**Large-Area Vacuum Gripping System FMP**

Flexible and Safe Handling with Extra Power

Available from the end of June 2013

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**Application**

- Universal large-area vacuum gripping system for powerful and efficient handling in automated processes
- Handling of workpieces made of various materials (for example: wood, metal sheet, glass, cardboard or plastics), with various shapes and dimensions and undefined positions
- Reliable handling of porous workpieces as well as workpieces with gaps
- Use in the wood industry (FMP with sealing foam) to handle coated or unplaned workpieces such as boards, beams or panels
- Use in packaging processes (FMP with suction pads) for automated palletizing and depalletizing of cardboard boxes, bags and film packaging, shrink-wrapped products etc.

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**Design**

**FMP with sealing foam**

- Vacuum connector (1) for external vacuum generation
- Basic body (2) made from an anodized aluminum extruded section
- Insert element (3) for flow optimization
- End cover (4) with connections for blow off and separation functions as well as attachment point for the vacuum switch
- Gauge (5) for monitoring the operating vacuum
- T-groove (6) on the side for attaching proximity sensors for workpiece recognition and cycle time optimization
- Integrated valve technology (available as either flow resistors or check valves)
- Valve film (7) with self-cleaning effect for easy change of valve type and valve size
- Durable sealing foam (8) with outstanding sealing properties and low return force and with optimized adhesive film for simple and fast foam replacement

**FMP with suction pads**

- Basic design (1-7) the same as the FMP with sealing foam
- Bellows suction pads SPB2 (9) made of FDA-compliant silicone with 2.5 fold shape for optimal height compensation and damping effect
- Suction pads are plugged into the device, allowing fast replacement

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**Product highlights**

- Extra strong suction force
- Efficient flow technology
- Simple and fast maintenance
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Setting New Benchmarks in Vacuum Automation
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Schmalz has entered the new large-area gripping system FMP in a benchmark test against systems that are currently available from other manufacturers. The comparison shows that the Schmalz gripper is well ahead of the competition in terms of suction force and foam service life.

### First test: Measuring strength

Schmalz equipped the large-area gripping system FMP with a special insert element and leak-free check valves to optimize flow. Comparing it to the other systems currently available on the market makes this effect even clearer.

#### Result

The FMP features an impressive 86 % more suction force on average when used on unplaned workpieces and 87 % more suction force on workpieces with smooth surfaces.

#### Your benefits

- High leak compensation for process-safe handling of porous workpieces
- Improved energy efficiency
- Cost-efficient system dimensioning

### Second test: Endurance

The FMP is not only stronger than the competition, it also lasts longer. This was the result of a comparison of the FMP’s sealing foam with other foams available on the market. The tightness of the foam seal was taken into consideration based on measurements of the maximum vacuum level achieved over multiple cycles.

#### Result

In comparison with other sealing foams available on the market, it took the Schmalz sealing foam 2.5 times as many gripping cycles as the competition to reach the typical wear limit (foam seal < 0.45 bar). Compared to standard PU foams, the Schmalz sealing foam lasted up to 20 times longer.

#### Your benefits

- Increased availability due to greatly reduced maintenance and downtimes
- Quicker returns on investment

### Additional highlights...

- Compact and lightweight design (on average 25 % lighter than the previous generation FMC)
- Easy-to-replace sealing elements
- Optional integrated blow off function
- Optional separation function
- Can be configured modularly

### Your benefits...

- Optimal process integration for highly dynamic applications
- Minimal maintenance and downtimes
- Fast placing of loads and short cycle times
- Reliable separation of porous workpieces
- Optimal adaptation to customer-specific requirements