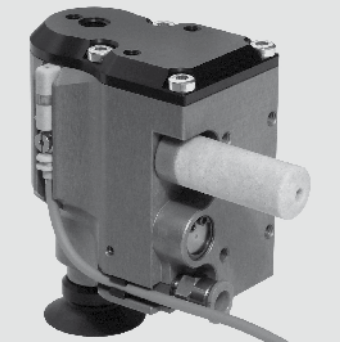
Notes:



Advantages/Benefits

> Compensation of level differences of the work-piece
> Torsionally rigid plungers for pick and place of the work-piece in the right position (Item-no 55.000 - 55.005)
> Simple and flexible fastening options
> Low-noise operation
> Type 55.005: Blow-off impulse for short cycle times
> Long life

Application

> Simultaneous suction and picking of thin, air-permeable and flat work-pieces
> Separation of paper, veneer, films, etc.
> Removal of parts from die-cast tools

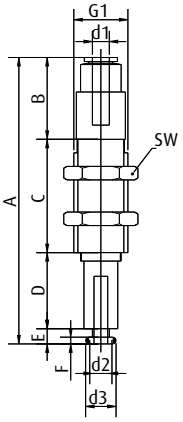
Construction/Function

> In **vacuum-operated lifting cylinders** the plunger is retracted in the static condition
> The plunger is driven out when vacuum is applied
> When it comes into contact with the work-piece, vacuum is generated and the plunger retracts quickly and lifts the work-piece
> The work-piece is held until the vacuum is switched off and the plunger is driven out again

> In **lifting cylinders operated by compressed air** the plunger is driven out in the static condition. The required vacuum is generated by an in-built ejector
> When the vacuum cup touches the work-piece the plunger retracts and lifts the work-piece
> The work-piece can be released by turning off the compressed air

Vacuum lifting cylinder - operated by compressed air

For vacuum cups, e.g. series SFU-F Ø 4-15 mm



Product Description

> Stacking and destacking of work-pieces
> Vacuum generation from compressed air using an integrated ejector
> Lifting cylinder is retracted in the idle state
> Operating pressure 3.5 to 4.5 bar
> Vacuum level: -700 mbar
> Lifting force 350 -500 g
> Cycle time approx. 50 cycles / min. (regardless of stroke and weight)

Technical Data

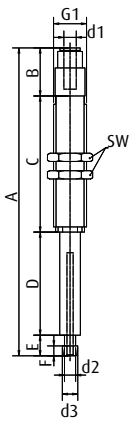
Item no.	Lift [mm]	Weight [g]	Suitable vacuum cups
55.100	5	33	102.006.217 102.008.218 102.015.220 102.010.219
55.102	10	36	102.006.217 102.004.216 102.008.218 102.015.220 102.010.219
55.104	20	41	102.006.217 102.004.216 102.008.218 102.015.220 102.010.219
55.106	30	45	102.006.217 102.004.216 102.008.218 102.015.220 102.010.219
55.108	5	32	102.006.217 102.004.216 102.008.218 102.015.220 102.010.219
55.110	10	45	102.006.217 102.004.216 102.008.218 102.015.220 102.010.219
55.112	20	52	102.006.217 102.004.216 102.008.218 102.015.220 102.010.219
55.114	30	45	102.006.217 102.004.216 102.008.218 102.015.220 102.010.219

Dimensions

A [mm]	B [mm]	C [mm]	D [mm]	d1 [mm]	d2 [mm]	d3 [mm]	E [mm]	F [mm]	G1	SW
55	23,5	22	5	4	5	9	4,5	2	M16x1	19
65	23,5	27	10	4	5	9	4,5	2	M16x1	19
85	23,5	37	20	4	5	9	4,5	2	M16x1	19
105	23,5	47	30	4	5	9	4,5	2	M16x1	19
56,5	25	22	5	6	5	9	4,5	2	M16x1	19
66,5	25	27	10	6	5	9	4,5	2	M16x1	19
86,5	25	37	20	6	5	9	4,5	2	M16x1	19
106,5	25	47	30	6	5	9	4,5	2	M16x1	19

Vacuum lifting cylinder - operated by compressed air

For vacuum cups, e.g. series SFU-F Ø 20-40 mm



Product Description

> Stacking and destacking of work-pieces
> Vacuum generation from compressed air using an integrated ejector
> Lifting cylinder is retracted in the idle state
> Operating pressure 3.5 to 4.5 bar
> Vacuum level: -700 mbar
> Lifting force 350 -500 g
> Cycle time approx. 50 cycles / min. (regardless of stroke and weight)

