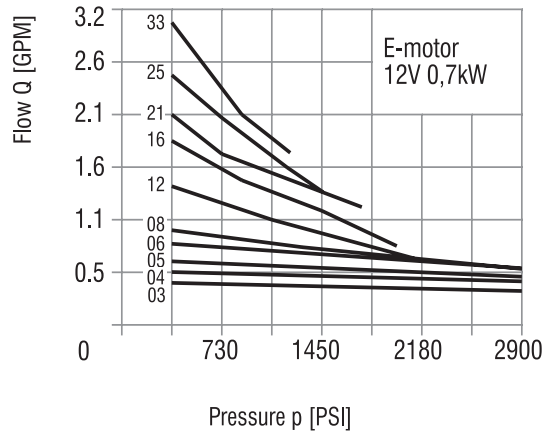
**Tab. 4a Double Pumps AC Electric Motors 230 V - one-phase**

Pump code P1+P2		4812		4816		4821		5812		5816		5821	
P2 p <sub>max</sub> [PSI]		250 for a short period only - max. 20 s											
P1 p <sub>max</sub> [PSI]		184		173		160		166		157		147	
1 phase E-motor		Q1	p <sub>1n</sub>			Q1, Q2 [l/min]		p <sub>1n</sub> , p <sub>2n</sub> [bar]		P1 p <sub>max</sub> is limited due to torque of the pump shaft			
code	P [HP]	Q2	p <sub>2n</sub>										
4	0.37	6.1	25	6.1	20								
		1.4	120	1.9	90								
5	0.55	6.1	35	6.1	35	6.1	30	7.4	30				
		1.4	180	1.9	135	2.6	105	1.4	180				
6	0.75	6.1	50	6.1	45	6.1	45	7.4	45	7.4	40	7.4	35
		1.4	200	1.9	180	2.6	140	1.4	200	1.9	180	2.6	140
7	1.1	6.1	75	6.1	70	6.1	65	7.4	65	7.4	60	7.4	55
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200
8	1.5	6.1	100	6.1	95	6.1	85	7.4	85	7.4	80	7.4	75
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200

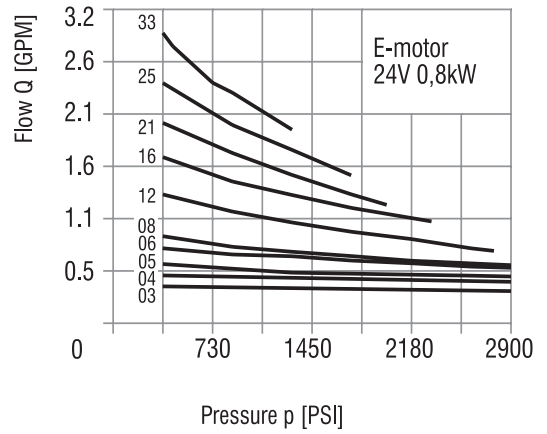
**Tab. 4b Double Pumps AC Electric Motors 230 V - one-phase**

Pump code P1+P2		6212		6216		6221		7912		7916		7921	
P2 p <sub>max</sub> [PSI]		250 for a short period only - max. 20 s											
P1 p <sub>max</sub> [PSI]		151		143		134		139		133		127	
1 phase E-motor		Q1	p <sub>1n</sub>			Q1, Q2 [l/min]		p <sub>1n</sub> , p <sub>2n</sub> [bar]		P1 p <sub>max</sub> is limited due to torque of the pump shaft			
code	P [HP]	Q2	p <sub>2n</sub>										
5	0.55	8	30	8	25								
		1.4	180	1.9	135								
6	0.75	8	40	8	40	8	35	10.2	30				
		1.4	200	1.9	180	2.6	140	1.4	200				
7	1.1	8	60	8	55	8	50	10.2	50	10.2	45	10.2	45
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200
8	1.5	8	80	8	75	8	70	10.2	65	10.2	60	10.2	60
		1.4	200	1.9	200	2.6	200	1.4	200	1.9	200	2.6	200

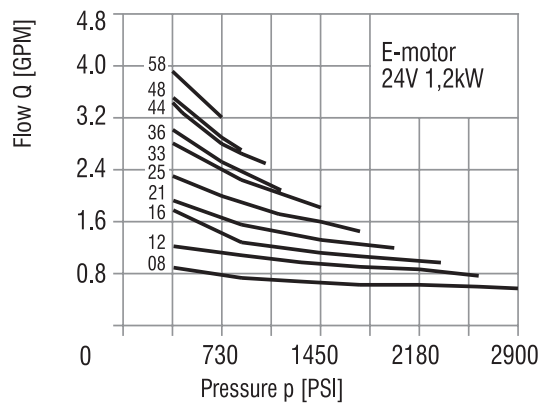
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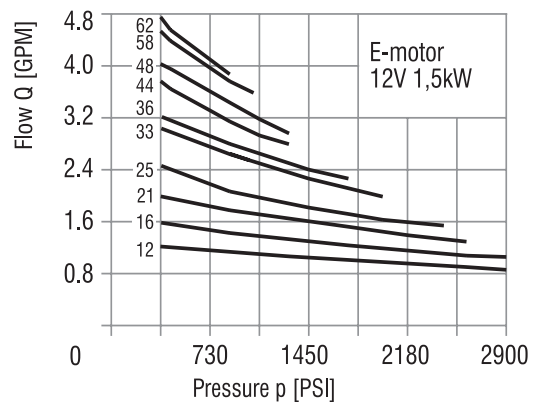
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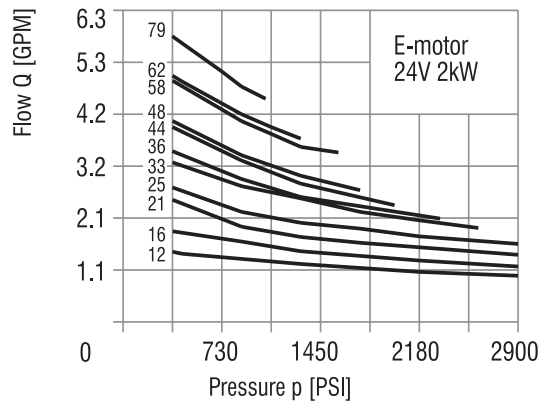
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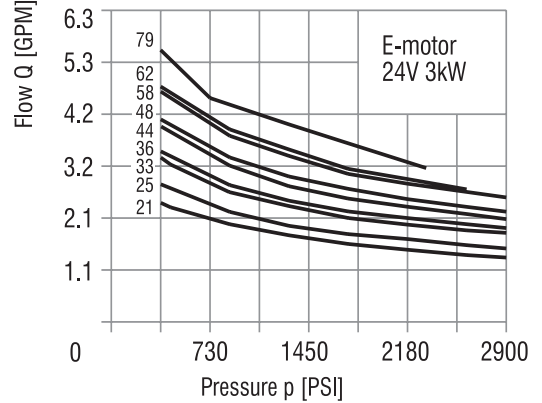
Code 51



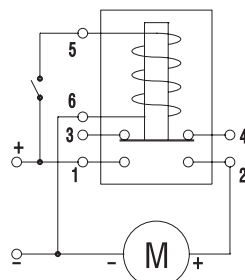
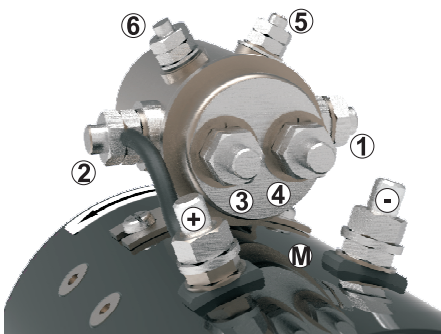
Code 52



