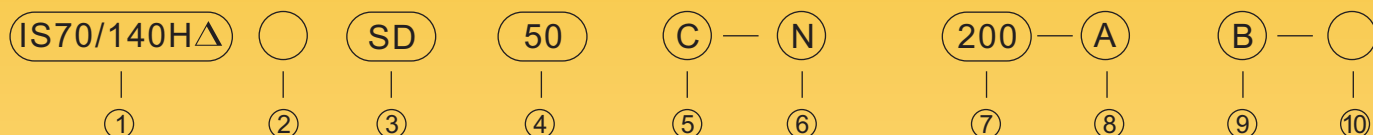


# TANAIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER ORDERING GUIDE

### CYLINDER TYPE NOTATION



#### ( 1 ) SERIES

|                |            |                        |
|----------------|------------|------------------------|
| Single rod     | IS 70H     | 70kgf/cm <sup>2</sup>  |
|                | IS 140H    | 140kgf/cm <sup>2</sup> |
| Double rod     | IS 70H. W  | 70kgf/cm <sup>2</sup>  |
|                | IS 140H. W | 140kgf/cm <sup>2</sup> |
| Switch Mounted | IS 70HL    | 70kgf/cm <sup>2</sup>  |

#### ( 2 ) PACKING MATERIALS

| Notation | Materials                | Remarks                  |
|----------|--------------------------|--------------------------|
| name     | materials of our company | standard dimension items |
| 1        | NBR                      |                          |
| 2        | Urethane rubber          |                          |
| 3        | Fluorine rubber          |                          |

#### ( 3 ) MOUNT TYPE

SD·LA·(LB)·(FA)·(FB)·FC·FD·CA·CB·TA·TC

#### ( 4 ) BORE SIZE (mm)

#### ( 5 ) ROD TYPE C = STANDARD

| Tube |                | Rod      |          |
|------|----------------|----------|----------|
| Size | HD of cylinder | B series | C series |
| 40   | φ 40           | φ 22     | φ 18     |
| 50   | φ 50           | φ 28     | φ 22     |
| 63   | φ 63           | φ 35     | φ 26     |
| 80   | φ 80           | φ 34     | φ 35     |
| 100  | φ 100          | φ 55     | φ 45     |
| 125  | φ 125          | φ 70     | φ 55     |
| 140  | φ 140          | φ 80     | φ 60     |
| 150  | φ 150          | φ 85     | φ 65     |
| 160  | φ 160          | φ 90     | φ 70     |
| 180  | φ 180          | φ 100    | φ 80     |
| 200  | φ 200          | φ 110    | φ 90     |
| 250  | φ 250          | φ 140    | φ 110    |

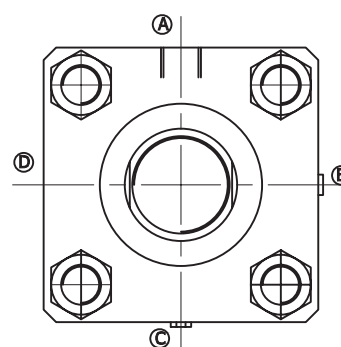
#### ( 6 ) CUSHION TYPE

|   |                   |
|---|-------------------|
| B | Both-side cushion |
| R | Rod-side cushion  |
| H | head-side cushion |
| N | No-cushion        |

#### ( 7 ) CYLINDER STROKE

#### ( 8 ) PORT POSITION : STANDARD

#### ( 9 ) CUSHION VALVE POSITION : STANDARD



The standard port position is A direction, and the standard cushion valve position is B direction, if a necessary to change the position, make with A, B, C, D.

#### ( 10 ) DUST BOOT

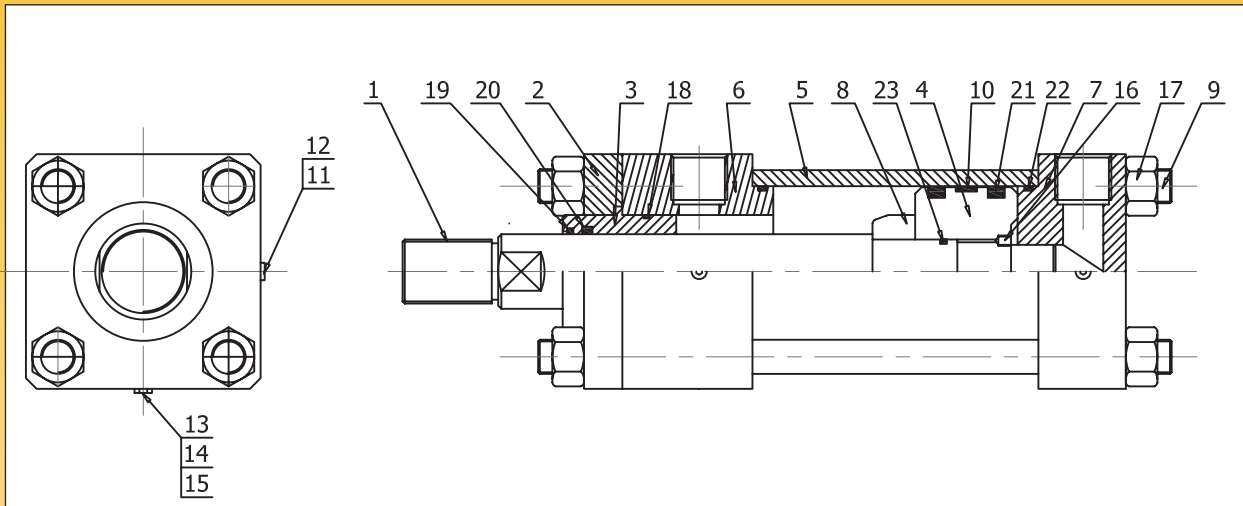
| Notation | Material        |
|----------|-----------------|
| J        | Nylon Tarpaulin |
| Jn       | Neoprene        |

△ 140H CYLINDER IS STANDARD TYPE

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER ORDERING GUIDE

### INSIDE STRUCTURE DRAWINGS



### PART LIST

| No | Name         | MATERIAL | Quantity | No. | Name          | MATERIAL | Quantity |
|----|--------------|----------|----------|-----|---------------|----------|----------|
| 1  | PISTONROD    | S45C     | 1        | 10  | Wearing       | TEFLON   | 1        |
| 2  | RETAINER     | SS41     | 1        | 11  | cushion valve | S45C     | 2        |
| 3  | BUSH         | BC3      | 1        | 12  | cushion body  | SS41     | 2        |
| 4  | PISTON       | SS41     | 1        | 13  | steel ball    | SW       | 2        |
| 5  | TUBE         | SIKM13C  | 1        | 14  | check body    | SS41     | 2        |
| 6  | ROD BLOCK    | SS41     | 1        | 15  | coil spring   | SWP      | 2        |
| 7  | HEAD BLOCK   | SS41     | 1        | 16  | set screw     | SCM      | 1        |
| 8  | CUSHION RING | S54C     | 1        | 17  | tie rod nut   | S45C     | 8        |
| 9  | TIE ROD      | S45C     | 4        |     |               |          |          |

### PACKING LIST

| No.      | 18          |      | 19        |        | 20          |          | 21         | 22          |            | 23   |
|----------|-------------|------|-----------|--------|-------------|----------|------------|-------------|------------|------|
| Name     | BUSH O-RING |      | DUST SEAL |        | ROD PACKING |          | PISTON (P) | TUBE O-RING | ROD O-RING |      |
| model    | B/C         |      | B         | C      | B           | C        | B/C        | B/C         | B          | C    |
| material | NBR         |      | NBR       |        | URETHANE    |          | URETHANE   | NBR         | NBR        |      |
| I-d      | quantity    |      | 1         | 1      | 1           | 1        | 2          | 2           | 1          | 1    |
| φ40      | G25         |      | WD-22     | WD-18  | RU23-22     | RU21-18  | PUJ40      | G35         | P14        | P10A |
| φ50      | G30         |      | WD-28     | WD-22  | RU21-28     | RU23-22  | PUJ50      | G45         | P20        | P14  |
| φ63      | G40         |      | WD-35     | WD-28  | RU20-35     | RU21-28  | PUJ63      | G58         | P22A       | P20  |
| φ80      | G50         |      | WD-45     | WD-35  | UR21-45     | RU20-35  | PUJ80      | G75         | G30        | P22A |
| φ100     | G80         |      | WD-55     | WD-45  | RU20-55     | RU21-45  | PUJ100     | G95         | G40        | G30  |
| φ125     | G80         | G65  | WD-70     | WD-55  | RU20-70     | RU20-55  | PUJ125     | G120        | G55        | G40  |
| φ140     | G90         | G70  | WD-80     | WD-60  | RU20-80     | RU20-60  | PUJ140     | G135        | G65        | G45  |
| φ150     | G95         | G75  | WD-85     | WD-65  | RU20-85     | RU20-65  | PUJ150     | G145        | G65        | G50  |
| φ160     | G100        | G80  | WD-90     | WD-70  | RU21-90     | RU20-70  | PUJ160     | G150        | G70        | G55  |
| φ180     | G110        | G90  | WD-100    | WD-80  | RU22-100    | RU20-80  | PUJ180     | G170        | G75        | G65  |
| φ200     | G125        | G105 | WD-110    | WD-90  | RU20-110    | RU21-90  | PUJ200     | G190        | G90        | G70  |
| φ250     | G155        | G130 | WD-140    | WD-110 | RU22-140    | RU20-110 | PUJ250     | G240        | G115       | G90  |

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER BASIC TYPE

|           |  |   |   |                     |                   |                            |                      |
|-----------|--|---|---|---------------------|-------------------|----------------------------|----------------------|
| <b>SD</b> | IS 70/140 H- <span style="border: 1px solid black; padding: 2px;">2</span> | CD <span style="border: 1px solid black; padding: 2px;">4</span> C/B- | <span style="border: 1px solid black; padding: 2px;">6</span> <span style="border: 1px solid black; padding: 2px;">7</span> ST <span style="border: 1px solid black; padding: 2px;">8</span> - <span style="border: 1px solid black; padding: 2px;">9</span> <span style="border: 1px solid black; padding: 2px;">10</span> |                     |                   |                            |                      |
| STANDARD  | (2) PACKING MATERIALS  | (4) INSIDE DIAMETER OF CYLINDER                                       | (6) CUSHION TYPE  | (7) CYLINDER STROKE | (8) PORT POSITION | (9) CUSHION VALVE POSITION | (10) DUST BOOT COVER |

