

Vacuum End Effector VEE

Application



Vacuum end effector with bellows suction pads SPB1 for cardboard packaging



Vacuum end effector with bellows suction pads SPB4 for flow-wrapped packaging



Vacuum end effector with flat suction pads SGPN for firm foil packaging

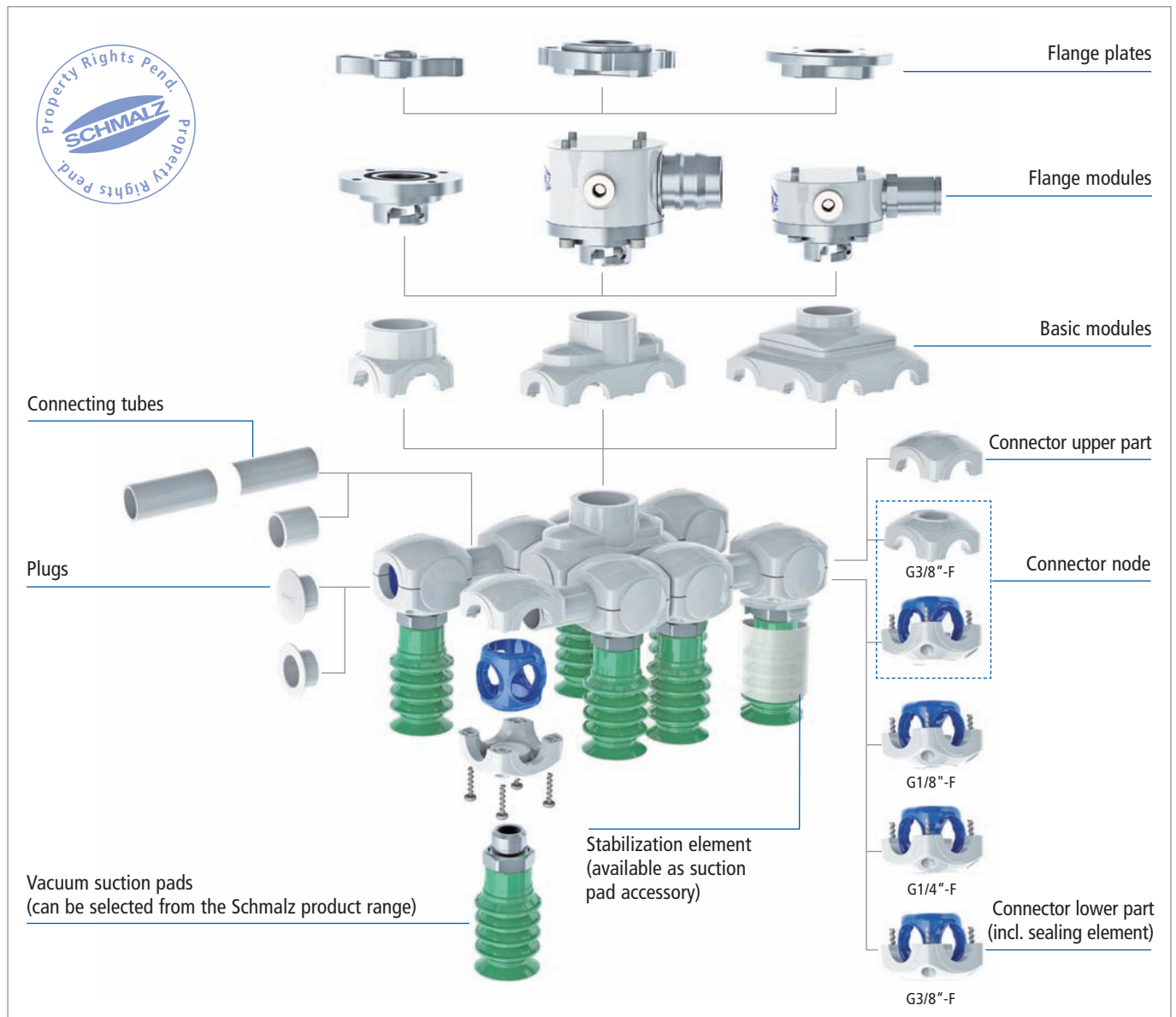
Modular system for quick and cost-efficient assembly of vacuum end effectors

- Fast pick-and-place processes in combination with delta and SCARA robots
- Use in both primary and secondary packaging processes
- Automated filling of cardboard boxes using case packers
- Use in top-loading machines as well as in cardboard box and tray aligners
- Use in flexible packaging machines with frequent format changes



Vacuum end effector with bellows suction pads SPB4 for stand-up bags

Assembly and Sample Configurations



Sample configuration 1

- Based on 1-connection basic module with six suction pads
- Gripper weight only 395 g
- Gripper size approx. 200 mm x 200 mm



Sample configuration 2

- Based on 2-connection basic module with six suction pads
- Gripper weight only 350 g
- Gripper size approx. 160 mm x 80 mm



Sample configuration 3

- Based on 4-connection basic module with eight suction pads
- Gripper weight only 425 g
- Gripper size approx. 220 mm x 80 mm

System Modules



Flange plates FLAN-PL

Quick and easy connection of the flange module to the robot; available for all conventional robot types and as a universal flange.

