SH1
Rotary to Linear Direct Drive Servo Valve

SH1 Rotary Direct Drive Servo Valve

Product Overview

The smallest Rotary to Linear Direct Drive Servo Valve in the world. The Scylla SH1 uses a miniature rotary motor to drive the valve spool to produce linear displacement, which in turns controls the opening and closing of the valve port, ultimately realizing the precise output of the flow. The SH1 is the most compact servo valve in the world, the lightest weight of similar products, ultra-high anti-contamination ability and dynamic performance, while continuing the excellent low-pressure performance and high reliability of direct drive valves. The SH1 rotary direct drive servo valve can be widely used in military, aerospace, animatronics, testing, robotics, mobile platforms and other fields. The SH1 servo valve's exceptional performance and competitive pricing position it to conquer the market of ultra-compact servo valves.

Key Features

- The smallest DDSV in the world
- Customized onboard electronics with integrated spool position feedback
- Mass < 80 g
- Rated flow of up to 7 l/min
- Bandwidth of > 200 Hz
- Step response < 2.5 ms
- Precision cut spool & sleeve design for high resolution flow metering
- Low power consumption

SH1 Technical Data

General		
Design		Rotary Direct Drive Servo Valve
Actuation		Rotary-Linear
Size	mm	31.3 x 34.5 x 30.8
Interface Size		Miniature
Mounting Pattern		ISO 10372-01-01-0-92
Contamination Resistance		NAS 8
Ambient Temperature	°C	-20...+80
Mass	g	80
Vibration Resistance	g	30, 3 axes
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	l/min	1-7
Leakage at 210 bar	l/min	<0.2% x Rated Flow
Filtration		ISO 4406 (1999) 18/16/13
Static/Dynamic Data		
Response Time at 100% Step Input[3]	ms	<2.5
Frequency Response (±25% signal)	Hz	200
Hysteresis	%	<1
Threshold	%	<0.1
Null Shift	%	<0.2
Electronics Data		
Supply Voltage	(v)	22-30 (Typical 24)
Max. Current Draw	(A)	4.5 (chip shear event or high frequency operation)
Input Signal		±10V (Other on request)
EM Compatibility		EN61000-6-2, EN55011: 1998+A1

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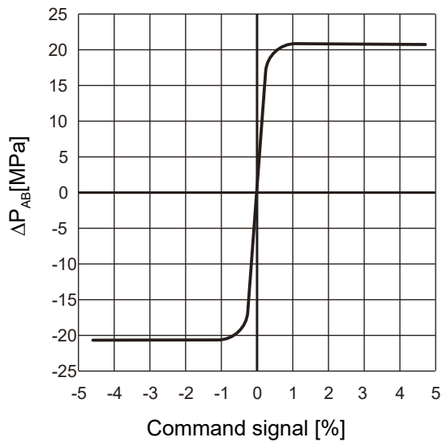
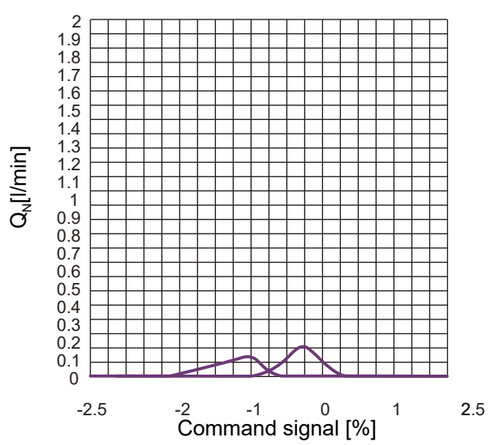
SH1 Performance Graphs