Technical Data

Item no.	Lift [mm]	Weight [g]	Suitable vacuum cups
55.101	5	33	102.020.221 102.030.222 102.040.223
55.103	10	36	102.020.221 102.030.222 102.040.223
55.105	20	41	102.020.221 102.030.222 102.040.223
55.107	30	46	102.020.221 102.030.222 102.040.223
55.109	5	33	102.020.221 102.030.222 102.040.223
55.111	10	36	102.020.221 102.030.222 102.040.223
55.113	20	41	102.020.221 102.030.222 102.040.223
55.115	30	46	102.020.221 102.030.222 102.040.223
55.120	50	56	102.020.221 102.030.222 102.040.223

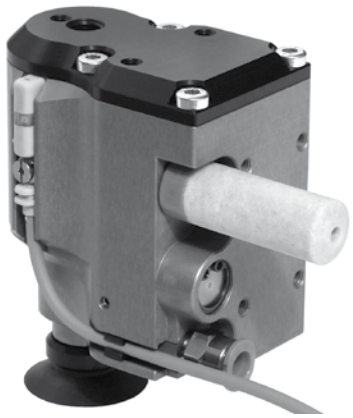
Dimensions

A [mm]	B [mm]	C [mm]	D [mm]	d1 [mm]	d2 [mm]	d3 [mm]	E [mm]	F [mm]	G1	SW
60,5	23,5	22	5	4	5	7,5	10	5	M16x1	19
70,5	23,5	27	10	4	5	7,5	10	5	M16x1	19
90,5	23,5	37	20	4	5	7,5	10	5	M16x1	19
110,5	23,5	47	30	4	5	7,5	10	5	M16x1	19
62	25	22	5	6	5	7,5	10	5	M16x1	19
72	25	27	10	6	5	7,5	10	5	M16x1	19
92	25	37	20	6	5	7,5	10	5	M16x1	19
112	25	47	30	6	5	7,5	10	5	M16x1	19
151	25	67	50	6	5	7,5	10	5	M16x1	19

> More vacuum cups on request
> The entire range of vacuum cups is illustrated in the FIPA vacuum cups catalog

Lifting cylinder - operated by compressed air

With blow-off feature, torsionally rigid

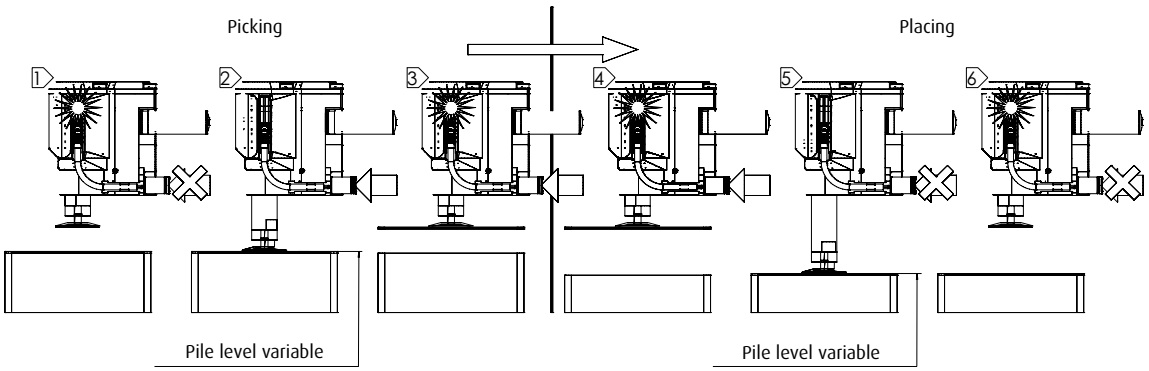


- > Stacking and destacking of thin and sensitive products, such as e.g. signboards, cards, paper, thin wood (veneers)
- > Easy control by only switching on/off the compressed air supply
- > Extremely short cycle times due to integrated blow-off feature
- > Very compact construction with integrated ejector, blow-off and vacuum valves
- > Exhaust air is stored in the air chamber and released during blow-off
- > Torsionally rigid plungers for accurate positioning of the work-piece
- > Robust Hart-Coat® aluminium housing
- > Optionally: Magnetic field sensor for sensing the work-piece lifted, silencer (connection G1/8)

