

1

### How to Order?

| Series No | Mounting type                                       | Type No   | Bore                        | X | Stroke                | Adjustable stroke                       | Magnet No                          | Piston Rod thread type                                 | Thread type                 |
|-----------|---|---|-----------------------------|---|-----------------------|---|------------------------------------|--|-----------------------------|
| SQ        | Blank: Through hole<br>A: Femal thread at both ends | Blank: Basic type<br>D: Double shaft type<br>J: Double shaft and adjustable stroke type<br>SA: Single acting spring extend<br>SB: Single acting spring return | 12<br>16<br>20<br>25<br>... |   | 25<br>50<br>75<br>... | 10<br>20<br>30<br>40<br>50<br>75<br>100 | Blank: no magnet<br>S: with magnet | Blank: Female thread<br>M: Male thread<br>N: No thread | Blank: G<br>P: PT<br>T: NPT |

#### Order Example:

SQ Series single acting spring extend cylinder, through hole mounting type, 40mm bore, 30mm stroke, with magnet, femal thread on piston rod, G thread.  
ERP code is: SQSA40X30-S

### Specifications

| Bore (mm)                 | 12   | 16 | 20 | 25 | 32 | 40    | 50 | 63    | 80 | 100   |  |
|---------------------------|--|----|----|----|----|-------|----|-------|----|-------|--|
| Acting type               | Double Acting / Single acting: With Spring Return / With Spring Extend |    |    |    |    |       |    |       |    |       |  |
| Working medium            | Clean Air (40 µm filtration)   |    |    |    |    |       |    |       |    |       |  |
| Working pressure (MPa)    | 0.1-1.0  |    |    |    |    |       |    |       |    |       |  |
| Guaranteed pressure (MPa) | 1.5  |    |    |    |    |       |    |       |    |       |  |
| Working temperature (°C)  | -20-80(Dry air)  |    |    |    |    |       |    |       |    |       |  |
| Cushion type              | Anti-bump cushion  |    |    |    |    |       |    |       |    |       |  |
| Tolerance of stroke       | +1.0<br>0  |    |    |    |    |       |    |       |    |       |  |
| Lubrication               | Not required   |    |    |    |    |       |    |       |    |       |  |
| Port size                 | M5x0.8   |    |    |    |    | G 1/8 |    | G 1/4 |    | G 3/8 |  |

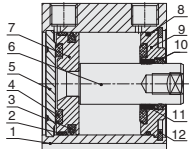
● NPT, PT port size is optional.

| Bore (mm)     |        | Standard stroke (mm) |    |    |    |    |    |    |    |    | Max. stroke (mm) |    |    |    |    |    |     |     |
|---------------|--------|----------------------|----|----|----|----|----|----|----|----|------------------|----|----|----|----|----|-----|-----|
| Double Acting | 12/16  | 5                    | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50               | 60 | 50 |    |    |    |     |     |
|               | 20/25  | 5                    | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50               | 60 | 70 | 75 | 80 | 90 | 100 | 150 |
|               | 32-100 | 5                    | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50               | 60 | 70 | 75 | 80 | 90 | 100 | 300 |
| Single Acting | 12/16  | 5                    | 10 | 15 | 20 |    |    |    |    |    |                  |    |    |    | 20 |    |     |     |
|               | 20-63  | 5                    | 10 | 15 | 20 | 25 | 30 |    |    |    |                  |    |    |    |    |    | 30  |     |

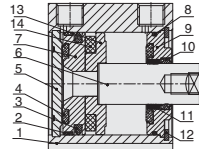
Note: The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder.  
e.g. 27mm stroke cylinder has the same dimensions of 30 std. stroke cylinder.

