

# Ejector Modules ecoPump SEP

Suction rate up to 309 l/min



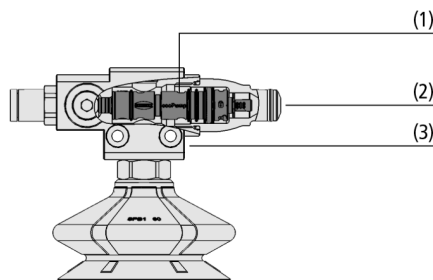
## Suitability for industry specific applications



Ejector Modules ecoPump SEP

### Application

- Ejector module for energy efficient vacuum generation with Schmalz eco nozzle technology
- Direct installation in gripping tools without separate housing
- Integration of the vacuum generation as close as possible to the suction cup
- For use in the packaging industry, e.g. in carton erectors or multi-circuit systems



### Design

- Compact, lightweight plastic ejector nozzle (1)
- Available in three performance classes and two versions with optimized air consumption for airtight (HV) or porous (HF) materials
- Available with optional holder cap SHC (2) for fixation of the ejector nozzle, alternatively with silencer SD or with ecoPump housing SFE (3)

System design Ejector Modules ecoPump SEP



Vacuum generation by ejector modules SEP for handling ampoules

### Product highlights

- Powerful but energy-efficient vacuum generation
- Air consumption optionally optimized for airtight (HV) or porous (HF) workpieces
- Working vacuum is reached very quickly, leakages are safely compensated
- Long service intervals, as insensitive to dirt; easy cleaning
- One piece nozzle assembly allows quick, easy cleaning

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## Designation code Ejector Modules ecoPump SEP

<b>SEP</b>	-	<b>HF</b>	-	<b>2</b>	-	<b>06</b>	-	<b>13</b>	-	<b>6</b>
1		2		3		4		5		6

### 1 – Abbreviated designation

Code	Version
SEP	SEP

### 2 – Variant

Code	Type
HF	High Flow
HV	High Vacuum

### 3 – Nozzle technology

Code	Type
2	2 stage
3	3 stage

### 4 – Nozzle size

Code	Diameter in mm
03...20	ø 3 to 20

### 5 – Hole

Code	Diameter in mm
7...22	ø 7 to 22

### 6 – Additional function

Code	Type
5	Air saving function can be implemented

Ejector modules ecoPump SEP are delivered as a ready-to-connect product.

Available spare parts: set of spare parts kit ERS-SET

Available accessories: holder cap SHC, silencer SD, fixation element SFE, mounting bracket BEF-WIN, mounting set SET, quick exhaust valve SEV

## Ordering data Ejector Modules ecoPump SEP

Type	Part no.
SEP HF 2 03 7	10.02.01.01341
SEP HF 2 06 13	10.02.01.01343
SEP HF 3 06 13	10.02.01.01344
SEP HF 2 13 22	10.02.01.01347
SEP HF 3 13 22	10.02.01.01348
SEP HF 2 18 22	10.02.01.02005
SEP HF 3 18 22	10.02.01.01630

Type	Part no.
SEP HV 2 04 7	10.02.01.01393
SEP HV 2 07 13	10.02.01.01394
SEP HV 3 07 13	10.02.01.01395
SEP HV 2 16 22	10.02.01.01396
SEP HV 3 16 22	10.02.01.01397
SEP HV 2 07 13 S	10.02.01.01406
SEP HV 3 07 13 S	10.02.01.01407
SEP HV 2 16 22 S	10.02.01.01410
SEP HV 3 16 22 S	10.02.01.01411
SEP HV 3 20 22	10.02.01.01631

## Ordering data Spare parts Ejector Modules ecoPump SEP

Type	Spare parts			Part no.	
SEP	2	7	Set of spare parts	ERS SEP-07 6xRUE-KLAP	10.02.01.01448
SEP	2	13	Set of spare parts	ERS SEP-13 6xRUE-KLAP	10.02.01.01449
SEP	3	13	Set of spare parts	ERS SEP-13 6xRUE-KLAP	10.02.01.01449
SEP	2	22	Set of spare parts	ERS SEP-22 6xRUE-KLAP	10.02.01.01450
SEP	3	22	Set of spare parts	ERS SEP-22 6xRUE-KLAP	10.02.01.01450