OVER 100 φ DRILL HOLE

| Rod Diameter | ΦMF    | ΦDF |
|--------------|--------|-----|
| φ100         | φ99.5  | φ12 |
| φ110         | φ109.5 | φ15 |
| φ140         | φ139.5 | φ15 |

|        | 180 φ - 250 φ |              |               |
|--------|---------------|--------------|---------------|
| Series | Fixing method | Tie rod Type | Tube Flange   |
| IS70H  |               | -1, 500      | 1, 501-2, 000 |
| IS140H |               | -800         | 501-2, 000    |

| I-D  | Rod diameter (B type) |      |         |      |    | Rod diameter (C type) |      |         |      |    | DD      | □EG | EE      | F  | FP  | E   | H   | HL  | L   | PJ  | LP | □TG | W  |
|------|-----------------------|------|---------|------|----|-----------------------|------|---------|------|----|---------|-----|---------|----|-----|-----|-----|-----|-----|-----|----|-----|----|
|      | A                     | φB   | KK      | φM   | S  | A                     | φB   | KK      | φM   | S  |         |     |         |    |     |     |     |     |     |     |    |     |    |
| φ40  | 30                    | φ40  | M20X1.5 | φ22  | 20 | 25                    | φ36  | M16X1.5 | φ18  | 16 | M10x1.5 | 65  | PT 3/4  | 12 | 39  | 47  | 18  | 141 | 21  | 88  | 14 | 45  | 30 |
| φ50  | 35                    | φ46  | M24X1.5 | φ28  | 24 | 30                    | φ40  | M20X1.5 | φ22  | 20 | M10x1.5 | 76  | PT 1/2  | 13 | 47  | 50  | 56  | 155 | 26  | 95  | 15 | 53  | 30 |
| φ63  | 45                    | φ55  | M30X1.5 | φ35  | 30 | 35                    | φ46  | M24X1.5 | φ28  | 24 | M12x1.5 | 90  | PT 1/2  | 14 | 51  | 54  | 58  | 163 | 43  | 92  | 16 | 63  | 35 |
| φ80  | 60                    | φ65  | M39X1.5 | φ45  | 41 | 45                    | φ55  | M30X1.5 | φ35  | 30 | M16x1.5 | 110 | PT 3/4  | 18 | 54  | 61  | 64  | 184 | 49  | 111 | 20 | 80  | 35 |
| φ100 | 75                    | φ80  | M48X1.5 | φ55  | 50 | 60                    | φ65  | M39X1.5 | φ45  | 41 | M18x1.5 | 135 | PT 3/4  | 20 | 60  | 65  | 62  | 192 | 59  | 112 | 23 | 102 | 40 |
| φ125 | 95                    | φ95  | M64X2   | φ70  | 65 | 75                    | φ80  | M48X1.5 | φ55  | 50 | M22x1.5 | 165 | PT1     | 24 | 66  | 74  | 68  | 220 | 62  | 131 | 23 | 122 | 45 |
| φ140 | 110                   | φ105 | M72X2   | φ80  | 75 | 80                    | φ85  | M56X2   | φ60  | 55 | M24x1.5 | 185 | PT1     | 26 | 68  | 74  | 76  | 230 | 79  | 139 | 23 | 138 | 50 |
| φ150 | 115                   | φ110 | M76X2   | φ85  | 80 | 85                    | φ90  | M60X2   | φ65  | 60 | M27x1.5 | 196 | PT1     | 28 | 70  | 74  | 84  | 240 | 85  | 147 | 23 | 148 | 50 |
| φ160 | 120                   | φ115 | M80X2   | φ90  | 85 | 95                    | φ95  | M64X2   | φ70  | 65 | M27x1.5 | 210 | PT1     | 31 | 73  | 79  | 84  | 253 | 89  | 158 | 26 | 160 | 55 |
| φ180 | 140                   | φ125 | M95X2   | φ100 | -  | 110                   | φ105 | M72X2   | φ80  | 75 | M30x1.5 | 235 | PT1 1/4 | 33 | 70  | 84  | 91  | 275 | 100 | 174 | 29 | 182 | 55 |
| φ200 | 150                   | φ140 | M100X2  | φ110 | -  | 120                   | φ115 | M80X2   | φ90  | 85 | M33x2   | 262 | PT1 1/2 | 37 | 79  | 94  | 91  | 301 | 115 | 188 | 34 | 200 | 55 |
| φ250 | 195                   | φ170 | M130X2  | φ140 | -  | 150                   | φ140 | M100X2  | φ110 | -  | M42x2   | 325 | PT2     | 46 | 106 | 114 | 102 | 346 | 125 | 204 | 36 | 250 | 65 |

\* NOTE PT DIMMENSION EE IS BSPT ( BRITISH STANDARD PIPE TAPER )

website: [www.easternpneumatics.com](http://www.easternpneumatics.com)

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER

### FOOT MOUNTS

|   |  |   |   |                     |                   |                            |                      |
|---|--|---|---|---------------------|-------------------|----------------------------|----------------------|
| <b>LB</b>                                   | IS 70/140 H- <span style="border: 1px solid black; padding: 0 5px;">2</span> | CD <span style="border: 1px solid black; padding: 0 5px;">4</span> C/B- | <span style="border: 1px solid black; padding: 0 5px;">6</span> <span style="border: 1px solid black; padding: 0 5px;">7</span> ST <span style="border: 1px solid black; padding: 0 5px;">8</span> - <span style="border: 1px solid black; padding: 0 5px;">9</span> <span style="border: 1px solid black; padding: 0 5px;">10</span> |                     |                   |                            |                      |
| SHAFT DIRECTION FOOT TYPE ( ASSEMBLY TYPE ) | (2) PACKING MATERIALS  | (4) INSIDE DIAMETER OF CYLINDER   | (6) CUSHION TYPE  | (7) CYLINDER STROKE | (8) PORT POSITION | (9) CUSHION VALVE POSITION | (10) DUST BOOT COVER |

180 φ - 250 φ

| Series | Fixing method | Tie rod Type | Tube Flange |
|--------|---------------|--------------|-------------|
| IS70H  |               | φ 99.5       | φ 12        |
| IS140H |               | φ 111.5      | φ 15        |

OVER 100 OF ROD DIAMETER DRILL HOLE

| Rod Diameter | φ MF    | φ DF |
|--------------|---------|------|
| φ 100        | φ 99.5  | φ 12 |
| φ 110        | φ 109.5 | φ 15 |
| φ 140        | φ 139.5 | φ 15 |

| Notation<br>I-D | Rod diameter (B type) |      |         |      |    | Rod diameter ( C type) |      |         |      |    | AB  | NH       | AO | AT | AU  | EG  | EE      | FP  | HL  | SA  | AW  | TR  | UN  | W  |
|-----------------|-----------------------|------|---------|------|----|------------------------|------|---------|------|----|-----|----------|----|----|-----|-----|---------|-----|-----|-----|-----|-----|-----|----|
|                 | A                     | φB   | KK      | φM   | S  | A                      | φB   | KK      | φM   | S  |     |          |    |    |     |     |         |     |     |     |     |     |     |    |
| φ40             | 30                    | φ40  | M20X1.5 | φ22  | 20 | 25                     | φ36  | M16X1.5 | φ18  | 16 | φ11 | 43 0.25  | 13 | 8  | 32  | 65  | PT 3/4  | 39  | 141 | 205 | 230 | 46  | 69  | 30 |
| φ50             | 35                    | φ46  | M24X1.5 | φ28  | 24 | 30                     | φ40  | M20X1.5 | φ22  | 20 | φ14 | 50 0.25  | 15 | 8  | 35  | 76  | PT 1/2  | 47  | 155 | 225 | 252 | 58  | 85  | 30 |
| φ63             | 45                    | φ55  | M30X1.5 | φ35  | 30 | 35                     | φ46  | M24X1.5 | φ28  | 24 | φ18 | 60 0.25  | 18 | 10 | 42  | 90  | PT 1/2  | 51  | 163 | 247 | 278 | 65  | 98  | 35 |
| φ80             | 60                    | φ65  | M39X1.5 | φ45  | 41 | 45                     | φ55  | M30X1.5 | φ35  | 30 | φ18 | 72 0.25  | 20 | 12 | 50  | 110 | PT 3/4  | 54  | 184 | 284 | 322 | 87  | 118 | 35 |
| φ100            | 75                    | φ80  | M48X1.5 | φ55  | 50 | 60                     | φ65  | M39X1.5 | φ45  | 41 | φ22 | 85 0.25  | 23 | 12 | 55  | 135 | PT 3/4  | 60  | 192 | 302 | 342 | 109 | 150 | 40 |
| φ125            | 95                    | φ95  | M64X2   | φ70  | 65 | 75                     | φ80  | M48X1.5 | φ55  | 50 | φ26 | 105 0.25 | 29 | 15 | 66  | 165 | PT1     | 66  | 220 | 352 | 396 | 130 | 175 | 45 |
| φ140            | 110                   | φ105 | M72X2   | φ80  | 75 | 80                     | φ85  | M56X2   | φ60  | 55 | φ26 | 115 0.25 | 30 | 18 | 70  | 185 | PT1     | 68  | 230 | 370 | 416 | 145 | 195 | 50 |
| φ150            | 115                   | φ110 | M76X2   | φ85  | 80 | 85                     | φ90  | M60X2   | φ65  | 60 | φ30 | 123 0.25 | 30 | 18 | 75  | 196 | PT1     | 70  | 240 | 390 | 438 | 155 | 210 | 50 |
| φ160            | 120                   | φ115 | M80X2   | φ90  | 85 | 95                     | φ95  | M64X2   | φ70  | 65 | φ33 | 132 0.25 | 35 | 18 | 75  | 210 | PT1     | 73  | 253 | 403 | 454 | 170 | 225 | 55 |
| φ180            | 140                   | φ125 | M95X2   | φ100 | -  | 110                    | φ105 | M72X2   | φ80  | 75 | φ33 | 148 0.25 | 40 | 20 | 85  | 235 | PT1 1/4 | 70  | 275 | 445 | -   | 185 | 243 | 55 |
| φ200            | 150                   | φ140 | M100X2  | φ110 | -  | 120                    | φ115 | M80X2   | φ90  | 85 | φ36 | 165 0.25 | 40 | 25 | 98  | 262 | PT1 1/2 | 79  | 301 | 497 | -   | 206 | 272 | 55 |
| φ250            | 195                   | φ170 | M130X2  | φ140 | -  | 150                    | φ140 | M100X2  | φ110 | -  | φ45 | 208 0.25 | 50 | 35 | 130 | 325 | PT2     | 106 | 346 | 606 | -   | 250 | 335 | 65 |

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER

### FRONT RECTANGLE FLANGE

|  |  |   |   |
|--|--|---|---|
| <b>FA</b>                              | IS 70/140 H- <span style="border: 1px solid black; padding: 0 5px;">2</span> | FA <span style="border: 1px solid black; padding: 0 5px;">4</span> C/B- | <span style="border: 1px solid black; padding: 0 5px;">6</span> <span style="border: 1px solid black; padding: 0 5px;">7</span> ST <span style="border: 1px solid black; padding: 0 5px;">8</span> - <span style="border: 1px solid black; padding: 0 5px;">9</span> <span style="border: 1px solid black; padding: 0 5px;">10</span> |
| ROD-SIDE, SHAFT DIRECTION, FLANGE TYPE | (2) PACKING MATERIALS  | (4) INSIDE DIAMETER OF CYLINDER   | (6) CUSHION TYPE  |
|  |  | (7) CYLINDER STROKE   | (8) PORT POSITION   |
|  |  |   | (9) CUSHION VALVE POSITION  |
|  |  |   | (10) DUST BOOT COVER  |

