

SFD234 Electric Feedback Jet Tube Servo Valve



□ Features

- Suitable for electro-hydraulic position, speed, pressure and force control systems
- The dynamic response of the jet tube is high, and it is suitable for systems that require high resolution and high dynamics at the same time
- Reliable performance. The pilot stage of the jet tube has high pressure efficiency, which can provide a large driving force for the power stage spool valve and ensure the position repeatability of the valve core
- The pilot stage filter has a long service life and strong anti-pollution ability
- Optional use of X and Y ports for externally controlled leakage of the pilot stage
- Can be used in die-casting machines, injection molding machines and other heavy industries

□ Main Parameter

General parameters

Operating medium		Mineral oil or other fluids according to DIN 51524
Viscosity range	mm ² /s	15 to 380 (30 to 45 recommended)
Oil temperature range	°C	-20 to +80 (recommended +40 to +50)
Storage temperature	°C	-20 to +80
Operating ambient temperature	°C	-40 to +60
Oil cleanliness		Maximum permissible degree of contamination of the oil, Class 6 per NAS 1638
Filtration accuracy		Recommended filter minimum filtration ratio β ₅ ≥75
Seal material		Nitrile rubber, fluorine rubber, or other sealing materials according to user needs
Installation Requirements		Install at any position, and ensure that the pilot stage has sufficient pressure (≥2MPa) when the system starts
Weight	k g	6.1

Technical Parameters

Work Pressure			
Oil mouth P, A, B (X port external control)	MPa	≤35	
Oil mouth T (Y mouth inner row)	MPa	≤21	
Oil mouth (Y port outside row)	MPa	≤35	
Rated flow (differential pressure ΔP=7MPa)	L/min	20;30	40 ; 60 ; 80 ; 90 120 ; 160 ; 200
Zero bias	%	≤±1	
Hysteresis loop	%	≤0.4	
Resolution	%	≤0.1	
Non-linearity	%	≤10	
Asymmetry	%	≤10	
Endleak	L/min	≤4	≤4.7 ≤5.4

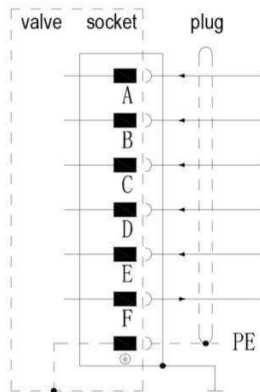
Amplitude bandwidth (3dB)	Hz	≥75
Phase bandwidth(-90°)	Hz	≥75
Valve body structure	Four-way, two-stage servo valve with spool and sleeve	
Pilot stage	Nozzle Flapper Valves	
Pilot oil supply method	Internal supply control oil, internal oil return	
Pilot Oil Filtration	With internal oil filter	
Installation form	ISO 10372-06-05-0-92	

Electrical Parameters

Valve protection class	Conforms to standards EN60 529, IP65	
Instruction signal	0~±10mA	0~±10V
Supply power	24VDC (18~32VDC), I _{max} =300mA	
Socket	6+PE socket	
Command signal and spool displacement	The stroke of the spool is proportional to (ID - IE), when ID=+10mA, the spool is at the fully open position of P→A, B→T	The stroke of the spool is proportional to (UD - UE), when (UD - UE)=+10V, the spool is at the fully open position of P→A, B→T
Main spool actual displacement output	Main spool displacement output IF - B=4~20mA, 12mA when the spool is in neutral position, 20mA corresponds to fully open valve port and P→A, B→T	Main spool displacement output UF-B=2~10V, 6V when the spool is in the middle position; or IF-B=4~20mA, 12mA when the spool is in the middle position
Command signal is 0	The spool is in the middle position	

