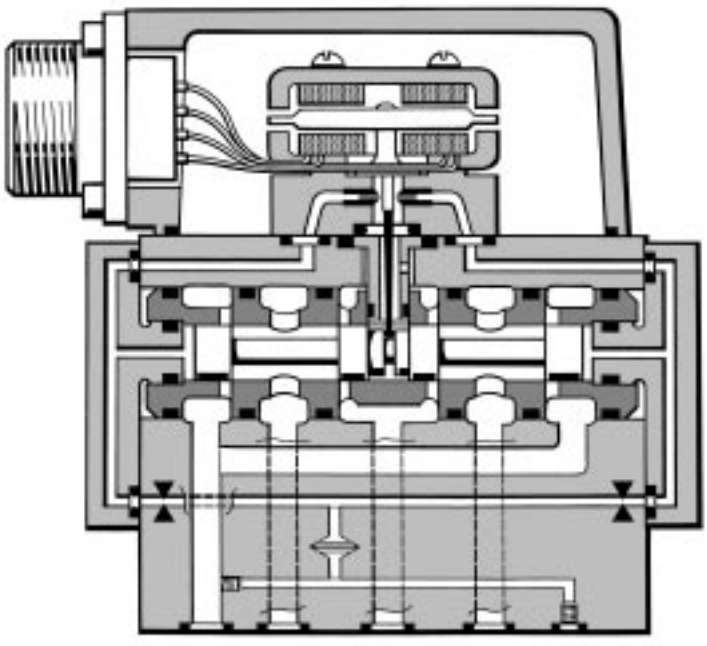
Servo Valve with Mechanical Feedback D761 Series ISO 10372 Size 04

Features

- 2 - stage design
- Torquemotor in environmentally sealed compartment
- Internal or external pilot supply optional
- External field replaceable filter

Description

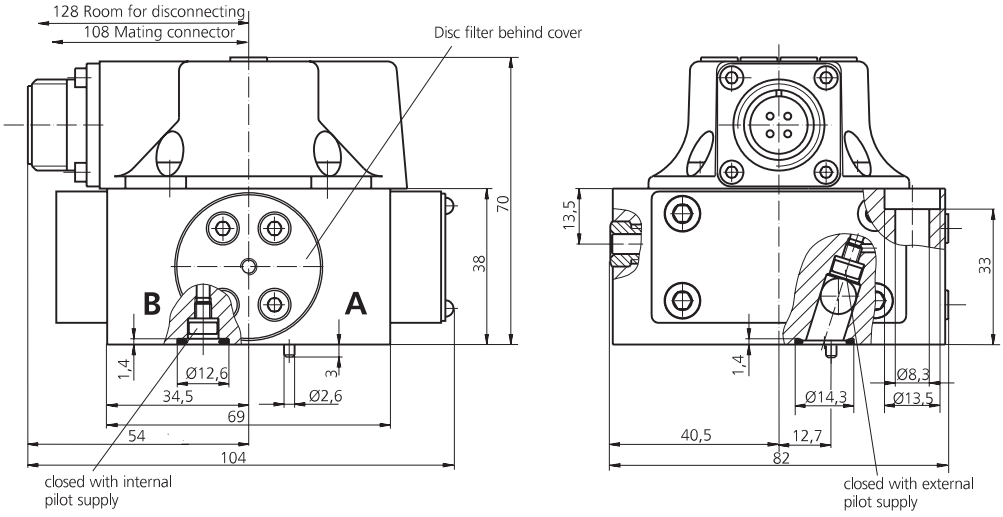
The design of the MOOG servo valve D761 series is based on the design of the well known D760 series. The D761 now has a central filter element which is easy to replace.
Also it is possible to choose between internal or external pilot supply within the same body.



