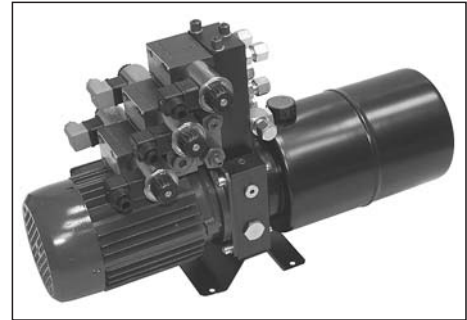
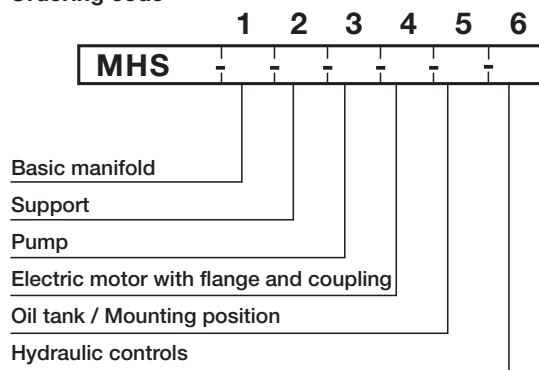


MINI HYDRAULIC POWER PACKS, type MHS

Compact modular design allows wide spectrum of different applications with minimal power pack dimensions. Mini hydraulic power packs are assembled from standard components that are kept on stock. Therefore quick delivery and competitive price is assured. MHS power packs are suitable for intermittent service in lifting clamping, positioning, pressing and other low cycle applications. For cycling applications consult KLADIVAR.

