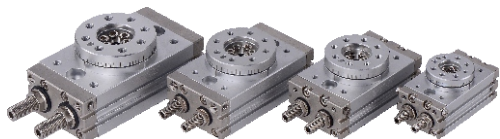


### Standard Specifications

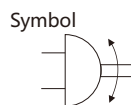
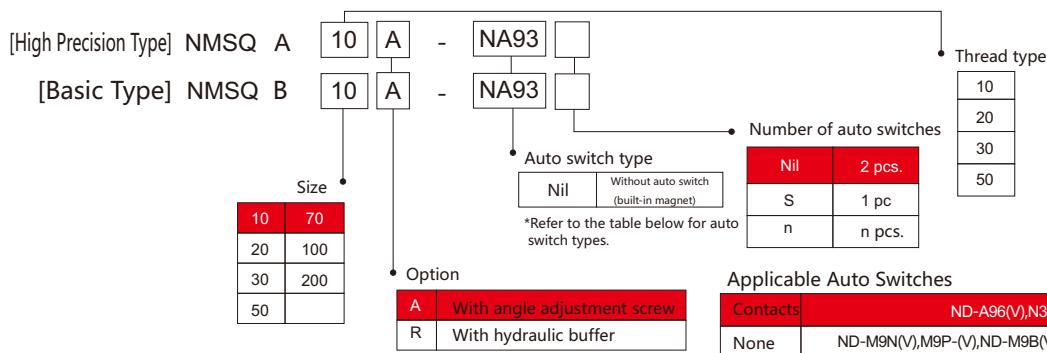


| Bore size                     |                              | 10                            | 20     | 30     | 50     | 70           | 100          | 200          |
|-------------------------------|------------------------------|-------------------------------|--------|--------|--------|--------------|--------------|--------------|
| Fluid                         |                              | Air (non-lube)                |        |        |        |              |              |              |
| Action                        |                              | Double acting                 |        |        |        |              |              |              |
| Maximum operating pressure    | With adjustment bolt         | 1MPa                          |        |        |        |              |              |              |
|                               | With internal shock absorber | 0.6MPa <sup>(Note)</sup>      |        |        |        |              |              |              |
| Minimum operating pressure    |                              | 0.1MPa(High Precision:0.2MPa) |        |        |        |              |              |              |
| Ambient and fluid temperature |                              | 10-60°(with no freezing)      |        |        |        |              |              |              |
| Cushion                       |                              | Rubber bumper/Shock absorber  |        |        |        |              |              |              |
| Allow                         | With adjustment bolt         | 0.007J                        | 0.025J | 0.048J | 0.081J | 0.24J        | 0.32J        | 0.56J        |
| Energy                        | With internal shock absorber | 0.039J                        | 0.116J |        | 0.294J | 1.1J         | 1.6J         | 2.9J         |
| Angle adjustment range        |                              | 0~190°                        |        |        |        |              |              |              |
| Maximum rotation              |                              | 190°                          |        |        |        |              |              |              |
| Speed                         | Adjustment screw             | 0.2~1.0s/90°                  |        |        |        | 0.2~1.5s/90° | 0.2~2.0s/90° | 0.2~2.5s/90° |
| Angle                         | Hydraulic buffer             | 0.2~0.7s/90°                  |        |        |        | 0.2~1.0s/90° |              |              |
| Cylinder bore size            |                              | Φ15                           | Φ18    | Φ21    | Φ25    | Φ28          | Φ32          | Φ40          |
| Port size                     | End ports                    | M5 x 0.8                      |        | Rc 1/8 |        |              |              |              |
|                               | Side ports                   | M5 x 0.8                      |        |        |        |              |              |              |

(Note)The maximum operating pressure of the actuator is restricted by the maximum allowable thrust of the shock absorber.

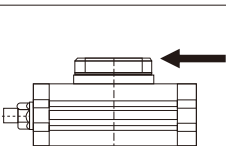
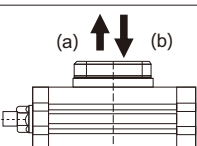
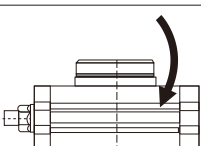
### Standard Specifications

