

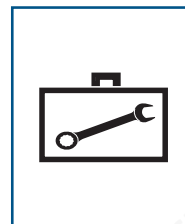


HC-M45
Monoblock valve

| Dealer catalogue HC-M45

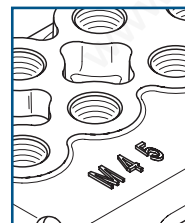


General specifications



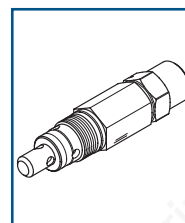
3

Standard arrangement



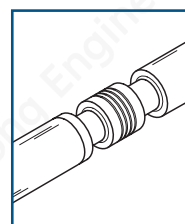
6

Inlet arrangement



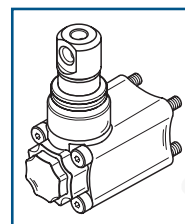
12

Spool type



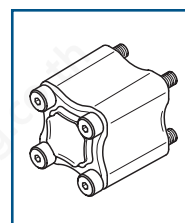
14

Spool actuation



17

Spool return action



19

**| Dealer catalogue HC-M45**

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Standard working conditions

operating temperature	-25°C / +80°C
kinematic viscosity	10 mm ² /s - 460 mm ² /s
contamination level	NAS 1638 classe 9 (19/16 ISO-4406)
filtration level	β 10 > 75



general specifications



Fluid compatybility

Type of Fluid	Tmin(C°)	Tmax(C°)	Gasket (NBR)	Gasket (VITON*)
Mineral oil HPL (DIN 51524)	-25	+80	•	•
Oil in water emulsion HFA*	+5	+55	•	•
Water in oil emulsion HFB*	+5	+55	•	•
Polyglycol based HFC*	-25	+60	•	•
Ester of phosphoric HCD*	-20	+150	•	•

(*) : for this application, please contact our technical sales office.

NBR : nitrile rubber compatible with mineral-bases oils ASTM 1.

VITON : fluorinated elastomer for use at high temperature, compatible with fluids ASTM 1 and ASTM 3.

Conversion factors

Measures angle irons	1°	=	0,0174 rad	1 rad	=	57,47°
	1 rpm	=	0,1047 rad/s	1 rad/s	=	9,55 rpm
Linear measures	1 mm	=	0,03947 in	1 in	=	25,4 mm
	1 m	=	3,281 ft	1 ft	=	0,304 m
Superficial measures	1 mm ²	=	0,00155 in ²	1 in ²	=	645 mm ²
	1 m ²	=	10,76 ft ²	1 ft ²	=	0,093 m ²
Mass measures	1 kg	=	2,205 lbm	1 lbm	=	0,453 kg
	1 q	=	100 kg	1 t	=	1000 kg
Force measures	1 Nm	=	0,1020 kgf	1 kgf	=	9,8067 Nm
	1 Nm	=	0,2248 lbf	1 lbf	=	4,45 Nm
Volumetric measures	1 l	=	0,001 m ³	1 m ³	=	1000 l
	1 gal uk	=	4,54 l	1 l	=	0,22 gal uk
	1 gal us	=	3,78 l	1 l	=	0,26 gal us
Pressure measures	1 bar	=	100000 Pa	1 Pa	=	0,00001 bar
	1 bar	=	14,5 psi	1 psi	=	0,0689 bar
	1 MPa	=	10 ⁶ N/mm ²	1 N/mm ²	=	10 ⁻⁶ MPa

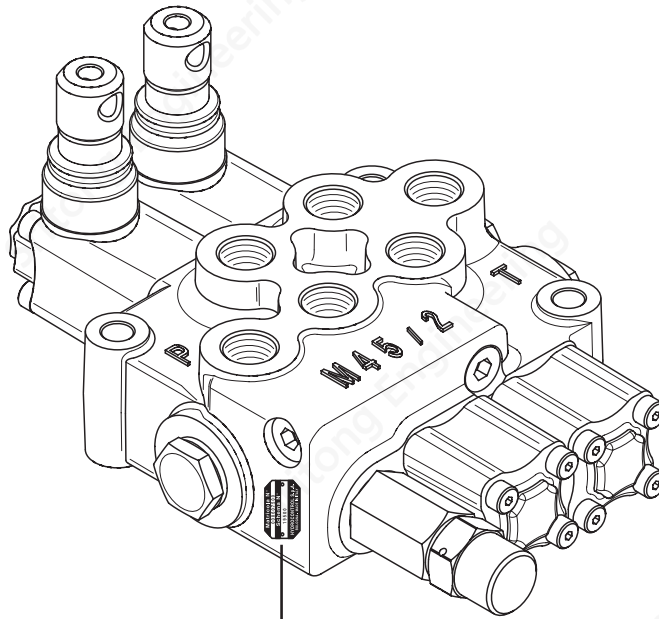


plate



| Product identification

An identification plate is put on every HC-M45 monoblock valve.



→ serial number

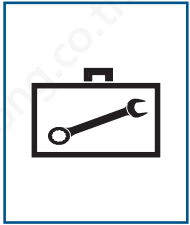
→ ordination code

Technical specifications

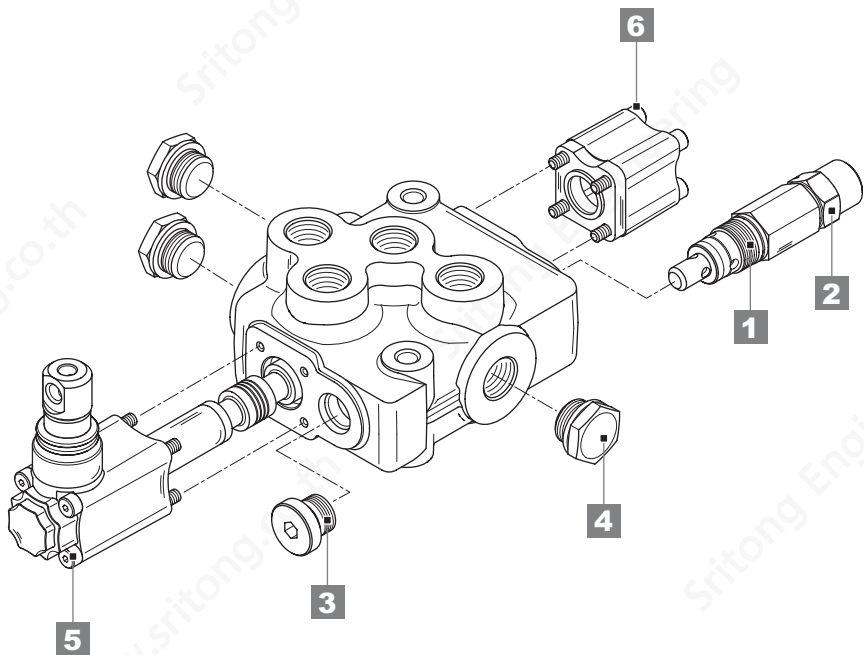
flow rate	45 l/min
pressure rate	350 bar
max pressure in (T)	20 bar
working section number	1 - 6
spool stroke	5 + 5 mm
spools pitch	35 mm



general specifications



General clamping torque



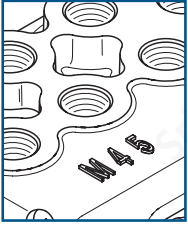
1	Pressure relief valve body	80 Nm
2	Pressure relief valve cap	20 Nm
3	Check valve	80 Nm
4	Fittings in service ports P-A-B-T	see table A
5	Allen screw (spool actuation side)	6 Nm
6	Allen screw (spool return action side)	6 Nm

Table A

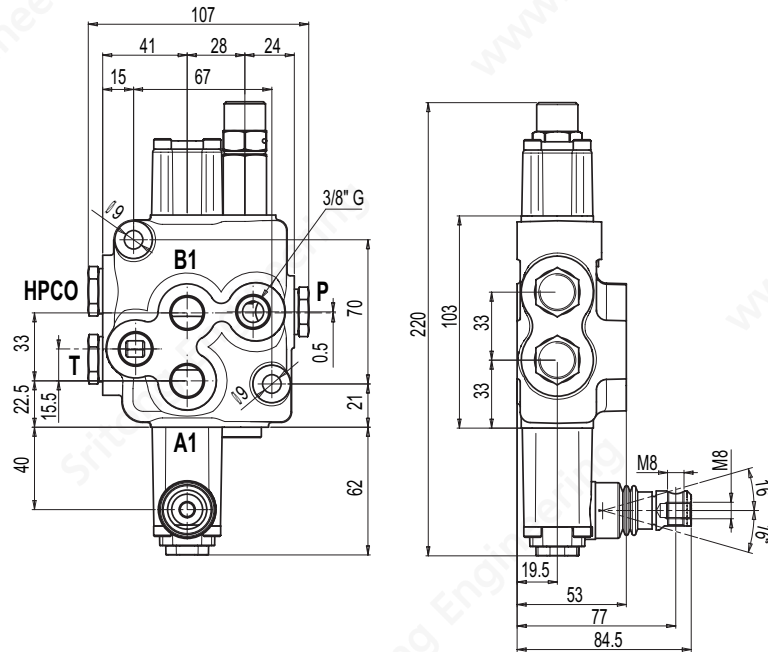
G03	3/8" BSP	40 Nm
U03	3/4"-16 UNF	40 Nm



