D25

SECTIONAL VALVE

walvoil

MOTION BY PEOPLE

TECHNICAL CATALOGUE

A member of

walvoil

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Additional information
This catalogue shows the product in the most standard configurations.
Please contact Sales Dpt. for more detailed information or special request.

WARNING!
All specifications of this catalogue refer to the standard product at this date.
Walvoil, oriented to a continuous improvement, reserves the right to
discontinue, modify or revise the specifications, without notice.

WALVOIL IS NOT RESPONSIBLE FOR ANY DAMAGE CAUSED BY AN
INCORRECT USE OF THE PRODUCT.

Applications

The valve is available with manual and hydraulic remote controls.
Working sections have auxiliary valves and a broad range of interchangeable spools.
Suitable for applications including Wheel loaders, Truck cranes, Sea platform cranes, Drilling machines, Presses.

QUICK REFERENCE GUIDE

GENERAL SPECIFICATION	D9	D3M	DVS10	D4	D6	D16	D12	DVS20	D20	D25	D40
Working sections number	1-12	1-12	1-12	1-12	1-12	1-12	1-12	1-12	1-12	1-12	1-10
CIRCUIT											
Parallel	●	●	●	●	●	●	●	●	●	●	●
Series	●	●	●	●	●	●	●		●	●	
Tandem	●	●	●	●	●	●		●	●		
Parallel circuit stroke (mm)	6	5	6	6	7	7	9,5	9,5	9,5	12	15
Series circuit stroke (mm)	6	5	6	6	5	7	6,5		6,5	8,5	
Float spool extra stroke (mm)	5	5	5	5,5	6	7	7	7	7	9,5	10
Spools pitch (mm)	31	38	35	40	46	46	56	56	64	75	91
RATED FLOW											
Max recommended flow rate (l/min)	35	55	45	80	100	150	180	250	250	380	700
Max recommended flow rate (GPM)	10	15	12	22	27	40	48	67	67	100	185
RATED PRESSURE											
Max working pressure (bar)*	315	350	350	350	315	350	350	250	350	350	350
Max working pressure (PSI)*	4500	5000	5000	5000	4500	5000	5000	4000	5000	5000	5000

NOTE (*): Intermittent pressure at max. 1 million cycles with specific internal testing.

OPTION CHART	D9	D3M	DVS10	D4	D6	D16	D12	DVS20	D20	D25	D40
Direct acting pressure relief valve	●	●	●	●							
Pilot operated pressure relief valve		●		●	●	●	●	●	●	●	●
2 stage pilot operated relief valve		●		●	●	●	●		●	●	●
Externally piloted valve	●	●	●	●	●	●	●		●	●	●
Solenoid dump valve (12 Vdc)	●	●	●	●	●	●	●				
Solenoid dump valve (24 Vdc)	●	●	●	●	●	●	●				
Main anticavitation check valve		●		●	●	●	●	●	●	●	●
Clamping valve		●	●	●							
SPOOL ACTUATION											
Manual control	●	●	●	●	●	●	●	●	●	●	●
Without lever	●	●	●	●	●	●	●	●	●	●	●
90° joystick control		●	●	●	●	●					
Hydraulic control	●	●	●	●	●	●	●	●	●	●	●
Direct electric control (12-24 Vdc)		●		●							
SPOOL RETURN ACTION											
Spring return	●	●	●	●	●	●	●	●	●	●	●
Detent in A - in B - in A/B	●	●	●	●	●	●	●	●	●	●	●
Detent in 4th position	●	●	●	●	●	●	●	●	●	●	●
Arrangement for dual control	●	●		●	●	●	●		●		
Hydraulic load limit	●	●		●	●	●					
Pneumatic control ON - OFF		●	●	●	●	●	●	●	●		
Proportional pneumatic control		●	●	●	●	●	●	●	●		
Electrical load limit	●	●		●	●	●					
Electrohydraulic control ON-OFF (12-24 Vdc)		●	●	●	●	●	●	●	●		
Electrohydraulic control PROP. (12-24 Vdc)		●	●	●	●	●	●	●	●		
Electropneumatic control (12-24 Vdc)		●	●	●	●	●	●		●		
AUXILIARY VALVES											
Antishock valve	●	●	●	●	●	●	●	●	●	●	●
Anticavitation valve	●	●	●	●	●	●	●	●	●	●	●
Combined valve	●	●	●		●	●	●		●	●	●
Pilot combined valve						●		●	●	●	●

GENERAL INDEX

GENERAL SPECIFICATIONS

Standard working conditions

Description	Value
Ambient operating temperature range	-40°C / +60°C
Kinematic viscosity range	10 ÷ 300 cSt
Max contamination level	9 (NAS 1638) - 20/18/15 (ISO 4406:1999)
Recommended filtration level	b10 > 75 (ISO 16889:2008)
Internal filter (on electroproportional valves pilot line)	30 µm

All information and diagrams in this catalogue refer to a mineral base oil VG46 at 50°C temperature (32 cSt kinematic viscosity)

Fluid options

Types of fluid (according to IS0 6743/4) Oil and Solutions	Temperature (°C)		Compatible gasket
	min	max	
Mineral Oil HL, HM (or HLP acc. to DIN 51524)	-25	+80	NBR
Oil in water emulsions HFA	+5	+55	NBR
Water in oil emulsions HFB	+5	+55	NBR
Polyglycol-based aqueous solution HFC	-10	+60	NBR

For special applications and different fluids, please call our Technical Department.

ORDER EXAMPLE

D25/1:	IR 009 150 A G07	W001A H006 RP G07 01 PA 100 01 PB 100	TJ A G08

TYPE:
D25: product type
/1: working section number

1) INLET ARRANGEMENT: pag. 10

IR 009	inlet side and valve type
150	setting (bar)
A G07	inlet position and available thread type

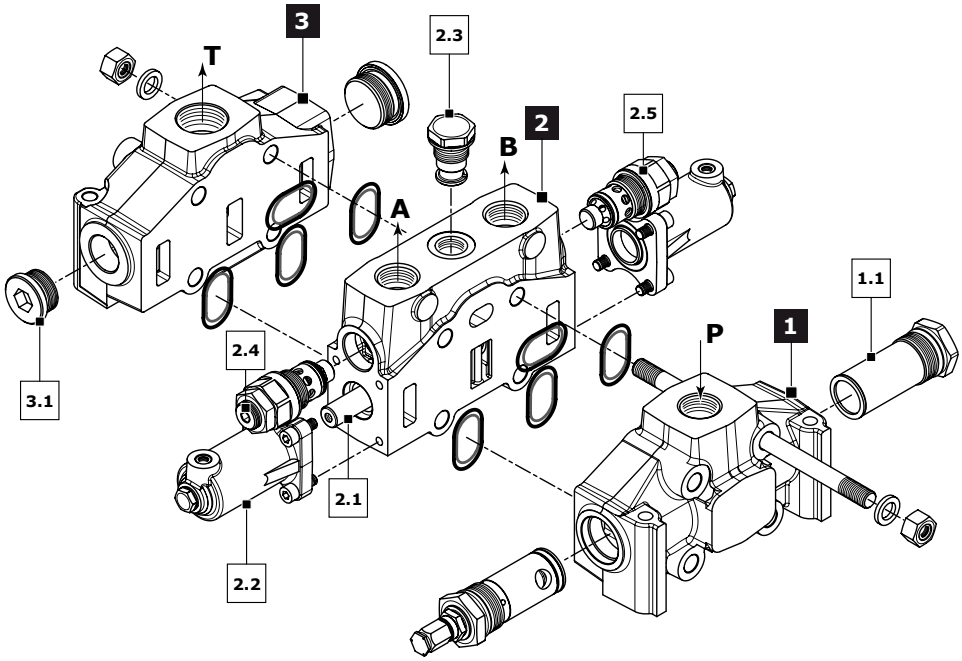
2) WORK SECTION ARRANGEMENT: pag. 14

W001A	spool type
H006	spool actuation type
RP G07	type and thread section
01 PA 100	auxiliary valve (port A)
01 PB 100	auxiliary valve (port B)

3) OUTLET ARRANGEMENT: pag. 28

TJ	outlet type
A G08	outlet position and available thread type

Ordering row 2 must be repeated for every work section



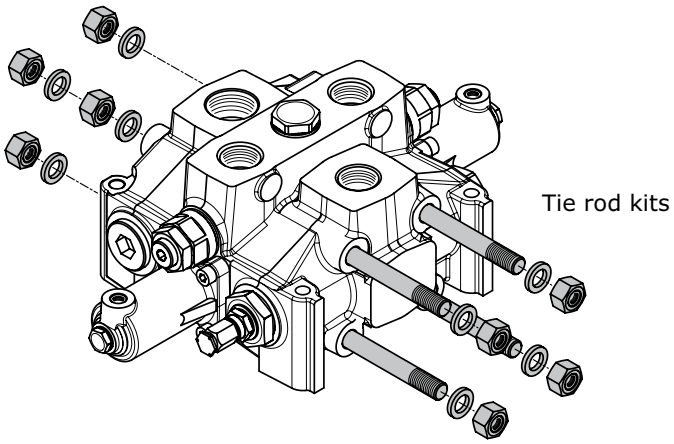
Standard thread

The connection ports size is indicated by an ordering code common for all Walvoil products. Following table shows all available connections; for ordering code refer to table on page xx.

ports	BSP (ISO-228)		UN-UNF (ISO-725)		SAE 3000 (ISO 6162-1)		SAE 6000 (ISO 6162-6)	
Inlet Port (P)	G 1"1/4 - G 1"1/2	**G07-G08**	1"5/8 - 12 UNF	**U07**	1"1/4 MA - 1"1/4 UNC	**S07-S08**	1" MA - 1" UNC	**S35-S36**
Ports (A - B)	G 1"1/4 - G 1"1/2	**G07-G08**	1"5/8 - 12 UNF	**U07**	1"1/4 MA - 1"1/4 UNC	**S07-S08**	1" MA - 1" UNC	**S35-S36**
Outlet (T)	G 1"1/2	**G08**	1"5/8 - 12 UNF	**U07**	1"1/2 MA - 1"1/2 UNC	**S09-S10**	-	
Carry over (HPCO)	G 1"1/2	**G08**	1"5/8 - 12 UNF	**U07**	1"1/2 MA - 1"1/2 UNC	**S09-S10**	1"1/4 MA - 1"1/4 UNC	**S37-S38**
Hydraulic Pilot	G 1/4	**G02**	9/16" - 18 UNF	**U02**	-		-	
Pneumatic Pilot	G 1/8		NPTF 1/8-27					

Tie-rod kit classification (appendix "A")

Tie rod kit allows the correct assembly of sectional valves. Tie rod's length depends on the number of sections; each valve is assembled with tie rod kits including a tie rod, two nuts and two washers. D25 requires 4 tie-rod kits.



Tie rod kit	Order Code	Lenght (mm)	Clamping Torque (Nm)	Quantity
D25/1	300109001	276	110	4
D25/2	300109002	350		
D25/3	300109003	424		
D25/4	300109004	498		
D25/5	300109005	572		
D25/6	300109006	646		
D25/7	300109007	720		
D25/8	300109008	794		
D25/9	300109009	868		
D25/10	300109010	942		
D25/11	300109011	1016		
D25/12	300109012	1090		

Painting

On request, all Walvoil valves can be delivered painted (RAL 9005 black primer).

