

Алматы (7273)495-231  
Ангарск (3955)60-70-56  
Архангельск (8182)63-90-72  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Благовещенск (4162)22-76-07  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Владикавказ (8672)28-90-48  
Владимир (4922)49-43-18  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06  
Ижевск (3412)26-03-58  
Иркутск (395)279-98-46  
Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Коломна (4966)23-41-49  
Кострома (4942)77-07-48  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Курган (3522)50-90-47  
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижний Новгород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Ноябрьск (3496)41-32-12  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Петрозаводск (8142)55-98-37  
Псков (8112)59-10-37  
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Саранск (8342)22-96-24  
Симферополь (3652)67-13-56  
Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Сыктывкар (8212)25-95-17  
Тамбов (4752)50-40-97  
Тверь (4822)63-31-35

Тольятти (8482)63-91-07  
Томск (3822)98-41-53  
Тула (4872)33-79-87  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Улан-Удэ (3012)59-97-51  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Чебоксары (8352)28-53-07  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Чита (3022)38-34-83  
Якутск (4112)23-90-97  
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

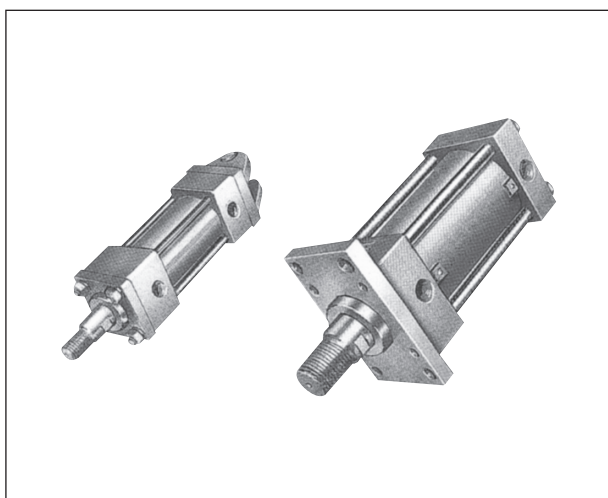
Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

<https://toyooki.nt-rt.ru> || [tik@nt-rt.ru](mailto:tik@nt-rt.ru)

## HYDRAULIC CYLINDER

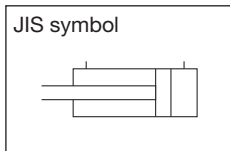
### HYDRAULIC CYLINDER FOR 7 MPa (HC) $\phi 125$ to $\phi 160$



#### ■ Features

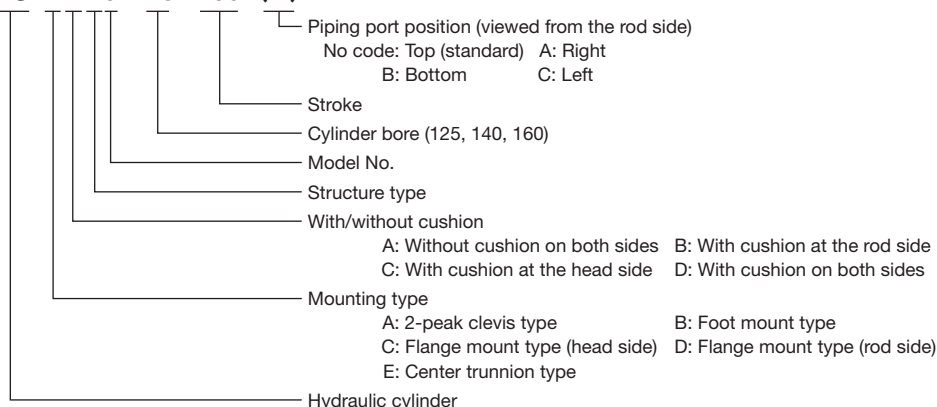
1. The cylinder is highly wear resistant since the cylinder tube internal face is finished by precision honing and the piston rod is coated by hard chromium plating.
2. The packing is selected very carefully; packing with a long service life is used.
3. Five types of mounting (clevis type, foot mount type, head side flange mount type, rod side flange mount type and center trunnion type) are available and the type most suitable for the application can be selected.