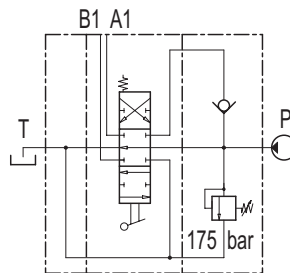
HC-M45/1



| Dimensional drawing



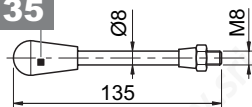
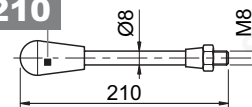
| Hydraulic schema



| Lever identification

ordering code: 430503001

ordering code: 430503002

ZA M8 135**ZA M8 210**

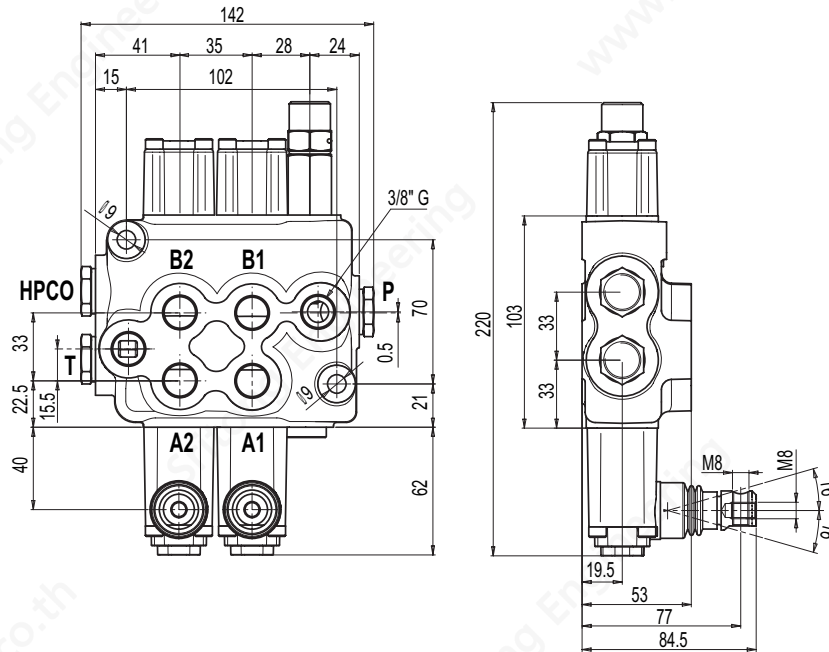
ordering code: XXXXX SAE ports

Main relief valve setting	175 bar
Inlet P	3/4" - 16 UNF
Outlet T - HPCO	3/4" - 16 UNF
A and B work ports	3/4" - 16 UNF

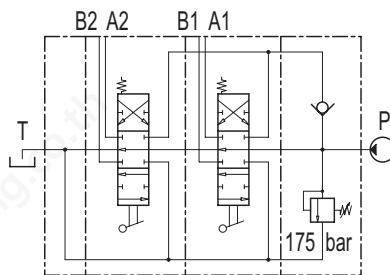
ordering code: 44195 BSP ports

Main relief valve setting	175 bar
Inlet P	3/8" BSP
Outlet T - HPCO	3/8" BSP
A and B work ports	3/8" BSP

Dimensional drawing



Hydraulic schema

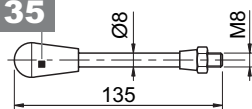


Lever identification

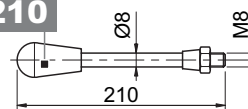
ordering code: 430503001

ordering code: 430503002

ZA M8 135



ZA M8 210



ordering code: XXXXX SAE ports

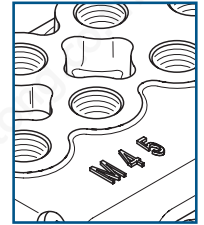
Main relief valve setting	175 bar
Inlet P	3/4" - 16 UNF
Outlet T - HPCO	3/4" - 16 UNF
A and B work ports	3/4" - 16 UNF

ordering code: 44196 BSP ports

Main relief valve setting	175 bar
Inlet P	3/8" BSP
Outlet T - HPCO	3/8" BSP
A and B work ports	3/8" BSP

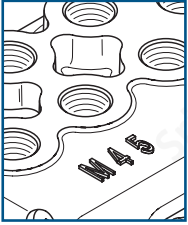


HC-M45/2

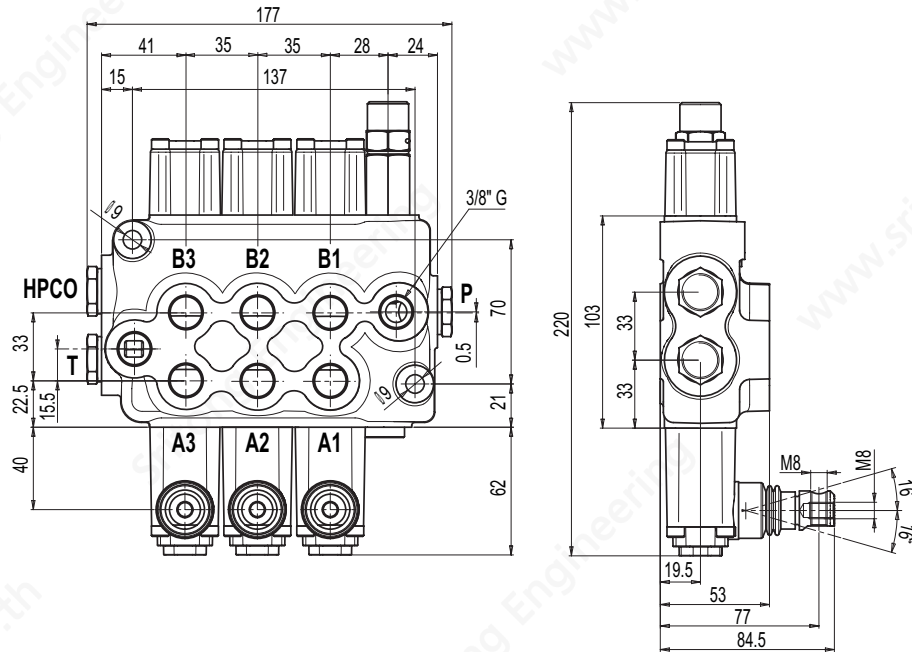




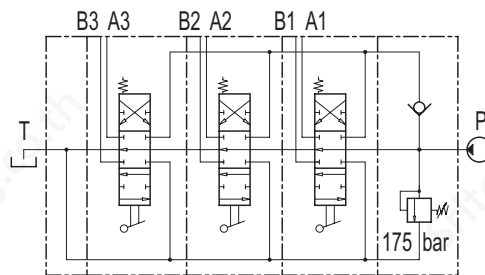
HC-M45/3



| Dimensional drawing



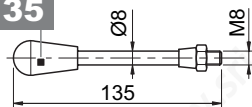
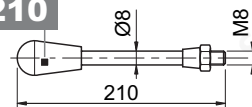
| Hydraulic schema



| Lever identification

ordering code: 430503001

ordering code: 430503002

ZA M8 135**ZA M8 210**

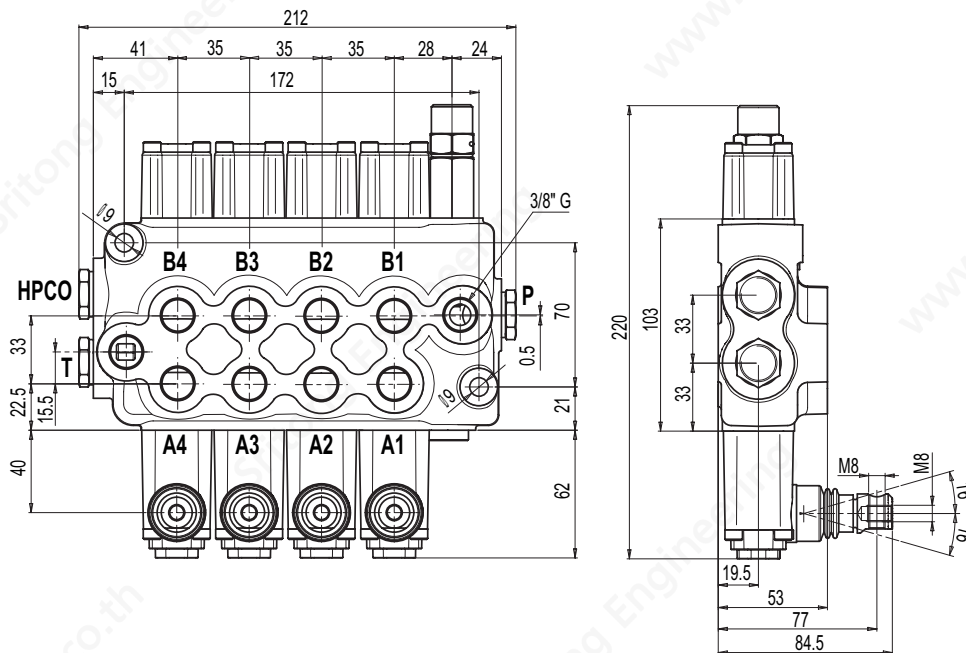
ordering code: XXXXX SAE ports

Main relief valve setting	175 bar
Inlet P	3/4" - 16 UNF
Outlet T - HPCO	3/4" - 16 UNF
A and B work ports	3/4" - 16 UNF

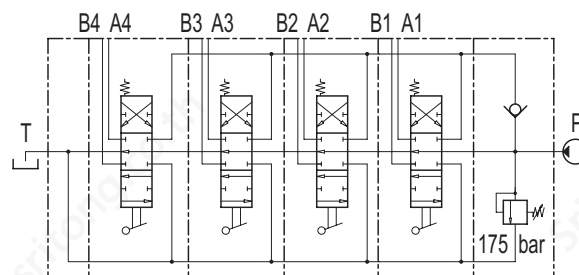
ordering code: 45153 BSP ports

Main relief valve setting	175 bar
Inlet P	3/8" BSP
Outlet T - HPCO	3/8" BSP
A and B work ports	3/8" BSP