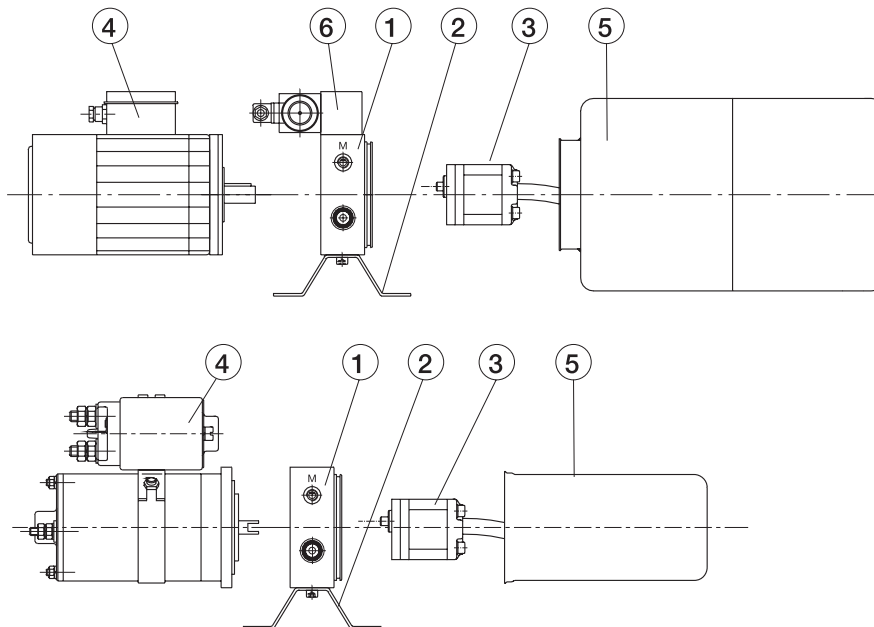


Ordering code

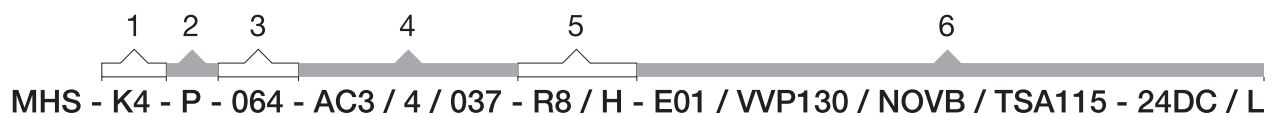


Technical data

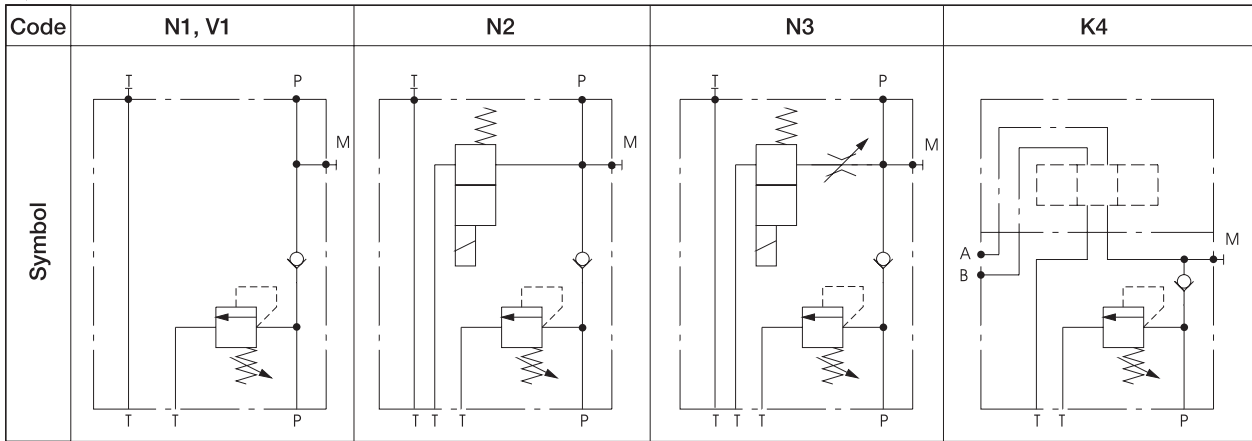
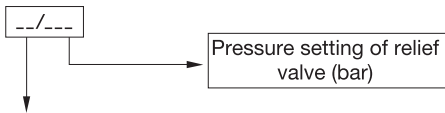
Mounting position	horizontal, vertical
Fixing	thread 2xM8 or support
Threaded connections	G 3/8
Pump type	gear pump
Pump displacement	0,16 - 7,9 ccm/rev
Working pressure	see page 30.1.2 (3. PUMP)
Fluid type	mineral oil HL, HLP (DIN 51524); for other fluid type consult KLADIVAR
Electric motor	AC or DC
Supply voltage	12V DC, 24 DC, 230V AC, 230/400V AC
Motor power	AC to 3kW, DC to 2kW



Order specification example:



