

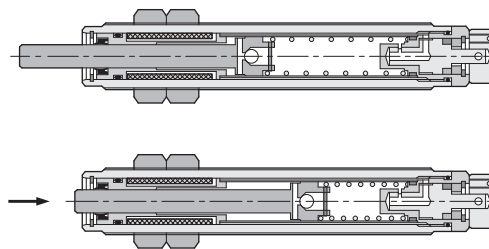
# SAC(D) series - Shock absorber

Specification and Order expression

CHELIC PNEUMATIC



## Internal structure



**CJ-M**  
Float joint

**M□V**  
Manually operated valve

**SA□**  
Shock absorber

**SHR**  
Hydraulic regulator

**SL□**  
Silencer

**P□S**  
Rod end

## Specification

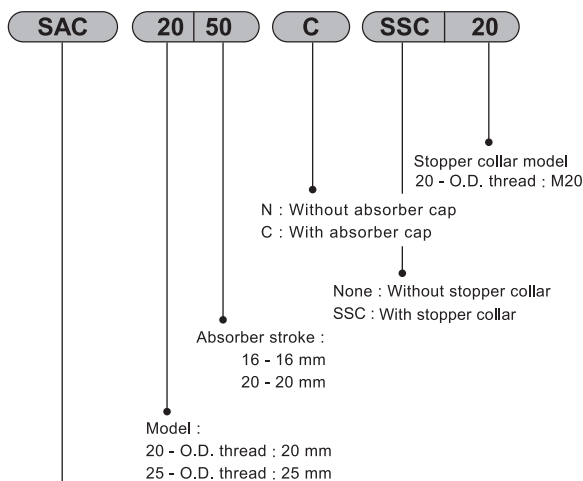
| Item                      | Model | SAC / Non adjustable |            |            |            |            |            |            |            |            | SAD / Adjustable |            |            |            |            |            |
|---------------------------|-------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|------------|------------|------------|------------|
|                           |       | SAC - 0806           | SAC - 1008 | SAC - 1210 | SAC - 1416 | SAC - 2020 | SAC - 2050 | SAC - 2525 | SAC - 2540 | SAC - 3660 | SAD - 1410       | SAD - 2016 | SAD - 2525 | SAD - 2540 | SAD - 3650 | SAD - 4250 |
| Max energy absorption     | N · m | 2                    | 4          | 5          | 20         | 40         | 60         | 80         | 120        | 250        | 20               | 25         | 85         | 100        | 300        | 500        |
| Stroke absorption         | mm    | 6                    | 8          | 10         | 16         | 20         | 50         | 25         | 40         | 60         | 10               | 16         | 25         | 40         | 50         | 50         |
| Max. absorber per hour    | kgf   | 122                  | 360        | 2000       | 3060       | 4100       | 4100       | 6630       | 7350       | 11100      | 2040             | 3200       | 6350       | 7350       | 11100      | 13000      |
| Max. impact force         | kgf   | 55                   | 70         | 90         | 200        | 300        | 300        | 400        | 400        | 750        | 55               | 136        | 400        | 400        | 750        | 850        |
| Max. allowable thrust     | kgf   | 6                    | 9          | 22         | 54         | 87         | 87         | 153        | 220        | 222        | 36               | 68         | 204        | 204        | 222        | 250        |
| Max. impact speed         | m / s | 1.0                  |            |            |            |            | 2.0        |            |            |            | 1.0              |            | 2.0        |            |            | 4.5        |
| Ambient temperature       | °C    | -10 ~ 60             |            |            |            |            |            |            |            |            | -10 ~ 60         |            |            |            |            |            |
| Weight                    | g     | 11                   | 20         | 32         | 90         | 215        | 300        | 330        | 430        | 1030       | 90               | 230        | 350        | 455        | 1100       | 1490       |
| Stopper collar (Optional) |       | SSC-8                | SSC-10     | SSC-12     | SSC-14     | SSC-20     |            | SSC-25     |            | SSC-36     | SSC-14           | SSC-20     | SSC-25     | SSC-36     | SSC-42     |            |

