T7625M

Rotary direct-drive servo valve
Pollution-resistant, high-frequency response
Working pressure up to 315 Bar
Maximum flow up to 63 L/min

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T7625M Series Rotary Direct Drive Servo Valve Features

- The Hydra Servo T7625M Rotary Direct Drive Servo Valve (RDDV) uses a rotary motor to drive the valve core to produce linear displacement, thereby controlling the opening and closing of the valve port, ultimately achieving precise flow output.
- The T7625M valve offers the most compact size, lightest weight in its class, exceptional contamination resistance, and dynamic performance, while maintaining the excellent low-pressure performance and high reliability of direct-actuated valves.
- The T7625M rotary direct-drive servo valve can be widely used in military, aerospace, testing, metallurgy, electricity, plastics machinery, woodworking machinery, robotics, rail transportation, mobile platforms, and other fields.
- The T7625M rotary direct-drive servo valve, with its universal mounting base and electrical specifications, has won market favor with its outstanding performance and competitive pricing.

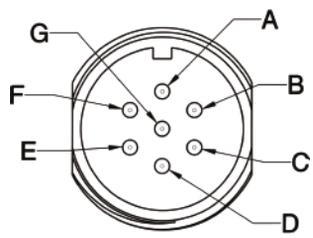
Electrical Interface Diagram

7-pin connector diagram

type **Air plug**

Number of pins : 7

1) When the enable function is selected, the function of pin C is enable input, which will mask the original pin function.
Note: When the input signal is current input, the given signal amplitude must not exceed 5% of the maximum value, otherwise the valve will be damaged.



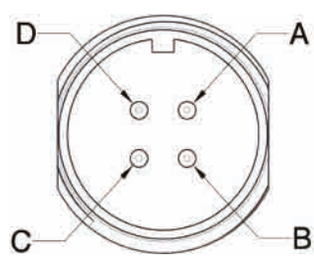
Pin	Function	Describe
A	powered by	+24V
B	Power supply ground	0V
C	Enable signal	U_{EN}>8.5 to 28 V_{DC}(Referenced to GND): Valve ready (enabled) U_{EN}<6.5 V_{DC}(Referenced to GND): Valve disabled Input resistance >10 kΩ
D	Signal	Differential input signal, +
E	Signal	Differential input signal, -
F	Spool position feedback	UF-B= 2 to 10V; UF-B is proportional to the valve \ spool position; 6V corresponds to the valve spool center position; RL=500Ω. I_{out}= 4 to 20 mA, referenced to ground. I_{out} is proportional to the valve spool position; 12 mA corresponds to the valve spool center position. The output is short-circuit proof; RL= 0 to 500 Ω.
G	Protective Earth (PE)	Connect the valve body

4-pin connector diagram

Type **Air plug**

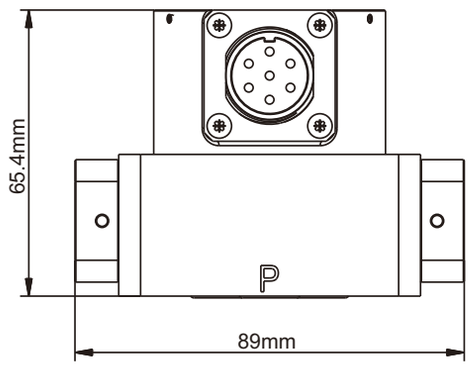
Number of pins : 4

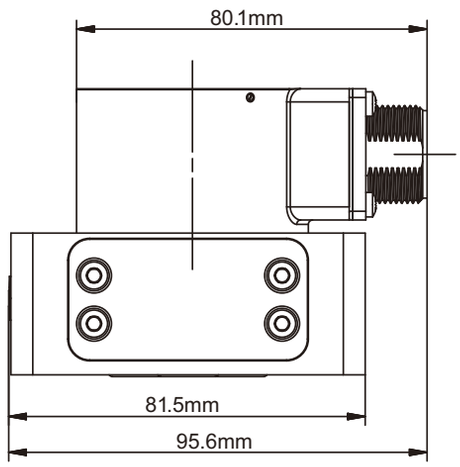
Electrical interface: Connectors are compliant with EN175201-804/MIL5015 or equivalent, shell size 14.



