MONOBLOCK DIRECTIONAL CONTROL VALVE TYPE RM40

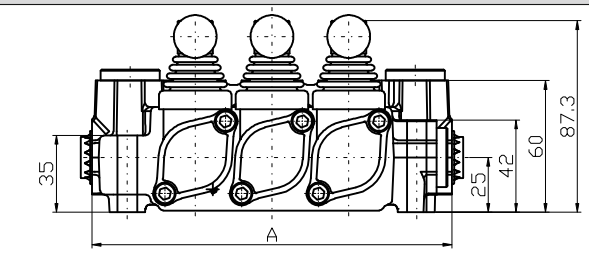
GENERAL DESCRIPTION

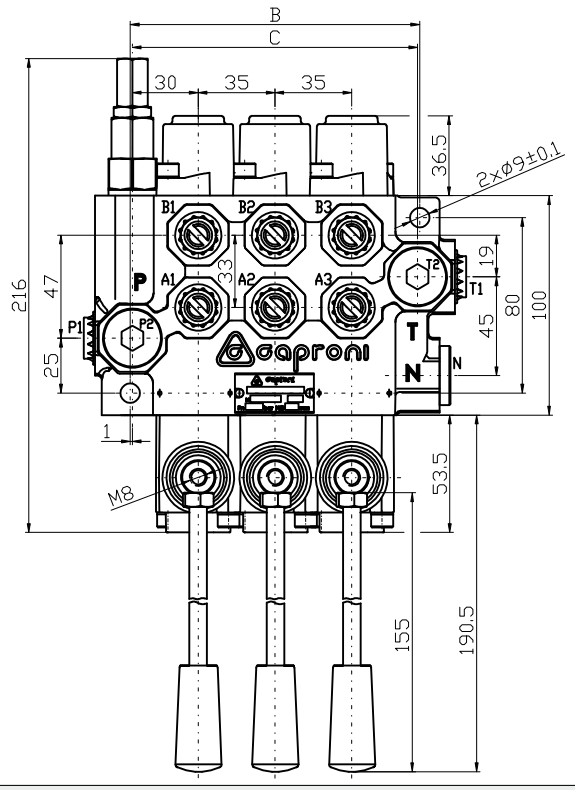
Hydraulic valve RM40 provides change of fluid flow direction , hydro-systems pressure restriction , pump unloading in neutral position of the spools. The valve RM40 is designed to be integrated in hydraulic systems of Mobile and Industrial Machines.
The valve assembly consists of:
A body with integrated relief and check valves, spools , control and spring-centering group of the spools. The valve RM40 provides parallel distribution of the working liquid and direct passing of the flow from the pump line to the tank at neutral position (open center). Options “closed centre” and “carry over” are possible with additional adapters. There are different control options: spring–centering in “neutral” position, detent, automatic kick-out, hydraulic and electro-hydraulic control.

TECHNICAL DATA

Rated flow	40 l/min
Max. pressure	P=250 bar; T=50 bar; A,B= 300 bar
Spool stroke	±6 mm
Working temperature range	-15...+80 °C
Working liquid	hydraulic oil HLP DIN51524
Liquid viscosity	15...300cSt
Nominal filtration	ISO4406: 19/16 (recommended filter element - 0,025mm mesh)
Internal leakage at 120 bar , t=40°C and viscosity 46cSt	max. 8cm³/min; max 2cm³/min (special version)
Actuating force	less than 200N

DIMENSIONS

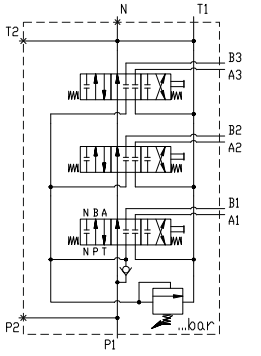




RM40P/03/Q/3x/1CLA1/R/P1T1/G/N

Type	A	B	C	Weight, kg
RM40	87	62	-	2.6
RM40P/02	129	97	95	4.4
RM40P/03	164	132	130	5.9
RM40P/04	199	167	165	7.3
RM40P/05	234	202	200	8.8
RM40P/06	269	237	235	10.3
RM40P/07	304	272	270	11.8
RM40P/08	339	307	305	134

