

Overview of Section 2







Vacuum suction pads

Everything at a glance



Designation	Basic data	Application areas	Page
 General information			2/5

Vacuum suction pads (universal)







Flat suction pads (round)

	Flat suction pads PFYN	<ul style="list-style-type: none"> • Diameter: 1 to 200 mm • Materials: NBR, SI, PU, FPM, antistatic and non-marking variants 	The universal suction pads for a wide range of applications, particularly for flat workpieces.	2/15
	Flat suction pads PFYN VU1	<ul style="list-style-type: none"> • Diameter: 15 to 95 mm • Material: Vulkollan 	Very hard-wearing suction pads for maximum loads and a long lifetime.	2/24
	Suction plates SPU	<ul style="list-style-type: none"> • Diameter: 100 to 400 mm • Materials: grey NBR and SI 	The universal suction pads for smooth and slightly rough surfaces, such as glass, scaly sheet metal, wood, etc.	2/29
	Suction plates SPK	<ul style="list-style-type: none"> • Diameter: 55 to 250 mm • Material: sealing lip: EPDM black 	The special suction pads for all rough and structured surfaces.	2/33

Flat suction pads (oval)

	Flat suction pads SGON	<ul style="list-style-type: none"> • Dimensions: 4 x 2 to 90 x 30 mm • Materials: NBR, SI and HT1 	The suction pads for long, narrow workpieces such as pipes and sections.	2/36
	Flat suction pads SPLO	<ul style="list-style-type: none"> • Dimensions: 60 x 20 to 370 x 80 mm • Material: grey NBR 	The suction plates for long, narrow workpieces such as pipes and sections.	2/41

Bellows suction pads (round)

	Bellows suction pads FSGA (1.5 folds)	<ul style="list-style-type: none"> • Diameter: 11 to 78 mm • Materials: NBR, SI, NK and HT1 	The universal suction pads for almost all applications, particularly for uneven workpieces or if height compensation is needed.	2/45
	Bellows suction pads FSGA VU1 (1.5 folds)	<ul style="list-style-type: none"> • Diameter: 30 to 110 mm • Material: Vulkollan 	Very hard-wearing suction pads for maximum loads and a long lifetime, particularly for uneven workpieces or if height compensation is needed.	2/51
	Bellows suction pads FSGA (1.5 folds) from Ø110 mm	<ul style="list-style-type: none"> • Diameter: 110 to 150 mm • Materials: NBR and SI 	The universal suction pads for almost all applications, particularly for uneven workpieces or if height compensation is needed.	2/55
	Bellows suction pads FSGPL (1.5 folds)	<ul style="list-style-type: none"> • Diameter: 150 to 250 mm • Material: NBR 	The suction pads for large, heavy workpieces, particularly for uneven workpieces or if height compensation is needed.	2/57
	Bellows suction pads FSG (2.5 folds)	<ul style="list-style-type: none"> • Diameter: 5 to 88 mm • Materials: NBR, SI, NK and HT1 	The universal suction pads for particularly uneven workpieces or if height compensation is needed.	2/59
	Bellows suction pads FSG VU1 (2.5 folds)	<ul style="list-style-type: none"> • Diameter: 30 to 85 mm • Material: Vulkollan 	Very hard-wearing suction pads for maximum loads and a long lifetime, particularly for uneven workpieces or if height compensation is needed.	2/66

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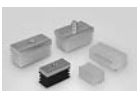






