

Suction Pads for Handling Sheet Metal



Flat Suction Pads SAF

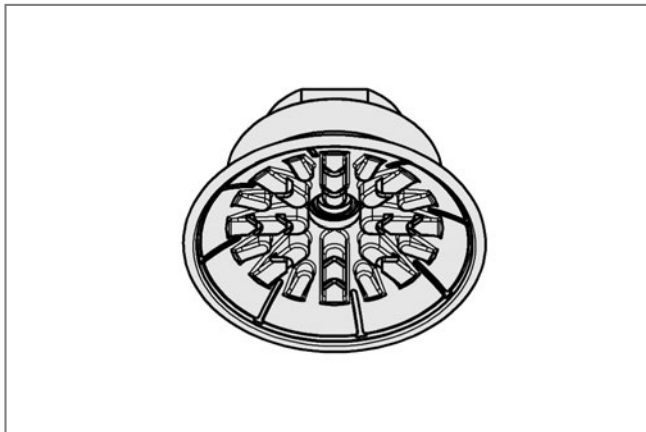
Suction area (\emptyset) from 30 mm to 125 mm



Suitability for Industry-Specific Applications



Flat suction pads SAF



System design flat suction pads SAF



Flat suction pads SAF being used for handling sheet metal parts

Applications

- Round, flat suction pad for dynamic handling of metal sheets with very short cycle times
- Handling of thin steel sheets and aluminum sheets without deformation
- For use in feeder systems for press lines in the automobile industry
- Special slot on the bottom prevents oily sheets from slipping, permitting precise positioning in stamping presses etc.

Design

- Robust and wear-resistant suction pad SAF made of NBR with single sealing lip, special slot and inner support
- Suction pad SAF vulcanized to the connection nipple (very high strength)
- Suction pad available with various connection types
- Available in two material hardness values (45 Shore, 60 Shore)

Our Highlights...

- Wide range of diameters
- Large-area structured inner support
- Soft and flexible sealing lip
- Various material hardness values
- Nipple vulcanized to the suction pad

Your Benefits...

- > For a wide range of workpiece sizes and shapes
- > No deep-drawing of the workpiece; capable of handling high lateral forces, even on oily metal sheets
- > Excellent sealing, even on slightly curved surfaces
- > Optimum adaptation to varying workpieces
- > Prevention of machine damages and downtimes as the result of lost suction pads

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Suction area (Ø) from 30 mm to 125 mm

Designation Code Flat Suction Pads SAF

Abbreviated designation	Suction area Ø in mm	Material and Shore hardness	Connection thread
Example SAF 80 NBR-60 G3/8-IG:			
SAF	80	NBR-60	G3/8-IG
SAF	30 to 125	NBR-45 NBR-60	G1/4-AG (AG = male (M)) G1/4-IG (IG = female (F)) G3/8-IG M10-AG M14x1.5-AG RA rectangular adapter

Ordering Data Flat Suction Pads SAF

Suction pad SAF, available in various diameters, is delivered with connection nipple vulcanized to elastomer part.

Flat Suction Pads SAF

Type*	Connection					
	G1/4"-M	G1/4"-F	G3/8"-F	M10x1.5-M	M14x1.5-M	Rectangular adapter
SAF 30 NBR-60	10.01.01.10646	10.01.01.10506	10.01.01.10705	10.01.01.10713	10.01.01.10730	10.01.01.10790
SAF 30 NBR-45	10.01.01.11421	10.01.01.11400	10.01.01.11420	10.01.01.11425	10.01.01.11426	10.01.01.11423
SAF 40 NBR-60	10.01.01.10647	10.01.01.10508	10.01.01.10708	10.01.01.10716	10.01.01.10733	10.01.01.10793
SAF 40 NBR-45	10.01.01.11430	10.01.01.11401	10.01.01.11431	10.01.01.11435	10.01.01.11436	10.01.01.11433
SAF 50 NBR-60	10.01.01.10635	10.01.01.10688	10.01.01.10510	10.01.01.10719	10.01.01.10736	10.01.01.10796
SAF 50 NBR-45	10.01.01.11440	10.01.01.11441	10.01.01.11402	10.01.01.11444	10.01.01.11445	10.01.01.11442
SAF 60 NBR-60	10.01.01.10622	10.01.01.10689	10.01.01.10512	10.01.01.10721	10.01.01.10739	10.01.01.10799
SAF 60 NBR-45	10.01.01.11450	10.01.01.11451	10.01.01.11403	10.01.01.11454	10.01.01.11455	10.01.01.11452
SAF 80 NBR-60	10.01.01.10623	10.01.01.10690	10.01.01.10514	10.01.01.10724	10.01.01.10742	10.01.01.10802
SAF 80 NBR-45	10.01.01.11460	10.01.01.11461	10.01.01.11404	10.01.01.11466	10.01.01.11467	10.01.01.11464
SAF 100 NBR-60	10.01.01.10624	10.01.01.10691	10.01.01.10516	10.01.01.10726	10.01.01.10745	10.01.01.10805
SAF 100 NBR-45	10.01.01.11470	10.01.01.11471	10.01.01.11405	10.01.01.11476	10.01.01.11477	10.01.01.11474
SAF 125 NBR-60	10.01.01.10666	10.01.01.10692	10.01.01.10518	10.01.01.10728	10.01.01.10748	10.01.01.10808
SAF 125 NBR-45	10.01.01.11480	10.01.01.11481	10.01.01.11406	10.01.01.11485	10.01.01.11486	10.01.01.11483

