

Suction Cups

HAF

Flat Suction Cups

HANWHA



Glass



Anti-slip



Metal



Oil proof

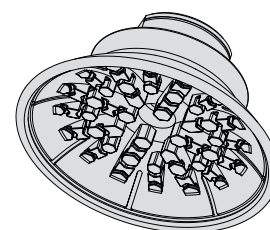
Product characteristics

- * For fast handling of sheet metal
 - * The sheet metal will not be dented or deformed when handled
 - * The corrugated shape fits well with the workpiece
- Handling systems for stamping production lines in the automotive industry
- * The bottom of the sucker has a special groove structure to prevent the oily metal plate from sliding during handling, ensuring the precise positioning of the workpiece in the press



Product structure

- * Solid and wear-resistant flat suction cup HAF, made of NBR material, with special grooves and internal support structure
- * Suckers and joints are vulcanized
- * Suction cups are available in a variety of connection forms



Product advantages

- * Suitable for workpieces of different shapes and sizes
- * Perfect fit with uneven workpiece surface, with good sealing and cushioning performance
- * Strong horizontal and lateral grasping power
- * Does not cause workpiece deformation, even when handling metal sheets with oily surfaces can still provide strong anti-slip side forces



*HAF product application

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HAF Ordering NO

HAF	30	FG02	NBR
1	2	3	4

1-Series	2-Diameter	3-Screw thread
HAF	Suction Cup	30~125
		30mm~125mm
		F Internal thread
		G02-G1/4
		G03-G3/8
		M External thread
		G02-G1/4

4-Material ⁽¹⁾	
NBR	Nitrile rubber
HT1	High temperature material(blue)
HT2	High temperature material(black)

(1)Other materials can also be made, please contact us



HAF Selection specification

Models	F-G02-G1/4	F-G03-G3/8	M-G02-G1/4
HAF30	◎		◎
HAF40	◎		◎
HAF50	◎	◎	◎
HAF60	◎	◎	◎
HAF80	◎	◎	◎
HAF100	◎	◎	◎
HAF125	◎	◎	◎



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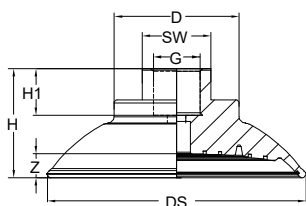
HAF Technical Data

Models	Suction [N] ⁽²⁾	Lateral force [N] ⁽²⁾	Oily surface lateral force [N]	Inner volume [cm ³]
HAF30	38	30	28	1.7
HAF40	69	52	50	3.8
HAF50	100	80	76	7.0
HAF60	150	105	85	13.0
HAF80	272	205	180	36.0
HAF100	430	310	300	58.0
HAF125	660	475	400	115.0

(2) The surface of the workpiece is smooth and dry, and the vacuum degree is -60KPa. The above data does not include the safety factor. Depending on the surface condition of the workpiece, the value may change.



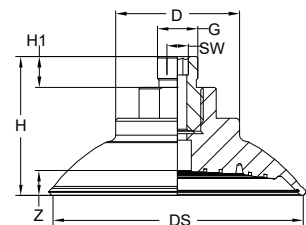
HAF 30~125 Design Data



Size[mm]⁽³⁾

Models	D	H	H1	G	DS	SW	Z	Weight[g]
HAF30-FG02	25.3	20.1	12	G1/4"	32	SW17	3	11.31
HAF40-FG02	25.4	21.7	12	G1/4"	42	SW17	3.9	13.29
HAF50-FG03	37	28	15	G3/8"	52.5	SW22	4.6	30.9
HAF60-FG03	38	31	15	G3/8"	63	SW22	6	37.74
HAF80-FG03	40	35	15	G3/8"	83	SW22	7.6	53.99
HAF100-FG03	40	36	15	G3/8"	103	SW22	9.5	66.24
HAF125-FG03	50.8	43	15	G3/8"	128	SW22	12.5	124.99

HAF30~125 Dimension



Size[mm]⁽³⁾

Models	D	H	H1	G	DS	SW	Z	Weight[g]
HAF30-MG02	25.3	30.1	8	G1/4"	32	SW6	3	15.99
HAF40-MG02	25.4	31.7	8	G1/4"	42	SW6	3.9	17.97
HAF50-MG02	37	38	10	G1/4"	52.5	SW6	4.6	39.1
HAF60-MG02	38	41	10	G1/4"	63	SW6	6	45.94
HAF80-MG02	40	45	10	G1/4"	83	SW6	7.6	62.19
HAF100-MG02	40	46	10	G1/4"	103	SW6	9.5	74.44
HAF125-MG02	50.8	53	10	G1/4"	128	SW6	12.5	133.19

HAF30~125 External thread



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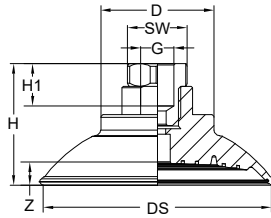
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Size[mm]⁽³⁾

Models	D	H	H1	G	DS	SW	Z	Weight[g]
HAF50-FG02	37	36	15	G1/4"	52.5	SW20	4.6	46.92
HAF60-FG02	38	39	15	G1/4"	63	SW20	6	53.76
HAF80-FG02	40	43	15	G1/4"	83	SW20	7.6	70.01
HAF100-FG02	40	44	15	G1/4"	103	SW20	9.5	82.26
HAF125-FG02	50.8	51	15	G1/4"	128	SW20	12.5	141.01

HAF30~125 Internal thread

(3) Compliant with DIN ISO 3302-1 M3 rubber parts allowable dimensional tolerances. Z is the trip

