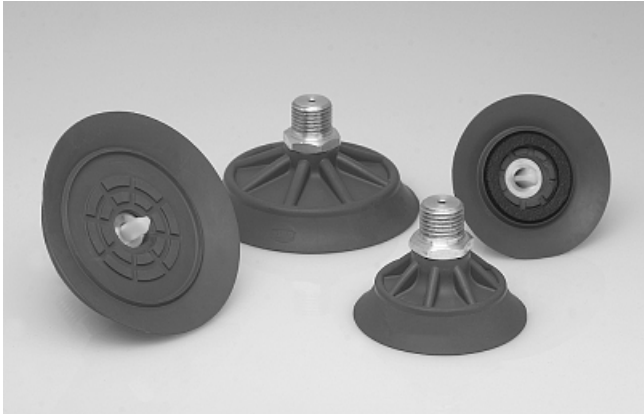
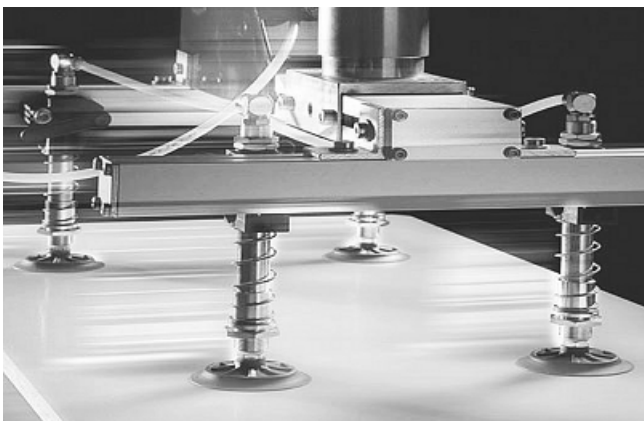


Suction pads for handling wood

Flat suction pads SHFN



Flat suction pads SHFN with optional foam-rubber seal



Vacuum gripper equipped with flat suction pads SHFN for handling wood panels

Our highlights...

- Soft sealing lip
- Sealing lip with inner sealing edge
- Specially structured lower surface of pad
- Optionally available with dirt filter
- Version SHFN...E with integrated reinforcing insert
- Version with sealing ring made of special foam available

Your advantages...

- >Optimal adaptation to uneven workpiece surfaces
- >Very good sealing on rough and smooth surfaces
- >Suitable for highly dynamic operations and short cycle times
- >Also suitable for use in dusty surroundings
- >Better stability in rough operating conditions where the pad may be placed directly on the edge of the workpiece
- >Suitable for handling workpieces with very rough surfaces (we recommend testing first without a sealing ring)

Applications

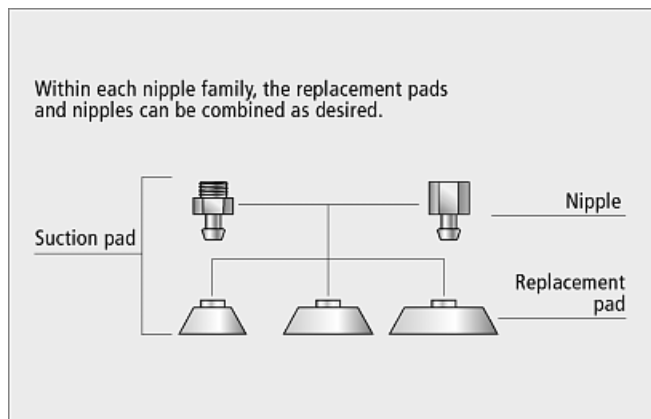
- Handling of furniture components, parquet flooring, laminated and unlaminated chipboard, etc.
- Handling of rough-sawn wood
- Version with insert vulcanised into place for vacuum systems in rough operating conditions, where the suction pads are not always fully covered and may be placed directly on the edges of the workpiece
- Handling of objects with very rough surfaces with sealing ring made of special foam
- Individual deactivation of unused suction pads with optional sensing valve to prevent entry of air

