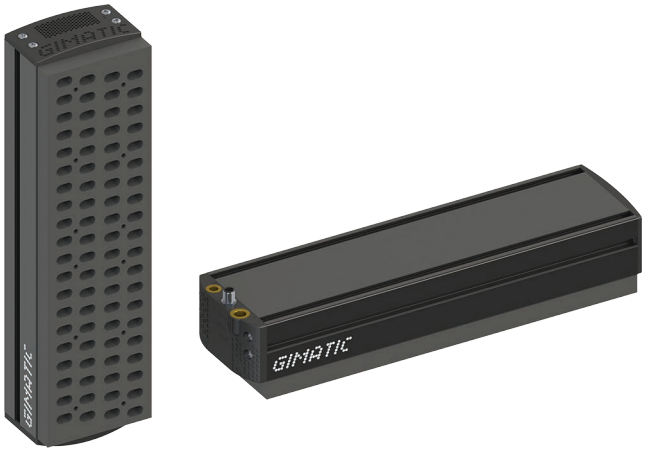
# Vacuum gripping systems with foam / FGS-120-BSV fine pitch with self-closing valves and integrated solenoid valves

## FGS-120-XXXX-F20-0T-VA-BSV

- The FGS-120-SV series of vacuum gripping systems, in the version with foam, is a modular and versatile solution for handling a variety of products of different sizes, shapes and porosity
- Integrated EJ-LARGE-HF-3 multistage cartridges to ensure high suction flow rate and low power consumption
- The version with self-closing valves is ideal for applications where objects of different sizes/ shapes need to be handled. It allows the user to work with smaller vacuum pumps and reduces consumption and maintains a high vacuum level even though most of the surface area of the gripper may not be gripping
- With ON/OFF vacuum solenoid valve(s) with manual override control
- With ON/OFF blow-off solenoid valve(s) with manual override control




| Technical features | |
|---|---|
| Max feed pressure | 0.6 MPa |
| Temperature range | 0 ÷ +50 °C |
| Weight | 2.2 kg (200), 4 kg (400), 5.7 kg (600), 9.5 kg (1000), 11 kg (1200) |
| Material | SS, Al, EPDM, NBR, PA12 |
| Noise level | 70 dB |

| Technical features of the solenoid valves | |
|---|---|
| Power absorption | 2 W (each valve) |
| Drive voltage | 24 Vcc ±10% |
| Type of electrical connection | 5-pin M12x1 (each side) |
| Manual override | yes |
| IP rating | IP65 |