Dimensional drawing



Hydraulic schema

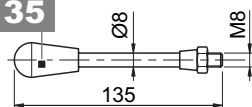


Lever identification

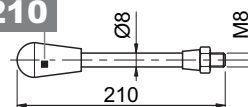
ordering code: 430503001

ordering code: 430503002

ZA M8 135



ZA M8 210



ordering code: XXXXX SAE ports

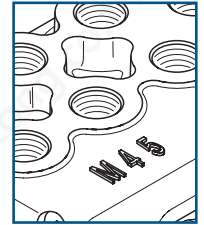
Main relief valve setting	175 bar
Inlet P	3/4" - 16 UNF
Outlet T - HPCO	3/4" - 16 UNF
A and B work ports	3/4" - 16 UNF

ordering code: 45158 BSP ports

Main relief valve setting	175 bar
Inlet P	3/8" BSP
Outlet T - HPCO	3/8" BSP
A and B work ports	3/8" BSP

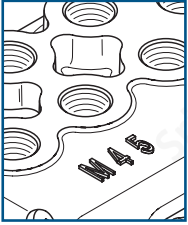


HC-M45/4

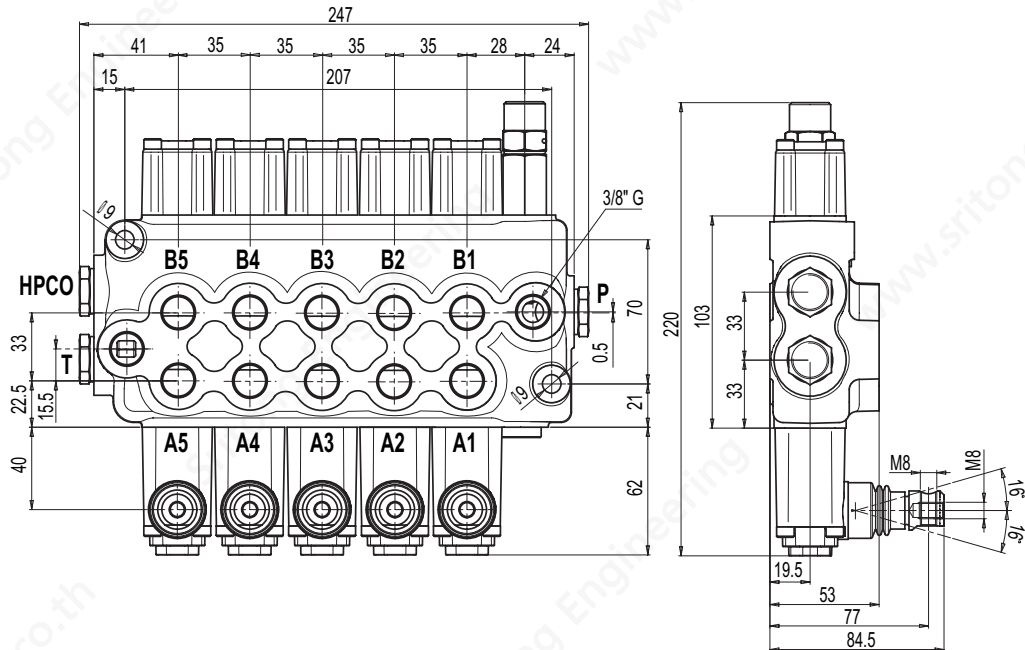




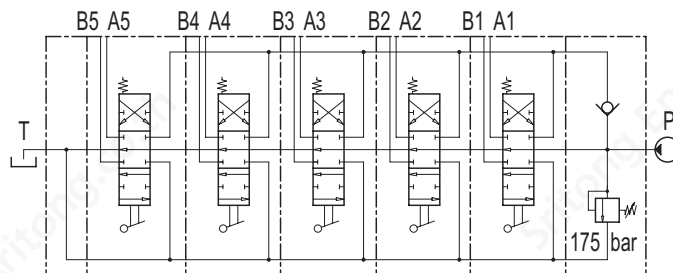
HC-M45/5



| Dimensional drawing



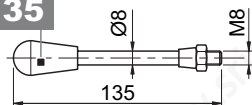
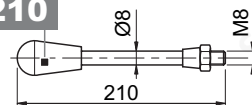
| Hydraulic schema



| Lever identification

ordering code: 430503001

ordering code: 430503002

ZA M8 135**ZA M8 210**

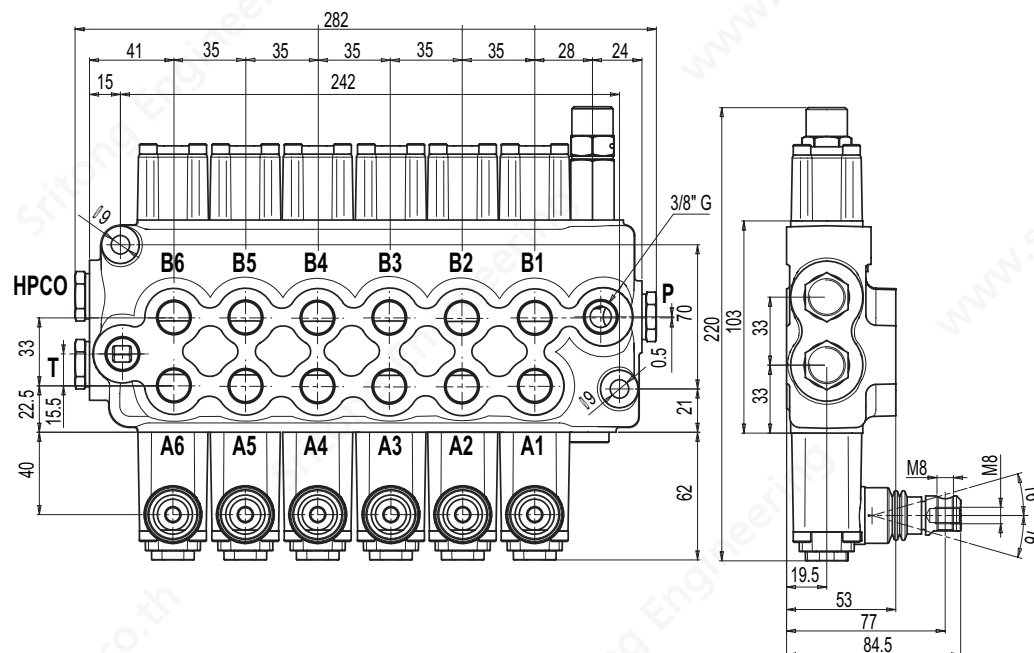
ordering code: XXXXX SAE ports

Main relief valve setting	175 bar
Inlet P	3/4" - 16 UNF
Outlet T - HPCO	3/4" - 16 UNF
A and B work ports	3/4" - 16 UNF

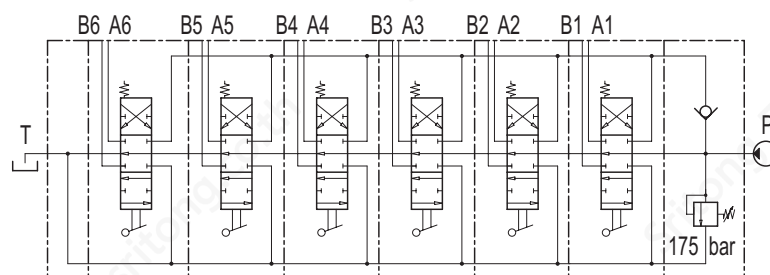
ordering code: 45160 BSP ports

Main relief valve setting	175 bar
Inlet P	3/8" BSP
Outlet T - HPCO	3/8" BSP
A and B work ports	3/8" BSP

Dimensional drawing



Hydraulic schema

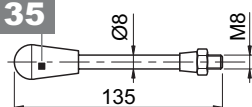


Lever identification

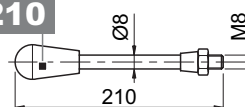
ordering code: 430503001

ordering code: 430503002

ZA M8 135



ZA M8 210



ordering code: XXXXX SAE ports

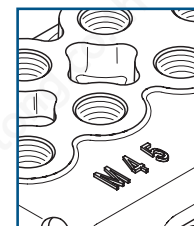
Main relief valve setting	175 bar
Inlet P	3/4" - 16 UNF
Outlet T - HPCO	3/4" - 16 UNF
A and B work ports	3/4" - 16 UNF

ordering code: XXXXX BSP ports

Main relief valve setting	175 bar
Inlet P	3/8" BSP
Outlet T - HPCO	3/8" BSP
A and B work ports	3/8" BSP