Suction pads for handling wood



Flat suction pads SHFN

Vacuum suction pads
2



Modular suction-pad system

Construction

- Adaptable suction pad SHFN, consisting of pad SHF and connection nipple
- Versions SHFN...E (complete suction pad) and SHF...E (pad only) with insert vulcanised into place for maximum stability
- Nipple plugged into pad; on version SHFN...E, nipple screwed into reinforcing insert
- Sealing lip and inner sealing edge for better sealing on rough surfaces
- Ribs on the upper surface of the pad for greater stability on the version without reinforcing insert
- Optionally available with sealing ring made of special foam and/or with sensing valve
- The suction pads are delivered unassembled



Suitability for branch-specific applications

Designation code Flat suction pads SHFN

Short designation	Diameter in mm	Material and Shore hardness	Connection thread	Type of construction	Additional function
Example: SHFN	50	NK-45	G1/4-AG	E	MOS
SHFN...with connection nipple	50	NK-45	G1/4-AG (AG = male)	-... without vulcanized metal inlay	-... without sealing ring, made of special foam material
SHFN...E...with vulcanized metal inlay	70		G1/4-IG (IG = female)	E... with vulcanized metal inlay	MOS... with sealing ring, made of special foam material
SHF...without connection nipple	85				TV... with sensing valve

Ordering data Flat suction pads SHFN

Type*	Connection			
	SHFN G1/4"-AG	SHFN...E G1/4"-AG	SHFN G1/4"-IG	SHFN...E G1/4"-IG
SHFN 50 NK-45	10.01.01.11693	-	10.01.01.11694	-
SHFN 50 NK-45 MOS	10.01.01.11695	-	10.01.01.11696	-
SHFN 50 NK-45 TV	10.01.01.11699	-	-	-
SHFN 50 NK-45 MOS-TV	10.01.01.11700	-	-	-
SHFN 70 NK-45	10.01.01.11689	10.01.01.12197	10.01.01.11690	10.01.01.12216
SHFN 70 NK-45 MOS	10.01.01.11691	10.01.01.12217	10.01.01.11692	10.01.01.12218
SHFN 70 NK-45 TV	10.01.01.11697	10.01.01.12221	-	-
SHFN 70 NK-45 MOS-TV	10.01.01.11698	10.01.01.12222	-	-
SHFN 85 NK-45	10.01.01.11775	10.01.01.12210	10.01.01.11776	10.01.01.12211
SHFN 85 NK-45 MOS	10.01.01.11777	10.01.01.12212	10.01.01.11778	10.01.01.12213
SHFN 85 NK-45 TV	10.01.01.11779	10.01.01.12224	-	-
SHFN 85 NK-45 MOS-TV	10.01.01.11780	10.01.01.12225	-	-

*MOS = additional sealing ring, made of special foam material and glued into position, for optimal sealing on rough surfaces; TV = sensing valve

