

## Specification

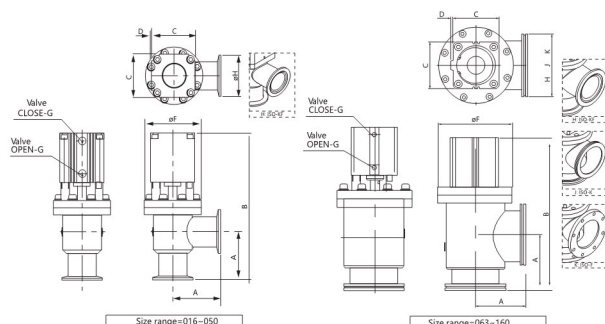
| VL( $\frac{A}{B}$ )H series           |                            |                                                                                              | Vacuum Angle Valve / Double Acting / Bakable type                                         |      |    |     |     |    |     |                  |     |     |     |
|---------------------------------------|----------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|------|----|-----|-----|----|-----|------------------|-----|-----|-----|
|                                       |                            |                                                                                              | Bellows STEM seal (A: SUS316L / B: AM350)                                                 |      |    |     |     |    |     |                  |     |     |     |
| Valve port                            |                            | SIZE                                                                                         | 16                                                                                        | 25   | 40 | 50  | 63  | 80 | 100 | 160              | 200 | 250 | 320 |
| Flange Standards                      | ISO-KF                     | KF                                                                                           | ●                                                                                         | ●    | ●  | ●   | ●   | ×  | ●   | ●                | ×   | ×   | ×   |
|                                       | ISO-K                      | KQ                                                                                           | ×                                                                                         | ×    | ×  | ×   | ●   | ×  | ●   | ●                | ×   | ×   | ×   |
|                                       | ISO-F                      | KC                                                                                           | ×                                                                                         | ×    | ×  | ×   | ●   | ×  | ●   | ●                | ×   | ×   | ×   |
| Valve Actuating type                  |                            |                                                                                              | Double acting cylinder                                                                    |      |    |     |     |    |     |                  |     |     |     |
| Fluid                                 |                            |                                                                                              | Vacuum in an inert gas system                                                             |      |    |     |     |    |     |                  |     |     |     |
| Operating temperature °C              |                            |                                                                                              | ≤150(Actuator: Max.60°C)                                                                  |      |    |     |     |    |     |                  |     |     |     |
| Operating pressure Pa (Abs)           |                            |                                                                                              | 1×10 <sup>-6</sup> ~ to atmospheric pressure                                              |      |    |     |     |    |     |                  |     |     |     |
| Conductance L / s <sup>(Note 1)</sup> |                            |                                                                                              | 7                                                                                         | 14   | 42 | 95  | 150 | -  | 520 | 1,430            | -   | -   | -   |
| Leakage Pa·m <sup>3</sup> /s          | Inside                     | Standard material (FKM) 1.0×10 <sup>-10</sup> at room temperature (excluding gas permeation) |                                                                                           |      |    |     |     |    |     |                  |     |     |     |
|                                       | Outside                    | Standard material (FKM) 1.0×10 <sup>-11</sup> at room temperature (excluding gas permeation) |                                                                                           |      |    |     |     |    |     |                  |     |     |     |
| Main material                         |                            |                                                                                              | Body: SUS304, Bellows: (SUS316L / AM350) Main parts: SUS304, AL-6061, FKM (Standard seal) |      |    |     |     |    |     |                  |     |     |     |
| Operating pressure MPa (G)            |                            |                                                                                              | 0.4-0.7                                                                                   |      |    |     |     |    |     |                  |     |     |     |
| Operation Port Port Size              |                            |                                                                                              | PT 1/8" (Rc1/8")                                                                          |      |    |     |     |    |     | PT 3/8" (Rc3/8") |     |     |     |
| Compressed air consumption (@0.5MPa)  | cc(mL) <sup>(Note 2)</sup> |                                                                                              | 22.5                                                                                      | 22.5 | 45 | 100 | 185 | -  | 400 | 940              | -   | -   | -   |
| Open stroke                           |                            |                                                                                              | 14                                                                                        | 14   | 18 | 25  | 30  | -  | 40  | 60               | -   | -   | -   |
| Seal distance (A-Value)               |                            |                                                                                              | 40                                                                                        | 50   | 65 | 70  | 88  | -  | 108 | 138              | -   | -   | -   |

(Note 1) Conductance is represented by "molecular flow" of elbow of the same dimension. (Note 2) One stroke condition. (Open & Close)

