

DIRECTIONAL ELECTRO-HYDRAULIC SYSTEM
SISTEMA ELETTRO-IDRAULICO DIRETTO



DIRECTIONAL ELECTRO-HYDRAULIC SYSTEM

DV3D is a direct electro-hydraulic modular system to control the fluid and to direct according to the specific customizations that the customer requires.

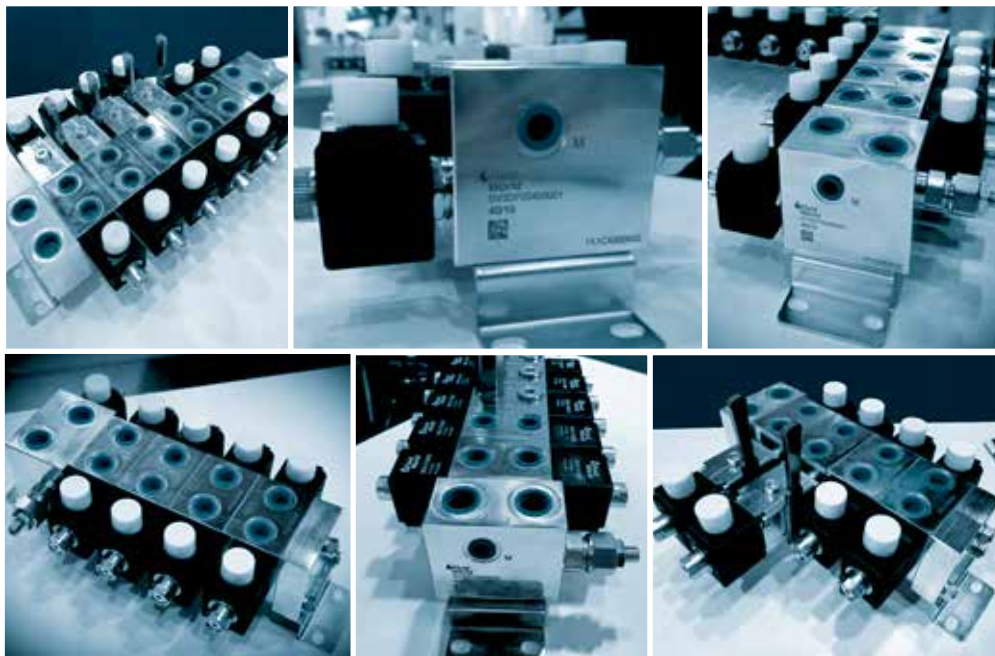
This system called **bankable** is composed of standard directional sections to which you can add various types of options (such as check pilot valves, solenoid valves, overcenter, etc ...) and from an inlet manifold can be achieved to pleasure with manual valves, solenoid on-off valves and proportional valves.

The small dimensions, great flexibility and **interchangeability with other competitors** make this type of system very interesting both for OEM'S and for dealers.

***DV3D** è un sistema elettro-idraulico diretto componibile per controllare il fluido e direzionarlo secondo le specifiche personalizzazioni che il cliente richiede.*

*Il sistema comunemente chiamato **bancabile** è composto da sezioni direzionali standard a cui si possono aggiungere varie tipologie di opzioni (tipo valvole di blocco, valvole elettriche, overcenter, ecc...) e da un blocco in entrata realizzabile a piacere con valvole manuali, elettriche on-off e proporzionali.*

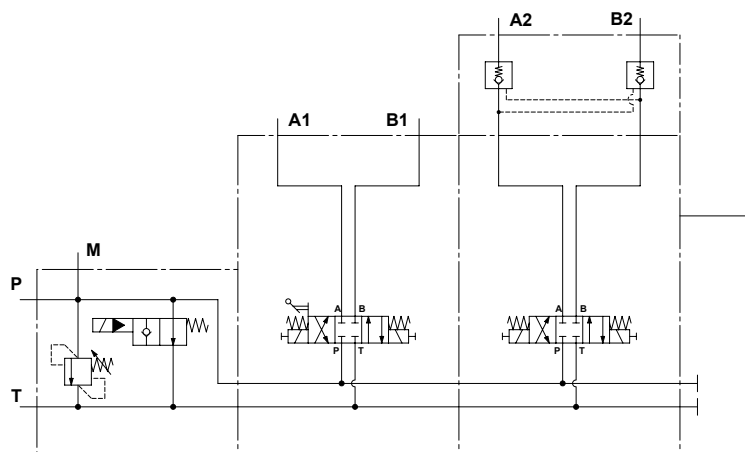
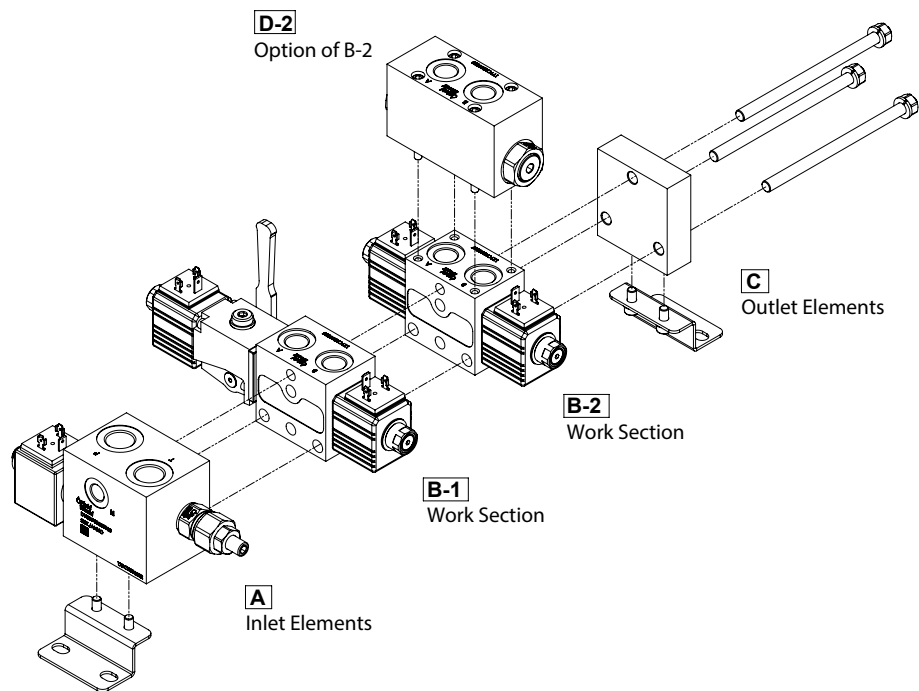
*L'ingombro ridotto, la grande flessibilità e l'**intercambiabilità con altri competitors** rende questo sistema molto interessante sia per costruttori di macchine che per qualsiasi rivenditore.*



DIRECTIONAL ELECTRO-HYDRAULIC SYSTEM

Max Flow <i>Portata Massima</i>	30 l/min
Max Pressure <i>Pressione Massima</i>	325 bar
Max Back Pressure in T <i>Contropressione Massima in T</i>	30 bar
Material Working Section <i>Materiale Sezioni di Lavoro</i>	Cast Iron Zinc Plated
Ports Dimensions <i>Dimensioni Bocche</i>	A, B= G3/8
Fluid Viscosity <i>Viscosità Fluido</i>	10 to 200 cSt
Ambient Temperature <i>Temperatura Ambientale</i>	-20° C to 50° C
Fluid Temperature Range <i>Campo di Temperatura del Fluido</i>	-20 °C to 80 ° C
Fluid Contamination <i>Contaminazione Fluido</i>	ISO 4406: 19/17/14; NAS 1638: 8
Coil Power <i>Potenza della Bobina</i>	26 W
Connector Type <i>Tipi di Connettore</i>	DIN, Deutsch DT, AMP JPT

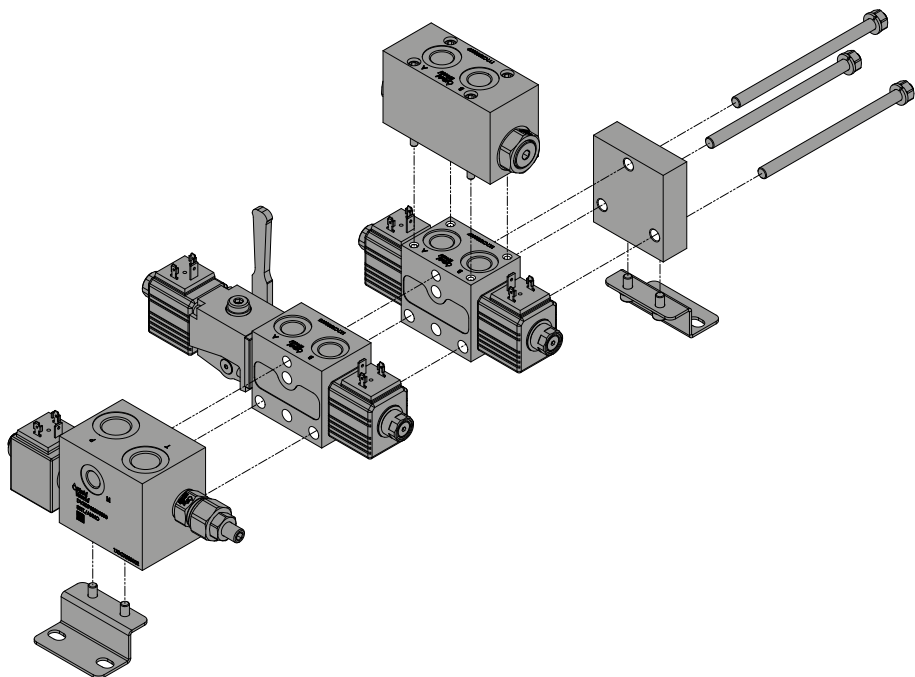
EXAMPLE OF ORDER



EXAMPLE OF ORDER

SECTIONS	SEQUENCE TO ORDER	PAGE
DV3D	General Configuration (with 2 work section)	DV3D-P0-02-ST-00/ 326
A	Inlet Elements	IN-C3-G12N-A-20NSTD-NA-0000-V12-DNN/ 330
B-1	Work Section 1	SCC3-10-SA-38N-EE-01-V12-DNN-SS00N000-SF/ 336
B-2	Work Section 2	SCC3-00-NN-38N-EE-01-V12-DNN-SS00N000-VF/ 336
D-2	Option of B (B-2)	WBD-00AB-G38N-A-01-G07/ 350
C	Outlet Elements	EX-SNPT-N000-A/ 344