Suction pads for handling wood

Flat suction pads SHFN



Ordering data spare parts and accessories Flat suction pads SHFN

Type	Flat suction pad (round) SHF	Sealing ring made of special foam material	Suction-pad nipples SA-NIP	Sensing valve	Sieve (round)
SHFN 50 NK-45 G1/4-AG	10.01.01.11687	-	10.01.01.11772	-	10.07.01.00211
SHFN 50 NK-45 G1/4-IG	10.01.01.11687	-	10.01.01.11822	-	10.07.01.00211
SHFN 50 NK-45 G1/4-AG MOS	10.01.01.11688	10.01.06.01679	10.01.01.11772	-	10.07.01.00211
SHFN 50 NK-45 G1/4-IG MOS	10.01.01.11688	10.01.06.01679	10.01.01.11822	-	10.07.01.00211
SHFN 50 NK-45 G1/4-AG TV	10.01.01.11687	-	-	10.05.10.00058	-
SHFN 50 NK-45 G1/4-AG MOS-TV	10.01.01.11688	10.01.06.01679	-	10.05.10.00058	-
SHFN 70 NK-45 G1/4-AG	10.01.01.11682	-	10.01.01.11772	-	10.07.01.00211
SHFN 70 NK-45 G1/4-IG	10.01.01.11682	-	10.01.01.11822	-	10.07.01.00211
SHFN 70 NK-45 G1/4-AG E	10.01.01.12165	-	10.01.01.12194	-	10.07.01.00211
SHFN 70 NK-45 G1/4-IG E	10.01.01.12165	-	10.01.01.12192	-	10.07.01.00211
SHFN 70 NK-45 G1/4-AG MOS	10.01.01.11686	10.01.06.01678	10.01.01.11772	-	10.07.01.00211
SHFN 70 NK-45 G1/4-IG MOS	10.01.01.11686	10.01.06.01678	10.01.01.11822	-	10.07.01.00211
SHFN 70 NK-45 G1/4-AG E MOS	10.01.01.12215	10.01.06.01678	10.01.01.12194	-	10.07.01.00211
SHFN 70 NK-45 G1/4-IG E MOS	10.01.01.12215	10.01.06.01678	10.01.01.12192	-	10.07.01.00211
SHFN 70 NK-45 G1/4-AG TV	10.01.01.11682	-	-	10.05.10.00058	-
SHFN 70 NK-45 G1/4-AG E TV	10.01.01.12165	-	-	10.05.10.00065	-
SHFN 70 NK-45 G1/4-AG MOS-TV	10.01.01.11686	10.01.06.01678	-	10.05.10.00058	-
SHFN 70 NK-45 G1/4-AG E MOS-TV	10.01.01.12215	10.01.06.01678	-	10.05.10.00065	-
SHFN 85 NK-45 G1/4-AG	10.01.01.11773	-	10.01.01.11772	-	10.07.01.00211
SHFN 85 NK-45 G1/4-IG	10.01.01.11773	-	10.01.01.11822	-	10.07.01.00211
SHFN 85 NK-45 G1/4-AG E	10.01.01.12209	-	10.01.01.12194	-	10.07.01.00211
SHFN 85 NK-45 G1/4-IG E	10.01.01.12209	-	10.01.01.12192	-	10.07.01.00211
SHFN 85 NK-45 G1/4-AG MOS	10.01.01.11774	10.01.06.01720	10.01.01.11772	-	10.07.01.00211
SHFN 85 NK-45 G1/4-IG MOS	10.01.01.11774	10.01.06.01720	10.01.01.11822	-	10.07.01.00211
SHFN 85 NK-45 G1/4-AG E MOS	10.01.01.12223	10.01.06.01720	10.01.01.12194	-	10.07.01.00211
SHFN 85 NK-45 G1/4-IG E MOS	10.01.01.12223	10.01.06.01720	10.01.01.12192	-	10.07.01.00211
SHFN 85 NK-45 G1/4-AG TV	10.01.01.11773	-	-	10.05.10.00058	-
SHFN 85 NK-45 G1/4-AG E TV	10.01.01.12209	-	-	10.05.10.00065	-
SHFN 85 NK-45 G1/4-AG MOS-TV	10.01.01.11774	10.01.06.01720	-	10.05.10.00058	-
SHFN 85 NK-45 G1/4-AG E MOS-TV	10.01.01.12223	10.01.06.01720	-	10.05.10.00065	-



Technical data Flat suction pads SHFN

Type	Suction force Ds [N]*	Suction force d2 [N]**	Lateral force [N]	Volume [cm ³]	Min. curve radius [mm] (convex)	Recom. internal hose diameter d [mm]	Nipple family
SHFN 50 NK-45	110	40	95	7,3	41	4	N 041
SHFN 50 NK-45 TV	110	40	95	7,3	41	4	N 041
SHFN 70 NK-45	200	100	145	16,0	95	6	N 041
SHFN 70 NK-45 E	200	100	145	16,0	95	6	N 009
SHFN 70 NK-45 TV	200	100	145	16,0	95	6	N 041
SHFN 70 NK-45 E TV	200	100	145	16,0	95	6	N 009
SHFN 85 NK-45	300	175	210	25,0	176	6	N 041
SHFN 85 NK-45 E	300	175	210	25,0	176	6	N 009
SHFN 85 NK-45 TV	300	175	210	25,0	176	6	N 041
SHFN 85 NK-45 E TV	300	175	210	25,0	176	6	N 009

