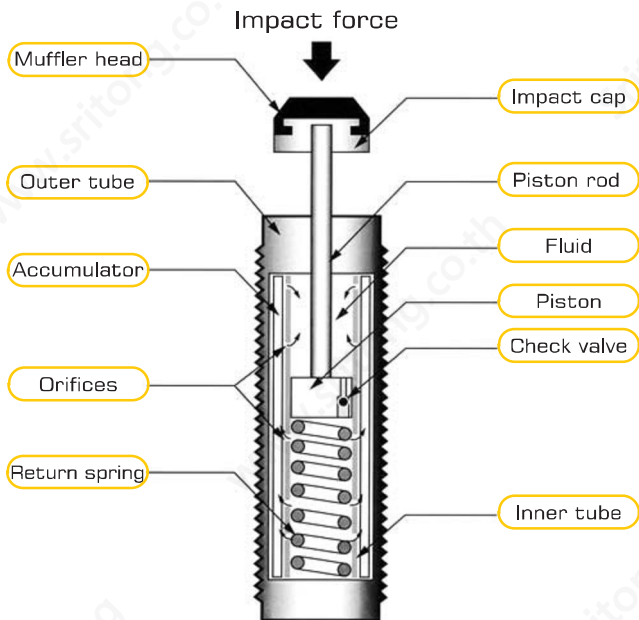


Features

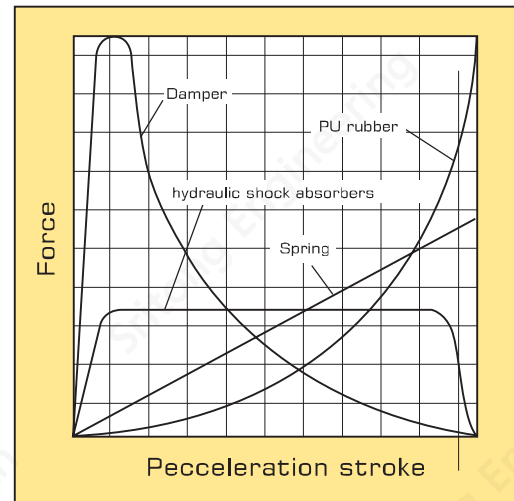
1. SC/SFC series allow approx. 1mm fixed stop before the end of the stroke.
2. Do not apply paint on piston rod and threaded body.
3. When you assemble it, please pay attention to the strength of a fixed plank and the eccentric angle.
4. Stop collar prevents shock absorber piston from bottoming and can be used in stroke adjustment.



Main structure



Impact force graph



The impact force graph are made by different buffer materials

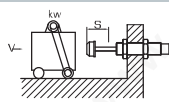
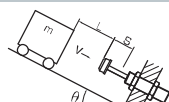
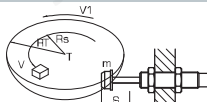
How to order

SC	25	X	40	1	N
Series	External diameter		Stroke	Speed	Black-with impact head N-without impact head
SC Auto repairation SFC Ajustable 				1. Suitable for high speed 2. Suitable for middle speed 3. Suitable for low speed	

Common Symbol

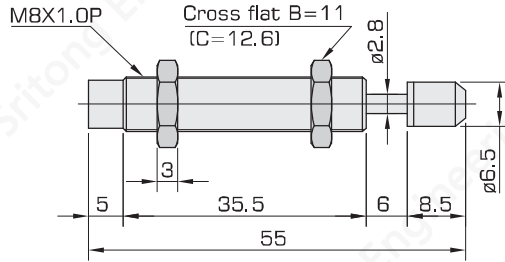
- $E_k(Nm)$: Kinetic Energy
- $E_D(Nm)$: Work or drive energy
- $E_T(Nm)$: Total energy
- $E_{TC}(Nm)$: Total energy absorbed per hour
- $F(N)$: Propelling force
- $F_m(N)$: Maximum impact energy= $1.2E_T/S$
(a rough estima)
- $g(m/s^2)$: Acceleration of gravity= 9.81
- μ : Coefficient of friction
- θ (rad): Impact or incline angle
- ω (rad/s): Angular velocity
- $M_e(kg)$: Efficient weight
- $C(Hr)$: Impact frequency per hour
- V : Falling object velocity= $\sqrt{2gh}$
- $d(mm)$: Cylinder bore
- $h(m)$: Potential difference
- HM : Coefficient of torque= $2.5(1\sim 2.5)$
- $m(kg)$: Load weight
- $P(\text{bar})$: Operating pressure
- $R(m)$: Radius
- $R_s(m)$: Radius of load
- $S(m)$: Cushioning stroke
- $T(Nm)$: Swing torque
- $t(\text{sec})$: Deceleration time
- $V(m/s)$: Impact velocity
- $KW(kw)$: Output of motor

