

Shock Absorber (Fixed Type (Spring Return Type))



Fixed Type Multi-orifice **SS-40 Series**

This series of products are made to order for optimum orifice design based on the customer's specifications.

- Since the shock absorbers use a knife edge orifice, they are designed so that they are less affected by viscosity change due to temperature.
- Multi-orifice type shock absorbers which can softly absorb energy.
- A shock absorber having optimum absorbing characteristics for working conditions within the specified energy absorption capacity can be manufactured.
- Small, light and cost-efficient shock absorbers designed to meet the actual conditions.
- If an oil cooler (heat exchanger) is used, the energy absorption capacity can be increased. (However, S-06 and S-11 cannot be provided with the oil cooler.)
- The use of the air return mechanism can delay the return of the rod.
- When an external stopper is installed, an ineffective stroke can be provided at the rear. (Contact us.)

Specification

Model number	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-10	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-20	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-30	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-40
Max. absorbed energy J	4250	8500	12800	17000
Stroke mm	25.4	50.8	76.2	101.6
(Note 1) Max. energy capacity per minute J/min	8870 [20400]	9240 [23600]	9600 [26700]	10100 [30100]
Collision speed range m/s	0.05 to 7.6(Spring return) · 0.05 to 2.3(Air return)			
(Note 2) Rod returning force N	778			
Working temperature range °C	-5 to +50 (No freezing)			
Mounting style	F style (Front flange) E style (Rear flange) H style (Foot) U style (Cap clevis)			
Weight kg	45.12	47.29	49.42	51.6
Accessories	Auxiliary oil reservoir, external accumulator, heat exchanger			

Model number	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-50	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-60	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-70	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-80
Max. absorbed energy J	21300	25500	29800	34000
Stroke mm	127.0	152.4	177.8	203.2
(Note 1) Max. energy capacity per minute J/min	11400 [37600]	11700 [40700]	12100 [43900]	12500 [47200]
Collision speed range m/s	0.05 to 7.6(Spring return) · 0.05 to 2.3(Air return)			
(Note 2) Rod returning force N	770			
Working temperature range °C	-5 to +50 (No freezing)			
Mounting style	F style (Front flange) E style (Rear flange) H style (Foot) U style (Cap clevis)			
Weight kg	60.79	62.97	65.10	67.27
Accessories	Auxiliary oil reservoir, external accumulator, heat exchanger			

Model number	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-90	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-100	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-110	S* $\frac{F}{E}$ $\frac{H}{U}$ -40-120
Max. absorbed energy J	38300	F/E/H style: 42600 U style: 37800	F/E/H style: 46800 U style: 37300	F/E/H style: 51100 U style: 36600
Stroke mm	228.6	254.0	279.4	304.8
(Note 1) Max. energy capacity per minute J/min	14000 [54800]	14300 [57900]	14700 [61100]	15200 [64300]
Collision speed range m/s	0.05 to 7.6(Spring return) · 0.05 to 2.3(Air return)			
(Note 2) Rod returning force N	765			
Working temperature range °C	-5 to +50 (No freezing)			
Mounting style	F style (Front flange) E style (Rear flange) H style (Foot) U style (Cap clevis)			
Weight kg	76.47	78.60	80.77	82.94
Accessories	Auxiliary oil reservoir, external accumulator, heat exchanger			

(Note 1) ● The max. energy capacity per minute shown in the table is the value at an ambient temperature of 26.7°C. The max. energy capacity per minute E_2 (J/min) at an ambient temperature T (°C) is indicated by the following formula.

$$E_2 = \frac{(82.2 - T)}{55.5} \times \left(\frac{\text{max. energy capacity}}{\text{per minute shown in table}} \right)$$

● It is recommended to select a shock absorber with an allowance so that the energy absorption is about 70% (reference) or less of the maximum energy absorption. When selecting a shock absorber without an allowance, consult us.

(Note 2) ● Maximum values when rod is retracted full stroke

● The values in brackets { } are the maximum energy capacities per minute of shock absorbers provided with heat exchanger.

● The shock absorbers can absorb actual corresponding weight of up to 50% of design corresponding weight.

$$0.5 \leq \frac{\text{actual corresponding weight}}{\text{design corresponding weight}} \leq 1$$

How to Order

When placing an order, specify the model number shown below.

S A F -40- 20

Return type •

☐ S Spring return

☐ A Air return

Mounting style •

☐ F Front flange

☐ E Rear flange

☐ H Foot

☐ U Cap clevis

Stroke (nominal)

<input type="checkbox"/> 10	25.4mm
<input type="checkbox"/> 20	50.8mm
<input type="checkbox"/> 30	76.2mm
<input type="checkbox"/> 40	101.6mm
<input type="checkbox"/> 50	127.0mm
<input type="checkbox"/> 60	152.4mm
<input type="checkbox"/> 70	177.8mm
<input type="checkbox"/> 80	203.2mm
<input type="checkbox"/> 90	228.6mm
<input type="checkbox"/> 100	254.0mm
<input type="checkbox"/> 110	279.4mm
<input type="checkbox"/> 120	304.8mm