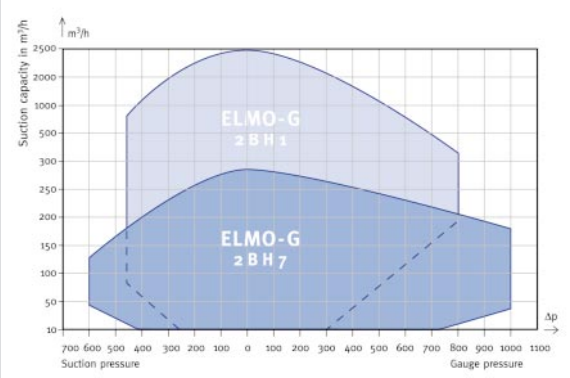
Vacuum Pumps and Compressors

Catalogue 2001

elmo vacuum technology GmbH

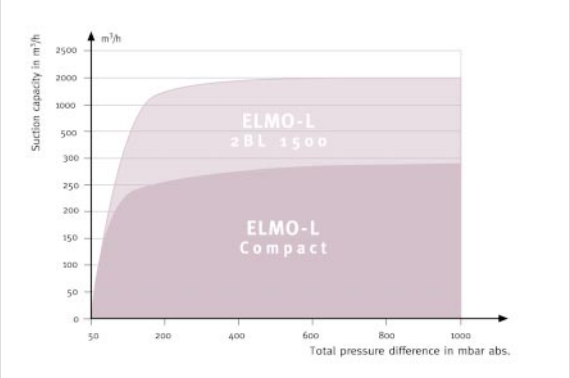
A Siemens Company

elmo
Yes, we can.



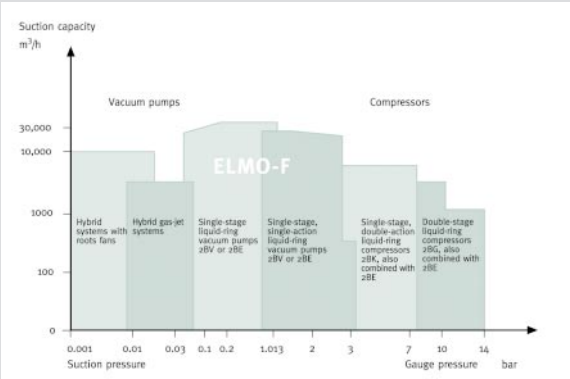
ELMO-G vacuum pumps and compressors convey non-explosive gases and gas-air mixtures absolutely oil-free and low-noise – at 50 Hz and 60 Hz. They are space-saving, maintenance-free – and highly economical:

- air-cooled
- ready to connect
- with Siemens 3-phase motors and IP 54 degree of protection
- with EEx e II T3 explosion protection
- motors in accordance with DIN VDE 0530
- max. gas and ambient temperature 40 °C
- standard paint finish in RAL 7030 colour
- can be installed in any axial orientation



Because of their unique operating principle, ELMO-L vacuum pumps are ideally suited for damp areas. They evacuate air, moist gases or vapours absolutely oil-free – at 50 or 60 Hz.

- insensitive to condensate
- particularly quiet
- ready to mount and connect
- with internal cooling and waste gas temperature based on ambient temperature
- max. ambient temperature 45 °C
- no risk of thermal overloading
- with Siemens three- or single-phase motors with IP 54/55 degree of protection



Because of their extremely tough design, ELMO-F liquid-ring vacuum pumps and compressors are particularly suitable for conveying moist, explosive and aggressive gases.
And yet – like the complete ELMO range – they are extremely economical:

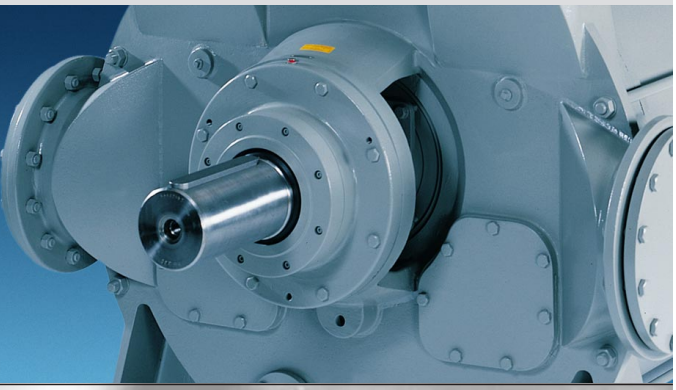
- maintenance-free in continuous duty
- low-noise
- space-saving
- extremely tough

