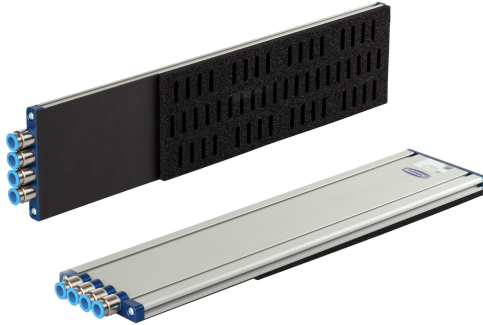
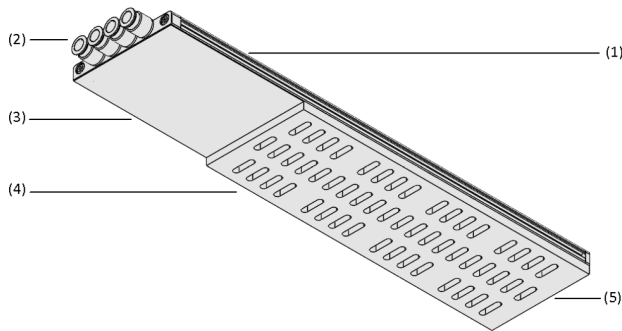


# Vacuum Area Gripping Systems FEL

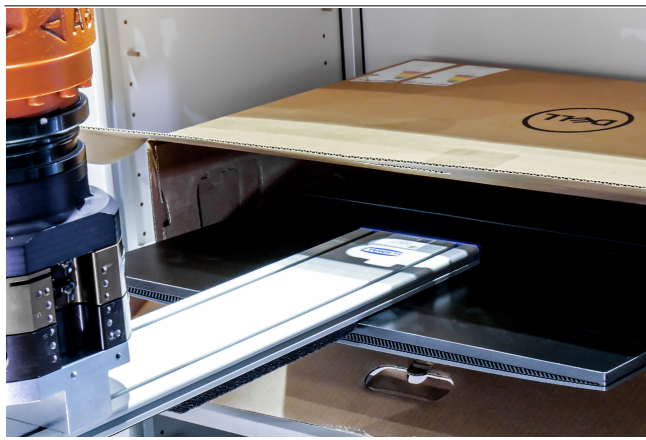
Gripping surface (LxW) from 300 x 130 to 800 x 130 mm



Vacuum Area Gripping Systems FEL



System design Vacuum Area Gripping Systems FEL



Area gripper FEL when handling screens

## Suitability for industry specific applications

### Application

- Universal gripper for handling workpieces regardless of their size, geometry, material and surface in confined spaces. Especially for workpiece removal from racks or transport boxes
- Handling of products from different pick up positions
- Handling of workpieces with slots
- Suitable for fully automated applications
- Can also be used on lightweight robots due to the low dead weight of the gripper
- Optional for use in clean room and ESD environment

### Design

- Aluminum base section (1) with lateral T-slots for sensors as well as integrated air guides for supplying the individual gripping zones (maximum 4 zones); different gripper lengths possible
- Connection hose couplings (2) for external vacuum generators to supply the individual suction zones
- Flanged-on area (3) and integrated suction zones (4)
- Sealing plate (5)

### Product highlights

- Low overall height with 16.5 mm base section height enables use in areas with critical interference contours
- Low gripper weight, high effective lift capacity and dynamic handling thanks to modular lightweight design
- High energy efficiency and low operating costs due to integrated gripper segmentation into individually switchable and controllable zones
- High-performance sealing foam with excellent sealing properties and long service life
- Sealing foam with quick-change adhesive film for effortless replacement without time-consuming cleaning work