### Internal structure

※ Without magnet



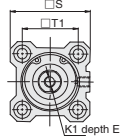
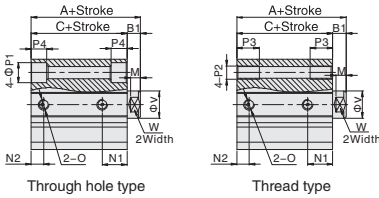
※ With magnet



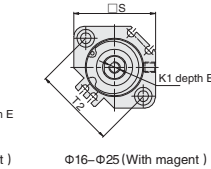
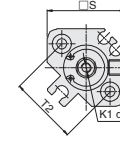
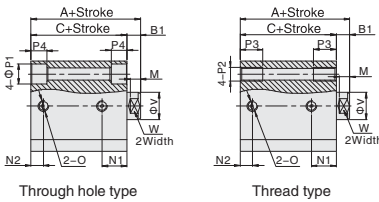
| No | Part name                |
|----|--------------------------|
| 1  | Barrel                   |
| 2  | Wear ring                |
| 3  | Piston seal              |
| 4  | Anti-bump cushion        |
| 5  | Rear cover               |
| 6  | Piston rod               |
| 7  | Piston                   |
| 8  | O-ring                   |
| 9  | Head cover               |
| 10 | Piston rod seal          |
| 11 | Self lubricating bearing |
| 12 | C type retainer ring     |
| 13 | Magnet                   |
| 14 | Magnet base              |

### Main Dimensions

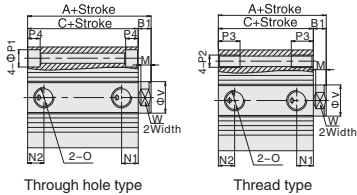
SQ  $\phi 12-\phi 25$  ( Without magnet )



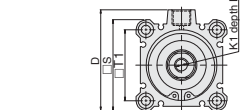
| Model | Basic Type |        |        |        | With Magnet |     |      |      |     |     |     |   |    |     |
|-------|------------|--------|--------|--------|-------------|-----|------|------|-----|-----|-----|---|----|-----|
|       | Sign       | A      | C      | N1     | N2          | A   | C    | N1   | N2  | B1  | D   | E | M  |     |
| Bore  | St<=50     | St>=60 | St<=50 | St>=60 | N1          | N2  | A    | C    | N1  | N2  | B1  | D | E  | M   |
| 12    | 20.5       | -      | 17     | -      | 7.5         | 5   | 31.5 | 28   | 9   | 5   | 3.5 | - | 6  | 3.5 |
| 16    | 22         | -      | 18.5   | -      | 8           | 5.5 | 34   | 30.5 | 9.5 | 5.5 | 3.5 | - | 8  | 3   |
| 20    | 24         | 34     | 19.5   | 29.5   | 9           | 5.5 | 38   | 31.5 | 9.5 | 5.5 | 4.5 | - | 7  | 4   |
| 25    | 27.5       | 37.5   | 22.5   | 32.5   | 11          | 5.5 | 37.5 | 32.5 | 11  | 5.5 | 5   | - | 12 | 4.5 |



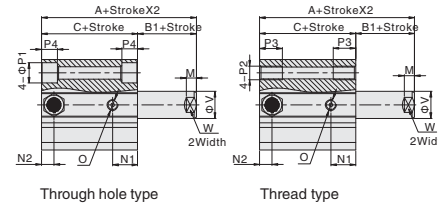
SQ  $\phi 32-\phi 100$



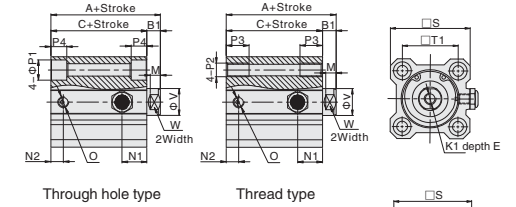
| Model | Basic Type |        |        |        | With Magnet |      |      |      |      |      |      |    |       |    |     |
|-------|------------|--------|--------|--------|-------------|------|------|------|------|------|------|----|-------|----|-----|
|       | Sign       | A      | C      | N1     | N2          | A    | C    | N1   | N2   | B1   | D    | E  | M     |    |     |
| Bore  | St<=50     | St>=60 | St<=50 | St>=60 | N1          | N2   | A    | C    | N1   | N2   | B1   | D  | E     | M  |     |
| 32    | St=5       | 30     | 40     | 23     | 33          | 7.5  | 6.5  | 40   | 33   | 10.5 | 7.5  | 7  | 49.5  | 13 | 6   |
| 40    | St>=5      | 36.5   | 46.5   | 29.5   | 39.5        | 11   | 8    | 46.5 | 39.5 | 11   | 8    | 7  | 57    | 13 | 6   |
| 50    | St=5       | 38.5   | 48.5   | 30.5   | 40.5        | 10.5 | 10.5 | 48.5 | 40.5 | 10.5 | 10.5 | 8  | 71    | 15 | 6.5 |
| 63    | St>=5      | 44     | 54     | 36     | 46          | 14   | 9.5  | 54   | 46   | 15   | 10.5 | 8  | 84    | 15 | 6.5 |
| 80    | St=5       | 53.5   | 63.5   | 43.5   | 53.5        | 16   | 14   | 63.5 | 53.5 | 16   | 14   | 10 | 104   | 20 | 8.5 |
| 100   | St>=5      | 65     | 75     | 53     | 63          | 20   | 17.5 | 75   | 63   | 20   | 17.5 | 12 | 123.5 | 26 | 9.5 |