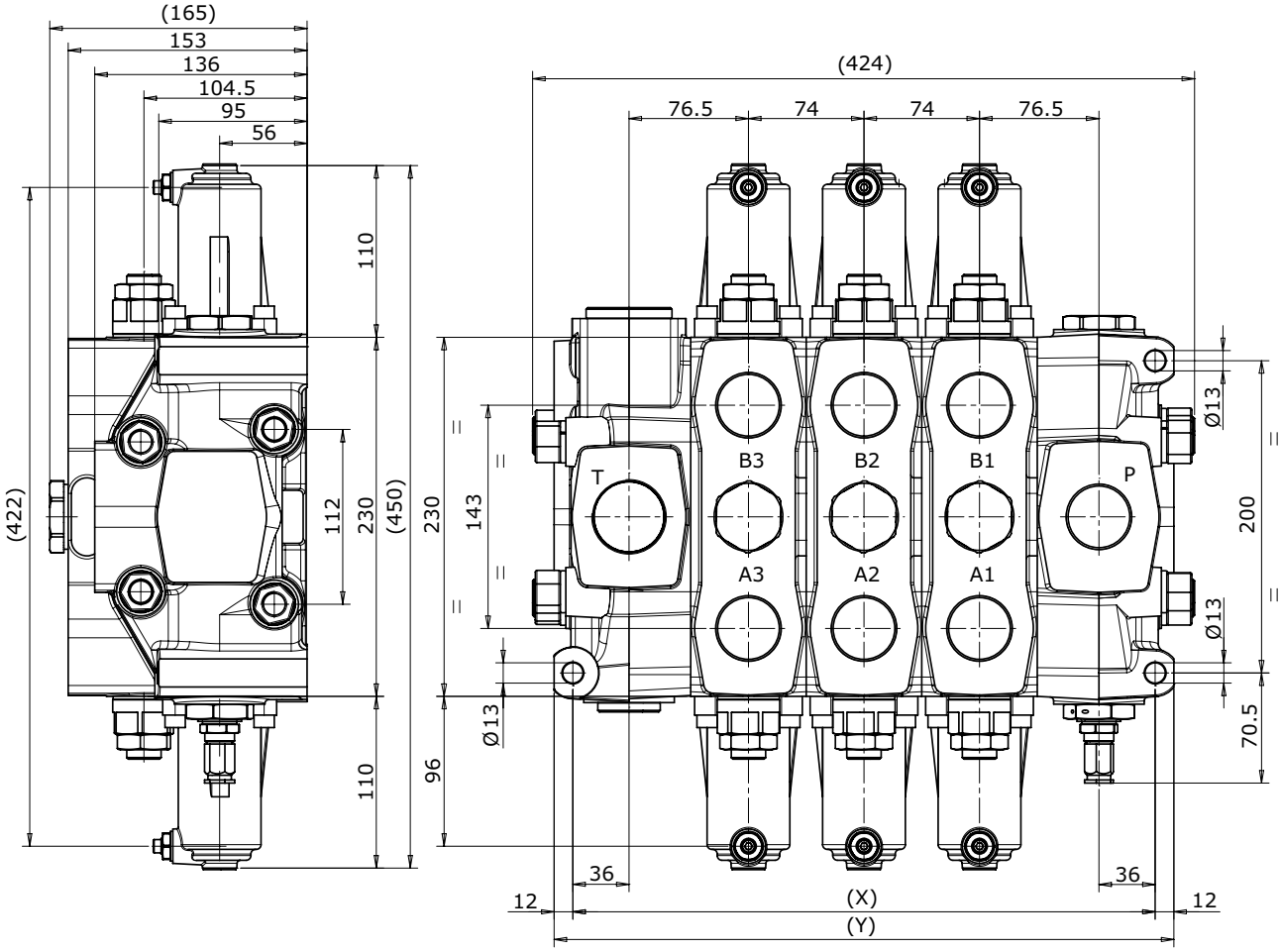
Order example of D25/1 painted:
D25/1
IR 009 150 A G07
W001A H006 RP G07 01 PA 100 01 PB 100
TJ A G08
P006/1 N10

The painting is indicated with the following value:

P006 - /1 - N10

- Color black
- section number
- Painted

DIMENSIONS

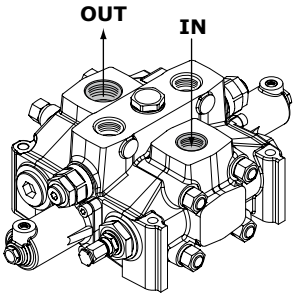


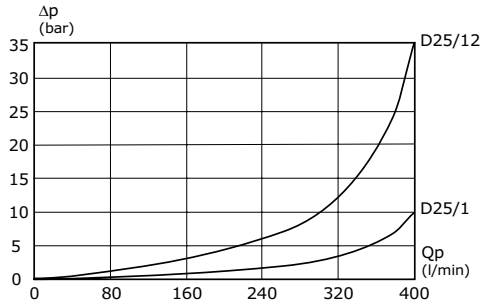
TYPE	/1	/2	/3	/4	/5	/6	/7	/8	/9	/10	/11	/12
X (mm)	225	299	373	447	521	595	669	743	817	891	965	1039
Y (mm)	249	323	397	471	545	619	693	767	841	915	989	1063
Weights (kg)	41,3	56,8	72,3	87,8	103,4	119	134,4	150	65,5	181	196,5	212

TYPICAL CURVES

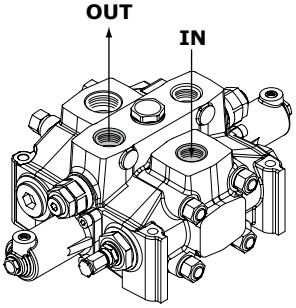
Indicated values have been tested with standard sectional valve and W001A spool.

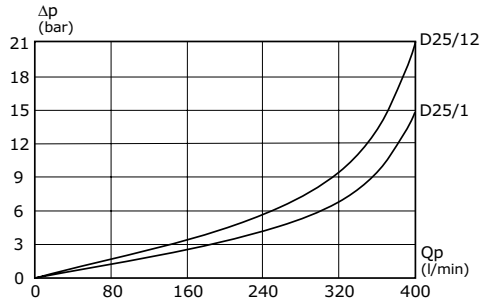
Pressure drop (P - T)



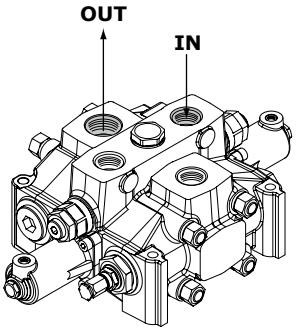


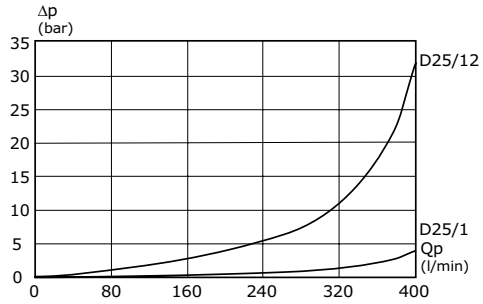
Pressure drop (P - A/B)





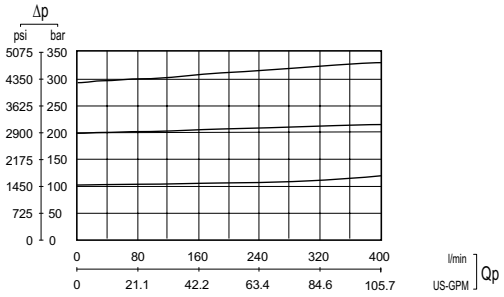
Pressure drop (A/B - T)





Pilot operated relief valve curve

Setting ranges	
type	**pressure (bar)**
A	0 - 350

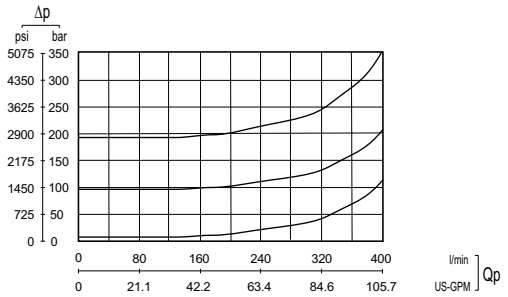


TYPICAL CURVES

Indicated values have been tested with standard sectional valve and W001A spool.

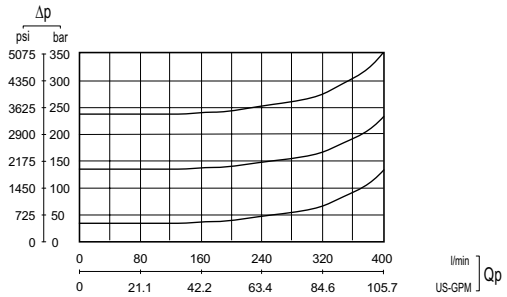
Antishock valve curve

Setting ranges		
type	pressure (bar)	
	at full flow	at min. flow
A	0 - 70	0-A / 50-A
A	71 - 120	51-A / 70-A
B	121 - 150	71-A / 110-A
C	151 - 300	111-A / 240-A
D	301 - 350	241-A / 350-A

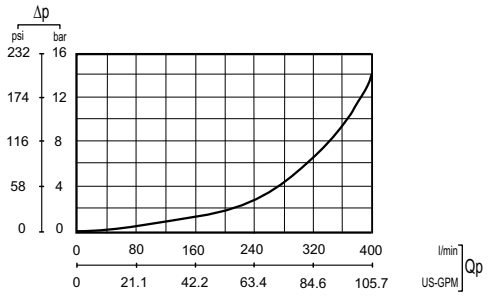


Combined valve curve

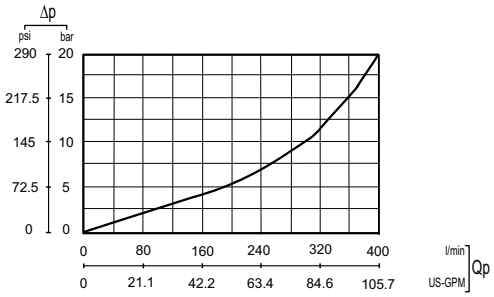
Setting ranges		
type	pressure (bar)	
	at full flow	at min. flow
A	50 - 130	20-A / 100-A
B	131 - 220	101-A / 220-A
C	221 - 260	221-A / 350-A



Main anticavitation check valve curve



Anticavitation check valve curve

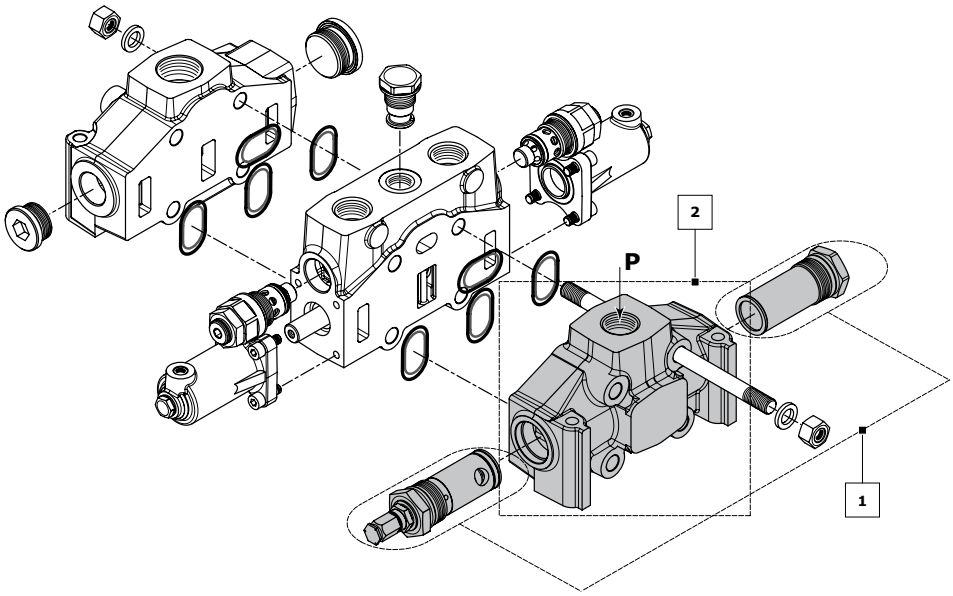


INLET SECTION

Order example

IR	009	150	A G07

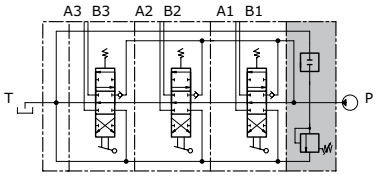
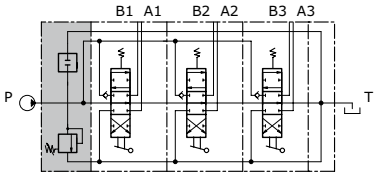
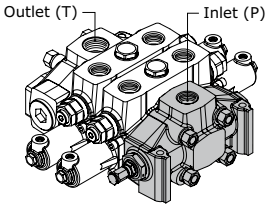
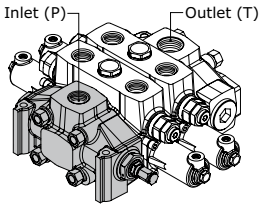
	IR	inlet side classification
1.	**009**	valve arrangement
	150	setting (bar)
2.	**A G07**	inlet position and available thread type



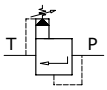
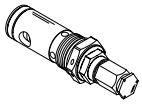
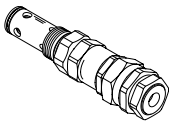
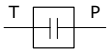
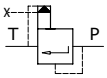
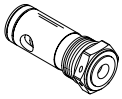
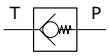
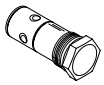
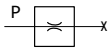
Rif.	Code	Description	Page
-	**IR** **IL**	Sectional valve with right inlet section Sectional valve with left inlet section	**11**
1	**009** **010** **019**	Pilot operated pressure relief valve Pilot operated pressure relief valve and Main anticavitation check valve Without valves	**12**
2	**A G07** **A U07** **A S07** **A S35**	Upper inlet (thread G 1”1/4) Upper inlet (thread 1”5/8 - 12 UNF) Upper inlet (thread SAE 3000 1”1/4 MA) Upper inlet (thread SAE 6000 1” MA)	**13**

NOTE: when ordering a relief valve it is necessary to specify factory setting (example 150).

