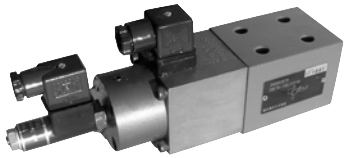
BEIJING HUADE HYDRAULIC INDUSTRIAL GROUP CO.,LTD.	Proportional Pressure Relief Valve Type DBETR			RE 24750/06.2004
	Size 6	up to 31.5 MPa	up to 10 L/min	Replaces：

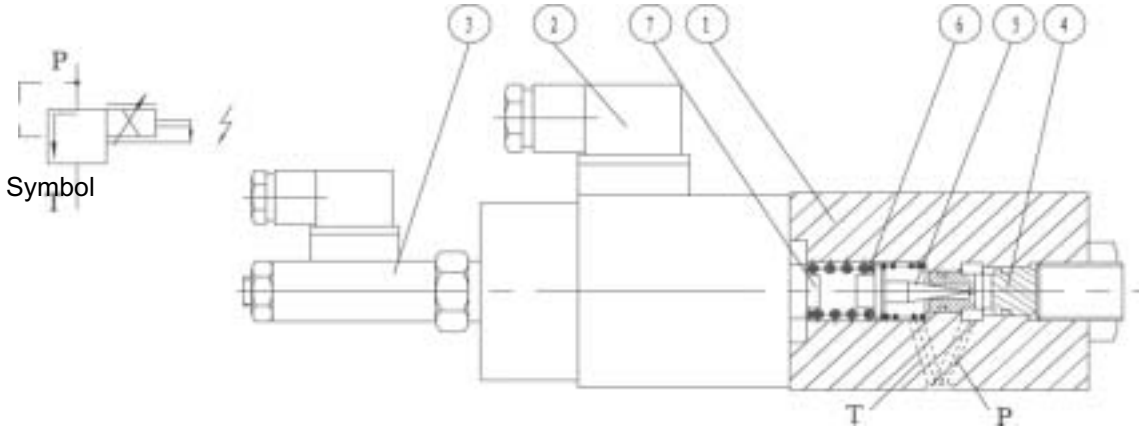
Features:

- Low hysteresis
- Good repeatability
- Electrical closed loop position control of spring pre-tension,
- Proportional solenoid actuation with inductive position transducer (pressure balanced)
- Valve and electronic control from one source



Function, section,symbol

This valve regulates pressure in proportion to the electrical command value.
The valve consists basically of a housing (1), proportional solenoid (2) with inductive posistional transducer (3), valve seat (4) and valve poppet (5).
Pressure is set by adjusting the command value potentiometer (0 to 9 V). Adjusting the command value causes tensioning of the compression spring via the electronic controls and the proportional solenoid (2). Tensioning of the compression spring (6), i.e. the position of the spring plate (7), is determined by the inductive positional transducer (3). Any deviations from the command value are corrected by the closed loop positional control.
The use of this principle eliminates the effect of solenoid friction.
Advantages: - Low hysteresis
- Good repeatability



Ordering details

DBETR | 10 | B | | | *

Series 10 to 19 = 10
(10 to 19: unchanged installation and connection dimensions)

Technology of Beijing Huade Hydraulic =B

Pressure stage:
up to 2.5MPa =25
up to 8MPa =80
up to 18MPa =180
up to 31.5MPa =315

