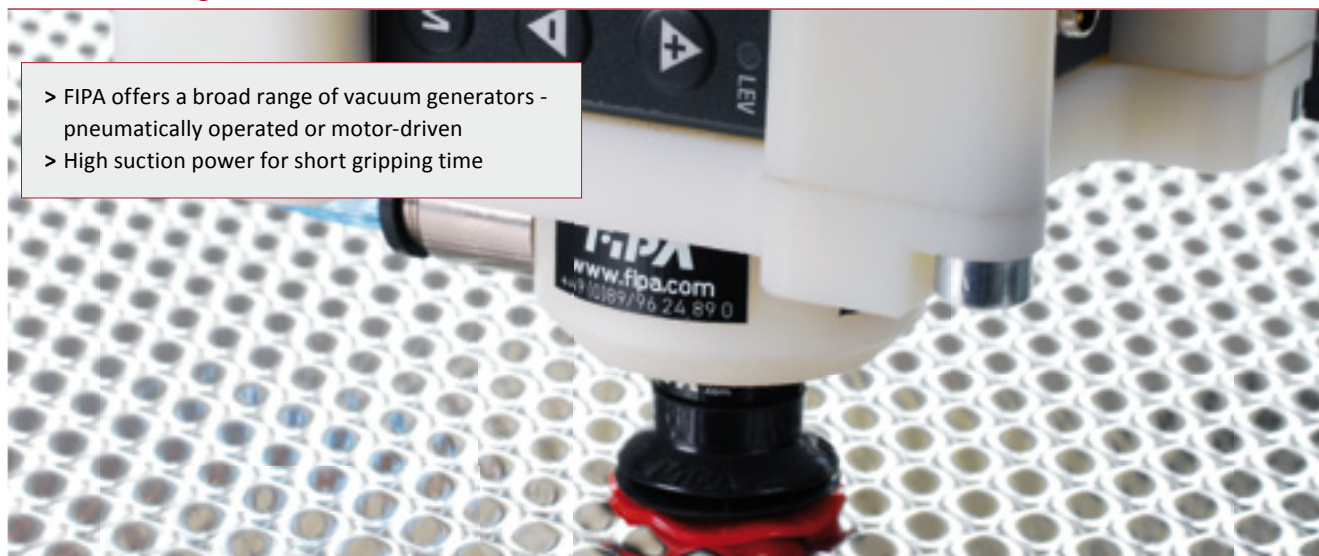




FIPA Vacuum generation



- > FIPA offers a broad range of vacuum generators - pneumatically operated or motor-driven
- > High suction power for short gripping time



Inline ejectors EIL

- > Easy installation directly in the tubing line close to the vacuum cup
- > Small and light
- > See page 357



Base ejectors with integrated blow-off

- > Installation directly on vacuum cups
- > Small and light
- > Ideally suited for robotic applications with very short cycles such as Delta robots or similar
- > See page 360



Heavy-duty ejectors

- > Compensation of compressed air fluctuations between 3 and 6 bar
- > Additional inlet for blow-off for fast product release or vacuum switch connection for process monitoring (65.111, 65.130)
- > Rectangular design enables block assembly in centralised or decentralised vacuum systems
- > See page 362



Ejectors with air saving function EMA

- > Electronic vacuum and blow-off control
- > Electronic air-saving function reduces operating costs up to 90 % with dense workpieces
- > Compact design, installation near to the vacuum cup
- > See page 364



FIPA Vacuum generation



Rotary vane vacuum pumps - oil-free

- > Handling of dense workpieces in dry areas
- > Suitable for load alternation and continuous operation
- > Available in single-phase and three-phase designs
- > Any installation position
- > Very low maintenance



Piston pumps

- > Small output at compact design
- > Suitable for dry and wet areas
- > Long-life and low maintenance thanks to the permanently lubricated piston seals
- > Oil-free operation
- > Also suitable as compressors



Rotary vane vacuum pumps - oil-lubricated

- > Handling dense and porous workpieces
- > Partially suitable for applications in wet areas
- > Suitable for continuous operation in product-dependent vacuum levels
- > Available in single-phase and three-phase designs
- > Horizontal installation position



Centralised vacuum units

- > Supply of several modules via a central station
- > Made up of one to three oil-lubricated vacuum pumps
- > Incl. vacuum tank and electronic control



On request

Side channel blowers - single-stage and double-stage

- > Handling of porous workpieces, such as cardboard boxes or untreated wooden pallets
- > Double-stage design offers higher suction power at the same vacuum level for effective leak compensation
- > Suitable for use in wet and dry areas
- > Suitable for continuous operation
- > Horizontal and vertical installation
- > Practically maintenance-free



Vacuum generation | Ejectors

Base ejectors with integrated blow-off

Base ejectors with integrated blow-off



Example: Ejector EBA.08H.2-A with digital mini vacuum switch 20.040, closed diffuser silencer 72.000 and flat vacuum cup \varnothing 40 mm

Product description

- > Small and very light for installation directly on vacuum cups for fast vacuum build-up and short gripping times
- > Blow-off from a fast-reacting micro valve enables very short cycle times
- > Graded blow-off boost effect: Initially the blow-off is supported by ambient air, for placement that is both quick and gentle
- > Robust design and long service life of > 100 million switching cycles
- > M5 connection for digital mini vacuum switch to ensure reliable process monitoring
- > Ideally suited for robotic applications with very short cycles such as Delta robots (e.g. FlexPickers)

