ES Series

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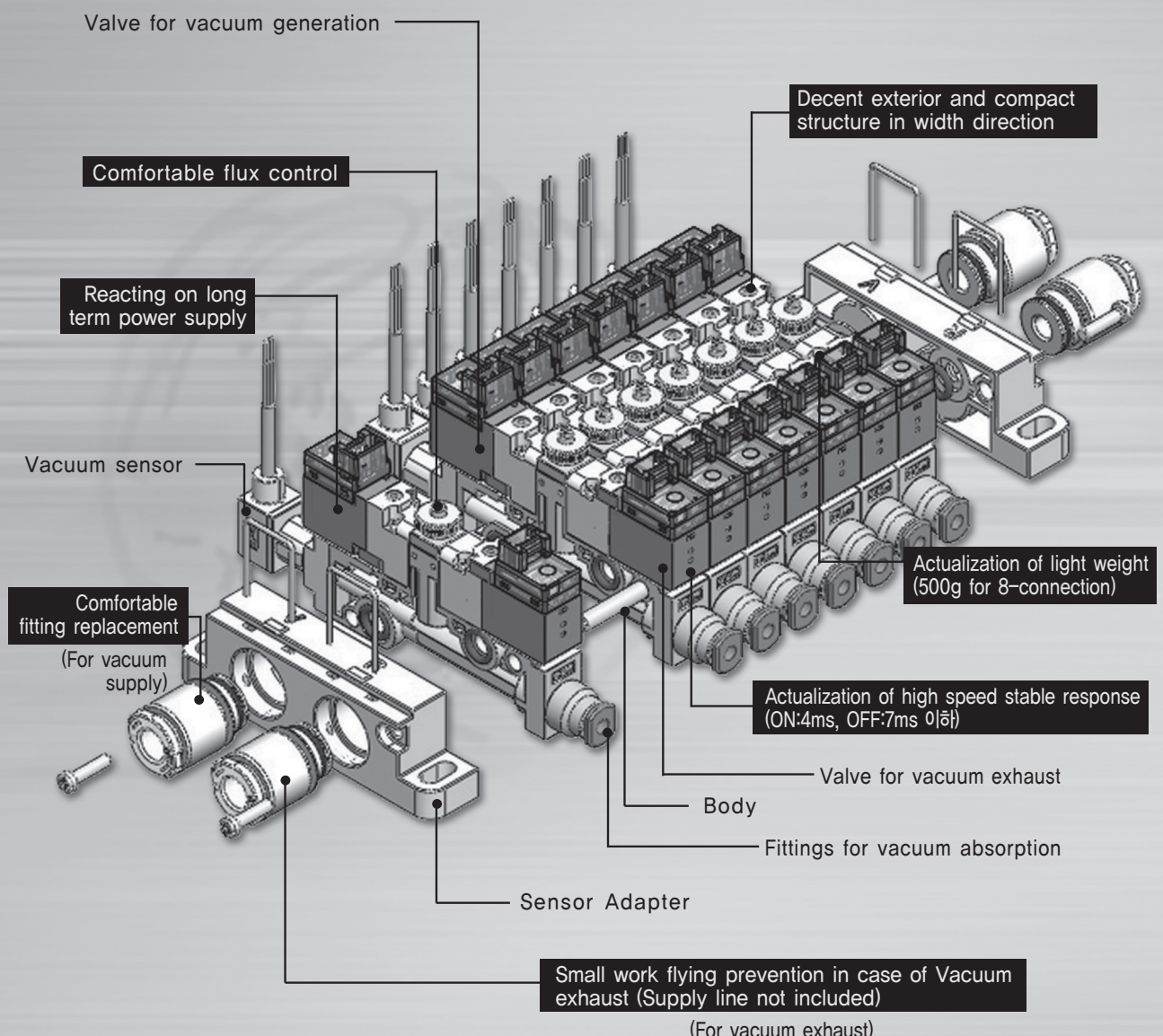
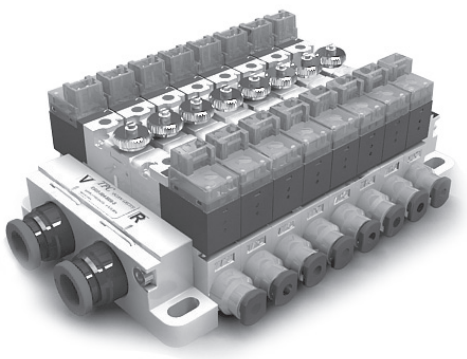


Vacuum Ejector (ES Series)



- COMPACT DESIGN
- SUPERB LONG TERM POWER SUPPLY FEATURE
- ACTUALIZATION OF HIGH SPEED STABLE RESPONSE
- ACTUALIZATION OF LIGHT WEIGHT (500G FOR 8-CONNECTION)
- SMALL WORK FLYING PREVENTION IN CASE OF VACUUM EXHAUST (SUPPLY LINE NOT INCLUDED)

How to Order

ES	05	—	8L	8L	3	—	M	05	—	5	—	V1	—	P4	—	XWL＊＊
	1		2	3	4			5		6		7		8		9

1 Nozzle Diameter
- 05 : 0.5mm
- 07 : 0.7mm

2 Vacuum Generating Supply Port
- 6 : Ø6 Straight one-touch fitting
- 8 : Ø8 Straight one-touch fitting
- 6L : Ø6 Elbow one-touch fitting (Responding for order)
- 8L : Ø8 Elbow one-touch fitting

3 Vacuum Destroy Supply Port
- 6 : Ø6 Straight one-touch fitting
- 8 : Ø8 Straight one-touch fitting
- 6L : Ø6 Elbow one-touch fitting (Responding for order)
- 8L : Ø8 Elbow one-touch fitting

4 Vacuum Absorbing Port
- 3 : Ø3 Straight one-touch fitting
- 4 : Ø4 Straight one-touch fitting
- 3L : Ø3 Elbow one-touch fitting (Responding for order)
- 4L : Ø4 Elbow one-touch fitting (Responding for order)

5 Number of Valve Connection
- 02 : 2-connection
- ⋮
- 08 : 8-connection

6 Valve Supply Voltage
- 5 : 24 VDC

7 Electric Valve Specification

Type	Blank	V1
ES05	N.C	–
ES07	N.C	N.C

※ ES05 is basically N/C type, and N/O type is marked as "V1-7" on No.7(ex. V1-P4)

※ ES07 is basically N/O type, and N/C type is marked "V1-7" on No.7.

8 Vacuum Sensor Specifications
- Blank : Vacuum sensor not attached
- M5 : Analogue output type (M5 universal)
- P4 : Analogue output type (Ø4 Plug)

9 Length of Lead Wire
- Blank : 300mm(standard)
- XWL01 : 100mm
- XWL02 : 200mm
- ⋮
- XWL20 : 2000mm

※ Please contact a manufacturer for additional specification.

※ For longer length of wire, please contact us.

Product Specifications

Vacuum Ejector Specifications

Equipment Type	ES05	ES07
Nozzle Diameter (mm)	0.5	0.7
Max. Absorbing Flux ℓ/min (ANR)	Over 5	Over 11
Max. Flux Consumption ℓ/min (ANR)	Less than 12	Less than 22
Max. Vacuum Pressure kPa(mmHg)	Over −85(−638)	Over −85(−638)
Destroy Flux ℓ/min (ANR)	Over 10 Max.	
Nozzle Structure	Single Nozzle	
Exhaust Method	Silencer Built−in (Open to the Air), Individual Exhaust	
Fluid Applied	Air	
Range of Pressure Applied	0.2 ~ 0.55 MPa	
Range of Temperature Applied	5 ~ 50 ℃	
Refueling	No Need	

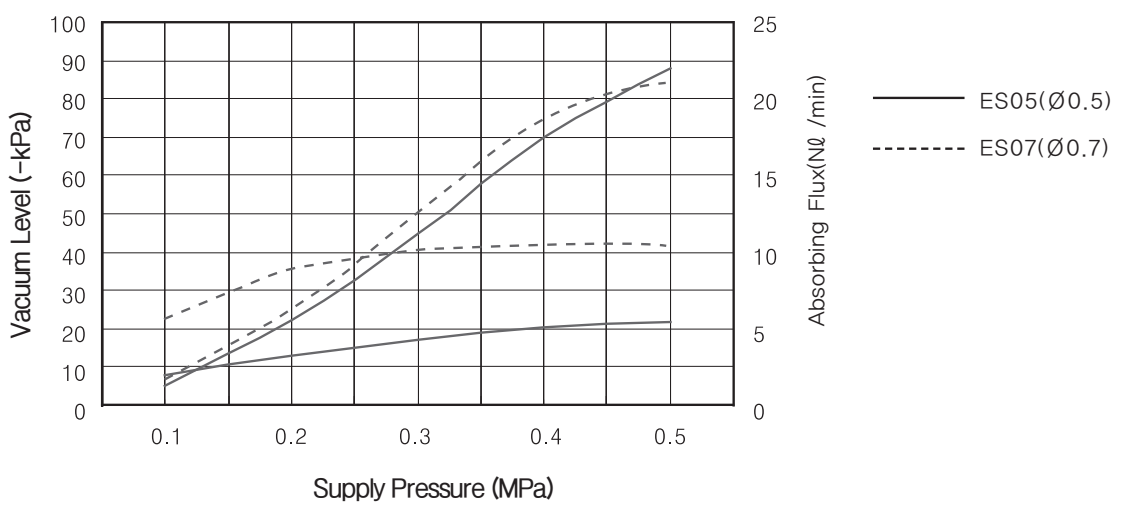
Valve Specifications

Equipment Members	Supply Valve, Destroy Valve	
Control Method	N/C Type(Basic), N/O Type	N/C Type, N/O Type(Basic)
Rated Voltage	DC24V ± 10%	
Handling Method	Electric Valve	
Effective Sectional Area ㎟(Cv)	0.42 ㎟ (0.025)	

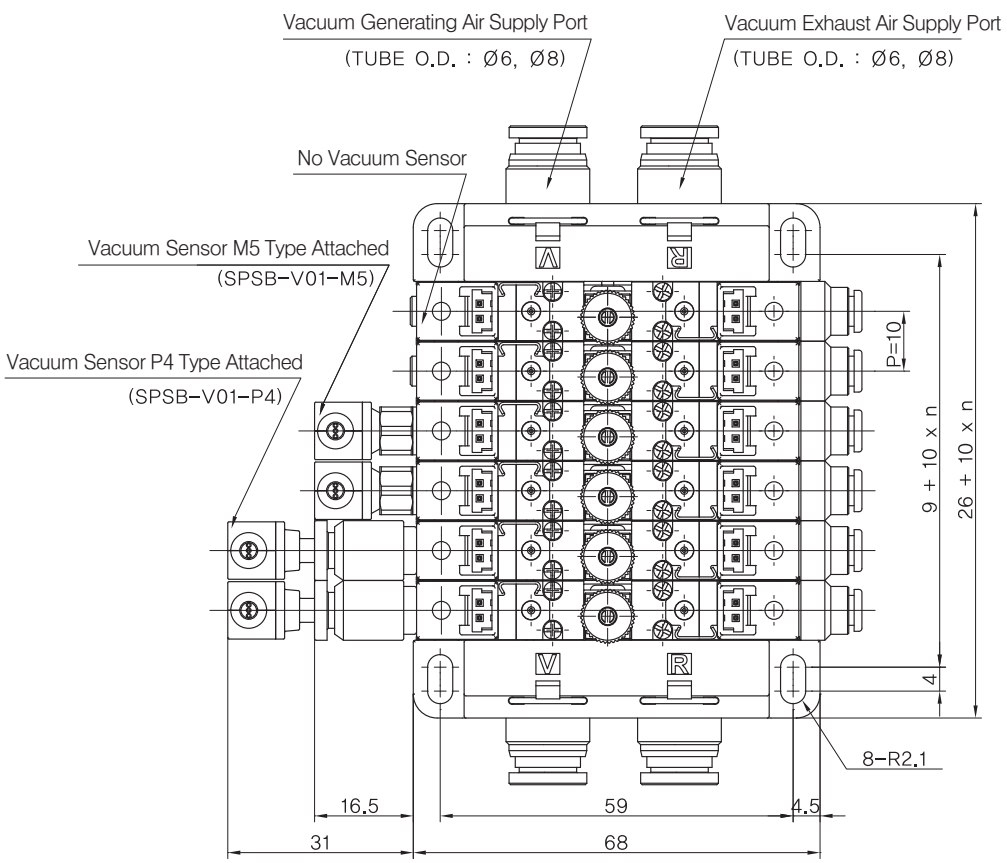
Contact Diameter

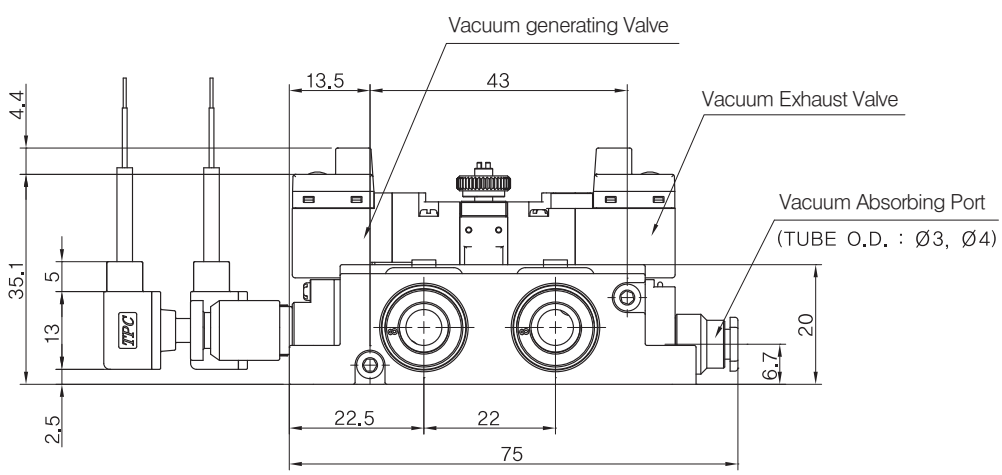
Air Supply Port	Ø6, Ø8
Vacuum Absorbing Port	Ø3, Ø4
※ Max. Ejector Connection Number	* Nozzle Diameter Ø0.5: 8−connection * Nozzle Diameter Ø0.7: 8−connection

Vacuum Feature Graph

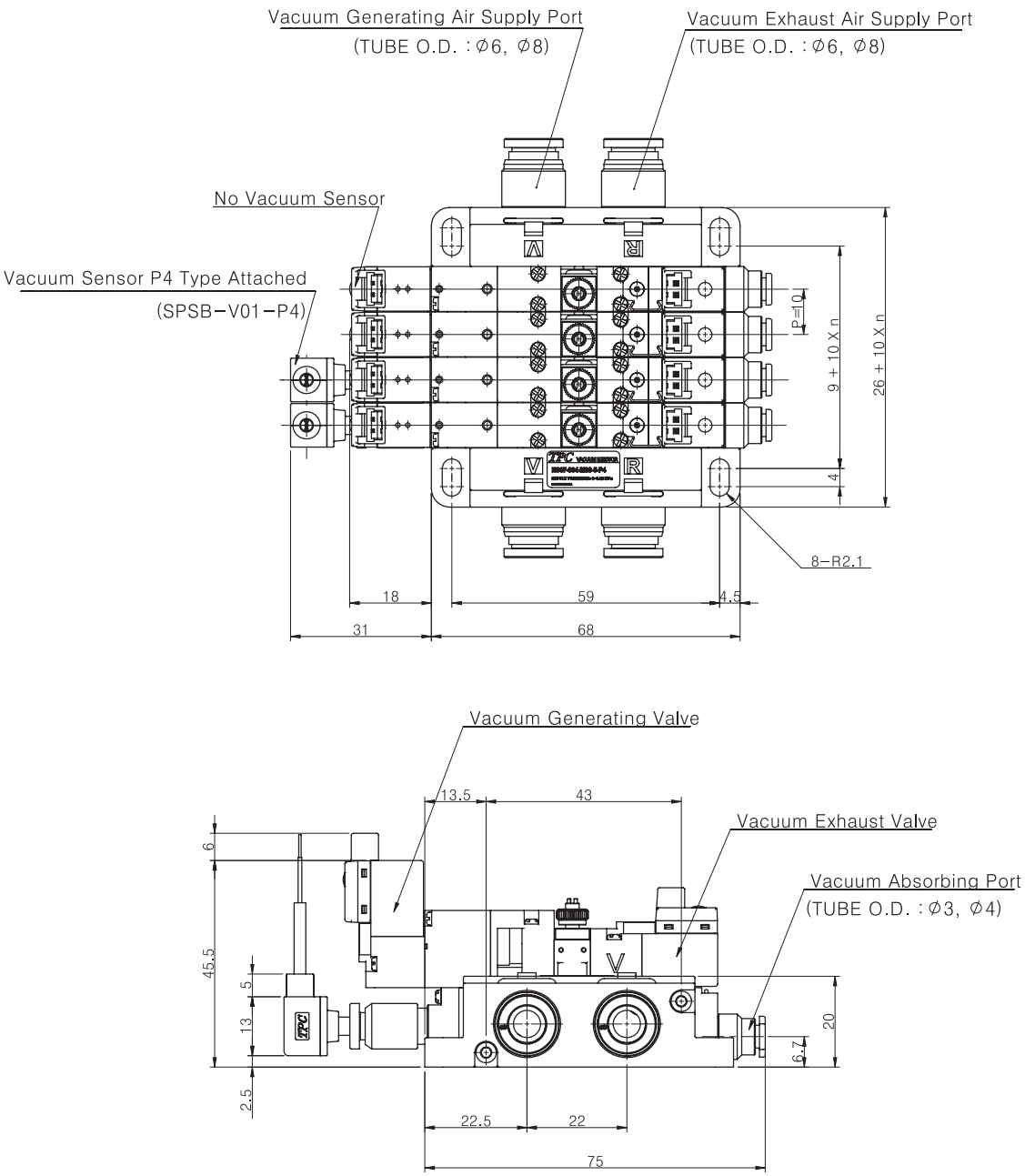


Exterior Dimension Drawing(ES05 : mm)





Exterior Dimension Drawing(ES07 : mm)



※ Read before utilization.

Common Notices for Vacuum Equipment Design

Check · Selection

Warning

1. Conduct safety check to prevent accident caused by vacuum pressure degradation owing to power failure or air source trouble.
   If absorptive power of vacuum pad is lost owing to vacuum pressure degradation, load may be dropped during transportation, or may occure injury damage to human equipment.
2. Apply vacuum specification for vacuum switch and vacuum exhaust valve.
   Application of valve which does not have vacuum function may cause leakage of vacuum.
3. Select an ejector with proper absorption.
   When there is leakage from the load or a pipe: Insufficient absorbing flux may cause adhesion failure.
   A long pipe dsa big pipe diameter may cause delay of absorption response.
   Select an ejector with suitable absorbing flux in reference of technical data.
4. Excessive absorbing flux may cause difficulty with vacuum switch setting.
   When selecting a large ejector, difficulty in the vacuum switch setting may occur due to lack of pressure difference during non-adhesion.
5. Conduct piping with sufficient effective sectional area.
   Select pipes with maximum effective sectional area to allow maximum absorbing flux through ejector. Moreover, do not allow unnecessary pipe components or leakage during piping works.
   Suitable piping design is needed for air consumption of each ejector for air supply side.
   Make sufficient effective sectional area of tube, conduit and valve to derive the least pressure drop for ejector.
   Conduct air source design in consideration of maximum air consumption of ejector and air consumption of other air circuits.

Design · Selection

Warning

Refer to Notices in each catalogue for direction control equipment and driving equipment.

For Attachment

Warning

Do not make exhaust hole of ejector clogged, which causes failure of vacuum generation.

For Attachment

Warning

1. Conduct all vacuum side and supply side piping with the shortest and straight est piping line.
2. Make large effective sectional area for exhaust pipe of ejector. Reduction of exhaust may degrade ejector performance.
3. Do not allow loss caused by damage or curve of pipes.

Environment

Warning

1. Do not use in corrosive area where corrosive gas, chemical, seawater, water or steam exist.
2. Do not use in explosive area.
3. Do not use where vibrations or impacts exist. Check specification of each series.
4. Avoid a beam with protecting cover.
5. Block radiant heat if heat source exists around equipment.
6. Set a measure for attachment of water, oil or welding spatter.
7. With a long term power supply to the vacuum unit, please make heat-radiation measure to keep vacuum unit in specified temperature.

Repair and Inspection

Warning

1. Carry out regular removal of foreign materials from suction filter, silencer and PAD. Clogging of suction filter, silencer and PAD degrades performance of ejector. Use a large scale filter with a large flux processing for the area where a large quantity of dust exists.