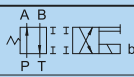
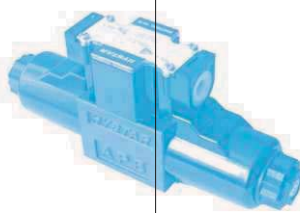
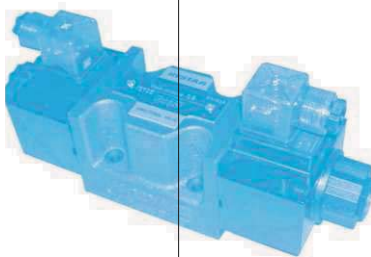
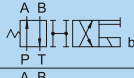
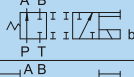
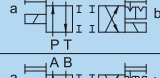
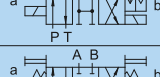
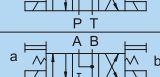
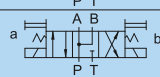
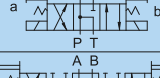
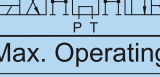
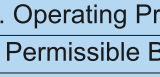


MODEL NO SPECIFICATIONS (DSG-01/03 Solenoid Operated Directional Valves)

A

Spool Type & Graphic Symbols		Rated Flow Capacity -Maximum Flow Capacity																	
SYMBOLS	MODEL NO	DSG (X) - 01 (1/8")						DSG - 03 (3/8")											
		AC		RAC		DC		AC		RAC		DC							
		A1	A2	R1	R2	D1	D2	A1	A2	R1	R2	D1	D2						
	DSG-2B2- **																		
	DSG-2B3- **																		
	DSG-2B8- **																		
	DSG-2D2- **																		
	DSG-2D3- **																		
	DSG-3C2- **																		
	DSG-3C3- **																		
	DSG-3C4- **																		
	DSG-3C40- **																		
	DSG-3C7- **																		
	DSG-3C9- **																		
	DSG-3C10- **																		
	DSG-3C11- **																		
	DSG-3C12- **																		
	DSG-3C5- **	30~45 lpm (7.9~11.9USgpm)						70~100 lpm (18.5~26.4USgpm)											
	DSG-3C6- **																		
	DSG-3C60- **																		
Max. Operating Pressure (P.A.B) (bar)		315 (4500 PSI)																	
Max. Operating Pressure 3C5/3C6 Types (bar)		250 (3600 PSI)																	
Permissible Back Pressure (T) (bar)		160 (2300 PSI)																	
Weight (Kgs)	Double Solenoid	1.9	2.0		4.0		4.8												
	Single Solenoid	1.5	1.6		3.3		3.8												
Switching Frequency (times/min)		280	120		280		240		120		240								
Hydraulic Fluids		Use Hydraulic Fluids Equivalent to ISO VG32 or VG46																	
Operating Temperature Range Recommended (°C)		-15 ~ +70 (+5 ~ +160°F)																	
Operating Viscosity (cSt)		15 ~ 400 (80 ~ 1800SSU)																	
Filtration		25 Microns Absolute or Finer																	

DSGX series mini. type solenoid valves.

Max. pressure (P.A.B) : 200bar (2900PSI), 3C5/3C6 spool types : 160bar (2300PSI).

Permissible Back Pressure (T) : 100bar (1430PSI)

Weight : Double Solenoid : 1.6kgs., Single Solenoid : 1.1kgs



LIST OF SPOOL FUNCTIONS (DSG-01/03)

SPRING OFFSET 2 POSITION	GRAPHIC SYMBOLS (STANDARD)	SPRING CENTERED 3 POSITION	GRAPHIC SYMBOLS (STANDARD)	NO SPRING DETENTED 2 POSITION	GRAPHIC SYMBOLS (STANDARD)
2A2		3C2		2D2	
2A3		3C3		2D3	
2A14		3C4		2D4	
2A2L		3C40		2D40	
2A3L		3C5		2D7	
2A14L		3C6		2D2A	
2B2		3C60		2D3A	
2B3		3C7		2D4A	
2B8		3C8		2D40A	
2B29		3C9		2D5A	
2B2L		3C10		2D60A	
2B3L		3C11		2D7A	
2B8L		3C12		2D9A	
2B29L		3C25		2D10A	
		3C29		2D11A	
		3C48		2D12A	
		3C94			