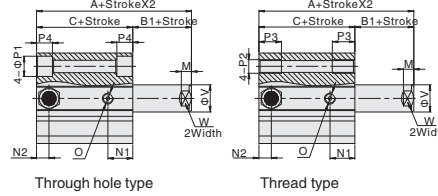
SQSA  $\phi 12-\phi 25$  ( Without magnet )



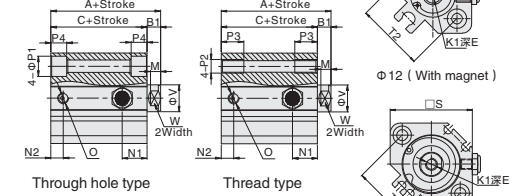
SQSB  $\phi 12-\phi 25$  ( Without magnet )



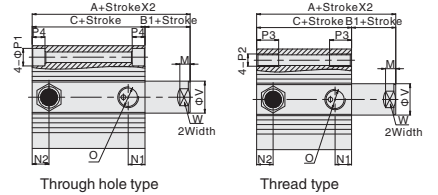
SQSA  $\phi 12-\phi 25$  ( With magnet )



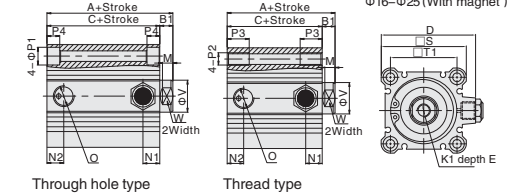
SQSB  $\phi 12-\phi 25$  ( With magnet )



SQSA  $\phi 32-\phi 63$



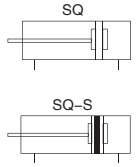
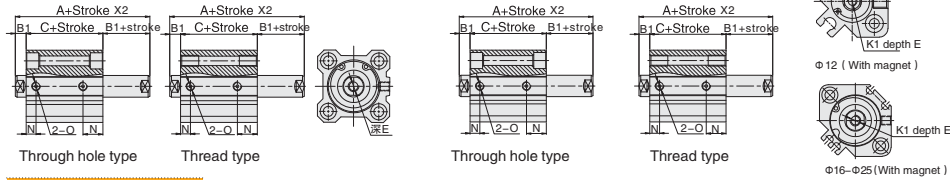
SQSB  $\phi 32-\phi 63$



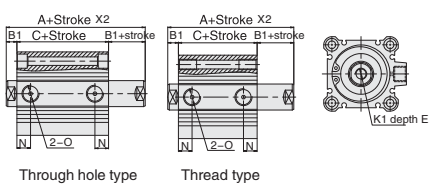
| Model | Basic Type |      |      |      |      |      |      |      | With Magnet |      |    |    |    |
|-------|------------|------|------|------|------|------|------|------|-------------|------|----|----|----|
|       | Bore/Sign  | A    | C    | N1   | N2   | B1   | D    | E    | O           | P1   | P2 | P3 | P4 |
| 12    | 25.5       | 30.5 | -    | 22   | 27   | -    | 7.5  | 5    | 3.5         | -    | 8  | -  | 6  |
| 16    | 27         | 32   | -    | 23.5 | 28.5 | -    | 8    | 5.5  | 3.5         | -    | 8  | -  | 8  |
| 20    | 29         | 34   | 39   | 24.5 | 29.5 | 34.5 | 9    | 5.5  | 4.5         | -    | 7  | -  | 7  |
| 25    | 32.5       | 37.5 | 42.5 | 27.5 | 32.5 | 37.5 | 11   | 5.5  | 5           | -    | 12 | -  | 12 |
| 32    | 35         | 40   | 45   | 28   | 33   | 38   | 10.5 | 7.5  | 7           | 49.5 | 13 | -  | 13 |
| 40    | 41.5       | 46.5 | 51.5 | 34.5 | 39.5 | 44.5 | 11   | 8    | 7           | 57   | 13 | -  | 13 |
| 50    | 48.5       | 53.5 | 58.5 | 40.5 | 45.5 | 50.5 | 10.5 | 10.5 | 8           | 71   | 15 | -  | 15 |
| 63    | 54         | 59   | 64   | 46   | 51   | 56   | 15   | 10.5 | 8           | 84   | 15 | -  | 15 |

