



PERFORMANCE PARAMETER

VTM301~306

| Model  | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter ( Φ mm) |             |
|--------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|-----------------------------------|-------------|
|        |                                   |                               |                                   |                          | Air Supply Port                   | Vacuum Port |
| VTM301 | 4.5                               | 94                            | 360                               | 135                      | 8                                 | 12          |
| VTM302 | 4.5                               | 94                            | 720                               | 270                      | 8                                 | 15          |
| VTM303 | 4.5                               | 94                            | 1080                              | 405                      | 8                                 | 19          |
| VTM304 | 4.5                               | 94                            | 1440                              | 540                      | 8                                 | 25          |
| VTM305 | 5                                 | 94                            | 1800                              | 675                      | 10                                | 25          |
| VTM306 | 5                                 | 94                            | 2160                              | 810                      | 10                                | 25          |

VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model  | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |     |     |       |       |       |       |      |      |    |
|--------|-------------------------|------------------------|-----------------------------|------|-----|-----|-------|-------|-------|-------|------|------|----|
|        |                         |                        | 0                           | 10   | 20  | 30  | 40    | 50    | 60    | 70    | 80   | 90   |    |
| VTM301 | 4.5                     | 135                    | 360                         | 180  | 120 | 78  | 43.8  | 34.8  | 25.8  | 19.2  | 10.8 | 1.8  | 94 |
| VTM302 |                         | 270                    | 720                         | 360  | 240 | 156 | 87.6  | 69.6  | 51.6  | 38.4  | 21.6 | 3.6  |    |
| VTM303 |                         | 405                    | 1080                        | 540  | 360 | 234 | 131.4 | 104.4 | 77.4  | 57.6  | 32.4 | 5.4  |    |
| VTM304 |                         | 540                    | 1440                        | 720  | 480 | 312 | 175.2 | 139.2 | 103.2 | 76.8  | 43.2 | 7.2  |    |
| VTM305 | 5                       | 675                    | 1800                        | 850  | 580 | 390 | 219   | 174   | 129   | 96    | 54   | 9    | 94 |
| VTM306 |                         | 810                    | 2160                        | 1000 | 684 | 468 | 262.8 | 206.4 | 154.8 | 115.2 | 64.8 | 10.8 |    |
| VTM301 | 6                       | 185                    | 360                         | 260  | 140 | 130 | 95    | 60    | 30    | 16    | 8    | 1.5  | 94 |
| VTM302 |                         | 370                    | 720                         | 520  | 280 | 156 | 190   | 120   | 60    | 32    | 16   | 3    |    |
| VTM303 |                         | 610                    | 1080                        | 780  | 420 | 234 | 285   | 180   | 90    | 48    | 24   | 4.5  |    |
| VTM304 |                         | 720                    | 1440                        | 1040 | 560 | 312 | 380   | 240   | 120   | 64    | 32   | 6    |    |
| VTM305 |                         | 780                    | 1800                        | 1300 | 700 | 390 | 475   | 300   | 150   | 80    | 40   | 7.5  |    |
| VTM306 |                         | 830                    | 2160                        | 1560 | 840 | 468 | 570   | 360   | 180   | 96    | 48   | 9    |    |

PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model  | Air Supply Pressure Bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |       |       |       |       |       |       |       |      |     |    |
|--------|-------------------------|------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|------|-----|----|
|        |                         |                        | 0                           | 10    | 20    | 30    | 40    | 50    | 60    | 70    | 80   | 90  |    |
| VTM301 | 4.5                     | 135                    | -                           | 0.022 | 0.06  | 0.11  | 0.21  | 0.4   | 0.65  | 0.95  | 1.6  | 4   | 94 |
| VTM302 |                         | 270                    | -                           | 0.014 | 0.031 | 0.06  | 0.1   | 0.2   | 0.34  | 0.5   | 0.8  | 2.5 |    |
| VTM303 |                         | 405                    | -                           | 0.012 | 0.029 | 0.058 | 0.095 | 0.18  | 0.31  | 0.46  | 0.59 | 1.5 |    |
| VTM304 |                         | 540                    | -                           | 0.01  | 0.025 | 0.043 | 0.075 | 0.11  | 0.19  | 0.27  | 0.45 | 1.2 |    |
| VTM305 | 5                       | 675                    | -                           | 0.006 | 0.015 | 0.029 | 0.052 | 0.085 | 0.145 | 0.202 | 0.33 | 1   | 94 |
| VTM306 |                         | 810                    | -                           | 0.005 | 0.013 | 0.027 | 0.045 | 0.07  | 0.105 | 0.23  | 0.46 | 0.9 |    |
| VTM301 | 6                       | 168                    | -                           | 0.018 | 0.05  | 0.08  | 0.018 | 0.25  | 0.4   | 0.62  | 1.55 | -   | 94 |
| VTM302 |                         | 370                    | -                           | 0.01  | 0.022 | 0.048 | 0.08  | 0.11  | 0.2   | 0.35  | 0.78 | -   |    |
| VTM303 |                         | 610                    | -                           | 0.009 | 0.019 | 0.045 | 0.075 | 0.13  | 0.18  | 0.31  | 0.7  | -   |    |
| VTM304 |                         | 720                    | -                           | 0.007 | 0.018 | 0.038 | 0.055 | 0.08  | 0.12  | 0.19  | 0.47 | -   |    |
| VTM305 |                         | 780                    | -                           | 0.005 | 0.013 | 0.026 | 0.045 | 0.062 | 0.115 | 0.194 | 0.56 | -   |    |
| VTM306 |                         | 830                    | -                           | 0.003 | 0.009 | 0.014 | 0.03  | 0.06  | 0.095 | 0.2   | 0.8  | -   |    |

PERFORMANCE PARAMETER

VTL301~306

| Model  | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter ( Φmm) |             |
|--------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------------------|-------------|
|        |                                   |                               |                                   |                          | Air Supply Port                  | Vacuum Port |
| VTL301 | 6                                 | 85                            | 355                               | 105                      | 8                                | 12          |
| VTL302 | 6                                 | 85                            | 710                               | 210                      | 8                                | 15          |
| VTL303 | 6                                 | 85                            | 1065                              | 315                      | 8                                | 19          |
| VTL304 | 6                                 | 85                            | 1420                              | 420                      | 8                                | 25          |
| VTL305 | 6                                 | 85                            | 1775                              | 525                      | 10                               | 25          |
| VTL306 | 6                                 | 85                            | 2130                              | 630                      | 10                               | 25          |

VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model  | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |     |     |     |     |     |    |    |    |    |
|--------|-------------------------|------------------------|-----------------------------|------|-----|-----|-----|-----|-----|----|----|----|----|
|        |                         |                        | 0                           | 10   | 20  | 30  | 40  | 50  | 60  | 70 | 80 | 90 |    |
| VTL301 | 6                       | 105                    | 355                         | 240  | 160 | 115 | 65  | 42  | 34  | 20 | 8  | -  | 85 |
| VTL302 |                         | 210                    | 710                         | 480  | 320 | 230 | 130 | 85  | 65  | 40 | 16 | -  |    |
| VTL303 |                         | 315                    | 1065                        | 720  | 480 | 370 | 170 | 120 | 70  | 52 | 25 | -  |    |
| VTL304 |                         | 420                    | 1420                        | 960  | 640 | 400 | 215 | 135 | 90  | 77 | 29 | -  |    |
| VTL305 |                         | 525                    | 1775                        | 1130 | 800 | 495 | 265 | 180 | 130 | 85 | 34 | -  |    |
| VTL306 |                         | 630                    | 2130                        | 1310 | 960 | 570 | 300 | 216 | 160 | 92 | 42 | -  |    |

PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model  | Air Supply Pressure Bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |       |       |       |       |       |      |      |      |    |    |
|--------|-------------------------|------------------------|-----------------------------|-------|-------|-------|-------|-------|------|------|------|----|----|
|        |                         |                        | 0                           | 10    | 20    | 30    | 40    | 50    | 60   | 70   | 80   | 90 |    |
| VTL301 | 6                       | 105                    | -                           | 0.03  | 0.06  | 0.1   | 0.2   | 0.39  | 0.58 | 0.87 | 1.2  | -  | 85 |
| VTL302 |                         | 210                    | -                           | 0.018 | 0.039 | 0.066 | 0.12  | 0.2   | 0.31 | 0.51 | 0.95 | -  |    |
| VTL303 |                         | 315                    | -                           | 0.01  | 0.02  | 0.04  | 0.08  | 0.12  | 0.2  | 0.31 | 0.75 | -  |    |
| VTL304 |                         | 420                    | -                           | 0.008 | 0.015 | 0.032 | 0.05  | 0.09  | 0.13 | 0.22 | 0.4  | -  |    |
| VTL305 |                         | 525                    | -                           | 0.006 | 0.016 | 0.026 | 0.045 | 0.078 | 0.11 | 0.18 | 0.33 | -  |    |
| VTL306 |                         | 630                    | -                           | 0.005 | 0.013 | 0.024 | 0.04  | 0.071 | 0.1  | 0.16 | 0.24 | -  |    |

VTS301~306

| Model  | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter ( Φmm) |             |
|--------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------------------|-------------|
|        |                                   |                               |                                   |                          | Air Supply Port                  | Vacuum Port |
| VTS301 | 3.5                               | 90                            | 336                               | 123                      | 8                                | 12          |
| VTS302 | 3.5                               | 90                            | 672                               | 240                      | 8                                | 15          |
| VTS303 | 3.5                               | 90                            | 1008                              | 360                      | 8                                | 19          |
| VTS304 | 3.5                               | 90                            | 1344                              | 480                      | 8                                | 25          |
| VTS305 | 3.5                               | 90                            | 1680                              | 600                      | 10                               | 25          |
| VTS306 | 3.5                               | 90                            | 2016                              | 720                      | 10                               | 25          |

VACUUM GENERATOR  
VT  
HVT  
HGX  
HGS  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
ZL/1/3/6  
ZH  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ

**VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)**

| Model  | Air Supply Pressure bar | Gas Consumption NL/min | 0    | 10  | 20  | 30  | 40  | 50  | 60  | 70 | 80 | 90 | Maximum Vacuum Degree - kPa |
|--------|-------------------------|------------------------|------|-----|-----|-----|-----|-----|-----|----|----|----|-----------------------------|
| VTS301 | 3.5                     | 123                    | 336  | 150 | 108 | 66  | 39  | 30  | 21  | 15 | 6  | -  | 90                          |
| VTS302 |                         | 240                    | 672  | 300 | 216 | 132 | 78  | 60  | 42  | 30 | 12 | -  |                             |
| VTS303 |                         | 360                    | 1008 | 450 | 324 | 198 | 117 | 90  | 63  | 45 | 18 | -  |                             |
| VTS304 |                         | 480                    | 1344 | 600 | 432 | 264 | 156 | 120 | 84  | 60 | 24 | -  |                             |
| VTS305 |                         | 600                    | 1680 | 678 | 516 | 330 | 195 | 150 | 105 | 75 | 30 | -  |                             |
| VTS306 |                         | 720                    | 2016 | 768 | 618 | 396 | 234 | 180 | 126 | 90 | 36 | -  |                             |

**PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)**

| Model  | Air Supply Pressure bar | Gas Consumption NL/min | 0 | 10    | 20    | 30    | 40   | 50   | 60   | 70   | 80   | 90   | Maximum Vacuum Degree - kPa |
|--------|-------------------------|------------------------|---|-------|-------|-------|------|------|------|------|------|------|-----------------------------|
| VTS301 | 3.5                     | 123                    | - | 0.02  | 0.06  | 0.12  | 0.25 | 0.45 | 0.7  | 1.0  | 1.6  | 4.0  | 90                          |
| VTS302 |                         | 240                    | - | 0.01  | 0.03  | 0.06  | 0.13 | 0.23 | 0.35 | 0.5  | 0.8  | 2.0  |                             |
| VTS303 |                         | 360                    | - | 0.007 | 0.02  | 0.04  | 0.08 | 0.15 | 0.23 | 0.33 | 0.53 | 1.33 |                             |
| VTS304 |                         | 480                    | - | 0.005 | 0.015 | 0.03  | 0.06 | 0.11 | 0.18 | 0.25 | 0.40 | 1.0  |                             |
| VTS305 |                         | 600                    | - | 0.004 | 0.014 | 0.028 | 0.05 | 0.09 | 0.14 | 0.20 | 0.32 | 0.8  |                             |
| VTS306 |                         | 720                    | - | 0.022 | 0.013 | 0.025 | 0.04 | 0.08 | 0.12 | 0.17 | 0.27 | 0.67 |                             |

**SPECIFICATION AND SIZE (mm)**

VTM/VTL/VTS301~302

|   | 1        | 2       | 3       |
|---|----------|---------|---------|
| D | G1/4"    | G3/4"   | G3/4"   |
| B | 1/4"NPSF | 3/4"NPT | 3/4"NPT |

**SPECIFICATION AND SIZE (mm)**

VTM/VTL/VTS303~304

|   | 1        | 2       | 3       |
|---|----------|---------|---------|
| D | G1/4"    | G3/4"   | G3/4"   |
| B | 1/4"NPSF | 3/4"NPT | 3/4"NPT |

VTM/VTL/VTS305~306

|   | 1        | 2     | 3     |
|---|----------|-------|-------|
| D | G1/4"    | G1"   | G1"   |
| B | 1/4"NPSF | 1"NPT | 1"NPT |

VT

- HVT
- HGX
- HGS
- VI
- BM/BX
- JBM/JBX
- VBM/VBX
- RVBM/RVBX
- VK
- HZK2
- RV/RVE/RVZ
- RL100
- RL300/600
- ZL/1/3/6
- ZH
- ZU
- VY
- ZH
- ACPF
- LT
- VZQ



**PERFORMANCE OVERVIEW**

\*Standard gas supply pressure range 3.5~6bar  
 \*Exhaust noise: 50-60dB (A).  
 \*Maximum vacuum degree: -94kPa

**MODEL SPECIFICATIONS**

**HVTMG 304 - D N A - □**  
 ①            ②            ③            ④            ⑤            ⑥

| ① Product Series                     | ② Specifications | ③ Connection size | Air supply port | Vacuum port | Exhaust port |
|--------------------------------------|------------------|-------------------|-----------------|-------------|--------------|
| HVTMG – High vacuum type (-94kPa)    | 304              | D – 304           | G1/4            | G3/4        | G3/4         |
|                                      | 306              | B – 304           | NPSF1/4         | NPT3/4      | NPT3/4       |
| HVTLG – Low vacuum type (-85kPa)     |                  | D – 306           | G1/4            | G1          | G1           |
| HVTSG – Low gas supply type (-90kPa) |                  | B – 306           | NPSF1/4         | NPT1        | NPT1         |

| ④ Sealing material  | ⑤ Check valve  | ⑥ Control device                                   |
|---|--|--|
| N – Nitrile Rubber<br>V – Fluoro Rubber<br>S – Silicon Rubber | Blank – Default, nithont Check Valve<br>A – With Check Valve | Blank – Default, valveless<br>RE – Re Supply Valve |

**PERFORMANCE PARAMETER**

HVTMG304/306

| Model    | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter ( Φ mm) |             |
|----------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|-----------------------------------|-------------|
|          |                                   |                               |                                   |                          | Air Supply Port                   | Vacuum Port |
| HVTMG304 | 4.5                               | 94                            | 1440                              | 540                      | 8                                 | 25          |
| HVTMG306 | 5                                 | 94                            | 2160                              | 810                      | 10                                | 25          |

**VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)**

| Model    | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |     |     |       |       |       |       |      |      |    |
|----------|-------------------------|------------------------|-----------------------------|------|-----|-----|-------|-------|-------|-------|------|------|----|
|          |                         |                        | 0                           | 10   | 20  | 30  | 40    | 50    | 60    | 70    | 80   | 90   |    |
| HVTMG304 | 4.5                     | 540                    | 1380                        | 720  | 480 | 312 | 175.2 | 139.2 | 103.2 | 76.8  | 43.2 | 7.2  | 94 |
| HVTMG306 | 5                       | 810                    | 1650                        | 1000 | 684 | 468 | 262.8 | 206.4 | 154.8 | 115.2 | 64.8 | 10.8 |    |
| HVTMG304 | 6                       | 720                    | 1440                        | 1040 | 560 | 312 | 380   | 240   | 120   | 64    | 32   | 6    |    |
| HVTMG306 |                         | 830                    | 2160                        | 1560 | 840 | 468 | 570   | 360   | 180   | 96    | 48   | 9    |    |

**PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)**

| Model    | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |       |       |       |       |      |       |      |      |     |    |
|----------|-------------------------|------------------------|-----------------------------|-------|-------|-------|-------|------|-------|------|------|-----|----|
|          |                         |                        | 0                           | 10    | 20    | 30    | 40    | 50   | 60    | 70   | 80   | 90  |    |
| HVTMG304 | 4.5                     | 540                    | -                           | 0.01  | 0.025 | 0.043 | 0.075 | 0.11 | 0.19  | 0.27 | 0.45 | 1.2 | 94 |
| HVTMG306 | 5                       | 810                    | -                           | 0.005 | 0.013 | 0.027 | 0.045 | 0.07 | 0.105 | 0.23 | 0.46 | 0.9 |    |
| HVTMG304 | 6                       | 720                    | -                           | 0.007 | 0.018 | 0.038 | 0.055 | 0.08 | 0.12  | 0.19 | 0.47 | -   |    |
| HVTMG306 |                         | 830                    | -                           | 0.003 | 0.009 | 0.014 | 0.03  | 0.06 | 0.095 | 0.2  | 0.8  | -   |    |

HVTLG304/306

| Model    | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter ( Φ mm) |             |
|----------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|-----------------------------------|-------------|
|          |                                   |                               |                                   |                          | Air Supply Port                   | Vacuum Port |
| HVTLG304 | 6                                 | 85                            | 1410                              | 420                      | 8                                 | 25          |
| HVTLG306 | 6                                 | 85                            | 1690                              | 630                      | 10                                | 25          |

**VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)**

| Model    | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |     |     |     |     |     |    |    |    |    |
|----------|-------------------------|------------------------|-----------------------------|------|-----|-----|-----|-----|-----|----|----|----|----|
|          |                         |                        | 0                           | 10   | 20  | 30  | 40  | 50  | 60  | 70 | 80 | 90 |    |
| HVTLG304 | 6                       | 420                    | 1410                        | 960  | 640 | 400 | 215 | 135 | 90  | 77 | 29 | -  | 85 |
| HVTLG306 |                         | 630                    | 1690                        | 1310 | 960 | 570 | 300 | 216 | 160 | 92 | 42 | -  |    |

**PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)**

| Model    | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |       |       |       |      |       |      |      |      |    |    |
|----------|-------------------------|------------------------|-----------------------------|-------|-------|-------|------|-------|------|------|------|----|----|
|          |                         |                        | 0                           | 10    | 20    | 30    | 40   | 50    | 60   | 70   | 80   | 90 |    |
| HVTLG304 | 6                       | 420                    | -                           | 0.008 | 0.015 | 0.032 | 0.05 | 0.09  | 0.13 | 0.22 | 0.4  | -  | 85 |
| HVTLG306 |                         | 630                    | -                           | 0.005 | 0.013 | 0.024 | 0.04 | 0.071 | 0.1  | 0.16 | 0.24 | -  |    |

#### PERFORMANCE PARAMETER

HVTSG304/306

| Model    | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum     |                    | Gas Consumption (NL/min) | Recommended Pipe Diameter (Φ mm) |             |
|----------|-----------------------------------|-------------------------------|--------------------|--------------------|--------------------------|----------------------------------|-------------|
|          |                                   |                               | Flow Rate (NL/min) | Flow Rate (NL/min) |                          | Air Supply Port                  | Vacuum Port |
| HVTSG304 | 3.5                               | 90                            | 1344               | 480                | 8                        | 25                               |             |
| HVTSG306 | 3.5                               | 90                            | 2016               | 720                | 10                       | 25                               |             |

#### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

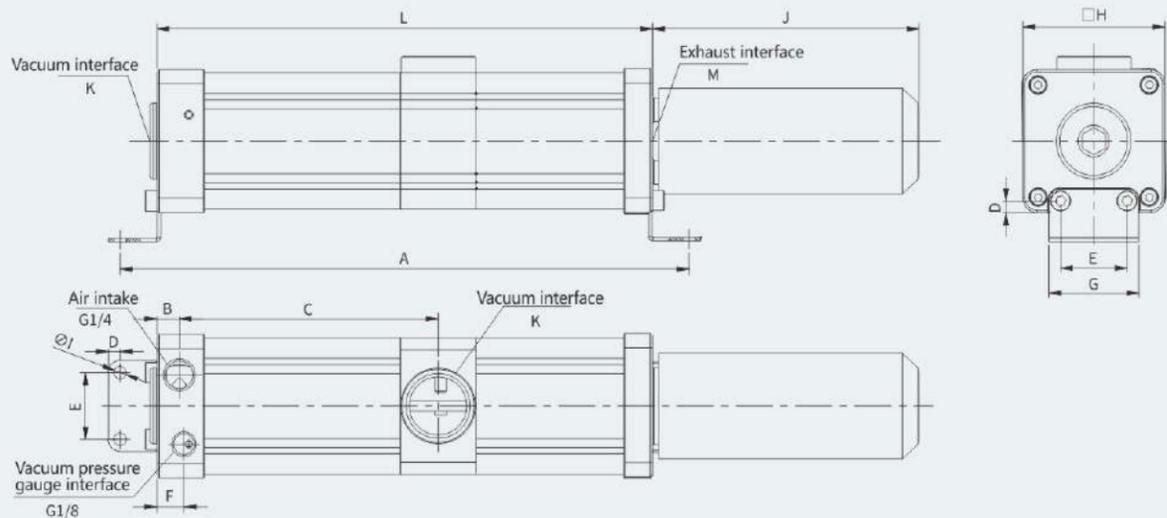
| Model    | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |     |     |     |     |     |     |    |    |    |    |
|----------|-------------------------|------------------------|-----------------------------|-----|-----|-----|-----|-----|-----|----|----|----|----|
|          |                         |                        | 0                           | 10  | 20  | 30  | 40  | 50  | 60  | 70 | 80 | 90 |    |
| HVTSG304 | 3.5                     | 480                    | 1344                        | 600 | 432 | 264 | 156 | 120 | 84  | 60 | 24 | -  | 90 |
| HVTSG306 |                         | 720                    | 2016                        | 768 | 618 | 396 | 234 | 180 | 126 | 90 | 36 | -  |    |

#### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model    | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |       |       |       |      |      |      |      |      |      |    |
|----------|-------------------------|------------------------|-----------------------------|-------|-------|-------|------|------|------|------|------|------|----|
|          |                         |                        | 0                           | 10    | 20    | 30    | 40   | 50   | 60   | 70   | 80   | 90   |    |
| HVTSG304 | 3.5                     | 480                    | -                           | 0.005 | 0.015 | 0.03  | 0.06 | 0.11 | 0.18 | 0.25 | 0.40 | 1.00 | 90 |
| HVTSG306 |                         | 720                    | -                           | 0.022 | 0.013 | 0.025 | 0.04 | 0.08 | 0.12 | 0.17 | 0.27 | 0.67 |    |

#### SPECIFICATION AND SIZE (MM)

HVT S/M/L G 304/306



|          | A   | B   | C     | D | E  | F    | G  | H  | ØI  | J     | K    | L     | M    |
|----------|-----|-----|-------|---|----|------|----|----|-----|-------|------|-------|------|
| HVTMG304 | 240 | 9.5 | 109.3 | 5 | 28 | 11.5 | 38 | 60 | 5.2 | 112.5 | G3/4 | 209.2 | G3/4 |
| HVTMG306 | 240 | 9.5 | 105.3 | 5 | 28 | 11.5 | 38 | 70 | 5.2 | 116   | G1   | 209.2 | G1   |



#### PERFORMANCE OVERVIEW

- \*The standard gas supply pressure is 3.5-6bar.
- \*Exhaust noise: 50-60dB (A).
- \*Maximum vacuum degree: -94kPa.

#### MODEL SPECIFICATIONS

HVTM 301 - D - N - A - □

①      ②      ③      ④      ⑤      ⑥

| ① Product Series                    | ② Specifications | ③ Connection size | Air supply port | Vacuum port | Exhaust port |
|-------------------------------------|------------------|-------------------|-----------------|-------------|--------------|
| HVTM - High vacuum type (-94kPa)    | 301              | D - 301~304       | G1/4            | G3/4        | G3/4         |
| HVTL - Low vacuum type (-85kPa)     | 303              |                   |                 |             |              |
| HVTS - Low gas supply type (-90kPa) | 304              | B - 301~304       | NPSF1/4         | NPT3/4      | NPT3/4       |
|                                     | 305              |                   |                 |             |              |
|                                     | 306              | D - 305~306       | G1/4            | G1          | G1           |
|                                     |                  | B - 305~306       | NPSF1/4         | NPT1        | NPT1         |

| ④ Sealing material  | ⑤ Check valve  | ⑥ Control device                                   |
|---|--|--|
| N - Nitrile Rubber<br>V - Fluoro Rubber<br>S - Silicon Rubber | Blank - Default, without Check Valve<br>A - With Check Valve | Blank - Default, Valveless<br>RE - RE supply valve |

#### PERFORMANCE PARAMETER

HVTM301~306

| Model   | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter (Φ mm) |             |
|---------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------------------|-------------|
|         |                                   |                               |                                   |                          | Air Supply Port                  | Vacuum Port |
| HVTM301 | 4.5                               | 94                            | 360                               | 135                      | 8                                | 12          |
| HVTM302 | 4.5                               | 94                            | 720                               | 270                      | 8                                | 15          |
| HVTM303 | 4.5                               | 94                            | 1080                              | 405                      | 8                                | 19          |
| HVTM304 | 4.5                               | 94                            | 1440                              | 540                      | 8                                | 25          |
| HVTM305 | 5                                 | 94                            | 1800                              | 675                      | 10                               | 25          |
| HVTM306 | 5                                 | 94                            | 2160                              | 810                      | 10                               | 25          |

#### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model   | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |      |     |       |       |       |       |       |      |    |      |
|---------|-------------------------|------------------------|-----------------------------|------|------|-----|-------|-------|-------|-------|-------|------|----|------|
|         |                         |                        | 0                           | 10   | 20   | 30  | 40    | 50    | 60    | 70    | 80    | 90   |    |      |
| HVTM301 | 4.5                     | 135                    | 360                         | 180  | 120  | 78  | 43.8  | 34.8  | 25.8  | 19.2  | 10.8  | 1.8  | 94 |      |
| HVTM302 |                         | 270                    | 720                         | 360  | 240  | 156 | 87.6  | 69.6  | 51.6  | 38.4  | 21.6  | 3.6  |    |      |
| HVTM303 |                         | 405                    | 1080                        | 540  | 360  | 234 | 131.4 | 104.4 | 77.4  | 57.6  | 32.4  | 5.4  |    |      |
| HVTM304 |                         | 540                    | 1440                        | 720  | 480  | 312 | 175.2 | 139.2 | 103.2 | 76.8  | 43.2  | 7.2  |    |      |
| HVTM305 |                         | 5                      | 675                         | 1800 | 850  | 580 | 390   | 219   | 174   | 129   | 96    | 54   |    | 9    |
| HVTM306 |                         |                        | 810                         | 2160 | 1000 | 684 | 468   | 262.8 | 206.4 | 154.8 | 115.2 | 64.8 |    | 10.8 |
| HVTM301 | 6                       | 185                    | 360                         | 260  | 140  | 130 | 95    | 60    | 30    | 16    | 8     | 1.5  | 94 |      |
| HVTM302 |                         | 370                    | 720                         | 520  | 280  | 156 | 190   | 120   | 60    | 32    | 16    | 3    |    |      |
| HVTM303 |                         | 610                    | 1080                        | 780  | 420  | 234 | 285   | 180   | 90    | 48    | 24    | 4.5  |    |      |
| HVTM304 |                         | 720                    | 1440                        | 1040 | 560  | 312 | 380   | 240   | 120   | 64    | 32    | 6    |    |      |
| HVTM305 |                         | 780                    | 1800                        | 1300 | 700  | 390 | 475   | 300   | 150   | 80    | 40    | 7.5  |    |      |
| HVTM306 |                         | 830                    | 2160                        | 1560 | 840  | 468 | 570   | 360   | 180   | 96    | 48    | 9    |    |      |

#### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model   | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |       |       |       |       |       |       |       |       |      |    |     |
|---------|-------------------------|------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|----|-----|
|         |                         |                        | 0                           | 10    | 20    | 30    | 40    | 50    | 60    | 70    | 80    | 90   |    |     |
| HVTM301 | 4.5                     | 135                    | -                           | 0.022 | 0.06  | 0.11  | 0.21  | 0.4   | 0.65  | 0.95  | 1.6   | 4    | 94 |     |
| HVTM302 |                         | 270                    | -                           | 0.014 | 0.031 | 0.06  | 0.1   | 0.2   | 0.34  | 0.5   | 0.8   | 2.5  |    |     |
| HVTM303 |                         | 405                    | -                           | 0.012 | 0.029 | 0.058 | 0.095 | 0.18  | 0.31  | 0.46  | 0.59  | 1.5  |    |     |
| HVTM304 |                         | 540                    | -                           | 0.01  | 0.025 | 0.043 | 0.075 | 0.11  | 0.19  | 0.27  | 0.45  | 1.2  |    |     |
| HVTM305 |                         | 5                      | 675                         | -     | 0.006 | 0.015 | 0.029 | 0.052 | 0.085 | 0.145 | 0.202 | 0.33 |    | 1   |
| HVTM306 |                         |                        | 810                         | -     | 0.005 | 0.013 | 0.027 | 0.045 | 0.07  | 0.105 | 0.23  | 0.46 |    | 0.9 |
| HVTM301 | 6                       | 185                    | -                           | 0.018 | 0.05  | 0.08  | 0.018 | 0.25  | 0.4   | 0.62  | 1.55  | -    | 94 |     |
| HVTM302 |                         | 370                    | -                           | 0.01  | 0.022 | 0.048 | 0.08  | 0.11  | 0.2   | 0.35  | 0.78  | -    |    |     |
| HVTM303 |                         | 610                    | -                           | 0.009 | 0.019 | 0.045 | 0.075 | 0.13  | 0.18  | 0.31  | 0.7   | -    |    |     |
| HVTM304 |                         | 720                    | -                           | 0.007 | 0.018 | 0.038 | 0.055 | 0.08  | 0.12  | 0.19  | 0.47  | -    |    |     |
| HVTM305 |                         | 780                    | -                           | 0.005 | 0.013 | 0.026 | 0.045 | 0.062 | 0.115 | 0.194 | 0.56  | -    |    |     |
| HVTM306 |                         | 830                    | -                           | 0.003 | 0.009 | 0.014 | 0.03  | 0.06  | 0.095 | 0.2   | 0.8   | -    |    |     |

#### PERFORMANCE PARAMETER

HVTL301~306

| Model   | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter (Φ mm) |             |
|---------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------------------|-------------|
|         |                                   |                               |                                   |                          | Air Supply Port                  | Vacuum Port |
| HVTL301 | 6                                 | 85                            | 355                               | 105                      | 8                                | 12          |
| HVTL302 | 6                                 | 85                            | 710                               | 210                      | 8                                | 15          |
| HVTL303 | 6                                 | 85                            | 1065                              | 315                      | 8                                | 19          |
| HVTL304 | 6                                 | 85                            | 1420                              | 420                      | 8                                | 25          |
| HVTL305 | 6                                 | 85                            | 1775                              | 525                      | 10                               | 25          |
| HVTL306 | 6                                 | 85                            | 2130                              | 630                      | 10                               | 25          |

#### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model   | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |     |     |     |     |     |    |    |    |    |
|---------|-------------------------|------------------------|-----------------------------|------|-----|-----|-----|-----|-----|----|----|----|----|
|         |                         |                        | 0                           | 10   | 20  | 30  | 40  | 50  | 60  | 70 | 80 | 90 |    |
| HVTL301 | 6                       | 105                    | 355                         | 240  | 160 | 115 | 65  | 42  | 34  | 20 | 8  | -  | 85 |
| HVTL302 |                         | 210                    | 710                         | 480  | 320 | 230 | 130 | 85  | 65  | 40 | 16 | -  |    |
| HVTL303 |                         | 315                    | 1065                        | 720  | 480 | 370 | 170 | 120 | 70  | 52 | 25 | -  |    |
| HVTL304 |                         | 420                    | 1420                        | 960  | 640 | 400 | 215 | 135 | 90  | 77 | 29 | -  |    |
| HVTL305 |                         | 525                    | 1775                        | 1130 | 800 | 495 | 265 | 180 | 130 | 85 | 34 | -  |    |
| HVTL306 |                         | 630                    | 2130                        | 1310 | 960 | 570 | 300 | 216 | 160 | 92 | 42 | -  |    |

#### PUMP-DOWN TIME(NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model   | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |       |       |       |       |       |      |      |      |    |    |
|---------|-------------------------|------------------------|-----------------------------|-------|-------|-------|-------|-------|------|------|------|----|----|
|         |                         |                        | 0                           | 10    | 20    | 30    | 40    | 50    | 60   | 70   | 80   | 90 |    |
| HVTL301 | 6                       | 105                    | -                           | 0.03  | 0.06  | 0.1   | 0.2   | 0.039 | 0.58 | 0.87 | 1.2  | -  | 85 |
| HVTL302 |                         | 210                    | -                           | 0.018 | 0.039 | 0.066 | 0.12  | 0.2   | 0.31 | 0.51 | 0.95 | -  |    |
| HVTL303 |                         | 315                    | -                           | 0.01  | 0.02  | 0.04  | 0.08  | 0.12  | 0.2  | 0.31 | 0.75 | -  |    |
| HVTL304 |                         | 420                    | -                           | 0.008 | 0.015 | 0.032 | 0.05  | 0.09  | 0.13 | 0.22 | 0.4  | -  |    |
| HVTL305 |                         | 525                    | -                           | 0.006 | 0.016 | 0.026 | 0.045 | 0.078 | 0.11 | 0.18 | 0.33 | -  |    |
| HVTL306 |                         | 630                    | -                           | 0.005 | 0.013 | 0.024 | 0.04  | 0.071 | 0.1  | 0.16 | 0.24 | -  |    |

