

# Compact Ejectors



## Compact Ejectors SMP

Suction rate from 65 l/min to 200 l/min



### Suitability for Industry-Specific Applications

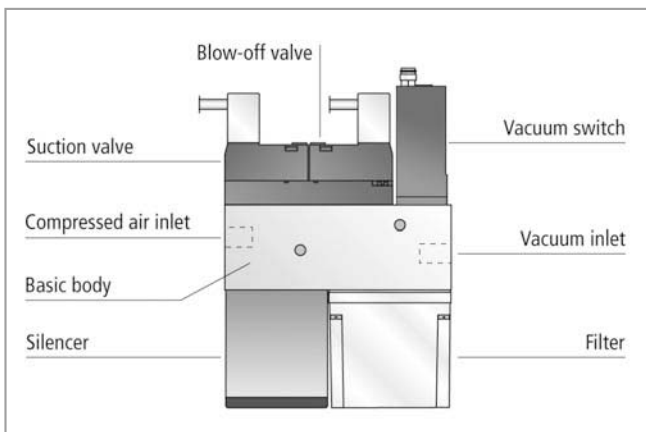


Compact ejectors SMP

### Applications

- Compact ejector for handling of non-porous workpieces
- For use in the handling of sheet metal, in the automobile industry, in packing machines and in industrial robot technology
- Pick-and-place applications with very short cycle times (very fast release of workpieces thanks to the power function)

### Design



System design compact ejectors SMP

- Compact ejector SMP, consisting of an anodized aluminum body, filter, silencer, two control valves (grip/blow-off) and non-return valve
- Power function for reduction of the blow-off time by about 50%
- Optionally available as NO or NC version
- Optional vacuum monitoring with electronic (VE) or digital (VD) vacuum switch
- Optional air-saving function (RE or RD)
- Suitable for mounting on block mounting plate GP
- Suitable for filtered, oil-free compressed air (4-6 bar)
- Compact ejectors with air-saving function, including cables

### Our Highlights...

- High suction and blow-off capacity thanks to the power function
- Wide range of models with various performance figures
- Automatic air-saving function (option)
- Versatile modular system
- Digital vacuum monitoring (option)

### Your Benefits...

- > Minimum cycle times due to extremely fast gripping and release of the workpieces
- > Versions with optimum power ratings for all tasks
- > Economical use in continuous operation
- > Flexible adaptation to customer requirements
- > Easy adjustment with settings shown on an LED display



Central vacuum generation by compact ejectors SMP

# Compact Ejectors



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Suction rate from 65 l/min to 200 l/min

### Designation Code Compact Ejectors SMP

| Abbreviated designation         | Nozzle size  | Idle position suction valve            | Blow off- and safety non-return valve          | System monitoring  |
|---------------------------------|--|--|--|--|
| <b>Example SMP 15 NO AS RE:</b> |  |  |  |  |
| <b>SMP</b>                      | <b>15</b>  | <b>NO</b>                              | <b>AS</b>                                      | <b>RE</b>  |
| <b>SMP</b>                      | 15 = 1.5 mm<br>20 = 2.0 mm<br>25 = 2.5 mm<br>30 = 3.0 mm | NC normally closed<br>NO normally open | AS blow off valve with safety non-return valve | RD air saving function with digital vacuum switch<br>RE air saving function with electronic vacuum switch<br>VD digital vacuum switch<br>VE electronic vacuum switch |

### Ordering Data Compact Ejectors SMP

Compact ejector SMP is delivered as a ready to connect product (without connection cable).