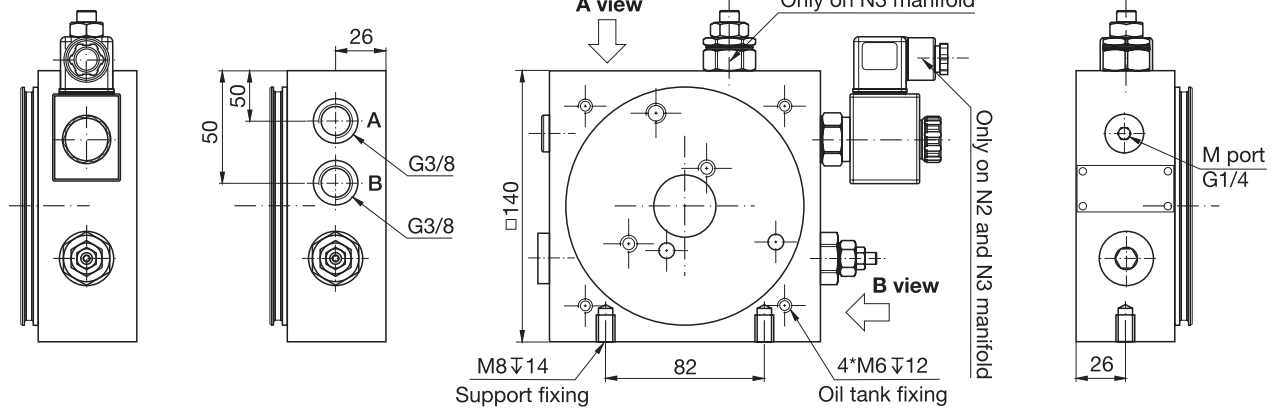
1. BASIC MANIFOLD



B view for N1, N2, N3 and V1 manifold

B view for K4 manifold

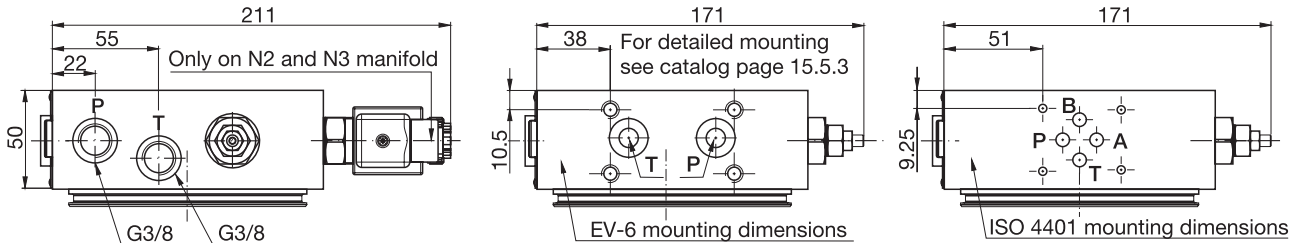
Base view for N1, N2, N3, V1, K4 manifold



A view for N1, N2, N3 manifold

A view for V1 manifold

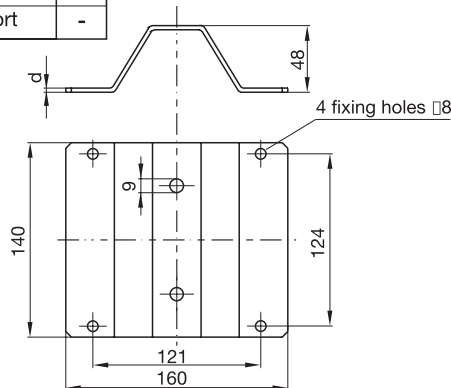
A view for K1 manifold



2. SUPPORT



Code	Note	d
P		2
R	Support as on drawing	4
N	Without support	-



3. PUMP



Note: - Built in 125 µm filter
- Left rotation pump

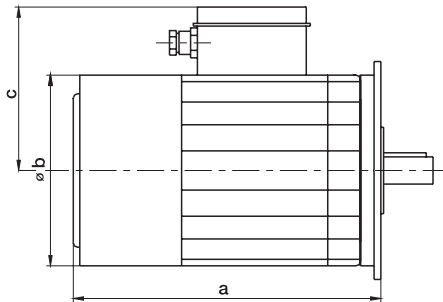
Code	Displacement cm ³	Max. operating press. (bar)	Max. speed (rpm)
016	0,16	260	9000
024	0,24	260	9000
045	0,45	280	9000
056	0,56	280	9000
075	0,75	280	9000
092	0,92	280	6000
126	1,26	280	6000
148	1,48	280	6000
228	2,28	210	5000
250	2,50	275	4000
330	3,30	275	4000
360	3,60	250	4000
430	4,30	210	3500
480	4,80	160	3000
580	5,80	160	3000
620	6,20	150	3000
790	7,90	120	2500

4. ELECTRIC MOTOR WITH FLANGE AND COUPLING

AC motors

---//---

Code	No. of phases	Code	min ⁻¹
AC3	3	4	1500
AC1	1	2	3000



Code = P (kW)		Size (IEC)	Dimensions		
AC 3/4	AC 1		a	b	c
0,12	Consult KLADIVAR	63	205	125	97
0,18					
0,25		71	226	140	105
0,37					
0,55		80	249	154	110
0,75					
1,1					
1,5		90	272	170	121
2,2			297		
3		100	325	193	157

Note:

- * AC motors - 50 Hz; 230/400V - three phases; 230V - one phase.
- * Starting torque of single phase motors is approx. 50% lower than nominal torque.
- * Flange and coupling are included. Dimension a includes flange thickness.

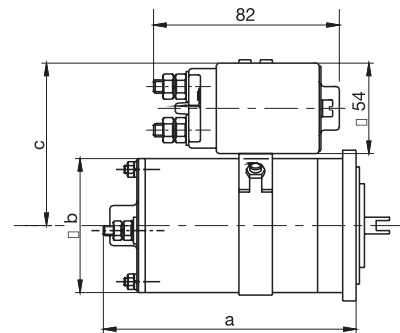
Code = X; Power to be selected by KLADIVAR.