LIST OF SPECIAL TWO POSITION VALVES (DSG-01/03)

A

SPRING OFFSET 2 POSITION	GRAPHIC SYMBOLS		SPRING OFFSET 2 POSITION	GRAPHIC SYMBOLS	
	STANDARD	(ALTERNATED)		STANDARD	(ALTERNATED)
2B2A(L)			2B2B(L)		
2B3A(L)			2B3B(L)		
2B4A(L)			2B4B(L)		
2B40A(L)			2B40B(L)		
2B5A(L)			2B5B(L)		
2B6A(L)			2B6B(L)		
2B60A(L)			2B60B(L)		
2B7A(L)			2B7B(L)		
2B8A(L)			2B8B(L)		
2B9A(L)			2B9B(L)		
2B10A(L)			2B10B(L)		
2B11A(L)			2B11B(L)		
2B12A(L)			2B12B		
2B25A(L)			2B25B(L)		
2B29A(L)			2B29B(L)		
2B48A(L)			2B48B(L)		

NOTE : Standard Model No. + L = Alternate Model.
For example, 2B2A is Standard Model, 2B2AL is Alternate Model.

■ Ordering Code

DSG - 3C2 - N - 01 - D2 - 30 - RW - *P*D

Series No	Spool Type	Type of Ele. Conduit	Valve Size	Coil Voltage	Design No	Special Kits	Pilot and Drain
DSGX 	3C94(-01) 	N: DIN Type 	(DSG-) 01 (NFPA-D03) 	(N-01-) AC/DC 	30 DIN 912 bolts 	RW(RA/RB) Stroke Limiter 01/03  04/06 	*P Pilot Plug (1/16, 1/8, 1/4)  
DSG(-N-01) 	3C60(-03) 	None-Box Type 	(DSG-) 03 (NFPA-D05) 	(N-03-) AC/DC 	3090 UNC bolts (North America) 	V: Viton Seal 	*D Drain Plug (1/16, 1/8, 1/4)  
DSG(-N-03) 	3C5(-04) 	Y: Lead-Wire 	(DSHG-) 04 (NFPA-D07) 	(01-) AC/DC 		Orifice Plug 0.8/0.1/1.2 mm 	
DSHG(-0*) 	3C3(-06) 		(DSHG-) 06 (NFPA-D08) 	(03-) AC/DC 	C: Check Valve P Port (5 bar) 	C: Check Valve P Port (5 bar)  Fig-1	
DHG(-0*) 	3C60(-10) 		DSHG-10 (NFPA-D10) 	(Y-01/03-) DC 	Fig-1 	RAC Type Shockless Rectifier built-in 	

COIL TYPE POWER SOURCE VOLTAGE

AC	A1:	AC100V(50/60Hz) AC110V(60Hz)	DC	D1:DC12V	D2:DC24V	D3:DC36V
	A2:	AC200V(50/60Hz) AC220V(60Hz)		D4:DC48V	D5:DC60V	D6:DC72V
	A3:	AC110V(50Hz)		D14:5-DC14.5V	D28:DC28V	
	A4:	AC220V(50Hz)	RECTIFIED	R1:RAC100	R2:RAC200	
	A5:	AC240V(50Hz)		R3:RAC110	R4:RAC220	

For voltages other than specified, consult HYKING for details.

VALVE SIZE

01-(1/8") 03-(3/8") 04-(1/2") 06-(3/4") 10-(1-1/4")

ELECTRICAL CONDUIT CONNECTION

N: DIN connector with light, DIN 43650 ISO6952.
Y: SWP connector.
None: Terminal box type with indicator lamp.

SPOOL TYPES

SERIES NUMBER

DSG: Solenoid operated directional valves, subplate mounting.
DSGX: Solenoid operated directional valves, mini type.
DSGH: Solenoid controlled pilot operated directional valves.
DHG: Hydraulic Operated Directional Valves.

PILOT/DRAIN CONNECTION (DSHG ONLY)

1P1D: Internal pilot, internal drain
1P2D: Internal pilot, external drain
2P1D: External pilot, internal drain
2P2D: External pilot, external drain

MODEL WITH SPECIAL KITS (OPTION - Omit If Not Required)

C: Check Valve P Port (5 bar) V: Viton seals
S: Shockless type RB: Stroke limiter "B" stroke
RA: Stroke limiter "A" stroke SK: Surgeless (Surge Killer)
RW: Stroke limiter "A+B" stroke WP: Water proof type.
PK: Sparkless (Spark Killer) type VP: Vibration proof type.

