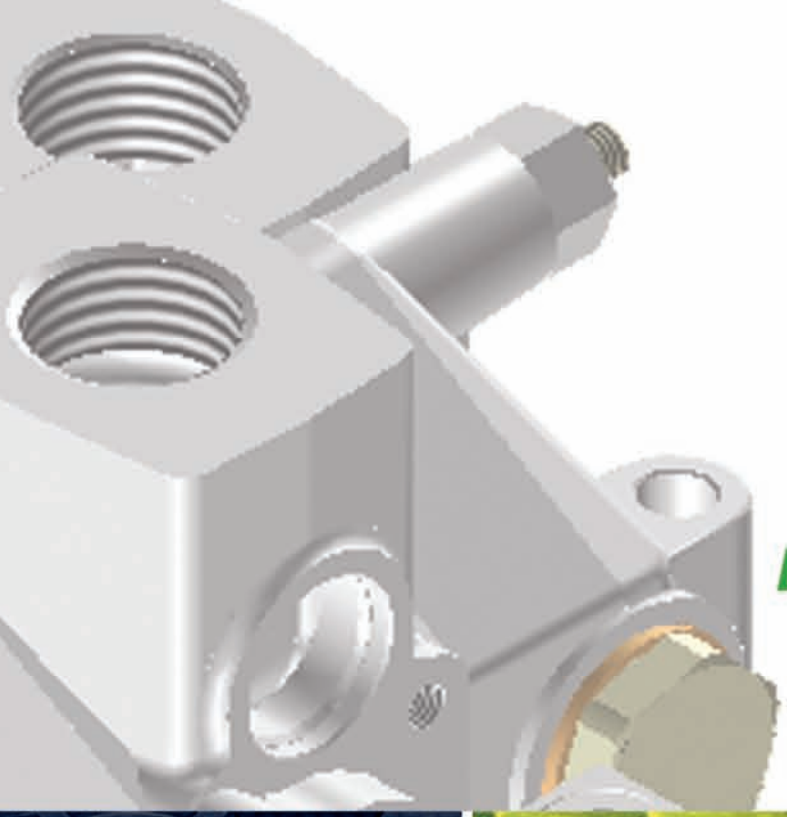

HC-D12

Sectional valve

Distributore componibile

hydro control

Hydrocontrol S.p.a. reserves the right to introduce changes in any moment without obligation of prior notice
La Hydrocontrol S.p.a. si riserva il diritto di introdurre modifiche in ogni momento e senza l'obbligo di preavviso"

Universal products and solutions

HC-D12 control valve belongs to the wide range of Hydrocontrol S.p.A. modular sectional valves and is capable of working with a maximum flow of 180 litres/min. at an operating pressure of 350 bar.

Numerous integrated valve features in addition to countless configuration options make HC-D12 highly flexible and easily adaptable to the widest applications range.

Sections are equipped with auxiliary valves and a wide variety of interchangeable spools.

Prodotti e soluzioni universali

Il distributore HC-D12 fa parte della vasta gamma della valvole componibili della Hydrocontrol S.p.A. ed è idoneo a funzionare con una portata massima di 180 litri/min. a una pressione di esercizio di 350 bar.

L'elevato numero di funzioni integrate all'interno del distributore, nonché le innumerevoli configurazioni possibili, fanno di HC-D12 un prodotto altamente flessibile e facilmente adattabile ai più diversi campi applicativi.

Le sezioni sono corredate di valvole ausiliarie e di un'ampia gamma di cursori intercambiabili.

The specifications detailed in this catalogue show standard products. Special applications are available to order subject to contacting our Engineering Department for an estimate. This catalogue is not open to interpretation and in case of doubt the costumer is requested to contact the Hydrocontrol Technical Sales Office who will be pleased to supply detailed explanations. The data and specifications indicated are to be considered a guide only and Hydrocontrol S.p.A. reserved the right to introduce improvements and modifications without prior notice.

Hydrocontrol in not responsable for any damage caused by an incorrect use of the product.

I dati riportati all'interno del catalogo sono riferiti al prodotto standard. Sono possibili applicazioni speciali da concordarsi previamente con il n/s Ufficio Tecnico. Il presente catalogo non va interpretato e nel dubbio chiedere delucidazioni all'ufficio Tecnico Commerciale Hydrocontrol. I dati riportati non sono impegnativi e la Hydrocontrol S.p.A. si riserva di apportare modifiche e miglioramenti senza preavviso.

Il costruttore non risponde dei danni arrecati a persone o cose derivanti da un uso improprio del prodotto.

GENERAL SPECIFICATIONS - CARATTERISTICHE GENERALI

Standard working conditions

- *FLOW RATE* . . . . . ***48 GPM***
- *PRESSURE RATE* . . . . . ***5000 PSI***
- *MAX PRESSURE ON (T)* . . . . . ***290 PSI***
- *OPERATING TEMPERATURE*. . . . . ***-25°C / +80°C***
- *KINEMATIC VISCOSITY* . . . . . ***from 10 to 460 mm²/s***
- *CONTAMINATION LEVEL*. . . . . ***19/16 ISO 4406***
- *FILTRATION LEVEL* . . . . . ***β 10 > 75***

Condizioni di lavoro standard

- PORTATA NOMINALE . . . . . .**180 l/min**
- PRESSIONE NOMINALE . . . . . .**350 bar**
- PRESSIONE MAX SULLA LINEA (T) . . . . . .**20 bar**
- TEMPERATURA OPERATIVA . . . . . .**-25°C / +80°C**
- VISCOSITA' CINEMATICA . . . . . .**da 10 a 460 mm²/s**
- GRADO DI CONTAMINAZIONE . . . . . .**19/16 ISO 4406**
- GRADO DI FILTRAGGIO . . . . . .**β 10 > 75**

Technical specifications

- *WORKING SECTION NUMBER* . . . . . ***1 - 12***
- *SPOOL STROKE*. . . . . ***0,37 + 0,37 in***
- *SPOOLS PITCH* . . . . . ***2,2 in***

Caratteristiche tecniche

- NUMERO SEZIONI DI LAVORO. . . . . **1 - 12**
- CORSA DELLA SPOLA . . . . . **9,5 + 9,5 mm**
- INTERASSE STELI. . . . . **56 mm**

Fluid compatybility

TYPE OF FLUID *(Oil and Solution)*	***TEMP. (C°)*** *min*	*max*	***GASKET*** *NBR*	*VITON(*)*
Mineral oil HPL (DIN 51524)	*-25*	*+80*	•	•
Oil in water emulsion HFA(*)	*+5*	*+55*	•	•
Water in oil emulsion HFB(*)	*+5*	*+55*	•	•
Polyglycol-based aqueous sol. HFC(*)	*-25*	*+60*	•	
Ester of phosphoric acid HCD(*)	*-20*	*+150*		•

(*) : for this application, please contact our technical sales office.
NBR : nitrile rubber compatible with mineral-bases oils ASTIM 1
VITON : fluorinated elastomer for use at high temperature, compatible with fluids ASTIM 1 and ASTIM 3.

Compatibilità fluidi

TIPI DI FLUIDI (Oli e Soluzioni)	**TEMP. (C°)** min	max	**GUARNIZIONI** NBR	VITON(*)
Olio minerale HPL (DIN 51524)	-25	+80	•	•
Olio in emulsione acquosa HFA(*)	+5	+55	•	•
Acqua in emulsione oleosa HFB(*)	+5	+55	•	•
Soluzione acquosa in poliglicoli HFC(*)	-25	+60	•	
Esteri di acido fosforico HCD(*)	-20	+150		•

(*) : previo accordo con il n/s Ufficio Tecnico - Commerciale
NBR : mescola nitrilica compatibile con oli a base minerale ASTIM 1
VITON : elastomero florurato per impieghi ad alta temperatura, compatibile con fluidi ASTIM 1 e ASTIM 3.

Unit of measure - Conversion factors

Systems / Unit	***METRIC***	***BSP***
LENGTH	*1 mm = 0,0394 in*	*1 in = 25,4 mm*
MASS	*1 kg = 2,205 lb*	*1 lb = 0,4536 kg*
FORCE	*1 Nm = 0,1020 kgf*	*1 kgf = 9,8067 Nm*
VOLUME	*1 l = 0,2200 gal UK* *1 i = 0,2642 gal US*	*1 gal UK = 4,546 l* *1 gal US = 3,785 l*
PRESSURE	*1 bar = 100000 Pa* *1 bar = 14,5 psi*	*1 Pa = 0,00001 bar* *1 psi = 0.0689 bar*

Unità di misura - Fattori conversione

Sistemi / Unità	**METRICO**	**BRITANNICO**
LUNGHEZZA	1 mm = 0,0394 in	1 in = 25,4 mm
MASSA	1 kg = 2,205 lb	1 lb = 0,4536 kg
FORZA	1 Nm = 0,1020 kgf	1 kgf = 9,8067 Nm
VOLUME	1 l = 0,2200 gal UK 1 l = 0,2642 gal US	1 gal UK = 4,546 l 1 gal US = 3,785 l
PRESSIONE	1 bar = 100000 Pa 1 bar = 14,5 psi	1 Pa = 0,00001 bar 1 psi = 0.0689 bar

General index

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Hydraulic specifications . . . . . pag 8
Typical curves . . . . . pag 9
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Work section . . . . . pag 14
Spool type . . . . . pag 15
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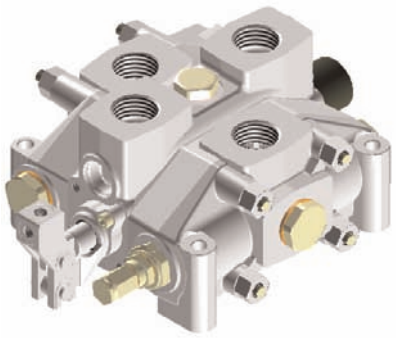
SECTIONAL VALVE



DISTRIBUTORE COMPONIBILE

Indice generale

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Specifiche idrauliche . . . . . pag 8
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Comando cursore . . . . . pag 17
Richiamo cursore . . . . . pag 19
Tipologia sezione di lavoro . . . . . pag 28
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Collettori di scarico . . . . . pag 35
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ORDER MODALITY - MODALITÀ DI ORDINAZIONE

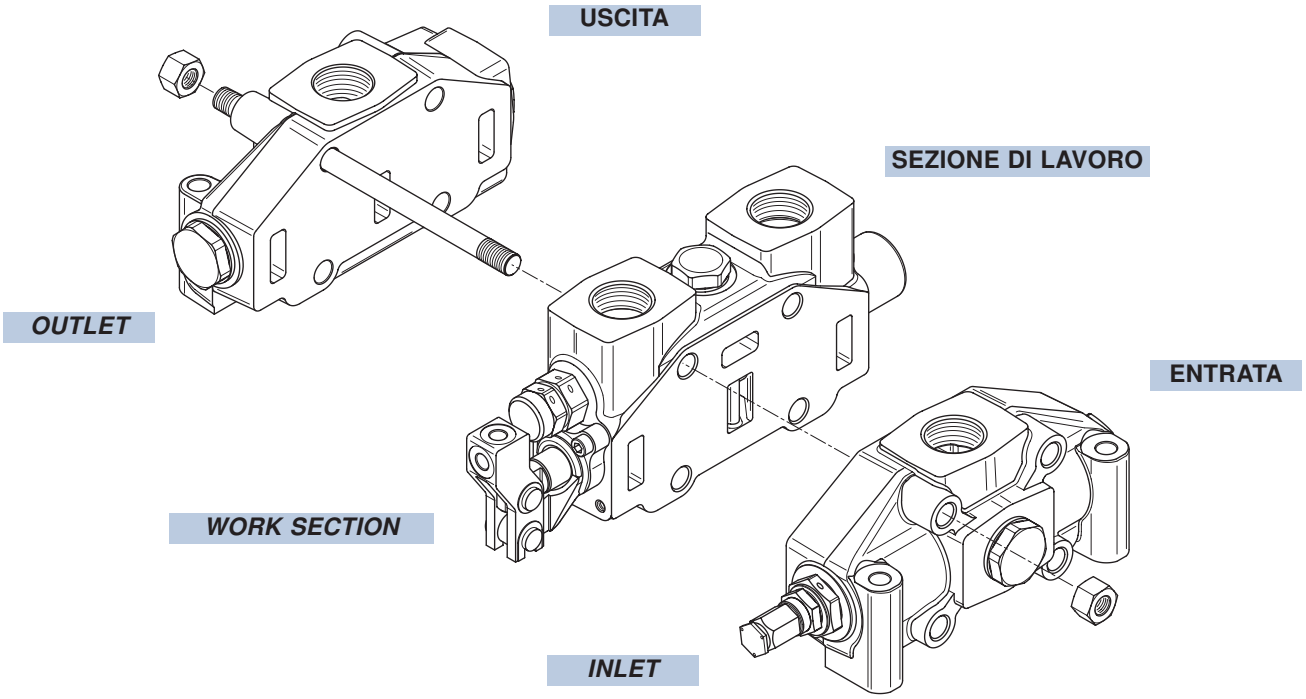
Order example

Esempio di ordinazione

HC-D12/1 | IR 009 (150) A G05 | W001A H101 F001A RP G05 01PA(120) 05PB | TJ A G06

A | B | C | D

pag. 11 | pag. 14 | pag. 35



A: ***SECTIONAL CONTROL VALVE TYPE***

D12 *= product type*
/1 *= number of sections*

B: ***INLET ARRANGEMENT***

IR 009 *= inlet side and valve type . . . . . .page 11*
150 *= setting (bar)*
A G05 *= inlet position and available thread type*

C: ***WORK SECTION ARRANGEMENT***

W001A *= spool . . . . . .page 14*
H101 *= spool actuation . . . . . .page 17*
F001A *= spool return action . . . . . .page 19*
RP G05 *= type and thread section . . . . . .page 28*
01PA120 *= auxiliary valve (port A) . . . . . .page 29*
05PB *= valve plugged (port B)*

NOTE: ordering row C must be repeated for every work section.

D: ***OUTLET ARRANGEMENT***

TJ *= outlet type . . . . . .page 35*
A G06 *= outlet position and available thread type*

A: **TIPOLOGIA DISTRIBUTORE COMPONIBILE**

D12 = tipologia prodotto
/1 = numero sezioni di lavoro

B: **ALLESTIMENTO ENTRATA**

IR 009 = lato entrata e tipologia valvola . . . . .pag. 11
150 = taratura (bar)
A G05 = posizione ingresso e filettatura

C: **ALLESTIMENTO SEZIONE DI LAVORO**

W001A = cursore . . . . . .pag. 14
H101 = comando cursore . . . . . .pag. 17
F001A = richiamo cursore . . . . . .pag. 19
RP G05 = tipologia e filettatura sezione . . . . .pag. 28
01PA120 = valvola ausiliaria (utilizzo A) . . . . .pag. 29
05PB = sede valvola con tappo (utilizzo B)

NOTA: le sigle del riferimento C, devono essere ripetute tante volte, quante sono le sezioni che compongono il distributore.

D: **TIPOLOGIA ALLESTIMENTO USCITA**

TJ = tipologia uscita . . . . . .pag. 35
A G06 = posizione scarico e filettatura

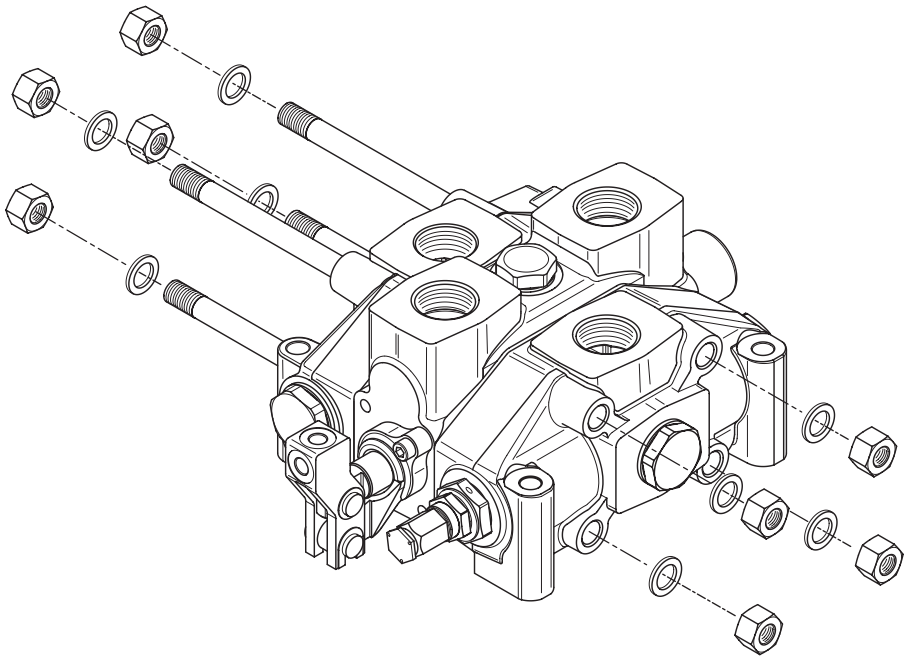
Assembly specifications

Tie rod kit allows the correct assembling of HC-D12. Tie rods lenght depends on number of sections.

