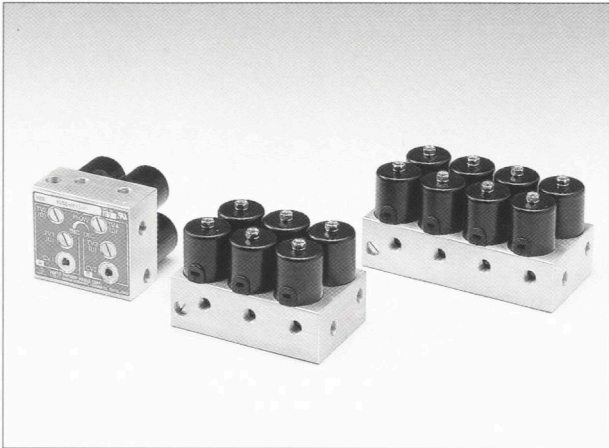


Non-Leak Solenoid Valve Unit

SVU Series UL Recognized Valves (AC115V, DC12·24V)



These all in one type solenoid valves can control not only the direction but also the pressure and flow through many control valves integrated in one manifold. These solenoid valves give advanced features such as compactness, multi-functions and shockless mechanism, and advance the hydraulic systems to a new stage. This series suited for two or more single-acting cylinders and/or double-acting cylinders.

UL recognition has been admitted on AC 115V, DC 12V, 24V, which proves both of their high quality and safety.

[Features]

● **Combined Optimal Circuits**

The SVU Series incorporates all the valves required for control of speed, pressure, and cylinder stroke direction. The SVU circuit is arranged to provide optimum functions.

They are designed to be adaptable to any given system.

● **Compact, Lightweight Structure and Easy Handling**

For the SVU2, four solenoid open/close valves, four throttle valves, two checkvalves and one relief valve are all built in one block. This simplifies piping, and saves installation space. The aluminum manifold is light in weight, and strong.

● **Shockless Mechanism**

The simple mechanism, with the help of oil viscosity, can absorb shocks at stops of operation.

● **Model Identification**

e.g.) **SVU 2 - A100 - 12 - 50**

- Relief Valve Setting Pressure ※ 1
e.g.) 50 : 5MPa [50kgf/cm²]
- Orifice Diameter
e.g.) 12 : 1.2mm
- Voltage ※ 2
e.g.) A100 : AC100V
e.g.) D24 : DC24V
- Number of Pairs
2 : 2 Pairs
3 : 3 Pairs
4 : 4 Pairs
- Series

- ※ 1) No description in case of standard setting pressure.
- ※ 2) AC 115V and DC12, 24V are UL recognition model.

Specification

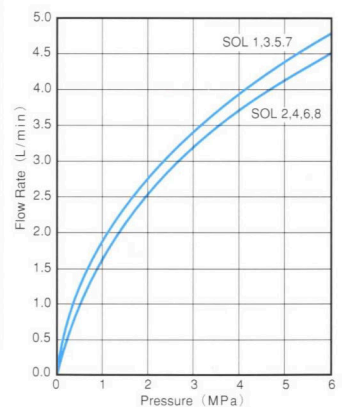
Model		SVU2	SVU3	SVU4
Orifice Diameter	mm [in]		1.2 [0.04]	
Max. Operating Pressure	MPa [psi]		6 [853]	
Relief Valve Standard Setting Pressure	MPa [psi]		6 [853]	
Relief Valve Setting Pressure Range	MPa [psi]		2~6 [284~853]	
Weight	kg [lbs]	0.9 [1.98]	1.3 [2.87]	1.8 [3.96]

Coil Specifications

(50/60 Hz)

Voltage	Rated Current	Wattage	Rated Time
V	A	W	min
A C	100	0.34/0.24	10
	115	0.30/0.21	1
	220	0.15/0.11	10
	240	0.14/0.10	
D C	12	1.28	15
	24	0.63	

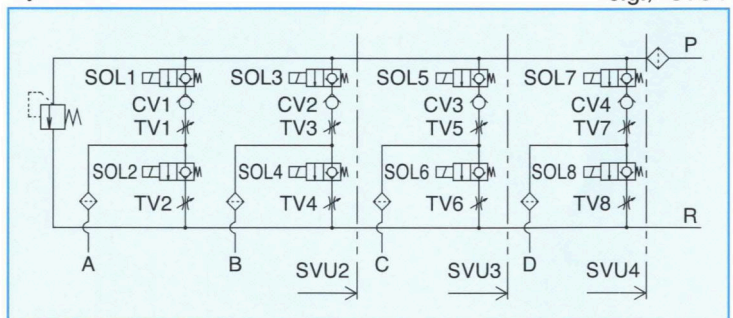
SV Flow Characteristics



Typical data is graphed.