OVER 100 OF ROD DIAMETER DRILL HOLE

| Rod Diameter | ΦMF    | ΦDF |
|--------------|--------|-----|
| φ100         | φ99.5  | φ12 |
| φ110         | φ109.5 | φ15 |
| φ140         | φ139.5 | φ15 |

|               |               |              |             |
|---------------|---------------|--------------|-------------|
| 180 φ - 250 φ | Fixing method | Tie rod Type | Tube Flange |
| Series        | IS70H         | -1,500       |             |

| Notation<br>I-D | Rod diameter (B type) |      |         |      |    | Rod diameter (C type) |      |         |      |    |         |    |     |     |     |     |     |     |     |     |    |     |    |     |  |
|-----------------|-----------------------|------|---------|------|----|-----------------------|------|---------|------|----|---------|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|-----|--|
|                 | A                     | ΦB   | KK      | ΦM   | S  | A                     | ΦB   | KK      | ΦM   | S  | EE      | F  | FB  | FE  | HL  | LL  | LZ  | R   | TF  | UF  | W  | WF  | YP | ZR  |  |
| φ40             | 30                    | φ40  | M20X1.5 | φ22  | 20 | 25                    | φ36  | M16X1.5 | φ18  | 16 | PT 3/4  | 12 | φ11 | 69  | 141 | 129 | 166 | 48  | 95  | 118 | 30 | 41  | 27 | 196 |  |
| φ50             | 35                    | φ46  | M24X1.5 | φ28  | 24 | 30                    | φ40  | M20X1.5 | φ22  | 20 | PT 1/2  | 13 | φ14 | 85  | 155 | 142 | 182 | 58  | 115 | 145 | 30 | 43  | 30 | 212 |  |
| φ63             | 45                    | φ55  | M30X1.5 | φ35  | 30 | 35                    | φ46  | M24X1.5 | φ28  | 24 | PT 1/2  | 14 | φ18 | 98  | 163 | 149 | 194 | 65  | 132 | 165 | 35 | 50  | 37 | 229 |  |
| φ80             | 60                    | φ65  | M39X1.5 | φ45  | 41 | 45                    | φ55  | M30X1.5 | φ35  | 30 | PT 3/4  | 18 | φ18 | 118 | 184 | 166 | 222 | 87  | 155 | 190 | 35 | 53  | 36 | 257 |  |
| φ100            | 75                    | φ80  | M48X1.5 | φ55  | 50 | 60                    | φ65  | M39X1.5 | φ45  | 41 | PT 3/4  | 20 | φ22 | 150 | 192 | 172 | 232 | 109 | 190 | 230 | 40 | 60  | 40 | 272 |  |
| φ125            | 95                    | φ95  | M64X2   | φ70  | 65 | 75                    | φ80  | M48X1.5 | φ55  | 50 | PT1     | 24 | φ26 | 175 | 220 | 196 | 264 | 130 | 224 | 272 | 45 | 69  | 42 | 309 |  |
| φ140            | 110                   | φ105 | M72X2   | φ80  | 75 | 80                    | φ85  | M56X2   | φ60  | 55 | PT1     | 26 | φ26 | 195 | 230 | 204 | 276 | 145 | 250 | 300 | 50 | 76  | 42 | 326 |  |
| φ150            | 115                   | φ110 | M76X2   | φ85  | 80 | 85                    | φ90  | M60X2   | φ65  | 60 | PT1     | 28 | φ30 | 210 | 240 | 202 | 288 | 155 | 270 | 320 | 50 | 78  | 42 | 338 |  |
| φ160            | 120                   | φ115 | M80X2   | φ90  | 85 | 95                    | φ95  | M64X2   | φ70  | 65 | PT1     | 31 | φ33 | 225 | 253 | 222 | 300 | 170 | 285 | 345 | 55 | 86  | 42 | 359 |  |
| φ180            | 140                   | φ125 | M95X2   | φ100 | -  | 110                   | φ105 | M72X2   | φ80  | 75 | PT1 1/4 | 33 | φ33 | 243 | 275 | 242 | -   | 185 | 315 | 375 | 55 | 88  | 37 | -   |  |
| φ200            | 150                   | φ140 | M100X2  | φ110 | -  | 120                   | φ115 | M80X2   | φ90  | 85 | PT1 1/2 | 37 | φ36 | 272 | 301 | 264 | -   | 206 | 355 | 425 | 55 | 92  | 42 | -   |  |
| φ250            | 195                   | φ170 | M130X2  | φ140 | -  | 150                   | φ140 | M100X2  | φ110 | -  | PT2     | 46 | φ45 | 335 | 346 | 300 | -   | 250 | 245 | 515 | 65 | 111 | 60 | -   |  |

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER REAR RECTANGLE FLANGE

|  |                       |                                 |  |
|--|-----------------------|---------------------------------|--|
| <b>FB</b>                              | IS 70/140 H- <b>2</b> | FB <b>4</b> C/B-                | <b>6</b> <b>7</b> ST <b>8</b> - <b>9</b> <b>10</b> |
| ROD-SIDE, SHAFT DIRECTION, FLANGE TYPE | (2) PACKING MATERIALS | (4) INSIDE DIAMETER OF CYLINDER | (6) CUSHION TYPE                                   |
|  |                       | (7) CYLINDER STROKE             | (8) PORT POSITION                                  |
|  |                       | (9) CUSHION VALVE POSITION      | (10) DUST BOOT COVER                               |

| Rod Diameter | ∅MF    | ∅DF |
|--------------|--------|-----|
| ∅100         | ∅99.5  | ∅12 |
| ∅110         | ∅109.5 | ∅15 |
| ∅140         | ∅139.5 | ∅15 |

| 180 ∅ - 250 ∅ |              |                       |
|---------------|--------------|-----------------------|
| Fixing method | Tie rod Type | Tube Flange           |
| Series        | IS70H        | -1,500<br>1,501-2,000 |

| Notation<br>I-D | Rod diameter (B type) |      |         |      |    | Rod diameter (C type) |      |         |      |    | EE      | F  | FB  | FE  | FP  | HL  | LZ  | R   | TF  | UF  | W  | YR  | ZF  |
|-----------------|-----------------------|------|---------|------|----|-----------------------|------|---------|------|----|---------|----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|
|                 | A                     | ∅B   | KK      | ∅M   | S  | A                     | ∅B   | KK      | ∅M   | S  |         |    |     |     |     |     |     |     |     |     |    |     |     |
| ∅40             | 30                    | ∅40  | M20X1.5 | ∅22  | 20 | 25                    | ∅36  | M16X1.5 | ∅18  | 16 | PT 3/4  | 12 | ∅11 | 69  | 39  | 141 | 166 | 48  | 95  | 118 | 30 | 196 | 182 |
| ∅50             | 35                    | ∅46  | M24X1.5 | ∅28  | 24 | 30                    | ∅40  | M20X1.5 | ∅22  | 20 | PT 1/2  | 13 | ∅14 | 85  | 42  | 155 | 182 | 58  | 115 | 145 | 30 | 212 | 198 |
| ∅63             | 45                    | ∅55  | M30X1.5 | ∅35  | 30 | 35                    | ∅46  | M24X1.5 | ∅28  | 24 | PT 1/2  | 14 | ∅18 | 98  | 51  | 163 | 194 | 65  | 132 | 165 | 35 | 229 | 213 |
| ∅80             | 60                    | ∅65  | M39X1.5 | ∅45  | 41 | 45                    | ∅55  | M30X1.5 | ∅35  | 30 | PT 3/4  | 18 | ∅18 | 118 | 54  | 184 | 222 | 87  | 155 | 190 | 35 | 257 | 237 |
| ∅100            | 75                    | ∅80  | M48X1.5 | ∅55  | 50 | 60                    | ∅65  | M39X1.5 | ∅45  | 41 | PT 3/4  | 20 | ∅22 | 150 | 60  | 192 | 232 | 109 | 190 | 230 | 40 | 272 | 252 |
| ∅125            | 95                    | ∅95  | M64X2   | ∅70  | 65 | 75                    | ∅80  | M48X1.5 | ∅55  | 50 | PT1     | 24 | ∅26 | 175 | 66  | 220 | 264 | 130 | 224 | 272 | 45 | 309 | 289 |
| ∅140            | 110                   | ∅105 | M72X2   | ∅80  | 75 | 80                    | ∅85  | M56X2   | ∅60  | 55 | PT1     | 26 | ∅26 | 195 | 68  | 230 | 276 | 145 | 250 | 300 | 50 | 326 | 306 |
| ∅150            | 115                   | ∅110 | M76X2   | ∅85  | 80 | 85                    | ∅90  | M60X2   | ∅65  | 60 | PT1     | 28 | ∅30 | 210 | 70  | 240 | 288 | 155 | 270 | 320 | 50 | 338 | 318 |
| ∅160            | 120                   | ∅115 | M80X2   | ∅90  | 85 | 95                    | ∅95  | M64X2   | ∅70  | 65 | PT1     | 31 | ∅33 | 225 | 73  | 253 | 300 | 170 | 285 | 345 | 55 | 355 | 339 |
| ∅180            | 140                   | ∅125 | M95X2   | ∅100 | -  | 110                   | ∅105 | M72X2   | ∅80  | 75 | PT1 1/4 | 33 | ∅33 | 243 | 70  | 275 | -   | 185 | 315 | 375 | 55 | -   | 363 |
| ∅200            | 150                   | ∅140 | M100X2  | ∅110 | -  | 120                   | ∅115 | M80X2   | ∅90  | 85 | PT1 1/2 | 37 | ∅36 | 272 | 79  | 301 | -   | 206 | 355 | 425 | 55 | -   | 393 |
| ∅250            | 195                   | ∅170 | M130X2  | ∅140 | -  | 150                   | ∅140 | M100X2  | ∅110 | -  | PT2     | 46 | ∅45 | 335 | 106 | 346 | -   | 250 | 245 | 515 | 65 | -   | 457 |

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER

### SINGLE REAR CLEVIS

|                           |                       |                                 |                      |
|---------------------------|-----------------------|---------------------------------|----------------------|
| CA                        | IS 70/140 H- 2        | CA 4 C/B-                       | 6 7 ST 8 - 9 10      |
| SINGLE THREAD CLEVIS TYPE | (2) PACKING MATERIALS | (4) INSIDE DIAMETER OF CYLINDER | (6) CUSHION TYPE     |
|                           |                       | (7) CYLINDER STROKE             | (8) PORT POSITION    |
|                           |                       | (9) CUSHION VALVE POSITION      | (10) DUST BOOT COVER |

OVER 100 OF ROD DIAMETER DRILL HOLE

| Hoc Diameter | Φ MF    | Φ DF |
|--------------|---------|------|
| φ 100        | φ 99.5  | φ 12 |
| φ 110        | φ 109.5 | φ 15 |
| φ 140        | φ 139.5 | φ 15 |

