

# Large-area vacuum gripping system FM/FMC

Maximum flexibility in automated handling tasks



Large-area vacuum gripping system FM/FMC

## Our highlights...

- Quick-change sealing plate
- Extruded aluminium section with functional elements integrated into the end covers
- Flexible hole spacing in sealing plate with the same basic body
- Valves protected against dirt and easy to clean
- Innovative valve concept

## Your benefits

- > Quick and cheap replacement of the plate when it is worn
- > Robust, light construction with variable lengths for short cycle times and low-cost handling systems
- > Quick adaptation to workpieces of varying dimensions
- > Operational safety and high system availability
- > Saves energy by intelligent vacuum generation, even at very short cycle times

## Applications

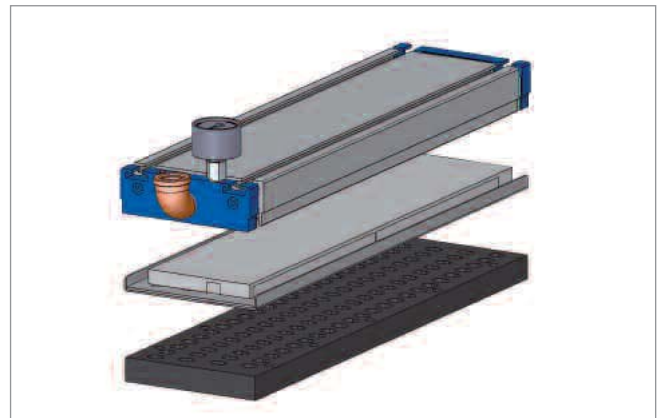
- Automated palletizing, depalletizing, commissioning and sorting of many different types of goods in various sizes with only a single gripper
- Handling of workpieces made of many different materials, such as cardboard, wood, sheet metal (dry) and plastic, with or without apertures



Large-area vacuum gripping system FM for handling kitchen furniture

## Construction

- Vacuum gripping system with external vacuum generator
- Adaptation to a wide range of handling tasks thanks to various formats and two different principles of operation (SVKW, SW)
- Modular design permits the combination of several vacuum gripping systems to form an overall system which is perfectly matched to the intended handling task



## Suitability for branch-specific applications

# Large-area vacuum gripping system FM/FMC

Maximum flexibility in automated handling tasks

## Ordering codes for large-area vacuum gripping system FM/FMC

Short designation	Valve technology	Length x width in mm	Hole spacing
Example: FMC	SW	1425,5	18
FM	SW	76x22	18 ... fine
FMC	SVKW	120x60	36 ... medium
		435,5	
		633,5	
		831,5	
		1227,5	
		1425,5	

## Ordering data for vacuum gripping system FM/FMC

Type	Without filter	With filter
FM-SW 76x22	10.01.11.00851	
FM-SW 120x60	10.01.11.01185	
FMC-SW 435,5 18	10.01.21.00101	10.01.21.00136
FMC-SW 435,5 36	10.01.21.00141	10.01.21.00146
FMC-SW 633,5 18	10.01.21.00102	10.01.21.00137
FMC-SW 633,5 36	10.01.21.00142	10.01.21.00147
FMC-SW 831,5 18	10.01.21.00103	10.01.21.00138
FMC-SW 831,5 36	10.01.21.00143	10.01.21.00148
FMC-SW 1227,5 18	10.01.21.00099	10.01.21.00139
FMC-SW 1227,5 36	10.01.21.00144	10.01.21.00149
FMC-SW 1425,5 18	10.01.21.00100	10.01.21.00140
FMC-SW 1425,5 36	10.01.21.00145	10.01.21.00150
FMC-SVKW 435,5 18	10.01.21.00052	10.01.21.00161
FMC-SVKW 435,5 36	10.01.21.00171	10.01.21.00166
FMC-SVKW 633,5 18	10.01.21.00157	10.01.21.00162
FMC-SVKW 633,5 36	10.01.21.00172	10.01.21.00167
FMC-SVKW 831,5 18	10.01.21.00158	10.01.21.00163
FMC-SVKW 831,5 36	10.01.21.00173	10.01.21.00168
FMC-SVKW 1227,5 18	10.01.21.00159	10.01.21.00164
FMC-SVKW 1227,5 36	10.01.21.00174	10.01.21.00169
FMC-SVKW 1425,5 18	10.01.21.00160	10.01.21.00165
FMC-SVKW 1425,5 36	10.01.21.00175	10.01.21.00170

Gripper types 831,5 to 1425,5 have a straight connection

## Ordering data for accessories FM/FMC

Type	Article No.
Vacuum switch	10.06.02.00343
Solenoid-valve kit for blow-off on/off	10.01.21.00242
Mounting kit for slot blocks	10.01.21.00243
Mounting kit for robot flange	10.01.21.00244
Mounting kit for spring-mounting	10.01.21.00245

## Ordering codes for replaceable sealing plate FM/FMC

Short designation	Length x width [mm]	Hole spacing
Example: DI-PL	1425,5x120	18
DI-PL	76x22	18 ... fine
	120x60	36 ... medium
	435,5x120	
	633,5x120	
	831,5x120	
	1227,5x120	
	1425,5x120	