STANDARD PARALLEL CIRCUIT



ORDERING CODE

RM40P **E** **HI** / **0** **3** / **Q** / **1** **CL** **A** **1** **E1**** / **R** / **P1T1** / **G** / **N**

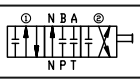
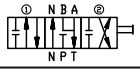
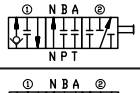
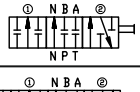
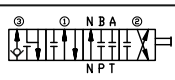
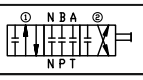
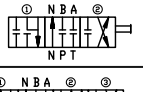
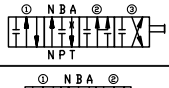
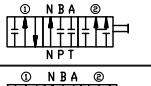
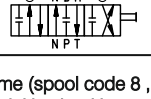
parallel connection *for RM40 - omit*

type of control	Code
without control	omit
On-Off internal electro-hydraulic	EHI
On-Off external electro-hydraulic	EHE
On-Off electro-pneumatic	EPC
On-Off hydraulic	HC
On-Off pneumatic	PC

common check valve	Code
with check valve *for RM40 - omit*	0
without check valve	N

number of the spools *for RM40 - omit*

relief valve	Code
setting range 5...250bar (example of required settings 180bar)	Q Q180
shut-off plug installed	K

spools	Code
	1
	2
	3
	4
	5
	6
	7
	8*
	10*
	11*
	12
	13

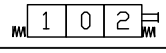
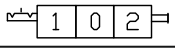
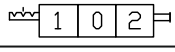
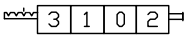
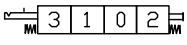
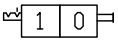
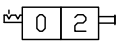
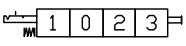
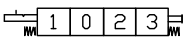
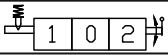
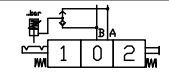
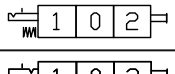
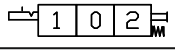
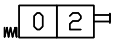
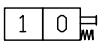
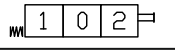
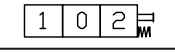
* The scheme (spool code 8 , 10 and 11) needs special body with extra machining.

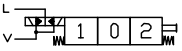
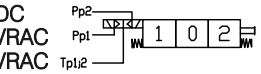
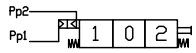
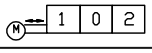
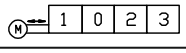
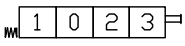
standard port threads			
Code	P1 , P2	A , B	T1 , T2 , N
M	M22x1,5-6H	M18x1,5-6H	M22x1,5-6H
G	G1/2”-A	G3/8”-A	G1/2”-A
U	7/8-14UNF-2B	3/4-16UNF-2B	7/8-14UNF-2B
G1/2	G1/2"-A		

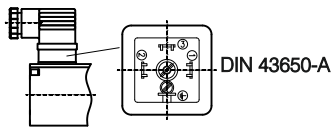
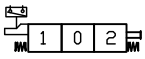
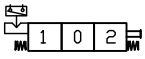
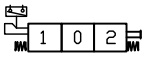
Code	application
N	normal
T	tropical

Code	hydraulic power output
R	open center (port N connected to T - short plug)
W	closed center (port N plugged - long plug)
C	carry over (port N - with power beyond sleeve)
CS	short carry over connection

Code	used conn. ports
P1T1	P1 and T1
P1T2	P1 and T2
P2T1	P2 and T1
P2T2	P2 and T2

Code	spool control
1	
2	
3	
4	
5	
6	
7	
9	
10	
R***	
11*	 Adjustment range of automatic kick-out feature - 60...180bar
12	
13	
14	
15	
16	
17	

Code	spool control
20-12 20-24 20-11 20-22	12VDC 24VDC 110VRAC 220VRAC ON-OFF EHI & EHE 
30-12 30-24 30-11 30-22	12VDC 24VDC 110VRAC 220VRAC ON-OFF EPC 
32	ON-OFF HC & PC 
SD1	
SD10	
19	

Code	micro switch: max. current/voltage - 5A/250V AC protection - IP67 contact configuration
Code	 DIN 43650-A
omit	without microswitch
E1	
E2	
E3	

* The kit (spool control code 11) needs special spool.