Further details in clear text

M= mineral oils
V = phosphate ester

No code= let oil inside
Y= let oil outside

Technical data

Hydraulic data

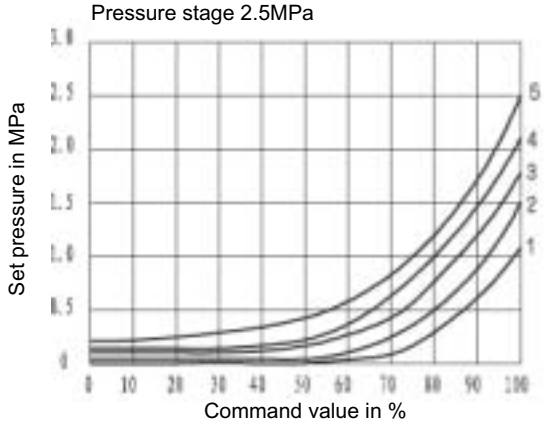
Max. settable pressure (MPa)	Pressure stage 2.5 MPa	2.5	
	Pressure stage 8.0 MPa	8	
	Pressure stage 18.0 MPa	18	
	Pressure stage 31.5 MPa	31.5	
Min. settable pressure (MPa)		(see p_{min} - q_V characteristic curves)	
Max.Operating pressure (MPa)	port T (with pressure adjusting)	0.2	
	por T (without pressure adjusting)	10	
	port P	31.5	
Max. flow (L/min)	Pressure stage 25	10	
	Pressure stage 80	3	
	Pressure stage 180	3	
	Pressure stage 315	2	
Degree of contamination (μm)		⩽ 20 (recommendation 10)	
Hysteresis (%)		< 1 of max. settable pressure	
Repeatability (%)		< 0.5 of max. settable pressure	
Linearity (%)	180; Pressure stage from 3 to 18 MPa	⩽ 1.5 of max. settable pressure	
	315; Pressure stage from 6 to 31.5MPa		
Typical variation (%)	Valve	± 3 of max. settable pressure	
	Electrical control	< 0.5	
Stepped response 0 to 100% (ms)		Response time (Pmin-Pmax)	Response time (Pmax-Pmin)
Pressure stage 2.5 and 18MPa 0 to100		100	50
Pressure stage 31.5MPa 0 to100		150	100
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 (℃)		-20 to +70	
Installation position		optional	
Weight (kg)		4	

Electrical

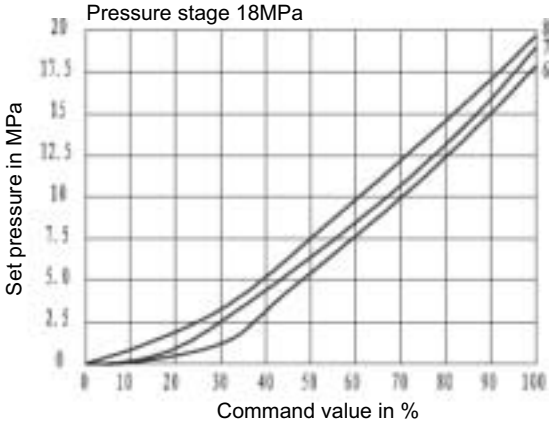
Amplifier associated		VT-5003S30		
Supply voltage		DC		
Coil resistance (Ω)	Cold value at 20 ℃	10		
	Max. warm value	13.9		
(Working state) Duty		Continuous		
Pressure fluid temperature (℃)		+50		
Amplifier voltage	commutate completely	24 ± 10%		
	commute three electrical source	24 to 35		
Max. power consumption (VA)		50		
Coil resistance at 20 ℃ (Ω)		1	11	111
		56	56	112
Inductivity (transducer) (mH)		6 to 8		
Oscillator frequency (transducer) (KHz)		2.5		
Protection to DIN 40 050		IP65		

Characteristic curves:(measured at v=36 × $10^{-6}m^2/S$ t=50℃)