Code 63



Tab. 5 DC Electric Motors

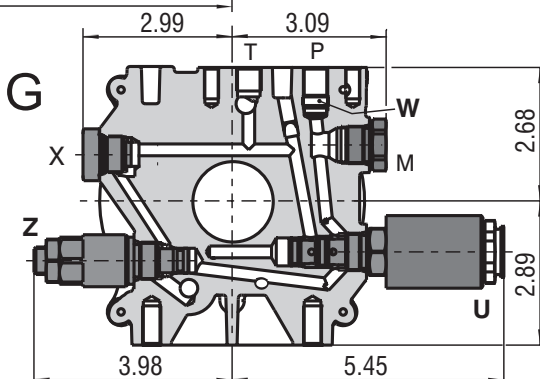
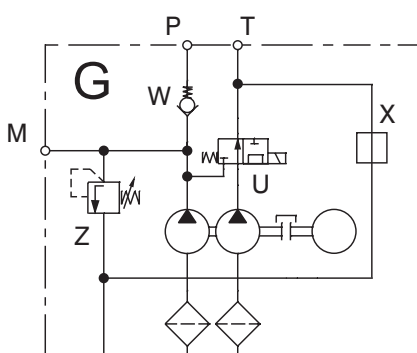
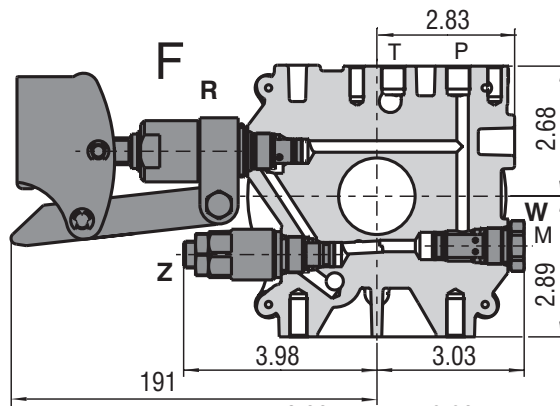
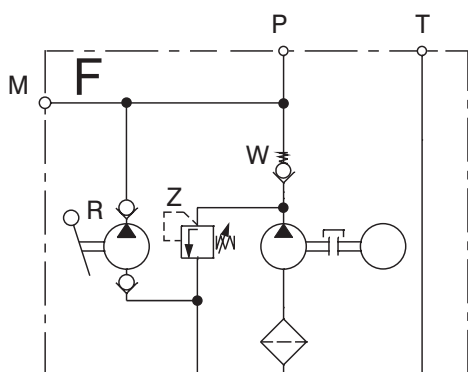
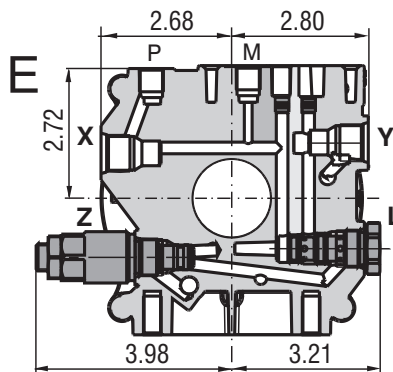
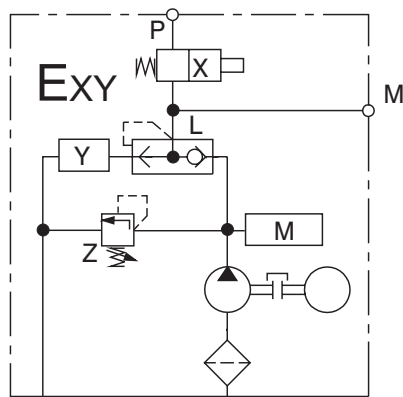
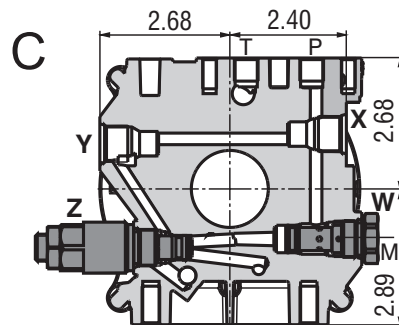
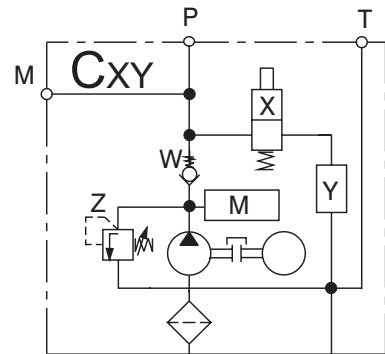
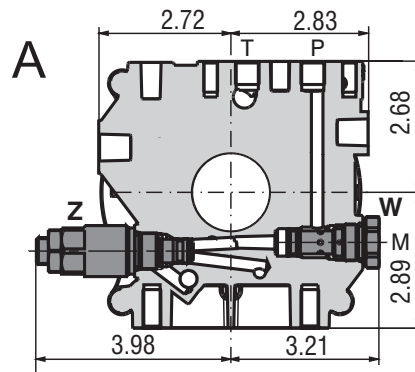
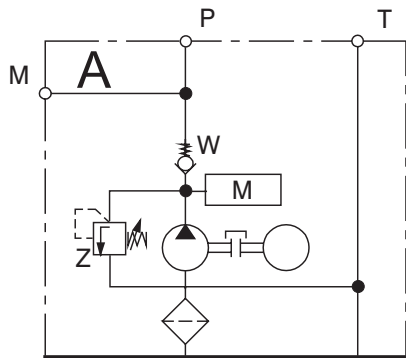


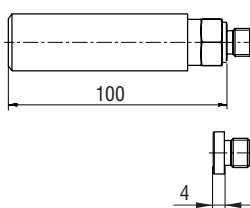
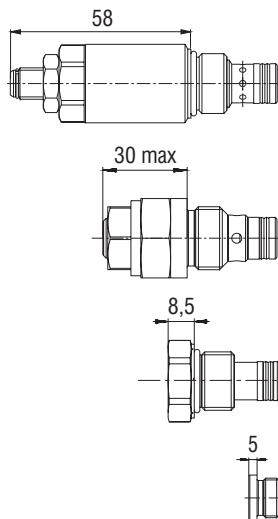
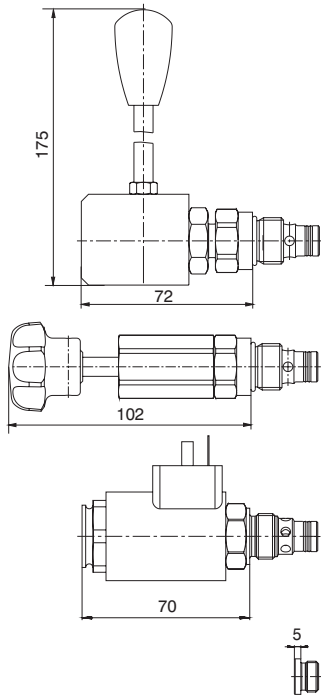
12 V	24 V	HP	(kW)	Protection degree - insulation class
Code of the electric motor				
45	/	1	(0.7)	IP 44
/	44	1	(0.8)	IP 44
/	46	1-1/2	(1.2)	IP 44
51	/	2	(1.5)	IP 54
/	52	2-1/2	(2.0)	IP 54
/	63	4	(3.0)	IP 20

**Attention!** The DC motors must be loaded, so as to reduce the revolutions! Do not run the motors without pressure loading!