### Symbol



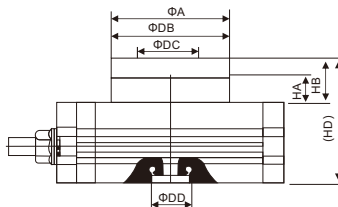
### Allow heavy load

If the load is heavy or the bending moment is too large, it will affect the accuracy or damage the structure

|  |               |                |  |                |            |                |  |                |                                          |
|-------------------------------------------------------------------------------------|---------------|----------------|-------------------------------------------------------------------------------------|----------------|------------|----------------|---------------------------------------------------------------------------------------|----------------|------------------------------------------|
| Model                                                                               | Allow load(N) |                | Allow load(N)                                                                       |                |            |                | Allowable bending moment(N·m)                                                         |                | Effective output torque<br>(N·m)(0.5MPa) |
|                                                                                     | Basic type    | High precision | (a)                                                                                 |                | (b)        |                | Basic type                                                                            | High precision |                                          |
|                                                                                     |               |                | Basic type                                                                          | High precision | Basic type | High precision |                                                                                       |                |                                          |
| NMSQ□10□                                                                            | 78            | 85             | 74                                                                                  | 74             | 78         | 107            | 2.4                                                                                   | 2.9            | 0.89                                     |
| NMSQ□20□                                                                            | 147           | 166            | 137                                                                                 | 137            | 137        | 197            | 4.0                                                                                   | 4.8            | 1.84                                     |
| NMSQ□30□                                                                            | 196           | 233            | 197                                                                                 | 197            | 363        | 398            | 5.3                                                                                   | 6.4            | 2.73                                     |
| NMSQ□50□                                                                            | 314           | 378            | 296                                                                                 | 296            | 451        | 517            | 9.7                                                                                   | 12             | 4.64                                     |
| NMSQ□50□                                                                            | 333           | -              | 296                                                                                 | -              | 476        | -              | 12.0                                                                                  | -              | 6.79                                     |
| NMSQ□100□                                                                           | 390           | -              | 483                                                                                 | -              | 708        | -              | 18.0                                                                                  | -              | 10.1                                     |
| NMSQ□200□                                                                           | 543           | -              | 740                                                                                 | -              | 1009       | -              | 25.0                                                                                  | -              | 19.8                                     |

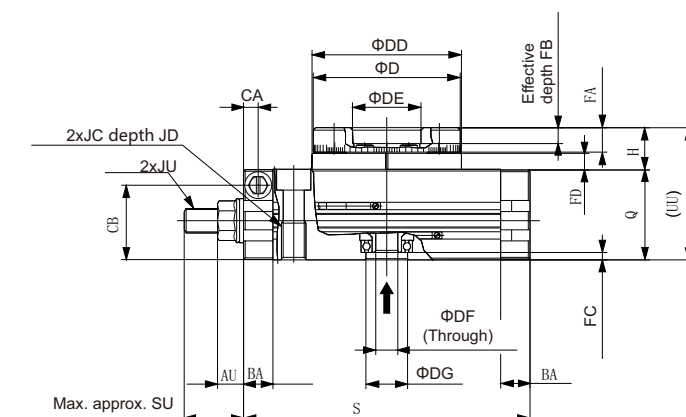
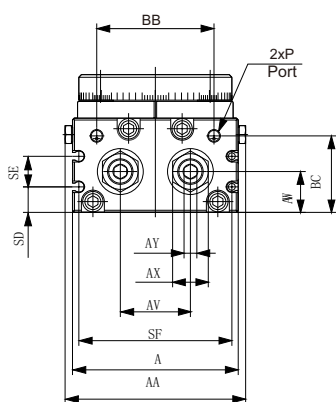
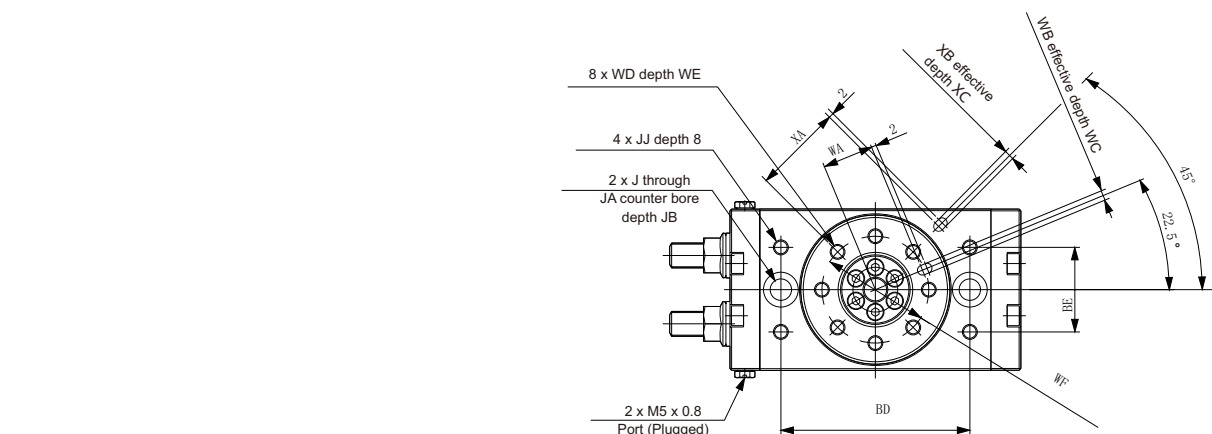
### Allow heavy load