Side-channel blowers ELMO-G

G

Air-cooled vacuum pumps ELMO-L

L



Liquid-ring vacuum pumps and compressors ELMO-F, Systems

F

Radial blowers

Appendix

G

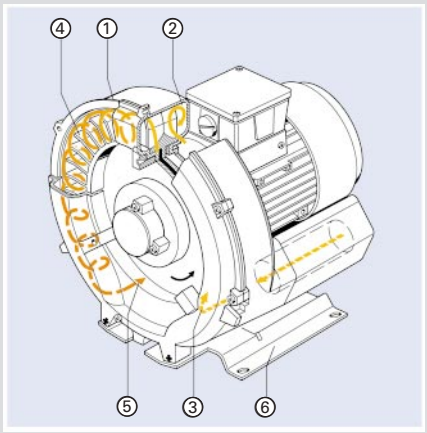
ELMO-G Side-Channel Blowers

A versatile solution for flexible use

Whether vacuum pump or compressor, whether handling air, non-explosive gases or gas-air mixtures – ELMO-G side-channel blowers are oil-free, maintenance-free and ever reliable in operation.

The reason: the impellers are mounted directly on the motor shaft and compress entirely without friction. Maximum operational reliability, including at high differential pressures, is ensured by the arrangement of the bearings outside the compression chamber.

All of this makes ELMO-G uniquely robust – and maintenance-free even in continuous duty.



Flexible and powerful

The ELMO-G range 2BH1 and 2BH7 vacuum pumps and compressors are available in a huge product range with over 80 sizes. They therefore cover the most varied requirements – flexibly and powerfully, even in applications which are otherwise the preserve of more sensitive dry-running rotary-vane compressors or noisy rotary-piston blowers. ELMO-G vacuum pumps and compressors are also available with integrated busable frequency converters for speed variation between 2200 and 5000 rpm. This allows any operating point to be precisely selected and controlled – without complex commissioning or additional wiring.

Short delivery time, easy installation

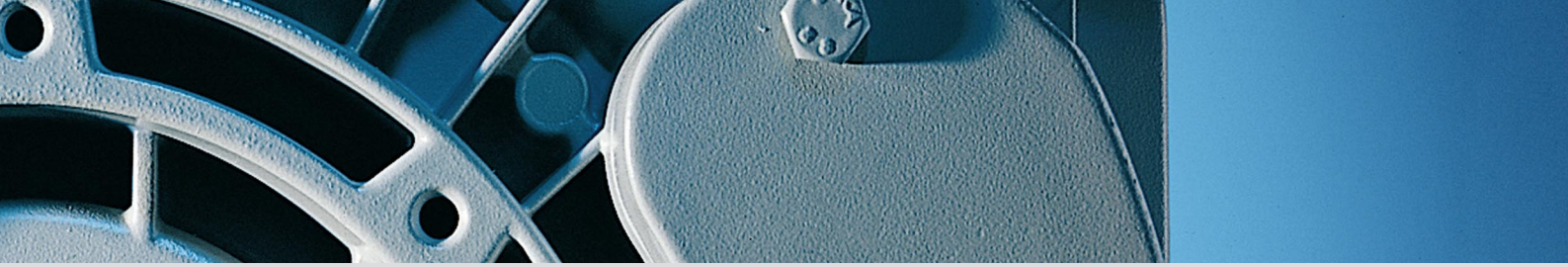
ELMO-G vacuum pumps and compressors are available immediately in all common voltages. Especially for resellers there are 50/60-Hz-wide-range voltages: consequently, 95% of all world voltages are covered. ELMO-G vacuum pumps and compressors come ready for connection. For the customer this means: just mount in any position, connect the suction/discharge lines to the system, wire up the electrical connections – and the ELMO-G is ready for operation. Motor (degree of protection IP 55) as well as suction- and discharge-side silencers are integrated in the compact design.

ELMO-G 2BH7, single-stage – for high pressure ranges.

ELMO-G side-channel blower 2BH1 – single-stage version.

ELMO-G side-channel blower 2BH1 – two-stage, for tougher requirements.

ELMO-GS 2BH1 – with integrated frequency converter for high volume flows and/or automatic modification to changing loads.



2BH – operating principle

① *Casing*
② *Side channel*
③ *Inlet slot*
④ *Impeller*
⑤ *Discharge slot*
⑥ *Foot plate*

ELMO-G vacuum pumps and compressors work according to the side-channel principle. The gas flows through the compressor along a helical trajectory and is repeatedly accelerated and thereby repeatedly compressed according to the required operating point. Consequently, much higher pressures are obtained than it is possible with radial blowers of identical impeller diameter and speed.

Applications

- Pneumatic conveying systems
- Lifting and holding of parts by vacuum
- Packaging machines
- Aeration of sewage-treatment plants
- Filling of bags/bottles/hoppers
- Soil remediation
- Thermoforming
- Sorting/enveloping of letters
- Food-processing
- Laser printers
- Dental suction equipment
- Paper processing
- Printers/copiers
- Textile machines
- Aeration of fish ponds
- Gas analysis
- Swimming-pool equipment/whirlpools

ELMO-G 2BH7, two-stage – the reliable system for high differential pressures

Also available with 3 or 4 impellers (on request).