DV3D - GENERAL CONFIGURATION

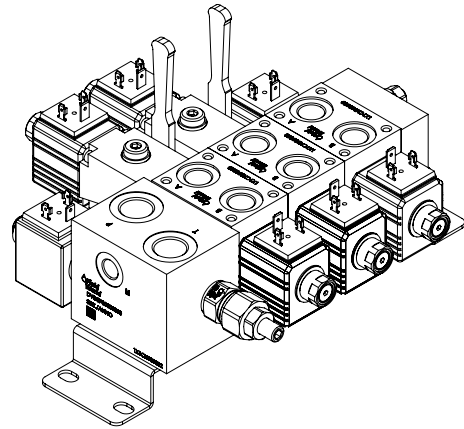


01	02	03	04	05
DV3D	-	P0	-	02
			ST	00
				/

DV3D - GENERAL CONFIGURATION

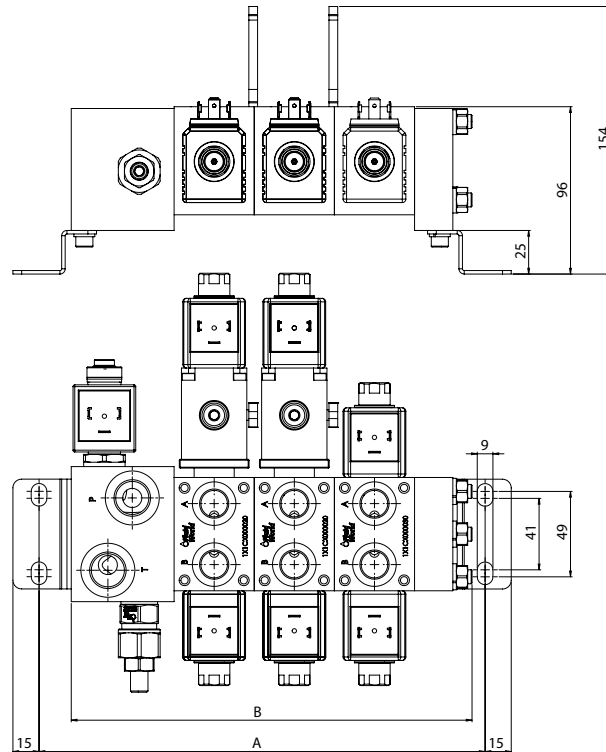
01	Bankable size: 30 l/min on/off	- DV3D
02	Bankable circuit: Parallel with seals NBR	- P0
03	Number of sections: From 2 to 10 sections	- 02 03 04
04	Brackets: Standard brackets No brackets	- ST NS
05	Material protection: Standard Inlet/outlet anodized aluminium and steel zinc plated components Inlet/outlet and components in zinkel nickel	- 00 01 02

DV3D - GENERAL CONFIGURATION

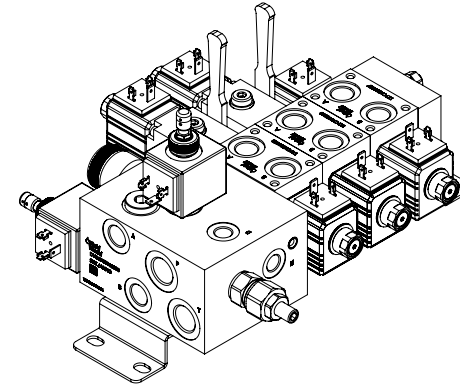


Sections N°	DIMENSIONS					
	A	B	A	B	A	B
2	190	164	210	184	246	220
3	236	210	256	230	292	266
4	282	256	302	276	338	312
5	328	302	348	322	384	358
6	374	348	394	368	430	404
7	420	394	440	414	476	450
8	466	440	486	460	522	496
9	512	486	532	506	568	542
10	558	532	578	552	614	588

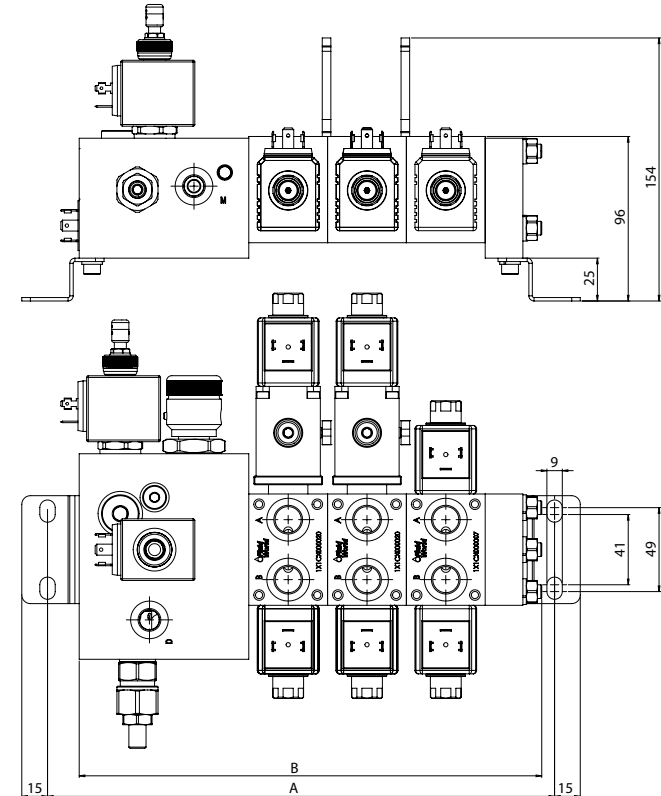
C3 inlet section with
3 work sections.



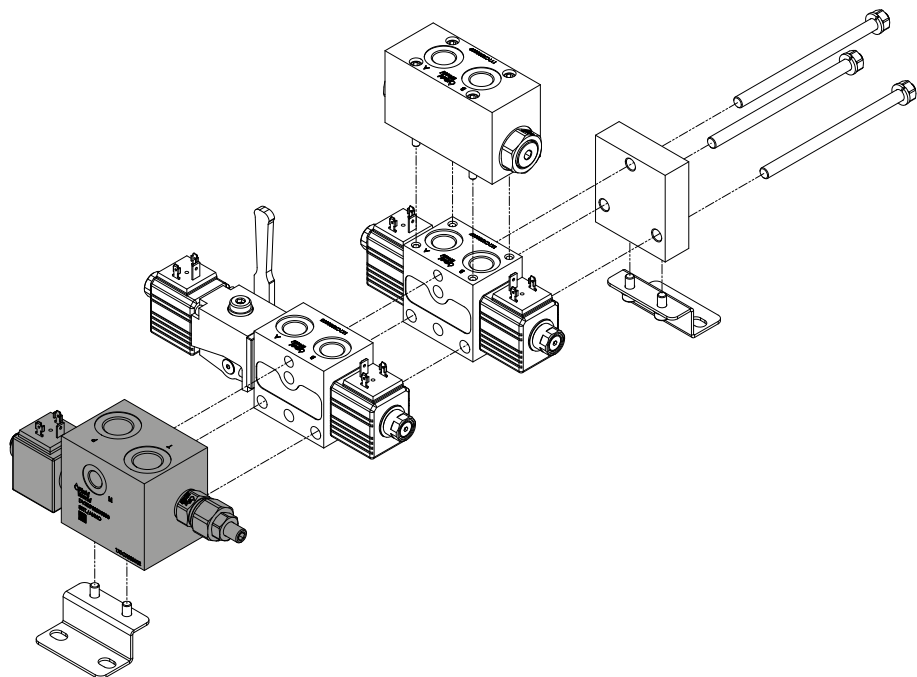
DV3D - GENERAL CONFIGURATION



C4 inlet section with
3 work sections.