DESIGN NO

30: with DIN 912 bolts
3090: with UNC (North American) bolts

Design number is changed from 20 to 30 (2090 to 3090).

N (DIN Types), all parts are interchangeable with 20(2090)

Terminal box type equipped with new conduit box design, reference page 35 for details.

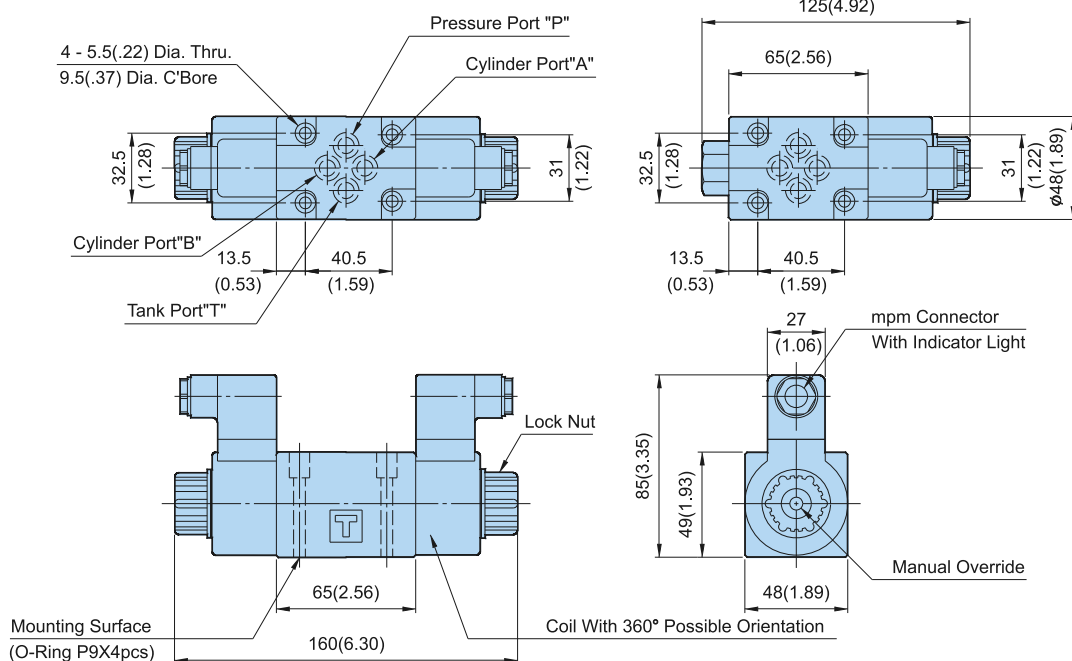
DIMENSIONS

MILLIMETERS(INCHES)