Voltage limits for the switch (between terminals 5 and 6) - min. 18 V for 24 V nominal  
- min. 9 V for 12 V nominal

In the case of rotation speed control keep the speed limits of the gear pump - see Gear Pumps catalog.





X	X	Functional symbol
4	SD1M-A2/L2S5-2*	
3	SD1M-A2/L2S5-1*	
2	SD3E-A2/*2O2*	
1	SD3E-A2/*2L2*	
0*	17250900	

Y	Type of the throttle valve	Functional symbol
2	SF22A-A2/H**	
**The size of the throttle valve corresponds regularly with the flow rate Q of the pump used. Other throttle valve size on request of the customer.		
1	ST21A-A2/L2O5	
0	15960800 for X=0	
0	17250900 for X≠0	

M	Type	Symbols
M*	Starting module	
0*	Plug VSTI G1/4	

\*Exact position of the starting module or plug ... ref. page 18

Z	W	L	R	U
Pressure relief valve directly operated	Check valve	Load shuttle	Hand pump	Unloading valve
SR1A-A2/S (HA 5063)	SC1F-A3 (HA 5016) A, B, C, D, F	VJ01-06/SG-01 G (HA 5004)	SH1F-A3 (HA 5029) E	RC 3/4-16UNF F (HA 2020)
				SD2E-A3/H (HA 4041) G

**Table of Dimensions Electric Motors in [inch (mm)]**

AC Electric Motor one-phase and three-phase								
Code of EM	Motor	Power [HP (kW)]	Voltage [V]	Current [A] <sup>1)</sup>	R.P.M. *	B [inch (mm)]	C [inch (mm)]	D [inch (mm)]
1		1/4 (0.188)	115/208-230	5/2.6-2.5	1725	9.29 (0.37)	4.51 (0.17)	6.19 (0.24)
2		1/3 (0.25)	115/208-230	6/3.2-3	1725	9.29 (0.37)	4.51 (0.17)	6.19 (0.24)
3		1/2 (0.375)	115/208-230	7.4/3.9-3.7	1725	10.39 (0.41)	4.51 (0.17)	6.19 (0.24)
4		3/4 (0.563)	115/208-230	8.2/4.5-4.1	1725	10.39 (0.41)	4.52 (0.18)	6.19 (0.24)
5		1 (0.75)	115/208-230	12.8/7-6.4	1725	10.39 (0.42)	5.25 (0.21)	7.19 (0.28)
6		1-1/2 (1.125)	115/208-230	18/8.4-8	1725	10.39 (0.42)	5.22 (0.20)	7.19 (0.28)
7		2 (1.5)	115/208-230	23/11.7-11.5	1725	10.39 (0.42)	6.00 (0.24)	8.49 (0.33)
8		3 (2.25)	115/208-230	28/15.5-14	1725	10.39 (0.42)	6.00 (0.24)	8.49 (0.33)
9		1/4 (0.188)	208-230/460	1.4-1.3/0.65	1725	9.29 (0.37)	4.53 (0.17)	6.19 (0.24)
10		1/3 (0.25)	208-230/460	1.8-1.6/0.8	1725	9.29 (0.37)	4.53 (0.17)	6.19 (0.24)
11		1/2 (0.375)	208-230/460	2.1-2/1	1725	10.39 (0.41)	4.53 (0.17)	6.19 (0.24)
12		3/4 (0.563)	208-230/460	3.2-3/1.5	1725	10.39 (0.41)	4.53 (0.17)	6.19 (0.24)
13		1 (0.75)	208-230/460	3.7-3.4/1.7	1725	10.39 (0.42)	4.51 (0.78)	6.19 (0.24)
14		1-1/2 (1.125)	208-230/460	5.3-5/2.5	1725	10.39 (0.42)	5.22 (0.20)	7.19 (0.28)
15		2 (1.5)	208-230/460	6.5-6.2/3.1	1725	12.13 (0.48)	5.22 (0.20)	7.19 (0.28)
16		3 (2.25)	208-230/460	8.5-8.2/4.1	1725	12.13 (0.48)	5.22 (0.20)	7.19 (0.28)
17		5 (3.75)	208-230/460	15-13.2/6.6	1725	13.78 (0.57)	6.00 (0.24)	8.49 (0.33)
18		1/3 (0.25)	115/208-230	6/3.2-3	3450	13.78 (0.57)	4.51 (0.78)	6.19 (0.24)
19		1/2 (0.375)	115/208-230	7.4/3.9-3.7	3450	9.29 (0.37)	4.51 (0.78)	6.19 (0.24)
20		3/4 (0.563)	115/208-230	9.6/5-4.8	3450	9.29 (0.37)	4.51 (0.78)	6.19 (0.24)
21		1 (0.75)	115/208-230	11.8/6.1-5.9	3450	10.39 (0.41)	5.25 (0.21)	7.19 (0.28)
22		1-1/2 (1.125)	115/208-230	16/8.4-8	3450	10.39 (0.41)	5.25 (0.21)	7.19 (0.28)
23		2 (1.5)	115/208-230	23/12-11.5	3450	10.39 (0.42)	5.25 (0.21)	7.19 (0.28)
24		3 (2.25)	115/208-230	29/15-14.5	3450	10.39 (0.42)	6.00 (0.24)	8.49 (0.33)
25		1/3 (0.25)	208-230/460	1.5-1.4/0.7	3450	12.13 (0.48)	4.53 (0.17)	6.19 (0.24)
26		1/2 (0.375)	208-230/460	2.1-2/1	3450	13.82 (0.54)	4.53 (0.17)	6.19 (0.24)
27		3/4 (0.563)	208-230/460	2.7-2.6/1.3	3450	9.29 (0.37)	4.53 (0.17)	6.19 (0.24)
28		1 (0.75)	208-230/460	3.7-3.6/1.8	3450	9.29 (0.37)	4.53 (0.17)	6.19 (0.24)
29		1-1/2 (1.125)	208-230/460	4.9-4.6/2.3	3450	10.39 (0.41)	4.53 (0.17)	6.19 (0.24)
30		2 (1.5)	208-230/460	5.7-5.4/2.7	3450	10.39 (0.41)	5.22 (0.20)	7.19 (0.28)
31		3 (2.25)	208-230/460	8.1-7.6/3.8	3450	10.39 (0.42)	5.22 (0.20)	7.19 (0.28)
32		5 (3.75)	208-230/460	13.2-12/6	3450	10.39 (0.42)	6.00 (0.24)	8.49 (0.33)

<sup>1)</sup> Please be aware of the starting torque of the single-phase electric motors

DC Electric Motor									
Code of EM	Power [HP (kW)]	Voltage [V]	Current [A]*	Speed [1/min]*	Load factor *		B [in (mm)]	C [in (mm)]	D [in (mm)]
44	1 (0.8)	24	40	3300	S2 - 2.5 min	S3 - 7% ED	6.22 (158)	3.82 (97)	3.19 (81)
45	1 (0.7)	12	135	3300	S2 - 2.5 min	S3 - 4% ED	6.22 (158)	3.82 (97)	3.19 (81)
46	1-1/2 (1.2)	24	90	3000	S2 - 1.2 min	S3 - 4% ED	6.77 (172)	4.21 (107)	3.15 (80)
51	2 (1.5)	12	220	2600	S2 - 2 min	S3 - 7.5% ED	7.05 (179)	4.49 (114)	4.61 (117)
52	2-1/2 (2.0)	24	140	2600	S2 - 1.2 min	S3 - 4.5% ED	7.05 (179)	4.49 (114)	4.61 (117)
63	4 (3.0)	24	200	1700	S2 - 16 min	S3 - 10% ED	12.52 (318)	5.28 (134)	6.18 (157)

\*Valid for rated power values

**Load factor**
**Duty S1 (min)** – Intended for use under continuous duty cycle conditions (load factor S1) for various press-related applications and those which involve dynamic strokes, with recommendation to consult the conditions of use with manufacturer.

