

# AL-140T, 140T-N

Soft seat type

JWWA

JWWA approval  
(AL-140T-N)

|                     |             |                                    |                    |
|---------------------|-------------|------------------------------------|--------------------|
| Full bore type      | Lift type   | Safety valve                       | Relief valve       |
| Safety relief valve | Lever type  | Closed type                        | Dash-pot structure |
| Handle type         | Stainless   | High pressure gas testing products |                    |
| Diaphragm           | Non-leakage |                                    |                    |

## ■Features

1. Safety relief valve of all stainless steel made, offering high corrosion resistance and durability in particular.
2. Excellent airtightness ensured by the valve seat incorporating soft seat. Most suitable for applications where valve seat leakage is not tolerated.
3. Close structure prevents fluid leakage to outside.

## ■Specifications

| Model               |                   | AL-140T                                                    | AL-140T-N          |
|---------------------|-------------------|------------------------------------------------------------|--------------------|
| Structure           |                   | Closed type                                                |                    |
| Application         |                   | Air, Cold and hot water, Oil, Other non-dangerous fluids * | Cold and hot water |
| Working pressure    |                   | 0.05-1.0 MPa                                               |                    |
| Working temperature |                   | 5-120°C                                                    | 5-100°C            |
| Material            | Spring case       | Stainless steel                                            |                    |
|                     | Valve, valve seat | Stainless steel (SCS14A)                                   |                    |
|                     | Adjusting spring  | Stainless steel                                            |                    |
|                     | O-ring            | FKM                                                        |                    |
| Connection          |                   | JIS Rc screwed                                             |                    |

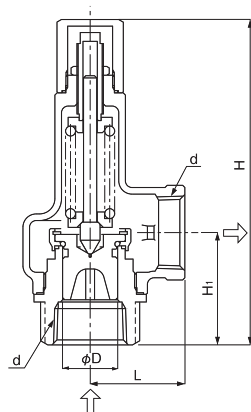
\* Please contact us when using for oil.

\* Please contact us when using for oil. AL-140TML is recommended for hot and cold water application.

· Please refer to the chart in P. 8-80 for set pressure range.

## ■Dimensions and Weights

| Nominal size | Dimension (mm) |    |    |                |       | Flow area<br>$\pi D \ell$ (mm <sup>2</sup> ) | Weight<br>(kg) |
|--------------|----------------|----|----|----------------|-------|----------------------------------------------|----------------|
|              | d              | D  | L  | H <sub>1</sub> | H     |                                              |                |
| 15A          | Rc 1/2         | 16 | 34 | 40             | 128   | 20.1                                         | 0.7            |
| 20A          | Rc 3/4         | 21 | 38 | 42             | 128.5 | 34.6                                         | 0.8            |
| 25A          | Rc 1           | 26 | 43 | 51             | 148   | 53.0                                         | 1.1            |
| 32A          | Rc 1-1/4       | 33 | 50 | 61.5           | 181.5 | 93.3                                         | 1.8            |
| 40A          | Rc 1-1/2       | 41 | 60 | 64             | 205   | 135.2                                        | 2.8            |
| 50A          | Rc 2           | 51 | 75 | 76             | 245.5 | 208.2                                        | 4.7            |



### Soft seat is used for the trim parts!

Soft seat (O-ring) is used for the trim parts, ensuring the reliable airtightness of the valve seat.



Soft seat (O-ring)

### ■ Certified Capacity Table

#### · AL-150L for steam (saturation temperature) <Pressure vessel structure standard>

(kg/h)

| Pressure MPa<br>Nominal size | 0.05 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9  | 1.0  |
|------------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 15A                          | 15   | 20  | 29  | 40  | 50  | 60  | 70  | 80  | 90  | 100  | 109  |
| 20A                          | 27   | 35  | 51  | 69  | 87  | 104 | 121 | 138 | 155 | 172  | 189  |
| 25A                          | 42   | 54  | 78  | 105 | 133 | 159 | 186 | 212 | 237 | 263  | 289  |
| 32A                          | 70   | 91  | 132 | 178 | 224 | 268 | 313 | 356 | 400 | 443  | 487  |
| 40A                          | 105  | 136 | 198 | 266 | 335 | 402 | 468 | 534 | 599 | 664  | 729  |
| 50A                          | 163  | 211 | 306 | 411 | 518 | 621 | 723 | 824 | 924 | 1025 | 1126 |