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

Technical Data Flat Suction Pads SAF

Type	Suction force [N]*	Lateral force [N]**	Lateral force oily surface [N]**	Volume [cm ³]	Min. curve radius [mm] (convex)	Recom. internal hose diameter d [mm]***
SAF 30	38	30	28	1.7	40	4
SAF 40	69	52	50	3.8	50	4
SAF 50	100	80	76	7.0	65	4
SAF 60	150	105	85	13.0	75	6
SAF 80	272	205	180	36.0	100	6
SAF 100	430	310	300	58.0	135	6
SAF 125	660	475	400	115.0	165	9

*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

**The specified lateral forces are values measured at a vacuum of -0.6 bar with a dry or oily, smooth, flat workpiece surface. Depending on the workpiece surface and its quality, the actual values may deviate from these values.

***The recommended hose diameter refers to a hose length of approx. 2 m

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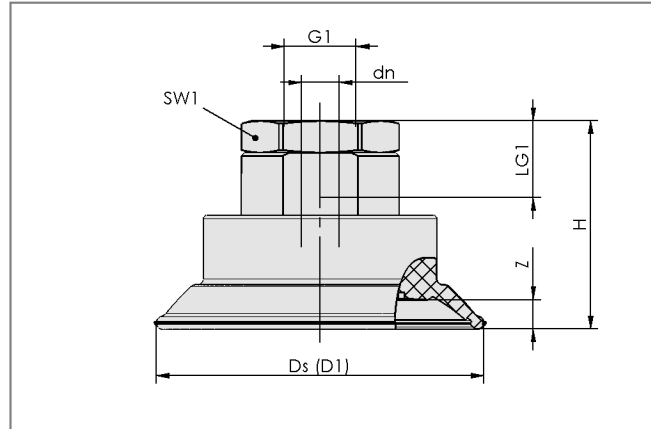


Flat Suction Pads SAF

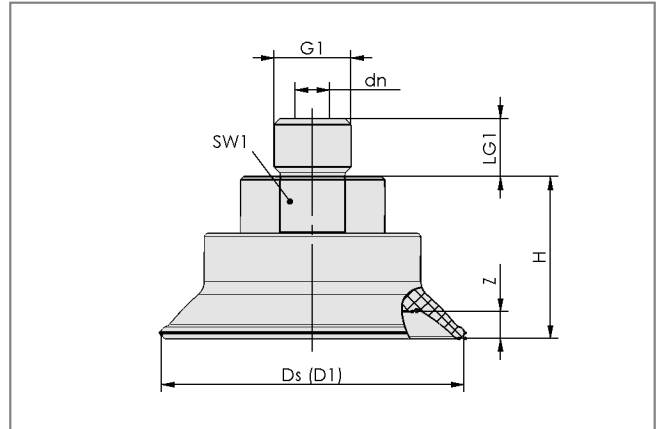
Suction area (\emptyset) from 30 mm to 125 mm



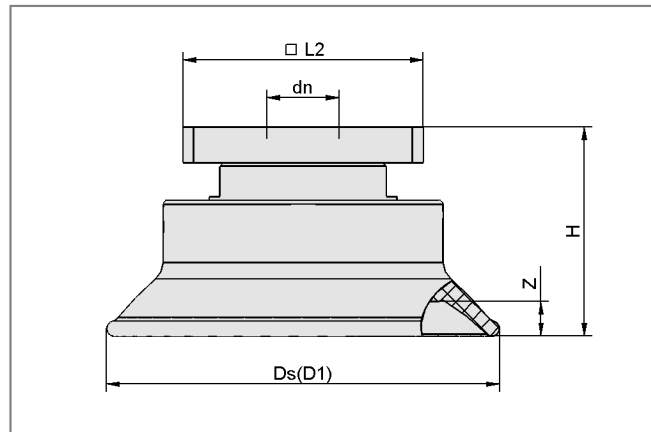
Design Data Flat Suction Pads SAF



SAF 30 to 125 IG



SAF 30 to 125 AG



SAF 30 to 125 RA (rectangular adapter)