JIS symbol



#### ■ Description of the model designation

**HC-DAX3-125×100- (A)**



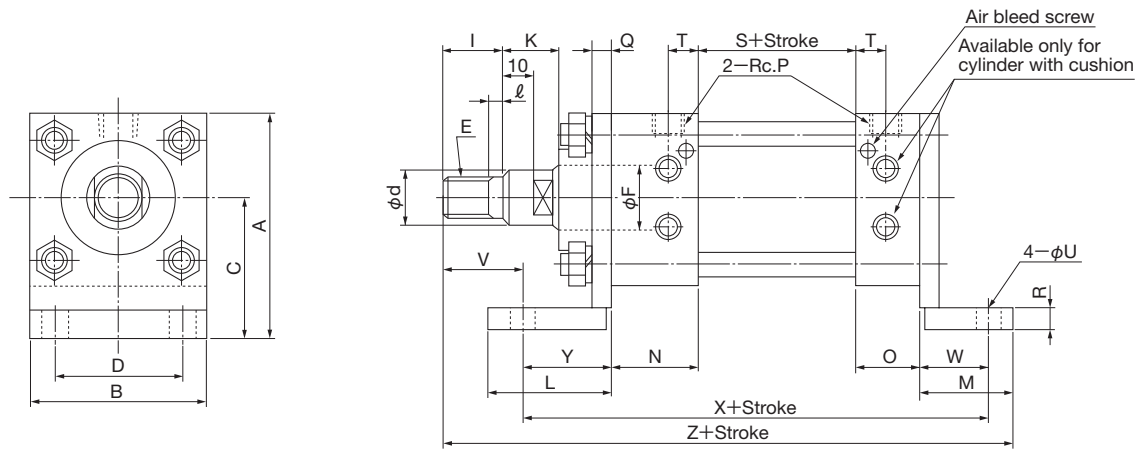
#### ■ Specifications

| Cylinder bore (mm) | Max. operating pressure (MPa) | Operating speed range (mm/s) | Operating temperature range (°C) | Rod diameter (mm) | Connection port (Rc) | Area (cm <sup>2</sup> ) |           | Cushion length (mm) |           | Max. stroke (mm) |             |
|--------------------|-------------------------------|------------------------------|----------------------------------|-------------------|----------------------|-------------------------|-----------|---------------------|-----------|------------------|-------------|
|                    |                               |                              |                                  |                   |                      | Rod side                | Head side | Rod side            | Head side | Extension        | Compression |
| 125                | 7                             | 8 to 300                     | -15 to 80                        | 63                | 1                    | 91.5                    | 122.7     | 20                  | 20        | 2,000            | 1,500       |
| 140                |                               |                              |                                  | 71                | 1                    | 114.3                   | 153.9     | 20                  | 20        | 2,000            | 1,500       |
| 160                |                               |                              |                                  | 80                | 1                    | 150.8                   | 201.1     | 20                  | 20        | 2,000            | 1,500       |

| Model         | Cylinder bore | A   | B   | C  | E        |       | d         |                                                     | Rod Dia. F | G   | I  | J  | K  | L  | M  | N  | O  | P | R  | S   | T  | U         |                                                    | ℓ | X   |
|---------------|---------------|-----|-----|----|----------|-------|-----------|-----------------------------------------------------|------------|-----|----|----|----|----|----|----|----|---|----|-----|----|-----------|----------------------------------------------------|---|-----|
|               |               |     |     |    | Diameter | Pitch | Dimension | Tolerance                                           |            |     |    |    |    |    |    |    |    |   |    |     |    | Dimension | Tolerance                                          |   |     |
| HC-A*X3-125x* | 125           | 122 | 165 | 63 | 48       | 1.5   | 60        | $\begin{smallmatrix} 0 \\ -0.030 \end{smallmatrix}$ | 63         | 98  | 70 | 63 | 40 | 15 | 24 | 64 | 49 | 1 | 50 | 122 | 24 | 50        | $\begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$  | 6 | 532 |
| HC-A*X3-140x* | 140           | 138 | 185 | 80 | 55       | 2     | 68        | $\begin{smallmatrix} 0 \\ -0.030 \end{smallmatrix}$ | 71         | 120 | 80 | 80 | 45 | 15 | 26 | 64 | 49 | 1 | 63 | 122 | 24 | 63        | $\begin{smallmatrix} +0.12 \\ 0 \end{smallmatrix}$ | 6 | 584 |
| HC-A*X3-160x* | 160           | 160 | 210 | 80 | 60       | 2     | 78        | $\begin{smallmatrix} 0 \\ -0.030 \end{smallmatrix}$ | 80         | 125 | 90 | 90 | 50 | 15 | 31 | 64 | 49 | 1 | 75 | 142 | 24 | 71        | $\begin{smallmatrix} +0.12 \\ 0 \end{smallmatrix}$ | 6 | 641 |

