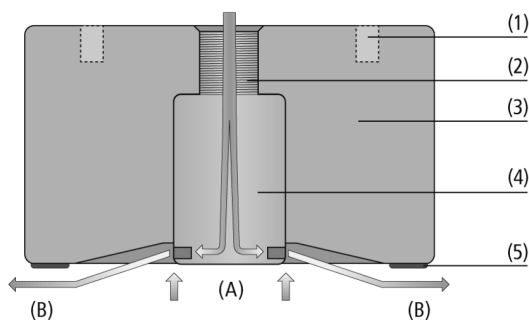


Floating Suction Cups SBS-ESD

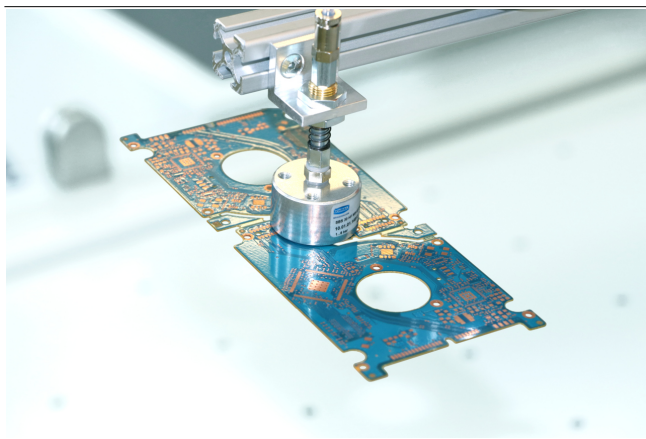
Diameter (Ø) from 10 mm to 100 mm



Floating Suction Cups SBS-ESD



System design Floating Suction Cups SBS-ESD



Floating suction cup SBS-ESD when handling printed circuit boards

Suitability for industry specific applications

Applications

- Process-safe handling of printed circuit boards and drilled PCBs
- Simple separation of intermediate layers during loading and unloading of wet process equipment (e.g. final cleaning)
- Use in the handling of inner layers for multilayers
- Low-contact gripping of sensitive workpieces such as thin copper foils and substrates
- Gentle handling of workpieces with slightly structured surfaces

Design

- Connection directly via four mounting threads on the top side (1); vertical (2) and horizontal compressed air connections
- Conductive aluminium base body with integrated Bernoulli nozzle (3)
- Flow element (4) in two versions: standard flow (SF) for dense to slightly porous parts and high flow (HF) with higher leakage compensation for porous parts
- Dissipative elastomer buffers made of special material NBR-ESD on the underside of the suction cup (5)
- Optional available with central support
- Vacuum (A), exhaust-air (B)

Product highlights

- Operation without ejector due to integrated vacuum generation according to the Bernoulli principle
- Low-contact handling due to "floating" suction cup on an air cushion
- High leakage compensation thanks to high flow rate at low vacuum
- Safe separation of thin, porous workpieces
- Protection against uncontrolled electrostatic discharge by elastomer buffer made of NBR-ESD

Floating Suction Cups SBS-ESD

Diameter (Ø) from 10 mm to 100 mm

Designation code Floating Suction Cups SBS-ESD

SBS	-	40	-	SF	-	G1/8-IG	-	CS	-	ESD/AL
1		2		3		4		5		6

1 - Abbreviated designation

Code	Version
SBS	SBS

2 - Diameter

Code	Diameter in mm
10...100	ø 10 to 100

3 - Flow element

Code	Type
HF	High Flow
SF	Standard Flow

4 - Connection

Code	Connection
M5-IG	M5-IG (IG = female (F))
G1/8-IG	G1/8-IG (IG = female (F))

5 - Product addition

Code	Type
CS	Central support

6 - Material

Code	Material
ESD/AL	NBR-ESD + Aluminum

The floating suction cup SBS-ESD is delivered assembled. The product consists of:

- Floating suction cup type SBS - available in various diameters
- Elastomer buffer made of NBR-ESD material
- Optional product addition: central support (SBS-40 and SBS-60)