| Model | With Magnet |      |      |      |      |      |      |      | K1      |
|-------|-------------|------|------|------|------|------|------|------|---------|
|       | Bore/Sign   | A    | C    | N1   | N2   | B1   | D    | E    |         |
| 12    | 36.5        | 41.5 | -    | 33   | 38   | -    | 9    | 5    | M3x0.5  |
| 16    | 39          | 44   | -    | 35.5 | 40.5 | -    | 9.5  | 5.5  | M4x0.7  |
| 20    | 41          | 46   | 51   | 36.5 | 41.5 | 46.5 | 9.5  | 5.5  | M5x0.8  |
| 25    | 42.5        | 47.5 | 52.5 | 37.5 | 42.5 | 47.5 | 11   | 5.5  | M6x1.0  |
| 32    | 45          | 50   | 55   | 38   | 43   | 48   | 10.5 | 7.5  | M8x1.25 |
| 40    | 51.5        | 56.5 | 61.5 | 44.5 | 49.5 | 54.5 | 11   | 8    | M8x1.25 |
| 50    | 58.5        | 63.5 | 68.5 | 50.5 | 55.5 | 60.5 | 10.5 | 10.5 | M10x1.5 |
| 63    | 64          | 69   | 74   | 56   | 61   | 66   | 15   | 10.5 | M10x1.5 |

**SQD  $\phi$ 12- $\phi$ 25 (Without magnet)**



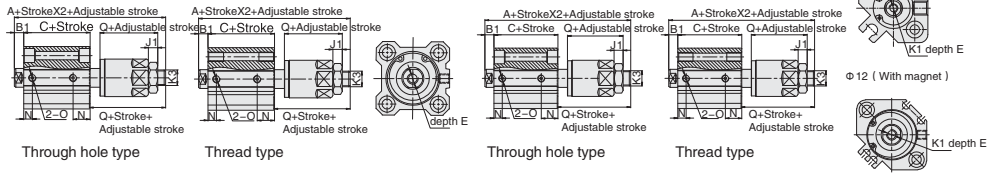
**SQD  $\phi$ 32- $\phi$ 63**



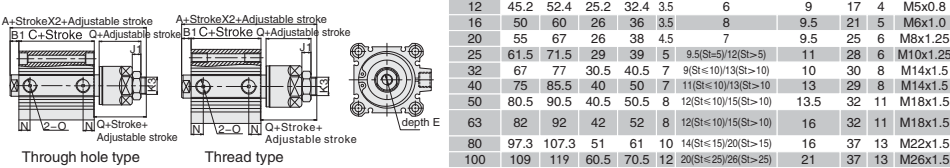
| Bore /Sign | A        |             | C        |             | B1  | E                   | N    |
|------------|----------|-------------|----------|-------------|-----|---------------------|------|
|            | standard | With magnet | standard | With magnet |     |                     |      |
| 12         | 32.2     | 39.4        | 25.2     | 32.4        | 3.5 | 6                   | 9    |
| 16         | 33       | 43          | 26       | 36          | 3.5 | 8                   | 9.5  |
| 20         | 35       | 47          | 26       | 38          | 4.5 | 7                   | 9.5  |
| 25         | 39       | 49          | 29       | 39          | 5   | 9.5(St=5)/12(St>5)  | 11   |
| 32         | 44.5     | 54.5        | 30.5     | 40.5        | 7   | 9(St≤10)/13(St>10)  | 10   |
| 40         | 54       | 64          | 40       | 50          | 7   | 11(St≤10)/13(St>10) | 13   |
| 50         | 56.5     | 66.5        | 40.5     | 50.5        | 8   | 12(St≤10)/15(St>10) | 13.5 |
| 63         | 58       | 68          | 42       | 52          | 8   | 12(St≤10)/15(St>10) | 16   |
| 80         | 71       | 81          | 51       | 61          | 10  | 14(St≤15)/20(St>15) | 16   |
| 100        | 84.5     | 94.5        | 60.5     | 70.5        | 12  | 20(St≤25)/26(St>25) | 21   |