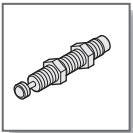
## How to select shock absorbers

| Model<br>5 kgf/cm <sup>2</sup> | Ø10 | Ø12 | Ø16 | Ø20  | Ø25  | Ø32 | Ø40  | Ø50 | Ø63 | Ø80 | Ø100 |
|--------------------------------|-----|-----|-----|------|------|-----|------|-----|-----|-----|------|
| Cylinder thrust                | 3.9 | 5.7 | 10  | 15.7 | 24.5 | 40  | 62.8 | 98  | 155 | 251 | 393  |
| SAC - 0806                     |     |     |     |      |      |     |      |     |     |     |      |
| SAC - 1008                     |     |     |     |      |      |     |      |     |     |     |      |
| SAC - 1210                     |     |     |     |      |      |     |      |     |     |     |      |
| SAC - 1416                     |     |     |     |      |      |     |      |     |     |     |      |
| SAD - 1410                     |     |     |     |      |      |     |      |     |     |     |      |
| SAC - 2020                     |     |     |     |      |      |     |      |     |     |     |      |
| SAD - 2016                     |     |     |     |      |      |     |      |     |     |     |      |
| SAC - 2050                     |     |     |     |      |      |     |      |     |     |     |      |
| SAC - 2525                     |     |     |     |      |      |     |      |     |     |     |      |
| SAD - 2525                     |     |     |     |      |      |     |      |     |     |     |      |
| SAC - 2540                     |     |     |     |      |      |     |      |     |     |     |      |
| SAD - 2540                     |     |     |     |      |      |     |      |     |     |     |      |
| SAC - 3660                     |     |     |     |      |      |     |      |     |     |     |      |
| SAD - 3650                     |     |     |     |      |      |     |      |     |     |     |      |

1. Applied pressure in 5 kgf/cm<sup>2</sup>.
2. Cylinder speed at 0.5 m / sec.
3. Load below 1/2 of cylinder thrust.
4. Data base on horizontal motion.
5. This table is for reference only.

## How to order



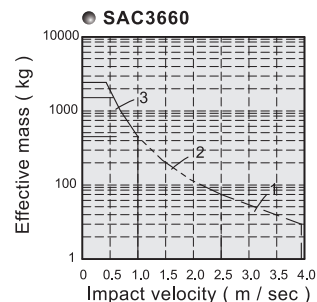
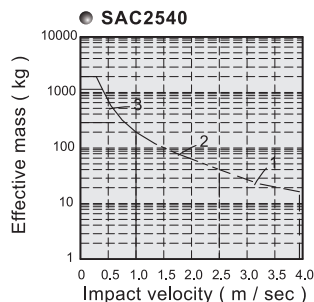
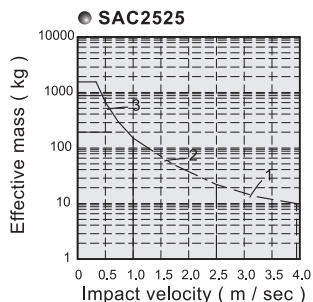
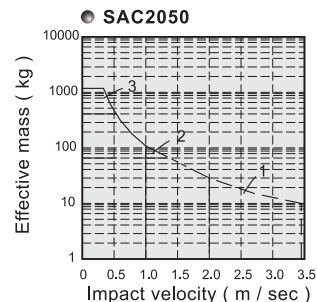
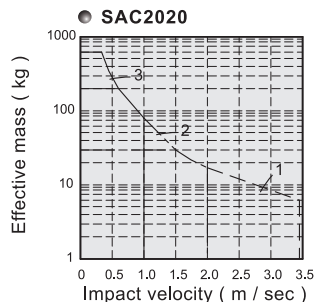
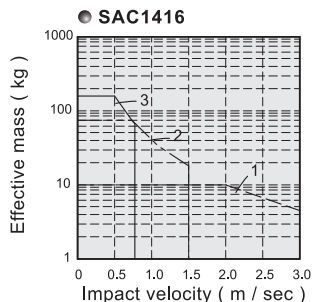
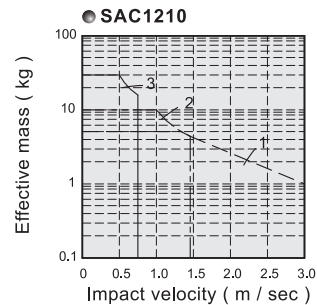
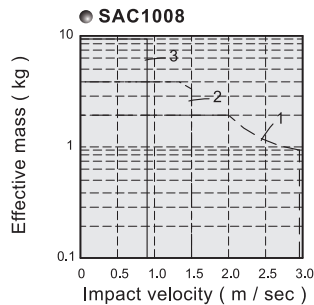
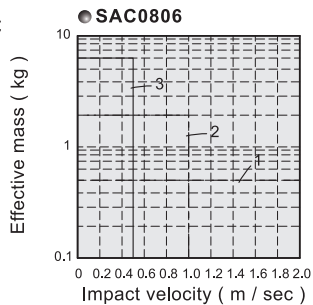


