



# SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DES 20

ENGINEERING

1

Ref. No. P06631  
Release 09/2000

## Description

Designed for single acting cylinders which are supposed to hold pressure.

Ensure smooth decompression prior to return of the cylinder ram.

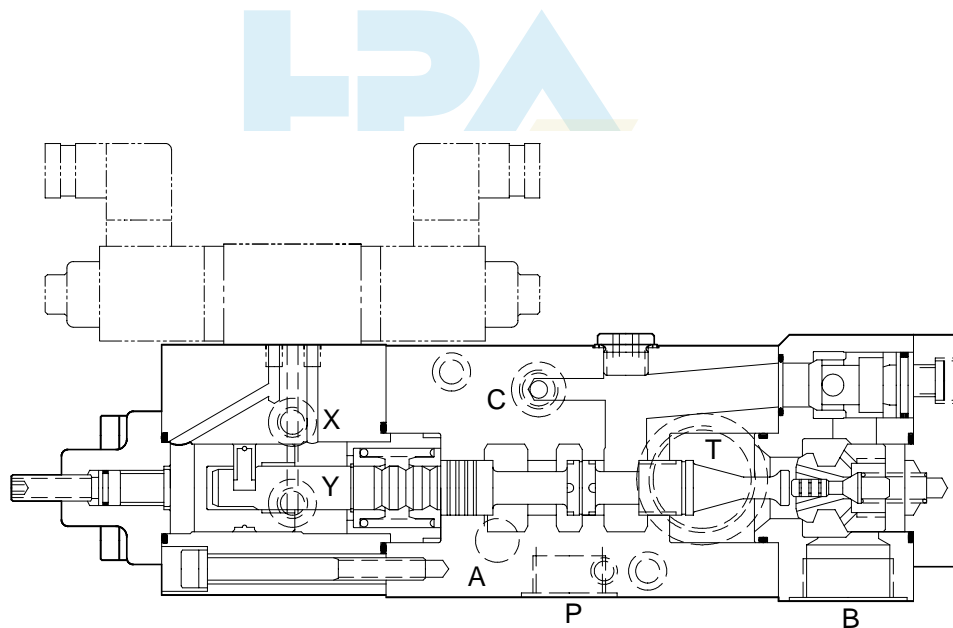
Large return oil passages to reduce pressure drops allowing rams to return under low external forces.

Valves with quick exhaust feature have 2.34 times larger return passages. They are meant for rams having either very low reactive forces or must return rapidly under normal forces.

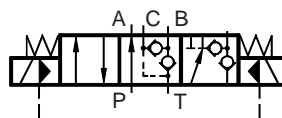
Valves can be connected in series for independent multiple single acting cylinder operations.



## Section



Hydraulic Symbol



**Polyhydron Pvt. Ltd.**

78-80, Machhe Industrial Estate,  
Machhe, Belgaum - 590 014. INDIA.