A - INLET ELEMENTS



01	02	03a	03b	04	05a	05b	06	07	08	09a	09b									
IN	-	C3	-	G12	N	-	A	-	20	NSTD	-	NA	-	0000	-	V12	-	D	NN	/

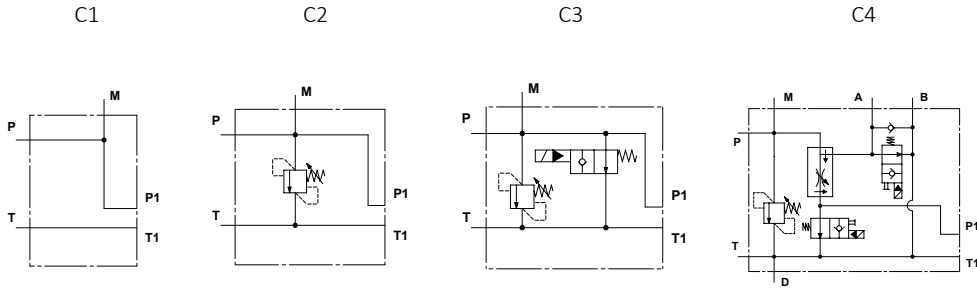
01	Inlet elements	IN
02	Application scheme: Basic (only connections) With pressure relief valve With pressure relief valve and electric unloading valve With compensated flow control valve, pressure relief valve and electric unloading valve	pag. 332 C1 C2 C3 C4
03a	Ports: P e T G3/8 - M G1/4 (DIN 3852) P e T G1/2 - M G1/4 (DIN 3852)	- G38 G12

A - INLET ELEMENTS

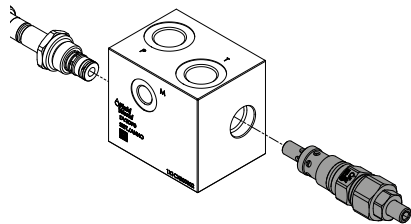
03b	Option corking: P, T e M open P e M closed, T open T e M closed, P open P, T e M closed	- N P T C
04	Material: Aluminium Steel zinc plated	- A S
05a	Main pressure relief valve: (Omit for C1) Range 5-55 Range 25-110 Range 50-215 Range 100-350 Plug (without pressure relief valve)	pag. 332 05 10 20 35 00
05b	Setting pressure relief valve: (Omit for C1) Standard adjustment Adjustment required Adjustment required with safety plug Plug (without pressure relief valve)	pag. 332 NSTD N(XXX) T(XXX) NTAP
06	Electric unloading valve: (Omit for C1 and C2) Normally open Plug (without electric unloading valve)	- NA TS
07	Option electric unloading valve: (Omit for C1, C2 and choice plug in 06) Without emergency NA with push emergency NA with push&twist emergency	pag. 333 0000 EMPO EMPT
08	Coil: (Omit for C1, C2 and choice plug in 06) 12 Vdc 24 Vdc No coil	pag. 333 V12 V24 BBO
09a	Coil connector: (Omit for C1, C2 and choice plug in 06) DIN EN 175301-803 (ex. DIN 43650) DT04-2P AMP-JUNIOR No coil	pag. 333 D T J B
09b	Option coil: (Omit for C1, C2 and choice plug in 06) No connector With connector With connector and bidirectional diode No coil	pag. 333 NN NC SC B0

A - INLET ELEMENTS

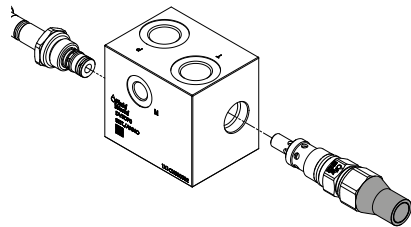
02 Application scheme:



05 Main pressure relief valve: (Omit for C1)



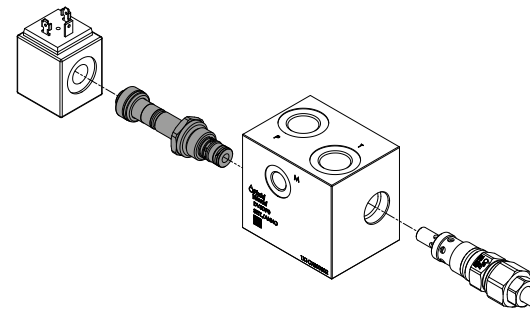
SPRINGS			
Code	Adjustable pressure range bar	Pressure increase bar/turn	Standard setting bar
05	5-55	15	5
10	25-110	25	25
20	50-215	50	50
35	100-350	90	100



(option)
T
Adjustment required with safety plug

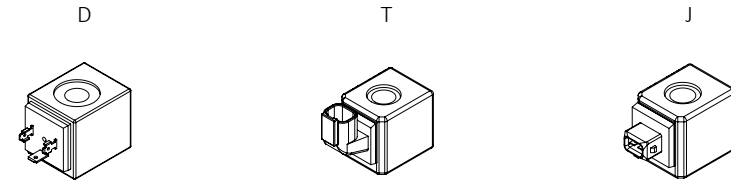
A - INLET ELEMENTS

07 Option electric unloading valve: (Omit for C1, C2 and choice plug in 06)



MANUAL OVERRIDE	
(EMP) Push	
(EMPT) Push & Twist	

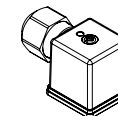
08 09 Coil: (Omit for C1, C2 and choice plug in 06)



COIL CHARACTERISTICS					
Vdc	Average power	Resistance	Protection IEC 144	Insulation	Nominal Voltage
12	22	6,5	IP 65	Class H	+/- 10%
24		26,5			

09b Coil connector: (Omit for C1, C2 and choice plug in 06)

Option Connector

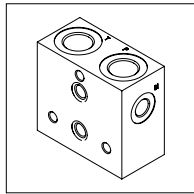


Option bidirectional diode
(hydraulic scheme)

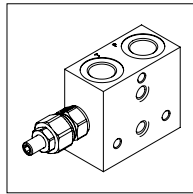


A - INLET ELEMENTS

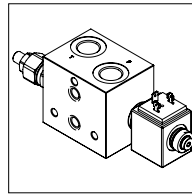
A - INLET ELEMENTS



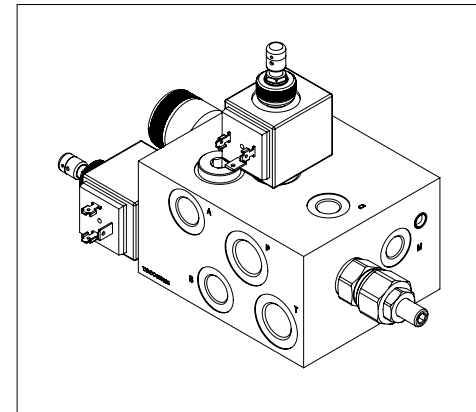
C1



C2

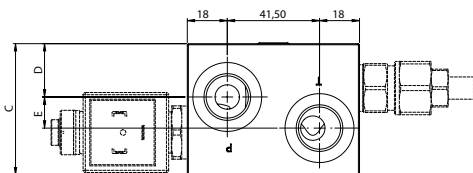
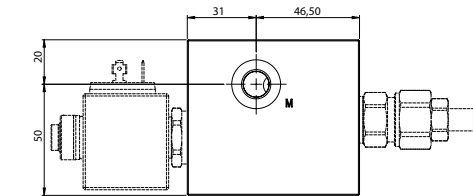
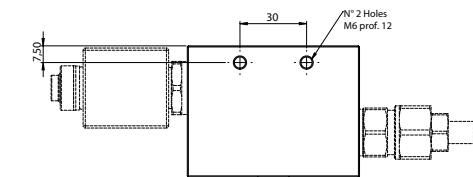
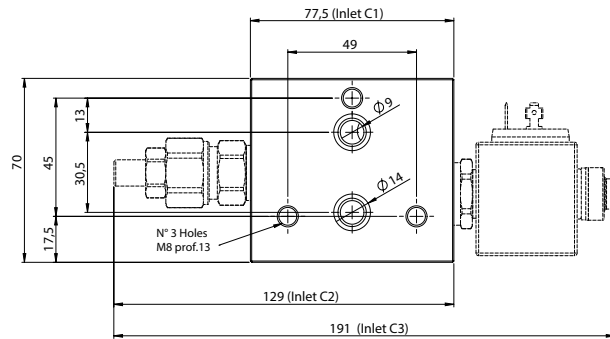


C3

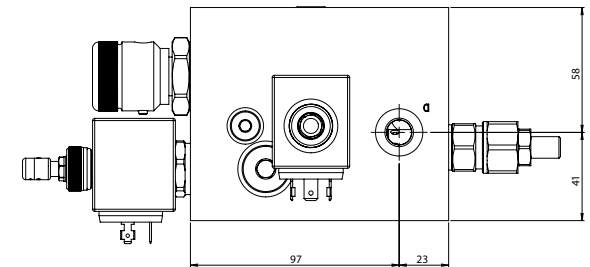
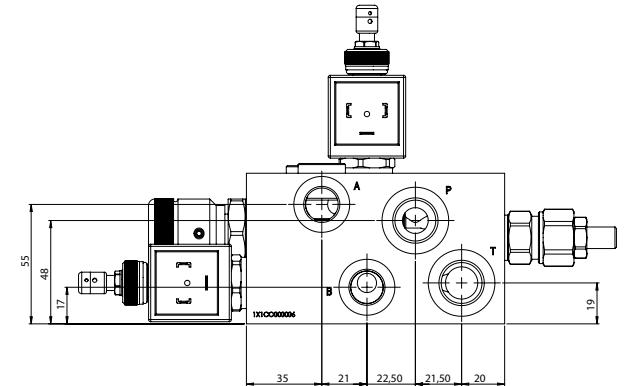
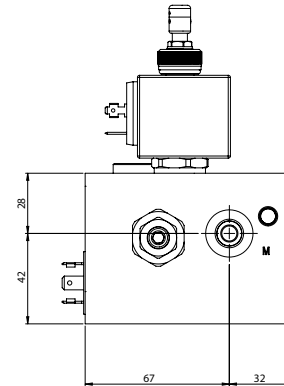


C4 inlet element

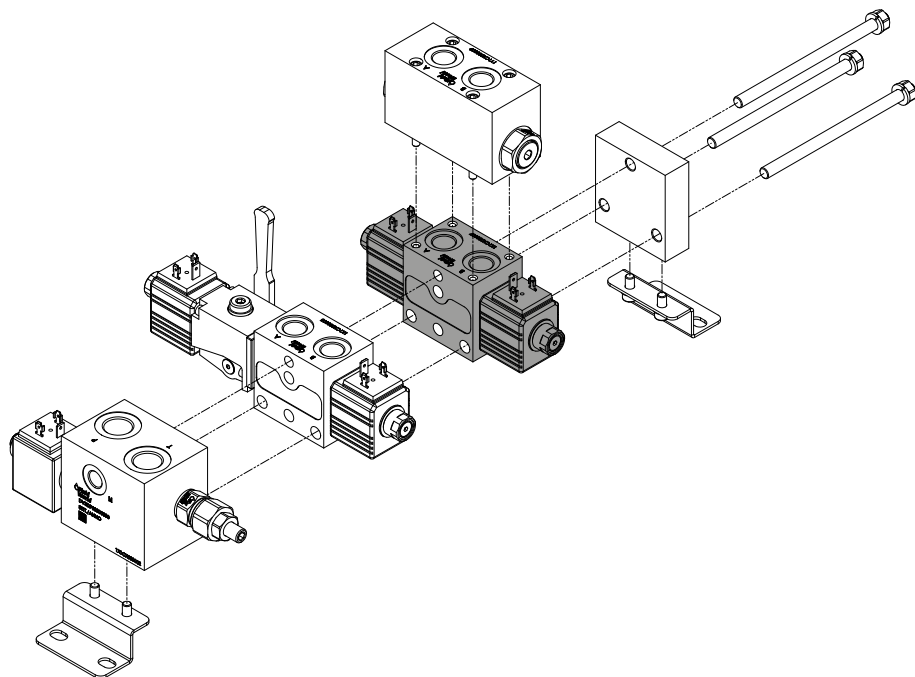
General external dimensions of Inlet elements.