# SAC(D) series - Shock absorber

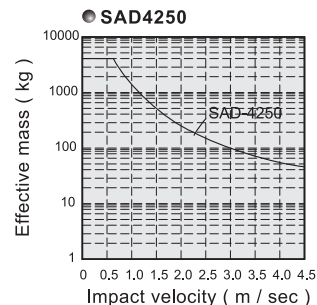
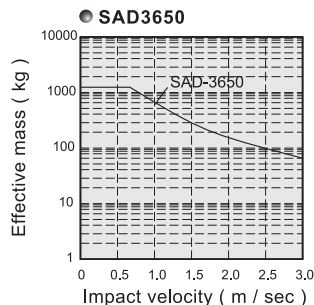
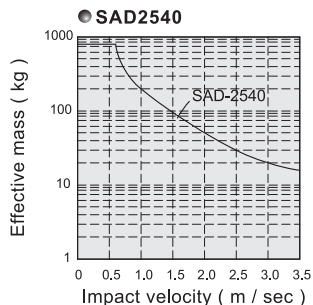
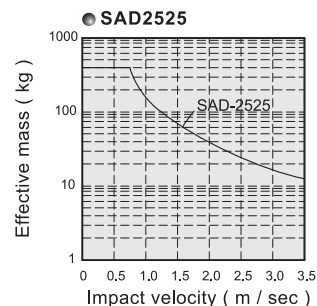
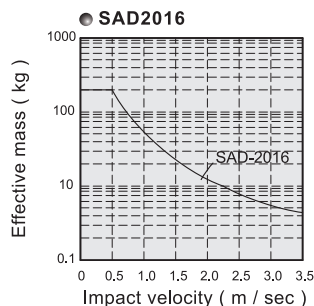
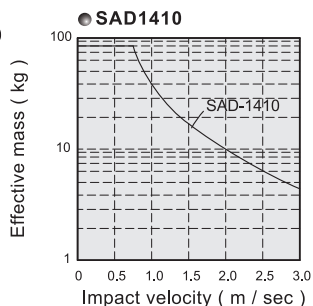
## Characteristic diagram

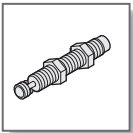
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### SAC



### SAD





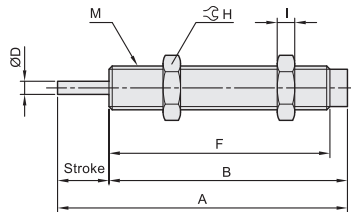
# SAC series - Shock absorber

External dimension

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## ● SAC series ( Non adjustable )

