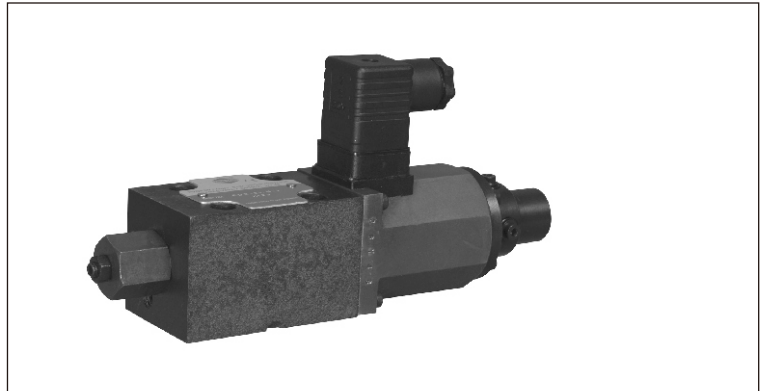# Proportional Pressure Relief Valves Direct Opertated Type EDG…

■ Product show and brief introduction

Size 01
Component series 10/20
Maximum operating pressure 25 MPa
Maximum flow 2L/min

■ Features

— They can adjust system pressure proportionally base on input electricity of proportional solenoids.

— It's flow is small nad usually is used as pilot valve for system pressure telecontrol valve and other valves.

— The unloading when pressure is over loading can be come true by installing safe insert file , then it can protect proportional solenoid and system .
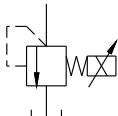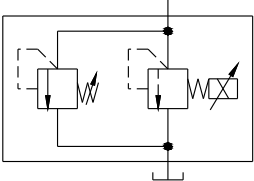
■ Ordering details

1	2	3	4	5	6	7	8	9
EDG	– 01	–	–	–	–	–	–	–

Item	Collocate	Code	Explanation
1	Sort	EDG	Direct operated proportional pressure relief valve
2	Size	01	
3	Pressure Adjustment Range	B	0.5–6.9MPa
		C	1.0–15.7MPa
		H	1.2–24.5MPa
4	Over loading Protection	NO	No safe valve
		1	With safe valve
5	Inlet Throttle	NO	P port without throttle
		P08	P port with φ 0.8mm throttle
		P10	P port with φ 1.0mm throttle
		P12	P port with φ 1.2mm throttle
6	Outlet Throttle	NO	T port without throttle
		T10	T port with φ 1.0mm throttle
		T12	T port with φ 1.2mm throttle
		T14	T port with φ 1.4mm throttle
7	Design Series	10	Could`t install safe valve
		20	Could with safe valve
8	Seal [2] Material	NO	NBR
		V	FKM
9			Describe other especial demand

Note :

1) For other dimensions throttle controller ,please contact with our company`s technical dep. .

2)Please see page 6 on catalog for hydraulic fluid and seal material .

■ Symbols

| No safe valve	With safe valve

■ Work theory

EDG-01-......-20

Input control electricity into proportional
solenoid coil, output power pass to spool
3 from compress spring 2.
To compare hydraulic power on spool,
it starts to relief after daff spool when
hydraulic power bigger than solenoid
power. Otherwise, the valve port will
be closed.
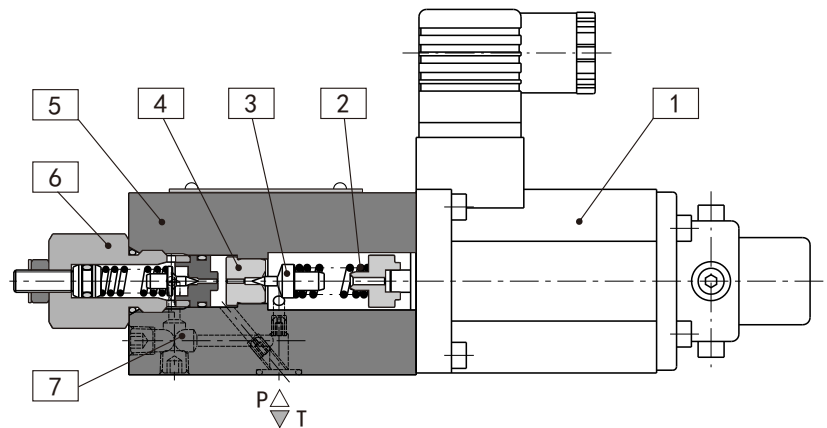
EDG-01-......-10

The valve can be installed safe valve
insert file 6(only for 20 design number
type). Oil via pass road 7 to T port and
reflow to oil box after opening safe valve's
spool when oil pressure bigger than
enactment value of safe vavle. There is
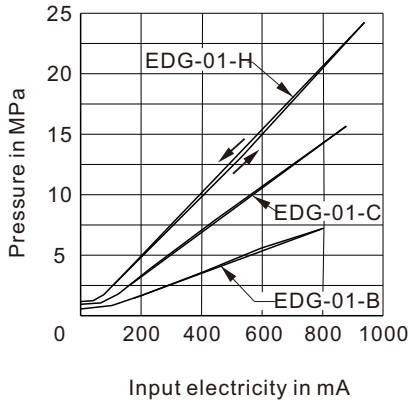production when system pressure over
load rating.
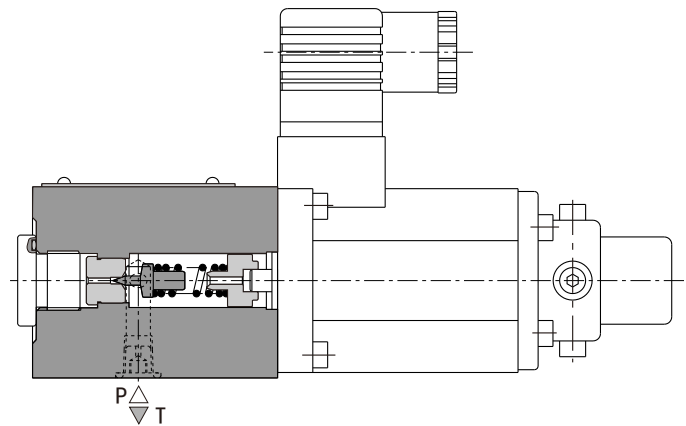
■ Technical data

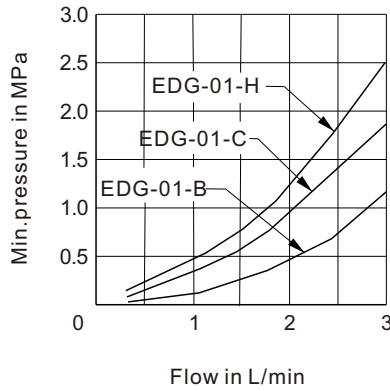| Data		EDG-01-B	EDG-01-C	EDG-01-H
Rating electricity	mA	800	900	950
Max. Pressure	MPa	24.5		
Max.flow	L/min	2		
Min.flow	L/min	0.3		
Pressure adjustment range	Mpa	See model code		
Coil resistance	Ω	10		
Stagnant loop		＜3%		
Repeat precision		1%		
Weight	Kg	2.0		

■ Characteristic curves

Measure condition for below curves：flow 2L/min
Obturation fluid vol.   40cm^3 viscoce   30mm^2/s

