

# Oil Rotary Vacuum Pump [VD Series]

VD series is a direct-drive low noise oil rotary vacuum pump. This pump is suitable for a wide range of applications such as evaporator, sputtering and food packaging.



VD901

## Features

- ▶ **Optimized Design Operation for Quiet**
- ▶ **Easy Maintenance**  
Pump head can be removed without disconnecting the vacuum piping (except VD151, VD201). \* See attached figure.  
Oil level gauge and drain valve accessible for easy oil exchange and daily inspection.
- ▶ **Forced Oil Circulation System Ensures Stable Pumping Speed Below Atmospheric Pressure**  
When equipped with the optional oil mist trap and oil return mechanism, the VD301, VD401 and VD601 can continuously run at all pressure ranges below atmospheric pressure.

## Applications

- ▶ Evaporation, sputtering, and ion plating
- ▶ Analytical instrument and leak test system
- ▶ Gas exchange, gas filling, and vacuum insulation
- ▶ Vacuum drying, freeze drying, vacuum degassing, vacuum packing, vacuum chuck and vacuum molding, etc.



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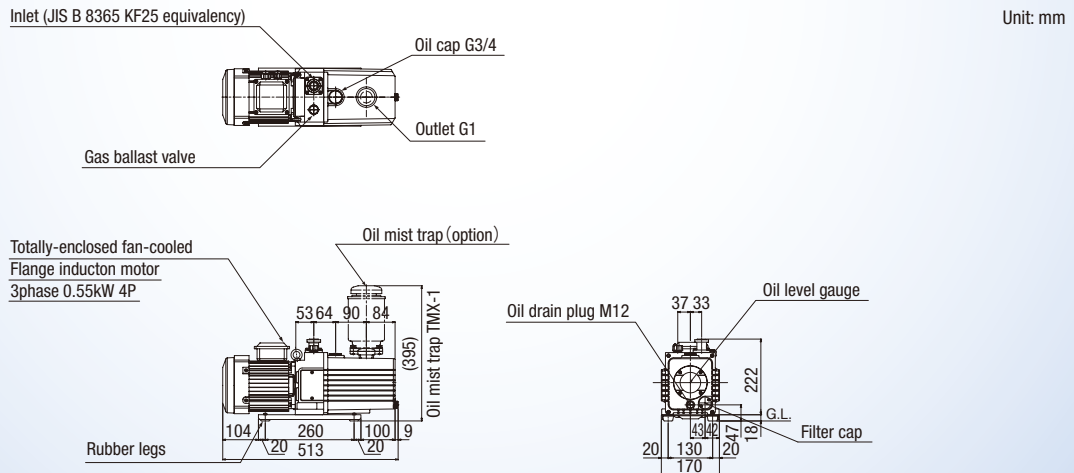
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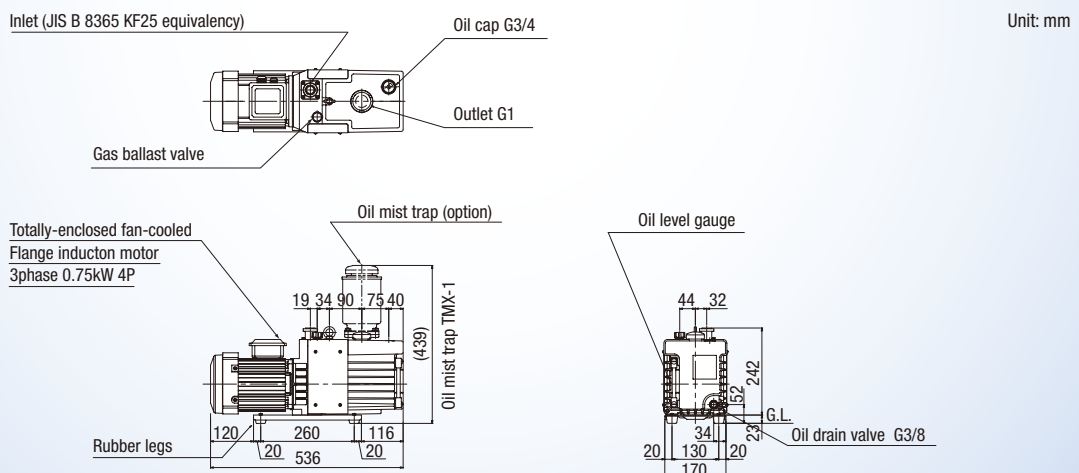
# Oil Rotary Vacuum Pump [VD Series]