www.schmalz.com/flan-pl



Flange modules VEE-QCM

Quick-change adapter and vacuum connection; either horizontal (max. 20 m³/h and max. 60 m³/h volume flow rate) or vertical (max. 60 m³/h volume flow rate).

www.schmalz.com/vee-qcm



Basic modules VEE-QCF

Tool-free connection of the end effector to the flange module and central vacuum feed; available as a 1-, 2-, or 4-connection module.

www.schmalz.com/vee-qcf



Connector upper part VEE-CO-U

Top half-shell for assembly of connecting nodes; available in closed design or with connection for additional vacuum feed (G3/8"-F).

www.schmalz.com/vee-co-u



Connector lower part VEE-CO-L

Bottom half-shell including sealing element and screws for assembly of connecting nodes; either closed or with connection for suction pad (G1/8"-F, G1/4"-F, G3/8"-F).

www.schmalz.com/vee-co-l



Connecting tubes VEE-TU

Vacuum guide and variable connection of nodes; available in 18 mm and 200 mm lengths. Pipe scissors for quick and safe cutting available as accessory.

www.schmalz.com/vee-tu



Plugs VEE-PL

For sealing unneeded connections on connecting nodes, lateral vacuum feed and partitioning into different vacuum zones.

www.schmalz.com/vee-pl



Stabilization element SP

Increased process speed by additional support of the workpiece; available as an option for bellows suction pads.

Vacuum Suction Pads for the Packaging Industry



Flat suction pads SPF/ Bellows suction pads SPB1

- For intrinsically stable and slightly unstable cardboard boxes and packaging
- High intrinsic stability
- Wear-proof material ELASTODUR ED-65

www.schmalz.com/spf.../spb1



Bellows suction pads SPB4

- For bags and other flexible packaging
- Reinforced basic body with 4.5 folds
- Flexible sealing lip
- FDA-compliant silicone material SI-55

www.schmalz.com/spb4



Flat suction pads SGPN

- For films, blister packs and other sensitive packaging
- Extremely thin sealing lip
- Natural rubber material NK-40 or FDA-compliant silicone material SI-50

www.schmalz.com/sgpn



Bellows suction pads FSG/FSGA

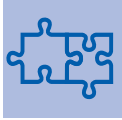
- Standard suction pads for various packaging applications
- Stable basic body with 1.5 or 2.5 folds
- FDA-compliant silicone material SI-55

www.schmalz.com/fsg.../fsga

Vacuum End Effector VEE

Overview of Highlights

Modular system for time and cost saving construction of vacuum end effectors



Individual configuration

- Flexible modular design with perfectly coordinated parts
- Variable number of suction pads and variable suction pad distances
- Hose-free vacuum distribution



Reduced construction and manufacturing effort

- Significant reduction of construction effort by modular design principle and CAD data (available online)
- Minimizes configuration and production time by more than 80 %
- Reduces manufacturing costs by up to 75 %



Minimum weight for maximum process speeds

- Complete end effector with SPB4-30 bellows suction pad and quick change coupler weighs as low as 95 g (even by selective laser sintering SLS, this can hardly be achieved)
- Designed for high-speed applications with accelerations up to 10 g (100 m/s²)



Outstanding hygiene properties

- FDA-compliant polysulfone material (PSU)
- Suitable for steam sterilization (up to 134 °C at 3 bars pressure)
- Excellent resistance to cleaning agents used in the food industry

All you need for a quick start

The Vacuum End Effector Starter Set

The VEE starter set (Article No. 10.01.36.00030) allows you to configure vacuum end effectors for high-speed packaging processes within minutes.

Contents

- 120-piece starter set with all components for assembling up to two VEE vacuum end effectors
- Eight vacuum suction pads SPB4-30 for bags and other flexible packaging
- Quick-change coupler with bayonet fastener
- In sturdy plastic case with detailed assembly instructions

 www.schmalz.com/vee-starterset



Vacuum End Effector VEE

Technical Data and Design Data



Technical Data

Specification	Vacuum end effectors from the VEE modular system
Max. rated flow	60 m³/h
Max. vacuum value	-980 mbar
Overpressure resistance	up to 3 bar
Temperature range	-25 °C to +80 °C
Material	Polysulfone PSU (BfR and FDA approved)
Max. load capacity	2,000 g



Design Data

The modular system VEE allows you to freely configure individual end effectors. This together with the large selection of suction pads for the packaging industry leads to a nearly unlimited number of possible applications.

Specification	Vacuum end effectors from the VEE modular system	
	Minimum configuration (1-connection basic module)	Maximum configuration (4-connection basic module)
Gripper size	38 x 38 mm	300 x 200 mm
Gripper weight¹	40 g	800 g
Suction pad connection thread	G1/8"-F G1/4"-F G3/8"-F	G1/8"-F G1/4"-F G3/8"-F
Qty. of suction pads	1	12
Workpiece size	15 x 15 mm	400 x 300 mm

¹ without flange module and suction pad

Download now!

PDF brochure



J. Schmalz GmbH

Aacher Strasse 29

D-72293 Glatten

Tel. +49 (0)7443 2403 0

Fax +49 (0)7443 2403 259

schmalz@schmalz.de

www.schmalz.com