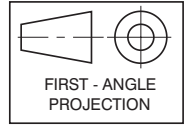
**Duty S2 (min) - short-time operation**

The motor operates with constant load for a definite time until the motor reaches the maximum permissible temperature T max. It is followed by an idle period long enough to reach equality between motor temperature and ambient temperature.

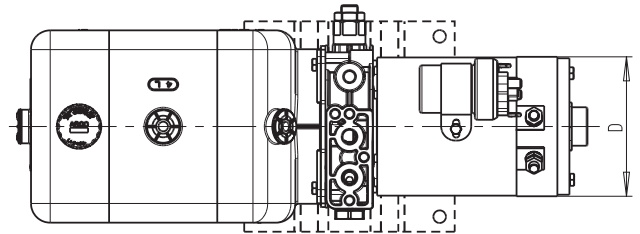
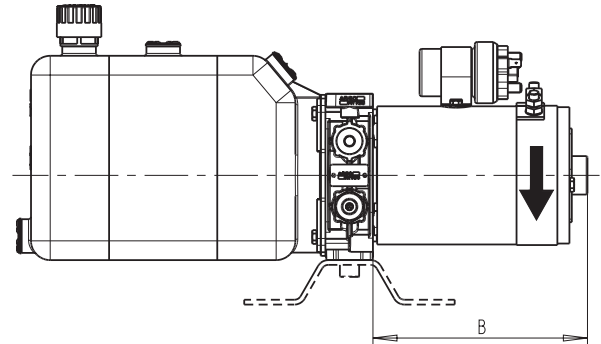
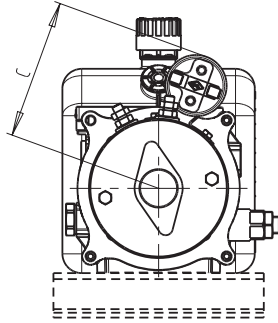
**Duty S3 (% ED) - periodic operation**

The operation of the motor is a continuous sequence of identical cycles, each compound from a load period and an idle period. During the load period the motor can reach the maximum permissible temperature. S3 value shows, in percentage, the length of the load period with respect to the total cycle-load period more idle period. The S3 curve quoted in the performance specifications is referred to a lengths cycle of 10 minutes.

Power pack with DC electric motor



Thread of the connecting ports  
P, T, M - 9/16-18 UNF  
SAE J1926-1(-6 SAE)



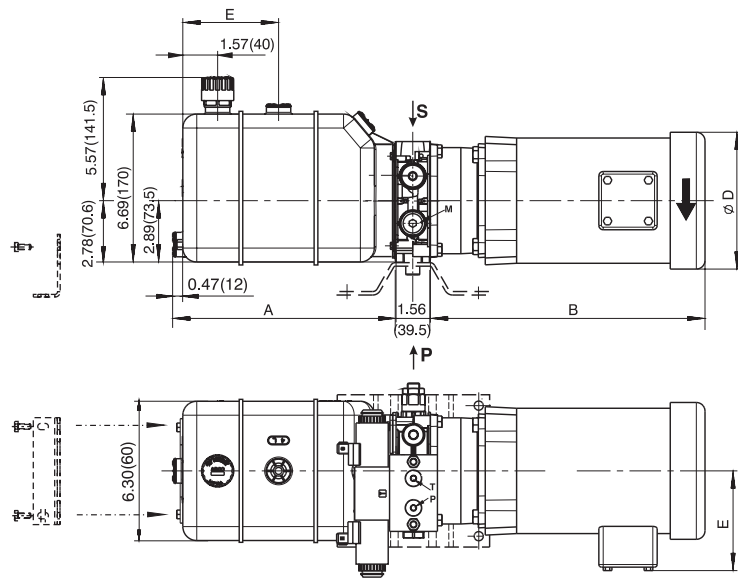
Dimensions B, C, D see Page 10.

**Tank Dimensions** Dimensions in [inch (mm)]

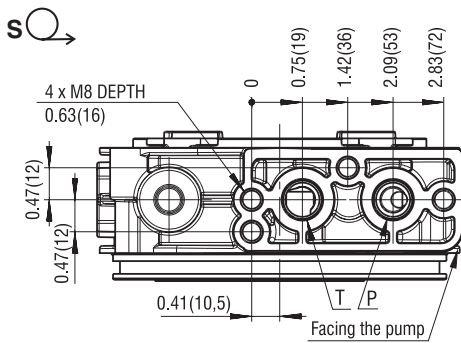
**Power pack with cylindrical steel tank, one-phase and three-phase motors**  
- mounting position horizontal

Thread of the connecting ports  
P, T, M - 9/16-18 UNF  
SAE J1926-1(-6 SAE)

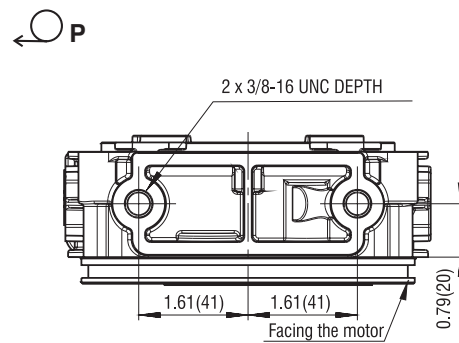
TANK SUPPORT  
code 64-70



**Connecting Block**



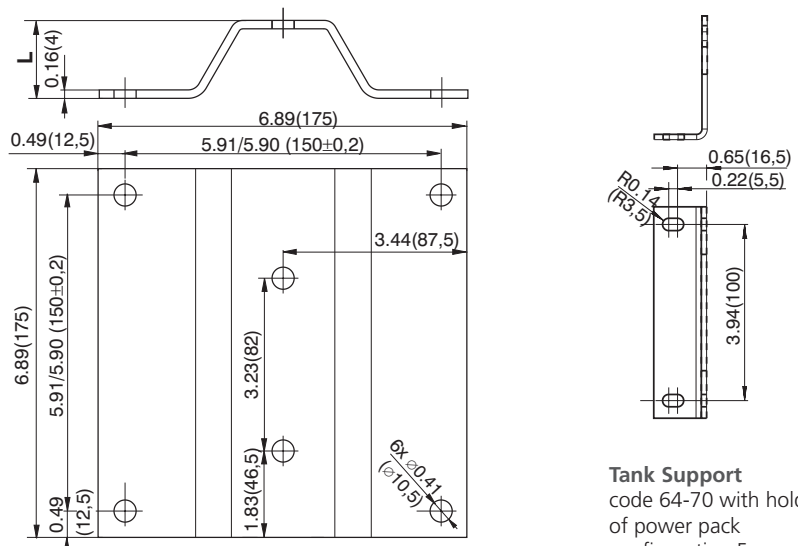
**Connecting Holder**



Code of the tank	Capacity in US gal [L]	Working volume US gal [L]	A [inch (mm)]	E [inch (mm)]
62	0.528 (2)	0.449 (1.7)	6.850 (174)	-
64	1.056 (4)	0.792 (3.0)	10.669 (271)	110
66	1.585 (6)	1.188 (4.5)	14.213 (361)	155
68	2.113 (8)	1.585 (6.0)	17.756 (451)	200
70	2.641(10)	1.981 (7.5)	21.299 (541)	245

Power pack foot bracket	
Typ	Dimensions L [inch (mm)]
F	1.46 (37)

For AC Power units the mounting bracket is suitable for motors up to 2PH only. Please use for larger motors the feet of the electric motor.