180 φ - 250 φ

| Series | Fixing method |               |
|--------|---------------|---------------|
|        | Tie rod Type  | Tube Flange   |
| IS70H  | -1, 500       | 1, 501-2, 000 |
| IS140H | -800          | 501-2, 000    |

| Notation<br>I-D | Rod diameter (B type) |       |         |       |    | Rod diameter (C type) |     |         |       |    | Φ CD    | □ EG | EE      | EW                                   | FI  | FP  | HL  | L   | MR    | PJ  | W  | XD  |
|-----------------|-----------------------|-------|---------|-------|----|-----------------------|-----|---------|-------|----|---------|------|---------|--------------------------------------|-----|-----|-----|-----|-------|-----|----|-----|
|                 | A                     | Φ B   | KK      | Φ M   | S  | A                     | Φ B | KK      | Φ M   | S  |         |      |         |                                      |     |     |     |     |       |     |    |     |
| φ 40            | φ 30                  | φ 40  | M20X1.5 | φ 22  | 20 | 25                    | 36  | M16X1.5 | φ 18  | 16 | 16 H9   | 65   | PT 3/4  | 25 <sup>-0.1</sup> <sub>-0.4</sub>   | 38  | 39  | 141 | 21  | R16   | 88  | 30 | 209 |
| φ 50            | φ 35                  | φ 46  | M24X1.5 | φ 28  | 24 | 30                    | 40  | M20X1.5 | φ 22  | 20 | 20 H9   | 76   | PT 1/2  | 31.5 <sup>-0.1</sup> <sub>-0.4</sub> | 45  | 42  | 155 | 26  | R20   | 95  | 30 | 230 |
| φ 63            | φ 45                  | φ 55  | M30X1.5 | φ 35  | 30 | 35                    | 46  | M24X1.5 | φ 28  | 24 | 31.5 H9 | 90   | PT 1/2  | 40 <sup>-0.1</sup> <sub>-0.4</sub>   | 63  | 51  | 163 | 43  | R31.5 | 92  | 35 | 261 |
| φ 80            | φ 60                  | φ 65  | M39X1.5 | φ 45  | 41 | 45                    | 55  | M30X1.5 | φ 35  | 30 | 31.5 H9 | 110  | PT 3/4  | 40 <sup>-0.1</sup> <sub>-0.4</sub>   | 72  | 54  | 184 | 49  | R31.5 | 111 | 35 | 291 |
| φ 100           | φ 15                  | φ 80  | M48X1.5 | φ 55  | 50 | 60                    | 65  | M39X1.5 | φ 45  | 41 | 40 H9   | 135  | PT 3/4  | 50 <sup>-0.1</sup> <sub>-0.4</sub>   | 84  | 60  | 192 | 59  | R40   | 112 | 40 | 316 |
| φ 125           | φ 95                  | φ 95  | M64X2   | φ 70  | 65 | 75                    | 80  | M48X1.5 | φ 55  | 50 | 50 H9   | 165  | PT1     | 63 <sup>-0.1</sup> <sub>-0.8</sub>   | 100 | 66  | 220 | 62  | R50   | 131 | 45 | 365 |
| φ 140           | φ 110                 | φ 105 | M72X2   | φ 80  | 75 | 80                    | 85  | M56X2   | φ 60  | 55 | 63 H9   | 185  | PT1     | 80 <sup>-0.1</sup> <sub>-0.8</sub>   | 120 | 68  | 230 | 79  | R63   | 139 | 50 | 400 |
| φ 150           | φ 115                 | φ 110 | M76X2   | φ 85  | 80 | 85                    | 90  | M60X2   | φ 65  | 60 | 63 H9   | 196  | PT1     | 80 <sup>-0.1</sup> <sub>-0.6</sub>   | 122 | 70  | 240 | 85  | R63   | 147 | 50 | 412 |
| φ 160           | φ 120                 | φ 115 | M80X2   | φ 90  | 85 | 95                    | 95  | M64X2   | φ 70  | 65 | 71 H9   | 210  | PT1     | 80 <sup>-0.1</sup> <sub>-0.8</sub>   | 137 | 73  | 253 | 89  | R71   | 158 | 55 | 445 |
| φ 180           | φ 140                 | φ 125 | M95X2   | φ 100 | -  | 110                   | 105 | M72X2   | φ 80  | 75 | 80 H9   | 235  | PT1 1/2 | 100 <sup>-0.1</sup> <sub>-0.8</sub>  | 150 | 70  | 275 | 100 | R80   | 174 | 55 | 480 |
| φ 200           | φ 150                 | φ 140 | M100X2  | φ 110 | -  | 120                   | 115 | M80X2   | φ 90  | 85 | 90 H9   | 262  | PT1 1/2 | 125 <sup>-0.1</sup> <sub>-0.8</sub>  | 170 | 79  | 301 | 115 | R90   | 188 | 55 | 526 |
| φ 250           | φ 195                 | φ 170 | M130X2  | φ 140 | -  | 150                   | 140 | M100X2  | φ 110 | -  | 100 H9  | 325  | PT2     | 125 <sup>-0.1</sup> <sub>-0.8</sub>  | 185 | 106 | 346 | 125 | R100  | 204 | 65 | 596 |

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER

### DOUBLE REAR CLEVIS

|                           |  |   |   |                     |                   |                            |                      |
|---------------------------|--|---|---|---------------------|-------------------|----------------------------|----------------------|
| <b>CB</b>                 | IS 70/140 H- <span style="border: 1px solid black; padding: 0 5px;">2</span> | CB <span style="border: 1px solid black; padding: 0 5px;">4</span> C/B- | <span style="border: 1px solid black; padding: 0 5px;">6</span> <span style="border: 1px solid black; padding: 0 5px;">7</span> ST <span style="border: 1px solid black; padding: 0 5px;">8</span> - <span style="border: 1px solid black; padding: 0 5px;">9</span> <span style="border: 1px solid black; padding: 0 5px;">10</span> |                     |                   |                            |                      |
| DOUBLE THREAD CLEVIS TYPE | (2) PACKING MATERIALS  | (4) INSIDE DIAMETER OF CYLINDER   | (6) CUSHION TYPE  | (7) CYLINDER STROKE | (8) PORT POSITION | (9) CUSHION VALVE POSITION | (10) DUST BOOT COVER |

OVER 100 OF ROD DIAMETER DRILL HOLE

| Hole Diameter | $\phi MF$    | $\phi DF$ |
|---------------|--------------|-----------|
| $\phi 100$    | $\phi 99.5$  | $\phi 12$ |
| $\phi 110$    | $\phi 109.5$ | $\phi 15$ |
| $\phi 140$    | $\phi 139.5$ | $\phi 15$ |

180  $\phi$  - 250  $\phi$

| Series | Fixing method |               |
|--------|---------------|---------------|
|        | Tie rod Type  | Tube Flange   |
| IS70H  | -1, 500       | 1, 501-2, 000 |
| IS140H | -800          | 501-2, 000    |

| Notation<br>I-D | Rod diameter (B type) |            |         |            |    | Rod diameter (C type) |          |         |            |    | $\phi CB$                            | CD                                      | $\square EG$ | EE      | FL  | FP  | HL  | L   | MR    | PJ  | UB   | W  | XD  | ZC    |
|-----------------|-----------------------|------------|---------|------------|----|-----------------------|----------|---------|------------|----|--------------------------------------|---|--------------|---------|-----|-----|-----|-----|-------|-----|------|----|-----|-------|
|                 | A                     | $\phi B$   | KK      | $\phi M$   | S  | A                     | $\phi B$ | KK      | $\phi M$   | S  |                                      |   |              |         |     |     |     |     |       |     |      |    |     |       |
| $\phi 40$       | $\phi 30$             | $\phi 40$  | M20X1.5 | $\phi 22$  | 20 | 25                    | 36       | M16X1.5 | $\phi 18$  | 16 | 25 <sup>+0.4</sup> <sub>-0.1</sub>   | $\phi 16$ <sup>H8</sup> <sub>r8</sub>   | 65           | PT3/4   | 38  | 39  | 141 | 21  | R16   | 88  | 50   | 30 | 209 | 225   |
| $\phi 50$       | $\phi 35$             | $\phi 46$  | M24X1.5 | $\phi 28$  | 24 | 30                    | 40       | M20X1.5 | $\phi 22$  | 20 | 31.5 <sup>+0.4</sup> <sub>-0.1</sub> | $\phi 20$ <sup>H8</sup> <sub>r8</sub>   | 76           | PT1/2   | 45  | 42  | 155 | 26  | R20   | 95  | 63.5 | 30 | 230 | 250   |
| $\phi 63$       | $\phi 45$             | $\phi 55$  | M30X1.5 | $\phi 35$  | 30 | 35                    | 46       | M24X1.5 | $\phi 28$  | 24 | 40 <sup>+0.4</sup> <sub>-0.1</sub>   | $\phi 31.5$ <sup>H8</sup> <sub>r8</sub> | 90           | PT1/2   | 63  | 51  | 163 | 42  | R31.5 | 92  | 80   | 35 | 261 | 292.5 |
| $\phi 80$       | $\phi 60$             | $\phi 65$  | M39X1.5 | $\phi 45$  | 41 | 45                    | 55       | M30X1.5 | $\phi 35$  | 30 | 40 <sup>+0.4</sup> <sub>-0.1</sub>   | $\phi 31.5$ <sup>H8</sup> <sub>r8</sub> | 110          | PT3/4   | 72  | 54  | 184 | 44  | R31.5 | 111 | 80   | 35 | 291 | 322.5 |
| $\phi 100$      | $\phi 75$             | $\phi 80$  | M48X1.5 | $\phi 55$  | 50 | 60                    | 65       | M39X1.5 | $\phi 45$  | 41 | 50 <sup>+0.4</sup> <sub>-0.1</sub>   | $\phi 40$ <sup>H8</sup> <sub>r8</sub>   | 135          | PT3/4   | 84  | 60  | 192 | 55  | R40   | 112 | 100  | 40 | 316 | 356   |
| $\phi 125$      | $\phi 95$             | $\phi 95$  | M64X2   | $\phi 70$  | 65 | 75                    | 80       | M48X1.5 | $\phi 55$  | 50 | 63 <sup>+0.4</sup> <sub>-0.1</sub>   | $\phi 50$ <sup>H8</sup> <sub>r8</sub>   | 165          | PT1     | 100 | 66  | 220 | 62  | R50   | 131 | 126  | 45 | 365 | 415   |
| $\phi 140$      | $\phi 110$            | $\phi 105$ | M72X2   | $\phi 80$  | 75 | 80                    | 85       | M56X2   | $\phi 60$  | 55 | 80 <sup>+0.8</sup> <sub>-0.1</sub>   | $\phi 63$ <sup>H8</sup> <sub>r8</sub>   | 185          | PT1     | 120 | 68  | 230 | 79  | R63   | 139 | 160  | 50 | 400 | 463   |
| $\phi 150$      | $\phi 115$            | $\phi 110$ | M76X2   | $\phi 85$  | 80 | 85                    | 90       | M60X2   | $\phi 65$  | 60 | 80 <sup>+0.8</sup> <sub>-0.1</sub>   | $\phi 63$ <sup>H8</sup> <sub>r8</sub>   | 196          | PT1     | 122 | 70  | 240 | 85  | R63   | 147 | 160  | 50 | 412 | 475   |
| $\phi 160$      | $\phi 120$            | $\phi 115$ | M80X2   | $\phi 90$  | 85 | 95                    | 95       | M64X2   | $\phi 70$  | 65 | 80 <sup>+0.8</sup> <sub>-0.1</sub>   | $\phi 71$ <sup>H8</sup> <sub>r8</sub>   | 210          | PT1     | 137 | 73  | 253 | 89  | R71   | 158 | 160  | 55 | 445 | 516   |
| $\phi 180$      | $\phi 140$            | $\phi 125$ | M95X2   | $\phi 100$ | -  | 110                   | 105      | M72X2   | $\phi 80$  | 75 | 100 <sup>+0.8</sup> <sub>-0.1</sub>  | $\phi 80$ <sup>H8</sup> <sub>r8</sub>   | 235          | PT1 1/2 | 150 | 70  | 275 | 100 | R80   | 174 | 200  | 55 | 480 | 560   |
| $\phi 200$      | $\phi 150$            | $\phi 140$ | M100X2  | $\phi 110$ | -  | 120                   | 115      | M80X2   | $\phi 90$  | 85 | 125 <sup>+0.8</sup> <sub>-0.1</sub>  | $\phi 90$ <sup>H8</sup> <sub>r8</sub>   | 262          | OT1 1/2 | 170 | 79  | 301 | 115 | R90   | 188 | 251  | 55 | 526 | 616   |
| $\phi 250$      | $\phi 195$            | $\phi 170$ | M130X2  | $\phi 140$ | -  | 150                   | 140      | M100X2  | $\phi 110$ | -  | 125 <sup>+0.8</sup> <sub>-0.1</sub>  | $\phi 100$ <sup>H8</sup> <sub>r8</sub>  | 325          | PT2     | 185 | 106 | 346 | 125 | R100  | 204 | 251  | 65 | 596 | 696   |