DC motors

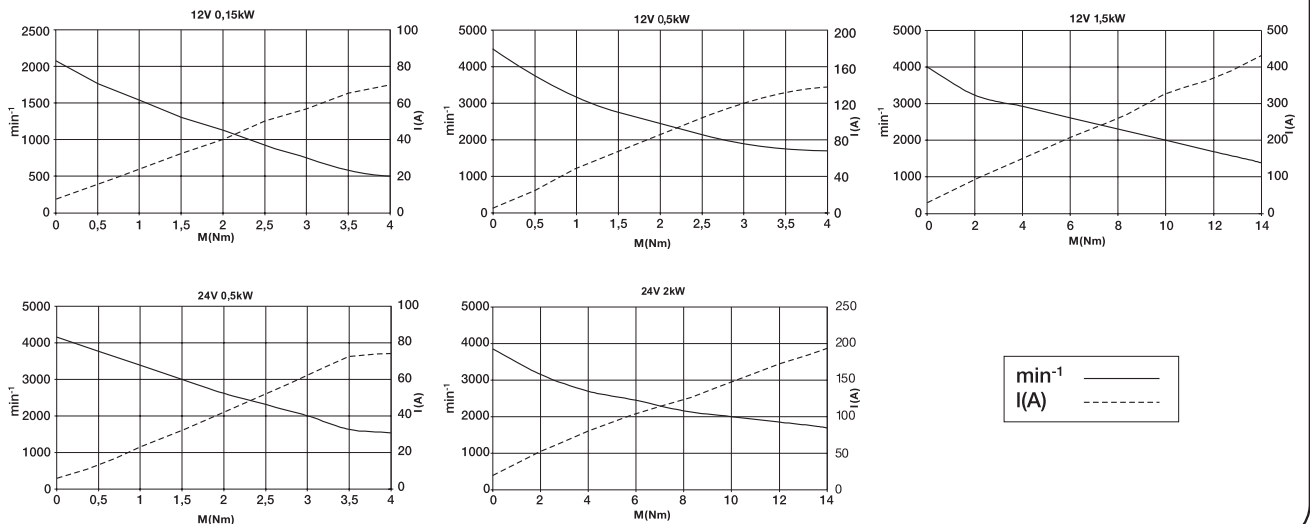
---//---

Code	U(V)	Code	Relay
DC12	12	R	with
DC24	24	N	without

Code = P (kW)		Dimensions		
DC12	DC24	a	b	c
0,5	0,5	158	80	102
1,5	2	188	112	118



Technical data

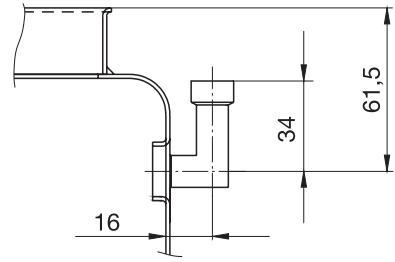


5. OIL TANK / MOUNTING POSITION

---/---

Code	Mount. position
H	Horizontal
V	Vertical

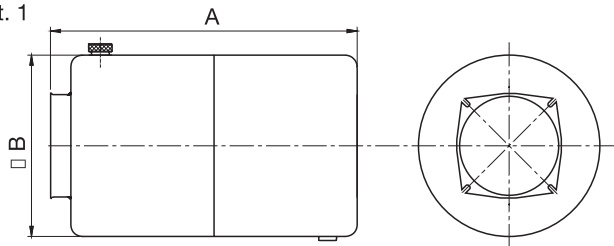
Note: Vertical mounting position is not available for R1.5, R2.5, and RC type.



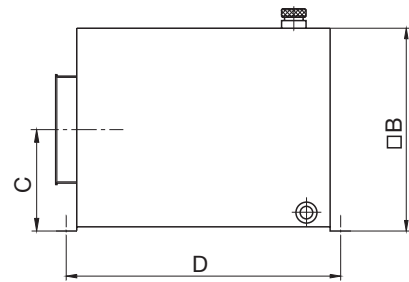
Tank inlet for vertical position.