Note: Not marked dimensions is same as standard type. Male thread type pls check this page.

**SQJ  $\phi$ 12- $\phi$ 25 (Without magnet)**

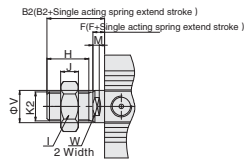


**SQJ  $\phi$ 32- $\phi$ 100**



| Bore /Sign | A        |             | C        |             | B1  | E                   | N    | Q  | J1 | K3       |
|------------|----------|-------------|----------|-------------|-----|---------------------|------|----|----|----------|
|            | standard | With magnet | standard | With magnet |     |                     |      |    |    |          |
| 12         | 45.2     | 52.4        | 25.2     | 32.4        | 3.5 | 6                   | 9    | 17 | 4  | M5x0.8   |
| 16         | 50       | 60          | 26       | 36          | 3.5 | 8                   | 9.5  | 21 | 5  | M6x1.0   |
| 20         | 55       | 67          | 26       | 38          | 4.5 | 7                   | 9.5  | 25 | 6  | M8x1.25  |
| 25         | 61.5     | 71.5        | 29       | 39          | 5   | 9.5(St=5)/12(St>5)  | 11   | 28 | 6  | M10x1.25 |
| 32         | 67       | 77          | 30.5     | 40.5        | 7   | 9(St≤10)/13(St>10)  | 10   | 30 | 8  | M14x1.5  |
| 40         | 75       | 85.5        | 40       | 50          | 7   | 11(St≤10)/13(St>10) | 13   | 29 | 8  | M14x1.5  |
| 50         | 80.5     | 90.5        | 40.5     | 50.5        | 8   | 12(St≤10)/15(St>10) | 13.5 | 32 | 11 | M18x1.5  |
| 63         | 82       | 92          | 42       | 52          | 8   | 12(St≤10)/15(St>10) | 16   | 32 | 11 | M18x1.5  |
| 80         | 97.3     | 107.3       | 51       | 61          | 10  | 14(St≤15)/20(St>15) | 16   | 37 | 13 | M22x1.5  |
| 100        | 109      | 119         | 60.5     | 70.5        | 12  | 20(St≤25)/26(St>25) | 21   | 37 | 13 | M26x1.5  |

**Male type dimension**



| Bore /Sign | B2   | F   | H    | I  | J  | K2       | M   | V  | W  |
|------------|------|-----|------|----|----|----------|-----|----|----|
| 12         | 14   | 3.5 | 9    | 8  | 4  | M5x0.8   | 3.5 | 6  | 5  |
| 16         | 15.5 | 3.5 | 10   | 10 | 5  | M6x1.0   | 3   | 8  | 6  |
| 20         | 18.5 | 4.5 | 12   | 12 | 6  | M8x1.25  | 4   | 10 | 8  |
| 25         | 22.5 | 5   | 15   | 17 | 6  | M10x1.25 | 4.5 | 12 | 10 |
| 32         | 28.5 | 5   | 20.5 | 19 | 8  | M14x1.5  | 4   | 16 | 14 |
| 40         | 28.5 | 5   | 20.5 | 19 | 8  | M14x1.5  | 4   | 16 | 14 |
| 50         | 33.5 | 5   | 26   | 27 | 11 | M18x1.5  | 4   | 20 | 17 |
| 63         | 33.5 | 5   | 26   | 27 | 11 | M18x1.5  | 4   | 20 | 17 |
| 80         | 43.5 | 8   | 32.5 | 32 | 13 | M22x1.5  | 6   | 25 | 22 |
| 100        | 43.5 | 8   | 32.5 | 36 | 13 | M26x1.5  | 5.5 | 32 | 27 |