## ► Dimensions

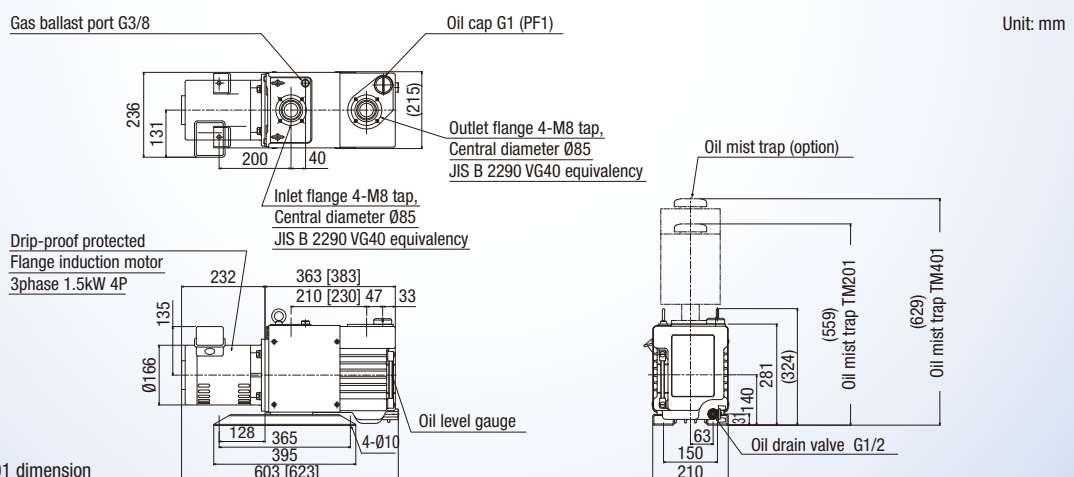
### VD151



### VD201

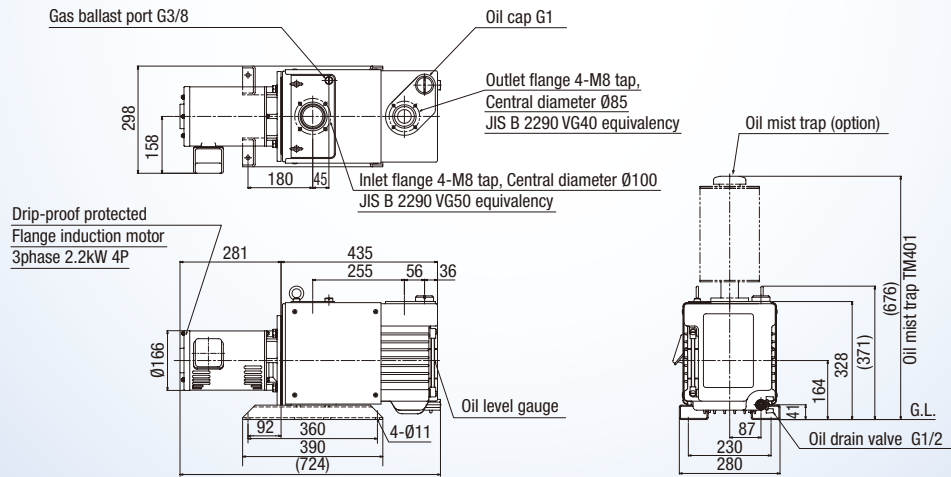


### VD301, 401

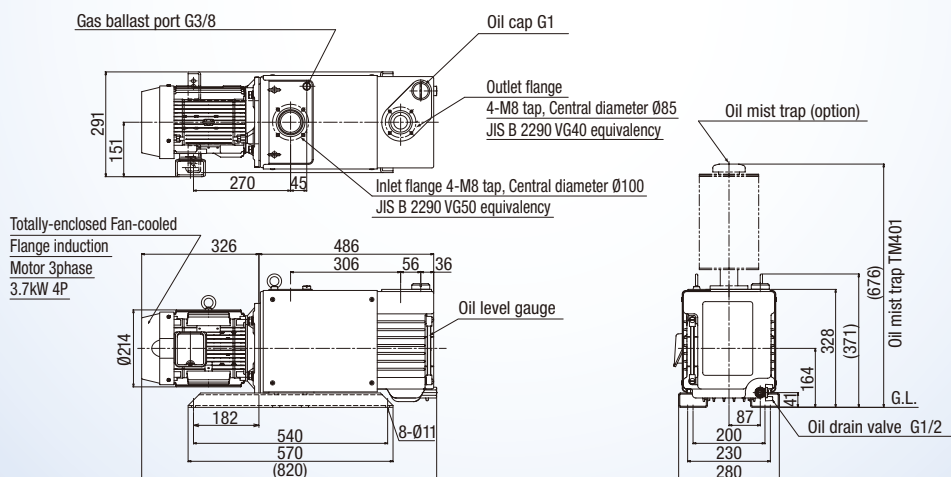


Note : [ ] VD401 dimension

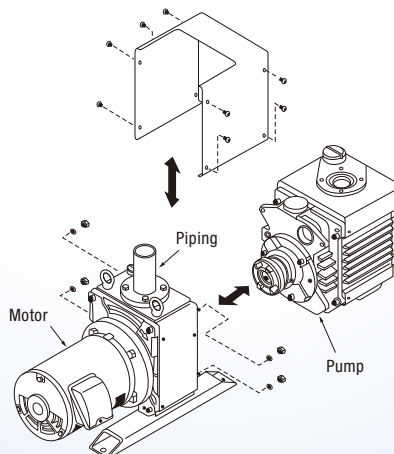
## VD601



## VD901



### ► When a pump is removed (VD301~VD901)



# Oil Rotary Vacuum Pump [VD Series]

## Specifications

| Model                     |                      |                                                                                                                   | VD151                                   | VD201         | VD301                                                                    | VD401                | VD601                          | VD901                             |
|---------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------|--------------------------------------------------------------------------|----------------------|--------------------------------|-----------------------------------|
| Designed<br>pumping speed | 50Hz                 | m³/h                                                                                                              | 14.4                                    | 20.2          | 30                                                                       | 40                   | 60                             | 90                                |
|                           |                      | L/min                                                                                                             | 240                                     | 336           | 500                                                                      | 670                  | 1000                           | 1500                              |
|                           |                      | CFM                                                                                                               | 8.47                                    | 11.89         | 17.66                                                                    | 23.54                | 35.31                          | 52.97                             |
|                           | 60Hz                 | m³/h                                                                                                              | 17.3                                    | 24.2          | 36                                                                       | 48                   | 72                             | 108                               |
|                           |                      | L/min                                                                                                             | 288                                     | 403           | 600                                                                      | 800                  | 1200                           | 1800                              |
|                           |                      | CFM                                                                                                               | 10.18                                   | 14.24         | 21.29                                                                    | 28.25                | 42.38                          | 63.57                             |
| Ultimate<br>pressure *1   | GP close             | Pa                                                                                                                | 0.67                                    |               |                                                                          |                      |                                |                                   |
|                           |                      | Torr                                                                                                              | 5×10 <sup>-3</sup>                      |               |                                                                          |                      |                                |                                   |
|                           |                      | mbar                                                                                                              | 6.7×10 <sup>-3</sup>                    |               |                                                                          |                      |                                |                                   |
|                           | GP open              | Pa                                                                                                                | 6.7                                     |               |                                                                          | 2                    |                                |                                   |
|                           |                      | Torr                                                                                                              | 5×10 <sup>-2</sup>                      |               |                                                                          | 1.5×10 <sup>-2</sup> |                                |                                   |
|                           |                      | mbar                                                                                                              | 6.7×10 <sup>-2</sup>                    |               |                                                                          | 2.0×10 <sup>-2</sup> |                                |                                   |