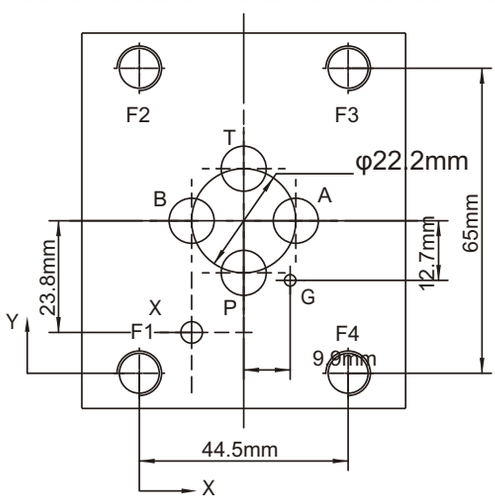
Pins	Function	Describe
A	Power supply+	+24V
B	Signal+	Differential input signal, +
C	Signal-	Differential input signal, -
D	Power supply grounding	0V

Product Dimensions





Mechanical installation surface interface dimensions



(Mounting surface diagram for matching valve)

Installation Requirements Reference Standards
Mounting Surface
Valve mounting surface requirements
- Flatness better than 0.025 mm (0.001 in)/100 mm;
- Surface average roughness R better than 0.8 μm.

Oil Ports
Based on the maximum flow rate, the oil ports must be designed as follows:
- Port diameters of P, T, A, and B are 8.2 mm.

Recommended Seals
Standard O-rings, rubber hardness 90 ± 5, compatible with hydraulic fluids.
Ports P, T, A, and B comply with MIL-R-83248 size 013;
Port X complies with MIL-R-83248 size 012.

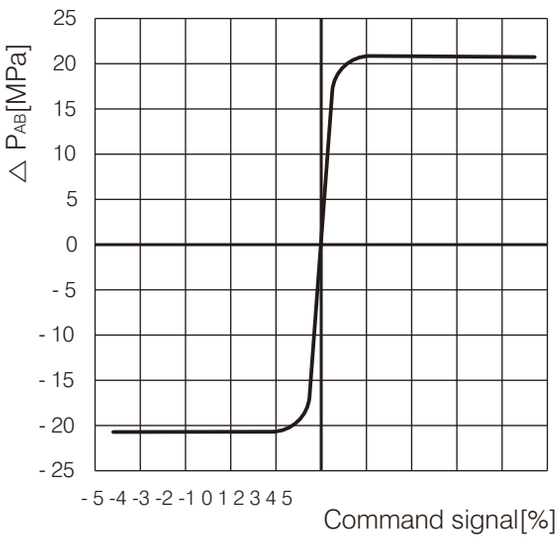
Note:
Do not connect the P port and the T port interchangeably. If the T port is subjected to pressure exceeding 10 MPa, the product may be severely damaged!

Mounting interface complies with ISO 10372-04-04-0-92										
	P	T	A	B	X	G	F1	F2	F3	F4
	Ø8.2	Ø8.2	Ø8.2	Ø8.2	Ø5	Ø2.8	M8	M8	M8	M8
X	22.25	22.25	33.35	11.15	33.35	32.15	0	0	44.5	44.5
Y	21.4	43.6	32.5	32.25	8.7	19.8	0	65	65	0

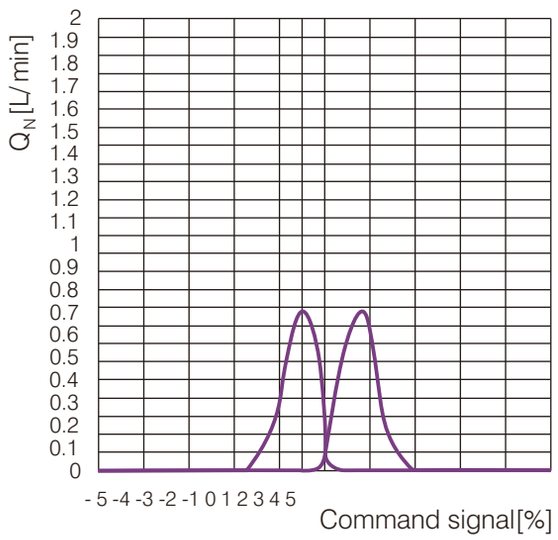
Installation surface roughness; surface flatness is < 0.03TIP; finish is better than 0.8μm