Caratteristiche di assemblaggio

Il corretto allestimento del distributore componibile HC-D12 è garantito dal kit tirante caratterizzato dalla lunghezza variabile a seconda del numero delle sezioni.

Tie rod kit **- Kit tirante**



TIE ROD LENGHT (in) **- LUNGHEZZA TIRANTE (mm)**

Type **- Tipo**	**/1**	**/2**	**/3**	**/4**	**/5**	**/6**	**/7**	**/8**	**/9**	**/10**	**/11**	**/12**
mm	208	264	320	376	432	488	544	600	656	712	768	824
in	*8,2*	*10,4*	*12,6*	*14,8*	*17*	*19,2*	*21,4*	*13,6*	*25,8*	*28*	*30,2*	*32,4*

Tie-rod clamping torque	*7,2 Kgf*
Coppia serraggio tirante	70 Nm

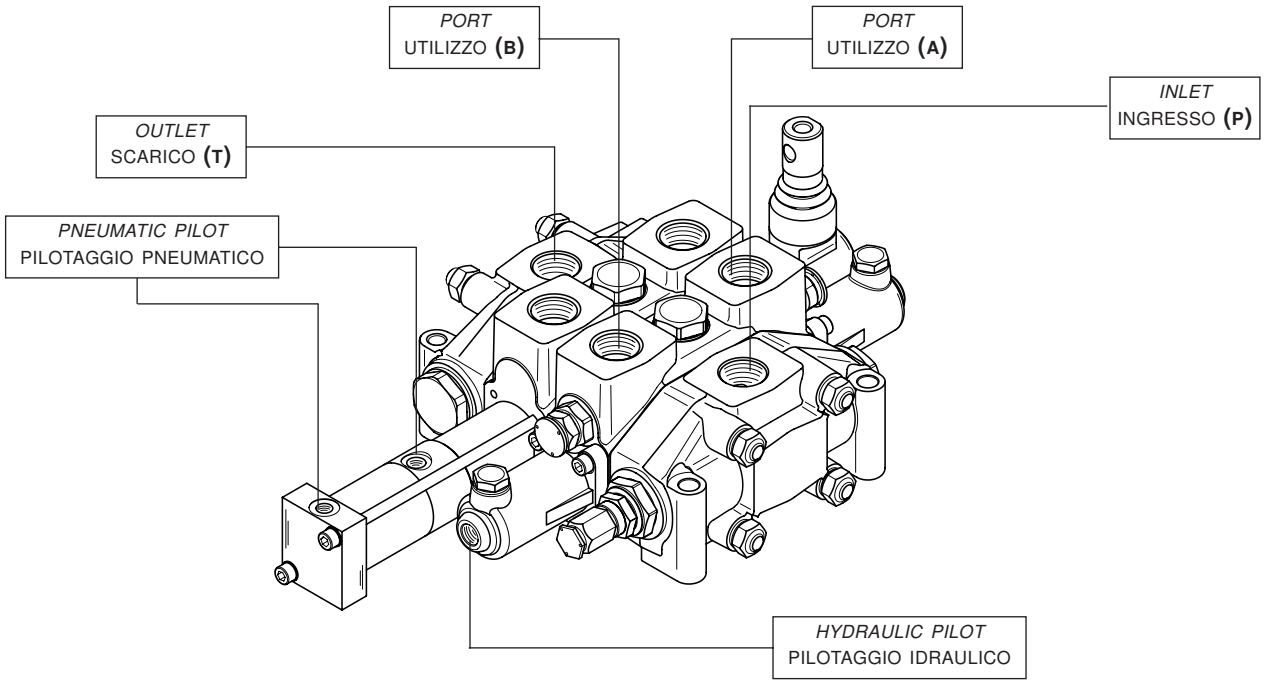
NOTE: *each valve is assembled with N° 4 tie rod kits including a tie rod, two nuts and two washers.*

NOTA: ogni distributore è allestito con N° 4 kit tiranti i quali, a loro volta, sono costituiti da un tirante due dadi e due rondelle.

DIMENSIONS - DIMENSIONI

Standard thread

Filettature standard



PORTS UTILIZZI	*thread* - filettature (BSP) ISO-228	*thread* - filettature (SAE UN-UNF) ISO-725	floangie (SAE 3000)
Inlet - Ingresso *P*	G 3/4 - G 1	1”1/6-12 UN	3/4” MA - 3/4” UNC
Ports - Utilizzi *A - B*	G 3/4 - G 1	1”1/6-12 UN	3/4” MA - 3/4” UNC
Outlet - Scarico *T*	G 1	1”5/16-12 UN	3/4” MA - 3/4” UNC
Carry-over HPCO	G 1	1”5/16-12 UN	3/4” MA - 3/4” UNC

PORTS UTILIZZI	*thread* - filettature (BSP) ISO-228
Hydraulic pilot Pilotaggio idraulico	G 1/4 *G 1/4*
Pneumatic pilot Pilotaggio pneumatico	G 1/8 *G 1/8*

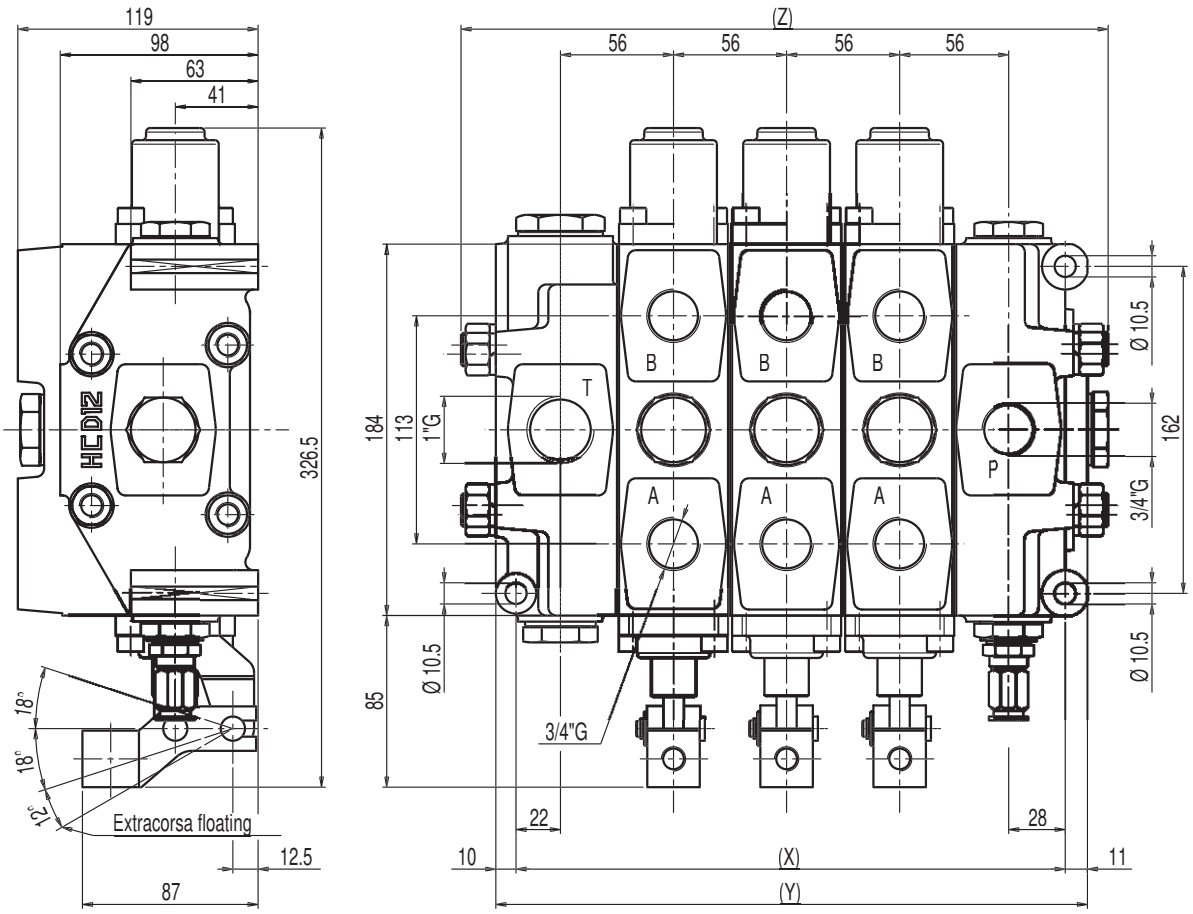
Ordering codes

Sigle di ordinazione

3/4” BSP	1” BSP	1”1/16 - UN
G05	G06	U05
1”5/16 - UN	SAE3000 3/4”MA	SAE3000 3/4”UNC
U06	S03	S04

Dimensional drawing

Disegno d'ingombro dimensionale



VARIABLE DIMENSIONS - QUOTE VARIABILI

Type - Tipo	/1	/2	/3	/4	/5	/6	/7	/8	/9	/10	/11	/12
X (mm)	162	218	274	330	386	442	498	554	610	666	722	778
X (in)	*6,4*	*8,6*	*10,8*	*13*	*15,2*	*17,4*	*19,6*	*21,8*	*24*	*26,2*	*28,4*	*30,6*
Y (mm)	183	239	295	351	407	463	519	575	631	687	743	799
Y (in)	*7,2*	*9,4*	*11,6*	*13,8*	*16*	*18,2*	*20,4*	*22,6*	*24,8*	*27*	*29,2*	*31,4*

WEIGHTS - PESI

Type - Tipo	/1	/2	/3	/4	/5	/6	/7	/8	/9	/10	/11	/12
Kg	18,4	26	33,6	41,2	48,8	56,4	64	71,6	79,2	86,7	94,3	102
lb	*40,5*	*57,3*	*74*	*90,8*	*107,6*	*124,4*	*141,1*	*157,8*	*174,6*	*191,1*	*208*	*225*

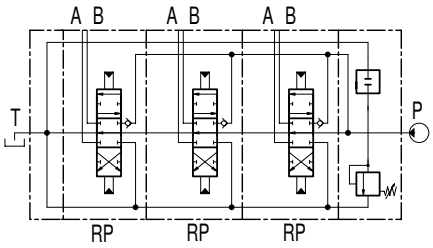
Parallel circuit

When the spool is operated it intercepts the switch 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 selecting the path with the least resistance; by throtting the spools, the flow of oil can be divided between two or more service ports.

Circuito Parallelo

Il cursore quando viene azionato, intercetta il canale di libera circolazione deviando il flusso d'olio agli utilizzi A o B.
Se due o più cursori vengono azionati contemporaneamente, l'olio alimenterà l'utenza con il carico inferiore prediligendo la via con il minimo sforzo; parzializzando i cursori il flusso d'olio può essere ripartito fra due o più utilizzi.

HYDRAULIC SCHEMA - SCHEMA IDRAULICO



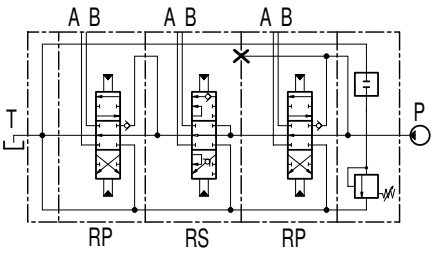
Series circuit

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.

Circuito Serie

Il cursore quando viene azionato, intercetta il canale di libera circolazione deviando il flusso d'olio agli utilizzi A o B.
L'olio che rientra dall'attuatore, viene convogliato nel circuito di libera circolazione rendendolo disponibile per le utenze a valle dell'elemento serie. Le pressioni a valle si sommano con la pressione dell'elemento stesso.

HYDRAULIC SCHEMA - SCHEMA IDRAULICO



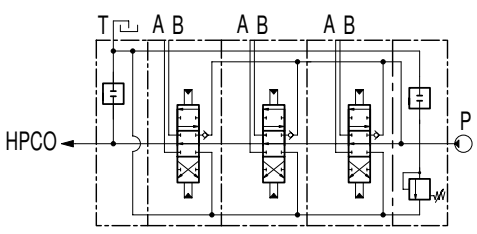
Carry-over connection (HPCO)

This option, available on all HC-D12, allows the monoblock to feed a second valve, by extending the free flow channel. In this configuration, the valve needs a separated port for the connection to tank.
It is possible to transform sectional valve from standard to hpco version just by ordering the appropriate conic plug* 3/8" x 15 *(code 413010207).

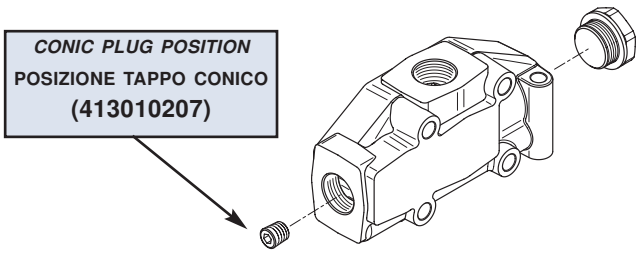
Collegamento carry-over (HPCO)

Questa opzione, di serie sul distributore HC-D12, permette il prolungamento del canale di libera circolazione all'esterno, alimentando così un secondo distributore. Il distributore così configurato necessita di uno scarico per le utenze.
La trasformazione da versione standard a versione con collegamento carry-over hpco, è possibile ordinando un tappo conico 3/8" x 15 (codice 413010207).

HYDRAULIC SCHEMA (HPCO VERSION)
SCHEMA IDRAULICO (VERSIONE HPCO

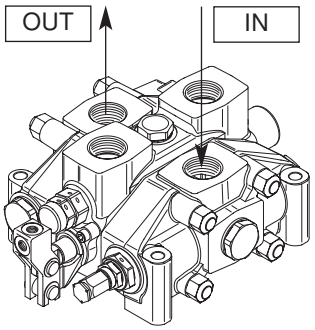


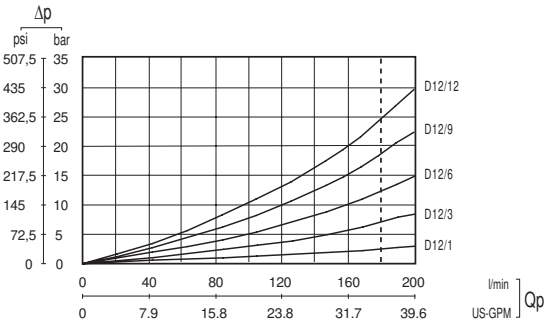
OUTLET SECTION WITH HPCO VERSION
COLLETTORE DI SCARICO PREDISPOSTO PER LA DOPPIA USCITA HPCO



Pressure drop (P - T)

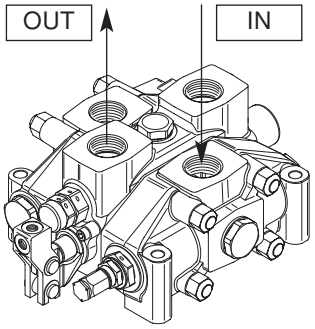
Perdite di carico (P in T)

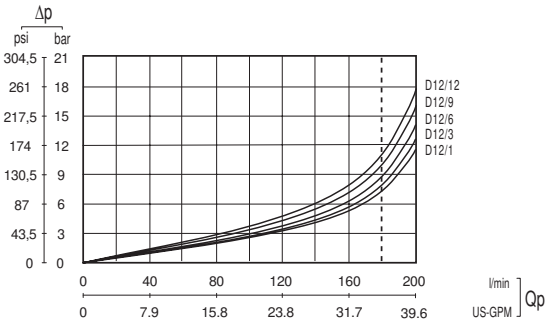




Pressure drop (P - A/B)

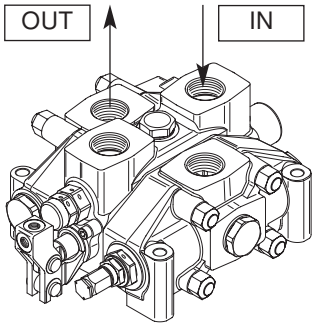
Perdite di carico (P in A/B)

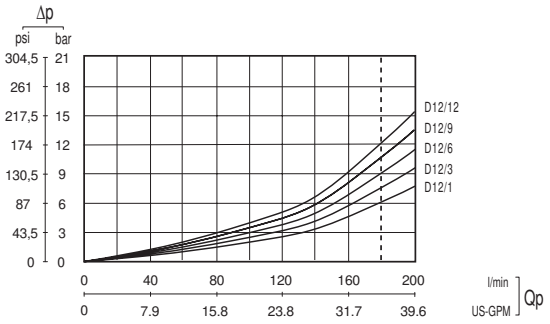




Pressure drop (A/B - T)

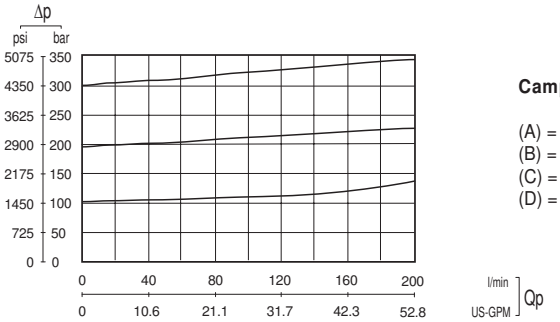
Perdite di carico (A/B in T)





Pilot operated relief valve curve

Curva valvola di massima pilotata



Campo di taratura - ***Setting range***

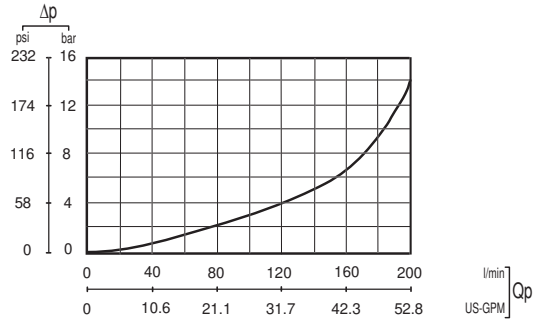
(A) = 3 / 40 (bar)
(B) = 41 / 180 (bar)
(C) = 181 / 250 (bar)
(D) = 251 / 350 (bar)

NOTE: *indicated values have been tested with standard sectional valve and W001A spools.*

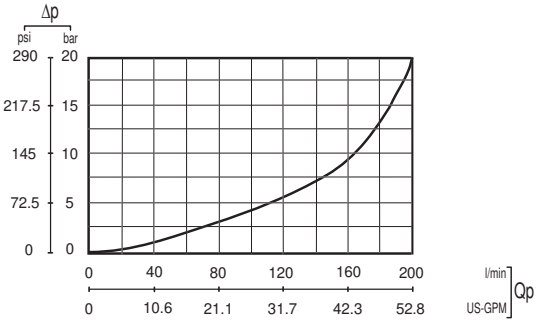
NOTA: i valori indicati sono stati rilevati con un distributore in configurazione standard e cursori W001A.