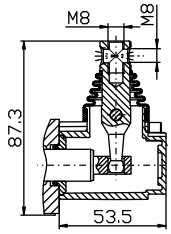
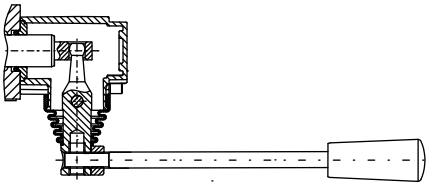
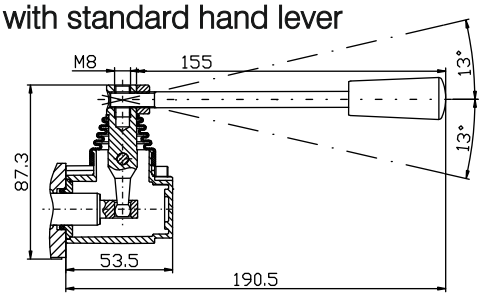
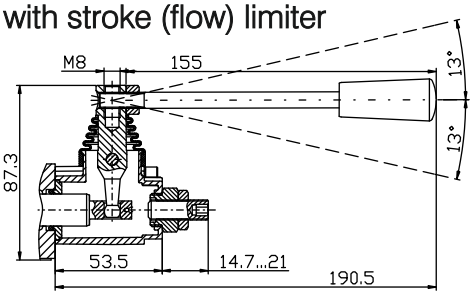
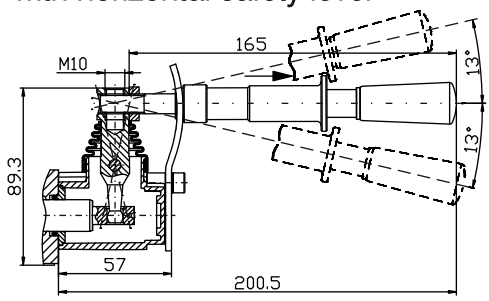
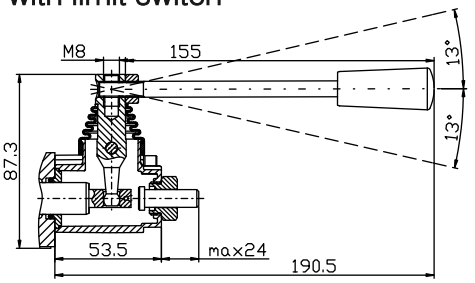
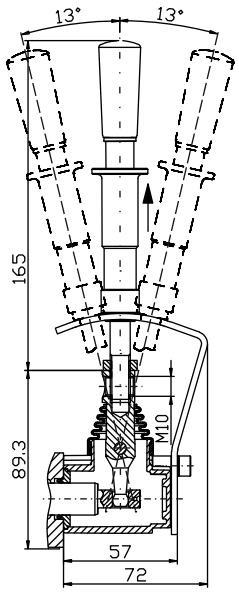
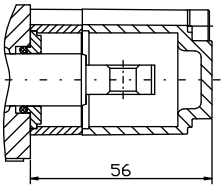
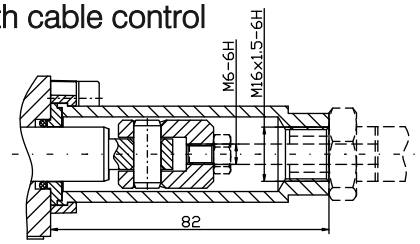
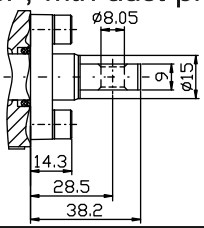
Code	operation control
C CL CLO CLR CLS CP H Z	see page 3/6
J...	see page 4/6