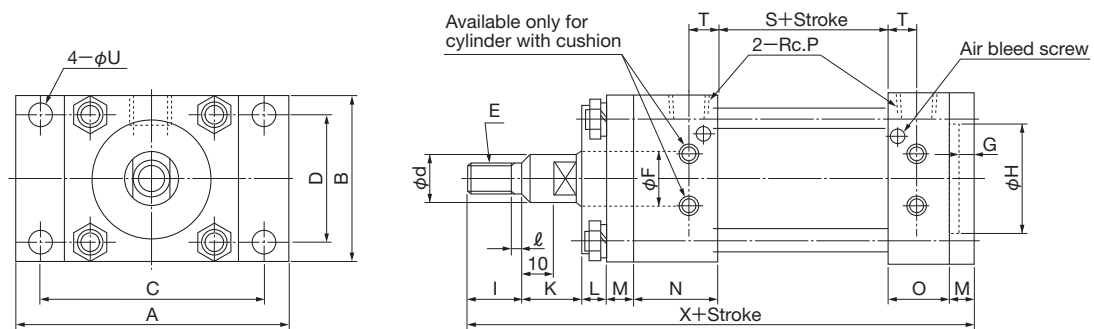
## ■ Outside dimensions

### Foot mount type



| Model         | Cylinder bore | A     | B   | C   | D   | E        |       | d         |                                                     | Rod Dia. F | I  | K  | L   | M   | N  | O  | P | Q  | R  | S   | T  | U  | V  | W  | X   | Y   | ℓ | Z   |
|---------------|---------------|-------|-----|-----|-----|----------|-------|-----------|-----------------------------------------------------|------------|----|----|-----|-----|----|----|---|----|----|-----|----|----|----|----|-----|-----|---|-----|
|               |               |       |     |     |     | Diameter | Pitch | Dimension | Tolerance                                           |            |    |    |     |     |    |    |   |    |    |     |    |    |    |    |     |     |   |     |
| HC-B*X3-125x* | 125           | 187.5 | 165 | 105 | 122 | 48       | 1.5   | 60        | $\begin{smallmatrix} 0 \\ -0.030 \end{smallmatrix}$ | 63         | 70 | 40 | 119 | 95  | 64 | 49 | 1 | 24 | 15 | 122 | 24 | 24 | 59 | 66 | 391 | 90  | 6 | 479 |
| HC-B*X3-140x* | 140           | 207.5 | 185 | 115 | 138 | 55       | 2     | 68        | $\begin{smallmatrix} 0 \\ -0.030 \end{smallmatrix}$ | 71         | 80 | 45 | 126 | 100 | 64 | 49 | 1 | 26 | 18 | 122 | 24 | 26 | 70 | 70 | 401 | 96  | 6 | 501 |
| HC-B*X3-160x* | 160           | 237   | 210 | 132 | 160 | 60       | 2     | 78        | $\begin{smallmatrix} 0 \\ -0.030 \end{smallmatrix}$ | 80         | 90 | 50 | 141 | 110 | 64 | 49 | 1 | 31 | 18 | 142 | 24 | 31 | 80 | 75 | 436 | 106 | 6 | 551 |