Application of hydraulic shock absorber

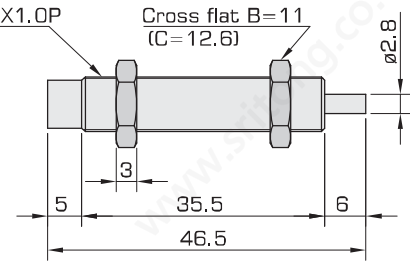
Formula	Application Scenarios		
	(1) Object with propelling face	(2) Object without propelling force	(3) Falling on inclined surface
Kinetic energy	$E_k = \frac{1 \times m \times V^2}{2}$	$E_k = \frac{1 \times m \times V^2}{2}$	$E_k = m \times g \times h$
Work or drive energy	$E_D = F \times S$	$E_D = 0$	$E_D = m \times g \times h$
Total energy	$E_T = E_k + E_D$	$E_T = E_k + E_D$	$E_T = E_k + E_D$
Total energy absorbed per hour	$E_{TC} = E_T \times C$	$E_{TC} = E_T \times C$	$E_{TC} = E_T \times C$
Efficient weight	$M_e = \frac{2 \times E_T}{V^2}$	$M_e = m$	$M_e = \frac{2 \times E_T}{V^2}$
Falling object velocity	$V = -$	$V = -$	$V = \sqrt{2 \times g \times h}$
Applicable	SD3650	SD4250	SA3660
Formula	(4) Object driving by motor	(5) Falling on inclined surface	(6) Swing orque
			
Kinetic energy	$E_k = \frac{1 \times m \times V^2}{2}$	$E_k = \frac{1 \times m \times V^2}{2}$	$E_k = m \times g \times h$
Work or drive energy	$E_D = \frac{1000 \times KW \times HM \times S}{2}$	$E_D = m \times S \times \sin \theta$	$E_D = \frac{(T \times S)}{R_s}$
Total energy	$E_T = E_k + E_D$	$E_T = E_k + E_D$	$E_T = E_k + E_D$
Total energy absorbed per hour	$E_{TC} = E_T \times C$	$E_{TC} = E_T \times C$	$E_{TC} = E_T \times C$
Efficient weight	$M_e = \frac{2 \times E_T}{V^2}$	$M_e = \frac{2 \times E_T}{V^2}$	$M_e = \frac{2 \times E_T}{V^2}$
Falling object velocity	$V = -$	$V = \sqrt{2 \times g \times L \times \sin \theta}$	$V = \frac{(V_T \times R_s)}{R_T}$
Applicable	SD4275	SD4275	SD4250

External Dimensions

SC0806

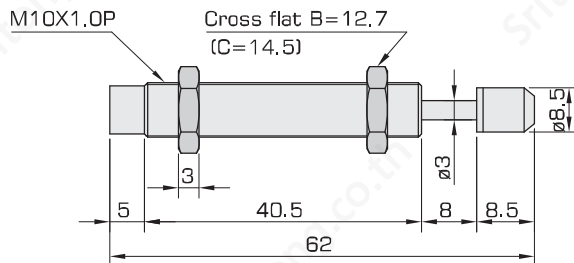


SC0806-NC

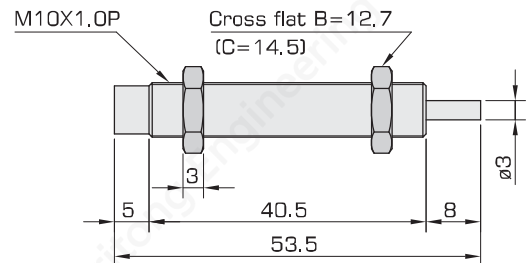


Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SC0806-1	6	1,8	0.9~5.6	2	2400	-10~70
SC0806-2	6	1,8	2.5~10	1,2	2400	-10~70
SC0806-3	6	1,8	5.6~22.5	0,8	2400	-10~70

