



- For accurate and gentle transportation
- Lightweight and sturdy
- 6 suction cup types in various sizes
- Suction cup diameters from 2 ... 200 mm
- Application-specific:
Available in 6 materials
- Long service life








Suction cups, complete ESS

Product range overview





Suction grippers

2.1

| Type | Suction cup \varnothing [mm] | Suction cup holder Size | Mounting thread | Nominal size [mm] | Food approval as per directive FDA | Materials | | | | | | → Page | | |
|--|---|---|-----------------|----------------------|------------------------------------|---------------|----------------|----------------------------|----------|--------------|------------|------------|------------|---|
| | | | | | | Fluoro rubber | Nitrile rubber | Nitrile rubber, antistatic | Silicone | Polyurethane | Vulkollan® | | | |
| Standard, round ESS-...-S... |  | 2 | 1 | $\varnothing 3$ | 0.6 | ■ | ■ | ■ | ■ | ■ | ■ | - | 6 / 2.1-55 | |
| | | 4 | | | 1.2 | ■ | ■ | ■ | ■ | ■ | ■ | - | | |
| | | 6 | 2 | $\varnothing 4$ | 2.0 | ■ | ■ | ■ | ■ | ■ | ■ | - | | |
| | | 8 | | | | ■ | ■ | ■ | ■ | ■ | ■ | - | | |
| |  | 10 | 3 | M4x0.7 | 2.0 | ■ | ■ | ■ | ■ | ■ | ■ | - | 6 / 2.1-55 | |
| | | 15 | | | | ■ | ■ | ■ | ■ | ■ | ■ | - | | |
| | | 20 | | | | 4 | M6x1 | 3.0 | ■ | ■ | ■ | ■ | | ■ |
| | | 30 | ■ | ■ | ■ | | | | ■ | ■ | ■ | - | | |
| | | 40 | ■ | ■ | ■ | | | | ■ | ■ | ■ | - | | |
| | | 50 | ■ | ■ | ■ | | | | ■ | ■ | ■ | - | | |
| | | 60 | 5 | M10x1.5 | 6.0 | ■ | ■ | ■ | ■ | ■ | ■ | - | | |
| | | 80 | | | | ■ | ■ | ■ | ■ | ■ | ■ | - | | |
| | | 100 | | | | ■ | ■ | ■ | ■ | ■ | ■ | - | | |
| | | 150 | 6 | M20x2 | 10.0 | ■ | ■ | ■ | ■ | ■ | ■ | - | | |
| 200 | ■ | ■ | | | | ■ | ■ | ■ | ■ | - | | | | |
| Round, extra deep ESS-...-E... |  | 15 | 3 | M4x0.7 | 2.0 | - | ■ | ■ | - | ■ | ■ | - | 6 / 2.1-59 | |
| | | 20 | 4 | M6x1 | 3.0 | - | ■ | ■ | - | ■ | ■ | - | | |
| | | 30 | | | | - | ■ | ■ | - | ■ | ■ | - | | |
| | | 40 | | | | - | ■ | ■ | - | ■ | ■ | - | | |
| | | 50 | 5 | M10x1.5 | 6.0 | - | ■ | ■ | - | ■ | ■ | - | | |
| | | 60 | | | | - | ■ | ■ | - | ■ | ■ | - | | |
| | | 80 | | | | - | ■ | ■ | - | ■ | ■ | - | | |
| | | 100 | | | | - | ■ | ■ | - | ■ | ■ | - | | |
| Bellows, round, 1.5 convolutions ESS-...-B... |  | 10 | 3 | M4x0.7 | 2.0 | - | - | ■ | - | ■ | ■ | - | 6 / 2.1-62 | |
| | | 20 | 4 | M6x1 | 3.0 | - | - | ■ | - | ■ | ■ | - | | |
| | | 30 | | | | - | ■ | - | ■ | ■ | - | | | |
| | | 40 | | | | - | ■ | - | ■ | ■ | - | | | |
| | | 50 | 5 | M10x1.5 | 6.0 | - | - | ■ | - | ■ | ■ | - | | |
| | | 80 | | | | - | ■ | - | ■ | ■ | - | | | |
| Bellows, round, 1.5 convolutions ESS-...-BT... |  | 40 | 4 | M6 | 2.5 | - | - | - | - | - | - | ■ | 6 / 2.1-64 | |
| | | | | M10 | | - | - | - | - | - | - | ■ | | |
| | | | | G $\frac{1}{4}$ -I | | - | - | - | - | - | - | ■ | | |
| | | | | G $\frac{1}{4}$ | | - | - | - | - | - | - | ■ | | |
| | |  | 50 | 4 | M6 | 2.5 | - | - | - | - | - | - | | ■ |
| | | | | | M10 | | - | - | - | - | - | ■ | | |
| | G $\frac{1}{4}$ -I | | | | - | | - | - | - | - | ■ | | | |
| | G $\frac{1}{4}$ | | | | - | | - | - | - | - | ■ | | | |
| | 80 | 5 | 5 | M10 | 2.5 | - | - | - | - | - | - | ■ | | |
| | | | | G $\frac{1}{4}$ -I | | - | - | - | - | - | ■ | | | |
| | | | | G $\frac{1}{4}$ | | - | - | - | - | - | ■ | | | |
| | | | | G $\frac{1}{4}$ | | - | - | - | - | - | ■ | | | |
| Bellows, round, 3.5 convolutions ESS-...-C... |  | 10 | 3 | M4x0.7 | 2.0 | - | - | ■ | - | ■ | - | 6 / 2.1-66 | | |
| | | 20 | 4 | M6x1 | 3.0 | - | - | ■ | - | ■ | - | | | |
| | | 30 | | | | - | - | ■ | - | ■ | - | | | |
| | | 40 | | | | - | - | ■ | - | ■ | - | | | |
| | | 50 | | | | - | - | ■ | - | ■ | - | | | |

Suction cups, complete ESS

Product range overview

| Type | Suction cup \varnothing or suction cup size | Suction cup holder | Mounting thread | Nominal size | Materials | | → Page | |
|----------------------------------|--|-----------------------|-----------------|--------------|----------------|-----------|------------|------------|
| | | | | | Nitrile rubber | Vulkolan® | | |
| | [mm] | Size | | [mm] | | | | |
| Oval suction cup ESS-...-0... |  | 4 | M6x1 | 3.0 | 4x10 | ■ | - | 6 / 2.1-68 |
| | | | | | 4x20 | | | |
| | | | | | 6x10 | | | |
| | | | | | 6x20 | | | |
| | | | | | 8x20 | | | |
| | | | | | 8x30 | | | |
| | | | | | 10x30 | | | |
| | | 5 | M10x1.5 | 6.0 | 15x45 | ■ | - | |
| | | | | | 20x60 | | | |
| | | | | | 25x75 | | | |
| 30x90 | | | | | | | | |
| Bell-shaped ESS-...-GT-... |  | 4 | M6 | 2.5 | - | ■ | 6 / 2.1-70 | |
| | | | M10 | | | | | |
| | | | G1/8-l | | | | | |
| | | | G1/8 | | | | | |
| | | 4 | M6 | 2.5 | - | ■ | | |
| | | | M10 | | | | | |
| | | | G1/4-l | | | | | |
| | | | G1/4 | | | | | |
| | | 4 | M6 | 2.5 | - | ■ | | |
| | | | M10 | | | | | |
| | | | G1/8-l | | | | | |
| | | | G1/8 | | | | | |
| | | 5 | M10 | 2.5 | - | ■ | | |
| | | | | | | | | G1/4-l |
| | | | | | | | | G1/4 |
| | | 5 | M10 | 5.5 | - | ■ | | |
| | | | | | | | | G1/4-l |
| | | | | | | | | G1/4 |
| 5 | M10 | 5.5 | - | ■ | | | | |
| | | | | | G1/4-l | | | |
| | | | | | G1/4 | | | |





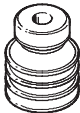

Suction cups ESV

Product range overview



Suction grippers


2.1

| Type | Suction cup Ø [mm] | Suction cup holder Size | Mounting thread | Food approval as per directive FDA | Materials | | | | | | → Page | |
|--|---|----------------------------|-----------------|------------------------------------|---------------|----------------|---------------------------|----------|--------------|-----------|--------|------------|
| | | | | | Fluoro rubber | Nitrile rubber | Nitrile rubber antistatic | Silicone | Polyurethane | Vulkolan® | | |
| Standard, round ESV-...-S... |  | 20 | 4 | M6x1 | ■ | ■ | ■ | ■ | ■ | ■ | - | 6 / 2.1-55 |
| | | 30 | | | | | | | | | | |
| | | 40 | | | | | | | | | | |
| | | 50 | 5 | M10x1.5 | ■ | ■ | - | ■ | ■ | - | | |
| | | 60 | | | | | | | | | | |
| | | 80 | | | | | | | | | | |
| | | 100 | 6 | M20x2 | ■ | ■ | - | ■ | ■ | - | | |
| 150 | | | | | | | | | | | | |
| 200 | | | | | | | | | | | | |
| Round, extra deep ESV-...-E... |  | 20 | 4 | M6x1 | - | ■ | ■ | - | ■ | ■ | - | 6 / 2.1-59 |
| | | 30 | | | | | | | | | | |
| | | 40 | | | | | | | | | | |
| | | 50 | 5 | M10x1.5 | - | ■ | ■ | - | ■ | ■ | - | |
| | | 60 | | | | | | | | | | |
| | | 80 | | | | | | | | | | |
| | | 100 | | | | | | | | | | |
| Bellows, round, 1.5 convolutions ESV-...-B... |  | 20 | 4 | M6x1 | - | - | ■ | - | ■ | ■ | - | 6 / 2.1-62 |
| | | 30 | | | | | | | | | | |
| | | 40 | | | | | | | | | | |
| | | 50 | 5 | M10x1.5 | - | - | ■ | - | ■ | ■ | - | |
| 80 | | | | | | | | | | | | |
| Bellows, round, 1.5 convolutions ESV-...-BT... |  | 40 | 4 | - | - | - | - | - | - | - | ■ | 6 / 2.1-64 |
| | | 50 | 5 | - | - | - | - | - | - | - | ■ | |
| | | 80 | | | | | | | | | | |
| Bellows, round, 3.5 convolutions ESV-...-C... |  | 20 | 4 | M6x1 | - | - | ■ | - | ■ | - | - | 6 / 2.1-66 |
| | | 30 | | | | | | | | | | |
| | | 40 | | | | | | | | | | |
| | | 50 | 5 | M10x1 | - | - | ■ | - | ■ | - | - | |
| Bell-shaped ESV-...-GT... |  | 30 | 4 | - | - | - | - | - | - | - | ■ | 6 / 2.1-70 |
| | | 40 | | | | | | | | | | |
| | | 50 | | | | | | | | | | |
| | | 60 | 5 | - | - | - | - | - | - | - | ■ | |
| | | 80 | | | | | | | | | | |
| | | 100 | | | | | | | | | | |