## Ordering data for replaceable sealing plate FM/FMC

Type	Without Filter	With Filter
DI-PL 76x22	10.01.11.01388	
SP-FX-SW 120x60	10.01.10.00875	
DI-PL 435,5x120 18	10.01.21.00018	10.01.21.00198
DI-PL 435,5x120 36	10.01.21.00022	10.01.21.00203
DI-PL 633,5x120 18	10.01.21.00046	10.01.21.00199
DI-PL 633,5x120 36	10.01.21.00062	10.01.21.00204
DI-PL 831,5x120 18	10.01.21.00059	10.01.21.00200
DI-PL 831,5x120 36	10.01.21.00063	10.01.21.00205
DI-PL 1227,5x120 18	10.01.21.00060	10.01.21.00201
DI-PL 1227,5x120 36	10.01.21.00064	10.01.21.00206
DI-PL 1425,5x120 18	10.01.21.00061	10.01.21.00202
DI-PL 1425,5x120 36	10.01.21.00065	10.01.21.00207

Note: By default, the sealing mat is made of a special foam material for vacuum applications. For special applications, we can also supply foam materials which are oil resistant and withstand higher temperatures (> 60 °C).

# Large-area vacuum gripping system FM/FMC

Maximum flexibility in automated handling tasks

## ↓ F Technical data of large-area vacuum gripping system FM/FMC

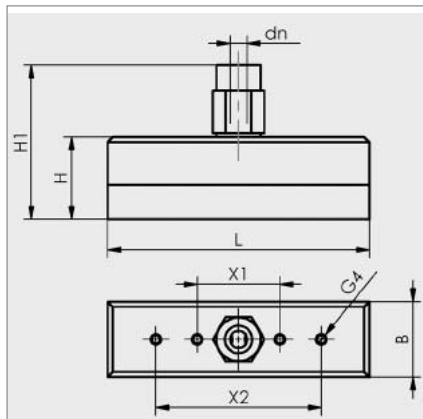
Type	Sealing plate material**	Holding force at 40 % vacuum [N]*	Holding force at 60 % vacuum [N]*	Holding force at 80 % vacuum [N]*	Weight [kg]
FM-SW 76x22	Foam, 10 mm thick	25	40	55	0.05
FM-SW 120x60	Foam, 10 mm thick	69	98	137	0.5
FMC-SW 435,5 18	Foam, 20 mm thick	540	800	1070	2.2
FMC-SW 435,5 36	Foam, 20 mm thick	540	800	1070	2.2
FMC-SW 633,5 18	Foam, 20 mm thick	800	1200	1600	3.1
FMC-SW 633,5 36	Foam, 20 mm thick	800	1200	1600	3.1
FMC-SW 831,5 18	Foam, 20 mm thick	1080	1600	2150	4.0
FMC-SW 831,5 36	Foam, 20 mm thick	1080	1600	2150	4.0
FMC-SW 1227,5 18	Foam, 20 mm thick	1600	2430	3200	5.8
FMC-SW 1227,5 36	Foam, 20 mm thick	1600	2430	3200	5.8
FMC-SW 1425,5 18	Foam, 20 mm thick	1850	2840	3760	6.7
FMC-SW 1425,5 36	Foam, 20 mm thick	1850	2840	3760	6.7
FMC-SVKW 435,5 18	Foam, 20 mm thick	540	800	1070	2.7
FMC-SVKW 435,5 36	Foam, 20 mm thick	540	800	1070	2.7
FMC-SVKW 633,5 18	Foam, 20 mm thick	800	1200	1600	3.9
FMC-SVKW 633,5 36	Foam, 20 mm thick	800	1200	1600	3.9
FMC-SVKW 831,5 18	Foam, 20 mm thick	1080	1600	2150	5.0
FMC-SVKW 831,5 36	Foam, 20 mm thick	1080	1600	2150	5.0
FMC-SVKW 1227,5 18	Foam, 20 mm thick	1600	2430	3200	7.3
FMC-SVKW 1227,5 36	Foam, 20 mm thick	1600	2430	3200	7.3
FMC-SVKW 1425,5 18	Foam, 20 mm thick	1850	2840	3760	8.4
FMC-SVKW 1425,5 36	Foam, 20 mm thick	1850	2840	3760	8.4

\*With rigid workpieces and full coverage

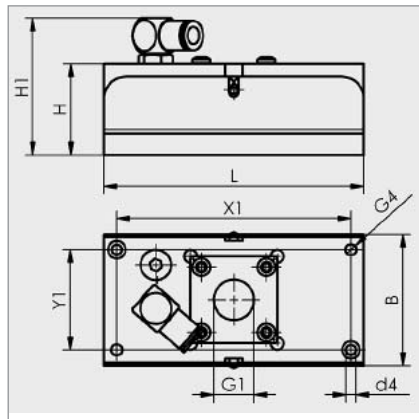
\*\*Other mat thicknesses on request

# Large-area vacuum gripping system FM/FMC

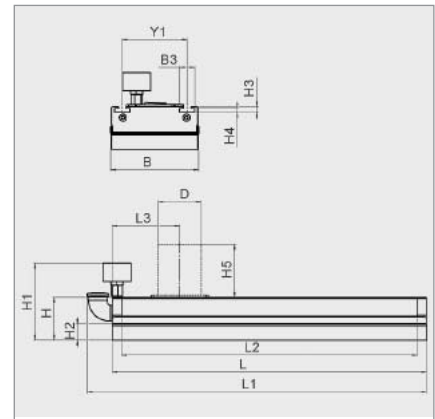
Maximum flexibility in automated handling tasks