INLET DIMENSIONS		
	C1 and C2	C3
C	39	59
D	19,5	24
E	-	14



B - WORK SECTION



01	02	03	04a	04b	05	06	07	08a	08b	09a	09b	10										
SCC3	-	00	-	NN	-	38	N	-	EE	-	01	-	V12	-	D	NN	-	SS00	N000	-	VF	/

01	Work Section:	pag. 338
	Spool closed center for 30 l/min	SCC3
	Spool motor spool for 30 l/min	SCY3
	Work section only with WPR C 50 (Accessory section)	SPWPR C 50

02	Manual emergency lever:	pag. 338
	No lever	00
	Lever 1, side A	10
	Lever 1, side B	01

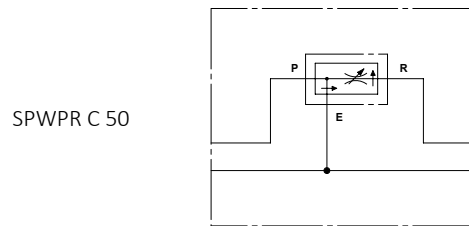
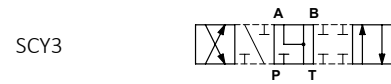
03	Lever position:	pag. 339
	No lever	NN
	Lever on the right upwards	DA
	Lever on the right downwards	DB
	Lever on the left upwards	SA
	Lever on the left downwards	SB

B - WORK SECTION

04a	Ports:	-
	G3/8 (DIN 3852)	38
04b	Option corking:	-
	A e B open	N
	A closed, B open	A
	B closed, A open	B
	A e B closed	C
05	Electromagnetic actuator:	pag. 340
	4/3 operated on both sides A and B	EE
	4/2 operated on side A only	ES
	4/2 operated on side B only	ED
06	Option emergency electromagnetic actuator:	pag. 340
	No emergency	00
	Pin Emergency	01
07	Coil:	pag. 340
	12 Vdc	V12
	24 Vdc	V24
	No coil	BB0
08a	Coil connector:	pag. 340
	DIN EN 175301-803 (ex. DIN 43650)	D
	DT04-2P	T
	AMP-JUNIOR	J
	No coil	B
08b	Option coil:	pag. 341
	No connector	NN
	With connector	NC
	With connector and bidirectional diode	SC
	No coil	B0
09a	Auxiliary valve: (contact our sales department)	pag. 341
	No valve	SS00
	Sides A and B, range 100-250	AB25
	Valve on A, range 100-250	AS25
	Valve on B, range 100-250	SB25
	Predisposition for valves with plug	AB00
09b	Setting auxiliary valve: (contact our sales department)	pag. 341
	No valve	N000
	Standard adjustment	NSTD
	Adjustment if required	N(XXX)
	Standard adjustment with safety plug	TSTD
	Adjustment if required with safety plug	T(XXX)
	Predisposition for valves with plug	NTAP
10	Flangeable valve:	-
	No valve	SF
	With flangeable valve on this section	VF

B - WORK SECTION

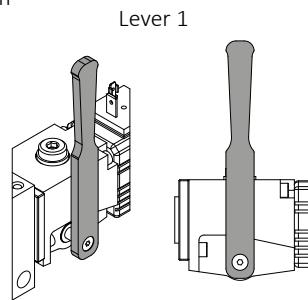
01 Spool:



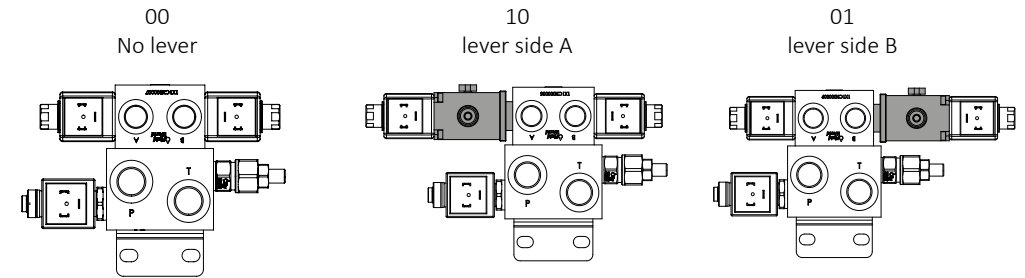
Intermediate work section for regular flow to next section.

02 Manual emergency lever:

The value with the lever are lowered to 10 l/min and 210 bar.

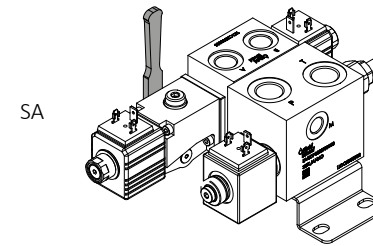


B - WORK SECTION

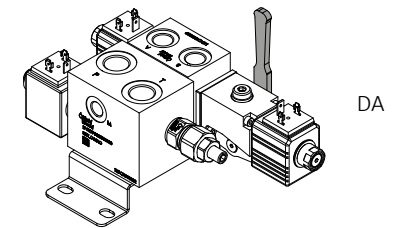


03 Lever position:

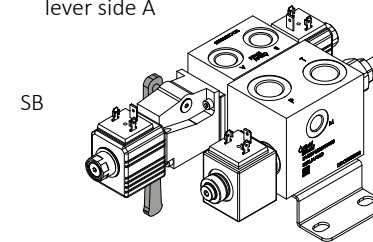
For choice lever side A



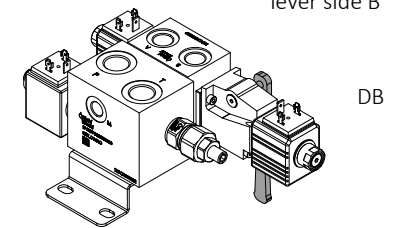
For choice lever side B



For choice lever side A



For choice lever side B



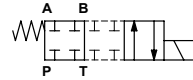
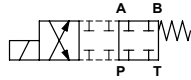
B - WORK SECTION

05 Electromagnetic actuator:

ES

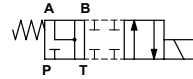
ED

Spool SCC3
4/2 operated on side A



Spool SCC3
4/2 operated on side B

Spool SCY3
4/2 operated on side A

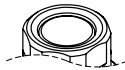


Spool SCY3
4/2 operated on side B

06 Option emergency electromagnetic actuator:

00

01



No emergency



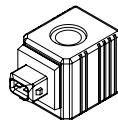
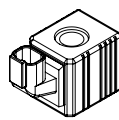
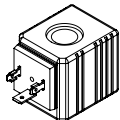
Pin emergency
(push the pin to
switches position)

07 08 Coil:

D

T

J



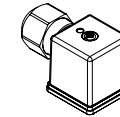
COIL CHARACTERISTICS					
Vdc	Average power	Resistance	Protection IEC 144	Insulation	Nominal Voltage
12	26	5,5	IP 65	Class H	±/− 10%
24		22			

B - WORK SECTION

08b Option coil:

Option Connector

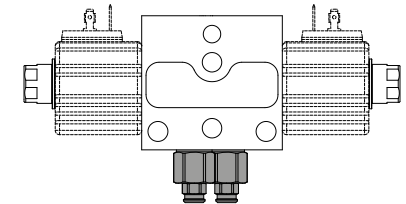
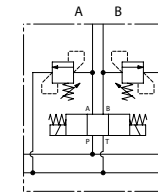
Option bidirectional diode
(hydraulic scheme)



09 Auxiliary valve:

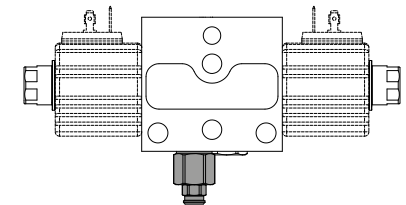
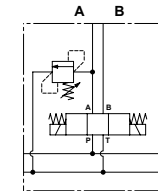
Contact our sales
department

AB__N__

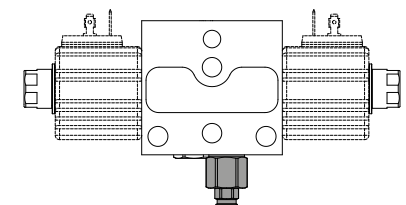
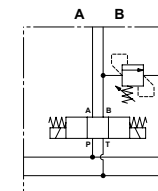