SC1008

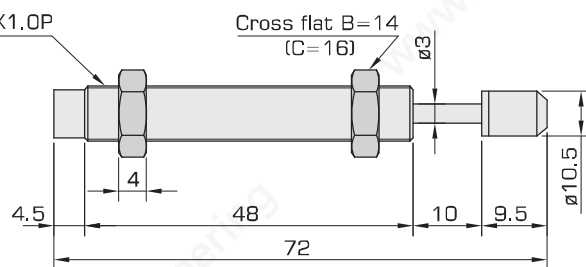


SC1008-NC

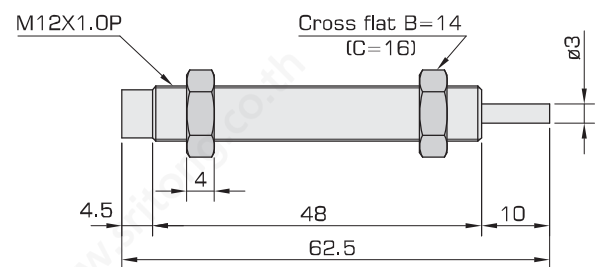


Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SC1008-1	8	3,2	0.9~4.4	2,6	5760	-10~70
SC1008-2	8	3,2	2.8~10	1,5	5760	-10~70
SC1008-3	8	3,2	10~40	0,8	5760	-10~70

SC1210



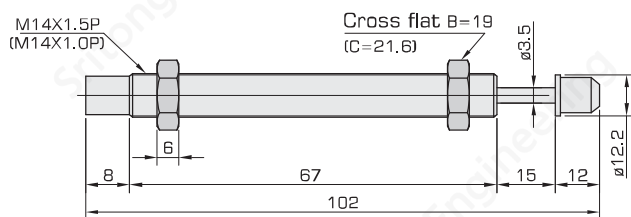
SC1210-NC



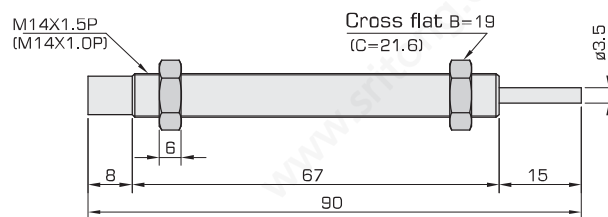
Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SC1210-1	10	6	1.8~12	2,6	10800	-10~70
SC1210-2	10	6	5.3~18.7	1,5	10800	-10~70
SC1210-3	10	6	18.7~75	0,8	10800	-10~70

External Dimensions

SC1415

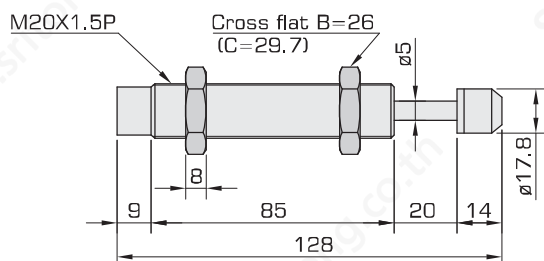


SC1415-NC

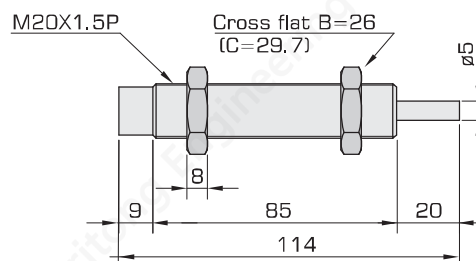


Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SC1415-1	15	20	5.9~40	2.6	36000	-10~70
SC1415-2	15	20	17.8~62.5	1.5	36000	-10~70
SC1415-3	15	20	62.5~250	0.8	36000	-10~70