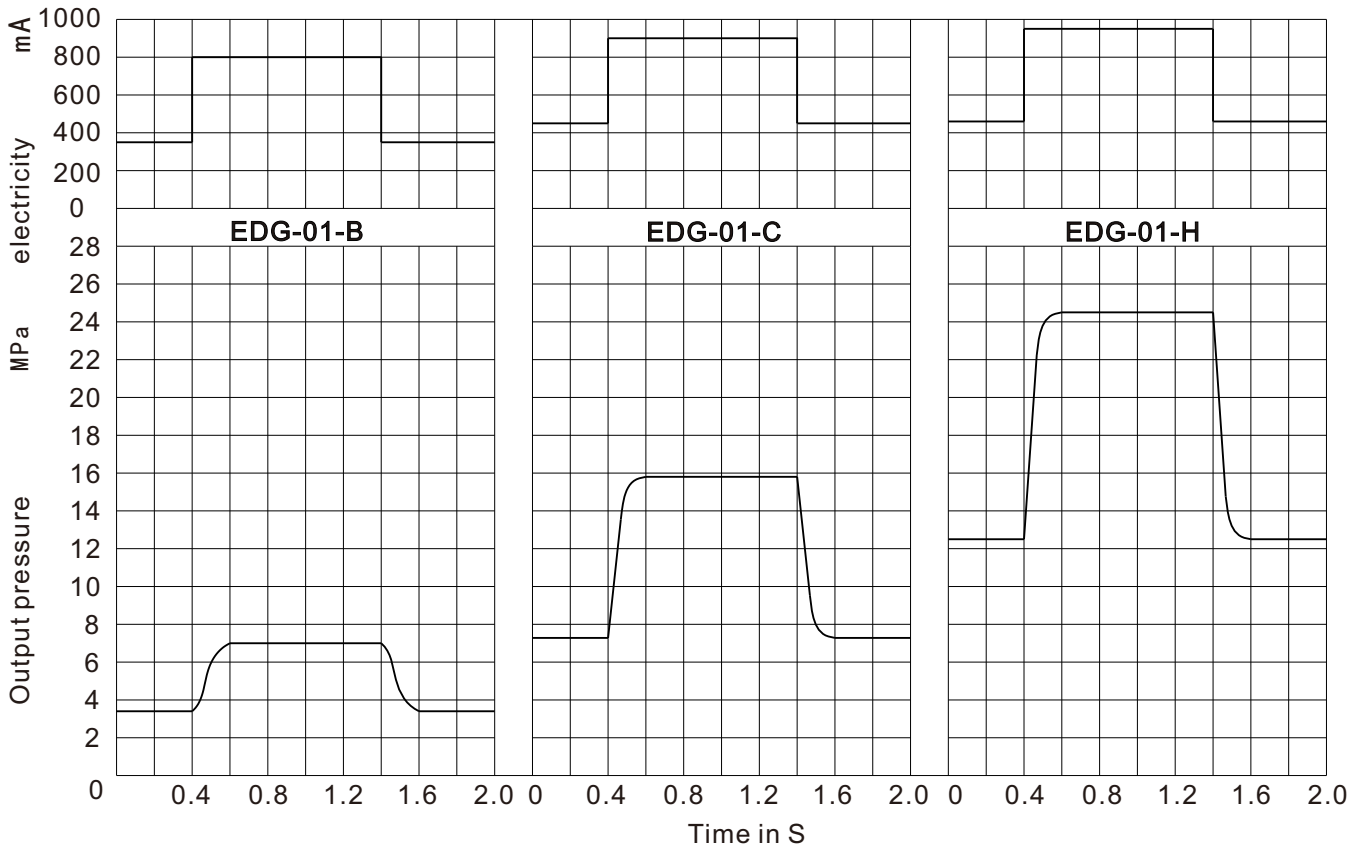**Input electricity-pressure
Characteristic curve**

EDG-01-H

Pressure in MPa

EDG-01-C

EDG-01-B

Input electricity in mA

**Min. Enactment pressure
Characteristic curve**

Min.pressure in MPa

EDG-01-H

EDG-01-C

EDG-01-B

Flow in L/min

**Flow-pressure
Characteristic curve**

EDG-01-H

EDG-01-C

Pressure in MPa

EDG-01-B

Flow in L/min
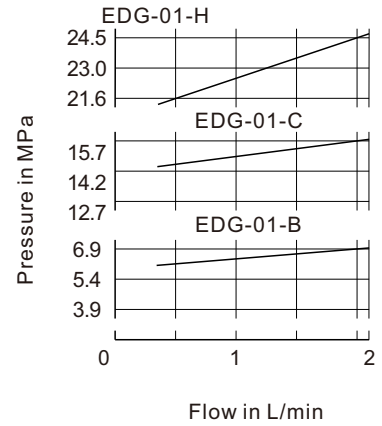
Pressure jumping response characteristic curves