TYPICAL CURVES - CURVE CARATTERISTICHE

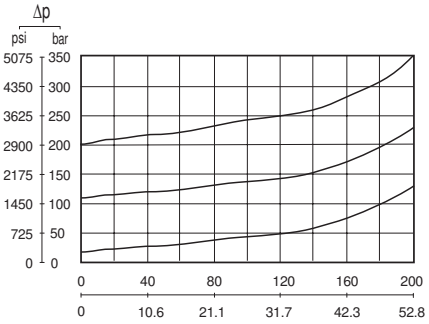
Main anticavitation check valve curve
Curva valvola anticavitazione generale



Anticavitation check valve curve
Curva valvola anticavitazione al servizio



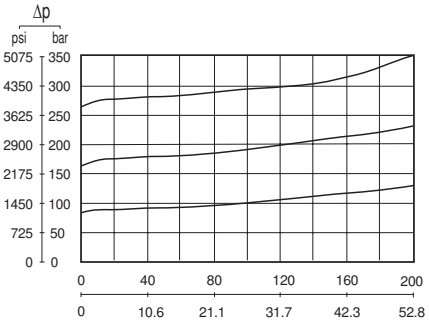
Antishock valve curve
Curva valvola antiurto



Campi di taratura - ***Setting ranges***

(A) = 0/150 (passaggio - *at full flow*)
0-A / 120-A (apertura - *at min. flow*)
(B) = 151/230 (passaggio - *at full flow*)
121-A / 200-A (apertura - *at min. flow*)
(C) = 231/280 (passaggio - *at full flow*)
201-A / 250-A (apertura - *at min. flow*)
(D) = 281/350 (passaggio - *at full flow*)
251-A / 350-A (apertura - *at min. flow*)

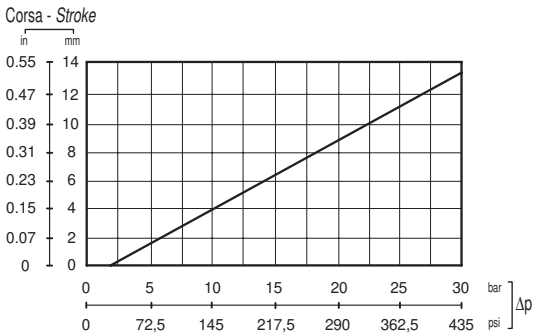
Combined valve curve
Curva valvola combinata



Campi di taratura - ***Setting ranges***

(A) = 30/95 (passaggio - *at full flow*)
30-A / 65-A (apertura - *at min. flow*)
(B) = 96/150 (passaggio - *at full flow*)
66-A / 120-A (apertura - *at min. flow*)
(C) = 151/260 (passaggio - *at full flow*)
121-A / 230-A (apertura - *at min. flow*)
(D) = 261/350 (passaggio - *at full flow*)
231-A / 350-A (apertura - *at min. flow*)

Hydraulic pilot control curve
Curva comando idraulico

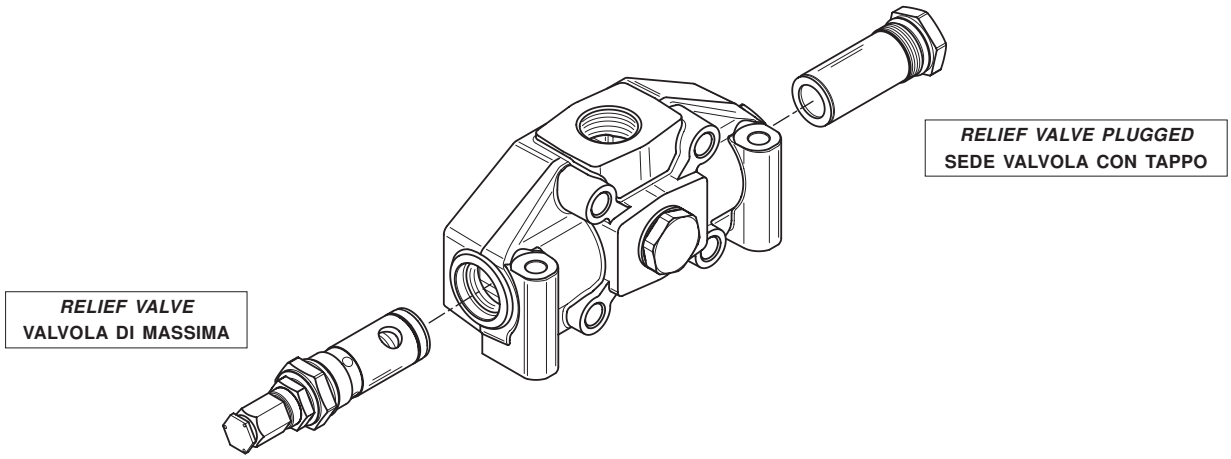


NOTE: *the graphic shows the spool stroke as a function of the pressure operating.*

NOTA: il grafico presenta lo spostamento del cursore in funzione della pressione di comando.

Order example

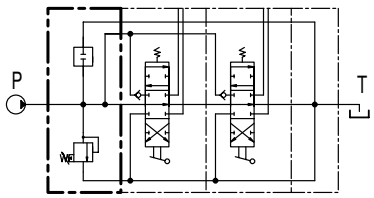
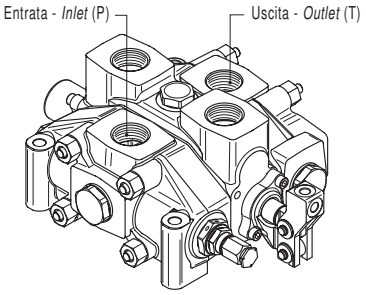
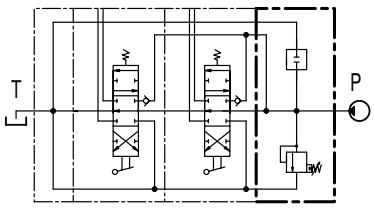
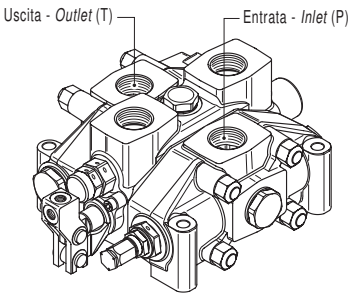
Esempio di ordinazione



IR	*inlet side . . . . . .page 11*	**IR**	lato alimentazione collettore entrata . . .pag. 11
009	*valve arrangement . . . . . .page 13*	**009**	allestimento valvole . . . . . .pag. 13
(150)	*setting direct acting pressure valve*	**(150)**	taratura valvola di massima
A G05	*inlet position and available thread type . . .page 14*	**A G05**	posizione ingresso e filettatura . . . . . .pag. 14

Inlet side

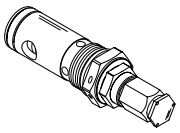
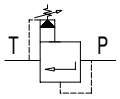
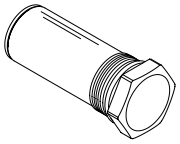
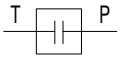
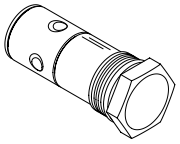
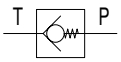
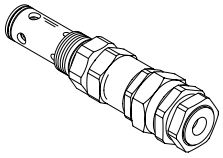
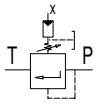
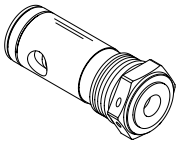
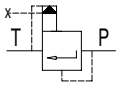
Definizione lato di alimentazione

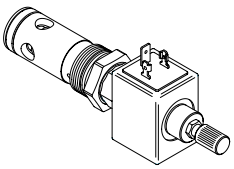
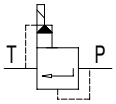
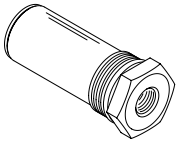
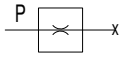
HYDRAULIC DIAGRAM SCHEMA IDRAULICO	*LAYOUT* CONFIGURAZIONE	*DESCRIPTION + CODE* DESCRIZIONE + SIGLA
		*LEFT INLET SECTION* COLLETTORE ENTRATA SINISTRA **IL**
		*RIGHT INLET SECTION* COLLETTORE ENTRATA DESTRA **IR**

INLET SECTION - COLLETTORE ENTRATA

Valves identification

Classificazione valvole

TYPE TIPO	*DESIGN* DISEGNO	*DIAGRAM* SCHEMA	*DESCRIPTION* DESCRIZIONE
2			*Pilot operated pressure relief valve* Valvola di massima pressione pilotata
3			*Relief valve plugged* Sede valvola con tappo
4			*Main anticavitation check valve* Valvola anticavitazione generale
5			*2 stage pilot operated relief valve* Valvola di massima con 2° stadio di pressione
6			*Externally piloted valve* Valvola con pilotaggio esterno

TYPE TIPO	*DESIGN* DISEGNO	*DIAGRAM* SCHEMA	*DESCRIPTION* DESCRIZIONE
7			*Solenoid dumpe valve (12 Vdc)* Valvola di pilotaggio esterno elettrica (12 Vdc)
8			*Solenoid dumpe valve (24 Vdc)* Valvola di pilotaggio esterno elettrica (24 Vdc)
9			*Solenoid dumpe valve (26 Vdc)* Valvola di pilotaggio esterno elettrica (26 Vdc)
11			*Plug with pressure gauge connection* Sede valvola con tappo attacco manometro

Valve arrangement

Example - Esempio: **009 = 2A-3B**

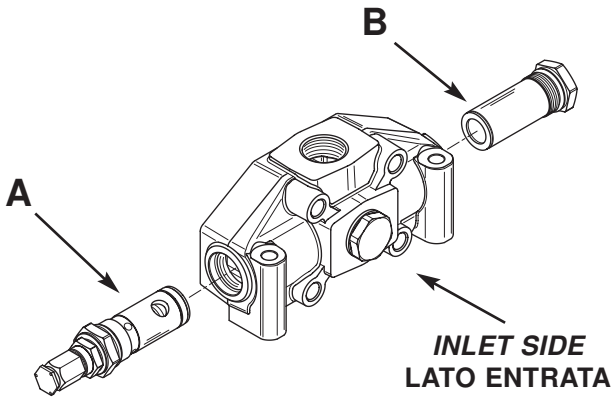
Pressure relief valve in port A side
Valvola di max in utilizzo A

Plug replaces pressure relief valve in port B side
Tappo sostituisce v. max in utilizzo 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

La sigla identifica: con un numero il tipo di valvola con la lettera la sua posizione sul collettore di entrata.
(A) = lato comando cursore
(B) = lato richiamo cursore

Allestimento valvole



Valves combination — Combinazione valvole

009	010	011	012	013	014	016	018	019	020	021	022	023	024
2A-3B	2A-4B	2A-6B	2A-7B	2A-8B	2A-9B	2A-11B	3A-2B	3A-3B	3A-4B	3A-5B	3A-6B	3A-7B	3A-8B

025	027	029	030	031	032	033	034	035	037	038	039	040	041
3A-9B	3A-11B	4A-2B	4A-3B	4A-5B	4A-6B	4A-7B	4A-8B	4A-9B	4A-11B	5A-3B	5A-4B	5A-6B	5A-7B

042	043	045	047	048	049	050	052	054	055	056	057	059	061
5A-8B	5A-3B	5A-11B	6A-2B	6A-3B	6A-4B	6A-5B	6A-11B	7A-2B	7A-3B	7A-4B	7A-5B	7A-11B	8A-2B

062	063	064	066	068	069	070	071	073	085	086	087	088	089
8A-3B	8A-4B	8A-5B	8A-11B	9A-2B	9A-3B	9A-4B	9A-5B	9A-11B	11A-2B	11A-3B	11A-4B	11A-5B	11A-6B

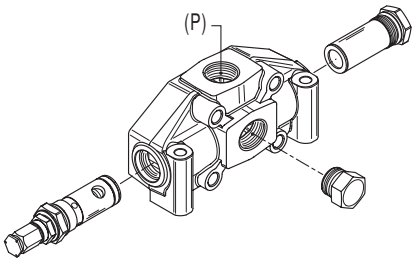
090	091	092											
11A-7B	11A-8B	11A-9B											

Inlet position and available thread type — Tipologia ingresso e filettatura

A

Upper inlet
Ingresso superiore

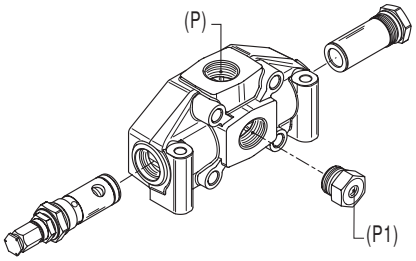
G05 G06 U05 S03 S04



B

Upper inlet - P1 with pressure-gauge connection 1/4" BSP
Ingresso superiore - P1 con riduzione attacco manometro 1/4"

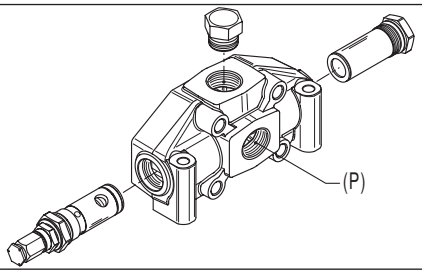
G05 G06 U05 S03 S04



C

Central side inlet
Ingresso laterale centrale

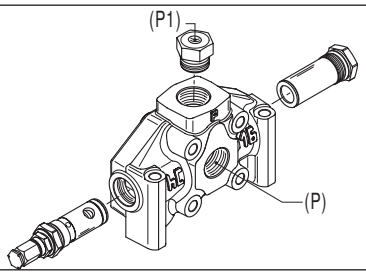
G05 G06 U05 S03 S04



D

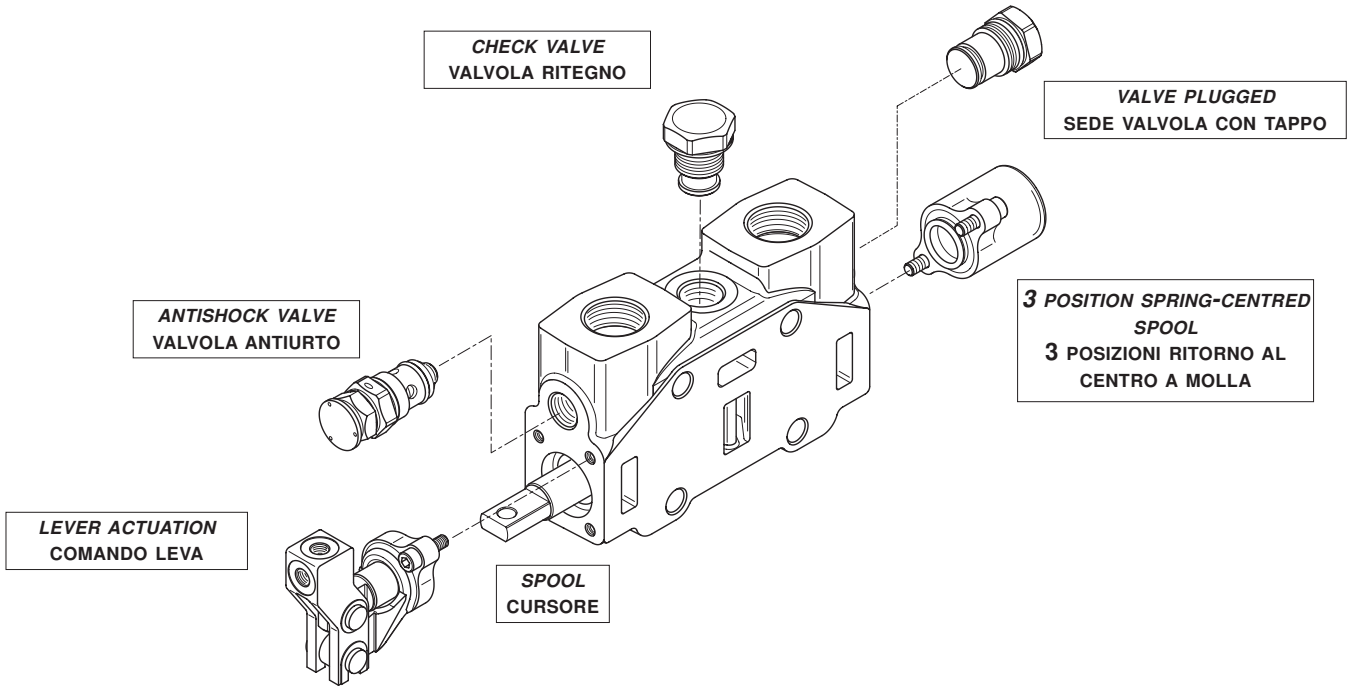
Central side inlet - P1 with pressure-gauge connection 1/4" BSP
Ingresso laterale centrale - P1 con riduzione attacco manometro 1/4"