Suction cups, complete ESS/suction cups ESV

Type code

| | | | | | | | | | |
|---|----------------------------------|-----|---|----|---|---|---|---|----|
| | | ESS | - | 10 | - | S | N | - | M6 |
| Type | | | | | | | | | |
| ESS | Suction cup, complete | | | | | | | | |
| ESV | Suction cup | | | | | | | | |
| Suction cup Ø or suction cup size [mm] | | | | | | | | | |
| 2...200 | Round | | | | | | | | |
| 4x10 | Oval | | | | | | | | |
| 4x20 | Oval | | | | | | | | |
| 6x10 | Oval | | | | | | | | |
| 6x20 | Oval | | | | | | | | |
| 8x20 | Oval | | | | | | | | |
| 8x30 | Oval | | | | | | | | |
| 10x30 | Oval | | | | | | | | |
| 15x45 | Oval | | | | | | | | |
| 20x60 | Oval | | | | | | | | |
| 25x75 | Oval | | | | | | | | |
| 30x90 | Oval | | | | | | | | |
| Suction cup design | | | | | | | | | |
| S | Standard, round | | | | | | | | |
| E | Extra deep | | | | | | | | |
| B | Bellows, round, 1.5 convolutions | | | | | | | | |
| C | Bellows, round, 3.5 convolutions | | | | | | | | |
| O | Oval | | | | | | | | |
| G | Bell-shaped | | | | | | | | |
| Materials | | | | | | | | | |
| F | Fluoro rubber | | | | | | | | |
| N | Nitrile rubber | | | | | | | | |
| NA | Nitrile rubber, antistatic | | | | | | | | |
| S | Silicone | | | | | | | | |
| U | Polyurethane | | | | | | | | |
| T | Vulkollan® | | | | | | | | |
| Connection sizes | | | | | | | | | |
| M6 | M6 thread | | | | | | | | |
| M10 | M10 thread | | | | | | | | |
| G $\frac{1}{8}$ | G $\frac{1}{8}$ thread | | | | | | | | |
| G $\frac{1}{4}$ | G $\frac{1}{4}$ thread | | | | | | | | |
| G $\frac{1}{8}$ -I | G $\frac{1}{8}$ -I female thread | | | | | | | | |
| G $\frac{1}{4}$ -I | G $\frac{1}{4}$ -I female thread | | | | | | | | |

-  - Note
Possible combinations can be found in the ordering data.

Suction cups, complete ESS/suction cups ESV



Technical data

| General technical data | | | | | | |
|------------------------|---|----------------|----------------------------|---------------|--------------|---|
| Type | ESS/ESV-... | | | | | |
| | F | N | NA | S | U | T |
| Operating medium | Atmospheric air | | | | | |
| Mounting position | Any | | | | | |
| Material | Fluoro rubber | Nitrile rubber | Nitrile rubber, antistatic | Silicone | Polyurethane | Vulkollan® |
| Shore hardness | 60±5 | 50±5 | 50±5 | 50±5 | 60±5 | 72±5 |
| Colour | Grey | Black | Black with white dot | Transparent | Blue | Reddish brown |
| Material note | PWIS-free (free of paint wetting impairment substances) | | | Contains PWIS | | PWIS-free (free of paint wetting impairment substances) |
| | Free of copper, PTFE and silicone → Ordering data | | | | | |

| Ambient conditions | | | | | | | |
|----------------------|-------------------|--------------|-------------|-------------|--------------|-------------|-------------|
| Type | | ESS/ESV-... | | | | | |
| | | F | N | NA | S | U | T |
| Ambient temperature | [°C] | -10 ... +200 | -10 ... +70 | -10 ... +70 | -30 ... +180 | -20 ... +60 | -10 ... +80 |
| Corrosion resistance | CRC ¹⁾ | 1 | | | | | 2 |

- 1) Corrosion resistance class 1 according to Festo standard 940 070
 Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.
 Corrosion resistance class 2 according to Festo standard 940 070
 Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Suction cups, complete ESS/suction cups ESV, standard round



Technical data

ESS-...-S...
ESV-...-S...

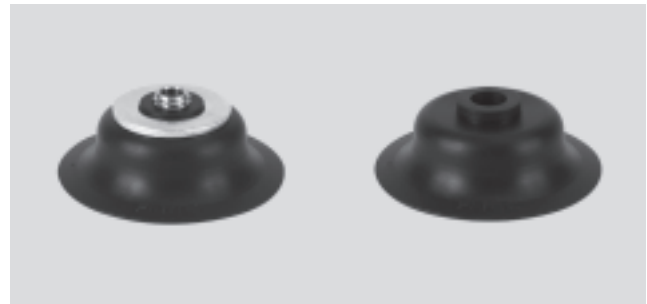
- - Temperature range
-30 ... +200 °C

Function



- - Diameter
2 ... 200 mm

Food approval as per
directive FDA



| General technical data | | | | | | | | |
|-----------------------------------|-------------------------|-------------------------------|---|------------------------------------|--|--|------------|------------|
| Suction cup \varnothing [mm] | Suction cup holder fits | Mounting thread | Effective suction cup \varnothing [mm] | Breakaway force at -0.7 bar [N] | Suction cup volume ³⁾ [cm ³] | Min. radius R ²⁾ of workpiece [mm] | Weight | |
| | | | | | | | ESS [g] | ESV [g] |
| 2 | Size 1 | \varnothing 3 ¹⁾ | 1.4 | 0.1 | 0.002 | 10 | 0.1 | - |
| 4 | | | 3.3 | 0.4 | 0.008 | 10 | 0.1 | - |
| 6 | Size 2 | \varnothing 4 ¹⁾ | 5.2 | 1.1 | 0.015 | 15 | 0.2 | - |
| 8 | | | 7.2 | 2.3 | 0.030 | 20 | 0.2 | - |
| 10 | Size 3 | M4x0.7 | 8.3 | 3.9 | 0.050 | 30 | 1.5 | - |
| 15 | | | 13.5 | 8.5 | 0.208 | 35 | 1.9 | - |
| 20 | Size 4 | M6x1 | 17.6 | 16.3 | 0.318 | 60 | 6.4 | 1.6 |
| 30 | | | 18.4 | 40.8 | 0.867 | 110 | 9 | 2.7 |
| 40 | | | 26.5 | 69.6 | 1.566 | 230 | 16.3 | 7.4 |
| 50 | | | 33.3 | 105.8 | 2.387 | 330 | 22 | 11.2 |
| 60 | Size 5 | M10x1.5 | 42.0 | 166.1 | 3.953 | 350 | 49 | 22 |
| 80 | | | 57.8 | 309.7 | 19.312 | 400 | 133 | 33 |
| 100 | | | 75.2 | 503.6 | 29.779 | 460 | 222 | 59 |
| 150 | Size 6 | M20x2 | 114.3 | 900 | 173.826 | 480 | 719 | 361 |
| 200 | | | 151.7 | 1,610 | 245.454 | 680 | 1,198 | 840 |

- 1) Is plugged onto or into the suction cup holder
- 2) Minimum arc radius of the workpiece to be gripped
- 3) Volume to be evacuated