Spare parts available: elastomer buffer, friction ring

Ordering data Floating Suction Cups SBS-ESD

Type	Part no.
SBS 10 SF M5-IG ESD/AL	10.01.01.14668
SBS 20 SF M5-IG ESD/AL	10.01.01.14807
SBS 20 HF M5-IG ESD/AL	10.01.01.14809
SBS 30 SF M5-IG ESD/AL	10.01.01.14811
SBS 30 HF M5-IG ESD/AL	10.01.01.14813
SBS 40 SF G1/8-IG ESD/AL	10.01.01.14814
SBS 40 SF G1/8-IG CS ESD/AL	10.01.01.14821
SBS 40 HF G1/8-IG ESD/AL	10.01.01.14815
SBS 60 SF G1/8-IG ESD/AL	10.01.01.14817
SBS 60 SF G1/8-IG CS ESD/AL	10.01.01.14820
SBS 60 HF G1/8-IG ESD/AL	10.01.01.14818
SBS 100 SF G1/8-IG ESD/AL	10.01.01.15452
SBS 100 HF G1/8-IG ESD/AL	10.01.01.15455

Floating Suction Cups SBS-ESD

Diameter (Ø) from 10 mm to 100 mm

Ordering data Spare parts Floating Suction Cups SBS-ESD

Type	Spare parts		Part no.
SBS 20 SF M5-IG ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14704
SBS 20 HF M5-IG ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14704
SBS 30 SF M5-IG ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14704
SBS 30 HF M5-IG ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14704
SBS 40 SF G1/8-IG ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14382
SBS 40 HF G1/8-IG ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14382
SBS 60 SF G1/8-IG ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14382
SBS 60 HF G1/8-IG ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14382
SBS 60 SF G1/8-IG CS ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14382
SBS 40 SF G1/8-IG CS ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14382
SBS 100 SF G1/8-IG ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14382
SBS 100 HF G1/8-IG ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14382
Type	Spare parts		Part no.
SBS 60 SF G1/8-IG CS ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14819
SBS 40 SF G1/8-IG CS ESD/AL	Friction surface (f. spec. grippers)	REIB-FL SBS NBR-ESD-55	10.01.01.14819
Type	Spare parts		Part no.
SBS 10 SF M5-IG ESD/AL	Friction ring	REIB-RING SBS 10 NBR-ESD-55	10.01.01.14669

Ordering data Accessories Floating Suction Cups SBS-ESD

Type	Accessories		Part no.
SBS 10 SF M5-IG ESD/AL	Cross-beam connection	HTR-STA 47 1N D10/16 FL	10.08.03.00085

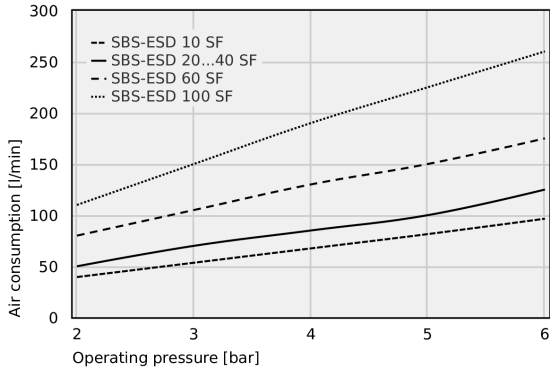
Technical data Floating Suction Cups SBS-ESD

Type	Holding force [N]	Air consumption [m³/h]	Air consumption [l/min]	Operating pressure	Weight [g]
SBS 10 SF M5-IG ESD/AL	1.4	5.1	85	1.0 ... 6.0 bar	7.5
SBS 20 SF M5-IG ESD/AL	2.0	6.0	100	1.0 ... 6.0 bar	12.0
SBS 20 HF M5-IG ESD/AL	3.0	8.4	140	1.0 ... 6.0 bar	12.0
SBS 30 SF M5-IG ESD/AL	4.0	6.0	100	1.0 ... 6.0 bar	30.5
SBS 30 HF M5-IG ESD/AL	5.0	8.4	140	1.0 ... 6.0 bar	30.5
SBS 40 SF G1/8-IG ESD/AL	6.5	6.0	100	1.0 ... 6.0 bar	51.0
SBS 40 SF G1/8-IG CS ESD/AL	6.5	6.0	100	1.0 ... 6.0 bar	53.0
SBS 40 HF G1/8-IG ESD/AL	10.5	11.4	190	1.0 ... 6.0 bar	51.0
SBS 60 SF G1/8-IG ESD/AL	13.0	9.0	150	1.0 ... 6.0 bar	118.0
SBS 60 SF G1/8-IG CS ESD/AL	13.0	9.0	150	1.0 ... 6.0 bar	120.0
SBS 60 HF G1/8-IG ESD/AL	18.5	13.5	225	1.0 ... 6.0 bar	118.0
SBS 100 SF G1/8-IG ESD/AL	46.0	13.5	225	1.0 ... 6.0 bar	295.0
SBS 100 HF G1/8-IG ESD/AL	55.5	25.2	420	1.0 ... 6.0 bar	295.0

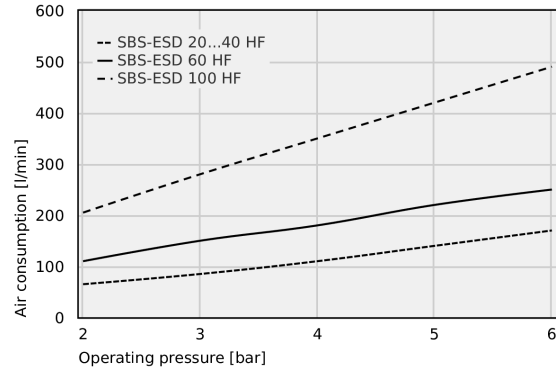
Floating Suction Cups SBS-ESD

Diameter (Ø) from 10 mm to 100 mm

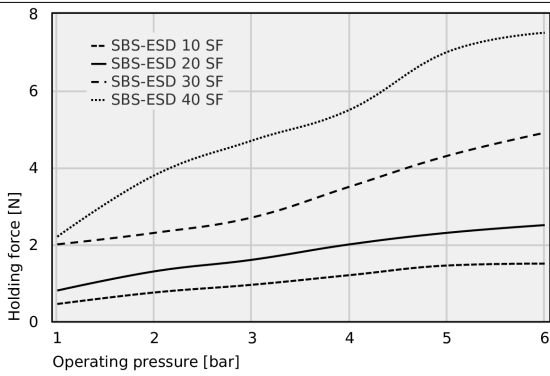
Performance data Floating Suction Cups SBS-ESD



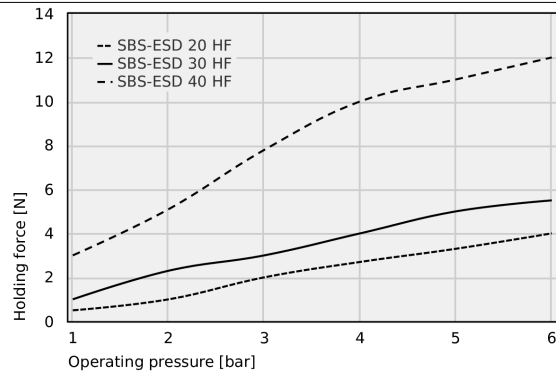
Air consumption



Air consumption



Holding force



Holding force

Floating Suction Cups SBS-ESD

Diameter (Ø) from 10 mm to 100 mm

Air consumption

Typ	2	3	4	5	6
SBS-ESD 10 SF	39.50	53.50	67.50	81.50	96.50
SBS-ESD 20...40 SF	50.00	70.00	85.00	100.00	125.00
SBS-ESD 60 SF	80.00	105.00	130.00	150.00	175.00
SBS-ESD 100 SF	110.00	150.00	190.00	225.00	260.00

Typ	2	3	4	5	6
SBS-ESD 20...40 HF	65	85	110	140	170
SBS-ESD 60 HF	110	150	180	220	250
SBS-ESD 100 HF	205	280	350	420	490

Holding force

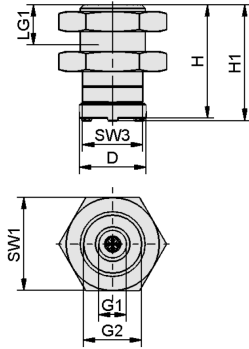
Typ	1	2	3	4	5	6
SBS-ESD 10 SF	0.45	0.75	0.95	1.20	1.45	1.50
SBS-ESD 20 SF	0.80	1.30	1.60	2.00	2.30	2.50
SBS-ESD 30 SF	2.00	2.30	2.70	3.50	4.30	4.90
SBS-ESD 40 SF	2.20	3.80	4.70	5.50	7.00	7.50

Typ	1	2	3	4	5	6
SBS-ESD 20 HF	0.5	1	2.0	2.7	3.3	4.0
SBS-ESD 30 HF	1.0	2.3	3.0	4.0	5.0	5.5
SBS-ESD 40 HF	3.0	5.1	7.8	10.0	11.0	12.0

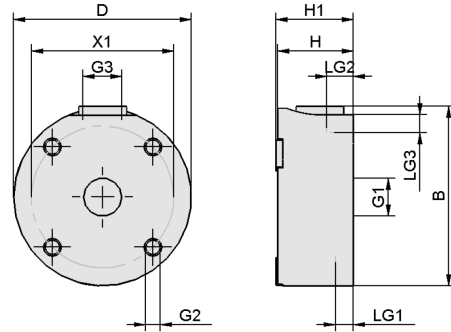
Floating Suction Cups SBS-ESD

Diameter (\varnothing) from 10 mm to 100 mm

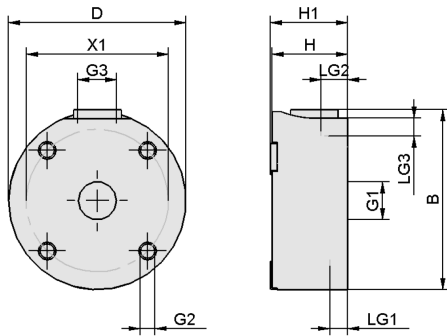
Design data Floating Suction Cups SBS-ESD



SBS-ESD 10



SBS-ESD 20...60



Floating Suction Cups SBS-ESD

Diameter (Ø) from 10 mm to 100 mm

 Design data Floating Suction Cups SBS-ESD

Type	B [mm]	D [mm]	G1	G2	G3	H [mm]	H1 [mm]
SBS 10 SF M5-IG ESD/AL	-	10	M5-F	G1/8"-M	-	17	17.4
SBS 20 SF M5-IG ESD/AL	22.2	20	M5-F	M3-F	M5-F	17	17.5
SBS 20 HF M5-IG ESD/AL	22.2	20	M5-F	M3-F	M5-F	17	17.5
SBS 30 SF M5-IG ESD/AL	32.0	30	M5-F	M4-F	M5-F	17	17.5
SBS 30 HF M5-IG ESD/AL	32.0	30	M5-F	M4-F	M5-F	17	17.5
SBS 40 SF G1/8-IG ESD/AL	41.0	40	G1/8"-F	M4-F	G1/8"-F	17	17.4
SBS 40 HF G1/8-IG ESD/AL	41.0	40	G1/8"-F	M4-F	G1/8"-F	17	17.4
SBS 40 SF G1/8-IG CS ESD/AL	41.0	40	G1/8"-F	M4-F	G1/8"-F	17	17.4
SBS 60 SF G1/8-IG ESD/AL	61.6	60	G1/8"-F	M4-F	G1/8"-F	17	17.4
SBS 60 HF G1/8-IG ESD/AL	61.6	60	G1/8"-F	M4-F	G1/8"-F	17	17.4
SBS 60 SF G1/8-IG CS ESD/AL	61.6	60	G1/8"-F	M4-F	G1/8"-F	17	17.4
SBS 100 SF G1/8-IG ESD/AL	101.0	100	G1/8"-F	M4-F	G1/8"-F	17	17.4
SBS 100 HF G1/8-IG ESD/AL	101.0	100	G1/8"-F	M4-F	G1/8"-F	17	17.4

Type	LG1	LG2 [mm]	LG3 [mm]	SW1 [mm]	SW3 [mm]	X1 [mm]
SBS 10 SF M5-IG ESD/AL	5	-	-	14	9	-
SBS 20 SF M5-IG ESD/AL	5	6	6	-	-	15
SBS 20 HF M5-IG ESD/AL	5	6	6	-	-	15
SBS 30 SF M5-IG ESD/AL	5	6	6	-	-	22
SBS 30 HF M5-IG ESD/AL	5	6	6	-	-	22
SBS 40 SF G1/8-IG ESD/AL	5	6	6	-	-	32
SBS 40 HF G1/8-IG ESD/AL	5	6	6	-	-	32
SBS 40 SF G1/8-IG CS ESD/AL	5	6	6	-	-	32
SBS 60 SF G1/8-IG ESD/AL	5	6	6	-	-	45
SBS 60 HF G1/8-IG ESD/AL	5	6	6	-	-	45
SBS 60 SF G1/8-IG CS ESD/AL	5	6	6	-	-	45
SBS 100 SF G1/8-IG ESD/AL	5	6	6	-	-	75
SBS 100 HF G1/8-IG ESD/AL	5	6	6	-	-	75