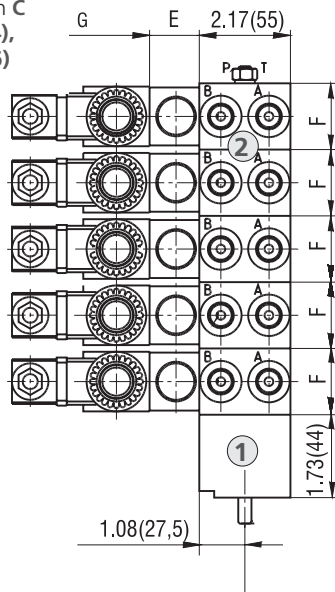


**Tank Support**  
code 64-70 with holder  
of power pack  
configuration F

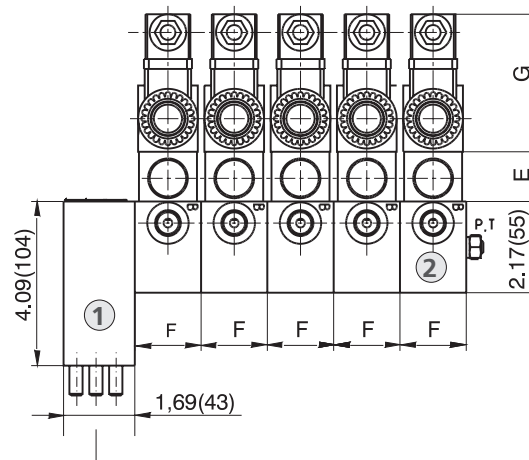
Valve Dimensions in [inch (mm)]

Base Plates and Parallel Plates

Configuration C  
Size D02 (04),  
D03 (06)



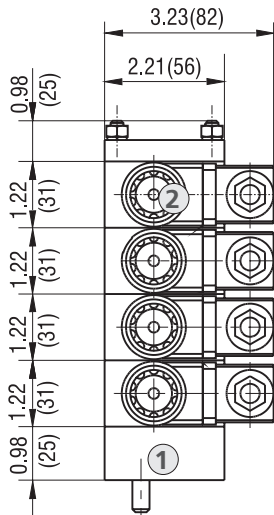
Configuration B  
Size D02 (04),  
D03 (06)



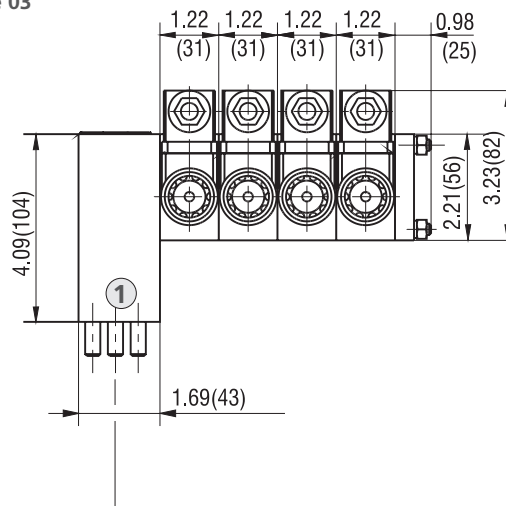
Parallel Plates ②  
see Datasheet PD04 (HA 0005)  
PD06 (HA 0006)

- 1 Base Plate
- 2 Parallel Plate

Configuration D  
Size 03

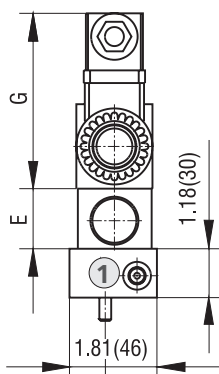


Configuration E  
Size 03

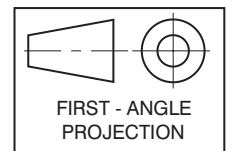


- 1 Base Plate
- 2 Parallel Plate

Configuration F  
Size D02 (04),  
D03 (06)



- 1 Base Plate

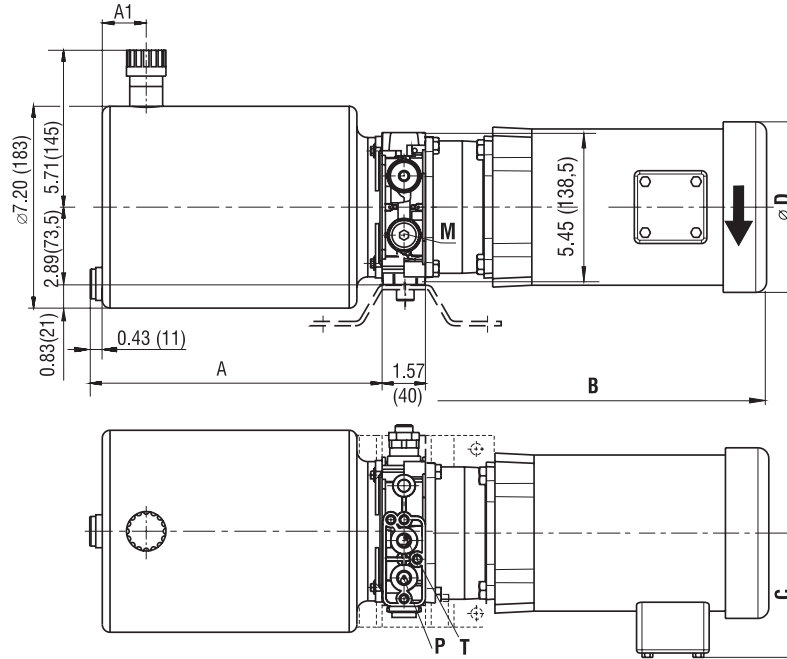


Thread of the connecting ports A, B, P, T, M - 9/16-18 UNF SAE J1926-1(-6SAE)

Dimension	E [in (mm)]						F [in (mm)]	G [in (mm)]
	Pressure switch	Reducing valves	Pressure relief valves	Pilot operated check valves cartridge	Check Valves	Flow Valves		
Size D02 (04)	1.38 (35)	1.18 (30)	1.38 (35)	1.18 (30)	1.18 (30)	1.18 (30)	1.57 (40)	3.11 (79)
Size D03 (06)	1.69 (43)	1.77 (45)	1.57 (40)	1.57 (40)	1.24 (31.4)	1.57 (40)	1.97 (50)	3.62 (92)

