



HUADE
AMÉRICA

Catálogo de Produtos



Proportional pressure relief valve Type DBE/DBEM

Size 10 ,25 ,32

up to 31.5 MPa

up to 600 L/min

Replaces:

Features:

- For subplate mounting:
- Encased in block
- Optional additional maximum pressure limitation by means of a spring loaded pilot control valve
- Valve and electronic control form one source
- Portng pattern to DIN 24 340 form E



Functional , section

These valves basically consist of the pilot control valve (1) with proportional solenoid (2) and the main valve (3) with main spool insert (4).

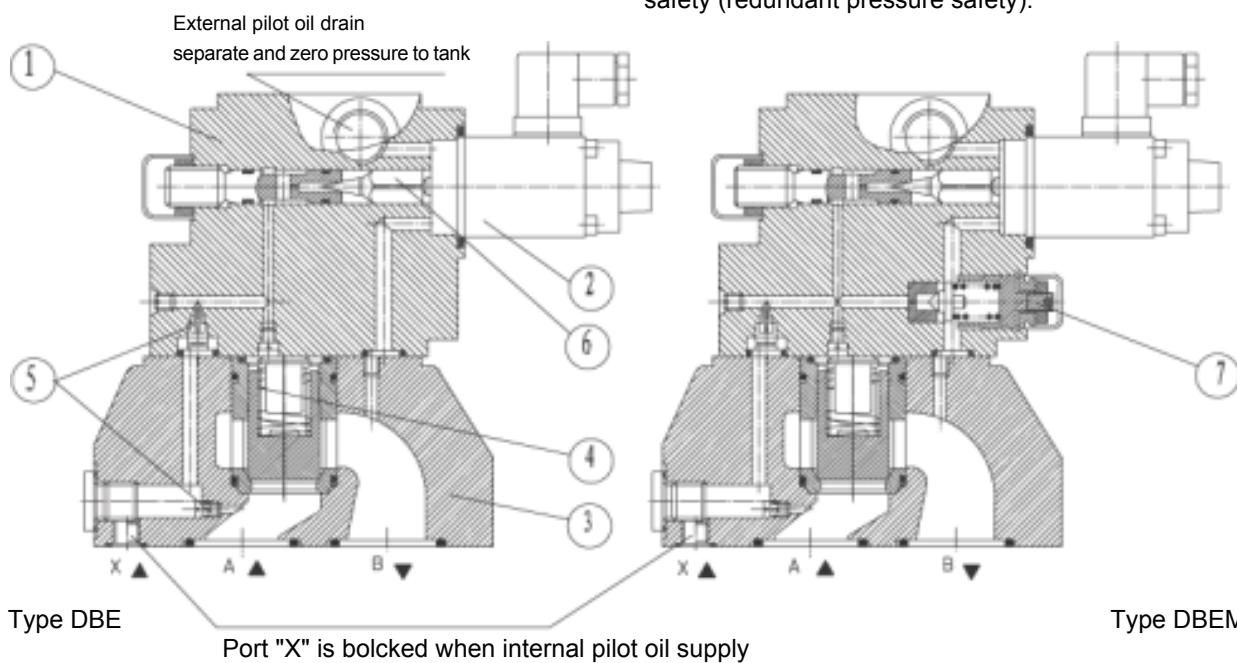
Type DBE:

The adjustment of the pressure is command value dependent via a proportional solenoid (2). The pressure present in port A acts on the underside of the main spool (4). At the same time this pressure acts on the spring loaded side of the main spool (4) via orifices (5). The hydraulic force acts on the pilot

poppet (6). When the hydraulic force over comes the solenoid force then the pilot poppet (6) opens. Due to the fact that the pilot oil can now flow to tank via port Y, a pressure drop occurs at the main spool (4) which acts on the main spool and lifts it against the force of the return spring . The connection from A to B is opened and there is no longer any increase in pressure.