ELMO-G side-channel blower 2BH7 with integrated frequency converter.

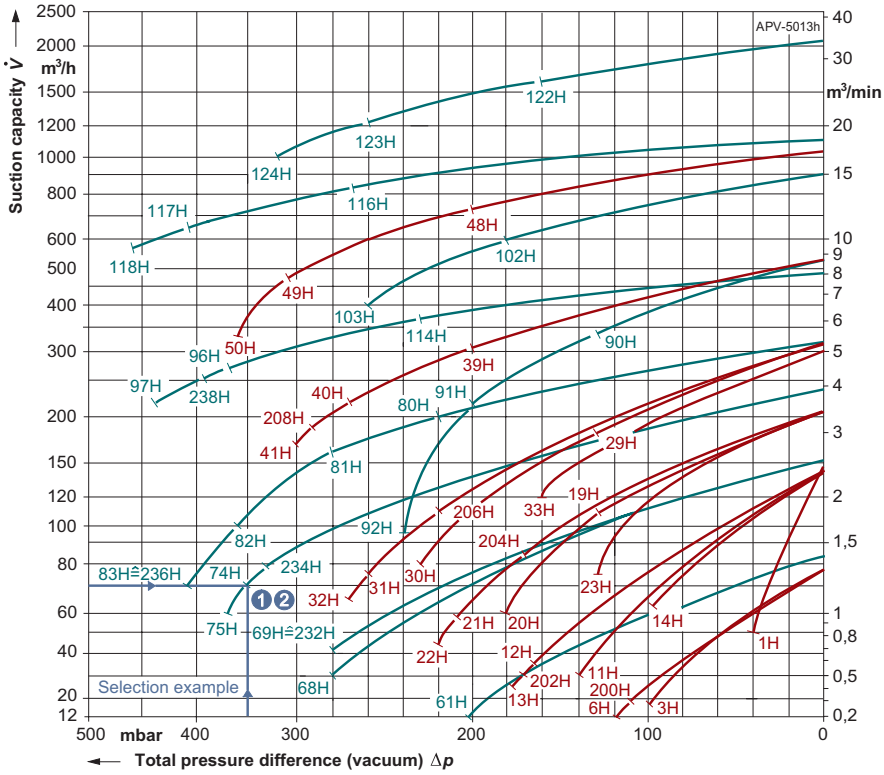
ELMO-G with ECOFAST motor starter – for continuous starting via energy bus and AS interface.

2BH100 – “Little Star” drive via an electronically commutated, permanent-field d.c. motor. Infinitely variable over the entire power range.

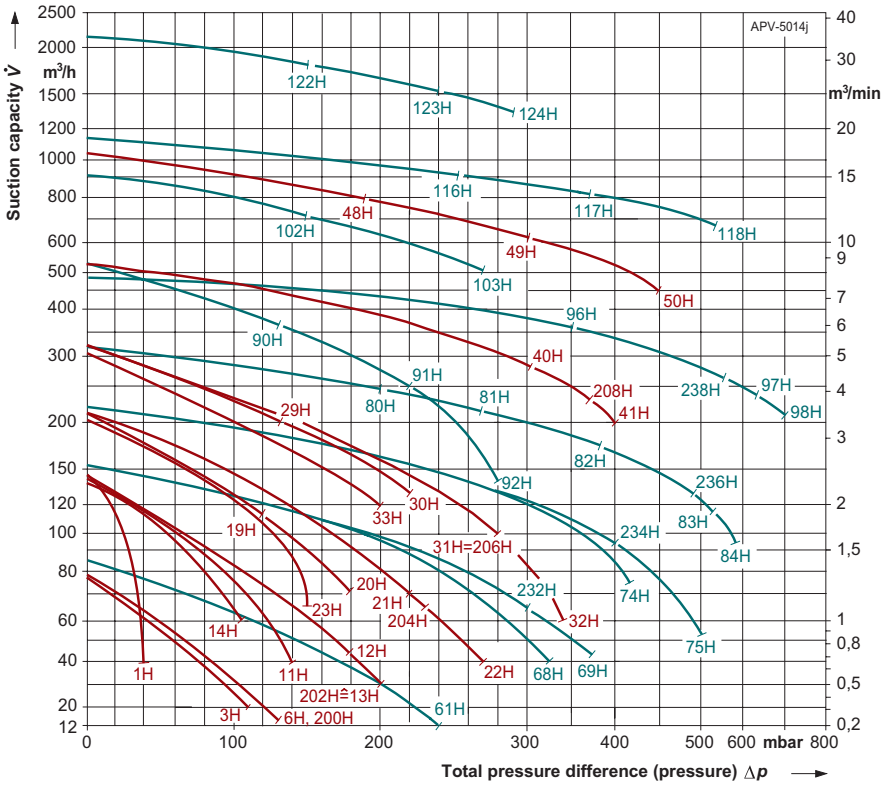
ELMO-G Vacuum Pumps/Compressors, Range 2BH1, Three-Phase 50 Hz

G

Selection diagram vacuum operation



Selection diagram compressor operation



The performance curves are valid for pumping air at 15 °C at the inlet flanges with an air pressure of 1013 mbar with a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25 °C.