- Schmalz - The Company
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- Vacuum Suction Pads**
- Special Grippers
- Mounting Elements
- Vacuum Generators
- Valve Technology
- Switches and Monitoring
- Filters and Connections
- Vacuum Gripping Systems
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Design Data Flat Suction Pads SAF

Type	Dimensions in mm*								
	D1**	dn	Ds	G1	H	LG1	L2	SW1	Z (Stroke)
SAF 30 G1/4-AG	34	4	32	G1/4"-M	20.0	10	-	17	3.0
SAF 30 G1/4-IG	34	4	32	G1/4"-F	20.0	12	-	17	3.0
SAF 30 G3/8-IG	34	4	32	G3/8"-F	36.0	9	-	22	3.0
SAF 30 M10x1.5-AG	34	4	32	M10x1.5-M	20.0	12	-	17	3.0
SAF 30 M14x1.5-AG	34	4	32	M14x1.5-M	22.0	12	-	17	3.0
SAF 30 RA	34	4	32	-	23.2	-	32	-	3.0
SAF 40 G1/4-AG	46	4	42	G1/4"-M	22.0	10	-	17	4.0
SAF 40 G1/4-IG	46	4	42	G1/4"-F	22.0	12	-	17	4.0
SAF 40 G3/8-IG	46	4	42	G3/8"-F	38.0	9	-	22	4.0
SAF 40 M10x1.5-AG	46	4	42	M10x1.5-M	22.0	12	-	17	4.0
SAF 40 M14x1.5-AG	46	4	42	M14x1.5-M	22.0	12	-	17	4.0
SAF 40 RA	46	4	42	-	25.0	-	32	-	4.0
SAF 50 G1/4-AG	56	6	52	G1/4"-M	28.0	10	-	22	5.0
SAF 50 G1/4-IG	56	6	52	G1/4"-F	33.0	15	-	22	5.0
SAF 50 G3/8-IG	56	6	52	G3/8"-F	28.0	15	-	22	5.0
SAF 50 M10x1.5-AG	56	4	52	M10x1.5-M	28.0	12	-	22	5.0
SAF 50 M14x1.5-AG	56	6	52	M14x1.5-M	28.0	12	-	22	5.0
SAF 50 RA	56	6	52	-	27.5	-	32	-	5.0
SAF 60 G1/4-AG	67	6	63	G1/4"-M	31.0	10	-	22	6.0
SAF 60 G1/4-IG	67	6	63	G1/4"-F	36.0	15	-	22	6.0
SAF 60 G3/8-IG	67	6	63	G3/8"-F	31.0	15	-	22	6.0
SAF 60 M10x1.5-AG	67	4	63	M10x1.5-M	31.0	12	-	22	6.0
SAF 60 M14x1.5-AG	67	6	63	M14x1.5-M	31.0	12	-	22	6.0
SAF 60 RA	67	6	63	-	30.5	-	32	-	6.0
SAF 80 G1/4-AG	89	6	83	G1/4"-M	35.0	10	-	22	7.6
SAF 80 G1/4-IG	89	6	83	G1/4"-F	40.0	20	-	22	7.6
SAF 80 G3/8-IG	89	6	83	G3/8"-F	35.0	15	-	22	7.6
SAF 80 M10x1.5-AG	89	4	83	M10x1.5-M	35.0	12	-	22	7.6
SAF 80 M14x1.5-AG	89	6	83	M14x1.5-M	35.0	12	-	22	7.6
SAF 80 RA	89	6	83	-	34.5	-	32	-	7.6
SAF 100 G1/4-AG	110	6	103	G1/4"-M	36.0	10	-	22	9.5
SAF 100 G1/4-IG	110	6	103	G1/4"-F	41.0	20	-	22	9.5
SAF 100 G3/8-IG	110	6	103	G3/8"-F	36.0	15	-	22	9.5
SAF 100 M10x1.5-AG	110	4	103	M10x1.5-M	36.0	12	-	22	9.5
SAF 100 M14x1.5-AG	110	6	103	M14x1.5-M	36.0	12	-	22	9.5
SAF 100 RA	110	6	103	-	35.5	-	32	-	9.5
SAF 125 G1/4-AG	135	6	128	G1/4"-M	43.0	10	-	22	12.5
SAF 125 G1/4-IG	135	6	128	G1/4"-F	48.0	20	-	22	12.5
SAF 125 G3/8-IG	135	9	128	G3/8"-F	43.0	15	-	22	12.5
SAF 125 M10x1.5-AG	135	4	128	M10x1.5-M	43.0	12	-	22	12.5
SAF 125 M14x1.5-AG	135	6	128	M14x1.5-M	43.0	12	-	22	12.5
SAF 125 RA	135	9	128	-	42.5	-	32	-	12.5

*Acceptable dimensional tolerances for rubber parts concerning to DIN ISO 3302-1 M3

**D1 is the external dimension of the suction pad when it is pressed against the workpiece by the vacuum

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