Phone : +91-(0)831-411001

Fax : +91-(0)831-411002

E-mail : polyhydron@vsnl.com

Website : www.polyhydron.com



**SOLENOID OPERATED  
DIRECTIONAL CONTROL VALVE  
DES 20**

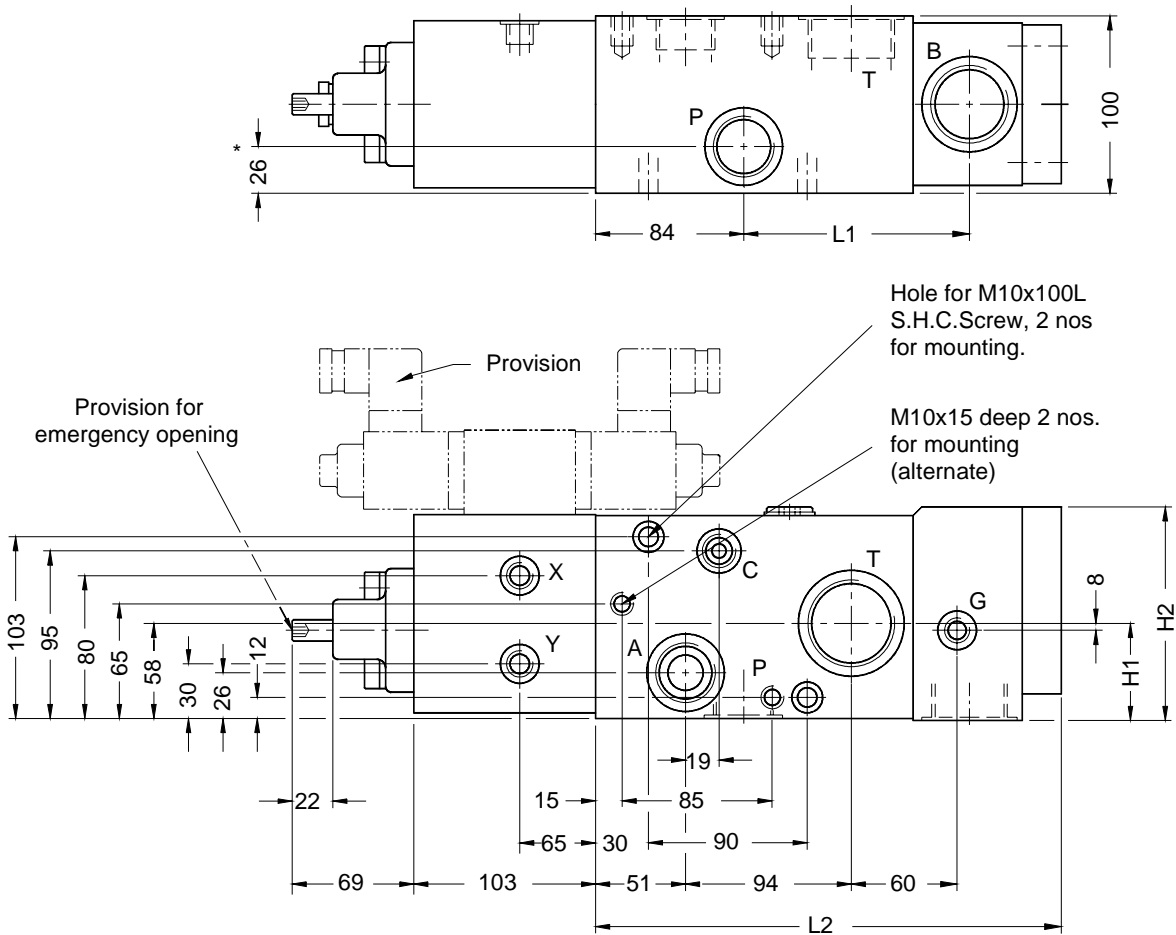
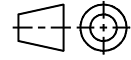
**ENGINEERING**

**2**

**Ref. No. P06631**

**Unit Dimensions**

Dimensions in mm.



Valve type	Model	H1	H2	L1	L2	Port details					
						A	B	C	G	P	T
Standard	4DES20A	59	121	126	264		G1 1/4				
With quick exhaust feature	4DES20B	72	134	131	276	G1	G1 1/2	G3/8	G1/4	G1	G1 1/2

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.



**SOLENOID OPERATED  
DIRECTIONAL CONTROL VALVE  
DES 20**

**ENGINEERING**

**3**

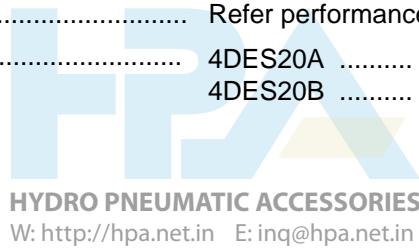
**Ref. No. P06631**

**Technical Specifications**

Construction ..... Spool and Poppet type.  
 Mounting type ..... Threaded body.  
 Mounting position ..... Optional, horizontal spool axis preferred.  
 Direction of flow ..... Refer hydraulic symbol.  
 Flow passage areas (Nominal) .....

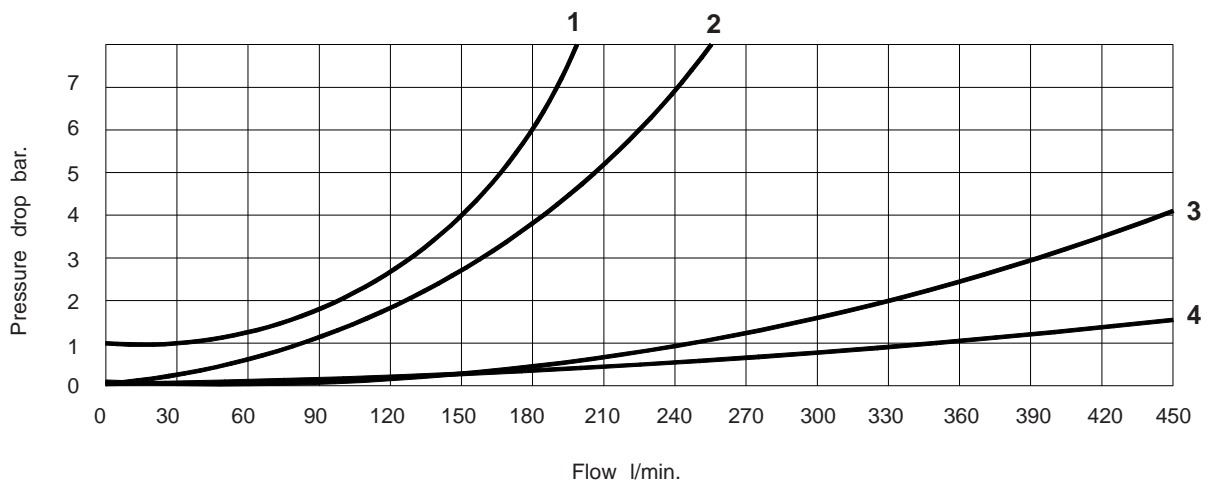
Valve	Model	P to A P to B	B to T
Standard	4DES20A	3.1 cm <sup>2</sup>	5.3 cm <sup>2</sup>
With quick exhaust feature	4DES20B	3.1 cm <sup>2</sup>	12.4 cm <sup>2</sup>