SPRINGS	
Code	Adjustable pressure range bar
03	1-30
25	100-250
45	250-450

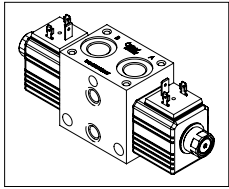
AS__N__



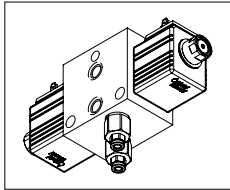
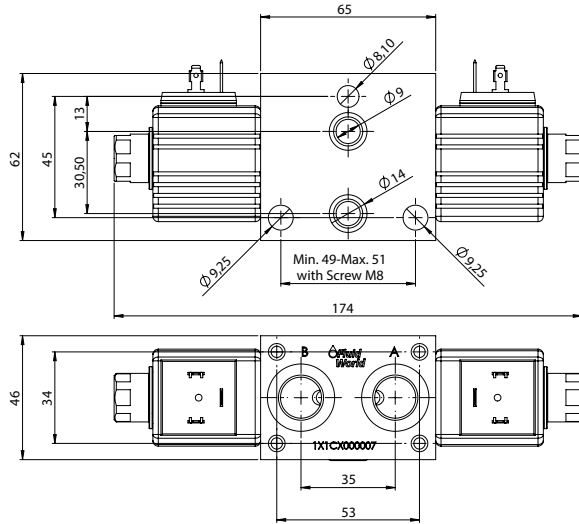
SB__N__



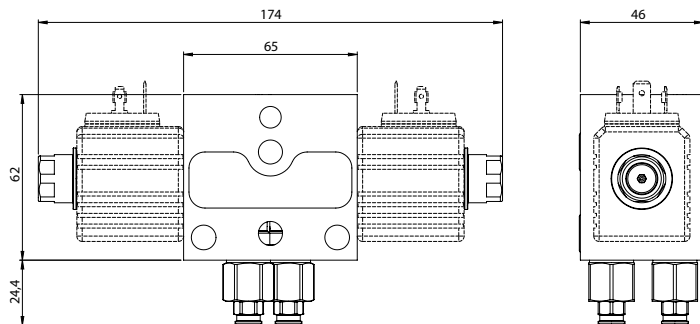
B - WORK SECTION



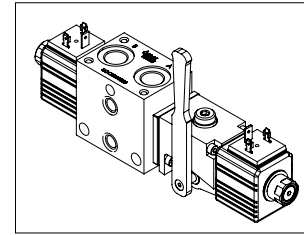
Working section
with 4/3 operated on both
sides A and B



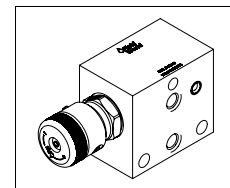
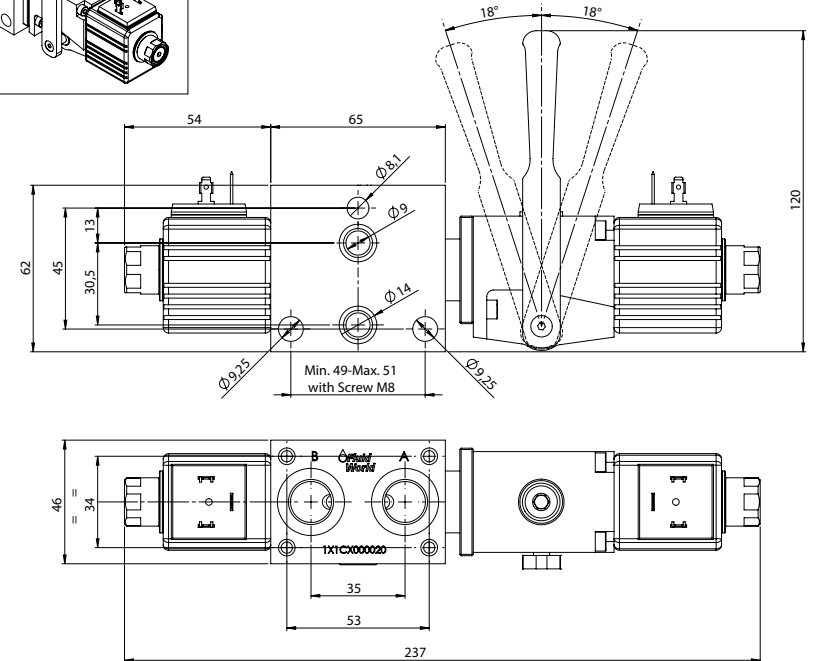
Working section
with auxiliary valves.



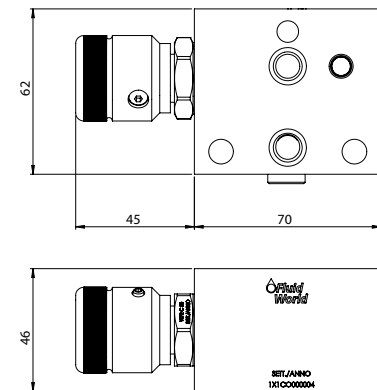
B - WORK SECTION



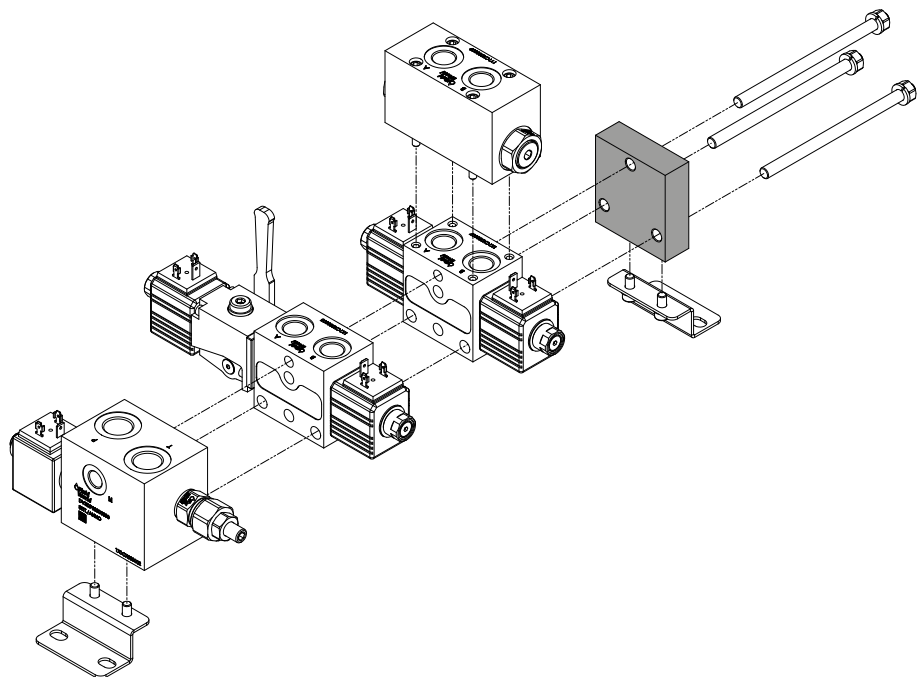
Working section
with lever for manual control.



Accessory section
with Cartridge WPR C 50



C - OUTLET ELEMENTS



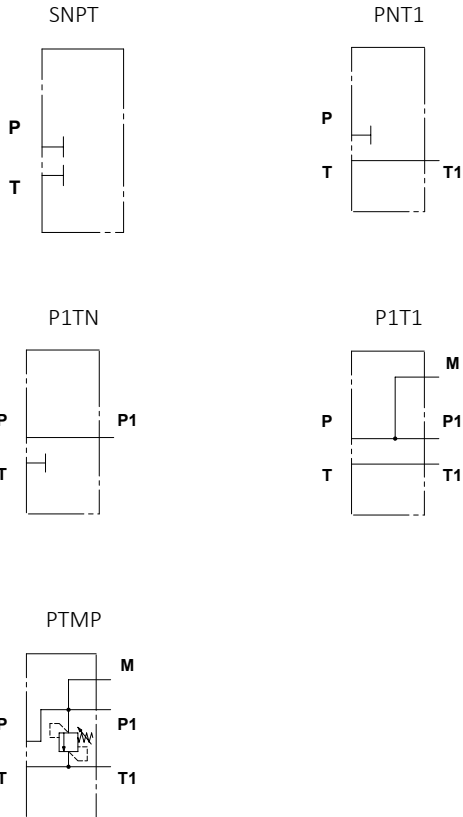
01	02	03a	03b	04	05a	05b					
EX	-	SNPT	-	N00	0	-	A	-			/

C - OUTLET ELEMENTS

01	Outlet elements	EX
02	Application scheme: Basic (no connections) With additional tank port T1 With additional inlet port P1 With additional port P1, T1 and pressure measurement M1 With additional port P1, T1, M1 and pressure relief valve	pag. 346 SNPT PNT1 P1TN P1T1 PTMP
03a	Ports: No ports (SNPT configuration) P and T G3/8 (DIN 3852) P and T G1/2 (DIN 3852)	- N00 G38 G12
03b	Option corking: No ports (SNPT configuration) P and T open P closed T open T closed P open P and T closed	- 0 N P T C
04	Material: Aluminium Steel zinc plated	- A S
05a	Pressure relief valve: (Only for PTMP) Range 5-55 Range 25-110 Range 50-215 Range 100-350 Plug (without pressure relief valve)	pag. 347 05 10 20 35 00
05b	Setting pressure relief valve: (Only for PTMP) Standard adjustment Adjustment required Adjustment required with safety plug Plug (without pressure relief valve)	pag. 347 NSTD N(XXX) T(XXX) NTAP

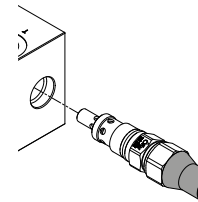
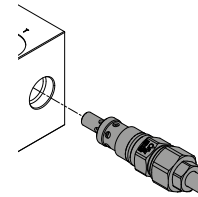
C - OUTLET ELEMENTS