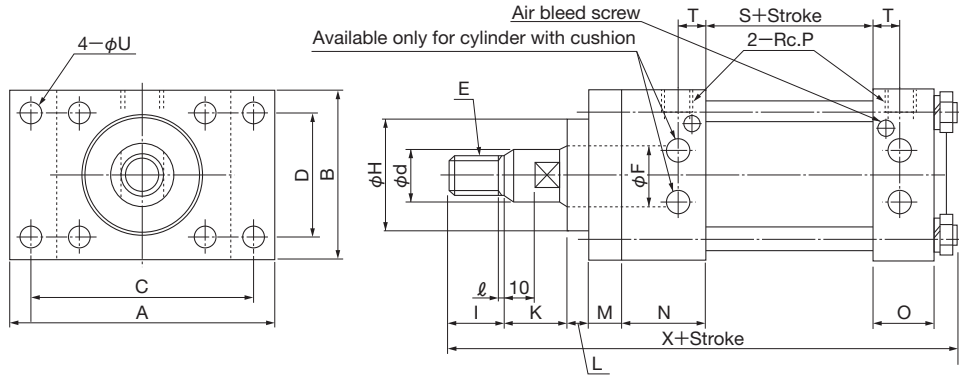
### Head side flange mount type



| Model         | Cylinder bore | A   | B   | C   | D   | E        |       | d         |                                                     | Rod Dia. F | G  | H (H8)    |                                                     | I  | K  | L  | M  | N  | O  | P | S   | T  | U  | ℓ | X   |
|---------------|---------------|-----|-----|-----|-----|----------|-------|-----------|-----------------------------------------------------|------------|----|-----------|-----------------------------------------------------|----|----|----|----|----|----|---|-----|----|----|---|-----|
|               |               |     |     |     |     | Diameter | Pitch | Dimension | Tolerance                                           |            |    | Dimension | Tolerance                                           |    |    |    |    |    |    |   |     |    |    |   |     |
| HC-C*X3-125x* | 125           | 272 | 175 | 224 | 132 | 48       | 1.5   | 60        | $\begin{smallmatrix} 0 \\ -0.030 \end{smallmatrix}$ | 63         | 14 | 100       | $\begin{smallmatrix} +0.054 \\ 0 \end{smallmatrix}$ | 70 | 40 | 15 | 24 | 64 | 49 | 1 | 122 | 24 | 24 | 6 | 408 |
| HC-C*X3-140x* | 140           | 300 | 195 | 250 | 145 | 55       | 2     | 68        | $\begin{smallmatrix} 0 \\ -0.030 \end{smallmatrix}$ | 71         | 16 | 110       | $\begin{smallmatrix} +0.054 \\ 0 \end{smallmatrix}$ | 80 | 45 | 15 | 26 | 64 | 49 | 1 | 122 | 24 | 26 | 6 | 427 |
| HC-C*X3-160x* | 160           | 335 | 218 | 280 | 165 | 60       | 2     | 78        | $\begin{smallmatrix} 0 \\ -0.030 \end{smallmatrix}$ | 80         | 21 | 120       | $\begin{smallmatrix} +0.054 \\ 0 \end{smallmatrix}$ | 90 | 50 | 15 | 31 | 64 | 49 | 1 | 142 | 24 | 31 | 6 | 472 |