HVTS301~306

| Model   | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter (Φ mm) |             |
|---------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------------------|-------------|
|         |                                   |                               |                                   |                          | Air Supply Port                  | Vacuum Port |
| HVTS301 | 3.5                               | 90                            | 336                               | 123                      | 8                                | 12          |
| HVTS302 | 3.5                               | 90                            | 672                               | 240                      | 8                                | 15          |
| HVTS303 | 3.5                               | 90                            | 1008                              | 360                      | 8                                | 19          |
| HVTS304 | 3.5                               | 90                            | 1344                              | 480                      | 8                                | 25          |
| HVTS305 | 3.5                               | 90                            | 1680                              | 600                      | 10                               | 25          |
| HVTS306 | 3.5                               | 90                            | 2016                              | 720                      | 10                               | 25          |

#### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

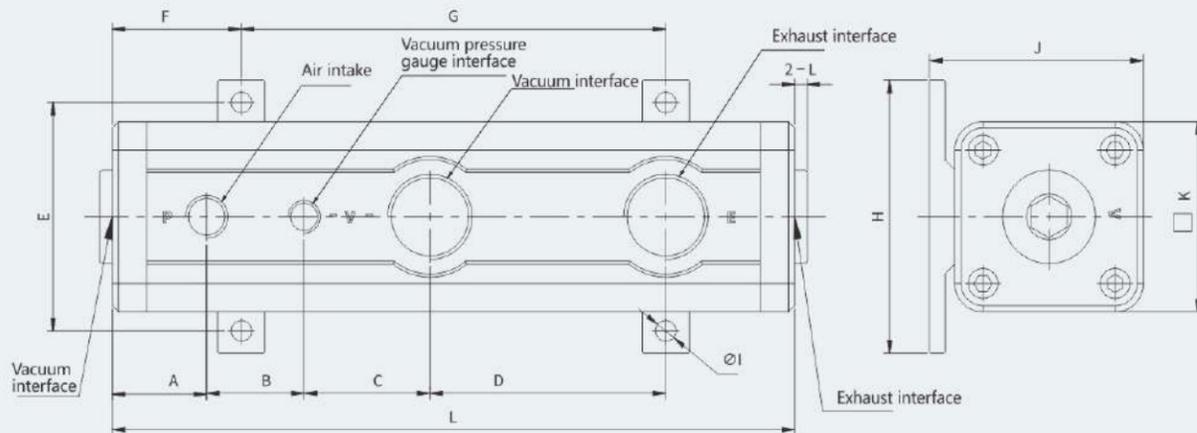
| Model   | Air Supply Pressure bar | Gas Consumption NL/min | 0    | 10  | 20  | 30  | 40  | 50  | 60  | 70 | 80 | 90 | Maximum Vacuum Degree - kPa |
|---------|-------------------------|------------------------|------|-----|-----|-----|-----|-----|-----|----|----|----|-----------------------------|
| HVTS301 | 3.5                     | 123                    | 336  | 150 | 108 | 66  | 39  | 30  | 21  | 15 | 6  | -  | 90                          |
| HVTS302 |                         | 240                    | 672  | 300 | 216 | 132 | 78  | 60  | 42  | 30 | 12 | -  |                             |
| HVTS303 |                         | 360                    | 1008 | 450 | 324 | 198 | 117 | 90  | 63  | 45 | 18 | -  |                             |
| HVTS304 |                         | 480                    | 1344 | 600 | 432 | 264 | 156 | 120 | 84  | 60 | 24 | -  |                             |
| HVTS305 |                         | 600                    | 1680 | 678 | 516 | 330 | 195 | 150 | 105 | 75 | 30 | -  |                             |
| HVTS306 |                         | 720                    | 2016 | 768 | 618 | 396 | 234 | 180 | 126 | 90 | 36 | -  |                             |

#### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

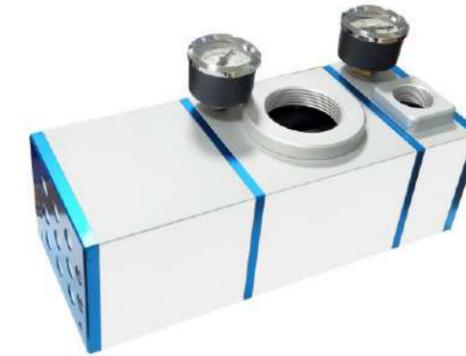
| Model   | Air Supply Pressure bar | Gas Consumption NL/min | 0 | 10    | 20    | 30    | 40   | 50   | 60   | 70   | 80   | 90   | Maximum Vacuum Degree - kPa |
|---------|-------------------------|------------------------|---|-------|-------|-------|------|------|------|------|------|------|-----------------------------|
| HVTS301 | 3.5                     | 123                    | - | 0.02  | 0.06  | 0.12  | 0.25 | 0.45 | 0.7  | 1.0  | 1.6  | 4.0  | 90                          |
| HVTS302 |                         | 240                    | - | 0.01  | 0.03  | 0.06  | 0.13 | 0.23 | 0.35 | 0.5  | 0.8  | 2.0  |                             |
| HVTS303 |                         | 360                    | - | 0.007 | 0.02  | 0.04  | 0.08 | 0.15 | 0.23 | 0.33 | 0.53 | 1.33 |                             |
| HVTS304 |                         | 480                    | - | 0.005 | 0.015 | 0.03  | 0.06 | 0.11 | 0.18 | 0.25 | 0.40 | 1.0  |                             |
| HVTS305 |                         | 600                    | - | 0.004 | 0.014 | 0.028 | 0.05 | 0.09 | 0.14 | 0.20 | 0.32 | 0.8  |                             |
| HVTS306 |                         | 720                    | - | 0.022 | 0.013 | 0.025 | 0.04 | 0.08 | 0.12 | 0.17 | 0.27 | 0.67 |                             |

#### SPECIFICATION AND SIZE (MM)

HVTM/HVTL/HVTS301~306



| Model | A  | B  | C  | D  | E   | F  | G   | H   | ØI  | J  | K  | L   | 2-L |
|-------|----|----|----|----|-----|----|-----|-----|-----|----|----|-----|-----|
| 301   | 30 | 31 | 40 | 75 | 72  | 41 | 135 | 86  | 6.5 | 68 | 60 | 217 | 4   |
| 302   | 30 | 31 | 40 | 75 | 72  | 41 | 135 | 86  | 6.5 | 68 | 60 | 217 | 4   |
| 303   | 30 | 31 | 40 | 75 | 80  | 41 | 135 | 92  | 6.5 | 76 | 68 | 217 | 4   |
| 304   | 30 | 31 | 40 | 75 | 80  | 41 | 135 | 92  | 6.5 | 76 | 68 | 217 | 4   |
| 305   | 30 | 31 | 40 | 75 | 100 | 41 | 135 | 114 | 6.5 | 94 | 87 | 217 | 4   |
| 306   | 30 | 31 | 40 | 75 | 100 | 41 | 135 | 114 | 6.5 | 94 | 87 | 217 | 4   |



#### PERFORMANCE OVERVIEW

- \*The standard gas supply pressure is 3.5-6bar.
- \*Exhaust noise: 50-60dB (A).
- \*The product is lightweight and easy to install.
- \*Maximum vacuum degree: -94kPa.

#### PERFORMANCE PARAMETER

HVTM 309 - D - N - A - □

| ① Product Series                    | ② Specifications | ③ Connection size | Air supply port | Vacuum port |
|-------------------------------------|------------------|-------------------|-----------------|-------------|
| HVTM - High vacuum type(-94kPa)     | 307              | D - 307~309       | G3/4            | G1 1/2      |
| HVTL - Low vacuum type(-85kPa)      | 308              |                   | B - 307~309     | NPT3/4      |
| HVTS - Low gas supply type (-90kPa) | 309              |                   |                 |             |

| ④ Sealing material | ⑤ Check valve | ⑥ Pressure gauge type |
|--------------------|---------------|-----------------------|
|--------------------|---------------|-----------------------|

- N - Nitrile Rubber
- V - Fluoro Rubber
- S - Silicon Rubber
- Blank - Default,without Check Valve
- A - With Check Valve
- Blank - Default,mechanical Vacuum Gauge

- VT
- HVT
- HGX
- HGS
- VI
- BM/BX
- JBM/JBX
- VBM/VBX
- RVBM/RVBX
- VK
- HZK2
- RV/RVE/RVZ
- RL100
- RL300/600
- ZL/1/3/6
- ZH
- ZU
- VV
- ZH
- ACPF
- LT
- VZQ

#### PERFORMANCE PARAMETER

##### HVTM307~309

| Model   | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) |
|---------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|
| HVTM307 | 4.5                               | 94                            | 2520                              | 945                      |
| HVTM308 | 4.5                               | 94                            | 2880                              | 1080                     |
| HVTM309 | 4.5                               | 94                            | 3240                              | 1215                     |

##### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model   | Air Supply Pressure bar | Gas Consumption NL/min | 0    | 10   | 20   | 30  | 40    | 50    | 60    | 70    | 80   | 90   | Maximum Vacuum Degree - kPa |
|---------|-------------------------|------------------------|------|------|------|-----|-------|-------|-------|-------|------|------|-----------------------------|
| HVTM307 | 4.5                     | 945                    | 2520 | 1260 | 840  | 546 | 306.6 | 243.6 | 180.6 | 134.4 | 75.6 | 12.6 | 94                          |
| HVTM308 |                         | 1080                   | 2880 | 1440 | 960  | 624 | 350.4 | 275.4 | 206.4 | 153.6 | 86.4 | 14.4 |                             |
| HVTM309 |                         | 1215                   | 3240 | 1620 | 1080 | 702 | 394.2 | 313.2 | 232.2 | 172.8 | 97.2 | 16.2 |                             |

##### HVTL307~309

| Model   | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) |
|---------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|
| HVTL307 | 6                                 | 85                            | 2045                              | 735                      |
| HVTL308 | 6                                 | 85                            | 2400                              | 840                      |
| HVTL309 | 6                                 | 85                            | 2755                              | 945                      |

##### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model   | Air Supply Pressure bar | Gas Consumption NL/min | 0    | 10   | 20   | 30   | 40  | 50  | 60  | 70  | 80 | 90 | Maximum Vacuum Degree - kPa |
|---------|-------------------------|------------------------|------|------|------|------|-----|-----|-----|-----|----|----|-----------------------------|
| HVTL307 | 6                       | 735                    | 2045 | 1680 | 1120 | 805  | 455 | 294 | 238 | 140 | 56 | -  | 85                          |
| HVTL308 |                         | 840                    | 2400 | 1920 | 1280 | 920  | 520 | 336 | 272 | 160 | 64 | -  |                             |
| HVTL309 |                         | 945                    | 2755 | 2160 | 1440 | 1035 | 585 | 378 | 306 | 180 | 72 | -  |                             |

##### HVTS307~309

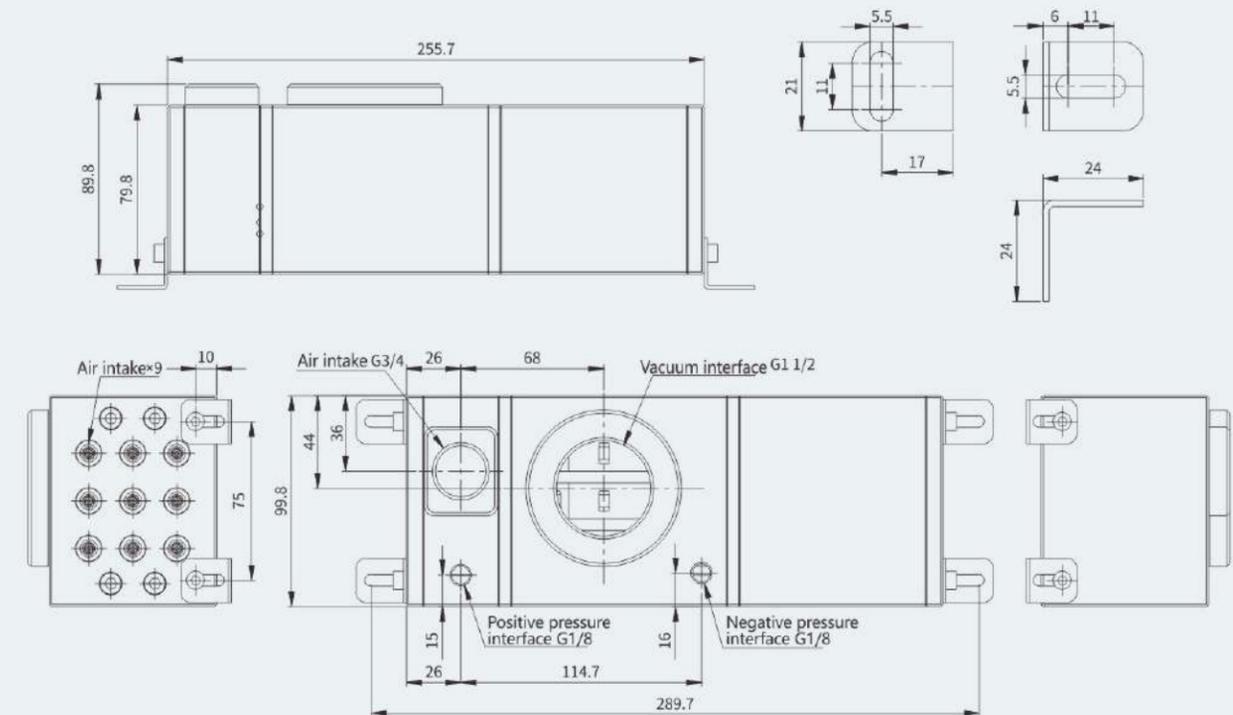
| Model   | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) |
|---------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|
| HVTS307 | 3.5                               | 75                            | 2352                              | 840                      |
| HVTS308 | 3.5                               | 75                            | 2688                              | 960                      |
| HVTS309 | 3.5                               | 75                            | 3024                              | 1080                     |

##### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model   | Air Supply Pressure bar | Gas Consumption NL/min | 0    | 10   | 20  | 30  | 40  | 50  | 60  | 70  | 80 | 90 | Maximum Vacuum Degree - kPa |
|---------|-------------------------|------------------------|------|------|-----|-----|-----|-----|-----|-----|----|----|-----------------------------|
| HVTS307 | 3.5                     | 840                    | 2352 | 900  | 720 | 462 | 273 | 210 | 147 | 105 | 42 | -  | 90                          |
| HVTS308 |                         | 960                    | 2688 | 1080 | 822 | 528 | 312 | 240 | 168 | 120 | 48 | -  |                             |
| HVTS309 |                         | 1080                   | 3024 | 1260 | 924 | 594 | 351 | 270 | 189 | 135 | 56 | -  |                             |

#### SPECIFICATION AND SIZE (MM)

##### HVTM/HVTL/HVTS307~309



- VT
- HVT
- HGX
- HGS
- VI
- BM/BX
- JBM/JBX
- VBM/VBX
- RVBM/RVBX
- VK
- HZK2
- RV/RVE/RVZ
- RL100
- RL300/600
- ZL/1/3/6
- ZH
- ZU
- VY
- ZH
- ACPF
- LT
- VZQ



**PERFORMANCE OVERVIEW**

\*The standard gas supply pressure is 3.5-6bar.  
\*Exhaust noise: 50-60dB (A).  
\*Maximum vacuum degree: -94kPa.

**MODEL SPECIFICATIONS**

HVTM 315 - 04 - N - A - □  
①            ②            ③            ④            ⑤            ⑥

| ① Product Series                    | ② Specifications | ③ Connection size          | Air supply port | Vacuum port      |
|-------------------------------------|------------------|----------------------------|-----------------|------------------|
| HVTM - High vacuum type (-94kPa)    | 310<br>311       |                            |                 |                  |
| HVTL - Low vacuum type (-85kPa)     | 312<br>313       | 04- 310~315<br>06- 310~315 | G1/2<br>G3/4    | G1 1/2<br>G1 1/2 |
| HVTS - Low gas supply type (-90kPa) | 314<br>315       |                            |                 |                  |

| ④ Sealing material  | ⑤ Check valve   | ⑥ Pressure gauge type                   |
|---|---|---|
| N - Nitrile Rubber<br>V - Fluoro Rubber<br>S - Silicon Rubber | Blank - Default,without Check Valve<br>A - With Check Valve | Blank - Default,mechanical Vacuum Gauge |

**PERFORMANCE PARAMETER**

HVTM310~315

| Model   | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) |
|---------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|
| HVTM310 | 4.5                               | 94                            | 3600                              | 1350                     |
| HVTM311 | 4.5                               | 94                            | 3960                              | 1485                     |
| HVTM312 | 4.5                               | 94                            | 4320                              | 1620                     |
| HVTM313 | 4.5                               | 94                            | 4680                              | 1755                     |
| HVTM314 | 4.5                               | 94                            | 5040                              | 1890                     |
| HVTM315 | 4.5                               | 94                            | 5400                              | 2025                     |

VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model   | Air Supply Pressure bar | Gas Consumption NL/min | 0    | 10   | 20   | 30   | 40  | 50    | 60    | 70    | 80    | 90   | Maximum Vacuum Degree - kPa |
|---------|-------------------------|------------------------|------|------|------|------|-----|-------|-------|-------|-------|------|-----------------------------|
| HVTM310 | 4.5                     | 1350                   | 3600 | 2185 | 1440 | 948  | 514 | 348   | 258   | 192   | 108   | 18   | 94                          |
| HVTM311 |                         | 1485                   | 3960 | 2464 | 1623 | 1069 | 580 | 382.8 | 283.8 | 211.2 | 118.8 | 19.8 |                             |
| HVTM312 |                         | 1620                   | 4320 | 2712 | 1786 | 1176 | 637 | 417.6 | 309.6 | 230.4 | 129.6 | 21.6 |                             |
| HVTM313 |                         | 1755                   | 4680 | 2930 | 1913 | 1260 | 683 | 452.4 | 335.4 | 249.6 | 140.4 | 23.4 |                             |
| HVTM314 |                         | 1890                   | 5040 | 3115 | 2050 | 1350 | 732 | 487.2 | 361.2 | 268.8 | 151.2 | 25.2 |                             |
| HVTM315 |                         | 2025                   | 5400 | 3278 | 2159 | 1422 | 771 | 522   | 387   | 288   | 162   | 27   |                             |

HVTL310~315

| Model   | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) |
|---------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|
| HVTL310 | 6                                 | 85                            | 3550                              | 1050                     |
| HVTL311 | 6                                 | 85                            | 3905                              | 1155                     |
| HVTL312 | 6                                 | 85                            | 4260                              | 1260                     |
| HVTL313 | 6                                 | 85                            | 4615                              | 1365                     |
| HVTL314 | 6                                 | 85                            | 4970                              | 1470                     |
| HVTL315 | 6                                 | 85                            | 5312                              | 1575                     |

VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model   | Air Supply Pressure bar | Gas Consumption NL/min | 0    | 10   | 20   | 30   | 40  | 50  | 60  | 70  | 80  | 90   | Maximum Vacuum Degree - kPa |
|---------|-------------------------|------------------------|------|------|------|------|-----|-----|-----|-----|-----|------|-----------------------------|
| HVTL310 | 6                       | 1050                   | 3550 | 2400 | 1600 | 978  | 660 | 445 | 340 | 200 | 80  | 32   | 85                          |
| HVTL311 |                         | 1155                   | 3905 | 2640 | 1760 | 1094 | 738 | 500 | 374 | 220 | 88  | 35.2 |                             |
| HVTL312 |                         | 1260                   | 4260 | 2880 | 1920 | 1197 | 808 | 545 | 408 | 240 | 96  | 38.4 |                             |
| HVTL313 |                         | 1365                   | 4615 | 3120 | 2080 | 1292 | 872 | 588 | 442 | 260 | 104 | 41.6 |                             |
| HVTL314 |                         | 1470                   | 4970 | 3360 | 2240 | 1380 | 931 | 629 | 476 | 280 | 112 | 44.8 |                             |
| HVTL315 |                         | 1575                   | 5325 | 3600 | 2400 | 1468 | 991 | 669 | 510 | 300 | 120 | 48   |                             |

#### PERFORMANCE PARAMETER

HVTS310~315

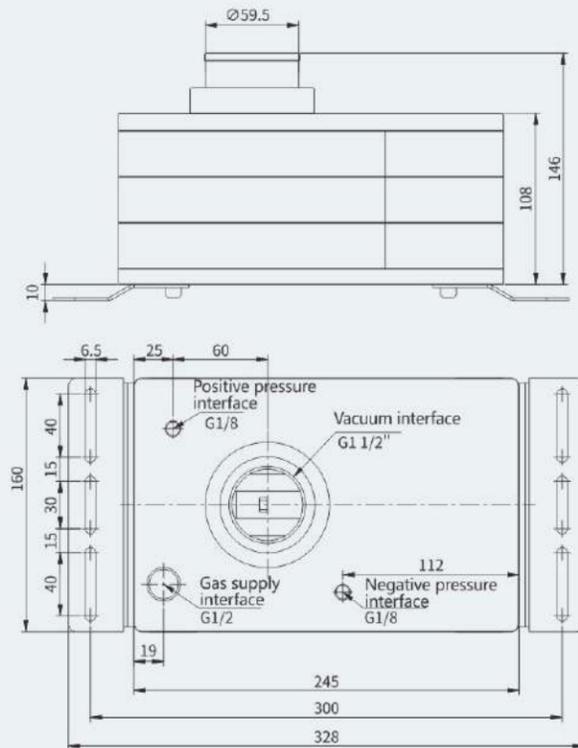
| Model   | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) |
|---------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|
| HVTS310 | 3.5                               | 90                            | 3360                              | 1200                     |
| HVTS311 | 3.5                               | 90                            | 3696                              | 1320                     |
| HVTS312 | 3.5                               | 90                            | 4032                              | 1440                     |
| HVTS313 | 3.5                               | 90                            | 4368                              | 1560                     |
| HVTS314 | 3.5                               | 90                            | 4704                              | 1680                     |
| HVTS315 | 3.5                               | 90                            | 5040                              | 1800                     |

#### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model   | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |      |      |     |     |     |     |     |    |     |
|---------|-------------------------|------------------------|-----------------------------|------|------|------|-----|-----|-----|-----|-----|----|-----|
|         |                         |                        | 0                           | 10   | 20   | 30   | 40  | 50  | 60  | 70  | 80  | 90 |     |
| HVTS310 | 3.5                     | 1200                   | 3360                        | 1950 | 1320 | 890  | 600 | 405 | 225 | 155 | 75  | -  | -90 |
| HVTS311 |                         | 1320                   | 3696                        | 2180 | 1470 | 990  | 670 | 450 | 247 | 170 | 82  | -  |     |
| HVTS312 |                         | 1440                   | 4032                        | 2390 | 1610 | 1090 | 740 | 496 | 270 | 186 | 90  | -  |     |
| HVTS313 |                         | 1560                   | 4368                        | 2590 | 1740 | 1180 | 780 | 540 | 292 | 201 | 97  | -  |     |
| HVTS314 |                         | 1680                   | 4704                        | 2760 | 1870 | 1260 | 850 | 575 | 315 | 217 | 105 | -  |     |
| HVTS315 |                         | 1800                   | 5040                        | 2930 | 1980 | 1340 | 900 | 610 | 337 | 232 | 112 | -  |     |

#### SPECIFICATION AND SIZE (MM)

HVTM/HVTL/HVTS310~315



#### MODEL SPECIFICATIONS

HGX VT18 - 2 - 10 - □ - □

①                      ②                      ③                      ④                      ⑤                      ⑥

| ① Product Series | ② Specifications | ③ Spray nozzle specifications | ④ Vacuum port specifications |
|------------------|------------------|-------------------------------|------------------------------|
| HGX              | VT18 - -94kPa    | 2 - Secondary nozzle          | 06 - 2×G1/8, 4×G1/4          |
|                  | VT19 - -90kPa    |                               |                              |
|                  | VT20 - -85kPa    | 3 - Three stage nozzle        | 08 - 2×G1/8, 6×G1/4          |
|                  |                  |                               | 10 - 10×G1/4                 |

| ⑤ Check valve | ⑥ Control equipment |
|---------------|---------------------|
|---------------|---------------------|

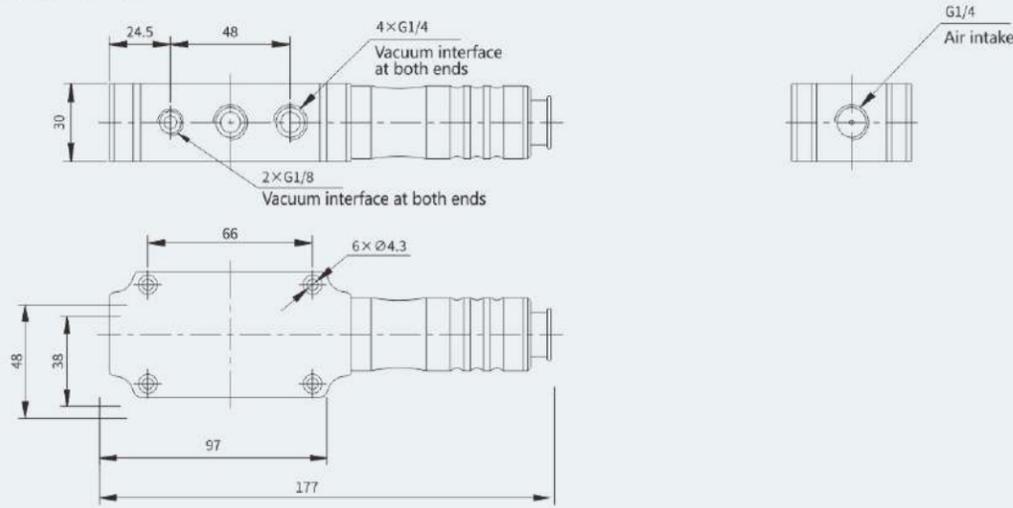
Blank - Default, without Check Valve      Blank - Default, mechanical Vacuum Gauge  
 A - With Check Valve                      RE - RE supply valve

#### PERFORMANCE PARAMETER

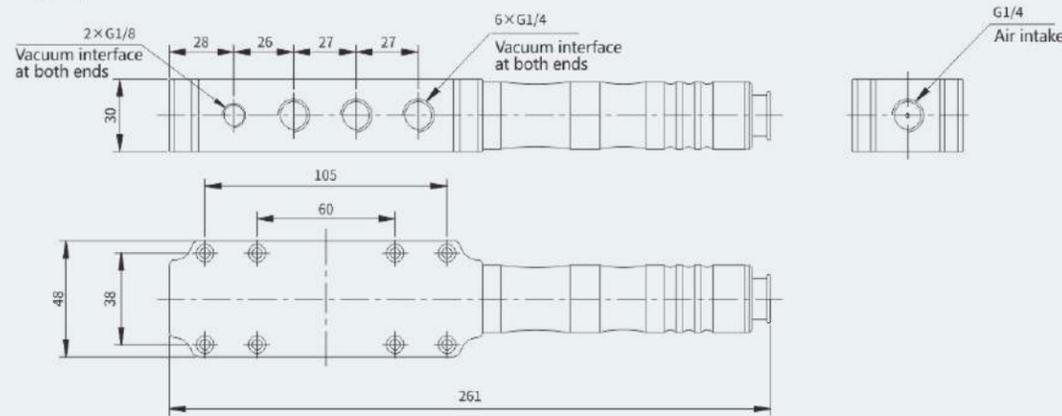
| Model      | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) |
|------------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|
| HGX-VT18-2 | 4.5                               | 94                            | 190                               | 132                      |
| HGX-VT19-2 | 3.5                               | 90                            | 180                               | 123                      |
| HGX-VT20-2 | 6                                 | 85                            | 200                               | 105                      |
| HGX-VT18-3 | 4.5                               | 94                            | 360                               | 132                      |
| HGX-VT19-3 | 3.5                               | 90                            | 336                               | 123                      |
| HGX-VT20-3 | 6                                 | 85                            | 355                               | 105                      |

**SPECIFICATION AND SIZE (MM)**

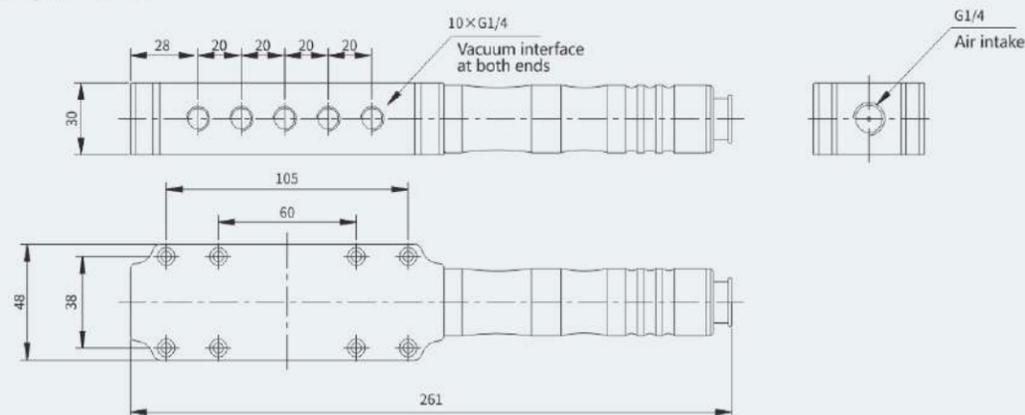
HGX - VT18/19/20 - 2 - 06



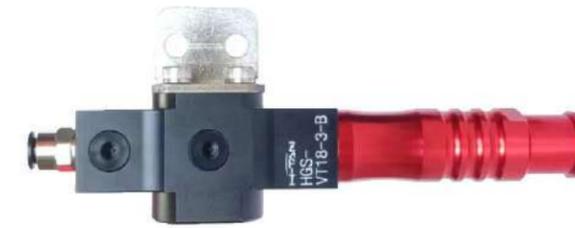
HGX - VT18/19/20 - 3 - 08



HGX - VT18/19/20 - 3 - 10



VT  
HVT  
**HGX**  
**HGS**  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
ZL/1/3/6  
ZH  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ



**MODEL SPECIFICATIONS**

**HGS - VK05 -** □ - □  
①                      ②                      ④                      ⑤

**HGS - VT18 - 2 -** □ - **B** - **A** - □ - □  
①                      ②                      ③                      ④                      ⑤                      ⑥                      ⑦                      ⑧

| ① Product Series  | ② Specifications  | ③ Spray nozzle specifications                           | ④ Installation specifications  |
|---|---|---|--|
| HGS   | VK05 - -87kPa<br>VK07 - -87kPa<br>VI01 - -92kPa<br>VI02 - -84kPa<br>VT18 - -94kPa<br>VT19 - -90kPa<br>VT20 - -85kPa | /<br><br>2 - Secondary nozzle<br>3 - Three stage nozzle | M6 - M6×28screw<br>M8 - M8×33screw<br>M10 - M10×33screw<br>M12 - M12×38screw |
| ⑤ Installation bracket  | ⑥ Check valve   | ⑦ Control device  | ⑧ Gas supply connector   |
| Blank - Default, No mounting bracket<br>B - With installation bracket | Blank - Default, No check valve<br>A - With check valve   | Blank - Default, No valve<br>RE - RE supply valve       | Blank - Default, Direct connection<br>L - elbow                              |

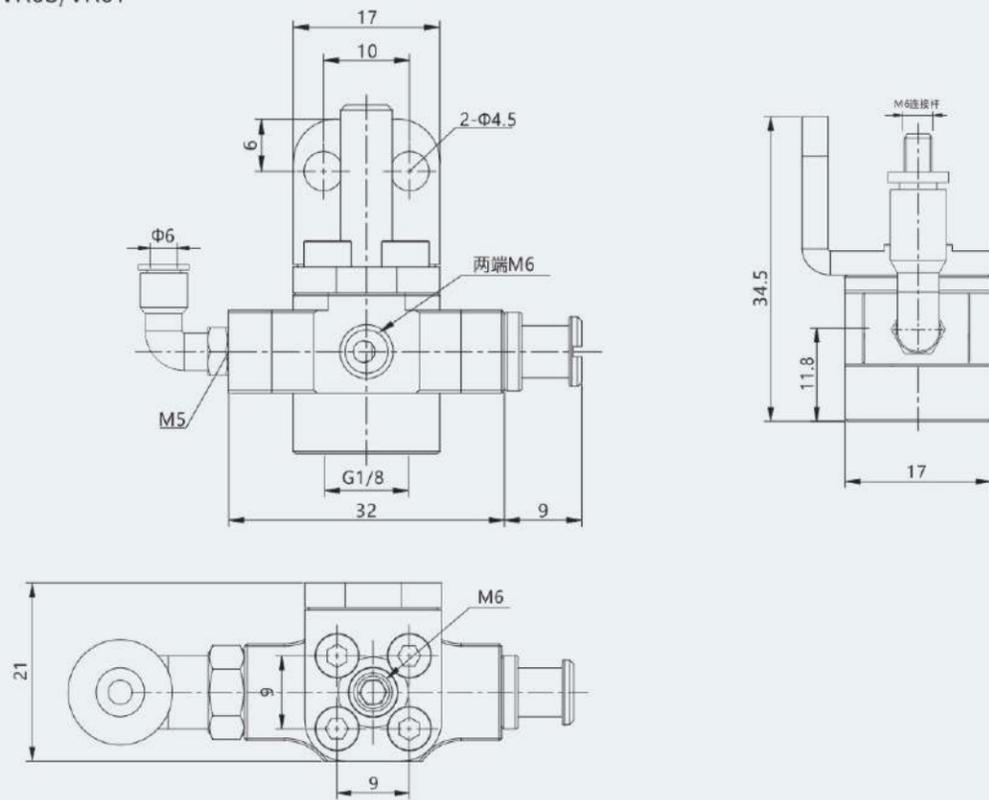
Note: The VK series is a unipolar nozzle with an installation specification of M6  
VI series optional two pole and three pole nozzles, with installation specifications of M8/M10  
VT series optional two pole and three pole nozzles, installation specification M12