A

DSGX-N-01-AC/DC/RAC

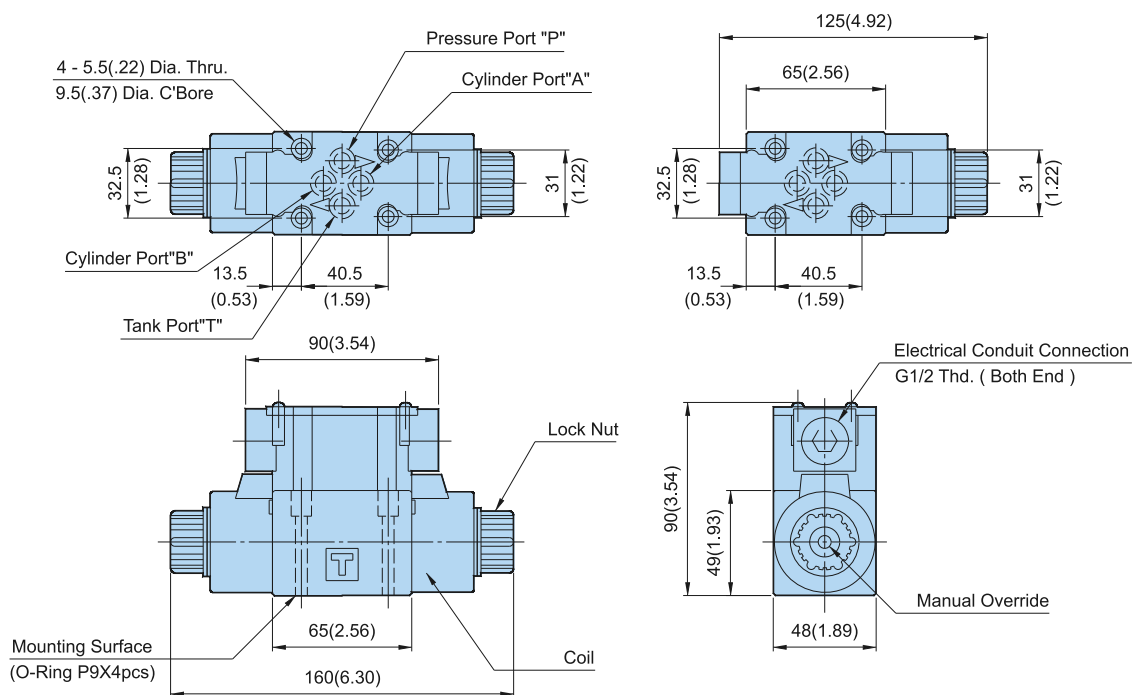
MOUNTING SURFACE: DSG-01-CETOP3
ISO 03-NFPAD03



Attachment Name	Description	Tightening Torque	Code
Soc. Hd. Cap Screw	M5 X45LgX4pcs	5-7 Nm	30
Soc. Hd. Cap Screw	10-24UNCX1-3/4"LgX4pcs	43-60 in.lbs	3090

DSGX-01-AC/DC/RAC

MOUNTING SURFACE: DSG-01-CETOP3
ISO 03-NFPAD03



Attachment Name	Description	Tightening Torque	Code
Soc. Hd. Cap Screw	M5 X45LgX4pcs	5-7 Nm	30
Soc. Hd. Cap Screw	10-24UNCX1-3/4"LgX4pcs	43-60 in.lbs	3090

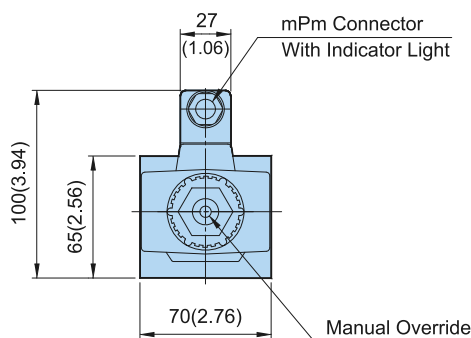
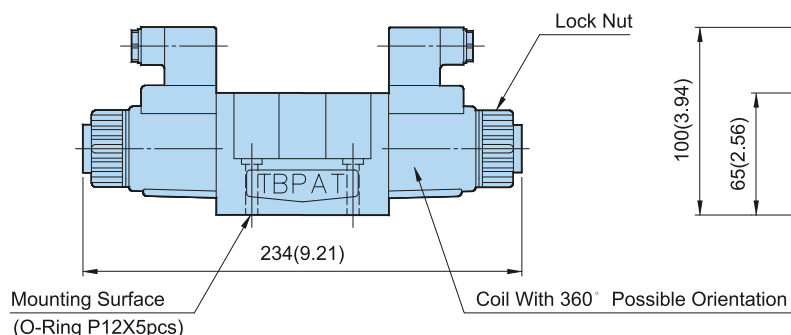
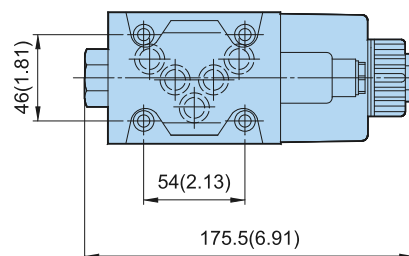
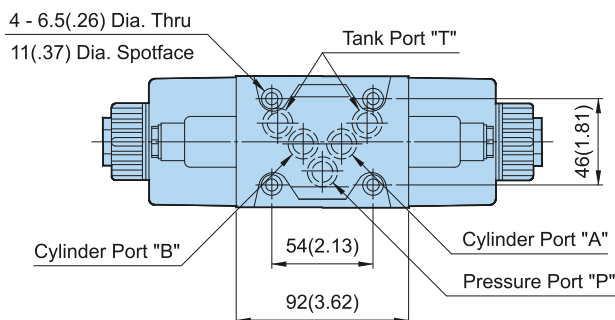
DIMENSIONS

