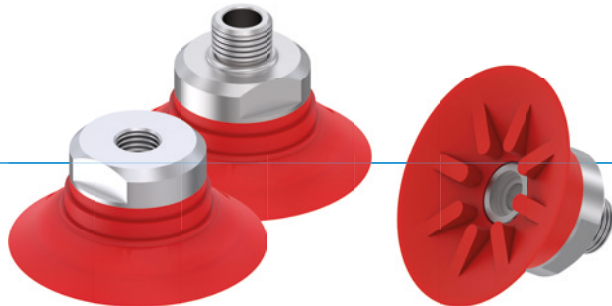


FLAT SUCTION CUP

SERIES ZF

► PRODUCT ADVANTAGES



► Optimum geometry

- For flat surfaces
- Knobbed profile on the underside of the suction cup for increased friction between the workpiece and vacuum suction cup

► Application areas

- Intralogistics
- Wood and composite materials
- Metal

► PRODUCT KEY

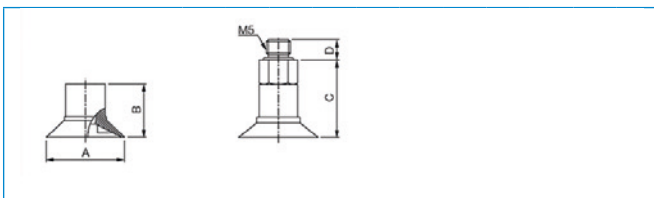
ZF	20	-	N	-	18F	-	M
Series	Diameter		Material		Fixing thread		Filter type

► MATERIAL CHARACTERISTICS

Version	Material	Color	Operating temperature [°C]	Shore hardness
N	NBR	Black	-20 ... +110	60
PU	Polyurethane	Translucent orange	0 ... +60	60
S	Silicone	Red	-70 ... +200	55
WS	Silicone food-safe	Translucent white	-70 ... +200	55

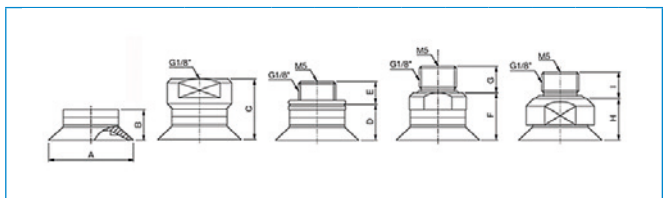
► DIMENSIONS

ZF15



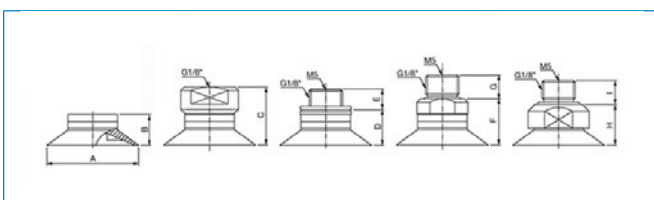
Legend	A	B	C	D
Dimensions [mm]	16.5	11	16	4.2

ZF20



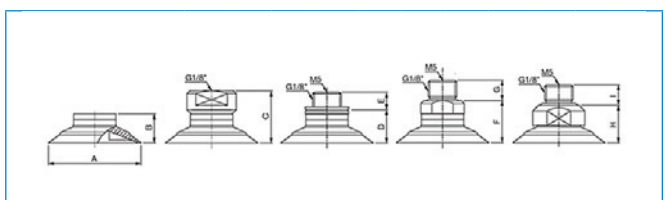
Legend	A	B	C	D	E	F	G	H	I
Dimensions [mm]	22	8	16	9.5	6	12.5	7	11	7

ZF25



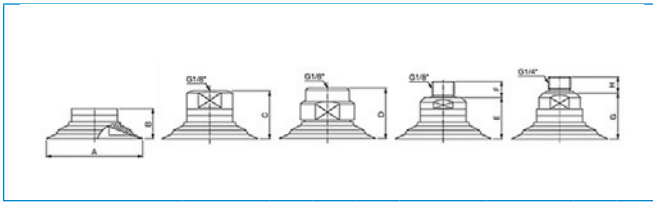
Legend	A	B	C	D	E	F	G	H	I
Dimensions [mm]	27	9	17	10.5	6	13.5	7	12	7

ZF30



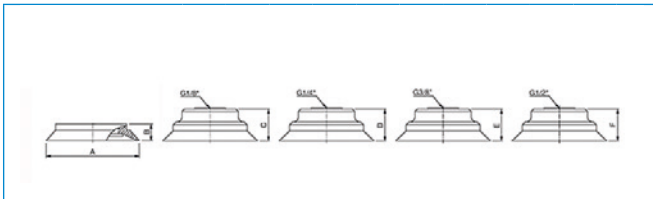
Legend	A	B	C	D	E	F	G	H	I
Dimensions [mm]	32	10	18	11.5	6	14.5	7	13	7