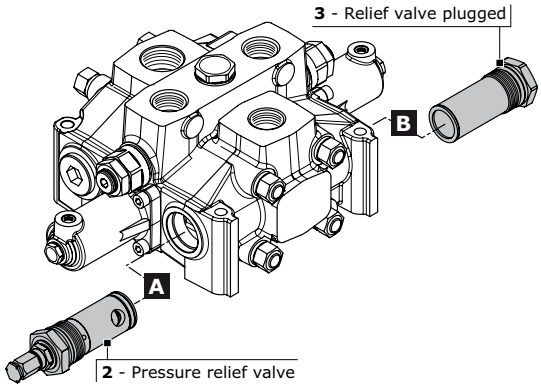
Inlet side classifications

	Sectional valve with **right inlet** section		Sectional valve with **right inlet** section
IR		**IL**	
			

Valve identification

type	schema	layout	description	type	schema	layout	description
2			Pilot operated pressure relief valve	**5**			2 stage pilot operated relief valve
3			Relief valve plugged	**6**			Externaly piloted valve
4			Main anticavitation check valve	**11**			Plug with pressure-gauge connection

Valve arrangement



Combination valve example: 009 = 2A - 3B

009 Combination valve
2A Pressure relief valve in port A
3B Relief valve plugged in port B

The code identifies:
with a number, the type of valve; with a letter its position on the inlet section.

(A) = spool action side
(B) = spool return action side

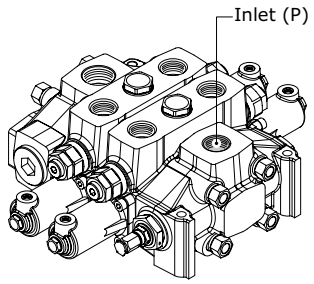
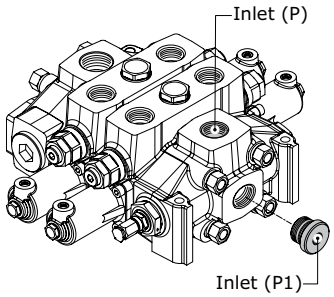
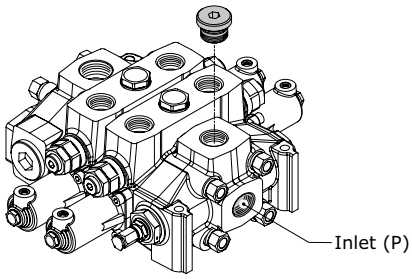
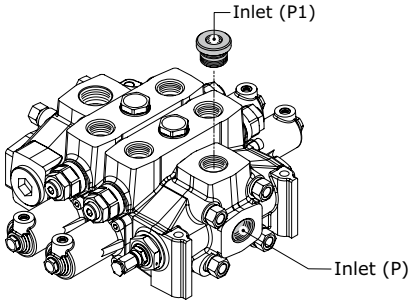
NOTE: when ordering a main relief valve it is necessary to specify setting

VALVE COMBINATION INLET SECTION		Valve type on port B					
		2	3	4	5	6	11
Valve type on port A	2		009	010		011	016
	3	018	019	020	021	022	027
	4	029	030		031	032	037
	5		038				
	6	047	048				
	11	085					

NOTE: Valve combinations 021, and 038 requires double setting (see example).

Order example for inlet section: IR **038 200*280** A G05

038 valve combination
200*380 double range setting (bar)

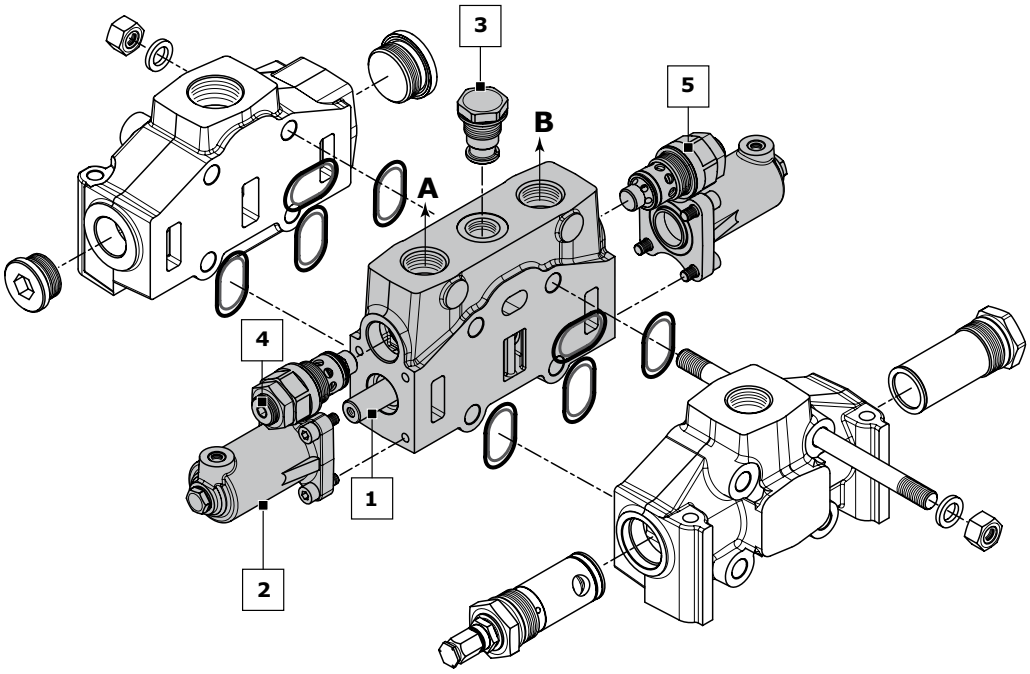
Inlet combination and thread available		
A G07		Upper inlet (thread G 1"1/4)
A G08		Upper inlet (thread G 1"1/2)
A U07		Upper inlet (thread 1"5/8 - 12 UNF)
A S07		Upper inlet (thread SAE 3000 - 1"1/4 MA)
A S08		Upper inlet (thread SAE 3000 - 1"1/4 UNC)
A S35		Upper inlet (thread SAE 6000 - 1" MA)
A S36		Upper inlet (thread SAE 6000 - 1" UNC)
B G07		Upper inlet P1 with pressure-gauge connection G 1/4 (thread G 1"1/4)
B G08		Upper inlet P1 with pressure-gauge connection G 1/4 (thread G 1"1/2)
B U07		Upper inlet P1 with pressure-gauge connection G 1/4 (thread 1"5/8 - 12 UNF)
B S07		Upper inlet P1 with pressure-gauge connection G 1/4 (thread SAE 3000 - 1"1/4 MA)
B S08		Upper inlet P1 with pressure-gauge connection G 1/4 (thread SAE 3000 - 1"1/4 UNC)
B S35		Upper inlet P1 with pressure-gauge connection G 1/4 (thread SAE 6000 - 1" MA)
B S36		Upper inlet P1 with pressure-gauge connection G 1/4 (thread SAE 6000 - 1" UNC)
C G07		Central side inlet (thread G 1"1/4)
C G08		Central side inlet (thread G 1"1/2)
C U07		Central side inlet (thread 1"5/8 - 12 UNF)
C S07		Central side inlet (thread SAE 3000 - 1"1/4 MA)
C S08		Central side inlet (thread SAE 3000 - 1"1/4 UNC)
C S35		Central side inlet (thread SAE 6000 - 1" MA)
C S36		Central side inlet (thread SAE 6000 - 1" UNC)
D G07		Central side inlet P1 with pressure-gauge connection G 1/4 (thread G 1"1/4)
D G08		Central side inlet P1 with pressure-gauge connection G 1/4 (thread G 1"1/2)
D U07		Central side inlet P1 with pressure-gauge connection G 1/4 (thread 1"5/8 - 12 UNF)
D S07		Central side inlet P1 with pressure-gauge connection G 1/4 (thread SAE 3000 - 1"1/4 MA)
D S08		Central side inlet P1 with pressure-gauge connection G 1/4 (thread SAE 3000 - 1"1/4 UNC)
D S35		Central side inlet P1 with pressure-gauge connection G 1/4 (thread SAE 6000 - 1" MA)
D S36		Central side inlet P1 with pressure-gauge connection G 1/4 (thread SAE 6000 - 1" UNC)

WORKING SECTION

Order example:

W001A	H006	RP G07	01 PA 100	01 PB 100

1. **W001A** spool type
2. **H006** spool actuation type
3. **RP G07** section and thread type
4. **01 PA 100** auxiliaty valve (port A - handle side)
5. **01 PB 100** auxiliaty valve (port B - cap side)



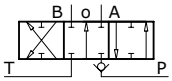
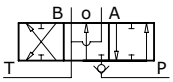
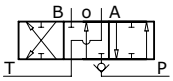
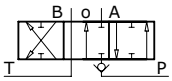
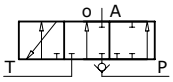
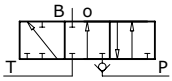
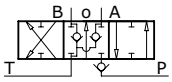
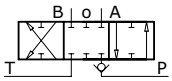
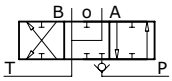
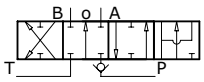
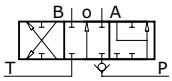
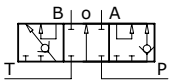
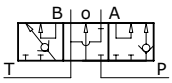
Rif.	Code	Description	Page
1	**W001** **W002**	3 positions double-acting 3 positions double-acting A-B to tank	**15**
2	**H101** **H006***	Unprotected lever hydraulic actuation	**17**
3	**RP G07** **RP U07** **RS G07** **RS U07**	Parallel circuit (G 1”1/4) Parallel circuit (1”5/8-12 UNF) Series circuit (G 1”1/4) Series circuit (1”5/8-12 UNF)	**20**
4	**01 PA 100** **05 PA**	Antishock valve (port A) Prearrangement for auxiliary valve (port A)	**21**
5	**01 PB 100** **05 PB**	Antishock valve (port B) Prearrangement for auxiliary valve (port B)	

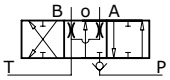
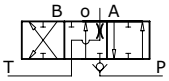
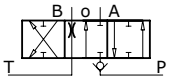
NOTE: (*) Leave out the spool return action code when choosing H006.
Sections designed to house auxiliary valve option require double choice on work ports A and B.
Always indicate setting value when using Antishock and Pilot combined valve: **01 PA (100) - 04 PA (100)**