Ordering notes

- > Included in delivery: Control cable 20.550, length 1.5 meter, 2-wire, free end

Technical data

Item no.	EBA.08H.2-A
Nozzle diameter [mm]	0.8
Optimal feed pressure [bar]	5
Max. feed pressure [bar]	8
Final vacuum [%]	85
Suction power at 5 bar [NI/min]	25
Air consumption at 5 bar [NI/min]	30
Flow rate solenoid valve [NI/min]	15
Blow-off volumes of flow [NI/min]	110 - 45
Power-on time solenoid valve (ED) [%]	100
Power-on/-off time solenoid valve [ms]	5
Power consumption solenoid valve [W]	0.9
Protection class	IP40
Operating temperature [°C]	-10 - 50
Weight [g]	35
Accessories	Connector cable 20.550 (p.380), Vacuum switch 20.040 (p.346), Vacuum switch 20.041 (p.346), Silencer 72.000 (p.369), Silencer 72.028 (p.368)



Heavy-duty ejectors

Vacuum generation for use under harsh operating conditions



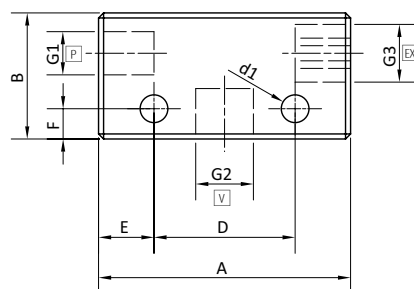
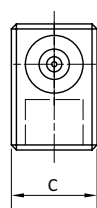
Product description

- > Robust and compact aluminium housing
- > Compensation of compressed air fluctuations between 3 and 6 bar
- > Additional inlet for blow-off for fast product release or vacuum switch connection for process monitoring (65.111, 65.130)
- > Rectangular design enables block assembly in centralised or decentralised vacuum systems

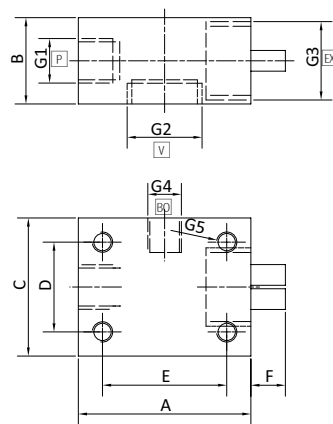
Technical data

Item no.	Optimal feed pressure [bar]	Max. feed pressure [bar]	Final vacuum [%]	Suction power [Nl/min]	Air consumption to 4 bar [Nl/min]	Evacuation time 0 to 70 % [s/l]	Weight [g]	Accessories
65.102A	4	6	85	30	50	3.5	48	Silencer 72.001 (p.369) Silencer 72.029 (p.368)
65.111	4	6	85	33	60	3	120	Silencer 72.002 (p.369) Silencer 72.030 (p.368)
65.120	4	6	85	85	130	1.5	125	Silencer 72.031 (p.368)
65.130	4	6	85	130	240	0.7	225	--

Dimensions



65.102A



65.111 | 65.120 | 65.130

P = Compressed air connection V = Vacuum connection Ex = Exhaust Bo = Blow-off (65.111 and 65.130)



Vacuum generation | Ejectors

Ejectors with air saving function EMA

Ejectors with air saving function EMA

Double energy efficient by integrated pressure control and electronic air saving function



Product description

- > Electronic air saving function reduces operating costs by up to 90 % with dense workpieces
- > Pressure regulation energy-saving function at constant 3.5 bar reduces operating costs by up to 50 % with porous workpieces
 - Energy saving increases along with the difference between supply pressure and operating pressure
- > Electronic vacuum and blow-off control for short cycle times
- > Manual adjustment of the blow-off flow rate using a setscrew
- > Very compact design with integrated open silencer
- > Dust-resistant design, no additional filters required

Notes

- > If the ejector experiences power failure, the workpiece is only held by the vacuum between non-return valve and product surface
- > Vacuum and blow-off are controlled using a single signal

Technical data

Item no.	EMA.90x14
Nozzle diameter [mm]	1.4
Feed pressure [bar]	4 - 8
Internal working pressure [bar]	3.5
Final vacuum [%]	90
Suction power [NI/min]	70
Air consumption [NI/min]	90
Protection class	IP65
Operating principle	NC
Control voltage	24 VDC (adjusted) \pm 10 %
Current consumption for vacuum and blow-off feature [mA]	30 (0.7 W)
Operating temperature [°C]	10 - 60
Weight [g]	130
Suitable connector cable	20.502 (p.380) 20.501 (p.380)



Open silencers for ejectors



Product description

- > Suitable for heavy-duty ejectors
- > Open design, specially suitable for dusty, high-particle environments (e.g. wood industry)

Technical data

Item no.	Weight [g]
72.028	3
72.029	20
72.030	25
72.031	35
72.032	55
72.033	175

Dimensions

G	Ø D [mm]	Ø Di [mm]	L [mm]	L1 [mm]	L2 [mm]
G1/8	14	7	46	41	5
G1/4	20	11	73	65	8
G3/8	24	11	72	64	8
G1/2	30	17	128	121	7
G3/4	40	17	126	119	7
G1	49	26	126	119	7

Dimensions