MILLIMETERS(INCHES)

A

DSG-N-03-AC

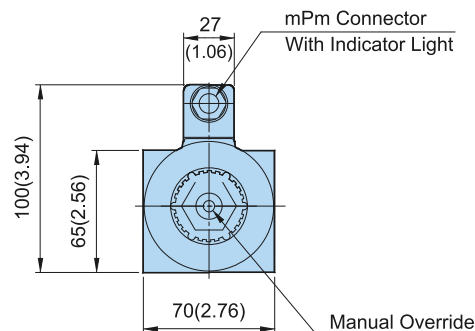
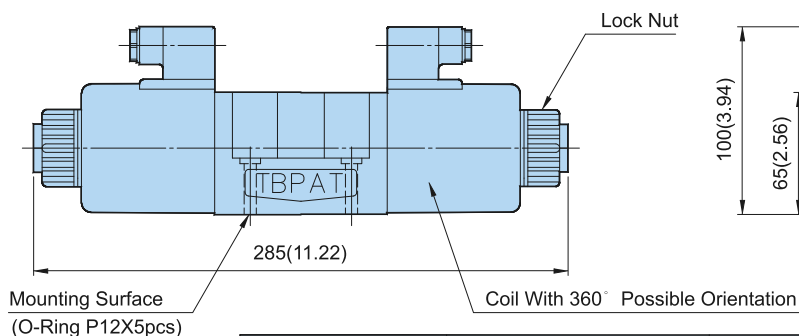
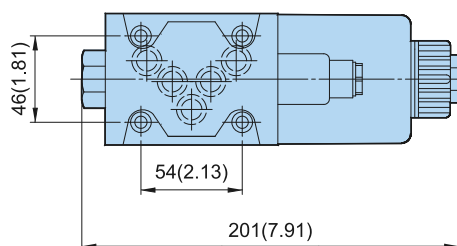
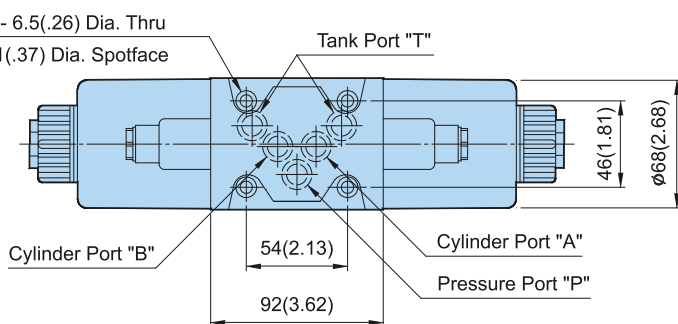
MOUNTING SURFACE: DSG-03-CETOP5
ISO 05-NFPAD05



Attachment Name	Description	Tightening Torque	Code
Soc. Hd. Cap Screw	M6 X35LgX4pcs	12-15 Nm	30
Soc. Hd. Cap Screw	1/4-20UNCX1-1/2"LgX4pcs	105-130 in.lbs	3090

DSG-N-03-DC/RAC

MOUNTING SURFACE: DSG-03-CETOP5
ISO 05-NFPAD05

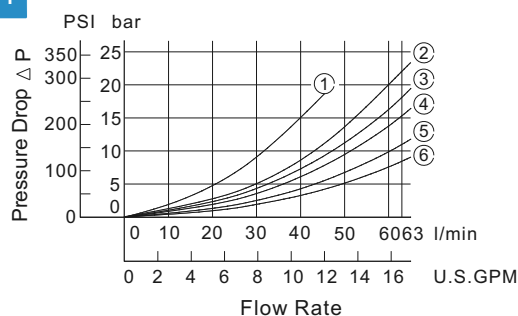


Attachment Name	Description	Tightening Torque	Code
Soc. Hd. Cap Screw	M6 X35LgX4pcs	12-15 Nm	30
Soc. Hd. Cap Screw	1/4-20UNCX1-1/2"LgX4pcs	105-130 in.lbs	3090