| Motor *2                  | Type                 | Totally Enclosed Fan Cooled Motor                                                                                 |                                         |               | Drip-proof protected Flange Motor                                        |                      |                                | Totally Enclosed Fan Cooled Motor |
|                           | kw (number of poles) | 0.55 (4)                                                                                                          |                                         | 0.75 (4)      | 1.5 (4)                                                                  |                      | 2.2 (4)                        | 3.7 (4)                           |
|                           | HP (number of poles) | 0.75 (4)                                                                                                          |                                         | 1 (2)         | 2 (4)                                                                    |                      | 2.95 (4)                       | 4.96 (4)                          |
|                           | Voltage/Frequency *3 | 200V / 220V / 230V / 240V / 380V / 400V / 415V-50Hz<br>200V / 220V / 230V / 240V / 380V / 400V / 440V / 460V-60Hz |                                         |               | 220V-240V/380V-415V (50Hz)<br>208V-240V/380V-460V (60Hz)                 |                      |                                |                                   |
| Oil *4                    |                      |                                                                                                                   | ULVOIL R-7                              |               |                                                                          |                      |                                |                                   |
| Oil capacity              |                      |                                                                                                                   | 0.7 to 1.1 L                            |               | 1.0 to 2.5 L                                                             |                      | 2.5 to 4.0 L                   |                                   |
| Cooling method            |                      |                                                                                                                   | Air cooled                              |               |                                                                          |                      |                                |                                   |
| Inlet                     |                      |                                                                                                                   | KF25 (NW25)                             |               | KF40 (NW40) or VG40(JIS B2290)                                           |                      | KF50(NW50) or VG50 (JIS B2290) |                                   |
| Outlet                    |                      |                                                                                                                   | G1                                      |               | KF40 (NW40) or VG40(JIS B2290)                                           |                      |                                |                                   |
| Weight                    |                      |                                                                                                                   | 29 kg                                   | 34 kg         | 59 kg                                                                    | 61 kg                | 88 kg                          | 105 kg                            |
| External dimensions W×L×H |                      |                                                                                                                   | 170×514×240mm                           | 170×536×265mm | 236×603×324mm                                                            | 236×623×324mm        | 298×725×371mm                  | 294×820×371mm                     |
| Certification             |                      |                                                                                                                   | CE                                      |               | cTUVus (equivalent of UL listed and CSA), CE                             |                      |                                |                                   |
| Standard accessories      |                      |                                                                                                                   | Motor, Oil for 1 pump, Operation manual |               |                                                                          |                      |                                |                                   |
| Options *5                |                      |                                                                                                                   | Oil mist trap                           |               | Oil mist trap, Gas ballast valve, Oil return mechanism, Helium tight, CE |                      |                                |                                   |