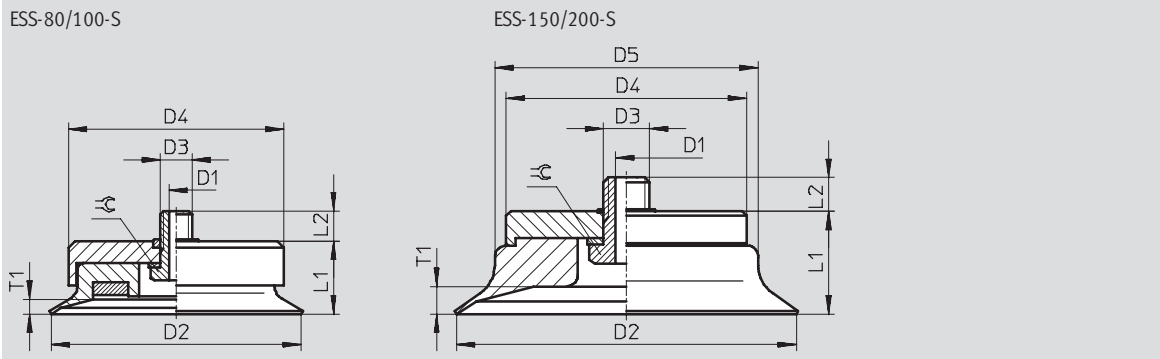
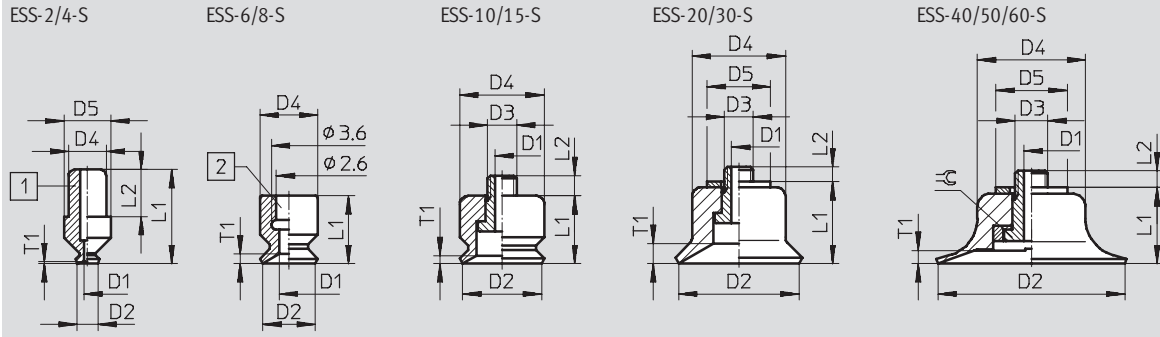
| Lateral force F [N] at pu = -0.7 bar; Ra = 7 μ m | | | | | |
|--|------------|------------|------------|------------|-------------|
| Suction cup \varnothing [mm] | ESS-...-SN | ESS-...-SS | ESS-...-SU | ESS-...-SF | ESS-...-SNA |
| 2 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 6 | 3.5 | 2.5 | 3 | 1.5 | 2 |
| 8 | 9.5 | 3.5 | 5 | 3.5 | 4 |
| 10 | 3.5 | 4 | 7 | 4.5 | 7.5 |
| 15 | 10.5 | 6.5 | 9 | 10.5 | 13.5 |
| 20 | 11.5 | 10.5 | 23 | 15.5 | 14.5 |
| 30 | 19.5 | 23.5 | 19 | 22 | 20 |
| 40 | 60 | 25 | 83 | 25 | 49 |
| 50 | 135 | 84 | 130 | 69.5 | 81.5 |
| 60 | 136 | 85 | 151 | 117.5 | - |
| 80 | 315 | 104 | 295 | 139.5 | - |
| 100 | 600 | 130 | 482.5 | 299 | - |
| 150 | 675 | 400 | 1,000 | 480 | - |
| 200 | 850 | 425 | 1,000 | 500 | - |

Suction cups, complete ESS/suction cups ESV, standard round

Technical data



Dimensions



- 1 Spigot for insertion into holder
- 2 Hole for sliding over holder

Suction grippers
2.1

| Type Suction cup | For Suction gripper | D1 ND | D2 Ø | D3 | D4 Ø | D5 Ø | L1 | L2 | T1 | ≈ |
|------------------|---------------------|-------|------|---------|------|------|------|-----|-----|----|
| ESS-2-S... | ESG-2-S... | Ø 0.6 | 2 | - | 3.2 | 4 | 8 | 4 | 0.2 | - |
| ESS-4-S... | ESG-4-S... | Ø 1.2 | 4 | - | 3.2 | 4 | 8 | 4 | 0.6 | - |
| ESS-6-S... | ESG-6-S... | Ø 2 | 6 | - | 6 | - | 7 | - | 1 | - |
| ESS-8-S... | ESG-8-S... | Ø 2 | 8 | - | 6 | - | 5.5 | - | 1.1 | - |
| ESS-10-S... | ESG-10-S... | ≈ 2 | 10 | M4x0.7 | 10 | - | 8 | 3 | 1 | - |
| ESS-15-S... | ESG-15-S... | ≈ 2 | 15 | M4x0.7 | 11 | - | 9 | 3 | 2.4 | - |
| ESS-20-S... | ESG-20-S... | ≈ 3 | 20 | M6x1 | 15 | 18 | 11.6 | 2.4 | 1.8 | - |
| ESS-30-S... | ESG-30-S... | ≈ 3 | 30 | M6x1 | 17 | 18 | 12.6 | 3.4 | 2 | - |
| ESS-40-S... | ESG-40-S... | ≈ 3 | 40 | M6x1 | 25 | 22 | 15.6 | 3.2 | 1.9 | - |
| ESS-50-S... | ESG-50-S... | ≈ 3 | 50 | M6x1 | 30 | 22 | 16.6 | 3.2 | 1.6 | - |
| ESS-60-S... | ESG-60-S... | Ø 6 | 60 | M10x1.5 | 40 | - | 20.6 | 4.5 | 2.6 | 14 |
| ESS-80-S... | ESG-80-S... | Ø 6 | 80 | M10x1.5 | 68 | - | 23 | 9.4 | 4.7 | 14 |
| ESS-100-S... | ESG-100-S... | Ø 6 | 100 | M10x1.5 | 85 | - | 25 | 8.4 | 5.5 | 14 |
| ESS-150-S... | ESG-150-S... | Ø 10 | 150 | M20x2 | 105 | 115 | 45 | 13 | 12 | 27 |
| ESS-200-S... | ESG-200-S... | Ø 10 | 200 | M20x2 | 105 | 160 | 50 | 13 | 15 | 27 |

Suction cups, complete ESS/suction cups ESV, standard round

FESTO

Technical data

| Ordering data | | | |
|--------------------------------------|----------|--------------------------|--------------------|
| Suction cup Ø [mm] | ESS | | ESV |
| | Part No. | Type | Part No. Type |
| Fluoro rubber F | | | |
| 2 | 189 267 | ESS-2-SF ¹⁾ | – |
| 4 | 189 272 | ESS-4-SF ¹⁾ | – |
| 6 | 189 277 | ESS-6-SF ¹⁾ | – |
| 8 | 189 282 | ESS-8-SF ¹⁾ | – |
| 10 | 189 287 | ESS-10-SF ¹⁾ | – |
| 15 | 189 292 | ESS-15-SF ¹⁾ | – |
| 20 | 189 297 | ESS-20-SF ¹⁾ | 190 982 ESV-20-SF |
| 30 | 189 302 | ESS-30-SF ¹⁾ | 190 987 ESV-30-SF |
| 40 | 189 307 | ESS-40-SF ¹⁾ | 190 992 ESV-40-SF |
| 50 | 189 312 | ESS-50-SF ¹⁾ | 190 997 ESV-50-SF |
| 60 | 189 317 | ESS-60-SF ¹⁾ | 191 002 ESV-60-SF |
| 80 | 189 321 | ESS-80-SF ¹⁾ | 191 006 ESV-80-SF |
| 100 | 189 325 | ESS-100-SF ¹⁾ | 191 010 ESV-100-SF |
| 150 | 189 329 | ESS-150-SF ¹⁾ | 191 014 ESV-150-SF |
| 200 | 189 333 | ESS-200-SF ¹⁾ | 191 018 ESV-200-SF |
| Nitrile rubber N | | | |
| 2 | 189 264 | ESS-2-SN ¹⁾ | – |
| 4 | 189 269 | ESS-4-SN ¹⁾ | – |
| 6 | 189 274 | ESS-6-SN ¹⁾ | – |
| 8 | 189 279 | ESS-8-SN ¹⁾ | – |
| 10 | 189 284 | ESS-10-SN ¹⁾ | – |
| 15 | 189 289 | ESS-15-SN ¹⁾ | – |
| 20 | 189 294 | ESS-20-SN ¹⁾ | 190 979 ESV-20-SN |
| 30 | 189 299 | ESS-30-SN ¹⁾ | 190 984 ESV-30-SN |
| 40 | 189 304 | ESS-40-SN ¹⁾ | 190 989 ESV-40-SN |
| 50 | 189 309 | ESS-50-SN ¹⁾ | 190 994 ESV-50-SN |
| 60 | 189 314 | ESS-60-SN ¹⁾ | 190 999 ESV-60-SN |
| 80 | 189 318 | ESS-80-SN ¹⁾ | 191 003 ESV-80-SN |
| 100 | 189 322 | ESS-100-SN ¹⁾ | 191 007 ESV-100-SN |
| 150 | 189 326 | ESS-150-SN ¹⁾ | 191 011 ESV-150-SN |
| 200 | 189 330 | ESS-200-SN ¹⁾ | 191 015 ESV-200-SN |
| Nitrile rubber, antistatic NA | | | |
| 2 | 189 268 | ESS-2-SNA ¹⁾ | – |
| 4 | 189 273 | ESS-4-SNA ¹⁾ | – |
| 6 | 189 278 | ESS-6-SNA ¹⁾ | – |
| 8 | 189 283 | ESS-8-SNA ¹⁾ | – |
| 10 | 189 288 | ESS-10-SNA ¹⁾ | – |
| 15 | 189 293 | ESS-15-SNA ¹⁾ | – |
| 20 | 189 298 | ESS-20-SNA ¹⁾ | 190 983 ESV-20-SNA |
| 30 | 189 303 | ESS-30-SNA ¹⁾ | 190 988 ESV-30-SNA |
| 40 | 189 308 | ESS-40-SNA ¹⁾ | 190 993 ESV-40-SNA |
| 50 | 189 313 | ESS-50-SNA ¹⁾ | 190 998 ESV-50-SNA |