Spool identification

order example of spool: **W001 A J10**

W001	spool schema	3 positions double-acting
A	spool type	standard spool
J10	restricted service ports	restriction on diameter (0,10 mm in A and B)

W001	3 positions double-acting	
W002	3 positions double-acting A and B to tank	
W003	3 positions double-acting A to tank B blocked	
W004	3 positions double-acting A blocked B to tank	
W005	3 positions single - acting on A	
W006	3 positions single - acting on B	
W009	3 positions double-acting with anticavitation valves	
W010	3 positions double-acting switch port closed (A - B blocked)	
W011	3 positions double-acting switch port closed (A - B to tank)	
W012	4 positions double-acting with float in the 4th position	
W013	3 positions double-acting regenerative	
W015	3 positions double-acting series	
W016	3 positions double-acting series A and B to tank	

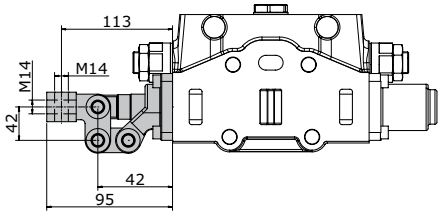
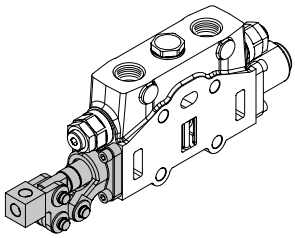
spools with restricted service ports				
code	**circuit**	**restriction on diameter (mm)**	**section (mm²)**	**hydraulic schema**
J10	A-B IN T	0,10	4,71	
K10	A IN T	0,10	4,71	
Y10	B IN T	0,10	4,71	

spool type available		
CODE	**STANDARD**	**METERED**
	A	**B**
W001	W001A	W001B
W002	W002A	W002B
W003	W003A	W003B
W004	W004A	W004B
W005	W005A	W005B
W006	W006A	W006B
W009	W009A	W009B
W010	W010A	
W011	W011A	
W012	W012A	
W013	W013A	
W015	W015A	
W016	W016A	

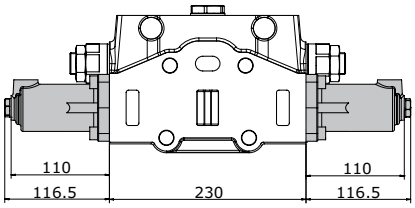
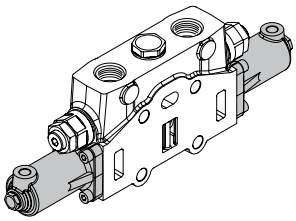
NOTE:
- W012, W013, spools need a special machining on the valve body.
- W015, W016, spools need RS type body.
- Float spool (W012) need special detent kit (F005).
- Regenerative spool (W013) need special return spring kits.
- Different spools are available on request.

Plaese contact our Sales department for more information.

Spool actuation classification for manual control

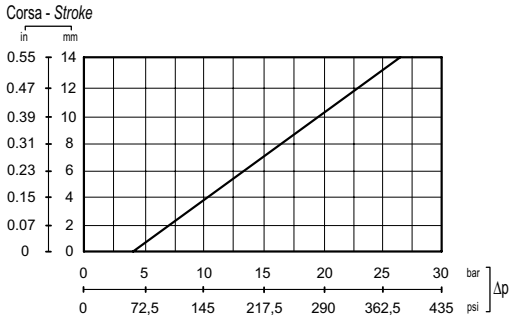
code	description	dimensions	configuration
H101	Unprotected lever		
H102	Unprotected lever rotated 180°		

Spool actuation classification for Hydraulic control

code	description	dimensions	configuration
H006 leave out the spool return action code	Hydraulic actuation with side ports and cast-iron end caps BSP ports = G 1/4 UNF ports = 9/16-18 UNF		

Hydraulic pilot control curve

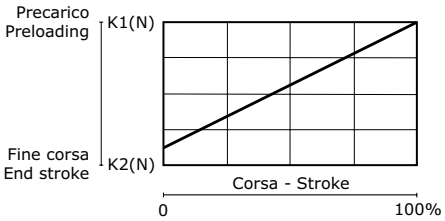
The diagram shows the spool stroke as a function of the pressure operating.



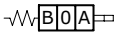
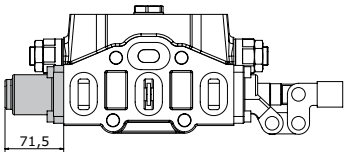
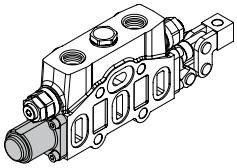
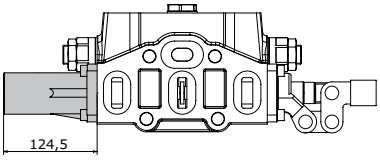
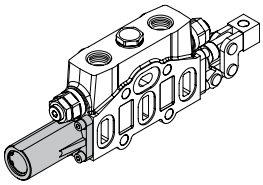
Spool return action classification - Springs load values

Spool return kits have three different sprong types; following the codes depending on spring loads.

Spring type			
Code	**A** (standard spring)	**B** (soft spring)	**C** (heavy spring)
Preloading	155 N	116.7 N	188.3 N
End of stroke	373.7 N	152 N	454.3 N
Spool return action identification example			
Code	**F001A**	**F001B**	**F001C**



Spool return action classification

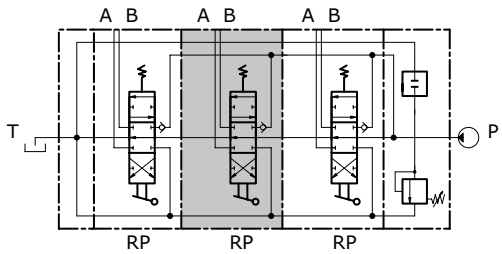
code	description	schema	dimensions	configuration
F001A **F001B** **F001C**	3 positions spring-centred spool			
F002A	3 positions spring-centred spool detent in A and B			
F003A	3 positions spring-centred spool detent in A			
F004A	3 positions spring-centred spool detent in B			
F005A	4 positions spring-centred spool detent in 4th position (only for W012 spool)			

Compatibility table

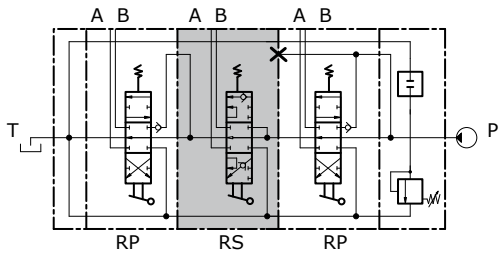
SPOOL ACTION TYPE	SPOOL TYPE																			
	W001A	W001B	W002A	W002B	W003A	W003B	W004A	W004B	W005A	W005B	W006A	W006B	W009A	W009B	W010A	W011A	W012A	W013A	W015A	W016A
H101	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
H102	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
H005	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

SPOOL RETURN ACTION TYPE	SPOOL TYPE																			
	W001A	W001B	W002A	W002B	W003A	W003B	W004A	W004B	W005A	W005B	W006A	W006B	W009A	W009B	W010A	W011A	W012A	W013A	W015A	W016A
F001	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•
F002	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•
F003	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•
F004	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•
F005																	•			

Work section identification

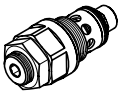
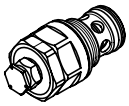
working section type		
RP G07 **RP G08** **RP U07** **RP S07** **RP S08** **RP S35** **RP S36**		Parallel circuit section

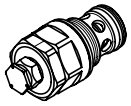
When the spool is operated it intercepts the by-pass gallery by diverting the flow of oil to service port A or B. If two or more spools are actuated at the same time, the oil will power the service port that has the lower load; by throttling the spools, the flow of oil can be divided between two or more service ports.

RS G07 **RS G08** **RS U07** **RS S07** **RS S08** **RS S35** **RS S36**		Series circuit section

When the spool is operated it intercepts the switch gallery by diverting the flow of oil to service port A or B. The oil that flows back from the actuator is carried to the switch gallery thus making it available to the service ports downstream from the series section. The pressure drop downstream is added to the pressure drop of the section itself.

Auxiliary valve identification

code	description	schema	configuration	setting range (bar)			
				type	at full flow	type	at min. flow
01 PA	Antishock valve (port A)			A	0 / 70	A	0-A / 50-A
				B	71 / 120	B	51-A / 70-A
				C	121 / 150	C	71-A / 110-A
				D	151 / 300	D	111-A / 240-A
				E	301 / 350	E	241-A / 350-A
02 PA	Anticavitation valve (port A)						
04 PA	Pilot combined valve (port A)			A	30 / 110		
				B	111 / 350		
05 PA	Prearrangement for auxiliary valve (port A)						

code	description	schema	configuration	setting range (bar)			
				type	at full flow	type	at min. flow
01 PB	Antishock valve (port B)			A	0 / 70	A	0-A / 50-A
				B	71 / 120	B	51-A / 70-A
				C	121 / 150	C	71-A / 110-A
				D	151 / 300	D	111-A / 240-A
				E	301 / 350	E	241-A / 350-A
02 PB	Anticavitation valve (port B)						
04 PB	Pilot combined valve (port B)			A	30 / 110		
				B	111 / 350		
05 PB	Prearrangement for auxiliary valve (port B)						

Auxiliary valve - Setting range

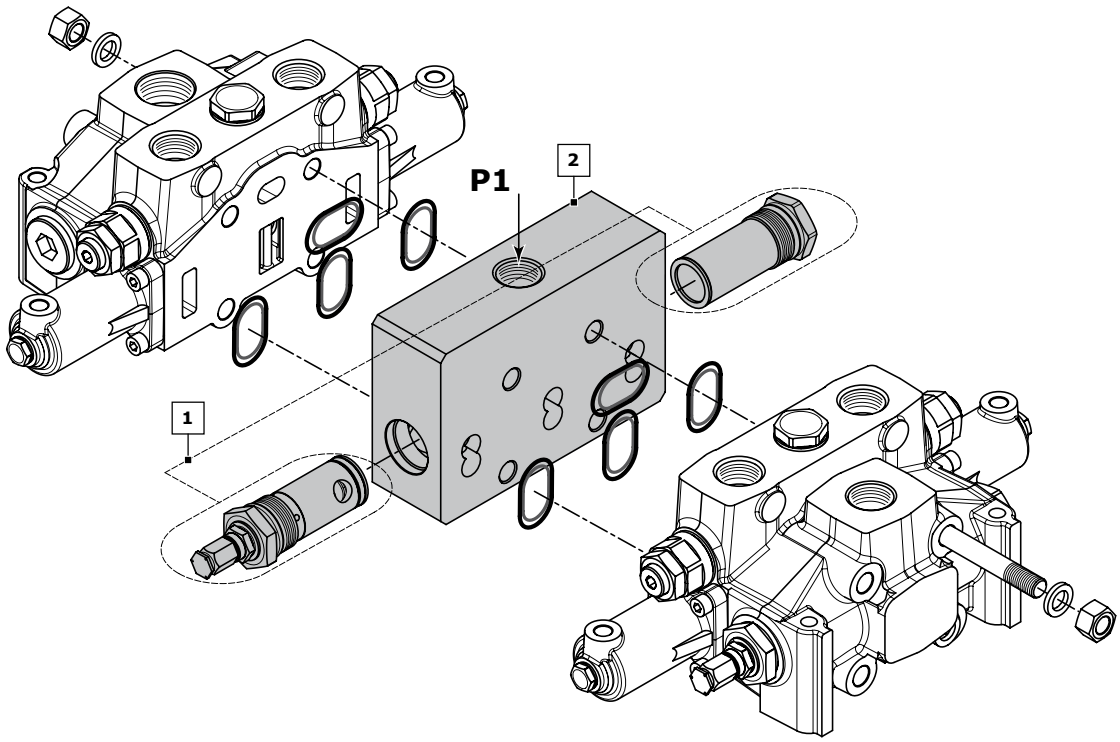
Sections designed to house auxiliary valve option require double choise on work ports A and B.
Always indicate setting value when using antishock valve and pilot combined valve:
01 PA (120) = setting at full flow
01 PA (120-A) = setting at min. flow
04 PA (120) = setting at min. flow