FM-SW 76x22



FM-SW 120x60



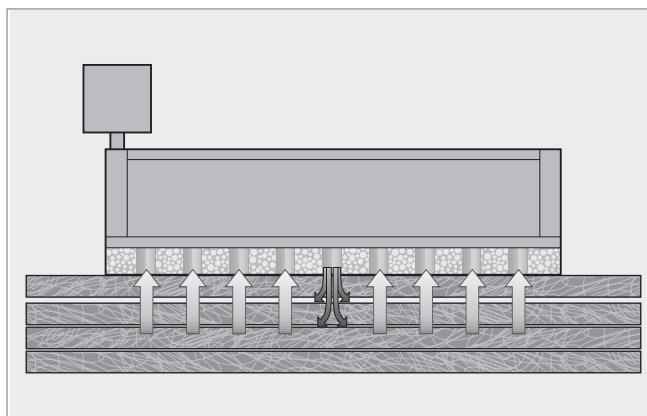
FMC-SW/SVKW

## Design data for large-area vacuum gripping system FM/FMC\*

Type	Dimensions																			
	B	B3	D	d4	dn	G1	G4	H	H1	H2	H3	H4	H5	L	L1	L2	L3	X1	X2	Y1
FM-SW 76x22	22	-	-	-	8	-	M3-IG	24	35	-	-	-	-	76.0	-	-	-	24	48	-
FM-SW 120x60	60	-	-	4.5	6	G1/2"-IG	M6-IG	42	63	-	-	-	-	120.0	-	-	-	108	-	46
FMC-SW 435,5 18	122	21	-	-	-	-	-	59	128	22	7.7	5.2	-	435.5	470,5	409,5	-	-	-	90
FMC-SW 435,5 36	122	21	-	-	-	-	-	59	128	22	7.7	5.2	-	435.5	470,5	409,5	-	-	-	90
FMC-SW 633,5 18	122	21	-	-	-	-	-	59	128	22	7.7	5.2	-	633.5	668,5	607,5	-	-	-	90
FMC-SW 633,5 36	122	21	-	-	-	-	-	59	128	22	7.7	5.2	-	633.5	668,5	607,5	-	-	-	90
FMC-SW 831,5 18	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	831.5	831,5	805,5	103	-	-	90
FMC-SW 831,5 36	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	831.5	831,5	805,5	103	-	-	90
FMC-SW 1227,5 18	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	1227.5	1227,5	1201,5	103	-	-	90
FMC-SW 1227,5 36	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	1227.5	1227,5	1201,5	103	-	-	90
FMC-SW 1425,5 18	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	1425.5	1425,5	1399,5	103	-	-	90
FMC-SW 1425,5 36	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	1425.5	1425,5	1399,5	103	-	-	90
FMC-SVKW 435,5 18	122	21	-	-	-	-	-	59	128	22	7.7	5.2	-	435.5	470,5	409,5	-	-	-	90
FMC-SVKW 435,5 36	122	21	-	-	-	-	-	59	128	22	7.7	5.2	-	435.5	470,5	409,5	-	-	-	90
FMC-SVKW 633,5 18	122	21	-	-	-	-	-	59	128	22	7.7	5.2	-	633.5	668,5	607,5	-	-	-	90
FMC-SVKW 633,5 36	122	21	-	-	-	-	-	59	128	22	7.7	5.2	-	633.5	668,5	607,5	-	-	-	90
FMC-SVKW 831,5 18	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	831.5	831,5	805,5	103	-	-	90
FMC-SVKW 831,5 36	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	831.5	831,5	805,5	103	-	-	90
FMC-SVKW 1227,5 18	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	1227.5	1227,5	1201,5	103	-	-	90
FMC-SVKW 1227,5 36	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	1227.5	1227,5	1201,5	103	-	-	90
FMC-SVKW 1425,5 18	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	1425.5	1425,5	1399,5	103	-	-	90
FMC-SVKW 1425,5 36	122	21	60	-	-	-	-	59	128	22	7.7	5.2	73	1425.5	1425,5	1399,5	103	-	-	90

\* Customer-specific sizes available to order; connecting thread for vacuum hose for types 435,5 and 633,5: G1/2"-IG

Gripper types 831,5 to 1425,5 have a straight connection (Dimension D)



### Large-area vacuum gripping system FMC with separation

Separation pulse flows through the sheets and prevents several sheets from sticking together when the top sheet is gripped

Typ	Article No.	Air consumption [l/min]	Weight [kg]
FMC-SW 435,5-V	10.01.21.00247	-	2,4