1) Free of copper, PTFE and silicone

Suction cups, complete ESS/suction cups ESV, standard round

FESTO

Technical data

| Ordering data | | | | |
|-----------------------|----------|------------|----------|------------|
| Suction cup Ø [mm] | ESS | | ESV | |
| | Part No. | Type | Part No. | Type |
| Silicone S | | | | |
| 2 | 189 266 | ESS-2-SS | – | |
| 4 | 189 271 | ESS-4-SS | – | |
| 6 | 189 276 | ESS-6-SS | – | |
| 8 | 189 281 | ESS-8-SS | – | |
| 10 | 189 286 | ESS-10-SS | – | |
| 15 | 189 291 | ESS-15-SS | – | |
| 20 | 189 296 | ESS-20-SS | 190 981 | ESV-20-SS |
| 30 | 189 301 | ESS-30-SS | 190 986 | ESV-30-SS |
| 40 | 189 306 | ESS-40-SS | 190 991 | ESV-40-SS |
| 50 | 189 311 | ESS-50-SS | 190 996 | ESV-50-SS |
| 60 | 189 316 | ESS-60-SS | 191 001 | ESV-60-SS |
| 80 | 189 320 | ESS-80-SS | 191 005 | ESV-80-SS |
| 100 | 189 324 | ESS-100-SS | 191 009 | ESV-100-SS |
| 150 | 189 328 | ESS-150-SS | 191 013 | ESV-150-SS |
| 200 | 189 332 | ESS-200-SS | 191 017 | ESV-200-SS |
| Polyurethane U | | | | |
| 2 | 189 265 | ESS-2-SU | – | |
| 4 | 189 270 | ESS-4-SU | – | |
| 6 | 189 275 | ESS-6-SU | – | |
| 8 | 189 280 | ESS-8-SU | – | |
| 10 | 189 285 | ESS-10-SU | – | |
| 15 | 189 290 | ESS-15-SU | – | |
| 20 | 189 295 | ESS-20-SU | 190 980 | ESV-20-SU |
| 30 | 189 300 | ESS-30-SU | 190 985 | ESV-30-SU |
| 40 | 189 305 | ESS-40-SU | 190 990 | ESV-40-SU |
| 50 | 189 310 | ESS-50-SU | 190 995 | ESV-50-SU |
| 60 | 189 315 | ESS-60-SU | 191 000 | ESV-60-SU |
| 80 | 189 319 | ESS-80-SU | 191 004 | ESV-80-SU |
| 100 | 189 323 | ESS-100-SU | 191 008 | ESV-100-SU |
| 150 | 189 327 | ESS-150-SU | 191 012 | ESV-150-SU |
| 200 | 189 331 | ESS-200-SU | 191 016 | ESV-200-SU |

Suction grippers

2.1

Suction cups, complete ESS/suction cups ESV, round, extra deep

Technical data

ESS-...-E...
ESV-...-E...

-  - Temperature range
-30 ... +200 °C

Function



-  - Diameter
15 ... 100 mm



| General technical data | | | | | | | | |
|-----------------------------------|-------------------------|-----------------|---|------------------------------------|--|--|------------|------------|
| Suction cup \varnothing [mm] | Suction cup holder fits | Mounting thread | Effective suction cup \varnothing [mm] | Breakaway force at -0.7 bar [N] | Suction cup volume ²⁾ [cm ³] | Min. radius R ¹⁾ of workpiece [mm] | Weight | |
| | | | | | | | ESS [g] | ESV [g] |
| 15 | Size 3 | M4x0.7 | 13.8 | 9.8 | 0.350 | 20 | 1.9 | - |
| 20 | Size 4 | M6x1 | 17.2 | 17 | 0.840 | 30 | 6.4 | 1.6 |
| 30 | | | 20.9 | 37.2 | 2.120 | 50 | 9.2 | 2.9 |
| 40 | | | 28.1 | 67.6 | 4.040 | 80 | 16.9 | 8 |
| 50 | | | 36.9 | 103.6 | 7.900 | 100 | 23.4 | 12.6 |
| 60 | Size 5 | M10x1.5 | 40.5 | 162.5 | 19.770 | 120 | 48 | 21 |
| 80 | | | 62.7 | 275 | 51.610 | 160 | 141 | 41 |
| 100 | | | 78.5 | 440.8 | 84.660 | 200 | 228 | 65 |

- 1) Minimum arc radius of the workpiece to be gripped
2) Volume to be evacuated

| Lateral force F [N] at pu = -0.7 bar; Ra = 7 μ m | | | | |
|--|------------|------------|------------|------------|
| Suction cup \varnothing [mm] | ESS-...-EN | ESS-...-ES | ESS-...-EU | ESS-...-EF |
| 15 | 9 | 10 | 15 | 14.5 |
| 20 | 14 | 13 | 16 | 15.5 |
| 30 | 24.5 | 21.5 | 41.5 | 18.5 |
| 40 | 53 | 28.5 | 46.5 | 22 |
| 50 | 115 | 42.5 | 62 | 60 |
| 60 | 130 | 63.5 | 134 | 62.5 |
| 80 | 216 | 107.5 | 136.5 | 148.5 |
| 100 | 351 | 150 | 352.5 | 254.5 |

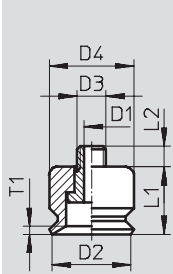
Suction cups, complete ESS/suction cups ESV, round, extra deep



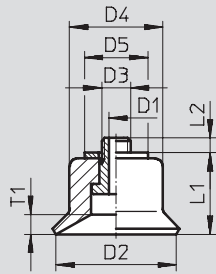
Technical data

Dimensions

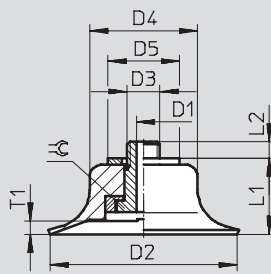
ESS-15-E



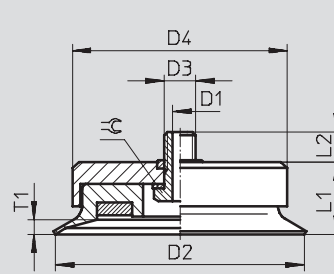
ESS-20/30-E



ESS-40/50/60-E



ESS-80/100-E



| Type | For | D1 | D2 | D3 | D4 | D5 | L1 | L2 | T1 | ⊕ |
|--------------|-----------------|------|-----|---------|----|----|------|-----|------|----|
| Suction cup | Suction gripper | ND | ∅ | | ∅ | ∅ | | | | |
| ESS-15-E... | ESG-15-E... | ≈⊕ 2 | 15 | M4x0.7 | 11 | - | 10 | 3 | 2.9 | - |
| ESS-20-E... | ESG-20-E... | ≈⊕ 3 | 20 | M6x1 | 15 | 18 | 12.6 | 2.4 | 3 | - |
| ESS-30-E... | ESG-30-E... | ≈⊕ 3 | 30 | M6x1 | 17 | 18 | 15.6 | 3.4 | 4.5 | - |
| ESS-40-E... | ESG-40-E... | ≈⊕ 3 | 40 | M6x1 | 25 | 22 | 19.1 | 3.2 | 4.5 | - |
| ESS-50-E... | ESG-50-E... | ≈⊕ 3 | 50 | M6x1 | 30 | 22 | 21.1 | 3.9 | 6.5 | - |
| ESS-60-E... | ESG-60-E... | ∅ 6 | 60 | M10x1.5 | 40 | - | 27.6 | 5.4 | 9.5 | 14 |
| ESS-80-E... | ESG-80-E... | ∅ 6 | 80 | M10x1.5 | 68 | - | 33 | 9.4 | 8.6 | 14 |
| ESS-100-E... | ESG-100-E... | ∅ 6 | 100 | M10x1.5 | 85 | - | 33 | 8.4 | 10.7 | 14 |