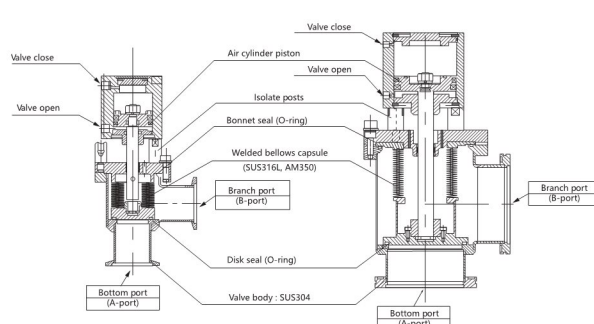
## External dimension table

| SIZE | 16      | 25      | 40      | 50      | 63      | 80 | 100     | 160     |
|------|---------|---------|---------|---------|---------|----|---------|---------|
| A    | 40      | 50      | 65      | 70      | 88      | -  | 108     | 138     |
| B    | 151.5   | 159.5   | 199.5   | 224     | 274     | -  | 332.5   | 460     |
| C    | 48      | 48      | 60      | 69      | 77      | -  | 98      | 117     |
| D    | 3       | 3       | 2       | 2       | 5       | -  | 5       | 6.5     |
| F    | Ø61     | Ø61     | Ø78     | Ø89     | Ø109    | -  | Ø159    | Ø206    |
| G    | PT 1/8" | PT 1/8" | PT 1/8" | PT 1/8" | PT 1/8" | -  | PT 1/8" | PT 3/8" |
| H    | Ø30     | Ø40     | Ø55     | Ø75     | Ø95     | -  | Ø134    | Ø190    |
| J    | -       | -       | -       | -       | Ø95     | -  | Ø130    | Ø180    |
| K    | -       | -       | -       | -       | Ø130    | -  | Ø165    | Ø225    |

### Dimensional drawing



### Internal detail



## How to Order

Valve **V(A)B(C)** - ① ② - ③ - ④ - ⑤ ⑥ - (⑦)