- SAC - 0806,1008,1210,1408
- ※ Without absorber cap - N



| Model       | Stroke | A    | B    | D   | F    | M         | H               | I |
|-------------|--------|------|------|-----|------|-----------|-----------------|---|
| SAC - 0806N | 6      | 44   | 38   | 2.8 | 33   | M8 x 1.0  | Cross flat 11   | 3 |
| SAC - 1005N | 5      | 32.7 | 27.7 | 2.8 | 22.9 | M10 x 1.0 | Cross flat 12.7 | 3 |
| SAC - 1008N | 8      | 51   | 43   | 3   | 38   | M10 x 1.0 | Cross flat 12.7 | 3 |
| SAC - 1210N | 10     | 60   | 50   | 3   | 45.5 | M12 x 1.0 | Cross flat 14   | 4 |
| SAC - 1408N | 8      | 63   | 55   | 4   | 50.5 | M14 x 1.5 | Cross flat 19   | 5 |
| SAC - 1412N | 12     | 88   | 76   | 4   | 67   | M14 x 1.5 | Cross flat 19   | 5 |
| SAC - 1416N | 16     | 92   | 95   | 4   | 86   | M14 x 1.5 | Cross flat 19   | 5 |
| SAC - 2020N | 20     | 130  | 110  | 6   | 101  | M20 x 1.5 | Cross flat 26   | 7 |
| SAC - 2525N | 25     | 136  | 111  | 8   | 101  | M25 x 1.5 | Cross flat 32   | 9 |

**CJ-M**  
Float joint

**M□V**  
Manually  
operated  
valve

**SA□**  
Shock  
absorber

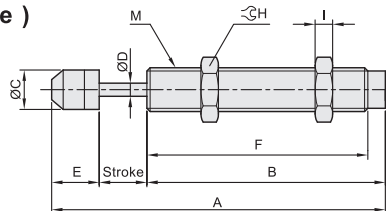
**SHR**  
Hydraulic  
regulator

**SL□**  
Silencer

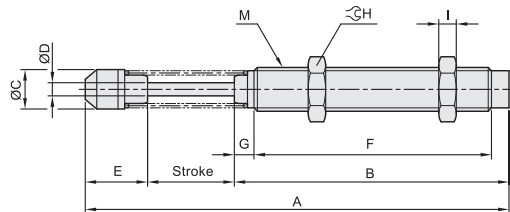
**P□S**  
Rod end

## ● SAC series None ( Adjustable )

- SAC - 0806,1008,1210,1408,1416,2020,2050,2525

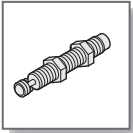


- SAC - 2540 , 3660



SAC - 2525N

| Model       | Stroke | A    | B    | C    | D   | E    | F    | G  | M         | H               | I  |
|-------------|--------|------|------|------|-----|------|------|----|-----------|-----------------|----|
| SAC - 0806C | 6      | 50   | 38   | 6.6  | 2.8 | 6    | 33   | -  | M8 x 1.0  | Cross flat 11   | 3  |
| SAC - 1005C | 5      | 38.7 | 27.7 | 8.6  | 2.8 | 6    | 22.9 | -  | M10 x 1.0 | Cross flat 12.7 | 3  |
| SAC - 1008C | 8      | 57   | 43   | 8.6  | 3   | 6    | 38   | -  | M10 x 1.0 | Cross flat 12.7 | 3  |
| SAC - 1210C | 10     | 69.5 | 50   | 10.3 | 3   | 9.5  | 45.5 | -  | M12 x 1.0 | Cross flat 14   | 4  |
| SAC - 1408C | 8      | 77.5 | 55   | 12   | 4   | 14.5 | 50.5 | -  | M14 x 1.5 | Cross flat 19   | 5  |
| SAC - 1412C | 12     | 99   | 76   | 12   | 4   | 11   | 67   | -  | M14 x 1.5 | Cross flat 19   | 5  |
| SAC - 1416C | 16     | 122  | 95   | 12   | 4   | 11   | 86   | -  | M14 x 1.5 | Cross flat 19   | 5  |
| SAC - 2020C | 20     | 145  | 110  | 18   | 6   | 15   | 101  | -  | M20 x 1.5 | Cross flat 26   | 7  |
| SAC - 2050C | 50     | 232  | 167  | 18   | 6   | 15   | 158  | -  | M20 x 1.5 | Cross flat 26   | 8  |
| SAC - 2525C | 25     | 155  | 111  | 22   | 8   | 19   | 101  | -  | M25 x 1.5 | Cross flat 32   | 9  |
| SAC - 2540C | 40     | 214  | 137  | 22   | 8   | 37   | 117  | 10 | M25 x 1.5 | Cross flat 32   | 9  |
| SAC - 2580C | 80     | 336  | 237  | 22   | 8   | 19   | 100  | -  | M25 x 1.5 | Cross flat 32   | 11 |
| SAC - 3660C | 60     | 248  | 162  | 35.5 | 10  | 26   | 134  | 17 | M36 x 1.5 | Cross flat 46   | 15 |