Suction grippers

2.1

Suction cups, complete ESS/suction cups ESV, round, extra deep

Technical data

| Ordering data | | | |
|-------------------------|----------|--------------------------|--------------------|
| Suction cup Ø [mm] | ESS | | ESV |
| | Part No. | Type | Part No. Type |
| Fluoro rubber F | | | |
| 15 | 189 337 | ESS-15-EF ¹⁾ | – |
| 20 | 189 341 | ESS-20-EF ¹⁾ | 191 026 ESV-20-EF |
| 30 | 189 345 | ESS-30-EF ¹⁾ | 191 030 ESV-30-EF |
| 40 | 189 349 | ESS-40-EF ¹⁾ | 191 034 ESV-40-EF |
| 50 | 189 353 | ESS-50-EF ¹⁾ | 191 038 ESV-50-EF |
| 60 | 189 357 | ESS-60-EF ¹⁾ | 191 042 ESV-60-EF |
| 80 | 189 361 | ESS-80-EF ¹⁾ | 191 046 ESV-80-EF |
| 100 | 189 365 | ESS-100-EF ¹⁾ | 191 050 ESV-100-EF |
| Nitrile rubber N | | | |
| 15 | 189 334 | ESS-15-EN ¹⁾ | – |
| 20 | 189 338 | ESS-20-EN ¹⁾ | 191 023 ESV-20-EN |
| 30 | 189 342 | ESS-30-EN ¹⁾ | 191 027 ESV-30-EN |
| 40 | 189 346 | ESS-40-EN ¹⁾ | 191 031 ESV-40-EN |
| 50 | 189 350 | ESS-50-EN ¹⁾ | 191 035 ESV-50-EN |
| 60 | 189 354 | ESS-60-EN ¹⁾ | 191 039 ESV-60-EN |
| 80 | 189 358 | ESS-80-EN ¹⁾ | 191 043 ESV-80-EN |
| 100 | 189 362 | ESS-100-EN ¹⁾ | 191 047 ESV-100-EN |
| Silicone S | | | |
| 15 | 189 336 | ESS-15-ES | – |
| 20 | 189 340 | ESS-20-ES | 191 025 ESV-20-ES |
| 30 | 189 344 | ESS-30-ES | 191 029 ESV-30-ES |
| 40 | 189 348 | ESS-40-ES | 191 033 ESV-40-ES |
| 50 | 189 352 | ESS-50-ES | 191 037 ESV-50-ES |
| 60 | 189 356 | ESS-60-ES | 191 041 ESV-60-ES |
| 80 | 189 360 | ESS-80-ES | 191 045 ESV-80-ES |
| 100 | 189 364 | ESS-100-ES | 191 049 ESV-100-ES |
| Polyurethane U | | | |
| 15 | 189 335 | ESS-15-EU | – |
| 20 | 189 339 | ESS-20-EU | 191 024 ESV-20-EU |
| 30 | 189 343 | ESS-30-EU | 191 028 ESV-30-EU |
| 40 | 189 347 | ESS-40-EU | 191 032 ESV-40-EU |
| 50 | 189 351 | ESS-50-EU | 191 036 ESV-50-EU |
| 60 | 189 355 | ESS-60-EU | 191 040 ESV-60-EU |
| 80 | 189 359 | ESS-80-EU | 191 044 ESV-80-EU |
| 100 | 189 363 | ESS-100-EU | 191 048 ESV-100-EU |

1) Free of copper, PTFE and silicone

Suction cups, complete ESS/suction cups ESV, bellows, round 1.5 convolutions

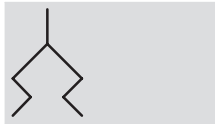
FESTO

Technical data

ESS-...-B...
ESV-...-B...

-  - Temperature range
-30 ... +180 °C

Function



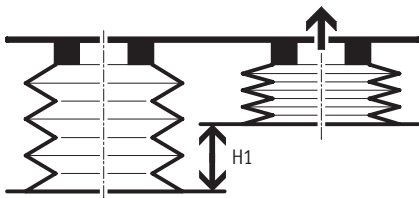
-  - Diameter
10 ... 80 mm



| General technical data | | | | | | | | | |
|--------------------------|----------------------------|-----------------|---------------------------------------|--|---|---|---|------------|------------|
| Suction cup Ø [mm] | Suction cup holder fits | Mounting thread | Effective suction cup Ø [mm] | Breakaway force at -0.7 bar [N] | Suction cup volume ²⁾ [cm ³] | Min. radius R ¹⁾ of workpiece [mm] | Max. height compensation H1 [mm] | Weight | |
| | | | | | | | | ESS [g] | ESV [g] |
| 10 | Size 3 | M4x0.7 | 7.4 | 4.7 | 0.380 | 20 | 4 | 1.8 | - |
| 20 | Size 4 | M6x1 | 14.3 | 12.9 | 1.600 | 40 | 6 | 6.7 | 1.9 |
| 30 | | | 20.3 | 26.2 | 4.070 | 80 | 8 | 9.9 | 3.6 |
| 40 | | | 25.2 | 52.3 | 8.870 | 90 | 9.5 | 18.7 | 9.8 |
| 50 | | | 31.8 | 72.6 | 14.230 | 150 | 11 | 24.7 | 13.9 |
| 80 | Size 5 | M10x1.5 | 55 | 213.6 | 63.900 | 430 | 10 | 139 | 39 |

- 1) Minimum arc radius of the workpiece to be gripped
2) Volume to be evacuated

Max. height compensation H1

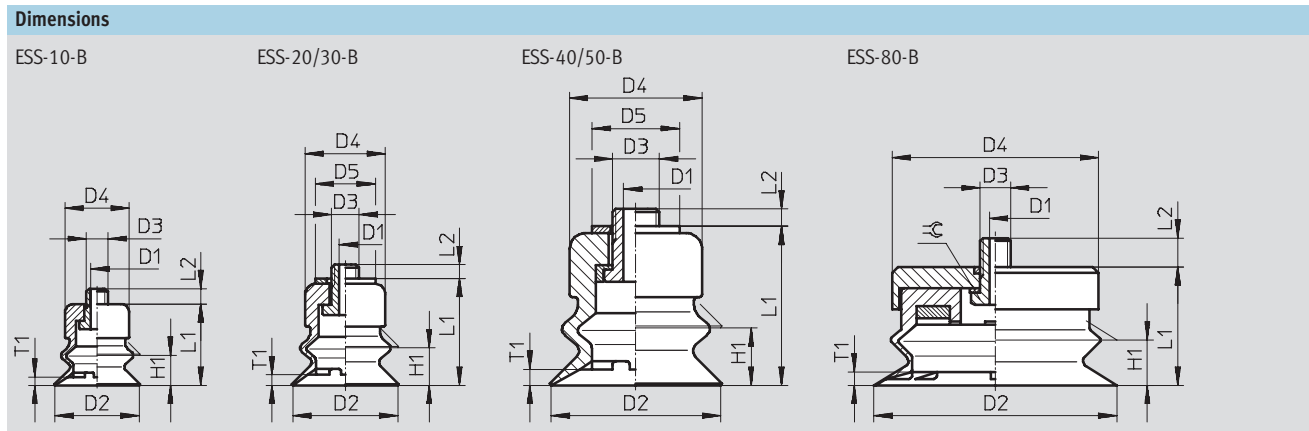


| Lateral force F [N] at pu = -0.7 bar; Ra = 7 µm | | | |
|---|------------|------------|------------|
| Suction cup Ø [mm] | ESS-...-BN | ESS-...-BS | ESS-...-BU |
| 10 | 4.5 | 2.5 | 3 |
| 20 | 9.5 | 8 | 9.5 |
| 30 | 24.5 | 16 | 21.5 |
| 40 | 32.5 | 32.5 | 33 |
| 50 | 55.5 | 38 | 47 |
| 80 | 199.5 | 93 | 132.5 |

Suction cups, complete ESS/suction cups ESV, bellows, round 1.5 convolutions

FESTO

Technical data



| Type Suction cup | For Suction gripper | D1 ND | D2 Ø | D3 | D4 Ø | D5 Ø | H1 | L1 | L2 | T1 | ≈C |
|------------------|---------------------|-------|------|---------|------|------|-----|------|-----|-----|----|
| ESS-10-B... | ESG-10-B... | ≈C 2 | 10 | M4x0.7 | 10 | - | 4 | 16 | 3 | 1 | - |
| ESS-20-B... | ESG-20-B... | ≈C 3 | 20 | M6x1 | 15 | 18 | 6 | 20.6 | 2.4 | 2 | - |
| ESS-30-B... | ESG-30-B... | ≈C 3 | 30 | M6x1 | 17 | 18 | 8 | 24.6 | 3.4 | 2.5 | - |
| ESS-40-B... | ESG-40-B... | ≈C 3 | 40 | M6x1 | 25 | 22 | 9.5 | 31.6 | 3.2 | 4 | - |
| ESS-50-B... | ESG-50-B... | ≈C 3 | 50 | M6x1 | 30 | 22 | 11 | 33.6 | 3.2 | 4 | - |
| ESS-80-B... | ESG-80-B... | Ø 6 | 80 | M10x1.5 | 68 | - | 10 | 39 | 9.4 | 2 | 14 |

| Ordering data | | | |
|-------------------------|----------|-------------------------|-------------------|
| Suction cup Ø [mm] | ESS | | ESV |
| | Part No. | Type | Part No. Type |
| Nitrile rubber N | | | |
| 10 | 189 374 | ESS-10-BN ¹⁾ | - |
| 20 | 189 378 | ESS-20-BN ¹⁾ | 191 054 ESV-20-BN |
| 30 | 189 382 | ESS-30-BN ¹⁾ | 191 057 ESV-30-BN |
| 40 | 189 386 | ESS-40-BN ¹⁾ | 191 060 ESV-40-BN |
| 50 | 189 390 | ESS-50-BN ¹⁾ | 191 063 ESV-50-BN |
| 80 | 189 394 | ESS-80-BN ¹⁾ | 191 066 ESV-80-BN |
| Silicone S | | | |
| 10 | 189 376 | ESS-10-BS | - |
| 20 | 189 380 | ESS-20-BS | 191 056 ESV-20-BS |
| 30 | 189 384 | ESS-30-BS | 191 059 ESV-30-BS |
| 40 | 189 388 | ESS-40-BS | 191 062 ESV-40-BS |
| 50 | 189 392 | ESS-50-BS | 191 065 ESV-50-BS |
| 80 | 189 396 | ESS-80-BS | 191 068 ESV-80-BS |
| Polyurethane U | | | |
| 10 | 189 375 | ESS-10-BU | - |
| 20 | 189 379 | ESS-20-BU | 191 055 ESV-20-BU |
| 30 | 189 383 | ESS-30-BU | 191 058 ESV-30-BU |
| 40 | 189 387 | ESS-40-BU | 191 061 ESV-40-BU |
| 50 | 189 391 | ESS-50-BU | 191 064 ESV-50-BU |
| 80 | 189 395 | ESS-80-BU | 191 067 ESV-80-BU |