Type DBEM:

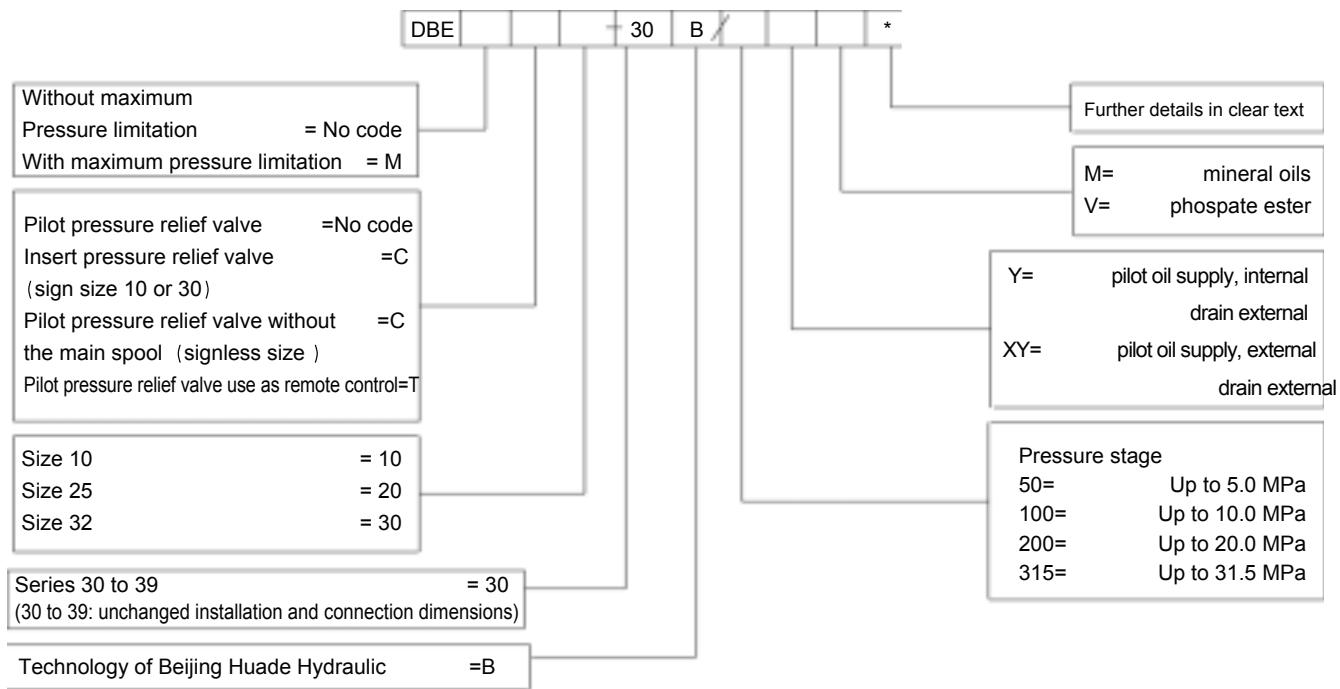
Optionally the valve can be supplied with an additional spring loaded pilot control valve for maximum pressure safety (redundant pressure safety).



Symbols

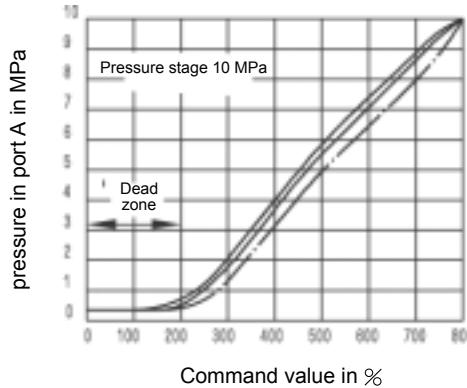
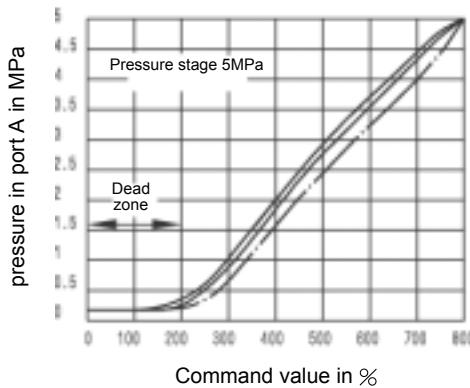
10 DBE 20- ..Y 30 DBEC30- ..Y	10 DBE 20- ..XY 30	C T .. DBEC- ..Y	10 DBE 20- ..Y 30 DBEMC30- ..Y	10 DBEM 20- ..XY 30	C T .. DBEMC- ..Y