Operating pressure ..... For ports P, A, B, C, G ..... 350 bar  
 For port T ..... 7 bar max.  
 Pilot pressure ..... 35 bar.  
 Hydraulic medium ..... Mineral oil.  
 Viscosity range ..... 10 cSt to 380 cSt.  
 Fluid temperature range ..... -20 °C to +70 °C  
 Fluid cleanliness requirement ..... As per ISO 16/13 or better.  
 Nominal flow handling capacity ..... Refer performance curve.  
 Mass ..... 4DES20A ..... 23.5 kg.  
 ..... 4DES20B ..... 25.2 kg.



**Performance Curves**

( Pressure drop related to flow at 68 cSt )



Flow from port	For valve	
	4DES20A	4DES20B
P to A	2	2
P to B	1	1
B to T	3	4



SOLENOID OPERATED  
DIRECTIONAL CONTROL VALVE  
DES 20

ENGINEERING

4

Ref. No. P06631

Ordering Code

4DES 20 A S M 14

4 way Directional control valve solenoid operated with pressure holding facility at it's 'B' port.

Design code Subject to change. Installation dimensions remain same for design code 10 thru 19.

Size 20

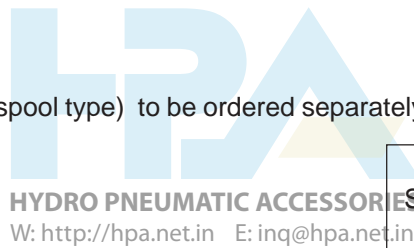
Face option for ports A, C, T and G only.

Valve type	
Standard	A
With quick exhaust feature	B

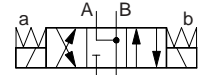
Omit	For valve porting shown in Unit dimension drawing
M	Ports on opposite face (mirror image)

Spring centred. S

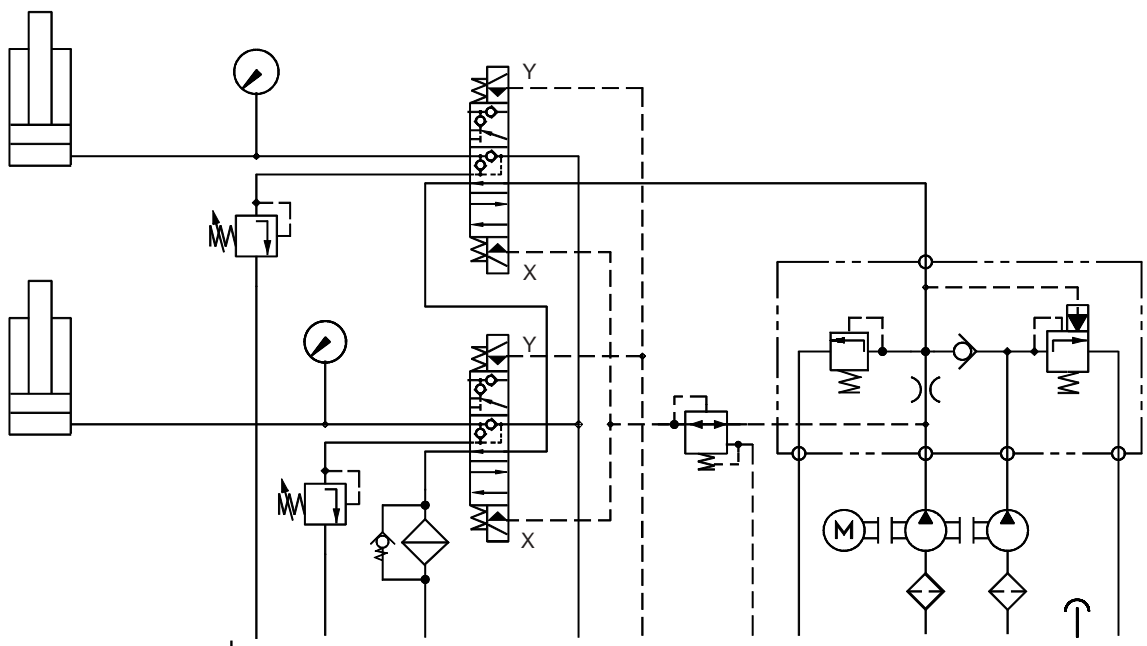
Note : Subplate and Solenoid (refer spool type) to be ordered separately.



Spool Type



Hydraulic circuit showing typical application of valves 4DES20 \* . \*



All rights reserved.  
Subject to revision.