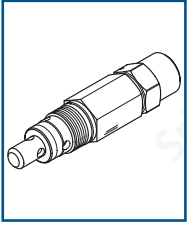


HC-M45/6

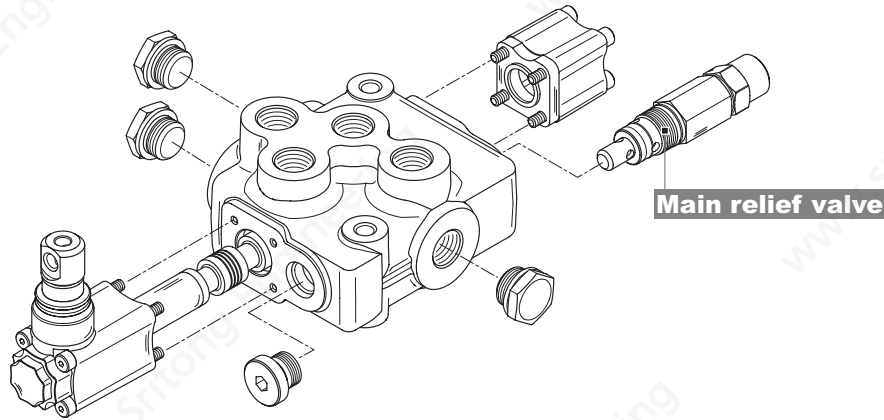
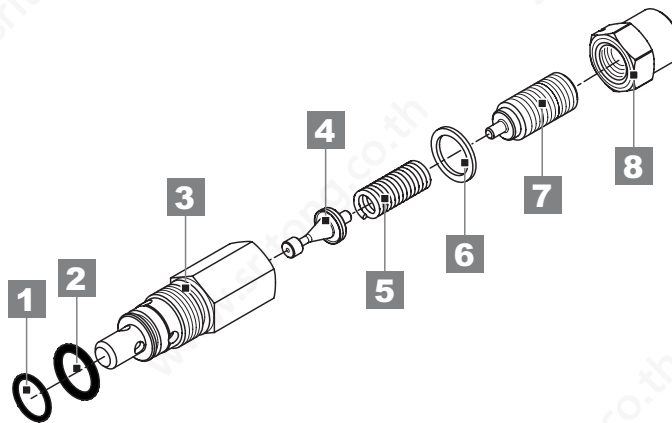




IR 301

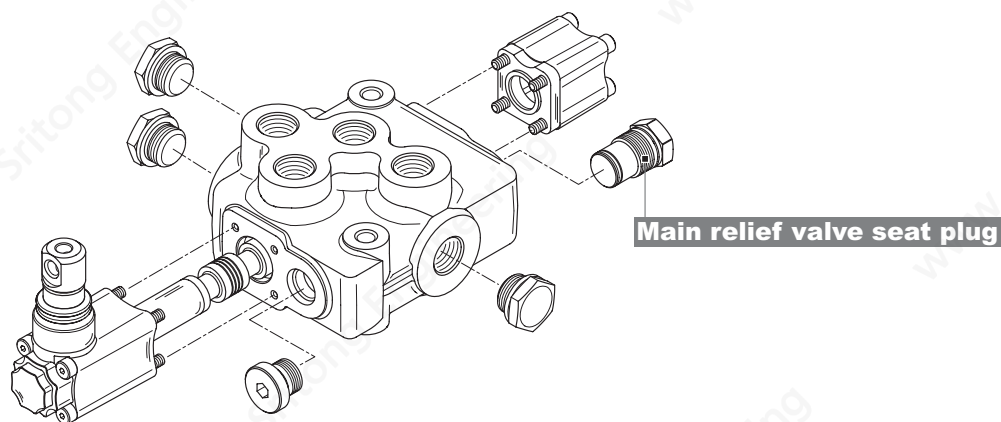


| Main relief valve

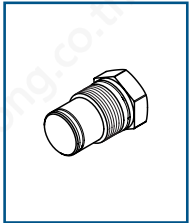
ordering code: **915027201** Setting (10/ 40 bar)ordering code: **915027202** Setting (41/ 70 bar)ordering code: **915027203** Setting (71/130 bar)ordering code: **915027204** Setting (131/210 bar)ordering code: **915027205** Setting (211/350 bar)

Pos.	Description	Q.ty	Dimensions	Ordering code
1	O-ring	1	V1-1284 P5008 (14 x 1,78)	412030108
2	O-ring	1	70 SH (15,10 x 2,70)	412010701
3	Relief valve body	1		
4	Piston	1		
5	Spring (10 / 40 bar)	1		421803017
	Spring (41 / 70 bar)	1		421803030
	Spring (71 / 130 bar)	1		421803090
	Spring (131 / 210 bar)	1		421803091
	Spring (211 / 350 bar)	1		421803092
6	Copper gasket	1	14 x 20 x 1,5	412041402
7	Register	1		
8	Plug	1		

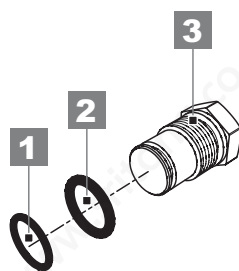
| Main relief valve seat plug



IR 303



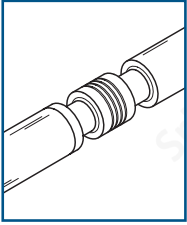
ordering code: 430172001



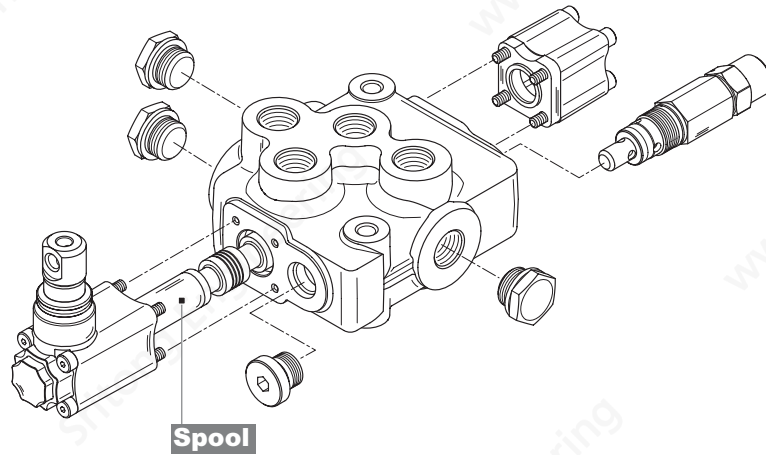
Pos.	Description	Q.ty	Dimensions	Ordering code
1	O-ring	1	V1-1284 P5008 (14 x 1,78)	412030108
2	O-ring	1	70 SH (15,10 x 2,70)	412010701
3	Plug	1		



spools



| Double acting spool



ordering code: **421272002**

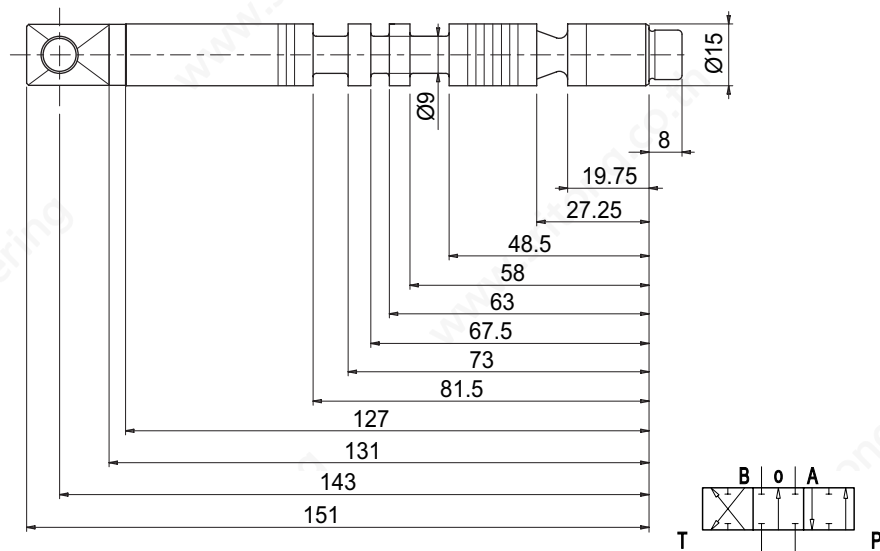
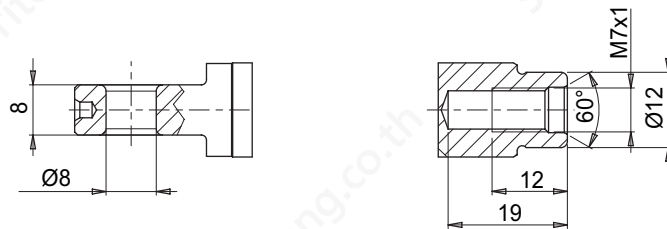
W001A = 3 positions double-acting (Q = 45 l/min)

ordering code: **421272001**

W001B = 3 positions double-acting (Q = 30 l/min)

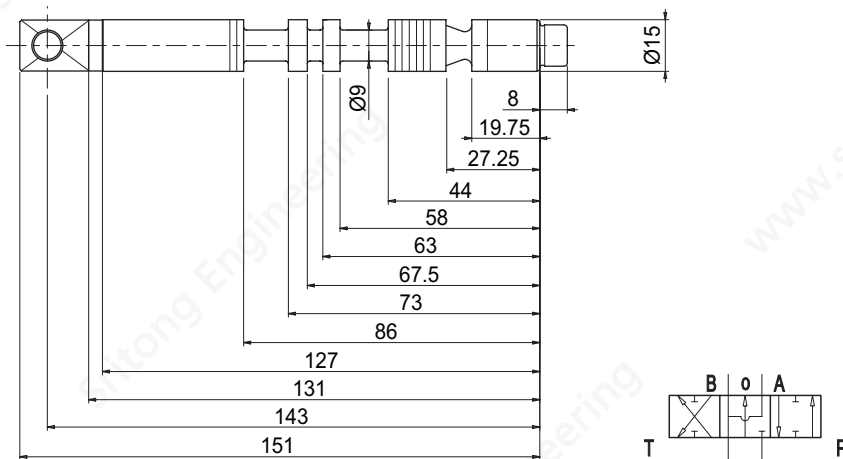
ordering code: **421272003**

W001C = 3 positions double-acting (Q = 15 l/min)

