Proportional Electro–hydraulic Directional Valve(BFWH)

Technical specification

Specification		03	04	06
Maximum pressure (MPa)		31.5		
Return pressure （MPa)	T(For extl disch)	< 25		
	T(For intl disch)	< 3		
	Port Y	< 3		
Maximum flow (l/min)		85	150	325
Hysteresis (%)		< 6		
Repeatability (%)		< 3		
Rated current (mA)		800		
Hydraulic fluid		Mineral oil, phosphate–ester		
Viscosity (mm^2/s)		2.8~100		
Fluid temp. (^{o}C)		–20~70		
Coil resistance (Ω)		19.5		
Cleanliness		Filter is recommended for the highest fluid pollution degree;the lowest specific filtration resistance according to ISO 4406 (C) 20/18/15.		

BFWH electro–hydraulic proportional directional valve is a 2–stage valve with a pilot. It is controlled by a proportional solenoid and converts the electrical signal into a fuild pressure signal to control the flow rate and directions in the hydraulic system.

Model instruction

BFWH – * – * – * – * – 5X *

Proportional electro–hydraulic directional valve

Specification
03 DN 10
04 DN 16
06 DN 25

Symbol：(See BFW)

Control oil：
Omit   Intl cntrl intl disch
X   Extl cntrl intl disch
Y   Intl cntrl extl disch
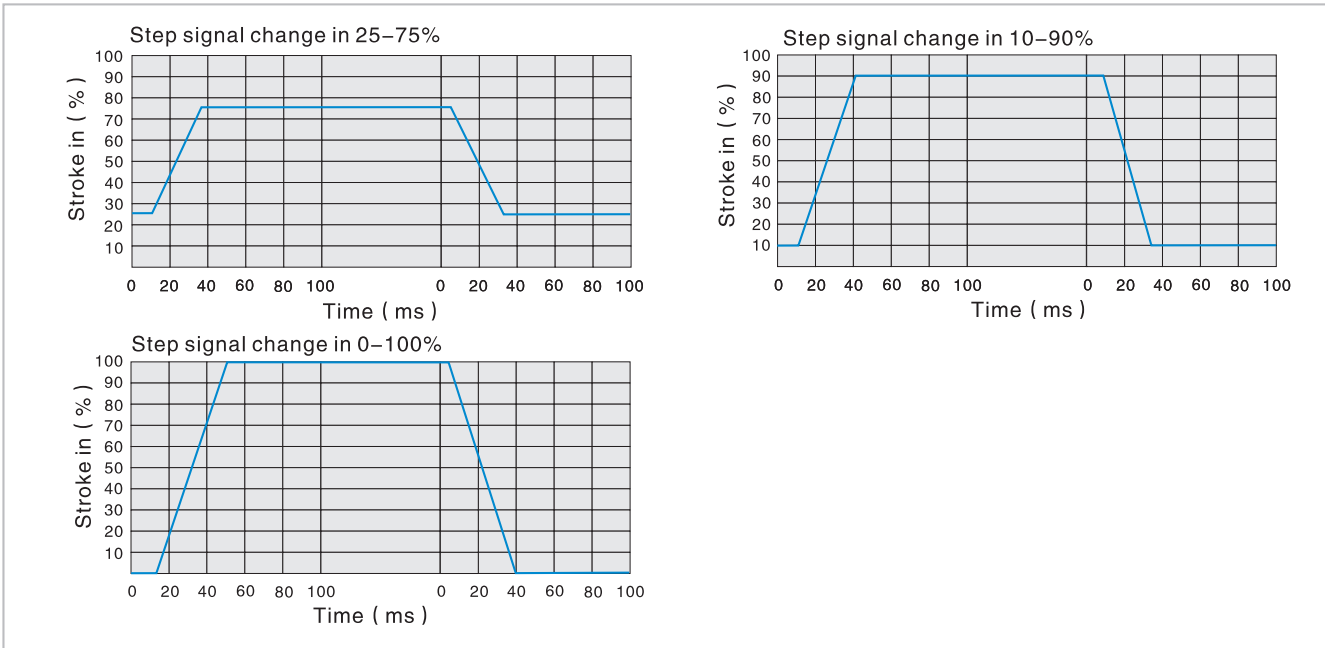XY   Extl cntrl extl disch
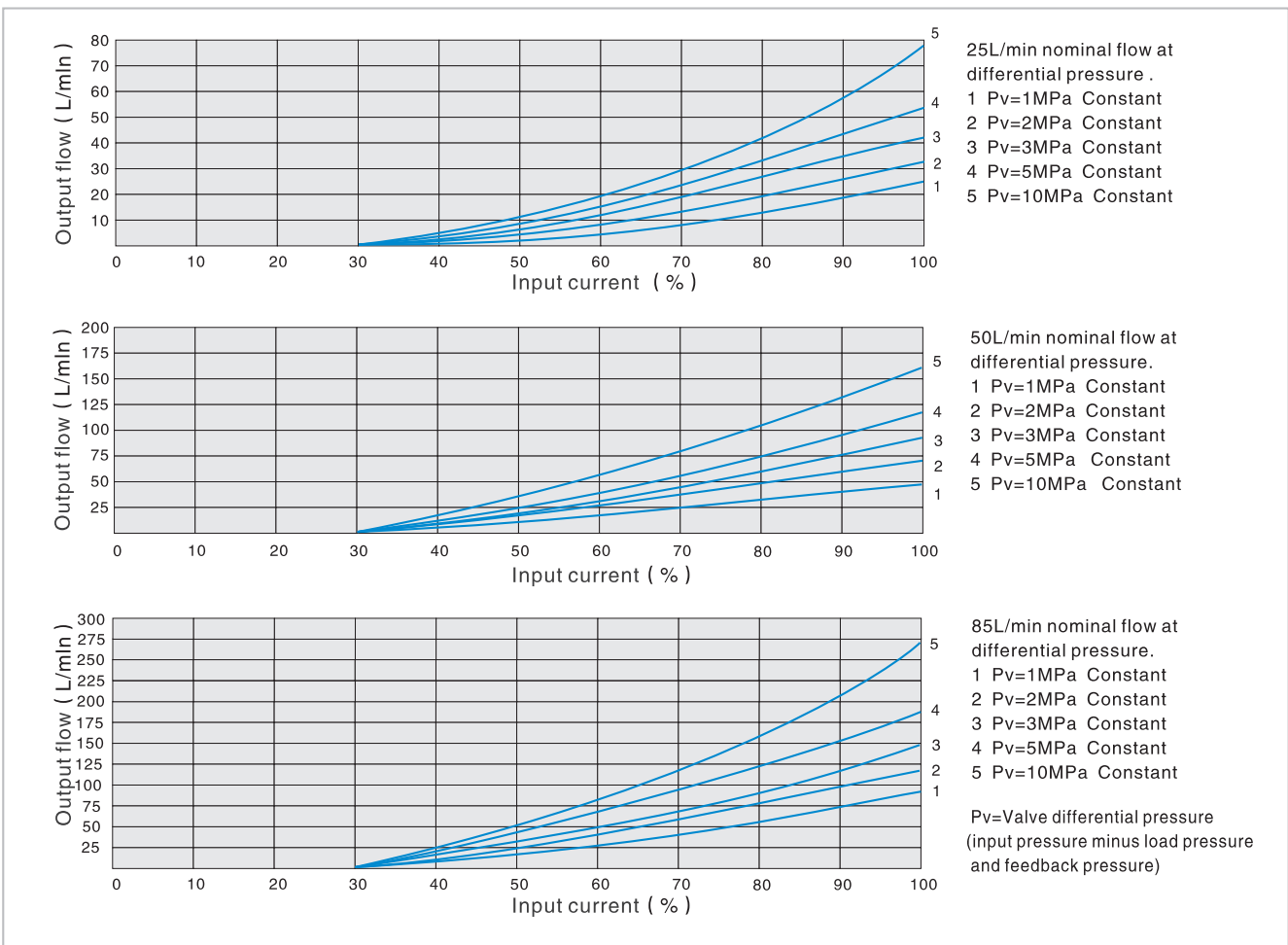
Remarks

Design serial number

Nominal flow
(based on 1MPa pressure drop)
03 Specification
25   25 l/min
50   50 l/min
85   85 l/min
04 Specification
100   100 l/min
150   150 l/min
06 Specification
270   270 l/min
325   325 l/min

Proportional Electro–hydraulic Directional Valve(BFWH)