*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

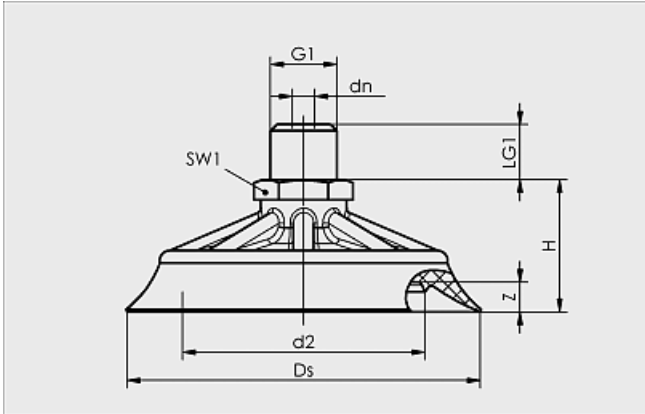
Suction pads for handling wood



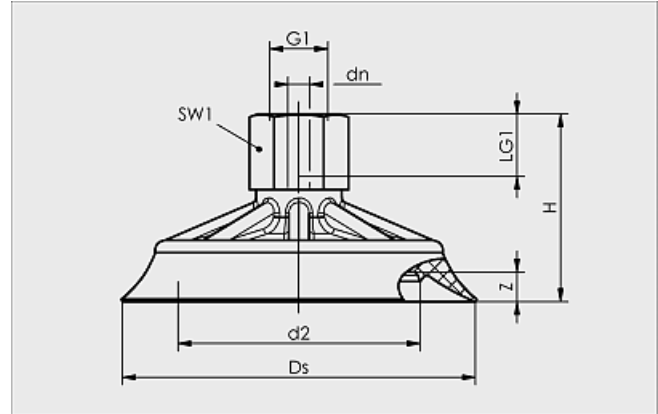
Flat suction pads SHFN

Vacuum suction pads
2

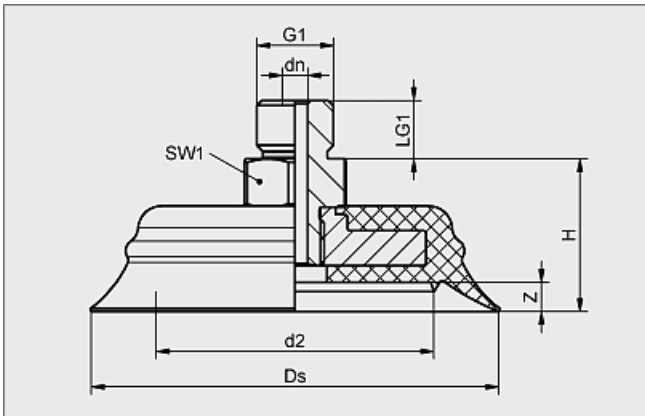
Design data Flat suction pads SHFN



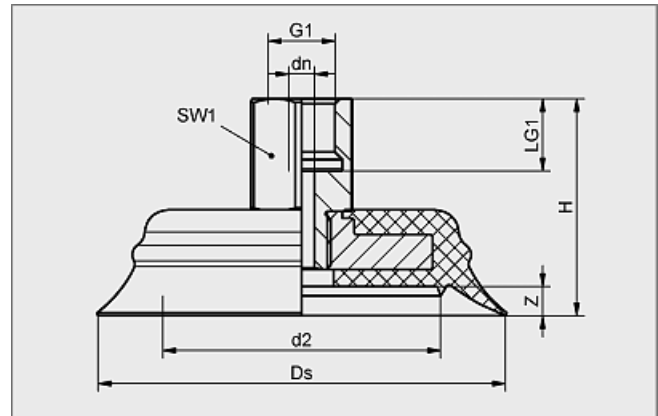
SHFN 50 to 85 NK-45 G1/4-AG (TV)



SHFN 50 to 85 NK-45 G1/4-IG



SHFN 70 to 85 NK-45 G1/4-AG E (TV)