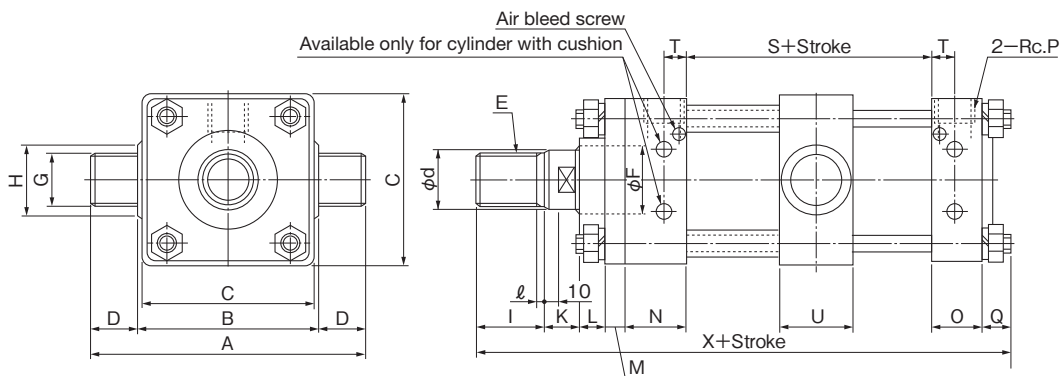
## Outside dimensions

### Rod side flange mount type



| Model         | Cylinder bore | A   | B   | C   | D   | E        |       | d         |                | Rod Dia. F | H (h8)    |                | I  | K  | L  | M  | N  | O  | P | S   | T  | U  | ℓ | Z   |
|---------------|---------------|-----|-----|-----|-----|----------|-------|-----------|----------------|------------|-----------|----------------|----|----|----|----|----|----|---|-----|----|----|---|-----|
|               |               |     |     |     |     | Diameter | Pitch | Dimension | Tolerance      |            | Dimension | Tolerance      |    |    |    |    |    |    |   |     |    |    |   |     |
| HC-D*X3-125x* | 125           | 272 | 175 | 224 | 132 | 48       | 1.5   | 60        | $0_{-0.030}^0$ | 63         | 100       | $0_{-0.054}^0$ | 70 | 40 | 15 | 24 | 64 | 49 | 1 | 122 | 24 | 24 | 6 | 410 |
| HC-D*X3-140x* | 140           | 300 | 195 | 250 | 145 | 55       | 2     | 68        | $0_{-0.030}^0$ | 71         | 110       | $0_{-0.054}^0$ | 80 | 45 | 15 | 26 | 64 | 49 | 1 | 122 | 24 | 26 | 6 | 428 |
| HC-D*X3-160x* | 160           | 335 | 218 | 280 | 165 | 60       | 2     | 78        | $0_{-0.030}^0$ | 80         | 120       | $0_{-0.054}^0$ | 90 | 50 | 15 | 31 | 64 | 49 | 1 | 142 | 24 | 31 | 6 | 471 |

### Center trunnion type

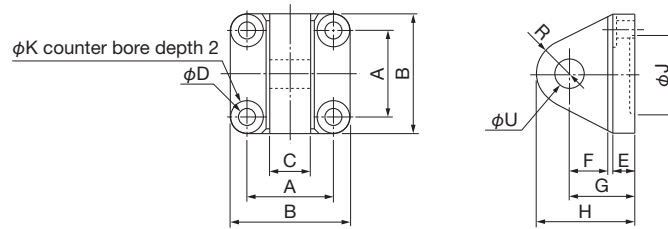


Note: The central position of the trunnion is  $\frac{S+Stroke}{2}$ .

| Model         | Cylinder bore | A   | B   | C   | D  | E        |       | d         |                | Rod Dia. F | G (d9)    |                     | H  | I  | K  | L  | M  | N  | O  | P | Q  | S   | T  | U  | ℓ | Z   |
|---------------|---------------|-----|-----|-----|----|----------|-------|-----------|----------------|------------|-----------|---------------------|----|----|----|----|----|----|----|---|----|-----|----|----|---|-----|
|               |               |     |     |     |    | Diameter | Pitch | Dimension | Tolerance      |            | Dimension | Tolerance           |    |    |    |    |    |    |    |   |    |     |    |    |   |     |
| HC-E*X3-125x* | 125           | 274 | 170 | 170 | 50 | 48       | 1.5   | 60        | $0_{-0.030}^0$ | 63         | 50        | $-0.080_{-0.142}^0$ | 60 | 70 | 40 | 15 | 24 | 64 | 49 | 1 | 27 | 122 | 24 | 64 | 6 | 411 |
| HC-E*X3-140x* | 140           | 322 | 196 | 192 | 63 | 55       | 2     | 68        | $0_{-0.030}^0$ | 71         | 63        | $-0.100_{-0.174}^0$ | 73 | 80 | 45 | 15 | 26 | 64 | 49 | 1 | 27 | 122 | 24 | 76 | 6 | 428 |
| HC-E*X3-160x* | 160           | 358 | 216 | 212 | 71 | 60       | 2     | 78        | $0_{-0.030}^0$ | 80         | 71        | $-0.100_{-0.174}^0$ | 81 | 90 | 50 | 15 | 31 | 64 | 49 | 1 | 30 | 142 | 24 | 85 | 6 | 471 |