| Model    | DA   | DB   | DC   | DD   | HA   | HB   | HD   |
|----------|------|------|------|------|------|------|------|
| NMSQA10□ | 46h8 | 45h8 | 20H8 | 15H8 | 10   | 18.5 | 52.5 |
| NMSQA20□ | 61h8 | 60h8 | 28H8 | 17H8 | 15.5 | 26   | 63   |
| NMSQA30□ | 67h8 | 65h8 | 32H8 | 22H8 | 16.5 | 27   | 67   |
| NMSQA50□ | 77h8 | 75h8 | 35H8 | 26H8 | 17.5 | 30   | 76   |



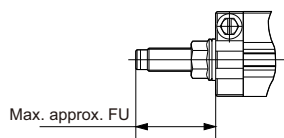
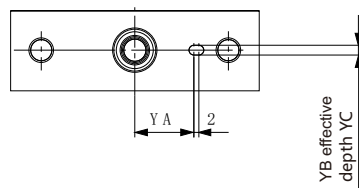
### Dimensions

NMSQB□

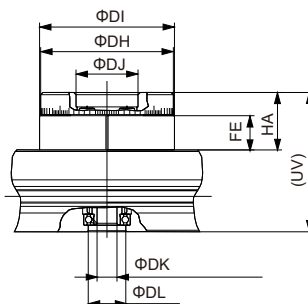


With internal shock absorber  
NMSQA□R  
NMSQB□R

High precision type  
NMSQA□A/With adjustment bolt  
NMSQA□R/With internal shock absorber



| Size | FU (mm) |
|------|---------|
| 10   | 31.5    |
| 20   | 34.7    |
| 30   | 34.7    |
| 50   | 51.7    |



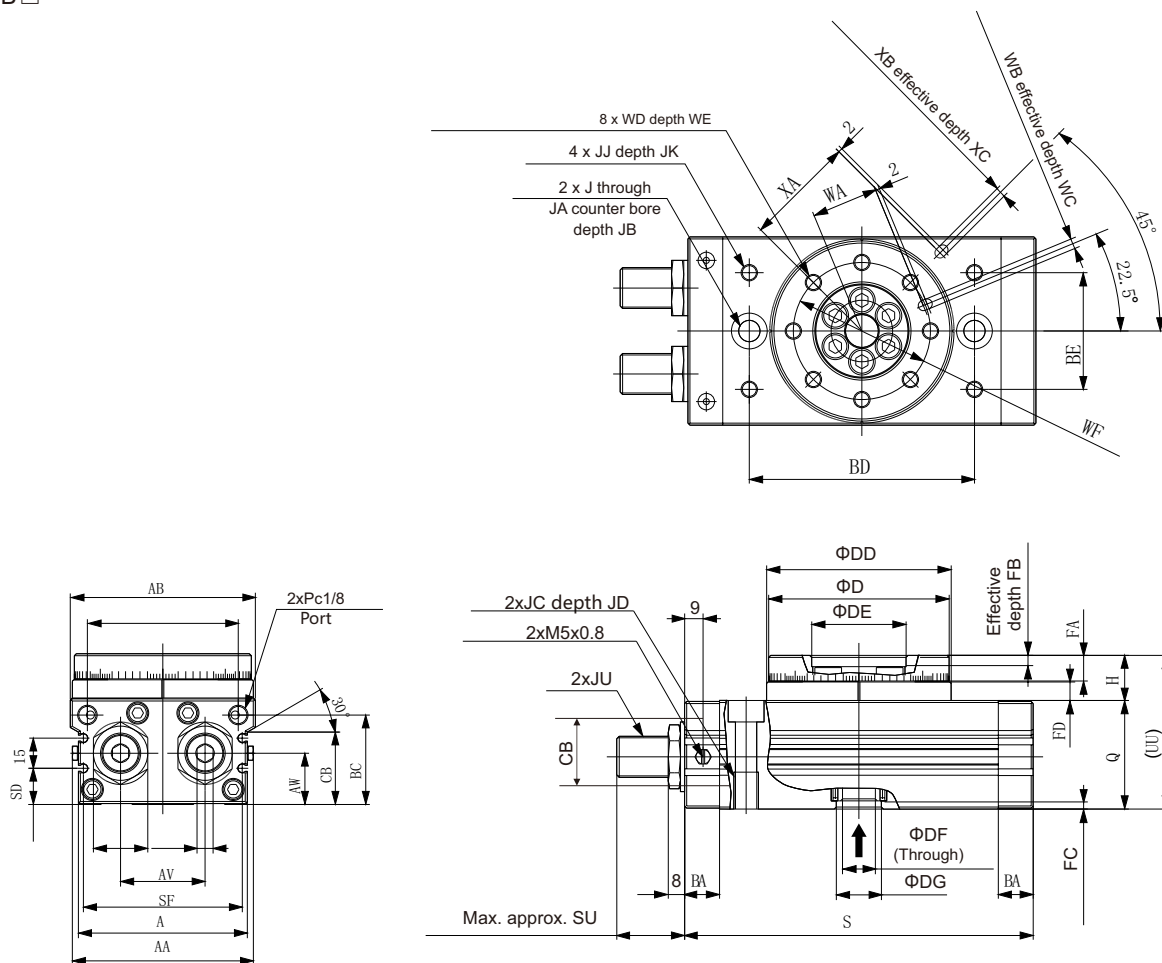
| Size | DH   | DI   | DJ   | DK | DL   | FE   | HA   | UV   |
|------|------|------|------|----|------|------|------|------|
| 10   | 45h8 | 46h8 | 20H8 | 5  | 15H8 | 10   | 18.5 | 52.5 |
| 20   | 60h8 | 61h8 | 28H8 | 9  | 17H8 | 15.5 | 26   | 63   |
| 30   | 65h8 | 67h8 | 32H8 | 9  | 22H8 | 16.5 | 27   | 67   |
| 50   | 75h8 | 77h8 | 35H8 | 10 | 26H8 | 17.5 | 30   | 76   |

| Size | AA   | A  | AU   | AV   | AW   | AX | AY | BA   | BB   | BC   | BD  | BE | CA  | CB   | D    | DD   | DE   | DF | DG   | FA | FB  | FC  | FD  | H  | J    | JA | JB   |
|------|------|----|------|------|------|----|----|------|------|------|-----|----|-----|------|------|------|------|----|------|----|-----|-----|-----|----|------|----|------|
| 10   | 55.4 | 50 | 8.6  | 20   | 15.5 | 12 | 4  | 9.5  | 34.5 | 27.8 | 60  | 27 | 4.5 | 28.5 | 45h9 | 46h9 | 20H9 | 5  | 15H9 | 8  | 4   | 3   | 4.5 | 13 | 6.8  | 11 | 6.5  |
| 20   | 70.8 | 65 | 10.6 | 27.5 | 16   | 14 | 5  | 12   | 46   | 30   | 76  | 34 | 6   | 30.5 | 60h9 | 61h9 | 28H9 | 9  | 17H9 | 10 | 6   | 2.5 | 6.5 | 17 | 8.6  | 14 | 8.5  |
| 30   | 75.4 | 70 | 10.6 | 29   | 18.5 | 14 | 5  | 12   | 50   | 32   | 84  | 37 | 6.5 | 33.5 | 65h9 | 67h9 | 32H9 | 9  | 22H9 | 10 | 4.5 | 3   | 6.5 | 17 | 8.6  | 14 | 8.5  |
| 50   | 85.4 | 80 | 14   | 38   | 22   | 19 | 6  | 15.5 | 63   | 37.5 | 100 | 50 | 10  | 37.5 | 75h9 | 77h9 | 35H9 | 10 | 26H9 | 12 | 5   | 3   | 7.5 | 20 | 10.5 | 18 | 10.5 |