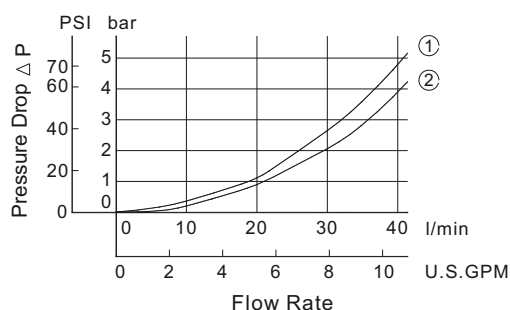
PRESSURE DROP

A

DSG-01



DSG-01-S

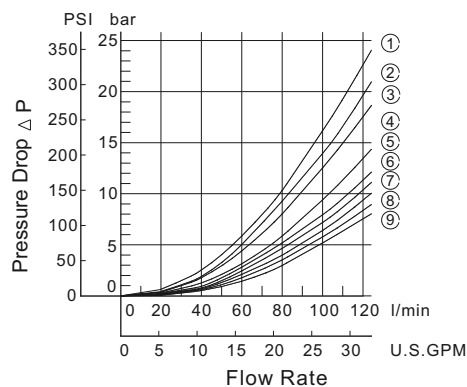


Series	Spool Type	Pressure Drop Curve Number				
		P→A	B→T	P→B	A→T	P→T
DSG-01	3C2	⑤	⑤	⑤	⑤	—
	3C3	⑥	⑥	⑥	⑥	④
	3C4	⑤	⑥	⑤	⑥	—
	3C40	⑤	⑤	⑤	⑤	—
	3C60	①	①	①	①	④
	3C9	⑥	⑤	⑥	⑤	—
	3C10	⑤	⑥	⑤	⑥	—
	3C12	⑤	⑤	⑤	⑥	—
	2D2	⑤	②	⑤	②	—
	2B2	②	②	⑤	⑤	—
	2B3	③	③	⑤	⑥	—
	2B8	⑤	—	⑤	—	—

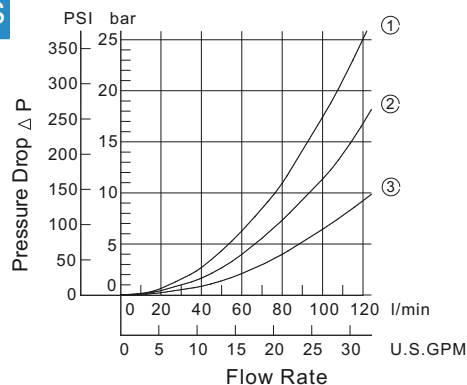
Series	Spool Type	Pressure Drop Curve Number			
		P→A	B→T	P→B	A→T
DSG-01-S	3C2	①	①	①	①
	3C4	①	②	①	②
	2B2	①	①	①	①

Graphs based on fluid viscosity of 35 cSt(162 SSU) .

DSG-03



DSG-03-S



Series	Spool Type	Pressure Drop Curve Number				
		P→A	B→T	P→B	A→T	P→T
DSG-03	3C2	⑦	⑦	⑦	⑦	—
	3C3	⑨	⑨	⑨	⑨	⑤
	3C4	⑦	⑧	⑦	⑧	—
	3C40	⑦	⑦	⑦	⑦	—
	3C60	⑥	⑤	⑥	⑤	①
	3C9	⑨	⑦	⑨	⑦	—
	3C10	⑦	⑧	⑦	⑦	—
	3C12	⑦	⑦	⑦	⑧	—
	2D2	④	③	⑥	⑥	—
	2B2	②	①	⑦	⑦	—
	2B3	③	②	⑨	⑨	—
	2B8	⑥	—	⑤	—	—

Series	Spool Type	Pressure Drop Curve Number			
		P→A	B→T	P→B	A→T
DSG-03-S	3C2	②	②	②	②
	3C4	②	②	③	③
	2B2	①	②	②	②

Graphs based on fluid viscosity of 35 cSt(162 SSU) .

FLOW LIMITATIONS :

Pressure drop is influenced by forces acting within the valve. The graphs shown assume simultaneous equal flow rates P to A or B, and from A or B to T.

Care should be taken in applications where high flow rates are used in conjunction with high pressure. i.e., greater than 250 bar(3600PSI). Also when single flow paths, or substantially different simultaneous flow rates are required between P to A or B, and A or B to T.