Technical data

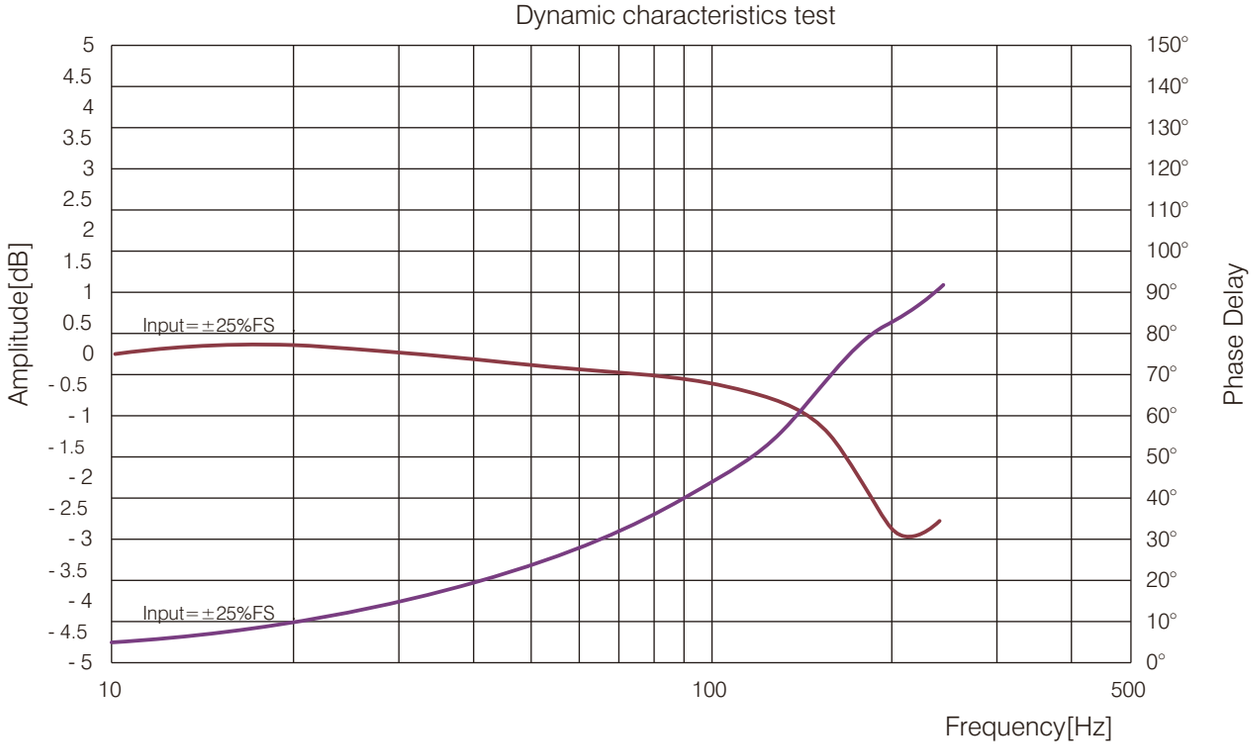
Pressure signal (measured at 21MPa oil supply at P port)



