SH7lc
Rotary to Linear Direct Drive Servo Valve

SH7lc High-Speed Servo Valve

Product Overview

The SH7lc is a direct drive servo valve engineered as a drop-in replacement for the Moog G761 series, specifically designed to enhance system efficiency and performance. It delivers a flow rate of 63 liters per minute (l/min) without parasitic leakage, resulting in reduced energy consumption. The valve's design offers improved contamination resistance, higher operational speeds, and consistent performance regardless of supply pressure variations. These features make the SH7lc an optimal choice for applications requiring reliable and efficient servo control in demanding environments, such as power generation, dynamic testing or mill and paper/timber equipment.

Key Features

- Customized onboard electronics with integrated spool position feedback
- Rated flow of up to 63 l/min (at 70 bar dP)
- Bandwidth of >200 Hz (both -3dB and 90 deg. Phase lag) for 25% signal
- Step response of <3.5 ms
- Low power consumption of <3 W

Tailored to your needs

With a lightening fast step response of barely 3.5 ms and frequency response in excess of 200 Hz, our valve provides unmatched performance and speed compared to traditional hydraulic valves. The built-in fail-safe position ensures maximum safety and reliability without need for additional check valves.

SH7lc Technical Data

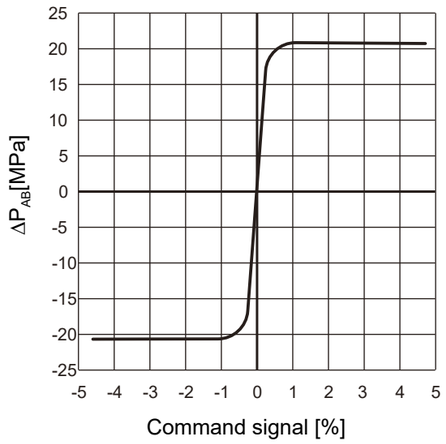
General		
Design		Rotary Direct Drive Servo Valve
Actuation		Rotary-Linear
Size	mm	89 x 95.6 x 65.4
Mounting Pattern		ISO 10372-04-04-0-92
Ambient Temperature	°C	-20...+60
Mass	kg	0.82
Vibration Resistance	g	30, 3 axes
Shock Resistance	g	50
Hydraulic Data		
Max Operating Pressure	Bar	350 P, A, B, 100 T
Fluid		Hydraulic Oil DIN 51524-35
Fluid Temperature	°C	-20...+80
Viscosity	cSt	5-500
Rated Flow(1)	l/min	5 - 55
Leakage at 210 bar(2)	l/min	<0.8
Filtration		ISO 4406 (1999) 18/16/13
Static/Dynamic Data		
Response Time at 100% Step Input(3)	ms	<3.5
Frequency Response (±25% signal)(3)	Hz	200
Hysteresis	%	<1
Threshold	%	<0.3
Null Shift	%	<0.2

1) Measured with 70 bar pressure drop (two control edges)
2) Axis cut valve

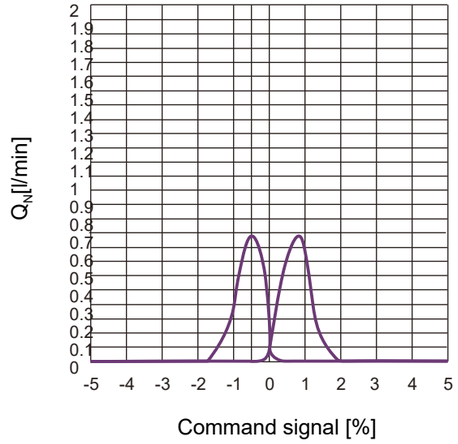
SH7lc
Rotary to Linear Direct Drive Servo Valve