SC2020

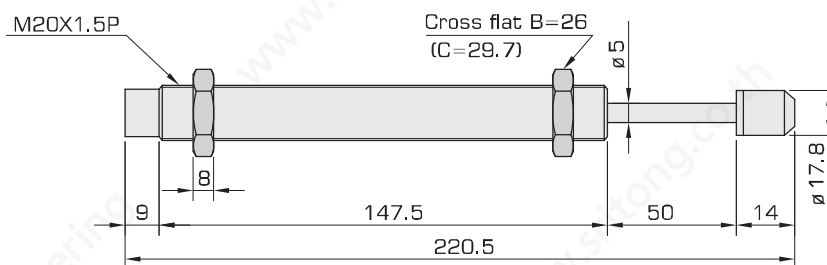


SC2020-NC



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SC2020-1	20	35	6.8~27	3.2	42000	-10~70
SC2020-2	20	35	17.5~70	2	42000	-10~70
SC2020-3	20	35	48.6~777	1.2	42000	-10~70

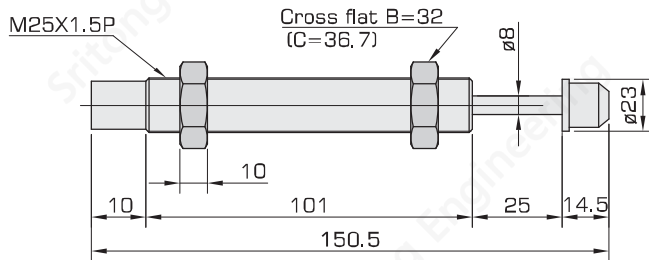
SC2050



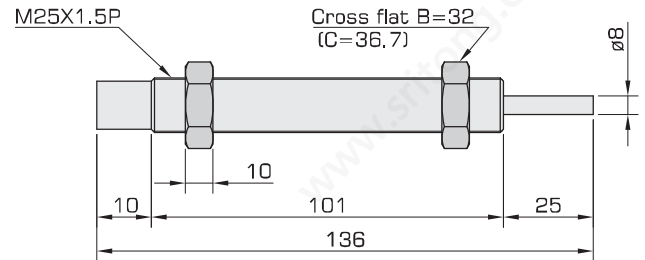
Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SC2050-1	50	62	7~120	4.2	63240	-10~70
SC2050-2	50	62	18.3~86	2.6	63240	-10~70
SC2050-3	50	62	55~496	1.5	63240	-10~70

External Dimensions

SC2525

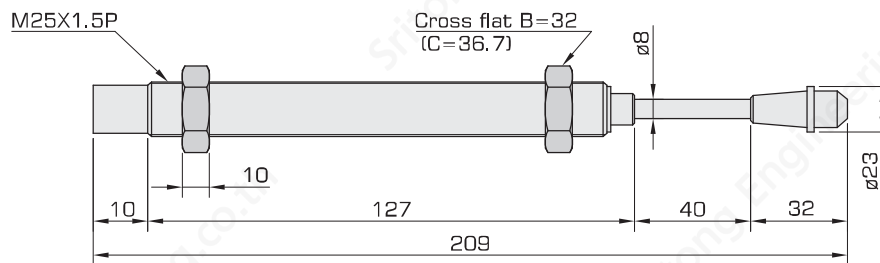


SC2525-NC



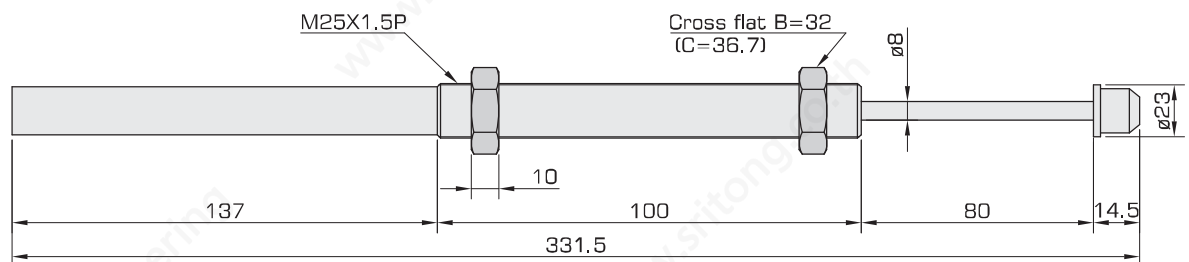
Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SC2525-1	25	78	1.5~69	3.2	70200	-10~70
SC2525-2	25	78	39~433	2	70200	-10~70
SC2525-3	25	78	108~1733	1.2	70200	-10~70