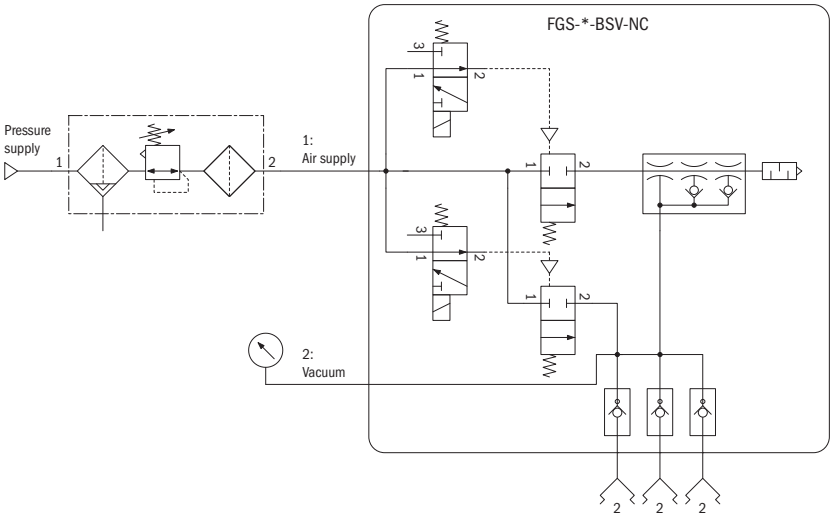
## Suction flow rate

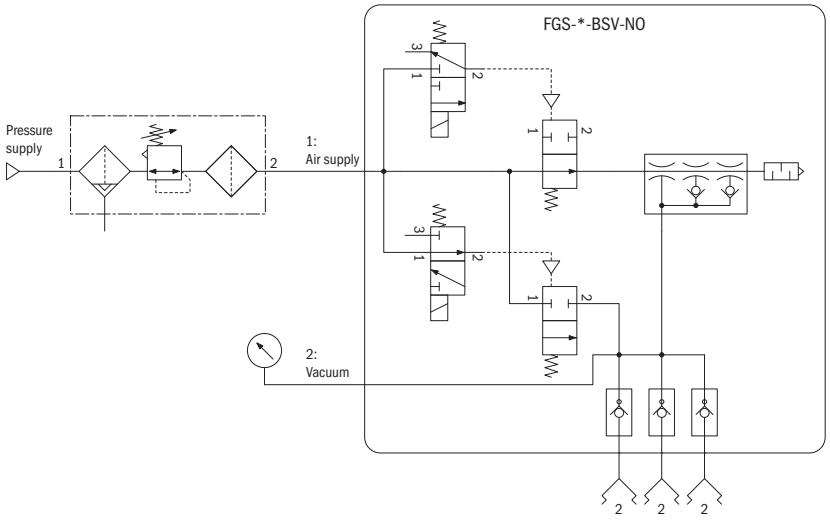
| Model | Feed pressure | Air consumption | Suction flow rate [Nl/s] at different vacuum levels | | | | | | | | Max vacuum |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | [MPa] | [Nl/s] | 0 | -10 | -20 | -30 | -40 | -50 | -60 | -70 | [kPa] |
| FGS-120-0200-F20-0T-VA-EJL2-BSV-NC | 0.6 | 3.4 | 11.8 | 7 | 5 | 3.4 | 1.78 | 1.24 | 1.02 | 0.62 | -73 |
| FGS-120-0400-F20-0T-VA-EJL4-BSV-NC | 0.6 | 6.8 | 23.6 | 14 | 10 | 6.8 | 3.56 | 2.48 | 2.04 | 1.24 | -73 |
| FGS-120-0400-F20-0T-VA-EJL3-BSV-NO | 0.6 | 5.1 | 17.7 | 10.5 | 7.5 | 5.1 | 2.67 | 1.86 | 1.53 | 0.93 | -73 |
| FGS-120-0400-F20-0T-VA-EJL4-BSV-NO | 0.6 | 6.8 | 23.6 | 14 | 10 | 6.8 | 3.56 | 2.48 | 2.04 | 1.24 | -73 |
| FGS-120-0600-F20-0T-VA-EJL4-BSV-NO | 0.6 | 6.8 | 23.6 | 14 | 10 | 6.8 | 3.56 | 2.48 | 2.04 | 1.24 | -73 |
| FGS-120-1000-F20-0T-VA-EJL6-BSV-NC | 0.6 | 10.2 | 34 | 21 | 15.6 | 10.2 | 5.4 | 3.6 | 2.9 | 2 | -73 |
| FGS-120-1200-F20-0T-VA-EJL4-BSV-NC | 0.6 | 6.8 | 23.6 | 14 | 10 | 6.8 | 3.56 | 2.48 | 2.04 | 1.24 | -73 |
| FGS-120-1200-F20-0T-VA-EJL4-BSV-NO | 0.6 | 6.8 | 23.6 | 14 | 10 | 6.8 | 3.56 | 2.48 | 2.04 | 1.24 | -73 |
| FGS-120-1200-F20-0T-VA-EJL6-BSV-NO | 0.6 | 10.2 | 34 | 21 | 15.6 | 10.2 | 5.4 | 3.6 | 2.9 | 2 | -73 |

## Gripping force

| Model | Gripping force [N] at different vacuum levels | | | | |
|---|---|---|---|---|---|
| | -30 kPa | -40 kPa | -50 kPa | -60 kPa | -70 kPa |
| FGS-120-0200-F20 | 175 | 220 | 278 | 335 | 395 |
| FGS-120-0400-F20 | 350 | 475 | 600 | 715 | 840 |
| FGS-120-0600-F20 | 567 | 756 | 945 | 1134 | 1323 |
| FGS-120-1000-F20 | 920 | 1230 | 1540 | 1843 | 2150 |
| FGS-120-1200-F20 | 1115 | 1479 | 1851 | 2220 | 2590 |

Theoretical gripping force on flat surface with fully covered gripping surface, excluding the factor of safety
Standard 20 mm thickness of foam



