

**HC-D25 Series** | Directional Control Valve | Sectional Valves | 1 1/4" BSP -G20  
 Max Flow Rate 380Lpm | Operating Pressure 350Bar 5000Psi | Max Pressure on T 20Bar

# HC-D25

## Sectional valve

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## GENERAL SPECIFICATIONS

### Universal products and solutions

HC-D25 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 380 litres/min. at an operating pressure of 350 bar.

Numerous integrated valve features in addition to countless configuration options make HC-D25 highly flexible and easily adaptable to the widest applications range.

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

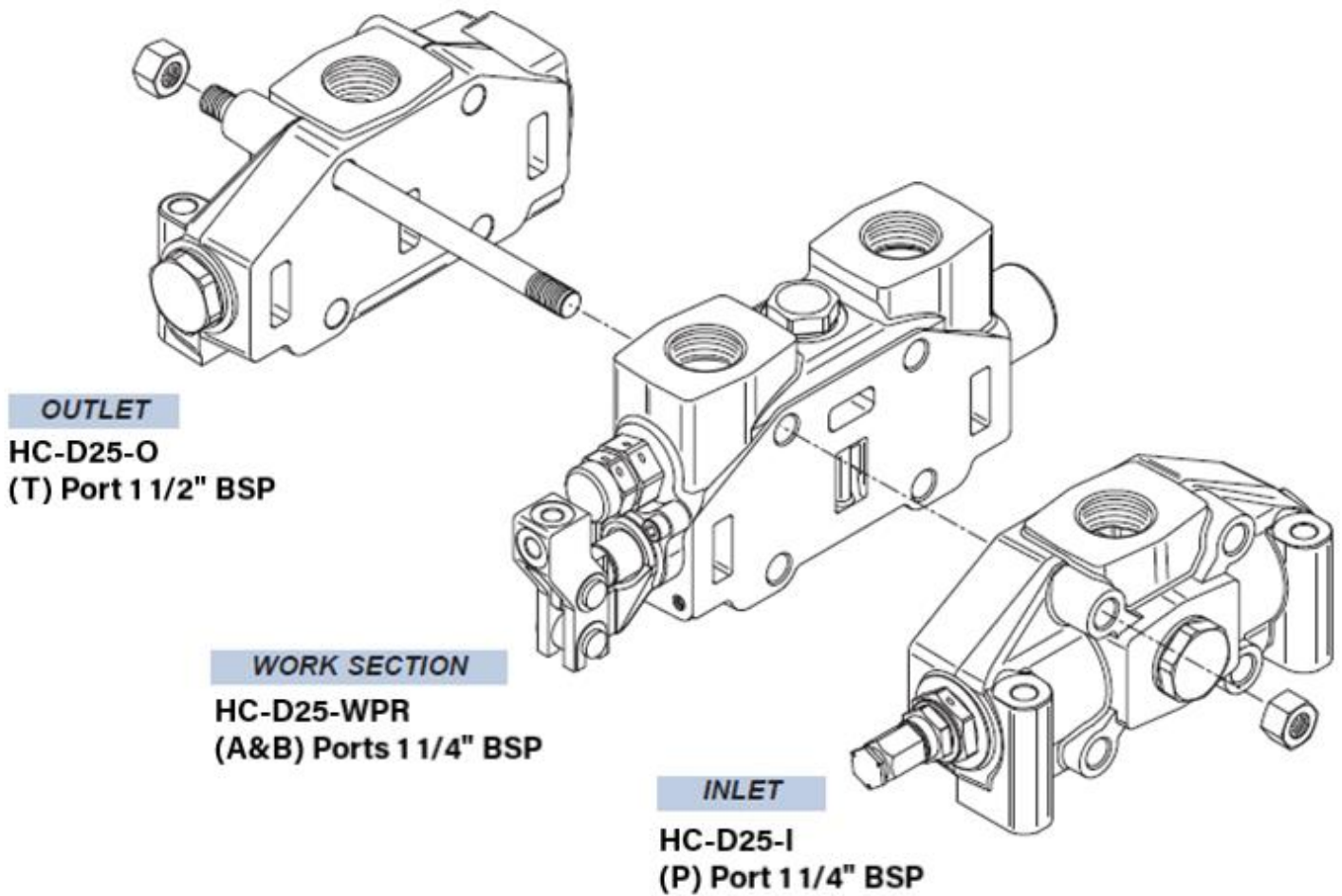
### Standard working conditions

- FLOW RATE ..... 100 GPM
- PRESSURE RATE ..... 5000 PSI
- MAX PRESSURE ON (T) ..... 290 PSI
- OPERATING TEMPERATURE ..... -25°C / +80°C
- KINEMATIC VISCOSITY ..... da 10 a 460 mm<sup>2</sup>/s
- CONTAMINATION LEVEL ..... 19/16 ISO 4406
- FILTRATION LEVEL ..... β 10 > 75

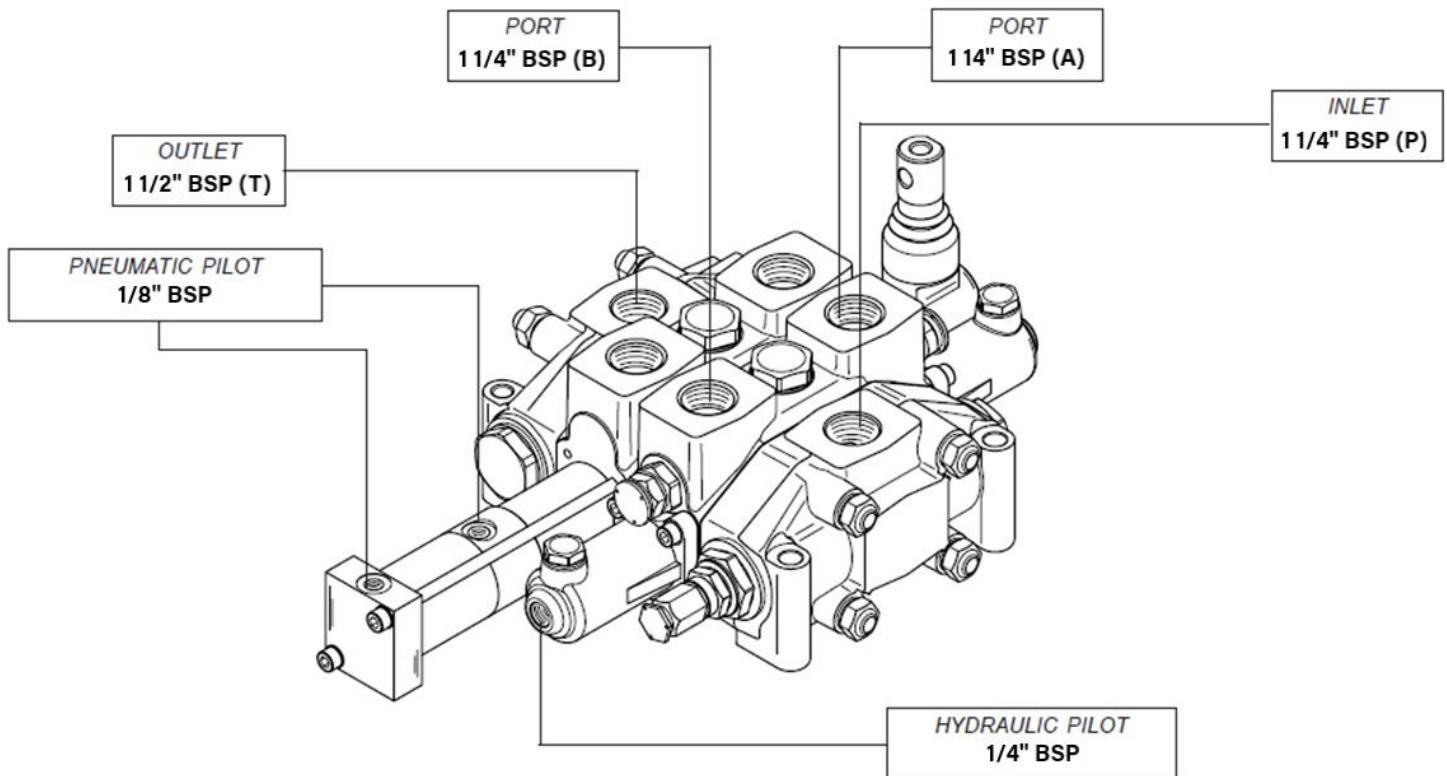
### Technical specifications

- WORKING SECTION NUMBER ..... 1 - 12
- SPOOL STROKE ..... 0,47 + 0,47 in
- SPOOLS PITCH ..... 2,9 in

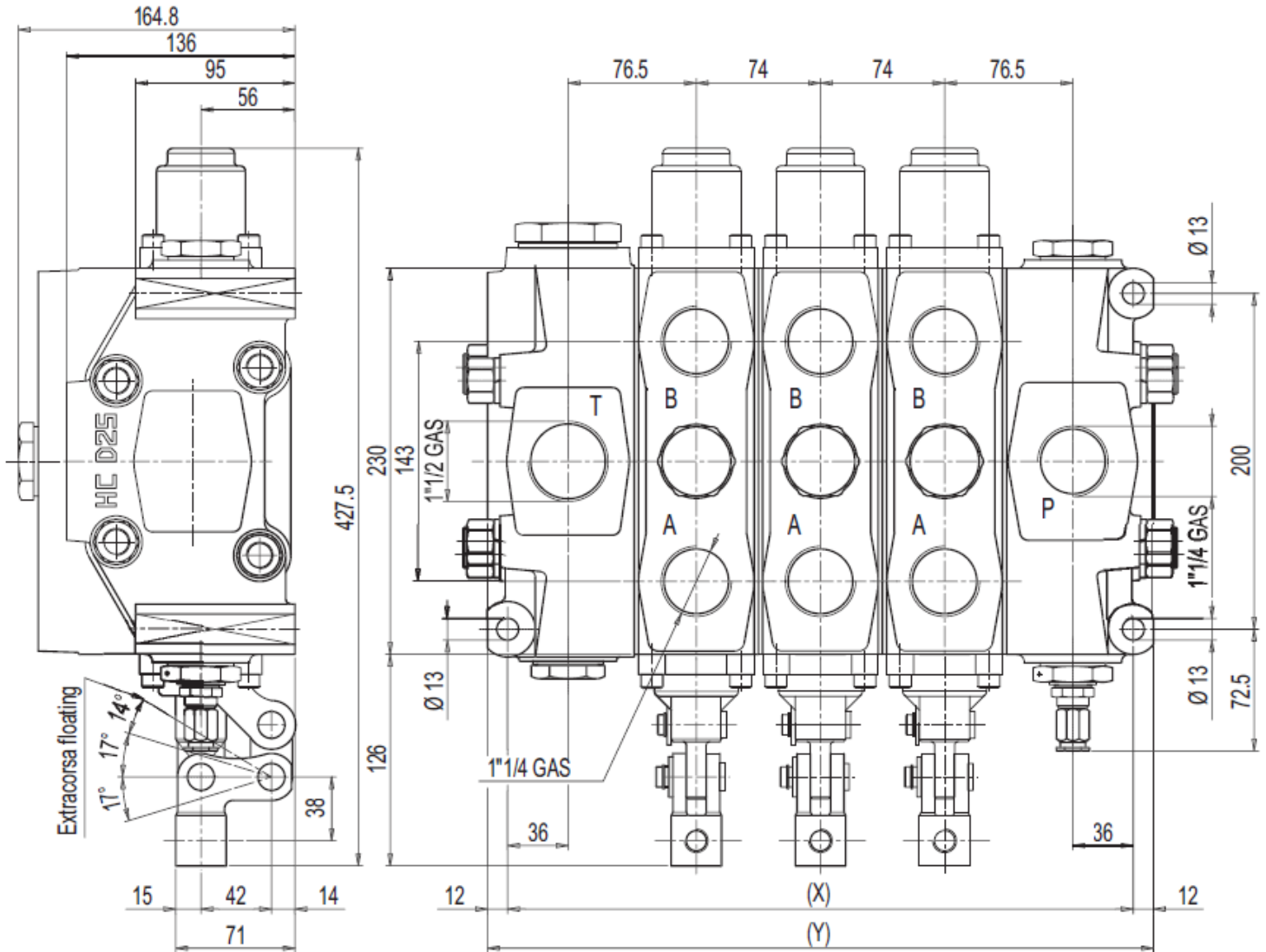
**HC-D25 Series Sectional Valve Layout**



**DIMENSIONS - Standard Thread**



**DIMENSIONAL DRAWING**



**VARIABLE DIMENSIONS**

/1 = 1x HC-D25-I (Inlet Section) + 1x HC-D25-WPR (Work Section) + 1x HC-D25-O (Outlet Section)

/2 = 1x HC-D25-I + 2x HC-D25-WPR + 1x HC-D25-O

/3 = 1x HC-D25-I + 3x HC-D25-WPR + 1x HC-D25-O etc..

Type	/1	/2	/3	/4	/5	/6	/7	/8	/9	/10	/11	/12
X (mm)	225	299	373	447	521	595	669	743	817	891	965	1039
X (in)	8,9	11,8	14,7	17,6	20,5	23,4	25,6	28,5	31,4	34,3	37,2	40,1
Y (mm)	249	323	397	471	545	619	693	767	841	915	989	1063
Y (in)	9,8	12,7	15,6	18,2	21,1	24	26,9	29,8	32,7	35,3	38,2	41,1

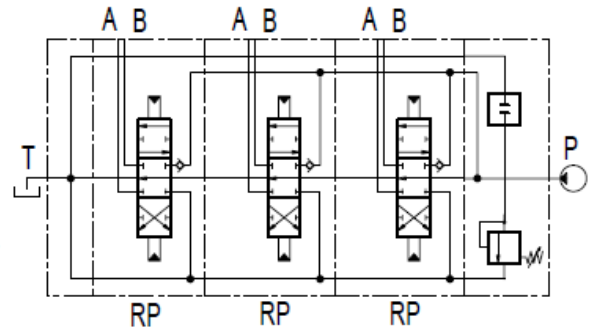
**WEIGHTS**

Type	/1	/2	/3	/4	/5	/6	/7	/8	/9	/10	/11	/12
Kg	41,3	56,8	72,3	87,8	103,4	119	134,4	150	165,5	181	196,5	212

**HYDRAULIC SPECIFICATIONS**

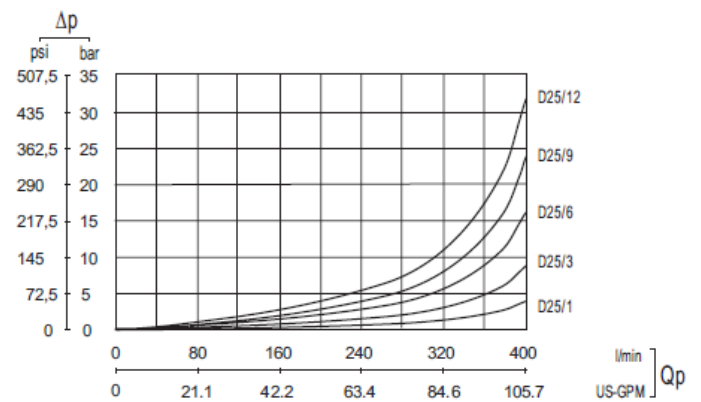
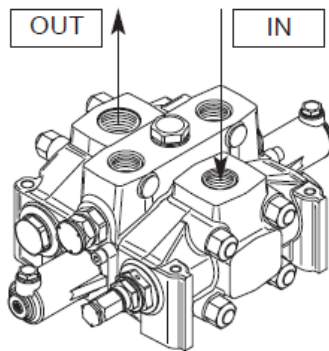
**Parallel circuit**

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 throttling the spools, the flow of oil can be divided between two or more service ports.

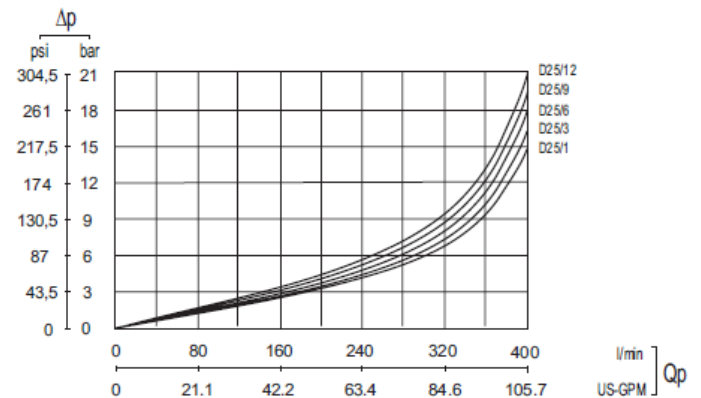
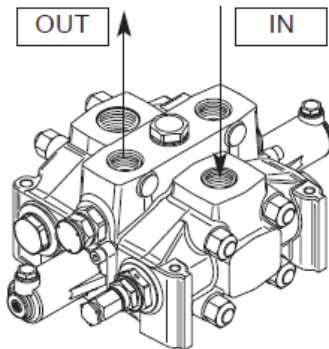


**TYPICAL CURVES - Pressure Setting Options**

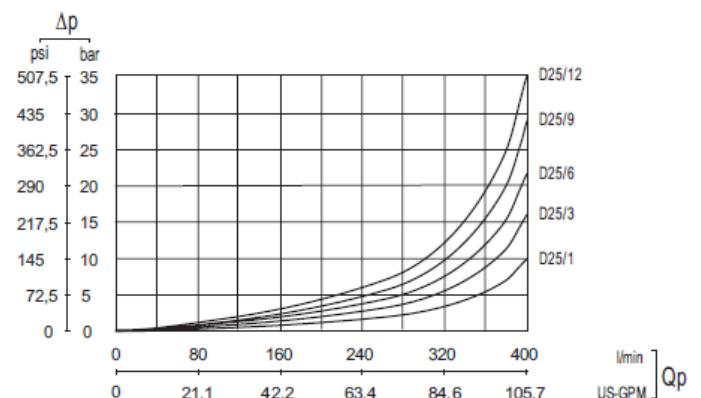
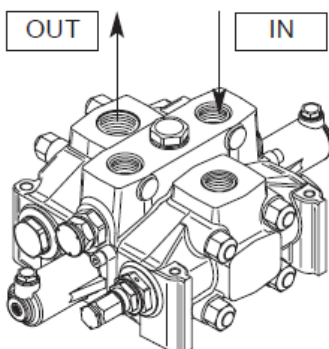
**Pressure drop (P - T)**



**Pressure drop (P - A/B)**



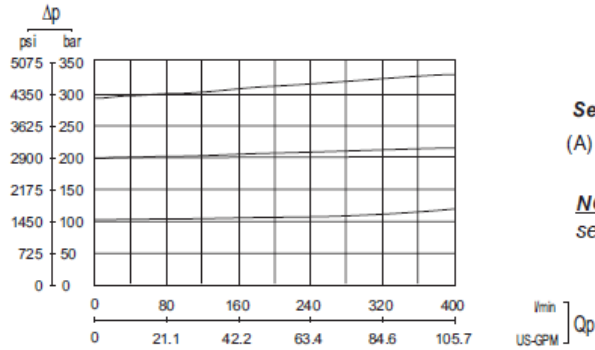
**Pressure drop (A/B - T)**





**TYPICAL CURVES - Pressure Setting Options**

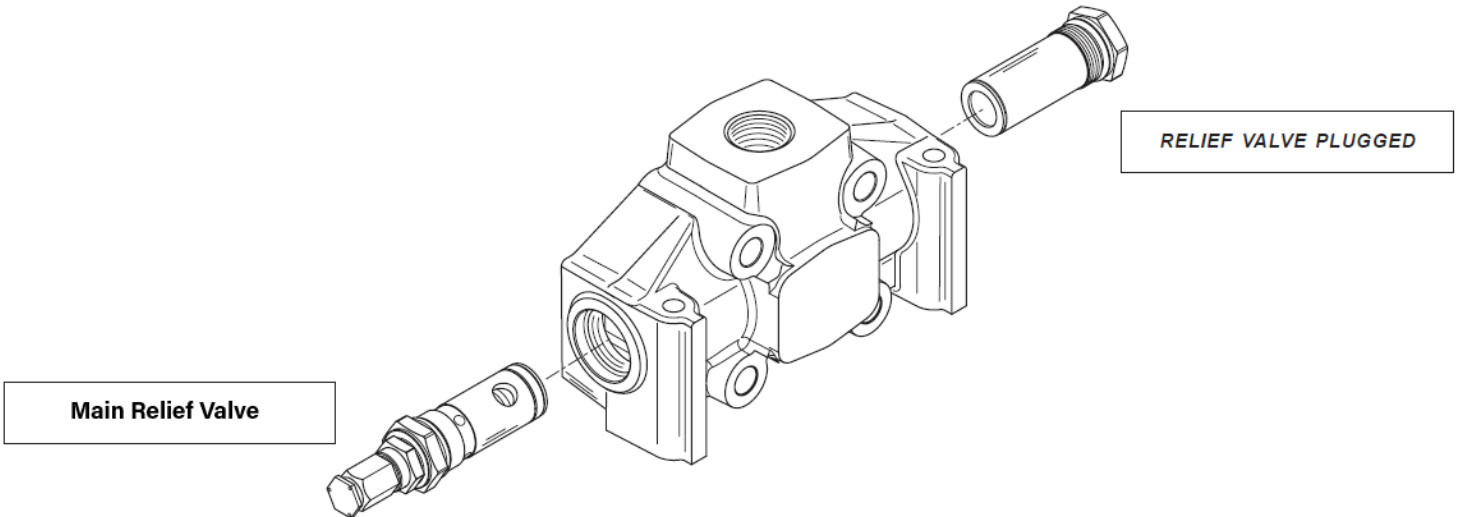
**Pilot relief valve curve**



**Setting range**  
(A) = 0 / 350 (bar)

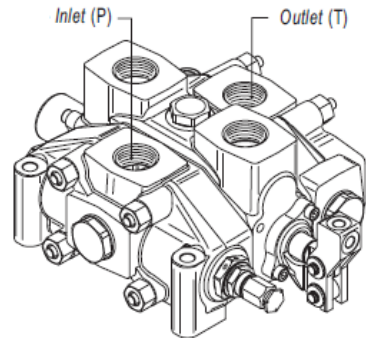
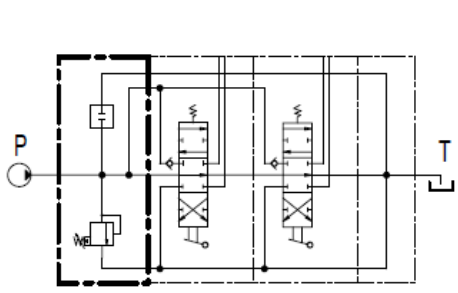
**NOTE:** indicated values have been tested with standard sectional valve and W001A spools.

**HC-D25-I | Inlet Section with Main Relief Valve | 1 1/4" BSP Port (P) | Max. 380Lpm 350Bar - Layout**



**Inlet side**

**HYDRAULIC DIAGRAM      LAYOUT      DESCRIPTION + CODE**



LEFT INLET SECTION

**IL**

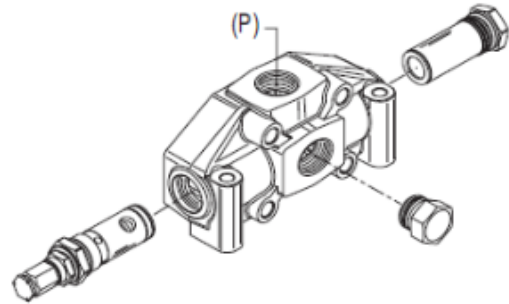
**1x HC-D25-I Inlet Section + 1x HC-D25-WPR Work Section + 1x HC-D25-O Outlet Section**

**HC-D25-I | Upper Inlet | Manufacturer Code A Inlet G07 | = 1 1/4" BSP -G20**

**A**

Upper Inlet with Main Relief Valve  
P Port 1 1/4" BSP  
Left Inlet Section

**G07**

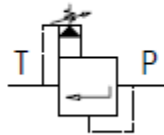
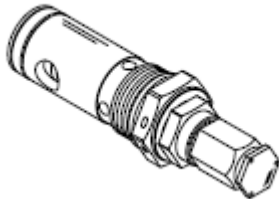


**INLET ARRANGEMENT - Valve Identification**

**2**

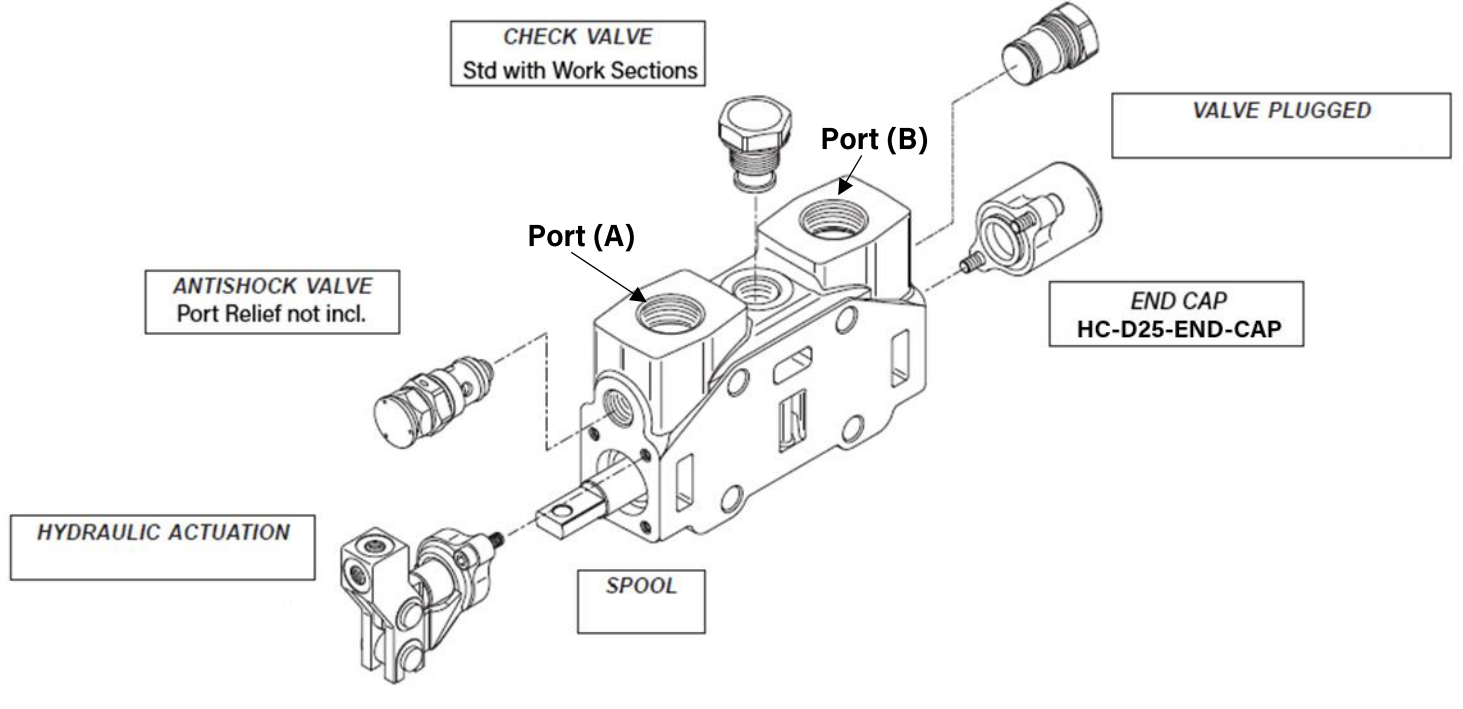
TYPE	DESIGN	DIAGRAM	DESCRIPTION
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**HC-D25-MR (Main Relief Cartridge Valve)**



*Pilot operated pressure relief valve*

**HC-D25-WPR | Work Section | A & B Ports 1 1/4" BSP - -G20 | with Port Relief Facility (Port Relief not included) - Layout**



**Parallel circuit section**

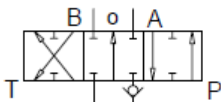
**RP**

Service Ports A&B are 1 1/4" BSP | -G16

**G07**

**SPOOL ACTUATION IDENTIFICATION - Spool Type:**

HYDRAULIC SCHEMA	CIRCUIT DESCRIPTION	CODE
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**3 Positions Double-Acting**

**W001**

The above Spool is standard with HC-D25-WPR Work Section

**W001A**

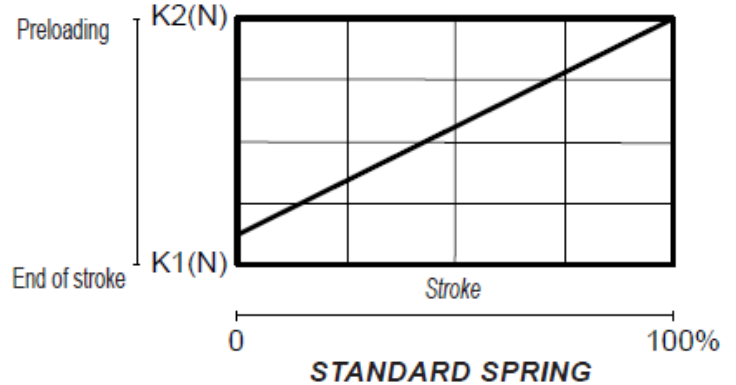
**SPOOL RETURN ACTION**

**Springs load values**

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

**F001A**

3 positions spring-centred spool (standard spring)

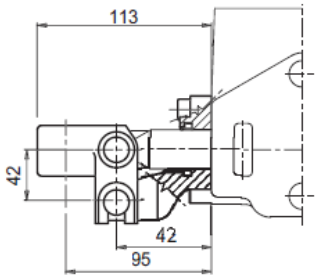


**A**

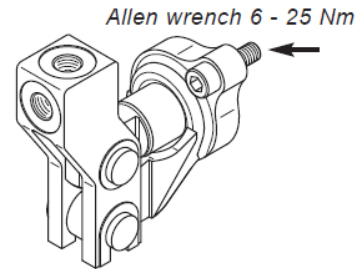
Preloading  
**155 N**  
End of stroke  
**373,7 N**

**SPOOL ACTUATION - Identification | Description and Dimensions**

**HC-D25-LEV-CAP | Lever Cap with Linkage Kit | Unprotected Lever Spool Actuation | No Lever Included in Kit**



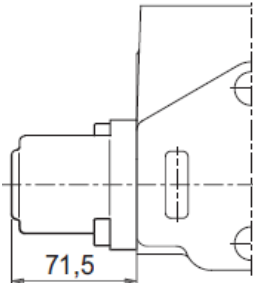
**H101**



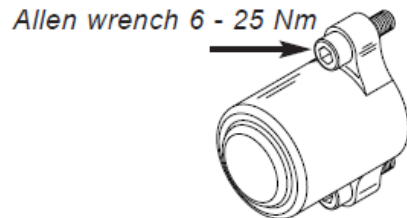
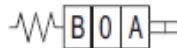
When ordering a replacement HC-D25-LEV-CAP kit, note there is no Lever included. Lever needed is the HC-LEVER-M14 which is sold separately.

**SPOOL RETURN ACTION - Identification | Descriptions and Dimensions**

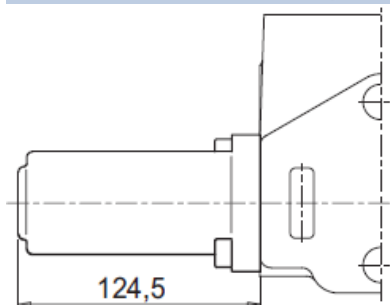
**HC-D25-END-CAP | 3Position Spring Centered Spool | End Cap Kit | for HC-D25-WPR Work Section**



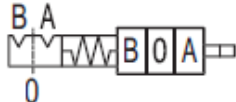
**F001A**



**HC-D25-DET-3 is Detent in A & B | HC-D25-DET-A is Detent in A | 3Position Spring Centered Spool**

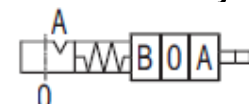


Detent in A & B

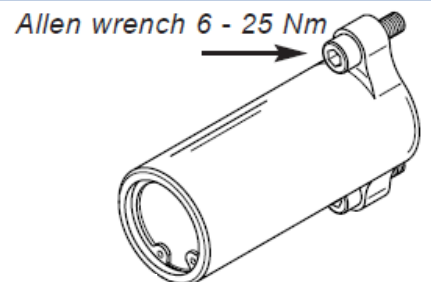


**F002A**

Detent in A only



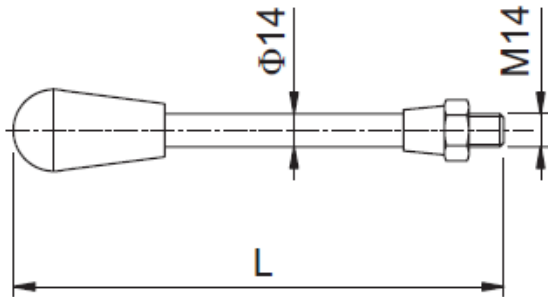
**F003A**



Detent Cap Kit options available

HC-LEVER-M14 | is the code of the Lever needed for the HC-D25 series Sectional Valves | Length between 350 - 590mm

Lever with knob

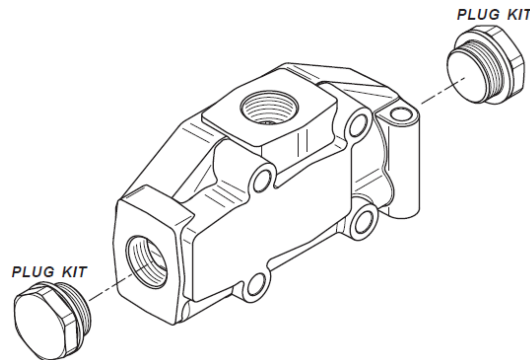


**ZA**

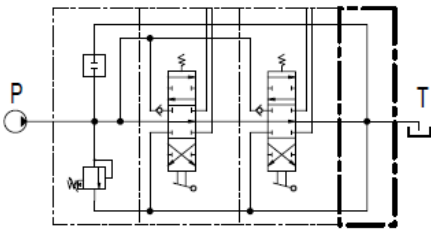
L (in) = 13,8 - 23,2  
L (mm) = 350 - 590

HC-D25-O | Outlet Section | 1 1/2" BSP = -G24 on Port P | Outlet with Single Return (T) Left Side Inlet (P)

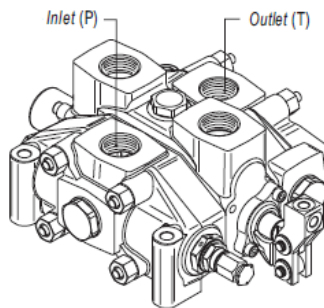
**Outlet Section Layout**



HYDRAULIC DIAGRAM



LAYOUT



DESCRIPTION + CODE

OUTLET SECTION  
WITH SINGLE RETURN (T)  
LEFT-SIDE INLET (P)

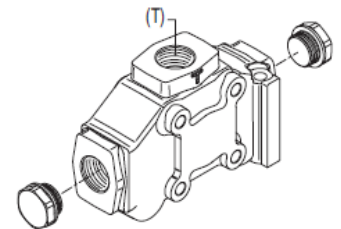
**TK**

Outlet position and available thread type

**A**

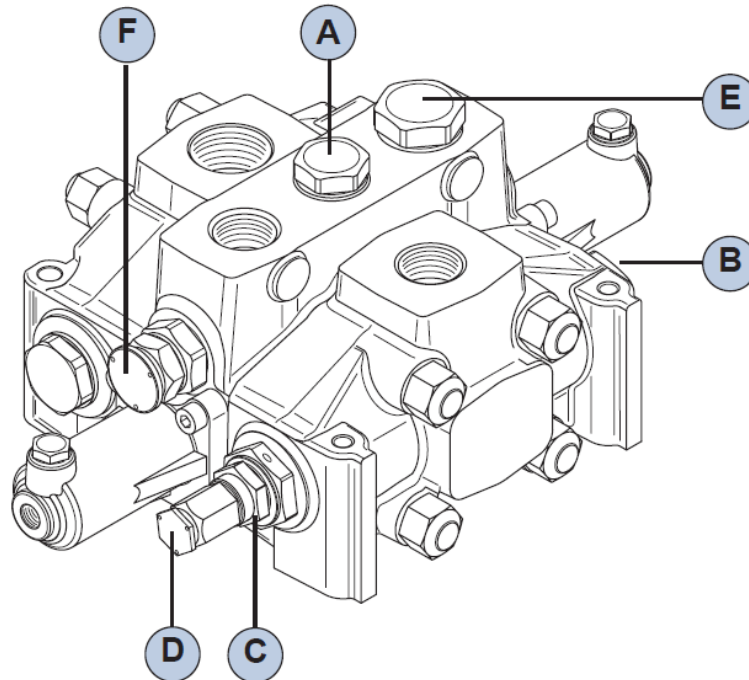
Upper Inlet Outlet Section  
1 1/2" BSP -G24 T Port

**G08**





**INSTALLATION AND MAINTENANCE -**



**General clamping torque**

POSITION	DESCRIPTION	CLAMPING TORQUE (Nm)
A	load check valve plug	200
B	plug to replace pressure relief valve	350
C	pressure relief valve body	350
D	pressure relief valve cap	20
E	fittings in service ports A-B-P-T G07= Port A, B & P 1 1/4" BSP   G08 = Port T 1 1/2" BSP	G07 = 300   G08 = 330
F	clamping torque auxiliary valve	see table (X)

**Table X Below**

ANTISHOCK VALVE PLUG

**60 Nm**

ANTISHOCK VALVE CAP

**200 Nm**

PILOT COMBINATED VALVE PLUG

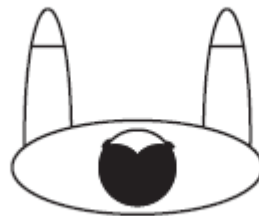
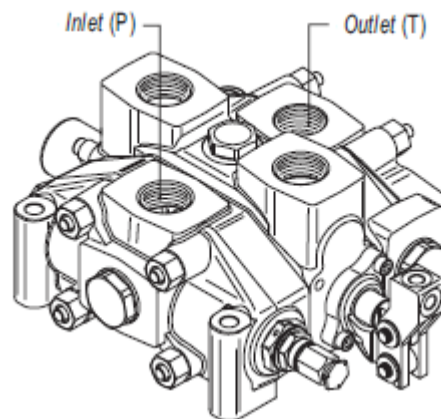
**60 Nm**

**INSTALLATION AND MAINTENANCE -**
**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**



*Directional control valve with left inlet (IL)*

**Fluid compatybility**

TYPE OF FLUID (Oil and Solution)	TEMP. (C°)		GASKET	
	min	max	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		•

**Unit of measure - Conversion factors**

Systems / Unit	BSP
<b>LENGTH</b>	1 in = 25,4 mm
<b>MASS</b>	1 lb = 0,4536 kg
<b>FORCE</b>	1 kgf = 9,8067 Nm
<b>VOLUME</b>	1 gal UK = 4,546 l 1 gal US = 3,785 l
<b>PRESSURE</b>	1 Pa = 0,00001 bar 1 psi = 0.0689 bar