SC2540



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SC2540-1	40	122	20~108	3.5	87840	-10~70
SC2540-2	40	122	50~381	2.2	87840	-10~70
SC2540-3	40	122	244~1991	1	87840	-10~70

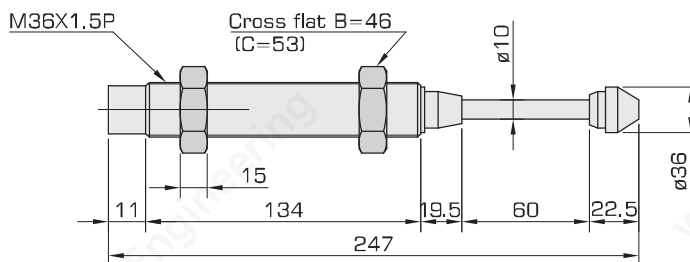
SC2580



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SC2580-1	80	198	24.7~99	4	118800	-10~70
SC2580-2	80	198	44~396	3	118800	-10~70
SC2580-3	80	198	176~1584	1.5	118800	-10~70

External Dimensions

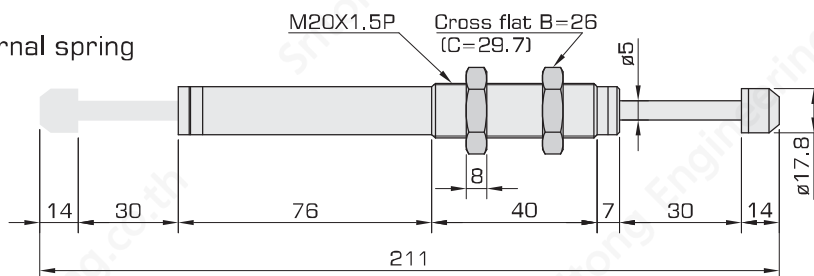
SC3660



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SC3660-1	60	260	57~231	3	124800	-10~70
SC3660-2	60	260	130~813	2	124800	-10~70
SC3660-3	60	260	520~3250	1	124800	-10~70

SCD2030

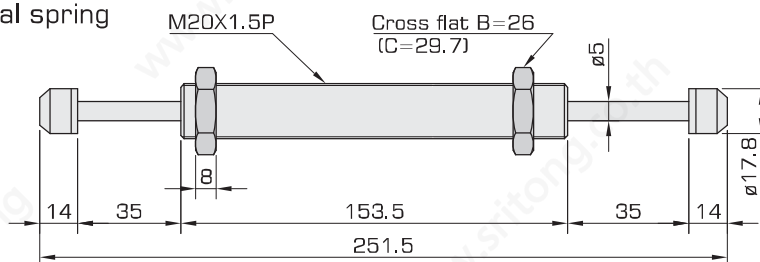
Piston return by internal spring



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SCD2030-1	30	46	9~41	3.2	55200	-10~70
SCD2030-2	30	46	23~144	2	55200	-10~70
SCD2030-3	30	46	64~575	1.2	55200	-10~70