#### · AL-150H for steam (saturation temperature)

(kg/h)

| Pressure MPa<br>Nominal size | 1.0  | 1.1  | 1.2  | 1.3  | 1.4  | 1.5  | 1.6  |
|------------------------------|------|------|------|------|------|------|------|
| 15A                          | 115  | 126  | 136  | 146  | 156  | 167  | 177  |
| 20A                          | 199  | 217  | 235  | 252  | 270  | 288  | 306  |
| 25A                          | 306  | 333  | 360  | 387  | 415  | 442  | 469  |
| 32A                          | 493  | 537  | 581  | 625  | 669  | 713  | 757  |
| 40A                          | 761  | 830  | 897  | 965  | 1033 | 1100 | 1168 |
| 50A                          | 1179 | 1284 | 1389 | 1494 | 1599 | 1703 | 1808 |

#### · AL-150L for air (20°C) <Pressure vessel structure standard>

(kg/h)

| Pressure MPa<br>Nominal size | 0.05 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1.0  |
|------------------------------|------|-----|-----|-----|-----|------|------|------|------|------|------|
| 15A                          | 25   | 33  | 48  | 65  | 81  | 98   | 114  | 131  | 147  | 164  | 181  |
| 20A                          | 44   | 57  | 83  | 111 | 140 | 169  | 197  | 226  | 254  | 283  | 311  |
| 25A                          | 67   | 87  | 127 | 171 | 215 | 258  | 302  | 346  | 390  | 433  | 479  |
| 32A                          | 113  | 147 | 214 | 288 | 362 | 435  | 509  | 582  | 656  | 730  | 803  |
| 40A                          | 169  | 221 | 321 | 431 | 542 | 652  | 762  | 872  | 982  | 1093 | 1203 |
| 50A                          | 262  | 341 | 496 | 666 | 836 | 1006 | 1176 | 1346 | 1516 | 1687 | 1857 |

#### · AL-150H for air (20°C)

(kg/h)

| Pressure MPa<br>Nominal size | 1.0  | 1.1  | 1.2  | 1.3  | 1.4  | 1.5  | 1.6  |
|------------------------------|------|------|------|------|------|------|------|
| 15A                          | 190  | 208  | 225  | 243  | 260  | 278  | 295  |
| 20A                          | 328  | 359  | 389  | 419  | 449  | 479  | 509  |
| 25A                          | 504  | 550  | 597  | 643  | 689  | 735  | 782  |
| 32A                          | 813  | 888  | 962  | 1037 | 1111 | 1186 | 1260 |
| 40A                          | 1255 | 1370 | 1485 | 1600 | 1715 | 1831 | 1946 |
| 50A                          | 1943 | 2121 | 2299 | 2477 | 2655 | 2833 | 3011 |

#### · AL-150H for water (accumulation: 25%) <Yoshitake standard>

(m³/h)

| Pressure MPa<br>Nominal size | 1.0  | 1.1  | 1.2  | 1.3  | 1.4  | 1.5  | 1.6  |
|------------------------------|------|------|------|------|------|------|------|
| 15A                          | 2.4  | 2.5  | 2.7  | 2.8  | 2.9  | 3.0  | 3.1  |
| 20A                          | 4.2  | 4.4  | 4.6  | 4.8  | 5.0  | 5.2  | 5.3  |
| 25A                          | 6.5  | 6.8  | 7.1  | 7.4  | 7.7  | 8.0  | 8.2  |
| 32A                          | 10.5 | 11.0 | 11.5 | 12.0 | 12.4 | 12.9 | 13.3 |
| 40A                          | 16.2 | 17.0 | 17.8 | 18.5 | 19.2 | 19.9 | 20.6 |
| 50A                          | 25.2 | 26.4 | 27.6 | 28.7 | 29.8 | 30.8 | 31.8 |

· Please refer to P.3-12 for the calculation procedure of nominal size selection.