Code	lever position
A	at port side A (standard)
B	at port side B

** Repeat for each spool. In case of Identical spools example ordering code is:
RM40P / 03 / Q / 3x / 1CL A1 / R / P1T1 / G / N

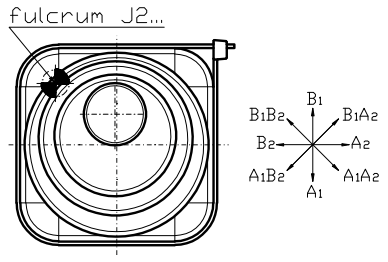
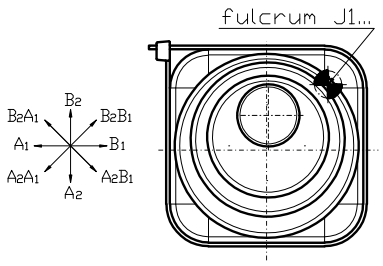
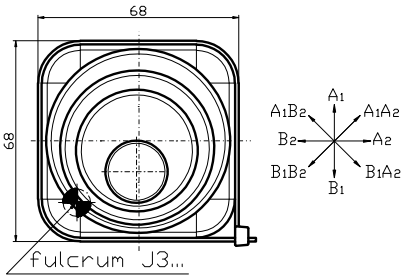
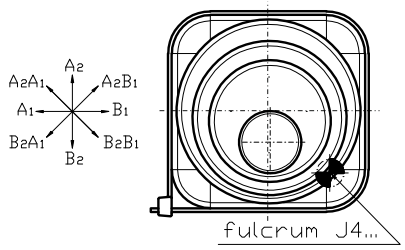
*** See page 6/6

OPERATION CONTROL

operation control	Code	operation control	Code
without standard hand lever 	C	with standard hand lever at 180° 	CLO
with standard hand lever 	CL	with stroke (flow) limiter 	CLR
with horizontal safety lever 	SHL	with limit switch 	CLS
with vertical safety lever 	SVL	with protection cap 	CP
		with cable control  Cables , single levers and joystick controls - on request	H
		without lever , with dust-proof plate 	Z

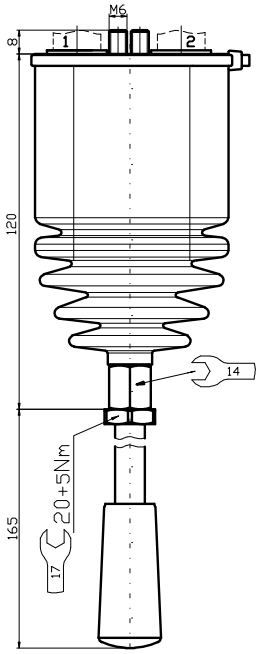
OPERATION CONTROL

Working scheme by assembly on the side of threaded ports A (standard)

	Code		Code
	J2...		J1...
	J3...		J4...