ZF40



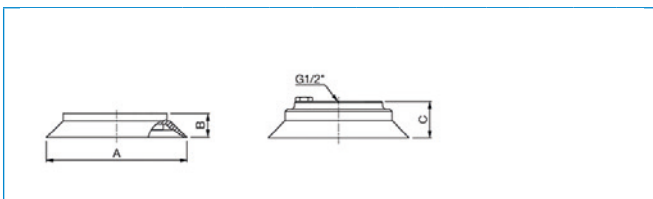
Legend	A	B	C	D	E	F	G	H
Dimensions [mm]	42	13	21	22	18	7	20	7

ZF75



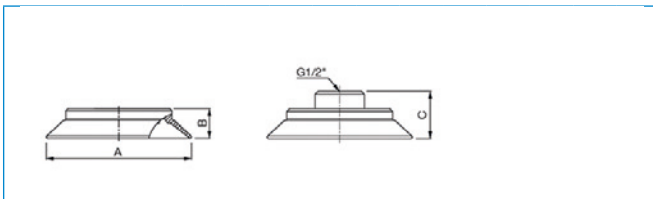
Legend	A	B	C	D	E	F
Dimensions [mm]	77	13.5	26	26	26	26

ZF110



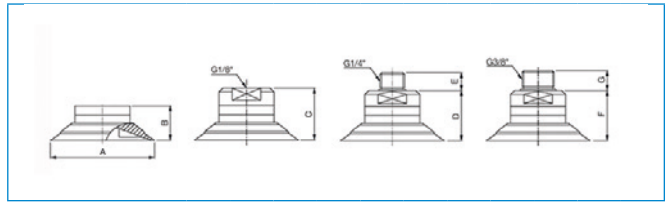
Legend	A	B	C
Dimensions [mm]	112	19	29

ZF200



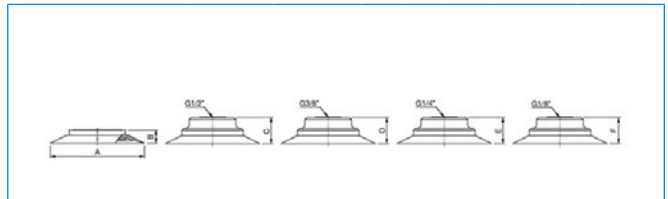
Legend	A	B	C
Dimensions [mm]	200	41	65

ZF50



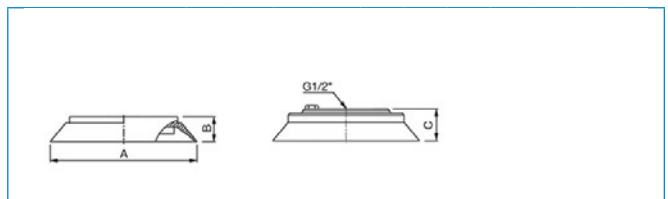
Legend	A	B	C	D	E	F	G
Dimensions [mm]	53	17.5	26.5	25.5	9	25.5	10

ZF90



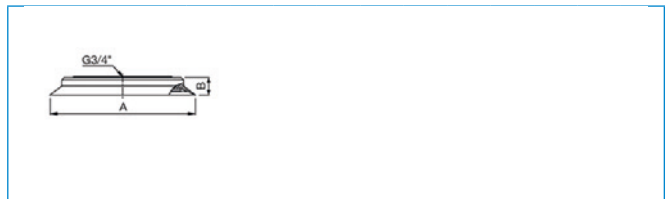
Legend	A	B	C	D	E	F
Dimensions [mm]	92	13	25.5	25.5	25.5	25.5

