

# Vacuum Generators

Schmalz – The Company
Vacuum Knowledge
Vacuum Suction Pads
Special Grippers
Mounting Elements
<b>Vacuum Generators</b>
Valve Technology
Switches and Monitoring
Filters and Connections
Vacuum Gripping Systems
Services
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






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## Vacuum Generators

Everything at a Glance

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	<b>Checklist for Selection of Vacuum Generators</b>	389	
	<b>Accessories for Vacuum Generators</b>	389	
<b>Basic Ejectors</b>			
	<b>Basic Ejectors SEG</b> <ul style="list-style-type: none"> <li>• Suction capacity up to 370 l/min</li> <li>• Max. vacuum 85%</li> <li>• Body made of anodized aluminum</li> </ul>	 <p>Robust basic ejector with aluminum basic body for universal use, especially in systems with decentralized vacuum generation.</p>	390
	<b>Basic Ejectors SBP</b> <ul style="list-style-type: none"> <li>• Suction capacity up to 215 l/min</li> <li>• Max. vacuum 85%</li> <li>• Plastic housing</li> </ul>	 <p>Compact basic ejector with plastic body for high-speed handling of suction-tight workpieces, especially in systems with decentralized vacuum generation.</p>	396
	<b>Basic Ejectors SBP-C with Additional Functions</b> <ul style="list-style-type: none"> <li>• Suction capacity up to 215 l/min</li> <li>• Max. vacuum 85%</li> <li>• Body made of plastic</li> <li>• Integrated valve technology and vacuum monitoring</li> </ul>	 <p>Basic ejector with plastic body, integrated valve technology and vacuum switch for optimal cycle times.</p>	401
<b>Inline Ejectors</b>			
	<b>Inline Ejectors SLP</b> <ul style="list-style-type: none"> <li>• Suction capacity up to 16 l/min</li> <li>• Max. vacuum 85%</li> <li>• Body made of plastic</li> </ul>	   <p>Lightweight, compact inline ejector with plastic body for space-saving, decentralized vacuum generation directly in the hose line.</p>	409
	<b>Inline Ejectors VR</b> <ul style="list-style-type: none"> <li>• Suction capacity up to 21 l/min</li> <li>• Max. vacuum 90%</li> <li>• Body made of aluminum</li> </ul>	   <p>Robust inline ejector with aluminum body for space-saving decentralized vacuum generation and mounting directly on the suction pad.</p>	413

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### Multi-Stage Ejectors



#### Multi-Stage Ejectors SEM

- Suction capacity up to 2,370 l/min
- Max. vacuum 85%
- Body made of aluminum
- Multi-stage nozzle system



Multi-stage ejector with extremely high suction rate for handling porous workpieces, especially in systems with centralized vacuum generation.

417



#### Multi-Stage Ejectors SEM-C with Additional Functions

- Suction capacity up to 673 l/min
- Max. vacuum 85%
- Body made of aluminum
- Multi-stage nozzle system



Multi-stage ejector with high suction rate and integrated system monitoring for handling of porous workpieces, especially in systems with centralized vacuum generation.

422

### Compact Ejectors



#### Compact Ejectors X-Pump SXPi / SXMPi with IO-Link

- Suction capacity up to 220 l/min
- Max. vacuum 85%



Efficient compact ejector with condition monitoring, IO-Link, air-saving regulation and optional power blow off for highly dynamic processes above all in the automotive and sheet metal industries.

427



#### Compact Ejectors SCPi / SMPi

- Suction capacity up to 185 l/min
- Max. vacuum 85%



Lightweight, small compact ejector with integrated system monitoring, IO-Link, air-saving regulation and optional power blow off for highly dynamic, efficient processes.

432



#### Compact Ejectors SMP

- Suction capacity up to 200 l/min
- Max. vacuum 85%
- Body made of aluminum



Lightweight, small compact ejector with power blow off as well as optional system monitoring and optional air-saving regulation for highly dynamic, efficient processes.

438



#### SMP-Compressed Air Distributors GP

- Compressed air manifold for 2 to 6 compact ejectors



Collective collection plate for locking of compact ejectors SMP.