Ordering details



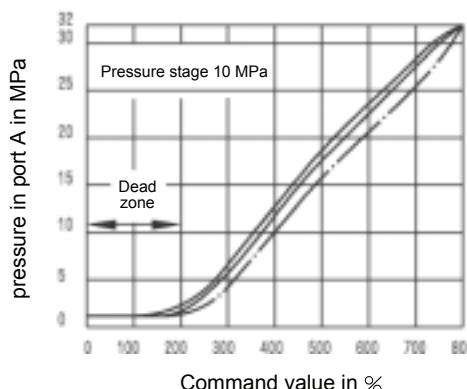
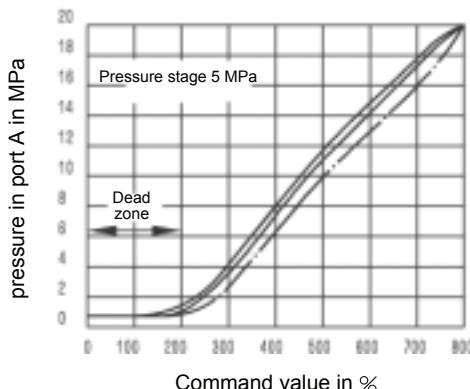
Characteristic curves:(measured at $v=36 \times 10^{-6} \text{m}^2/\text{S}$ $t=50^\circ\text{C}$)

Type DBE10、20、30/DBET input pressure/current curves



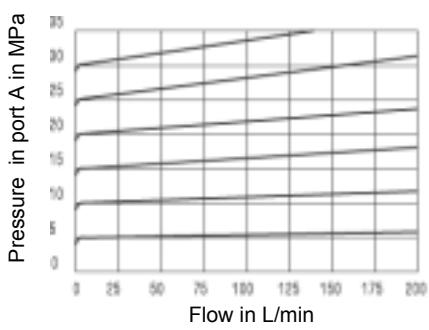
Type DBE10、20 and 30
(measured at a flow of 27 L/min)
Type DBET(measured at a flow of 0.8 L/min)

Hysteresis:
With surge ———
Without surge - - -

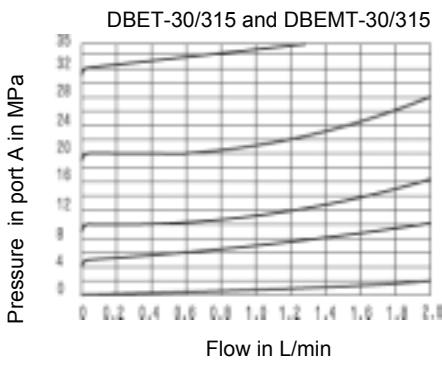
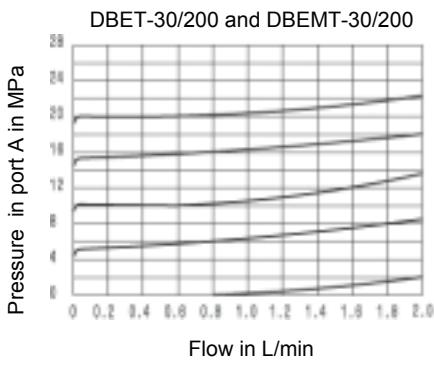
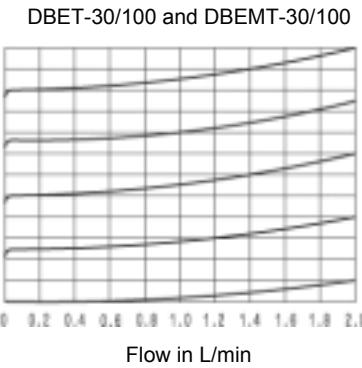
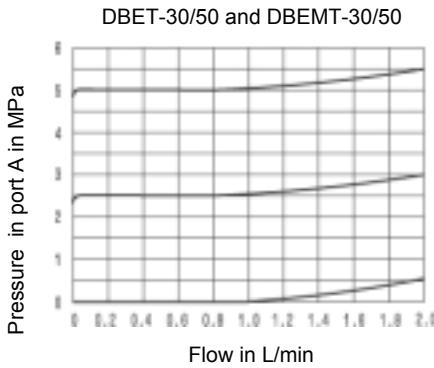
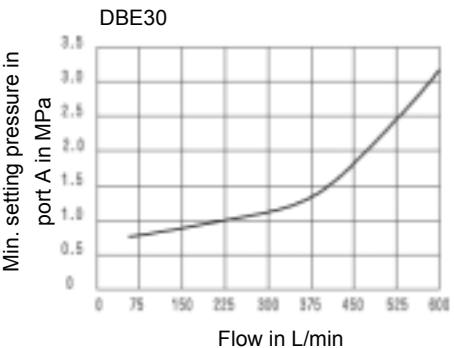
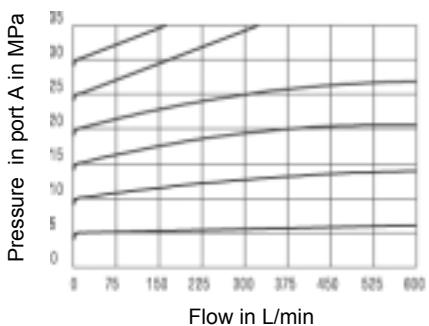
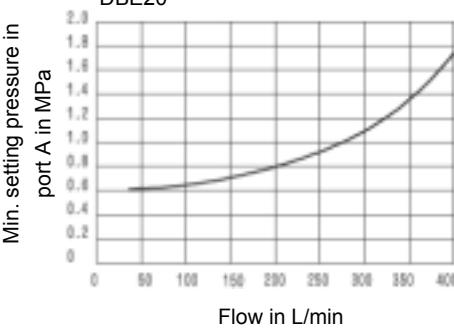
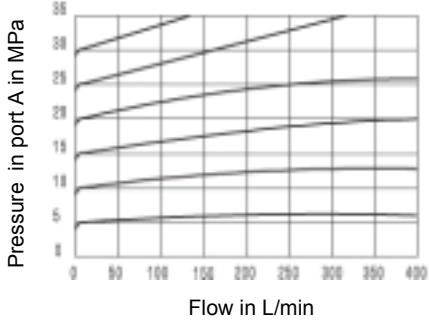
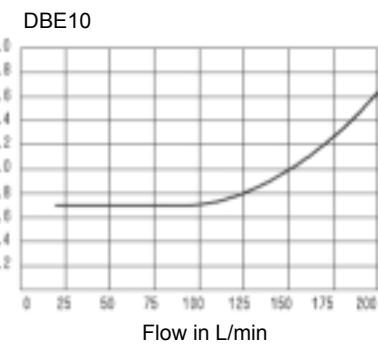