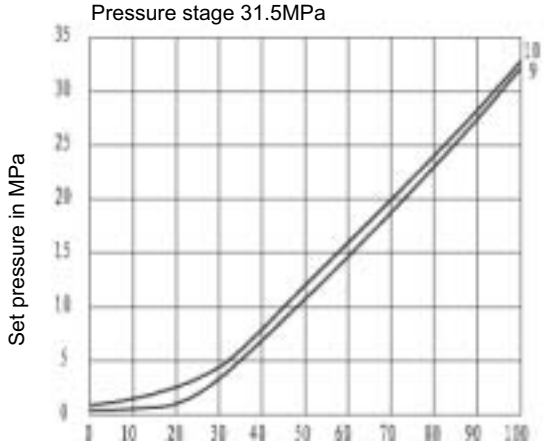
Pressure stage 2.5MPa



Pressure stage 18MPa

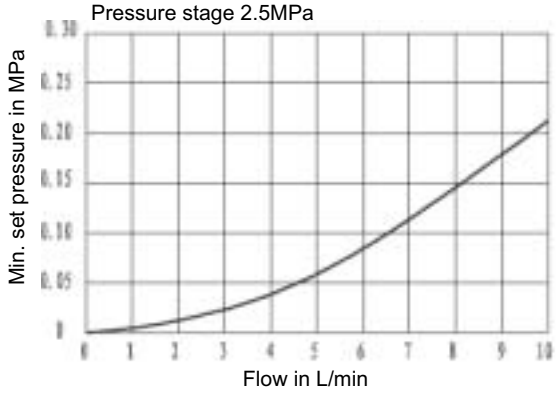


Pressure stage 31.5MPa

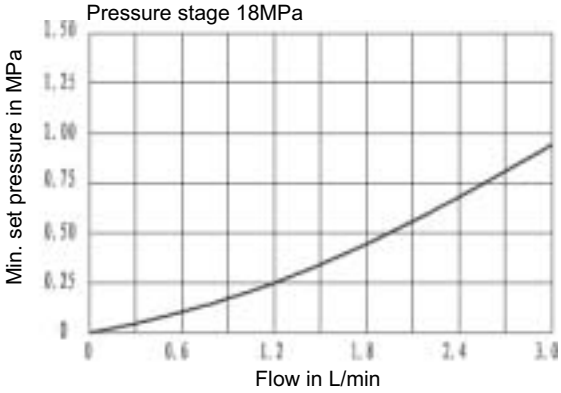


Curve 1 - flow = 2 L/min
Curve 2 - flow = 4 L/min
Curve 3 - flow = 6 L/min
Curve 4 - flow = 8 L/min
Curve 5 - flow = 10 L/min
Curve 6 - flow = 0.5 L/min
Curve 7 - flow = 1.5 L/min
Curve 8 - flow = 3L/min
Curve 9 - flow = 1 L/min
Curve 10 - flow = 2 L/min