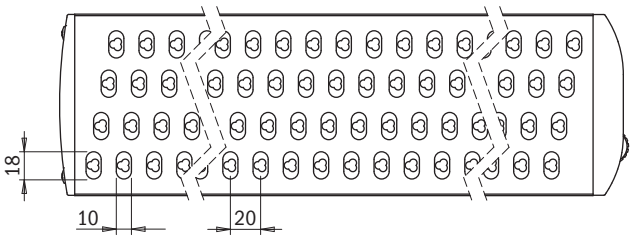
**Identification codes**

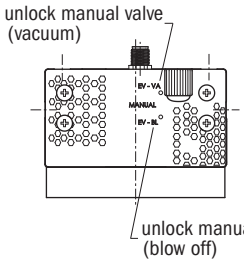
| Drawing | Alphanumeric code | Description | Order code |
|---|---|---|---|
| A | FGS-120-0200-F20-OT-VA-EJL2-BSV-NC | Vacuum gripping system with foam, 120x200 mm, fine pitch, with integrated self-closing valves, 3/2 NC solenoid valve for vacuum and 3/2 NC solenoid valve for blow-off, 24 Vdc, 2 W (per solenoid valve) | **357010202** |
| A | FGS-120-0400-F20-OT-VA-EJL4-BSV-NC | Vacuum gripping system with foam, 120x400 mm, fine pitch, with integrated self-closing valves, 3/2 NC solenoid valve for vacuum and 3/2 NC solenoid valve for blow-off, 24 Vdc, 2 W (per solenoid valve) | **357010404** |
| A | FGS-120-0400-F20-OT-VA-EJL3-BSV-NO | Vacuum gripping system with foam, 120x400 mm, fine pitch, with integrated self-closing valves, 3/2 NO solenoid valve for vacuum and 3/2 NC solenoid valve for blow-off, 24 Vdc, 2 W (per solenoid valve) | **358010403** |
| A | FGS-120-0400-F20-OT-VA-EJL4-BSV-NO | Vacuum gripping system with foam, 120x400 mm, fine pitch, with integrated self-closing valves, 3/2 NO solenoid valve for vacuum and 3/2 NC solenoid valve for blow-off, 24 Vdc, 2 W (per solenoid valve) | **358010404** |
| A | FGS-120-0600-F20-OT-VA-EJL4-BSV-NO | Vacuum gripping system with foam, 120x600 mm, fine pitch, with integrated self-closing valves, 3/2 NO solenoid valve for vacuum and 3/2 NC solenoid valve for blow-off, 24 Vdc, 2 W (per solenoid valve) | **358010604** |
| B | FGS-120-1000-F20-OT-VA-EJL6-BSV-NC | Vacuum gripping system with foam, 120x1000 mm, fine pitch, with integrated self-closing valves, 3/2 NC solenoid valve for vacuum and 3/2 NC solenoid valve for blow-off, 24 Vdc, 2 W (per solenoid valve) | **357011006** |
| A | FGS-120-1200-F20-OT-VA-EJL4-BSV-NC | Vacuum gripping system with foam, 120x1200 mm, fine pitch, with integrated self-closing valves, 3/2 NC solenoid valve for vacuum and 3/2 NC solenoid valve for blow-off, 24 Vdc, 2 W (per solenoid valve) | **357011204** |
| A | FGS-120-1200-F20-OT-VA-EJL4-BSV-NO | Vacuum gripping system with foam, 120x1200 mm, fine pitch, with integrated self-closing valves, 3/2 NO solenoid valve for vacuum and 3/2 NC solenoid valve for blow-off, 24 Vdc, 2 W (per solenoid valve) | **358011204** |
| B | FGS-120-1200-F20-OT-VA-EJL6-BSV-NO | Vacuum gripping system with foam, 120x1200 mm, fine pitch, with integrated self-closing valves, 3/2 NO solenoid valve for vacuum and 3/2 NC solenoid valve for blow-off, 24 Vdc, 2 W (per solenoid valve) | **358011206** |

**Identification codes**

| Alphanumeric code | Electrical connectors | Order code |
|---|---|---|
| CFGM1290525P | Angular female connector with M12 lock nut, 5 pins, round PUR cable, length 2.5 metres | **CFGM1290525P** |
| CFGM1200525P | Axial female connector with M12 lock nut, 5 pins, round PUR cable, length 2.5 metres | **CFGM1200525P** |