02 Application scheme:



C - OUTLET ELEMENTS

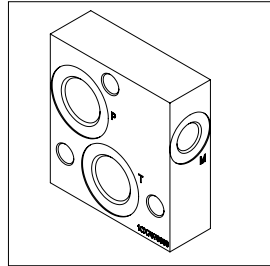
05 Pressure relief valve: (Only for PTMP)



SPRINGS			
Code	Adjustable pressure range bar	Pressure increase bar/turn	Standard setting bar
05	5-55	15	5
10	25-110	25	25
20	50-215	50	50
35	100-350	90	100

(option)
T
Adjustment required with safety plug

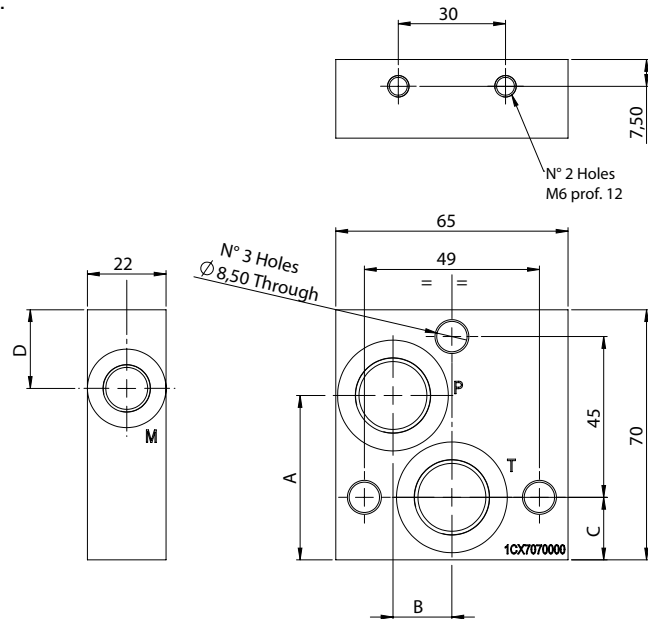
C - OUTLET ELEMENTS



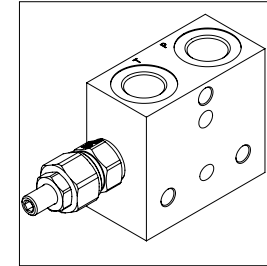
OUTLET DIMENSIONS G 3/8				
	SNPT	PNT1	P1TN	P1T1
A	-	-	42	42
B	-	-	-	-
C	-	13,5	-	13,5
D	-	-	-	22

OUTLET DIMENSIONS G 1/2				
	SNPT	PNT1	P1TN	P1T1
A	-	-	40	46
B	-	-	-	16,5
C	-	17,5	-	17,5
D	-	-	-	22

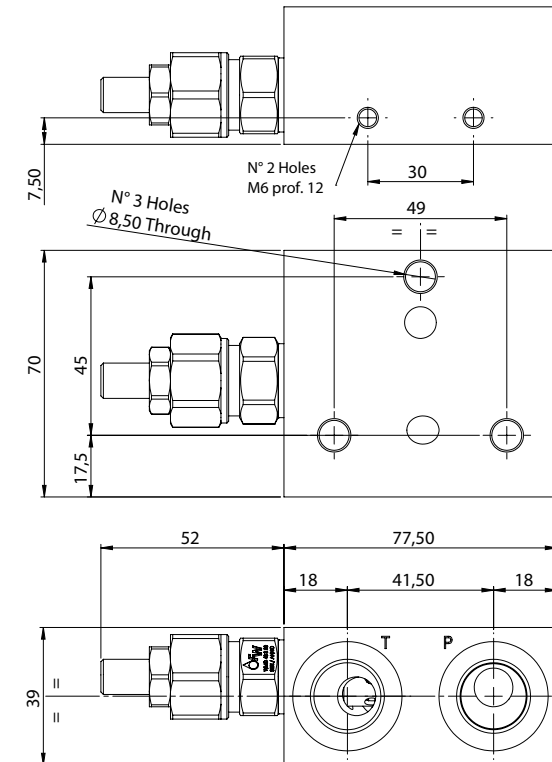
General external dimensions of outlet elements.



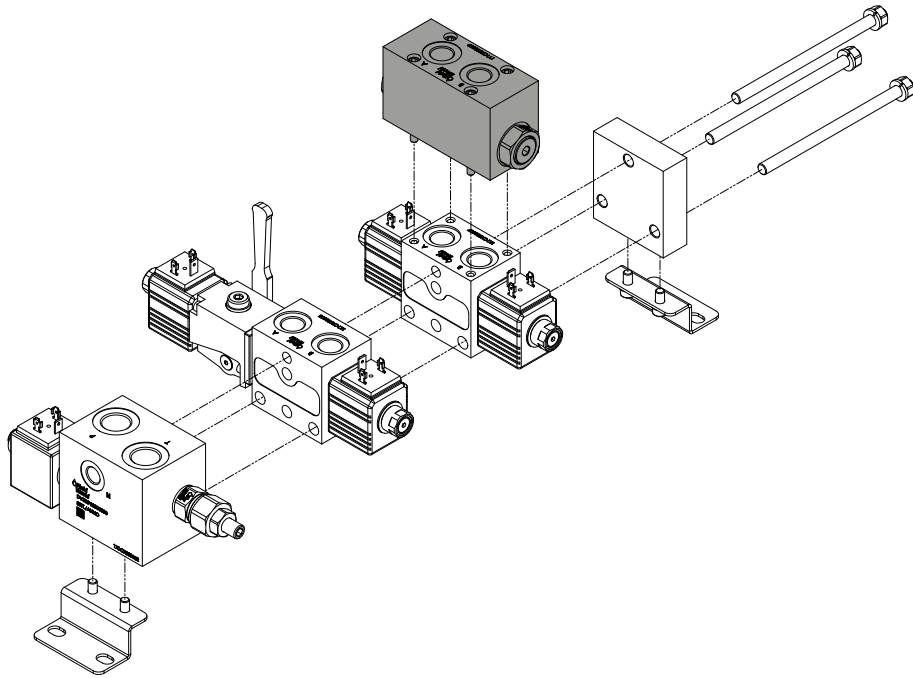
C - OUTLET ELEMENTS



PTMP outlet element
with P, T, M and pressure relief valve.



D - FLANGEABLE VALVE

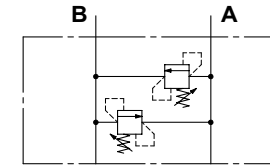


01	02	03a	03b	04	05	06	07	08	09							
WBD	-	00AB	-	G38	N	-	A	-	01	-	G07	-	-	-	-	/

D - FLANGEABLE VALVE

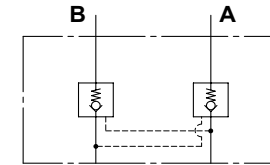
DUAL CROSS RELIEF VALVES

Pag. 352



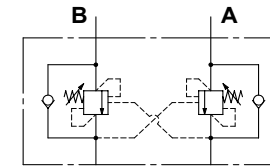
PILOT OPERATED CHECK VALVE

Pag. 354



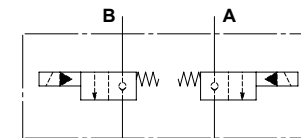
COUNTERBALANCE VALVES

Pag. 356



SOLENOID OPERATED VALVES

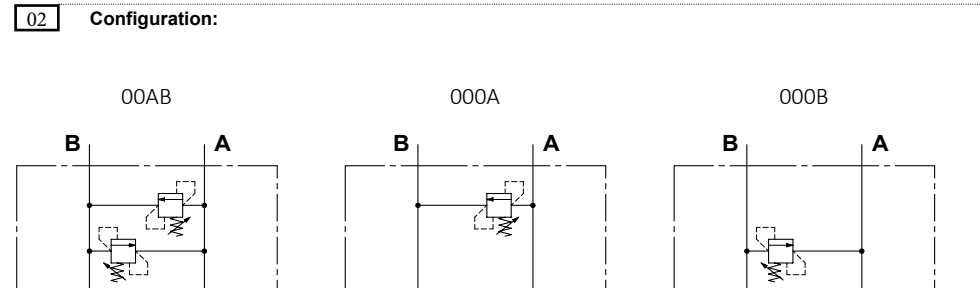
Pag. 358



D - FLANGEABLE VALVE

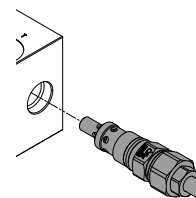
01	Type of Valve: Dual cross relief valves	- WMD
02	Configuration: Valves on side A and B Valve for port A only Valve for port B only	pag. 353 00AB 000A 000B
03a	Ports: A e B G3/8 (DIN 3852)	- G38
03b	Option corking: A e B open A closed, B open B closed, A open A e B closed	- N A B C
04	Material: Aluminium Steel zinc plated	- A S
05a	Main pressure relief valve: Range 5-55 Range 25-110 Range 50-215 Range 100-350 Plug (without pressure relief valve)	pag. 353 05 10 20 35 00
05b	Setting pressure relief valve: Standard adjustment Adjustment required Adjustment required with safety plug Plug (without pressure relief valve)	pag. 353 NSTD N(XXX) T(XXX) NTAP

D - FLANGEABLE VALVE

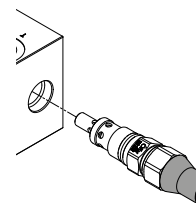


For configuration with only one valve,
please contact our sales department.