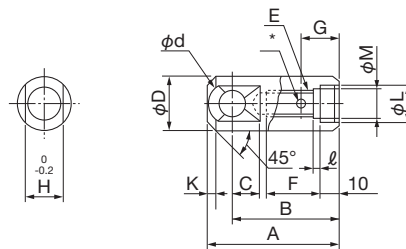
# Outside dimensions

## Knuckle bracket



| Model     | A   | B   | C  | D  | E  | F  | G   | H   | J   | K  | R  | U         |             | Applicable cylinder type |
|-----------|-----|-----|----|----|----|----|-----|-----|-----|----|----|-----------|-------------|--------------------------|
|           |     |     |    |    |    |    |     |     |     |    |    | Dimension | Tolerance   |                          |
| HC-A1-125 | 122 | 165 | 63 | 24 | 35 | 55 | 100 | 155 | 100 | 46 | 55 | 50        | +0.100<br>0 | φ125 clevis type         |
| HC-A1-140 | 138 | 185 | 80 | 26 | 40 | 70 | 115 | 185 | 110 | 50 | 70 | 63        | +0.120<br>0 | φ140 clevis type         |
| HC-A1-160 | 160 | 210 | 80 | 30 | 40 | 80 | 125 | 205 | 120 | 55 | 80 | 71        | +0.120<br>0 | φ160 clevis type         |

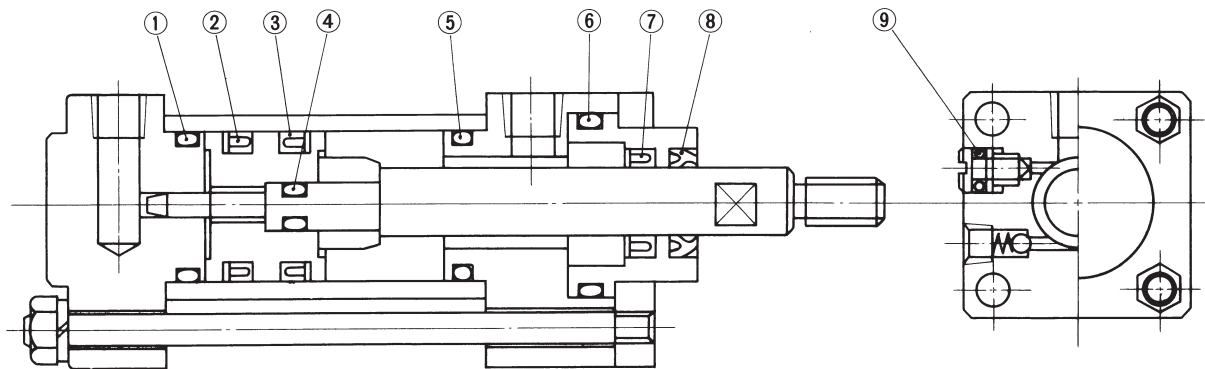
## Knuckle



Note: \*: Machined together with m6 tapping.

| Model     | A   | B   | C  | D  | d (H8)    |             | E        |       | F  | G  | H  | K  | L (H7)    |             | M    | ℓ | Applicable cylinder type |
|-----------|-----|-----|----|----|-----------|-------------|----------|-------|----|----|----|----|-----------|-------------|------|---|--------------------------|
|           |     |     |    |    | Dimension | Tolerance   | Diameter | Pitch |    |    |    |    | Dimension | Tolerance   |      |   |                          |
| HC-B1-125 | 170 | 135 | 45 | 70 | 40        | +0.039<br>0 | 48       | 1.5   | 75 | 50 | 52 | 15 | 60        | +0.030<br>0 | 48.5 | 7 | φ125 all type            |
| HC-B1-140 | 200 | 155 | 55 | 80 | 45        | +0.039<br>0 | 55       | 2     | 85 | 50 | 55 | 15 | 68        | +0.030<br>0 | 55.5 | 7 | φ140 all type            |
| HC-B1-160 | 215 | 170 | 60 | 90 | 50        | +0.039<br>0 | 60       | 2     | 95 | 50 | 58 | 18 | 78        | +0.030<br>0 | 60.5 | 7 | φ160 all type            |

# Packing and o-ring list



| Cylinder bore |                         | 125             | 140             | 160             |
|---------------|-------------------------|-----------------|-----------------|-----------------|
| No.           | Location where used     |                 |                 |                 |
| ⑦             | Rod seal                | SKY-63          | SKY-71          | SKY-80          |
|               |                         | 1               | ←               | ←               |
| ②③            | Piston seal             | SKY-112         | SKY-125         | SKY-145         |
|               |                         | 2               | ←               | ←               |
| ⑧             | Scraper                 | SDR-63          | SDR-71          | SDR-80          |
|               |                         | 1               | ←               | ←               |
| ①⑤            | O-ring at cylinder tube | JIS B 2401-G120 | JIS B 2401-G135 | JIS B 2401-G150 |
|               |                         | 2               | ←               | ←               |
| ④             | O-ring at piston        | JIS B 2401-G40  | JIS B 2401-G45  | JIS B 2401-G55  |
|               |                         | 1               | ←               | ←               |
| ⑥             | O-ring at gland         | JIS B 2401-G105 | JIS B 2401-G115 | JIS B 2401-G125 |
|               |                         | 1               | ←               | ←               |
| ⑨             | O-ring at cushion valve | JIS B 2401-P10A | JIS B 2401-P10A | JIS B 2401-P10A |
|               |                         | — *             | ←               | ←               |