SHFN 70 to 85 NK-45 G1/4-IG E

Type	Dimensions in mm*							
	d2	dn	Ds	G1	H	LG1	SW1	Z
SHFN 50 NK-45 G1/4-AG	30	4,4	52	G1/4"-M	26,2	11	17	3
SHFN 50 NK-45 G1/4-IG	30	4,4	52	G1/4"-F	37,2	11	17	3
SHFN 50 NK-45 G1/4-AG TV	30	4,4	52	G1/4"-M	32,2	11	17	3
SHFN 70 NK-45 G1/4-AG	48	4,4	70	G1/4"-M	26,2	11	17	4
SHFN 70 NK-45 G1/4-AG E	48	4,4	70	G1/4"-M	26,2	10	17	4
SHFN 70 NK-45 G1/4-IG	48	4,4	70	G1/4"-F	37,2	11	17	4
SHFN 70 NK-45 G1/4-IG E	48	4,4	70	G1/4"-F	37,2	12	17	4
SHFN 70 NK-45 G1/4-AG TV	48	4,4	70	G1/4"-M	32,2	11	17	4
SHFN 70 NK-45 G1/4-AG E TV	48	4,4	70	G1/4"-M	33,4	10	17	4
SHFN 85 NK-45 G1/4-AG	62	4,4	85	G1/4"-M	26,2	11	17	4
SHFN 85 NK-45 G1/4-AG E	62	4,4	85	G1/4"-M	26,2	10	17	4
SHFN 85 NK-45 G1/4-IG	62	4,4	85	G1/4"-F	37,2	11	17	4
SHFN 85 NK-45 G1/4-IG E	62	4,4	85	G1/4"-F	37,2	12	17	4
SHFN 85 NK-45 G1/4-AG TV	62	4,4	85	G1/4"-M	32,2	11	17	4
SHFN 85 NK-45 G1/4-AG E TV	62	4,4	85	G1/4"-M	33,4	10	17	4

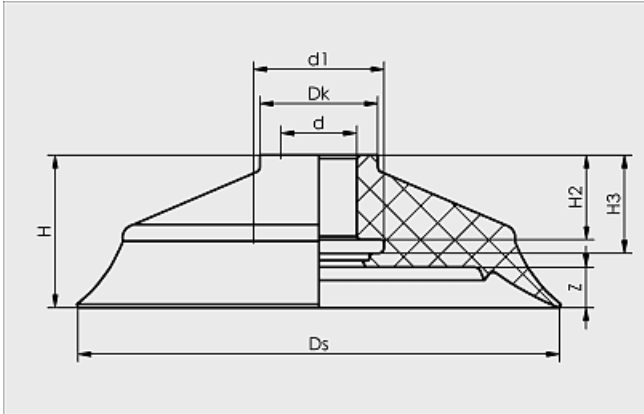
* Acceptable dimensional tolerances for rubber parts concerning to M3 - DIN 7715

Suction pads for handling wood

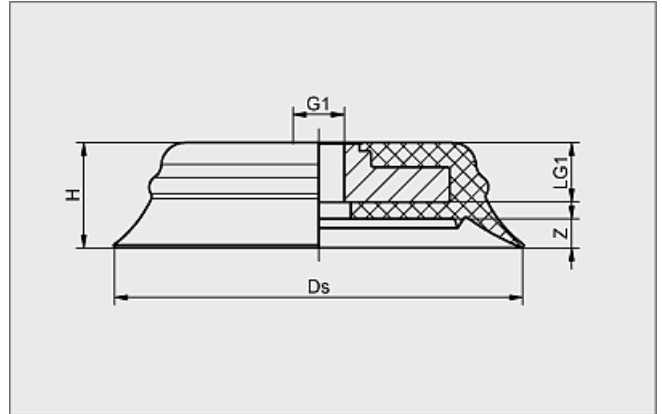
Flat suction pads SHFN



Design data Flat suction pads SHF



SHF 50 to 70



SHF 70 to 85 E

Type	Dimensions in mm*									
	d	d1	Dk	Ds	G1	H	H2	H3	LG1	Z
SHF 50 NK-45	7,5	17	17	52	-	22,2	12,8	14,3	-	3
SHF 70 NK-45	7,5	17	17	70	-	22,2	12,8	14,3	-	4
SHF 70 NK-45 E	-	-	-	70	M10x1.25-F	18,1	-	-	10	4
SHF 85 NK-45	7,5	17	17	85	-	22,2	12,8	14,3	-	4
SHF 85 NK-45 E	-	-	-	85	M10x1.25-F	18,1	-	-	10	4

*Acceptable dimensional tolerances for rubber parts concerning to M3 - DIN 7715