# Vacuum Area Gripping Systems FEL

Gripping surface (LxW) from 300 x 130 to 800 x 130 mm

## Designation code Vacuum Area Gripping Systems FEL

|                 |   |                 |   |                 |   |                 |   |                |   |                |
|-----------------|---|-----------------|---|-----------------|---|-----------------|---|----------------|---|----------------|
| <b>FEL</b><br>1 | – | <b>SW</b><br>2  | – | <b>70</b><br>3  | – | <b>352</b><br>4 | – | <b>3R</b><br>5 | – | <b>18</b><br>6 |
| <b>O10</b><br>7 | – | <b>G12</b><br>8 | – | <b>PZ2</b><br>9 |   |                 |   |                |   |                |

### 1 – Abbreviated designation

| Code | Version                         |
|------|---------------------------------|
| FEL  | Vacuum area gripping system FEL |

### 4 – Length

| Code | Length in mm |
|------|--------------|
| 352  | 352          |
| 550  | 550          |
| 748  | 748          |

### 7 – Sealing element

| Code | Height in mm               |
|------|----------------------------|
| O10  | Sealing foam (height = 10) |

### 2 – Valve technology

| Code | Type            |
|------|-----------------|
| SW   | Flow restrictor |

### 5 – Suction rows

| Code | Number         |
|------|----------------|
| 3R   | 3 suction rows |
| 5R   | 5 suction rows |

### 8 – Nominal diameter

| Code | Diameter in mm |
|------|----------------|
| G12  | Ø 12           |

### 3 – Nozzle size

| Code    | Diameter in mm |
|---------|----------------|
| 60...70 | Ø 0,6 and 0,7  |

### 6 – Hole spacing

| Code | Spacing in mm |
|------|---------------|
| 18   | 18            |

### 9 – Shape

| Code | Spacing in mm                     |
|------|-----------------------------------|
| PZ1  | 1x passive zone / 1x suction zone |
| PZ2  | 1x passive zone / 2x suction zone |
| PZ4  | 1x passive zone / 4x suction zone |

The area gripping systems FEL are available as a ready-to-connect product. Customized grippers are available on request.

Available spare parts: sealing foam

Available accessories: vacuum hose, vacuum/pressure switches, spring plungers, ball joints, flange modules, external vacuum generators, vacuum filters, valves, magnetic valves, vacuum gauges

## Ordering data Vacuum Area Gripping Systems FEL

| Type                          | Part no.       |
|-------------------------------|----------------|
| FEL SW70 352 3R18 O10 G12 PZ1 | 10.01.46.00105 |
| FEL SW70 352 3R18 O10 G12 PZ2 | 10.01.46.00114 |
| FEL SW60 352 5R18 O10 G12 PZ1 | 10.01.46.00117 |
| FEL SW60 352 5R18 O10 G12 PZ2 | 10.01.46.00121 |
| FEL SW70 550 3R18 O10 G12 PZ4 | 10.01.46.00131 |
| FEL SW60 550 5R18 O10 G12 PZ4 | 10.01.46.00134 |
| FEL SW70 748 3R18 O10 G12 PZ4 | 10.01.46.00124 |
| FEL SW60 748 5R18 O10 G12 PZ4 | 10.01.46.00128 |

## Vacuum Area Gripping Systems FEL

Gripping surface (LxW) from 300 x 130 to 800 x 130 mm

### Ordering data Spare parts Vacuum Area Gripping Systems FEL

| Spare parts                   | Sealing plate suction area | Sealing plate passive zone |
|-------------------------------|----------------------------|----------------------------|
| FEL SW70 352 3R18 O10 G12 PZ1 | 10.01.46.00106             | 10.01.46.00107             |
| FEL SW70 352 3R18 O10 G12 PZ2 | 10.01.46.00115             | 10.01.46.00107             |
| FEL SW60 352 5R18 O10 G12 PZ1 | 10.01.46.00118             | 10.01.46.00107             |
| FEL SW60 352 5R18 O10 G12 PZ2 | 10.01.46.00119             | 10.01.46.00107             |
| FEL SW70 550 3R18 O10 G12 PZ4 | 10.01.46.00132             | 10.01.46.00100             |
| FEL SW60 550 5R18 O10 G12 PZ4 | 10.01.46.00133             | 10.01.46.00100             |
| FEL SW70 748 3R18 O10 G12 PZ4 | 10.01.46.00125             | 10.01.46.00107             |
| FEL SW60 748 5R18 O10 G12 PZ4 | 10.01.46.00127             | 10.01.46.00107             |