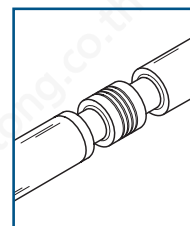


ordering code: **421272004**

W002A = 3 positions double-acting A and B to tank

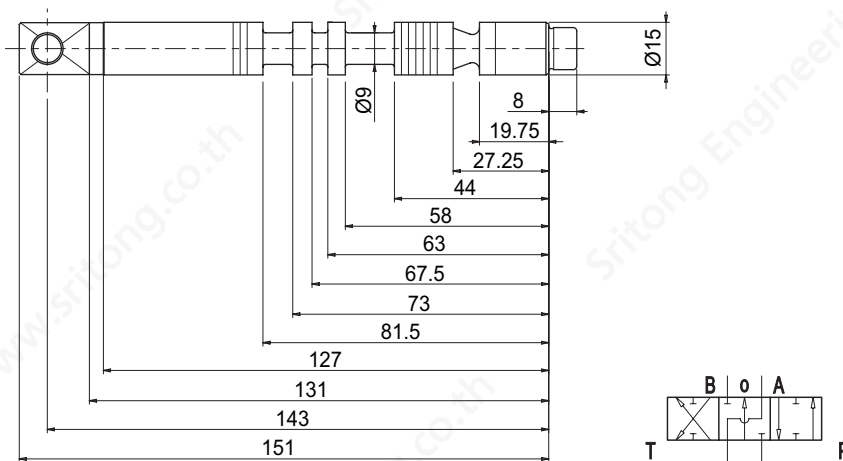


spools



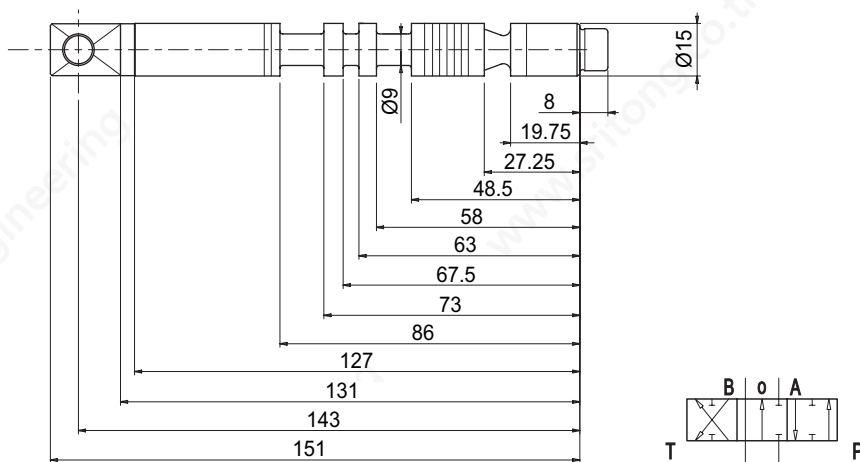
ordering code: **421272005**

W003A = 3 positions double-acting A to tank B blocked



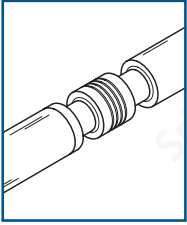
ordering code: **421272006**

W004A = 3 positions double-acting A blocked B to tank

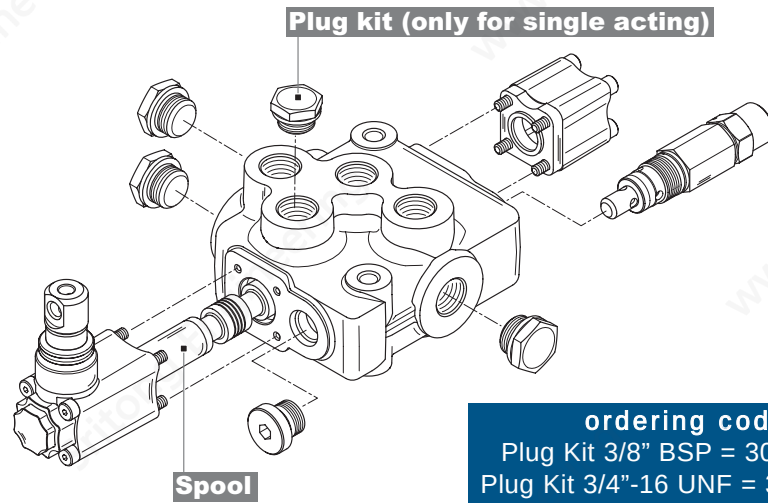




spools



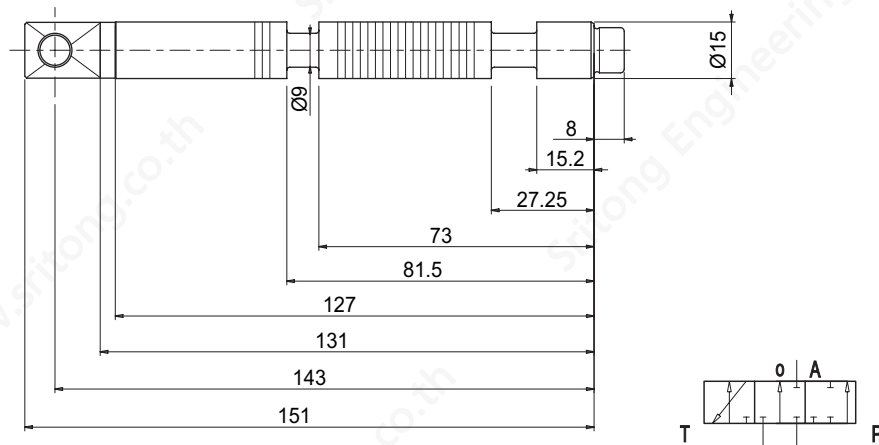
| Single acting spool



ordering code:
 Plug Kit 3/8" BSP = 300001001
 Plug Kit 3/4"-16 UNF = 300001006

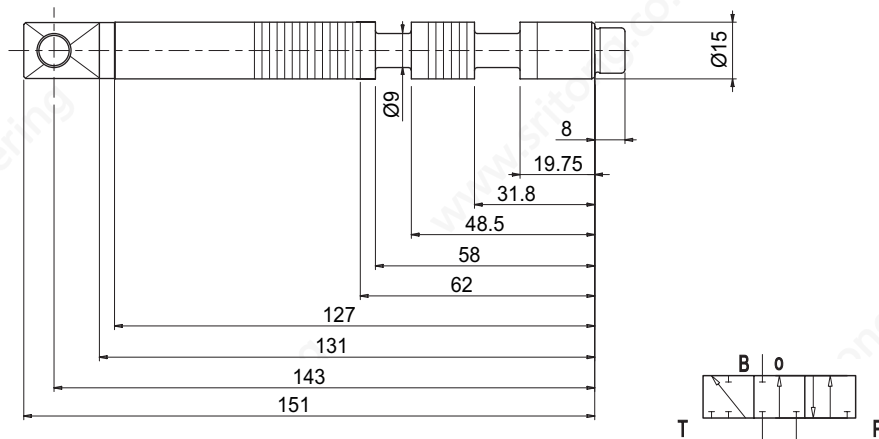
ordering code: 421272007

W005A = 3 positions single-acting on A

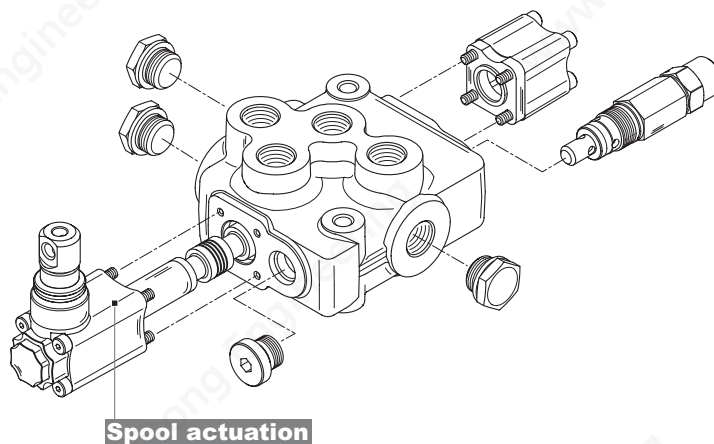


ordering code: 421272008

W006A = 3 positions single-acting on B



| Spool actuation type



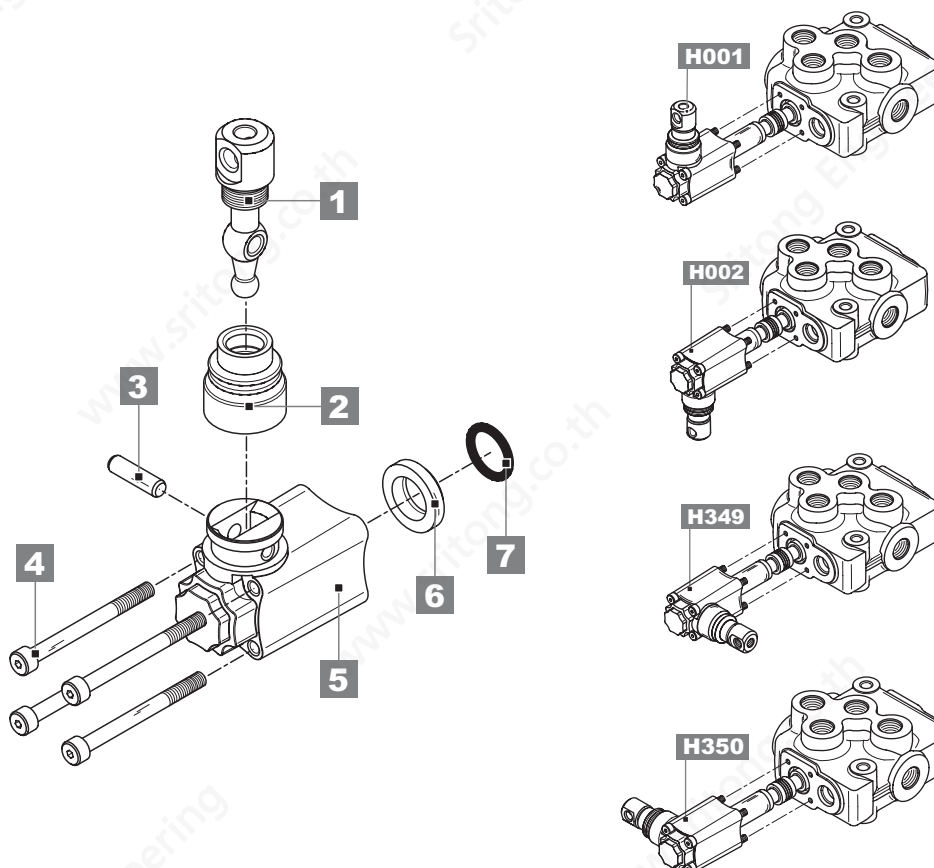
ordering code: **320372001**

H001 = Protected lever

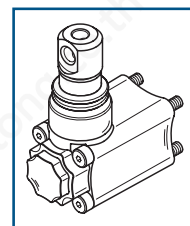
H002 = Protected lever rotated 180°

H349 = Protected lever rotated 90° inlet side

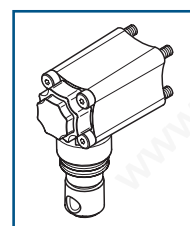
H350 = Protected lever rotated 90° outlet side



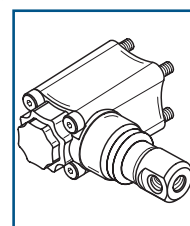
H001



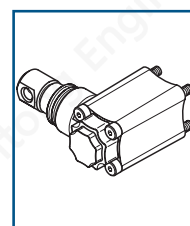
H002



H349



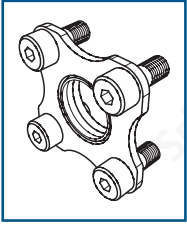
H350