INTERMEDIATE INLET SECTION

Order example

BE	009	150	A G07

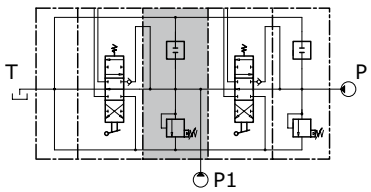
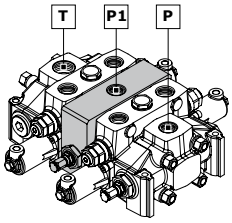
	BE	inlet side
1.	**009**	valve arrangement
	150	setting (bar); when ordering a main relief valve it is necessary to specify setting
2.	**A G07**	inlet position and available thread type



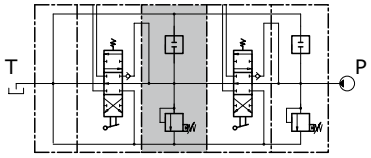
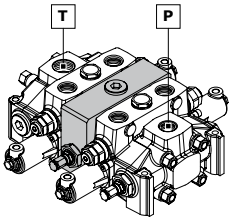
Rif.	Code	Description	Page
-	**BE**	Intermediate inlet section	**23**
	BV*	Intermediate inlet section with pressure relief valve	
1	**009**	Pilot operated pressure relief valve	**24**
	010	Pilot operated pressure relief valve and Main anticavitation check valve	
	019	Without valves	
	020	Main anticavitation check valve	
2	**A G07**	Upper inlet (thread G 1”1/4)	
	A U07	Upper inlet (thread 1”5/8-12 UNF)	

NOTE: when ordering a relief valve it is necessary to specify factory setting (example 150).
***** = omit the code for inlet positioning and thread

Intermediate inlet section classifications

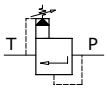
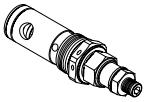
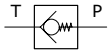
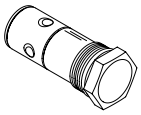
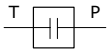
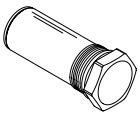
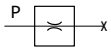
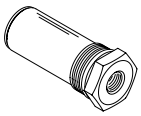
intermediate inlet type			
BE			Intermediate inlet section

The intermediate inlet section is driven by two pumps (P + P1). The downstream elements can be set to a lower pressure than the upstream ones by adjusting the pressure relief valve of the intermediate section in question.

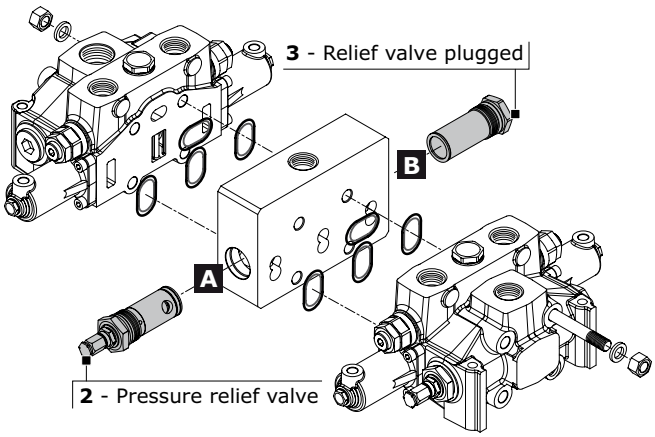
BV			Intermediate inlet section with pressure relief vlalve

The intermediate inlet section and the elements are driven by a single pump (P). The downstream elements can be set to a lower pressure than the upstream ones by adjusting the pressure relief valve of the intermediate section in question.

Valve identification on intermediate inlet section

type	schema	layout	description	type	schema	configurazione	descrizione
2			Pilot operated pressure relief valve	**4**			Externaly piloted valve
3			Relief valve plugged	**11**			Plug with pressure-gauge connection

Valve arrangement on intermediate inlet section



Combination valve example: 009 = 2A - 3B

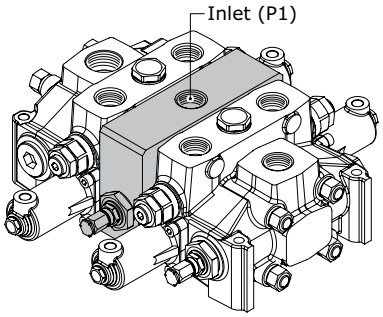
009 Combination valve
2A Pressure relief valve in port A
3B Relief valve plugged in port B

The code identifies:
with a number, the type of valve; with a letter its position on the inlet section.

(A) = spool action side
(B) = spool return action side

NOTE: when ordering a main relief valve it is necessary to specify setting

VALVE COMBINATION INLET SECTION		Valve type on port B			
		2	3	4	11
Valve type on port A	2		009	010	016
	3	018	019	020	027
	4	029	030		
	11	085	086		

Inlet combination and thread available		
A G07		Upper inlet
A G08		
A U07		
A S07		
A S08		
A S35		
A S36		

Complete configuration samples for D25/2 with intermediate inlet section (BE)

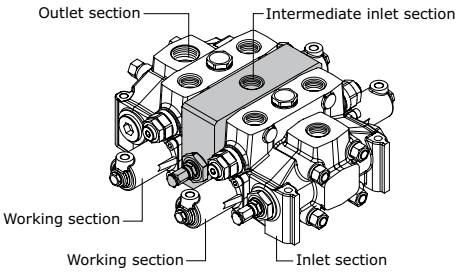
IR 009 150 A G07..... Right inlet section

W001A H006 RP G07 ..... Working section

BE 009 150 A G07 .....Intermediate inlet section

W001A H006 RP G07 ..... Working section

TJ A G08 ..... Outlet section



Complete configuration samples for D25/2 with intermediate inlet section (BV)

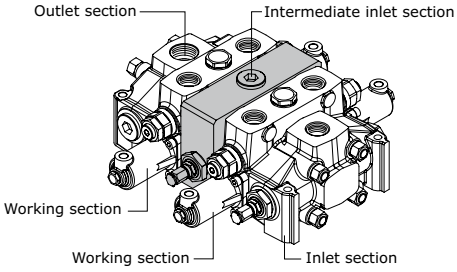
IR 009 150 A G07..... Right inlet section

W001A H006 RP G07 ..... Working section

BV 009 150 .....Intermediate inlet section

W001A H006 RP G07 ..... Working section

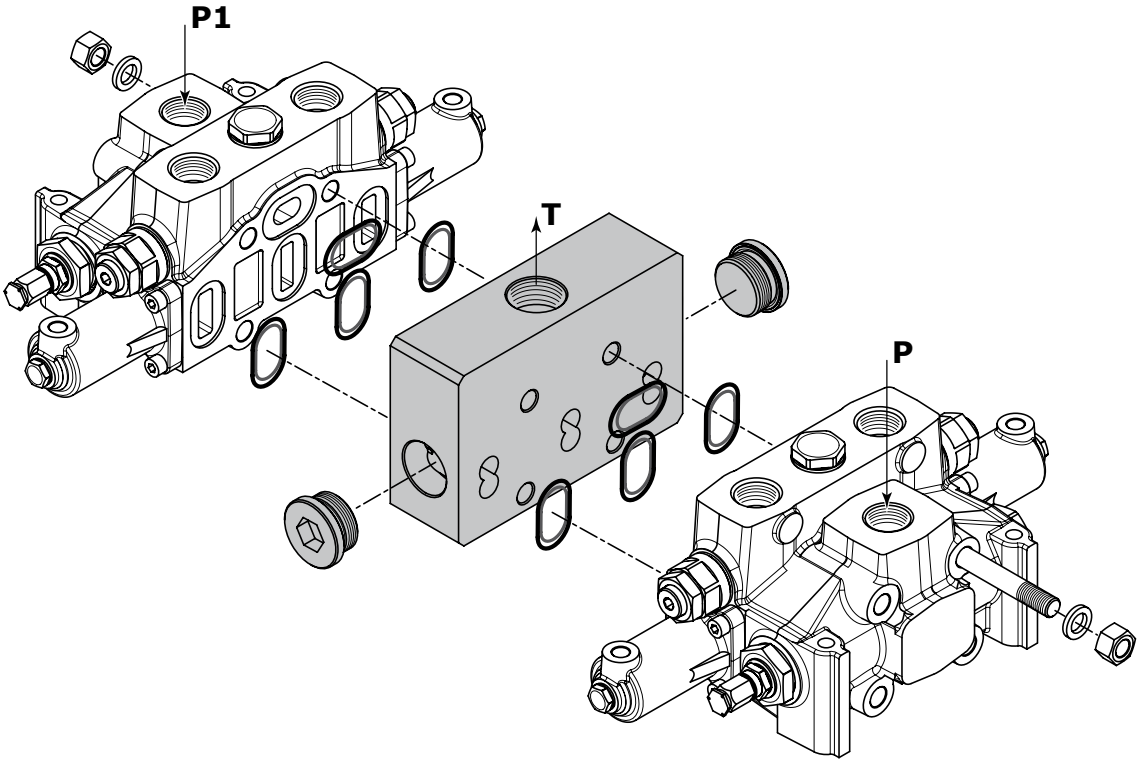
TJ A G08 ..... Outlet section



INTERMEDIATE OUTLET SECTION

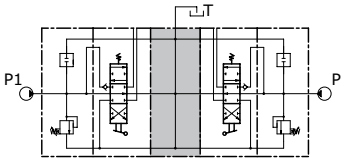
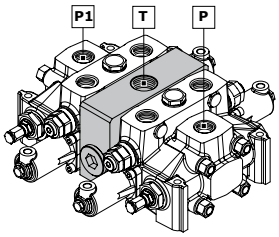
Order example

			BF	A G08
	BF	inlet side		
1.	**A G08**	inlet position and available thread type		

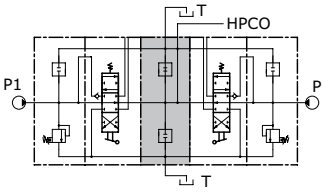
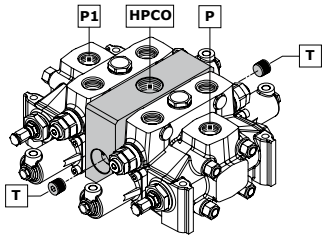


Rif.	Code	Type	Description	Page
-	**BF**		Intermediate outlet section with single tank return	26
	BG		Intermediate outlet section with two tank returns	
1	**A G08**	for BF	Upper outlet (thread G 1”1/2)	
	A U07		Upper outlet (thread 1”5/8-12 UNF)	
	G G08		Front outlet side A (thread G 1”1/2)	
	G U07		Front outlet side A (thread 1”5/8-12 UNF)	
	H G08		Rear outlet side B (thread G 1”1/2)	
	H U07		Rear outlet side B (thread 1”5/8-12 UNF)	
	J G08	for BG	Upper outlet HPCO - front side A and rear side B to T (thread G 1”1/2)	
	J U07		Upper outlet HPCO-front side A and rear side B to T (thread 1”5/8-12 UNF)	

Intermediate outlet section classifications

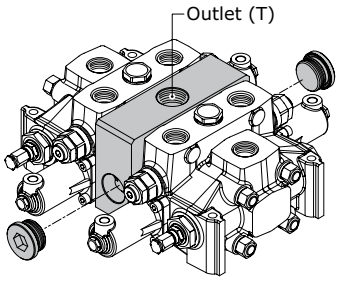
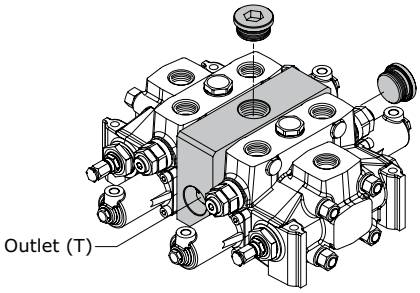
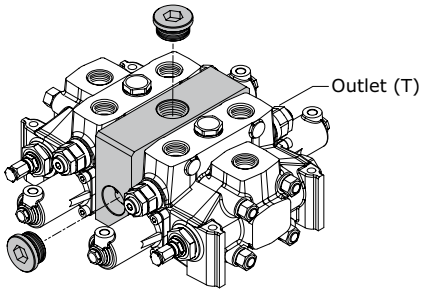
intermediate outlet type			
BF			Intermediate outlet section **with single tank return**

The above outlet section allows the flow of oil of the two pumps and the tank ports to be piped to a single outlet T.