Model VLAP - □□□ □□-□□ - □ - □□

|                                                                                  |                     |                             |                                                                                                                               |                                                     |       |      |                |                |          |               |               |         |              |     |  |
|----------------------------------------------------------------------------------|---------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------|------|----------------|----------------|----------|---------------|---------------|---------|--------------|-----|--|
| Series                                                                           | A<br>Body shape     | VLⒶC                        | L                                                                                                                             | L-type(Angle valve) 304SS Body                      |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VYⒶC                        | Y                                                                                                                             | Y-type(Inline valve) 304SS Body                     |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  | B<br>Stem Seal      | VⒶAC                        | A                                                                                                                             | 316L Bellows STEM Seal                              |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VⒶBC                        | B                                                                                                                             | AM350 Bellows STEM Seal                             |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VⒶSC                        | S                                                                                                                             | O-Ring STEM Seal                                    |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  | C<br>Operation type | VⒶBP                        | P                                                                                                                             | Double Acting (Pneumatic)                           |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VⒶBS                        | S                                                                                                                             | Single Acting (N.C.)                                |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VⒶBM                        | M                                                                                                                             | Manual operation                                    |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VⒶBQ                        | Q                                                                                                                             | Double Acting, w/Heater (Pneumatic)                 |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VⒶBR                        | R                                                                                                                             | Single Acting, w/Heater (N.C.)                      |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VⒶBH                        | H                                                                                                                             | Double Acting, Heating model(Pneumatic)             |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VⒶBK                        | K                                                                                                                             | Double Acting, Heating model, w/Heater(Pneumatic)   |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VLⒶD                        | D                                                                                                                             | Double Acting, w/Soft start bypass valve(Pneumatic) |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VLⒶT                        | T                                                                                                                             | Single Acting, w/Soft start bypass valve(N.C.)      |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VLⒶX                        | X                                                                                                                             | Single Acting, w/Soft start integrated valve(N.C.)  |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VLⒶW                        | W                                                                                                                             | Bonnet gasket seal type, Double Acting (Pneumatic)  |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VLⒶY                        | Y                                                                                                                             | Bonnet gasket seal type, Single Acting (N.C.)       |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     | VLⒶZ                        | Z                                                                                                                             | Bonnet gasket seal type, Manual operation           |       |      |                |                |          |               |               |         |              |     |  |
| Port flange                                                                      | Valve size          | ①                           | □□□                                                                                                                           | 016                                                 | 025   | 040  | 050            | 063            | 080      | 100           | 160           | 200     | 250          | 320 |  |
|                                                                                  | Flange Spec.        | ②                           | □□<br>Specific                                                                                                                | KF                                                  |       | KQ   |                | KC             |          | CF            |               | JF      |              |     |  |
| Seal material (Disc, Bonnet, Stem)                                               | ③<br>(Note 1)       | □□                          |                                                                                                                               | N1                                                  | ED    | S1   | FS             | R1             | R2       | R3            | P1            | P2      | U1           |     |  |
|                                                                                  |                     |                             | FKM                                                                                                                           | NBR                                                 | EPDM  | VMQ  | FFKM           | Chemraz®       | Chemraz® | Chemraz®      | Kalrez®       | Kalrez® | ULTIC ARMOR® |     |  |
|                                                                                  |                     |                             | SS592                                                                                                                         |                                                     | SS630 |      | SSE38          |                | 4079     |               | 9100          |         | UA4640       |     |  |
|                                                                                  |                     |                             | Im case of FFKM (FS), please specify a separate material.                                                                     |                                                     |       |      |                |                |          |               |               |         |              |     |  |
| CDA port position                                                                | ④<br>(Note 2)       | □<br>Branch port Lower part | None                                                                                                                          | E                                                   |       | S    |                | W              |          |               |               |         |              |     |  |
|                                                                                  |                     |                             | Rear                                                                                                                          | Right                                               |       | Left |                | Same Direction |          |               |               |         |              |     |  |
|                                                                                  |                     |                             |                                                                                                                               |                                                     |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     |                             |                                                                                                                               |                                                     |       |      |                |                |          |               |               |         |              |     |  |
| Sensor                                                                           | ⑤                   | □                           | 0                                                                                                                             |                                                     | 1     |      | 2              |                |          |               |               |         |              |     |  |
|                                                                                  | ⑥                   | □                           | None                                                                                                                          |                                                     | 1 EA  |      | 2 EA           |                |          |               |               |         |              |     |  |
| Solenoid or Heater Mounting                                                      | ⑦                   | (G) or (W)                  | G: Mounting Solenoid valve(Applicable Model) / W:Heater exclude (Not installed)                                               |                                                     |       |      |                |                |          |               |               |         |              |     |  |
|                                                                                  |                     |                             | VLAP- / VLBP- / VLAS- / VLBS- / VLAD- / VLBD- / VLAT- / VLSP- / VLSS- / VLBT- / VYAP- / VYAS- / VYBP- / VYBS- / VYSP- / VYSS- |                                                     |       |      |                |                |          |               |               |         |              |     |  |
| Valve                                                                            | (Note 3)            |                             |                                                                                                                               |                                                     |       |      |                |                |          |               |               |         |              |     |  |
| Modified special                                                                 |                     | ( )                         | ※Please consult our technical department.                                                                                     |                                                     |       |      |                |                |          |               |               |         |              |     |  |
| w/Solenoid Valve Spec.                                                           | size range          |                             | 016                                                                                                                           | 025                                                 | 040   | 050  | 063            | 080            | 100      | 160           | 200           | 250     | 320          |     |  |
| Single acting                                                                    | [VⒶBS]              | Solenoid Valve Spec.        | RDV412-5DZ-01                                                                                                                 |                                                     |       |      | RDS301-5DZ-01A |                |          | (Note 4)      | Not Available |         |              |     |  |
| Double acting                                                                    | [VⒶBP]              |                             | DS2120-5HZ-01                                                                                                                 |                                                     |       |      | RDS5120-5DZ-03 |                |          |               |               |         |              |     |  |
| Solenoid valve maker: TPC / Electric power: DC24V                                |                     |                             |                                                                                                                               |                                                     |       |      |                |                |          |               |               |         |              |     |  |
| w/Heater Spec.                                                                   | size range          |                             | 016                                                                                                                           | 025                                                 | 040   | 050  | 063            | 080            | 100      | 160           | 200           | 250     | 320          |     |  |
| Type: Silicon Rubber Heater                                                      |                     |                             | 25W                                                                                                                           | 25W                                                 | 30W   | 45W  | 70W            | 90W            | 150W     | Not Available |               |         |              |     |  |
| Temperature Max.: Amb.~150℃ / TC.sensor control: K-Type / Electric power: AC220V |                     |                             |                                                                                                                               |                                                     |       |      |                |                |          |               |               |         |              |     |  |

(Note 1) For standard products, use sealing material of vacuum secretion as a FKM (flammable O-ring).

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(Note 2) Applies only to the double and single operating valves (except VABM-series)

(Note 3) Specifications that are partially changed in standards or standards other than standard products can be specially designed to meet the customer's needs, so please consult with them.

(Note 4) Solenoid valve specification: RDS301-5DZ-02A