**How to Order?**

| Series No            | Type No. | Bore                  | X Stroke         | Adjustable stroke                       | Magnet No                          | Piston Rod thread type                                 | Thread type                 |
|----------------------|----------|-----------------------|------------------|---|------------------------------------|--|-----------------------------|
| SQA<br>(Thread type) |          | 32<br>40<br>50<br>... | Reference stroke | 10<br>20<br>30<br>40<br>50<br>75<br>100 | Blank: no magnet<br>S: with magnet | Blank: Female thread<br>M: Male thread<br>N: No thread | Blank: G<br>P: PT<br>T: NPT |

Blank: Basic type  
D: Double shaft type  
J: Double shaft and adjustable stroke type  
SA: Single acting spring extend  
SB: Single acting spring return

**Order Example:**  
SQA Series basic type cylinder, 40mm bore, 125mm stroke, with magnet, male thread on piston rod, G thread, ERP code is: SQA40X125-S-M

**Specifications**

| Bore size(mm)           | 32  | 40 | 50   | 63 | 80   | 100 |
|-------------------------|---|----|------|----|------|-----|
| Acting type             | Double acting                                     |    |      |    |      |     |
| Working medium          | Clean air(40 μ m filtration)                      |    |      |    |      |     |
| Working pressure(MPa)   | 0.1-1.0 ( Double acting ) /0.2-1.0(Single acting) |    |      |    |      |     |
| Garanteed pressure(MPa) | 1.5   |    |      |    |      |     |
| Working temperature(°C) | -20-80  |    |      |    |      |     |
| Speed range(mm/s)       | 30-500  |    |      |    |      |     |
| Cushion type            | Fixing cushion                                    |    |      |    |      |     |
| Port size               | G1/8  |    | G1/4 |    | G3/8 |     |

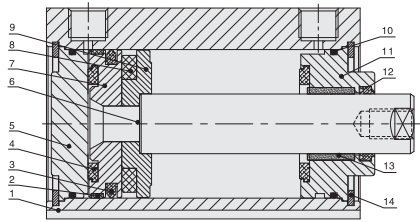
PT, NPT port size is optional

**Stroke**

| Bore(mm)           | Standard Stroke(mm) |     |     |     |     |     | Max. Stroke(mm) |
|--------------------|---------------------|-----|-----|-----|-----|-----|-----------------|
| 32 40 50 63 80 100 | 125                 | 150 | 175 | 200 | 250 | 300 | 350             |

Note: The dimensions of non-std stroke cylinder has the same dimensions as the next longer stroke std. stroke cylinder. e.g. 115mm stroke cylinder has the same dimensions of 125 std. stroke cylinder.

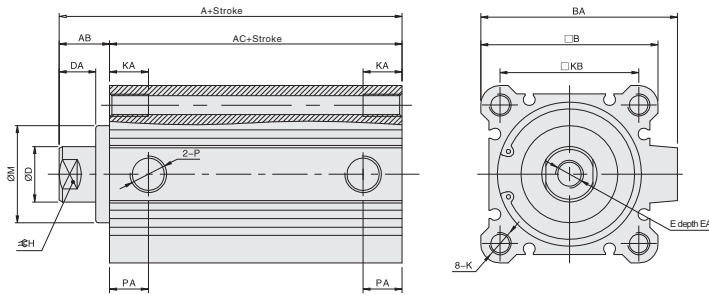
Internal Structure



| No. | Part Name                | Material                      |
|-----|--------------------------|-------------------------------|
| 1   | Barrel                   | Aluminum alloy                |
| 2   | Wear ring                | PTEE                          |
| 3   | Piston seal              | NBR                           |
| 4   | Anti-bump cushion        | NBR/TPU                       |
| 5   | Rear cover               | Aluminum alloy                |
| 6   | Piston rod               | S45C hard chrome carbon steel |
| 7   | Piston                   | Aluminum alloy                |
| 8   | Magnet                   | Plastic                       |
| 9   | Magnet base              | Aluminum alloy                |
| 10  | O-ring                   | NBR                           |
| 11  | Head cover               | Aluminum alloy                |
| 12  | Piston rod seal          | TPU                           |
| 13  | Self lubricating bearing | Bronze powder                 |
| 14  | C-type retainer ring     | Spring steel                  |