03 Model characteristic curves (Measured at $\nu = 36 \times 10^{-6} m^2/S$ $t=50^{0}C$)

Step signal change in 25–75%
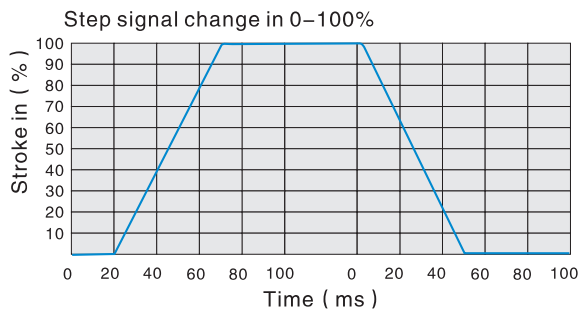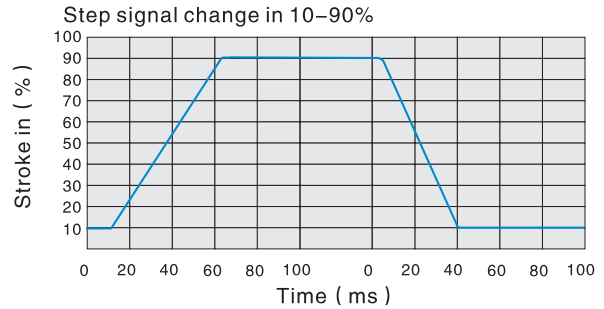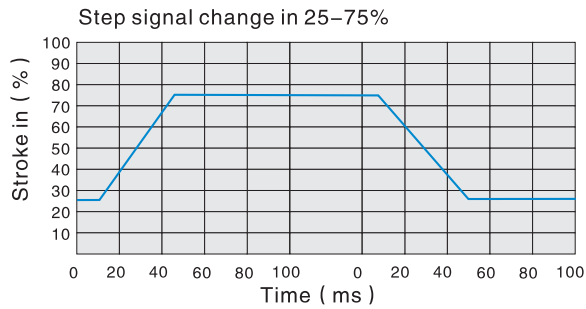
Stroke in (%) vs Time (ms)

Step signal change in 10–90%

Stroke in (%) vs Time (ms)

Step signal change in 0–100%

Stroke in (%) vs Time (ms)

03 Model characteristic curves (Measured at $\nu = 36 \times 10^{-6} m^2/S$ $t=50^{0}C$)

Output flow (L/mln) vs Input current (%)

25L/min nominal flow at differential pressure .
1 Pv=1MPa Constant
2 Pv=2MPa Constant
3 Pv=3MPa Constant
4 Pv=5MPa Constant
5 Pv=10MPa Constant

Output flow (L/mln) vs Input current (%)

50L/min nominal flow at differential pressure.
1 Pv=1MPa Constant
2 Pv=2MPa Constant
3 Pv=3MPa Constant
4 Pv=5MPa Constant
5 Pv=10MPa Constant

Output flow (L/mln) vs Input current (%)

85L/min nominal flow at differential pressure.
1 Pv=1MPa Constant
2 Pv=2MPa Constant
3 Pv=3MPa Constant
4 Pv=5MPa Constant
5 Pv=10MPa Constant

Pv=Valve differential pressure
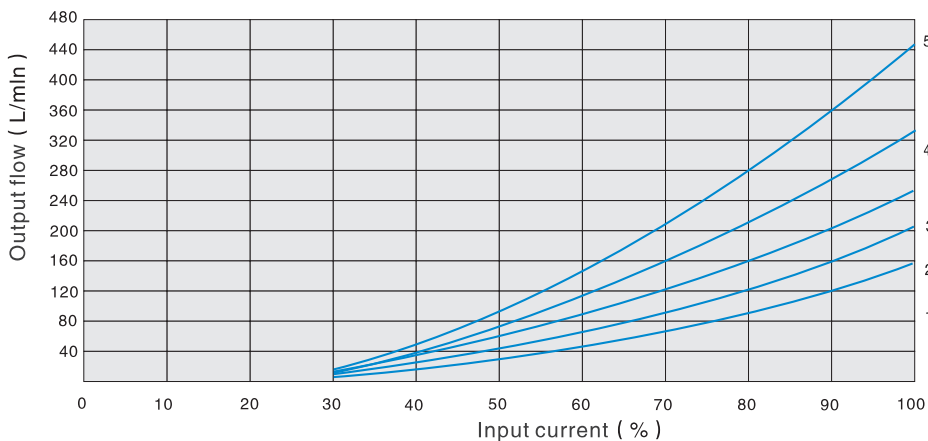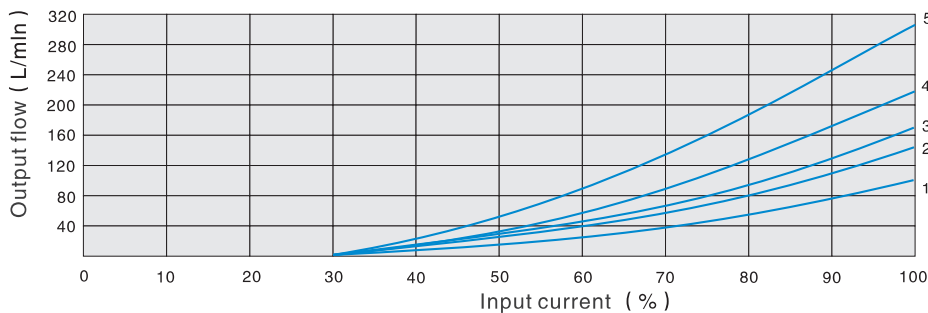(input pressure minus load pressure and feedback pressure)