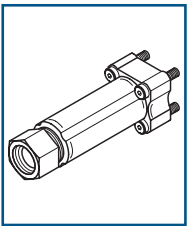
Pos.	Description	Q.ty	Dimensions	Ordering code
1	Lever	1		
2	Rubber bellows	1		423403006
3	Lever pin	1		
4	Screw	4	5 x 55 TC CE UNI5931	
5	Lever box	1		
6	Centering ring	1		420115002
7	O-ring	1	70 SH (15,10 x 2,70)	412010701



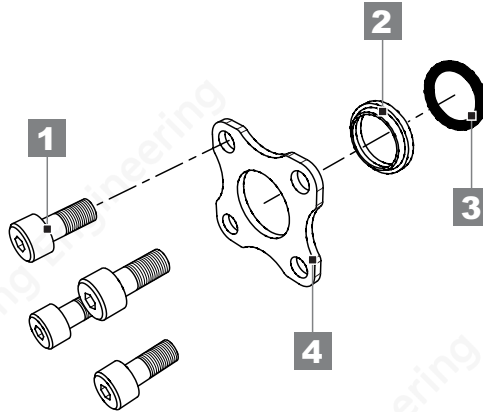
H004



H128

ordering code: **320372002**

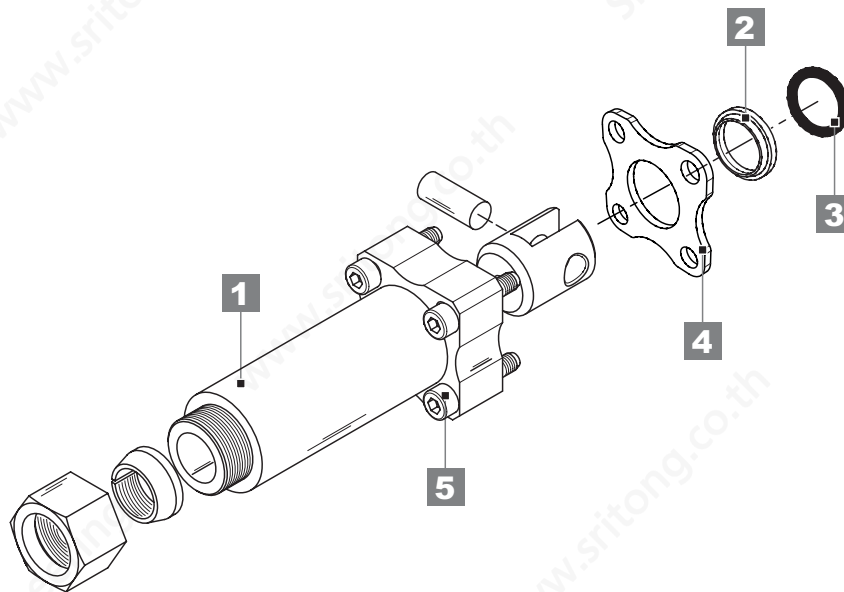
H004 = Without lever control



Pos.	Description	Q.ty	Dimensions	Ordering code
1	Screw	4	5 x 10 TC CE UNI5931	
2	Centering ring	1		420115014
3	O-ring	1	70 SH (15,10 x 2,70)	412010701
4	Flange	1		

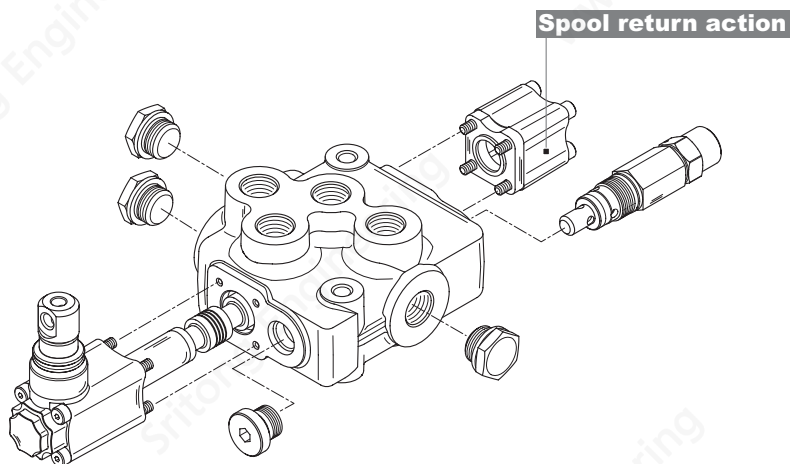
ordering code: **321972001**

H128 = Prearrangement actuation cable

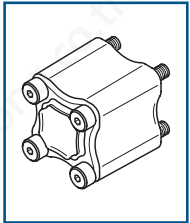


Pos.	Description	Q.ty	Dimensions	Ordering code
1	Actuation kit	1		
2	Centering ring	1		420115014
3	O-ring	1	70 SH (15,10 x 2,70)	
4	Flange	1		423404253
5	Screw	4	5 x 25 TC CE UNI5931	

| Spool return action type

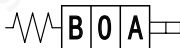
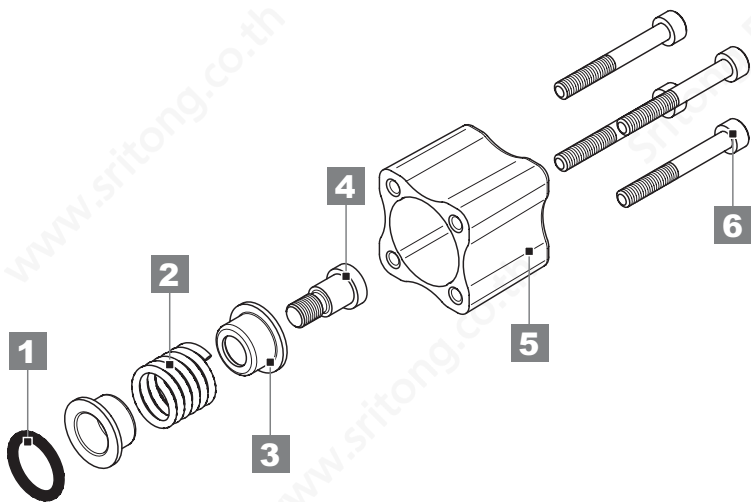


F001



ordering code: 320772001

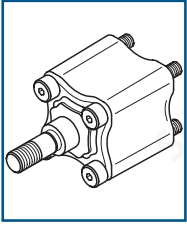
F001A = 3 positions spring-centred spool



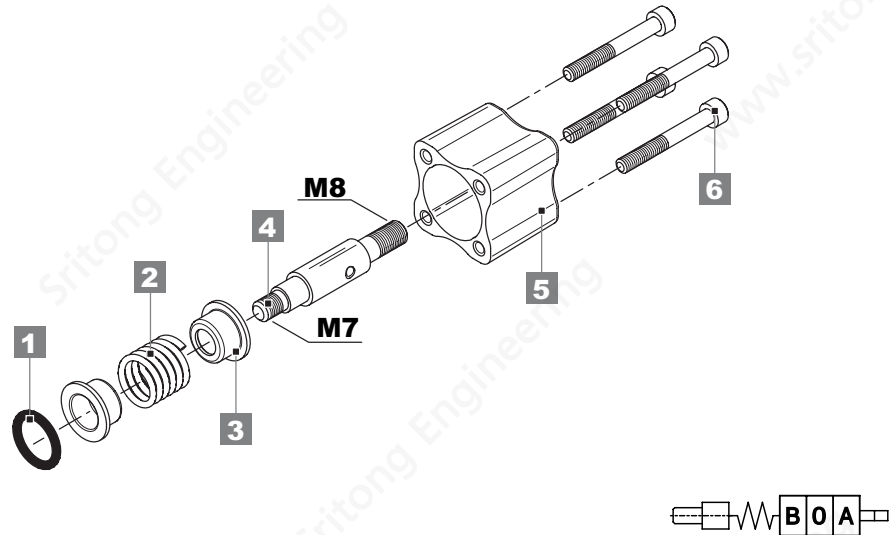
Pos.	Description	Q.ty	Dimensions	Orgering code
1	O-ring	1	70 SH (15,10 x 2,70)	412010701
2	Spring	1		
3	Spacer	2		
4	Screw	1		
5	Cap	1		
6	Screw	4	5 x 40 TC CE UNI5931	