ELMO-G Vacuum Pumps/Compressors, Range 2BH1, Three-Phase 50 Hz

Selection and ordering information for 50 Hz

Curve No.	Motor [9] Rated output kW	Rated current A	Degree of protection	Sound-pressure level [1] dB(A)	Order No. • AVAILABLE EX STOCK	Weight approx. kg	Vacuum-relief valve [2] Items x Type 2BX2...	Pressure-relief valve [2] Items x Type 2BX2...
1H	0.25	1.38 Δ / 0.8 Y	IP 55	57	• 2BH1 200-7A H 0 6	8	—	—
3H	0.25	1.38 Δ / 0.8 Y	IP 55	58	• 2BH1 300-7A H 0 6	8	1 x 110/141	1 x 111/143
6H	0.4	2.6 Δ / 1.5 Y	IP 55	58	• 2BH1 300-7A H 1 6	10	1 x 110	1 x 111/143
11H	0.7	4.25 Δ / 2.45 Y	IP 55	63	• 2BH1 400-7A H 0 6	13	1 x 110/141	1 x 111/143
12H	0.85	4.4 Δ / 2.55 Y	IP 55	63	• 2BH1 400-7A H 1 6	15	1 x 110/141	1 x 111/143
13H	1.3	6.6 Δ / 3.8 Y	IP 55	63	• 2BH1 400-7A H 2 6	16	1 x 110/141	1 x 111/143
14H	0.6	2.8 Δ / 1.6 Y	IP 55	63	• 2BH1 490-7A H 1 6	14	—	—
19H	0.85	4.4 Δ / 2.55 Y	IP 55	66	• 2BH1 500-7A H 0 6	18	1 x 110/145	1 x 111/147
20H	1.3	6.6 Δ / 3.8 Y	IP 55	66	• 2BH1 500-7A H 1 6	20	1 x 110/145	1 x 111/147
21H	1.6	7.5 Δ / 4.3 Y	IP 55	66	• 2BH1 500-7A H 2 6	21	1 x 110/145	1 x 111/147
22H	2.2	9.7 Δ / 5.6 Y	IP 55	66	• 2BH1 500-7A H 3 6	25	1 x 110/145	1 x 111/147
23H	1.1	6.4 Δ / 3.7 Y	IP 55	66	• 2BH1 590-7A E 1 1 [7]	20	—	—
23H	1.1	7.5 Δ / 4.3 Y	IP 55	66	• 2BH1 590-7A H 2 6	21	—	—
29H	1.5	6.3 Δ / 3.65 Y	IP 55	70	• 2BH1 600-7A C 0 1 [7]	26	1 x 110/145	2 x 111/147
30H	2.2	10.0 Δ / 5.8 Y	IP 55	70	• 2BH1 600-7A H 1 6	29	1 x 110/145	1 x 111/147
31H	3	12.5 Δ / 7.2 Y	IP 55	70	2BH1 600-7A H 2 6	34	1 x 110/145	1 x 111/147
32H	4	9.3 Δ / 5.4 Y	IP 55	70	• 2BH1 600-7A C 3 6	42	1 x 110/145	1 x 111/147
33H	2.2	10.5 Δ / 6.1 Y	IP 55	70	• 2BH1 690-7A E 1 1 [7]	29	—	—
33H	2.2	12.5 Δ / 7.2 Y	IP 55	70	• 2BH1 690-7A H 2 6	31	—	—
39H	4	8.6 Δ / 5.0 Y	IP 54	71	2BH1 800-1A C 0 6 [V]	112	2 x 110	—
40H	5.5	11.8 Δ / 6.8 Y	IP 54	71	• 2BH1 800-1A C 1 6	126	1 x 110	1 x 111 [8]
41H	7.5	15.1 Δ / 8.7 Y	IP 54	71	2BH1 800-1A C 2 6	128	1 x 110	1 x 111 [8]
48H	9	17 Δ / 9.9 Y	IP 54	75	• 2BH1 900-1A C 0 6	172	1 x 150	1 x 151 [8]
49H	13	25 Δ/14.4 Y	IP 54	75	• 2BH1 900-1A C 1 6	191	2 x 110	3 x 111 [8]
50H	19	35.5 Δ / 20.5 Y	IP 54	75	• 2BH1 900-1A C 2 6	204	2 x 110	2 x 111 [8]
61H	0.76	3.55 Δ / 2.05 Y	IP 55	60	2BH1 310-7H C 2 1	14	1 x 110/141	1 x 111/143
68H	1.75	6.3 Δ / 3.65 Y	IP 55	66	2BH1 410-7H C 3 1	24	1 x 110/141	1 x 111/143
69H	2.2	9.7 Δ / 5.6 Y	IP 55	66	• 2BH1 410-7H H 4 6	27	1 x 110/141	1 x 111/143
3 74H	3	12.5 Δ / 7.2 Y	IP 55	74	• 2BH1 510-7H H 4 6	39	1 x 110/145	1 x 111/147
75H	4	17.4 Δ / 10.0 Y	IP 55	74	2BH1 510-7H H 5 6	43	1 x 110/145	1 x 111/147
80H	2.2	9.7 Δ / 5.6 Y	IP 55	75	• 2BH1 610-7H H 1 6	42	1 x 110/145	1 x 111/147
81H	3	12.5 Δ / 7.2 Y	IP 55	75	• 2BH1 610-7H H 2 1	47	1 x 110/145	1 x 111/147
82H	4	9.3 Δ / 5.4 Y	IP 55	75	• 2BH1 610-7H C 3 6	53	1 x 110/145	1 x 111/147
83H	5.5	13.5 Δ / 7.8 Y	IP 54	75	• 2BH1 610-1H C 4 6	70	1 x 110/145	1 x 111/147
84H	7.5	14.7 Δ / 8.5 Y	IP 54	75	• 2BH1 610-1H C 5 6 [K]	77	—	1 x 111/147
90H	4	9.3 Δ / 5.4 Y	IP 55	76	2BH1 640-7G C 3 6 [7]	53	1 x 110/145	3 x 111/147
91H	5.5	11.6 Δ / 6.7 Y	IP 54	76	• 2BH1 640-1G C 4 6	73	1 x 110/145	2 x 111/147
92H	7.5	14.7 Δ / 8.5 Y	IP 54	76	2BH1 640-1G C 5 6	86	1 x 110/145	1 x 111/147
96H	7.5	15.1 Δ / 8.7 Y	IP 54	75	• 2BH1 810-1H C 2 6	169	1 x 110	2 x 111 [8]
97H	11	25 Δ / 14.4 Y	IP 54	75	• 2BH1 810-1H C 3 6	205	1 x 110	1 x 111 [8]
98H	15	30 Δ / 17.4 Y	IP 54	75	2BH1 810-1H C 4 6 [K]	221	—	1 x 111 [8]
102H	7.5	15.1 Δ / 8.7 Y	IP 54	75	• 2BH1 840-1 J C 2 6	160	3 x 110	1 x 151 [8]
103H	11	25 Δ / 14.4 Y	IP 54	75	• 2BH1 840-1 J C 3 6	200	2 x 110	2 x 111 [8]
114H	5.5	11.8 Δ / 6.8 Y	IP 54	75	2BH1 810-1H E 1 6 [7] [V]	163	2 x 110	—
116H	13.7	26 Δ / 15 Y	IP 54	75	2BH1 910-1H C 1 6	265	1 x 150	1 x 151 [8]
117H	17.8	34 Δ / 19.5 Y	IP 54	75	• 2BH1 910-1H C 2 6	278	3 x 110	1 x 151 [8]
118H	22.6	42 Δ / 24 Y	IP 54	75	• 2BH1 910-1H C 3 6	295	3 x 110	3 x 111 [8]
122H	15	30 Δ / 17.5 Y	IP 54	76	2BH1 943-1G C 2 6 [3]	270	1 x 152	1 x 153 [8]
123H	21	39.5 Δ / 23 Y	IP 54	76	• 2BH1 943-1G C 3 6 [3]	300	1 x 152	1 x 153 [8]
124H	25	46.5 Δ / 27 Y	IP 54	76	2BH1 943-1G C 4 6 [3]	330	3 x 110	1 x 153 [8]