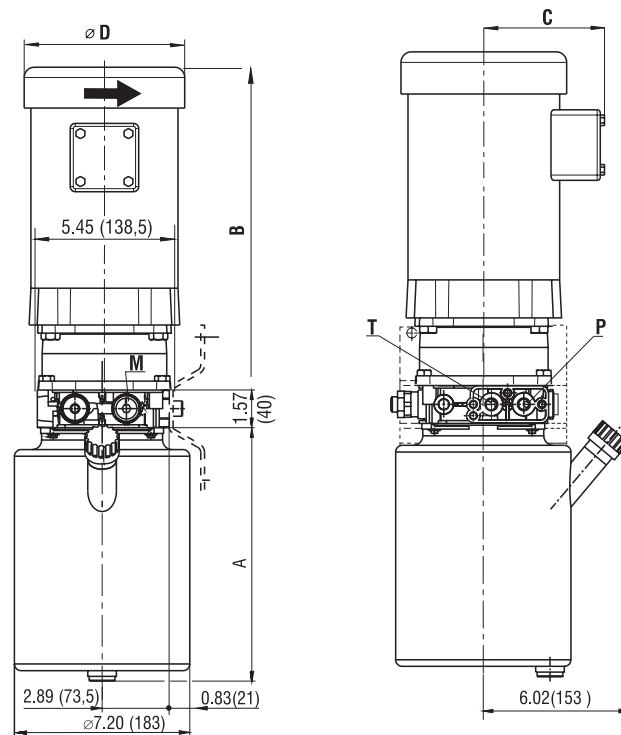
**Tank Dimensions [inch (mm)]**

**Power pack with cylindrical steel tank - mounting position horizontal**



Code of the tank	Capacity in US gal [L]	Working volume US gal [L]	A [inch (mm)]	A1 [inch (mm)]
20 (steel)	1.585 (6)	0.977 (3.7)	10.59 (269)	1.57 (40)
22 (steel)	2.113 (8)	1.294 (4.9)	13.74 (349)	6.10 (155)
24 (steel)	2.641 (10)	1.614 (6.1)	16.89 (429)	7.68 (195)

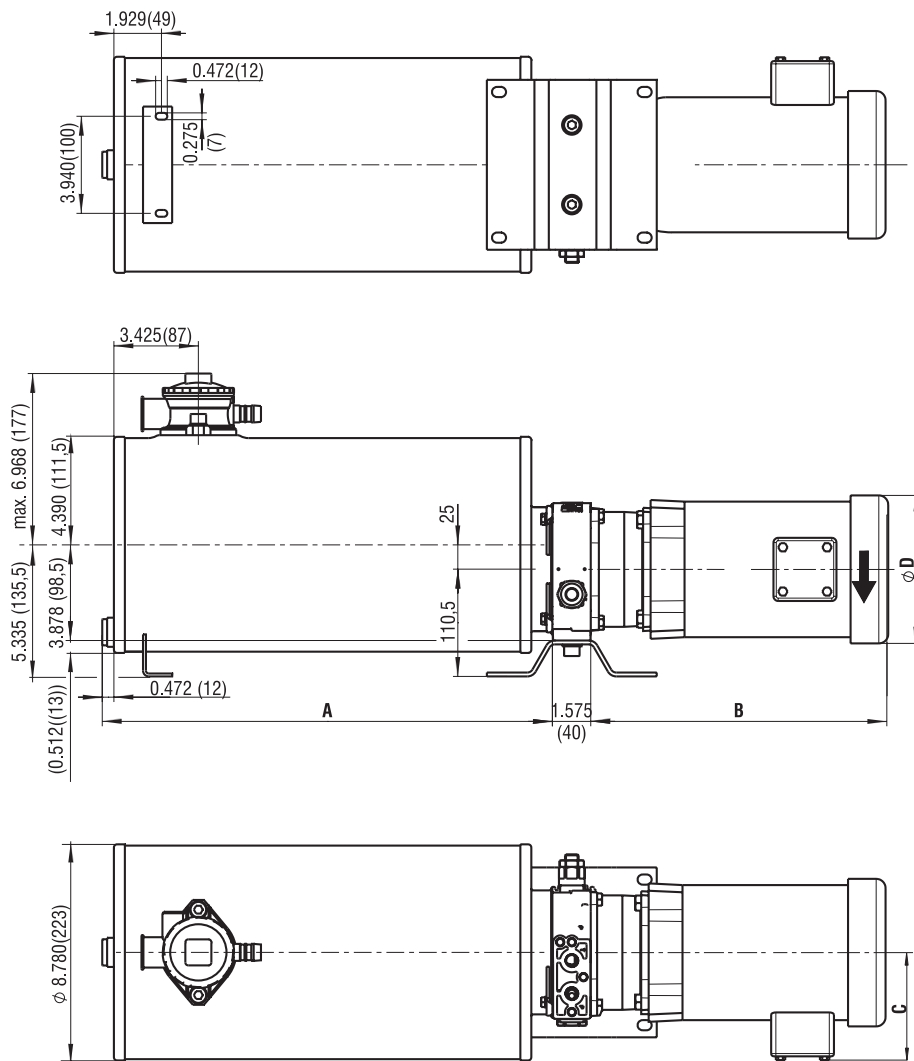
**Power pack with cylindrical steel tank - mounting position vertical**



Code of the tank	Capacity in US gal [L]	Working volume US gal [L]	A [inch (mm)]
51 (steel)	1.585 (6)	0.898 (3.4)	269 (10.59)
53 (steel)	2.113 (8)	1.427 (5.4)	349 (13.74)
55 (steel)	2.641 (10)	1.955 (7.4)	429 (16.90)

**Tank Dimensions in [inch (mm)]**

**Power pack with DC electric motor**

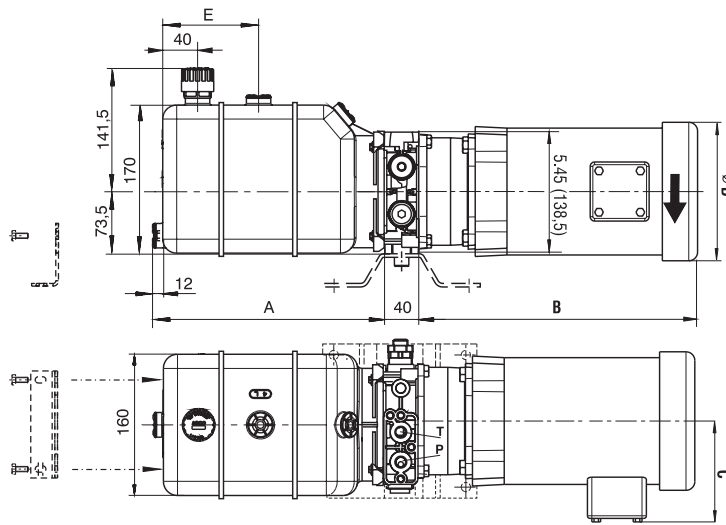


Code of the tank	Capacity in US gal [L]	Working volume US gal [L]	A [inch (mm)]
30 (steel)	1.58 (9)	1.98 (7.5)	11.97 (304)
31 (steel)	3.96 (15)	3.17 (12)	18.27 (464)
32 (steel)	6.60 (25)	5.28 (20)	28.50 (724)

**Tank Dimensions** Dimensions in millimeters

**Power pack with square plastic tank - mounting position horizontal**

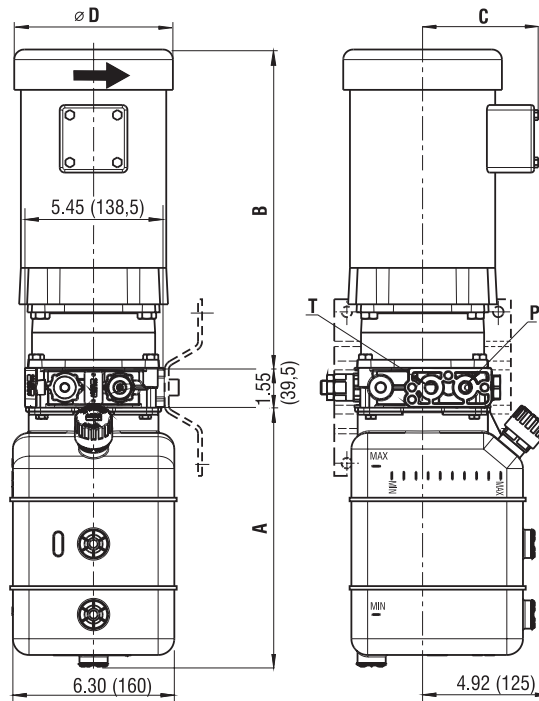
Plastic tanks are not UV stable. Place the unit in the shade for outdoor application.



Code of the tank	Capacity in US gal [L]	Working volume US gal [L]	A [inch (mm)]	E [inch (mm)]
62 (plastic)	0.528 (2)	0.45 (1.7)	7.01 (178)	-
64 (plastic)	1.057 (4)	0.79 (3.0)	10.63 (270)	4.72 (120)
66 (plastic)	1.585 (6)	1.19 (4.5)	14.13 (359)	6.50 (165)
68 (plastic)	2.113 (8)	1.59 (6.0)	17.68 (449)	8.19 (208)
70 (plastic)	2.641 (10)	1.98 (7.5)	21.37 (543)	8.19 (208)

**Power pack with square plastic tank - mounting position vertical**

Plastic tanks are not UV stable. Place the unit in the shade for outdoor application.

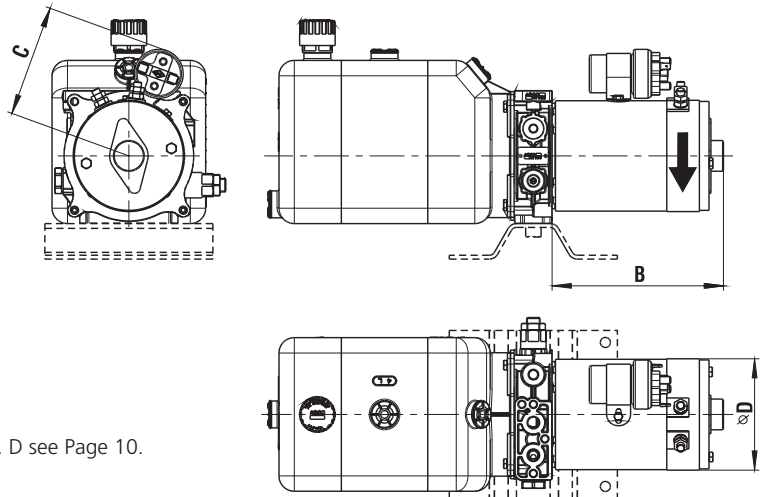
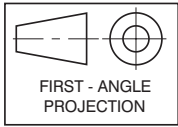


Code of the tank	Capacity in US gal [L]	Working volume US gal [L]	A [inch (mm)]
61 (plastic)	0.528 (2)	0.34 (1.3)	7.01 (178)
63 (plastic)	1.057 (4)	0.92 (3.5)	10.63 (270)
65 (plastic)	1.585 (6)	1.45 (5.5)	14.13 (359)
67 (plastic)	2.113 (8)	1.98 (7.5)	17.68 (449)
69 (plastic)	2.641 (10)	2.51 (9.5)	21.37 (543)

**Tank Dimensions** Dimensions in millimeters

**Power pack with DC electric motor**

Thread of the connecting ports P, T, M - 9/16-18 UNF  
SAE J1926-1(-6 SAE)



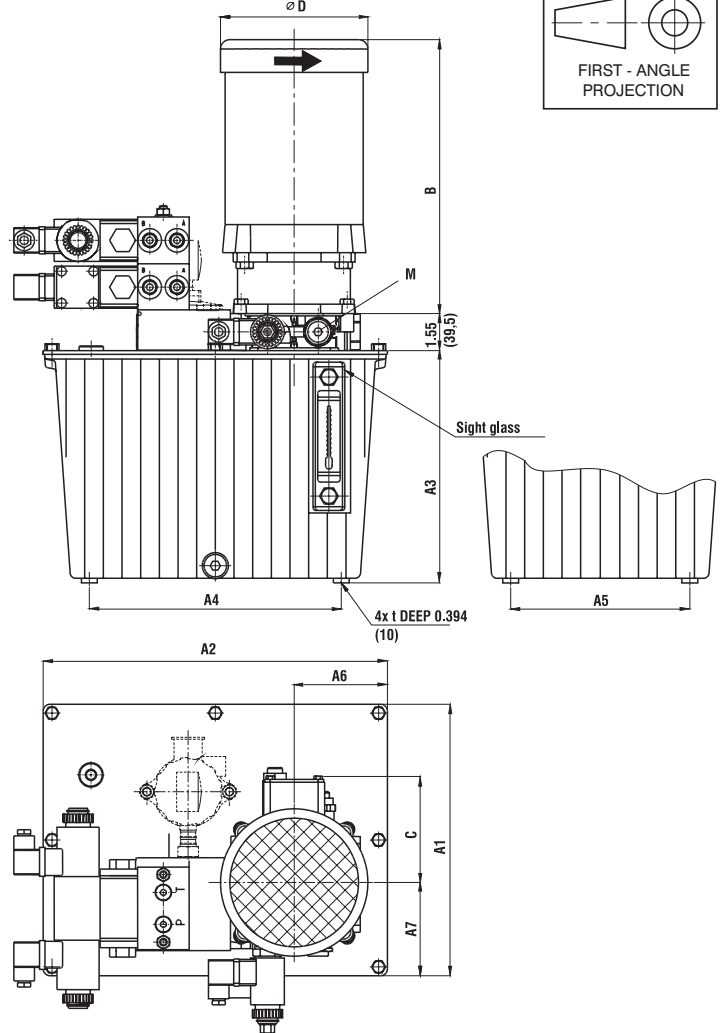
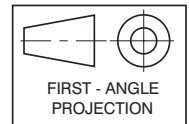
Dimensions B, C, D see Page 10.

**Tank Dimensions** Dimensions in millimeters

**Power pack with die-cast aluminium tank**

**Configuration B**

Thread of the connecting ports A, B, P, T, M - 9/16-18 UNF  
SAE J1926-1(-6 SAE)