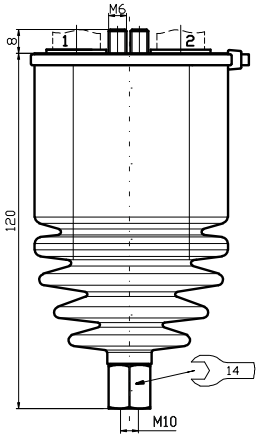
joystick
with standard hand lever

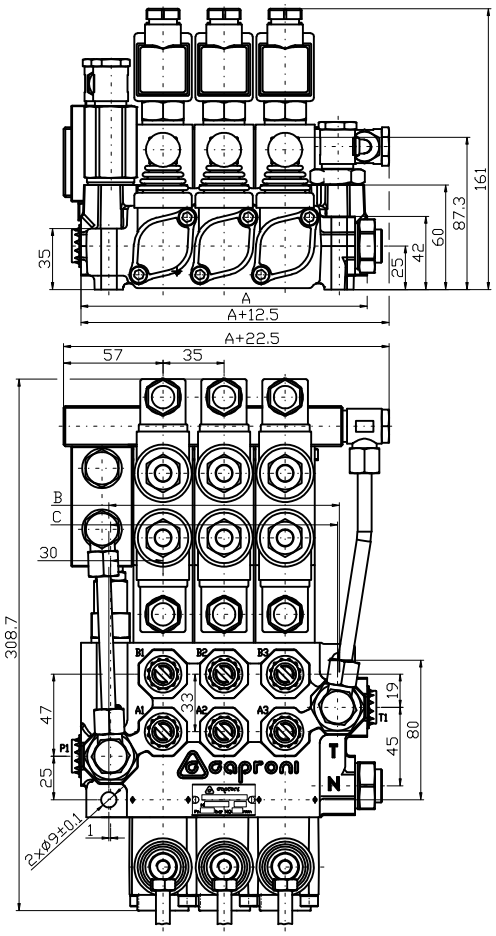
Code: J1L ; J2L ; J3L ; J4L



joystick
without standard hand lever

Code: J1 ; J2 ; J3 ; J4



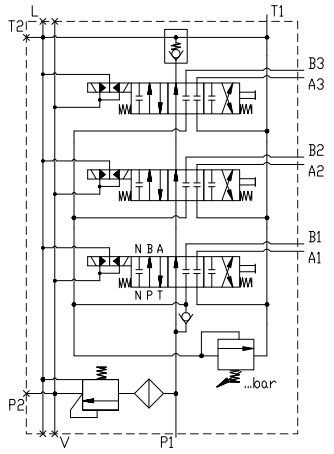


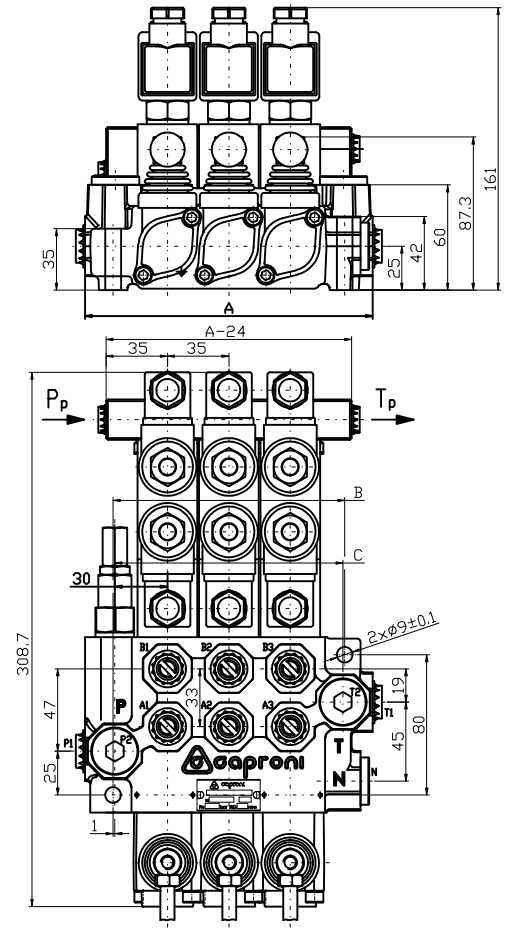
RM40PEHI/03/Q/3x/1CLA20-24/R/P1T1/G/N

On/Off electrohydraulic control (internal)
operating features:

Pilot pressure - 10...50 bar
Max. pilot flow - 8 l/min
Filtration - 25 μm
Coil - 18W , duty cycle ED 100%
Voltage options - 12V DC , 24V DC ,
110V RAC , 220V RAC
Integrated back pressure valve