mA

electricity

MPa

Output pressure

EDG-01-B

EDG-01-C

EDG-01-H

Time in S

■ Installation dimensions

0.01/100

√Rmax4

Required Process Precision

15

96.5

24.5

179.7

191.2

214.7

90° 90°

90°

4-φ10;15 deep

4-φ5.5

0.75 9.1

31 32.5 49

40.5 19

77.5
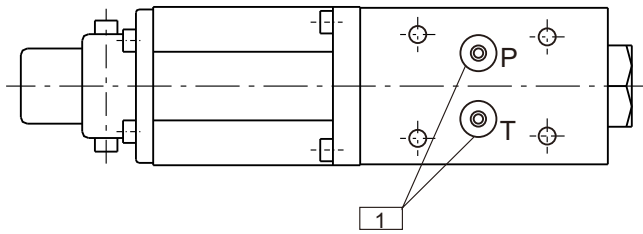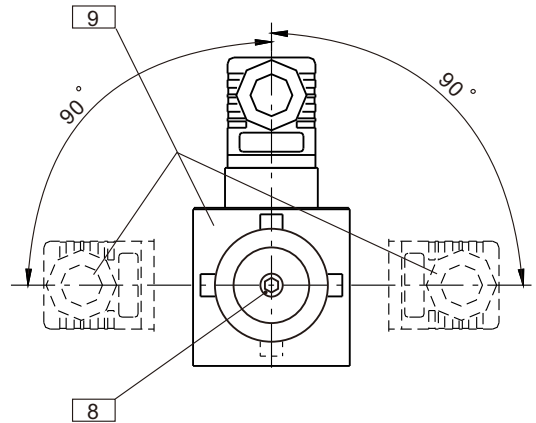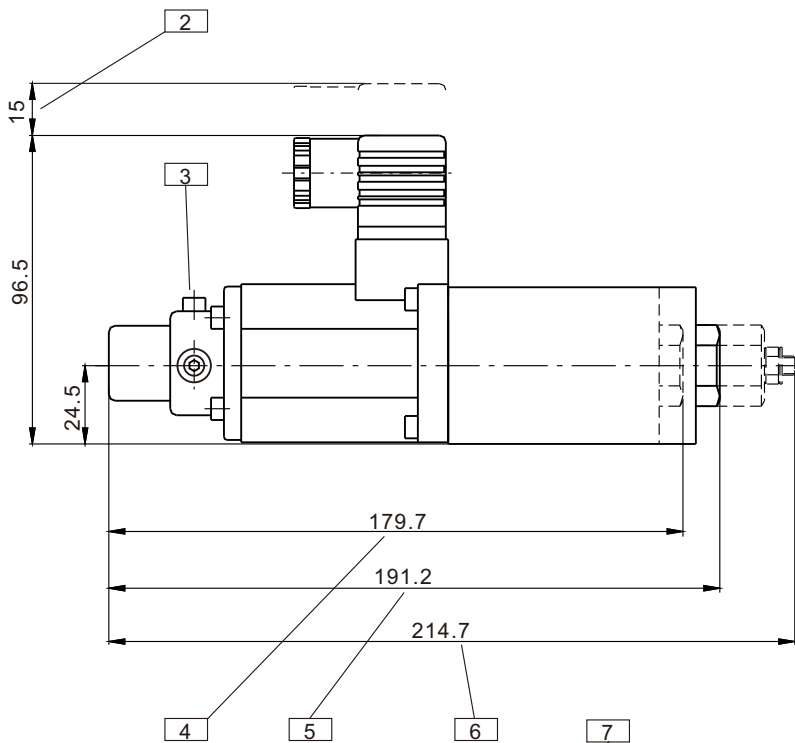
Valve fix bolts