ZF150



Legend	A	B	C
Dimensions [mm]	152	25.5	33

ZF300



Legend	A	B
Dimensions [mm]	304	36

FLAT SUCTION CUP

SERIES ZF

► TECHNICAL DATA

Installation size	ZF15	ZF20	ZF25	ZF30	ZF40	ZF50
Lifting force parallel at -20 kPa [N]	3.43	5	7.95	10.99	15.01	23.94
Lifting force parallel at -60 kPa [N]	6.47	7.95	8.93	15.99	25.02	40.02
Lifting force parallel at -90 kPa [N]	7.46	8.44	10.01	20.01	30.02	50.03
Lifting force vertical at -20 kPa [N]	3.43	5.98	8.93	11.97	20.01	36
Lifting force vertical at -60 kPa [N]	8.44	14.42	19.42	25.02	40.02	74.07
Lifting force vertical at -90 kPa [N]	10.99	18.93	25.02	31	50.03	96.04
Lifting force parallel at -20 kPa [kg]	0.350	0.510	0.810	1.120	1.530	2.440
Lifting force parallel at -60 kPa [kg]	0.660	0.810	0.910	1.630	2.550	4.080
Lifting force parallel at -90 kPa [kg]	0.760	0.860	1.020	2.040	3.060	5.100
Lifting force vertical at -20 kPa [kg]	0.350	0.610	0.910	1.220	2.040	3.670
Lifting force vertical at -60 kPa [kg]	0.860	1.470	1.980	2.550	4.080	7.550
Lifting force vertical at -90 kPa [kg]	1.120	1.930	2.550	3.160	5.100	9.790
Volume [cm³]	0.037	1.000	1.100	2.000	4.800	10.000

Installation size	ZF75	ZF90	ZF110	ZF150	ZF200	ZF300
Lifting force parallel at -20 kPa [N]	60.04	86.72	140.09	250.25	375.72	375.72
Lifting force parallel at -60 kPa [N]	110.07	156.76	250.25	600.57	950.59	950.59
Lifting force parallel at -90 kPa [N]	140.09	193.45	300.28	800.79	1348.88	1348.88
Lifting force vertical at -20 kPa [N]	80.05	100.06	140.09	300.28	750.76	750.76
Lifting force vertical at -60 kPa [N]	200.12	273.01	417.71	850.82	1901.86	1901.86
Lifting force vertical at -90 kPa [N]	270.27	366.99	560.54	1101.07	2702.75	2702.75
Lifting force parallel at -20 kPa [kg]	6.120	8.840	14.280	25.510	38.300	38.300
Lifting force parallel at -60 kPa [kg]	11.220	15.980	25.510	61.220	96.900	96.900
Lifting force parallel at -90 kPa [kg]	14.280	19.720	30.610	81.630	137.500	137.500
Lifting force vertical at -20 kPa [kg]	8.160	10.200	14.280	30.610	76.530	76.530
Lifting force vertical at -60 kPa [kg]	20.400	27.830	42.580	86.730	193.870	193.870
Lifting force vertical at -90 kPa [kg]	27.550	37.410	57.140	112.240	275.510	275.510
Volume [cm³]	20.000	50.000	70.000	160.000	460.000	460.000

Order no.	► Technical data			
	Diameter [mm]	Material	Fixing thread	Filter type
ZF15-N	15	NBR		
ZF15-N-M5M	15	NBR	M5 external	
ZF15-S	15	Silicone		
ZF15-S-M5M	15	Silicone	M5 external	
ZF15-WS	15	Silicone food-safe		
ZF15-WS-M5M	15	Silicone food-safe	M5 external	
ZF20-N	20	NBR		
ZF20-N-18F	20	NBR	G1/8" internal	
ZF20-N-18F-M	20	NBR	G1/8" internal	Mesh filter
ZF20-N-M5F18M	20	NBR	M5 internal - G1/8" external	
ZF20-S	20	Silicone		
ZF20-S-18F	20	Silicone	G1/8" internal	
ZF20-S-18F-M	20	Silicone	G1/8" internal	Mesh filter
ZF20-S-M5F18M	20	Silicone	M5 internal - G1/8" external	
ZF20-S-M5F18M-M	20	Silicone	M5 internal - G1/8" external	Mesh filter
ZF20-WS-18F	20	Silicone food-safe	G1/8" internal	
ZF20-WS-M5F18M	20	Silicone food-safe	M5 internal - G1/8" external	
ZF25-N	25	NBR		
ZF25-N-18F	25	NBR	G1/8" internal	
ZF25-N-18F-M	25	NBR	G1/8" internal	Mesh filter
ZF25-N-M5F18M	25	NBR	M5 internal - G1/8" external	
ZF25-N-M5F18M-M	25	NBR	M5 internal - G1/8" external	Mesh filter
ZF25-S	25	Silicone		
ZF25-S-18F	25	Silicone	M5 internal - G1/8" external	
ZF25-S-M5F18M	25	Silicone	M5 internal - G1/8" external	
ZF25-S-M5F18M-M	25	Silicone	M5 internal - G1/8" external	Mesh filter
ZF25-WS	25	Silicone food-safe		