Scheme



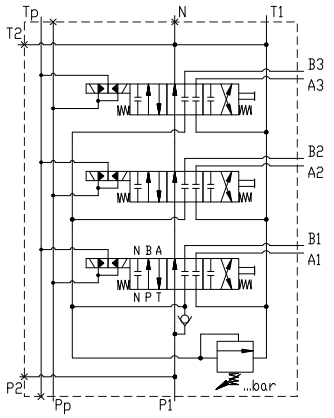


RM40PEHE/03/Q/3x/1CLA20-24/R/P1T1/G/N

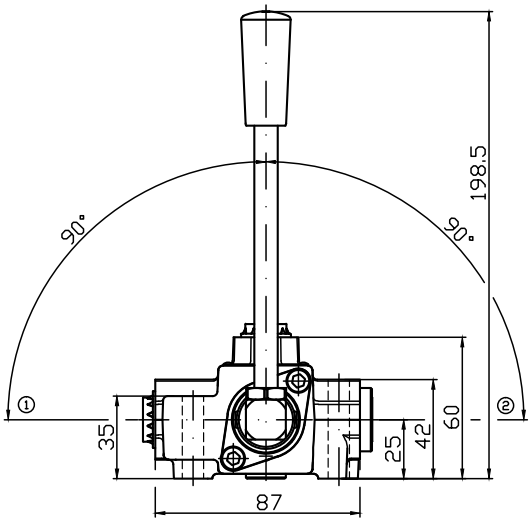
On/Off electrohydraulic control (external)
operating features:

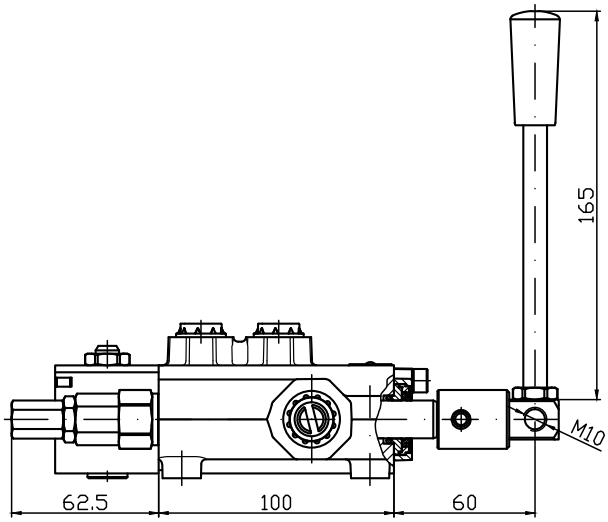
Pilot pressure Pp - 10...50 bar
Max. pilot flow - 8 l/min
Filtration - 25 μm
Coil - 18W , duty cycle ED 100%
Voltage options - 12V DC , 24V DC ,
110V RAC , 220V RAC
Pp , Tp - G1/4

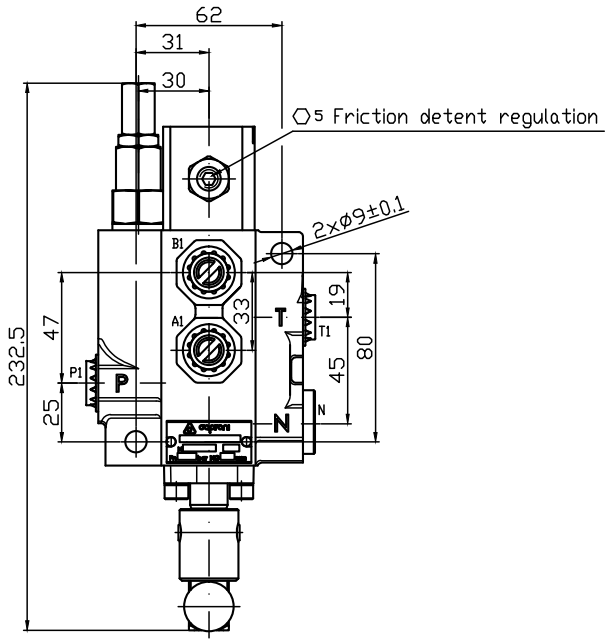
Scheme



RM40/Q/1LPRZRLAR/R/P1T1/G/T







Rotary control valve:
Smooth positioning the rotary lever in a set position by friction detent with notch in the neutral position
The rotary control valve provide good speed control for hydraulic motors (winch applications).
Available for marine applications – stainless steel spool and lever, all other parts – painted.

Scheme