Technical Data

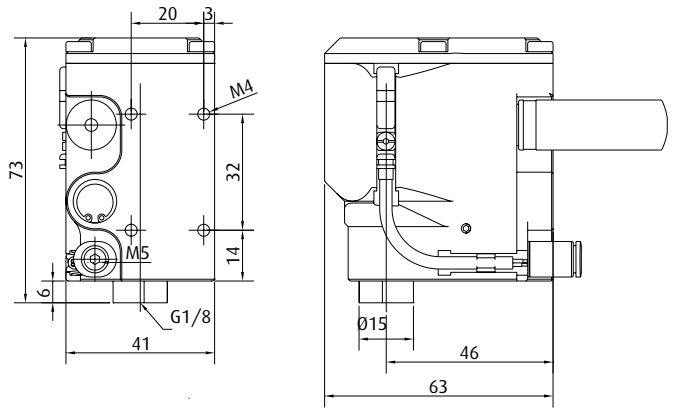
Item no.	Lift [mm]	Lifting force at 6 bar [N]	Operating pressure [bar]	Volume flow at 6 bar [Nl/min]	Permissible operating temperature [°C]	Weight [g]	Suitable accessories
55.005	25	8	5 - 8	48	5 - 80	220	Silencers 72.048 Magnetic field sensor GR04.200/PNP

Wiring diagram



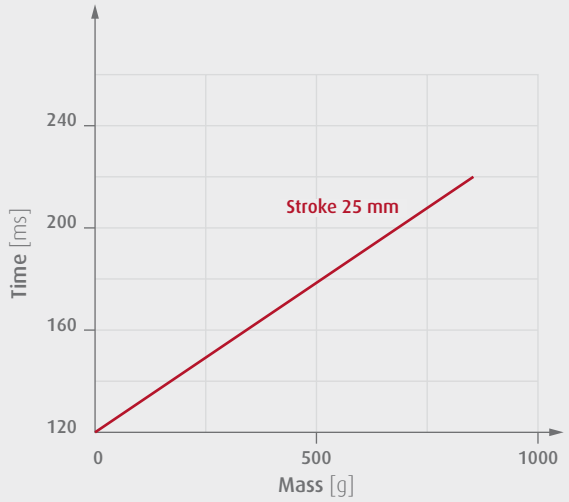
Process:
1. Initial position: Compressed air off, piston drawn in, magnetic sensor in operation
2. Compressed air switched on, piston moves out, work-piece is pulled in, piston retracts with the work-piece to the initial position.
3. Work-piece sucked in and lifted, compressed air on, magnetic field sensor in operation.
4. Transport movement.
5. Switch off compressed air, piston moves out with the work-piece, places the work-piece and retracts to the initial position.
6. Initial position: Compressed air off, piston drawn in, magnetic sensor in operation.

Dimensions



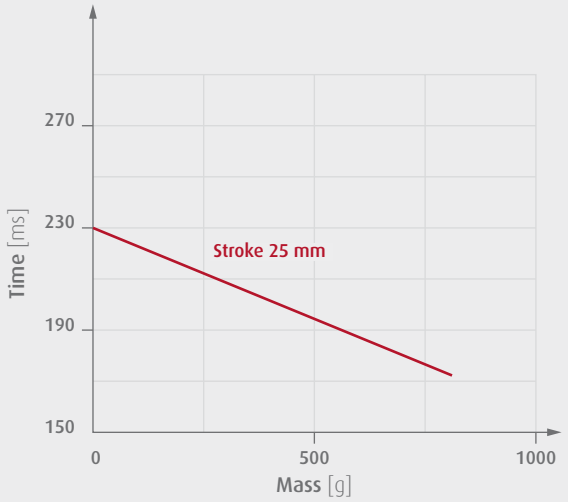
Diagrams

> Double stroke lifting time depending on the weight, pressure 6 bar



55.005

> Double stroke placing time depending on the weight, pressure 6 bar



55.005

Lifting cylinder

Vacuum-operated, torsionally rigid

Product Description

> Stacking and destacking flat and sensitive articles, such as e.g. signboards, cards, paper, thin wood (veneers)
> Suitable for short cycle times
> Torsionally rigid plungers for accurate positioning during Pick & Place
> Robust Hart-Coat ® aluminum housing
> Extremely low-noise operation
> Special sizes on request

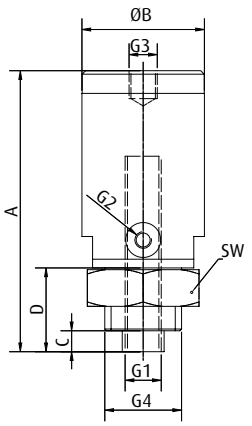
Technical Data

Item no.	Lift [mm]	Lifting force at 80% vacuum [N]	Cycle time (extend-suction-lift) [sec]	Required volume flow for optimal power [Nl/min]	Operating temperature [°C]	Weight [g]
55.000	17	3	0,3	15	5-80	55
55.001	25	10	0,4	30	5-80	145
55.002	30	50	0,7	35	5-80	310
55.004	40	10	0,7	30	5-80	185