Selection and ordering information for 50 Hz, EEx e II T3 [5]

200H	0.33	1.98 Δ / 1.14 Y	IP 54	58	2BH1 300-7A D 2 4 [7]	10	1 x 110/141	1 x 111/143
202H	1	3.95 Δ / 2.3 Y	IP 54	63	2BH1 400-7A D 2 4 [7]	16	1 x 110/141	1 x 111/143
204H	1.39	5.9 Δ / 3.4 Y	IP 54	70	2BH1 500-7A D 3 4 [7]	24	1 x 110/145	1 x 111/147
	1.65	6.6 Δ / 3.8 Y						
206H	2.65	9.1 Δ / 5.2 Y	IP 54	72	2BH1 600-7A D 3 4 [7]	49	1 x 110/145	1 x 111/147
	3.25	11.1 Δ / 6.4 Y						
208H	4.5	8.7 Δ / 5.1 Y	IP 54	71	2BH1 800-7A D 2 8 [7]	132	1 x 110	1 x 111 [8]
	6.5	12.5 Δ / 7.3 Y						
232H	1.6	5.7 Δ / 3.3 Y	IP 54	66	2BH1 410-7H D 4 4 [7]	27	1 x 110/141	1 x 111/143
234H	2.45	8.4 Δ / 4.85 Y	IP 54	74	2BH1 510-7H D 5 4 [7]	55	1 x 110/145	1 x 111/147
	3.1	10.3 Δ / 5.9 Y						
236H	4.65	8.9 Δ / 5.2 Y	IP 54	75	2BH1 610-1H D 5 8 [7]	86	1 x 110/145	1 x 111/147
	5.6	10.7 Δ / 6.2 Y						
238H	7.1	13 Δ / 7.5 Y	IP 54	75	2BH1 810-1H D 4 8 [7]	221	1 x 110	1 x 111 [8]
	10	18.4 Δ / 10.7 Y						

Performances and currents for compressor operation

Voltages at 50 Hz

2BH1 . . . - . .	□	□
230 V Δ / 400 V Y [4]	C	1 [6]
400 V Δ / 690 V Y [4]	C	6 [6]
185 - 225 V Δ / 320 - 390 V Y	H	1
200 - 240 V Δ / 345 - 415 V Y	H	6
200 - 260 V Δ / 345 - 450 V Y	E	1
400 V Δ / 690 V Y	E	6
required voltage: ■	E	9
EEx e:		
230 V Δ / 400 V Y	D	4
400 V Δ / 690 V Y	D	8
required voltage: ■	D	9

■ Please give required voltage in plain text plus M1 Y.
e.g. 2BH1 800-1AE09
M1 Y
500 V Δ, 50 Hz

Selection example

Application:

e.g. pneumatic conveying

1. Required duty point:
   $\dot{V}$ = 70 m³/h
   Δp = 350 mbar
2. Choose the performance curve which lies closest to the duty point ①.
   In this example, No. 74H
3. Selection and order code:
   No. 74H ≙ Type 2BH1 510-7HH46

1) Measuring-surface sound-pressure level acc. to EN 21680-1, measured at a distance of 1 m. The pump is throttled to a medium inlet pressure, a hose is connected to the discharge side, and a vacuum-relief valve is not fitted.

2) For selecting valves see accessories on pages 16 to 19. The pressure limits of the valves are based on a cooling-agent and ambient temperature of 25 °C, except for the curves 48H to 50H, 116H to 118H, 122H to 124H, (40 °C).

3) For 2BH1 943, only mounting on the end-casing is possible.

4) Permissible voltage range.

Rated voltage acc. to DIN IEC 38*	Permissible voltage range acc. to DIN VDE 0530 or DIN IEC 34-1**
230 V Δ / 400 V Y 400 V Δ / 690 V Y	220...240 V Δ / 380...420 V Y 380...420 V Δ / 660...725 V Y

* Voltage tolerance here ±10 %.

** This voltage range is also indicated on the rating plate, together with the currents occurring in this range. For this range, the permissible voltage tolerance acc. to DIN VDE 0530 and IEC 34-1 is ±5%.

5) With Δ connection, an overload protection with phase failure protection is obligatory.

6) Delivery times on request.

7) Not possible in voltage versions H.1 and C.1 and H.6 and C.6.

8) Pressure-relief valve can only be supplied loose for these types, see accessories.

9) Motors designed for heat class F.

V) Only for vacuum operation.

K) Compressor operation.