D761 Series
Technical data
Dimensions

Mounting pattern			ISO 10372 size 04
Pilot stage			Nozzle-flapper principle, mechanical feedback
Pilot connection	internal or external		optional port X
Installation options			any position, fixed or movable
Mass		[kg]	1
Rated flow	(±10%) at Δp_N=35 bar per land		
	Standard version	[l/min]	3,8 / 9,5 / 19 / 38 / 63
	High response version	[l/min]	3,8 / 9,5 / 19 / 38
Operating pressure	Ports P, A and B		
Standard pressure version		[bar]	15 to 210
High pressure version		[bar]	315 (350 on request)
Return pressure	Port T	[bar]	max. 210
Temperature range	Fluid and ambient	[°C]	-10 to +130
Operating fluid	Mineral oil based hydraulic fluid DIN 51524 part 1 to 3, other fluids on request		
Viscosity	recommended	[mm²/s]	15 to 45
	allowable	[mm²/s]	5 to 400
Class of cleanliness			The cleanliness of the hydraulic fluid greatly affects the performance (spool positioning, high resolution) and wear (metering edges, pressure gain, leakage) of the valve
recommended	for normal operation	ISO 4406	14/11
	for longer life	ISO 4406	13/10
System filtration			High pressure filter (without by-pass but with dirt alarm) mounted in the main flow and if possible directly upstream of the valve
Filter rating			
recommended	for normal operation		$ß_{10} \geq 75$ (15 µm absolute)
	for longer life		$ß_5 \geq 75$ (5 µm absolute)
Disc filter for first stage		[µm]	65 (nominal)
Threshold*		[%]	< 0,5
Hysteresis*		[%]	< 3%
Null bias*		[%]	< 2%
Null shift	with ΔT = 55 K	[%]	< 2%
Pressure null shift	70 % to 100 % system pressure	[%]	< 2%
Null leakage flow*	max. (~ critical lap)	[l/min]	< 1,5 to 2,3
Pilot leakage flow*		[l/min]	<1
Degree of protection	with mounted mating connector		IEC 144 class: IP 65
Shipping plate	Delivered with an oil sealed shipping plate under the mounting surface		

* measured at 210 bar pilot or operating pressure, respectively, and fluid viscosity of 32 mm²/s



The mounting manifold must conform to ISO 10372 size 04. Mounting surface needs to be flat within 0,02 mm. Average surface finish value, Ra, better than 1µm.

Ordering Information

Model-Number: **D761** . . . . . .

Type Designation: . . . . . .

Specification status	
–	Series specification
E	Preseries specification
Z	Special specification

Model designation	
	assigned at the factory

Factory identification

Valve version	
S	Standard
H	High response

Rated flow	Q_N [l/min] at Δp_N = 35 bar per land	
	Standard	High response
04	3,8	3,8
10	9,5	9,5
19	19	19
38	38	38
63	63	---

Maximum operating pressure p_p and body material	
F	210 bar. Aluminum
J	315 bar. Aluminum
K	350 bar. Steel

Bushing spool type	
O	Critical lap, linear characteristic
X	Special spool on request

Signals for 100% spool stroke	
	Rated command signal
H	± 7,5 mA Series
L	± 20 mA Series
N	± 30 mA Series

Valve connector	Motor cap direction
A	over port A
B	over port B
P	over port P
T	over port T

Seal material	
V	FPM (Viton)
	others on request

Pilot connections and pressure	Pressure [bar]	Supply
A	15 to 210	internal
C	15 to 210	external
E	15 to 315	internal
G	15 to 315	external
J	25 to 350	internal
L	25 to 350	external

Spool position without electrical signal	
A	P ◗ B, A ◗ T
B	P ◗ A, B ◗ T
M	Mid position

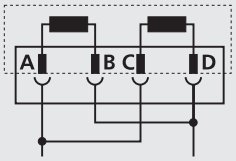
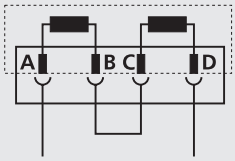
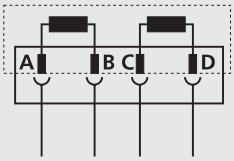
Pilot stage	
F	Standard response for valve version "S" and "H"
G	Higher response for valve version "S"

Preferred configurations are highlighted.
All combinations may not be available.
Please contact MOOG.