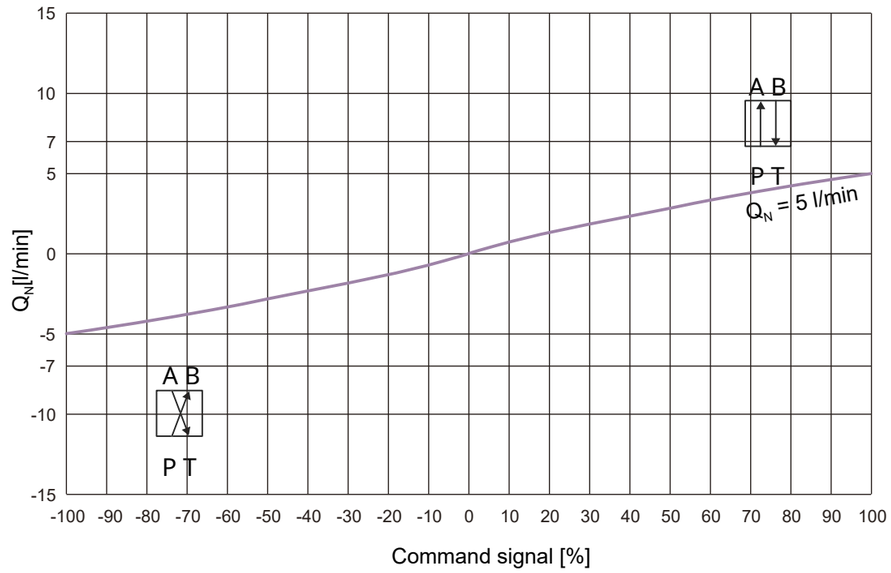
Pressure Gain



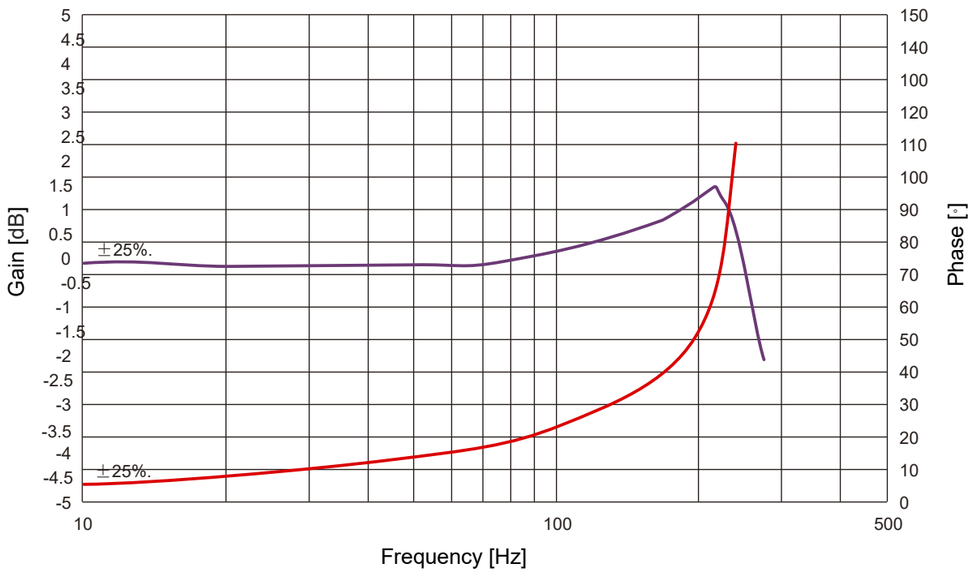
Internal Leakage



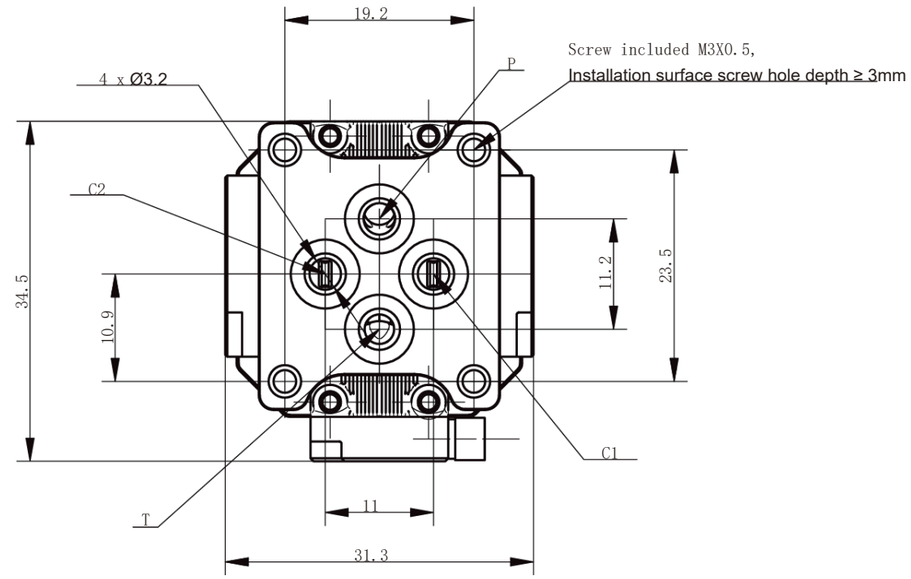
Flow vs Command



Frequency Response



SH1 Unit Dimensions.



Dimensions are displayed in mm. Not to scale.