# SAT series - Shock absorber

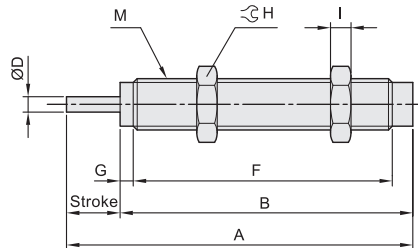
## External dimension

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### ● SAT series ( Two stage absorption )

● SAT - 0806N,1007N,1210N,1412N,2015N,2525N,2725N

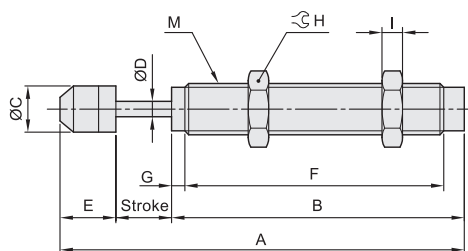
※ Without absorber cap - N



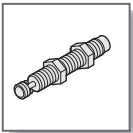
| Model       | Stroke | A    | B    | D   | F    | G | M         | ⊘ H             | I |
|-------------|--------|------|------|-----|------|---|-----------|-----------------|---|
| SAT - 0806N | 6      | 46.6 | 40.6 | 2.9 | 33.6 | 2 | M8 x 1.0  | Cross flat 11   | 3 |
| SAT - 1007N | 7      | 54   | 47   | 3   | 39   | 3 | M10 x 1.0 | Cross flat 12.7 | 3 |
| SAT - 1210N | 10     | 62.5 | 52.5 | 3   | 44   | 3 | M12 x 1.0 | Cross flat 14   | 4 |
| SAT - 1412N | 12     | 79   | 67   | 4   | 58   | 4 | M14 x 1.5 | Cross flat 19   | 5 |
| SAT - 2015N | 15     | 88   | 73   | 6   | 62   | 4 | M20 x 1.5 | Cross flat 26   | 7 |
| SAT - 2525N | 25     | 117  | 92   | 8   | 82   | — | M25 x 1.5 | Cross flat 32   | 9 |
| SAT - 2725N | 25     | 124  | 99   | 8   | 86   | 5 | M27 x 1.5 | Cross flat 32   | 6 |