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	<b>Compact Ejectors SCP</b>		445
<ul style="list-style-type: none"> <li>• Suction capacity up to 200 l/min</li> <li>• Max. vacuum 85%</li> <li>• Body made of aluminum</li> </ul>	Lightweight, small compact ejector with optional system monitoring and optional air-saving regulation for efficient processes.		
	<b>Compact Ejectors SCP-FS</b>		450
<ul style="list-style-type: none"> <li>• Suction capacity up to 200 l/min</li> <li>• Max. vacuum 85%</li> <li>• Body made of aluminum</li> </ul>	Externally controlled compact ejector with optional system monitoring for control of pneumatic valves.		
	<b>SCP-Compressed Air Distributors GP</b>		455
<ul style="list-style-type: none"> <li>• Compressed air manifold for 2 to 6 compact ejectors</li> </ul>	Collective collection plate for locking of compact ejectors SCP.		
	<b>Compact Ejectors SCPM</b>		457
<ul style="list-style-type: none"> <li>• Suction capacity 6 to 23 l/min</li> <li>• Max. vacuum 85%</li> <li>• Body made of aluminum</li> </ul>	Lightweight compact ejector in minimum model size with optional system monitoring and optional air-saving regulation for dynamic processes in tight spaces.		
<b>Ejectors</b>			
	<b>Ejectors with Active Blow Off SEAC</b>		461
<ul style="list-style-type: none"> <li>• Suction capacity up to 35 l/min</li> <li>• Max. vacuum 85%</li> <li>• Body made of plastic</li> </ul>	Ejector with plastic body of the smallest possible dimensions and low weight as well as active blow off using compressed air, for decentralized vacuum generation in highly dynamic processes.		
	<b>Ejectors with Blow Off System SEAC RP</b>		465
<ul style="list-style-type: none"> <li>• Suction capacity: up to 36 l/min</li> <li>• Max. vacuum 85%</li> </ul>	Ejector with anodized aluminum body of the smallest possible dimensions with pneumatic air-saving regulation as well as active blow off using compressed air, for decentralized vacuum generation in highly dynamic processes.		
	<b>Ejectors with Atmospheric Ventilation SEAC ECO</b>		469
<ul style="list-style-type: none"> <li>• Suction capacity up to 35 l/min</li> <li>• Max. vacuum 85%</li> <li>• With atmospheric ventilation</li> </ul>	Ejector with anodized aluminum body of the smallest possible dimensions as well as atmospheric ventilation for the lowest possible operating costs, for decentralized vacuum generation in dynamic processes.		

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### Holders for Ejectors SEAC / SEAC RP / SEAC ECO



472

- Mounting option for ejectors from top or side mounting
- Aluminum holder

Holder for attachment of the ejectors from the SEAC series.



### Feed Ejectors SEC



474

- Suction capacity up to 8,640 l/min
- Diameter 6 to 75 mm

Ejector with high evacuation volume for applying suction to very porous parts and for transportation of bulk materials.

## Vacuum Units



### Vacuum Units VE / VER



477

- Suction capacity 69 l/min
- Max. vacuum 80%

Complete vacuum unit with ejector, pressure-reducing valve and optional pneumatic control.

## Vacuum Pumps



### Dry-Running Vacuum Pumps EVE-TR



479

- Suction capacity up to 244 m<sup>3</sup>/h
- Max. vacuum 92%

Oil-free vacuum pump with integrated fan, permanently lubricated bearings, dry-running membrane and high efficiency for handling of dense parts.



### Oil-Lubricated Vacuum Pumps EVE-OG



487

- Suction capacity up to 255 m<sup>3</sup>/h
- Max. vacuum 98%

Low-maintenance, oil-lubricated vacuum pump with oil separator, three-phase current drive and optionally with additional filter and motor protection switch for handling of dense parts.



### Water-Ring Pumps EVE-WR



492

- Suction capacity up to 65 m<sup>3</sup>/h
- Max. vacuum 93%

Oil and maintenance-free as well as energy-saving water-ring pump with internal exhaust air drying and water re-feeding for the highest standards for ambient air and temperature.

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	<b>Vacuum Reservoirs VOL</b>		495
<ul style="list-style-type: none"> <li>• Capacities: 5 to 200 l</li> </ul>		Vacuum reservoir with non-return valve, manometer and dust filter for maintaining vacuum in case of power failure.	
	<b>Vacuum Centres VZ</b>		497
<ul style="list-style-type: none"> <li>• Suction capacity up to 165 m<sup>3</sup>/h</li> <li>• Max. vacuum 98%</li> <li>• Reservoir capacity up to 200 l</li> </ul>		Vacuum center with pump, vacuum reservoir and non-return valve as a complete product.	
<b>Vacuum Blowers</b>			
	<b>Vacuum Blowers SGBL-DG</b>	  	500
<ul style="list-style-type: none"> <li>• Suction capacity up to 540 m<sup>3</sup>/h</li> <li>• Max. vacuum 46%</li> </ul>		Vacuum blower for handling of extremely porous workpieces using maximum volume flow.	
	<b>Vacuum Blowers SGBL-DG with Electro-Pneumatic Reversing</b>	  	505
<ul style="list-style-type: none"> <li>• Suction capacity up to 540 m<sup>3</sup>/h</li> <li>• Max. vacuum 46%</li> </ul>		Vacuum blower with electro-pneumatic reversing valve for control of suction and blow off, handling extremely porous workpieces using maximum volume flow.	
	<b>Frequency-Regulated Vacuum Blowers SGBL-FU</b>	  	510
<ul style="list-style-type: none"> <li>• Suction capacity up to 335 m<sup>3</sup>/h</li> <li>• Max. vacuum 50%</li> </ul>		Compact vacuum blower with frequency regulation for optimal performance adjustment to the given requirements.	