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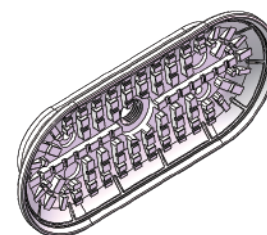
Product characteristics

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 - * The sheet metal will not be dented or deformed when handled
 - * The corrugated shape fits well with the workpiece
- Handling systems for stamping production lines in the automotive industry
- * The bottom of the sucker has a special groove structure to prevent the oily metal plate from sliding during handling, ensuring the precise positioning of the workpiece in the press



Product structure

- * Strong and wear-resistant oval flat suction cup HAF, made of NBR material, with special grooves and internal support structure
- * Suckers and joints are vulcanized
- * Suction cups are available in a variety of connection forms



Product advantages

- * Suitable for workpieces of different shapes and sizes
- * Perfect fit with uneven workpiece surface, with good sealing and cushioning performance
- * Strong horizontal and lateral grasping power
- * Does not cause workpiece deformation, even when handling metal sheets with oily surfaces can still provide strong anti-slip side forces



*HAF suction cups carry long workpiece surfaces

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HAF Ordering NO

HAF	50×16	FG02	NBR
1	2	3	4

1-Series	2-Diameter	3-Screw thread
HAF	Suction Cup	F Internal thread
	50×16	G01-G1/8
	50×16~140×70mm	G02-G1/4
4-Material ⁽¹⁾		M External thread
NBR	Nitrile rubber	G02-G1/4
HT1	High temperature material(blue)	
HT2	High temperature material(black)	

(1)Other materials can also be made, please contact us



HAF Technical Parameters

Models	F-G01-G1/8	F-G02-G1/4	M-G02-G1/4
HAF50X16		◎	◎
HAF60X23		◎	◎
HAF80X40		◎	◎
HAF90X30		◎	◎
HAF100X50		◎	◎
HAF120X60		◎	◎
HAF140X70		◎	◎

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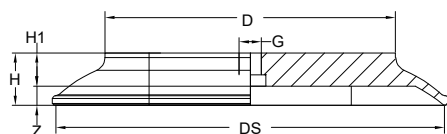
HAF Technical Data

Models	Suction ⁽²⁾ [N]	Lateral force ⁽²⁾ [N]	Oily surface lateral force ⁽²⁾ [N] ⁽²⁾	Inner volume [cm ³]
HAF50X16	31	24	12	2.0
HAF60X23	57	37	33	3.0
HAF80X40	122	96	64	7.0
HAF90X30	140	110	100	10.7
HAF100X50	217	181	121	20.0
HAF120X60	312	254	170	35.0
HAF140X70	425	344	230	52.0

(2)The surface of the workpiece is smooth and dry, and the vacuum degree is -60KPa. The above data does not include the safety factor. Depending on the surface condition of the workpiece, the value may change.



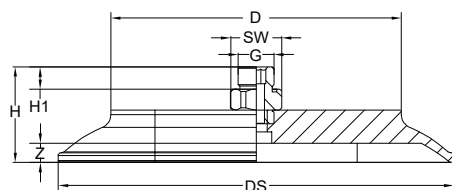
HAF 50×16~140×70 Technical Data



Size[mm]⁽³⁾

Models	D	H	H1	G	DS	Z	Weight [g]
HAF50X16-FG01	45	18.5	15	G1/8"	50	3	16.82
HAF60X23-FG01	54.4	12.2	9	G1/8"	62.4	2.5	10.96
HAF80X40-FG01	67	14	10	G1/8"	82	4	26.18
HAF90X30-FG01	85	12	10	G1/8"	92	3	32.46
HAF100X50-FG02	88	16.5	11	G1/4"	102	5	53.77
HAF120X60-FG02	99	18	12	G1/4"	123	6	70.74
HAF140X70-FG02	105	19	12	G1/4"	143	7	80.86

HAF50×16~140×70 Dimension



Size[mm]⁽³⁾

Models	D	H	H1	G	DS	Z	Weight [g]
HAF50X16-MG02	45	34.9	8	G1/4"	50	3	24.02
HAF60X23-MG02	54.4	28.6	8	G1/4"	62.4	2.5	18.16
HAF80X40-MG02	67	30.4	8	G1/4"	82	4	33.38
HAF90X30-MG02	85	28.4	8	G1/4"	92	3	39.66
HAF100X50-MG02	88	32	8	G1/4"	102	5	58.45
HAF120X60-MG02	99	33.5	8	G1/4"	123	6	75.42
HAF140X70-MG02	105	34.5	8	G1/4"	143	7	85.54

HAF50×16~140×70 External thread



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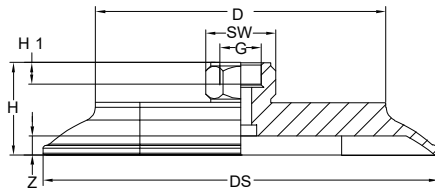
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Size[mm]⁽³⁾

Models	D	H	H1	G	DS	Z	Weight [g]
HAF50X16-FG02	45	32.5	8	G1/4"	50	3	23.03
HAF60X23-FG02	54.4	26.2	8	G1/4"	62.4	2.5	17.17
HAF80X40-FG02	67	28	8	G1/4"	82	4	32.39
HAF90X30-FG02	85	26	8	G1/4"	92	3	38.67
HAF100X50-FG02	88	31	9	G1/4"	102	5	59.42
HAF120X60-FG02	99	32.5	9	G1/4"	123	6	76.39
HAF140X70-FG02	105	33.5	9	G1/4"	143	7	86.51

HAF50×16~140×70 Internal thread

(3) Compliant with DIN ISO 3302-1 M3 rubber parts allowable dimensional tolerances. Z is the trip