Leakage flow

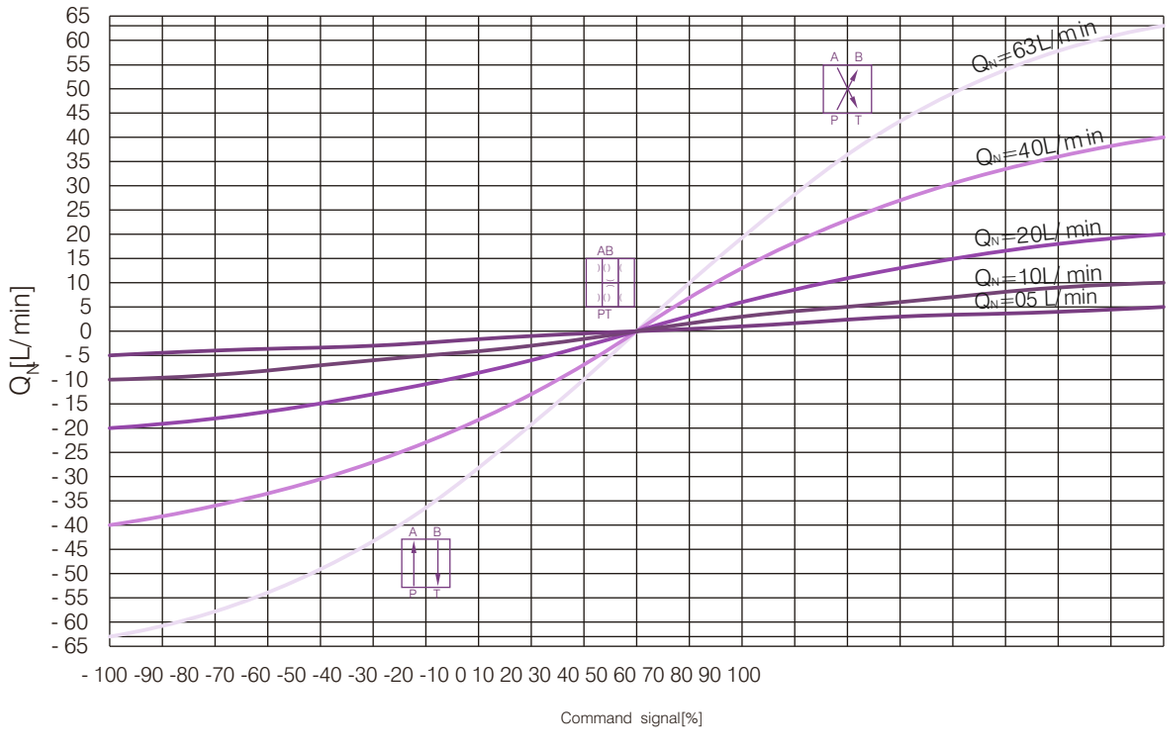


Dynamic characteristics test



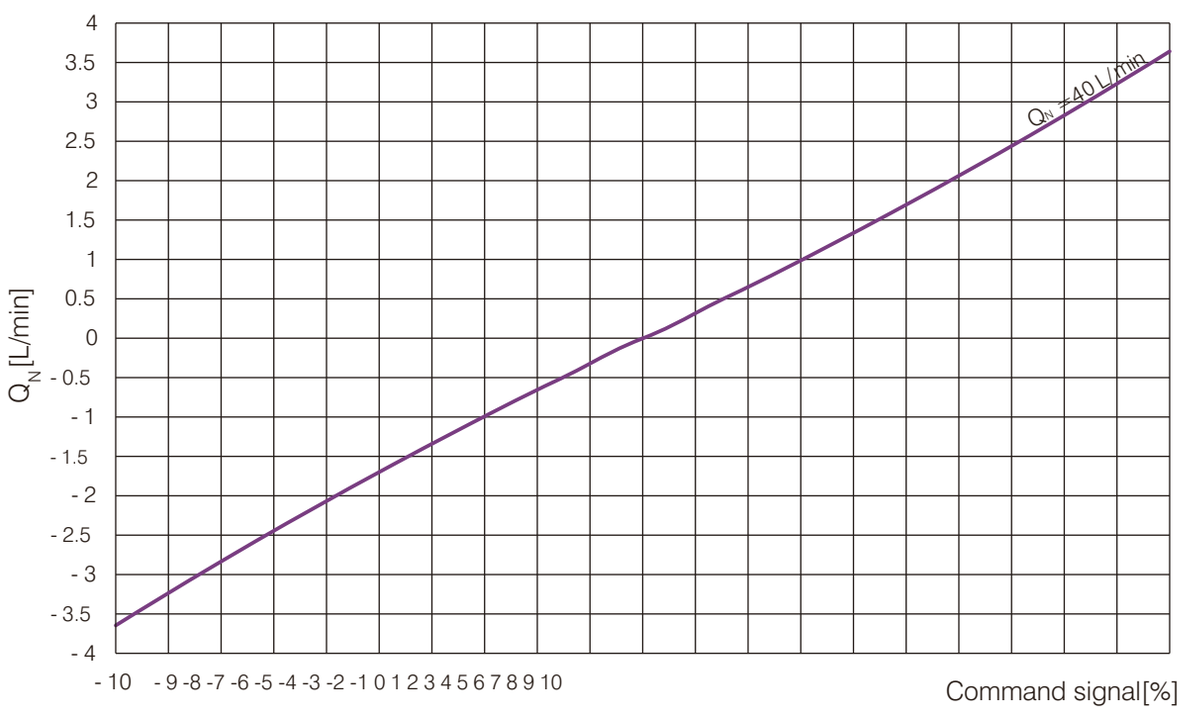
Test curve

Output flow-input signal characteristic test (100% range)



* Special note: PB when positive signal control

Output flow-input signal characteristic test (10% range, taking Q_N= 40L/min as an example)



Unit Dimensions

Conventional		
Form		Rotary direct drive servo valve
Drive		Rotating motor
Installation Interface		ISO 10372-04-04-0-92
Anti-pollution Ability		NAS Level 8
Vibration resistance	g	Three-axis 30
Ambient temperature	°C	-40 ... +85 (higher, please consult customer service)
Size	mm	95.6 x 89 x 65.4
weight	g	820
Hydraulic		
Maximum working pressure	(Bar)	P , A , B < 315 ; T < 100 ;
Hydraulic oil		DIN51524-535
Hydraulic fluid Oil temperature	(°C)	-20 … +80
Viscosity	(cSt)	5 … 500
QN/Rated flow ΔP = 35 bar (500 psi) per throttle edge	(L/min)	5 / 10 / 20 / 40 / 63
Internal leakage at 210bar	(L/min)	<1.5% QN(Minimum internal leakage is approximately 0.3 L/min)
Static/Dynamic		
Step response (100% signal)	(ms)	<3.5
Frequency response (±25% signal)	(Hz)	>200
Hysteresis loop	(%)	<1
Resolution	(%)	<0.3
Zero drift	(%)	<0.2
Electrical characteristics		
Power supply	(V)	20-28 (typical value 24)
Maximum supply current	(A)	4.5 (locked rotor current)
Input signal		±10V / ±40mA (Please consult for other requirements)
Electromagnetic compatibility		EN61000-6-2 , EN55011 : 2016+A1 : 2017
Plug connector		EN175201-804

Ordering code details

Model (specified at the factory

Type Assignment

