

Special Suction Cup For Sheet Metal



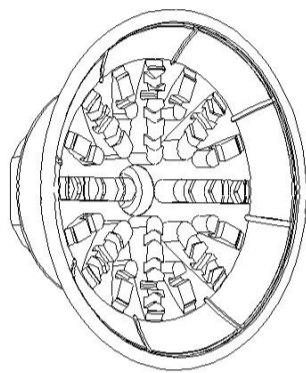
Flat Suction Cup MAF

Diameter: 30 to 100mm

Flat Suction Cup MAF



System design flat suction cups MAF



Introduction and application

- ◆ For quick handling of metal sheets (short cycle)
- ◆ No dents or deformations when handling metal sheets
- ◆ For use in handling system for stamping lines in the automotive industry
- ◆ The bottom of the suction cup has a special groove structure to prevent the oily metal plate from sliding during handling, ensuring accurate positioning of the workpiece in stamping press

Design

- ◆ Rugged and durable flat suction cup MAF, made of NBR with single sealing lip, special groove design and internal support design
- ◆ Suction cups MAF vulcanized to the connection nipple (high strength)
- ◆ Suction cup available with various connection types
- ◆ Available in two material hardness values (45 Shore, 60 Shore)

Ordering Data Flat Suction Cups MAF

Item no.	Diameter ϕ [mm]	Material and shore hardness	Connection thread
MAF	30 to 100	NBR-45 NBR-60	G1/4-AG G1/4-IG G3/8-IG M10-AG M14x1.5-AG RA rectangular adapter

Note: MAF AG=external thread X(M)E IG=internal thread A(F)

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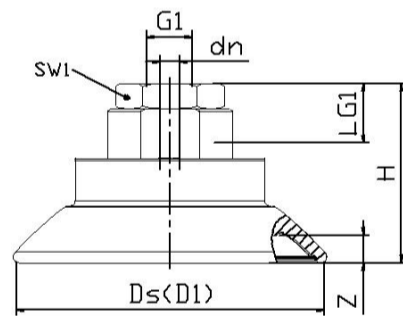
Type	Connection						Rectangular adapter
	G1/4"-M	G1/4"-F	G3/8"-F	M10x1.5-M	M14x1.5-M		
MAF 30 NBR-60	90.02.03.00212	90.02.03.00226	90.02.03.00240	90.02.03.00254	90.02.03.00268	90.02.03.00495	
MAF 30 NBR-45	90.02.03.00213	90.02.03.00227	90.02.03.00241	90.02.03.00255	90.02.03.00269	90.02.03.00496	
MAF 40 NBR-60	90.02.03.00214	90.02.03.00228	90.02.03.00242	90.02.03.00256	90.02.03.00270	90.02.03.00497	
MAF 40 NBR-45	90.02.03.00215	90.02.03.00229	90.02.03.00243	90.02.03.00257	90.02.03.00271	90.02.03.00498	
MAF 50 NBR-60	90.02.03.00216	90.02.03.00230	90.02.03.00244	90.02.03.00258	90.02.03.00272	90.02.03.00499	
MAF 50 NBR-45	90.02.03.00217	90.02.03.00231	90.02.03.00245	90.02.03.00259	90.02.03.00273	90.02.03.00500	
MAF 60 NBR-60	90.02.03.00218	90.02.03.00232	90.02.03.00246	90.02.03.00260	90.02.03.00274	90.02.03.00501	
MAF 60 NBR-45	90.02.03.00219	90.02.03.00233	90.02.03.00247	90.02.03.00261	90.02.03.00275	90.02.03.00502	
MAF 80 NBR-60	90.02.03.00220	90.02.03.00234	90.02.03.00248	90.02.03.00262	90.02.03.00276	90.02.03.00503	
MAF 80 NBR-45	90.02.03.00221	90.02.03.00235	90.02.03.00249	90.02.03.00263	90.02.03.00277	90.02.03.00504	
MAF 100 NBR-60	90.02.03.00222	90.02.03.00236	90.02.03.00250	90.02.03.00264	90.02.03.00278	90.02.03.00505	
MAF 100 NBR-45	90.02.03.00223	90.02.03.00237	90.02.03.00251	90.02.03.00265	90.02.03.00279	90.02.03.00506	

Technical Data Flat Suction Cups MAF

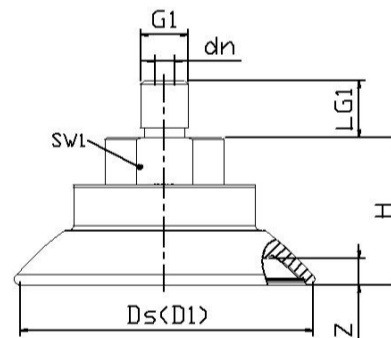
Type	suction force [N]	Lateral force [N]	Lateral force oily surface [N]	Volume [cm ³]	Min. curve radius [mm] (Convex)#	Recom. internal hose diameter d[mm]
MAF 30	38	30	28	1.7	40	4
MAF 40	69	52	50	3.8	50	4
MAF 50	100	80	76	7.0	65	4
MAF 60	150	105	85	13.0	75	6
MAF 80	272	205	180	36.0	100	6
MAF 100	430	310	300	58.0	135	6