**PERFORMANCE PARAMETER**

| Model        | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) |
|--------------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|
| HGS - VK05   | 4.5-5.5                           | 87                            | 6-8                               | 11.5-15                  |
| HGS - VK07   | 4.5-5.5                           | 87                            | 16-19                             | 21-28                    |
| HGS - VI0102 | 4.5                               | 92                            | 56                                | 36                       |
| HGS - VI0103 | 4.5                               | 92                            | 84                                | 36                       |
| HGS - VI0202 | 6                                 | 84                            | 54                                | 30                       |
| HGS - VI0203 | 6                                 | 84                            | 76                                | 30                       |
| HGS - VT1802 | 4.5                               | 94                            | 190                               | 132                      |
| HGS - VT1902 | 3.5                               | 90                            | 210                               | 123                      |
| HGS - VT2002 | 6                                 | 85                            | 200                               | 105                      |
| HGS - VT1803 | 4.5                               | 94                            | 360                               | 132                      |
| HGS - VT1903 | 3.5                               | 90                            | 336                               | 123                      |
| HGS - VT2003 | 6                                 | 85                            | 355                               | 105                      |

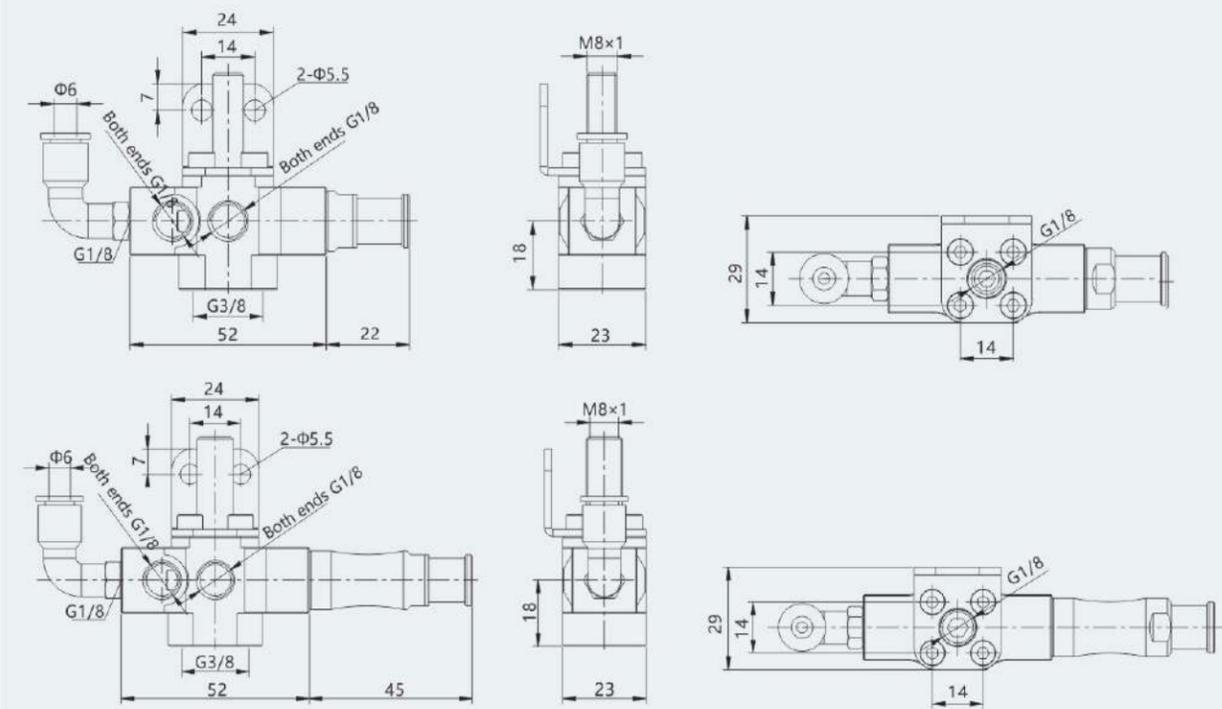
**SPECIFICATION AND SIZE (MM)**

HGS - VK05/VK07

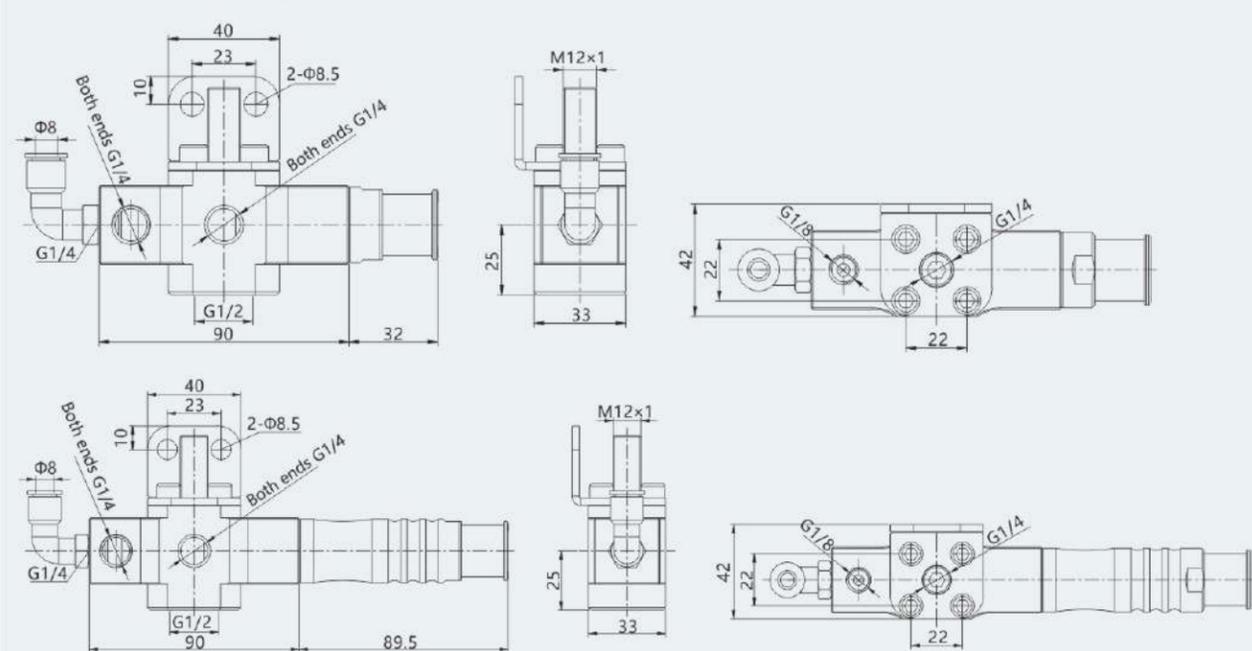


**SPECIFICATION AND SIZE (MM)**

HGS - VI01/VI02-2/-3



HGS - VT18/VT19/VT20-2/-3



VT  
HVT  
HGX  
**HGS**  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
ZL1/1/3/6  
ZH  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ



### PERFORMANCE OVERVIEW

\*Standard gas supply pressure 4.5 bar  
 \*Exhaust noise: 50-60dB (A).  
 \*Maximum vacuum degree: -92kPa.

### MODEL SPECIFICATIONS

VIM 301 - D - N - A - □

①      ②      ③      ④      ⑤      ⑥

| ① Product Series       | ② Specifications | ③ Connection size | Air supply port | Vacuum port | Exhaust Port |
|------------------------|------------------|-------------------|-----------------|-------------|--------------|
| VIM - high vacuum type | 301 (-92kPa)     | D - 301~304       | G1/8            | G1/2        | G1/2         |
| VIL - Low vacuum type  | 303 (-84kPa)     | B - 301~304       | NPSF1/8         | NPT1/2      | NPT1/2       |
|                        | 304              |                   |                 |             |              |

| ④ Sealing material | ⑤ Check valve                        | ⑥ Pressure gauge type      |
|--------------------|--------------------------------------|----------------------------|
| N - Nitrile Rubber | Blank - Default, without Check Valve | Blank - Default, Valveless |
| V - Fluoro Rubber  | A - With Check Valve                 | RE - RE supply valve       |
| S - Silicon Rubber |                                      |                            |

### PERFORMANCE PARAMETER

#### VIM301~304

| Model  | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter (Φ mm) |             |
|--------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------------------|-------------|
|        |                                   |                               |                                   |                          | Air Supply Port                  | Vacuum Port |
| VIM301 | 4.5                               | 92                            | 84                                | 36                       | 6                                | 8           |
| VIM302 | 4.5                               | 92                            | 168                               | 72                       | 6                                | 10          |
| VIM303 | 4.5                               | 92                            | 252                               | 108                      | 8                                | 12          |
| VIM304 | 4.5                               | 92                            | 336                               | 144                      | 8                                | 14          |

#### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model  | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |     |     |    |     |    |     |      |      |     |    |
|--------|-------------------------|------------------------|-----------------------------|-----|-----|----|-----|----|-----|------|------|-----|----|
|        |                         |                        | 0                           | 10  | 20  | 30 | 40  | 50 | 60  | 70   | 80   | 90  |    |
| VIM301 | 4.5                     | 36                     | 84                          | 41  | 28  | 12 | 9.5 | 8  | 6.5 | 4    | 2.5  | 1   | 92 |
| VIM302 |                         | 72                     | 168                         | 74  | 50  | 22 | 19  | 17 | 14  | 7.5  | 5.5  | 2.5 |    |
| VIM303 |                         | 108                    | 252                         | 115 | 80  | 32 | 28  | 22 | 16  | 10.5 | 8.5  | 4   |    |
| VIM304 |                         | 144                    | 336                         | 150 | 100 | 42 | 36  | 32 | 22  | 14   | 10.5 | 6   |    |

#### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model  | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |       |       |       |       |       |       |       |       |        |    |
|--------|-------------------------|------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|----|
|        |                         |                        | 0                           | 10    | 20    | 30    | 40    | 50    | 60    | 70    | 80    | 90     |    |
| VIM301 | 4.5                     | 36                     | -                           | 0.100 | 0.272 | 0.499 | 0.952 | 1.814 | 2.948 | 4.309 | 7.257 | 18.142 | 92 |
| VIM302 |                         | 72                     | -                           | 0.050 | 0.136 | 0.249 | 0.476 | 0.907 | 1.474 | 2.154 | 3.628 | 9.071  |    |
| VIM303 |                         | 108                    | -                           | 0.033 | 0.091 | 0.166 | 0.317 | 0.605 | 0.983 | 1.436 | 2.419 | 6.047  |    |
| VIM304 |                         | 144                    | -                           | 0.025 | 0.068 | 0.125 | 0.238 | 0.454 | 0.737 | 1.077 | 1.814 | 4.535  |    |

#### VIL301~304

| Model  | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter (Φ mm) |             |
|--------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------------------|-------------|
|        |                                   |                               |                                   |                          | Air Supply Port                  | Vacuum Port |
| VIL301 | 6                                 | 84                            | 76                                | 30                       | 6                                | 8           |
| VIL302 | 6                                 | 84                            | 152                               | 60                       | 6                                | 10          |
| VIL303 | 6                                 | 84                            | 228                               | 90                       | 8                                | 12          |
| VIL304 | 6                                 | 84                            | 304                               | 120                      | 8                                | 14          |

#### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

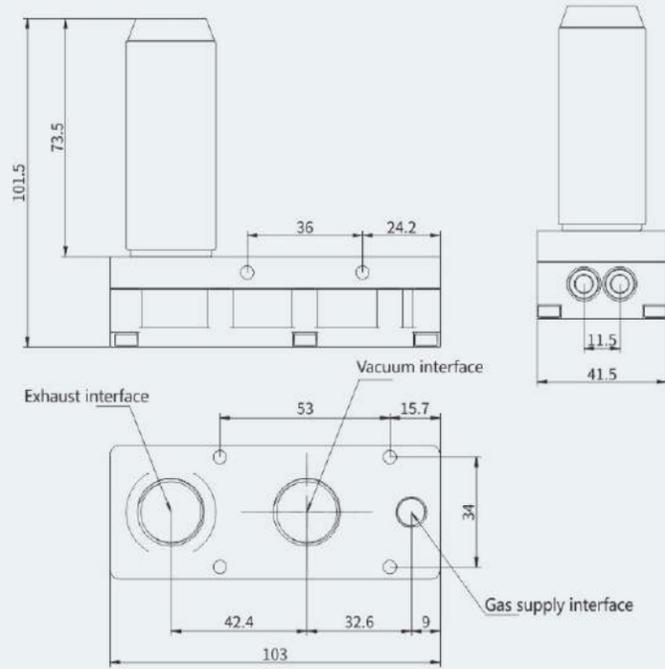
| Model  | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |     |     |    |    |    |      |      |     |    |    |
|--------|-------------------------|------------------------|-----------------------------|-----|-----|----|----|----|------|------|-----|----|----|
|        |                         |                        | 0                           | 10  | 20  | 30 | 40 | 50 | 60   | 70   | 80  | 90 |    |
| VIL301 | 6                       | 30                     | 76                          | 44  | 28  | 18 | 15 | 12 | 7.5  | 2.5  | 1   | -  | 84 |
| VIL302 |                         | 60                     | 152                         | 84  | 54  | 36 | 30 | 22 | 13.5 | 7    | 1.5 | -  |    |
| VIL303 |                         | 90                     | 228                         | 120 | 72  | 50 | 42 | 34 | 20   | 10   | 2   | -  |    |
| VIL304 |                         | 120                    | 304                         | 160 | 100 | 70 | 55 | 42 | 25.5 | 12.5 | 3   | -  |    |

#### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

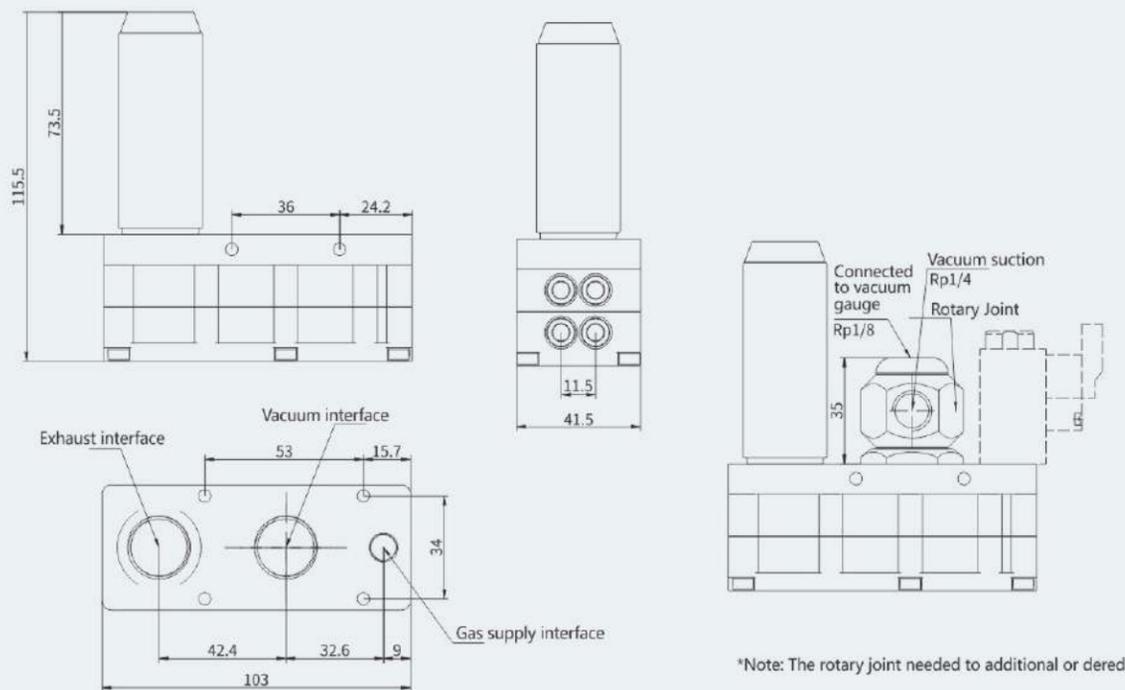
| Model  | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |       |       |       |       |       |       |       |       |    |    |
|--------|-------------------------|------------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|----|----|
|        |                         |                        | 0                           | 10    | 20    | 30    | 40    | 50    | 60    | 70    | 80    | 90 |    |
| VIL301 | 6                       | 30                     | -                           | 0.147 | 0.293 | 0.489 | 0.978 | 1.906 | 2.835 | 4.252 | 5.865 | -  | 84 |
| VIL302 |                         | 60                     | -                           | 0.073 | 0.147 | 0.244 | 0.489 | 0.953 | 1.417 | 2.126 | 2.933 | -  |    |
| VIL303 |                         | 90                     | -                           | 0.049 | 0.098 | 0.163 | 0.326 | 0.635 | 0.945 | 1.417 | 1.955 | -  |    |
| VIL304 |                         | 120                    | -                           | 0.037 | 0.073 | 0.122 | 0.244 | 0.477 | 0.709 | 1.063 | 1.466 | -  |    |

**SPECIFICATION AND SIZE (MM)**

VIM/VIL301~302



VIM/VIL303~304



**PERFORMANCE OVERVIEW**

- \*Standard gas supply pressure 4.5~6 bar
- \*Exhaust noise: 50-60dB (A).
- \*Maximum vacuum degree: -92kPa.

**MODEL SPECIFICATIONS**

**BM 05 - A - V - □**  
① ② ③ ④ ⑤

① Product Series      ② Specifications      ③ Connection specifications for gas supply port, vacuum port, and exhaust port

|                                       |                                     |  |
|---------------------------------------|-------------------------------------|--|
| <b>BM</b> - General (-85kPa)          | <b>05</b>                           | <b>A</b> - Φ6 tracheal joints+G1/8 internal thread+ built-in Silencer  |
| <b>BX</b> - High vacuum type (-92kPa) | <b>10</b><br><b>20</b><br><b>30</b> | <b>B</b> - G1/8 internal thread+G3/8 internal thread+ built-in Silencer<br><b>C</b> - G1/8 internal thread+G3/8 internal thread+ external Silencer |

Note: Type A interface is optional for 05/10 specifications

④ Sealing material      ⑤ Control device

|  |                                   |
|--|-----------------------------------|
| <b>Blank</b> - Default, Nitrile rubber | <b>Blank</b> - Default, valveless |
| <b>V</b> - Fluororubber                | <b>RE</b> - RE supply valve       |

VT  
HWT  
HGX  
HGS  
VI  
**BM/BX**  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
ZL/1/3/6  
ZH  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ

#### PERFORMANCE PARAMETER

##### BM05~30

| Model | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter (Φ mm) |             |
|-------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------------------|-------------|
|       |                                   |                               |                                   |                          | Air Supply Port                  | Vacuum Port |
| BM05  | 4.5~6                             | 85                            | 36~38                             | 12~18                    | 6                                | 8           |
| BM10  | 4.5~6                             | 85                            | 72~76                             | 24~36                    | 6                                | 10          |
| BM20  | 4.5~6                             | 85                            | 144~152                           | 48~72                    | 8                                | 12          |
| BM30  | 4.5~6                             | 85                            | 216~228                           | 72~108                   | 8                                | 12          |

##### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |    |    |    |    |    |      |      |    |    |
|-------|-------------------------|------------------------|-----------------------------|------|----|----|----|----|----|------|------|----|----|
|       |                         |                        | 0                           | 10   | 20 | 30 | 40 | 50 | 60 | 70   | 80   | 90 |    |
| BM05  | 4.5                     | 12                     | 36                          | 17.5 | 13 | 11 | 10 | 8  | 5  | 2.5  | 0.8  | -  | 85 |
| BM10  |                         | 24                     | 72                          | 42   | 27 | 23 | 20 | 16 | 11 | 5    | 1.3  | -  |    |
| BM20  |                         | 48                     | 144                         | 72   | 50 | 44 | 38 | 32 | 20 | 11   | 3    | -  |    |
| BM30  | 5                       | 86                     | 175                         | 106  | 82 | 72 | 58 | 44 | 32 | 16   | 5    | -  |    |
| BM05  | 6                       | 18                     | 38                          | 26   | 16 | 14 | 10 | 8  | 6  | 2.4  | 0.66 | -  | 85 |
| BM10  |                         | 36                     | 76                          | 52   | 31 | 28 | 20 | 16 | 12 | 4.8  | 1.32 | -  |    |
| BM20  |                         | 72                     | 152                         | 99   | 62 | 54 | 40 | 32 | 22 | 10.5 | 2.7  | -  |    |
| BM30  |                         | 108                    | 228                         | 147  | 92 | 73 | 60 | 47 | 32 | 16   | 4.1  | -  |    |

##### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |      |       |      |      |      |      |       |    |    |
|-------|-------------------------|------------------------|-----------------------------|------|------|-------|------|------|------|------|-------|----|----|
|       |                         |                        | 0                           | 10   | 20   | 30    | 40   | 50   | 60   | 70   | 80    | 90 |    |
| BM05  | 4.5                     | 12                     | -                           | 0.11 | 0.42 | 0.95  | 1.66 | 2.5  | 3.65 | 5.25 | 7.89  | -  | 85 |
| BM10  |                         | 24                     | -                           | 0.08 | 0.2  | 0.44  | 0.8  | 1.24 | 1.8  | 2.55 | 3.8   | -  |    |
| BM20  |                         | 48                     | -                           | 0.04 | 0.12 | 0.23  | 0.41 | 0.65 | 0.93 | 1.33 | 2.03  | -  |    |
| BM30  | 5                       | 86                     | -                           | 0.03 | 0.09 | 0.16  | 0.27 | 0.43 | 0.66 | 0.95 | 1.43  | -  |    |
| BM05  | 6                       | 18                     | -                           | 0.22 | 0.55 | 1     | 1.58 | 2.35 | 3.44 | 5.27 | 10.21 | -  | 85 |
| BM10  |                         | 36                     | -                           | 0.11 | 0.28 | 0.5   | 0.8  | 1.18 | 1.72 | 2.63 | 5.16  | -  |    |
| BM20  |                         | 72                     | -                           | 0.05 | 0.14 | 0.25  | 0.4  | 0.59 | 0.86 | 1.31 | 2.58  | -  |    |
| BM30  |                         | 108                    | -                           | 0.04 | 0.01 | 0.186 | 0.44 | 0.44 | 0.65 | 0.9  | 1.9   | -  |    |

##### BX05~30

| Model | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter (Φ mm) |             |
|-------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------------------|-------------|
|       |                                   |                               |                                   |                          | Air Supply Port                  | Vacuum Port |
| BX05  | 4.5~6                             | 92                            | 30~32                             | 12~18                    | 6                                | 8           |
| BX10  | 4.5~6                             | 92                            | 60~64                             | 36~42                    | 6                                | 10          |
| BX20  | 4.5~6                             | 92                            | 120~128                           | 72~84                    | 8                                | 12          |
| BX30  | 5~6                               | 92                            | 180~192                           | 108~126                  | 8                                | 12          |

##### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

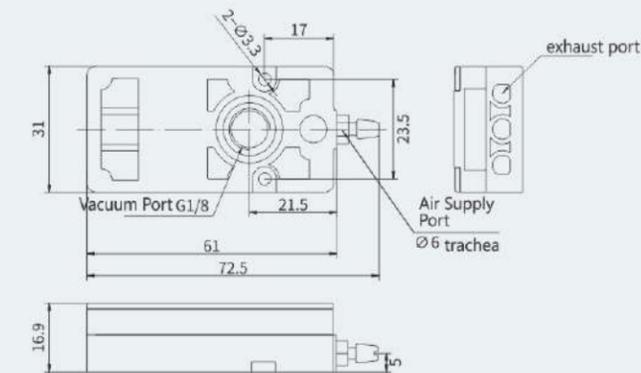
| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |    |    |    |     |     |    |     |      |    |
|-------|-------------------------|------------------------|-----------------------------|------|----|----|----|-----|-----|----|-----|------|----|
|       |                         |                        | 0                           | 10   | 20 | 30 | 40 | 50  | 60  | 70 | 80  | 90   |    |
| BX05  | 4.5                     | 18                     | 30                          | 15.5 | 10 | 9  | 9  | 6.5 | 5.5 | 3  | 1.5 | 0.5  | 92 |
| BX10  |                         | 20                     | 52                          | 31   | 20 | 18 | 17 | 13  | 11  | 7  | 2.5 | 1.5  |    |
| BX20  |                         | 79                     | 100                         | 62   | 38 | 32 | 30 | 22  | 14  | 12 | 8   | 3    |    |
| BX30  | 5                       | 125                    | 180                         | 74   | 60 | 52 | 46 | 38  | 26  | 19 | 8   | 6    |    |
| BX05  | 6                       | 21                     | 32                          | 18   | 9  | 8  | 7  | 6   | 5   | 3  | 1.2 | 0.45 | 92 |
| BX10  |                         | 40                     | 62                          | 36   | 18 | 16 | 14 | 11  | 9   | 6  | 2.4 | 0.9  |    |
| BX20  |                         | 88                     | 124                         | 72   | 35 | 32 | 27 | 22  | 18  | 12 | 4.8 | 1.8  |    |
| BX30  |                         | 137                    | 185                         | 108  | 52 | 47 | 41 | 33  | 26  | 18 | 7.2 | 2.7  |    |

##### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |      |      |      |      |      |      |       |      |    |
|-------|-------------------------|------------------------|-----------------------------|------|------|------|------|------|------|------|-------|------|----|
|       |                         |                        | 0                           | 10   | 20   | 30   | 40   | 50   | 60   | 70   | 80    | 90   |    |
| BX05  | 4.5                     | 18                     | -                           | 0.13 | 0.6  | 1.26 | 2.3  | 3.2  | 4.5  | 6.15 | 8.5   | 15.5 | 92 |
| BX10  |                         | 20                     | -                           | 0.11 | 0.3  | 0.65 | 1.1  | 1.55 | 2.15 | 2.85 | 4.7   | 10.2 |    |
| BX20  |                         | 79                     | -                           | 0.09 | 0.16 | 0.32 | 0.55 | 0.8  | 1.5  | 1.8  | 2.7   | 5    |    |
| BX30  | 5                       | 125                    | -                           | 0.06 | 0.12 | 0.23 | 0.36 | 0.53 | 0.76 | 1.1  | 1.6   | 2.9  |    |
| BX05  | 6                       | 21                     | -                           | 0.26 | 0.8  | 1.16 | 2.4  | 3.56 | 4.9  | 6.9  | 10.16 | 19.2 | 92 |
| BX10  |                         | 40                     | -                           | 0.13 | 0.4  | 0.76 | 1.2  | 1.78 | 2.45 | 3.44 | 5.08  | 9.6  |    |
| BX20  |                         | 88                     | -                           | 0.06 | 0.2  | 0.38 | 0.6  | 0.89 | 1.23 | 1.72 | 2.54  | 4.8  |    |
| BX30  |                         | 137                    | -                           | 0.05 | 0.15 | 0.28 | 0.44 | 0.67 | 0.92 | 1.3  | 1.9   | 3.6  |    |

#### SPECIFICATION AND SIZE (MM)

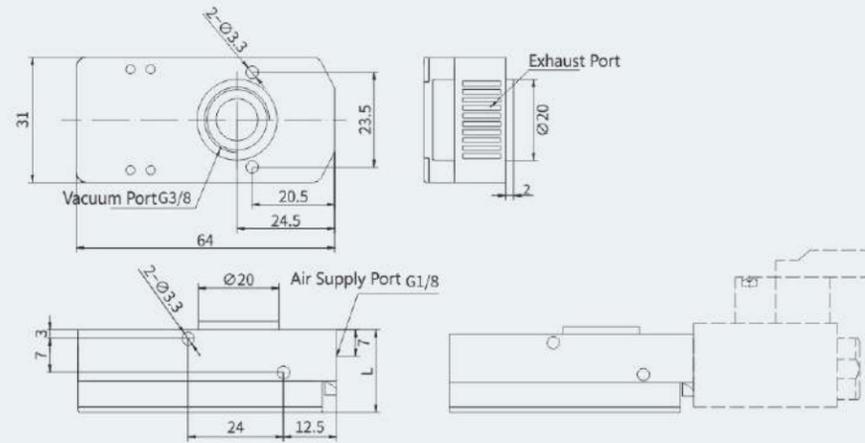
##### BM/BX-A



| Model | specifications | Connecting plate material | Connection plate specifications | Gas supply port specifications | Vacuum port specifications | Weight (g) |
|-------|----------------|---------------------------|---------------------------------|--------------------------------|----------------------------|------------|
| BM    | 05             | PA66                      | A                               | Ø6                             | G1/8                       | 36         |
| BX    | 10             | PA66                      |                                 | Ø6                             |                            | 35.5       |

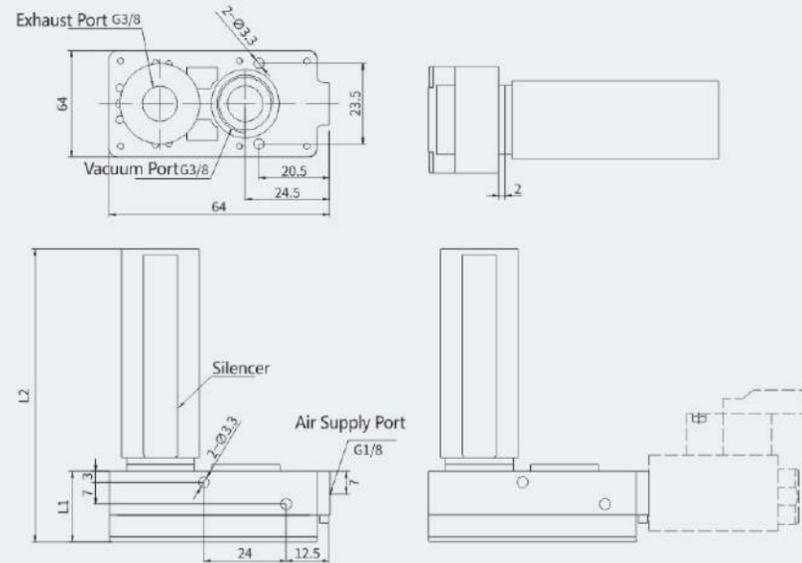
**SPECIFICATION AND SIZE (MM)**

BM/BX-B



| Model | specifications | Connecting plate material | Connection plate specifications | Gas supply port specifications | Vacuum port specifications | L    | Weight (g) |
|-------|----------------|---------------------------|---------------------------------|--------------------------------|----------------------------|------|------------|
| BM    | 05             | PA66                      | B                               | G1/8                           | G3/8                       | 20.7 | 39.5       |
| BX    | 10             | PA66                      |                                 |                                |                            | 20.7 | 39         |
|       | 20             | PA66                      |                                 |                                |                            | 28   | 50         |
|       | 30             | PA66                      |                                 |                                |                            | 35   | 63         |

BM/BX-C



| Model | specifications | Connecting plate material | Connection plate specifications | Gas supply port specifications | Vacuum port specifications | L1   | L2    | Weight (g) |
|-------|----------------|---------------------------|---------------------------------|--------------------------------|----------------------------|------|-------|------------|
| BM    | 05             | PA66                      | C                               | G1/8                           | G3/8                       | 20.7 | 87    | 55         |
| BX    | 10             | PA66                      |                                 |                                |                            | 20.7 | 87    | 54.5       |
|       | 20             | PA66                      |                                 |                                |                            | 28   | 94.2  | 67         |
|       | 30             | PA66                      |                                 |                                |                            | 35   | 101.5 | 81         |

VT  
HWT  
HGX  
HGS  
VI  
BM/BX  
**JBM/JBX**  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
ZL/L1/3/6  
ZH  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ



**PERFORMANCE OVERVIEW**

\*Standard gas supply pressure 4.5~6 bar  
\*Exhaust noise: 50-68dB (A).  
\*Maximum vacuum degree: -85kPa.