SCD2035

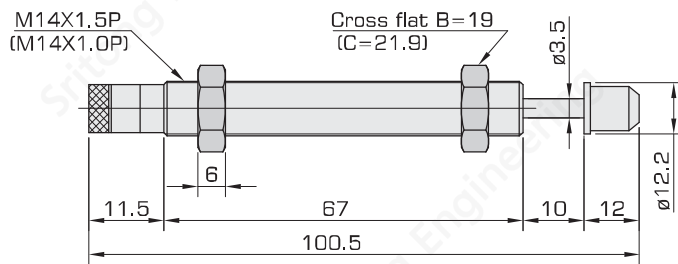
Piston return by internal spring



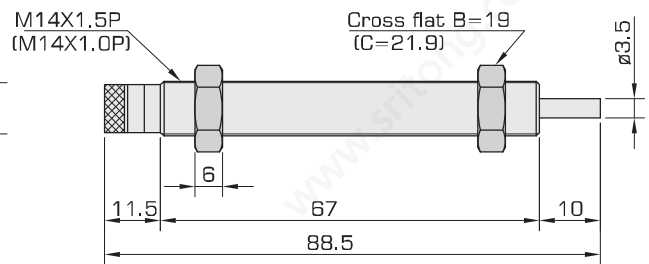
Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SCD2035-1	35	52	10~46	3.2	62400	-10~70
SCD2035-2	35	52	26~162	2	62400	-10~70
SCD2035-3	35	52	72~650	1.2	62400	-10~70

External Dimensions

SFC1410

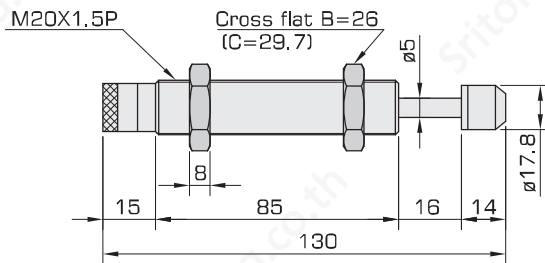


SFC1410-NC

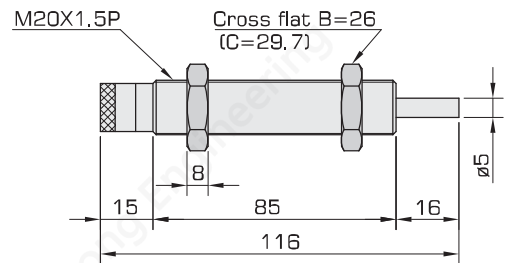


Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SFC1410	10	15	2.9~120	3.2	27000	-10~70

SFC2016

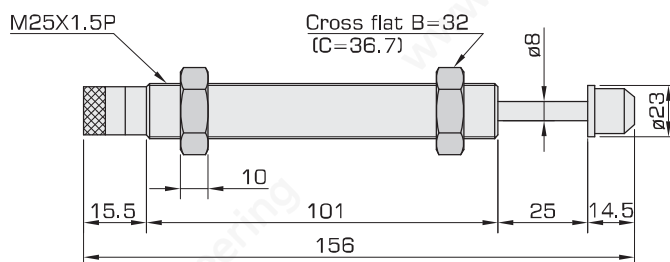


SFC2016-NC

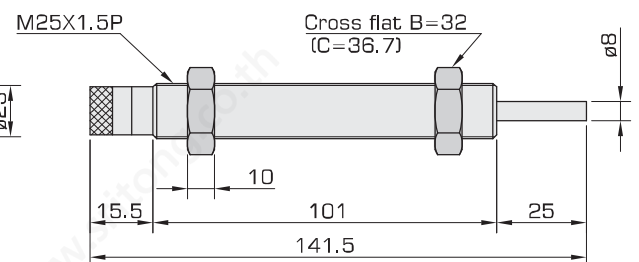


Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SFC2016	16	28	5.4~224	3.2	33600	-10~70

SFC2525



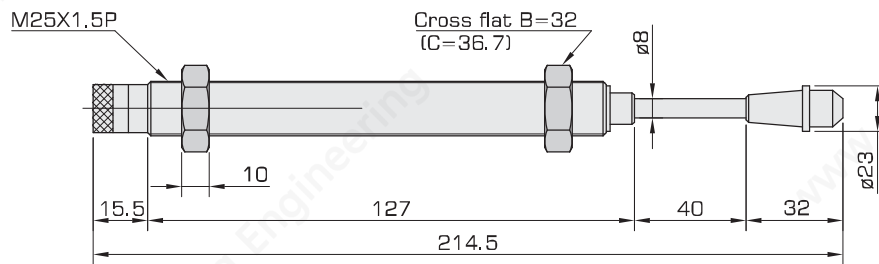
SFC2525-NC



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SFC2525	25	78	15~624	3.2	70200	-10~70