Order no.	► Technical data			
	Diameter [mm]	Material	Fixing thread	Filter type
ZF25-WS-M5F18M	25	Silicone food-safe	M5 internal - G1/8" external	
ZF30-N	30	NBR		
ZF30-N-18F	30	NBR	G1/8" internal	
ZF30-N-18F-M	30	NBR	G1/8" internal	Mesh filter
ZF30-N-M5F18M	30	NBR	M5 internal - G1/8" external	
ZF30-PU	30	Polyurethane		
ZF30-PU-18F	30	Polyurethane	G1/8" internal	
ZF30-PU-18F-M	30	Polyurethane	G1/8" internal	Mesh filter
ZF30-PU-M5F18M	30	Polyurethane	M5 internal - G1/8" external	
ZF30-PU-M5F18M-M	30	Polyurethane	M5 internal - G1/8" external	Mesh filter
ZF30-S	30	Silicone		
ZF30-S-18F	30	Silicone	G1/8" internal	
ZF30-S-18F-M	30	Silicone	G1/8" internal	Mesh filter
ZF30-S-M5F18M	30	Silicone	M5 internal - G1/8" external	
ZF30-S-M5F18M-M	30	Silicone	M5 internal - G1/8" external	Mesh filter
ZF30-WS	30	Silicone food-safe		
ZF30-WS-18F	30	Silicone food-safe	G1/8" internal	
ZF30-WS-M5F18M	30	Silicone food-safe	M5 internal - G1/8" external	
ZF40-N	40	NBR		
ZF40-N-14M	40	NBR	G1/4" external	
ZF40-N-14M-M	40	NBR	G1/4" external	Mesh filter
ZF40-N-18F	40	NBR	G1/8" internal	
ZF40-N-18F-M	40	NBR	G1/8" internal	Mesh filter
ZF40-N-18M	40	NBR	G1/8" external	
ZF40-N-18M-M	40	NBR	G1/8" external	Mesh filter
ZF40-PU	40	Polyurethane		
ZF40-PU-14M	40	Polyurethane	G1/4" external	
ZF40-PU-14M-M	40	Polyurethane	G1/4" external	Mesh filter
ZF40-PU-18F	40	Polyurethane	G1/8" internal	
ZF40-PU-18F-M	40	Polyurethane	G1/8" internal	Mesh filter
ZF40-PU-18M	40	Polyurethane	G1/8" external	
ZF40-PU-18M-M	40	Polyurethane	G1/8" external	Mesh filter
ZF40-S	40	Silicone		
ZF40-S-14M	40	Silicone	G1/4" external	
ZF40-S-14M-M	40	Silicone	G1/4" external	Mesh filter
ZF40-S-18F	40	Silicone	G1/8" internal	
ZF40-S-18F-M	40	Silicone	G1/8" internal	Mesh filter
ZF40-S-18M	40	Silicone	G1/8" external	
ZF40-S-18M-M	40	Silicone	G1/8" external	Mesh filter
ZF40-WS	40	Silicone food-safe		
ZF40-WS-14M	40	Silicone food-safe	G1/4" external	
ZF40-WS-18F	40	Silicone food-safe	G1/8" internal	
ZF50-N	50	NBR		
ZF50-N-14M	50	NBR	G1/4" external	
ZF50-N-14M-M	50	NBR	G1/4" external	Mesh filter
ZF50-N-18F	50	NBR	G1/8" internal	
ZF50-N-18F-M	50	NBR	G1/8" internal	Mesh filter
ZF50-N-38M	50	NBR	G3/8" external	
ZF50-N-38M-M	50	NBR	G3/8" external	Mesh filter
ZF50-PU	50	Polyurethane		
ZF50-PU-14M	50	Polyurethane	G1/4" external	
ZF50-PU-14M-M	50	Polyurethane	G1/4" external	Mesh filter
ZF50-PU-18F	50	Polyurethane	G1/8" internal	
ZF50-PU-18F-M	50	Polyurethane	G1/8" internal	Mesh filter
ZF50-PU-38M	50	Polyurethane	G3/8" external	
ZF50-S	50	Silicone		
ZF50-S-14M	50	Silicone	G1/4" external	
ZF50-S-14M-M	50	Silicone	G1/4" external	Mesh filter
ZF50-S-18F	50	Silicone	G1/8" internal	
ZF50-S-18F-M	50	Silicone	G1/8" internal	Mesh filter