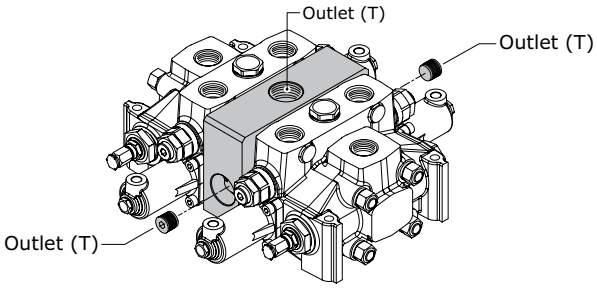
BG			Intermediate outlet section **with two tank returns**

The section in question allows the flow of oil of the two pumps to be piped in two outlets: HPCO for powering another directional control valve, T for discharge of the work ports. In order to obtain this, the two T need to be linked.

Outlet position and available thread type (for BF intemediate)

Outlet combination and thread available		
A G08 **A U07** **A S09** **A S10**		Upper outlet (T)
G G08 **G U07** **G S09** **G S10**		Front outlet side A (T)
H G08 **H U07** **H S09** **H S10**		Rear outlet side B (T)

Outlet position and available thread type (for BG intemediate)

Inlet combination and thread available		
J G08		Upper outlet HPCO front side A and rear side B to T
J U07		
J S09		
J S10		

Complete configuration samples for D25/2 with intermediate outlet section (BF)

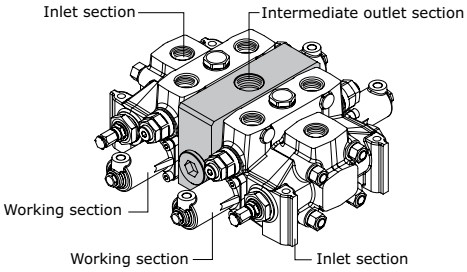
IR 009 150 A G07..... Right inlet section

W001A H006 RP G07 ..... Working section

BF A G08 .....Intermediate outlet section

W001A H006 RP G07 ..... Working section

IL 009 150 A G07 ..... Left inlet section



Complete configuration samples for D25/2 with intermediate oulet section (BG)

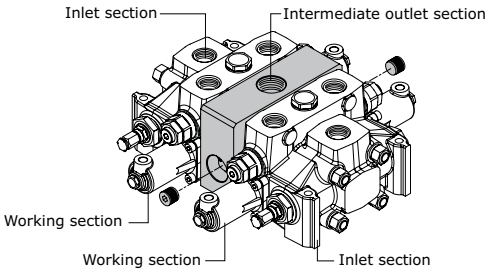
IR 009 150 A G07..... Right inlet section

W001A H006 RP G07 ..... Working section

BG J G08 .....Intermediate outlet section

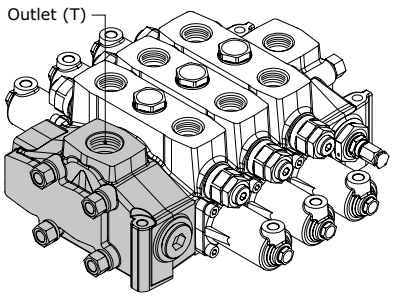
W001A H006 RP G07 ..... Working section

IL 009 150 A G07 ..... Left inlet section



OUTLET SECTION (VERSION 1 OUTLET)

Order example



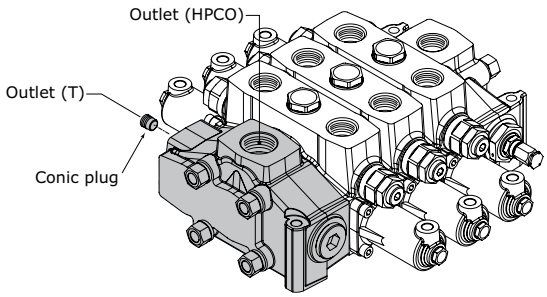
TJ	A G08

1. **TJ** outlet section type
2. **A G08** outlet position and available thread type

Rif.	Code	Description	Page
1	**TJ**	Outlet section with single return (T) right-side inlet (P)	29
	TK	Outlet section with single return (T) left-side inlet (P)	
2	**A G08**	Upper outlet (thread G 1”1/2)	
	A U07	Upper outlet (thread 1”5/8-12 UNF)	
	A S09	Upper outlet (thread SAE 3000 - 1”1/2 MA)	
	A S10	Upper outlet (thread SAE 3000 - 1”1/2 UNC)	
	C G08	Central outlet (thread G 1”1/2)	
	C U07	Central outlet (thread 1”5/8-12 UNF)	
	C S09	Central outlet (thread SAE 3000 - 1”1/2 MA)	
	C S10	Central outlet (thread SAE 3000 - 1”1/2 UNC)	

OUTLET SECTION (HPCO VERSION OUTLET)

Order example - HPCO version Outlet



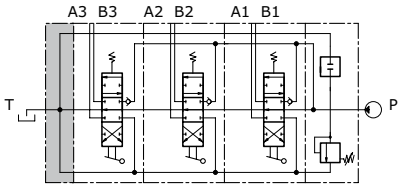
TM	M G08

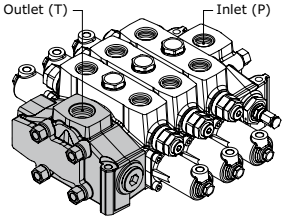
1. **TM** outlet section type
2. **M G07** outlet position and available thread type

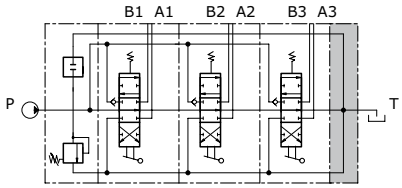
Rif.	Code	Description	Page
1	**TM**	Outlet section with two return (T-HPCO) right-side inlet (P)	30
	TN	Outlet section with two return (T-HPCO) left-side inlet (P)	
2	**M G08**	HPCO upper outlet T (tank) rear outlet side B (thread G 1”1/2)	
	M U07	HPCO upper outlet T (tank) rear outlet side B (thread 1”5/8-12 UNF)	
	M S09	HPCO upper outlet T (tank) rear outlet side B (thread SAE 3000 - 1”1/2 MA)	
	M S10	HPCO upper outlet T (tank) rear outlet side B (thread SAE 3000 - 1”1/2 UNC)	
	N G08	HPCO upper outlet T (tank) front outlet side A (thread G 1”1/2)	
	N U07	HPCO upper outlet T (tank) front outlet side A (thread 1”5/8-12 UNF)	
	N S09	HPCO upper outlet T (tank) front outlet side A (thread SAE 3000 - 1”1/2 MA)	
	N S10	HPCO upper outlet T (tank) front outlet side A (thread SAE 3000 - 1”1/2 UNC)	

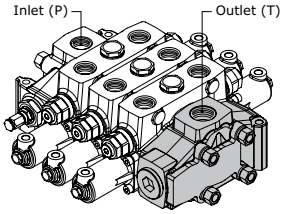
Outlet with single tank classification

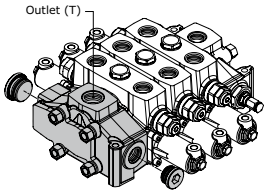
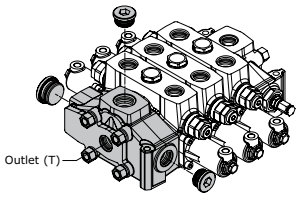
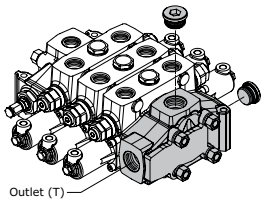
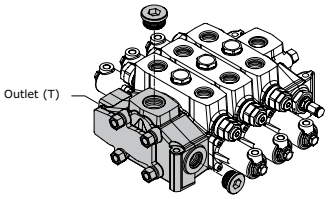
outlet identification			
TJ	Outlet section with single return (T) right-side inlet (P)	**TK**	Outlet section with single return (T) left-side inlet (P)







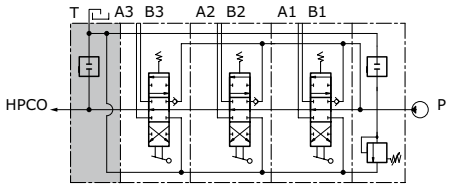


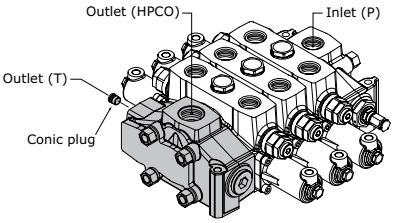
outlet combination and thread available			
A G08			Upper outlet (thread G 1”1/2)
A U07			Upper outlet (thread 1”5/8 - 12 UNF)
A S09			Upper outlet (thread SAE 3000 - 1”1/2 MA)
A S10			Upper outlet (thread SAE 3000 - 1”1/2 UNC)
C G08			Central outlet (thread G 1”1/2)
C U07			Central outlet (thread 1”5/8 - 12 UNF)
C S09			Central outlet (thread SAE 3000 - 1”1/2 MA)
C S10			Central outlet (thread SAE 3000 - 1”1/2 UNC)
G G08		**only for TK**	Front outlet side A (thread G 1”1/2)
G U07			Front outlet side A (thread 1”5/8 - 12 UNF)
G S09			Front outlet side A (thread SAE 3000 - 1”1/2 MA)
G S10			Front outlet side A (thread SAE 3000 - 1”1/2 UNC)
H G08		**only for TJ**	Rear outlet side B (thread G 1”1/2)
H U07			Rear outlet side B (thread 1”5/8 - 12 UNF)
H S09			Rear outlet side B (thread SAE 3000 - 1”1/2 MA)
H S10			Rear outlet side B (thread SAE 3000 - 1”1/2 UNC)

Outlet with two tanks classification

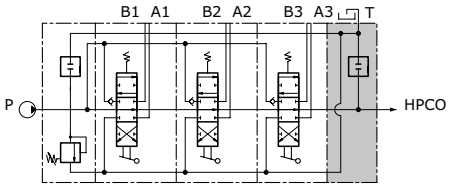
outlet identification

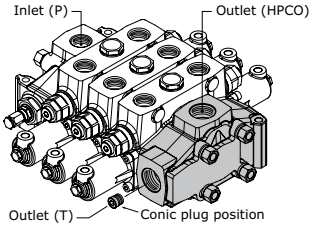
TM — Outlet section with two return (T-HPCO) right-side inlet (P)



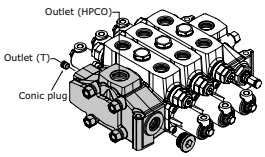
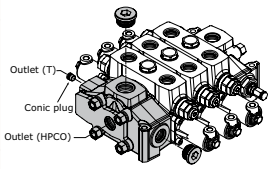
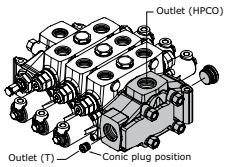
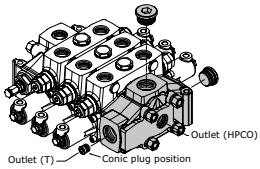


TN — Outlet section with two return (T-HPCO) left-side inlet (P)