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## Ordering data Accessories Ejector Modules ecoPump SEP

Type			Holder cap SHC	Silencer
SEP	2	7	10.02.01.01510	-
SEP	2	13	10.02.01.01496	10.02.01.01498
SEP	3	13	10.02.01.01497	10.02.01.01498
SEP	2	22	10.02.01.01512	10.02.01.01517
SEP	3	22	-	10.02.01.01517

Type	Fixation Element SFE	Fastening element SFE plastic	Mounting set	Mounting bracket	Quick exhaust valve
SEP 2 7	10.02.01.01464	10.02.01.01808	-	10.08.03.00313	-
SEP 2 13	10.02.01.01419	10.02.01.01807	10.02.01.01579	10.08.03.00314	10.02.01.01519
SEP 3 13	10.02.01.01419	10.02.01.01807	10.02.01.01579	10.08.03.00314	10.02.01.01519
SEP 2 22	10.02.01.01421	10.02.01.01767	10.02.01.01577	10.08.03.00315	10.02.01.01471
SEP 3 22	10.02.01.01421	-	10.02.01.01577	10.08.03.00315	10.02.01.01471

## Technical data Ejector Modules ecoPump SEP

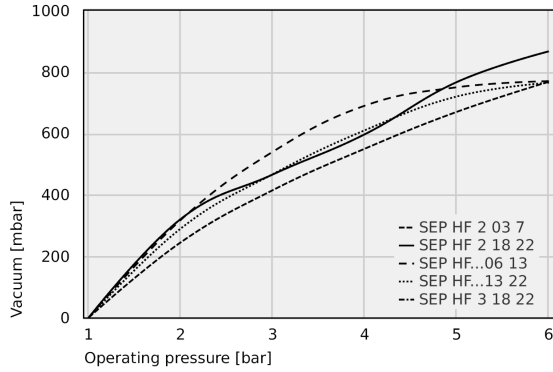
Type	Weight [g]	Operating temperature [°C]	Recommended hose internal diameter compressed air [mm]	Recommended hose internal diameter vacuum [mm]	Pressure range (operating pressure) [bar]	Sound pressure level free [dB(A)]*	Sound pressure level suction [dB(A)]
SEP 2 7	0.8	0 ... 60 °C	2	4	2.0 ... 6.0 bar	65	57
SEP 2 13	3.6	0 ... 60 °C	4	6	2.0 ... 6.0 bar	72	62
SEP 3 13	4.6	0 ... 60 °C	4	6	2.0 ... 6.0 bar	70	61
SEP 2 22	15.8	0 ... 60 °C	6	12	2.0 ... 6.0 bar	87	76
SEP 3 22	22.8	0 ... 60 °C	6	12	2.0 ... 6.0 bar	80	72
SEP 3 22	22.8	0 ... 60 °C	6	22	2.0 ... 6.0 bar	81	75

\*Reduction of noise level by 2-4 db(A) due to holder cap SHC with silencer

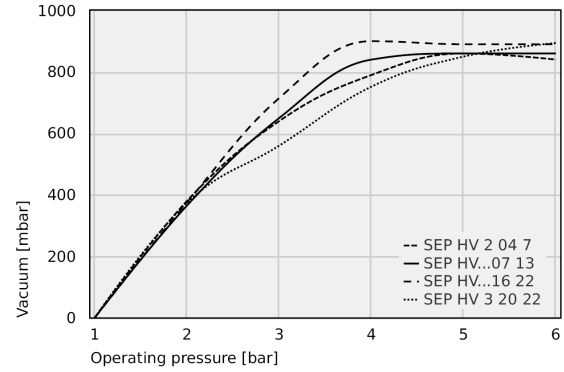
# Ejector Modules ecoPump SEP

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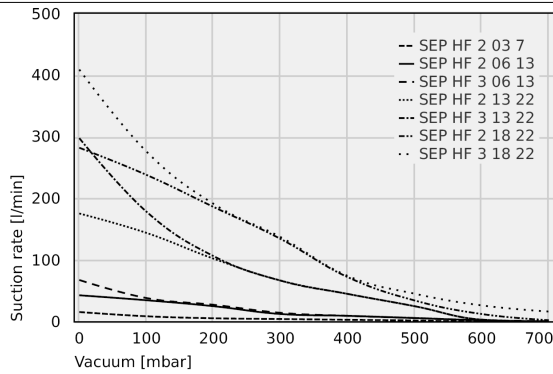
**Performance data Ejector Modules ecoPump SEP**



