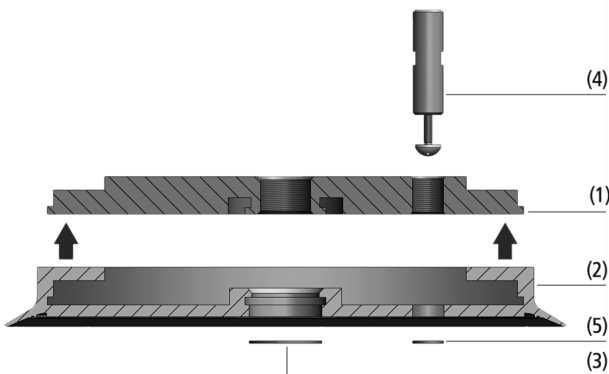


Suction Plates SGF

Suction area (Ø) from 125 mm to 400 mm



Suction Plates SGF



System Design Suction Plates SGF



Suction plates SGF being used for handling sensitive glass sheets

Suitability for Industry Specific Applications

Applications

- Suction plate for handling of flat and smooth workpieces such as glass and plastic sheets where high lateral forces are important, e.g. through high accelerations or vertical handling
- Handling of very thin workpieces, such as flat glass (float glass) or coated glass
- Use in glass manufacturing processes where interleavant powder is used
- Handling of solar modules, e.g. in module manufacturing processes

Design

- Aluminum support plate (1) and sealing ring (2)
- Diameter 125 mm to 200 mm: replaceable sealing ring and thin, flat sealing lip
- Diameter 250 mm to 400 mm: vulcanized sealing ring and steep sealing lip
- Central vacuum connection, optionally with clip-in filter screen (3) as pre-filter
- Eccentric connection for touch valve (4) or filter screen (5), as a standard closed with a plug (secured with adhesive)
- Special designed internal structure for handling glass sheets when interleavant powder is used in the process

Product Highlights

- Thin, flat sealing lip (Ø 125 mm to 200 mm) for low relative movement during suction
- Steep sealing lip (Ø 250 mm to 400 mm) for optimum damping effect during suction
- Low total weight allows high acceleration in automated processes
- Large effective suction area for high suction and lateral forces in dynamic processes

Suction Plates SGF

Suction area (Ø) from 125 mm to 400 mm

Designation Code Suction Plates SGF

SGF	–	HS	–	150	–	EPDM-55	–	G1/2-IG
1		2		3		4		5

1 – Abbreviated designation

Code	Version
SGF	Flat

2 – Product addition

Code	Type
HS	High stroke

3 – Suction area

Code	Diameter in mm
125...400	ø 125 to 400

4 – Material

Code	Material
EPDM-55	Ethylene-propylene-caoutchuc
HT1-60	High temperature material

5 – Connection

Code	Connection
G1/4-IG	G1/4-IG (IG = female (F))
G1/2-IG	G1/2-IG
FM1	FM1

Suction plate SGF (sealing ring + support plate) is delivered assembled. The assembly consists of:

- Sealing ring of type DR-SGF – elastomer part, available in various diameters
- Aluminum support plate – available with various threads

Available spare parts: sealing ring of type DR-SGF

Available accessories: touch valve, filter screen (sieve, round)

Ordering Data Suction Plates SGF

Type*	Part no.
SGF 125 EPDM-55 G1/4-IG	10.01.01.12475
SGF 125 HT1-60 G1/4-IG	10.01.01.12892
SGF 150 EPDM-55 G1/2-IG	10.01.01.13019
SGF 150 HT1-60 G1/2-IG	10.01.01.13021
SGF 150 HT1-60 FM1	10.01.01.13486
SGF 200 EPDM-55 G1/2-IG	10.01.01.12476
SGF 200 HT1-60 G1/2-IG	10.01.01.12893
SGF 400 EPDM-55 G1/2-IG	10.01.01.12478
SGF-HS 150 EPDM-55 G1/2-IG	10.01.01.13492
SGF-HS 150 EPDM-55 FM1	10.01.01.13503
SGF-HS 150 HT1-60 G1/2-IG	10.01.01.13178
SGF-HS 150 HT1-60 FM1	10.01.01.13490
SGF-HS 250 EPDM-55 G1/2-IG	10.01.01.13038
SGF-HS 250 HT1-60 G1/2-IG	10.01.01.13153
SGF-HS 300 EPDM-55 G1/2-IG	10.01.01.13793
SGF-HS 300 HT1-60 G1/2-IG	10.01.01.13794
SGF-HS 350 EPDM-55 G1/2-IG	10.01.01.13039
SGF-HS 350 HT1-60 G1/2-IG	10.01.01.13154

*Additional material specifications at beginning of the section "Vacuum Suction Cups"

Suction Plates SGF

Suction area (Ø) from 125 mm to 400 mm

Ordering Data Spare Parts Suction Plates SGF

Type			Spare Parts		Part no.
SGF	125	EPDM-55	Sealing ring for SGF suction plate	DR-SGF 125 EPDM-55	10.01.01.12473
SGF	125	HT1-60	Sealing ring for SGF suction plate	DR-SGF 125 HT1-60	10.01.01.12890
SGF	150	EPDM-55	Sealing ring for SGF suction plate	DR-SGF 150 EPDM-55	10.01.01.13018
SGF	150	HT1-60	Sealing ring for SGF suction plate	DR-SGF 150 HT1-60	10.01.01.13020
SGF	200	EPDM-55	Sealing ring for SGF suction plate	DR-SGF 200 EPDM-55	10.01.01.12474
SGF	200	HT1-60	Sealing ring for SGF suction plate	DR-SGF 200 HT1-60	10.01.01.12891
SGF-HS	150	EPDM-55	Sealing ring for SGF suction plate	DR-SGF-HS 150 EPDM-55	10.01.01.13491
SGF-HS	150	HT1-60	Sealing ring for SGF suction plate	DR-SGF-HS 150 HT1-60	10.01.01.13176

Ordering Data Accessories Suction Plates SGF

Type	Touch Valve	Sieve, round
SGF 125 EPDM-55 G1/4-IG	10.05.10.00061	10.07.01.00215
SGF 125 HT1-60 G1/4-IG	10.05.10.00061	10.07.01.00215
SGF 150 EPDM-55 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF 150 HT1-60 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF 150 HT1-60 FM1	10.05.10.00061	10.07.01.00110
SGF 200 EPDM-55 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF 200 HT1-60 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF 400 EPDM-55 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF-HS 150 EPDM-55 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF-HS 150 EPDM-55 FM1	10.05.10.00061	10.07.01.00110
SGF-HS 150 HT1-60 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF-HS 150 HT1-60 FM1	10.05.10.00061	10.07.01.00110
SGF-HS 250 EPDM-55 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF-HS 250 HT1-60 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF-HS 300 EPDM-55 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF-HS 300 HT1-60 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF-HS 350 EPDM-55 G1/2-IG	10.05.10.00061	10.07.01.00110
SGF-HS 350 HT1-60 G1/2-IG	10.05.10.00061	10.07.01.00110

Suction Plates SGF

Suction area (Ø) from 125 mm to 400 mm

Technical Data Suction Plates SGF

Type	Suction force (-600 mbar) [N]*	Suction force d2 [N]**	Workpiece radius min. (convex) [mm]	Volume [cm ³]	Hose diameter (recom.) d [mm]***
SGF 125 EPDM-55 G1/4-IG	730	470	1,500	44	9
SGF 125 HT1-60 G1/4-IG	730	470	1,500	44	9
SGF 150 EPDM-55 G1/2-IG	1,060	730	2,000	65	9
SGF 150 HT1-60 G1/2-IG	1,060	730	2,000	65	9
SGF 150 HT1-60 FM1	1,060	730	2,000	65	9
SGF 200 EPDM-55 G1/2-IG	1,880	1,610	3,500	145	12
SGF 200 HT1-60 G1/2-IG	1,880	1,610	3,500	145	12
SGF 400 EPDM-55 G1/2-IG	7,530	6,520	13,500	560	12
SGF-HS 150 EPDM-55 G1/2-IG	1,060	730	700	119	9
SGF-HS 150 EPDM-55 FM1	1,060	730	700	119	9
SGF-HS 150 HT1-60 G1/2-IG	1,060	730	700	119	9
SGF-HS 150 HT1-60 FM1	1,060	730	700	119	9
SGF-HS 250 EPDM-55 G1/2-IG	2,900	2,220	1,600	372	12
SGF-HS 250 HT1-60 G1/2-IG	2,900	2,220	1,600	372	12
SGF-HS 300 EPDM-55 G1/2-IG	4,240	3,480	2,400	573	12
SGF-HS 300 HT1-60 G1/2-IG	4,240	3,480	2,400	573	12
SGF-HS 350 EPDM-55 G1/2-IG	5,700	4,730	3,000	780	12
SGF-HS 350 HT1-60 G1/2-IG	5,700	4,730	3,000	780	12

*The specified suction forces are theoretical values at a vacuum of -0.6 bar and with a smooth, dry workpiece surface - they do not include a safety factor

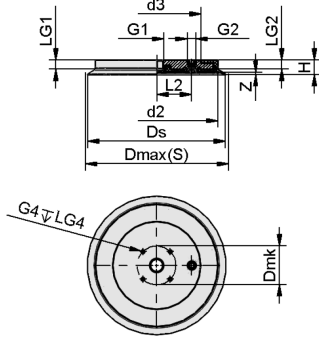
**Suction force referred to the sealing-edge diameter d2

***The recommended hose diameter is based on a hose length of approx. 2 m

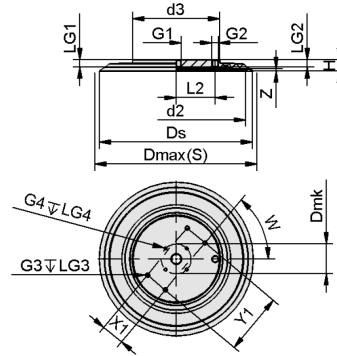
Suction Plates SGF

Suction area (\emptyset) from 125 mm to 400 mm

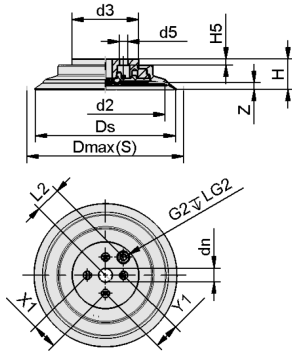
Design Data Suction Plates SGF



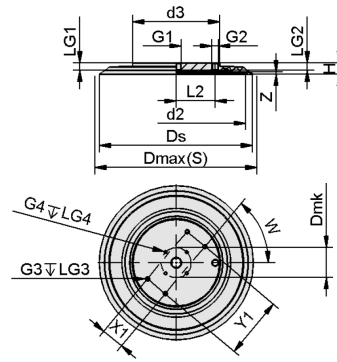
SGF 125 - 200



SGF 250 - 400



SGF-HS 150



SGF-HS 150 - 350

Suction Plates SGF

Suction area (Ø) from 125 mm to 400 mm

Design Data Suction Plates SGF

Type*	d2 [mm]	d3 [mm]	d5 [mm]	Dmax(S) [mm]**	Dmk [mm]	dn [mm]	Ds [mm]	G1	G2	G3	G4
SGF 125 EPDM-55 G1/4-IG	100.0	70	-	130	59	-	123	G1/4"-F	G1/4"-F	-	M6-F
SGF 125 HT1-60 G1/4- IG	100.0	70	-	130	59	-	123	G1/4"-F	G1/4"-F	-	M6-F
SGF 150 EPDM-55 G1/2-IG	125.0	93	-	156	59	-	149	G1/2"-F	G1/4"-F	-	M6-F
SGF 150 HT1-60 G1/2- IG	125.0	93	-	156	59	-	149	G1/2"-F	G1/4"-F	-	M6-F
SGF 150 HT1-60 FM1	125.0	93	9	156	-	14.5	149	-	G1/4"-F	-	-
SGF 200 EPDM-55 G1/2-IG	185.0	134	-	213	59	-	206	G1/2"-F	G1/4"-F	-	M6-F
SGF 200 HT1-60 G1/2- IG	185.0	134	-	213	59	-	206	G1/2"-F	G1/4"-F	-	M6-F
SGF 400 EPDM-55 G1/2-IG	372.3	170	-	405	59	-	398	G1/2"-F	G1/4"-F	M8-F	M6-F
SGF-HS 150 EPDM-55 G1/2-IG	126.0	70	-	165	59	-	149	G1/2"-F	G1/4"-F	-	M6-F
SGF-HS 150 EPDM-55 FM1	126.0	70	9	165	-	14.5	149	-	G1/4"-F	-	-
SGF-HS 150 HT1-60 G1/2- IG	126.0	70	-	165	59	-	149	G1/2"-F	G1/4"-F	-	M6-F
SGF-HS 150 HT1-60 FM1	126.0	70	9	165	-	14.5	149	-	G1/4"-F	-	-
SGF-HS 250 EPDM-55 G1/2-IG	217.0	140	-	260	59	-	248	G1/2"-F	G1/4"-F	M8-F	M6-F
SGF-HS 250 HT1-60 G1/2- IG	217.0	140	-	260	59	-	248	G1/2"-F	G1/4"-F	M8-F	M6-F
SGF-HS 300 EPDM-55 G1/2-IG	272.3	170	-	309	59	-	304	G1/2"-F	-	-	-
SGF-HS 300 HT1-60 G1/2- IG	272.3	170	-	309	59	-	304	G1/2"-F	G1/4"-F	M8-F	M6-F
SGF-HS 350 EPDM-55 G1/2-IG	317.0	170	-	360	59	-	348	G1/2"-F	G1/4"-F	M8-F	M6-F
SGF-HS 350 HT1-60 G1/2- IG	317.0	170	-	360	59	-	348	G1/2"-F	G1/4"-F	M8-F	M6-F

*Acceptable dimensional tolerances for rubber parts concerning to DIN ISO 3302-1 E3

**External dimension of the suction cup when it is pressed against the workpiece by the vacuum

Suction Plates SGF

Suction area (Ø) from 125 mm to 400 mm

Type	H [mm]	H5 [mm]	LG1 [mm]	LG2 [mm]	LG3 [mm]	LG4 [mm]	L2 [mm]	W [°]	X1 [mm]	Y1 [mm]	Z (Stroke) [mm]
SGF 125 EPDM-55 G1/4-IG	21.4	-	14	14	-	11	27	-	-	-	3
SGF 125 HT1-60 G1/4-IG	21.4	-	14	14	-	11	27	-	-	-	3
SGF 150 EPDM-55 G1/2-IG	21.7	-	14	14	-	11	37	-	-	-	4
SGF 150 HT1-60 G1/2-IG	21.7	-	14	14	-	11	37	-	-	-	4
SGF 150 HT1-60 FM1	27.7	6	-	20	-	-	37	-	27	27	4
SGF 200 EPDM-55 G1/2-IG	22.0	-	14	14	-	11	53	-	-	-	4
SGF 200 HT1-60 G1/2-IG	22.0	-	14	14	-	11	53	-	-	-	4
SGF 400 EPDM-55 G1/2-IG	22.3	-	15	15	12	11	76	50	45	120	5
SGF-HS 150 EPDM-55 G1/2-IG	25.9	-	14	14	-	11	27	-	-	-	8
SGF-HS 150 EPDM-55 FM1	31.9	6	-	20	-	-	27	-	27	27	8
SGF-HS 150 HT1-60 G1/2-IG	25.9	-	14	14	-	11	27	-	-	-	8
SGF-HS 150 HT1-60 FM1	31.9	6	-	20	-	-	27	-	27	27	8
SGF-HS 250 EPDM-55 G1/2-IG	26.8	-	15	15	12	11	53	70	45	100	9
SGF-HS 250 HT1-60 G1/2-IG	26.8	-	15	15	12	11	53	70	45	100	9
SGF-HS 300 EPDM-55 G1/2-IG	26.8	-	15	15	12	11	76	50	45	120	9
SGF-HS 300 HT1-60 G1/2-IG	26.8	-	15	15	12	11	76	50	45	120	9
SGF-HS 350 EPDM-55 G1/2-IG	26.8	-	15	15	12	11	76	50	45	120	9
SGF-HS 350 HT1-60 G1/2-IG	26.8	-	15	15	12	11	76	50	45	120	9