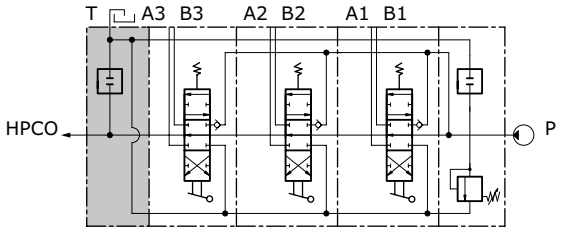


outlet combination and thread available

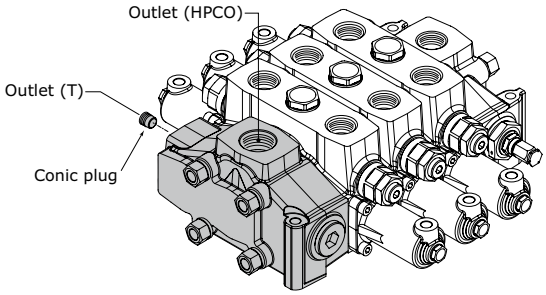
M G08		**only for TM**	HPCO Upper outlet T rear outlet side B (G 1"1/2)	**P G08**		**only for TM**	HPCO Central outlet T rear outlet side B (thread G 1"1/2)
M U07			HPCO Upper outlet T rear outlet side B (1"5/8-12 UNF)	**P U07**			HPCO Central outlet T rear outlet side B (1"5/8-12 UNF)
M S09			HPCO Upper outlet T rear outlet side B (SAE 3000 1"1/2 MA)	**P S09**			HPCO Central outlet T rear outlet side B (SAE 3000 1"1/2 MA)
M S10			HPCO Upper outlet T rear outlet side B (SAE 3000 1"1/2 UNC)	**P S10**			HPCO Central outlet T rear outlet side B (SAE 3000 1"1/2 UNC)
M S37			HPCO Upper outlet T rear outlet side B (SAE 6000 1"1/4 MA)	**P S37**			HPCO Central outlet T rear outlet side B (SAE 6000 1"1/4 MA)
M S38			HPCO Upper outlet T rear outlet side B (SAE 6000 1"1/4 UNC)	**P S38**			HPCO Central outlet T rear outlet side B (SAE 6000 1"1/4 UNC)
N G08		**only for TN**	HPCO Upper outlet T front outlet side A (G 1"1/2)	**Q G08**		**only for TN**	HPCO Central outlet T front outlet side A (G 1"1/2)
N U07			HPCO Upper outlet T front outlet side A (1"5/8-12 UNF)	**Q U07**			HPCO Central outlet T front outlet side A (1"5/8-12 UNF)
N S09			HPCO Upper outlet T front outlet side A (SAE 3000 1"1/2 MA)	**Q S09**			HPCO Central outlet T front outlet side A (SAE 3000 1"1/2 MA)
N S10			HPCO Upper outlet T front outlet side A (SAE 3000 1"1/2 UNC)	**Q S10**			HPCO Central outlet T front outlet side A (SAE 3000 1"1/2 UNC)
N S37			HPCO Upper outlet T front outlet side A (SAE 6000 1"1/4 MA)	**Q S37**			HPCO Central outlet T front outlet side A (SAE 6000 1"1/4 MA)
N S38			HPCO Upper outlet T front outlet side A (SAE 6000 1"1/4 UNC)	**Q S38**			HPCO Central outlet T front outlet side A (SAE 6000 1"1/4 UNC)

CARRY-OVER CONNECTION (HPCO)

This option, available on all D25, allows the sectional valve to feed a second valve, by extending the free flow channel. In this configuration, the valve need a separated port for connection to tank.

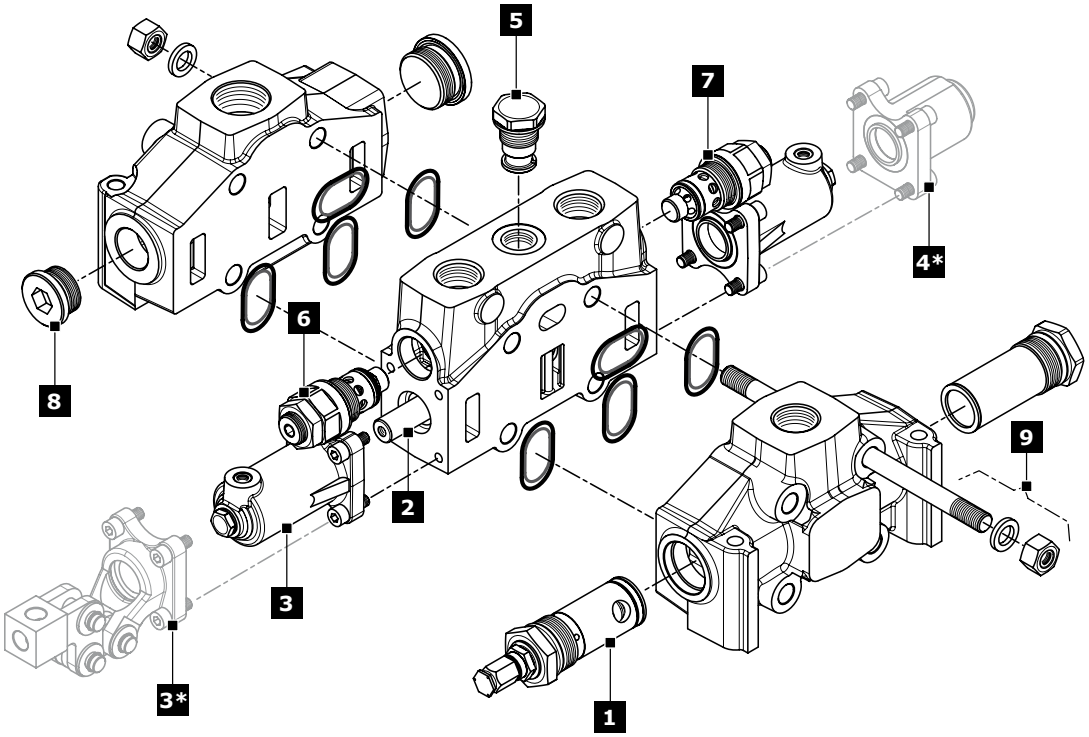


It is possible to transform sectional valve from standard to HPCO version just by ordering the appropriate conic plug:



code (HPCO Plug identification)	description	q.ty
413010201	conic plug G 1/2 x 17	2

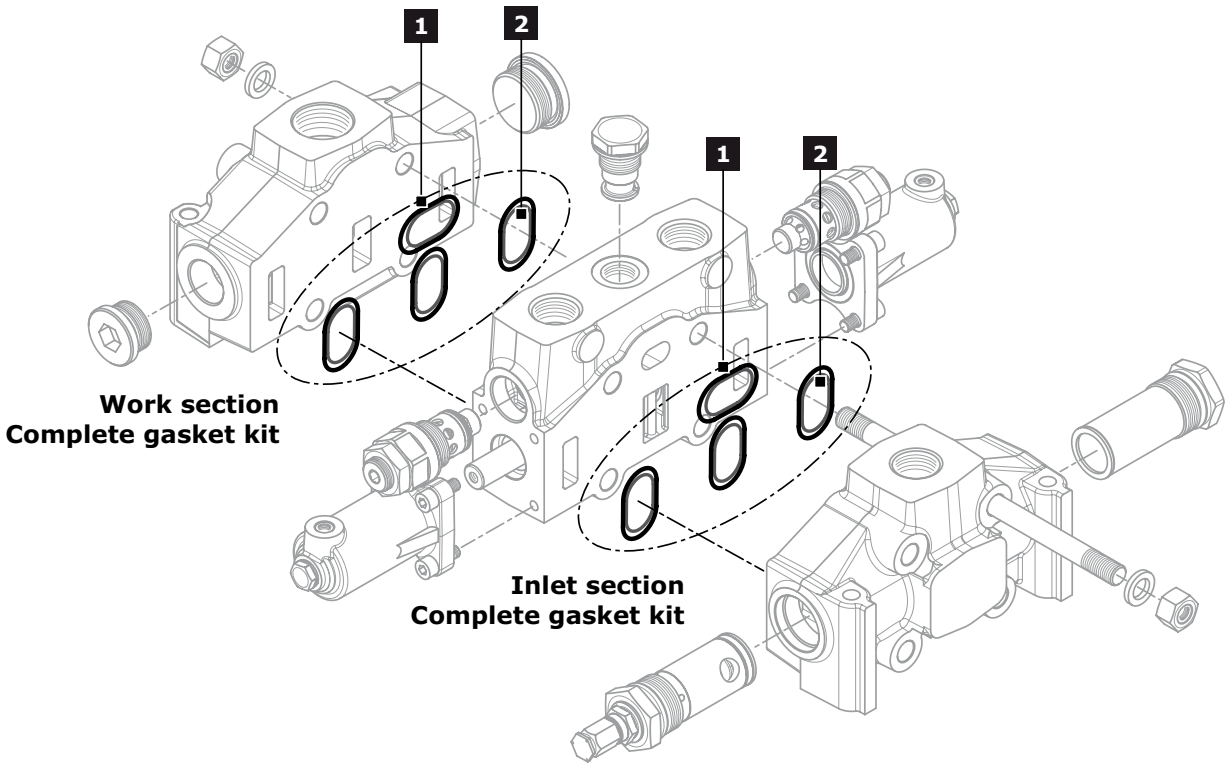
D25 SPARE PARTS LIST



Ref.	Description	Order code	Q.ty	Code	Note
1	Pilot operated pressure relief valve (*)	**30168**	1	-	Setting: 100 bar
		3143			Setting: 200 bar
		4383			Setting: 300 bar
	Relief valve plugged	**430109001**	1		
	Main Anticavitation check valve	**915050901**	1		
	External piloted valve	**915040901**	1		
	Plug with pressure-gauge connection	**430109003**	1		
2	3 positions double-acting spool	**421209015**	1	**W001A**	
		421209029		**W001B**	
		421209003		**W001A**	for hydraulic actuation
	3 positions double-acting A and B to tank spool	**421209007**	1	**W002A**	
		421209042		**W002B**	
		421209004		**W002A**	for hydraulic actuation
	3 positions single-acting on A	**421209022**	1	**W005A**	
	3 positions single-acting on B	**421209023**	1	**W006A**	
	4 positions double-acting with float in the 4th pos.	**421209018**	1	**W012A**	
		421209017			for hydraulic actuation
3*	Protected lever	**320309001**		**H101=H102**	
		320309003			only for W012 spool
3	Hydraulic actuation with side ports	**320509001**	2	**H005**	for BSP version
		320509006	1		only for W012 spool - for BSP version
		320509012	2		for UNF version
		320509017	1		only for W012 spool - for UNF version

Ref.	Description	Order code	Q.ty	Code	Note
4*	3 position spring centred spool	**320709004**	1	**F001A**	
	Detent in A and B	**320809001**	1	**F002A**	
	Detent in A	**320809002**	1	**F003A**	
	Detent in B	**320809003**	1	**F004A**	
	Detent in 4th position	**320809004**	1	**F005A**	only for W012 spool
5	Check valve on the work section	**320209001**	1	**-**	only for RP and RT section
6	Antishock valve on port A	**3027**	1	**01 PA**	Setting: 100 bar
		2647			Setting: 200 bar
		2781			Setting: 300 bar
	Anticavitation valve on port A	**915080801**		**02 PA**	
	Pilot combined valve on port A	**15888**		**04 PA**	Setting: 100 bar
		5091			Setting: 200 bar
		8943			Setting: 300 bar
	Prearrangement for auxiliary valve on port A	**430409001**		**05 PP**	
7	Antishock valve on port B	**3027**	1	**01 PB**	Setting: 100 bar
		2647			Setting: 200 bar
		2781			Setting: 300 bar
	Anticavitation valve on port B	**915080801**		**02 PB**	
	Pilot combined valve on port B	**15888**		**04 PB**	Setting: 100 bar
		5091			Setting: 200 bar
		8943			Setting: 300 bar
	Prearrangement for auxiliary valve on port B	**430409001**		**05 PB**	
8	Plug kit (G 1"1/4)	**430000022**		**G07**	
	Plug kit (1"5/8-12 UNF)	**300009002**		**U07**	

GASKET KITS



Inlet and work section			
Rif.	**Order code**	**Description**	**Q.ty**
1	423401017	Ring	4
2	412020603	O.R. 90SH (2-129)	4
Complete Gasket kit: order code - 350909001			