Dimensions

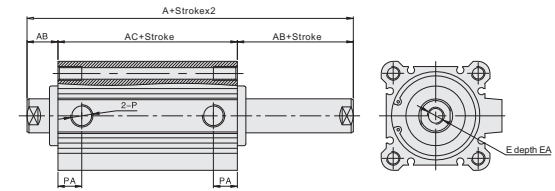
SQA32--SQA100(S>100)



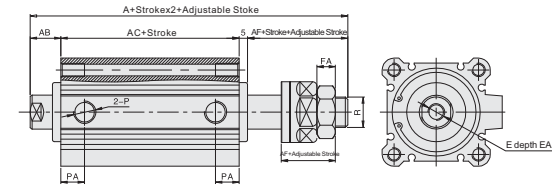
| Bore | A    | AB | AC   | B   | BA    | D  | DA | E       | EA | H  | K        | KA | KB | M  | P    | PA   |
|------|------|----|------|-----|-------|----|----|---------|----|----|----------|----|----|----|------|------|
| 32   | 62.5 | 17 | 45.5 | 45  | 49.5  | 16 | 12 | M8X1.25 | 13 | 14 | M6X1.0   | 10 | 34 | 22 | 1/8" | 12.5 |
| 40   | 72   | 17 | 55   | 52  | 57    | 16 | 12 | M8X1.25 | 13 | 14 | M6X1.0   | 10 | 40 | 28 | 1/8" | 14   |
| 50   | 73.5 | 18 | 55.5 | 64  | 71    | 20 | 13 | M10X1.5 | 15 | 17 | M8X1.25  | 14 | 50 | 35 | 1/4" | 14   |
| 63   | 75   | 18 | 57   | 77  | 84    | 20 | 13 | M10X1.5 | 15 | 17 | M10X1.5  | 18 | 60 | 35 | 1/4" | 16.5 |
| 80   | 86   | 20 | 66   | 98  | 104   | 25 | 15 | M16X2.0 | 21 | 22 | M12X1.75 | 22 | 77 | 43 | 3/8" | 19   |
| 100  | 97.5 | 22 | 75.5 | 117 | 123.5 | 32 | 17 | M20X2.5 | 27 | 27 | M12X1.75 | 22 | 94 | 59 | 3/8" | 23   |

Note:With magnet and without magnet ,the dimensions are same.

SQAD32--SQAD100(S>100)



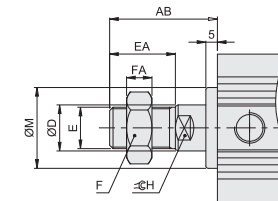
SQAJ32--SQAJ100(S>100)



| Bore/Sign | A(SQAD)        |             | A(SQAJ)        |             | AB | AC       |             | AF | E       | EA | FA | PA   | R       |
|-----------|----------------|-------------|----------------|-------------|----|----------|-------------|----|---------|----|----|------|---------|
|           | Without magnet | With magnet | Without magnet | With magnet |    | Standard | With magnet |    |         |    |    |      |         |
| 32        | 79.5           | 89.5        | 97.5           | 107.5       | 17 | 45.5     | 55.5        | 30 | M8X1.25 | 13 | 8  | 12.5 | M14X1.5 |
| 40        | 89             | 99          | 106            | 116         | 17 | 55       | 65          | 29 | M8X1.25 | 13 | 8  | 14   | M14X1.5 |
| 50        | 91.5           | 101.5       | 110.5          | 120.5       | 18 | 55.5     | 65.5        | 32 | M10X1.5 | 15 | 11 | 14   | M18X1.5 |
| 63        | 93             | 103         | 112            | 122         | 18 | 57       | 67          | 32 | M10X1.5 | 15 | 11 | 16.5 | M18X1.5 |
| 80        | 106            | 116         | 128            | 138         | 20 | 66       | 76          | 37 | M16X2.0 | 21 | 13 | 19   | M22X1.5 |
| 100       | 119.5          | 129.5       | 139.5          | 149.5       | 22 | 75.5     | 85.5        | 37 | M20X2.5 | 27 | 13 | 23   | M26X1.5 |