FLAT SUCTION CUP

SERIES ZF

Order no.	► Technical data			
	Diameter [mm]	Material	Fixing thread	Filter type
ZF50-S-38M	50	Silicone	G3/8" external	
ZF50-WS	50	Silicone food-safe		
ZF50-WS-18F	50	Silicone food-safe	G1/8" internal	
ZF75-N	75	NBR		
ZF75-N-12F	75	NBR	G1/2" internal	
ZF75-N-12F-M	75	NBR	G1/2" internal	Mesh filter
ZF75-N-14F	75	NBR	G1/4" internal	
ZF75-N-14F-M	75	NBR	G1/4" internal	Mesh filter
ZF75-N-18F	75	NBR	G1/8" internal	
ZF75-N-18F-M	75	NBR	G1/8" internal	Mesh filter
ZF75-N-38F	75	NBR	G3/8" internal	
ZF75-N-38F-M	75	NBR	G3/8" internal	Mesh filter
ZF75-PU	75	Polyurethane		
ZF75-PU-12F	75	Polyurethane	G1/2" internal	
ZF75-PU-12F-M	75	Polyurethane	G1/2" internal	Mesh filter
ZF75-PU-14F	75	Polyurethane	G1/4" internal	
ZF75-PU-14F-M	75	Polyurethane	G1/4" internal	Mesh filter
ZF75-PU-18F	75	Polyurethane	G1/8" internal	
ZF75-PU-18F-M	75	Polyurethane	G1/8" internal	Mesh filter
ZF75-PU-38F	75	Polyurethane	G3/8" internal	
ZF75-S	75	Silicone		
ZF75-S-12F	75	Silicone	G1/2" internal	
ZF75-S-12F-M	75	Silicone	G1/2" internal	Mesh filter
ZF75-S-14F	75	Silicone	G1/4" internal	
ZF75-S-14F-M	75	Silicone	G1/4" internal	Mesh filter
ZF75-S-18F	75	Silicone	G1/8" internal	
ZF75-S-18F-M	75	Silicone	G1/8" internal	Mesh filter
ZF75-S-38F	75	Silicone	G3/8" internal	
ZF75-S-38F-M	75	Silicone	G3/8" internal	Mesh filter
ZF75-WS	75	Silicone food-safe		
ZF75-WS-12F	75	Silicone food-safe	G1/2" internal	
ZF75-WS-14F	75	Silicone food-safe	G1/4" internal	
ZF75-WS-18F	75	Silicone food-safe	G1/8" internal	
ZF75-WS-18F-M	75	Silicone food-safe	G1/8" internal	Mesh filter
ZF90-PU	90	Polyurethane		
ZF90-PU-12F	90	Polyurethane	G1/2" internal	
ZF90-PU-12F-M	90	Polyurethane	G1/2" internal	Mesh filter
ZF90-PU-14F	90	Polyurethane	G1/4" internal	
ZF90-PU-14F-M	90	Polyurethane	G1/4" internal	Mesh filter
ZF90-PU-18F	90	Polyurethane	G1/8" internal	
ZF90-PU-18F-M	90	Polyurethane	G1/8" internal	Mesh filter
ZF90-PU-38F	90	Polyurethane	G3/8" internal	
ZF90-PU-38F-M	90	Polyurethane	G3/8" internal	Mesh filter
ZF110-N	110	NBR		
ZF110-N-12F	110	NBR	G1/2" internal	
ZF110-N-12F-M	110	NBR	G1/2" internal	Mesh filter
ZF110-S	110	Silicone		
ZF110-S-12F	110	Silicone	G1/2" internal	
ZF110-S-12F-M	110	Silicone	G1/2" internal	Mesh filter
ZF110-WS	110	Silicone food-safe		
ZF110-WS-12F	110	Silicone food-safe	G1/2" internal	
ZF150-N	150	NBR		
ZF150-N-12F	150	NBR	G1/2" internal	
ZF150-N-12F-M	150	NBR	G1/2" internal	Mesh filter
ZF150-S	150	Silicone		
ZF150-S-12F	150	Silicone	G1/2" internal	
ZF150-S-12F-M	150	Silicone	G1/2" internal	Mesh filter
ZF150-WS	150	Silicone food-safe		
ZF150-WS-12F	150	Silicone food-safe	G1/2" internal	
ZF150-WS-12F-M	150	Silicone food-safe	G1/2" internal	Mesh filter

Order no.	► Technical data			
	Diameter [mm]	Material	Fixing thread	Filter type
ZF200-N	200	NBR		
ZF200-N-12F	200	NBR	G1/2" internal	
ZF200-N-12F-M	200	NBR	G1/2" internal	Mesh filter
ZF200-S-12F	200	Silicone	G1/2" internal	
ZF200-S-12F-M	200	Silicone	G1/2" internal	Mesh filter
ZF300-N-34F	300	NBR	G3/4" internal	
ZF300-S-34F	300	Silicone	G3/4" internal	