Options may increase price.
Technical changes are reserved.

Electrical connections

Connector MIL-C-5015/14S-2S

		Parallel	Series	Single
				
Coil resistance	[Ω]	40	160	80
Rated current	[mA]	± 40	± 20	± 40
Inductance	[H]	0,18	0,66	0,22
Electrical power	[W]	0,064	0,064	0,128
Connections for valve opening P ◗ B, A ◗ T		A an C (+) B and D (–)	A (+), D (–) B and C connected	A (+), B (–) or C (+), D (–)

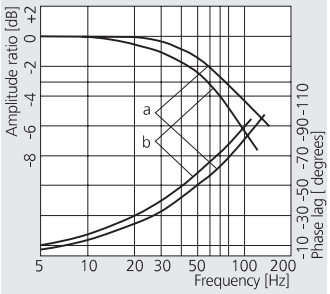
Note: Before applying electrical signals the pilot stage has to be pressurized.

D761 Series
Characteristic curves
Spare parts and accessories

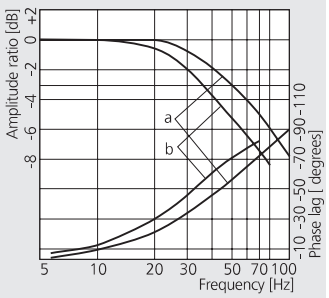
MOOG

Frequency response

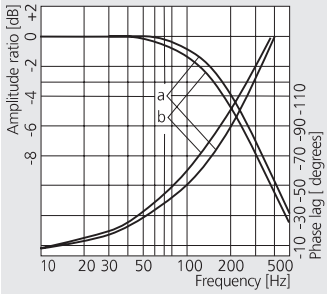
Standard valve
Signal ± 40 %



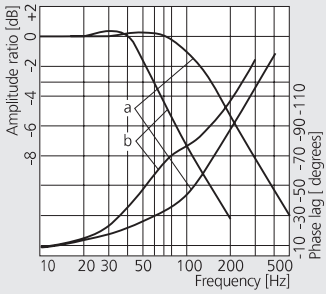
Standard valve
Signal ± 100 %



High response valve
Signal ± 40 %



High response valve
Signal ± 100 %



Flow - load characteristics

The flow is dependent upon the electrical command signal and valve pressure drop. The flow for a given valve pressure drop can be calculated using the square root function for sharp edged orifices as follows:

$$Q = Q_N \sqrt{\frac{\Delta p}{\Delta p_N}}$$

Q [l/min] = calculated flow
Q_N [l/min] = rated flow
Δp [bar] = actual valve pressure drop
Δp_N [bar] = rated valve pressure drop

The typicalcharacteristic curves for frequency response are measured at 210 bar pilot or operating pressure, respectively, and fluid viscosity of 32 mm²/s.

Standard valves:	Curves a: Q_N 3,8; 9,5; 19 and 38 l/min
	Curves b: Q_N 63 l/min
High response valves:	Curves a: Q_N 3,8; 9,5 and 19 l/min
	Curves b: Q_N 38 l/min

Spare parts and accessories

O - Rings (included in delivery), seal material FPM (Viton)		
For P, T, A and B	ID 10,82 x 1,78	42082 022
for X	ID 9,25 x 1,78	42082 013
Mating connector	MIL-C-5015/14S-2S	B46744 004
Flushing plate	(int.) 55127 001	(ext.) 55127 002

Mounting bolts (not included in delivery)	
M 8 x 50 DIN 912-10.9	A03665 080 050
Required torque 18 Nm	
Replaceable filter	A67999 065
O - rings for filter change	A25163 013 015 (2 pcs)

Our quality management system is certified in accordance with DIN EN ISO 9001.

DIN ISO 9001 certified BVQi

This catalogue is for users with technical knowledge. To ensure that all necessary characteristics for function and safety of the system are given, the user has to check the suitabily of the products described here.
In case of doubt please contact MOOG.

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D761-E /Rev3 / 12.95