Designation	Basic data	Application areas	Page
Vacuum suction pads (universal)			
Bellows suction pads (round)			
	Bellows suction pads FSGB (3.5 folds) <ul style="list-style-type: none"> • Diameter: 25 mm • Materials: NBR and SI 	The universal suction pads for particularly uneven workpieces or if extra height compensation is needed.	2/69
Bellows suction pads (oval)			
	Bellows suction pads FSGAO (1.5 folds) <ul style="list-style-type: none"> • Dimensions: 95 x 40 to 140 x 65 mm • Material: VU1 	Very hard-wearing suction pads for maximum loads and a long lifetime, particularly for long workpieces such as sections, pipes and stamped sheet-metal parts.	2/72
Vacuum suction pads for special applications			
Suction pads for handling sheet metal			
	Flat suction pads SAF <ul style="list-style-type: none"> • Diameter: 30 to 125 mm • Material: NBR 	The special suction pad for all sorts of metal sheets, especially thin-walled motorcar body sheets, and other sensitive workpieces. Very high horizontal and vertical retention forces.	2/75
	Bellows suction pads SAB (1.5 folds) <ul style="list-style-type: none"> • Diameter: 22 to 125 mm • Material: NBR 	The special suction pad for all sorts of curved metal sheets, especially thin-walled motorcar body sheets, and other sensitive workpieces. Very high horizontal and vertical retention forces and maximum compression stroke.	2/79
	Flat suction pads SAOF (oval) <ul style="list-style-type: none"> • Dimensions: 50 x 16 to 140 x 70 mm • Material: NBR 	The special suction pad for sheet metal, particularly thin-walled car bodywork components with long narrow shapes such as sections, tubes or ribs. Designed for high horizontal and vertical holding forces.	2/83
	Bellows suction pads SAOB (oval, 1.5 folds) <ul style="list-style-type: none"> • Dimensions: 60 x 30 to 140 x 70 mm • Material: NBR 	The special suction pad for highly curved sheet metal parts, particularly thin-walled car bodywork components with long, narrow shapes such as tubes, sections or ribs. Designed for high horizontal/vertical holding forces and a long suction-pad stroke.	2/87
	Bell suction pads SAOG (oval) <ul style="list-style-type: none"> • Dimensions: 60 x 20 to 95 x 40 mm • Material: NBR shore hardness 45 	Special suction pad for very curved workpieces, particularly thin-walled car bodywork parts. Very good adaptation to concave and convex curves, with very high holding force and resistance to lateral forces.	2/91
	Bell suction pads SGGN <ul style="list-style-type: none"> • Diameter: 85 to 115 mm • Material: Vulkollan and NBR 	Very hard-wearing suction pads for maximum loads and a long lifetime, particularly for convex and concave workpieces.	2/95
	Bell suction pads SGGN 53 / 80 <ul style="list-style-type: none"> • Diameter: 53 and 80 mm • Material: NBR 	The special suction pad with very good adaptability to very concave or convex workpieces.	2/98
Suction pads for handling wood			
	Flat suction pads SHFN <ul style="list-style-type: none"> • Diameter: 50 to 85 mm • Material: NK 	The suction pad for a wide range of workpieces made of wood (such as furniture components, parquet, chipboard, etc.). Also suitable for rough or slightly structured surfaces.	2/101

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Designation	Basic data	Application areas	Page
Vacuum suction pads for special applications			
Suction pads for handling wood			
	Suction plates SHF <ul style="list-style-type: none"> • Diameter: 125 to 210 mm • Material: NK 	The suction pad for a wide range of workpieces made of wood (such as furniture components, parquet, chipboard, etc.). Also suitable for rough or slightly structured surfaces.	2/106
	Suction plates SPC <ul style="list-style-type: none"> • Diameter: 160 to 400 mm • Material: grey NBR 	The special suction pads for all porous materials.	2/108
Suction pads for packaging			
	Bellows suction pads FGA PVC (1.5 folds) <ul style="list-style-type: none"> • Diameter: 13 to 22 mm • Material: PVC 	The special suction pad for flexible and non-rigid packing materials in the packaging industry, such as film-packed products, blister packs, etc.	2/111
	Bellows suction pads FG PVC (2.5 folds) <ul style="list-style-type: none"> • Diameter: 18 to 32 mm • Material: PVC 	The special suction pad for flexible and non-rigid packing materials in the packaging industry, such as film-packed products, blister packs, etc.	2/114
	Bellows suction pads FSGB-R (rectangular) <ul style="list-style-type: none"> • Dimensions: 52 x 25 bis 80 x 50 mm • Material: NK and SI 	The special suction pad for long, narrow outer packing materials in the packaging industry, such as film-packed products, blister packs, etc.	2/117
Suction pads for plastic films and paper			
	Flat suction pads SGN 25 K to SGN 40 K <ul style="list-style-type: none"> • Diameter: 25 to 40 mm • Material: NBR 	Special suction pads for paper and films.	2/121
	Flat suction pads SGPN <ul style="list-style-type: none"> • Diameter: 15 to 40 mm • Materials: NK and SI 	Special suction pads for particularly careful handling of paper and films.	2/124
	Flat suction pads SGS <ul style="list-style-type: none"> • Diameter: 27 mm • Material: NK 	Special suction pads for films.	2/128
	Vacuum lifting cylinder HS <ul style="list-style-type: none"> • Body of aluminium with integrated lifting cylinder • Connection thread M5 and G1/8" for suction pads 	The special suction pad for a quick separation of papers and films, with integrated lifting cylinder.	2/130
Suction pads for handling CDs/DVDs			
	Suction pads SGR and SGH <ul style="list-style-type: none"> • Diameter: 17 to 36 mm • Material: SI with various hardness values 	Special suction pads for mechanical handling of CDs of all sizes, ring or half-ring shape.	2/132
Suction pads for high-temperature applications			
	Suction plates SPL-HT FPM-F <ul style="list-style-type: none"> • Diameter: 90 to 190 mm • Material: FPM, coated with felt 	Special suction pads for hot workpieces, withstands temperatures up to 400 °C.	2/136