SH7lc Performance Graphs

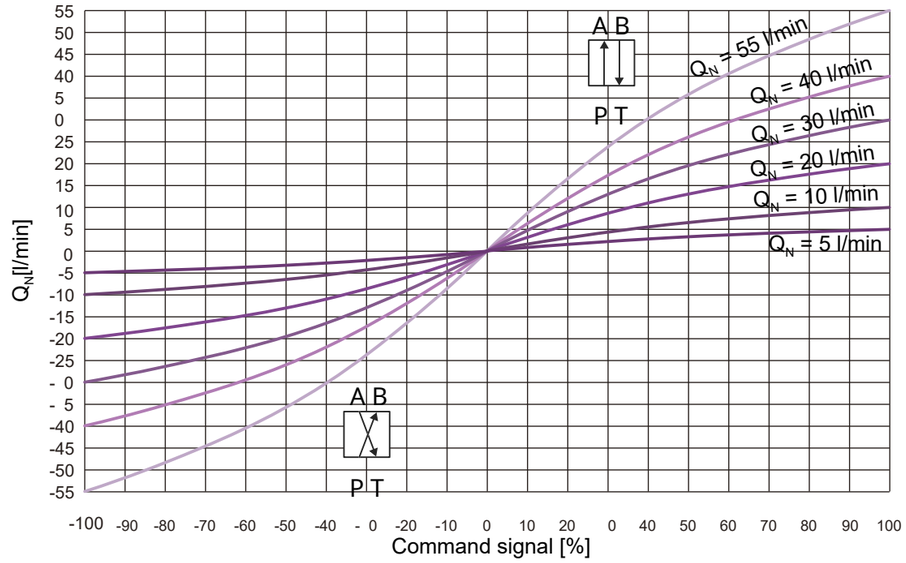
Pressure Gain



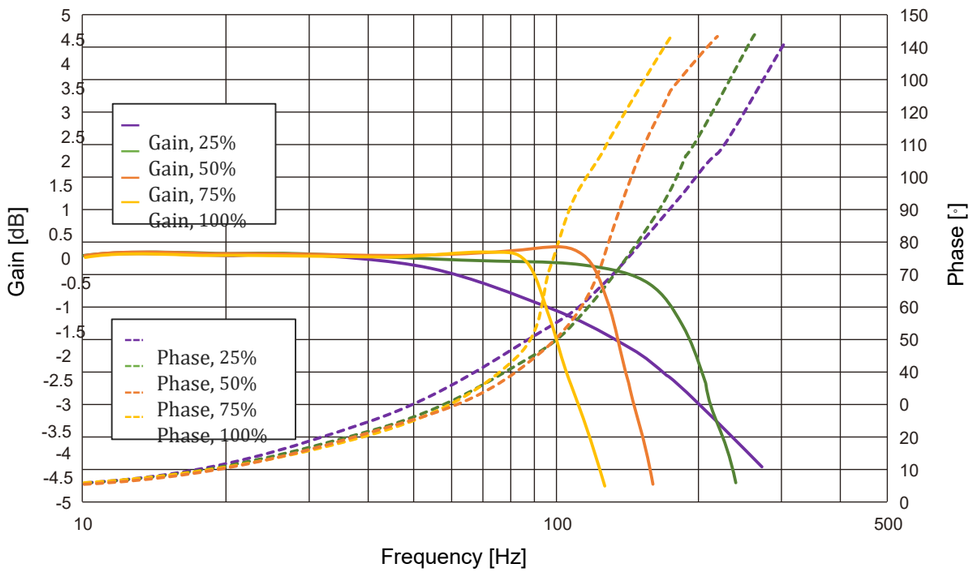
Internal Leakage



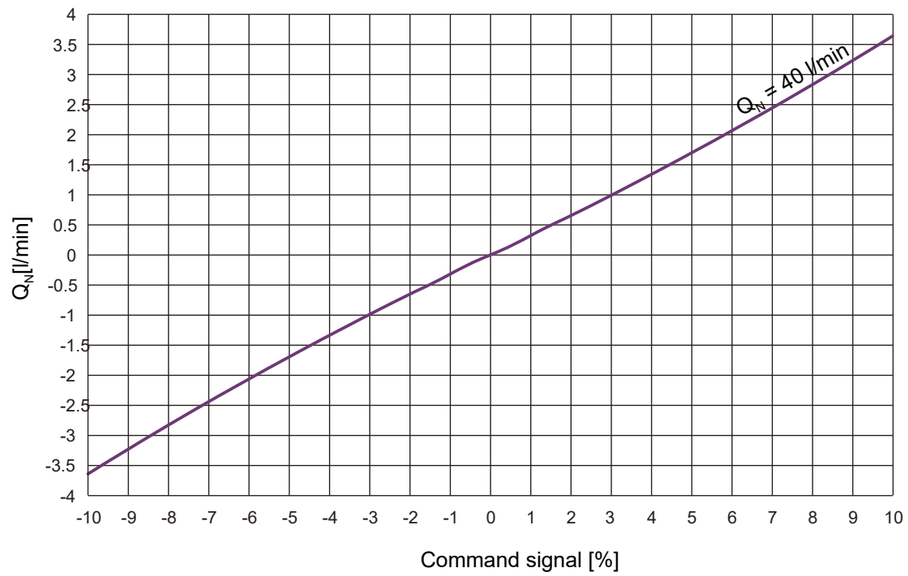
Flow vs Command



Frequency Response



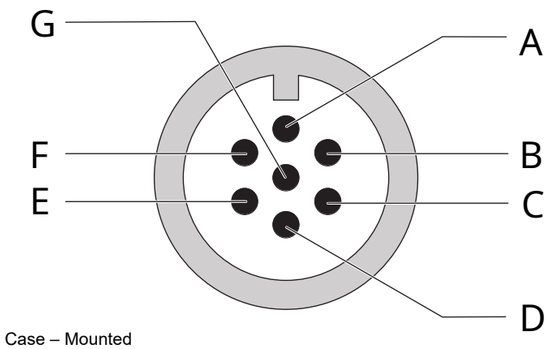
Step Response



SH7Ic
Rotary to Linear Direct Drive Servo Valve

SH7Ic Electronics Interface Diagrams

7 Pin Circular Interface Diagrams (Code E7)

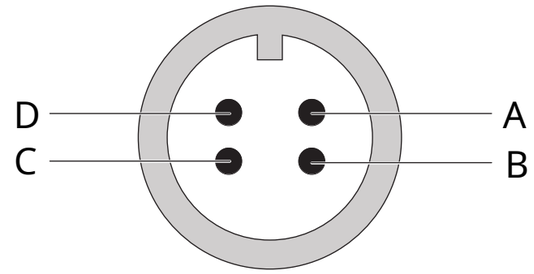


Type:	Case – Mounted
Termination:	Connector according to EN 175201-804/MIN 5015 equivalent, shell size 14
Number of Contacts:	7

