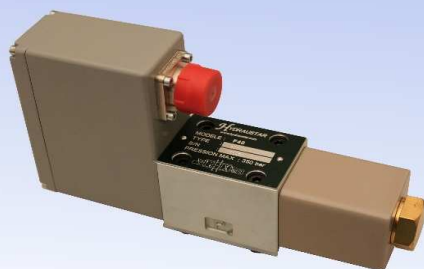


series  
**F40**  
Servo proportional valve  
Rated flows up to 40 l/m



#### Features

- Direct drive bi-directional linear motor
- Maximum operating pressure 350 bar
- 3-way or 4-way options
- Linear & dual-gain flow curve options
- Spool in bushing design
- 3 command signal options
- High temperature version



## Technical data

### Hydraulic

Nominal flow ratings [ $\pm 10\%$ ]	at 70 bar $\Delta p$	1, 2, 5, 10, 20, 40 l/m
Operating pressure (max)	Ports	P, A, B
		T without Y
		T with Y
		350 bar
		250 bar
		350 bar
Fluid viscosity range (recommended)		10 to 360 mm <sup>2</sup> /s (cSt)
Fluid type		Mineral oil to ISO 11158, DIN 51524 or equivalent others on request
Filter rating (recommended)	Pressure line	Beta 10 = 200 (10 $\mu$ m abs), non by-pass & indicator
	Off-line	Beta 2 = 1000 (2 $\mu$ m abs)
Fluid cleanliness	ISO 4406: 1999	
	minimum	18/ 15/ 12
	recommended	17/ 14/ 11

### Operational parameters

Hysteresis		$\leq 0.2\%$
Threshold		$\leq 0.1\%$
Null shift	$\Delta T 40^\circ C$	$\leq 1.5\%$
Internal leakage	140 bar supply (0.5% overlap)	
	5, 10, 20 l/m	$\leq 0.6$ l/min
	40 l/m	$\leq 1.0$ l/min
Load pressure difference	1% input	$\geq 30\%$ of supply pressure can be as high as 100%
Response time	0-100% rated spool stroke	$< 12$ ms
Max. valve flow		75 l/m
Mounting pattern		ISO 4401-03-03-0-94
Mounting position		Any, fixed or movable
Weight	DD3S	2 kg
	DD3T	1.7 kg
Design protection	EN 60529	IP 67
Shipping protection		Sealed base plate
Seal material options		NBR, FPM
Temperature range	DD3S	-20 to 70 $^\circ C$
	DD3T	-20 to 160 $^\circ C$