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Designation	Basic data	Application areas	Page
Vacuum suction pads for special applications			
Suction pads for high-temperature applications			
	High-temperature suction plates SPL-HT <ul style="list-style-type: none"> • Diameter: 35 to 140 mm • Material: Special woven silicate material 	High-temperature suction plate for very hot workpieces, withstands temperatures up to 600° C.	2/139
Suction pads for different branches			
	Flat suction pads SGN 6.3 to SGN 25 <ul style="list-style-type: none"> • Diameter: 6.3 to 25 mm • Materials: NBR and SI 	The special suction pads for sensitive workpieces and uneven surfaces.	2/141
	Flat suction pads SGN 20 to SGN 100 <ul style="list-style-type: none"> • Diameter: 20 to 100 mm • Material: NBR 	Special suction pads hard, continuous use and high transverse forces.	2/143
	Flat suction pads SGN 45 <ul style="list-style-type: none"> • Diameter: 45 mm • Materials: ECO and SI 	The special suction pads for sensitive workpieces and uneven surfaces.	2/145
	Flat suction pads SGN 120 <ul style="list-style-type: none"> • Diameter: 120 mm • Material: ECO 	The special suction pads for workpieces of varying widths, even less than the suction pad diameter.	2/147
	Flat suction pads SGAN <ul style="list-style-type: none"> • Diameter: 7 to 16 mm • Materials: SI and PU 	The special suction pads for very sensitive workpieces.	2/149
Sealing profiles			
Sealing profiles			
	Sealing profiles DI-MOS <ul style="list-style-type: none"> • Diameter: 6 to 12 mm • Cross-sections: 8 x 1 mm to 25 x 20 mm 	Standard sealing profiles for construction of your own suction plates to match your workpieces.	2/152
	Sealing profiles DI-PROF <ul style="list-style-type: none"> • Cross-sections 21 x 11 to 53 x 32 mm 	Standard sealing profiles for construction of your own suction plates to match your workpieces, particularly for rough and structured surfaces.	2/156

Vacuum suction pads

Selection by diameter



Vacuum suction pads (round)

Diameter	Type	Application	Designation	Page
1		Universal	PFYN	2/15
1,5		Universal	PFYN	2/15
2		Universal	PFYN	2/15
3,5		Universal	PFYN	2/15
5		Universal	PFYN	2/15
		Universal	FSG	2/59
6		Universal	PFYN	2/15
6,3		Miscellaneous	SGN	2/141
7		Universal	FSG	2/59
		Miscellaneous	SGAN	2/149
8		Universal	PFYN	2/15
		Miscellaneous	SGN	2/141
9		Universal	FSG	2/59
		Miscellaneous	SGAN	2/149
10		Universal	PFYN	2/15
		Miscellaneous	SGN	2/141
11		Universal	FSGA	2/45
12		Universal	FSG	2/59
13		Miscellaneous	SGAN	2/149
		Packaging	FGA PVC	2/111
14		Universal	FSGA	2/45
		Universal	FSG	2/59
15		Universal	PFYN	2/15
		Universal	PFYN VU 1	2/24
		Films & paper	SGPN	2/124
16		Universal	FSGA	2/45
		Miscellaneous	SGN	2/141
		Miscellaneous	SGAN	2/149
17		CD/DVD	SGH	2/132
18		Universal	FSG	2/59
		Packaging	FG PVC	2/114
19		Packaging	FGA PVC	2/111
20		Universal	PFYN	2/15
		Universal	FSGA	2/45
		Miscellaneous	SGN	2/141
		Films & paper	SGPN	2/124
22		Universal	FSGA	2/45
		Sheet metal	SAB	2/79
		Packaging	FGA PVC	2/111
23		Packaging	FG PVC	2/114
24		Films & paper	SGPN	2/124
		CD/DVD	SGR	2/132
25		Universal	PFYN	2/15
		Universal	FSGA	2/45
		Universal	FSG	2/59
		Universal	FSGB	2/69
		Miscellaneous	SGN	2/141
		Films & paper	SGN (K)	2/121
27		Films & paper	SGS	2/128
30		Universal	PFYN	2/15
		Universal	PFYN VU 1	2/24