**MODEL SPECIFICATIONS**



| ① Product Series                | ② Specifications | ③ Sound reduction method | ④ Combination of supply valve and rupture valve |
|---------------------------------|------------------|--------------------------|---|
| JBM - General (-85kPa)          | 10               | B - Built in silencer    | blank - Default With supply valve               |
| JBX - High vacuum type (-92kPa) | 20               | C - External silencer    | D - Equipped with supply valve, damaged valve   |

| ⑤ Power connection form       | ⑥ Output function                  |
|-------------------------------|------------------------------------|
| blank - Default Horizontal(M) | blank - Default normally close(NC) |
| Z - Vertical(L)               | NO - normally open (NO)            |

#### PERFORMANCE PARAMETER

##### JBM10~20

| Model | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum     |                    | Gas Consumption (NL/min) | Recommended Pipe Diameter (Φ mm) |             |
|-------|-----------------------------------|-------------------------------|--------------------|--------------------|--------------------------|----------------------------------|-------------|
|       |                                   |                               | Flow Rate (NL/min) | Flow Rate (NL/min) |                          | Air Supply Port                  | Vacuum Port |
| JBM10 | 4.5~6                             | 85                            | 72~76              |                    | 24~36                    | 6                                | 10          |
| JBM20 | 4.5~6                             | 85                            | 144~152            |                    | 48~72                    | 8                                | 12          |

##### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |    |    |    |    |    |    |      |      |    |    |
|-------|-------------------------|------------------------|-----------------------------|----|----|----|----|----|----|------|------|----|----|
|       |                         |                        | 0                           | 10 | 20 | 30 | 40 | 50 | 60 | 70   | 80   | 90 |    |
| JBM10 | 4.5                     | 24                     | 72                          | 42 | 27 | 23 | 20 | 16 | 11 | 5    | 1.3  | -  | 85 |
| JBM20 |                         | 48                     | 144                         | 72 | 50 | 44 | 38 | 32 | 20 | 11   | 3    | -  |    |
| JBM10 | 6                       | 36                     | 76                          | 52 | 31 | 28 | 20 | 16 | 12 | 4.8  | 1.32 | -  | 85 |
| JBM20 |                         | 72                     | 152                         | 99 | 62 | 54 | 40 | 32 | 22 | 10.5 | 2.7  | -  |    |

##### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |      |      |      |      |      |      |      |    |    |
|-------|-------------------------|------------------------|-----------------------------|------|------|------|------|------|------|------|------|----|----|
|       |                         |                        | 0                           | 10   | 20   | 30   | 40   | 50   | 60   | 70   | 80   | 90 |    |
| JBM10 | 4.5                     | 24                     | -                           | 0.08 | 0.2  | 0.44 | 0.8  | 1.24 | 1.8  | 2.55 | 3.8  | -  | 85 |
| JBM20 |                         | 48                     | -                           | 0.04 | 0.12 | 0.23 | 0.41 | 0.65 | 0.93 | 1.33 | 2.03 | -  |    |
| JBM10 | 6                       | 36                     | -                           | 0.11 | 0.28 | 0.5  | 0.8  | 1.18 | 1.72 | 2.63 | 5.16 | -  | 85 |
| JBM20 |                         | 72                     | -                           | 0.05 | 0.14 | 0.25 | 0.4  | 0.59 | 0.86 | 1.31 | 2.58 | -  |    |

##### JBX10~20

| Model | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum     |                    | Gas Consumption (NL/min) | Recommended Pipe Diameter (Φ mm) |             |
|-------|-----------------------------------|-------------------------------|--------------------|--------------------|--------------------------|----------------------------------|-------------|
|       |                                   |                               | Flow Rate (NL/min) | Flow Rate (NL/min) |                          | Air Supply Port                  | Vacuum Port |
| JBX10 | 4.5~6                             | 92                            | 60~64              |                    | 36~42                    | 6                                | 10          |
| JBX20 | 4.5~6                             | 92                            | 120~128            |                    | 72~84                    | 8                                | 12          |

##### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |    |    |    |    |    |    |    |     |     |    |
|-------|-------------------------|------------------------|-----------------------------|----|----|----|----|----|----|----|-----|-----|----|
|       |                         |                        | 0                           | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80  | 90  |    |
| JBX10 | 4.5                     | 36                     | 60                          | 31 | 20 | 18 | 17 | 13 | 11 | 7  | 2.5 | 1.5 | 92 |
| JBX20 |                         | 72                     | 120                         | 62 | 38 | 32 | 30 | 22 | 14 | 12 | 8   | 3   |    |
| JBX10 | 6                       | 42                     | 64                          | 36 | 18 | 16 | 14 | 11 | 9  | 6  | 2.4 | 0.9 | 92 |
| JBX20 |                         | 84                     | 128                         | 72 | 35 | 32 | 27 | 22 | 18 | 12 | 4.8 | 1.8 |    |

##### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

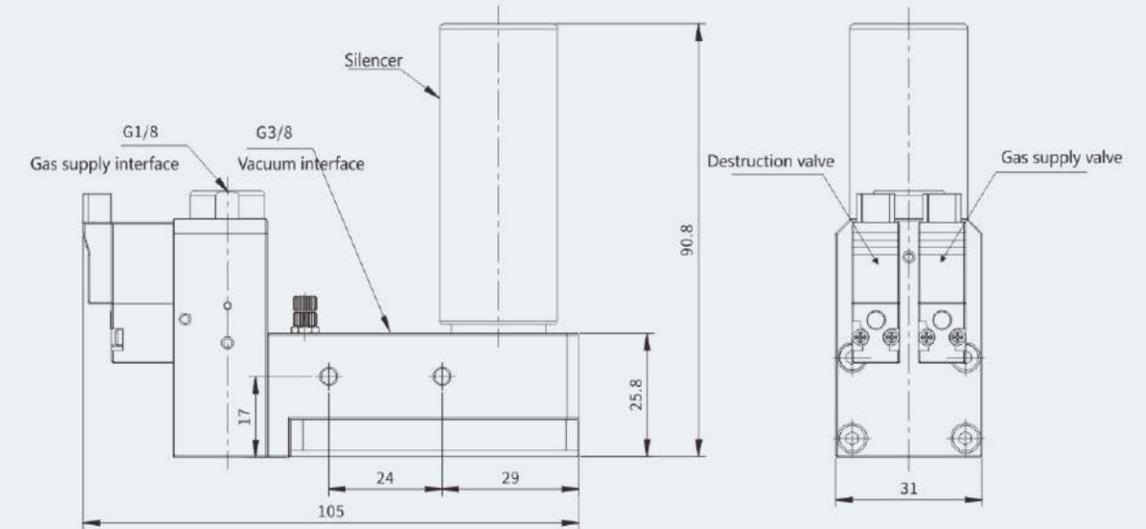
| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |      |      |      |      |      |      |      |      |    |
|-------|-------------------------|------------------------|-----------------------------|------|------|------|------|------|------|------|------|------|----|
|       |                         |                        | 0                           | 10   | 20   | 30   | 40   | 50   | 60   | 70   | 80   | 90   |    |
| JBX10 | 4.5                     | 36                     | -                           | 0.11 | 0.3  | 0.65 | 1.1  | 1.55 | 2.15 | 2.85 | 4.7  | 10.2 | 92 |
| JBX20 |                         | 72                     | -                           | 0.09 | 0.16 | 0.32 | 0.55 | 0.8  | 1.5  | 1.8  | 2.7  | 5    |    |
| JBX10 | 6                       | 42                     | -                           | 0.13 | 0.4  | 0.76 | 1.2  | 1.78 | 2.45 | 3.44 | 5.08 | 9.6  | 92 |
| JBX20 |                         | 84                     | -                           | 0.06 | 0.2  | 0.38 | 0.6  | 0.89 | 1.23 | 1.72 | 2.54 | 4.8  |    |

#### STANDARD SPECIFICATIONS

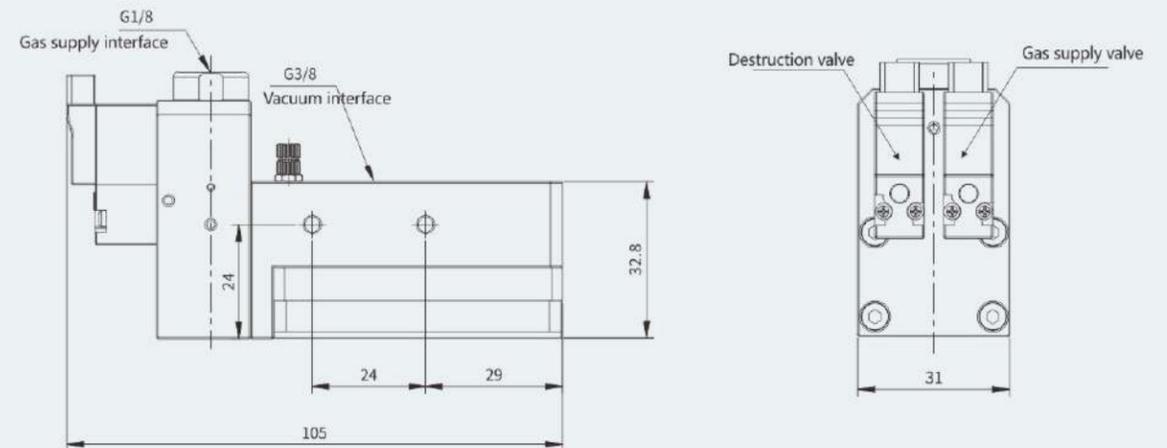
|                           |                       |                       |                                       |
|---------------------------|-----------------------|-----------------------|---------------------------------------|
| Working Medium            | Filter Compressed Air | Using voltage         | DC24V                                 |
| Gas Supply Pressure Range | 4.5~6bar              | Action frequency      | 5 times/S                             |
| Starting Pressure         | ≥3.0bar               | power dissipation     | 1W                                    |
| Operating Temperature     | 0~60°C                | Power connection form | L M-type port plugging and unplugging |
| Body Material             | Aluminum Alloy        | Protection level      | IP50                                  |

#### SPECIFICATION AND SIZE (MM)

##### JBM/JBX10-C-D



##### JBM/JBX20-C-D





**PERFORMANCE OVERVIEW**

- \*Standard gas supply pressure 5 bar
- \*Exhaust noise: 50-66dB (A).
- \*Maximum vacuum degree: -92kPa.

**MODEL SPECIFICATIONS**

VBM 201 - V - □  
①      ②      ③      ④

| ① Product Series                | ② Specifications | ③ Sealing material             |
|---------------------------------|------------------|--------------------------------|
| VBM - General (-85kPa)          | 201              | blank - Default Nitrile rubber |
|                                 | 202              | V - Fluororubber               |
| VBX - High vacuum type (-92kPa) | 203              |                                |

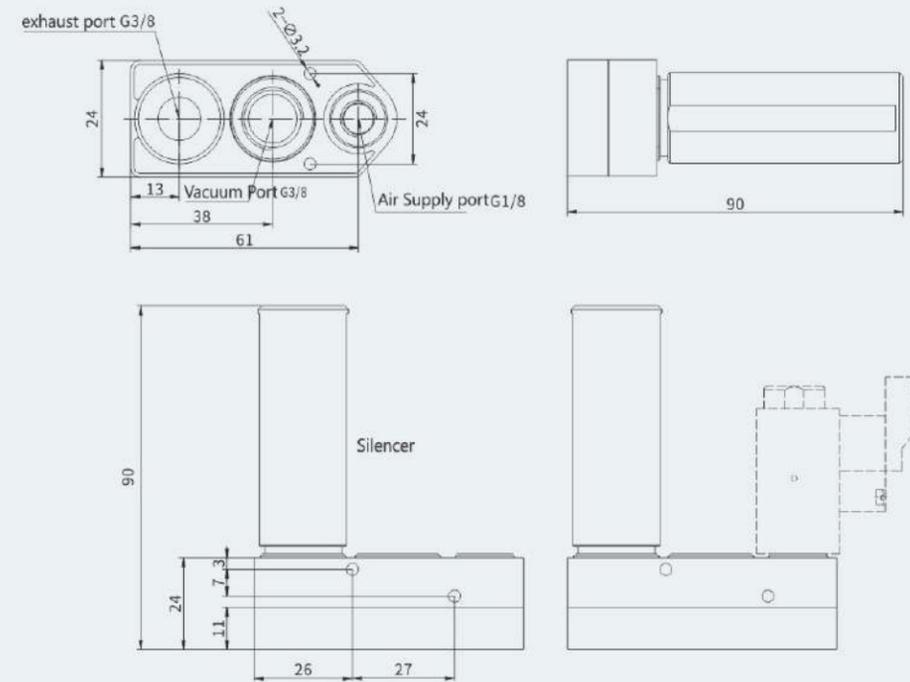
| ④ Controller              |
|---------------------------|
| Blank - Default Valveless |
| RE - RE supply valve      |

**MODEL SPECIFICATIONS**

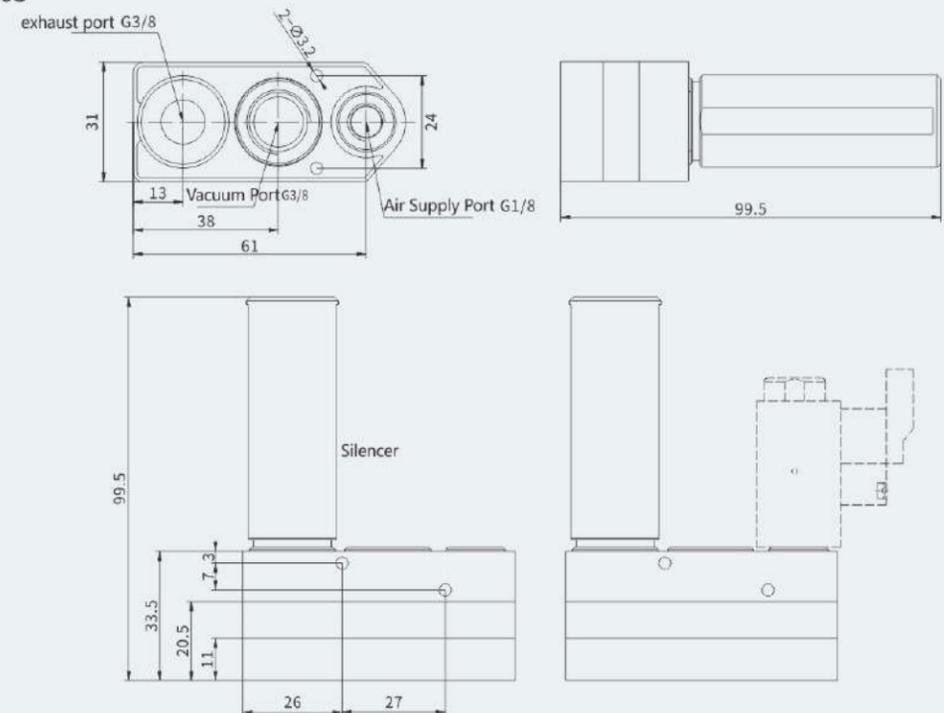
| Model  | Optimal Gas Supply Pressure (bar) | Maximum Vacuum Degree (- kPa) | Maximum Vacuum Flow Rate (NL/min) | Gas Consumption (NL/min) | Recommended Pipe Diameter ( Φ mm) |             |
|--------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|-----------------------------------|-------------|
|        |                                   |                               |                                   |                          | Air Supply Port                   | Vacuum Port |
| VBM201 | 5                                 | 85                            | 75                                | 36                       | 3                                 | 5           |
| VBM202 | 5                                 | 85                            | 150                               | 72                       | 4                                 | 8           |
| VBM203 | 5                                 | 85                            | 225                               | 108                      | 6                                 | 10          |
| VBX201 | 4.5                               | 92                            | 80                                | 36                       | 3                                 | 5           |
| VBX202 | 4.5                               | 92                            | 160                               | 72                       | 4                                 | 8           |
| VBX203 | 4.5                               | 92                            | 240                               | 105                      | 6                                 | 10          |

**SPECIFICATION AND SIZE (MM)**

VBM/VBX201~202



VBM/VBX203



- VT
- HVT
- HGX
- HGS
- VI
- BM/BX
- JBM/JBX
- VBM/VBX**
- RVBM/RVBX
- VK
- HZK2
- RV/RVE/RVZ
- RL100
- RL300/600
- ZL/1/3/6
- ZH
- ZU
- VV
- ZH
- ACPF
- LT
- VZQ



**PERFORMANCE OVERVIEW**

\*Standard gas supply pressure 3~5 bar  
\*Exhaust noise: 50-60dB (A).  
\*Maximum vacuum degree: -92kPa.

**MODEL SPECIFICATIONS**

**RVBM - 04 - □**

①                      ②                      ③

| ① Product Series                 | ② Performance specifications   | ③ Gas supply mode                       |
|----------------------------------|--|---|
| RVBM - General (-85kPa)          | 04- 4 Sets Of Generators<br>06- 6 Sets Of Generators<br>08- 8 Sets Of Generators                                 | Blank - default, Independent gas supply |
| RVBX - High vacuum type (-92kPa) | 10- 10 Sets Of Generators<br>12- 12 Sets Of Generators<br>14- 14 Sets Of Generators<br>16- 16 Sets Of Generators | T - Unified gas supply                  |

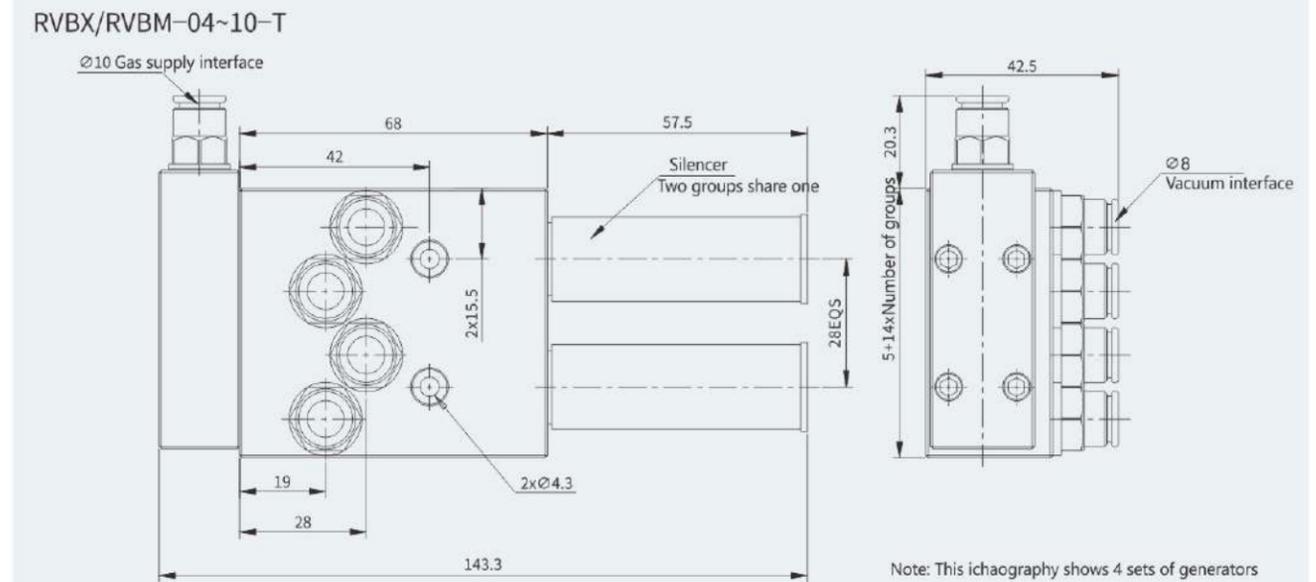
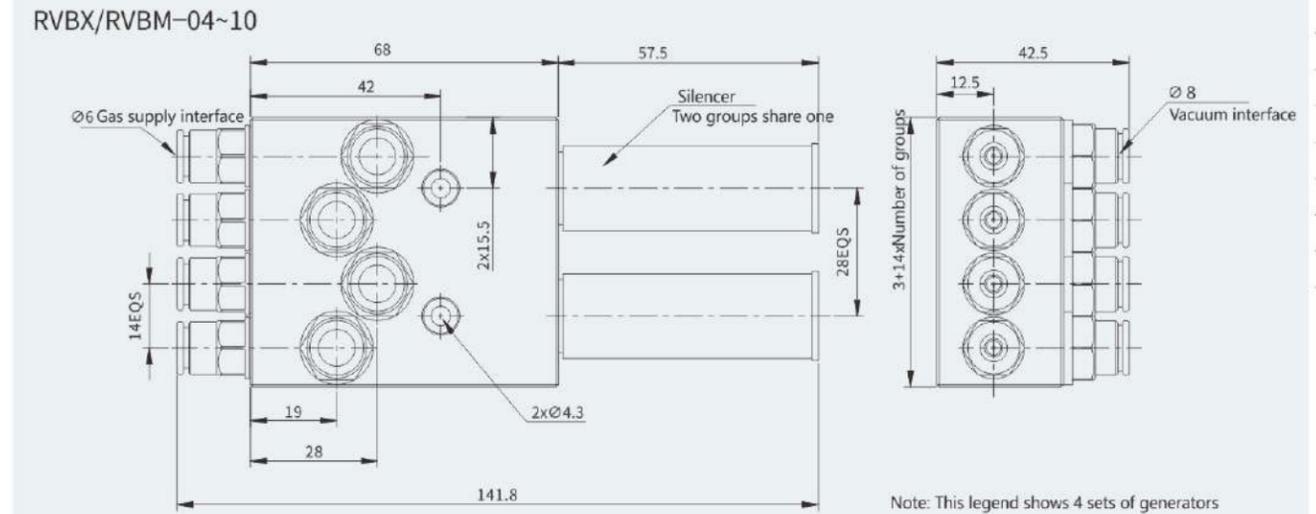
**PERFORMANCE PARAMETER**

| Model  | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) |
|--------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|
| RVBM04 | 5                                 | 85                            | 300                               | 144                      |
| RVBM06 | 5                                 | 85                            | 450                               | 216                      |
| RVBM08 | 5                                 | 85                            | 600                               | 288                      |
| RVBM10 | 5                                 | 85                            | 750                               | 360                      |
| RVBM12 | 5                                 | 85                            | 900                               | 432                      |
| RVBM14 | 5                                 | 85                            | 1050                              | 504                      |
| RVBM16 | 5                                 | 85                            | 1200                              | 576                      |

**PERFORMANCE PARAMETER**

| Model  | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) |
|--------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|
| RVBX04 | 5                                 | 92                            | 320                               | 144                      |
| RVBX06 | 5                                 | 92                            | 480                               | 216                      |
| RVBX08 | 5                                 | 92                            | 640                               | 288                      |
| RVBX10 | 5                                 | 92                            | 800                               | 360                      |
| RVBX12 | 5                                 | 92                            | 960                               | 432                      |
| RVBX14 | 5                                 | 92                            | 1120                              | 504                      |
| RVBX16 | 5                                 | 92                            | 1280                              | 576                      |

**SPECIFICATION AND SIZE (MM)**





**PERFORMANCE OVERVIEW**

\*Widely used in integrated vacuum generation systems, it can replace scenarios that require the use of multiple vacuum generators.  
 \*Applied to high-frequency scenarios, such as the 3C industry.  
 \*Exhaust noise: 50-66dB (A).  
 \*Maximum vacuum degree: -87kPa.

**MODEL SPECIFICATIONS**

VK 05 - D - □ - □  
 ① ② ③ ④ ⑤

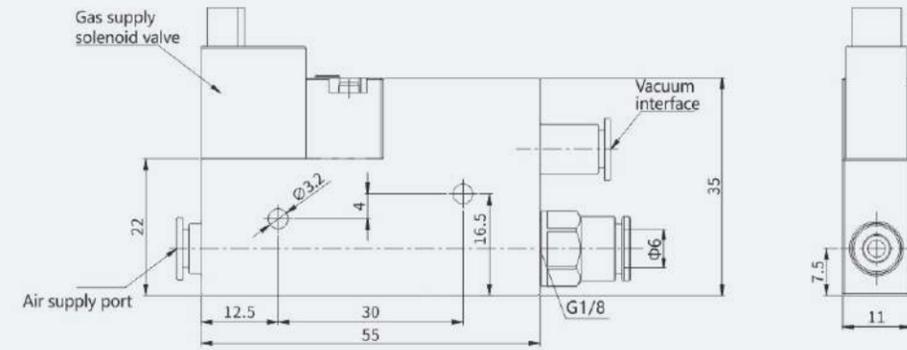
| ① Product Series | ② Specifications | ③ Gas supply mode                               | ④ Pressure gauge type                              | ⑤ Exhaust connection method |
|------------------|------------------|---|--|-----------------------------|
| VK               | 05               | Blank - Default With supply valve               | Blank - Default No gauge                           | Blank - Default silencer    |
|                  | 07               | D - Equipped with supply and destruction valves | N - NPN digital display<br>P - PNP digital display | J - Ø6                      |

**PERFORMANCE PARAMETER**

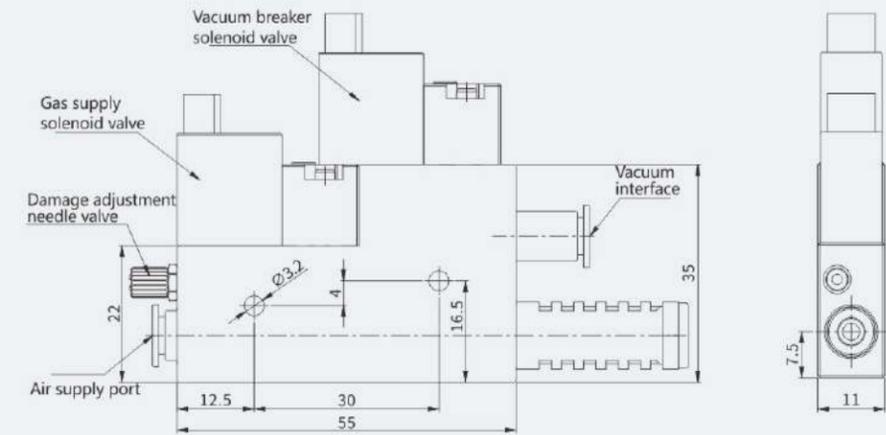
| Model  | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) | Body Material  | Rated voltage V        |
|--------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------|------------------------|
| VK05   | 4.5-6                             | 87                            | 6-8                               | 11.5-15                  | aluminum alloy | DC24V (direct current) |
| VK05-D | 4.5-6                             | 87                            | 6-8                               | 11.5-15                  |                |                        |
| VK07   | 4.5-6                             | 87                            | 16-19                             | 21-28                    |                |                        |
| VK07-D | 4.5-6                             | 87                            | 16-19                             | 21-28                    |                |                        |

**SPECIFICATION AND SIZE (MM)**

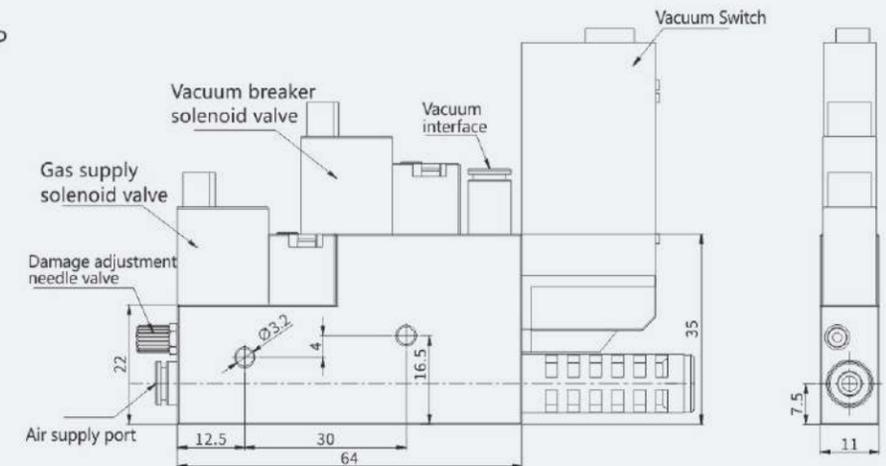
VK05/VK07-J



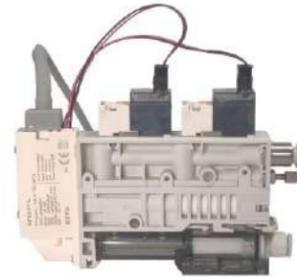
VK05/VK07-D



VK05/VK07-D-P



VT  
HWT  
HGX  
HGS  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
**VK**  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
ZL/1/3/6  
ZH  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ



**MODEL SPECIFICATIONS**

**HZK2 A 10 K 5 N - 08** □

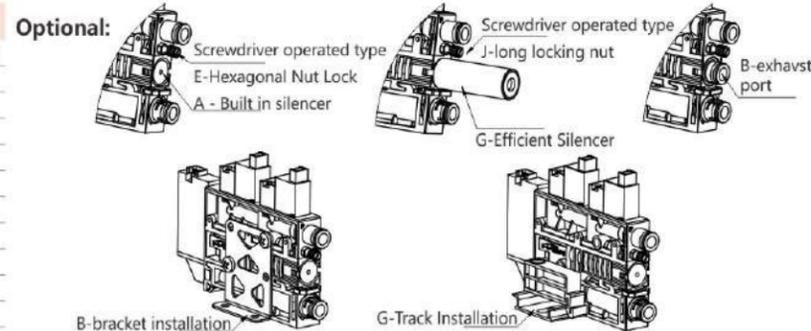
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

| ① Product Series   | ② Exhaust method  | ③ Nozzle diameter                               | ④ Valve combination (supply valve/break valve)    | ⑤ Rated voltage    |
|--|---|---|---|--------------------|
| HZK2   | A- Built in silencer<br>B- Vent exhaust<br>G- External silencer | 7-Φ0.7mm<br>10-Φ1.0mm<br>12-Φ1.2mm<br>15-Φ1.5mm | K-NC-NC<br>J-NC- /                                | 5-DC24V<br>6-DC12V |
| ⑥ Vacuum switch  |   | ⑦ Vacuum port                                   | ⑧ Installation method                             |                    |
| blank-No vacuum switch<br>N - NPN-No energy-saving function (-100~100kPa)<br>P - PNP-No energy-saving function (-100~100kPa)<br>NE - NPN-With energy-saving function (-100~100kPa)<br>PE - PNP-With energy-saving function (-100~100kPa)<br>FE-Vacuum holding (No vacuum switch) |   | 06 - Φ6mm<br>08 - Φ8mm                          | B - Bracket installation<br>G - DIN-Rail Mounting |                    |

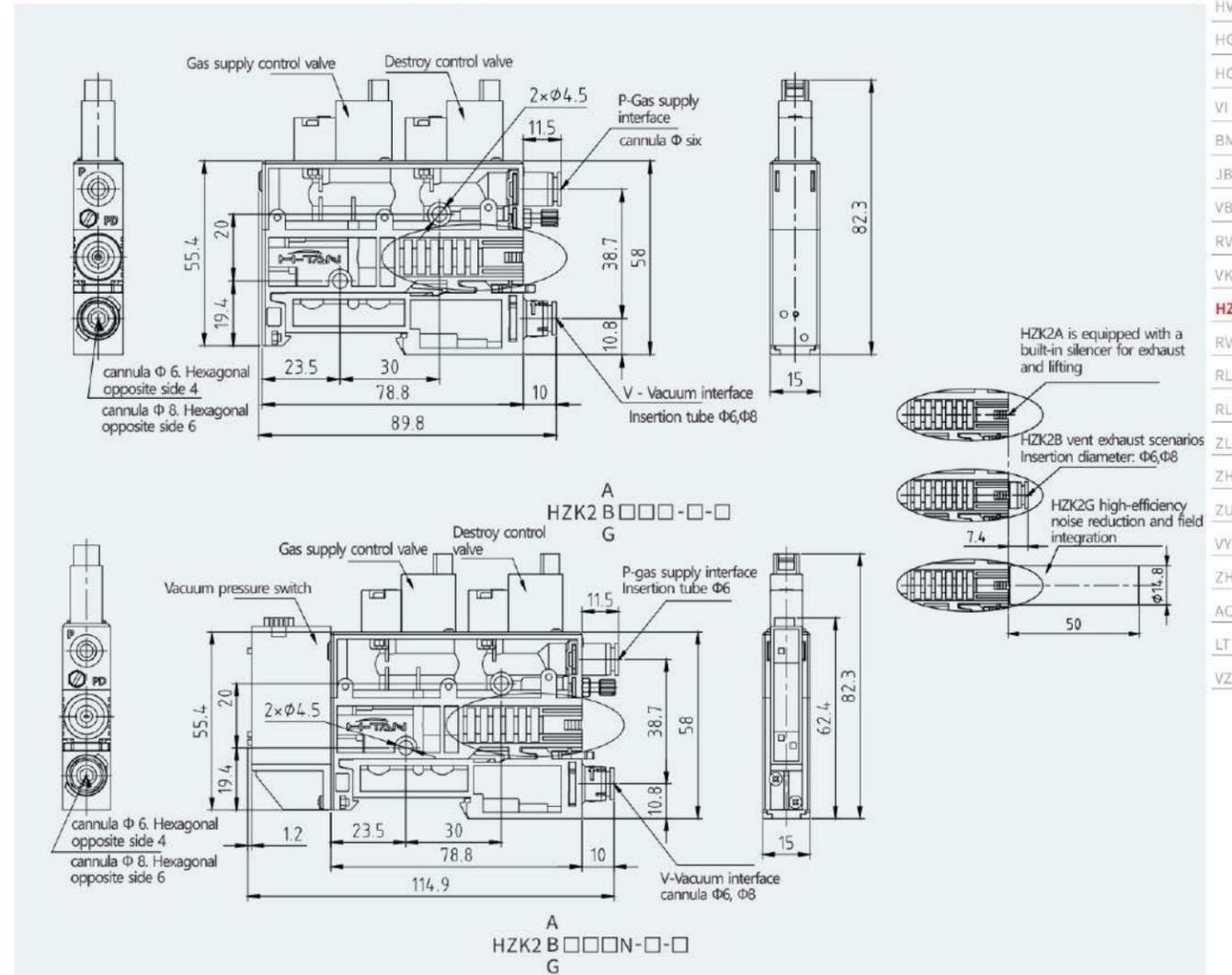
**PERFORMANCE PARAMETER**

| Model   | Nozzle Diameter mm | Operating pressure range bar | Standard supply pressure bar | Maximum vacuum degree kPa | Maximum vacuum flow rate NL/min |    |    | Vacuum consumption NL/min |
|---------|--------------------|------------------------------|------------------------------|---------------------------|---------------------------------|----|----|---------------------------|
|         |                    |                              |                              |                           | A                               | B  | G  |                           |
| HZK2□07 | Φ0.7               | 3~6                          | 3.5                          | -91                       | 29                              | 34 | 34 | 24                        |
| HZK2□10 | Φ1.0               | 3~6                          | 3.5                          | -91                       | 44                              | 56 | 56 | 40                        |
| HZK2□12 | Φ1.2               | 3~6                          | 3.5                          | -91                       | 61                              | 74 | 72 | 58                        |
| HZK2□15 | Φ1.5               | 3~6                          | 4                            | -91                       | 67                              | 89 | 83 | 90                        |

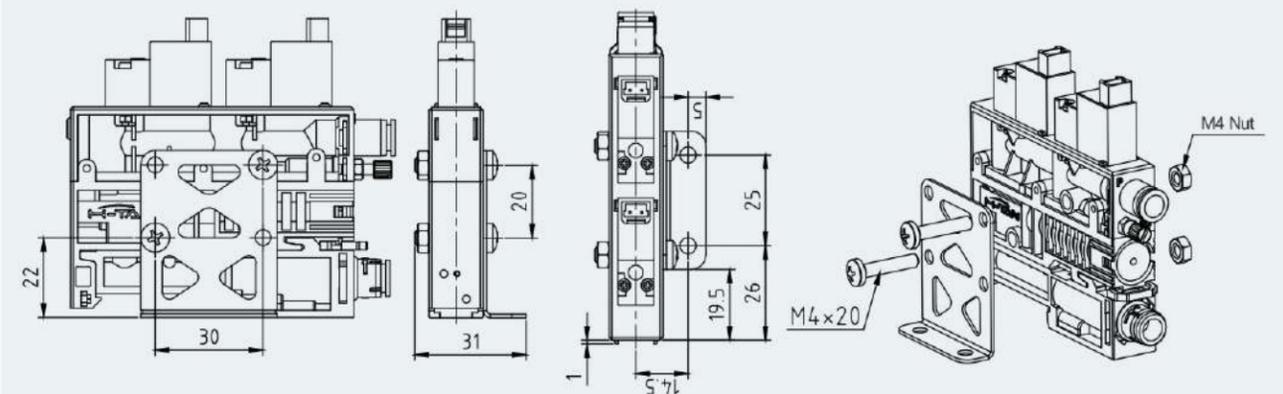
| name                              | Technical Parameter          |
|-----------------------------------|------------------------------|
| Working medium                    | Compressed air and inert gas |
| Operating pressure range          | 0~7bar                       |
| Environment and fluid temperature | -10°C~50°C                   |
| Corresponding time                | within 10ms                  |
| Maximum working frequency         | 30Hz                         |
| Manual operation                  | Non locking push type        |
| Power on duration                 | ED 100%                      |
| Structural protection             | dustproof                    |
| Protection level                  | IP 50                        |
| Allow voltage fluctuations        | ±10%                         |
| Rated voltage                     | DC24/DC12                    |