05 Main pressure relief valve: (Omit for C1)



SPRINGS			
Code	Adjustable pressure range bar	Pressure increase bar/turn	Standard setting bar
05	5-55	15	5
10	25-110	25	25
20	50-215	50	50
35	100-350	90	100

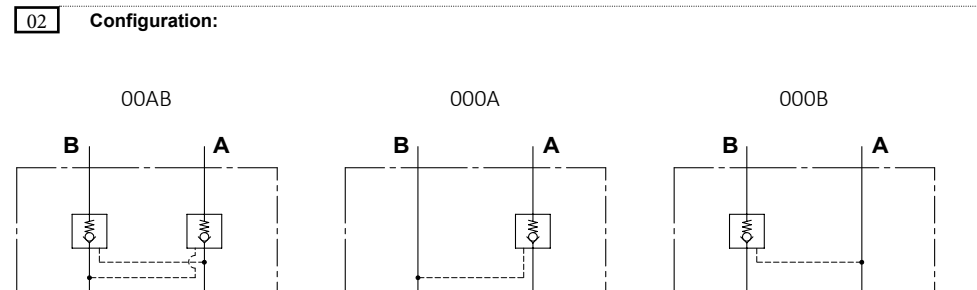


(option)
T
Adjustment required with safety plug

D - FLANGEABLE VALVE

01	Type of Valve: Pilot operated check valve	- WBD
02	Configuration: Valves on side A and B Valve for port A only Valve for port B only	pag. 355 00AB 000A 000B
03a	Ports: A e B G3/8 (DIN 3852)	- G38
03b	Option corking: A e B open A closed, B open B closed, A open A e B closed	- N A B C
04	Material: Aluminium Steel zinc plated	- A S
05	Cracking pressure: 1 bar 2,5 bar 5 bar 10 bar	- 01 25 05 10
06	Pilot ratio: 7:1 with seal on piston (Standard) 4:1 with seal on piston 10:1 with seal on piston 7:1 4:1 10:1	- G07 G04 G10 N07 N04 N10

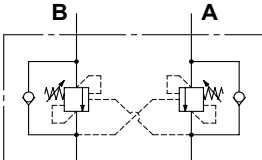
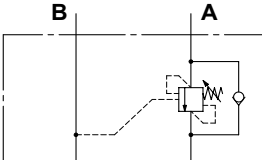
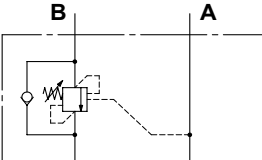
D - FLANGEABLE VALVE



D - FLANGEABLE VALVE

01	Type of Valve: Counterbalance Valves	- WOD
02	Configuration: Valves on side A and B Valve for port A only Valve for port B only	pag. 357 00AB 000A 000B
03a	Ports: A e B G3/8 (DIN 3852)	- G38
03b	Option corking: A e B open A closed, B open B closed, A open A e B closed	- N A B C
04	Material: Aluminium Steel zinc plated	- A S
05	Size: For 30 l/min	- 30
06	Compensation: Standard (no compensated) Fully compensated	- ST FC
07	Spring: 20 35	pag. 357 20S 35S
08	Pilot ratio: 4:1 8:1 11:1 1:1 (only for 60 l/min)	pag. 357 04 08 11 01
09	Adjustement: No required Value	- NSTD NXXX

D - FLANGEABLE VALVE

02	Configuration:
	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>00AB</p>  </div> <div style="text-align: center;"> <p>000A</p>  </div> <div style="text-align: center;"> <p>000B</p>  </div> </div>
07	08 Spring and pilot ratio:

SPRINGS						
Code	20			35		
Pilot ratio	Adjustable pressure range bar	Pressure increase bar/turn	Standard setting bar	Adjustable pressure range bar	Pressure increase bar/turn	Standard setting bar
1:1	10-70	15	10	30-200	25	30
4:1	60-210	70	170	80-350	120	280
8:1	60-220	50		100-350	85	
11:1	60-250	90		80-350	150	

D - FLANGEABLE VALVE

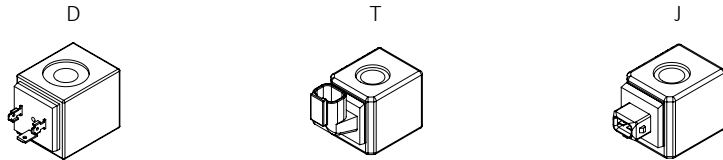
01	Type of Valve: Solenoid operated valves	- WE2
02	Configuration: Valves on side A and B Valve for port A only Valve for port B only	pag. 359 00AB 000A 000B
03a	Ports: A e B G3/8 (DIN 3852)	- G38
03b	Option corking: A e B open A closed, B open B closed, A open A e B closed	- N A B C
04	Material: Aluminium Steel zinc plated	- A S
05	Type of valve: Single lock normally closed, bidirectional Single lock normally open, bidirectional Double lock normally closed, bidirectional Double lock normally open, bidirectional	pag. 359 STNC2 STNA2 DTNC2 DTNA2
06	Option electric valve: Without emergency NA with push emergency NA with push&twist emergency NC with screw emergency	pag. 359 0000 EMPO EMPT EMSO
07	Coil: 12 Vdc 24 Vdc No coil	pag. 360 V12 V24 BB0
08a	Coil connector: DIN EN 175301-803 (ex. DIN 43650) DT04-2P AMP-JUNIOR No coil	pag. 360 D T J B
08b	Option coil: No connector With connector With connector and bidirectional diode No coil	pag. 360 NN NC SC B0

D - FLANGEABLE VALVE

02	Configuration:	00AB	000A	000B							
05	Type of valve:	STNC2	STNA2	DTNC2	DTNA2						
06	Option electric valve:	<table border="1" style="float: right; margin-top: 20px;"> <thead> <tr> <th colspan="2">MANUAL OVERRIDE</th> </tr> </thead> <tbody> <tr> <td>(EMP) Push</td> <td></td> </tr> <tr> <td>(EMPT) Push & Twist</td> <td></td> </tr> </tbody> </table>				MANUAL OVERRIDE		(EMP) Push		(EMPT) Push & Twist	
MANUAL OVERRIDE											
(EMP) Push											
(EMPT) Push & Twist											

D - FLANGEABLE VALVE

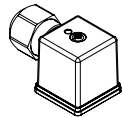
07 08 Coil:



COIL CHARACTERISTICS					
Vdc	Average power	Resistance	Protection IEC 144	Insulation	Nominal Voltage
12	22	6,5	IP 65	Class H	+/- 10%
24		26,5			

08b Option coil:

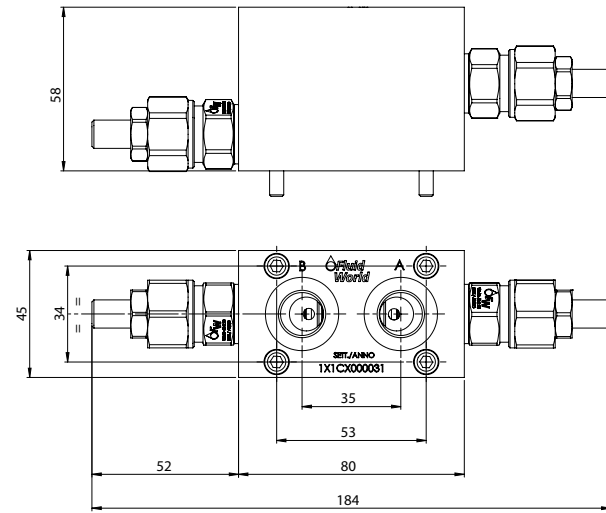
Option Connector



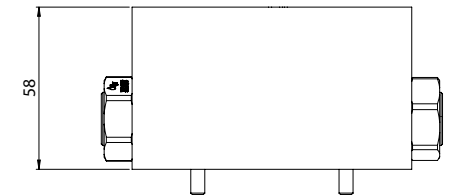
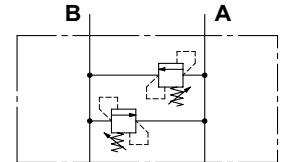
Option bidirectional diode
(hydraulic scheme)



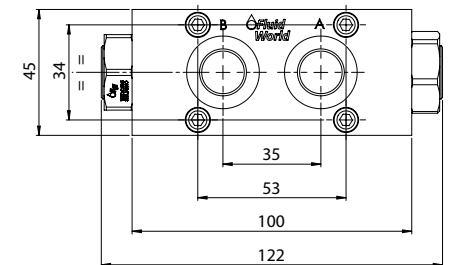
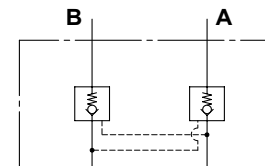
D - FLANGEABLE VALVE



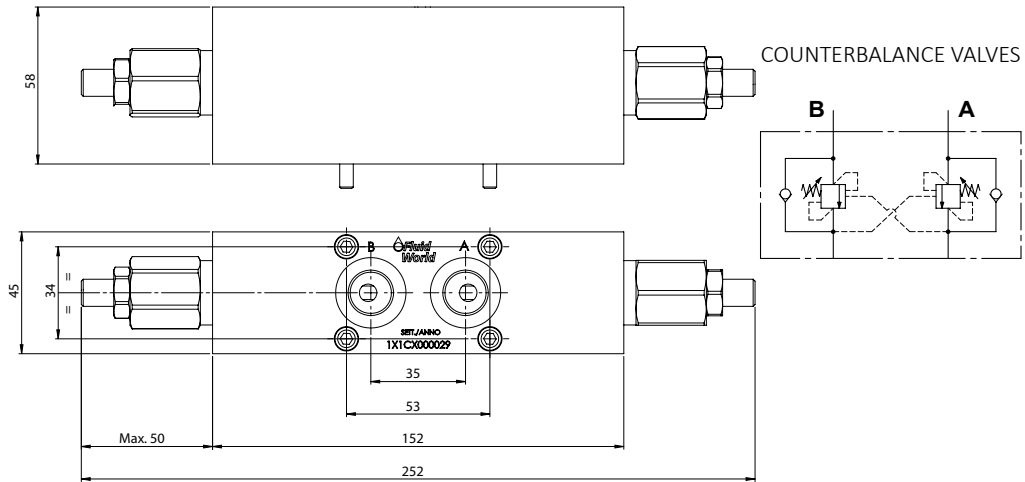
DUAL CROSS RELIEF VALVES



PILOT OPERATED CHECK VALVE

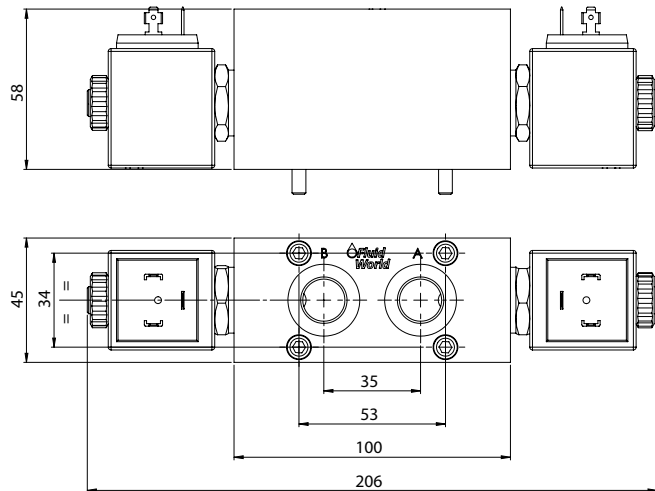
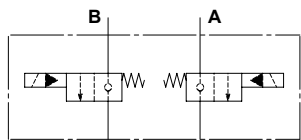


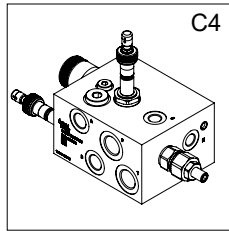
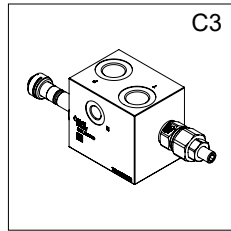
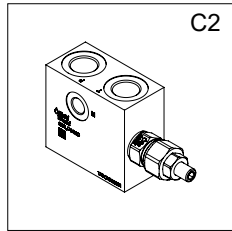
D - FLANGEABLE VALVE



PERFORMANCE
PRESTAZIONI

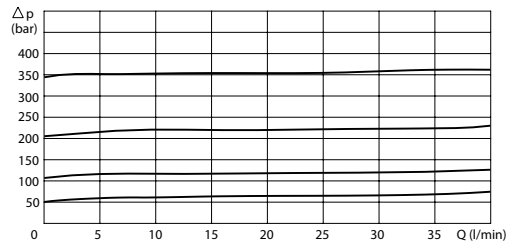
SOLENOID OPERATED VALVES





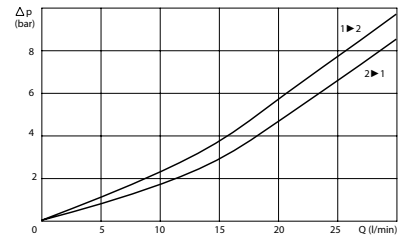
Pressure Relief Valve for Inlet Elements C2, C3 and C4.

PRESSURE DROP CURVES



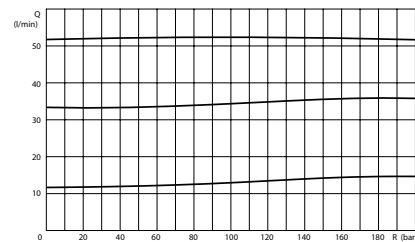
Solenoid Operated Valve for Inlet Elements C3 and C4.

PRESSURE DROP CURVES

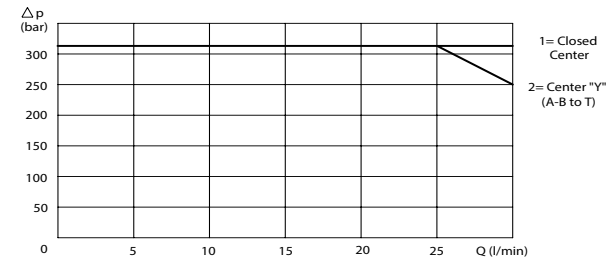


Flow Regulator Valve for Inlet Elements C4.

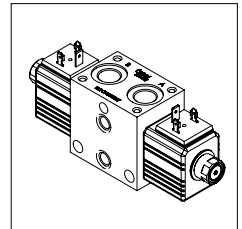
COMPENSATION CURVES



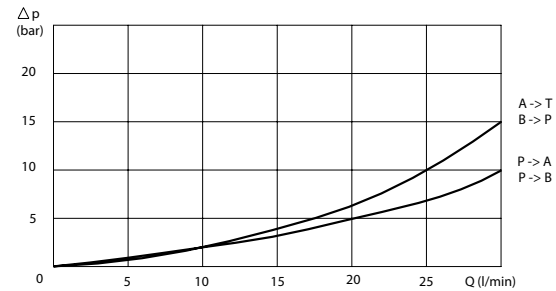
SPOOL OPERATING LIMITS



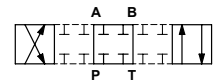
Working Section



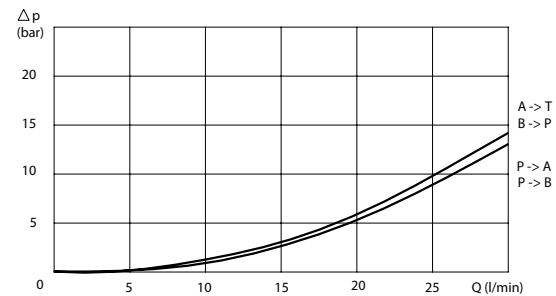
PRESSURE DROP CURVES



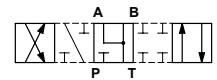
Spool Closed Center



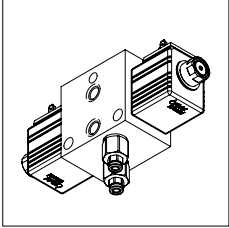
PRESSURE DROP CURVES



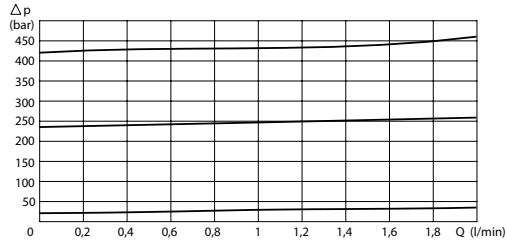
Motor spool centre



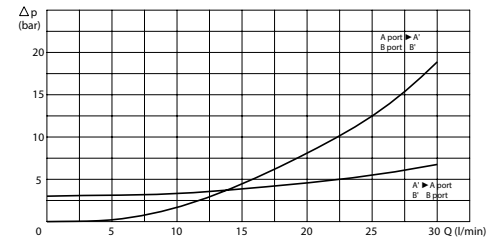
Pressure Relief Valve for Working Section with auxiliary valves



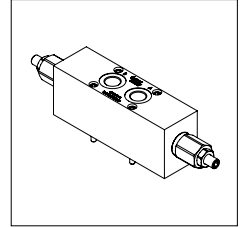
PRESSURE DROP CURVES



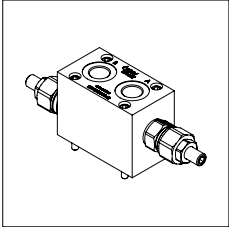
PRESSURE DROP CURVES



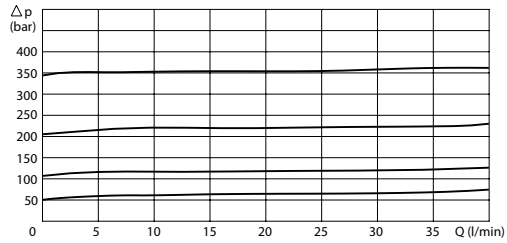
Counterbalance Valves



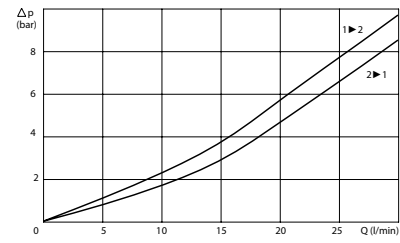
Dual Cross Relief Valve



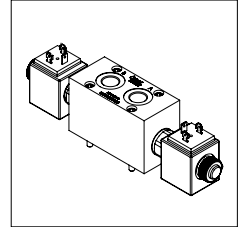
PRESSURE DROP CURVES



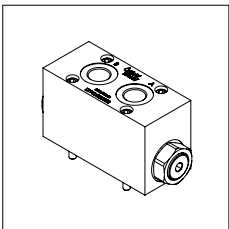
PRESSURE DROP CURVES



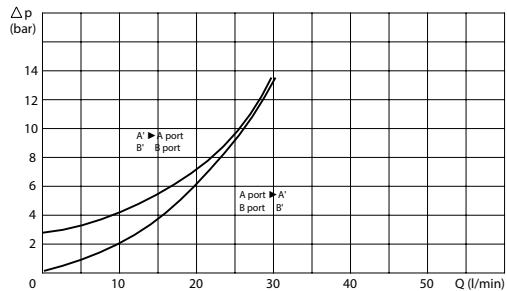
Solenoid Operated Valve



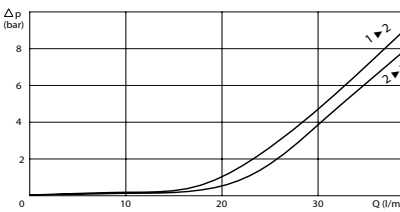
Pilot Operated Check Valve



PRESSURE DROP CURVES



PRESSURE DROP CURVES



WST Valves

WDT Valves