Pin	Function	Description	
A	Supply +	+24 V	
B	Supply 0 V	0 V	
C	Enable Input	U_{EN} > 8.5…28 VDC: Valve ready for operation (enabled) U_{EN} < 6.5 V_{DC}: Valve disabled Input resistance: 10 kΩ	
D	Input +	Differential Input Signal +	
E	Output -	Differential Input Signal -	
F	Output +	U_{F-B} = 2 to 10 V; U_{F-B} is proportional to the spool position; 6 V corresponds to the spool center position R_L = 500 Ω	I_{out} = 4 to 20 mA referenced to B; I_{out} is proportional to the spool position; 12 mA corresponds to the spool center position; The output is short-circuit-proof; RL = 0 to 500 Ω
G	Earth		-

1) When the enable function is selected, the function of pin C is the enable input.
This replaces the standard pin function.

4 Pin Circular Interface Diagrams

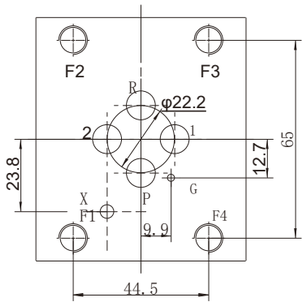


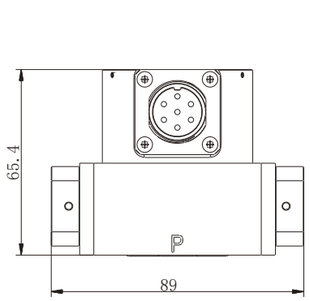
Type:	Case – Mounted
Termination:	Connector according to EN 175201-804/MIN 5015 equivalent, shell size 14
Number of Contacts:	4

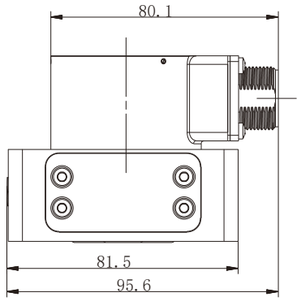
Pin	Function	Description
A	Supply +	+24 V
B	Signal +	Differential Input Signal +
C	Signal -	Differential Input Signal -
D	Supply 0 V	0 V

SH7lc
Rotary to Linear Direct Drive Servo Valve

SH7lc Unit Dimensions







Mounting Surface Pattern

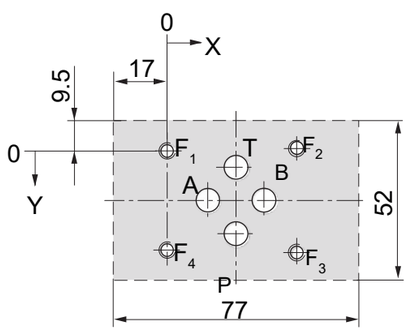
		P	A	B	T	F_1	F_2	F_3	F_4
Diameter Ø	mm	8.2	8.2	8.2	8.2	M5	M5	M5	M5
	in	0.32	0.32	0.32	0.32				
X Position	mm	21.5	12.7	30.2	21.5	0	40.5	40.5	0
	in	0.846	0.5	1.189	0.846		1.594	1.594	
Y Position	mm	25.9	15.5	15.5	5.1	0	-0.75	31.75	0
	in	1.02	0.61	0.61	0.201		-0.03	1.25	

Bolts (F_1, F_2, F_3, F_4)

Type: M5 x 45 DIN EN ISO 4762-10.9
Required Torque: 15 Nm

O-rings (P, A, B, T)

Type: 4 x ISO 3601-1-012
Material: NBR, EPDM or Viton, 70 Shore A



Variants on request

At Scylla, we are proud of our ability to offer tailored solutions that meet our customer's specific needs. If you require a non-standard configuration, or a bespoke modification, we are confident we can provide you with the best solutions. Talk to us using the contact details provided and one of our team will respond as soon as possible.

SH7lc Ordering Information

SH7lc	-	-	-	-	-	-	
Please inquire for other need	Rated flow (l/min)	Main spool type	Signals for 100% spool stroke	Electric interface	Seal material	Fail-safe function	
						O	Null position without electrical signal
						A	
						B	
					D	EPDM	
					F	FKM	
				7	7 Pin		
				4	4 Pin		
			A	±10 V			
			B	±40 mA			
		1	Zero-lap				
		3	Overlap				
	5	5					
	10	10					
	20	20					
	30	30					
	40	40					
	55	55					
	63	63					
X							