

Shock Absorber (Fixed Type (Air Return Type))



Fixed Type Multi-orifice **SA-20 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.
- 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		F S* $\frac{E}{H}$ -20-10 U	F S* $\frac{E}{H}$ -20-20 U	F S* $\frac{E}{H}$ -20-30 U	F S* $\frac{E}{H}$ -20-40 U
Max. absorbed energy	J	1060	2120	3190	4250
Stroke	mm	25.4	50.8	76.2	101.6
(Note 1) Max. energy capacity per minute	J/min	4800[11900]	5030[14300]	5290[16800]	5330[19000]
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	309			
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	7.29	7.88	8.47	9.06
Accessories		Auxiliary oil reservoir, external accumulator, heat exchanger			

Model number		F S* $\frac{E}{H}$ -20-50 U	F S* $\frac{E}{H}$ -20-60 U	F S* $\frac{E}{H}$ -20-70 U	F S* $\frac{E}{H}$ -20-80 U
Max. absorbed energy	J	5320	6370	F/E/H style:7440 U style:7110	F/E/H style:8500 U style:6860
Stroke	mm	127	152.4	177.8	203.2
(Note 1) Max. energy capacity per minute	J/min	6350[24300]	6590[26600]	6780[29000]	7070[31400]
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	309			
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	11.46	12.05	12.64	13.27
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.

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

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