**SPECIFICATION AND SIZE (MM)**



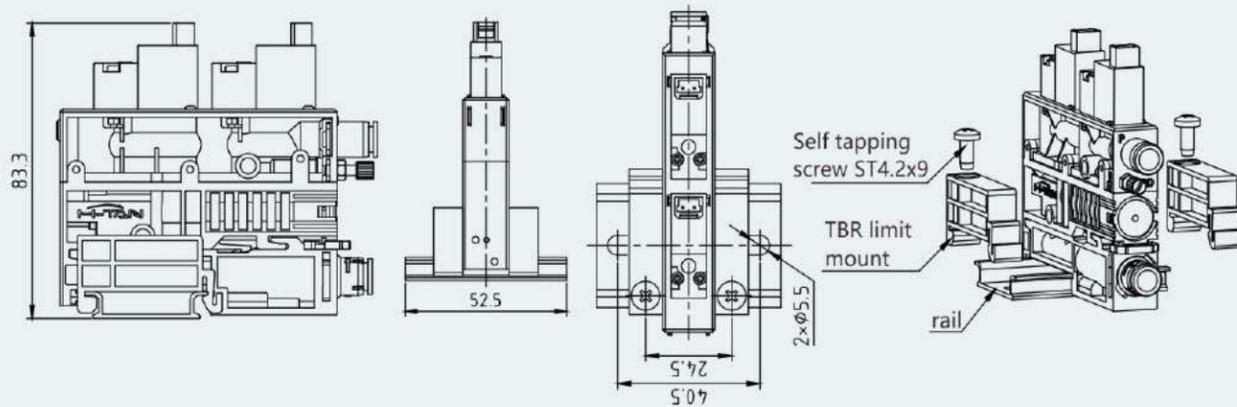
**Installation Form Of Bracket:**



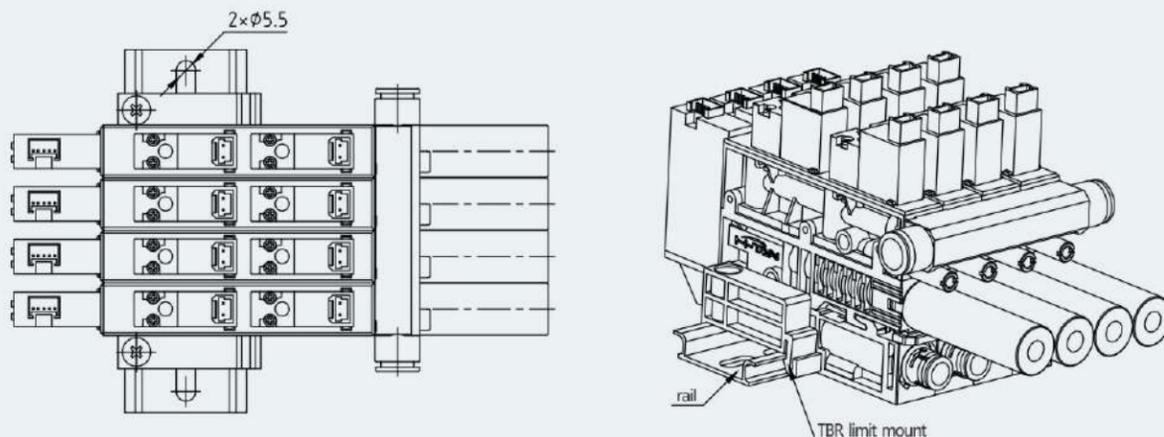
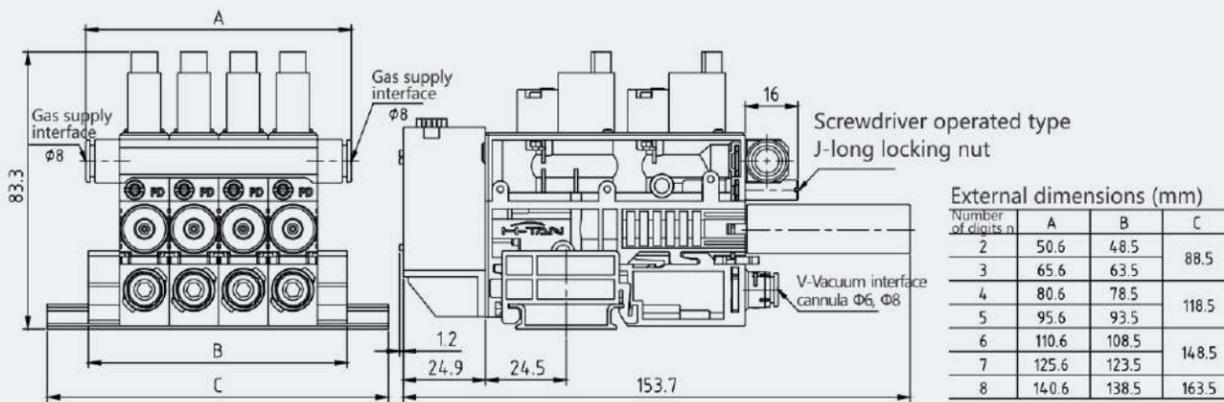
VT  
HWT  
HGX  
HGS  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
**HZK2**  
RV/RVE/RVZ  
RL100  
RL300/600  
ZL/1/3/6  
ZH  
ZU  
VV  
ZH  
ACPF  
LT  
VZQ

**SPECIFICATION AND SIZE (MM)**

Installation form of guide rail:



HZK2G-nP centralized gas supply type (please consult sales personnel for this series of products)



**PRODUCT FEATURES**

- \*The product can be combined with an electromagnetic valve, without the need for additional installation of an electromagnetic valve, and can be equipped with a pressure switch.
- \*The pressure switch type is designed using the principle of magnetic induction, and the generator is overall beautiful and exquisite.
- \*The product comes with a standard muffler and quick connector, which can minimize product noise.
- \*Stable performance, lightweight, and more convenient to use.

**PERFORMANCE OVERVIEW**

- \*Standard gas supply pressure 3.5~5 bar
- \*Exhaust noise: 65-75dB (A).
- \*Maximum vacuum degree: -92kPa.

**MODEL SPECIFICATIONS**

|     |    |   |         |   |    |   |                          |                          |                          |                          |                          |
|-----|----|---|---------|---|----|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| RV  | 10 | - | H       | S | CK | - | <input type="checkbox"/> | -                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| RVE | 10 | - | H       | S | CK | - | <input type="checkbox"/> | <input type="checkbox"/> | -                        | <input type="checkbox"/> | <input type="checkbox"/> |
| RVZ | 10 | - | H       | S | CK | - | <input type="checkbox"/> | <input type="checkbox"/> | -                        | <input type="checkbox"/> | <input type="checkbox"/> |
|     | ①  | ② | ③       | ④ | ⑤  |   | ⑥                        | ⑦                        |                          | ⑧                        |                          |
| RV  | 10 | - | HSCK(S) |   |    |   |                          |                          |                          |                          |                          |
| RVE | 10 | - | HSCK(S) |   |    | - | 08                       | -                        | <input type="checkbox"/> | -                        | <input type="checkbox"/> |
|     | ①  | ② |         |   |    |   | ⑨                        | ⑥                        |                          | ⑦                        |                          |

| ① Product Series  | ② Nozzle diameter  | ③ Performance specifications                                     | ④ Gas supply pressure                             |
|---|--|--|---|
| RV  | 05 - Ø0.5mm  | H - High vacuum type (-92kPa)                                    | S - 5bar  |
| RVE   | 10 - Ø1.0mm  | L - High flow type (-60kPa)                                      | R - 3.5bar  |
| RVZ   | 15 - Ø1.5mm<br>20 - Ø2.0mm<br>25 - Ø2.5mm<br>30 - Ø3.0mm |  |   |
| *Note: RVE and RVZ only have 10/15 specifications; Only 10/15 Specifications can be selected when RV,RVE and RVZ are installed in tandem and only hsck specifications are available |  |  |   |
| ⑤ Vacuum pressure detection section   | ⑥ Power connection form                                  | ⑦ Output function  | ⑧ Silencer  |
| Blank - Default, Standard<br>CK - With adjustable magnetic switch   | Blank - Default, Horizontal (M)<br>Z - Vertical (L)      | Blank - Default, Normally Closed (NC)<br>NO - Normally open (NO) | Blank - Default specifications<br>H - HS Silencer |
| ⑨ Number of connected rows  |  |  |   |
| 02 - 2Townhouse<br>03 - 3Townhouse<br>10 - 10Townhouse  |  |  |   |

\*Remarks: HS silencer is only applicable to models 05 and 10

PERFORMANCE PARAMETER

RV05~30

| Model  | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) | Nozzle diameter (mm) | Operating temperature (°C) |
|--------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------|----------------------------|
| RV05HS | 3.5~5                             | 88                            | 8                                 | 12                       | 0.5                  | 0~60<br>(Nonfreezing)      |
| RV10HS |                                   | 92                            | 27                                | 44                       | 1.0                  |                            |
| RV15HS |                                   | 92                            | 65                                | 100                      | 1.5                  |                            |
| RV20HS |                                   | 92                            | 110                               | 180                      | 2.0                  |                            |
| RV25HS |                                   | 92                            | 165                               | 265                      | 2.5                  |                            |
| RV30HS |                                   | 92                            | 220                               | 385                      | 3.0                  |                            |
| RV05LS | 3.5~5                             | 60                            | 10                                | 12                       | 0.5                  | 0~60<br>(Nonfreezing)      |
| RV10LS |                                   | 60                            | 36                                | 44                       | 1.0                  |                            |
| RV15LS |                                   | 60                            | 86                                | 100                      | 1.5                  |                            |
| RV20LS |                                   | 60                            | 170                               | 180                      | 2.0                  |                            |
| RV25LS |                                   | 60                            | 245                               | 265                      | 2.5                  |                            |
| RV30LS |                                   | 60                            | 340                               | 385                      | 3.0                  |                            |

VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model  | Air Supply Pressure bar | Gas Consumption NL/min | 0   | 10   | 20   | 30   | 40   | 50   | 60  | 70  | 80   | 90    | Maximum Vacuum Degree - kPa |
|--------|-------------------------|------------------------|-----|------|------|------|------|------|-----|-----|------|-------|-----------------------------|
| RV05HS | 5                       | 12                     | 8   | 5.5  | 4.2  | 3    | 1.5  | 0.8  | 0.5 | 0.2 | 0.05 | 0.002 | 88                          |
| RV10HS |                         | 44                     | 27  | 19   | 16   | 14.5 | 13   | 10.5 | 8   | 6.5 | 2.5  | 1     | 92                          |
| RV15HS |                         | 100                    | 65  | 55   | 44   | 37   | 32.5 | 25   | 18  | 14  | 9    | 4.5   |                             |
| RV20HS |                         | 180                    | 110 | 100  | 85   | 75   | 55   | 40.5 | 30  | 20  | 12   | 6     |                             |
| RV25HS |                         | 265                    | 165 | 155  | 140  | 120  | 95   | 72   | 47  | 28  | 15   | 7.5   |                             |
| RV30HS |                         | 385                    | 220 | 200  | 160  | 135  | 105  | 78   | 55  | 33  | 19   | 9.5   |                             |
| RV05LS | 5                       | 12                     | 10  | 9    | 8    | 6.5  | 2.5  | 1.8  | 0.5 | -   | -    | -     |                             |
| RV10LS |                         | 44                     | 36  | 31.5 | 23.5 | 16.5 | 10   | 6.5  | 2   | -   | -    | -     |                             |
| RV15LS |                         | 100                    | 86  | 78   | 70   | 47.5 | 30.5 | 15.5 | 5   | -   | -    | -     |                             |
| RV20LS |                         | 180                    | 170 | 125  | 115  | 95   | 70   | 35.5 | 6.5 | -   | -    | -     |                             |
| RV25LS |                         | 265                    | 245 | 215  | 200  | 150  | 105  | 60   | 30  | -   | -    | -     |                             |
| RV30LS |                         | 385                    | 340 | 295  | 267  | 215  | 150  | 85   | 37  | -   | -    | -     |                             |

PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model  | Air Supply Pressure bar | Gas Consumption NL/min | 0 | 10   | 20   | 30   | 40   | 50   | 60   | 70   | 80    | 90    | Maximum Vacuum Degree - kPa |
|--------|-------------------------|------------------------|---|------|------|------|------|------|------|------|-------|-------|-----------------------------|
| RV05HS | 5                       | 12                     | - | 0.68 | 1.38 | 2.77 | 4.32 | 6.02 | 8.25 | 9.44 | 11.82 | 14.35 | 88                          |
| RV10HS |                         | 44                     | - | 0.2  | 0.49 | 0.82 | 1.25 | 1.74 | 2.32 | 2.95 | 4.0   | 6.95  | 92                          |
| RV15HS |                         | 100                    | - | 0.08 | 0.19 | 0.32 | 0.48 | 0.69 | 0.92 | 1.38 | 1.95  | 3.33  |                             |
| RV20HS |                         | 180                    | - | 0.04 | 0.10 | 0.17 | 0.23 | 0.34 | 0.49 | 0.91 | 0.92  | 1.92  |                             |
| RV25HS |                         | 265                    | - | 0.03 | 0.07 | 0.11 | 0.17 | 0.24 | 0.35 | 0.49 | 0.75  | 1.32  |                             |
| RV30HS |                         | 385                    | - | 0.03 | 0.06 | 0.09 | 0.14 | 0.2  | 0.27 | 0.41 | 0.63  | 1.11  |                             |
| RV05LS | 5                       | 12                     | - | 0.31 | 0.98 | 1.89 | 3.17 | 5.12 | 7.1  | -    | -     | -     |                             |
| RV10LS |                         | 44                     | - | 0.12 | 0.28 | 0.51 | 0.83 | 1.32 | 1.52 | -    | -     | -     |                             |
| RV15LS |                         | 100                    | - | 0.45 | 0.10 | 0.15 | 0.26 | 0.42 | 0.64 | -    | -     | -     |                             |
| RV20LS |                         | 180                    | - | 0.03 | 0.06 | 0.11 | 0.14 | 0.25 | 0.38 | -    | -     | -     |                             |
| RV25LS |                         | 265                    | - | 0.02 | 0.05 | 0.08 | 0.12 | 0.18 | 0.31 | -    | -     | -     |                             |
| RV30LS |                         | 385                    | - | 0.02 | 0.04 | 0.06 | 0.09 | 0.13 | 0.25 | -    | -     | -     |                             |

PERFORMANCE PARAMETER

RVE~RVZ

| Model   | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) | Nozzle diameter (mm) | Operating temperature (°C) |
|---------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------|----------------------------|
| RVE05HS | 3.5~5                             | 88                            | 8                                 | 12                       | 0.5                  | 0~60<br>(Nonfreezing)      |
| RVE10HS |                                   | 92                            | 27                                | 44                       | 1.0                  |                            |
| RVE15HS |                                   | 92                            | 65                                | 100                      | 1.5                  |                            |
| RVE05LS | 3.5~5                             | 60                            | 10                                | 12                       | 0.5                  | 0~60<br>(Nonfreezing)      |
| RVE10LS |                                   | 60                            | 36                                | 44                       | 1.0                  |                            |
| RVE15LS |                                   | 60                            | 86                                | 100                      | 1.5                  |                            |
| RVZ05HS | 3.5~5                             | 88                            | 8                                 | 12                       | 0.5                  | 0~60<br>(Nonfreezing)      |
| RVZ10HS |                                   | 92                            | 27                                | 44                       | 1.0                  |                            |
| RVZ15HS |                                   | 92                            | 65                                | 100                      | 1.5                  |                            |
| RVZ05LS | 3.5~5                             | 60                            | 10                                | 12                       | 0.5                  | 0~60<br>(Nonfreezing)      |
| RVZ10LS |                                   | 60                            | 36                                | 44                       | 1.0                  |                            |
| RVZ15LS |                                   | 60                            | 86                                | 100                      | 1.5                  |                            |

\*Note: The vacuum flow rate and pumping time for RVE and RVZ series with different vacuum degrees refer to the RV series

STANDARD SPECIFICATIONS

|                           |                       |                       |  |
|---------------------------|-----------------------|-----------------------|--|
| Working medium            | Filter compressed air | Using voltage         | DC24V                                  |
| Gas supply pressure range | 3.5~7.0bar            | Action frequency      | 5 times/S                              |
| Starting pressure         | ≥3.0bar               | Power dissipation     | 1W                                     |
| Operating temperature     | 0~60°C                | Power connection form | L, M-type port plugging and unplugging |
| Body material             | Aluminum Alloy        | Protection level      | Ip50                                   |

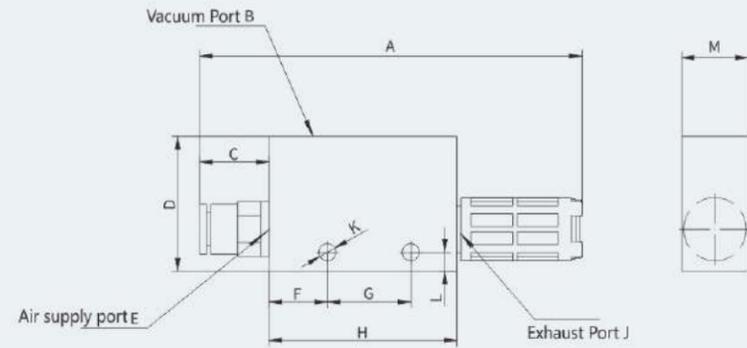
CONNECTION SPECIFICATIONS

| Model                  | RV05   | RV10   | RV15  | RV20   | RV25  | RV30  |
|------------------------|--------|--------|-------|--------|-------|-------|
| Air supply port thread | Rp 1/8 | Rp 1/8 | Rp1/4 | Rp 1/4 | Rp3/8 | Rp1/2 |
| Vacuum port thread     | Rp 1/8 | Rp 1/8 | Rp1/4 | Rp 3/8 | Rp1/2 | Rc3/4 |
| Exhaust port thread    | Rp 1/8 | Rp 1/8 | Rp1/4 | Rp 1/2 | Rp3/4 | Rp3/4 |

Note: The connection specifications for RVE10 and RVZ10 are the same as RV10, while RVE15 and RVZ15 are the same as RV15.

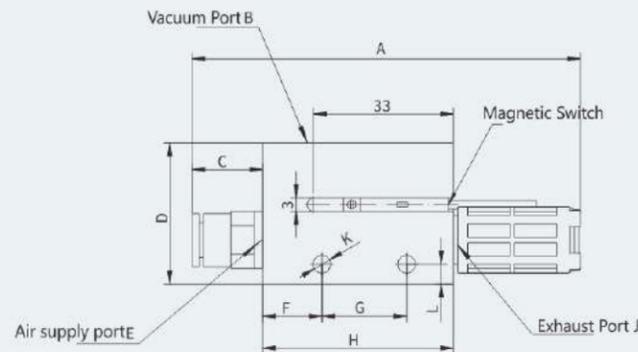
**SPECIFICATION AND SIZE (MM)**

RV05~30



| Model | A     | B     | C  | D  | E     | F  | G  | H   | L   | J     | K      | M  |
|-------|-------|-------|----|----|-------|----|----|-----|-----|-------|--------|----|
| RV05  | 95    | Rp1/8 | 20 | 32 | Rp1/8 | 14 | 20 | 45  | 4.5 | Rp1/8 | 2-Ø4.2 | 16 |
| RV10  | 95    | Rp1/8 | 20 | 32 | Rp1/8 | 14 | 20 | 45  | 4.5 | Rp1/8 | 2-Ø4.2 | 16 |
| RV15  | 128   | Rp1/4 | 15 | 35 | Rp1/4 | 23 | 25 | 63  | 5   | Rp1/4 | 2-Ø4.2 | 20 |
| RV20  | 178.5 | Rp3/8 | 20 | 40 | Rp1/4 | 28 | 32 | 85  | 7   | Rp1/2 | 2-Ø6   | 30 |
| RV25  | 232.5 | Rc1/2 | 20 | 60 | Rp3/8 | 20 | 50 | 100 | 5.5 | Rp3/4 | 2-Ø6   | 40 |
| RV30  | 250.5 | Rc3/4 | 20 | 60 | Rp1/2 | 33 | 50 | 118 | 5.5 | Rp3/4 | 2-Ø6   | 40 |

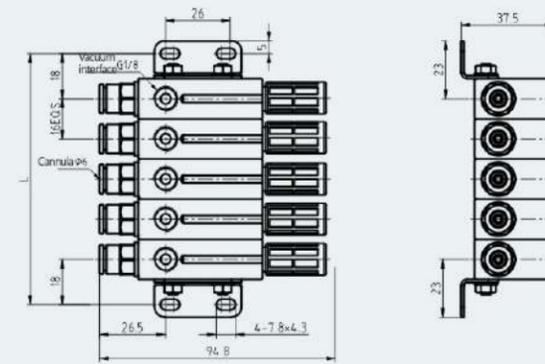
RV05~20-CK



| Model   | A     | B     | C  | D  | E     | F  | G  | H  | L   | J     | K      | M  |
|---------|-------|-------|----|----|-------|----|----|----|-----|-------|--------|----|
| RV05-CK | 95    | Rp1/8 | 20 | 32 | Rp1/8 | 14 | 20 | 45 | 4.5 | Rp1/8 | 2-Ø4.2 | 16 |
| RV10-CK | 95    | Rp1/8 | 20 | 32 | Rp1/8 | 14 | 20 | 45 | 4.5 | Rp1/8 | 2-Ø4.2 | 16 |
| RV15-CK | 128   | Rp1/4 | 15 | 35 | Rp1/4 | 23 | 25 | 63 | 5   | Rp1/4 | 2-Ø4.2 | 20 |
| RV20-CK | 178.5 | Rp3/8 | 20 | 40 | Rp1/4 | 28 | 32 | 85 | 7   | Rp1/2 | 2-Ø6   | 30 |

**SPECIFICATION AND SIZE (MM)**

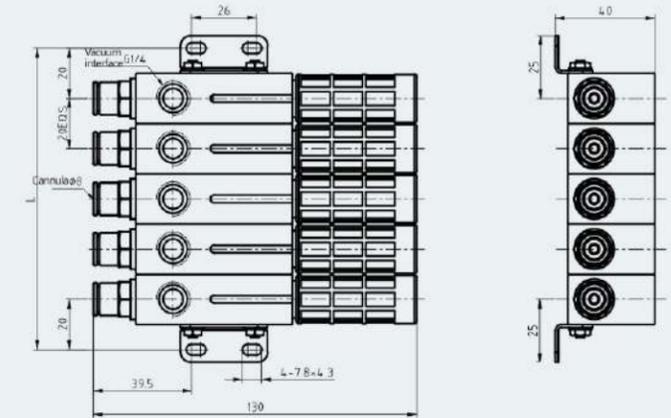
RV10-HSCK5-□



Specifications and dimensions

| Serial Number | Specification and model | L   | Serial Number | Specification and model | L   |
|---------------|-------------------------|-----|---------------|-------------------------|-----|
| 1             | RV10-HSCK5-02           | 52  | 5             | RV10-HSCK5-06           | 116 |
| 2             | RV10-HSCK5-03           | 68  | 6             | RV10-HSCK5-07           | 132 |
| 3             | RV10-HSCK5-04           | 84  | 7             | RV10-HSCK5-08           | 148 |
| 4             | RV10-HSCK5-05           | 100 | 8             | RV10-HSCK5-09           | 164 |

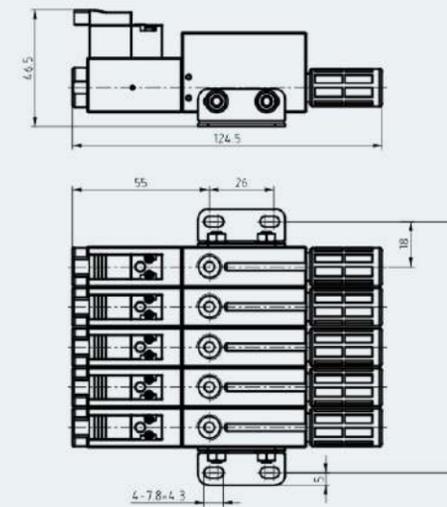
RV15-HSCK5-□



Specifications and dimensions

| Serial Number | Specification and model | L   | Serial Number | Specification and model | L   |
|---------------|-------------------------|-----|---------------|-------------------------|-----|
| 1             | RV15-HSCK5-02           | 60  | 5             | RV15-HSCK5-06           | 146 |
| 2             | RV15-HSCK5-03           | 80  | 6             | RV15-HSCK5-07           | 166 |
| 3             | RV15-HSCK5-04           | 100 | 7             | RV15-HSCK5-08           | 186 |
| 4             | RV15-HSCK5-05           | 120 | 8             | RV15-HSCK5-09           | 206 |

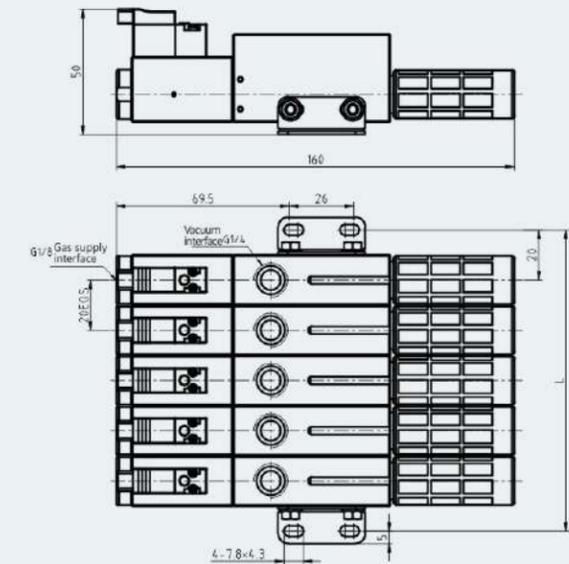
RVE10-HSCK5-□



Specifications and dimensions

| Serial Number | Specification and model | L   | Serial Number | Specification and model | L   |
|---------------|-------------------------|-----|---------------|-------------------------|-----|
| 1             | RVE10-HSCK5-02          | 52  | 5             | RVE10-HSCK5-06          | 116 |
| 2             | RVE10-HSCK5-03          | 68  | 6             | RVE10-HSCK5-07          | 132 |
| 3             | RVE10-HSCK5-04          | 84  | 7             | RVE10-HSCK5-08          | 148 |
| 4             | RVE10-HSCK5-05          | 100 | 8             | RVE10-HSCK5-09          | 164 |

RVE15-HSCK5-□



Specifications and dimensions

| Serial Number | Specification and model | L   | Serial Number | Specification and model | L   |
|---------------|-------------------------|-----|---------------|-------------------------|-----|
| 1             | RVE15-HSCK5-02          | 60  | 5             | RVE15-HSCK5-06          | 146 |
| 2             | RVE15-HSCK5-03          | 80  | 6             | RVE15-HSCK5-07          | 166 |
| 3             | RVE15-HSCK5-04          | 100 | 7             | RVE15-HSCK5-08          | 186 |
| 4             | RVE15-HSCK5-05          | 120 | 8             | RVE15-HSCK5-09          | 206 |



**PERFORMANCE OVERVIEW**

- \*Standard gas supply pressure 4 bar
- \*Exhaust noise: 50-60dB (A).
- \*The product is lightweight and easy to install.
- \*Maximum vacuum degree: -87kPa.

**MODEL SPECIFICATIONS**

RL 100 - □ - K1 - □  
 ①      ②      ③      ④      ⑤

|  |  |  |
|--|--|--|
| ① Product Series   | ② Maximum vacuum flow rate   | ③ Exhaust specifications                                     |
| RL   | 100 - 100NL/min  | Blank - Default, Built in silencer<br>P - Horizontal exhaust |
| ④ Combination of supply valve and rupture valve  | ⑤ Vacuum pressure detection department                             |  |
| Blank - Default, No valve<br>K1 - Equipped with supply valve and break valve<br>K2 - With supply valve | Blank - Default, without vacuum meter<br>Countless pressure gauges |  |

**PERFORMANCE PARAMETER**

| Model | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) | Operating temperature (°C) | Recommended pipe diameter (Φ mm) |        |
|-------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|----------------------------|----------------------------------|--------|
|       |                                   |                               |                                   |                          |                            | Air Supply                       | Vacuum |
| RL100 | 4                                 | 87                            | 100                               | 51                       | 0-50                       | 6                                | 12     |

**VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)**

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |    |    |    |    |    |     |     |    |    |    |
|-------|-------------------------|------------------------|-----------------------------|----|----|----|----|----|-----|-----|----|----|----|
|       |                         |                        | 0                           | 10 | 20 | 30 | 40 | 50 | 60  | 70  | 80 | 90 |    |
| RL100 | 4                       | 51                     | 100                         | 68 | 32 | 26 | 22 | 14 | 9.5 | 5.5 | 3  | -  | 87 |

**PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)**

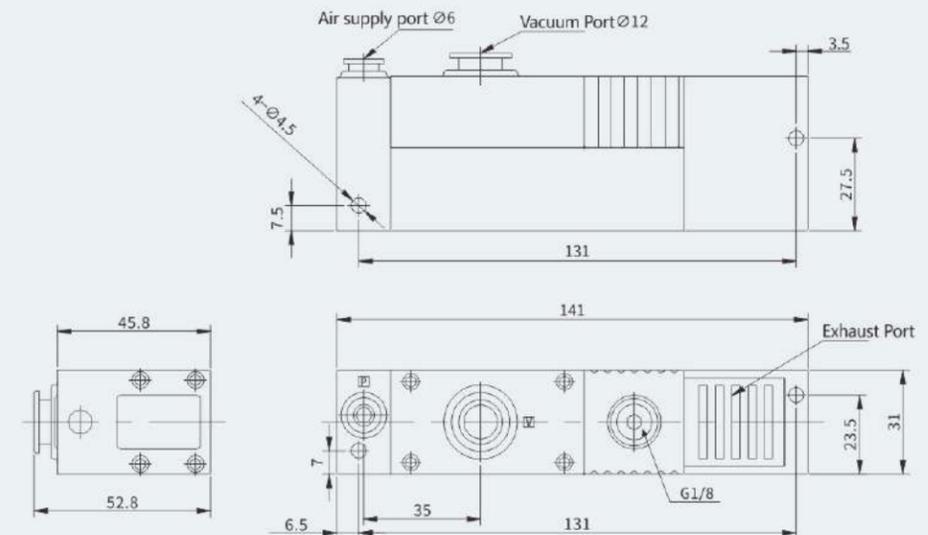
| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |      |     |      |      |      |      |     |    |    |
|-------|-------------------------|------------------------|-----------------------------|------|------|-----|------|------|------|------|-----|----|----|
|       |                         |                        | 0                           | 10   | 20   | 30  | 40   | 50   | 60   | 70   | 80  | 90 |    |
| RL100 | 4                       | 51                     | -                           | 0.05 | 0.17 | 0.4 | 0.87 | 1.07 | 1.63 | 2.46 | 3.9 | -  | 87 |

**STANDARD SPECIFICATIONS**

|                           |   |                                      |   |
|---------------------------|---|--------------------------------------|---|
| Gas supply pressure range | 3-6bar  | Pilot exhaust method                 | Individual exhaust type, centralized exhaust type |
| Using voltage             | DC24V   | Oil supply                           | No need   |
| Operating temperature     | 0-50°C  | Installation posture                 | free  |
| Response time (at 0.5MPa) | Within 25ms   | Impact resistant/vibration resistant | 150/30 m/S  |
| Maximum action frequency  | 5Hz   | Protective structure                 | dustproof   |
| Manual operation          | Non locking push-pull, push-pull rotary locking and screwdriver manufacturing |                                      |   |

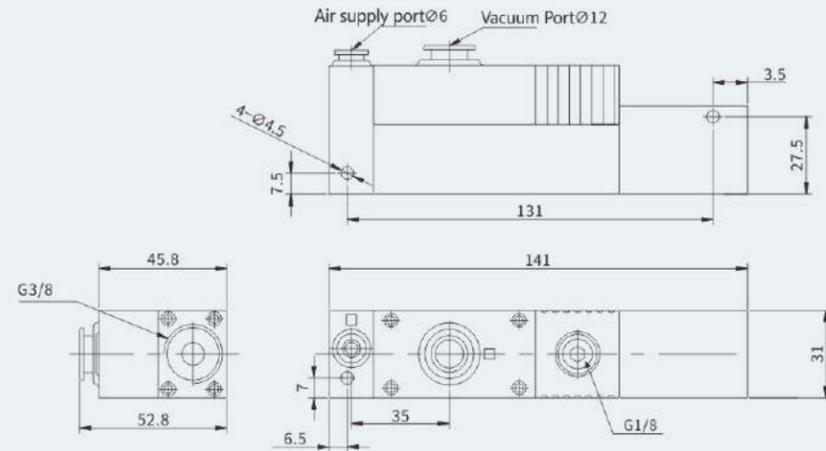
**SPECIFICATION AND SIZE (MM)**

Standard RL100

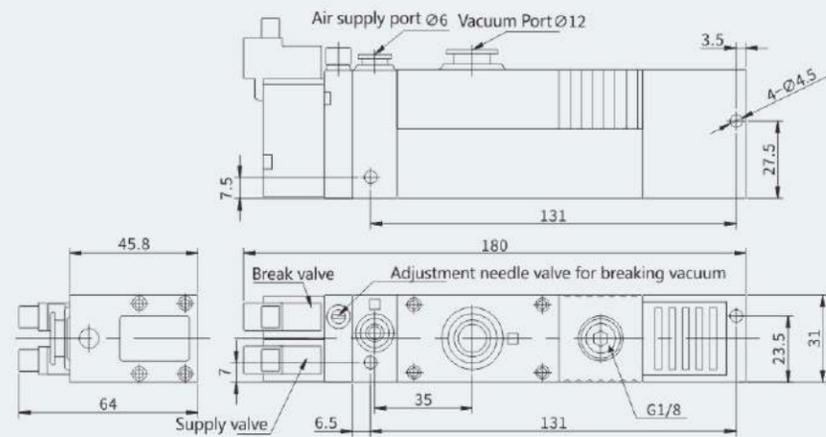


**SPECIFICATION AND SIZE (MM)**

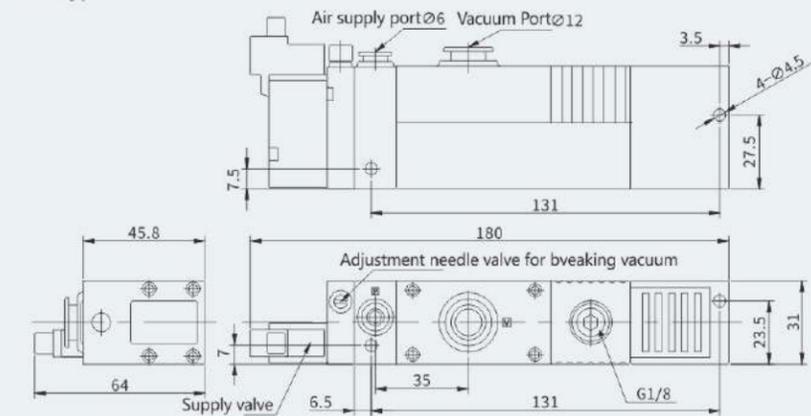
Horizontal exhaust type RL100-P



RL100-K1 with supply valve and break valve type

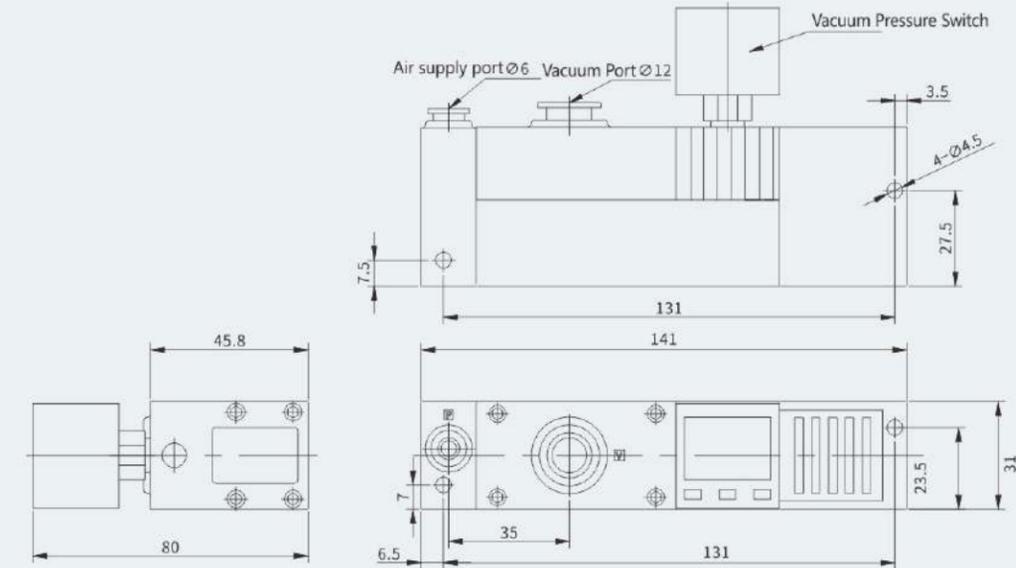


RL100K2 with supply valve type

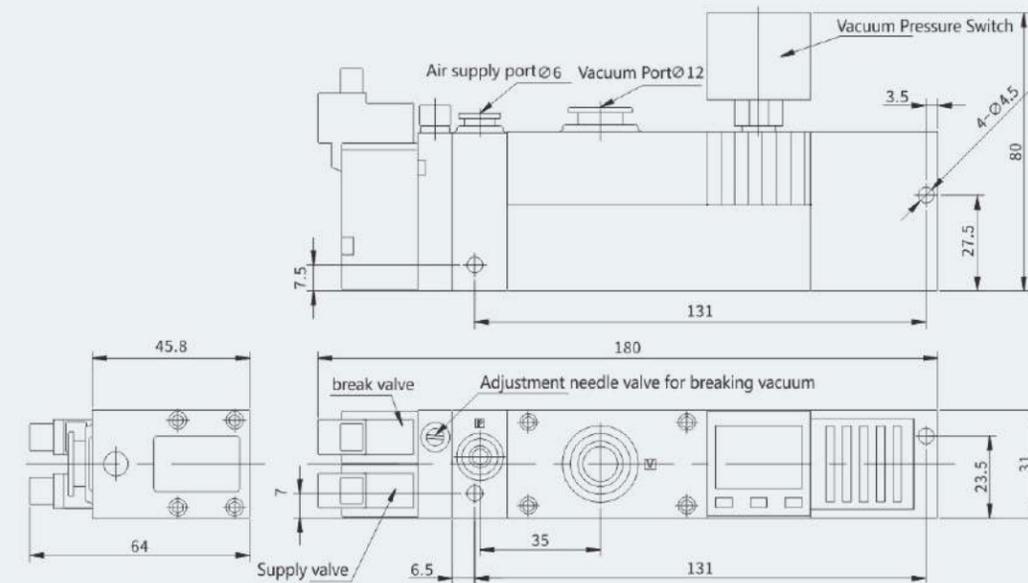


**SPECIFICATION AND SIZE (MM)**

RL100D with vacuum digital pressure meter type



RL100-K1-D with supply valve, break valve, and vacuum digital display pressure gage



- VT
- HWT
- HGX
- HGS
- VI
- BM/BX
- JBM/JBX
- VBM/VBX
- RVBM/RVBX
- VK
- HZK2
- RV/RVE/RVZ
- RL100**
- RL300/600
- ZL/1/3/6
- ZH
- ZU
- VV
- ZH
- ACPF
- LT
- VZQ



**PERFORMANCE OVERVIEW**

\*Standard gas supply pressure 3~6 bar  
\*Exhaust noise: 50-60dB (A).  
\*Maximum vacuum degree: -94kPa.

**MODEL SPECIFICATIONS**

RL 300 M 06 - □ - K1 - □  
① ② ③ ④ ⑤ ⑥ ⑦

| ① Product Series | ② Maximum vacuum flow rate       | ③ Standard gas supply pressure and instructions | RL300     | RL600     | RL600  |
|------------------|----------------------------------|---|-----------|-----------|--------|
| RL               | 300-300 NL/min<br>600-600 NL/min | Valveless/K1/K2 Valveless                       | Valveless | Valveless | K1/K2  |
|                  |                                  | M   | 4.5bar    | 4.5bar    | 5 bar  |
|                  |                                  | L   | 6 bar     | 6 bar     | 6.5bar |
|                  |                                  | S   | 3.5bar    | 3.5bar    | 4 bar  |

| ④ Vacuum interface | ⑤ Exhaust method                  | ⑥ Combination of supply valve and rupture valve                           | ⑦ Vacuum pressure detection department     |
|--------------------|-----------------------------------|---|--|
| 06 - G3/4          | Blank - Default, Silencer exhaust | Blank - Default, No valve   | Blank - Default, Countless pressure gauges |
| 04 - 2xG1/2        | P - G1 exhaust port               | K1 - Equipped with supply valve and break valve<br>K2 - With supply valve |  |

**PERFORMANCE PARAMETER**

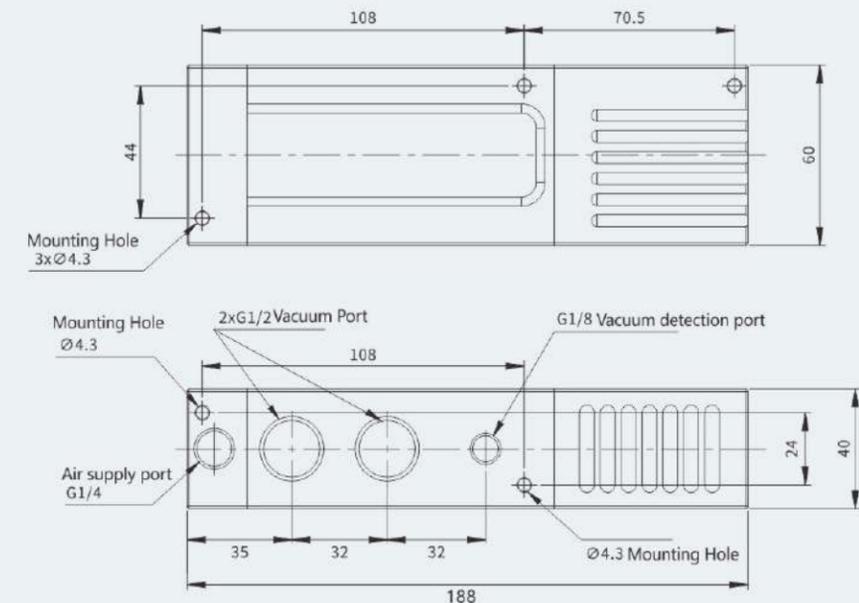
| Model                             | RL300M         | RL300L | RL300S | RL600M | RL600L | RL600S |     |
|-----------------------------------|----------------|--------|--------|--------|--------|--------|-----|
| Standard supply pressure (bar)    | valveless      | 4.5    | 6      | 3.5    | 4.5    | 6      | 3.5 |
|                                   | K1             | 4.5    | 6      | 3.5    | 5      | 6.5    | 4   |
|                                   | K2             | 4.5    | 6      | 3.5    | 5      | 6.5    | 4   |
| Maximum Vacuum Degree (- kPa)     | 94             | 85     | 90     | 94     | 85     | 90     |     |
| Maximum Vacuum Flow Rate (NL/min) |                | 300    |        |        | 600    |        |     |
| Gas Consumption (NL/min)          | 135            | 105    | 123    | 270    | 210    | 123    |     |
| Pressure supply range (bar)       | 3~7            |        |        |        |        |        |     |
| Operating temperature (°C)        | 0~50           |        |        |        |        |        |     |
| Using fluids                      | Compressed Air |        |        |        |        |        |     |

**STANDARD SPECIFICATIONS**

| Valve switching method   | Installation method   | Fixed Position                |                        |
|--------------------------|-----------------------|-------------------------------|------------------------|
| Operating pressure range | 3~6bar                | Stamping/vibration resistance | 150/30m/s <sup>2</sup> |
| Operating temperature    | 0~50°C                | Structural protection         | Dustproof              |
| Response time (5 bar)    | within 25ms           | Rated voltage                 | DC24V                  |
| Maximum action frequency | 5Hz                   | Oil supply                    | Not Required           |
| Manual operation         | Non locking push type |                               |                        |

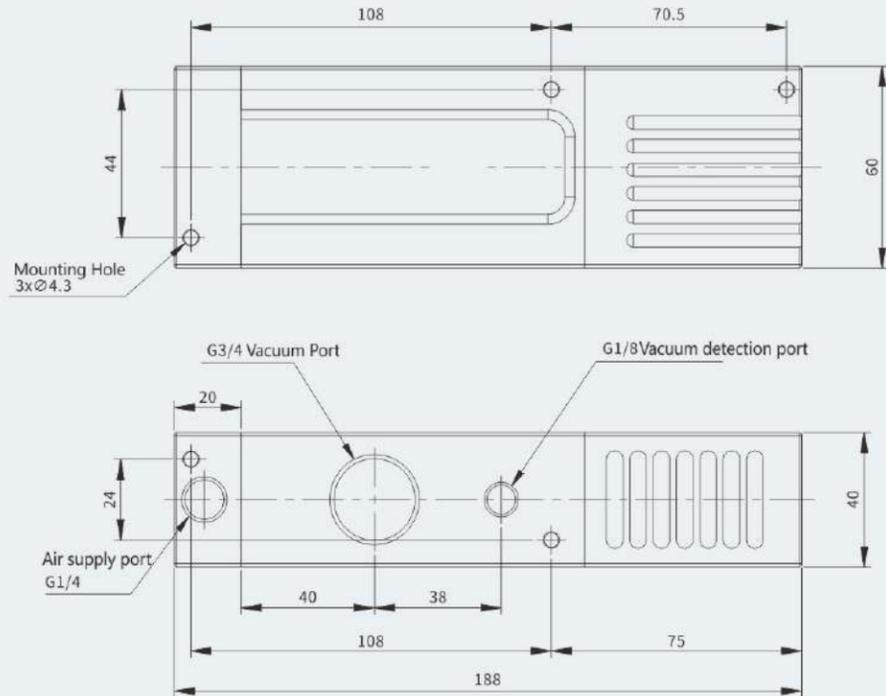
**SPECIFICATION AND SIZE (MM)**

RL300□04

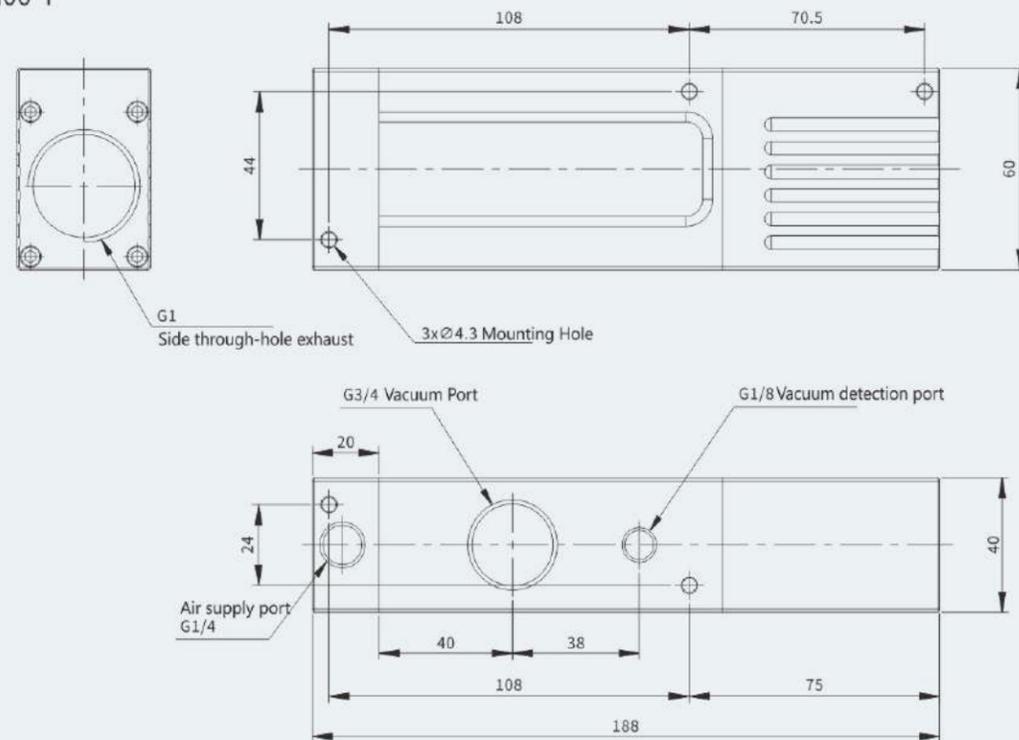


**SPECIFICATION AND SIZE (MM)**

RL300□06

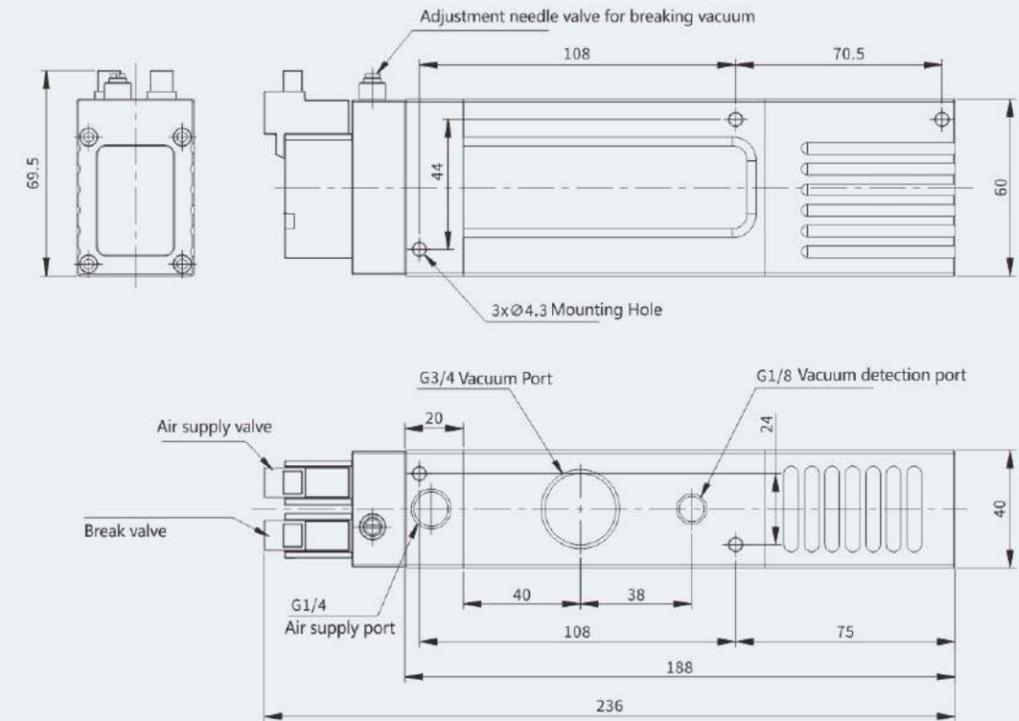


RL300□06-P

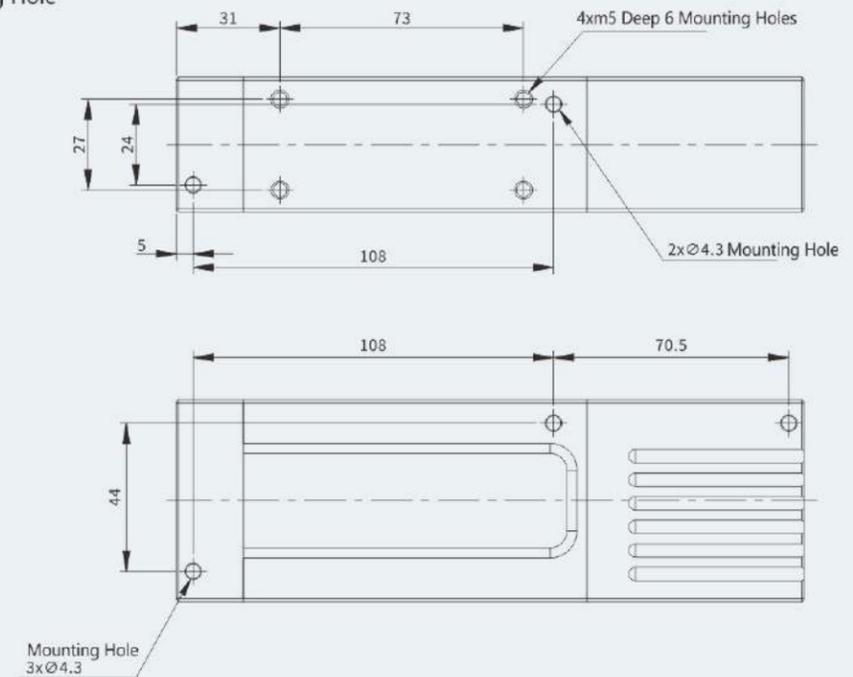


**SPECIFICATION AND SIZE (MM)**

RL300□06-K1



RL300/600 Mounting Hole



VT  
HWT  
HGX  
HGS  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
**RL300/600**  
ZL/1/3/6  
ZH  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ

**ZL1 SERIES MULTI-STAGE VACUUM GENERATOR**



**MODEL SPECIFICATIONS**

**ZL 1 12 A**

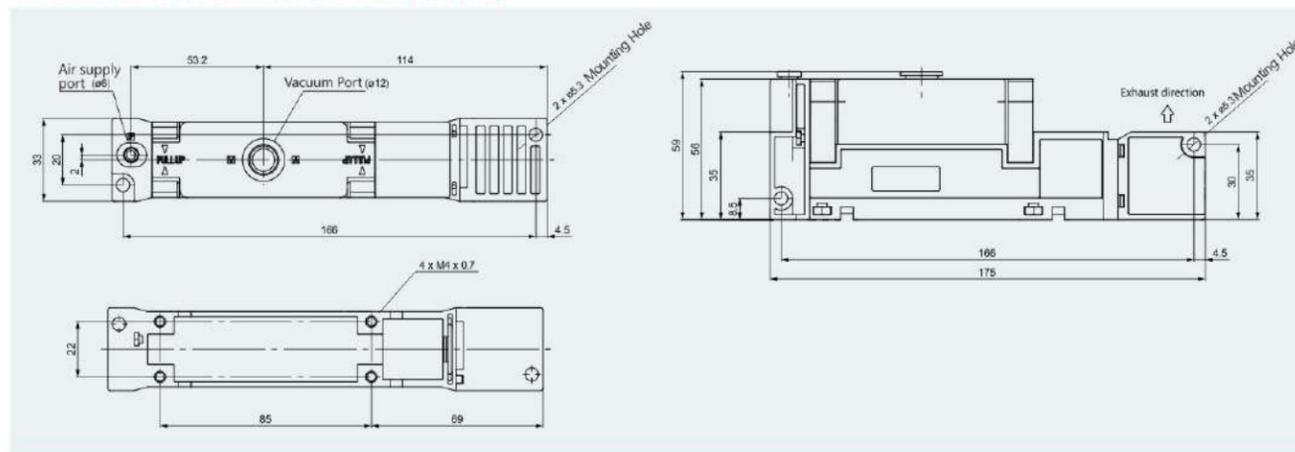
① ② ③

| ① Product Series | ② Maximum vacuum flow rate | ③ Nozzle diameter |
|------------------|----------------------------|-------------------|
| ZL               | 1-100NL/min                | 12-Φ1.2mm         |

**PERFORMANCE PARAMETER**

| Model  | Nozzle diameter (mm) | Operating temperature (°C) | Use pressure range bar | Standard supply pressure bar | Maximum vacuum degree kPa | Maximum vacuum flow rate NL/min | Vacuum consumption NL/min | Exhaust Noise dB(A) |
|--------|----------------------|----------------------------|------------------------|------------------------------|---------------------------|---------------------------------|---------------------------|---------------------|
| ZL112A | Φ1.2                 | 5~50                       | 2~5                    | 3.3                          | -84                       | 100                             | 57                        | 65                  |

**SPECIFICATION AND SIZE (MM)**



**ZL3/6 SERIES MULTI-STAGE VACUUM GENERATOR**



**MODEL SPECIFICATIONS**

**ZL 3 M 06** □ - □

① ② ③ ④ ⑤ ⑥

| ① Product Series | ② Maximum vacuum flow rate | ③ Standard supply pressure   | ④ Connection port  |
|------------------|----------------------------|------------------------------|--|
| ZL               | 3-280NL/min<br>6-580NL/min | H-5bar<br>L-5bar<br>M-3.5bar | 04-straight joint 8mm vacuum port 2xG1/2<br>06-straight joint 8mm vacuum port G3/4<br>04L-elbow connection 8mm vacuum port 2xG1/2<br>06L-elbow connection 8mm vacuum port G3/4 |

| ⑤ Check valve  | ⑥ Vacuum Port   |
|--|---|
| Blank-Default, without check valve not have<br>A -With check valve | Blank -Default, No detection port<br>GN-With detection port (G1/8)<br>G-mechanical Pressure Gauge |

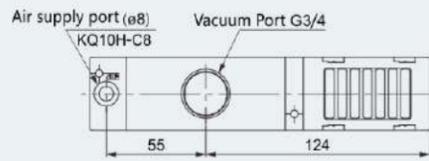
**PERFORMANCE PARAMETER**

| Model | Nozzle diameter (mm) | Operating temperature (°C) | Use pressure range bar | Standard supply pressure bar | Maximum vacuum degree kPa | Maximum vacuum flow rate NL/min | Vacuum consumption NL/min | Exhaust Noise dB(A) |
|-------|----------------------|----------------------------|------------------------|------------------------------|---------------------------|---------------------------------|---------------------------|---------------------|
| ZL3L□ | Φ1.3                 | 5~50                       | 2~6                    | 5                            | -75                       | 280                             | 105                       | 68                  |
| ZL3H□ | Φ1.5                 | 5~50                       | 2~6                    | 5                            | -93                       | 280                             | 135                       | 68                  |
| ZL3M□ | Φ1.9                 | 5~50                       | 2~6                    | 3.5                          | -91                       | 280                             | 150                       | 68                  |
| ZL6L□ | Φ1.3x2               | 5~50                       | 2~6                    | 5                            | -75                       | 580                             | 210                       | 68                  |
| ZL6H□ | Φ1.5x2               | 5~50                       | 2~6                    | 5                            | -93                       | 580                             | 270                       | 68                  |
| ZL6M□ | Φ1.9x2               | 5~50                       | 2~6                    | 3.5                          | -91                       | 580                             | 300                       | 68                  |

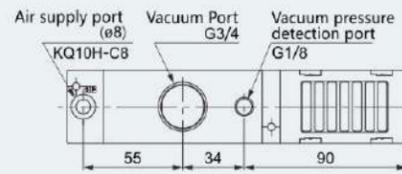
VT  
HVT  
HGX  
HGS  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
**ZL1/3/6**  
ZH  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ

**SPECIFICATION AND SIZE (MM)**

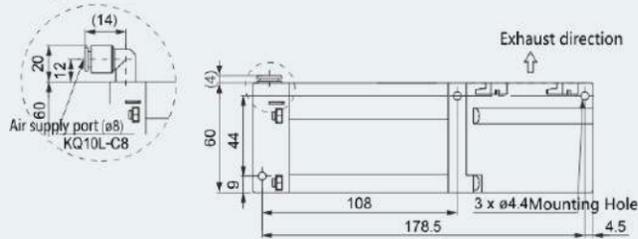
ZL3□06□ Standard type



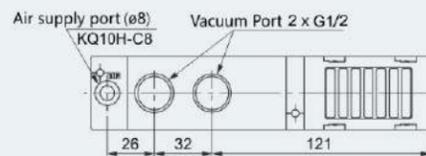
ZL3□06□ - GN standard type with vacuum detection port



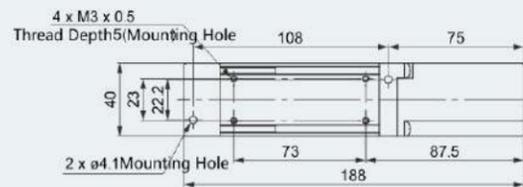
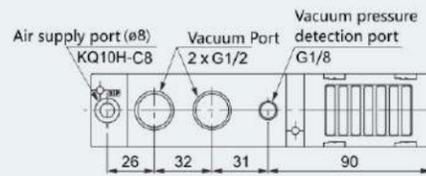
Bend joint:



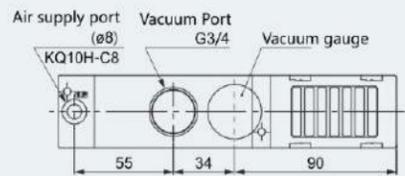
ZL3□04□ Branch piping type



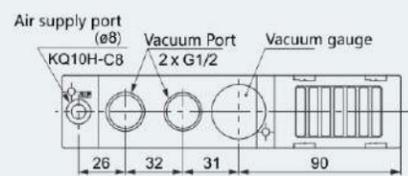
ZL3□04□ - GN Branch piping type with vacuum detection port



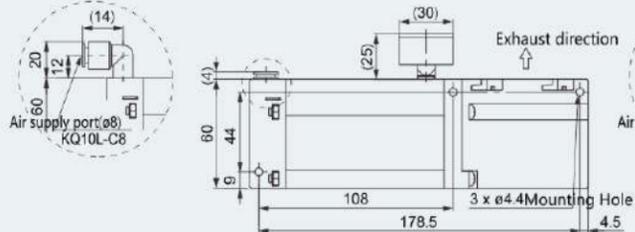
ZL3□06□ - G With mechanical type Vacuum gauge



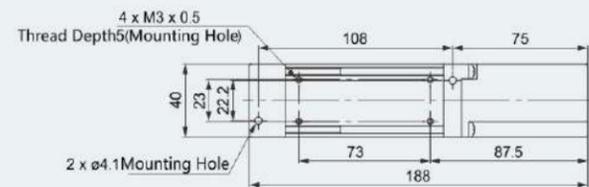
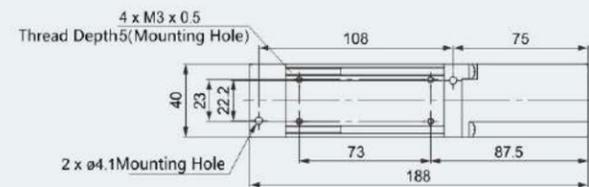
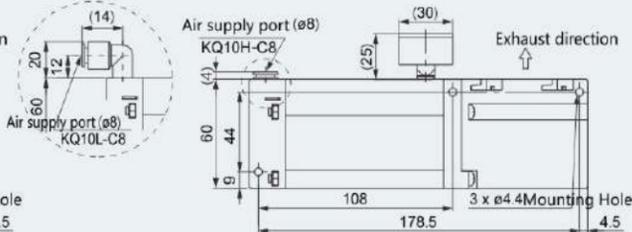
ZL3□04□ - G Branch piping type With mechanical type Vacuum gauge



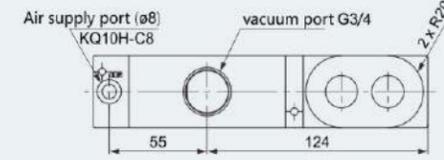
弯接头型号:  
ZL3□06L□ - G



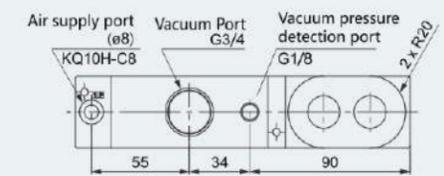
Bending joint model:  
ZL3□04L□ - G



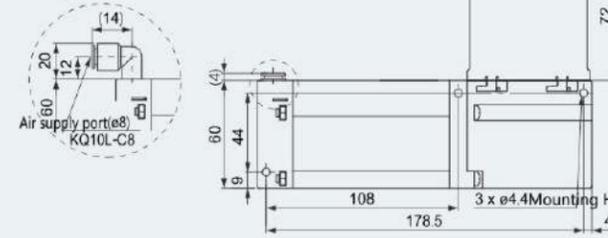
ZL6□06□ Standard type



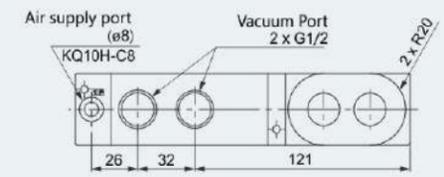
ZL6□06□ - GN Standard type with vacuum detection port



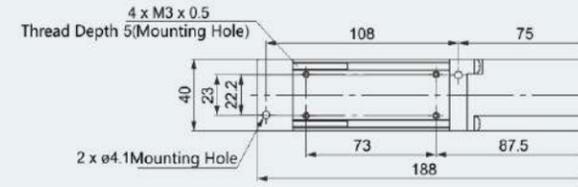
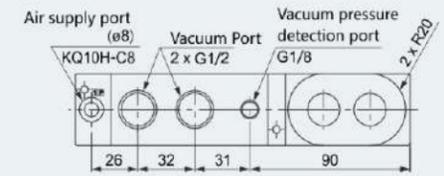
Bend joint:



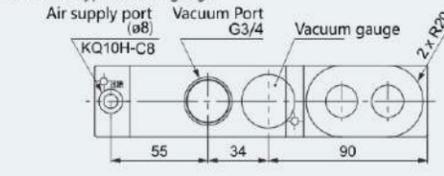
ZL6□04□ Branch piping type



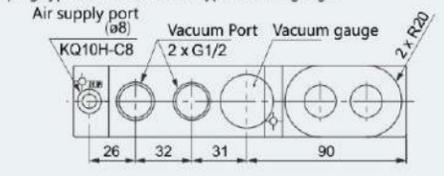
ZL6□04□ - GN Branch piping type with vacuum detection port



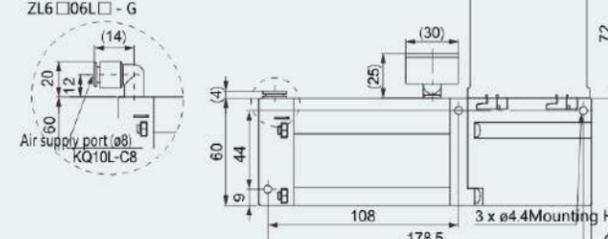
ZL6□06□ - G With mechanical type Vacuum gauge



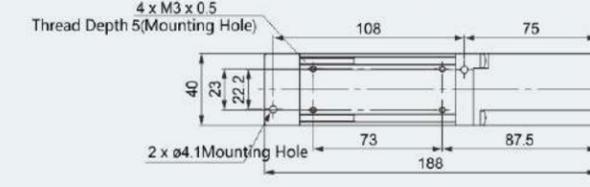
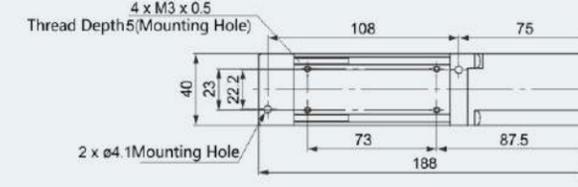
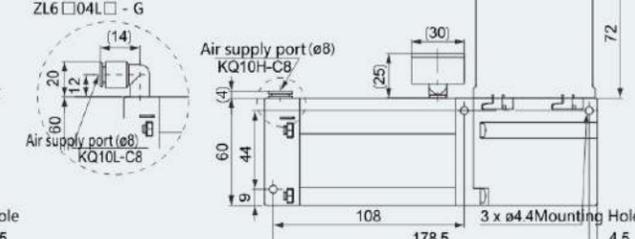
ZL6□04□ - G Branch piping type With mechanical type Vacuum gauge



Bending joint model:  
ZL6□06L□ - G



Bending joint model:  
ZL6□04L□ - G



VT  
HWT  
HGX  
HGS  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
**ZL1/3/6**  
ZH  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ



**MODEL SPECIFICATIONS**

**ZL 1 12**

① ② ③

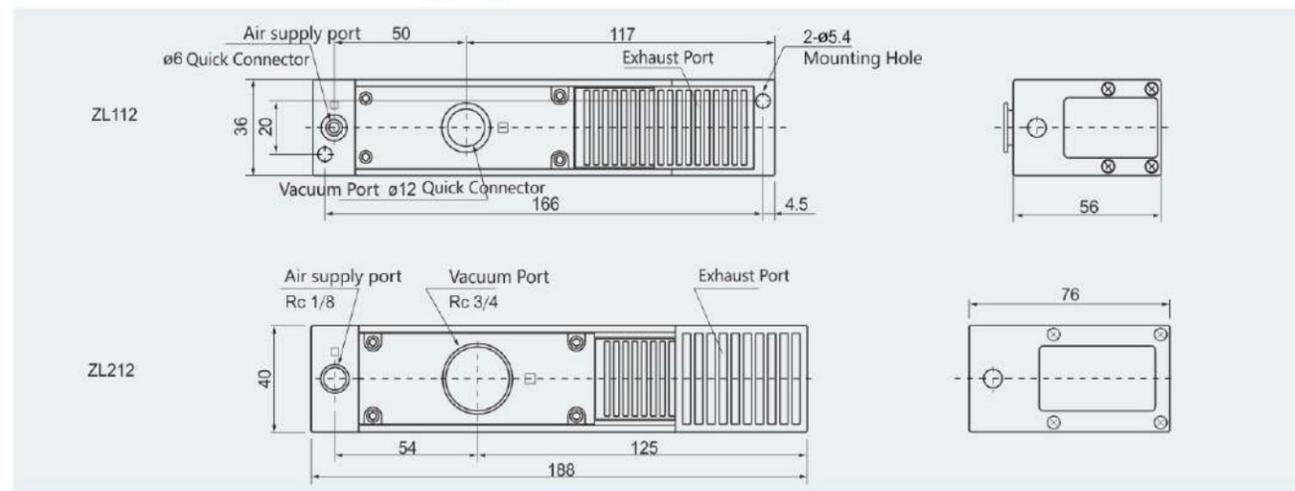
① Product Series ② Maximum vacuum flow rate ③ Nozzle Diameter

ZL 1-100NL/min 2-200NL/min 12-Φ1.2mm

**PERFORMANCE PARAMETER**

| Model | Nozzle diameter mm | Operating temperature °C | Maximum service pressure bar | Operating pressure range bar | Standard supply pressure bar | Maximum vacuum degree kPa | Maximum vacuum flow rate NL/min | Vacuum consumption NL/min |
|-------|--------------------|--------------------------|------------------------------|------------------------------|------------------------------|---------------------------|---------------------------------|---------------------------|
| ZL112 | Φ1.2               | 5~50                     | 7                            | 1~6                          | 4                            | -84                       | 100                             | 63                        |
| ZL212 | Φ1.2x2             | 5~50                     | 7                            | 1~6                          | 4                            | -84                       | 200                             | 126                       |

**SPECIFICATION AND SIZE (MM)**



**MODEL SPECIFICATIONS**

**ZH 05 B S - 06 - 06**

**ZH 05 D S - 01 - 01 - 01**

① ② ③ ④ ⑤ ⑥ ⑦

① Product Series ② Nozzle Diameter ③ Structure specifications ④ Performance specifications

ZH 05-Φ0.5mm 07-Φ0.7mm 10-Φ1.0mm 13-Φ1.3mm 15-Φ1.5mm 18-Φ1.8mm 20-Φ2.0mm  
 B - Box type (with built-in soundproofing block) D - Monomer (without soundproofing block)  
 S - High vacuum type (-88kPa) L - High flow type (-48kPa)

⑤ SUP. Port connection diameter ⑥ VAC. Port connection diameter ⑦ EXH. Port connection diameter

| Mark | Size  | Form             | Mark | Size  | Form             | Mark | Size  | Form             |
|------|-------|------------------|------|-------|------------------|------|-------|------------------|
| 06   | Φ6    | Quick Connector  | 06   | Φ6    | Quick Connector  | 06   | Φ6    | Quick Connector  |
| 08   | Φ8    | Quick Connector  | 10   | Φ10   | Quick Connector  | 08   | Φ8    | Quick Connector  |
| 10   | Φ10   | Quick Connector  | 12   | Φ12   | Quick Connector  | 10   | Φ10   | Quick Connector  |
| 12   | Φ12   | Quick Connector  | 16   | Φ16   | Quick Connector  | 12   | Φ12   | Quick Connector  |
| 01   | Rc1/8 | Thread Insertion | 01   | Rc1/8 | Thread Insertion | 16   | Φ16   | Quick Connector  |
| 02   | Rc1/4 | Thread Insertion | 02   | Rc1/4 | Thread Insertion | 01   | Rc1/8 | Thread Insertion |
| 03   | Rc3/8 | Thread Insertion | 03   | Rc3/8 | Thread Insertion | 02   | Rc1/4 | Thread Insertion |
|      |       |                  | 04   | Rc1/2 | Thread Insertion | 03   | Rc3/8 | Thread Insertion |
|      |       |                  |      |       |                  | 04   | Rc1/2 | Thread Insertion |

VT  
HVT  
HGX  
HGS  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
**ZL1/3/6**  
**ZH**  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ

#### PERFORMANCE PARAMETER

| Model | Nozzle Diameter (mm) | air supply pressure (bar) | Maximum vacuum degree (-kPa) |    | Maximum vacuum flow rate(NL/min) |     | Gas consumption (NL/min) | Recommended pipe diameter (Φ mm) |          |           |
|-------|----------------------|---------------------------|------------------------------|----|----------------------------------|-----|--------------------------|----------------------------------|----------|-----------|
|       |                      |                           | S                            | L  | S                                | L   |                          | Gas supply P                     | Vacuum V | Exhaust E |
| ZH05B | 0.5                  | 4.5                       | 88                           | 48 | 5                                | 9   | 13.5                     | 6                                | 6        | -         |
| ZH07B | 0.7                  |                           |                              |    | 12                               | 22  | 23.5                     | 6                                | 6        | -         |
| ZH10B | 1.0                  |                           |                              |    | 24                               | 34  | 46                       | 6                                | 6        | -         |
| ZH13B | 1.3                  |                           |                              |    | 40                               | 75  | 78                       | 8                                | 8        | -         |
| ZH05D | 0.5                  | 4.5                       | 88                           | 48 | 7.5                              | 9   | 13.5                     | 6                                | 6        | 6         |
| ZH07D | 0.7                  |                           |                              |    | 12                               | 22  | 23.5                     | 6                                | 6        | 6         |
| ZH10D | 1.0                  |                           |                              |    | 24                               | 34  | 46                       | 6                                | 6        | 8         |
| ZH13D | 1.3                  |                           |                              |    | 40                               | 75  | 78                       | 8                                | 8        | 10        |
| ZH15D | 1.5                  | 4.5                       | 88                           | 53 | 60                               | 80  | 97                       | 10                               | 10       | 12        |
| ZH18D | 1.8                  |                           |                              |    | 70                               | 110 | 150                      | 12                               | 12       | 12        |
| ZH20D | 2.0                  |                           |                              |    | 85                               | 140 | 185                      | 12                               | 12       | 12        |

#### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

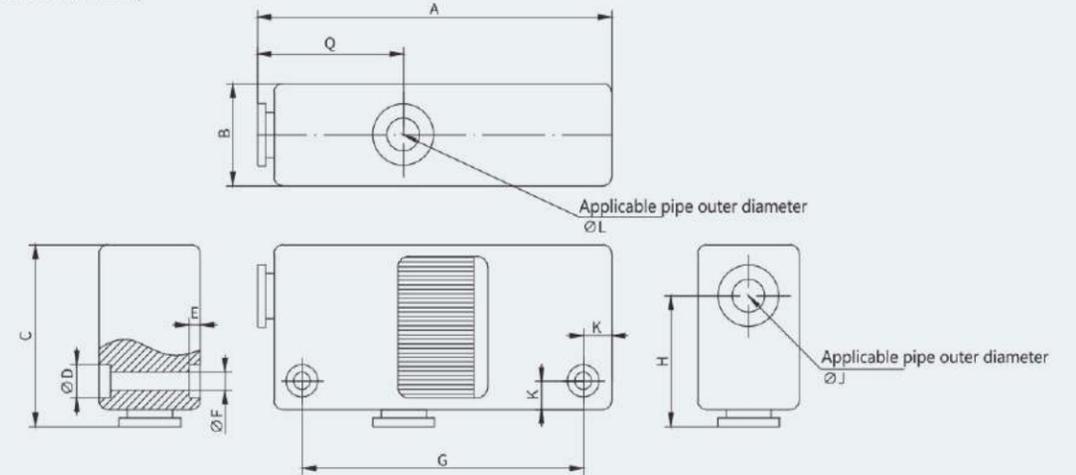
| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |      |      |      |      |      |      |     |    |    |
|-------|-------------------------|------------------------|-----------------------------|------|------|------|------|------|------|------|-----|----|----|
|       |                         |                        | 0                           | 10   | 20   | 30   | 40   | 50   | 60   | 70   | 80  | 90 |    |
| ZH05S | 4.5                     | 13.5                   | 5                           | 4.1  | 4.1  | 3.8  | 3.3  | 2.3  | 1.6  | 0.9  | 0.3 | -  | 88 |
| ZH07S |                         | 23.5                   | 12                          | 10   | 10   | 9    | 8    | 7    | 5.5  | 2.1  | 0.8 | -  |    |
| ZH10S |                         | 46                     | 24                          | 20.5 | 20.5 | 17.5 | 13   | 11.5 | 9.5  | 7    | 2.5 | -  |    |
| ZH13S |                         | 78                     | 40                          | 32.5 | 32.5 | 28   | 23   | 19.5 | 13   | 9    | 4.5 | -  |    |
| ZH15S |                         | 97                     | 60                          | 45.5 | 45.5 | 38   | 28   | 20.5 | 15.5 | 11.5 | 5   | -  |    |
| ZH18S |                         | 150                    | 70                          | 52   | 52   | 45   | 38   | 26   | 22   | 16.5 | 6.5 | -  |    |
| ZH20S |                         | 185                    | 85                          | 67   | 67   | 58   | 47.5 | 38   | 33.5 | 19   | 12  | -  | 48 |
| ZH05L |                         | 13.5                   | 9                           | 7    | 7    | 6    | 3    | 1.9  | -    | -    | -   | -  |    |
| ZH07L |                         | 23.5                   | 22                          | 20.5 | 20.5 | 15.5 | 10.5 | 6.8  | -    | -    | -   | -  |    |
| ZH10L |                         | 46                     | 34                          | 26   | 26   | 19   | 12   | 8    | -    | -    | -   | -  |    |
| ZH13L |                         | 78                     | 75                          | 65   | 65   | 43   | 19   | 9    | -    | -    | -   | -  |    |
| ZH15L |                         | 97                     | 80                          | 60   | 60   | 45   | 36.5 | 16   | -    | -    | -   | -  |    |
| ZH18L | 150                     | 110                    | 95                          | 95   | 80   | 55   | 30   | -    | -    | -    | -   | 53 |    |
| ZH20L | 185                     | 140                    | 120                         | 120  | 100  | 80   | 62   | -    | -    | -    | -   |    |    |

#### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |      |      |      |      |      |      |    |    |    |
|-------|-------------------------|------------------------|-----------------------------|------|------|------|------|------|------|------|----|----|----|
|       |                         |                        | 0                           | 10   | 20   | 30   | 40   | 50   | 60   | 70   | 80 | 90 |    |
| ZH05S | 4.5                     | 13.5                   | -                           | 0.89 | 1.7  | 3.2  | 5    | 7.8  | 12   | 19   | -  | -  | 88 |
| ZH07S |                         | 23.5                   | -                           | 0.37 | 1    | 1.9  | 3    | 5.4  | 6.7  | 15   | -  | -  |    |
| ZH10S |                         | 46                     | -                           | 0.25 | 0.6  | 1.25 | 2    | 2.9  | 4.6  | 7.3  | -  | -  |    |
| ZH13S |                         | 78                     | -                           | 0.1  | 0.27 | 0.53 | 1    | 1.75 | 4.2  | 7.4  | -  | -  |    |
| ZH15S |                         | 97                     | -                           | 0.04 | 0.21 | 0.35 | 0.63 | 1.23 | 4.1  | 6.5  | -  | -  |    |
| ZH18S |                         | 150                    | -                           | 0.02 | 0.15 | 0.29 | 0.46 | 0.78 | 1.38 | 3.51 | -  | -  |    |
| ZH20S |                         | 185                    | -                           | 0.02 | 0.12 | 0.2  | 0.34 | 0.55 | 0.85 | 1.58 | -  | -  | 48 |
| ZH05L |                         | 13.5                   | -                           | 0.49 | 1.5  | 2.9  | 5.1  | 7.2  | -    | -    | -  | -  |    |
| ZH07L |                         | 23.5                   | -                           | 0.28 | 0.75 | 1.5  | 2.5  | 3.5  | -    | -    | -  | -  |    |
| ZH10L |                         | 46                     | -                           | 0.14 | 0.4  | 0.81 | 1.4  | 1.8  | -    | -    | -  | -  |    |
| ZH13L |                         | 78                     | -                           | 0.04 | 0.12 | 0.24 | 0.62 | 2.4  | -    | -    | -  | -  |    |
| ZH15L |                         | 97                     | -                           | 0.03 | 0.15 | 0.23 | 0.4  | 0.92 | -    | -    | -  | -  |    |
| ZH18L | 150                     | -                      | 0.02                        | 0.1  | 0.18 | 0.32 | 0.32 | -    | -    | -    | -  | 53 |    |
| ZH20L | 185                     | -                      | 0.01                        | 0.08 | 0.14 | 0.2  | 0.2  | -    | -    | -    | -  |    |    |

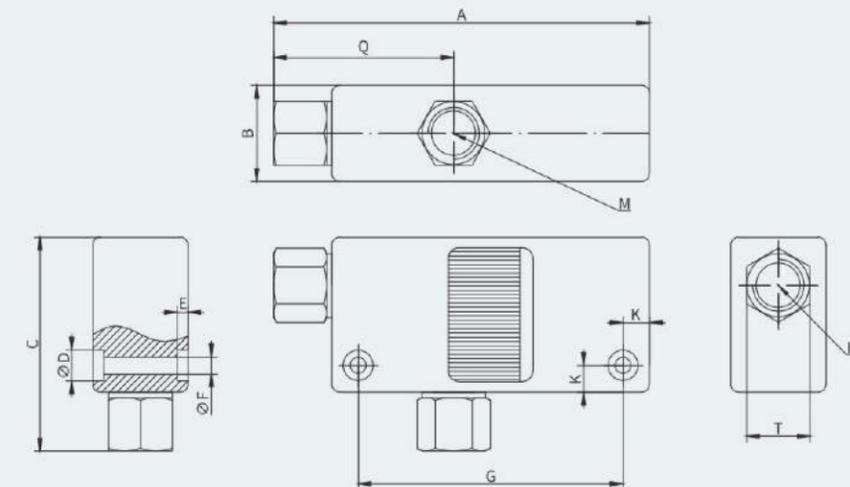
#### SPECIFICATION AND SIZE (MM)

B – Box type (quick connector)



| Model       | A  | B  | C    | D   | E | F   | G  | H    | Q  | L  | K | J |
|-------------|----|----|------|-----|---|-----|----|------|----|----|---|---|
| ZH05B-06-06 | 60 | 16 | 31   | 5.8 | 2 | 3.2 | 47 | 22   | 24 | 6  | 5 | 6 |
| ZH07B-06-06 | 60 | 16 | 31   | 5.8 | 2 | 3.2 | 47 | 22   | 24 | 6  | 5 | 6 |
| ZH10B-06-06 | 63 | 18 | 32   | 5.8 | 2 | 3.2 | 50 | 23   | 26 | 6  | 5 | 6 |
| ZH13B-08-10 | 78 | 23 | 38.5 | 7.5 | 3 | 4.2 | 61 | 27.5 | 28 | 10 | 7 | 8 |

B – Box type (internal thread connection)

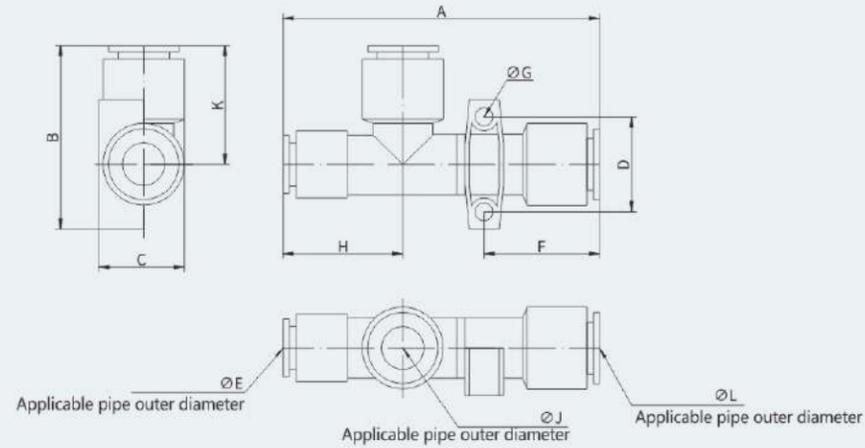


| Model       | A    | B  | C  | D   | E | F   | G  | H     | Q    | M     | K | T  |
|-------------|------|----|----|-----|---|-----|----|-------|------|-------|---|----|
| ZH05B-01-01 | 68   | 16 | 39 | 5.8 | 2 | 3.2 | 47 | Rc1/8 | 31.5 | Rc1/8 | 5 | 12 |
| ZH07B-01-01 | 68   | 16 | 39 | 5.8 | 2 | 3.2 | 47 | Rc1/8 | 31.5 | Rc1/8 | 5 | 12 |
| ZH10B-01-01 | 71   | 18 | 40 | 5.8 | 2 | 3.2 | 50 | Rc1/8 | 33.5 | Rc1/8 | 5 | 12 |
| ZH13B-01-02 | 86.5 | 23 | 50 | 7.5 | 3 | 4.2 | 61 | Rc1/8 | 36.5 | Rc1/4 | 7 | 14 |

- VT
- HWT
- HGX
- HGS
- VI
- BM/BX
- JBM/JBX
- VBM/VBX
- RVBM/RVBX
- VK
- HZK2
- RV/RVE/RVZ
- RL100
- RL300/600
- ZL/1/3/6
- ZH
- ZU
- VV
- ZH
- ACPF
- LT
- VZQ

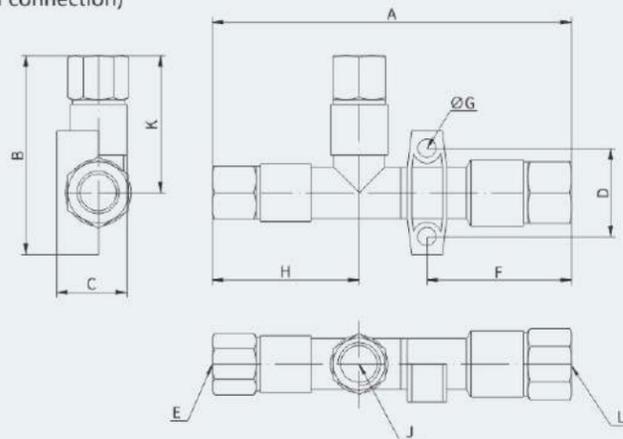
**SPECIFICATION AND SIZE (MM)**

D – One-Piece (quick connector)



| Model           | A     | B    | C    | D  | E  | F    | G   | H    | L  | K    | J  |
|-----------------|-------|------|------|----|----|------|-----|------|----|------|----|
| ZH05D-06-06-06  | 58.5  | 34   | 14.2 | 17 | 6  | 21   | 3.2 | 24   | 6  | 22   | 6  |
| ZH07D-06-06-06  | 61    | 34   | 14.2 | 17 | 6  | 22   | 3.2 | 24   | 6  | 22   | 6  |
| ZH10DS-06-06-08 | 66    | 37   | 17.2 | 20 | 6  | 24.5 | 4.2 | 26   | 8  | 23   | 6  |
| ZH10DL-06-06-08 | 70    | 37   | 17.2 | 20 | 6  | 24.5 | 4.2 | 26   | 8  | 23   | 6  |
| ZH13DS-08-10-10 | 74    | 42.5 | 20   | 22 | 8  | 27   | 4.2 | 28   | 10 | 27.5 | 10 |
| ZH13DL-08-10-10 | 79.5  | 42.5 | 20   | 22 | 8  | 27   | 4.2 | 28   | 10 | 27.5 | 10 |
| ZH15D-10-12-12  | 93.3  | 47   | 22.5 | 27 | 10 | 32.8 | 4.2 | 31.5 | 12 | 29.5 | 12 |
| ZH18D-12-12-12  | 114   | 41   | 21   | 10 | 12 | 50   | 3.5 | 35.5 | 12 | 30.5 | 12 |
| ZH20D-12-16-16  | 124.6 | 46   | 27   | 12 | 12 | 54.3 | 3.5 | 38.5 | 16 | 32.7 | 16 |

D – One-Piece (internal thread connection)



| Model           | A     | B    | C    | D  | E     | F    | G   | H    | L     | K    | J     |
|-----------------|-------|------|------|----|-------|------|-----|------|-------|------|-------|
| ZH05D-01-01-01  | 73.5  | 41.5 | 14.2 | 17 | Rc1/8 | 28.5 | 3.2 | 31.5 | Rc1/8 | 22   | Rc1/8 |
| ZH07D-01-01-01  | 76    | 41.5 | 14.2 | 17 | Rc1/8 | 29.5 | 3.2 | 31.5 | Rc1/8 | 22   | Rc1/8 |
| ZH10DS-01-01-01 | 82    | 44.5 | 17.2 | 20 | Rc1/8 | 33   | 4.2 | 33.5 | Rc1/8 | 23   | Rc1/8 |
| ZH10DL-01-01-01 | 86    | 44.5 | 17.2 | 20 | Rc1/8 | 33   | 4.2 | 33.5 | Rc1/8 | 23   | Rc1/8 |
| ZH13DS-01-02-02 | 94.5  | 54   | 20   | 22 | Rc1/8 | 38.5 | 4.2 | 36.5 | Rc1/4 | 27.5 | Rc1/4 |
| ZH13DL-01-02-02 | 99.5  | 54   | 20   | 22 | Rc1/8 | 38.5 | 4.2 | 36.5 | Rc1/4 | 27.5 | Rc1/4 |
| ZH15D-02-03-03  | 116.5 | 58.5 | 22.5 | 27 | Rc1/4 | 44.5 | 4.2 | 43   | Rc3/8 | 29.5 | Rc3/8 |
| ZH18D-03-03-03  | 133   | 52.5 | 21   | 10 | Rc3/8 | 57.5 | 3.5 | 47   | Rc3/8 | 30.5 | Rc3/8 |
| ZH20D-03-03-04  | 151   | 61   | 27   | 12 | Rc3/8 | 69.3 | 3.5 | 50   | Rc1/2 | 32.7 | Rc1/2 |



**MODEL SPECIFICATIONS**



| ① Product Series | ② Nozzle diameter | ③ Structural specifications |
|------------------|-------------------|-----------------------------|
|------------------|-------------------|-----------------------------|

|    |  |  |
|----|--|--|
| ZU | 05 - $\varnothing 0.5\text{mm}$<br>07 - $\varnothing 0.7\text{mm}$ | S - High vacuum type ( $-85\text{kPa}$ )<br>L - High flow type ( $-48\text{kPa}$ ) |
|----|--|--|

| ④ Connection specifications |
|-----------------------------|
|-----------------------------|

Blank - Default, Hose  $\varnothing 6\text{mm}$   
04 - Hose  $\varnothing 4\text{mm}$

VT  
HWT  
HGX  
HGS  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
ZL1/1/3/6  
ZH  
**ZU**  
VY  
ZH  
ACPF  
LT  
VZQ

#### PERFORMANCE PARAMETER

| Model | Nozzle diameter (mm) | Optimal gas supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) | Noise dB(A) | Single weight g | Recommended pipe diameter (Φ mm) |          |
|-------|----------------------|-----------------------------------|-------------------------------|-----------------------------------|--------------------------|-------------|-----------------|----------------------------------|----------|
|       |                      |                                   |                               |                                   |                          |             |                 | Gas supply P                     | Vacuum V |
| ZU05S | 0.5                  | 4.5                               | 85                            | 7                                 | 9                        | 68          | 6.5             | 6                                | 6        |
| ZU07S | 0.7                  |                                   |                               | 12                                | 19                       | 68          | 7               | 6                                | 6        |
| ZU05L | 0.5                  | 4.5                               | 48                            | 12                                | 9                        | 70          | 6.5             | 6                                | 6        |
| ZU07L | 0.7                  |                                   |                               | 21                                | 19                       | 70          | 7               | 6                                | 6        |

#### VACUUM FLOW RATE (NL/min) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |     |     |     |     |     |     |    |     |    |    |
|-------|-------------------------|------------------------|-----------------------------|-----|-----|-----|-----|-----|-----|----|-----|----|----|
|       |                         |                        | 0                           | 10  | 20  | 30  | 40  | 50  | 60  | 70 | 80  | 90 |    |
| ZU05S | 4.5                     | 9                      | 7                           | 6   | 5   | 4   | 3.5 | 2.5 | 1.8 | 1  | 0.4 | -  | 85 |
| ZU07S |                         | 19                     | 12                          | 9.5 | 8.5 | 7.2 | 6   | 5.5 | 4   | 2  | 0.4 | -  |    |

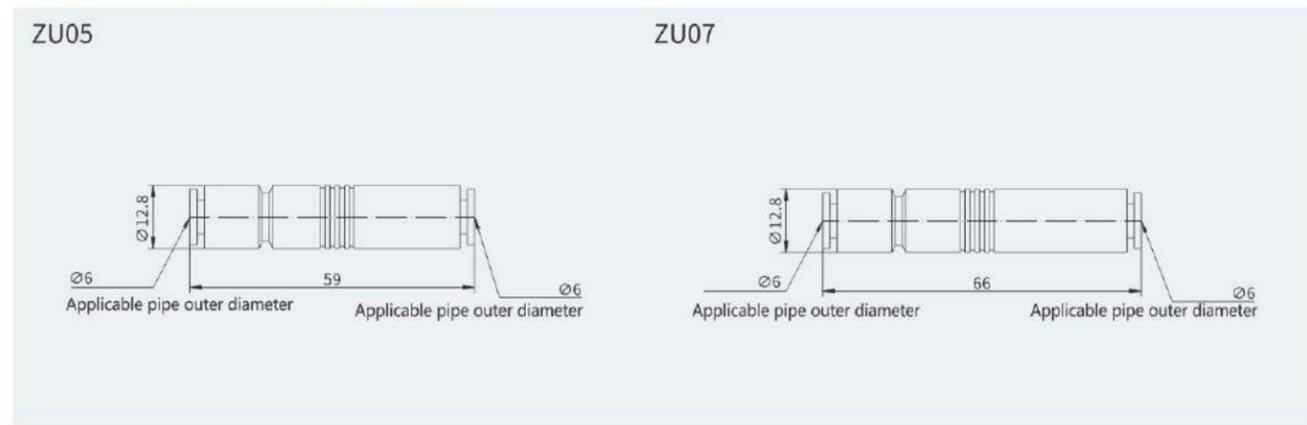
| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |      |      |    |     |    |    |    |    |    |
|-------|-------------------------|------------------------|-----------------------------|------|------|------|----|-----|----|----|----|----|----|
|       |                         |                        | 0                           | 10   | 20   | 30   | 40 | 50  | 60 | 70 | 80 | 90 |    |
| ZU05L | 4.5                     | 9                      | 12                          | 10   | 8    | 5.5  | 3  | 1   | -  | -  | -  | -  | 48 |
| ZU07L |                         | 19                     | 21                          | 18.5 | 18.5 | 11.5 | 8  | 1.5 | -  | -  | -  | -  |    |

#### PUMP-DOWN TIME (NL/S) AT DIFFERENT VACUUM DEGREES (- kPa)

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |     |      |    |      |    |    |    |    |    |
|-------|-------------------------|------------------------|-----------------------------|------|-----|------|----|------|----|----|----|----|----|
|       |                         |                        | 0                           | 10   | 20  | 30   | 40 | 50   | 60 | 70 | 80 | 90 |    |
| ZU05S | 4.5                     | 9                      | -                           | 0.9  | 2.8 | 5.5  | 10 | 22.5 | -  | -  | -  | -  | 85 |
| ZU07S |                         | 19                     | -                           | 0.53 | 1.4 | 21.7 | 5  | 8.7  | 18 | -  | -  | -  |    |

| Model | Air Supply Pressure bar | Gas Consumption NL/min | Maximum Vacuum Degree - kPa |      |     |     |     |    |    |    |    |    |    |
|-------|-------------------------|------------------------|-----------------------------|------|-----|-----|-----|----|----|----|----|----|----|
|       |                         |                        | 0                           | 10   | 20  | 30  | 40  | 50 | 60 | 70 | 80 | 90 |    |
| ZU05L | 4.5                     | 9                      | -                           | 0.6  | 1.5 | 2.9 | 8   | 14 | -  | -  | -  | -  | 48 |
| ZU07L |                         | 19                     | -                           | 0.34 | 0.9 | 2   | 7.5 | 13 | -  | -  | -  | -  |    |

#### SPECIFICATION AND SIZE (MM)



#### MODEL SPECIFICATIONS

**VY H 07 - 6 6 6 J F**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

| ① Product Series | ② Supply pressure | ③ Nozzle diameter | ④ Vacuum Port | ⑤ Air supply port |
|------------------|-------------------|-------------------|---------------|-------------------|
| VY               | H- 5bar           | 5-Φ0.5mm          | 4-Φ6mm        | 4-Φ6mm            |
|                  | L- 5bar           | 7-Φ0.7mm          | 6-Φ6mm        | 6-Φ6mm            |
|                  | E- 3.5bar         |                   |               |                   |

| ⑥ Vacuum Port | ⑦ Exhaust Port  | ⑧ Filter                       |
|---------------|---|--------------------------------|
| 4-Φ6mm        | Blank-Default,Built in silencer   | Blank-Default,No vacuum filter |
| 6-Φ6mm        | V-Φ6mm Centralized exhaust configuration for the outer diameter joint of the insertion tube | F-With vacuum filter           |

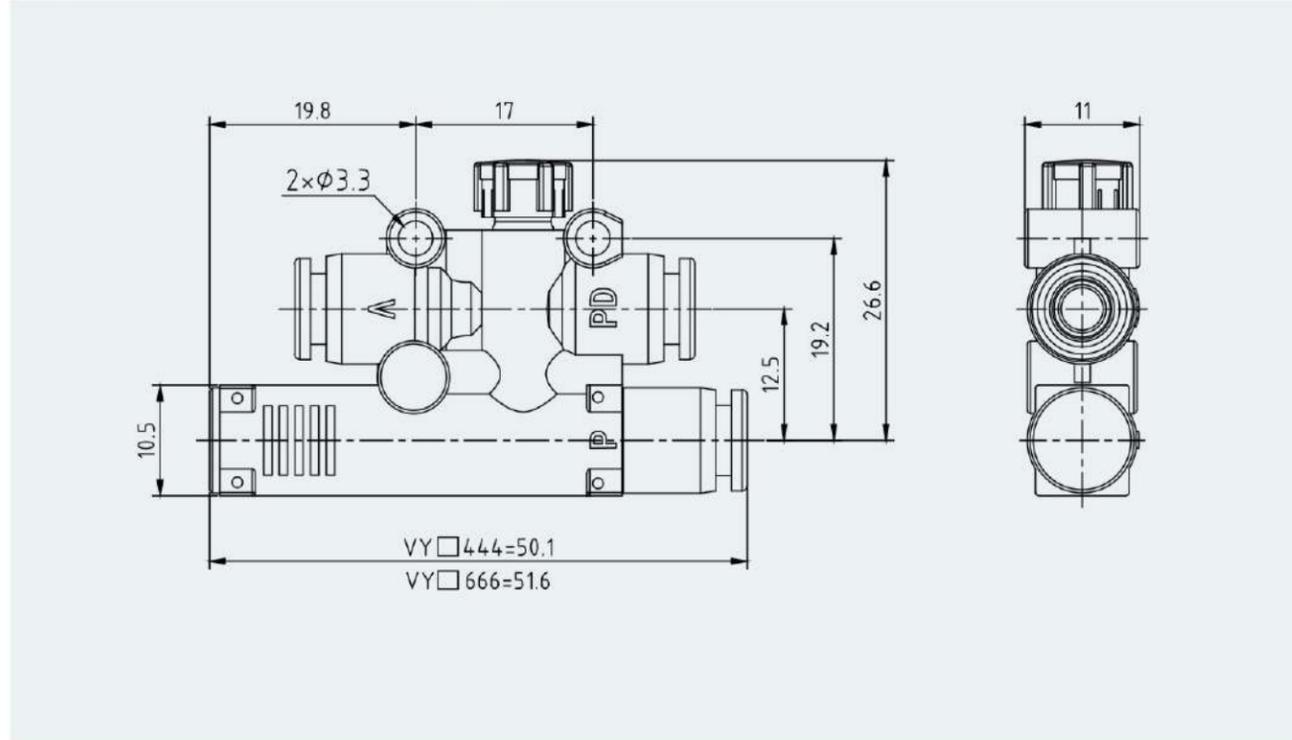
#### PERFORMANCE PARAMETER

| model   | Nozzle Diameter mm | Ambient and fluid temperatures °C | Operating pressure range bar | Standard supply pressure bar | Maximum vacuum degree kPa | Maximum vacuum flow rate NL/min | Vacuum consumption NL/min | Vacuum filter accuracy μm |
|---------|--------------------|-----------------------------------|------------------------------|------------------------------|---------------------------|---------------------------------|---------------------------|---------------------------|
| VYH05□  | Φ0.5               | 5~50                              | 1.5~7                        | 5                            | -90                       | 7                               | 11.5                      | 10                        |
| VYL05 □ | Φ0.5               | 5~50                              | 1.5~7                        | 5                            | -66                       | 12                              | 11.5                      | 10                        |
| VYE05 □ | Φ0.5               | 5~50                              | 1.5~7                        | 3.5                          | -90                       | 3                               | 8                         | 10                        |
| VYH07□  | Φ0.7               | 5~50                              | 1.5~7                        | 5                            | -92                       | 12                              | 23                        | 10                        |
| VYL07 □ | Φ0.7               | 5~50                              | 1.5~7                        | 5                            | -66                       | 21                              | 23                        | 10                        |
| VYE07 □ | Φ0.7               | 5~50                              | 1.5~7                        | 3.5                          | -90                       | 9                               | 17                        | 10                        |