Code	Vol. (l)	A	B	C	D	E	Pict.
R1,5	1,5	150	130	/	/	/	1
R2,5	2,5	235		/	/	/	1
R5	5	295	174	/	/	/	1
R8	8	419		/	/	/	1
R10	10	262	224	/	/	/	1
R12	12	380		/	/	/	1
RV10	10	280	200	100	305	160	2
RV16	16	300	240	100	325	180	2
RC6	6	280	200	181	210	130	3
RC10	10	340	247	225	250	170	3
RC16	16	368	290	250	270	192	3
RC25	25	490	340	292	326	176	3

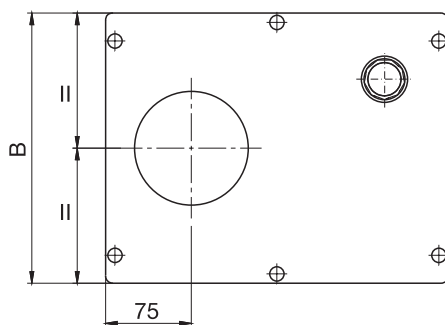
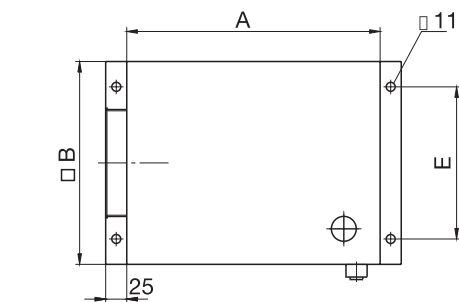
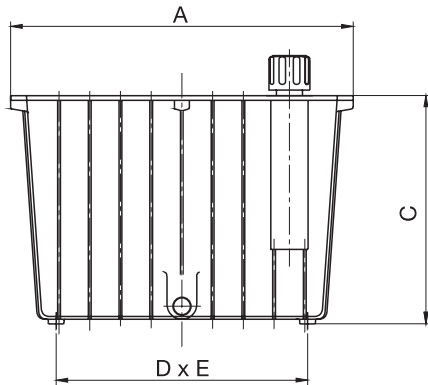
Pict. 1



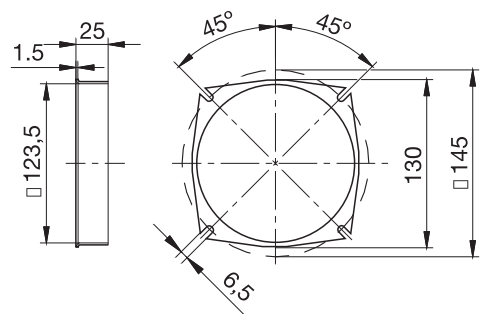
Pict. 2



Pict. 3

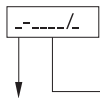


Flange

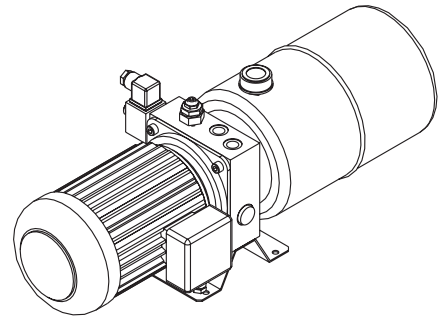


6. HYDRAULIC CONTROLS

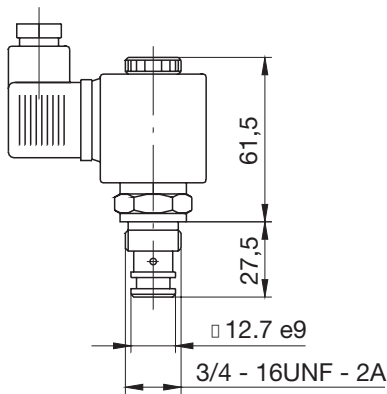
6.1 HYDRAULIC CONTROLS FOR BASIC MANIFOLDS N2 AND N3



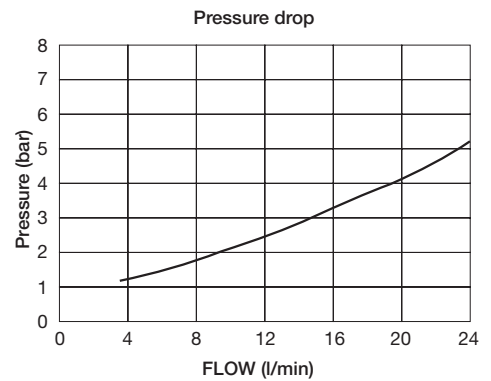
Solenoid supply voltage - see 6.2.3



Code	Symbol	Code	Symbol
A		B	
C		D	



Max. operating pressure 350 bar
flow rate 30 l/min



6.2 HYDRAULIC CONTROLS FOR BASIC MANIFOLDS K4 AND V1

6.2.1 DIRECTIONAL CONTROL VALVES

----/ Add. components - Solenoid supply voltage

Code	Symbol	Code	Symbol
E51A		R51A	
E02A		R02A	
E01		R01	
E02		R02	
E03		R03	
E06		R06	

Code	Symbol
BVA	
BVB	

Note: BVA and BVB are by-pass valves for basic manifold V1.