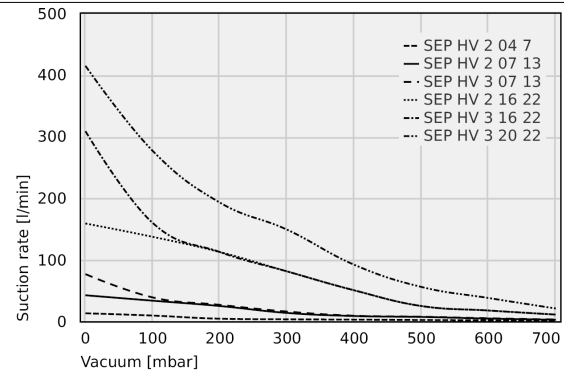
Achievable vacuum at various operating pressures



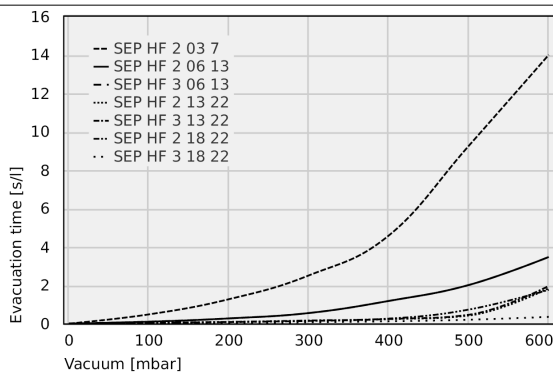
Achievable vacuum at various operating pressures



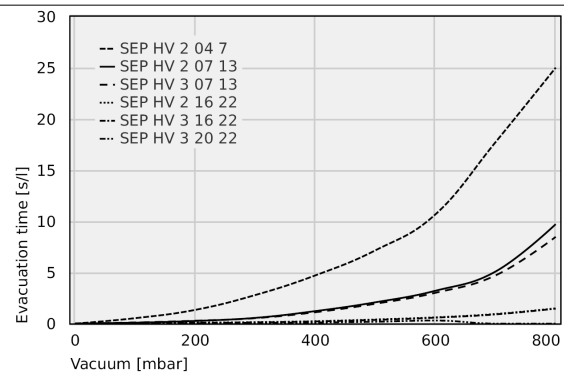
Suction rate at various degrees of evacuation [l/min]



Suction rate at various degrees of evacuation [l/min]



Evacuation time for various vacuum ranges [s/l]



Evacuation time for various vacuum ranges [s/l]

## Ejector Modules ecoPump SEP

Suction rate up to 309 l/min

### Achievable vacuum at various operating pressures

	1	2	3	4	5	6
SEP HF 2 03 7	0.00	245.00	415.00	550.00	670.00	768.00
SEP HF 2 18 22	0.00	321.00	466.00	597.00	767.00	867.00
SEP HF...06 13	0.00	318.00	540.00	690.00	750.00	770.00
SEP HF...13 22	0.00	290.00	467.00	610.00	720.00	765.00
SEP HF 3 18 22	0.00	321.00	466.00	597.00	767.00	867.00
	1	2	3	4	5	6
SEP HV 2 04 7	-	380.00	640.00	790.00	860.00	840.00
SEP HV...07 13	-	365.00	650.00	840.00	860.00	860.00
SEP HV...16 22	-	375.00	715.00	900.00	890.00	890.00
SEP HV 3 20 22	-	374.00	560.00	752.00	850.00	894.00

### Suction rate at various degrees of evacuation [l/min]

	0	100	200	300	400	500	600	700
SEP HF 2 03 7	15.25	8.38	5.13	3.88	2.63	1.50	0.00	-
SEP HF 2 06 13	42.44	34.39	24.73	12.08	9.09	5.52	1.84	-
SEP HF 3 06 13	67.28	38.00	27.03	14.00	9.09	5.52	1.84	0.69
SEP HF 2 13 22	175.26	143.80	102.00	66.33	44.67	24.67	2.88	-
SEP HF 3 13 22	297.60	178.30	106.10	66.30	44.70	24.70	2.90	-
SEP HF 2 18 22	282.00	238.00	186.00	134.00	72.00	34.00	12.00	2.00
SEP HF 3 18 22	409.00	276.00	191.00	137.00	74.00	45.00	26.00	16.00
	0	100	200	300	400	500	600	700
SEP HV 2 04 7	13.2	9.5	4.4	3.4	2.9	2.3	1.7	1.2
SEP HV 2 07 13	42.46	33.67	25.01	13.79	8.78	7.3	4.64	2.7
SEP HV 3 07 13	76.83	39	26.9	16	9.27	7.6	5.12	3.1
SEP HV 2 16 22	159.00	137.36	112.67	81.25	50.5	25	17.7	11.1
SEP HV 3 16 22	308.89	160	112.67	81.25	50.5	25	17.7	11.1
SEP HV 3 20 22	415.00	277.00	193.00	149.00	92.00	56.00	38.00	21.00

### Evacuation time for various vacuum ranges [s/l]

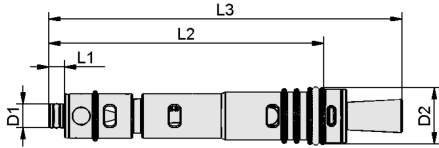
	0	100	200	300	400	500	600	600	
SEP HF 2 03 7	0.00	0.48	1.27	2.51	4.59	9.26	14		
SEP HF 2 06 13	0.00	0.10	0.27	0.55	1.18	2.01	3.47		
SEP HF 3 06 13	0.00	0.10	0.27	0.55	1.18	2.01	3.47		
SEP HF 2 13 22	0.00	0.04	0.08	0.14	0.23	0.42	1.84		
SEP HF 3 13 22	0.00	0.04	0.08	0.14	0.24	0.46	1.96		
SEP HF 2 18 22	0.00	0.04	0.09	0.16	0.26	0.73	1.76		
SEP HF 3 18 22	0.00	0.02	0.04	0.07	0.12	0.20	0.35		
	0	100	200	300	400	500	600	700	800
SEP HV 2 04 7	-	0.53	1.34	2.79	4.71	7.16	10.68	17.73	25
SEP HV 2 07 13	-	0.09	0.26	0.56	1.22	2.08	3.21	5.09	9.71
SEP HV 3 07 13	-	0.11	0.28	0.53	1.11	1.94	3.01	4.71	8.47
SEP HV 2 16 22	-	0.06	0.09	0.14	0.23	0.40	0.61	0.94	1.49
SEP HV 3 16 22	-	0.04	0.08	0.12	0.21	0.36	0.58	0.90	1.46
SEP HV 3 20 22	-	0.02	0.04	0.07	0.11	0.18	0.30	-	-

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### Design data Ejector Modules ecoPump SEP

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SEP

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### Design data Ejector Modules ecoPump SEP

Type			D1 [mm]	D2 [mm]	L1 [mm]	L2 [mm]	L3 [mm]
SEP	2	7	4.4	6.8	3.5	20.1	33.0
SEP	2	13	5.4	12.8	5.0	41.5	55.5
SEP	3	13	5.4	12.8	5.0	63.5	81.5
SEP	2	22	10.8	21.8	8.0	67.5	92.0
SEP	3	22	10.8	21.8	8.0	103.0	146.0

### Multimedia product presentation

Medium	Link
Product video	<a href="https://vimeo.com/147458878">https://vimeo.com/147458878</a>
	<a href="https://vimeo.com/147459416">https://vimeo.com/147459416</a>