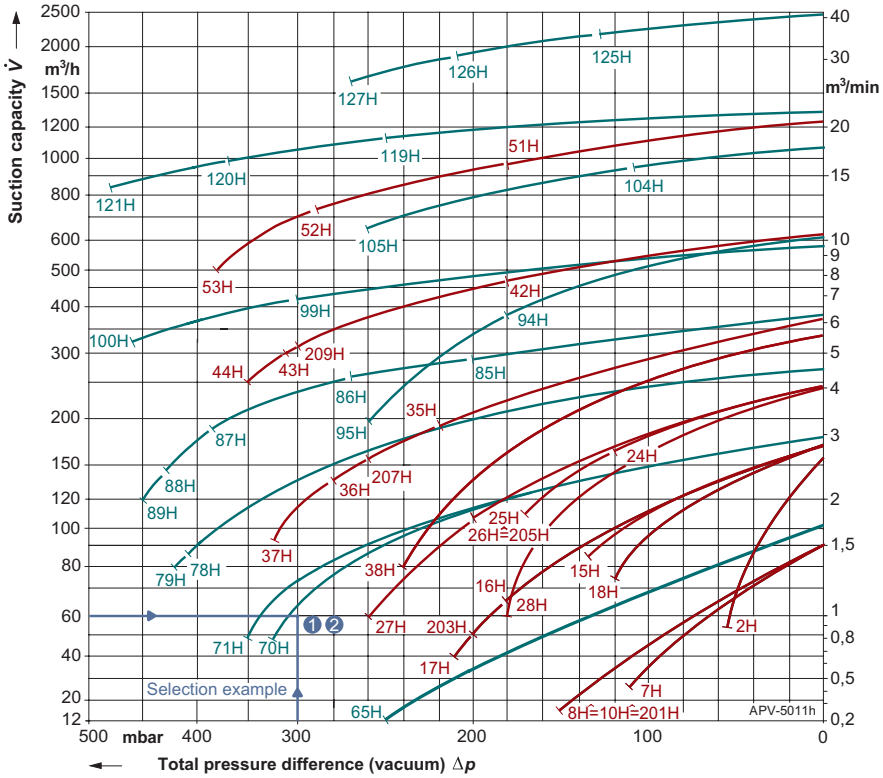
This table offers a selection of standard types.
Further versions and electrical connection variants on request.

Accessories see pages 16 to 19.

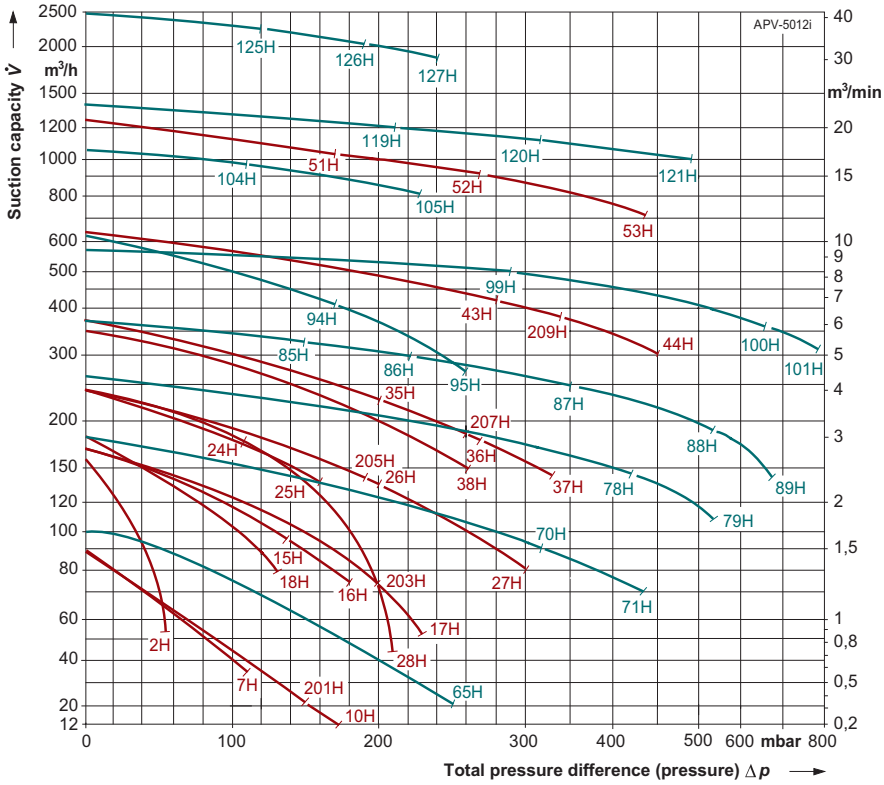
ELMO-G Vacuum Pumps/Compressors, Range 2BH1, Three-Phase 60 Hz

G

Selection diagram, vacuum operation



Selection diagram, compressor operation



The performance curves apply for pumping air at 15 °C at the inlet flanges with an air pressure of 1013 mbar with a tolerance of ±10%. The total pressure differences apply up to an intake and ambient temperature of 25 °C.