INSTALLATION AND MAINTENANCE

Guidelines

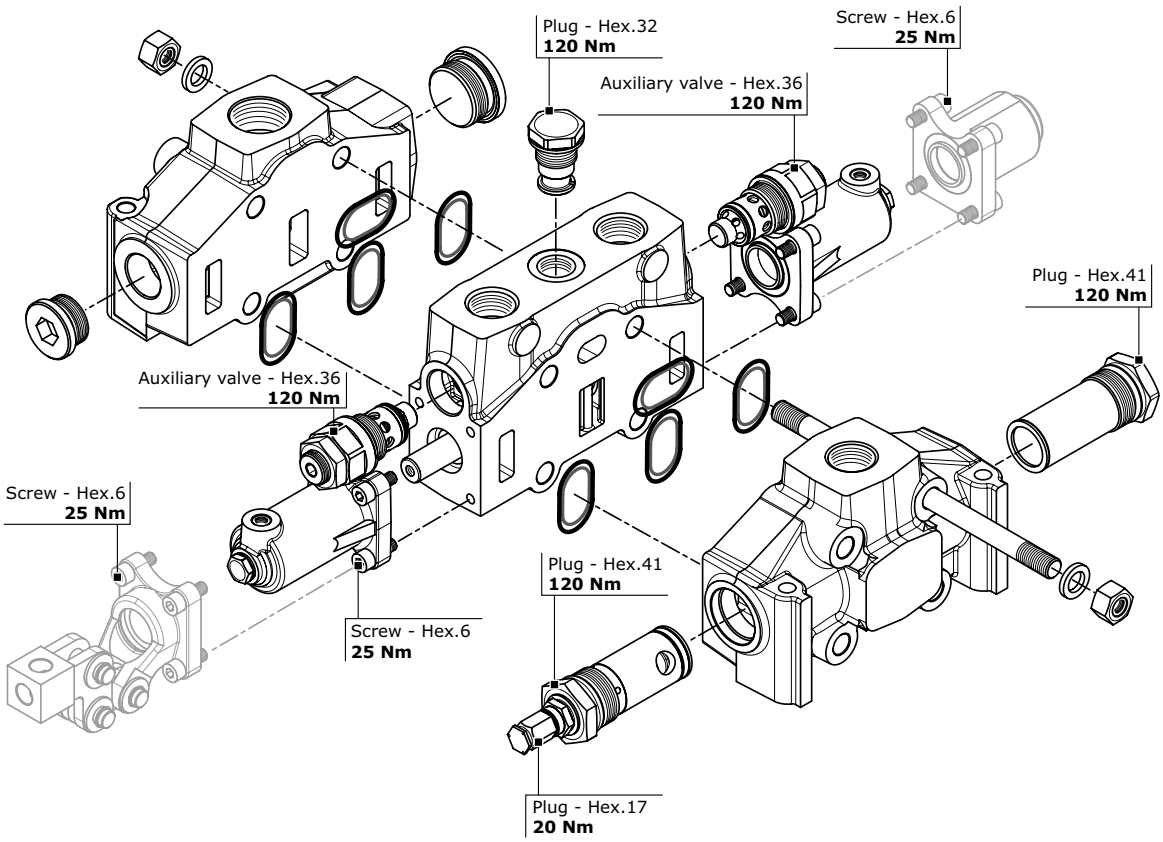
- Mount the control valve securely to a flat surface (recommended 3 point fixing); at the time do not use a hammer to positioning by hitting.
- When handling the control valve, be careful not hold the pilot cover or return spring cap of the spool or accessory valves such as main relief valves and anti-shock relief valves.
- Clean piping materials sufficiently before use.
- Make sure to prevent the port openings from being entered with dust or foreign matters.
- Tighten the port connectors surely with the recommended fastening torques.
- Do not direct the jet of a pressure washing unit directly to the valve.

Fittings tightening torque (Nm)

thread type	port P	Port A - B	Port T
BSP (ISO - 228)	**G 1"1/2**	**G 1"1/2**	**G 1"1/2**
with rubber sealing (DIN 3869)	120	120	120
with copper or steel and rubber washer	120	120	120
BSP (ISO - 228)	**G 1"1/4**	**G 1"1/4**	**G 1"1/4**
with rubber sealing (DIN 3869)	120	120	120
with copper or steel and rubber washer	120	120	120
UN-UNF (ISO - 725)	**1"1/16 12 UNF**	**1"1/16 12 UNF**	**1"1/16 12 UNF**
with O.R.	120	120	120
UN-UNF (ISO - 725)	**1"5/16 12 UNF**	**1"5/16 12 UNF**	**1"5/16 12 UNF**
with O.R.	120	120	120

General clamping torque

The following table provides the main tightening torques of the distributor D25:



Dimensions - Thread codes

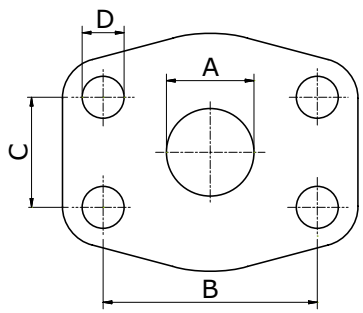
The connection ports size is indicated by an ordering code common for all Walvoil products. Following table shows all available connections.

METRIC THREAD (ISO 9974-1)			
Type	M18x1,5	M22x1,5	M27x2
Code	**M01**	**M02**	**M03**

BSP THREAD (ISO 1179-1)								
Type	1/4″	3/8″	1/2″	3/4″	1″	1″1/4	1″1/2	2″
Code	**G02**	**G03**	**G04**	**G05**	**G06**	**G07**	**G08**	**G09**

UN / UNF THREAD (ISO 11926-1)						
Type	9/16″ 18 UNF SAE6	3/4″ 16 UNF SAE8	7/8″ 14 UNF SAE10	1″1/16 12 UNF SAE12	1″5/16 12 UNF SAE16	1″5/8 12 UNF SAE20
Code	**U02**	**U03**	**U04**	**U05**	**U06**	**U07**

Dimensions - SAE Flange codes



SAE / 3000 FLANGE (ISO 6162-1)												
Type	3/4″ (MA)	3/4″ (UNC)	1″ (MA)	1″ (UNC)	1″1/4 (MA)	1″1/4 (UNC)	1″1/2 (MA)	1″1/2 (UNC)	2″ (MA)	2″ (UNC)	3″ (MA)	3″ (UNC)
Code	**S03**	**S04**	**S05**	**S06**	**S07**	**S08**	**S09**	**S10**	**S11**	**S12**	**S15**	**S16**
A	19	19	25	25	32	32	38	38	51	51	76	76
B	47,6	47,6	52,4	52,4	58,7	58,7	69,9	69,9	77,8	77,8	106,4	106,4
C	22,3	22,3	26,2	26,2	30,2	30,2	35,7	35,7	42,9	42,9	61,9	61,9
D	M10	3/8-16	M10	3/8-16	M10	7/16-14	M12	1/2-13	M12	1/2-13	M16	5/8-11

SAE / 6000 FLANGE (ISO 6162-2)								
Type	3/4″ (MA)	3/4″ (UNC)	1″ (MA)	1″ (UNC)	1″1/4 (MA)	1″1/4 (UNC)	1″1/2 (MA)	1″1/2 (UNC)
Code	**S33**	**S34**	**S35**	**S36**	**S37**	**S38**	**S39**	**S40**
A	19	19	25	25	32	32	38	38
B	50,8	50,8	57,2	57,2	66,6	66,6	79,3	79,3
C	23,8	23,8	27,8	27,8	31,8	31,8	36,5	36,5
D	M10	3/8-16	M12	7/16-14	M14	1/2-13	M16	5/8-11

GENERAL CONDITIONS AND PATENTS

Introduction

These general conditions apply to all general supplies from Walvoil s.p.a., after receiving orders from the Customer. Should commercial terms such as EXW, DDP, etc be mentioned, of course the Incoterms of the International Chamber of Commerce must be referred to, according to the test existing when the general supply conditions are agreed on.

Management of orders

No Customer's order is binding to Walvoil s.p.a. if Walvoil s.p.a. has not confirmed the order in writing. Walvoil s.p.a. commits to supplying the orders in compliance with the order confirmation that has been issued. Any disagreement with the content of the order confirmation must be communicated in writing to Walvoil s.p.a. within and no later than 5 days from the delivery of the order confirmation. The Customer commits to paying for the goods supplied by Walvoil s.p.a., according to the prices indicated on the order confirmation.

Payment conditions

The Parties agree on the payment terms at the beginning of the supply. The terms will be indicated on the order confirmation. Should the Customer be late with the payments, Walvoil S.p.a. will be entitled to require the payment of interests on arrears based on the exiting Prime Rate increased by 2%. Should there be any payment delay, Walvoil s.p.a. will be entitled not to process the Customer's purchase order, even if it has already been confirmed.

Delivery and shipment

The goods are always supplied Ex Works, even when Walvoil s.p.a. agrees with the Customer that the shipment, or a part of it, will be arranged by Walvoil s.p.a. It is agreed that the Customer will bear the risk of goods deterioration or damaging from the moment the goods are handed by Walvoil s.p.a. to the first carrier.

Product characteristics

Walvoil s.p.a. commits to supplying good quality products, compliant with the technical specifications declared on the technical tables and on the catalogue. Walvoil s.p.a, even without notice, at its own discretion, reserves the right to modify the products as necessary, without these changes altering the main characteristics of the products.

Claims

Any claims about defects on delivered products (just as an example: claims about the packaging, the number, the quantity or the external product characteristics) will have to be notified to Walvoil s.p.a. in writing, within and no later than 7 days from reception of the goods, otherwise the claims will be considered as null and void. Occult defects (the defects of the goods that cannot be spotted with a careful control of the goods received by the Customer), will have to be notified in writing to Walvoil s.p.a. within 7 days from the discovery of the defect, and anyhow no later than 12 months from the delivery of the goods, otherwise the claim will be considered as null and void. Even in case of claim or objection, the Customer will never be entitled to suspend or delay the payments to Walvoil s.p.a. for the products subject to claim or objection nor for any other supply.

GENERAL CONDITIONS AND PATENTS

Warranty

Should the products supplied by Walvoil not be compliant or have the required quality and should this defect be due to Walvoil, Walvoil s.p.a. commits, at its choice, to replace or repair the faulty products, as long as the defect or lack of compliance is notified to Walvoil s.p.a. in writing, as specified at point 6, within and no later than 18 months from product delivery. On the products that have been fixed or replaced in accordance with what specified above, the above-mentioned warranty applies. The 12 month duration starts from the date of repair or replacement. In case of defects, lack of quality or in case of lack of compliance for the supplied products, with the exception of fraud or serious offence, Walvoil s.p.a. only commits to repairing or replacing the faulty products, according to what specified above. This warranty replaces any other Supplier's warranty or liability established by the law. This warranty excludes any other liability contractual or extra-contractual by Walvoil s.p.a. on the products supplied by Walvoil (as a mere example: damage refund, loss of profit, product recall campaign, etc). Walvoil s.p.a. has signed a product civil liability police, with a suitable maximum coverage.

Ownership retention

The products supplied by Walvoil s.p.a. will be owned by the latter until Walvoil receives the complete payment for the supplied goods.

Obligation confidentiality

Walvoil s.p.a. commits to not disclosing the technical and commercial information it receives from the Customer, unless this information has already been publicly disclosed.

Patents

The Customer is not allowed to use the provided Products, or a part of them, their descriptions or drawings protected or not protected by Patent or registered trademark in order to design or make similar products, unless Walvoil s.p.a. previously issues its written authorization. Should Walvoil s.p.a. give its written authorization, all patents, trademarks, registered designs, copyrights and intellectual property rights related or connected to the Products provided by Walvoil s.p.a. will stay Walvoil's property. The Customer commits to respecting the highest confidentiality.

Applicable law and court of jurisdiction

Walvoil s.p.a.'s supplies are regulated by these General Supply Conditions and, for anything not defined here, by the Italian law. Any controversy related, generated or connected to the supply of Products by Walvoil s.p.a., where Walvoil s.p.a. is involved, will be exclusively dealt with by the Court of Bologna.

NOTES

NOTES

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