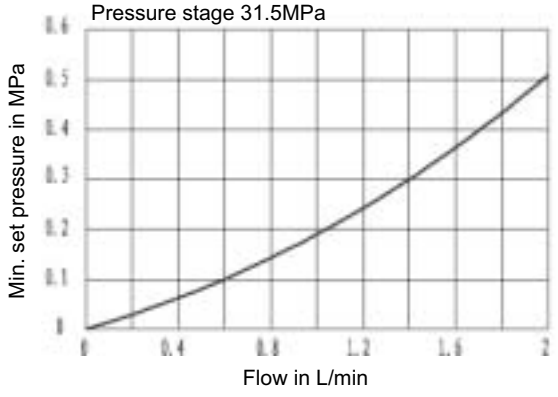
Pressure stage 2.5MPa



Pressure stage 18MPa

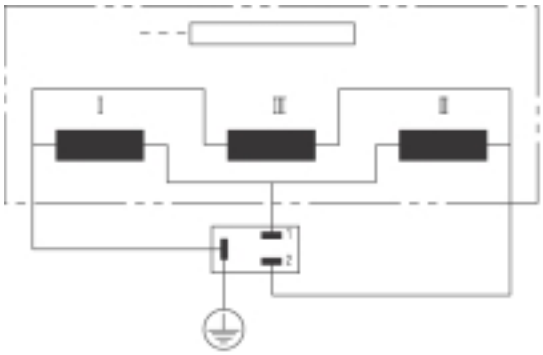


Pressure stage 31.5MPa

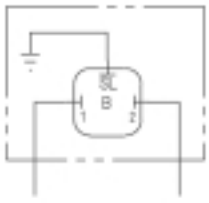


Electrical connections（Inductive postion transducer）

Inductive postion transducer

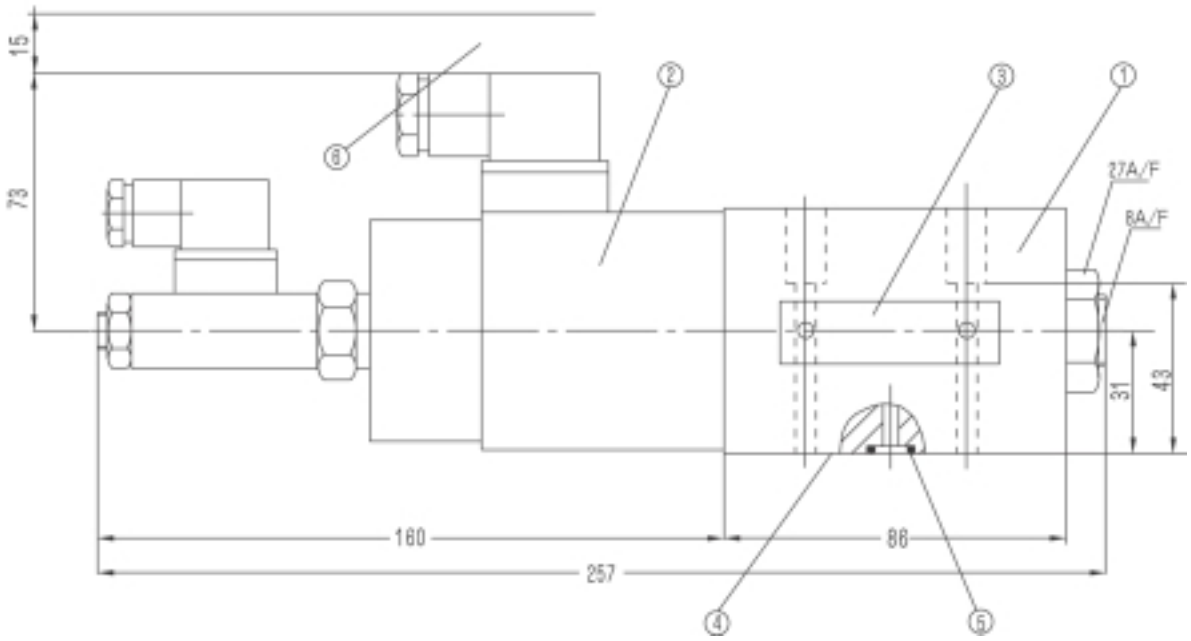


Type Connection of plug-in connector

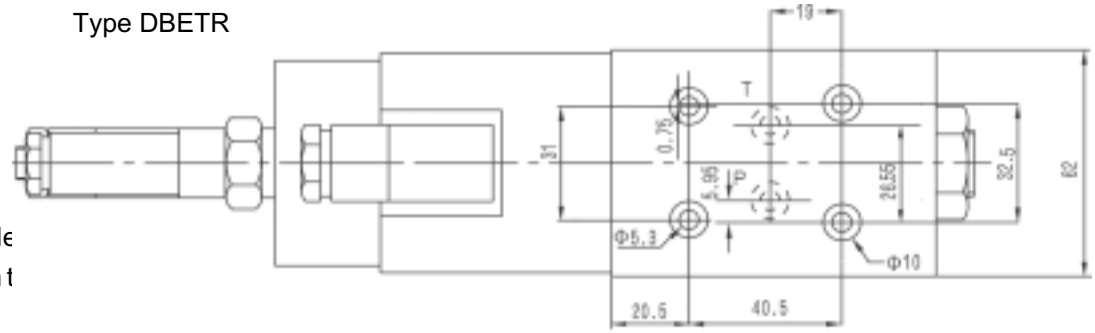


To amplifier

Unit dimensions **(Dimensions in mm)**

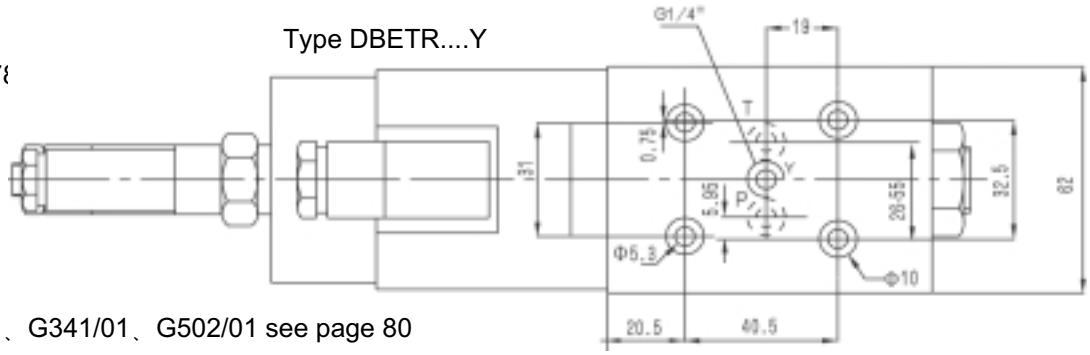


Type DBETR



1 Valve housing
2 Proportional sole
inductive position t
3 Nameplate
4 Machined valve
surface
5 O-ring 9.25 x 1.7
6 Space required
to remove the
plug-in connec-
tor

Type DBETR....Y



Subplates:G340/01、G341/01、G502/01 see page 80

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