T7625M — [ ][ ][ ][ ][ ] — [ ][ ][ ][ ][ ][ ][ ]

Model naming	
	Specified at the factory

Q_N / rated flow per throttle edge ΔP = 35 bar (500 psi)	
05	05 L/min
10	10 L/min
20	20 L/min
40	40 L/min
63	63 L/min
X	Please consult for other needs

Valve core and valve sleeve design	
1	Zero coverage
3	3% coverage
X	Please consult for other needs

Input signal	
A	+/-10V
B	+/-40mA
X	Please consult for other needs

Zero position function	
O	Power off reset
A	P → A 15%
B	P → B 15%

Sealing materials	
D	EPDM
F	Fluororubber
X	Please consult for other needs

Electrical interface	
4	4-pins
7	7-pins
X	Please consult for other needs

Customized services available upon request
We are able to provide customized solutions to meet our customers' specific needs. If you require a non-standard configuration or custom modifications, we are confident that we can provide the best solution for you. Please contact us and our team will respond as soon as possible.

Regular models

Model	Model Name	Type	Rated flow	Input signal
T7625M	3005B	631B7FO	63 L/min	+/-40mA
T7625M	3004B	401B7FO	40 L/min	+/-40mA
T7625M	3003B	201B7FO	20 L/min	+/-40mA
T7625M	3002B	101B7FO	10 L/min	+/-40mA
T7625M	3001B	051B7FO	05 L/min	+/-40mA
T7625M	3005A	631A7FO	63 L/min	+/-10V
T7625M	3004A	401A7FO	40 L/min	+/-10V
T7625M	3003A	201A7FO	20 L/min	+/-10V
T7625M	3002A	101A7FO	10 L/min	+/-10V
T7625M	3001A	051A7FO	05 L/min	+/-10V

The specified data is for product description purposes only and may not be deemed to be guaranteed unless expressly confirmed in the contract.

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