Note: So that the minimum settable pressure can be achieved the bias current must not exceed 100 mA.

Settable Pressure in relation to the flow



Min. settable pressure in relation to flow



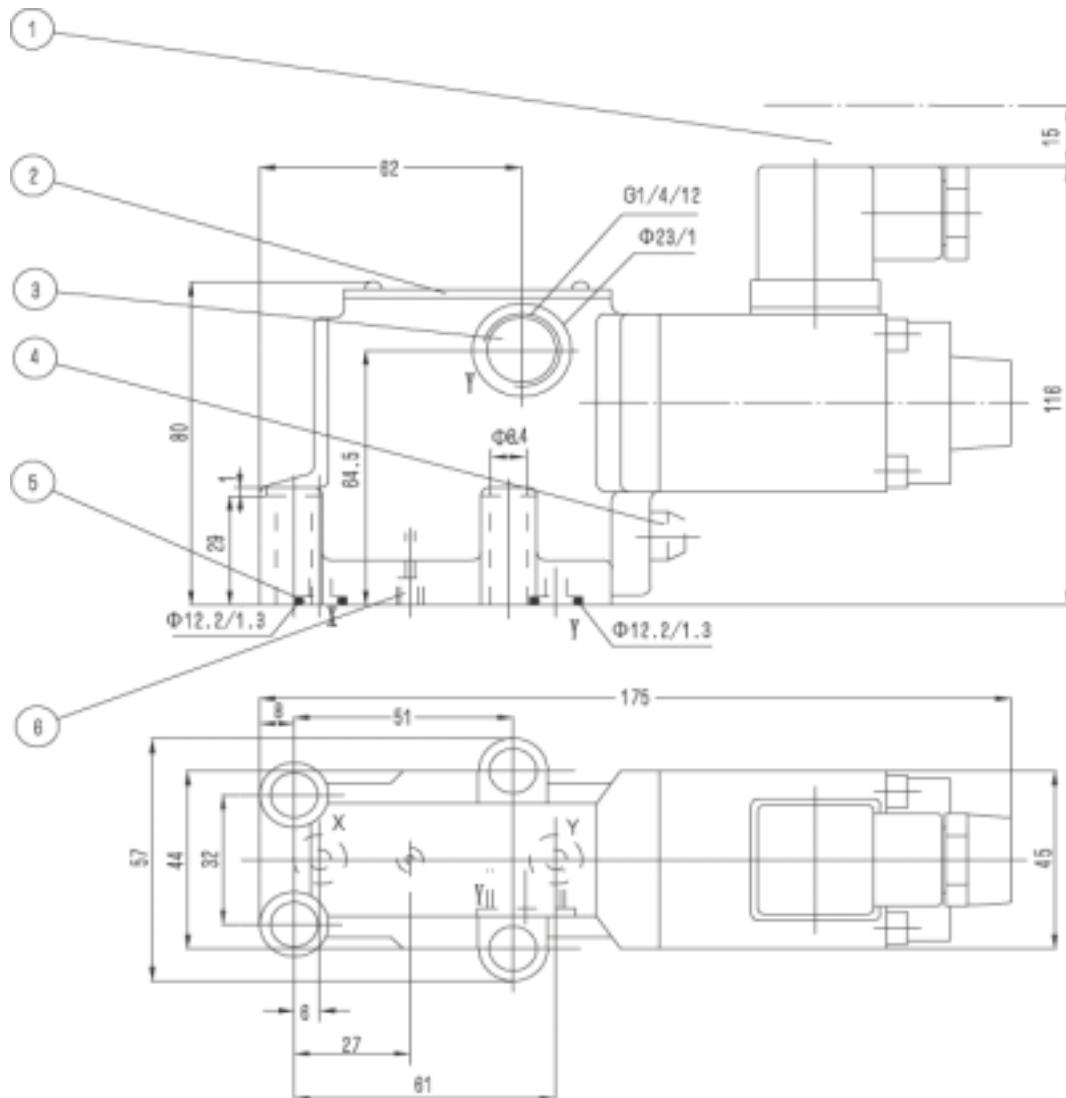
Technical data

Hydraulic data

Max. operating pressure	Ports A, B and X (MPa)	31.5					
Return pressure	(MPa)	Port Y, separate and at zero pressure to tank					
Max. settable pressure	(MPa)	5, 10, 20, 31.5, same as pressure stage					
Min. settable pressure	(MPa)	see characteristic curves					
		settable pressure					
Max. pressure safety	(MPa)	5	10	20	31.5		
		1 to 6 ⁺²	1 to 12 ⁺²	1 to 22 ⁺²	1 to 34 ⁺²		
Max. pressure safety Adjustable pressure range	(MPa)	rated pressure					
		5	10	20	31.5		
		6 to 8	12 to 14	22 to 24	34 to 36		
Max. flow	(L/min)	10		20			
		200		400			
Pilot flow	(L/min)	0.7 to 2					
Linearity	(%)	± 3.5					
Repeatability	(%)	< ± 2					
Typical variation	(%)	< ± 2 Max. pressure					
Hysteresis	(%)	With surge ± 1.5 of Max.pressure, Without surge ± 4.5 of Max.pressure					
Switching time	(ms)	30 to 150					
Pressure fluid		Mineral oil(for NBR seal),Phosphate ester (for FPM seal)					
Viscosity range	(mm ² /s)	2.8 to 380					
Pressure fluid temperature range	(°C)	-20 to +70					
Degree of contamination	(μ m)	≤ 20(recommendation 10)					