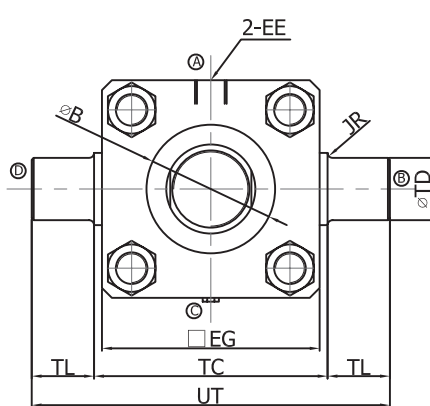
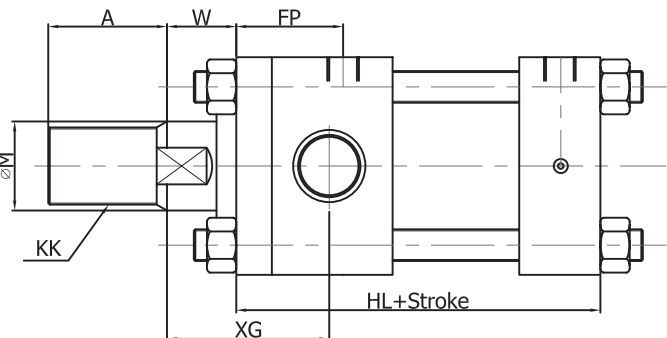
# TANAIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER

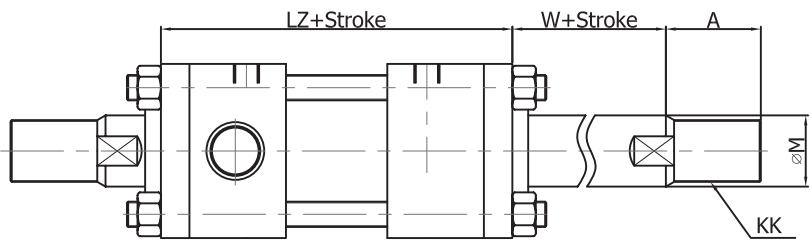
### INTEGRAL HEAD TRUNION

|                       |  |   |   |                     |                   |                            |                      |
|-----------------------|--|---|---|---------------------|-------------------|----------------------------|----------------------|
| <b>TA</b>             | IS 70/140 H- <span style="border: 1px solid black; padding: 0 5px;">2</span> | TA <span style="border: 1px solid black; padding: 0 5px;">4</span> C/B- | <span style="border: 1px solid black; padding: 0 5px;">6</span> <span style="border: 1px solid black; padding: 0 5px;">7</span> ST <span style="border: 1px solid black; padding: 0 5px;">8</span> - <span style="border: 1px solid black; padding: 0 5px;">9</span> <span style="border: 1px solid black; padding: 0 5px;">10</span> |                     |                   |                            |                      |
| ROD-SIDE TRUNION TYPE | (2) PACKING MATERIALS  | (4) INSIDE DIAMETER OF CYLINDER   | (6) CUSHION TYPE  | (7) CYLINDER STROKE | (8) PORT POSITION | (9) CUSHION VALVE POSITION | (10) DUST BOOT COVER |



180 φ - 250 φ

| Series | Fixing method | Tie rod Type | Tube Flange   |
|--------|---------------|--------------|---------------|
| IS70H  |               | -1, 500      | 1, 501-2, 000 |
| IS140H |               | -800         | 801-2, 000    |

| Notation<br>I-D | Rod diameter (B type) |      |         |     |    | Rod diameter (C type) |     |         |     |    | XG  | □EG | EE     | FP | HL  | JR   | LZ  | TC                                | TD      | TL   | UT  | W  |
|-----------------|-----------------------|------|---------|-----|----|-----------------------|-----|---------|-----|----|-----|-----|--------|----|-----|------|-----|-----------------------------------|---------|------|-----|----|
|                 | A                     | ΦB   | KK      | ΦM  | S  | A                     | ΦB  | KK      | ΦM  | S  |     |     |        |    |     |      |     |                                   |         |      |     |    |
| φ40             | 30                    | φ40  | M20X1.5 | φ22 | 20 | 25                    | φ36 | M16X1.5 | φ18 | 16 | 62  | 65  | PT 3/4 | 39 | 141 | R2   | 166 | 69 <sup>0</sup> <sub>-0.3</sub>   | φ20eg   | 20   | 109 | 30 |
| φ50             | 35                    | φ46  | M24X1.5 | φ28 | 24 | 30                    | φ40 | M20X1.5 | φ22 | 20 | 66  | 76  | PT 1/2 | 42 | 155 | R2.5 | 182 | 85 <sup>0</sup> <sub>-0.35</sub>  | φ25eg   | 25   | 135 | 30 |
| φ63             | 45                    | φ55  | M30X1.5 | φ35 | 30 | 35                    | φ46 | M24X1.5 | φ28 | 24 | 74  | 90  | PT 1/2 | 51 | 163 | R2.5 | 194 | 98 <sup>0</sup> <sub>-0.35</sub>  | φ31.5eg | 31.5 | 161 | 35 |
| φ80             | 60                    | φ65  | M39X1.5 | φ45 | 41 | 45                    | φ55 | M30X1.5 | φ35 | 30 | 82  | 110 | PT 3/4 | 54 | 184 | R2.5 | 222 | 118 <sup>0</sup> <sub>-0.35</sub> | φ31.5eg | 31.5 | 181 | 35 |
| φ100            | 75                    | φ80  | M48X1.5 | φ55 | 50 | 60                    | φ65 | M39X1.5 | φ45 | 41 | 89  | 135 | PT 3/4 | 60 | 192 | R3   | 232 | 145 <sup>0</sup> <sub>-0.4</sub>  | φ40eg   | 40   | 225 | 40 |
| φ125            | 95                    | φ95  | M64X2   | φ70 | 65 | 75                    | φ80 | M48X1.5 | φ55 | 50 | 103 | 165 | PT1    | 66 | 220 | R3   | 264 | 175 <sup>0</sup> <sub>-0.4</sub>  | φ50eg   | 50   | 275 | 45 |
| φ140            | 110                   | φ105 | M72X2   | φ80 | 75 | 80                    | φ85 | M56X2   | φ60 | 55 | 112 | 185 | PT1    | 68 | 230 | R4   | 276 | 195 <sup>0</sup> <sub>-0.46</sub> | φ63eg   | 63   | 321 | 50 |
| φ150            | 115                   | φ110 | M76X2   | φ85 | 80 | 85                    | φ90 | M60X2   | φ65 | 60 | 112 | 196 | PT1    | 70 | 240 | R4   | 288 | 206 <sup>0</sup> <sub>-0.46</sub> | φ63eg   | 63   | 332 | 50 |
| φ160            | 120                   | φ115 | M80X2   | φ90 | 85 | 95                    | φ95 | M64X2   | φ70 | 65 | 126 | 210 | PT1    | 73 | 253 | R4   | 304 | 218 <sup>0</sup> <sub>-0.46</sub> | φ71eg   | 71   | 360 | 55 |

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER CENTRE TRUNION

|                          |  |   |   |
|--------------------------|--|---|---|
| <b>TC</b>                | IS 70/140 H- <span style="border: 1px solid black; padding: 0 5px;">2</span> | TC <span style="border: 1px solid black; padding: 0 5px;">4</span> C/B- | <span style="border: 1px solid black; padding: 0 5px;">6</span> <span style="border: 1px solid black; padding: 0 5px;">7</span> ST <span style="border: 1px solid black; padding: 0 5px;">8</span> - <span style="border: 1px solid black; padding: 0 5px;">9</span> <span style="border: 1px solid black; padding: 0 5px;">10</span> |
| MIDDLE-SIDE TRUNION TYPE | (2) PACKING MATERIALS  | (4) INSIDE DIAMETER OF CYLINDER   | (6) CUSHION TYPE  |
|                          |  | (7) CYLINDER STROKE   | (8) PORT POSITION   |
|                          |  | (9) CUSHION VALVE POSITION  | (10) DUST BOOT COVER  |

OVER 100 OF ROD DIAMETER DRILL HOLE

| Rod Diameter | Φ MF    | Φ DF |
|--------------|---------|------|
| φ 100        | φ 99.5  | φ 12 |
| φ 110        | φ 109.5 | φ 15 |
| φ 140        | φ 139.5 | φ 15 |