### ● SAT series None ( Adjustable )

● SAT - 0806,1007,1210,1412,2015,2025,2725



| Model       | Stroke | A    | B    | C    | D   | E   | F    | G | M         | ⊘ H             | I |
|-------------|--------|------|------|------|-----|-----|------|---|-----------|-----------------|---|
| SAT - 0806C | 6      | 55.2 | 40.6 | 6.6  | 2.9 | 8.6 | 33.6 | 2 | M8 x 1.0  | Cross flat 11   | 3 |
| SAT - 1007C | 7      | 62.6 | 47   | 8.6  | 3   | 8.6 | 39   | 3 | M10 x 1.0 | Cross flat 12.7 | 3 |
| SAT - 1210C | 10     | 71.1 | 52.5 | 10.3 | 3   | 8.6 | 44   | 3 | M12 x 1.0 | Cross flat 14   | 4 |
| SAT - 1412C | 12     | 90   | 67   | 12   | 4   | 11  | 58   | 4 | M14 x 1.5 | Cross flat 19   | 5 |
| SAT - 2015C | 15     | 103  | 73   | 18   | 6   | 15  | 62   | 4 | M20 x 1.5 | Cross flat 26   | 7 |
| SAT - 2525C | 25     | 136  | 92   | 22   | 8   | 19  | 82   | — | M25 x 1.5 | Cross flat 32   | 9 |
| SAT - 2725C | 25     | 143  | 99   | 22   | 8   | 19  | 86   | 5 | M27 x 1.5 | Cross flat 32   | 6 |



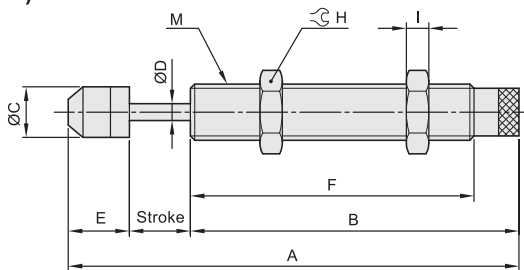
# SAD series - Shock absorber

External dimension

CHELIC PNEUMATIC

## ● SAD series ( Adjustable )

- SAD - 1410,2016,2525
- ※ Without absorber cap - N



**CJ-M**  
Float joint

**M□V**  
Manually  
operated  
valve

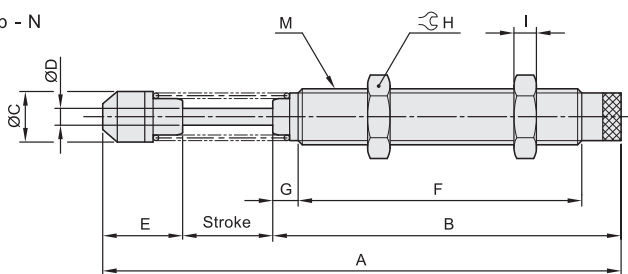
**SA□**  
Shock  
absorber

**SHR**  
Hydraulic  
regulator

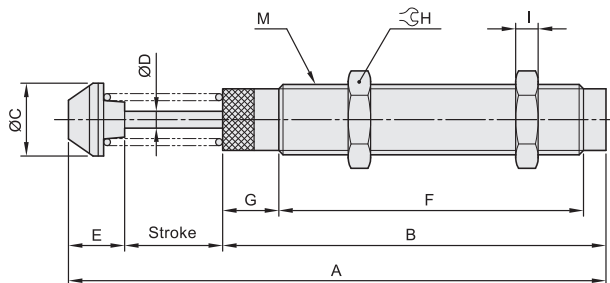
**SL□**  
Silencer

**P□S**  
Rod end

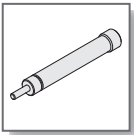
- SAD - 2540,3650
- SAD - 1410N,2016N,2525N
- ※ Without absorber cap - N



