MICRO EJECTORS

HME03, HME05, HME07

Specifications

Item \ Basic model		HME03	HME05	HME07
Media		Air		
Operating pressure range	MPa [psi.]	0.1～0.6 [15～87]	0.1～0.6 [15～87]	0.1～0.6 [15～87]
Proof pressure	MPa [psi.]	1.03 [149]		
Operating temperature range °C [°F] (atmosphere and media)	Without solenoid valve	0～50 [32～122] (No freezing)		
	With solenoid valve	5～50 [41～122]		
Nozzle diameter	mm [in.]	0.3 [0.012]	0.5 [0.020]	0.7 [0.028]
Vacuum Note 1	kPa [in.Hg]	−80 [−23.6]	−86.7 [−25.6]	
Vacuum flow rate Note 1	ℓ /min [ft³/min.] (ANR)	3.0 [0.106]	6.3 [0.222]	12.5 [0.441]
Compressed air consumption Note 1	ℓ /min [ft³/min.] (ANR)	4.5 [0.159]	11.5 [0.406]	23.0 [0.812]
Lubrication		Prohibited		
Filtration	μm	30 (manifold only)		
Port size	Vacuum generation port	10-32 UNF		NPT1/8
	Compressed air supply port	M3×0.5	10-32 UNF	
Mounting direction		Any		
Main valve specifications	Operation type	Direct operating		
	Number of positions, number of ports	2 positions, 2 ports		
	Valve function	Normally closed (NC standard) or normally open (NO optional)		
	Effective area mm² [Cv]	0.2 [0.01]	0.6 [0.03]	0.8 [0.04]
	Shock resistance Piping direction m/s² [G]	1372.9 [140]	1372.9 [140]	1372.9 [140]
	Shock resistance Axial direction m/s² [G]	588.4 [60]	117.7 [12]	147.1 [15]
	Manual override	Non-locking type (Standard)	Non-locking type (standard) or locking protruding type (Optional)	

Notes: 1. Value (approximate) at pressure of 0.5MPa [73psi.]. For details, see p.702.

Micro Ejector Order Codes

●Micro ejector single unit (without solenoid valve)

HME □

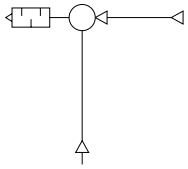
Body model nozzle diameter : Maximum flow rate on vacuum side
- **03** — φ 0.3 : 3.0 ℓ /min. [φ 0.012in., 0.106ft³/min.] (ANR)
- **05** — φ 0.5 : 6.3 ℓ /min. [φ 0.020in., 0.222ft³/min.] (ANR)
- **07** — φ 0.7 : 12.5 ℓ /min. [φ 0.028in., 0.441ft³/min.] (ANR)

Micro ejector

Symbols

Single unit

●HME03 ●HME05 ●HME07



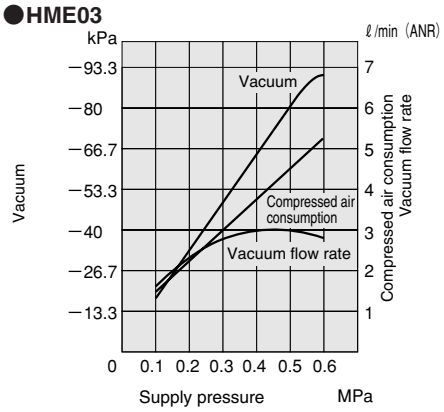
Mass

●Micro ejectors g [oz.]

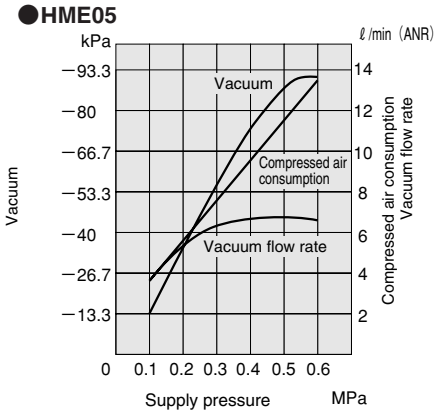
Item \ Basic model	HME03	HME05	HME07
Without solenoid valve	9 [0.32]	34 [1.20]	52 [1.83]

Air Consumption, Vacuum and Vacuum Flow Rate

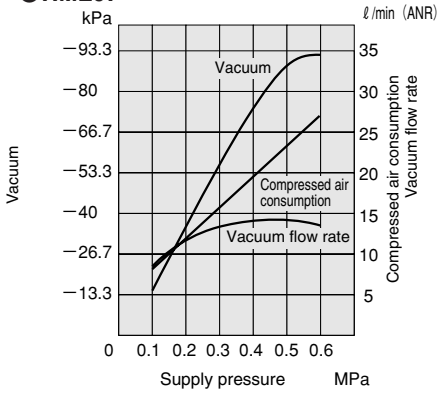
●HME03



●HME05



●HME07

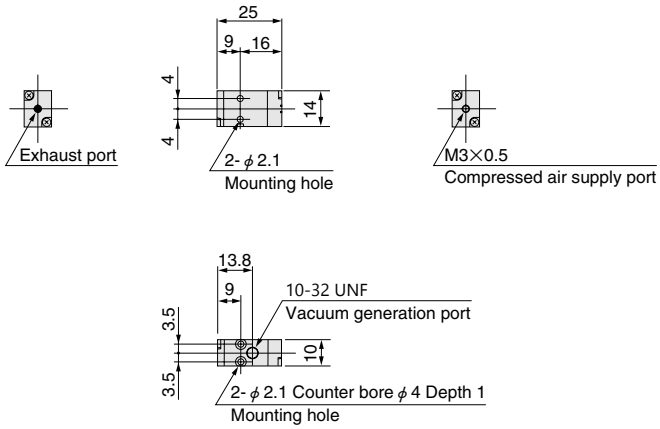


Remark: Graphs are for each single ejector unit. If the unit with solenoid valve requires the same vacuum level, set the supply pressure 0.03～0.05MPa [4.4～7.3psi.] higher than the single ejector unit's case.