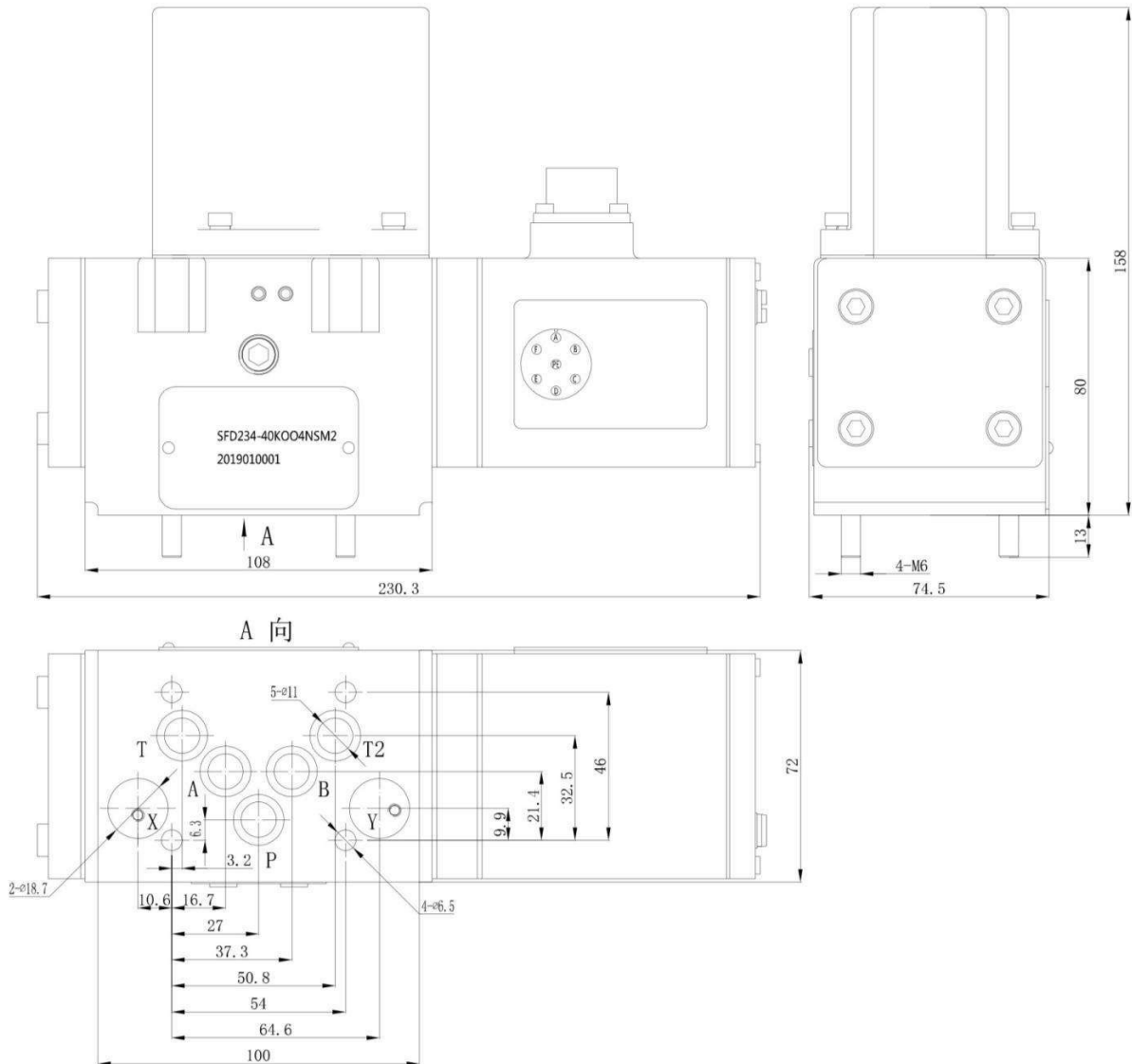
Note: All signal lines must use shielded cables.

□ Electrical Wiring



Function	Voltage command (0 - ±10VDC)	Current instruction (0 - ±10mA)
Power supply	24VDC (minimum 18VDC, maximum 32VDC), I _{max} =300mA	
Power/Signal Ground	(0V)	
Enable signal Non-enable signal	V _{on} > 8.5VDC 24VDC时, I _e =2.0mA V _{off} < 6.5VDC	
Instruction signal input (differential)	U _{in} = 0~+10V R _e : 10kΩ	I _e = -I _s : 0~±10mA (R _e =200Ω) I _e = -I _p : 0~±10mA
Spool actual displacement output signal	I _{FB} = 4~20mA, The main spool is in the middle position at 12mA, when the command signal is 0~±10VDC, U _{FB} = 2~10V, and the spool is in the middle position at 6V	
Protective grounding		

□ **Dimensions and Interface**



- The installation surface of the valve complies with ISO4401-05-05-0-94, the roughness of the installation surface of the valve is not less than $\sqrt[1.6]{}$, and the flatness is less than 0.01mm.
- In order to ensure that the servo valve can work normally, the system must be flushed before trial operation.

□ **Spare Parts & Accessories**

Parts or accessories	Size or Specifications	Quantity
NBR O-rings		
For P, T, T2, A and B ports	12.5×1.8	5
For X, Y port	15.5×1.8	2
Configuration plug (degree of protection IP65)	6+PE plug	1
Mounting screws	M6×60	4
Protective base	PP or 2A12	1



Ordering Information

SFD234 — ● ● ● ● ● ● ● ● ● ●

Rated flow	
When Pn=3.5MPa per section Qn[L/min]	
20	20
30	30
40	40
60	60
80	80
90	90
01	120
02	160
03	200

Maximum Working Pressure and Body Material		
K	35	MPa

Valve Spool Type	
O	Four-way, zero opening, linear flow gain
D	Four-way, 10% positive overlap, linear gain
X	Customized on demand

The position of the spool when there is no control electric signal	
O	Not sure/Intermediate position
A	P→B, A→T
B	P→A, B→T

Pilot stage control form and control pressure		
	Oil supply port X	Oil return port Y
4	internal control	inner row
5	External control	inner row
6	External control	Efflux
7	internal control	Efflux

Function code	
O	No enable signal input, C pin is empty
A	No enable signal, spool to neutral position
B	Without enabling signal, spool moves to A→T, or B→T

Power supply	
2	24VDC (18~32VDC)
0	Provide custom power supply ±15V

Signal corresponding to 100% rated displacement of spool		
	instruction signal	output signal
A	±10 V	±10 V
D	±10 V	2~10 V
M	±10 V	4~20 mA
X	±10 mA	4~20 mA
S	4~20 mA	4~20 mA
B	±10 mA	±10 mA
Y	Customized on demand	

Valve socket	
S	6+PE socket

Seal material	
N	Nitrile Rubber (NBR) Standard Type
V	Viton (FPM)
	Customized on demand