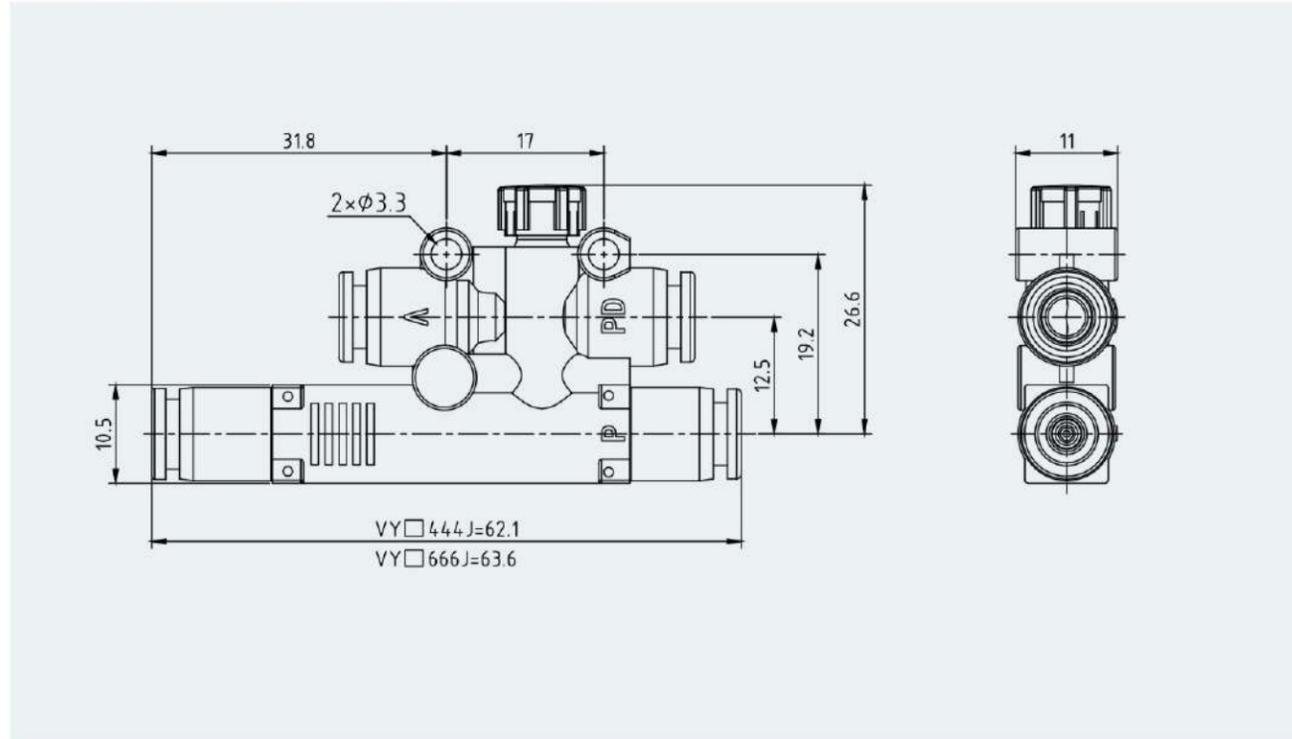
- VT
- HWT
- HGX
- HGS
- VI
- BM/BX
- JBM/JBX
- VBM/VBX
- RVBM/RVBX
- VK
- HZK2
- RV/RVE/RVZ
- RL100
- RL300/600
- ZL/1/3/6
- ZH
- ZU
- VY**
- ZH
- ACPF
- LT
- VZQ

**SPECIFICATION AND SIZE (MM)**

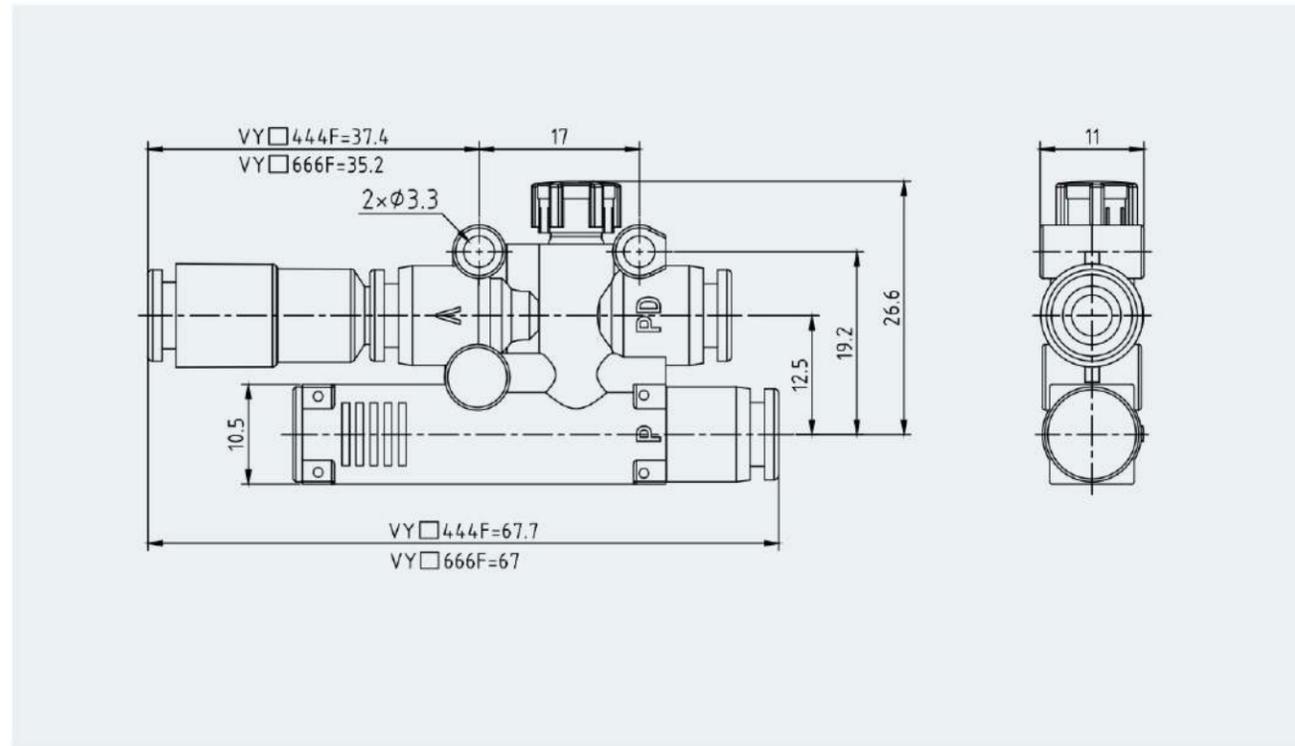
VY□444/VY□666 Built in silencer type



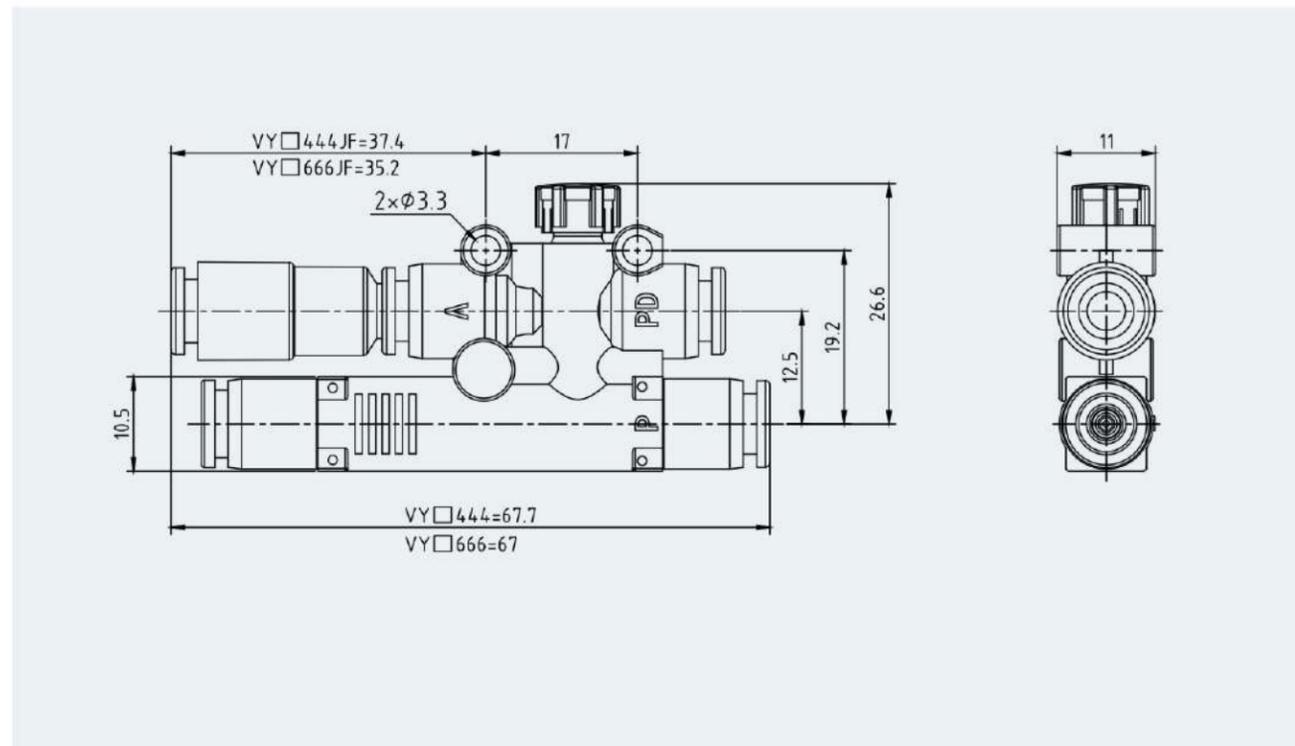
VY□444J/VY□666J Centralized exhaust type



VY□444F/VY□666F Built in silencer with vacuum filter type



VY□444JF/VY□666JF Centralized exhaust with vacuum filter type





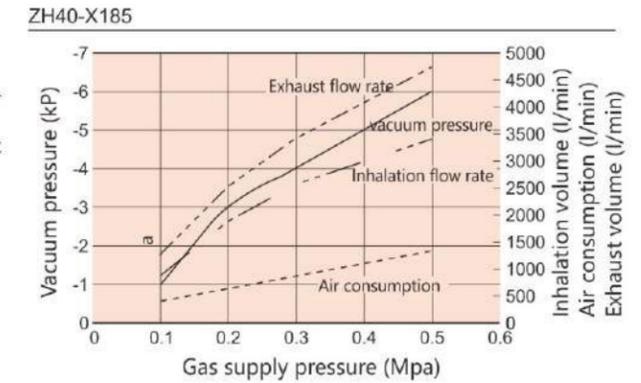
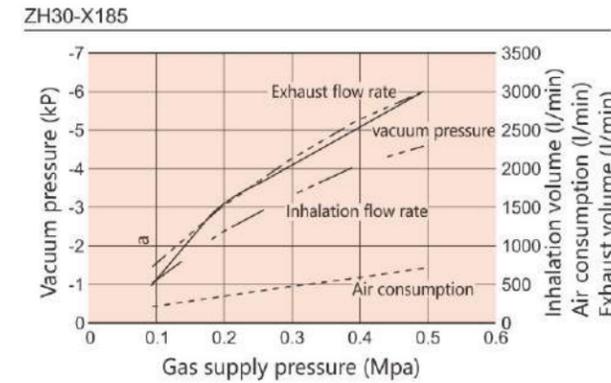
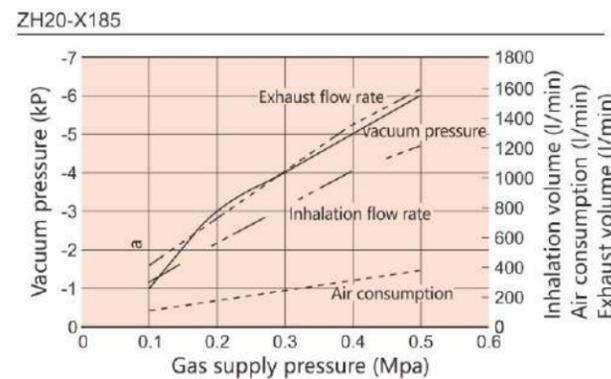
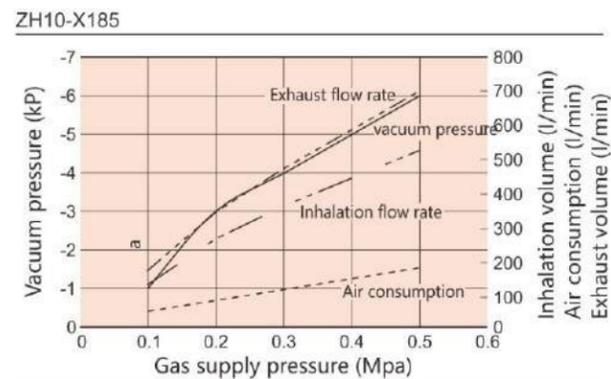
**MODEL SPECIFICATIONS**

ZH 10 - B - X185

| ① Product Series | ② By diameter  | ③ Exhaust specifications                        |
|------------------|--|---|
| ZH-X185          | 10- $\varnothing$ 13mm<br>20- $\varnothing$ 21.6mm<br>30- $\varnothing$ 30mm<br>40- $\varnothing$ 42mm | blank - Default, No bracket<br>B - With bracket |

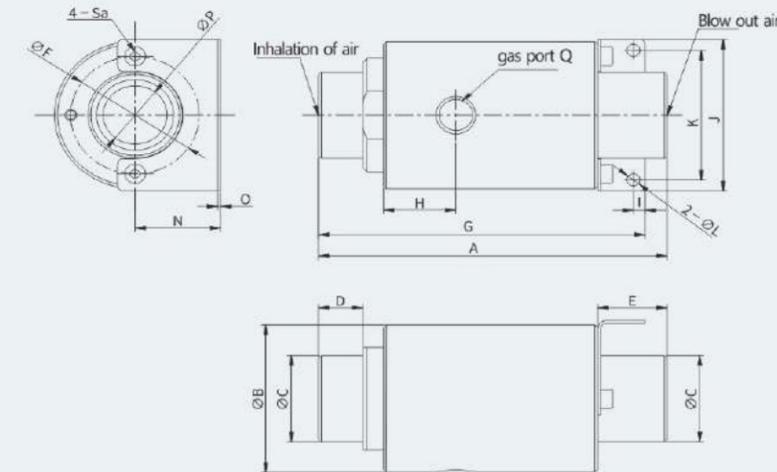
**PERFORMANCE PARAMETER**

| Model                 | ZH10                 | ZH20               | ZH30             | ZH40             |
|-----------------------|----------------------|--------------------|------------------|------------------|
| Main material         | Aluminum Alloy       |                    |                  |                  |
| sealing material      | NBR (Nitrile rubber) |                    |                  |                  |
| By diameter           | $\varnothing$ 13     | $\varnothing$ 21.6 | $\varnothing$ 30 | $\varnothing$ 42 |
| Using fluids          | Air                  |                    |                  |                  |
| Supply pressure range | 0~7bar               |                    |                  |                  |
| Mass (g)              | 110                  | 430                | 970              | 2000             |
| Bracket components    | ZH10-B-X185-03       | ZH20-B-X185-03     | ZH30-B-X185-03   | ZH40-B-X185-03   |



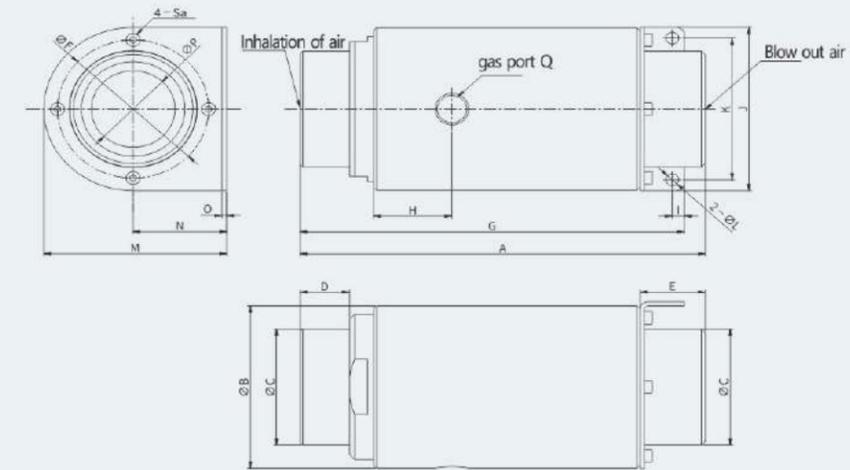
**SPECIFICATION AND SIZE (MM)**

ZH10/ZH20



| Model       | A    | $\varnothing$ B | $\varnothing$ C | D  | E    | $\varnothing$ F | G     | H    | I | J  | K  | $\varnothing$ L | N  | O   | $\varnothing$ P | Q    | Sa     |
|-------------|------|-----------------|-----------------|----|------|-----------------|-------|------|---|----|----|-----------------|----|-----|-----------------|------|--------|
| ZH10-B-X185 | 72.5 | 34              | 19              | 10 | 16   | 27.5            | 59.5  | 16   | 4 | 35 | 27 | 4.5             | 18 | 1.5 | 13              | G1/8 | M3x0.5 |
| ZH20-B-X185 | 118  | 54.5            | 32              | 15 | 23.5 | 43.5            | 110.5 | 24.5 | 4 | 56 | 48 | 4.5             | 29 | 1.5 | 21.6            | G1/4 | M4x0.7 |

ZH30/ZH40



| Model       | A     | $\varnothing$ B | $\varnothing$ C | D  | E    | $\varnothing$ F | G   | H    | I | J  | K  | $\varnothing$ L | N  | N  | O | $\varnothing$ P | Q    | Sa     |
|-------------|-------|-----------------|-----------------|----|------|-----------------|-----|------|---|----|----|-----------------|----|----|---|-----------------|------|--------|
| ZH30-B-X185 | 157.5 | 69.5            | 50              | 20 | 28.5 | 59              | 148 | 33.5 | 5 | 70 | 60 | 5.5             | 72 | 37 | 2 | 30              | G1/4 | M4x0.7 |
| ZH40-B-X185 | 204   | 89.5            | 64              | 25 | 33   | 76              | 193 | 39.5 | 6 | 90 | 78 | 6.5             | 92 | 47 | 2 | 42              | G3/8 | M4x0.7 |

- VT
- HWT
- HGX
- HGS
- VI
- BM/BX
- JBM/JBX
- VBM/VBX
- RVBM/RVBX
- VK
- HZK2
- RV/RVE/RVZ
- RL100
- RL300/600
- ZL1/1/3/6
- ZH
- ZU
- VV
- ZH**
- ACPF
- LT
- VZQ



**MODEL SPECIFICATIONS**

ZH 19 - X187  
① ②

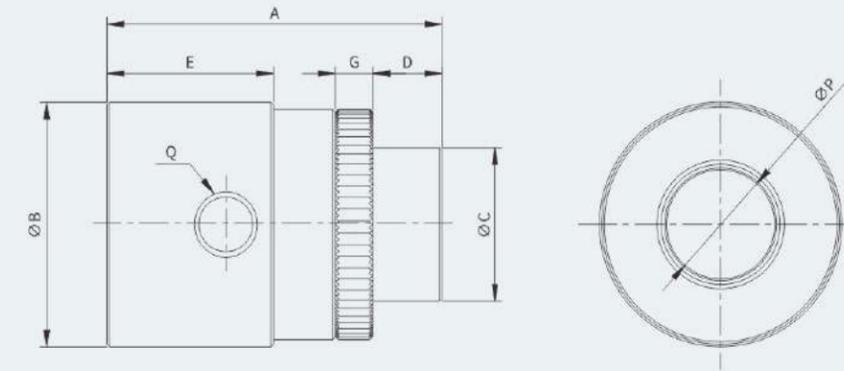
| ① Product Series | ② By diameter  |
|------------------|--|
| ZH-X187          | 19- $\varnothing$ 19mm<br>25- $\varnothing$ 25.5mm<br>32- $\varnothing$ 32mm |

**PERFORMANCE PARAMETER**

| Model                 | ZH19                 | ZH25 | ZH32 |
|-----------------------|----------------------|------|------|
| Main Material         | Aluminum Alloy       |      |      |
| Sealing Material      | NBR (Nitrile rubber) |      |      |
| Using Fluids          | Air                  |      |      |
| Supply Pressure Range | 0~7bar               |      |      |

**SPECIFICATION AND SIZE (MM)**

ZH19/ZH25/ZH32



| Model     | A    | $\varnothing$ B | $\varnothing$ C | D    | E  | G | $\varnothing$ P | Q    |
|-----------|------|-----------------|-----------------|------|----|---|-----------------|------|
| ZH19-X187 | 53   | 34              | 19              | 11   | 28 | 5 | 10.8            | G1/8 |
| ZH25-X187 | 61   | 44              | 25.5            | 12   | 32 | 8 | 15.8            | G1/4 |
| ZH32-X187 | 70.5 | 51              | 32              | 14.5 | 35 | 8 | 22.8            | G1/4 |

- VT
- HVT
- HGX
- HGS
- VI
- BM/BX
- JBM/JBX
- VBM/VBX
- RVBM/RVBX
- VK
- HZK2
- RV/RVE/RVZ
- RL100
- RL300/600
- ZL/1/3/6
- ZH
- ZU
- VV
- ZH**
- ACPF
- LT
- VZQ



**MODEL SPECIFICATIONS**

**ACPF 2-3 S**

① ② ③

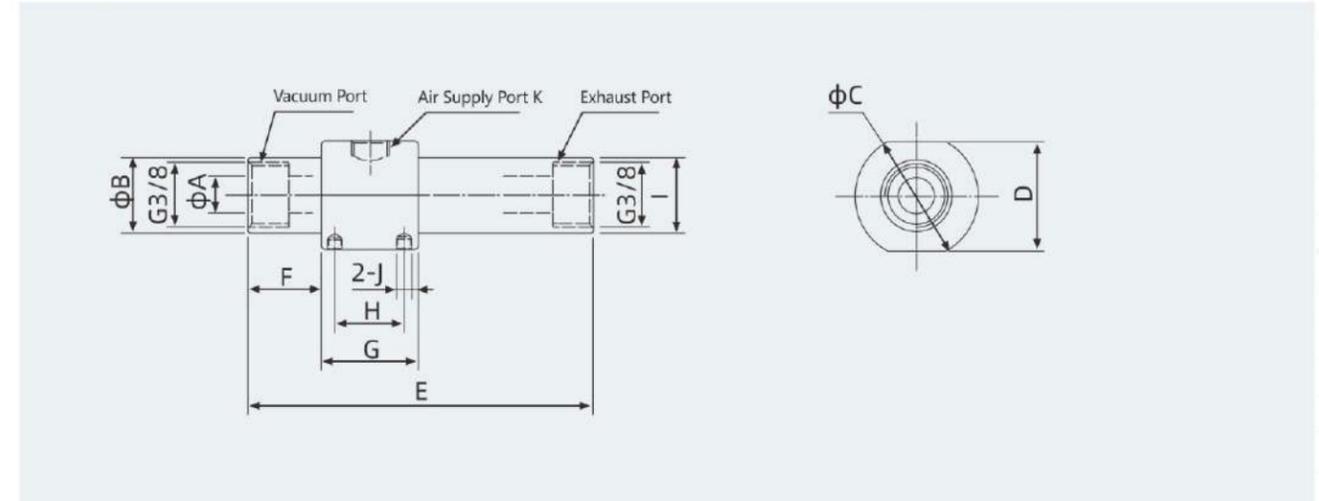
| ① Product series | ② Specifications and dimensions          | ③ Material   |
|------------------|--|--|
| ACPF             | 2-3<br>3-3<br>5-6<br>7-6<br>15-3<br>15-6 | blank-Default, aluminum alloy<br>S-stainless steel |

**PERFORMANCE PARAMETER**

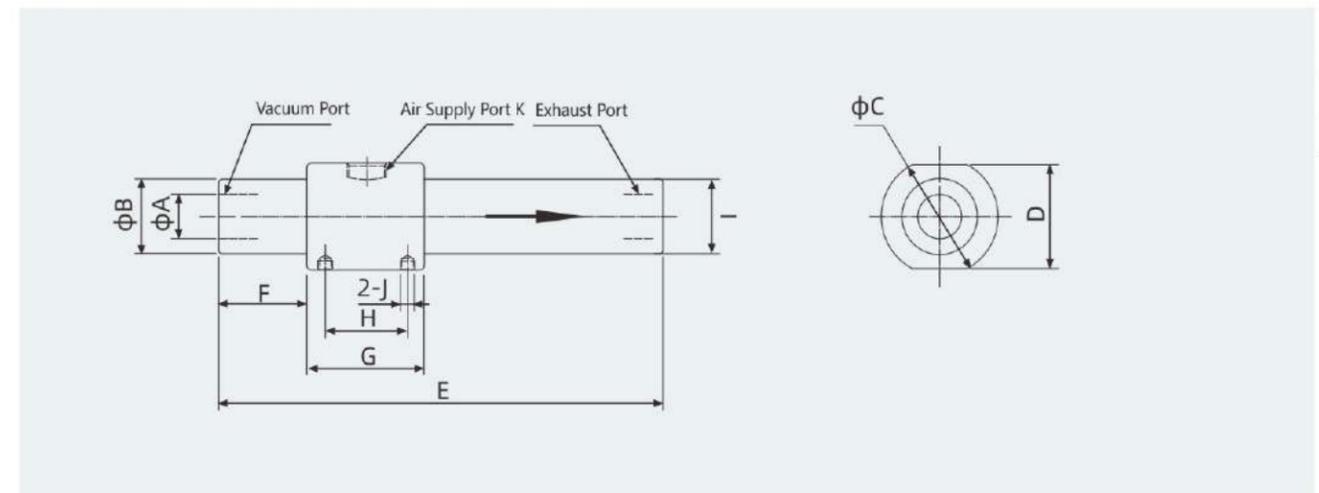
| Model    | Nozzle Diameter mm | Rated gas supply pressure bar | Maximum vacuum degree -kPa | Maximum vacuum flow rate NL/min | Air consumption NL/min(2.8bar) | Air consumption NL/min(5.5bar) | operation temperature °C |
|----------|--------------------|-------------------------------|----------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------|
| ACPF2-3  | Φ6.5               | 6.0                           | 26.0                       | 295                             | 85                             | 160                            | -20~80                   |
| ACPF3-3  | Φ9.5               | 6.0                           | 16.0                       | 425                             | 95                             | 170                            | -20~80                   |
| ACPF5-6  | Φ12.5              | 6.0                           | 35.0                       | 870                             | 395                            | 680                            | -20~80                   |
| ACPF7-6  | Φ19.0              | 6.0                           | 28.0                       | 1825                            | 790                            | 1365                           | -20~80                   |
| ACPF15-3 | Φ25.0              | 6.0                           | 4.4                        | 4400                            | 405                            | 695                            | -20~80                   |
| ACPF15-6 | Φ38.0              | 6.0                           | 9.0                        | 5610                            | 790                            | 1365                           | -20~80                   |

**SPECIFICATION AND SIZE (MM)**

ACPF3-3



ACPF2-3/ACPF5-6/ACPF7-6/ACPF15-3/ACPF15-6



| Model    | A    | B    | C  | D  | E   | F  | G  | H  | I    | J      | K    |
|----------|------|------|----|----|-----|----|----|----|------|--------|------|
| ACPF2-3  | 6.5  | 18.5 | 32 | 28 | 89  | 19 | 25 | 18 | 19.5 | M4x0.7 | G1/8 |
| ACPF3-3  | 9.5  | 18.5 | 32 | 28 | 89  | 19 | 25 | 18 | 19.5 | M4x0.7 | G1/8 |
| ACPF5-6  | 12.5 | 24.0 | 38 | 34 | 140 | 25 | 32 | 23 | 25.0 | M4x0.7 | G1/4 |
| ACPF7-6  | 19.0 | 31.0 | 50 | 45 | 190 | 38 | 50 | 35 | 33.0 | M4x0.7 | G3/8 |
| ACPF15-3 | 25.0 | 38.0 | 59 | 55 | 198 | 40 | 56 | 40 | 38.0 | M4x0.7 | G3/8 |
| ACPF15-6 | 38.0 | 49.6 | 69 | 65 | 205 | 40 | 60 | 42 | 49.6 | M4x0.7 | G3/8 |

- VT
- HVT
- HGX
- HGS
- VI
- BM/BX
- JBM/JBX
- VBM/VBX
- RVBM/RVBX
- VK
- HZK2
- RV/RVE/RVZ
- RL100
- RL300/600
- ZL/1/3/6
- ZH
- ZU
- VV
- ZH
- ACPF**
- LT
- VZQ

**LT SERIES TRANSPORT TYPE VACUUM GENERATOR**

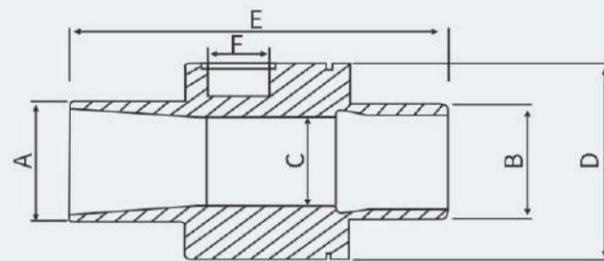


**MODEL SPECIFICATIONS**



| ① Product series | ② Interface specifications   |  |
|------------------|--|--|
| LT               | 12A-12mm<br>16A-16mm<br>19A-19mm<br>25A-25mm<br>32A-32mm<br>38A-38mm | 16B-G3/8<br>19B-G1/2<br>25B-G3/4<br>32B-G1 |

**SPECIFICATION AND SIZE (MM)**



| Model  | A · B | C  | D  | E   | F      |
|--------|-------|----|----|-----|--------|
| LT-12A | 12    | 7  | 29 | 76  | PT-1/8 |
| LT-16A | 16    | 11 | 34 | 76  | PT-1/4 |
| LT-19A | 19    | 14 | 39 | 83  | PT-1/4 |
| LT-25A | 25    | 19 | 49 | 92  | PT-1/4 |
| LT-32A | 32    | 25 | 54 | 96  | PT-3/8 |
| LT-38A | 38    | 32 | 59 | 104 | PT-3/8 |

| Model  | A · B | C  | D  | E  | F      |
|--------|-------|----|----|----|--------|
| LT-16B | 3/8   | 11 | 34 | 76 | PT-1/4 |
| LT-19B | 1/2   | 14 | 39 | 83 | PT-1/4 |
| LT-25B | 3/4   | 19 | 49 | 92 | PT-1/4 |
| LT-32B | 1     | 25 | 54 | 96 | PT-3/8 |

**VZQ SERIES BUFFER SUPPORT ROD TYPE VACUUM GENERATOR**



**PRODUCT FEATURES**

\*Composed of a vacuum generator combined with a buffer support, it can be directly connected to a suction cup  
\*Short adsorption distance, fast response speed, and reduced air consumption.

**MODEL SPECIFICATIONS**



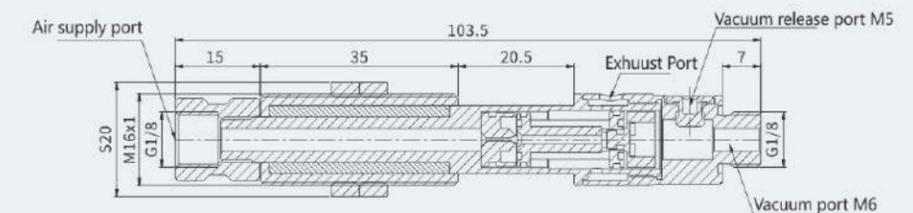
| ① Product series | ② Connection specifications                            | ③ Travel distance | ④ Guide sleeve specifications               |
|------------------|--|-------------------|---|
| VZQ              | 18 - G1/8 External thread<br>38 - G3/8 External thread | 20 - 20mm Trip    | A16 - M16X1<br>A18 - M18X1<br>A20 - M20X1.5 |

**PERFORMANCE PARAMETER**

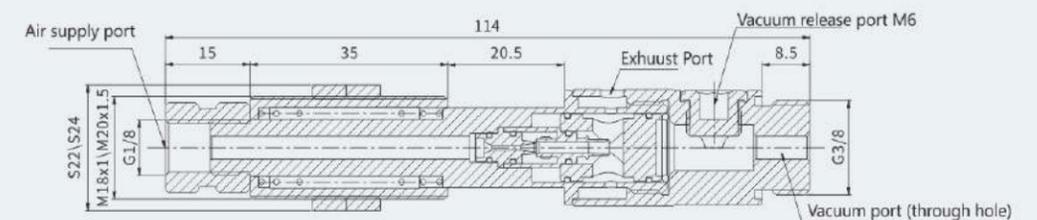
| Model   | Supply pressure (bar) | Maximum vacuum degree (- kPa) | Maximum vacuum flow rate (NL/min) | Gas consumption (NL/min) | Operating temperature(°C) | Noise range dB (A) |
|---------|-----------------------|-------------------------------|-----------------------------------|--------------------------|---------------------------|--------------------|
| VZQ1820 | 3-6                   | 92                            | 7                                 | 9                        | -20-80                    | 55-65              |
| VZQ3820 | 3-6                   | 92                            | 21                                | 32                       | -20-80                    | 55-65              |

**SPECIFICATION AND SIZE (MM)**

VZQ18



VZQ38



VT  
HVT  
HGX  
HGS  
VI  
BM/BX  
JBM/JBX  
VBM/VBX  
RVBM/RVBX  
VK  
HZK2  
RV/RVE/RVZ  
RL100  
RL300/600  
ZL/1/3/6  
ZH  
ZU  
VY  
ZH  
ACPF  
LT  
VZQ