4-M5x45 GB/T70.1-2000-12.9,
M_A=15.5N.M
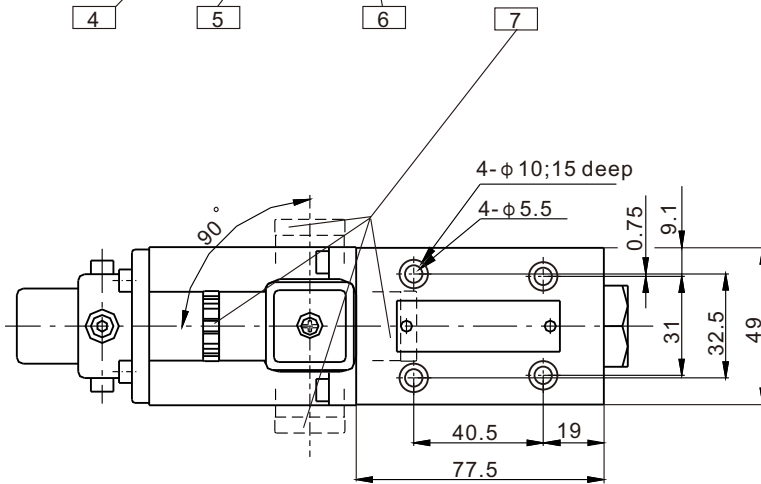
Explanation

1.O-RING 2-8.8x1.9

2.Space for pulling out plug

3.Vent(inside six corners=3)

4.For 10 design number valve,
  It can`tinstall safe valve.

5.For 20 design number valve,
   It can install safe valve.

6.Space for safe valve

7.Plug installation direction

8.Manual pressure adjustment
  BoltsŁinside six corners=3Ł

9.Installation for solenoid

■ Installation surface process dimensions
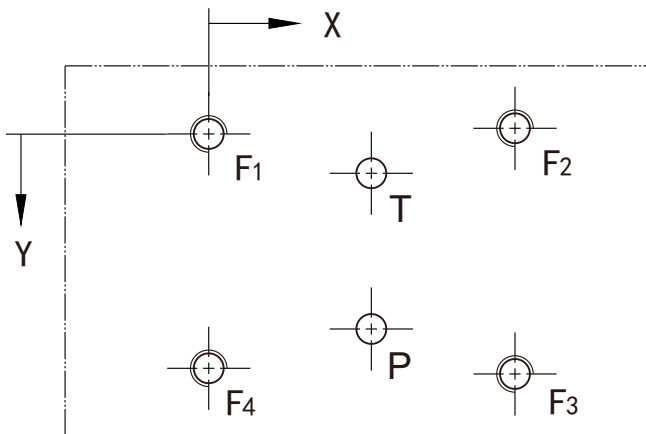
Size	DES. Code	Position		Character	
		X	Y		Deep
EDG01	F1	0	0	M5	10
	F2	40.5	-0.75	M5	10
	F3	40.5	31.75	M5	10
	F4	0	31	M5	10
	P	21.5	25.8	$\phi 4$	–
	T	21.5	5.2	$\phi 4$	–

$$\boxed{\diagup\ 0.01/100}$$
$$\sqrt{}\ Rmax4$$

Required Process Precision
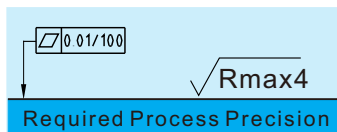
Note

The installation surface should be bigger
Than valve bottom figure when process
Valve`s installation surface.

■ Installation and using notice

1.Unloading control
It needs connection pipe which inside dia.is 6mm and length
is 300mm or more short when using the valve as relief valve
to control unloading .If pressure isn't steady ,it needs to add
ϕ1.0-1.5 throttle at oil outlet.

2.Return road pressure control
It needs to ensure that loading vol.(obturation fluid vol.)
Is bigger than 40cm^3 when using the valve to control return
road pressure directly. Return oil pipe's back pressure sho-
uld be smaller than 0.2MPa.

3.Safe valve's enactment pressure
Under max.flow, safe valve pressure is 2MPa(20.4kgf/cm)
higher than max pressure adjustment range. If max work pr-
essure is lower or using different max flow, it needs to adjust
after working out safe valve's pressure enactment follow
below formula. Pressure enactment value=（work pressure
upper limit）+（additional pressure for right photo show）.

Additional pressure-flow curve