A.3.2

Proportional Electro–hydraulic Directional Valve(BFWH)

04 Model characteristic curves (Measured at $v = 36 \times 10^{-6} m^2/S$ $t=50^0C$)

Step signal change in 25–75%
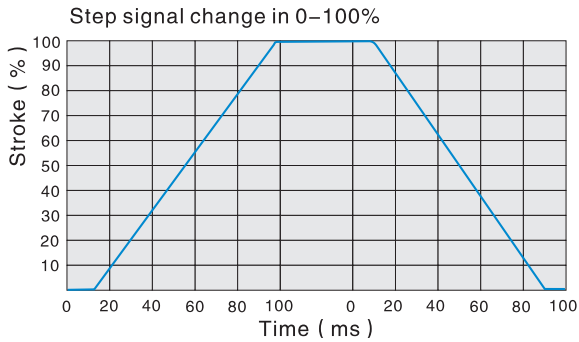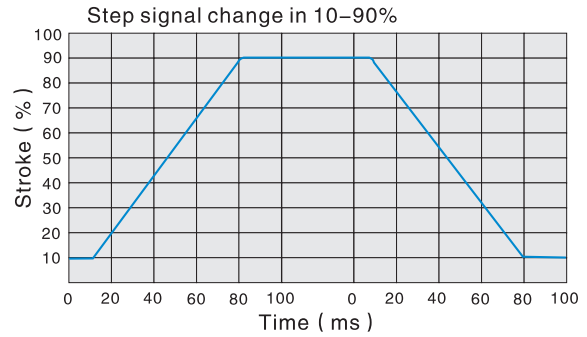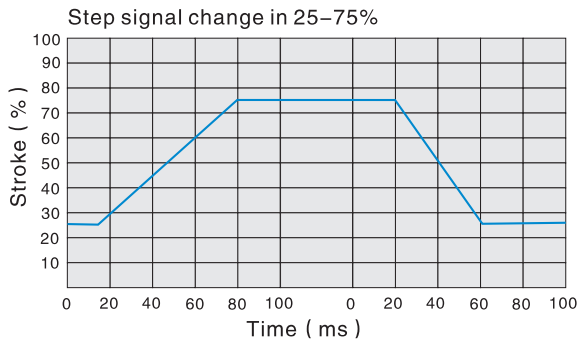
Stroke in（%）

Time（ms）

Step signal change in 10–90%

Stroke in（%）

Time（ms）

Step signal change in 0–100%

Stroke in（%）

Time（ms）

04 Model characteristic curves (Measured at $v = 36 \times 10^{-6} m^2/S$ $t=50^0C$)

Output flow（L/mln）

Input current（%）

100L/min nominal flow at
differential pressure .
1 Pv=1MPa Constant
2 Pv=2MPa Constant
3 Pv=3MPa Constant
4 Pv=5MPa Constant
5 Pv=10MPa Constant

Output flow（L/mln）

Input current（%）

150L/min nominal flow at
differential pressure.
1 Pv=1MPa Constant
2 Pv=2MPa Constant
3 Pv=3MPa Constant
4 Pv=5MPa Constant
5 Pv=10MPa Constant

Pv=Valve differential pressure
(input pressure minus load pressure
and feedback pressure)