NOTE: \*: 2 pcs. for a cylinder with a cushion at both sides, 1 pc. for a cylinder with a cushion at one side, and not used for cylinders without cushions.

**Алматы** (7273)495-231  
**Ангарск** (3955)60-70-56  
**Архангельск** (8182)63-90-72  
**Астрахань** (8512)99-46-04  
**Барнаул** (3852)73-04-60  
**Белгород** (4722)40-23-64  
**Благовещенск** (4162)22-76-07  
**Брянск** (4832)59-03-52  
**Владивосток** (423)249-28-31  
**Владикавказ** (8672)28-90-48  
**Владимир** (4922)49-43-18  
**Волгоград** (844)278-03-48  
**Вологда** (8172)26-41-59  
**Воронеж** (473)204-51-73  
**Екатеринбург** (343)384-55-89

**Иваново** (4932)77-34-06  
**Ижевск** (3412)26-03-58  
**Иркутск** (395)279-98-46  
**Казань** (843)206-01-48  
**Калининград** (4012)72-03-81  
**Калуга** (4842)92-23-67  
**Кемерово** (3842)65-04-62  
**Киров** (8332)68-02-04  
**Коломна** (4966)23-41-49  
**Кострома** (4942)77-07-48  
**Краснодар** (861)203-40-90  
**Красноярск** (391)204-63-61  
**Курск** (4712)77-13-04  
**Курган** (3522)50-90-47  
**Липецк** (4742)52-20-81

**Магнитогорск** (3519)55-03-13  
**Москва** (495)268-04-70  
**Мурманск** (8152)59-64-93  
**Набережные Челны** (8552)20-53-41  
**Нижний Новгород** (831)429-08-12  
**Новокузнецк** (3843)20-46-81  
**Ноябрьск** (3496)41-32-12  
**Новосибирск** (383)227-86-73  
**Омск** (3812)21-46-40  
**Орел** (4862)44-53-42  
**Оренбург** (3532)37-68-04  
**Пенза** (8412)22-31-16  
**Петрозаводск** (8142)55-98-37  
**Псков** (8112)59-10-37  
**Пермь** (342)205-81-47

**Ростов-на-Дону** (863)308-18-15  
**Рязань** (4912)46-61-64  
**Самара** (846)206-03-16  
**Санкт-Петербург** (812)309-46-40  
**Саратов** (845)249-38-78  
**Севастополь** (8692)22-31-93  
**Саранск** (8342)22-96-24  
**Симферополь** (3652)67-13-56  
**Смоленск** (4812)29-41-54  
**Сочи** (862)225-72-31  
**Ставрополь** (8652)20-65-13  
**Сургут** (3462)77-98-35  
**Сыктывкар** (8212)25-95-17  
**Тамбов** (4752)50-40-97  
**Тверь** (4822)63-31-35

**Тольятти** (8482)63-91-07  
**Томск** (3822)98-41-53  
**Тула** (4872)33-79-87  
**Тюмень** (3452)66-21-18  
**Ульяновск** (8422)24-23-59  
**Улан-Удэ** (3012)59-97-51  
**Уфа** (347)229-48-12  
**Хабаровск** (4212)92-98-04  
**Чебоксары** (8352)28-53-07  
**Челябинск** (351)202-03-61  
**Череповец** (8202)49-02-64  
**Чита** (3022)38-34-83  
**Якутск** (4112)23-90-97  
**Ярославль** (4852)69-52-93

**Россия** +7(495)268-04-70

**Казахстан** +7(7172)727-132

**Киргизия** +996(312)96-26-47

<https://toyooki.nt-rt.ru> || [tik@nt-rt.ru](mailto:tik@nt-rt.ru)