1) Free of copper, PTFE and silicone

Suction cups, complete ESS/suction cups ESV, bellows, round 1.5 convolutions



Technical data

ESS-...-BT-...
ESV-...-BT

-  - Temperature range
-10 ... +80 °C

Function



-  - Diameter
40 ... 80 mm



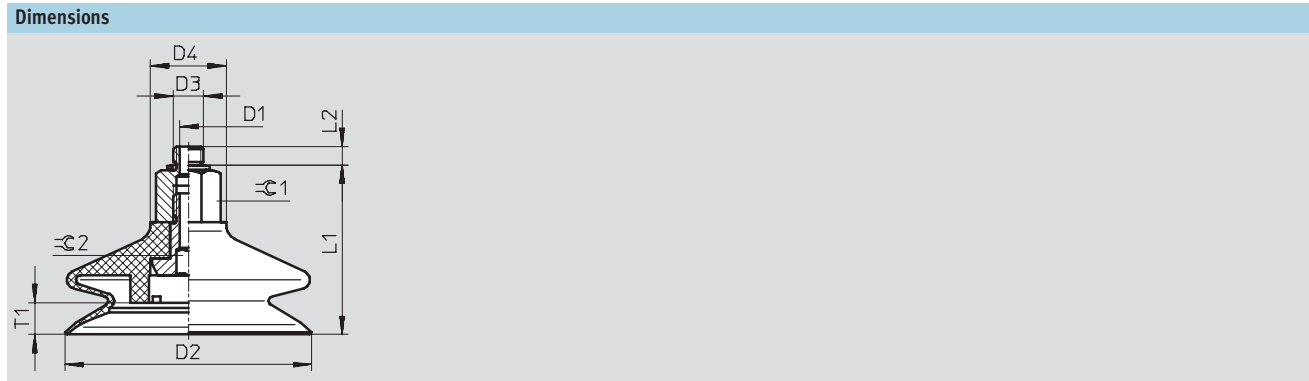
| General technical data | | | | | | | |
|------------------------|-------------------------|--|---------------------------------|---|---------------------------|---------|---------|
| Suction cup Ø [mm] | Suction cup holder fits | Mounting thread | Breakaway force at -0.7 bar [N] | Min. radius R ¹⁾ of workpiece [mm] | Volume [cm ³] | Weight | |
| | | | | | | ESS [g] | ESV [g] |
| 40 | Size 4 | M6x1 | 59 | 35 | 9.70 | 18 | 10.5 |
| | Size 5 | M10x1.5 | | | 9.71 | 19 | |
| | - | G ³ / ₄ -I female thread | | | 10.00 | 19 | |
| | - | G ³ / ₄ male thread | | | 9.73 | 20.5 | |
| 50 | Size 4 | M6x1 | 100 | 40 | 17.50 | 24 | 16.2 |
| | Size 5 | M10x1.5 | | | 17.51 | 25 | |
| | - | G ³ / ₄ -I female thread | | | 17.80 | 25 | |
| | - | G ³ / ₄ male thread | | | 17.53 | 26 | |
| 80 | Size 5 | M10x1.5 | 237 | 100 | 58.50 | 84.5 | 57.2 |
| | - | G ³ / ₄ -I female thread | | | 58.50 | 87.5 | |
| | - | G ³ / ₄ male thread | | | 58.50 | 85.5 | |

1) Minimum arc radius of the workpiece to be gripped

Suction cups, complete ESS/suction cups ESV, bellows, round 1.5 convolutions

FESTO

Technical data



| Type | D1 ∅ ND | D2 ∅ | D3 | D4 ∅ | L1 | L2 | T1 | ⊖ 1 | ⊖ 2 |
|-------------|---------------|---------|-----------------|---------|-------|------|------|--------|--------|
| ESS-40-BT | 2.5 | 40 | M6 | 20 | 36 | 3.45 | 9 | 15 | 4 |
| ESS-40-BT-I | | | M10 | | 36.3 | 6.2 | | 17 | |
| ESS-50-BT | | | G $\frac{1}{4}$ | | 48.3 | - | | 15 | |
| ESS-50-BT-I | 2.5 | 50 | G $\frac{1}{4}$ | 20 | 38.05 | 3.45 | 8 | 17 | 4 |
| ESS-80-BT | | | M6 | | 38.3 | 6.2 | | 15 | |
| ESS-80-BT-I | | | M10 | | 50.3 | 5.8 | | 17 | |
| ESS-80-BT | 2.5 | 80 | G $\frac{1}{4}$ | 20 | 53.3 | 6.2 | 10.5 | 17 | 8 |
| ESS-80-BT-I | | | M10 | | 60.8 | 5.8 | | 15 | |
| ESS-80-BT-I | | | G $\frac{1}{4}$ | | - | - | | 17 | |

| Ordering data | | | | | |
|--------------------------|-------------------------------|----------|--|----------|-------------------------|
| Suction cup ∅ [mm] | Connection | ESS | | ESV | |
| | | Part No. | Type | Part No. | Type |
| 40 | M6 | 525 989 | ESS-40-BT-M6 ¹⁾ | - | - |
| | M10 | 525 990 | ESS-40-BT-M10 ¹⁾ | - | - |
| | G $\frac{1}{4}$ female thread | 525 991 | ESS-40-BT-G $\frac{1}{4}$ -I ¹⁾ | - | - |
| | G $\frac{1}{4}$ | 525 992 | ESS-40-BT-G $\frac{1}{4}$ ¹⁾ | - | - |
| | - | - | - | 526 006 | ESV-40-BT ¹⁾ |
| 50 | M6 | 525 993 | ESS-50-BT-M6 ¹⁾ | - | - |
| | M10 | 525 994 | ESS-50-BT-M10 ¹⁾ | - | - |
| | G $\frac{1}{4}$ female thread | 525 995 | ESS-50-BT-G $\frac{1}{4}$ -I ¹⁾ | - | - |
| | G $\frac{1}{4}$ | 525 996 | ESS-50-BT-G $\frac{1}{4}$ ¹⁾ | - | - |
| | - | - | - | 526 007 | ESV-50-BT ¹⁾ |
| 80 | M10 | 525 997 | ESS-80-BT-M10 ¹⁾ | - | - |
| | G $\frac{1}{4}$ female thread | 525 998 | ESS-80-BT-G $\frac{1}{4}$ -I ¹⁾ | - | - |
| | G $\frac{1}{4}$ | 525 999 | ESS-80-BT-G $\frac{1}{4}$ ¹⁾ | - | - |
| | - | - | - | 526 008 | ESV-80-BT ¹⁾ |

1) Free of copper, PTFE and silicone

Suction cups, complete ESS/suction cups ESV, bellows, round 3.5 convolutions

FESTO

Technical data

ESS-...-C...
ESV-...-C...

-  - Temperature range
-30 ... +180 °C

Function



-  - Diameter
10 ... 50 mm



General technical data

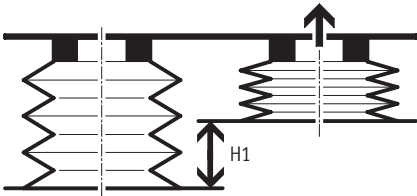
| Suction cup Ø [mm] | Suction cup holder fits | Mounting thread | Effective suction cup Ø [mm] | Breakaway force at -0.7 bar [N] | Suction cup volume ²⁾ [cm ³] | Min. radius R ¹⁾ of workpiece [mm] | Max. height compensation H1 [mm] | Weight | |
|--------------------------|----------------------------|--------------------|---------------------------------------|--|---|---|---|------------|------------|
| | | | | | | | | ESS [g] | ESV [g] |
| 10 | Size 3 | M4x0.7 | 6.9 | 3.9 | 0.290 | 25 | 3.3 | 1.6 | - |
| 20 | Size 4 | M6x1 | 14.5 | 8.2 | 2.750 | 50 | 7 | 6.9 | 2.1 |
| 30 | | | 20.9 | 20.8 | 9.470 | 80 | 10.5 | 12.2 | 5.8 |
| 40 | | | 28.2 | 42.4 | 19.720 | 100 | 12.8 | 21.9 | 13 |
| 50 | | | 32.8 | 63.4 | 38.920 | 180 | 17.5 | 32.1 | 21.3 |