180 φ -250 φ

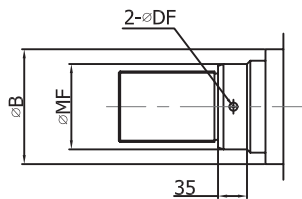
| Series | Fixing method |               |
|--------|---------------|---------------|
|        | Tie rod Type  | Tube Flange   |
| IS70H  | -1, 500       | 1, 501-2, 000 |
| IS140H | -800          | 801-2, 000    |

| Notation<br>I-D | Rod diameter (B type) |      |         |      |    | Rod diameter (C type) |      |         |      |    | BD  | EG  | EE      | FP  | HL  | JR   | LZ  | TD    | TL      | TC   | UD  | W | XI    | ZJ  |    |     |     |
|-----------------|-----------------------|------|---------|------|----|-----------------------|------|---------|------|----|-----|-----|---------|-----|-----|------|-----|-------|---------|------|-----|---|-------|-----|----|-----|-----|
|                 | A                     | ΦB   | KK      | ΦM   | S  | A                     | ΦB   | KK      | ΦM   | S  |     |     |         |     |     |      |     |       |         |      |     |   |       |     |    |     |     |
| φ 40            | 30                    | φ40  | M20X1.5 | φ22  | 20 | 25                    | φ36  | M16X1.5 | φ18  | 16 | 28  | 65  | PT 3/4  | 39  | 141 | R2   | 166 | 105   | φ20eg   | 20   | 69  | 0 | -0.8  | 109 | 30 | 113 | 171 |
| φ 50            | 35                    | φ46  | M24X1.5 | φ28  | 24 | 30                    | φ40  | M20X1.5 | φ22  | 20 | 33  | 76  | PT 1/2  | 42  | 155 | R2.5 | 182 | 113.5 | φ25eg   | 25   | 85  | 0 | -0.35 | 135 | 30 | 121 | 185 |
| φ 63            | 45                    | φ55  | M30X1.5 | φ35  | 30 | 35                    | φ46  | M24X1.5 | φ28  | 24 | 43  | 90  | PT 1/2  | 51  | 163 | R2.5 | 197 | 127.5 | φ31.5eg | 31.5 | 98  | 0 | -0.35 | 161 | 35 | 132 | 198 |
| φ 80            | 60                    | φ65  | M39X1.5 | φ45  | 41 | 45                    | φ55  | M30X1.5 | φ35  | 30 | 43  | 110 | PT 3/4  | 54  | 184 | R2.5 | 222 | 140.5 | φ31.5eg | 31.5 | 118 | 0 | -0.35 | 181 | 35 | 146 | 219 |
| φ 100           | 75                    | φ80  | M48X1.5 | φ55  | 50 | 60                    | φ65  | M39X1.5 | φ45  | 41 | 53  | 135 | PT 3/4  | 60  | 192 | R3   | 232 | 152.5 | φ40eg   | 40   | 145 | 0 | -0.4  | 225 | 40 | 156 | 232 |
| φ 125           | 95                    | φ95  | M64X2   | φ70  | 65 | 75                    | φ80  | M48X1.5 | φ55  | 50 | 58  | 165 | PT1     | 66  | 220 | R3   | 264 | 174   | φ50eg   | 50   | 175 | 0 | -0.4  | 275 | 45 | 177 | 265 |
| φ 140           | 110                   | φ105 | M72X2   | φ80  | 75 | 80                    | φ85  | M56X2   | φ60  | 55 | 78  | 185 | PT1     | 68  | 230 | R4   | 276 | 191   | φ63eg   | 63   | 195 | 0 | -0.48 | 321 | 50 | 188 | 280 |
| φ 150           | 115                   | φ110 | M76X2   | φ85  | 80 | 85                    | φ90  | M60X2   | φ65  | 60 | 78  | 196 | PT1     | 70  | 240 | R4   | 288 | 193   | φ63eg   | 63   | 206 | 0 | -0.4  | 332 | 50 | 194 | 290 |
| φ 160           | 120                   | φ115 | M80X2   | φ90  | 85 | 95                    | φ95  | M64X2   | φ70  | 65 | 88  | 210 | PT1     | 73  | 253 | R4   | 304 | 211   | φ71eg   | 71   | 218 | 0 | -0.48 | 360 | 55 | 207 | 308 |
| φ 180           | 140                   | φ125 | M95X2   | φ100 | -  | 110                   | φ105 | M72X2   | φ80  | 75 | 98  | 235 | PT1 1/4 | 70  | 275 | R4   | -   | 225   | φ80eg   | 80   | 243 | 0 | -0.48 | 403 | 55 | 216 | 330 |
| φ 200           | 150                   | φ140 | M100X2  | φ110 | -  | 120                   | φ115 | M80X2   | φ90  | 85 | 108 | 262 | PT1 1/2 | 79  | 301 | R4   | -   | 244   | φ90eg   | 90   | 272 | 0 | -0.52 | 452 | 55 | 232 | 356 |
| φ 250           | 195                   | φ170 | M130X2  | φ140 | -  | 150                   | φ140 | M100X2  | φ110 | -  | 117 | 325 | PT2     | 106 | 346 | R5   | -   | 257.5 | φ100eg  | 100  | 335 | 0 | -0.52 | 535 | 65 | 271 | 411 |

# TAN AIR PNEUMATICS

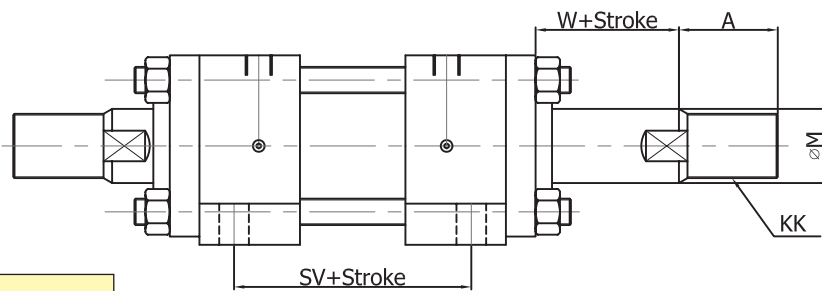
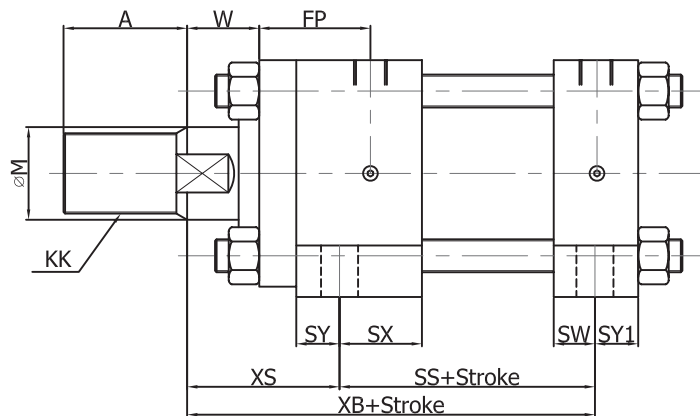
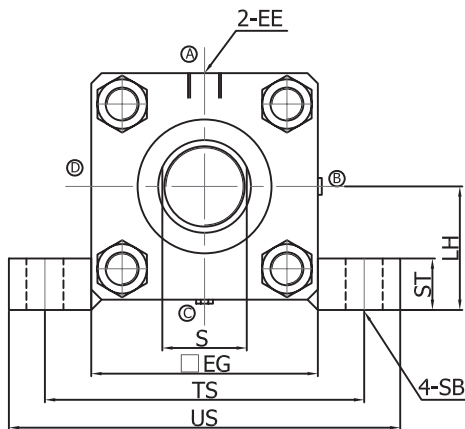
## IS140H TIE ROD TYPE HYDRAULIC CYLINDER

|   |                       |                                 |                  |                     |                   |                            |
|---|-----------------------|---------------------------------|------------------|---------------------|-------------------|----------------------------|
| LA<br>SHAFT DIRECTION FOOT TYPE ( ONE BODY TYPE ) | IS 70/140 H- 2        | LA 4 C/B-                       | 6 7 ST 8 - 9 10  |                     |                   |                            |
|   | (2) PACKING MATERIALS | (4) INSIDE DIAMETER OF CYLINDER | (6) CUSHION TYPE | (7) CYLINDER STROKE | (8) PORT POSITION | (9) CUSHION VALVE POSITION |



OVER 100 OF ROD DIAMETER DRILL HOLE

| Rod Diameter | ∅MF    | ∅DF |
|--------------|--------|-----|
| ∅100         | ∅99.5  | ∅12 |
| ∅110         | ∅109.5 | ∅15 |
| ∅140         | ∅139.5 | ∅15 |



180∅-250∅

| Series | Fxing method | Tierod Type | Tibe Flaroe |
|--------|--------------|-------------|-------------|
| IS70H  | -1.500       | 1.501-2.000 |             |
| IS140H | -800         | 801-2.000   |             |

| Notation<br>I-D | Rod diameter (B type) |      |         |      |    | Rod diameter (C type) |      |         |      |    | ∅EG | EE      | FP  | LH   | SB  | SS  | ST | SV  | SW | SX | SY | SY1 | TS  | US  | W  | XB  |
|-----------------|-----------------------|------|---------|------|----|-----------------------|------|---------|------|----|-----|---------|-----|------|-----|-----|----|-----|----|----|----|-----|-----|-----|----|-----|
|                 | A                     | ∅B   | KK      | ∅M   | S  | A                     | ∅B   | KK      | ∅M   | S  |     |         |     |      |     |     |    |     |    |    |    |     |     |     |    |     |
| ∅40             | 30                    | ∅40  | M20X1.5 | ∅22  | 20 | 25                    | ∅36  | M16X1.5 | ∅18  | 16 | 65  | PT 3/4  | 39  | 37.5 | ∅11 | 98  | 14 | 112 | 18 | 32 | 16 | 16  | 95  | 118 | 30 | 155 |
| ∅50             | 35                    | ∅46  | M24X1.5 | ∅28  | 24 | 30                    | ∅40  | M20X1.5 | ∅22  | 20 | 76  | PT 1/2  | 42  | 45   | ∅14 | 108 | 17 | 122 | 14 | 33 | 22 | 22  | 115 | 145 | 30 | 163 |
| ∅63             | 45                    | ∅55  | M30X1.5 | ∅35  | 30 | 35                    | ∅46  | M24X1.5 | ∅28  | 24 | 90  | PT 1/2  | 51  | 50   | ∅18 | 106 | 19 | 122 | 16 | 32 | 21 | 21  | 132 | 165 | 35 | 177 |
| ∅80             | 60                    | ∅65  | M39X1.5 | ∅45  | 41 | 45                    | ∅55  | M30X1.5 | ∅35  | 30 | 110 | PT 3/4  | 54  | 60   | ∅18 | 124 | 25 | 144 | 20 | 40 | 21 | 21  | 155 | 190 | 35 | 198 |
| ∅100            | 75                    | ∅80  | M48X1.5 | ∅55  | 50 | 60                    | ∅65  | M39X1.5 | ∅45  | 41 | 135 | PT 3/4  | 60  | 71   | ∅22 | 122 | 27 | 142 | 20 | 40 | 25 | 25  | 190 | 230 | 40 | 189 |
| ∅125            | 95                    | ∅95  | M64X2   | ∅70  | 65 | 75                    | ∅80  | M48X1.5 | ∅55  | 50 | 165 | PT1     | 66  | 85   | ∅26 | 136 | 32 | 156 | 24 | 44 | 30 | 30  | 224 | 272 | 45 | 235 |
| ∅140            | 110                   | ∅105 | M72X2   | ∅80  | 75 | 80                    | ∅85  | M56X2   | ∅60  | 55 | 185 | PT1     | 68  | 95   | ∅26 | 144 | 35 | 164 | 24 | 44 | 30 | 30  | 250 | 300 | 50 | 250 |
| ∅150            | 115                   | ∅110 | M76X2   | ∅85  | 80 | 85                    | ∅90  | M60X2   | ∅65  | 60 | 196 | PT1     | 70  | 106  | ∅30 | 146 | 37 | 166 | 21 | 41 | 33 | 33  | 270 | 320 | 50 | 257 |
| ∅160            | 120                   | ∅115 | M80X2   | ∅90  | 85 | 95                    | ∅95  | M64X2   | ∅70  | 65 | 210 | PT1     | 73  | 112  | ∅33 | 150 | 42 | 170 | 23 | 43 | 36 | 36  | 285 | 345 | 55 | 272 |
| ∅180            | 140                   | ∅125 | M95X2   | ∅100 | -  | 110                   | ∅105 | M72X2   | ∅80  | 75 | 235 | PT1 1/4 | 70  | 125  | ∅33 | 172 | 47 | 189 | 32 | 49 | 37 | 37  | 315 | 375 | 55 | 295 |
| ∅200            | 150                   | ∅140 | M100X2  | ∅110 | -  | 120                   | ∅115 | M80X2   | ∅90  | 85 | 262 | PT1 1/2 | 79  | 140  | ∅36 | 186 | 52 | 201 | 40 | 55 | 39 | 39  | 355 | 425 | 55 | 317 |
| ∅250            | 195                   | ∅170 | M130X2  | ∅140 | -  | 150                   | ∅140 | M100X2  | ∅110 | -  | 325 | PT2     | 106 | 170  | ∅45 | 206 | 57 | 236 | 37 | 67 | 47 | 47  | 425 | 515 | 65 | 354 |