F013

ordering code: **320772006**

F013A = 3 positions spring-centred spool prearrangement dual command



Pos.	Description	Q.ty	Dimensions	Ordering code
1	O-ring	1	70 SH (15,10 x 2,70)	412010701
2	Spring	1		
3	Spacer	2		
4	Shank	1		
5	Cap	1		
6	Screw	4	5 x 40 TC CE UNI5931	411020532

ordering code: 320872007

F002A = 3 positions spring-centred spool detent in A and B

ordering code: 320872008

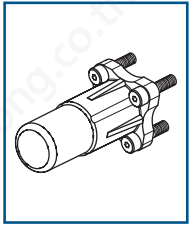
F003A = 3 positions spring-centred spool detent in A

ordering code: 320872009

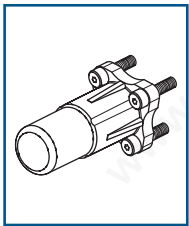
F004A = 3 positions spring-centred spool detent in B



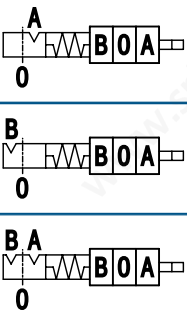
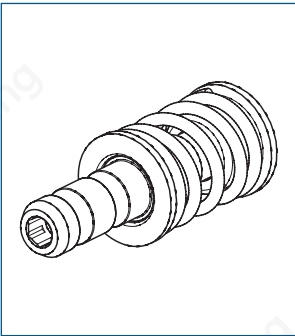
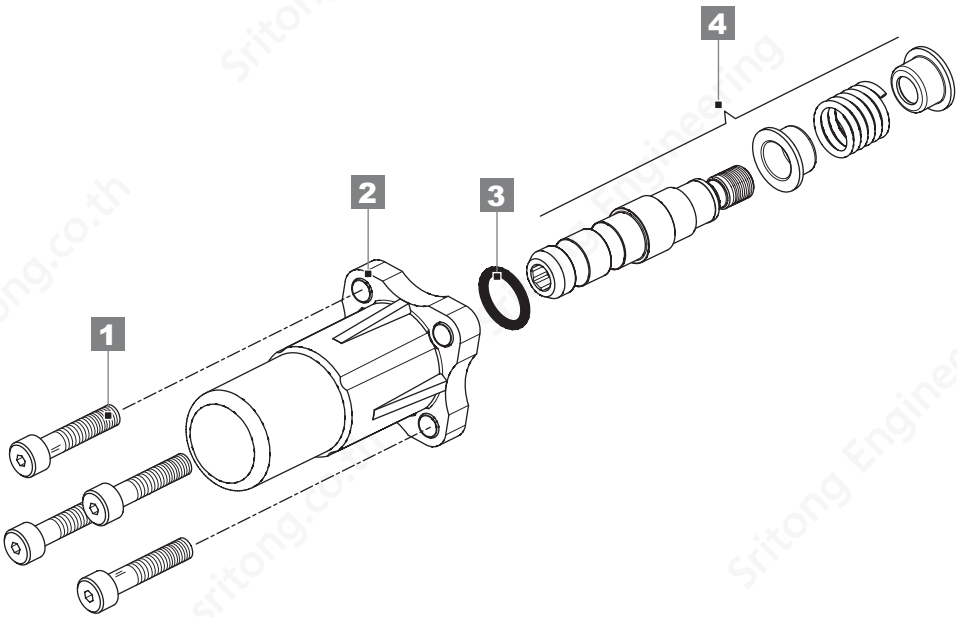
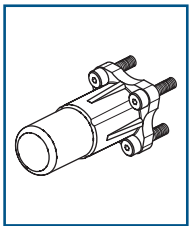
F002



F003



F004



ordering code: 430272002
detent kit in A

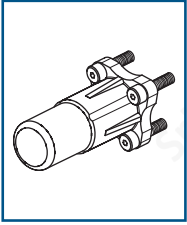
ordering code: 430272003
detent kit in B

ordering code: 430272004
detent kit in A and B

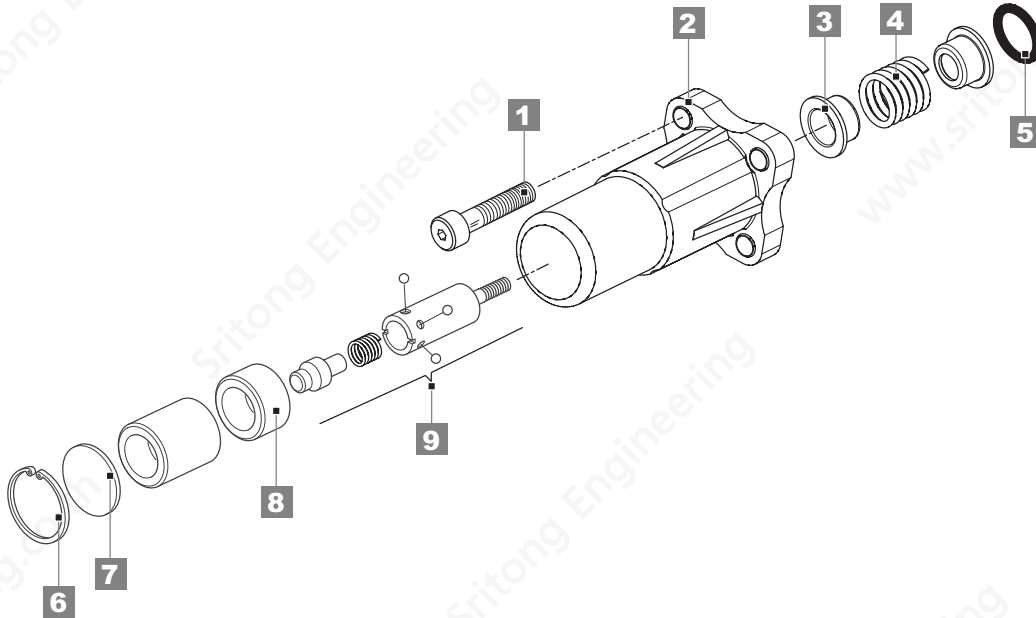
Pos.	Description	Q.ty	Dimensions	Ordering code
1	Screw	4	5 x 14 TC CE UNI5931	
2	Cap	1		
3	O-ring	1	70 SH (15,10 x 2,70)	412010701
4	Detent kit in A	1		430272002
	Detent kit in B	1		430272003
	Detent kit in A and B	1		430272004



F073

ordering code: **320872013**

F073A = detent kit in 3 positions



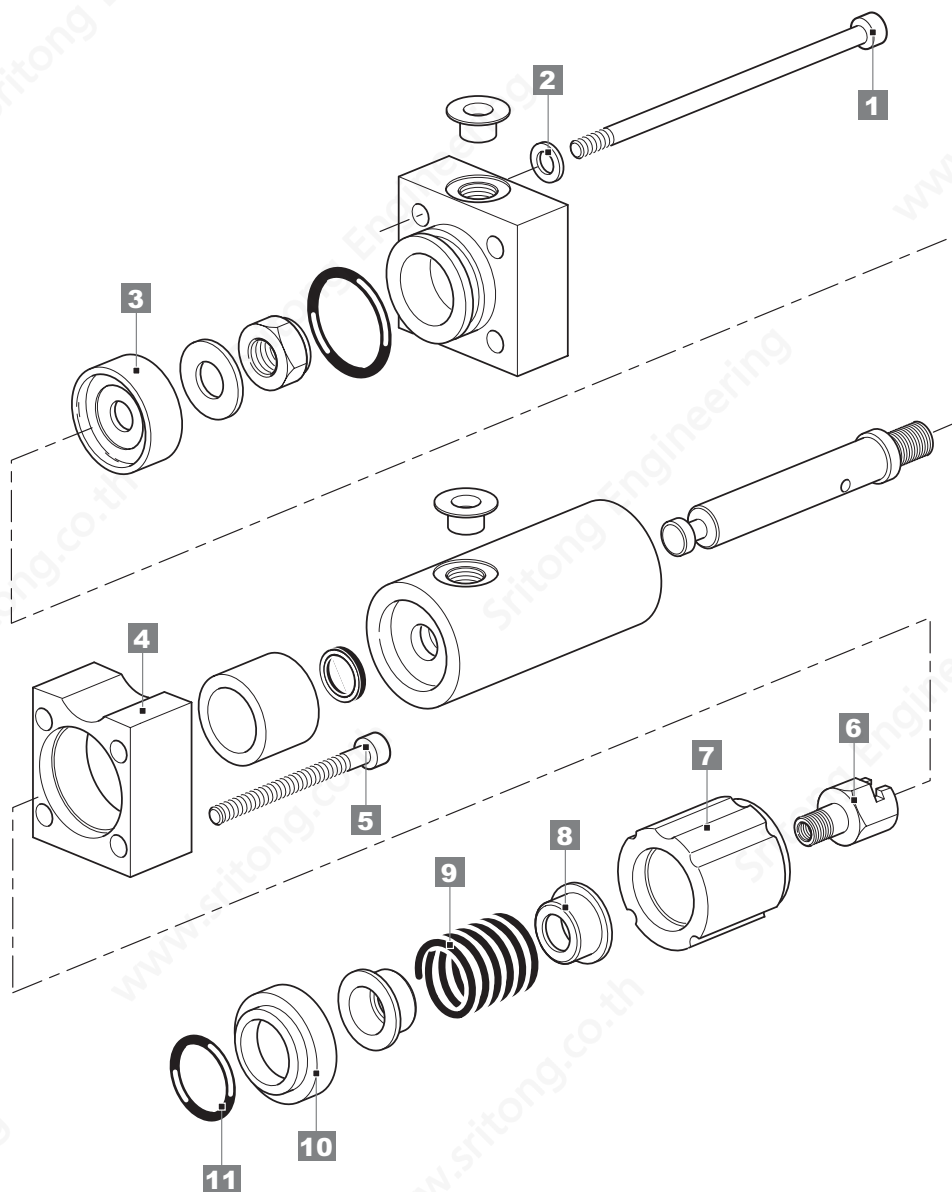
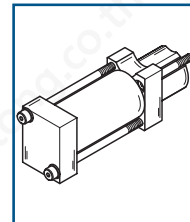
Pos.	Description	Q.ty	Dimensions	Ordering code
1	Screw	1	5 x 14 TC CE UNI5931	
2	Cap	1		
3	Spacer	2		
4	Spring	1		
5	O-ring	1	70 SH (15,10 x 2,70)	412010701
6	Seeger	1	UNI7437 D.21I	411132101
7	Copper	1		
8	Spacer	1		
9	Prearrangement kit	1		430202006