6.2.2 ADDITIONAL COMPONENTS

Directional control valve /----- - Solenoid supply voltage (see 6.2.3)

Note: X, Y = pressure setting of component (bar); all components are optional

Other components							
Check valve		Throttle / check valve		Pressure relief valve		Pressure switch	
Code	Symbol Description	Code	Symbol Description	Code	Symbol Description	Code	Connected to
NOVD	 VP-NOV-6-D	NDV	 VP-NDV-6	VVPx	 VP-RT-6-EP	One switch	
						TSAx	A
						TSBx	B
NOVA	 VP-NOV-6-EA			VVAx	 VP-RT-6-AE	Two switches	
						TSAxBy	A, B
						TSAPy	A, P
NOVB	 VP-NOV-6-EB	VVBx	 VP-RT-6-EB	TSBxPy	B, B		
				TSPxPy	P, P		
				Symbol			
				VVAxBy	 VP-RT-6-D		

Note:
All other technical details of components are presented in Kladrivar's catalogue "Hydraulics".

6.2.3 SOLENOID SUPPLY VOLTAGE

Directional control valve / Add. components - ----/ -

Code	Supply voltage
12DC	12V DC
24DC	24V DC
110AC	110V AC
230AC	230V AC

Code	Signal lamp
L	with
N	without

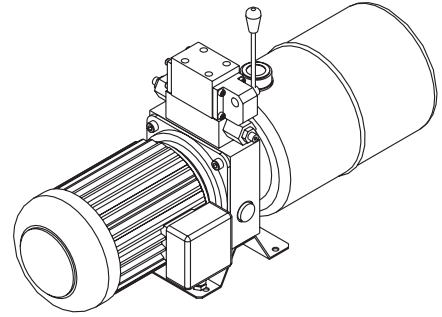
Note:
Plug-in connectors are enclosed.

BASIC MANIFOLD K4

Vertical stacking of one directional control valve with additional componets.

Ordering code

Directional control valve (1.1) / Additional components (1.2/1.3...) - Solenoid supply voltage.



Example for K4

1	1.1	E01	1.2	VVP130	1.3	NOVB	1.4	TSA115	1.5	
Pos.	Directional control valve		Additional components							

Ordering example:

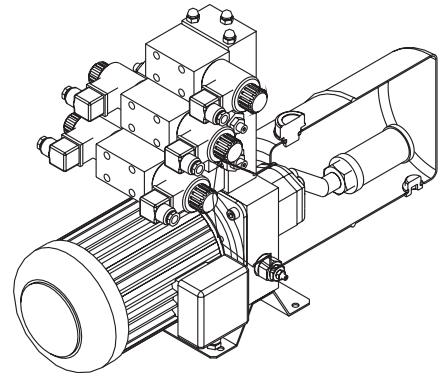
E01 / VVP130 / NOVB / TSA115 / ... - 24DC / L

BASIC MANIFOLD V1

Horizontal and vertical stacking up to four directional control valves with additional components.

Ordering code

Directional control valve (1.1) / Additional components (1.2/1.3...) -
Directional control valve (2.1) / Additional components (2.2/2.3...) -
Solenoid supply voltage.



Example for V1

4	4.1	...	4.2	...	4.3	...	4.4	...	4.5	...
3	3.1	...	3.2	...	3.3	...	3.4	...	3.5	...
1	2.1	E03	2.2	VVP130	2.3	NOVB	2.4	...	2.5	...
1	1.1	E01	1.2	VVP130	1.3	NOVB	1.4	TSA115	1.5	...
Pos.	Directional control valve		Additional components							

Note: First row (pos. 1) is nearest to the basic manifold.

Ordering example:

E01 / VVP130 / NOVB / TSA115 / ... - E03 / VVP130 / NOVB / ...-... / ... / ... / ... -24DC / N

7. Other requirements

Other requirements should be described in writing, hydraulic circuit or drawing.