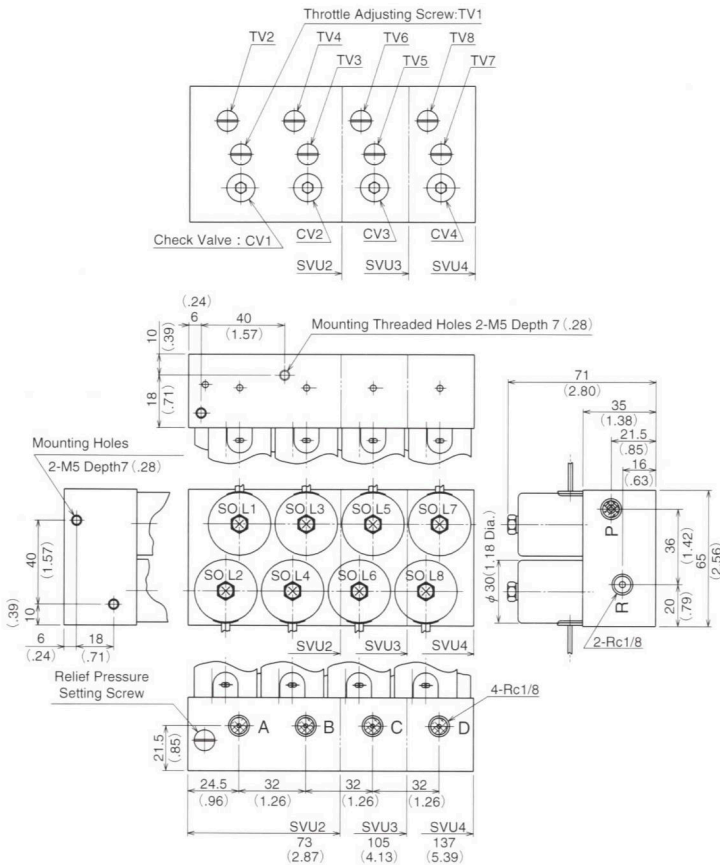
Hydraulic Circuit

e.g.) SVU4



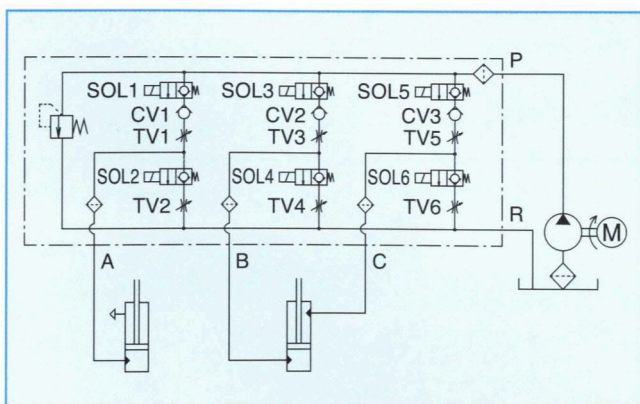
Systematization of Circuit

Small and Multi-Functional Solenoid Valve Unit



An example of the circuit of SVU3

Other than using 3 single-acting cylinders, SVU3 may be used to control one single-acting cylinder and one double-acting cylinder as per the circuit below.



Cylinder	Movement	Motor Pump	SOL1	SOL2	SOL3	SOL4	SOL5	SOL6
Single-Acting	Up	ON	ON	OFF	OFF	OFF	OFF	OFF
	Down	OFF	OFF	ON	OFF	OFF	OFF	OFF
Double-Acting	Up	ON	OFF	OFF	ON	OFF	OFF	ON
	Down	ON	OFF	OFF	OFF	ON	ON	OFF

How to Use the SV and SVU Series

1. Power Supply

- Confirm that the power voltage is correct. Incorrect voltage may cause fire.
- Be careful that continuous operation longer than 10 minutes may burn the coil.

2. Hydraulic Oil

- Use the pure, anti-wear hydraulic oil with viscosity grade of ISO VG32 or equivalent.
- The oil seal is made of NBR (nitrile rubber). Do not use the hydraulic oil containing substances that suffer NBR. Otherwise, failure or trouble may arise.
- It is recommended to replace the hydraulic oil with a new one once a year. Notice that replacing intervals may vary depending on operating conditions.
- Recommended cleanliness: NAS 8 to 9 grade.
- Recommended temperatures: 10° ~ 40°C (50~104°F)

3. Piping

- It is required to use clean cylinders, piping and fittings, even though filters are provided at important points. If foreign substances flow into the solenoid valve, the pressure cannot be kept or other malfunctions may arise.
- Excessive use of seals may cause clogging.
- Use pipes and fittings whose sizes are not less than port sizes. Recommended tightening torque is about 10N·m, but may vary depending on types and kinds of pipes, fittings and seals. Excessive tightening torque may damage internal filters or cause oil leakage.

4. Throttle Valve

- When adjusting the oil flow, close the throttle valve once, and open it gradually for stable oil flow control.
- The throttle valve is fully opened when the SVU throttle valve height is similar to that of the main body.
- The throttle valve is fully opened by four turns, starting with the fully closing state. Do not turn further. If the valve is turned excessively or removed, release the pressure first, and reattach it in such a manner that O-ring is not damaged.

5. Relief Valve

- Relief pressure of the SV5 and SVU series can be adjusted by turning the adjusting screw at the relief valve. (Counterclockwise turn will reduce pressure.) When adjusting, be sure to use a pressure gauge to keep the pressure within the set pressure range. The setting outside this set pressure range may cause failure or trouble.