Dimension of male thread

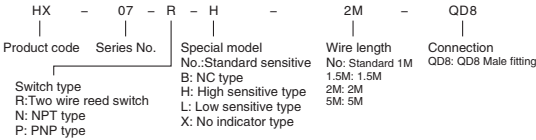
Φ32~Φ100(S>100)



| Bore/Sign | AB   | D  | E       | EA   | FA | F  | H  | M  |
|-----------|------|----|---------|------|----|----|----|----|
| 32        | 38.5 | 16 | M14X1.5 | 23.5 | 8  | 19 | 14 | 22 |
| 40        | 38.5 | 16 | M14X1.5 | 23.5 | 8  | 19 | 14 | 28 |
| 50        | 43.5 | 20 | M18X1.5 | 28.5 | 11 | 27 | 17 | 35 |
| 63        | 43.5 | 20 | M18X1.5 | 28.5 | 11 | 27 | 17 | 35 |
| 80        | 53.5 | 25 | M22X1.5 | 35.5 | 13 | 32 | 22 | 43 |
| 100       | 53.5 | 32 | M26X1.5 | 35.5 | 13 | 36 | 27 | 59 |

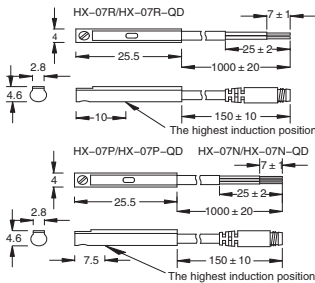


## How to Order?

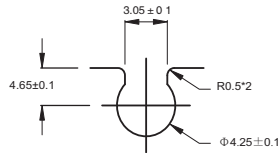


- Note: 1. Testing with standard magnet:  $\Phi 15.5 \times \Phi 8 \times 5$  ( Plastic magnet ) ;  
 2. Sine wave/X, Y, Z3 axial direction/ each axial direction three times/ each time 11ms;  
 3. complex amplitude 1.5mm/10Hz-55Hz sweep frequency, last one minute/ each time X, Y, Z axial direction for one hour;  
 4. 1=No/2=output short circuit protection/3=Power reverse connection protection/4=Surge absorption protection

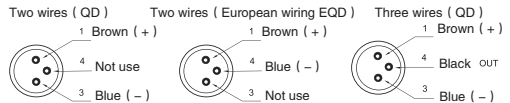
## Dimensions



## Groove dimension



## OD fitting wiring



## Specification

| Type                     | HX-07R                                   | HX-07RA      | HX-07N                                    | HX-07P                      |
|--------------------------|--|--------------|---|-----------------------------|
| Connect Diagram          |  |              |   |                             |
| Parameter                |  |              |   |                             |
| Wiring method            | 2-Wire Type                              |              | 3-Wire Type                               |                             |
| Switching logic          | SPST Normally Open                       |              | Solid State Output, Normally Open         |                             |
| Sensor type              | Reed switch                              |              | NPN type ( Input )                        | PNP type ( Output )         |
| Operating voltage        | 5-120V DC/AC                             | 5-240V DC/AC | 5-30V DC                                  |                             |
| Max. switching current   | 100 mA max.                              |              | 200 mA max.                               |                             |
| Contact rating           | 6 W max.                                 | 10 W max.    | 6 W max.                                  |                             |
| Current consumption      | None                                     |              | 20mA @ 24V DC max                         |                             |
| Voltage drop             | 2.5V max.                                |              | 0.5V @ 200mA max                          |                             |
| Leakage current          | None                                     |              | 0.01mA max.                               |                             |
| Indicator                | Red LED                                  | Green LED    | Red LED                                   | Green LED                   |
| Max. exchange frequency  | 200Hz                                    |              | 1000Hz                                    | 1000Hz                      |
| Temperature range        |  |              | -10 ~ 70°C                                |                             |
| Shock                    | 30G                                      |              | 50G                                       |                             |
| Vibration                |  |              | 9G  |                             |
| Enclosure classification |  |              | IEC 529 IP67 (NEMA 6)                     |                             |
| Protection circuit       | None                                     |              | Power reverse connection protection       | Surge absorption protection |
| Cable                    | 2.8Φ, 2C, Gray color, oil resistance PVC |              | 2.8Φ, 3C, Black color, oil resistance PVC |                             |