Vacuum suction pads (round)

Diameter	Type	Application	Designation	Page
30		Universal	FSGA VU 1	2/51
		Universal	FSG VU 1	2/66
		Miscellaneous	SGN	2/141
		Sheet metal	SAF	2/75
		Sheet metal	SAB	2/79
		Films & paper	SGPN	2/124
31		CD/DVD	SGR	2/132
32		Universal	FSG	2/59
		Packaging	FG PVC	2/114
33		Universal	FSGA	2/45
		CD/DVD	SGR	2/132
		CD/DVD	SGH	2/132
34		Films & paper	SGPN	2/124
35		Universal	PFYN	2/15
		Films & paper	SGPN	2/124
		High-temperature	SPL-HT	2/139
36		CD/DVD	SGH	2/132
40		Universal	PFYN	2/15
		Universal	FSGA VU 1	2/51
		Sheet metal	SAF	2/75
		Sheet metal	SAB	2/79
		Films & paper	SGPN	2/124
		Films & paper	SGN (K)	2/121
42		Universal	FSG	2/59
43		Universal	FSGA	2/45
45		Miscellaneous	SGN	2/141
50		Universal	PFYN	2/15
		Universal	PFYN VU 1	2/24
		Miscellaneous	SGN	2/141
		Universal	FSGA VU 1	2/51
		Sheet metal	SAF	2/75
		Sheet metal	SAB	2/79
		Wood	SHFN	2/101
52		Universal	FSG	2/59
53		Universal	FSGA	2/45
		Sheet metal	SGGN	2/98
55		Universal	SPK	2/33
60		Universal	PFYN	2/15
		Universal	PFYN VU 1	2/24
		Universal	FSGA VU 1	2/51
		Universal	FSG VU 1	2/66
		Sheet metal	SAF	2/75
		Sheet metal	SAB	2/79
		High-temperature	SPL-HT	2/139
62		Universal	FSG	2/59
63		Universal	FSGA	2/45
70		Wood	SHFN	2/101
78		Universal	FSGA	2/45
80		Universal	PFYN	2/15
		Universal	PFYN VU 1	2/24

Flat suction pads

Bell suction pads

Bellows-type suction pads (1,5/2,5/3,5 Corrugations)

Vacuum suction pads

Selection by diameter



Vacuum suction pads (round)

Diameter	Type	Application	Designation	Page
80		Universal	SPK	2/33
		Miscellaneous	SGN	2/141
		Sheet metal	SAF	2/75
		Sheet metal	SGGN	2/98
85		Sheet metal	SAB	2/79
		Universal	FSGA VU 1	2/51
		Universal	FSG VU 1	2/66
		Sheet metal	SGGN	2/95
88		Wood	SHFN	2/101
		Universal	FSG	2/59
90		High-temperature	SPL-HT	2/139
		High-temperature	SPL FPM-F	2/136
95		Universal	PFYN	2/15
		Universal	PFYN VU 1	2/24
100		Universal	SPU	2/29
		Miscellaneous	SGN	2/141
		Sheet metal	SAF	2/75
		Sheet metal	SAB	2/79
110		Universal	SPK	2/33
		Universal	FSGA	2/45
		Universal	FSGA VU 1	2/51
115		Sheet metal	SGGN	2/95
120		Universal	PFYN	2/15
		Miscellaneous	SGN	2/141
125		High-temperature	SPL-HT	2/139
		Sheet metal	SAF	2/75
		Sheet metal	SAB	2/79
		Wood	SHF	2/106
140		High-temperature	SPL-HT	2/139
150		Universal	PFYN	2/15
		Universal	FSGA	2/15
		Universal	FSGPL	2/57
160		Universal	SPU	2/29
		Universal	SPK	2/33
		Wood	SHF	2/106
		Wood	SPC	2/108
190		High-temperature	SPL FPM-F	2/136
200		Universal	PFYN	2/15
		Universal	SPK	2/33
210		Universal	FSGPL	2/57
		Universal	SPU	2/29
250		Wood	SHF	2/106
		Wood	SPC	2/108
		Universal	SPU	2/29
300		Universal	SPK	2/33
		Universal	FSGPL	2/57
		Wood	SPC	2/108
360		Universal	SPU	2/29
400		Universal	SPU	2/29