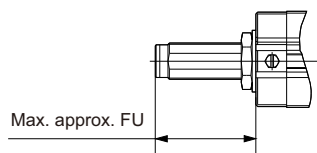
| Size | JC         | JD | JJ        | JU        | JU       | Q  | S   | SD   | SE | SF | SU   | UU | WA   | WB  | WC  | WD        | WE | WF | XA | XB  | XC  | YA | YB  | YC  |
|------|------------|----|-----------|-----------|----------|----|-----|------|----|----|------|----|------|-----|-----|-----------|----|----|----|-----|-----|----|-----|-----|
| 10   | M8 x 1.25  | 12 | M5 x 0.8  | M8 x 1    | M5 x 0.8 | 34 | 92  | 9    | 13 | 45 | 17.7 | 47 | 15   | 3H9 | 3.5 | M5 x 0.8  | 8  | 32 | 27 | 3H9 | 3.5 | 19 | 3H9 | 3.5 |
| 20   | M10 x 1.5  | 15 | M6 x 1    | M10 x 1   | M5 x 0.8 | 37 | 117 | 10   | 12 | 60 | 25   | 54 | 20.5 | 4H9 | 4.5 | M6 x 1    | 10 | 43 | 36 | 4H9 | 4.5 | 24 | 4H9 | 4.5 |
| 30   | M10 x 1.5  | 15 | M6 x 1    | M10 x 1   | Rc 1/8   | 40 | 127 | 11.5 | 14 | 65 | 25   | 57 | 23   | 4H9 | 4.5 | M6 x 1    | 10 | 48 | 39 | 4H9 | 4.5 | 28 | 4H9 | 4.5 |
| 50   | M12 x 1.75 | 18 | M8 x 1.25 | M14 x 1.5 | Rc 1/8   | 46 | 152 | 14.5 | 15 | 75 | 31   | 66 | 26.5 | 5H9 | 5.5 | M8 x 1.25 | 12 | 55 | 45 | 5H9 | 5.5 | 33 | 5H9 | 5.5 |

**Dimensions**

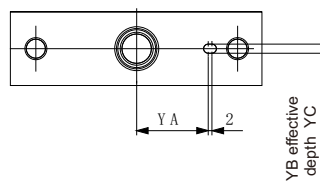
NMSQB□



With shock absorber  
NMSQB□R



| Size | FU   |
|------|------|
| 70   | 55.4 |
| 100  | 55.5 |
| 200  | 79.5 |



| Size | AA  | AB  | A   | AV | AW   | AX | AY | BA | BB  | BC   | BD  | BE | CB | D     | DD    | DE   | DF | DG   | FA   | FB | FC  | FD | H  | J    | JA   | JB   |
|------|-----|-----|-----|----|------|----|----|----|-----|------|-----|----|----|-------|-------|------|----|------|------|----|-----|----|----|------|------|------|
| 70   | 90  | 92  | 84  | 42 | 25.5 | 27 | 8  | 17 | 75  | 44.5 | 110 | 57 | 36 | 88h9  | 90h9  | 46H9 | 16 | 22H9 | 12.5 | 5  | 3.5 | 9  | 22 | 10.4 | 17.5 | 10.5 |
| 100  | 101 | 102 | 95  | 50 | 29.5 | 27 | 8  | 17 | 85  | 50.5 | 130 | 66 | 42 | 98h9  | 100h9 | 56H9 | 19 | 24H9 | 14.5 | 6  | 3.5 | 12 | 27 | 10.4 | 17.5 | 10.5 |
| 200  | 119 | 120 | 113 | 60 | 36.5 | 36 | 10 | 24 | 103 | 65.5 | 150 | 80 | 57 | 116h9 | 118h9 | 64H9 | 24 | 32H9 | 16.5 | 9  | 5.5 | 15 | 32 | 14.2 | 20   | 12.5 |

| Size | JC         | JD | JJ         | JK | JU        | Q  | S   | SD | SF  | SU   | UU  | WA   | WB  | WC  | WD         | WE   | WF | XA | XB  | XC  | YA | YB  | YC  |
|------|------------|----|------------|----|-----------|----|-----|----|-----|------|-----|------|-----|-----|------------|------|----|----|-----|-----|----|-----|-----|
| 70   | M12 x 1.75 | 18 | M8 x 1.25  | 10 | M20 x 1.5 | 53 | 170 | 18 | 79  | 34.2 | 75  | 32.5 | 5H9 | 5.5 | M8 x 1.25  | 12.5 | 67 | 54 | 5H9 | 3.5 | 39 | 5H9 | 3.5 |
| 100  | M12 x 1.75 | 18 | M8 x 1.25  | 10 | M20 x 1.5 | 59 | 189 | 22 | 90  | 34.3 | 86  | 37.5 | 6H9 | 6.5 | M10 x 1.5  | 14.5 | 77 | 59 | 6H9 | 4.5 | 49 | 6H9 | 4.5 |
| 200  | M16 x 2    | 25 | M12 x 1.75 | 13 | M27 x 1.5 | 74 | 240 | 29 | 108 | 40.2 | 106 | 44   | 8H9 | 8.5 | M12 x 1.75 | 16.5 | 90 | 69 | 8H9 | 4.5 | 54 | 8H9 | 6.5 |