

Ejector Module ecoPump SEP

Suction rate up to 330 l/min



1. Analyze the workpiece and determine the vacuum operating point / range

Workpiece	Vacuum operating range	Flow Characteristic
Cardboard boxes (not printed)	-300 ... -450 mbar	HF High Flow
Cardboard boxes (printed)	-500 ... -750 mbar	HV High Vacuum
Glass containers (e.g. ampouls)	-500 ... -750 mbar	HV High Vacuum
Blister packs / Thermo-form trays	-300 ... -400 mbar	HF High Flow
Plastic bags	-200 ... -400 mbar	HF High Flow



2. Determine the vacuum suction pad for the application

Workpiece characteristic	SPF	SPB1	SPOB1	SPB4	SPB4f	SGP	FG	FGA
Cardboard boxes (not printed)	X	X	X					
Cardboard boxes (printed)	X	X	X					
Glass containers							X	X
Blister packs / Thermo-form trays						X		X
Plastic bags stable				X	X			
Plastic bags flexible					X			

Information on the suction pads shown above can be found in our Schmalz Main Catalog Vacuum Components (www.schmalz.com/catalog) and online at www.schmalz.com



3. Determine the ecoPump version

Step 1 Define the area of application	Step 2 Define the distance from the suction point
Porous workpieces → HF-version E.g. cardboard, non-rigid bags, particle boards → High-flow version (HF) with high suction flow rate	Close to the suction pads < 500 mm Short hose lines with low air volume → Two-stage nozzle
	Far away from the suction pad Long hose lines with high air volume → Three-stage nozzle
Airtight workpieces → HV-Version E.g. ampoules, syringes and vials, plastic injection-molded parts, sheet metal parts → High vacuum version (HV) with high vacuum level	Close to the suction pads < 500 mm Short hose lines with low air volume → Two-stage nozzle
	Far away from the suction pad Long hose lines with high air volume → Three-stage nozzle

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4. Airtight workpieces → Determine the ecoPump size for SEP-HV per pad

Suction cup Ø	ecoPump SEP 2-stage	ecoPump SEP 3-stage
< 40 mm	SEP-HV-2-04-7	----
< 80 mm	SEP-HV-2-07-13	SEP-HV-3-07-13
> 80 mm	SEP-HV-2-16-22	SEP-HV-3-16-22



5. Porous workpieces → Determine the ecoPump size for SEP-HF per pad

Suction cup Ø	ecoPump SEP 2-stage	ecoPump SEP 3-stage
< 20 mm	SEP-HF-2-03-7	----
< 80 mm	SEP-HF-2-06-13	SEP-HF-3-06-13
> 80 mm	SEP-HF-2-13-22	SEP-HF-3-13-22



6. Layout guideline for specific gripper configurations → to be confirmed by test

Suction pad configuration	ecoPump SEP 2-stage	ecoPump SEP 3-stage
2x Suction pad Ø20	1x SEP HF 2 06 13 or 1x SEP HV 2 07 13	1x SEP HF 3 06 13 or 1x SEP HV 3 07 13
4x Suction pad Ø 20	1x SEP HF 2 06 13 or 1x SEP HV 2 07 13	1x SEP HF 3 06 13 or 1x SEP HV 3 07 13
6x Suction pad Ø 20	1x SEP HF 2 06 13 or 1x SEP HV 2 07 13	1x SEP HF 3 06 13 or 1x SEP HV 3 07 13
8x Suction pad Ø 20	1x SEP HF 2 06 13 or 1x SEP HV 2 07 13	1x SEP HF 3 06 13 or 1x SEP HV 3 07 13
2x Suction pad Ø 30	1x SEP HF 2 06 13 or 1x SEP HV 2 07 13	1x SEP HF 3 06 13 or 1x SEP HV 3 07 13
4x Suction pad Ø 30	1x SEP HF 2 06 13 or 1x SEP HV 2 07 13	1x SEP HF 3 06 13 or 1x SEP HV 3 07 13
6x Suction pad Ø 30	2x SEP HF 2 06 13 or 2x SEP HV 2 07 13	2x SEP HF 3 06 13 or 2x SEP HV 3 07 13
8x Suction pad Ø 30	1x SEP HF 2 13 22 or 1x SEP HV 2 16 22	1x SEP HF 3 13 22 or 1x SEP HV 3 16 22
2x Suction pad Ø 40	1x SEP HF 2 06 13 or 1x SEP HV 2 07 13	1x SEP HF 3 06 13 or 1x SEP HV 3 07 13
4x Suction pad Ø 40	1x SEP HF 2 13 22 or 1x SEP HV 2 16 22	1x SEP HF 3 13 22 or 1x SEP HV 3 16 22
6x Suction pad Ø 40	1x SEP HF 2 13 22 or 1x SEP HV 2 16 22	1x SEP HF 3 13 22 or 1x SEP HV 3 16 22
8x Suction pad Ø 40	2x SEP HF 2 13 22 or 2x SEP HV 2 16 22	2x SEP HF 3 13 22 or 2x SEP HV 3 16 22