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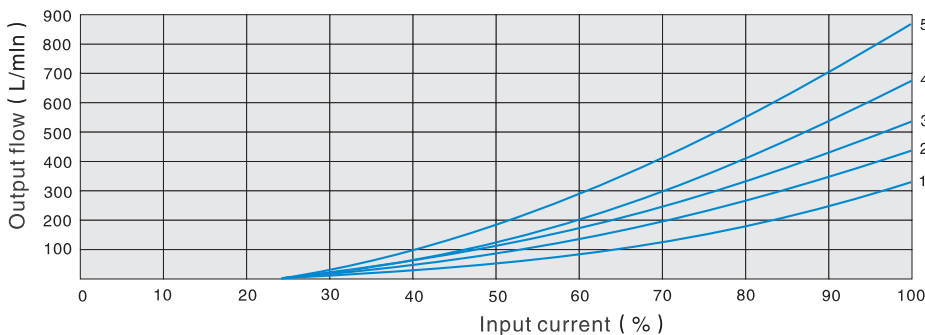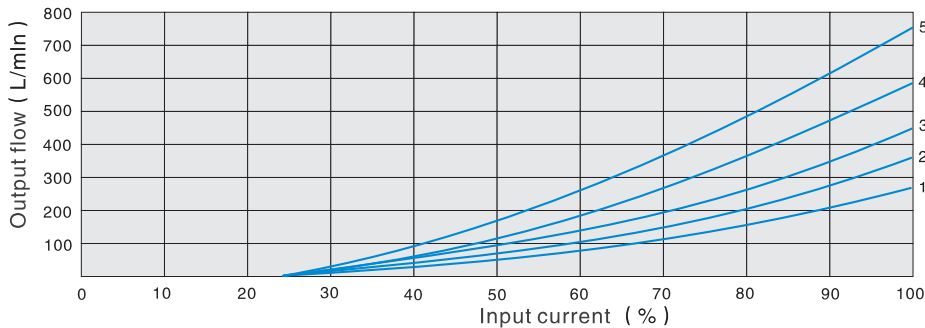# Proportional Electro–hydraulic Directional Valve(BFWH)

06 Model characteristic curves (Measured at $\nu =36 \times 10^{-6} m^2/S$ $t=50^0C$)

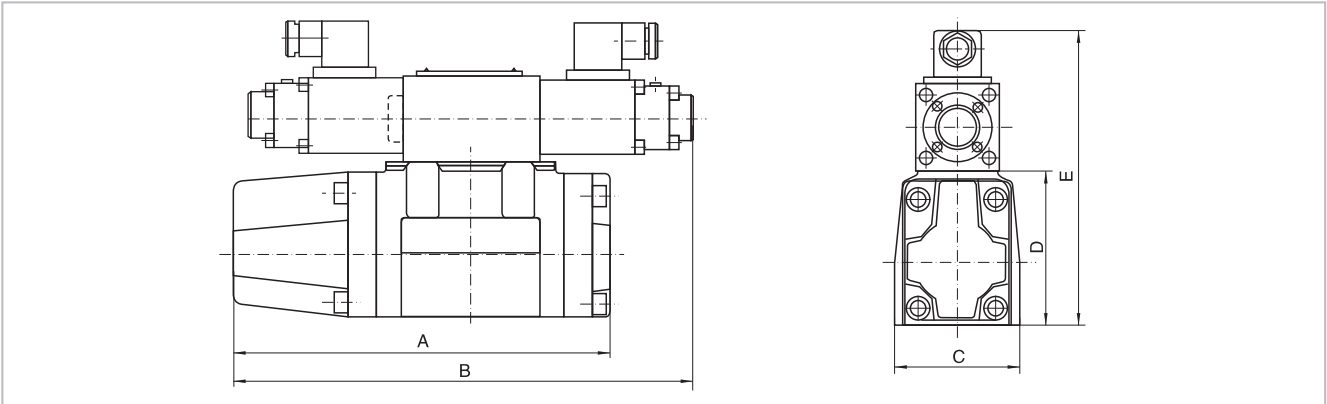### Step signal change in 25–75%

Step signal change in 10–90%

Step signal change in 0–100%

06 Model characteristic curves (Measured at $\nu =36 \times 10^{-6} m^2/S$ $t=50^0C$)

270L/min nominal flow at differential pressure .
1 Pv=1MPa Constant
2 Pv=2MPa Constant
3 Pv=3MPa Constant
4 Pv=5MPa Constant
5 Pv=10MPa Constant

325L/min nominal flow at differential pressure.
1 Pv=1MPa Constant
2 Pv=2MPa Constant
3 Pv=3MPa Constant
4 Pv=5MPa   Constant
5 Pv=10MPa   Constant

Pv=Valve differential pressure
(input pressure minus load pressure
and feedback pressure)

Proportional Electro–hydraulic Directional Valve(BFWH)

External dimensions

Specification	A	B	C	D	E
BFWH–03	216	250	70	86	171
BFWH–04	250	265	94	95	185
BFWH–06	280	290	120	117.5	202.5

Plate size

BFWH–03

BFWH–04

BFWH–06

The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.