ordering code: **321172001**

F020A = Pneumatic control ON-OFF
F021A = Pneumatic control ON-OFF rotated 180°



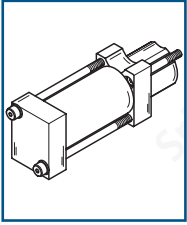
F020A
F021A



Pos.	Description	Q.ty	Dimensions	Ordering code
1	Screw	2	5 x 90 TC CE UNI5931	
2	Washer	2	D.5 DIN6798	
3	Prearrangement kit	1		430903001
4	Flange	1		
5	Screw	2	5 x 35 TC CE UNI5931	412010701
6	Joint	1		
7	Cylindre	1		
8	Spacer	2		
9	Spring	1		
10	Spacer	1		
11	O-ring	1	70 SH (15,10 x 2,70)	412010701



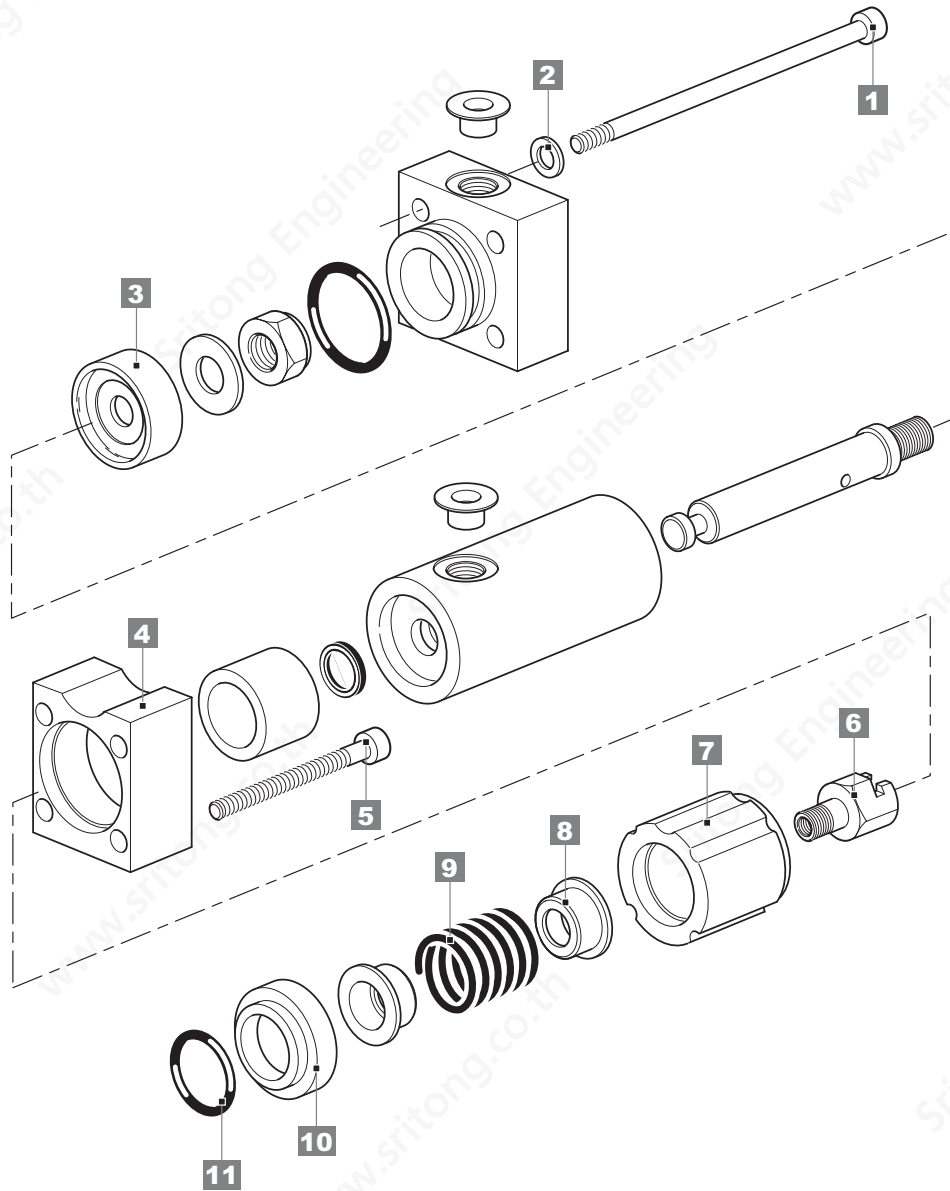
F022A
F023A



ordering code: **321272001**

F022A = Proportional pneumatic control

F023A = Proportional pneumatic control rotated 180°



Pos.	Description	Q.ty	Dimensions	Ordering code
1	Screw	1	5 x 14 TC CE UNI5931	
2	Cap	1		
3	Spacer	2		
4	Spring	1		
5	O-ring	1	70 SH (15,10 x 2,70)	412010701
6	Seeger	1	UNI7437 D.21I	411132101
7	Copper	1		
8	Spacer	1		
9	Prearrangement kit	1		430202006
10	Copper	1		
11	Spacer	1		

ordering code: **320672001**

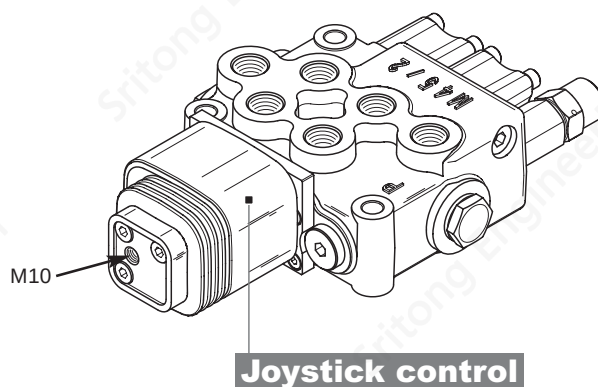
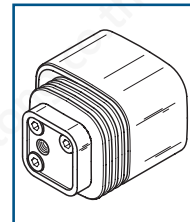
H009 = joystick control

ordering code: **320672002**

H010 = joystick control



H009
H010



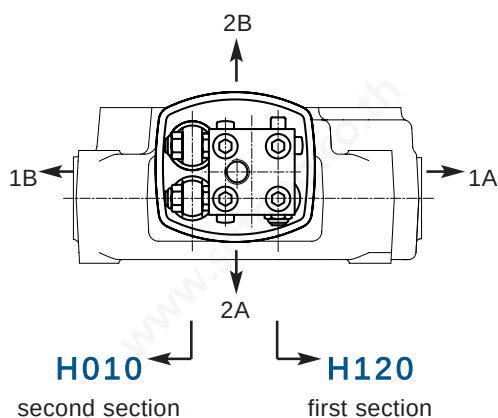
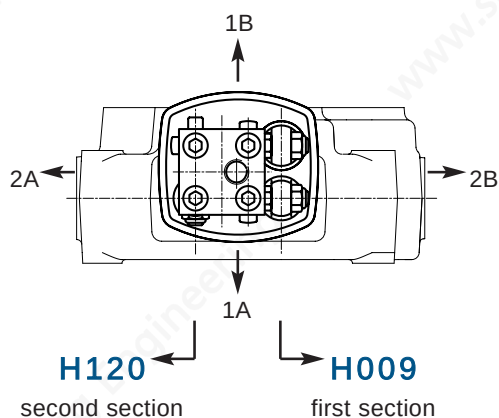
NOTE: lever has to be ordered separately

Fulcrum side

RIGHT SIDE INLET
FULCRUM ON 1ST SECTION
(compulsory code for second section: H120)

RIGHT SIDE INLET,
FULCRUM ON 2ND SECTION
(compulsory code for first section: H120)

ordering code





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