- 1) Minimum arc radius of the workpiece to be gripped
2) Volume to be evacuated

Suction grippers

2.1

Max. height compensation H1



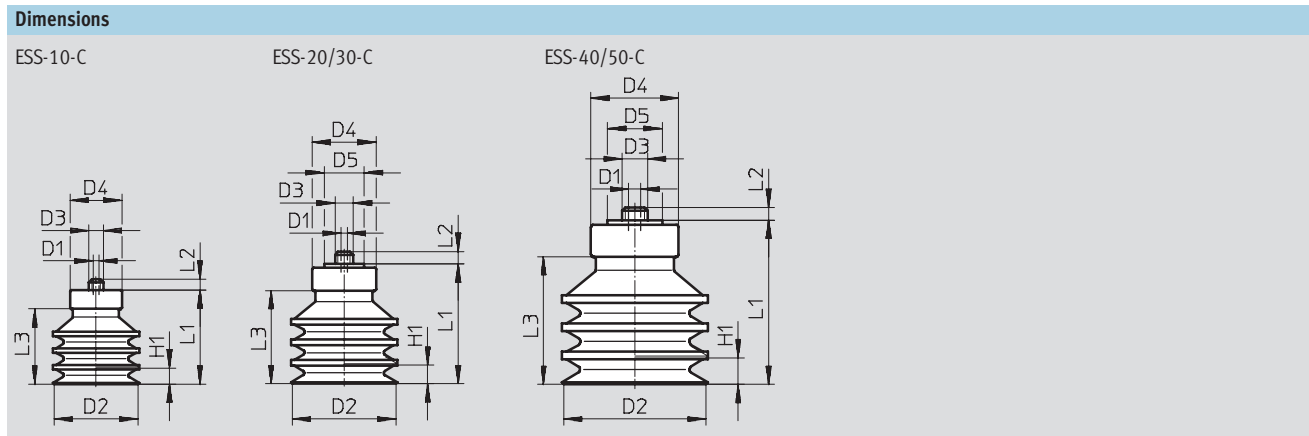
Lateral force F [N] at pu = -0.7 bar; Ra = 7 µm

| Suction cup Ø [mm] | ESS-...-CN | ESS-...-CS |
|-----------------------|------------|------------|
| 10 | 1.5 | 1 |
| 20 | 6.5 | 7 |
| 30 | 11.5 | 11 |
| 40 | 47.5 | 13 |
| 50 | 49 | 45.5 |

Suction cups, complete ESS/suction cups ESV, bellows, round 3.5 convolutions

FESTO

Technical data



| Type Suction cup | For Suction gripper | D1 ≈ ND | D2 ∅ | D3 | D4 ∅ | D5 ∅ | H1 | L1 | L2 | L3 |
|------------------|---------------------|---------------|---------|--------|---------|---------|------|------|-----|------|
| ESS-10-C... | ESG-10-C... | 2 | 10 | M4x0.7 | 10 | - | 3.3 | 12.7 | 3 | 8.7 |
| ESS-20-C... | ESG-20-C... | 3 | 20 | M6x1 | 15 | 18 | 7 | 23 | 2.4 | 16.4 |
| ESS-30-C... | ESG-30-C... | 3 | 30 | M6x1 | 18 | 18 | 10.5 | 34.3 | 3.4 | 26.2 |
| ESS-40-C... | ESG-40-C... | 3 | 40 | M6x1 | 25 | 22 | 12.8 | 39.6 | 3.2 | 31 |
| ESS-50-C... | ESG-50-C... | 3 | 50 | M6x1 | 30 | 22 | 17.5 | 48 | 3.2 | 39.4 |

| Ordering data | | | |
|-------------------------|----------|-------------------------|-------------------|
| Suction cup ∅ [mm] | ESS | | ESV |
| | Part No. | Type | Part No. Type |
| Nitrile rubber N | | | |
| 10 | 189 398 | ESS-10-CN ¹⁾ | - |
| 20 | 189 400 | ESS-20-CN ¹⁾ | 191 071 ESV-20-CN |
| 30 | 189 402 | ESS-30-CN ¹⁾ | 191 073 ESV-30-CN |
| 40 | 189 404 | ESS-40-CN ¹⁾ | 191 075 ESV-40-CN |
| 50 | 189 406 | ESS-50-CN ¹⁾ | 191 077 ESV-50-CN |
| Silicone S | | | |
| 10 | 189 399 | ESS-10-CS | - |
| 20 | 189 401 | ESS-20-CS | 191 072 ESV-20-CS |
| 30 | 189 403 | ESS-30-CS | 191 074 ESV-30-CS |
| 40 | 189 405 | ESS-40-CS | 191 076 ESV-40-CS |
| 50 | 189 407 | ESS-50-CS | 191 078 ESV-50-CS |


1) Free of copper, PTFE and silicone

Suction cups ESS, oval

Technical data



ESS-...-0...

-  - Temperature range
-10 ... +70 °C

Function



| General technical data | | | | | | |
|--------------------------|----------------------------|-----------------|------------------------------------|---------------------------------------|---|---------------|
| Suction cup size [mm] | Suction cup holder fits | Mounting thread | Effective suction cup Ø [mm] | Breakaway force at -0.7 bar [N] | Suction cup volume ¹⁾ [cm ³] | Weight [g] |
| 4x10 | Size 4 | M6x1 | 0.29 | 2 | 0.064 | 2 |
| 4x20 | | | 0.57 | 3.4 | 0.112 | 2.5 |
| 6x10 | | | 0.35 | 2.9 | 0.106 | 2 |
| 6x20 | | | 0.74 | 5.9 | 0.196 | 2.5 |
| 8x20 | | | 0.89 | 8 | 0.256 | 2.5 |
| 8x30 | | | 1.36 | 10.9 | 0.376 | 3 |
| 10x30 | | | 2.23 | 15.2 | 0.350 | 2.9 |
| 15x45 | Size 5 | M10x1.5 | 4.84 | 32 | 1.570 | 23.8 |
| 20x60 | | | 9.12 | 62.8 | 3.690 | 30.8 |
| 25x75 | | | 14.67 | 92.5 | 6.700 | 46.8 |
| 30x90 | | | 21.83 | 134.4 | 10.170 | 55.3 |

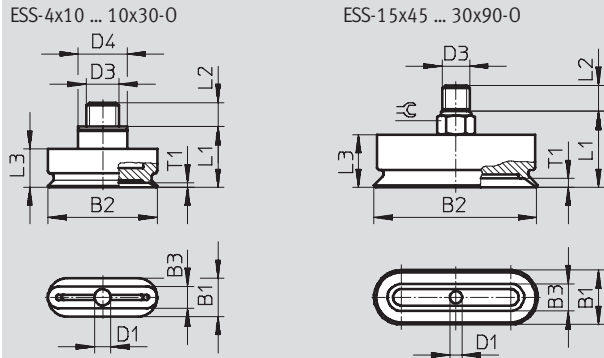
1) Volume to be evacuated

| Lateral force F [N] at pu = -0.7 bar and Ra = 7 µm | | |
|--|------------|----------|
| Suction cup size [mm] | horizontal | vertical |
| 4x10 | 3.5 | 5 |
| 4x20 | 4.5 | 11 |
| 6x10 | 8.5 | 12 |
| 6x20 | 9 | 12.5 |
| 8x20 | 11 | 13 |
| 8x30 | 17 | 13.5 |
| 10x30 | 23 | 16 |
| 15x45 | 43 | 35 |
| 20x60 | 116 | 63 |
| 25x75 | 125.5 | 115 |
| 30x90 | 201 | 134.5 |

Suction cups ESS, oval

Technical data

Dimensions



| Typ | für Sauggreifer | B1 | B2 | B3 | D1 Ø NW | D3 | D4 Ø | L1 | L2 | L3 | T1 | ☉ |
|----------------|-----------------|----|----|----|---------------|---------|---------|------|-----|------|-----|----|
| ESS-4x10-0... | ESG-4x10-0... | 7 | 10 | 4 | 2,5 | M6x1 | 9 | 11,1 | 4,4 | 7 | 0,8 | - |
| ESS-4x20-0... | ESG-4x20-0... | 7 | 20 | 4 | 2,5 | M6x1 | 9 | 11,1 | 4,4 | 7 | 0,8 | - |
| ESS-6x10-0... | ESG-6x10-0... | 7 | 10 | 6 | 2,5 | M6x1 | 9 | 11,1 | 4,4 | 7 | 1 | - |
| ESS-6x20-0... | ESG-6x20-0... | 7 | 20 | 6 | 2,5 | M6x1 | 9 | 11,1 | 4,4 | 7 | 1 | - |
| ESS-8x20-0... | ESG-8x20-0... | 7 | 20 | 8 | 2,5 | M6x1 | 9 | 11,1 | 4,4 | 7 | 1 | - |
| ESS-8x30-0... | ESG-8x30-0... | 7 | 30 | 8 | 2,5 | M6x1 | 9 | 11,1 | 4,4 | 7 | 1 | - |
| ESS-10x30-0... | ESG-10x30-0... | 10 | 30 | 7 | 2,5 | M6x1 | 9 | 11,1 | 4,4 | 7 | 1,1 | - |
| ESS-15x45-0... | ESG-15x45-0... | 15 | 45 | 15 | 6 | M10x1,5 | - | 25,5 | 8,5 | 18,5 | 2,5 | 12 |
| ESS-20x60-0... | ESG-20x60-0... | 20 | 60 | 20 | 6 | M10x1,5 | - | 26,3 | 8,5 | 19,3 | 3,2 | 12 |
| ESS-25x75-0... | ESG-25x75-0... | 25 | 75 | 25 | 6 | M10x1,5 | - | 28 | 8,5 | 21 | 3,7 | 12 |
| ESS-30x90-0... | ESG-30x90-0... | 30 | 90 | 30 | 6 | M10x1,5 | - | 28,5 | 8,5 | 21,5 | 3,7 | 12 |

Ordering data

| Suction cup size [mm] | ESS | |
|-----------------------|----------|----------------------------|
| | Part No. | Type |
| Nitrile rubber N | | |
| 4x10 | 189 408 | ESS-4X10-ON ¹⁾ |
| 4x20 | 189 409 | ESS-4X20-ON ¹⁾ |
| 6x10 | 189 410 | ESS-6X10-ON ¹⁾ |
| 6x20 | 189 411 | ESS-6X20-ON ¹⁾ |
| 8x20 | 189 412 | ESS-8X20-ON ¹⁾ |
| 8x30 | 189 413 | ESS-8X30-ON ¹⁾ |
| 10x30 | 189 414 | ESS-10X30-ON ¹⁾ |
| 15x45 | 189 415 | ESS-15X45-ON ¹⁾ |
| 20x60 | 189 416 | ESS-20X60-ON ¹⁾ |
| 25x75 | 189 417 | ESS-25X75-ON ¹⁾ |
| 30x90 | 189 418 | ESS-30X90-ON ¹⁾ |