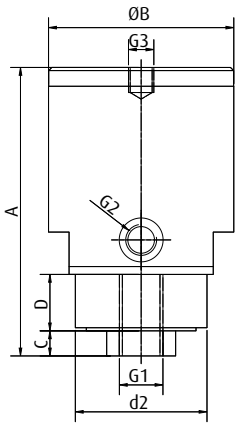
Dimensions

A [mm]	ØB [mm]	C [mm]	D [mm]	G1	G2	G3	G4	SW	d2 [mm]
55,5	24	4	16	M5	M5	M6	M16x1,5	24	--
78	35	6	22	G1/8	M5	M8	M22x1,5	32	--
92	59	9	18	G1/4	G1/8	M10	--	--	44
98	36	9	24	G1/8	G1/8	M8	M22x1,5	32	--

Dimensions



55.000 | 55.001 | 55.004



55.002

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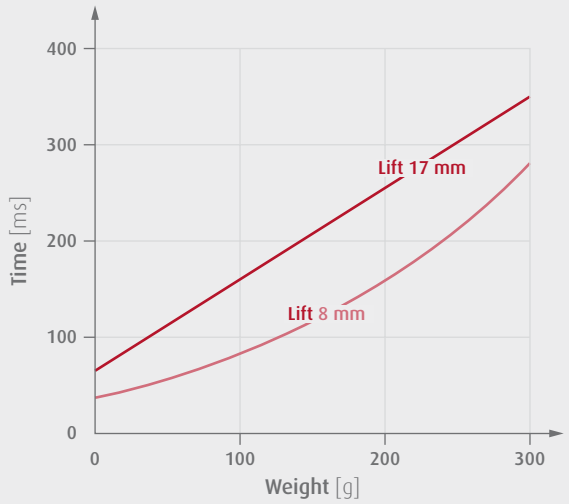
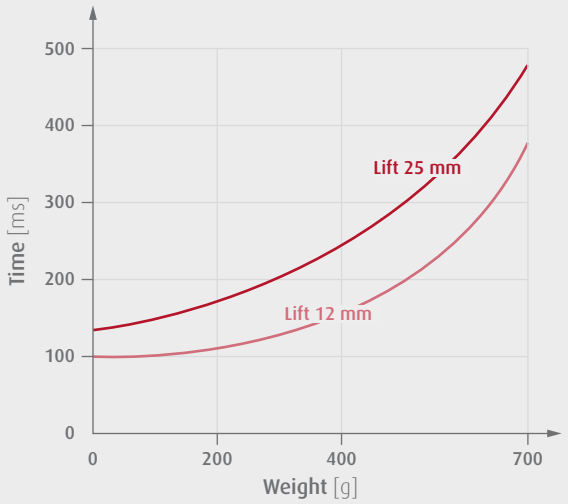
Diagrams

> Double stroke lifting time against weight



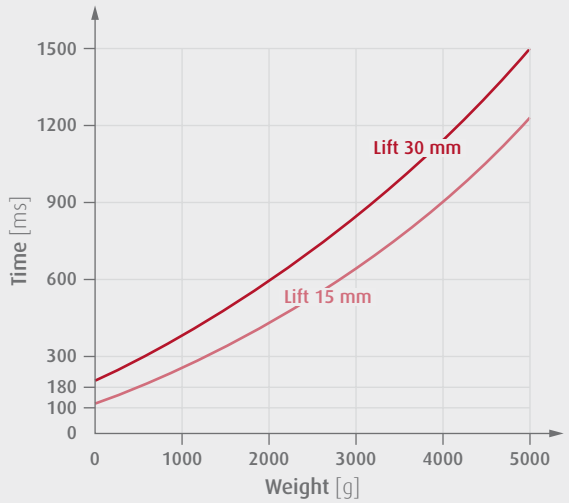
55.000

> Double stroke lifting time against weight



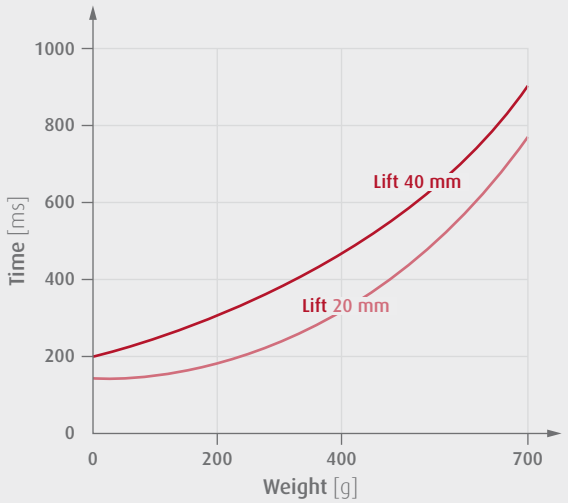
55.001

> Double stroke lifting time against weight



55.002

> Double stroke lifting time against weight



55.004

Notes: