



A Polyhydron Group Company

# SOLENOID OPERATED DIRECTION CONTROL VALVE DES \*

Ref. No.D06631  
Release : 03 / 2016

ENGINEERING - 1 of 4

## Description

Designed for operating single acting up-stroking cylinders, which are expected to hold pressure during their working cycle.

The valve also ensure smooth decompression prior to return of the cylinder.

Large return oil passage in the valve helps to return of the cylinder rapidly.

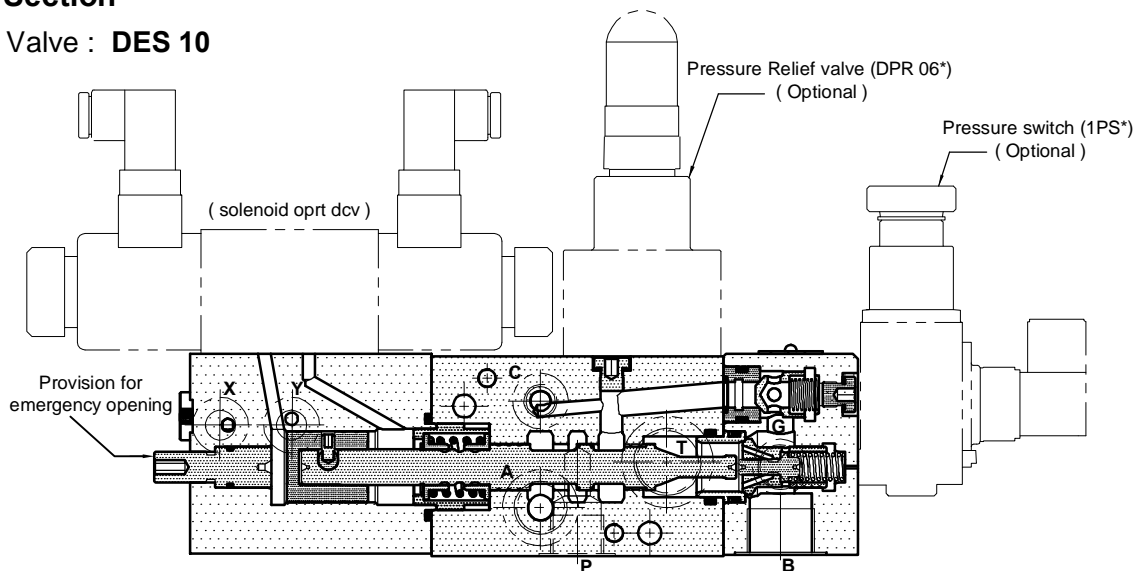
Operations of multiple independent single acting cylinders can be achieved by using the valves connected in series. ( Please refer circuit on last page.)

The valves can be supplied with features for mounting Pressure Regulator valve and Pressure Switch to eliminate interconnecting pipes.

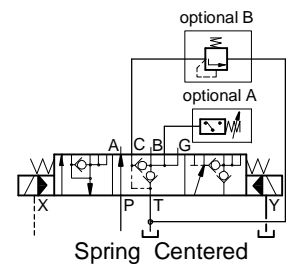


## Section

Valve : **DES 10**



Hydraulic symbol



## Technical specifications

Construction .....	Spool with Poppet.
Mounting / Standard .....	Threaded body (Company standard)
Mounting position .....	Optional, horizontal spool axis preferred.
Flow direction .....	As per Hydraulic Symbol.
Maximum operating pressure .....	At port P, A, B, C, G.....350 bar.
	Port T.....Pressure drop in the tank line adversely affect the returning speed of the cylinder, Hence must be kept as low as possible.
Pilot pressure .....	At port X= ( Cylinder Pr. /16 ) + 1 bar.
Pilot oil flow .....	2 l/min (min).
Hydraulic medium .....	Mineral oil.
Viscosity range .....	10 cSt to 380 cSt
Fluid temperature range .....	-20°C to +70°C.
Fluid cleanliness requirement .....	ISO 4406 20/18/15 or better.
Nominal flow handling capacity .....	refer performance curve.
Mass (approx) .....	DES 10.....10.5 kg.
	DES 20 .....25.2 kg.

**polyhydron pvt. ltd.**

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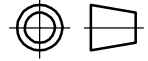
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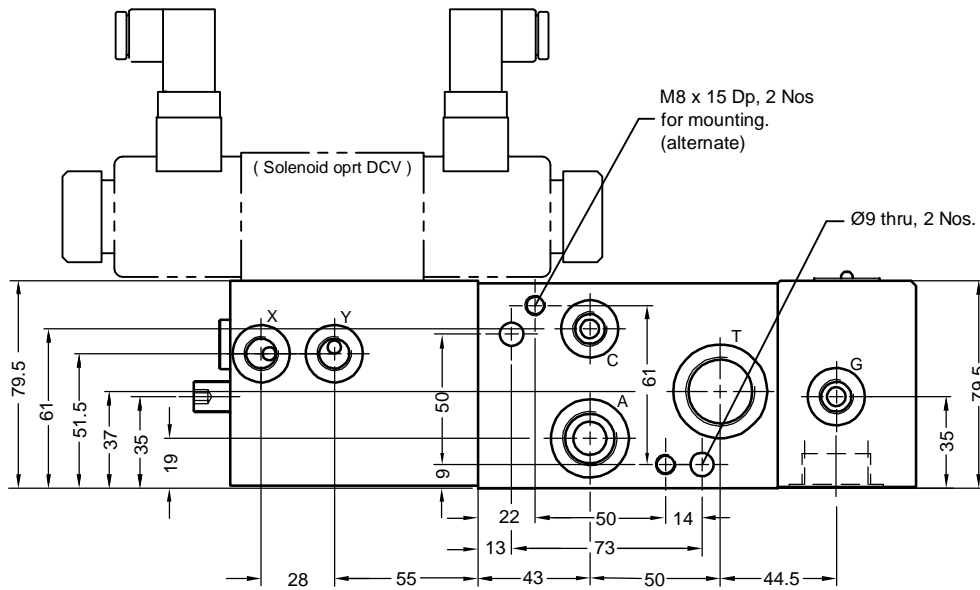
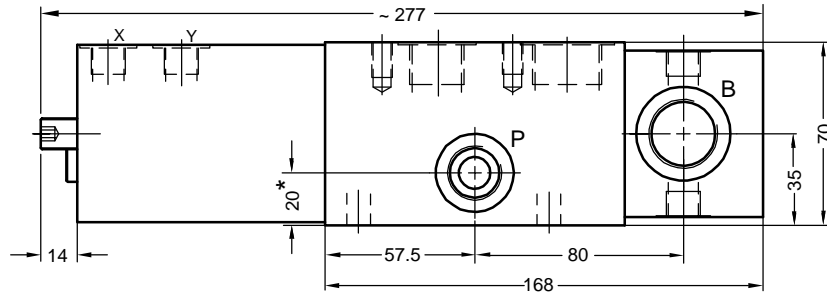
### Unit dimensions

Valve model : **DES 10**

Dimensions in mm.

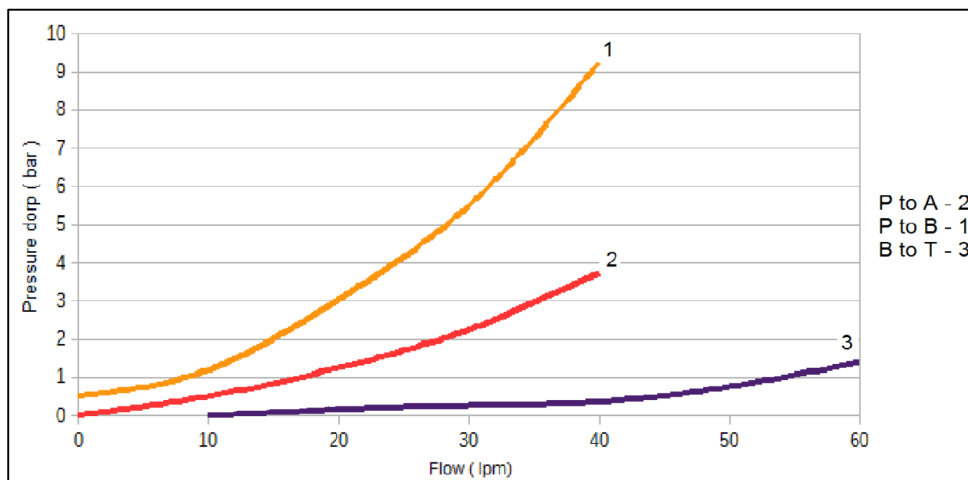


Port size details	
Port	Size
A , P	G1/2
B , T	G3/4
G , C	G1/4
X , Y	G1/4



Note : Valve with Mirror image face option, will have ports A, C, T and G on opposite face and dimension 20 (marked \*) of port P will be 50. ( Ask for details, if needed )

### Performance Curves for DES 10 ( Pressure drop related to flow, with 46 cSt at 40°C )

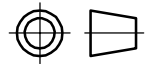




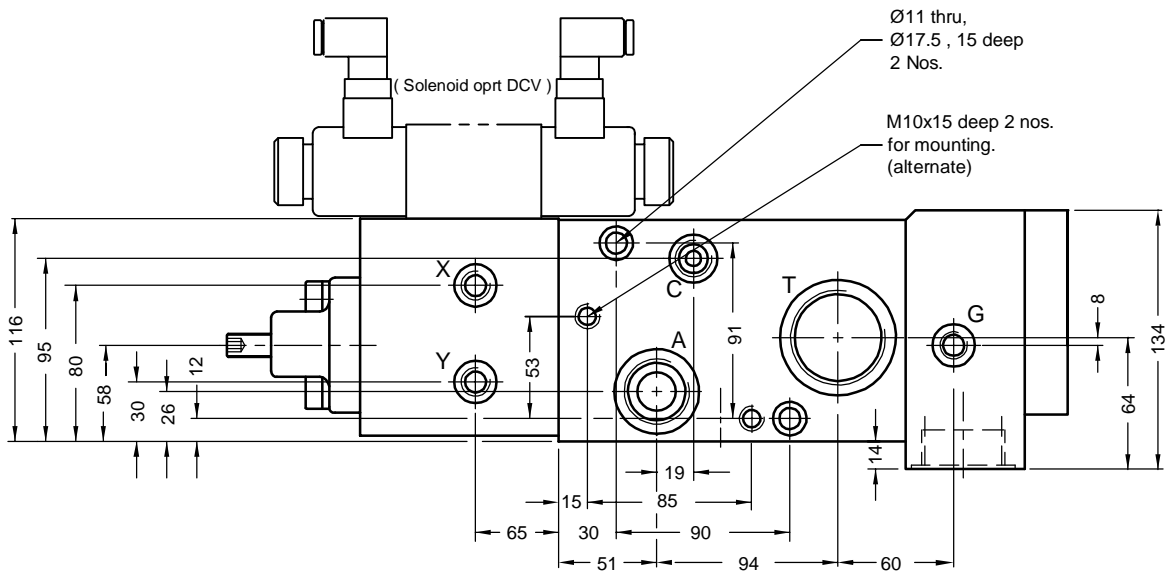
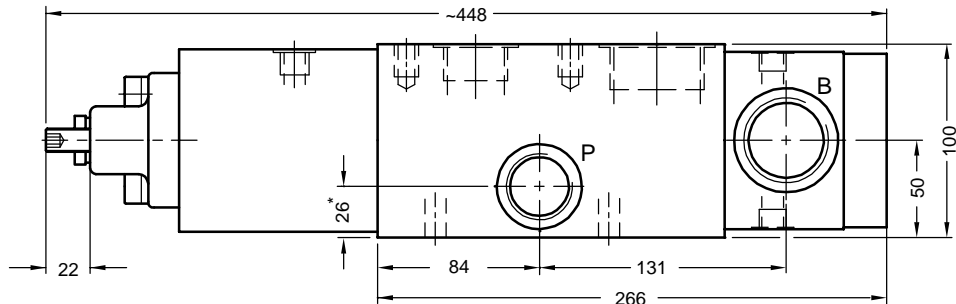
### Unit dimensions

Valve model : **DES 20**

Dimensions in mm.

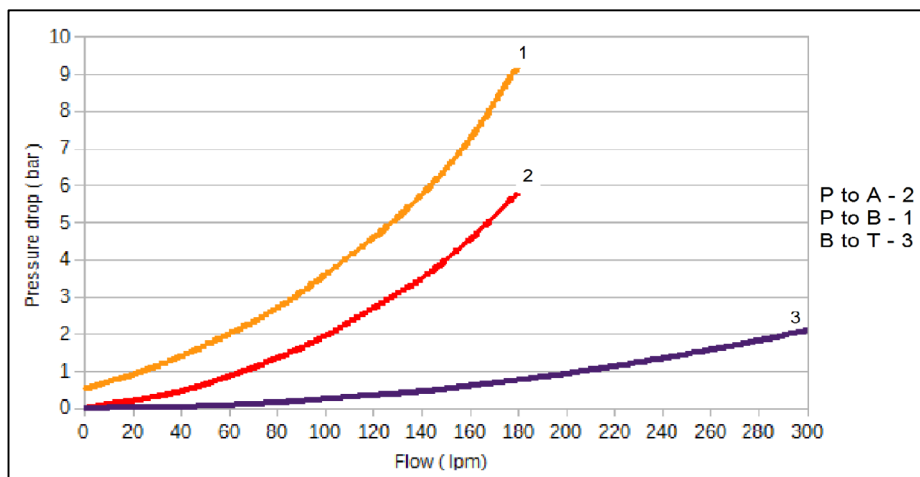


Port size details	
Port	Size
A , P	G1
B , T	G1-1/2
C	G 3/8
G, X, Y	G1/4



Note : Valve with Mirror image face option, will have ports A, C, T and G on opposite face and dimension 26 (marked \*) of port P will be 74. ( Ask for details, if needed )

### Performance Curves for DES 20 ( Pressure drop related to flow, with 46 cSt at 40°C )





### Ordering code

**DES - 10 M A B - 01**

4 way directional control valve.  
Solenoid operated with pressure  
holding facility at port B.

Size	<b>10</b>
	<b>20</b>

Face option for ports  
A, C, T, and G only

Ports on opposite face ( mirror image body )	<b>M</b>
Omit for valve porting shown in unit dimension drawing.	

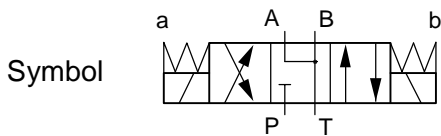
Model	Design code
DES 10	01
DES 20	14

Design code subjected to change.  
Installation dimensions remain  
same for design code  
01 thru 09 for DES 10  
11 thru 19 for DES 20

<b>B</b>	Provision for mounting Pr. relief valve (DPR*06)
Omit if not reqd.	

<b>A</b>	Provision for mounting Pr. switch 1PS* (350 bar max)
Omit if not required.	

NOTE : For actuation of this valve, solenoid DCV (refer spool type) to be ordered separately.  
Spool type required : 'J' type



Hydraulic circuit showing typical application of valve DES10 / DES 20