G05 G06 U05 S03 S04



Order example

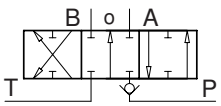
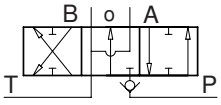
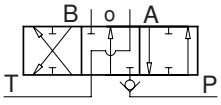
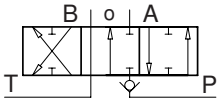
Esempio di ordinazione



W001A	*spool type*	*page 14*	W001A	tipologia cursore	pag. 14
H101	*spool actuation type*	*page 17*	H101	tipologia comando cursore	pag. 17
F001A	*spool return action type*	*page 19*	F001A	tipologia richiamo cursore	pag. 19
RP G05	*type and thread section*	*page 28*	RP G05	tipologia sezione e filettatura	pag. 28
01PA	*auxiliary valve (port A)*	*page 29*	01PA	valvola ausiliaria (utilizzo A)	pag. 29
(120)	*setting (port A)*		(120)	taratura (utilizzo A)	
05PB	*valve plugged (port B)*		05PB	sede valvola con tappo (utilizzo B)	

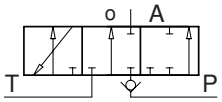
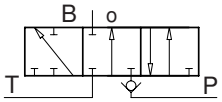
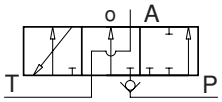
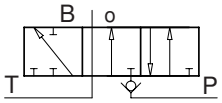
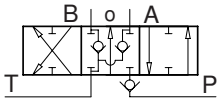
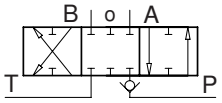
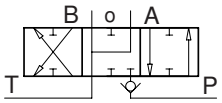
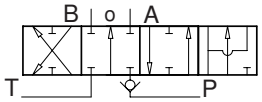
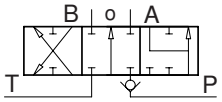
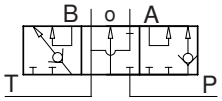
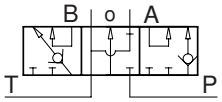
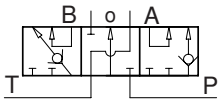
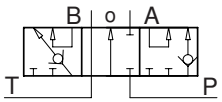
Spools identification

Classificazione dei cursori

HYDRAULIC SCHEMA SCHEMA IDRAULICO	*CIRCUIT DESCRIPTION* DESCRIZIONE CIRCUITO	*CODE* SIGLA
	*3 positions double-acting* 3 posizioni doppio effetto	W001
	*3 positions double-acting A and B to tank* 3 posizioni doppio effetto A e B a scarico	W002
	*3 positions double-acting A to tank B blocked* 3 posizioni doppio effetto A scarico B bloccato	W003
	*3 positions double-acting A blocked B to tank* 3 posizioni doppio effetto A bloccato B scarico	W004

Spools identification

Classificazione cursori

	*3 positions single-acting on A* 3 posizioni semplice effetto in A	**W005**
	*3 positions single-acting on B* 3 posizioni semplice effetto in B	**W006**
	*3 positions single-acting on A (A to tank)* 3 posizioni semplice effetto in A (A a scarico)	**W007**
	*3 positions single-acting on B (B to tank)* 3 posizioni semplice effetto in B (B a scarico)	**W008**
	*3 positions double-acting with anticavitation valves* 3 posizioni doppio effetto con valvole anticavitazione	**W009**
	*3 positions double-acting switch port closed (A and B blocked)* 3 posizioni doppio effetto senza passaggio in O (A e B bloccati)	**W010**
	*3 positions double-acting switch port closed (A and B to tank)* 3 posizioni doppio effetto senza passaggio in O (A e B scarico)	**W011**
	*4 positions double-acting with float in the 4th position* 4 posizioni doppio effetto (4° posizione flottante)	**W012**
	*3 positions double-acting regenerative* 3 posizioni doppio effetto rigenerativo	**W013**
	*3 positions double-acting series* 3 posizioni doppio effetto serie	**W015**
	*3 positions double-acting series A and B to tank* 3 posizioni doppio effetto serie A e B a scarico	**W016**
	*3 positions double-acting series A to tank B blocked* 3 posizioni doppio effetto serie A a scarico B bloccato	**W017**
	*3 positions double-acting series B to tank A blocked* 3 posizioni doppio effetto serie A bloccato B a scarico	**W018**

NOTE: *W012, and W013 spools need a special machining on the valve body.*

NOTA: l'impiego dei cursori W012, W013 richiede l'utilizzo di un corpo con lavorazione speciale.

SPOOL TYPE - TIPOLOGIA CURSORE

Spool type

Definizione cursore

STANDARD - STANDARD

A

METERED - PARZIALIZZATO

B

Spool identification example

Esempio di classificazione di un cursore

W001A

Spool 3 positions double-acting STANDARD

Cursore 3 posizioni doppio effetto STANDARD

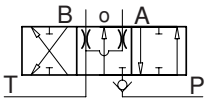
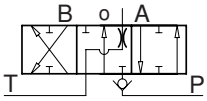
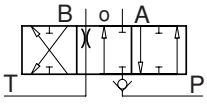
W001B

Spool 3 positions double-acting METERED

Cursore 3 posizioni doppio effetto PARZIALIZZATO

Spools with restricted service ports

Cursori con utilizzi a scarico controllato

HYDRAULIC SCHEMA SCHEMA IDRAULICO	*CIRCUIT* CIRCUITO	*RESTRICTION ON DIAMETER (MM)* ALLEGGERIMENTO SUL DIAMETRO (mm)	*CODE* SIGLA	*SECTION (MM²)* SEZIONE (mm²)
	A-B IN T	0,10	**J10**	3,45
		0,15	**J15**	5,17
		0,20	**J20**	6,88
	A IN T	0,10	**K10**	3,45
		0,15	**K15**	5,17
		0,20	**K20**	6,88
	B IN T	0,10	**Y10**	3,45
		0,15	**Y15**	5,17
		0,20	**Y20**	6,88

Order example

Esempio di ordinazione

W002A **J10**

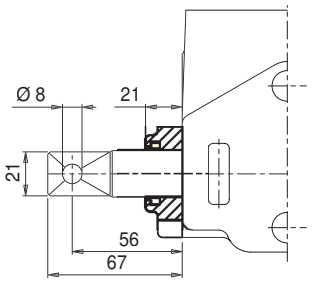
Restriction on diameter (0,10 mm in A and B)
Alleggerimento sul diametro (0,10 mm in A e B)

Spool 3 positions double-acting A and B to tank STANDARD
Cursore 3 posizioni doppio effetto A e B a scarico STANDARD

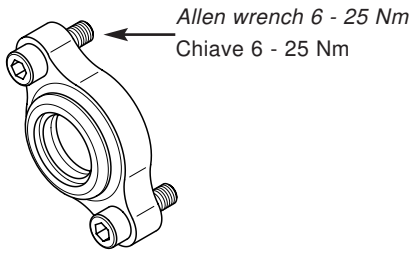
Spool actuation identification

Classificazione comandi cursore

DIMENSIONS - DIMENSIONI



CLAMPING TORQUE - COPPIE SERRAGGIO



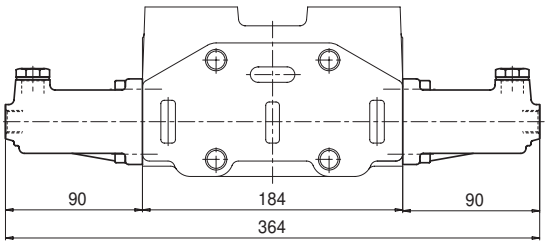
DESCRIPTION - DESCRIZIONE

Control without lever
Comando senza leva

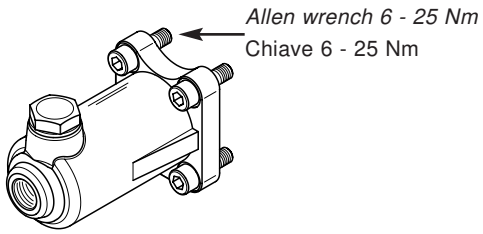
ORDERING CODE - SIGLA DI ORDINAZIONE

H004

DIMENSIONS - DIMENSIONI



CLAMPING TORQUE - COPPIE SERRAGGIO



DESCRIPTION - DESCRIZIONE

Hydraulic actuation
Comando idraulico

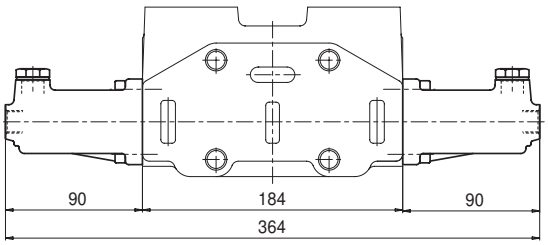
ORDERING CODE - SIGLA DI ORDINAZIONE

H005

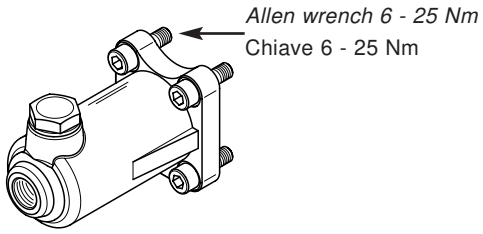
NOTE: *leave out the spool return action code*

NOTA: omettere la sigla del richiamo cursore

DIMENSIONS - DIMENSIONI



CLAMPING TORQUE - COPPIE SERRAGGIO



DESCRIPTION - DESCRIZIONE

Hydraulic actuation with cast.iron end caps
Comando idraulico con cappellotti in ghisa

ORDERING CODE - SIGLA DI ORDINAZIONE

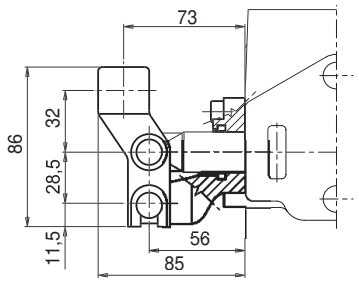
H006

NOTE: *leave out the spool return action code*

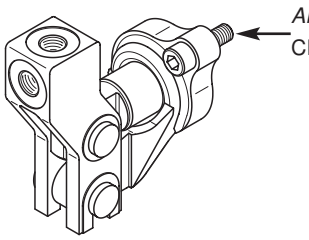
NOTA: omettere la sigla del richiamo cursore

SPOOL ACTUATION - COMANDO CURSORE

DIMENSIONS - DIMENSIONI



CLAMPING TORQUE - COPPIE SERRAGGIO



Allen wrench 6 - 25 Nm
Chiave 6 - 25 Nm

DESCRIPTION - DESCRIZIONE

Unprotected lever
Comando leva non protetta

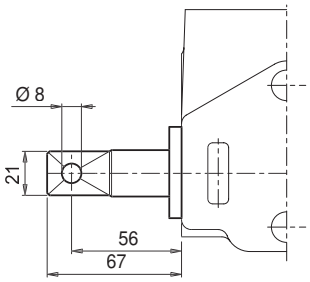
Unprotected lever rotated 180°
Comando leva non protetta ruotato di 180°

ORDERING CODE - SIGLA DI ORDINAZIONE

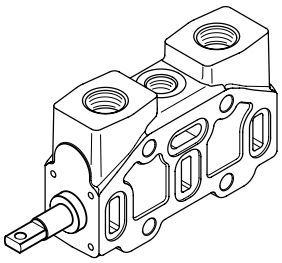
H101

H102

DIMENSIONS - DIMENSIONI



CLAMPING TORQUE - COPPIE SERRAGGIO



DESCRIPTION - DESCRIZIONE

Male clevis end
Predisposizione comando cavo stelo fresato

ORDERING CODE - SIGLA DI ORDINAZIONE

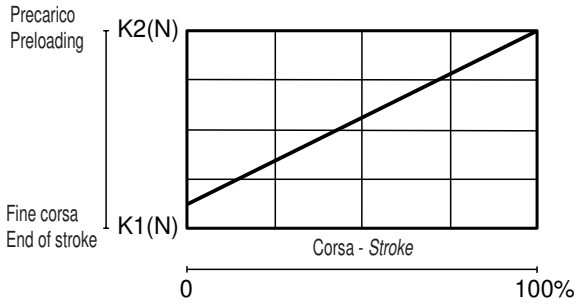
H117

Springs load values

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

Definizione valori carico molle

I kit richiamo cursore si differenziano in tre tipologie di molle, a seconda del valore di carico:



STANDARD SPRING **MOLLA STANDARD**	*SOFT SPRING* **MOLLA TENERA**	*HEAVY SPRING* **MOLLA DURA**
A	**B**	**C**
Preloading - Precarico	*Preloading* - Precarico	*Preloading* - Precarico
151 N	**112,8 N**	**253 N**
End of stroke - Fine corsa	*End of stroke* - Fine corsa	*End of stroke* - Fine corsa
186,4 N	**141,2 N**	**430,6 N**

Spool return kit identification example

Esempio di classificazione di un richiamo cursore

F001A

3 positions spring-centred spool (***standard spring***)

3 posizioni ritorno al centro a molla (**molla standard**)

F001B

3 positions spring-centred spool (***soft spring***)

3 posizioni ritorno al centro a molla (**molla tenera**)

F001C

3 positions spring-centred spool (***heavy spring***)

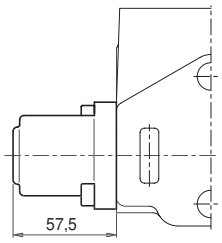
3 posizioni ritorno al centro a molla (**molla dura**)

SPOOL RETURN ACTION - RICHIAMO CURSORE

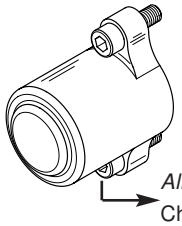
Spools return identification

Classificazione richiami cursore

DIMENSIONS - DIMENSIONI



COPPIE SERRAGGIO - CLAMPING TORQUE



Allen wrench 6 - 25 Nm
Chiave 6 - 25 Nm

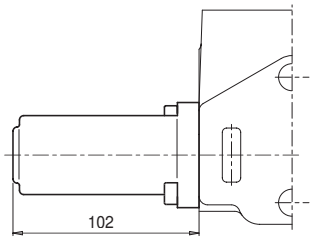
DESCRIPTION - DESCRIZIONE

ORDERING CODE - SIGLA DI ORDINAZIONE

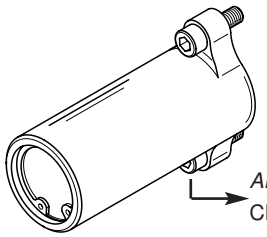
3 positions spring-centred spool
3 posizioni ritorno al centro a molla

F001A **F001B** **F001C**

DIMENSIONS - DIMENSIONI



COPPIE SERRAGGIO - CLAMPING TORQUE



Allen wrench 6 - 25 Nm
Chiave 6 - 25 Nm

DESCRIPTION - DESCRIZIONE

SIGLA DI ORDINAZIONE - ORDERING CODE

3 positions spring-centred spool detent in A and B
3 posizioni ritorno al centro a molla ritenuta in A e B

F002A

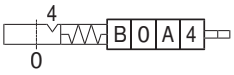
3 positions spring-centred spool detent in A
3 posizioni ritorno al centro a molla ritenuta in A

F003A

3 positions spring-centred spool detent in B
3 posizioni ritorno al centro a molla ritenuta in B

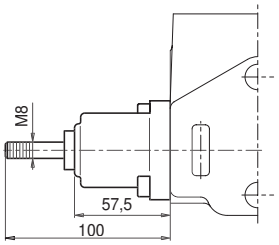
F004A

4 positions spring-centred spool detent in 4th position
4 posizioni ritorno al centro a molla ritenuta in 4° posizione

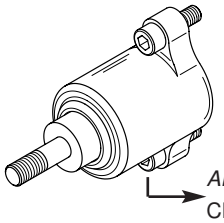


F005A

DIMENSIONS - DIMENSIONI



CLAMPING TORQUE - COPPIE SERRAGGIO



Allen wrench 6 - 25 Nm
Chiave 6 - 25 Nm

DESCRIPTION - DESCRIZIONE

ORDERING CODE - SIGLA DI ORDINAZIONE

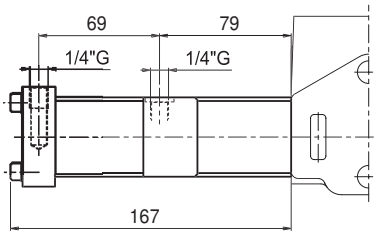
3 positions spring-centred spool prearrangement dual command
3 posizioni ritorno al centro a molla predisposizione doppio comando

F013A **F013B** **F013C**

Pneumatic control classification

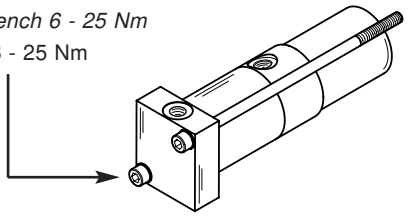
Classificazione comando pneumatico

DIMENSIONS - DIMENSIONI



CLAMPING TORQUE - COPPIE SERRAGGIO

Allen wrench 6 - 25 Nm
Chiave 6 - 25 Nm

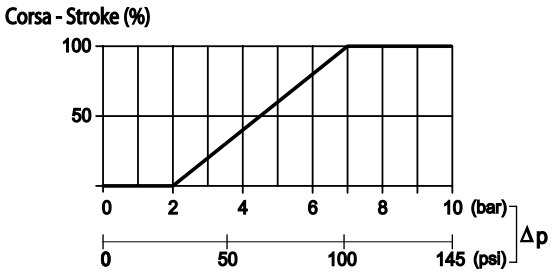


DESCRIPTION - DESCRIZIONE

ORDERING CODES - SIGLE DI ORDINAZIONE

Pneumatic control ON - OFF **Comando pneumatico ON - OFF**		**F020A**
Pneumatic control ON - OFF rotated 180° **Comando pneumatico ON - OFF ruotato di 180°**		**F021A**
Proportional pneumatic control **Comando pneumatico Proporzionale**		**F022A**
Proportional pneumatic control rotated 180° **Comando pneumatico Proporzionale ruotato di 180°**		**F023A**

PROPORTIONAL PNEUMATIC CONTROL SPECIFICATIONS
CARATTERISTICHE COMANDO PNEUMATICO PROPORZIONALE



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

Il grafico presenta lo spostamento del cursore in funzione della pressione pneumatica di comando.

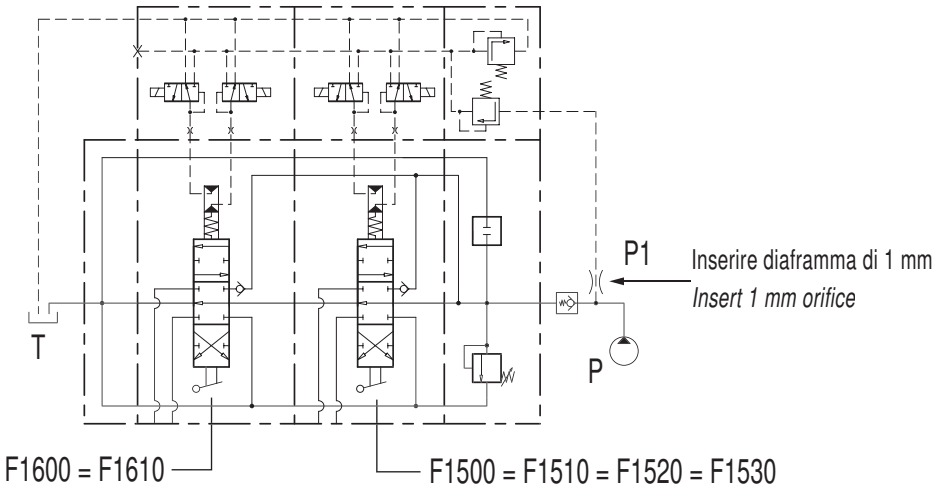
Electrohydraulic control specifications
Caratteristiche comando elettroidraulico

MAX INLET PRESSURE PRESSIONE MAX IN INGRESSO	*REDUCED PRESSURE* PRESSIONE RIDOTTA	*BACK PRESSURE ON T* CONTROPRESSIONE SU T
350 bar	16 bar	3 bar
FILTERING DEGREE GRADO DI FILTRAZIONE	*RACOMMENDED PILOT PIPE SIZE* TUBAZIONI DI PILOTAGGIO CONSIGLIATE	*TEMPERATURE RANGE* CAMPO DI TEMPERATURA
25 µ assoluti	Ø 6 mm - 1/4"BSP	-20° +80°

Electrohydraulic ON-OFF control with fixed pressure reducing valve
Comando elettroidraulico ON-OFF con valvola riduttrice

It is suitable to have an 8 bar backpressure on the free flow channel to make the system working.

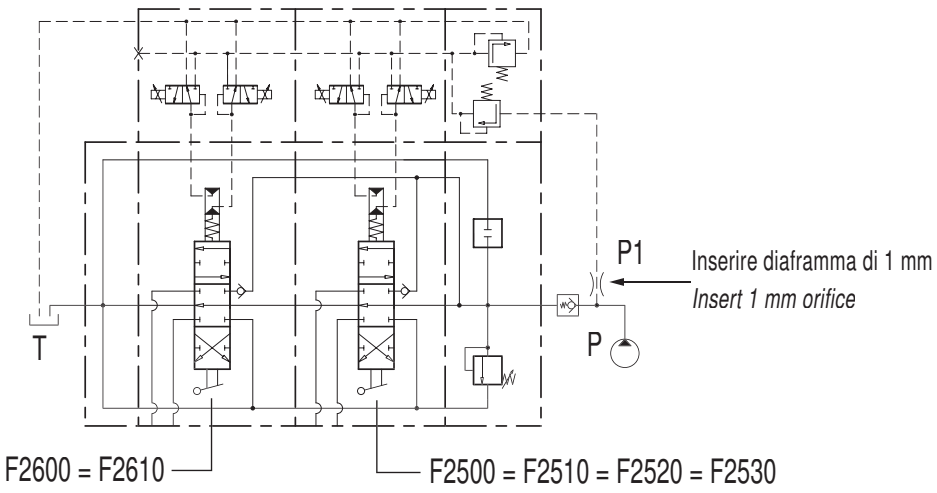
Garantire una resistenza di almeno 8 bar sul canale di neutro per il corretto funzionamento del sistema.



Electrohydraulic Proportional control with fixed pressure reducing valve
Comando Elettroidraulico Proporzionale con valvola riduttrice

It is suitable to have an 8 bar backpressure on the free flow channel to make the system working.

Garantire una resistenza di almeno 8 bar sul canale di neutro per il corretto funzionamento del sistema.

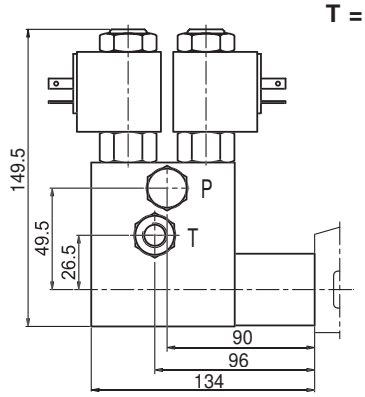


Electrohydraulic control ON-OFF identification

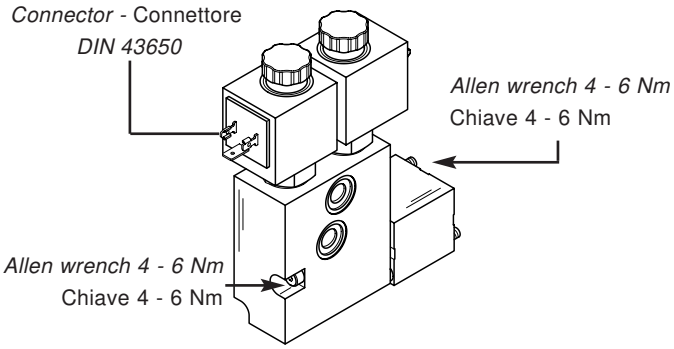
Classificazione comandi elettroidraulici ON-OFF

DIMENSIONS - DIMENSIONI

T = 1/4" BSP



CLAMPING TORQUE - COPPIE DI SERRAGGIO



DESCRIPTION - DESCRIZIONE

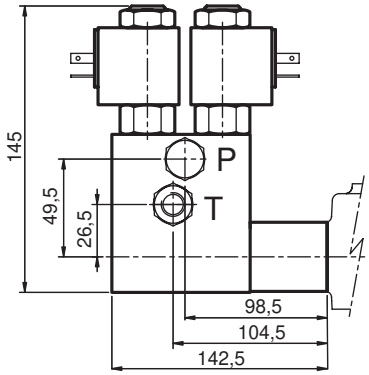
3 positions electrohydraulic control ON - OFF
3 posizioni comando elettroidraulico ON - OFF

ORDERING CODES - SIGLE DI ORDINAZIONE

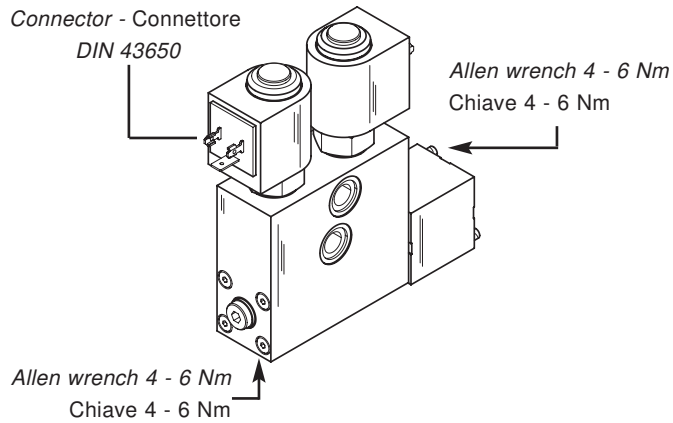
(12 VDC)	(24 VDC)
F0600	**F0610**
19 W - 1,58 A	19 W - 0,81 A

DIMENSIONS - DIMENSIONI

T = 1/4" BSP



CLAMPING TORQUE - COPPIE DI SERRAGGIO



DESCRIPTION - DESCRIZIONE

3 positions electrohydraulic control ON - OFF (stackable with Proportional control)
3 posizioni comando elettroidraulico ON - OFF (abbinabile al Comando Proporzionale)

ORDERING CODES - SIGLE DI ORDINAZIONE

(12 VDC)	(24 VDC)
F1600	**F1610**
19 W - 1,58 A	19 W - 0,81 A

Electrohydraulic ON-OFF control stackable with electrohydraulic proportional control (F2600 = F2610)
Control kit already includes orfices to make spool displacement more gradual.

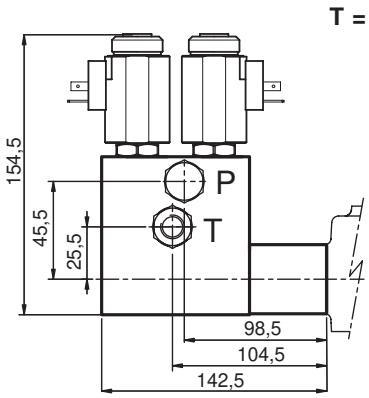
Comando elettroidraulico ON-OFF abbinabile al comando Elettroidraulico Proporzionale (F2600 = F2610).
Il comando è già dotato di strozzatori calibrati per addolcire la commutazione del cursore.

SPOOL RETURN ACTION - RICHIAMO CURSORE

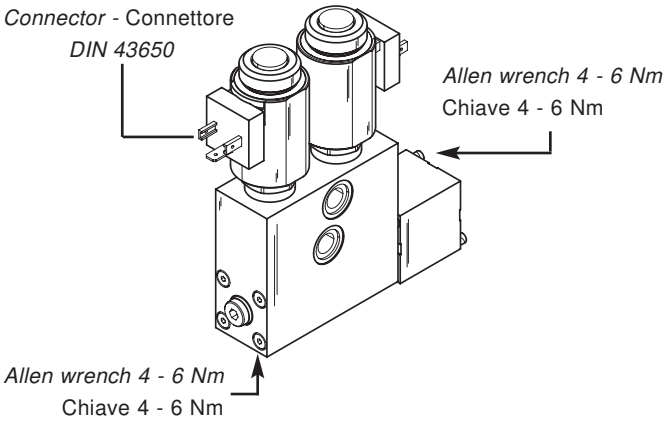
Electrohydraulic control
Proportional identification

Classificazione comandi elettroidraulici Proporzionali

DIMENSIONS - DIMENSIONI



CLAMPING TORQUE - COPPIE DI SERRAGGIO



DESCRIPTION - DESCRIZIONE

3 positions
electrohydraulic control PROPORTIONAL
3 posizioni
comando elettroidraulico PROPORZIONALE

ORDERING CODES - SIGLE DI ORDINAZIONE

(12 VDC)	(24 VDC)
F2600	**F2610**

Proportional control kit, mechanically retrooperated, allows the maximum precision of positioning, limiting the hysteresis.

The control is operated with PWM control of the current. PWM frequency suggested: 60-80 Hz.

Il comando elettroidraulico proporzionale, retroazionato meccanicamente, consente la massima precisione di posizionamento, limitando l'isteresi.

Il comando va azionato con controllo PWM della corrente. Frequenza PWM consigliata: 60-80 Hz.

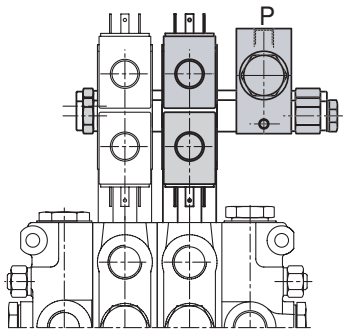
REGULATION CURRENTS - CORRENTI DI REGOLAZIONE

Nominal voltage (V) Tensione nominale (V)	*Resistance* - Resistenza (R_{20}) (Ohm)	*Current* - Corrente *(min)* (A)	*Current* - Corrente *(max)* (A)
12 VDC	3,7	0,9	1,7
24 VDC	15,5	0,45	0,85

Electrohydraulic control with fixed pressure reducing valve identification

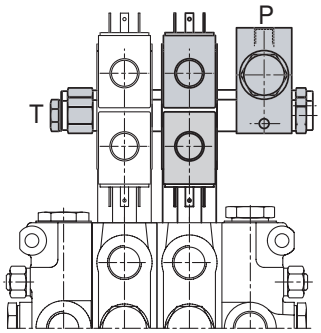
Classificazione comandi elettroidraulici con valvola riduttrice

DIMENSIONS - DIMENSIONI



F0500
F0510

P - T = 1/4" BSP



F0520
F0530

DESCRIPTION - DESCRIZIONE	(12 VDC)	(24 VDC)
Electrohydraulic control ON - OFF ***(fixed pressure reducing valve) P-T inlet side*** **Comando elettroidraulico ON - OFF (valvola riduttrice pressione fissa) P-T lato entrata**	**F0500** 19 W - 1,58 A	**F0510** 19 W - 0,81 A
Electrohydraulic control ON - OFF ***(fixed pressure reducing valve) P inlet T outlet*** **Comando elettroidraulico ON - OFF (valvola riduttrice pressione fissa) P entrata T scarico**	**F0520** 19 W - 1,58 A	**F0530** 19 W - 0,81 A

Adaptable only F0600 = F0610 control kit - **Abbinabile solo al comando F0600 = F0610**

Electrohydraulic control ON - OFF ***(fixed pressure reducing valve) P-T inlet side*** **Comando elettroidraulico ON - OFF (valvola riduttrice pressione fissa) P-T lato entrata**	**F1500** 19 W - 1,58 A	**F1510** 19 W - 0,81 A
Electrohydraulic control ON - OFF ***(fixed pressure reducing valve) P inlet T outlet*** **Comando elettroidraulico ON - OFF (valvola riduttrice pressione fissa) P entrata T scarico**	**F1520** 19 W - 1,58 A	**F1530** 19 W - 0,81 A
Electrohydraulic control PROPORTIONAL ***(fixed pressure reducing valve) P-T inlet side*** **Comando elettroidraulico PROPORZIONALE (valvola riduttrice pressione fissa) P-T lato entrata**	**F2500**	**F2510**
Electrohydraulic control PROPORTIONAL ***(fixed pressure reducing valve) P inlet T outlet*** **Comando elettroidraulico PROPORZIONALE (valvola riduttrice pressione fissa) P entrata T scarico**	**F2520**	**F2530**

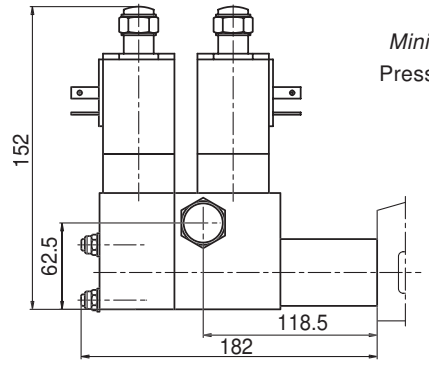
Adaptable only F1600, F1610, F2600, F2610 control kit - **Abbinabile solo ai comandi F1600, F1610, F2600, F2610**

SPOOL RETURN ACTION - RICHIAMO CURSORE

Electropneumatic control identification

Classificazione comandi elettropneumatici

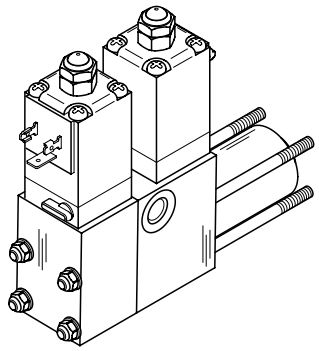
DIMENSIONS - DIMENSIONI



CLAMPING TORQUE - COPPIE DI SERRAGGIO

Minimum working pressure: 5 bar
Pressione minima funzionale: 5 bar

Allen wrench 8 - 12 Nm
Chiave 8 - 12 Nm



DESCRIPTION - DESCRIZIONE

3 positions
electropneumatic control ON - OFF
3 posizioni
comando elettropneumatico ON - OFF

ORDERING CODES - SIGLE DI ORDINAZIONE

(12 VDC)	(24 VDC)
F0620	**F0630**
7 W - 0,58 A	7 W - 0,29 A

Control tie rod assembly

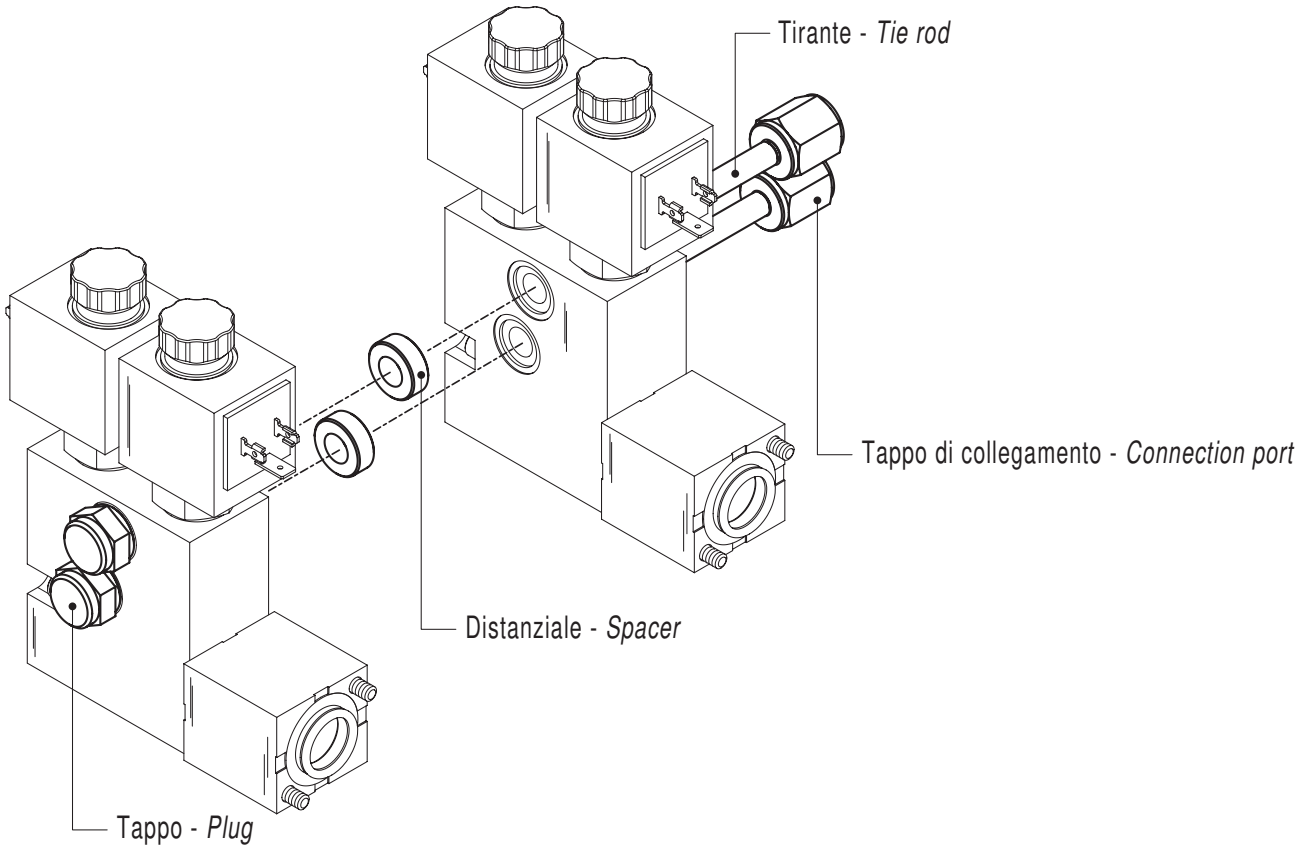
The length of the control tie rod, will change depending on the section numbers; in this way it will be easy to install in the right way the sections and avoid any misassembly.

Each kit is composed by 2 tie rods, 2 plugs, 2 connection ports and spacers according to the section number (see pict.A).

Allestimento tirante di comando

Il corretto allestimento del comando elettroidraulico e del comando elettropneumatico è garantito dal kit tirante di comando caratterizzato dalla lunghezza variabile a seconda del numero di sezioni.

Ogni kit è composto da 2 tiranti, 2 tappi, 2 tappi di collegamento e un numero variabile di distanziali a seconda della quantità delle sezioni. (vedi fig.A).



NOTE: *the control tie rod kit has always to be ordered separately .*

Reducing valve, combined with electrohydraulic, elettropneumatic and proportional control kit has to be calculated as a normal working section

ORDER EXAMPLE:

Complete valves with 3 sections F1600 ***requires a complete tie-rod kit /3***

Complete valves with 2 sections F1600 and 1 section with F1500 (reducing valve) ***requires a complete tie-rod kit /4***

NOTA: Il kit tirante di comando deve essere sempre ordinato separatamente

La valvola riduttrice, abbinata al comando elettroidraulico, proporzionale o elettropneumatico viene conteggiata come una normale sezione di lavoro:

ESEMPIO:

Distributore allestito con 3 sezioni comando F1600
(ordinare il kit tirante di comando /3)

Distributore allestito con 2 sezioni comando F1600 e una sezione a comando F1500 (valvola riduttrice)
(ordinare il kit tirante di comando /4)

WORK SECTION TYPE - TIPOLOGIA SEZIONE DI LAVORO

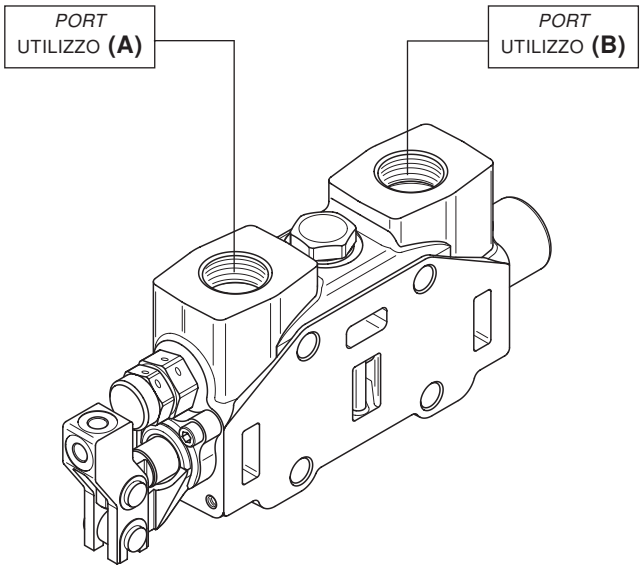
Work section identification

Classificazione sezione di lavoro

DESCRIPTION - DESCRIZIONE	*ORDERING CODES* - SIGLE DI ORDINAZIONE
P*arallel circuit section* **Elemento circuito parallelo**	**RP**
Series circuit section **Elemento circuito serie**	**RS**

Thread type

Tipologia Filettatura

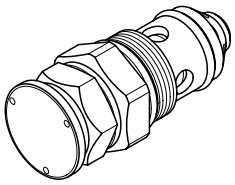


SERVICE PORTS - UTILIZZI (A - B)

G05 **G06** **U05** **S03** **S04**

Auxiliary valves identification — Classificazione valvole ausiliarie

ANTISHOCK VALVE - VALVOLA ANTIURTO *(ARV)*



HYDRAULIC SCHEMA
SCHEMA IDRAULICO

ORDERING CODES
SIGLE DI ORDINAZIONE

01 PA — *port* - utilizzo (A)

01 PB — *port* - utilizzo (B)

SETTING RANGES (BAR) - **CAMPI DI TARATURA (BAR)**

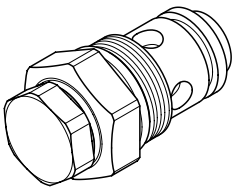
Range - Campo (**A**)
0 / 150 (*at full flow* - passaggio)
0 / 120 (*at min. flow* - apertura)

Range - Campo (**B**)
151 / 230 (*at full flow* - passaggio)
121 / 200 (*at min. flow* - apertura)

Range - Campo (**C**)
231 / 280 (*at full flow* - passaggio)
201 / 250 (*at min. flow* - apertura)

Range - Campo (**D**)
281 / 350 (*at full flow* - passaggio)
251 / 350 (*at min. flow* - apertura)

ANTICAVITATION VALVE - VALVOLA ANTICAVITAZIONE



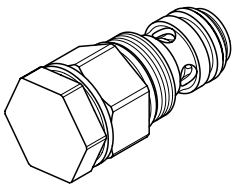
HYDRAULIC SCHEMA
SCHEMA IDRAULICO

ORDERING CODES
SIGLE DI ORDINAZIONE

02 PA — *port* - utilizzo (A)

02 PB — *port* - utilizzo (B)

COMBINED VALVE - VALVOLA COMBINATA



HYDRAULIC SCHEMA
SCHEMA IDRAULICO

ORDERING CODES
SIGLE DI ORDINAZIONE

03 PA — *port* - utilizzo (A)

03 PB — *port* - utilizzo (B)

SETTING RANGES (BAR) - **CAMPI DI TARATURA (BAR)**

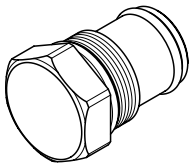
Range - Campo (**A**)
30 / 95 (*at full flow* - passaggio)
30 / 65 (*at min. flow* - apertura)

Range - Campo (**B**)
96 / 150 (*at full flow* - passaggio)
66 / 120 (*at min. flow* - apertura)

Range - Campo (**C**)
151 / 260 (*at full flow* - passaggio)
121 / 230 (*at min. flow* - apertura)

Range - Campo (**D**)
261 / 350 (*at full flow* - passaggio)
231 / 350 (*at min. flow* - apertura)

VALVE PLUGGED - SEDE VALVOLA CON TAPPO



HYDRAULIC SCHEMA
SCHEMA IDRAULICO

ORDERING CODES
SIGLE DI ORDINAZIONE

05 PA — *port* - utilizzo (A)

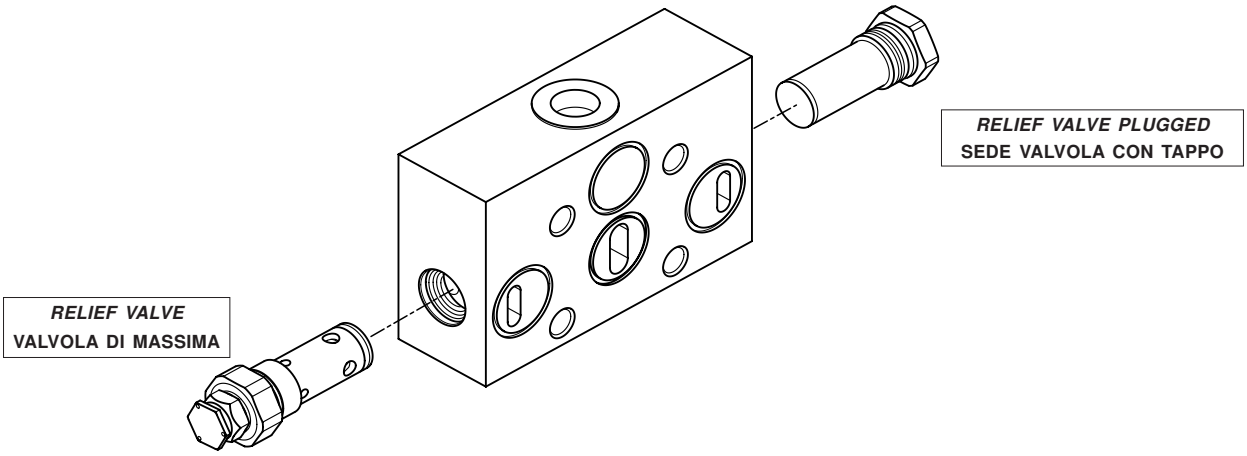
05 PB — *port* - utilizzo (B)

NOTE: *sections designed to house auxiliary valve option require double choice on work ports A and B.*
Always indicate setting value when using antishock auxiliary valves and cambinated valves:
SETTING AT FULL FLOW = *01 PA* ***120***
SETTING AT MIN. FLOW = *01 PA* ***120-A***

NOTA: le sezioni predisposte per le valvole ausiliarie obbligano la doppia scelta sugli utilizzi A e B.
Indicare sempre il valore di taratura, nel caso di scelta della valvola antiurto e della valvola combinata:
TARATURA PASSAGGIO = 01 PA **120**
TARATURA APERTURA = 01 PA **120-A**

Order example
INTERMEDIATE INLET SECTION

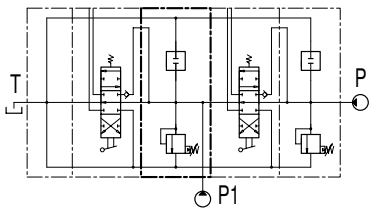
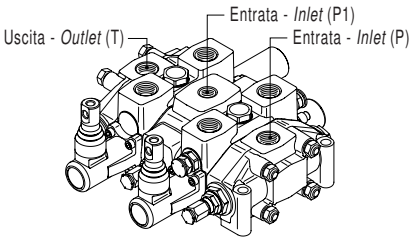
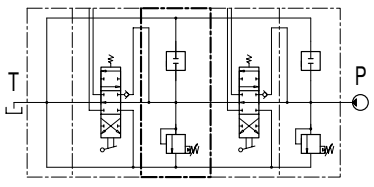
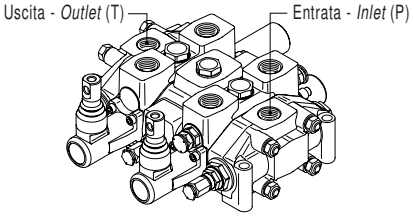
Esempio di ordinazione
COLLETTORE INTERMEDIO ENTRATA



BE	*intermediate inlet section type . . . . . .page 26*	**BE**	tipologia collettore intermedio entrata . .pag. 26
009	*valve arrangement . . . . . .page 27*	**009**	allestimento valvole . . . . . .pag. 27
(150)	*setting direct acting pressure valve*	**(150)**	taratura valvola di massima
A G05	*inlet position and available thread type . . .page 28*	**A G05**	posizione ingresso e filettatura . . . . . .pag. 28

Inlet side

Definizione lato di alimentazione

HYDRAULIC DIAGRAM SCHEMA IDRAULICO	*LAYOUT* CONFIGURAZIONE	*DESCRIPTION + CODE* DESCRIZIONE + SIGLA
		*INTERMEDIATE INLET SECTION* COLLETTORE INTERMEDIO DI ENTRATA **BE**
		*INTERMEDIATE SECTION WITH PRESSURE RELIEF VALVE* COLLETTORE INTERMEDIO CON VALVOLA DI MASSIMA **BV***

(*) Omit the code for inlet positioning and type of thread
(*) Omettere la sigla del posizionamento ingresso e tipo di filettatura

Operation of intermediate inlet section

TYPE E

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.

TYPE V

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.

Funzionamento collettore intermedio di entrata

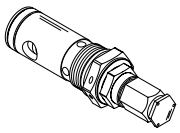
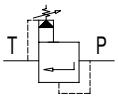
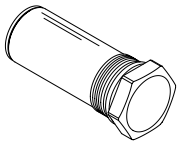
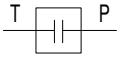
TIPO E

L'intermedio di entrata è alimentato da due pompe (P+P1).
Gli elementi a valle possono essere tarati ad una pressione inferiore di quelli a monte, agendo sulla valvola di massima del collettore intermedio in oggetto.