Available spare parts: silencer, filter

Available accessories: connection cable, connection plug

### Compact Ejectors SMP

| SMP 15          |                | SMP 20          |                | SMP 25          |                | SMP 30          |                |
|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|
| Type            | Part Number    | Type            | Part Number    | Type            | Part Number    | Type            | Part Number    |
| SMP 15 NO AS    | 10.02.02.00561 | SMP 20 NO AS    | 10.02.02.00571 | SMP 25 NO AS    | 10.02.02.00581 | SMP 30 NO AS    | 10.02.02.00591 |
| SMP 15 NC AS    | 10.02.02.00562 | SMP 20 NC AS    | 10.02.02.00572 | SMP 25 NC AS    | 10.02.02.00582 | SMP 30 NC AS    | 10.02.02.00592 |
| SMP 15 NO AS VE | 10.02.02.00565 | SMP 20 NO AS VE | 10.02.02.00575 | SMP 25 NO AS VE | 10.02.02.00585 | SMP 30 NO AS VE | 10.02.02.00595 |
| SMP 15 NC AS VE | 10.02.02.00566 | SMP 20 NC AS VE | 10.02.02.00576 | SMP 25 NC AS VE | 10.02.02.00586 | SMP 30 NC AS VE | 10.02.02.00596 |
| SMP 15 NO AS VD | 10.02.02.00567 | SMP 20 NO AS VD | 10.02.02.00577 | SMP 25 NO AS VD | 10.02.02.00587 | SMP 30 NO AS VD | 10.02.02.00597 |
| SMP 15 NC AS VD | 10.02.02.00568 | SMP 20 NC AS VD | 10.02.02.00578 | SMP 25 NC AS VD | 10.02.02.00588 | SMP 30 NC AS VD | 10.02.02.00598 |
| SMP 15 NO AS RE | 10.02.02.00569 | SMP 20 NO AS RE | 10.02.02.00579 | SMP 25 NO AS RE | 10.02.02.00589 | SMP 30 NO AS RE | 10.02.02.00599 |
| SMP 15 NO AS RD | 10.02.02.00570 | SMP 20 NO AS RD | 10.02.02.00580 | SMP 25 NO AS RD | 10.02.02.00590 | SMP 30 NO AS RD | 10.02.02.00600 |
| SMP 15 NC AS RE | 10.02.02.00772 | SMP 20 NC AS RE | 10.02.02.00774 | SMP 25 NC AS RE | 10.02.02.00776 | SMP 30 NC AS RE | 10.02.02.00778 |
| SMP 15 NC AS RD | 10.02.02.00773 | SMP 20 NC AS RD | 10.02.02.00775 | SMP 25 NC AS RD | 10.02.02.00777 | SMP 30 NC AS RD | 10.02.02.00779 |

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Suction rate from 65 l/min to 200 l/min

### Ordering Data Spare Parts and Accessories Compact Ejectors SMP

| Type                 | Connection plug for solenoid valves* with cable (5 m, PVC) | Connection plug for solenoid valves* with cable (10 m, PUR) | Connection plug for solenoid valves* without cable | Connection cable for vacuum switch (5 m, straight, PUR) | Connection cable for vacuum switch (5 m, 90°, PUR) | Replacement silencer | Replacement filter element |
|----------------------|--|---|--|---|--|----------------------|----------------------------|
| SMP 15 NO/NC AS      | 21.04.06.00084   | 21.04.06.00118  | 21.04.06.00085                                     | -   | -  | 10.02.02.00651       | 10.02.02.00654             |
| SMP 15 NO/NC AS V... | 21.04.06.00084   | 21.04.06.00118  | 21.04.06.00085                                     | 10.06.02.00031  | 10.06.02.00032                                     | 10.02.02.00651       | 10.02.02.00654             |
| SMP 15 NO/NC AS R... | -  | -   | -  | -   | -  | 10.02.02.00651       | 10.02.02.00654             |
| SMP 20 NO/NC AS      | 21.04.06.00084   | 21.04.06.00118  | 21.04.06.00085                                     | -   | -  | 10.02.02.00651       | 10.02.02.00654             |
| SMP 20 NO/NC AS V... | 21.04.06.00084   | 21.04.06.00118  | 21.04.06.00085                                     | 10.06.02.00031  | 10.06.02.00032                                     | 10.02.02.00651       | 10.02.02.00654             |
| SMP 20 NO/NC AS R... | -  | -   | -  | -   | -  | 10.02.02.00651       | 10.02.02.00654             |
| SMP 25 NO/NC AS      | 21.04.06.00084   | 21.04.06.00118  | 21.04.06.00085                                     | -   | -  | 10.02.02.00652       | 10.02.02.00654             |
| SMP 25 NO/NC AS V... | 21.04.06.00084   | 21.04.06.00118  | 21.04.06.00085                                     | 10.06.02.00031  | 10.06.02.00032                                     | 10.02.02.00652       | 10.02.02.00654             |
| SMP 25 NO/NC AS R... | -  | -   | -  | -   | -  | 10.02.02.00652       | 10.02.02.00654             |
| SMP 30 NO/NC AS      | 21.04.06.00084   | 21.04.06.00118  | 21.04.06.00085                                     | -   | -  | 10.02.02.00652       | 10.02.02.00654             |
| SMP 30 NO/NC AS V... | 21.04.06.00084   | 21.04.06.00118  | 21.04.06.00085                                     | 10.06.02.00031  | 10.06.02.00032                                     | 10.02.02.00652       | 10.02.02.00654             |
| SMP 30 NO/NC AS R... | -  | -   | -  | -   | -  | 10.02.02.00652       | 10.02.02.00654             |

\*Order 2 x per ejector. In the case of regulated compact ejectors, the cable set is included with the ejector

### Technical Data Compact Ejectors SMP

| Type   | Nozzle-Ø [mm] | Degree of evacuation [%] | Max. suction rate [l/min] | Max. suction rate [m³/h] | Air consumpt. during evac. [l/min]* | Air consumpt. during evac. [m³/h]* | Max. air consumption blow off [l/min] |
|--------|---------------|--------------------------|---------------------------|--------------------------|-------------------------------------|------------------------------------|---------------------------------------|
| SMP 15 | 1.5           | 85                       | 65.0                      | 3.9                      | 117                                 | 7.0                                | 220                                   |
| SMP 20 | 2.0           | 85                       | 116.0                     | 7.0                      | 190                                 | 11.4                               | 220                                   |
| SMP 25 | 2.5           | 85                       | 161.0                     | 9.7                      | 310                                 | 18.6                               | 220                                   |
| SMP 30 | 3.0           | 85                       | 200.0                     | 12.0                     | 420                                 | 25.2                               | 220                                   |

!The supply voltage for vacuum switches and solenoid valves is 24V DC

\*At optimal operating pressure

\*\*For max. length 2 m

| Type   | Noise level workp. gripped [dB] | Noise level free [dB] | Operating pressure [bar] | Recomm. int. hose diameter compr. air [mm]** | Recomm. int. hose diameter vacuum [mm]** | Weight [g] | Operating temperature [°C] |
|--------|---------------------------------|-----------------------|--------------------------|--|--|------------|----------------------------|
| SMP 15 | 74                              | 74                    | 5...6                    | 4  | 6  | 465        | 0...45                     |
| SMP 20 | 76                              | 78                    | 5...6                    | 4  | 9  | 465        | 0...45                     |
| SMP 25 | 72                              | 82                    | 5...6                    | 6  | 9  | 485        | 0...45                     |
| SMP 30 | 82                              | 82                    | 5...6                    | 9  | 11                                       | 485        | 0...45                     |

!The supply voltage for vacuum switches and solenoid valves is 24V DC

\*At optimal operating pressure

\*\*For max. length 2 m

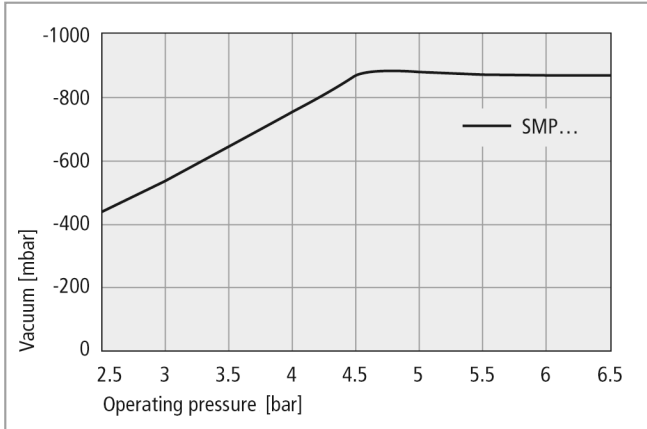
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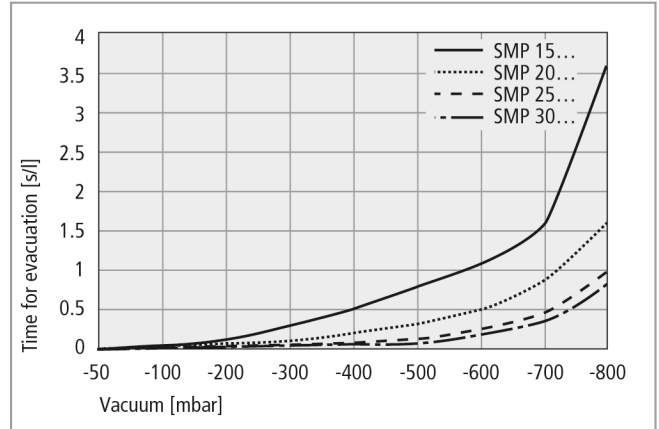
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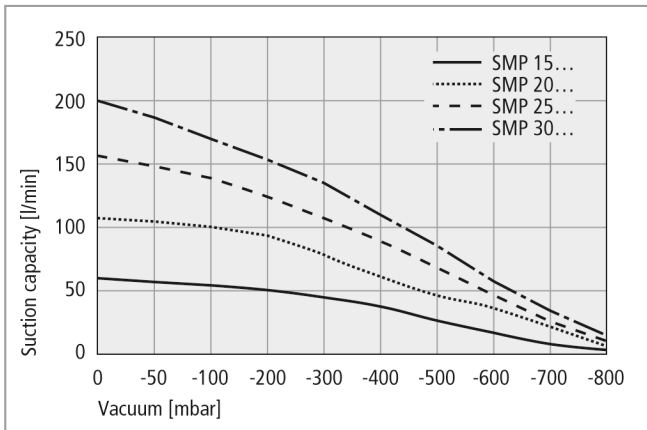
### Performance Data Compact Ejectors SMP



Achievable vacuum at various operating pressures



Evacuation times for various vacuum ranges



Suction capacity at various degrees of evacuation

### Suction Capacity in l/min at Various Degrees of Evacuation

| Type      | Degree of evacuation in mbar |     |      |      |      |      |      |      |      |      |
|-----------|------------------------------|-----|------|------|------|------|------|------|------|------|
|           | 0                            | -50 | -100 | -200 | -300 | -400 | -500 | -600 | -700 | -800 |
| SMP 15... | 65                           | 62  | 58   | 50   | 41   | 32   | 21   | 16   | 9    | 4    |
| SMP 20... | 116                          | 108 | 101  | 90   | 78   | 63   | 48   | 36   | 18   | 5    |
| SMP 25... | 161                          | 149 | 136  | 123  | 107  | 86   | 66   | 49   | 25   | 7    |
| SMP 30... | 200                          | 184 | 168  | 153  | 132  | 107  | 82   | 61   | 31   | 9    |

### Evacuation Time in s/l for Various Vacuum Ranges

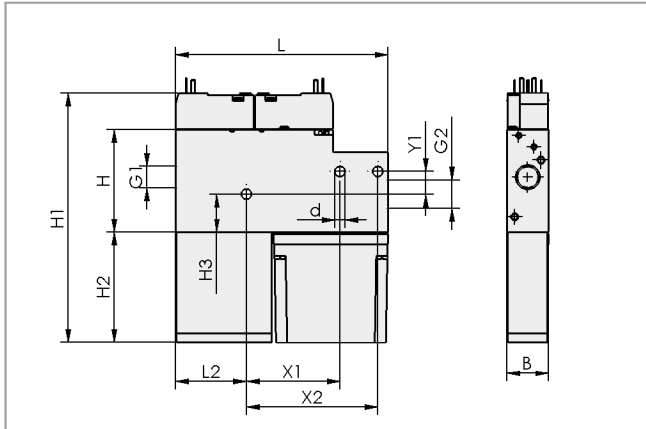
| Type      | Degree of evacuation in mbar |       |       |       |       |       |       |       |       |  |
|-----------|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
|           | -50                          | -100  | -200  | -300  | -400  | -500  | -600  | -700  | -800  |  |
| SMP 15... | 0.048                        | 0.088 | 0.184 | 0.311 | 0.480 | 0.744 | 1.120 | 1.692 | 3.606 |  |
| SMP 20... | 0.026                        | 0.047 | 0.095 | 0.159 | 0.239 | 0.349 | 0.499 | 0.807 | 1.652 |  |
| SMP 25... | 0.015                        | 0.027 | 0.055 | 0.089 | 0.135 | 0.198 | 0.288 | 0.486 | 0.960 |  |
| SMP 30... | 0.012                        | 0.021 | 0.044 | 0.071 | 0.108 | 0.160 | 0.232 | 0.392 | 0.810 |  |

## Compact Ejectors SMP

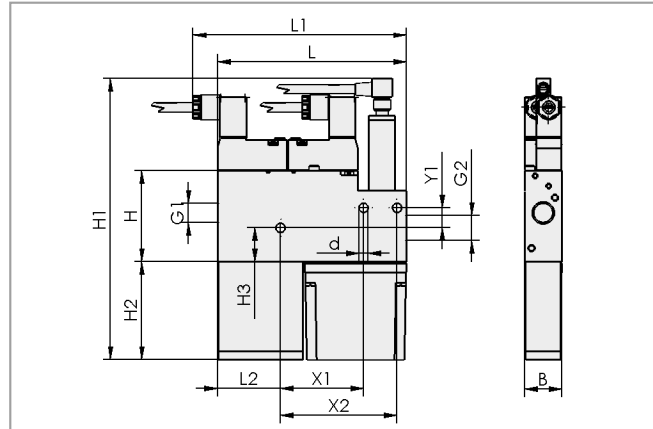
Suction rate from 65 l/min to 200 l/min



### Design Data Compact Ejectors SMP



SMP 15 to 30 NC/NO AS



SMP 15 to 30 NC/NO AS V.../ R...

| Type                  | Dimensions in mm |     |         |         |    |       |      |      |       |     |      |      |      |    |  |
|-----------------------|------------------|-----|---------|---------|----|-------|------|------|-------|-----|------|------|------|----|--|
|                       | B                | d   | G1      | G2      | H  | H1    | H2   | H3   | L     | L1  | L2   | X1   | X2   | Y1 |  |
| SMP 15 NC/NO AS       | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 132.5 | 58.5 | 20.1 | 112.5 | -   | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 20 NC/NO AS       | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 132.5 | 58.5 | 20.1 | 112.5 | -   | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 25 NC/NO AS       | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 147.5 | 73.5 | 20.1 | 112.5 | -   | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 30 NC/NO AS       | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 147.5 | 73.5 | 20.1 | 112.5 | -   | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 15 NC/NO AS VD/RD | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 181.5 | 58.5 | 20.1 | 112.5 | 129 | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 20 NC/NO AS VD/RD | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 181.5 | 58.5 | 20.1 | 112.5 | 129 | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 25 NC/NO AS VD/RD | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 196.5 | 73.5 | 20.1 | 112.5 | 129 | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 30 NC/NO AS VD/RD | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 196.5 | 73.5 | 20.1 | 112.5 | 129 | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 15 NC/NO AS VE/RE | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 167.0 | 58.5 | 20.1 | 112.5 | 129 | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 20 NC/NO AS VE/RE | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 167.0 | 58.5 | 20.1 | 112.5 | 129 | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 25 NC/NO AS VE/RE | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 182.0 | 73.5 | 20.1 | 112.5 | 129 | 37.5 | 49.5 | 69.5 | 12 |  |
| SMP 30 NC/NO AS VE/RE | 22               | 5.5 | G1/4"-F | G3/8"-F | 54 | 182.0 | 73.5 | 20.1 | 112.5 | 129 | 37.5 | 49.5 | 69.5 | 12 |  |