- SAD - 4250



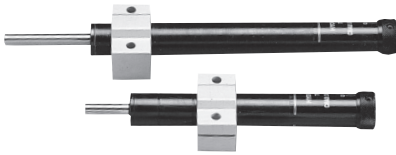
| Model       | Stroke | A     | B     | C    | D  | E    | F     | G    | M         | H             | I  |
|-------------|--------|-------|-------|------|----|------|-------|------|-----------|---------------|----|
| SAD - 1410N | 10     | -     | 88.5  | -    | 4  | -    | 72.5  | -    | M14 x 1.5 | Cross flat 19 | 5  |
| SAD - 2016N | 16     | -     | 117   | -    | 6  | -    | 101   | -    | M20 x 1.5 | Cross flat 26 | 7  |
| SAD - 2525N | 25     | -     | 118.5 | -    | 8  | -    | 101   | -    | M25 x 1.5 | Cross flat 32 | 9  |
| SAD - 1410C | 10     | 109.5 | 88.5  | 12   | 4  | 11   | 72.5  | -    | M14 x 1.5 | Cross flat 19 | 5  |
| SAD - 2016C | 16     | 112   | 96    | 18   | 6  | 16   | 101   | -    | M20 x 1.5 | Cross flat 26 | 7  |
| SAD - 2525C | 25     | 162.5 | 118.5 | 22   | 8  | 19   | 101   | -    | M25 x 1.5 | Cross flat 32 | 9  |
| SAD - 2540C | 40     | 221.5 | 144.5 | 22   | 8  | 37   | 117   | 10   | M25 x 1.5 | Cross flat 32 | 9  |
| SAD - 3625C | 25     | 183.8 | 123   | 35.5 | 10 | 25.8 | 103   | 10   | M36 x 1.5 | Cross flat 46 | 15 |
| SAD - 3650C | 50     | 246.8 | 171   | 35.5 | 10 | 25.8 | 134   | 17   | M36 x 1.5 | Cross flat 46 | 15 |
| SAD - 4225C | 25     | 186.4 | 127.5 | 44.5 | 12 | 33.9 | 88    | 28.5 | M42 x 1.5 | Cross flat 50 | 15 |
| SAD - 4250C | 50     | 240.9 | 157   | 44.5 | 12 | 33.9 | 117.5 | 28.5 | M42 x 1.5 | Cross flat 50 | 15 |
| SAD - 4275C | 75     | 301.4 | 187.5 | 44.5 | 12 | 38.9 | 148   | 28.5 | M42 x 1.5 | Cross flat 50 | 15 |



# SHR series - Hydraulic regulator

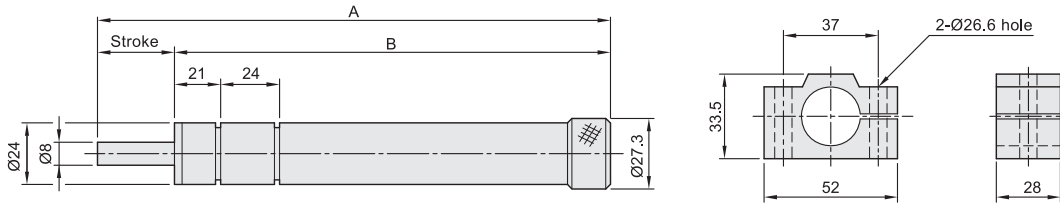
SHR 30 , 60

CHELIC PNEUMATIC



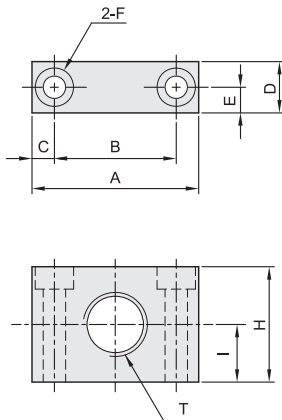
- It is used to various kinds of automation machine with the function of stable speed forwarding for long time continuous control and back stroke is used spring auxiliary to return.