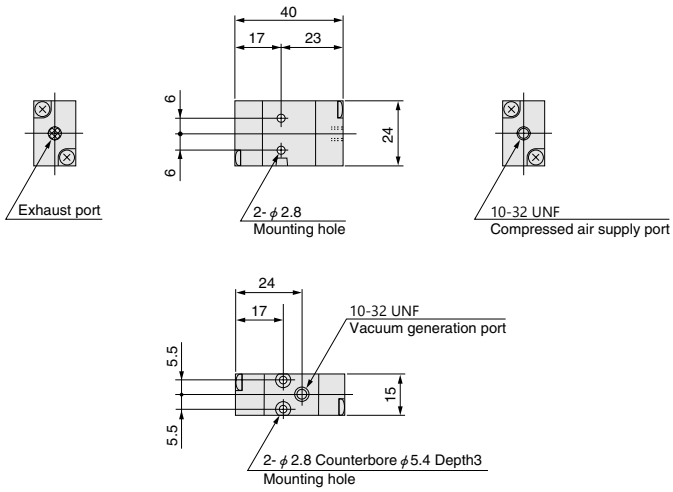
1MPa = 145psi. 1kPa = 0.145psi. −100kPa = −29.54in.Hg 1 ℓ/min = 0.0353ft³/min.

Dimensions (mm)

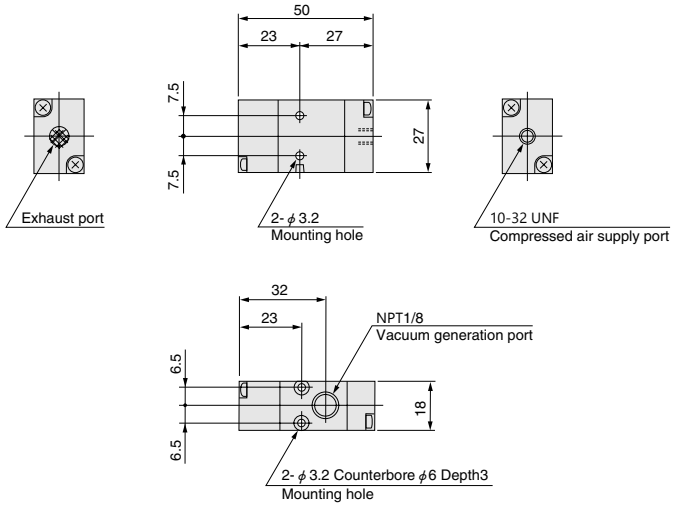
HME03
Single unit



HME05
Single unit



HME07
Single unit



Piping

1. Connect air supply to the compressed air supply port, and a vacuum pad, etc., to the vacuum generation port.

2. For piping to the micro ejector, use a nylon or urethane tube with inner diameter of ϕ4～ϕ6 [ϕ0.157～ϕ0.236in.]. For vacuum generation ports, tubes of the following sizes are recommended.
ME03··· ϕ4×2.5
ME05··· ϕ4×2.5, ϕ6×4
ME07··· ϕ6×4

Cautions: 1. Use a fitting that does not reduce inner diameter. A small inner diameter can result in degradation of performance, including pressure shortages, insufficient vacuum, or longer periods of time before the vacuum level is reached.

2. Avoid use of coil tubes and other curved piping. Also, avoid use of elbow fittings, etc., between the micro ejector and vacuum pad, and use piping that is as straight as possible.

General precautions

1. If using in locations subject to dripping water, dripping oil, etc., or to large amounts of dust, use a cover to protect the unit.

2. Always thoroughly blow off (use compressed air) the piping before connecting it to the micro ejector.
Intrusion into the piping of chips, sealing tape, rust, or other foreign material generated during piping operations could result in valve air leaks or a degradation in micro ejector performance.

3. Use clean air that does not contain deteriorated compressor oil or other contaminants. Install an air filter (with filtration of a minimum 40 μm) close to the micro ejector to eliminate any collected liquids or dust in air line. Always use a mist filter for cases where the pressurized air contains large amounts of oils. Moreover, drain the air filter at regular intervals.

4. Use a regulator to adjust the pressure of air supplied to the micro ejector. Where the piping length to the micro ejector is long, set the pressure at a little higher than normal. If using an air supply valve, use a valve with an effective area that is at least three times as large as the area of the micro ejector nozzle.

5. Use one vacuum pad for one micro ejector. Use of two or more pads could result in picking errors, and extend the amount of time required to reach the set vacuum level.

6. At periodic intervals, replace the filters (order code: **ME**□ **MA-F**) installed as standard equipment with the micro ejector body.