Design Data Flat Suction Cups MAF

MAF 30 to 100 IG



MAF 30 to 100 AG

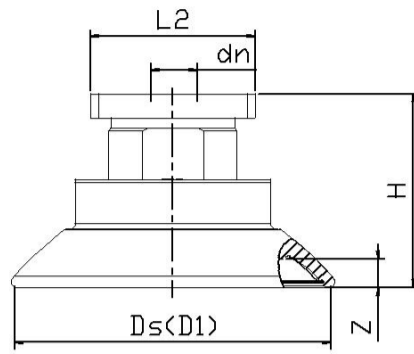


Special Suction Cup For Sheet Metal **TC-Grip**

Flat Suction Cup MAF

Diameter: 30 to 100mm

MAF 30 to 100 RA (Rectangular adapter)



Type	Dimensions [mm]									
	d1	dn	Ds	G1	H	LG1	L2	SW1	Z(Stroke)	
MAF 30 G1/4-AG	34	4	32	G1/4"-M	20.0	10	-	17	3.0	
MAF 30 G1/4-IG	34	4	32	G1/4"-F	20.0	12	-	17	3.0	
MAF 30 G3/8-IG	34	4	32	G3/8"-F	36.0	9	-	22	3.0	
MAF 30 M10x1.5-AG	34	4	32	M10x1.5-M	20.0	12	-	17	3.0	
MAF 30 M14x1.5-AG	34	4	32	M14x1.5-M	22.0	12	-	17	3.0	
MAF 30 RA	34	4	32	-	23.2	-	32	-	3.0	
MAF 40 G1/4-AG	46	4	42	G1/4"-M	22.0	10	-	17	4.0	
MAF 40 G1/4-IG	46	4	42	G1/4"-F	22.0	12	-	17	4.0	
MAF 40 G3/8-IG	46	4	42	G3/8"-F	38.0	9	-	22	4.0	
MAF 40 M10x1.5-AG	46	4	42	M10x1.5-M	22.0	12	-	17	4.0	
MAF 40 M14x1.5-AG	46	4	42	M14x1.5-M	22.0	12	-	17	4.0	
MAF 40 RA	46	4	42	-	25.0	-	32	-	4.0	
MAF 50 G1/4-AG	56	6	52	G1/4"-M	28.0	10	-	22	5.0	
MAF 50 G1/4-IG	56	6	52	G1/4"-F	33.0	15	-	22	5.0	
MAF 50 G3/8-IG	56	6	52	G3/8"-F	28.0	15	-	22	5.0	
MAF 50 M10x1.5-AG	56	4	52	M10x1.5-M	28.0	12	-	22	5.0	
MAF 50 M14x1.5-AG	56	6	52	M14x1.5-M	28.0	12	-	22	5.0	
MAF 50 RA	56	6	52	-	27.5	-	32	-	5.0	
MAF 60 G1/4-AG	67	6	63	G1/4"-M	31.0	10	-	22	6.0	
MAF 60 G1/4-IG	67	6	63	G1/4"-F	36.0	15	-	22	6.0	
MAF 60 G3/8-IG	67	6	63	G3/8"-F	31.0	15	-	22	6.0	
MAF 60 M10x1.5-AG	67	4	63	M10x1.5-M	31.0	12	-	22	6.0	
MAF 60 M14x1.5-AG	67	6	63	M14x1.5-M	31.0	12	-	22	6.0	
MAF 60 RA	67	6	63	-	30.5	-	32	-	6.0	
MAF 80 G1/4-AG	89	6	83	G1/4"-M	35.0	10	-	22	7.6	
MAF 80 G1/4-IG	89	6	83	G1/4"-F	40.0	20	-	22	7.6	
MAF 80 G3/8-IG	89	6	83	G3/8"-F	35.0	15	-	22	7.6	
MAF 80 M10x1.5-AG	89	4	83	M10x1.5-M	35.0	12	-	22	7.6	
MAF 80 M14x1.5-AG	89	6	83	M14x1.5-M	35.0	12	-	22	7.6	
MAF 80 RA	89	6	83	-	34.5	-	32	-	7.6	
MAF 100 G1/4-AG	110	6	103	G1/4"-M	36.0	10	-	22	9.5	
MAF 100 G1/4-IG	110	6	103	G1/4"-F	41.0	20	-	22	9.5	
MAF 100 G3/8-IG	110	6	103	G3/8"-F	36.0	15	-	22	9.5	
MAF 100 M10x1.5-AG	110	4	103	M10x1.5-M	36.0	12	-	22	9.5	
MAF 100 M14x1.5-AG	110	6	103	M14x1.5-M	36.0	12	-	22	9.5	
MAF 100 RA	110	6	103	-	35.5	-	32	-	9.5	