Electrical technical data

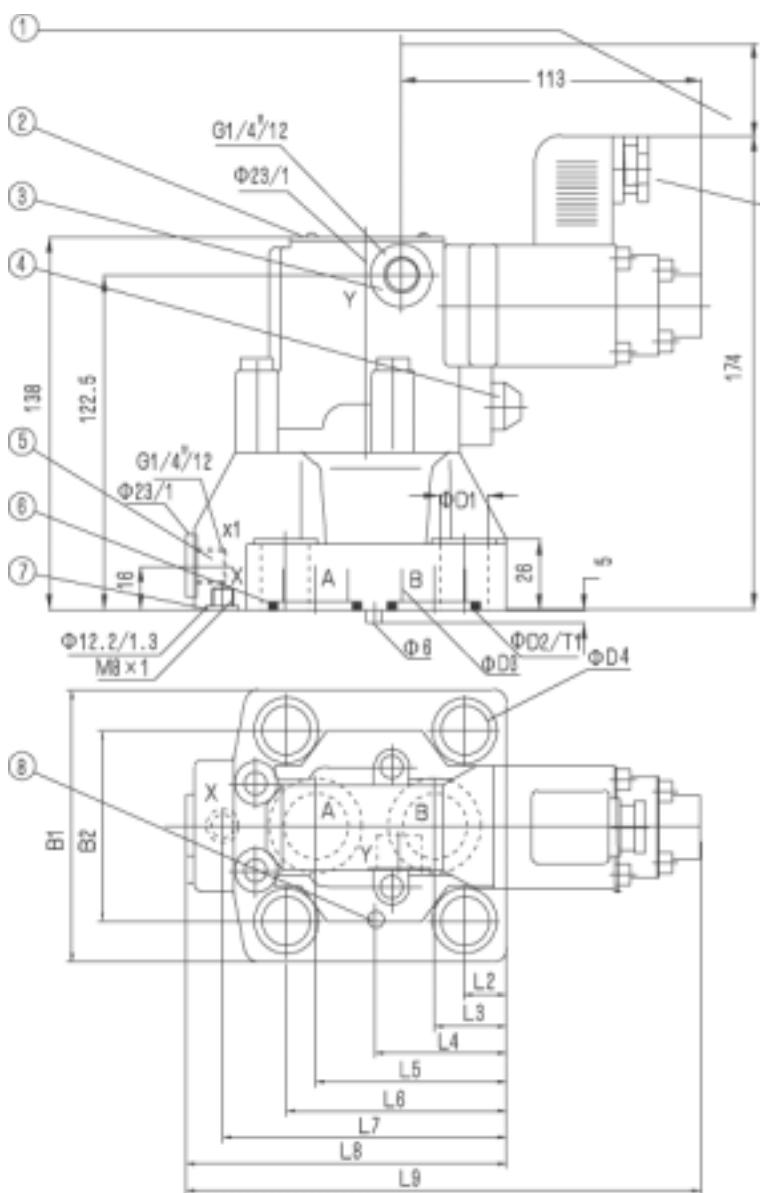
Amplifier	VT-200 ^S X40 supplied with valve together					
Supply voltage	DC					
Min. control current	(A)		0.1			
Max. control current	(A)		0.8			
Coil resistance	(Ω)		Cold value at 20°C is 19.5; Max. warm value is 28.8			
Pressure fluid temperature range	(°C)		+50			
Working state	Continue					
Valve protection	IP65					
Electrical connections	plug					



1. Space required to remove plug-in connector
2. Nameplate
3. Port for pilot oil drain external
4. Maximum pressure limitation
5. O-ring 9.25X1.78 (for ports X and Y)
6. The hole is blocked in DBET/DBEMT and fix throttle in DBEC/DBEMC
SubplateG51/01, see page 87

Unit dimensions (type DBE/DBEM)

(Dimensions in mm)



- | | |
|--|---|
| 1. Space required to remove
plug-in connector | 5. Pilot oil supply external(optionally at
port X or X1) |
| 2. Nameplate | 6. O-ring (for ports A, B) |
| 3. Pilot oil drain,external | 7. O-ring 9.25X1.78 (for port X) |
| 4. Maximum pressure limitation | 8. Locating pin |

Subplates (see page 89):

NG10 NG20 NG30

G545/01 G408/01

G546/02

Digitized by srujanika@gmail.com

NG10

Front View Dimensions:

- Total width: 88
- Total height: 78.6
- Top horizontal slot width: 54
- Bottom horizontal slot width: 54
- Left vertical slot width: 22.2
- Right vertical slot width: 47.8
- Top horizontal slot height: 53
- Bottom horizontal slot height: 22.2
- Left vertical slot height: 60.6
- Right vertical slot height: 22.2
- Top horizontal slot depth: 10
- Bottom horizontal slot depth: 10
- Left vertical slot depth: 10
- Right vertical slot depth: 10
- Top horizontal slot radius: 10
- Bottom horizontal slot radius: 10
- Left vertical slot radius: 10
- Right vertical slot radius: 10

Side View Features:

- Top horizontal slot: $\phi 8$
- Bottom horizontal slot: $\phi 8$
- Left vertical slot: $\phi 8$
- Right vertical slot: $\phi 8$
- Top horizontal slot: $\phi 12$
- Bottom horizontal slot: $\phi 12$
- Left vertical slot: $\phi 12$
- Right vertical slot: $\phi 12$
- Top horizontal slot: $\phi 7 / 6$
- Bottom horizontal slot: $\phi 7 / 6$
- Left vertical slot: $\phi 7 / 6$
- Right vertical slot: $\phi 7 / 6$

NG20

Front View Dimensions:

- Total width: 115
- Total height: 100
- Top horizontal slot width: 54
- Bottom horizontal slot width: 54
- Left vertical slot width: 23.8
- Right vertical slot width: 11.1
- Top horizontal slot height: 69.8
- Bottom horizontal slot height: 23.8
- Left vertical slot height: 33.3
- Right vertical slot height: 23.8
- Top horizontal slot depth: 10
- Bottom horizontal slot depth: 10
- Left vertical slot depth: 10
- Right vertical slot depth: 10
- Top horizontal slot radius: 10
- Bottom horizontal slot radius: 10
- Left vertical slot radius: 10
- Right vertical slot radius: 10

Side View Features:

- Top horizontal slot: $\phi 8$
- Bottom horizontal slot: $\phi 8$
- Left vertical slot: $\phi 8$
- Right vertical slot: $\phi 8$
- Top horizontal slot: $M16 / 26$
- Bottom horizontal slot: $M16 / 26$
- Left vertical slot: $M16 / 26$
- Right vertical slot: $M16 / 26$
- Top horizontal slot: $\phi 25$
- Bottom horizontal slot: $\phi 25$
- Left vertical slot: $\phi 25$
- Right vertical slot: $\phi 25$
- Top horizontal slot: $\phi 7 / 6$
- Bottom horizontal slot: $\phi 7 / 6$
- Left vertical slot: $\phi 7 / 6$
- Right vertical slot: $\phi 7 / 6$

NG30

Front View Dimensions:

- Total width: 114
- Total height: 82.5
- Top horizontal slot width: 54
- Bottom horizontal slot width: 54
- Left vertical slot width: 31.7
- Right vertical slot width: 12.7
- Top horizontal slot height: 69.8
- Bottom horizontal slot height: 23.8
- Left vertical slot height: 33.3
- Right vertical slot height: 23.8
- Top horizontal slot depth: 10
- Bottom horizontal slot depth: 10
- Left vertical slot depth: 10
- Right vertical slot depth: 10
- Top horizontal slot radius: 10
- Bottom horizontal slot radius: 10
- Left vertical slot radius: 10
- Right vertical slot radius: 10

Side View Features:

- Top horizontal slot: $\phi 13$
- Bottom horizontal slot: $\phi 13$
- Left vertical slot: $\phi 13$
- Right vertical slot: $\phi 13$
- Top horizontal slot: $M18 / 26$
- Bottom horizontal slot: $M18 / 26$
- Left vertical slot: $M18 / 26$
- Right vertical slot: $M18 / 26$
- Top horizontal slot: $\phi 32$
- Bottom horizontal slot: $\phi 32$
- Left vertical slot: $\phi 32$
- Right vertical slot: $\phi 32$
- Top horizontal slot: $\phi 7 / 6$
- Bottom horizontal slot: $\phi 7 / 6$
- Left vertical slot: $\phi 7 / 6$
- Right vertical slot: $\phi 7 / 6$

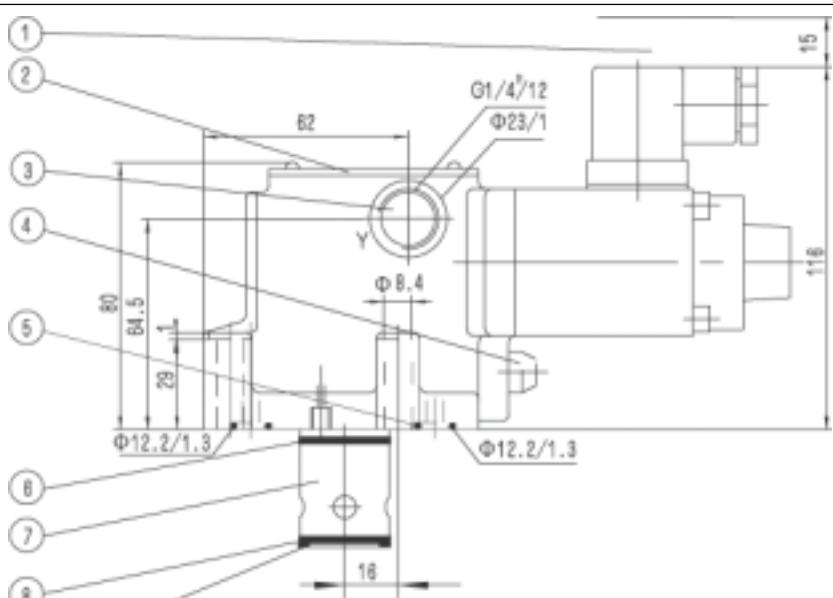
G410/01
G411/01

Size	B1	B2	Φ D1	Φ D2	Φ D3	Φ D4	O-ring (ports A and B)	Valve fixing screws:
10	78	54	18	21.8	12	14	17.12 × 2.62	M12 × 50-10.9, M _A = 84Nm
20	100	70	24	34.8	24	18	28.17 × 3.53	M16 × 50-10.9, M _A = 206Nm
30	115	82.5	28	41	30	20	34.25 × 3.53	M18 × 50-10.9, M _A = 267Nm