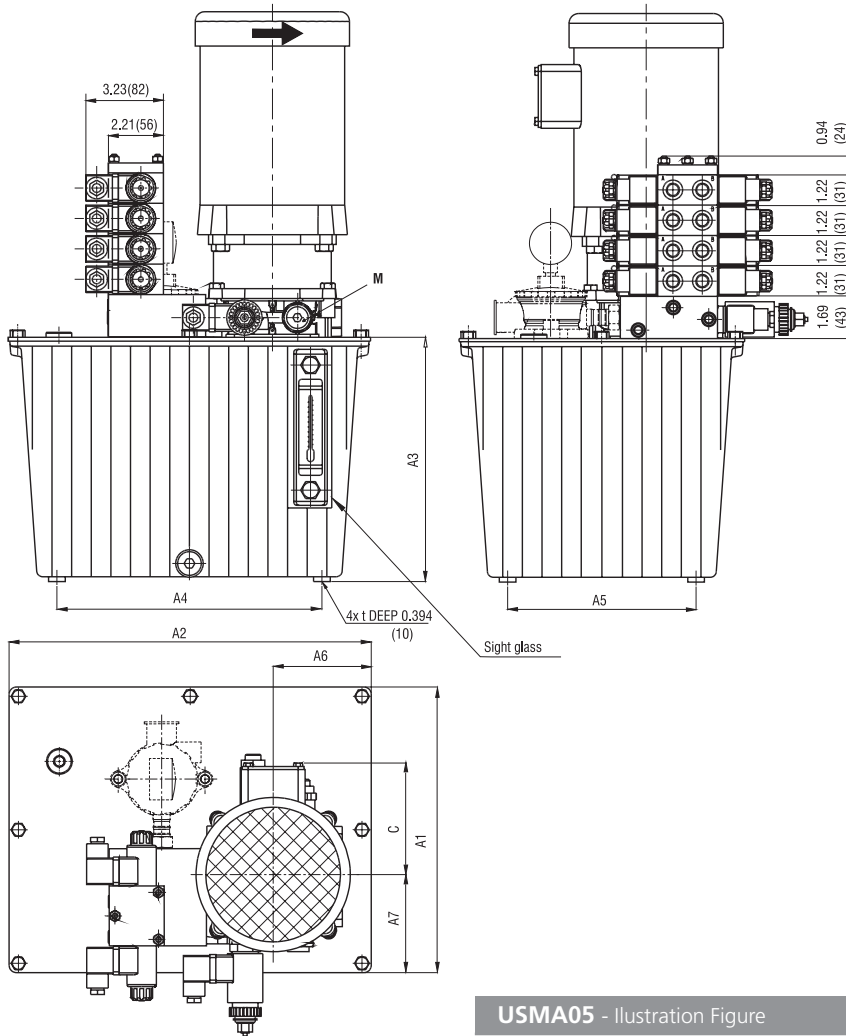
Note: all units with tank code 71-74 shipped with sight glass and drain plug

Code of the tank	Capacity in US gal [L]	Working volume US gal [L]	A1	A2	A3	A4	A5	A6	A7	t
			in (mm)							
71 (Al)	3.17 (12)	2.64 (10)	9.53 (242)	12.28 (312)	8.82 (224)	8.86 (225)	6.10 (155)	4.41 (112)	3.58 (91)	M8
72 (Al)	5.28 (20)	4.23 (16)	11.46 (291)	14.53 (369)	10 (254)	10.63 (270)	7.56 (192)	4.13 (105)	5.35 (136)	M8
73 (Al)	7.93 (30)	6.60 (25)	13.43 (341)	19.33 (491)	11.42 (290)	12.83 (326)	6.93 (176)	4.53 (115)	6.14 (156)	M10
74 (Al)	11.62 (44)	10.30 (39)	16.69 (424)	20.67 (525)	12.60 (320)	13.43 (341)	9.49 (241)	4.53 (115)	6.93 (176)	M10

**Power pack with die-cast aluminium tank and horizontal stacking assembly RPEK1-03**

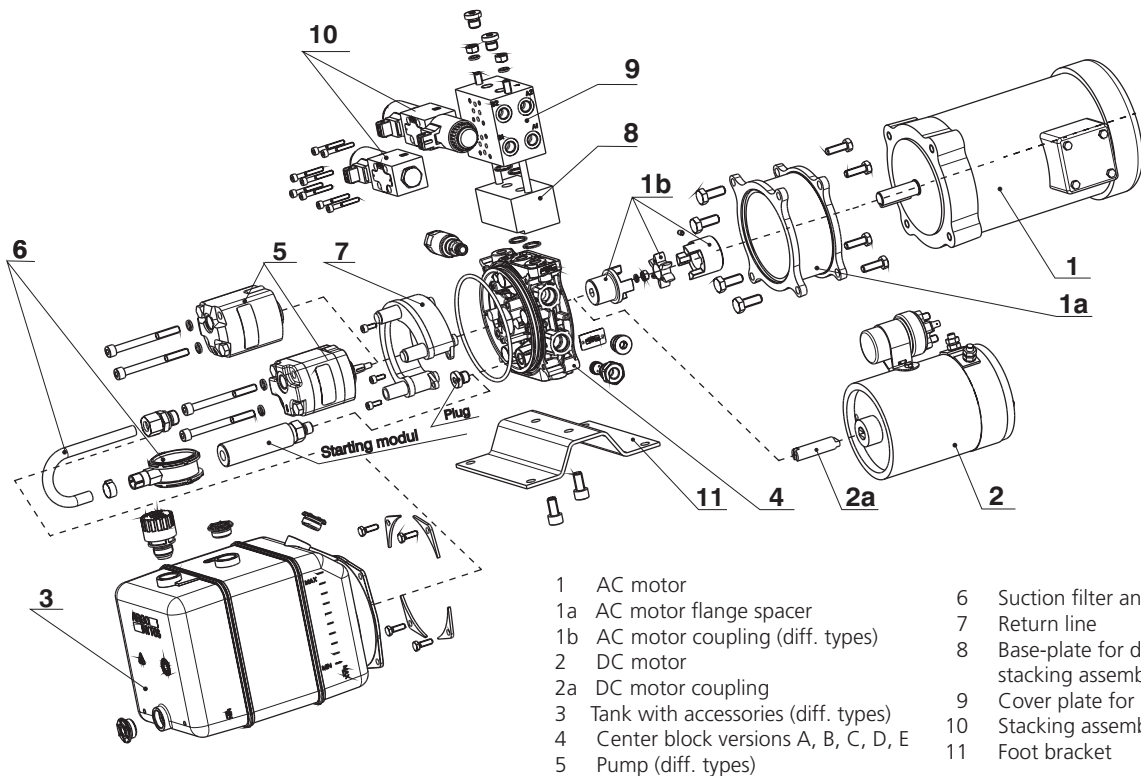
**Configuration E**

With the model RPEK1-03 of the vertical stacking assembly the connecting ports A, B, M are only provided with threads 9/16-18 UNF; SAE J1926-1 (6 SAE)- orientation of ports is evident from the picture.



Code of the tank	71	72	73	74
	A1			
Capacity in US gal [L]	3.17 (12)	5.28 (20)	7.93 (30)	11.62 (44)
Working volume US gal [L]	2.64 (10)	4.23 (16)	6.60 (25)	10.30 (39)
A1	9.53 (242)	11.46 (291)	13.43 (341)	16.69 (424)
A2	12.28 (312)	14.53 (369)	19.33 (491)	20.67 (525)
A3	8.82 (224)	10 (254)	11.42 (290)	12.60 (320)
A4	8.86 (225)	10.63 (270)	12.83 (326)	13.43 (341)
A5	6.10 (155)	7.56 (192)	6.93 (176)	9.49 (241)
A6	4.41 (112)	4.13 (105)	4.53 (115)	4.53 (115)
A7	3.58 (91)	5.35 (136)	6.14 (156)	6.93 (176)
t	M8	M8	M10	M10

USMA05 - Illustration Figure



- 1 AC motor
- 1a AC motor flange spacer
- 1b AC motor coupling (diff. types)
- 2 DC motor
- 2a DC motor coupling
- 3 Tank with accessories (diff. types)
- 4 Center block versions A, B, C, D, E
- 5 Pump (diff. types)
- 6 Suction filter and pipe
- 7 Return line
- 8 Base-plate for different types of stacking assembly
- 9 Cover plate for horizontal stacking
- 10 Stacking assembly valves
- 11 Foot bracket