\*1 Measured with a Pirani gauge. (Approx. 6.7×10<sup>-2</sup>Pa when measured with a McLeod vacuum gauge.)

\*2 Options: The pump is also compatible with a totally-enclosed fan-cooled motor, increased safety explosion-resistant motor, and pressure resistant explosion-resistant flange motor.

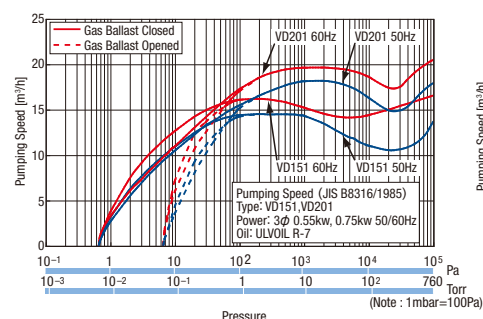
\*3 Other voltage is available upon request.

\*4 Other oil types are available upon request.

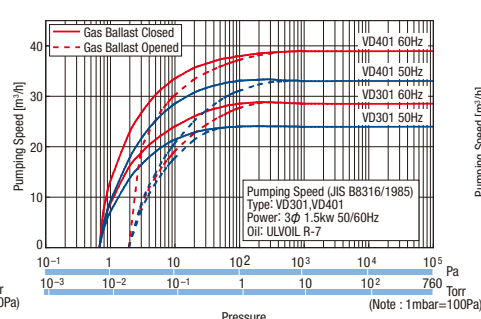
\*5 TM401 and TM-2 are available oil mist trap for VD601 and VD901. Please use TM-2 if repeated intake pressure exceeds 10,000Pa.

## Pumping Speed Curves

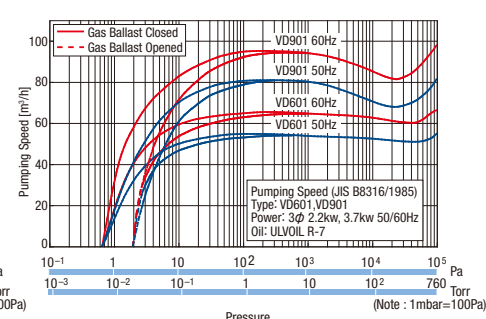
VD151, 201



VD301, 401



VD601, 901



ULVAC, Inc. Components Division

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