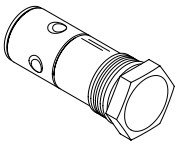
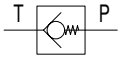
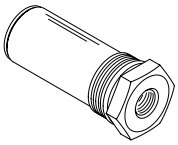
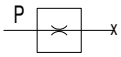
TIPO V

L'intermedio di entrata e gli elementi sono alimentati da un'unica pompa (P).
Gli elementi a valle del collettore intermedio, possono essere tarati ad una pressione inferiore degli elementi a monte agendo sulla valvola di massima del collettore intermedio in oggetto.

Valves identification

TYPE TIPO	*DESIGN* DISEGNO	*DIAGRAM* SCHEMA	*DESCRIPTION* DESCRIZIONE
2			*Pilot operated pressure relief valve* Valvola di massima pressione pilotata
3			*Relief valve plugged* Sede valvola con tappo

Classificazione valvole

TYPE TIPO	*DESIGN* DISEGNO	*DIAGRAM* SCHEMA	*DESCRIPTION* DESCRIZIONE
4			*Main anticavitation check valve* Valvola anticavitazione generale
11			*Plug with pressure gauge connection* Sede valvola con tappo attacco manometro

Valve arrangement

Example - Esempio: **009 = 2A-3B**

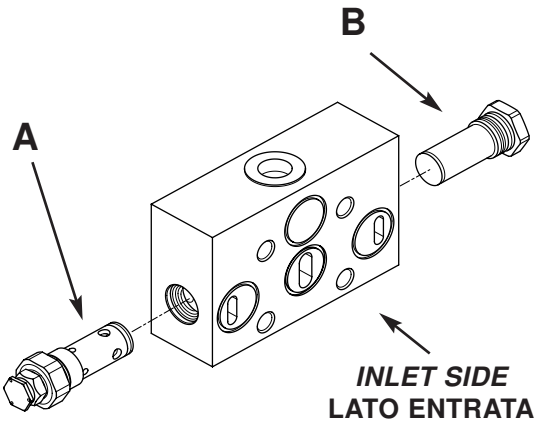
Pressure relief valve in port A side
Valvola di max in utilizzo A

Plug replaces pressure relief valve in port B side
Tappo sostituisce v. max in utilizzo 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

La sigla identifica: con un numero il tipo di valvola con la lettera la sua posizione sul collettore di entrata.
(A) = lato comando cursore
(B) = lato richiamo cursore

Allestimento valvole



INTERMEDIATE SECTIONS - COLLETTORI INTERMEDI

Valves combination — Combinazione valvole

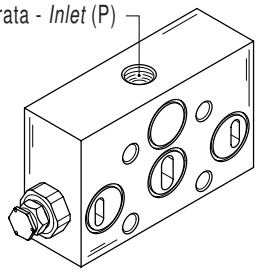
009	010	016	018	019	020	027	029	030	037	085	086	087	
2A-3B	2A-4B	2A-11B	3A-2B	3A-3B	3A-4B	3A-11B	4A-2B	4A-3B	4A-11B	11A-2B	11A-3B	11A-4B	

Inlet position and available thread type — Tipologia ingresso e filettatura

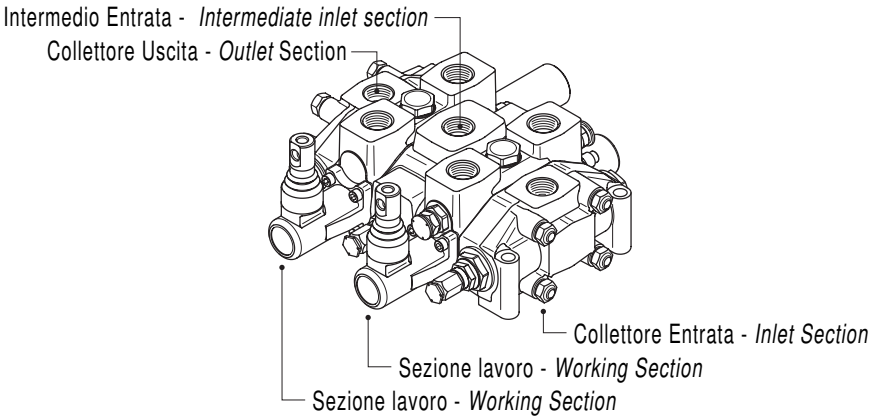
A

Upper inlet
Ingresso superiore

G05 **U05**



Complete configuration samples for HC-D12 with intermediate inlet section (BE)
Esempio di configurazione completa di un distributore HC-D12 con intermedio di entrata (BE)

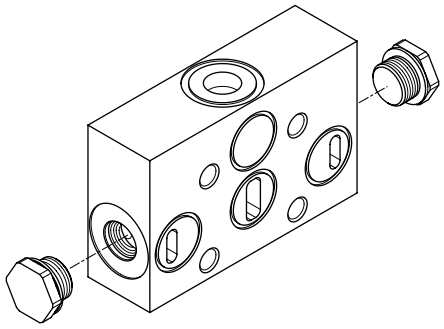


HC-D12/2

Right inlet section ..... **IR 009 150 A G05** ..... Collettore entrata destra
Working section ..... **W001A H101 F001A RP GO5** ..... Sezione di lavoro
Intermediate inlet section ..... **BE 009 120 A G05** ..... Collettore intermedio di entrata
Working section ..... **W001A H101 F001A RP GO5** ..... Sezione di lavoro
Outlet section ..... **TJ A GO6** ..... Collettore di scarico

Order example
INTERMEDIATE OUTLET SECTION

Esempio di ordinazione
COLLETTORE INTERMEDIO USCITA



PLUG KIT
TAPPO DI CHIUSURA

PLUG KIT
TAPPO DI CHIUSURA

BF *intermediate outlet section type . . . . . .page 33*

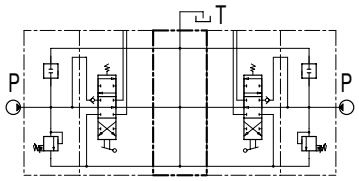
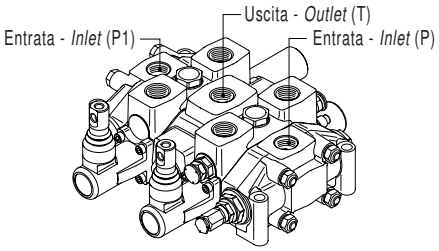
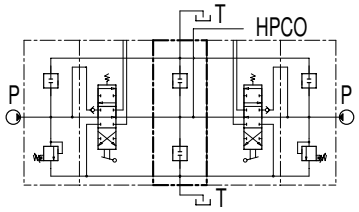
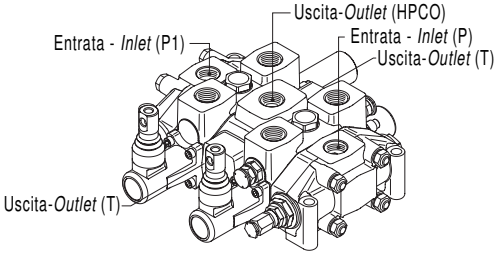
A G06 *outlet position and available thread type . .page 34*

BF tipologia collettore intermedio uscita . . .pag. 33

A G06 posizione ingresso e filettatura . . . . . .pag. 34

Inlet side

Definizione lato di alimentazione

HYDRAULIC DIAGRAM SCHEMA IDRAULICO	*LAYOUT* CONFIGURAZIONE	*DESCRIPTION + CODE* DESCRIZIONE + SIGLA
		*INTERMEDIATE OUTLET SECTION WITH SINGLE TANK RETURN* COLLETTORE INTERMEDIO DI SCARICO AD 1 USCITA (T) **BF**
		*INTERMEDIATE OUTLET SECTION WITH TWO TANK RETURNS* COLLETTORE INTERMEDIO DI SCARICO A 2 USCITE CON HPCO **BG**

Operation of intermediate outlet section

Funzionamento collettore intermedio di scarico

TYPE F

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.

TIPO F

Il sopracitato collettore permette di convogliare il flusso dell'olio delle due pompe e delle utenze, in un'unica uscita T.

TYPE G

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.

TIPO G

Il collettore in oggetto permette di convogliare il flusso d'olio delle due pompe in due uscite:
- HPCO per l'alimentazione di un altro distributore
- T per lo scarico delle utenze

Per ottenere ciò è necessario collegare le due T.

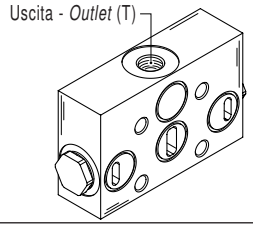
Outlet position and available thread type — Tipologia scarico e filettatura

BF

A

Upper outlet
Uscita superiore

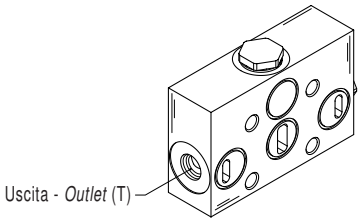
G06 U06



G

Front outlet side A
Uscita anteriore lato A

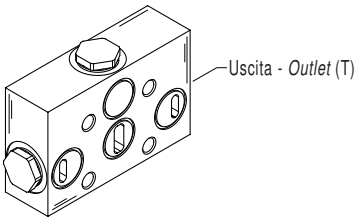
G06 U06



H

Rear outlet side B
Uscita posteriore lato B

G06 U06

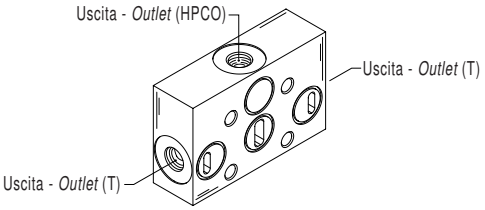


BG

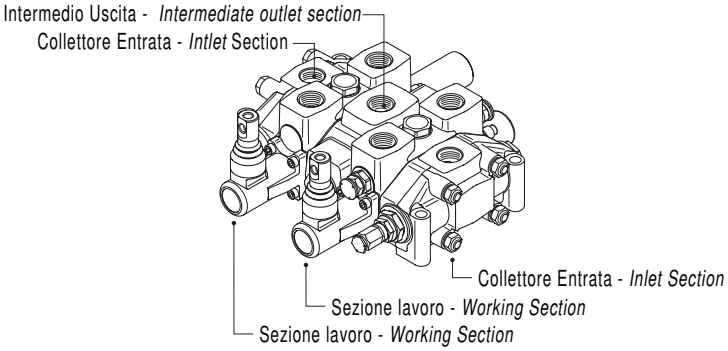
J

Upper outlet HPCO - front side A and rear side B to T
Uscita superiore HPCO - anteriore lato A e posteriore lato B in T

G06 U06



Complete configuration samples for HC-D12 with intermediate outlet section (BF)
Esempio di configurazione completa di un distributore HC-D12 con intermedio di uscita (BF)

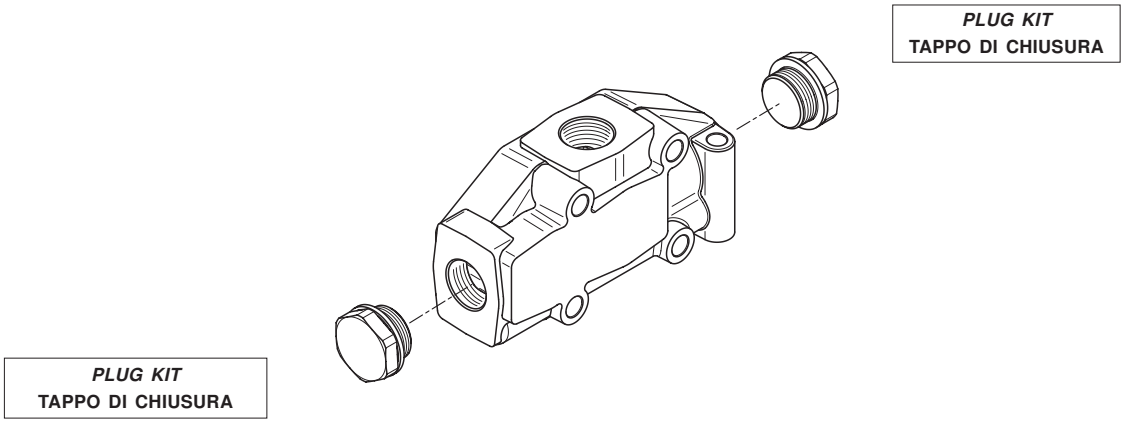


HC-D12/2

Right inlet section ..... **IR 009 150 A G05** ..... Collettore entrata destra
Working section ..... **W001A H001 F001A RP GO5** ..... Sezione di lavoro
Intermediate outlet section ..... **BF A G06** ..... Collettore intermedio di uscita
Working section ..... **W001A H001 F001A RP GO5** ..... Sezione di lavoro
Left inlet section ..... **IL 009 150 A G05** ..... Collettore entrata sinistra

Order example
1 outlet

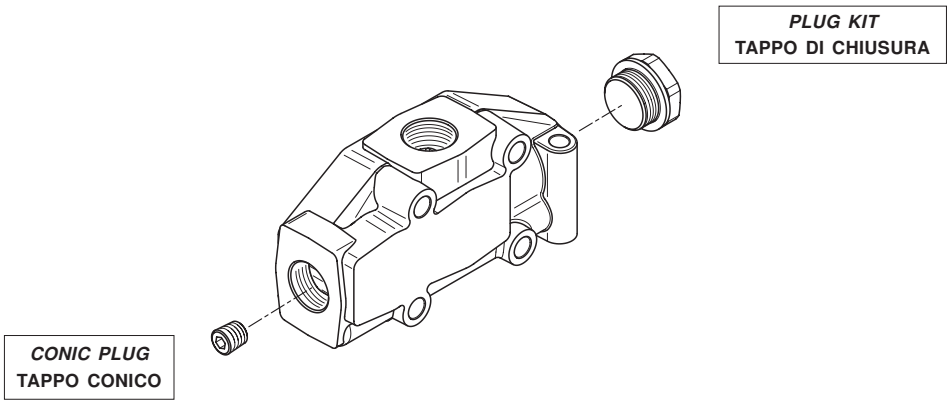
Esempio di ordinazione
Collettore 1 uscita



TJ	*outlet section type . . . . . .page 36*	**TJ**	tipologia collettore di scarico . . . . . .pag. 36
A G06	*outlet position and available thread type . .page 36*	**A G06**	posizione scarico e filettatura . . . . . .pag. 36

Order example
HPCO version outlet

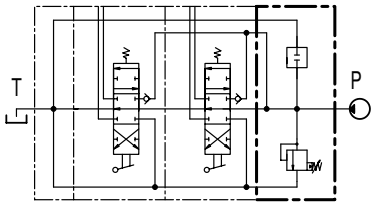
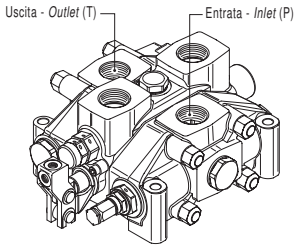
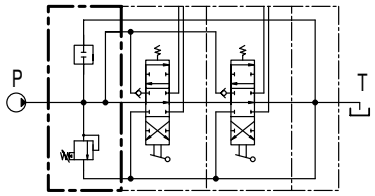
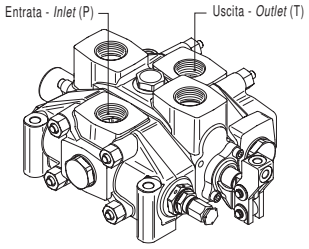
Esempio di ordinazione
Collettore 2 uscite



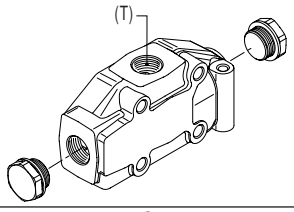
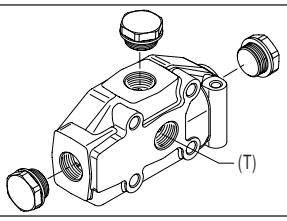
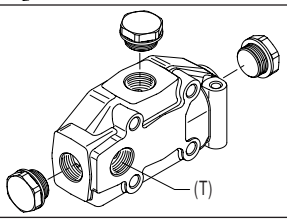
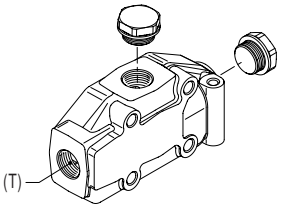
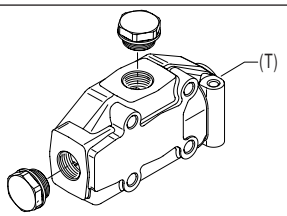
TM	*outlet section type . . . . . .page 37*	**TM**	tipologia collettore di scarico . . . . . .pag. 37
M G06	*outlet position and available thread type . .page 37*	**M G06**	posizione scarico e filettatura . . . . . .pag. 37