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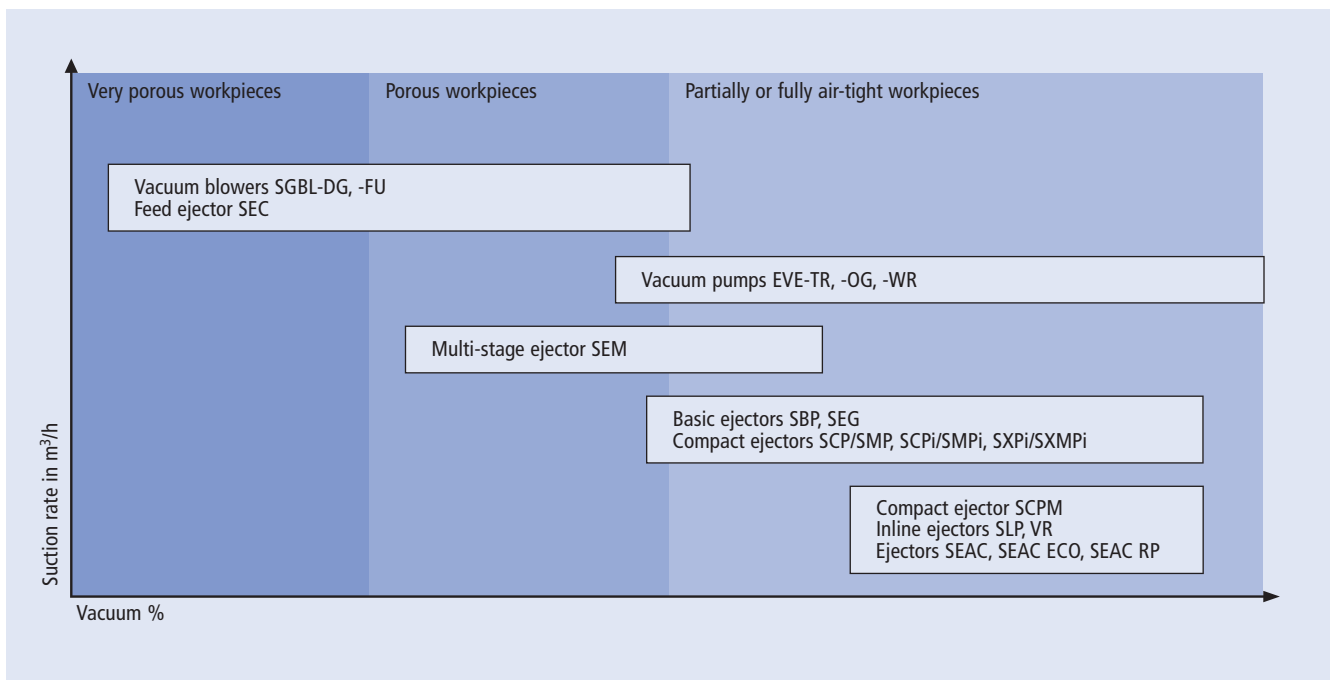
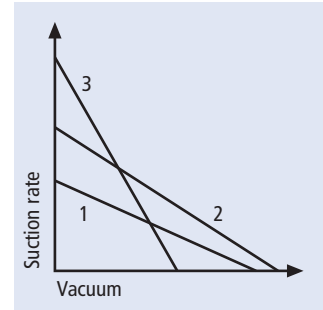
### Selection by Suction Rate

The necessary vacuum can be generated with vacuum generators of various types.

The following three vacuum generators are available:

- 1) Ejector
- 2) Vacuum pump
- 3) Vacuum blower

Each type has its own specific advantages, but they have one thing in common: a high suction rate at a high vacuum always means high power consumption and high operating costs.





Checklist for Selection of Vacuum Generators	
How is the vacuum generator driven?	Electrically (pump, blower) or pneumatically (ejector).
Is the workpiece air-tight or porous?	Affects the evacuation volume.
How large is the volume to be evacuated?	Details (in m <sup>3</sup> /h or l/min) are shown for each vacuum generator.
How long is the required cycle time?	Affected by: the evacuation volume of the vacuum generator, the volume to be evacuated, the switching times of the valves etc.
Which vacuum value is required?	For practical use, a value of -600 mbar is assumed for calculations with air-tight workpieces.
Where is the vacuum generator located?	Affects the size, weight and additional functions.

### Vacuum Accessories



#### Sealing Rings (DR)

Robust PA sealing rings with excellent sealing properties.

Further information in Section "Filters and Connections".



#### Vacuum Filters (VF/VFT/STF)

Filter the incoming air to protect the vacuum generator against dirt and resulting failure. Depending on the air-flow rate, various vacuum filters are available.

Further information in Section "Filters and Connections".



#### Plug-In Screw Unions

For quick, tool-free connection of hoses to vacuum generators.

Further information in Section "Filters and Connections".



#### Vacuum Hoses (VSL)

Carry the vacuum to the places where it is needed. Suitable for both compressed-air and vacuum.

Further information in Section "Filters and Connections".