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER

|  |                          |                                       |  |
|--|--------------------------|---------------------------------------|--|
| <b>FC</b>                                  | IS 70/140 H- <b>2</b>    | FC <b>4</b> C/B-                      | <b>6</b> <b>7</b> ST <b>8</b> - <b>9</b> <b>10</b> |
| FORWARD DIRECTION<br>ROD-SIDE, FLANGE TYPE | (2) PACKING<br>MATERIALS | (4) INSIDE<br>DIAMETER OF<br>CYLINDER | (6) CUSHION TYPE                                   |
|  |                          | (7) CYLINDER<br>STROKE                | (8) PORT POSITION                                  |
|  |                          |                                       | (9) CUSHION VALVE<br>POSITION                      |
|  |                          |                                       | (10) DUST BOOT<br>COVER                            |

OVER 100 OF ROD DIAMETER DRILL HOLE

| Rod Diameter | Φ MF    | Φ DF |
|--------------|---------|------|
| φ 100        | φ 99.5  | φ 12 |
| φ 110        | φ 109.5 | φ 15 |
| φ 140        | φ 139.5 | φ 15 |

180 φ - 250 φ

| Series | Fixing method |             |
|--------|---------------|-------------|
|        | Tierod Type   | Tibe Flaroe |
| IS70H  | -1.500        | 1.501-2.000 |
| IS140H | -800          | 801-2.000   |

| Notation<br>I-D | Rod diameter (B type) |      |         |      |    | Rod diameter (C type) |      |         |      |    | EE      | F  | FB  | HL  | LL  | LZ  | R   | TF  | □UF | W  | WF  | YP |
|-----------------|-----------------------|------|---------|------|----|-----------------------|------|---------|------|----|---------|----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|
|                 | A                     | ΦB   | KK      | ΦM   | S  | A                     | ΦB   | KK      | ΦM   | S  |         |    |     |     |     |     |     |     |     |    |     |    |
| φ40             | 30                    | φ40  | M20X1.5 | φ22  | 20 | 25                    | φ36  | M16X1.5 | φ18  | 16 | PT3/4   | 12 | φ11 | 141 | 129 | 166 | 46  | 95  | 118 | 30 | 44  | 27 |
| φ50             | 35                    | φ46  | M24X1.5 | φ28  | 24 | 30                    | φ40  | M20X1.5 | φ22  | 20 | PT 1/2  | 13 | φ14 | 155 | 142 | 182 | 58  | 115 | 145 | 30 | 43  | 30 |
| φ63             | 45                    | φ55  | M30X1.5 | φ35  | 30 | 35                    | φ46  | M24X1.5 | φ28  | 24 | PT 1/2  | 14 | φ18 | 163 | 149 | 184 | 65  | 132 | 165 | 35 | 50  | 37 |
| φ80             | 60                    | φ65  | M39X1.5 | φ45  | 41 | 45                    | φ55  | M30X1.5 | φ35  | 30 | PT3/4   | 18 | φ18 | 184 | 166 | 222 | 87  | 155 | 190 | 35 | 53  | 36 |
| φ100            | 75                    | φ80  | M48X1.5 | φ55  | 50 | 60                    | φ65  | M39X1.5 | φ45  | 41 | PT3/4   | 20 | φ22 | 192 | 172 | 232 | 109 | 190 | 230 | 40 | 60  | 40 |
| φ125            | 95                    | φ95  | M64X2   | φ70  | 65 | 75                    | φ80  | M48X1.5 | φ55  | 50 | PT1     | 24 | φ26 | 220 | 196 | 264 | 130 | 224 | 272 | 45 | 69  | 42 |
| φ140            | 110                   | φ105 | M72X2   | φ80  | 75 | 80                    | φ85  | M56X2   | φ60  | 55 | PT1     | 26 | φ26 | 230 | 204 | 276 | 145 | 250 | 300 | 50 | 76  | 42 |
| φ150            | 115                   | φ110 | M76X2   | φ85  | 80 | 85                    | φ90  | M60X2   | φ65  | 60 | PT1     | 28 | φ30 | 240 | 212 | 288 | 155 | 270 | 320 | 50 | 76  | 42 |
| φ160            | 120                   | φ115 | M80X2   | φ90  | 85 | 95                    | φ95  | M64X2   | φ70  | 65 | PT1     | 31 | φ33 | 253 | 222 | 304 | 170 | 285 | 345 | 55 | 86  | 42 |
| φ180            | 140                   | φ125 | M95X2   | φ100 | -  | 110                   | φ105 | M72X2   | φ80  | 75 | PT1 1/4 | 33 | φ33 | 275 | 242 | -   | 185 | 315 | 375 | 55 | 88  | 37 |
| φ200            | 150                   | φ140 | M100X2  | φ110 | -  | 120                   | φ115 | M80X2   | φ90  | 85 | PT1 1/2 | 37 | φ36 | 301 | 264 | -   | 206 | 355 | 425 | 55 | 92  | 42 |
| φ250            | 195                   | φ170 | M130X2  | φ140 | -  | 150                   | φ140 | M100X2  | φ110 | -  | PT2     | 46 | φ45 | 346 | 300 | -   | 250 | 425 | 515 | 65 | 111 | 60 |

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER

|  |                       |                                 |  |
|--|-----------------------|---------------------------------|--|
| <b>FD</b>                                | IS 70/140 H- <b>2</b> | FD <b>4</b> C/B-                | <b>6</b> <b>7</b> ST <b>8</b> - <b>9</b> <b>10</b> |
| FORWARD DIRECTION HEAD-SIDE, FLANGE TYPE | (2) PACKING MATERIALS | (4) INSIDE DIAMETER OF CYLINDER | (6) CUSHION TYPE                                   |
|  |                       | (7) CYLINDER STROKE             | (8) PORT POSITION                                  |
|  |                       |                                 | (9) CUSHION VALVE POSITION                         |
|  |                       |                                 | (10) DUST BOOT COVER                               |

OVER 100 OF ROD DIAMETER DRILL HOLE

| Rod Diameter | ∅MF    | ∅DF |
|--------------|--------|-----|
| ∅100         | ∅99.5  | ∅12 |
| ∅110         | ∅109.5 | ∅15 |
| ∅140         | ∅139.5 | ∅15 |

180 ∅ - 250 ∅

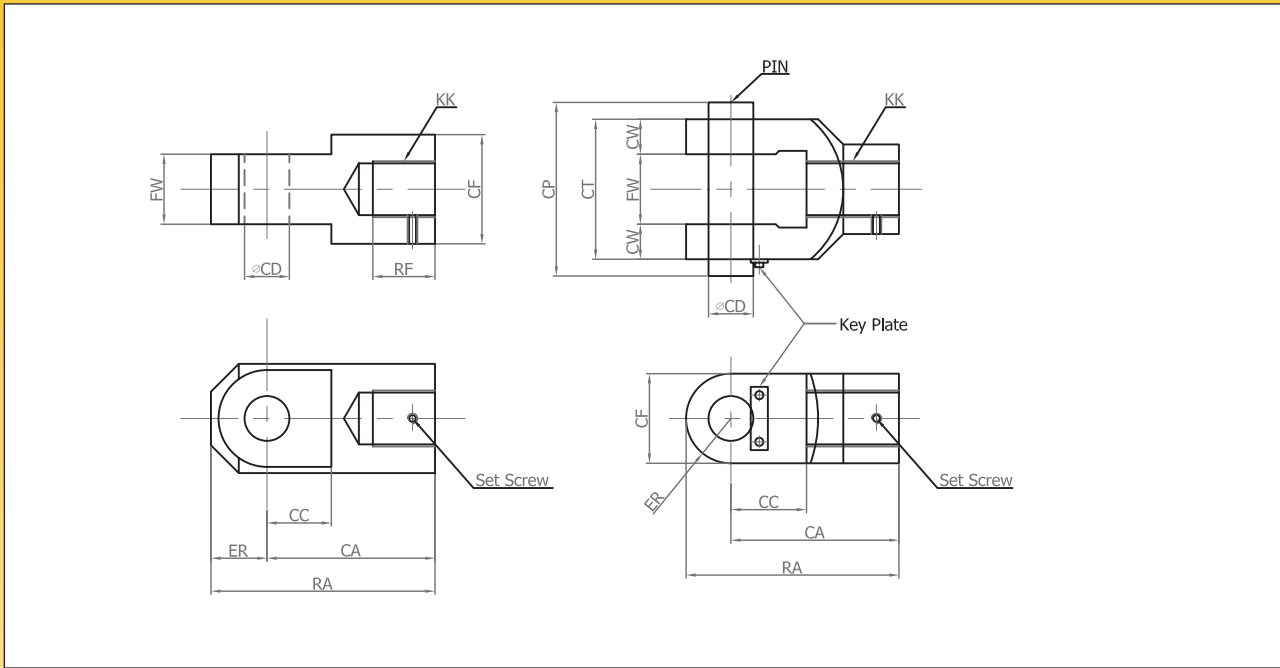
| Series | Fixing method | Tie rod Type | Tube Flange   |
|--------|---------------|--------------|---------------|
| IS70H  |               | -1, 500      | 1, 501-2, 000 |
| IS140H |               | -800         | 801-2, 000    |