OUTLET SECTION - COLLETTORE DI SCARICO

Outlet with single tank classification — Classificazione scarico a una uscita

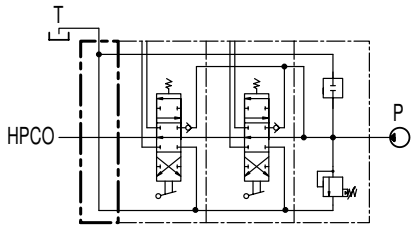
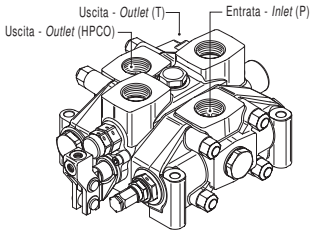
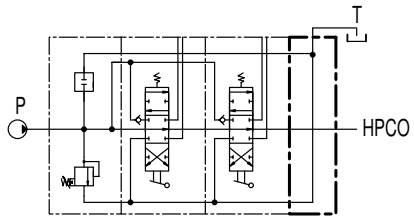
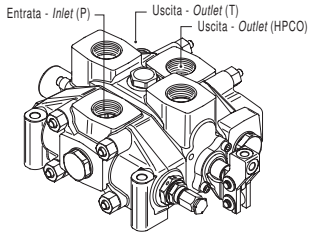
HYDRAULIC DIAGRAM SCHEMA IDRAULICO	*LAYOUT* CONFIGURAZIONE	*DESCRIPTION + CODE* DESCRIZIONE + SIGLA
		*OUTLET SECTION WITH SINGLE RETURN (T) RIGHT-SIDE INLET (P)* COLLETTORE DI SCARICO AD 1 USCITA (T) ENTRATA DESTRA (P) **TJ**
		*OUTLET SECTION WITH SINGLE RETURN (T) LEFT-SIDE INLET (P)* COLLETTORE DI SCARICO AD 1 USCITA (T) ENTRATA SINISTRA (P) **TK**

Outlet position and available thread type — Tipologia scarico e filettatura

A	*Upper outlet* Uscita superiore **G06** **U06** **S03** **S04**	
C	*Central outlet* Uscita centrale **G06** **U06** **S03** **S04**	
F	*Lateral outlet side A* Uscita laterale lato A **G06** **U06**	
G	*Front outlet side A* Uscita anteriore lato A **G06** **U06** **S03** **S04**	 *ONLY FOR* **TK** SOLO PER **TK**
H	Uscita posteriore lato B *Rear outlet side B* **G06** **U06** **S03** **S04**	 *ONLY FOR* **TJ** SOLO PER **TJ**

Outlet with two tank2 classification

Classificazione scarico a due uscite

HYDRAULIC DIAGRAM SCHEMA IDRAULICO	*LAYOUT* CONFIGURAZIONE	*DESCRIPTION + CODE* DESCRIZIONE + SIGLA
		COLLETTORE DI SCARICO A 2 USCITE CON HPCO ENTRATA DESTRA (P) *OUTLET SECTION WITH TWO RETURNS RIGHT-SIDED INLET (P)* **TM**
		COLLETTORE DI SCARICO A 2 USCITE CON HPCO ENTRATA SINISTRA (P) *OUTLET SECTION WITH TWO RETURNS LEFT-SIDED INLET (P)* **TN**

Outlet position and available thread type

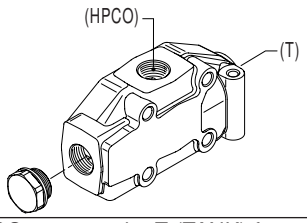
Tipologia scarico e filettatura

M

HPCO upper outlet T (TANK) side outlet B

HPCO uscita superiore T (TANK) uscita posteriore lato B

G06 U06 S03 S04



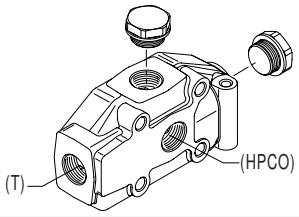
ONLY FOR **TM**
SOLO PER **TM**

Q

HPCO central outlet T (TANK) front outlet side A

HPCO uscita centrale T (TANK) uscita anteriore lato A

G06 U06 S03 S04



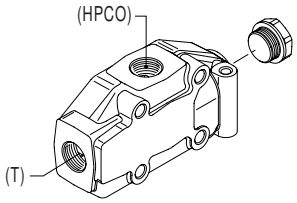
ONLY FOR **TN**
SOLO PER **TN**

N

HPCO upper outlet T (TANK) front outlet side

HPCO uscita superiore T (TANK) uscita anteriore lato A

G06 U06 S03 S04



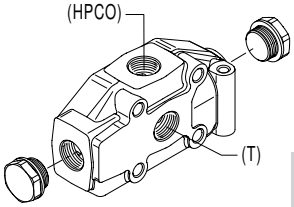
ONLY FOR **TN**
SOLO PER **TN**

R

HPCO upper outlet T (TANK) side outlet B

HPCO uscita superiore T (TANK) uscita laterale lato B

G06 U06



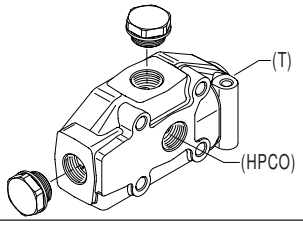
ONLY FOR **TM**
SOLO PER **TM**

P

HPCO central outlet T (TANK) rear outlet side B

HPCO uscita centrale T (TANK) uscita posteriore lato B

G06 U06 S03 S04



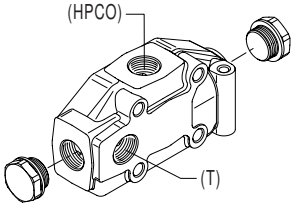
ONLY FOR **TM**
SOLO PER **TM**

S

HPCO upper outlet T (TANK) side outlet A

HPCO uscita superiore T (TANK) uscita laterale lato A

G06 U06



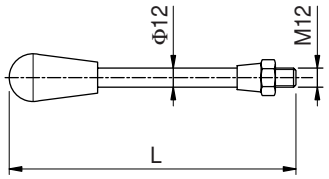
ONLY FOR **TN**
SOLO PER **TN**

FEATURES - ACCESSORI

Lever identification

Classificazione kit aste leva

DIMENSIONS - DIMENSIONI



AVAILABLE LENGTH (IN) - LUNGHEZZE DISPONIBILI (MM)

L (in) = 8,5 - 11,5 - 15,4
L (mm) = 215 - 290 - 390

DESCRIPTION - DESCRIZIONE

Lever with knob

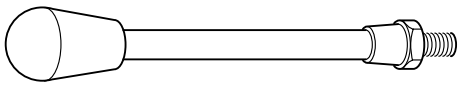
Asta leva con pomello

ORDERING CODES - SIGLE DI ORDINAZIONE

ZA

Order example

Esempio di ordinazione

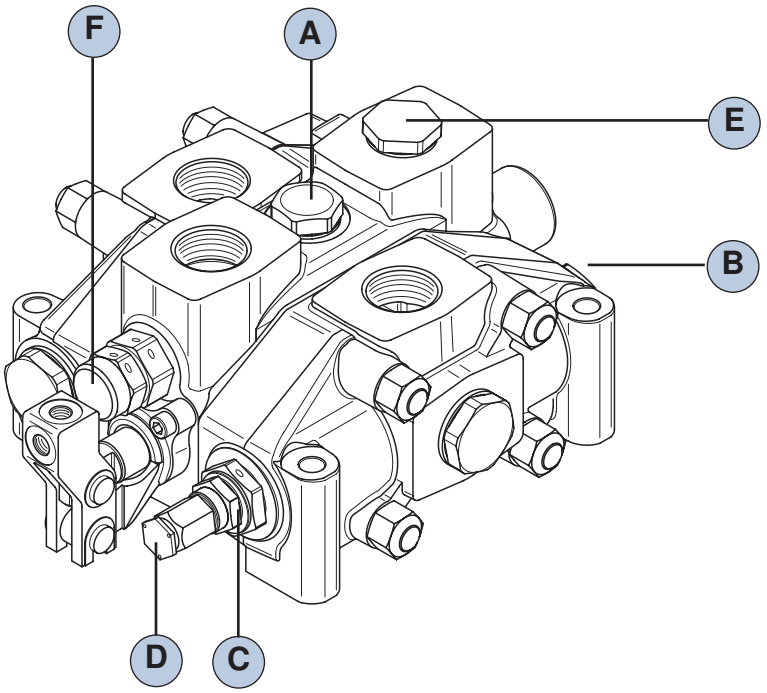


ZA **M12** **215**

Lever lenght mm
Lunghezza asta leva in mm

Lever thread
Filettatura asta leva

Lever type
Tipologia asta leva



General clamping torque

Coppie di serraggio generali

POSITION POSIZIONE	*DESCRIPTION* DESCRIZIONE	*CLAMPING TORQUE (Nm)* COPPIA SERRAGGIO (Nm)
A	*load check valve plug* tappo valvola di ritegno	**80**
B	*plug to replace pressure relief valve* tappo sostituisce valvola di massima	**80**
C	*pressure relief valve body* corpo valvola di massima	**80**
D	*pressure relief valve cap* tappo registro valvola di massima	**20**
E	*fittings in service ports A-B-P-T* tappo chiusura utilizzi A-B-P-T	**G05 = 120 - G06 = 120** **U05 = 120**
F	*clamping torque auxiliary valve* coppia serraggio valvola ausiliaria	***see table (X)*** **vedi tabella (X)**

TABLE - TABELLA (X)

ANTISHOCK VALVE PLUG
TAPPO VALVOLA ANTIURTO
30 Nm

ANTICAVITATION VALVE PLUG
TAPPO VALVOLA ANTICAVITAZIONE
30 Nm

COMBINED VALVE PLUG
TAPPO VALVOLA COMBINATA
30 Nm

ANTISHOCK VALVE BODY
CORPO VALVOLA ANTIURTO
80 Nm

ANTICAVITATION VALVE BODY
CORPO VALVOLA ANTICAVITAZIONE
80 Nm

COMBINED VALVE BODY
CORPO VALVOLA COMBINATA
80 Nm

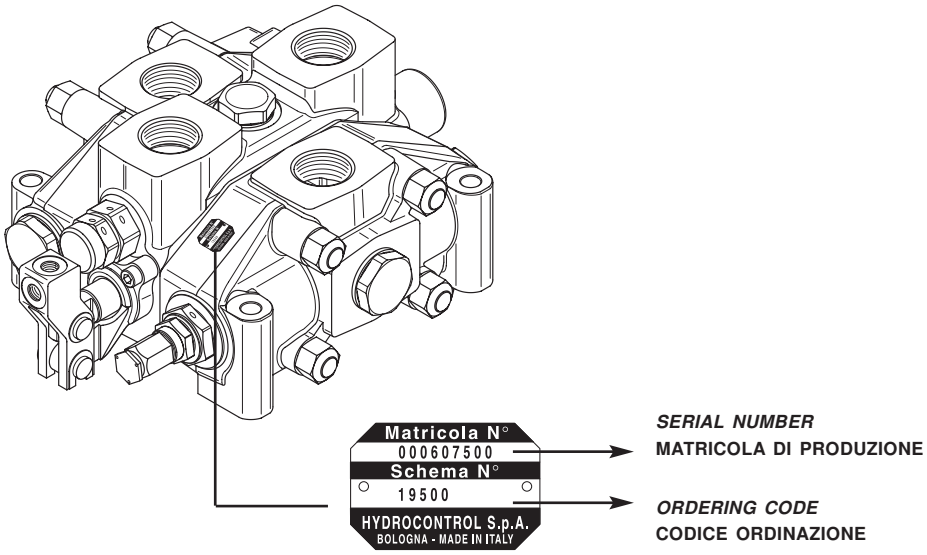
PLUG REPLACES VALVE
TAPPO SOSTITUISCE VALVOLA
80 Nm

Product identification

An identification plate is put on every HC-D12 sectional valve.

Identificazione prodotto

In tutti i monoblocchi HC-D12 forniti da Hydrocontrol S.p.A. è applicata una targhetta di riconoscimento.



Assembly instructions

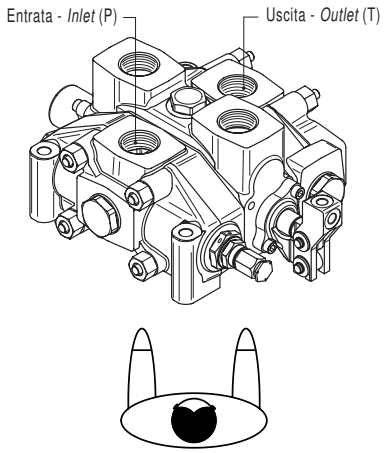
Since our directional control valve casings have symmetrical galleries, they can be converted from right-side inlet (IR) to left-side inlet (IL) simply by turning the spool and relative controls through 180°.
This operation is not possible when using spool types: 012 - 013.

Recommended curve for our standard directional control valves ***A01*** *(see remote controls catalogue).*

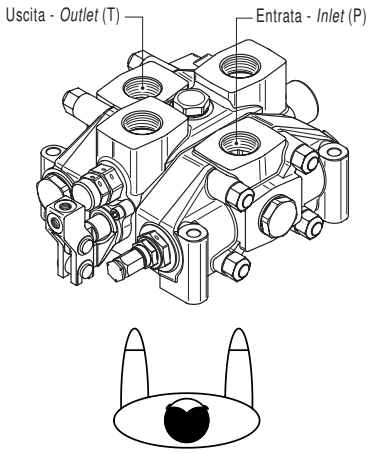
Istruzioni di montaggio

Poiché i corpi hanno gole simmetriche, in nostri distributori possono essere trasformati da entrata destra (IR) ad entrata sinistra (IL), ruotando i cursori ed i relativi comandi di 180°.
Quanto sopra descritto, non è possibile in presenza dei cursori tipo: 012 - 013.

Curva consigliata per i nostri distributori standard **A01** (vedi catalogo manipolatori).



Sectional valve with left inlet (IL)
Distributore con entrata sinistra (IL)



Sectional valve with right inlet (IR)
Distributore con entra destra (IR)

U.S.A.

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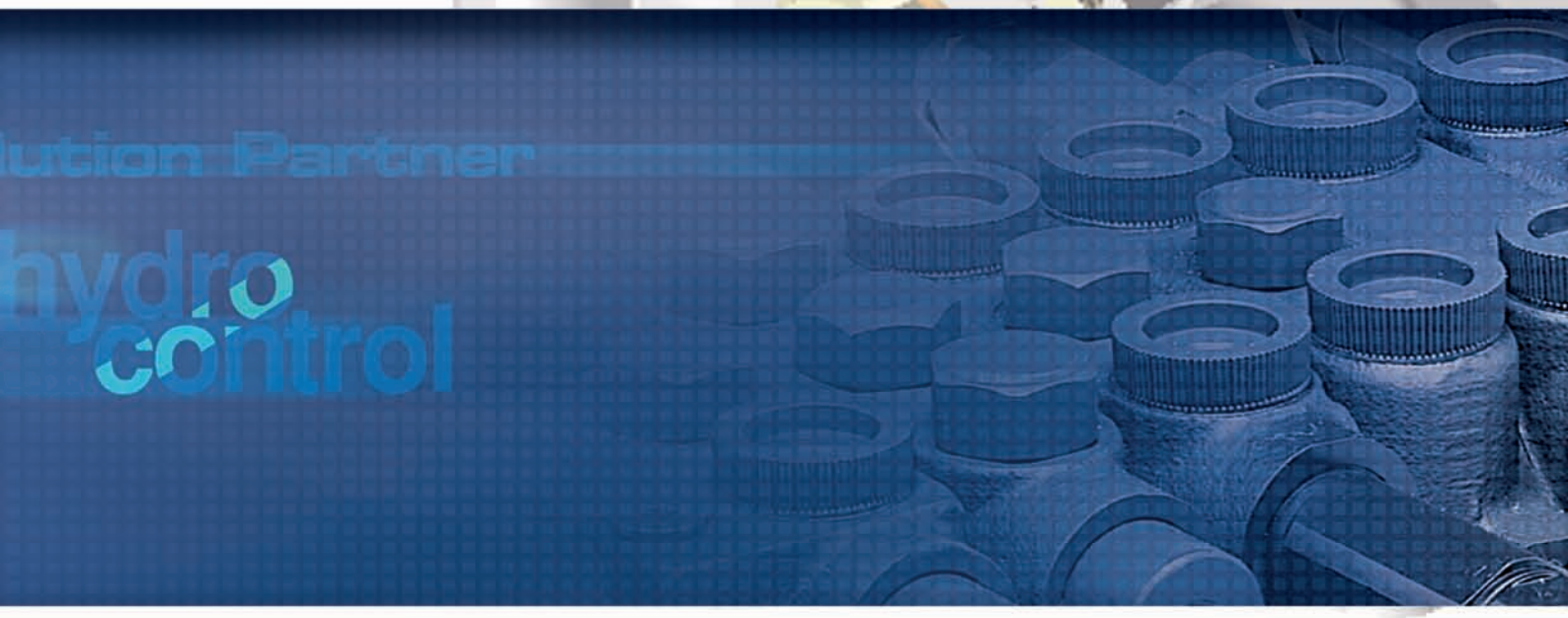
hydro control

HCD12-04



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