Size	L2	L3	L4	L5	L6	L7	L8	L9	T1	Weight (Kg)
10	12.5	18.9	44.3	44.3	66.5	66.5	90	176.5	2	4.1
20	16	27.1	49.4	71.6	82.5	106.5	117	190	2.9	4.5
30	17.5	61.9	30	93.7	106.4	138.2	148	200	2.9	6

Unit dimensions

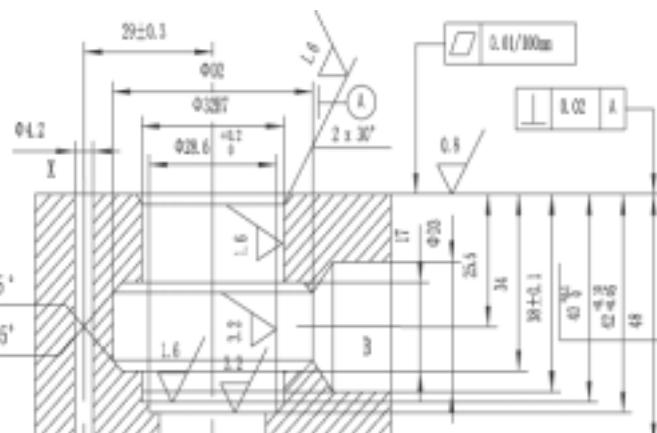
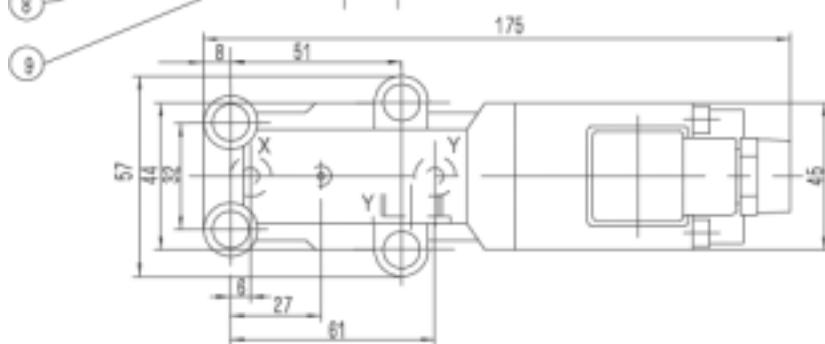
(Dimensions in mm)



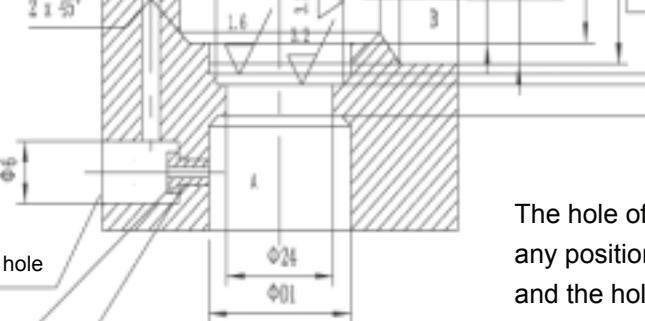
1. Space required to remove plug-in connector
 2. Nameplate
 3. Pilot oil drain external(port Y)
 4. Maximum pressure safety
 5. O-ring 9.25X1.78
 6. O-ring 27.3X2.4 (*)
 7. The main spool
 9. Retainer ring 32/28.4X0.8 (*)

(*) This kind of ring should be installed before installing insert housing

- (*) This kind of ring should be installed before installing insert housing



conjugate depth



Ajective hole

Insert include throttle and the main spool

The hole of D3 and D2 can intersect at any position , but please protect port X and the hole of valve fixing screw

Size	The ordering code of the main spool		Φ D1	Φ D2	Φ D3	Valve fixing screw	MA	Weight (kg)
10	207341 (NBR)	307342 (FPM)	25	40	10	M8 × 40-10.9 (GB/T70.1-2000) must be ordered separately	20Nm	1.5
20			32	45	25			
30					32			

ANNOTATIONS :

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