Vacuum suction pads (oval)

L x W	Type	Application	Designation	Page
4 x 2		Universal	SGON	2/36
7 x 3,5		Universal	SGON	2/36
12 x 4		Universal	SGON	2/36
15 x 5		Universal	SGON	2/36
18 x 6		Universal	SGON	2/36
24 x 8		Universal	SGON	2/36
30 x 10		Universal	SGON	2/36
45 x 15		Universal	SGON	2/36
50 x 16		Sheet metal	SAOF	2/83
52 x 25		Packaging	FSGB-R	2/117
		Universal	SGON	2/36
60 x 20		Universal	SPLO	2/41
		Sheet metal	SAOG	2/91
60 x 23		Sheet metal	SAOF	2/83
60 x 29		Packaging	FSGB-R	2/117
60 x 30		Sheet metal	SAOB	2/87
75 x 25		Universal	SGON	2/36
80 x 30		Sheet metal	SAOG	2/91
		Packaging	FSGB-R	2/117
80 x 40		Sheet metal	SAOF	2/83
		Sheet metal	SAOB	2/87
		Packaging	FSGB-R	2/117
		Packaging	FSGB-R	2/117
80 x 50		Packaging	FSGB-R	2/117
90 x 30		Universal	SGON	2/36
		Sheet metal	SAOF	2/83
95 x 40		Sheet metal	FSGAO	2/72
		Sheet metal	SAOG	2/91
100 x 30		Universal	SPLO	2/41
100 x 32		Universal	SPLO	2/41
100 x 50		Universal	SAOF	2/83
110 x 55		Sheet metal	SAOB	2/87
120 x 60		Universal	SAOF	2/83
140 x 65		Sheet metal	FSGAO	2/72
140 x 70		Universal	SAOF	2/83
		Sheet metal	SAOB	2/87
150 x 55		Universal	SPLO	2/41
200 x 30		Universal	SPLO	2/41
200 x 55		Universal	SPLO	2/41
250 x 55		Universal	SPLO	2/41
300 x 30		Universal	SPLO	2/41
300 x 55		Universal	SPLO	2/41
300 x 100		Universal	SPLO	2/41
370 x 80		Universal	SPLO	2/41

Flat suction pads

Bell suction pads

Bellows-type suction pads (1,5/2,5/3,5 Corrugations)

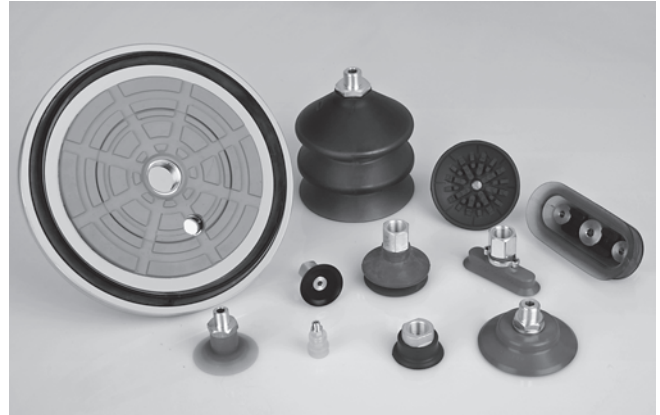
Suction pads

Suction pads from Schmalz are subdivided into universal suction pads and suction pads for specific branches and applications. The universal suction pads cover a wide range of requirements, while the suction pads for special branches and applications are designed to meet special requirements and are characterised by special properties, such as the handling of thin bodywork parts in the automotive industry or of porous workpieces in the woodworking industry.

In general, a distinction is made between the following shapes:

- Flat suction pads
- Bellows suction pads

Each version has its own specific advantages, which can be improved or optimised by the use of suction pads made of various materials. Detailed explanations of the available suction pad materials can be found after the section "Selection and Configuration".



Flat suction pads

Flat suction pads are particularly suitable for the handling of objects with flat or only slightly curved surfaces. Due to their flat shape, they can grip the workpiece in a very short time and can withstand the forces which result from fast movement of the object during handling.

Advantages of flat suction pads

- Wide range of suction pads made from various materials and with differing sizes and shapes (round, oval, with steep or flat sealing lip)
- Low overall height and the resulting minimum internal volume ensures very short evacuation times
- Suitable for high lateral forces
- Good intrinsic stability when attached to the load

Typical applications

- Handling of smooth or slightly rough workpieces such as metal sheets, cardboard boxes, sheets of glass, plastic parts and sheets of wood