# Technical data - Electrical details

## Model F40S

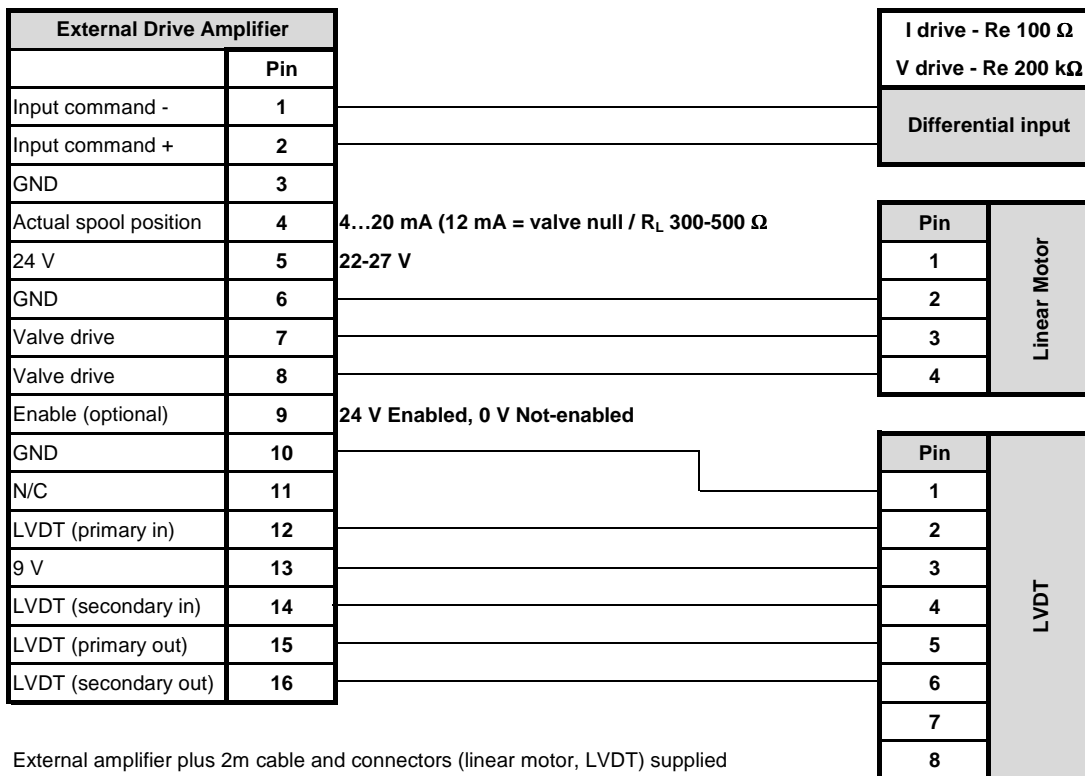
Factory set options are as follows

Pin	Function	Values
A	Supply	24 Vdc (22...27 Vdc)
B	GND	0 V
C	Not used	
D	Input rated command (differential)	±10 V, ±10 mA, 4...20 mA
E	<i>Inverse bi-polar command signals</i>	
F	Actual spool position	4...20 mA
PE	Protective earth	

Valve connector type MIL-C-5015 or DIN 43563 6+PE

Mating connector not supplied

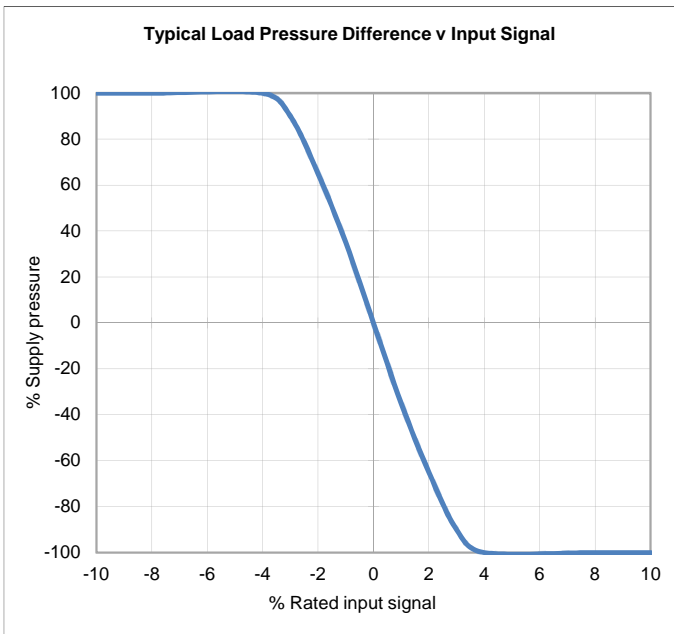
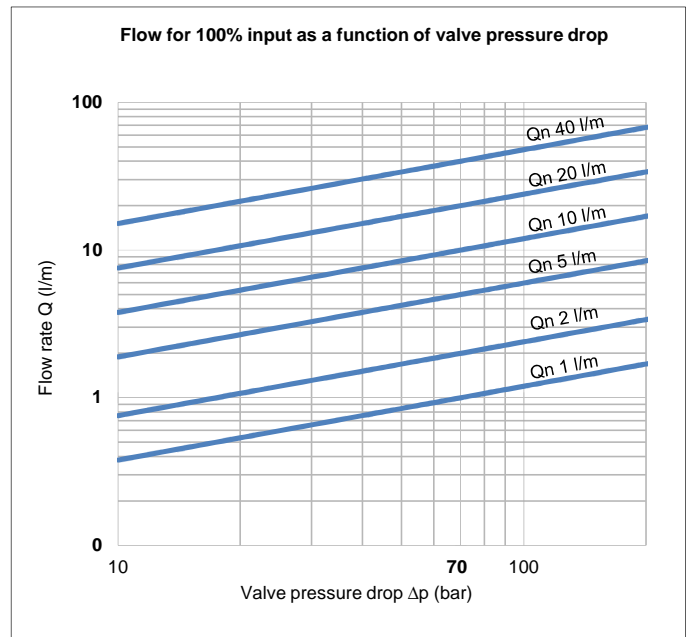
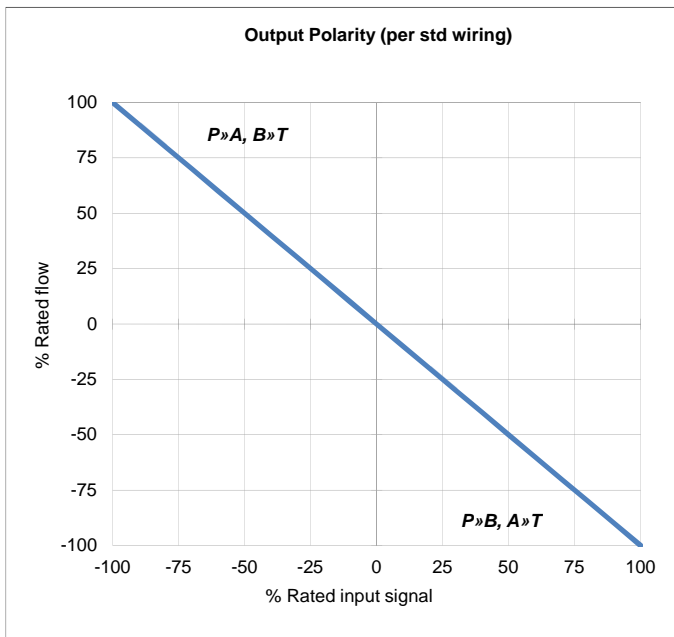
## Model F40T