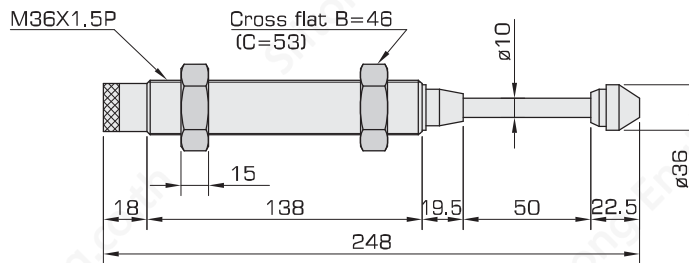
External Dimensions

SFC2540



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SFC2540	40	122	23.8~976	3.2	87840	-10~70

SFC3650



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SFC3650	50	220	43~1760	3.2	105600	-10~70

Features

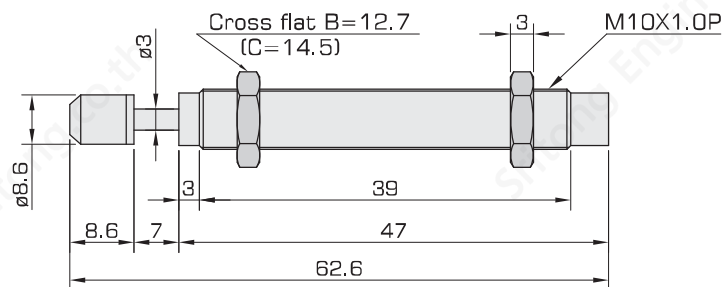
1. Absorb striking kinetic energy, avoid mechanical jolts and reduce mechanical damages to secure the precision of machine parts and extend the life span of machines.
2. Safeguard the quality of products from being damaged by mechanical jolts.
3. Reduce the noise resulting from percussion to create a more quiet working environment.
4. Resolve the spring-back defects resulting from spring or rubber oriented shockproof measures.
5. Stop a moving object in a fixed position.
6. Speed adjustable.
7. Small-sized convenient installation, movable forward and backward.

Applicable conditions

1. The pressure must be lower than 6 kg/cm²
2. The cylinder speed must be lower than 0.5m/sec.
3. Load capacity exceeds no more than 1/2 cylinder thrust force.
4. This table provides approximate calculation for reference.
5. The accurate number can be calculated from the formula.

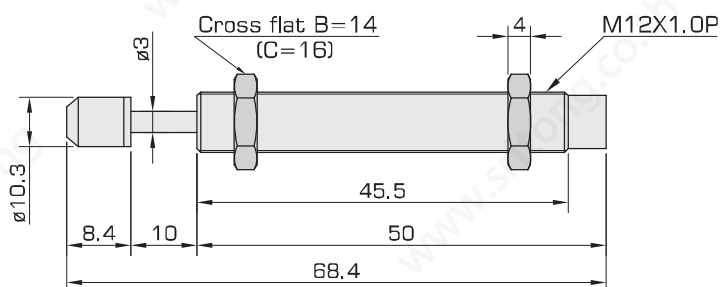
External Dimensions

SA1007S



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SA1007S	7	6	12	0.3~3.5	12400	-10~80

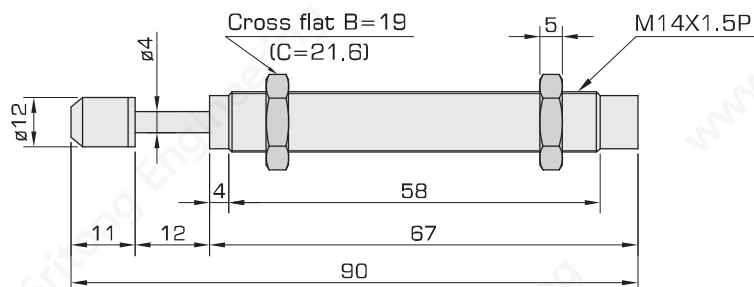
SA1210S



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SA1210S	10	12	22	0.3~4.0	22500	-10~80