1) Free of copper, PTFE and silicone

Suction cups, complete ESS/suction cups ESV, bell-shaped



Technical data

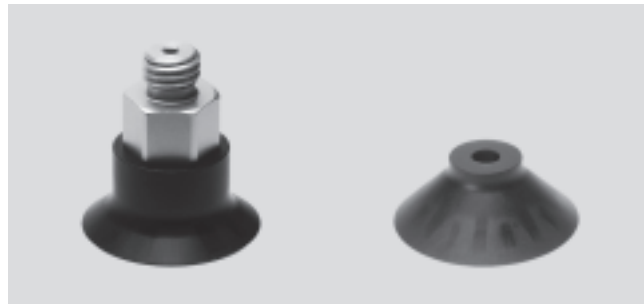
ESS-...-GT-...
ESV-...-GT

-  - Temperature range
-10 ... +80 °C

Function



-  - Diameter
30 ... 100 mm



| General technical data | | | | | | | | |
|-----------------------------------|-------------------------|--|---------------------------------|---|---------------------------|---------|---------|------|
| Suction cup \varnothing [mm] | Suction cup holder fits | Mounting thread | Breakaway force at -0.7 bar [N] | Min. radius R ¹⁾ of workpiece [mm] | Volume [cm ³] | Weight | | |
| | | | | | | ESS [g] | ESV [g] | |
| 30 | Size 4 | M6x1 | 36 | 26 | 2.3 | 12 | 4.2 | |
| | Size 5 | M10x1.5 | | | | 13 | | |
| | - | G ³ / ₈ -I female thread | | | | 14 | | |
| | - | G ³ / ₈ male thread | | | | 13 | | |
| 40 | Size 4 | M6x1 | 64 | 35 | 5.1 | 14 | 5.7 | |
| | Size 5 | M10x1.5 | | | | 15 | | |
| | - | G ³ / ₄ -I female thread | | | | 5.4 | | 14.5 |
| | - | G ³ / ₄ male thread | | | | 5.1 | | 16 |
| 50 | Size 4 | M6x1 | 97 | 40 | 11.2 | 17 | 9.2 | |
| | Size 5 | M10x1.5 | | | | 18 | | |
| | - | G ³ / ₄ -I female thread | | | | 11.5 | | 18 |
| | - | G ³ / ₄ male thread | | | | 11.2 | | 21 |
| 60 | Size 5 | M10x1.5 | 134 | 75 | 12.3 | 20 | 10.7 | |
| | - | G ³ / ₄ -I female thread | | | | 19.5 | | |
| | - | G ³ / ₄ male thread | | | | 21 | | |
| 80 | Size 5 | M10x1.5 | 245 | 100 | 28.0 | 28 | 30.9 | |
| | - | G ³ / ₄ -I female thread | | | | 61 | | |
| | - | G ³ / ₄ male thread | | | | 60 | | |
| 100 | Size 5 | M10x1.5 | 375 | 135 | 53.2 | 86.5 | 58.9 | |
| | - | G ³ / ₄ -I female thread | | | | 89.5 | | |
| | - | G ³ / ₄ male thread | | | | 87.5 | | |

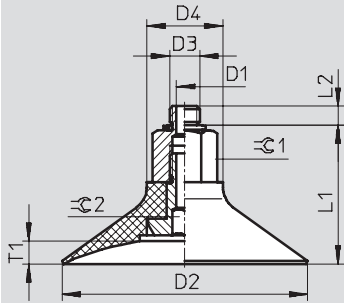
1) Minimum arc radius of the workpiece to be gripped

Suction cups, complete ESS/suction cups ESV, bell-shaped

Technical data



Dimensions



| Type | D1 ∅ ND | D2 ∅ | D3 | D4 ∅ | L1 | L2 | T1 | ⊘ 1 | ⊘ 2 | | |
|--------------|---------------|---------|-----------------|---------|-------|------|-----|--------|--------|------|---|
| ESS-30-GT | 2.5 | 30 | M6 | 20 | 27.55 | 3.45 | 3.5 | 15 | 4 | | |
| ESS-30-GT-I | | | M10 | | 27.8 | 6.2 | | 17 | | | |
| | | | G $\frac{1}{8}$ | | | 4.7 | | 15 | | | |
| ESS-40-GT | 2.5 | 40 | M6 | 20 | 29.55 | 3.45 | 5.5 | 15 | 4 | | |
| ESS-40-GT-I | | | M10 | | 29.8 | 6.2 | | 17 | | | |
| | | | G $\frac{1}{4}$ | | 30.2 | 5.8 | | 42.2 | | - | |
| ESS-50-GT | 2.5 | 50 | M6 | 20 | 32.05 | 3.45 | 8 | 15 | 4 | | |
| ESS-50-GT-I | | | M10 | | 32.3 | 6.2 | | 17 | | | |
| | | | G $\frac{1}{4}$ | | 32.7 | 5.8 | | 44.7 | | - | |
| ESS-60-GT | 5.5 | 60 | M10 | 20 | 34.3 | 6.2 | 6 | 17 | 4 | | |
| ESS-60-GT-I | | | G $\frac{1}{4}$ | | 34.7 | 5.8 | | | | 45.7 | - |
| | | | G $\frac{1}{4}$ | | | | | | | | |
| ESS-80-GT | 5.5 | 80 | M10 | 25 | 43.3 | 6.2 | 7.5 | 22 | 8 | | |
| ESS-80-GT-I | | | G $\frac{1}{4}$ | | | 5.8 | | | | 54.7 | - |
| | | | G $\frac{1}{4}$ | | | | | | | | |
| ESS-100-GT | 5.5 | 100 | M10 | 25 | 47.8 | 6.2 | 9 | 22 | 8 | | |
| ESS-100-GT-I | | | G $\frac{1}{4}$ | | | 5.8 | | | | 48.2 | |
| | | | G $\frac{1}{4}$ | | | | | | | 59.2 | - |

Suction cups, complete ESS/suction cups ESV, bell-shaped



Technical data

Suction grippers

2.1

| Ordering data | | | | |
|--------------------------|-------------------------------|----------|---|----------------------------------|
| Suction cup ∅ [mm] | Connection | ESS | | ESV |
| | | Part No. | Type | Part No. Type |
| 30 | M6 | 525 968 | ESS-30-GT-M6 ¹⁾ | – |
| | M10 | 525 969 | ESS-30-GT-M10 ¹⁾ | – |
| | G $\frac{1}{8}$ female thread | 525 970 | ESS-30-GT-G $\frac{1}{8}$ -I ¹⁾ | – |
| | G $\frac{1}{8}$ | 525 971 | ESS-30-GT-G $\frac{1}{8}$ ¹⁾ | – |
| | – | – | – | 526 000 ESV-30-GT ¹⁾ |
| 40 | M6 | 525 972 | ESS-40-GT-M6 ¹⁾ | – |
| | M10 | 525 973 | ESS-40-GT-M10 ¹⁾ | – |
| | G $\frac{1}{4}$ female thread | 525 974 | ESS-40-GT-G $\frac{1}{4}$ -I ¹⁾ | – |
| | G $\frac{1}{4}$ | 525 975 | ESS-40-GT-G $\frac{1}{4}$ ¹⁾ | – |
| | – | – | – | 526 001 ESV-40-GT ¹⁾ |
| 50 | M6 | 525 976 | ESS-50-GT-M6 ¹⁾ | – |
| | M10 | 525 977 | ESS-50-GT-M10 ¹⁾ | – |
| | G $\frac{1}{4}$ female thread | 525 978 | ESS-50-GT-G $\frac{1}{4}$ -I ¹⁾ | – |
| | G $\frac{1}{4}$ | 525 979 | ESS-50-GT-G $\frac{1}{4}$ ¹⁾ | – |
| | – | – | – | 526 002 ESV-50-GT ¹⁾ |
| 60 | M10 | 525 980 | ESS-60-GT-M10 ¹⁾ | – |
| | G $\frac{1}{4}$ female thread | 525 981 | ESS-60-GT-G $\frac{1}{4}$ -I ¹⁾ | – |
| | G $\frac{1}{4}$ | 525 982 | ESS-60-GT-G $\frac{1}{4}$ ¹⁾ | – |
| | – | – | – | 526 003 ESV-60-GT ¹⁾ |
| 80 | M10 | 525 983 | ESS-80-GT-M10 ¹⁾ | – |
| | G $\frac{1}{4}$ female thread | 525 984 | ESS-80-GT-G $\frac{1}{4}$ -I ¹⁾ | – |
| | G $\frac{1}{4}$ | 525 985 | ESS-80-GT-G $\frac{1}{4}$ ¹⁾ | – |
| | – | – | – | 526 004 ESV-80-GT ¹⁾ |
| 100 | M10 | 525 986 | ESS-100-GT-M10 ¹⁾ | – |
| | G $\frac{1}{4}$ female thread | 525 987 | ESS-100-GT-G $\frac{1}{4}$ -I ¹⁾ | – |
| | G $\frac{1}{4}$ | 525 988 | ESS-100-GT-G $\frac{1}{4}$ ¹⁾ | – |
| | – | – | – | 526 005 ESV-100-GT ¹⁾ |

1) Free of copper, PTFE and silicone