## Power supply

Current consumption (max.) 1.8 A

# Technical data



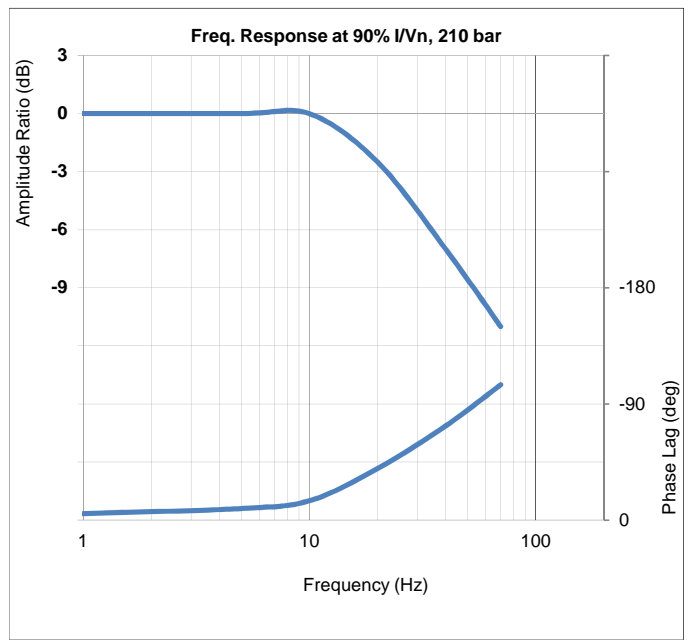
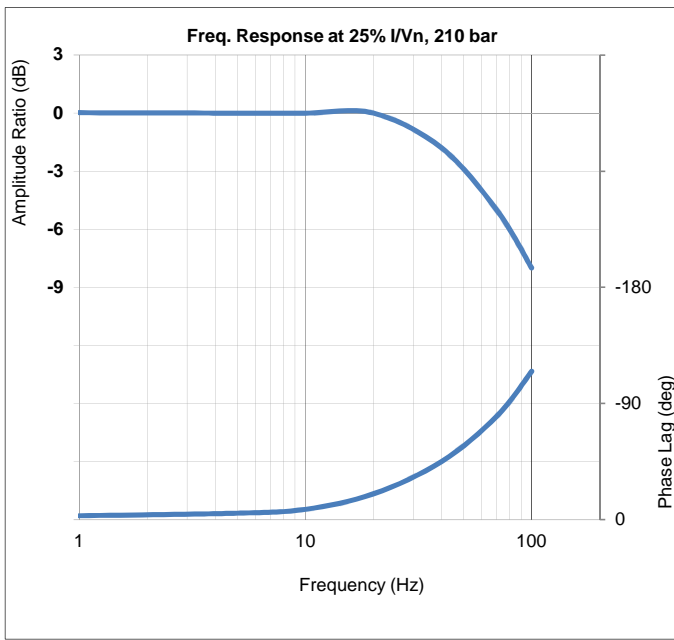
The flow tolerance for standard servovalves is  $\pm 10\%$  of the rated flow at 100% rated input signal.