| Spare parts                       | Part no.                     |
|-----------------------------------|------------------------------|
| Separator                         | DI-PL 88.5x10 ZEL            |
| Sleeve for separators             | HUEL 5.4-3.4x4-FEL           |
| Sealing gasket                    | DI-SCHN 2.5 NBR-70           |
| Sealing plate for housing cover   | DI-PL 84.9x9.3 ZEL PU KE FEL |
| Oval head screw for housing cover | SCHR WN1552 5x20 ST VZ T25   |

### Ordering data Accessories Vacuum Area Gripping Systems FEL

| Type*           | Part no.                  |
|-----------------|---------------------------|
| Solenoid valve  | EMVP 10 230V-AC 3/2 NO/NC |
| Compact ejector | SMPI 25 NO RD M12-5       |

\*For one suction zone

| Spare parts                     | Part no.                   |
|---------------------------------|----------------------------|
| Flange module                   | MOD-FLAN 130x90 FEL        |
| Connection cable                | ASK B-M12-5 5000 K-5P      |
| Compressed-air connection plate | GP 2 SMP 15..30/SCP 20..30 |
| Compressed-air connection plate | GP 3 SMP 15..25/SCP 20..25 |
| Compressed-air connection plate | GP 4 SMP 15..20/SCP 20     |

| Accessories                                         | Part no.               |
|-----------------------------------------------------|------------------------|
| Sliding block M6 for slot on the top of the gripper | NUT-STEI 17x10.6 M6-IG |
| Sliding block M4 for lateral slot                   | NUT-STEI 11.5x8 M4-IG  |

## Vacuum Area Gripping Systems FEL

Gripping surface (LxW) from 300 x 130 to 800 x 130 mm

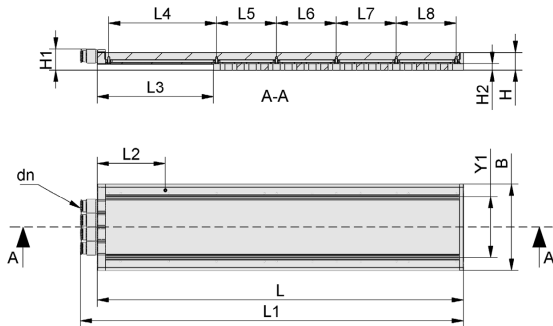
### Technical data Vacuum Area Gripping Systems FEL

| Type                             | Shape                                | Material type        | [N] | Arrangement suction cells | Number of suction cells | Required suction capacity for $p_u = -0.3 \text{ bar}$ [l/min] | Nozzle diameter [mm] | Weight [kg] |
|----------------------------------|--------------------------------------|----------------------|-----|---------------------------|-------------------------|----------------------------------------------------------------|----------------------|-------------|
| FEL SW60 352<br>5R18 O10 G12 PZ1 | 1x passive zone /<br>1x suction zone | Foam O, Height 10 mm | 110 | 5 rows, 18 mm             | 46                      | 124                                                            | 0.6                  | 1.2         |
| FEL SW60 352<br>5R18 O10 G12 PZ2 | 1x passive zone /<br>2x suction zone | Foam O, Height 10 mm | 100 | 5 rows, 18 mm             | 42                      | 113                                                            | 0.6                  | 1.2         |
| FEL SW60 550<br>5R18 O10 G12 PZ4 | 1x passive zone /<br>4x suction zone | Foam O, Height 10 mm | 200 | 5 rows, 18 mm             | 84                      | 227                                                            | 0.6                  | 1.8         |
| FEL SW60 748<br>5R18 O10 G12 PZ4 | 1x passive zone /<br>4x suction zone | Foam O, Height 10 mm | 345 | 5 rows, 18 mm             | 144                     | 389                                                            | 0.6                  | 2.4         |
| FEL SW70 352<br>3R18 O10 G12 PZ1 | 1x passive zone /<br>1x suction zone | Foam O, Height 10 mm | 150 | 3 rows, 18 mm             | 28                      | 112                                                            | 0.7                  | 1.2         |
| FEL SW70 352<br>3R18 O10 G12 PZ2 | 1x passive zone /<br>2x suction zone | Foam O, Height 10 mm | 140 | 3 rows, 18 mm             | 26                      | 104                                                            | 0.7                  | 1.2         |
| FEL SW70 550<br>3R18 O10 G12 PZ4 | 1x passive zone /<br>4x suction zone | Foam O, Height 10 mm | 280 | 3 rows, 18 mm             | 52                      | 208                                                            | 0.7                  | 1.8         |
| FEL SW70 748<br>3R18 O10 G12 PZ4 | 1x passive zone /<br>4x suction zone | Foam O, Height 10 mm | 470 | 3 rows, 18 mm             | 88                      | 352                                                            | 0.7                  | 2.4         |

## Vacuum Area Gripping Systems FEL

Gripping surface (LxW) from 300 x 130 to 800 x 130 mm

### Design data Vacuum Area Gripping Systems FEL



FEL

## Vacuum Area Gripping Systems FEL

Gripping surface (LxW) from 300 x 130 to 800 x 130 mm

### Design data Vacuum Area Gripping Systems FEL

| Type                                   | B [mm] | dn [mm] | H [mm] | H1 [mm] | H2 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] | L4 [mm] | L5 [mm] | L6 [mm] | L7 [mm] | L8 [mm] | Y1 [mm] |
|----------------------------------------|--------|---------|--------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| FEL SW70<br>352 3R18<br>O10 G12<br>PZ1 | 130    | 12      | 26.5   | 32      | 10      | 352    | 377.70  | 112     | 156.5   | 144     | 180     | -       | -       | -       | 90      |
| FEL SW70<br>352 3R18<br>O10 G12<br>PZ2 | 130    | 12      | 26.5   | 32      | 10      | 352    | 377.70  | 112     | 156.5   | 144     | 90      | 90      | -       | -       | 90      |
| FEL SW60<br>352 5R18<br>O10 G12<br>PZ1 | 130    | 12      | 26.5   | 32      | 10      | 352    | 377.70  | 112     | 156.5   | 144     | 180     | -       | -       | -       | 90      |
| FEL SW60<br>352 5R18<br>O10 G12<br>PZ2 | 130    | 12      | 26.5   | 32      | 10      | 352    | 377.70  | 112     | 156.5   | 144     | 90      | 90      | -       | -       | 90      |
| FEL SW70<br>550 3R18<br>O10 G12<br>PZ4 | 130    | 12      | 26.5   | 32      | 10      | 550    | 575.71  | 112     | 174.5   | 162     | 90      | 90      | 90      | 90      | 90      |
| FEL SW60<br>550 5R18<br>O10 G12<br>PZ4 | 130    | 12      | 26.5   | 32      | 10      | 550    | 575.71  | 112     | 174.5   | 162     | 90      | 90      | 90      | 90      | 90      |
| FEL SW70<br>748 3R18<br>O10 G12<br>PZ4 | 130    | 12      | 26.5   | 32      | 10      | 748    | 773.70  | 112     | 156.5   | 144     | 144     | 144     | 144     | 144     | 90      |
| FEL SW60<br>748 5R18<br>O10 G12<br>PZ4 | 130    | 12      | 26.5   | 32      | 10      | 748    | 773.70  | 112     | 156.5   | 144     | 144     | 144     | 144     | 144     | 90      |