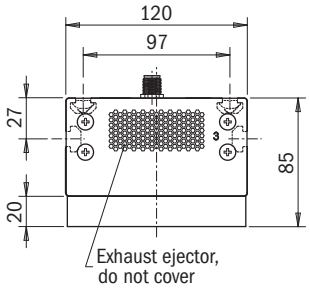
A

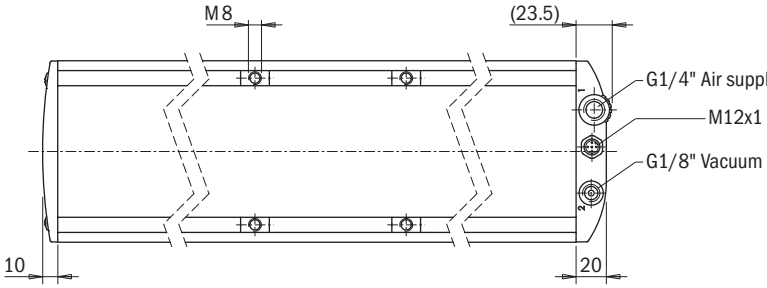


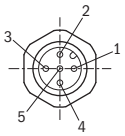









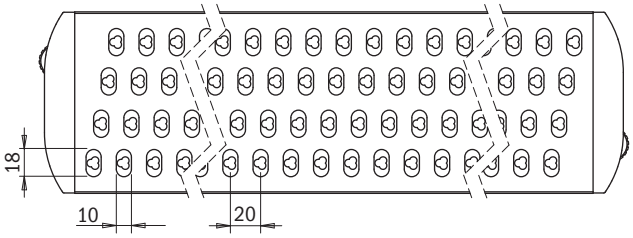



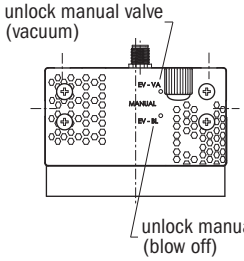



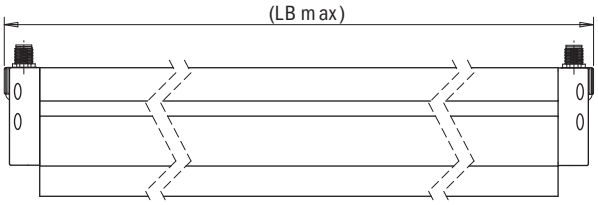

| | | |
|---|---|---|
| 1 | brown | +24 V vacuum valve |
| 2 | white | GND vacuum valve |
| 3 | blue | +24 V blow-off valve |
| 4 | black | GND blow-off valve |
| 5 | grey | not connected |

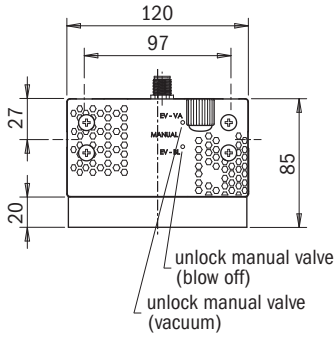
| | LA | LB |
|---|---|---|
| 357010202 | 253.5 | - |
| 357010404 | 453.5 | - |
| 358010403 | 453.5 | - |
| 358010404 | 453.5 | - |
| 358010604 | 653.5 | - |
| 357011006 | - | 667 |
| 357011204<br>358011204 | 1253.5 | - |
| 358011206 | - | 1267 |

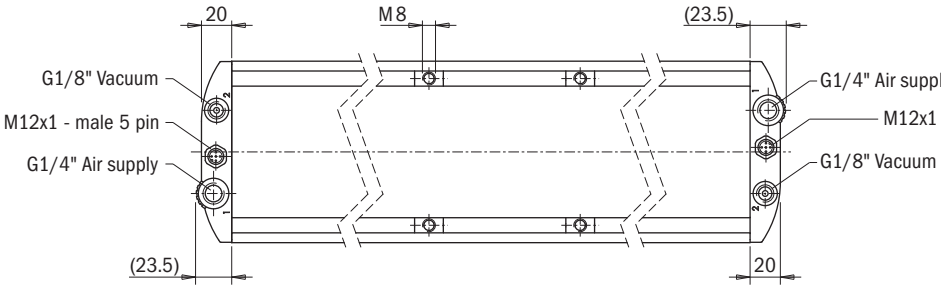
B

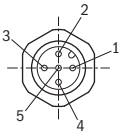



| | | |
|---|---|---|
| 1 | brown | +24 V vacuum valve |
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| 3 | blue | +24 V blow-off valve |
| 4 | black | GND blow-off valve |
| 5 | grey | not connected |

Code and technical features of the spare foam: page 588