| Notation<br>I-D | Rod diameter (B type) |      |         |      |    | Rod diameter (C type) |      |         |      |    | EE      | F  | FB  | FP  | HL  | LZ  | R   | TF  | ∅UF | W  | ZH  |
|-----------------|-----------------------|------|---------|------|----|-----------------------|------|---------|------|----|---------|----|-----|-----|-----|-----|-----|-----|-----|----|-----|
|                 | A                     | ∅B   | KK      | ∅M   | S  | A                     | ∅B   | KK      | ∅M   | S  |         |    |     |     |     |     |     |     |     |    |     |
| ∅40             | 30                    | ∅40  | M20X1.5 | ∅22  | 20 | 25                    | ∅36  | M16X1.5 | ∅18  | 16 | PT 3/4  | 12 | ∅11 | 39  | 141 | 166 | 46  | 95  | 118 | 30 | 183 |
| ∅50             | 35                    | ∅46  | M24X1.5 | ∅28  | 24 | 30                    | ∅40  | M20X1.5 | ∅22  | 20 | PT 1/2  | 13 | ∅14 | 42  | 155 | 182 | 58  | 115 | 145 | 30 | 197 |
| ∅63             | 45                    | ∅55  | M30X1.5 | ∅35  | 30 | 35                    | ∅46  | M24X1.5 | ∅28  | 24 | PT 1/2  | 14 | ∅18 | 51  | 163 | 184 | 65  | 132 | 165 | 35 | 212 |
| ∅80             | 60                    | ∅65  | M39X1.5 | ∅45  | 41 | 45                    | ∅55  | M30X1.5 | ∅35  | 30 | PT 3/4  | 18 | ∅18 | 54  | 184 | 222 | 87  | 155 | 190 | 35 | 237 |
| ∅100            | 75                    | ∅80  | M48X1.5 | ∅55  | 50 | 60                    | ∅65  | M39X1.5 | ∅45  | 41 | PT 3/4  | 20 | ∅22 | 60  | 192 | 232 | 109 | 190 | 230 | 40 | 252 |
| ∅125            | 95                    | ∅95  | M64X2   | ∅70  | 65 | 75                    | ∅80  | M48X1.5 | ∅55  | 50 | PT1     | 24 | ∅26 | 66  | 220 | 264 | 130 | 224 | 272 | 45 | 389 |
| ∅140            | 110                   | ∅105 | M72X2   | ∅80  | 75 | 80                    | ∅85  | M56X2   | ∅60  | 55 | PT1     | 26 | ∅26 | 68  | 230 | 276 | 145 | 250 | 300 | 50 | 306 |
| ∅150            | 115                   | ∅110 | M76X2   | ∅85  | 80 | 85                    | ∅90  | M60X2   | ∅65  | 60 | PT1     | 28 | ∅30 | 70  | 240 | 288 | 155 | 270 | 320 | 50 | 318 |
| ∅160            | 120                   | ∅115 | M80X2   | ∅90  | 85 | 95                    | ∅95  | M64X2   | ∅70  | 65 | PT1     | 31 | ∅33 | 73  | 253 | 304 | 170 | 285 | 345 | 55 | 343 |
| ∅180            | 140                   | ∅125 | M95X2   | ∅100 | -  | 110                   | ∅105 | M72X2   | ∅80  | 75 | PT1 1/4 | 33 | ∅33 | 70  | 275 | -   | 185 | 315 | 375 | 55 | 361 |
| ∅200            | 150                   | ∅140 | M100X2  | ∅110 | -  | 120                   | ∅115 | M80X2   | ∅90  | 85 | PT1 1/2 | 37 | ∅36 | 79  | 301 | -   | 206 | 355 | 425 | 55 | 393 |
| ∅250            | 195                   | ∅170 | M130X2  | ∅140 | -  | 150                   | ∅140 | M100X2  | ∅110 | -  | PT2     | 46 | ∅45 | 106 | 346 | -   | 250 | 425 | 515 | 65 | 457 |

# TAN AIR PNEUMATICS

## IS140H TIE ROD TYPE HYDRAULIC CYLINDER

### FRONT CLEVIS OPTIONS



| Notation<br>I-D | CA  | CC             |                | CD             |                        | CF             |                | CP   | CT   | CW   | ER             |                | FW  |   | KK      |         | RA             |                |                | RF             |  |
|-----------------|-----|----------------|----------------|----------------|------------------------|----------------|----------------|------|------|------|----------------|----------------|---|---|---------|---------|----------------|----------------|----------------|----------------|--|
|                 |     | Srge<br>threec | Srge<br>threec | Srge<br>threec | Douole<br>threec       | Srge<br>threec | Srge<br>threec |      |      |      | Srge<br>threec | Srge<br>threec | Srge<br>threec  | Douole<br>threec  | B       | C       | Srge<br>threec | Srge<br>threec | Srge<br>threec | Srge<br>threec |  |
| φ 40            | 60  | 28             | 27             | φ 16 H10       | φ 16 $\frac{H9}{T9}$   | 39             | 32             | 62   | 50   | 12.5 | 20             | R16            | 25 $\begin{smallmatrix} -0.1 \\ -0.4 \end{smallmatrix}$   | 25 $\begin{smallmatrix} +0.4 \\ +0.1 \end{smallmatrix}$   | M20X1.5 | M16X1.5 | 80             | 76             | 32             | 27             |  |
| φ 50            | 70  | 28             | 32             | φ 20 H10       | φ 20 $\frac{H9}{T9}$   | 49             | 40             | 76.5 | 63.5 | 16   | 25             | R20            | 31.5 $\begin{smallmatrix} -0.1 \\ -0.4 \end{smallmatrix}$ | 31.5 $\begin{smallmatrix} +0.4 \\ +0.1 \end{smallmatrix}$ | M24X1.5 | M20X1.5 | 95             | 90             | 37             | 32             |  |
| φ 63            | 115 | 43             | 50             | φ 31.5 H10     | φ 31.5 $\frac{H9}{T9}$ | 62             | 60             | 93   | 80   | 20   | 35             | R30            | 40 $\begin{smallmatrix} -0.1 \\ -0.4 \end{smallmatrix}$   | 40 $\begin{smallmatrix} +0.4 \\ +0.1 \end{smallmatrix}$   | M30X1.5 | M21X1.5 | 150            | 145            | 47             | 37             |  |
| φ 80            | 115 | 43             | 50             | φ 31.5 H10     | φ 31.5 $\frac{H9}{T9}$ | 62             | 60             | 93   | 80   | 20   | 35             | R30            | 40 $\begin{smallmatrix} -0.1 \\ -0.4 \end{smallmatrix}$   | 40 $\begin{smallmatrix} +0.4 \\ +0.1 \end{smallmatrix}$   | M39X1.5 | M30X1.5 | 150            | 145            | 62             | 47             |  |
| φ 100           | 145 | 55             | 60             | φ 40 H10       | φ 40 $\frac{H9}{T9}$   | 79             | 80             | 117  | 100  | 25   | 40             | 40             | 50 $\begin{smallmatrix} -0.1 \\ -0.4 \end{smallmatrix}$   | 50 $\begin{smallmatrix} +0.4 \\ +0.1 \end{smallmatrix}$   | M48X1.5 | M39X1.5 | 185            | 185            | 77             | 62             |  |
| φ 125           | 180 | 65             | 70             | φ 50 H10       | φ 50 $\frac{H9}{T9}$   | 100            | 100            | 143  | 126  | 31.5 | 50             | 50             | 53 $\begin{smallmatrix} -0.1 \\ -0.4 \end{smallmatrix}$   | 53 $\begin{smallmatrix} +0.4 \\ +0.1 \end{smallmatrix}$   | M64X2   | M48X1.5 | 230            | 230            | 97             | 77             |  |
| φ 140           | 225 | 85             | 90             | φ 63 H10       | φ 63 $\frac{H9}{T9}$   | 130            | 120            | 183  | 160  | 40   | 65             | 65             | 80 $\begin{smallmatrix} -0.1 \\ -0.8 \end{smallmatrix}$   | 80 $\begin{smallmatrix} +0.8 \\ +0.1 \end{smallmatrix}$   | M72X2   | M56X2   | 290            | 290            | 112            | 82             |  |
| φ 150           | 225 | 85             | 90             | φ 63 H10       | φ 63 $\frac{H9}{T9}$   | 130            | 120            | 183  | 160  | 40   | 65             | 65             | 80 $\begin{smallmatrix} -0.1 \\ -0.8 \end{smallmatrix}$   | 80 $\begin{smallmatrix} +0.8 \\ +0.1 \end{smallmatrix}$   | M76X2   | M60X2   | 290            | 290            | 117            | 87             |  |
| φ 160           | 240 | 90             | 100            | φ 71 H10       | φ 71 $\frac{H9}{T9}$   | 140            | 140            | 183  | 160  | 40   | 70             | 70             | 80 $\begin{smallmatrix} -0.1 \\ -0.8 \end{smallmatrix}$   | 80 $\begin{smallmatrix} +0.5 \\ +0.1 \end{smallmatrix}$   | M80X2   | M64X2   | 310            | 310            | 122            | 97             |  |

### LOCK NUT

| Notation<br>I-D | B rod type locknut |     |      |    | C rod type locknut |    |      |    |
|-----------------|--------------------|-----|------|----|--------------------|----|------|----|
|                 | M                  | B   | C    | H  | M                  | B  | C    | H  |
| φ 40            | M20X1.5            | 27  | 31.2 | 12 | M16X1.5            | 22 | 25.4 | 10 |
| φ 50            | M24X1.5            | 32  | 37.0 | 14 | M20X1.5            | 27 | 31.2 | 12 |
| φ 63            | M30X1.5            | 41  | 47.3 | 17 | M24X1.5            | 32 | 37.0 | 14 |
| φ 80            | M39X1.5            | 55  | 63.5 | 20 | M30X1.5            | 41 | 47.3 | 17 |
| φ 100           | M48X1.5            | 70  | 80.8 | 26 | M39X1.5            | 55 | 63.5 | 20 |
| φ 125           | M64X2              | 90  | 104  | 35 | M48X1.5            | 70 | 80.8 | 26 |
| φ 140           | M72X2              | 100 | 115  | 38 | M56X2              | 80 | 92.4 | 35 |
| φ 150           | M76X2              | 105 | 121  | 40 | M60X2              | 85 | 98.1 | 33 |
| φ 160           | M80X2              | 110 | 127  | 43 | M64X2              | 90 | 104  | 35 |