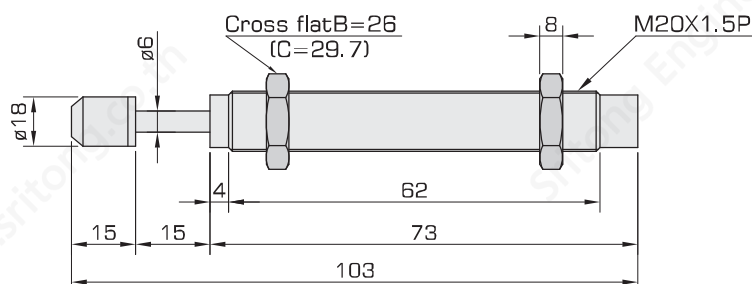
External Dimensions

SA1412S



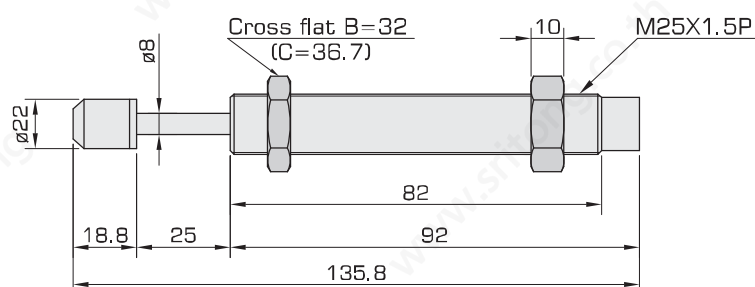
Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SA1412S	12	20	40	0.3~5.0	33000	-10~80

SA2015S



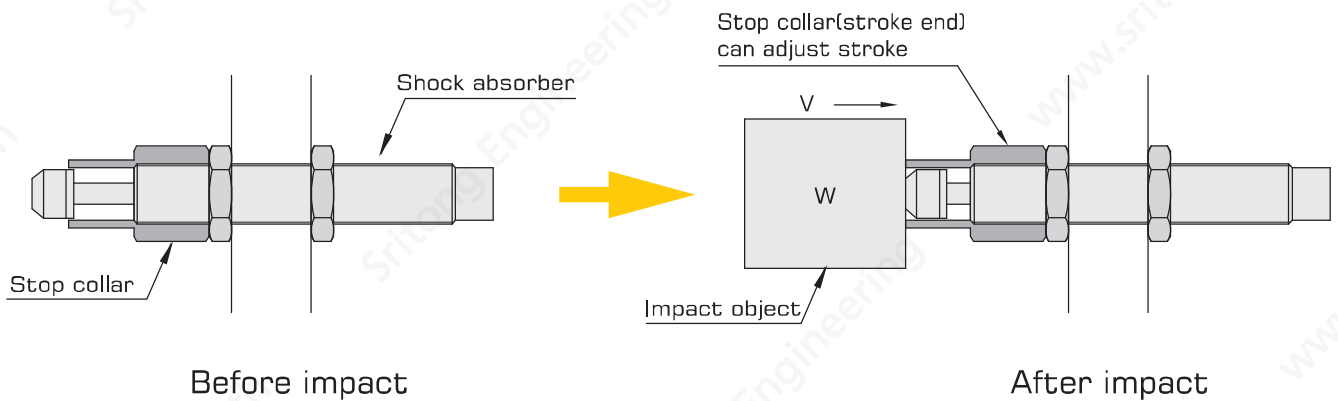
Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SA2015S	15	59	10	0.3~5.0	38000	-10~80

SA2525S



Model	Stroke mm	Max. Nm per cycle Nm	Effective We(kg)	Tolerantly speed m/s	Max. Nm per Hour Nm	Operating temperature °C
SA2525S	25	80	180	0.3~5.0	60000	-10~80

How to set stop collar



Optional accessories

Model	Dimensions	Applicable for shock absorber model
● SC08		SC0806
● SC10		SC1008
● SC12		SC1210
● SC14		SC1415 SFC1410

Model	Dimensions	Applicable for shock absorber model
● SC20		SC2020 SC2050 SFC2016 SCD2030 SCD2035
● SC25		SC2525 SFC2525
● SC25L		SC2540 SC2580 SFC2540
● SC36		SC3660 SFC3650