Rated Signal [In] is the specified input voltage or current of either polarity to produce rated flow. Rated input does not include null bias values.

Rated flow corresponds to the flow at rated input at 10 bar or 70 bar, with no load, therefore in 4-way valves there will be a pressure drop of 5 bar or 35 bar respectively across each land.

Load pressure difference versus input signal indicates typical differential pressure gain between ports A and B for standard lap spools. Positive overlap changes this characteristic significantly.

# Technical data



Order Code **F40** - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

**Special order code**  
factory assigned

**Linear force motor**

Code	Description
omit	A port side (std)
B	B port side

**Spool lap condition**

Code	Description
A	Zero overlap (std)
B	2% overlap
C	10% overlap
D	25% overlap
E	3-way

**Flow curve**

Code	Description
L	Linear

**Flow function**

Code	Description
A	4-way (std.)
B	2X2-way (max. flow 20 l/m)

**Design**

Description	Code
Standard unit	S
High temperature	T

**Rated flow at 70 bar Δp**

Qn	Code
1 l/m	1
2 l/m	2
5 l/m	5
10 l/m	10
20 l/m	20
40 l/m	40

**Operating pressure (max.)**

Description	Code
350 bar	35

**De-energised control spool position**

(std)	Description	Code
	Mid-position	M
	P » A, B » T	A
	P » A, B » T	B

**Electronics**

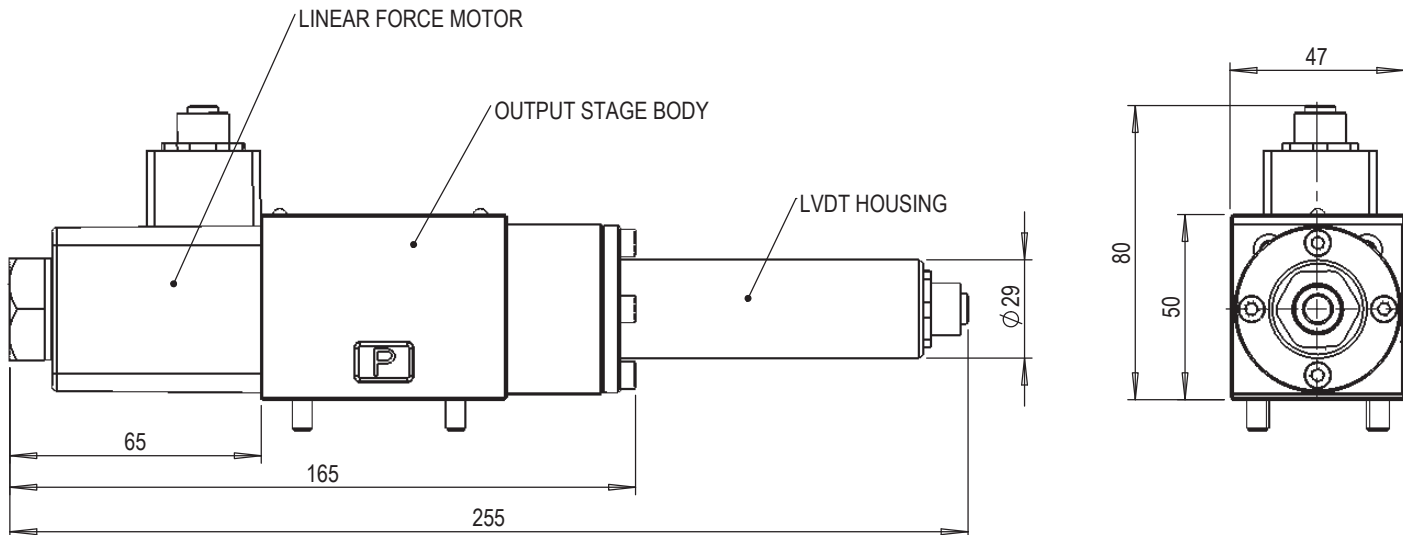
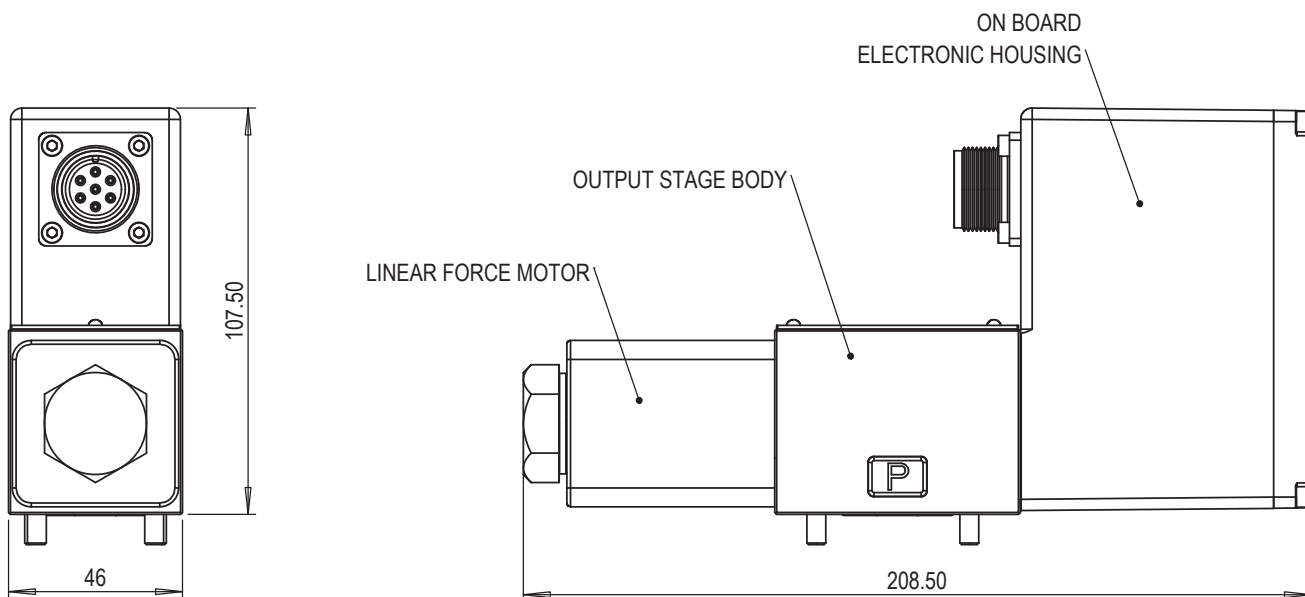
Command signal	Code
±10 V	1
±10 mA	2
4...20 mA	3

**Seal material**

Code	Description
N	NBR available in F40S only
V	FPM (Viton)

# DD3S & DD3T series INSTALLATION DETAILS

Mounting screws	Skt head cap screws M5 x 50 10.9 ISO 4762
Porting details	P, A, B, R ports $\phi 7.5$ , $\perp$ $\phi 11.10$ $\nabla 1.40$
Interface seals	Ports P, A, B, T - ID 8.0 x $\phi 1.5$ O-Ring
Linear force motor orientation	As shown below linear force motor positioned on port A side as standard, available on B port with special order code 'B'



Mounting interface conforms to ISO 4401-03-03-0-94 (G not required)								
	P	A	B	R	F1	F2	F3	F4
size	$\phi 7.5$	$\phi 7.5$	$\phi 7.5$	$\phi 7.5$	M5	M5	M5	M5
x	21.50	30.20	12.70	21.50	0	40.50	40.50	0
y	5.10	15.50	15.50	25.90	0	-0.75	31.75	31

Surface flat within 0.01 / 100 : finish better than 0.8  $\mu\text{m}$