| Item Model | A     | B     | Max. stroke | Weight | Range of temperature | Max. load    | Range of adjustable speed             | Allow motion power |
|------------|-------|-------|-------------|--------|----------------------|--------------|---------------------------------------|--------------------|
| SHR-15     | 151   | 136   | 15 mm       | 470 g  | 0 ~ 60 °C            | 15 ~ 350 kgf | 0.5 ~ 30 mm/sec<br>(When load 100 kg) | 10.23 kgf · M      |
| SHR-30     | 202   | 172   | 30 mm       | 495 g  |                      |              |                                       |                    |
| SHR-60     | 282.5 | 222.5 | 60 mm       | 615 g  |                      |              |                                       |                    |
| SHR-80     | 336.5 | 256.5 | 80 mm       | 690 g  |                      |              |                                       |                    |
| SHR-100    | 390   | 290   | 100 mm      | 765 g  |                      |              |                                       |                    |



## Shock absorbers

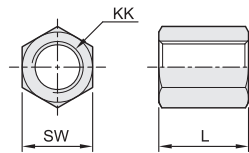
- Mounting holder



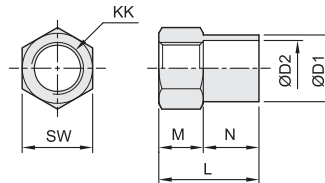
### Mounting holder

| Model       | Mounting holder model | A  | B  | C   | D  | E | F                                   | H  | I  | T       |
|-------------|-----------------------|----|----|-----|----|---|-------------------------------------|----|----|---------|
| SAC-10 **   | SMB-10                | 26 | 19 | 3.5 | 8  | 4 | Ø3.5 Thru hole<br>Ø6 Thru 3.5 dp.   | 18 | 9  | M10x1.0 |
| SAC-12 **   | SMB-12                | 37 | 22 | 4.5 | 10 | 5 | Ø4.5 Thru hole<br>Ø8 Thru 4.5 dp.   | 22 | 11 | M12x1.0 |
| SAC(D)-14** | SMB-14                | 51 | 40 | 5.5 | 12 | 6 | Ø5.5 Thru hole<br>Ø9.5 Thru 5.5 dp. | 24 | 12 | M14x1.5 |
| SAC(D)-20** | SMB-20                | 60 | 40 | 10  | 16 | 8 | Ø8.5 Thru hole<br>Ø14 Thru 8.5 dp.  | 32 | 16 | M20x1.5 |

- Stopper collar  
※ SSC-08,10,12



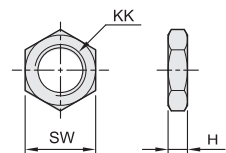
※ SSC-14,20,25,40,50



### Stopper collar

| Collar no. | L  | M  | N  | D1   | D2 | KK      | SW   |
|------------|----|----|----|------|----|---------|------|
| SSC-08     | 14 | —  | —  | —    | —  | M8x1.0  | 11   |
| SSC-10     | 16 | —  | —  | —    | —  | M10x1.0 | 12.7 |
| SSC-12     | 20 | —  | —  | —    | —  | M12x1.0 | 14   |
| SSC-14     | 27 | 12 | 15 | 18   | 15 | M14x1.5 | 19   |
| SSC-20     | 35 | 15 | 20 | 25   | 21 | M20x1.5 | 26   |
| SSC-25     | 45 | 15 | 30 | 31.5 | 26 | M25x1.5 | 32   |
| SSC-40     | 65 | 25 | 40 | 31.5 | 26 | M25x1.5 | 32   |
| SSC-50     | 80 | 25 | 55 | 45   | 37 | M36x1.5 | 46   |

- Stopper nut



### Stopper nut

| Collar no. | L  | KK      | SW   |
|------------|----|---------|------|
| SSN-08     | 3  | M8x1.0  | 11   |
| SSN-10     | 3  | M10x1.0 | 12.7 |
| SSN-12     | 4  | M12x1.0 | 14   |
| SSN-14     | 6  | M14x1.5 | 19   |
| SSN-20     | 8  | M20x1.5 | 25   |
| SSN-25     | 10 | M25x1.5 | 32   |
| SSN-40     | 10 | M25x1.5 | 32   |
| SSN-50     | 15 | M36x1.5 | 46   |