ELMO-G Vacuum Pumps/Compressors, Range 2BH1, Three-Phase 60 Hz

Selection and ordering information for 60 Hz

Curve No.	Motor [9] Rated output kW	Rated current A	Degree of protection	Sound-pressure level [1] dB(A)	Order No. • AVAILABLE EX STOCK	Weight approx. kg	Vacuum-relief valve [2] Items x Type 2BX2...	Pressure-relief valve [2] Items x Type 2BX2...
2H	0.25	1.74 Δ / 1.0 Y	IP 55	61	• 2BH1 200-7A H 0 6	8	—	—
7H	0.29	2.0 Δ / 1.15 Y	IP 55	61	• 2BH1 300-7A H 0 6	8	1 x 114/142	1 x 115/144
10H	0.5	2.6 Δ / 1.5 Y	IP 55	61	• 2BH1 300-7A H 1 6	10	1 x 114	1 x 115
15H	0.83	3.75 Δ / 2.15 Y	IP 55	64	• 2BH1 400-7A H 0 6	13	1 x 114/142	1 x 115/144
16H	1.05	4.35 Δ / 2.5 Y	IP 55	64	• 2BH1 400-7A H 1 6	15	1 x 114/142	1 x 115/144
17H	1.5	6.9 Δ / 4.0 Y	IP 55	64	• 2BH1 400-7A H 2 6	16	1 x 114/142	1 x 115/144
18H	0.85	3.6 Δ / 2.1 Y	IP 55	64	• 2BH1 490-7A H 1 6	14	—	—
24H	0.93	4.0 Δ / 2.3 Y	IP 55	73	• 2BH1 500-7A H 0 6	18	1 x 114/146	2 x 115/148
25H	1.5	6.9 Δ / 4.0 Y	IP 55	73	• 2BH1 500-7A H 1 6	20	1 x 114/146	1 x 115/148
26H	2.05	7.6 Δ / 4.4 Y	IP 55	73	• 2BH1 500-7A H 2 6	21	1 x 114/146	1 x 115/148
27H	2.55	10.3 Δ / 6.0 Y	IP 55	73	• 2BH1 500-7A H 3 6	25	1 x 114/146	1 x 115/148
28H	1.7	7.6 Δ / 4.4 Y	IP 55	73	• 2BH1 590-7A H 2 6	21	—	—
35H	2.55	11.2 Δ / 6.5 Y	IP 55	73	• 2BH1 600-7A H 1 6	29	1 x 114/146	2 x 115
36H	3.45	14.2 Δ / 8.2 Y	IP 55	73	2BH1 600-7A H 2 6	34	1 x 114/146	1 x 115
37H	4.6	9.6 Δ	IP 55	73	• 2BH1 600-7A C 3 6	42	1 x 114/146	1 x 115
38H	3.5	14.2 Δ / 8.2 Y	IP 55	73	• 2BH1 690-7A H 2 6	31	—	—
42H	4.6	8.3 Δ	IP 54	75	2BH1 800-1A C 0 6 V)	112	2 x 114	—
43H	6.3	12.6 Δ	IP 54	75	• 2BH1 800-1A C 1 6	126	1 x 114	2 x 115 [8]
44H	8.6	15.3 Δ	IP 54	75	2BH1 800-1A C 2 6	128	1 x 114	1 x 115 [8]
51H	11	17.5 Δ	IP 54	80	• 2BH1 900-1A C 0 6	172	1 x 152	1 x 153 [8]
52H	15.3	25 Δ	IP 54	80	• 2BH1 900-1A C 1 6	191	3 x 114	1 x 151 [8]
53H	22.7	39 Δ	IP 54	80	• 2BH1 900-1A C 2 6	204	2 x 114	3 x 115 [8]
65H	0.89	2.1 Y	IP 55	66	2BH1 310-7H C 2 1	14	1 x 114/142	1 x 115/144
70H	2.15	3.7 Y	IP 55	69	2BH1 410-7H C 3 1	24	1 x 114/142	1 x 115/144
71H	2.55	10.3 Δ / 6.0 Y	IP 55	69	• 2BH1 410-7H H 4 6	27	1 x 114/142	1 x 115/144
78H	3.45	14.2 Δ / 8.2 Y	IP 55	76	• 2BH1 510-7H H 4 6	39	1 x 114/146	1 x 115/148
79H	4.6	8.7 Δ	IP 55	76	2BH1 510-7H H 5 6	43	1 x 114/146	1 x 115/148
85H	2.55	10.3 Δ / 6.0 Y	IP 55	77	• 2BH1 610-7H H 1 6	42	2 x 114/146	2 x 115/148
86H	3.45	14.2 Δ / 8.2 Y	IP 55	77	• 2BH1 610-7H H 2 1	47	2 x 114/146	2 x 115/148
87H	4.6	9.6 Δ	IP 55	77	• 2BH1 610-7H C 3 6	53	1 x 114/146	2 x 115/148
88H	6.3	14.5 Δ	IP 54	77	• 2BH1 610-1H C 4 6	70	1 x 114/146	1 x 115/148
89H	8.6	13.5 Δ	IP 54	77	• 2BH1 610-1H C 5 6	77	1 x 114/146	1 x 115
94H	6.3	11.4 Δ	IP 54	80	• 2BH1 640-1G C 4 6	73	2 x 114/146	3 x 115/148
95H	8.6	14.5 Δ	IP 54	80	2BH1 640-1G C 5 6	86	1 x 114/146	2 x 115/148
99H	8.6	15.3 Δ	IP 54	79	• 2BH1 810-1H C 2 6	169	2 x 114	3 x 115 [8]
100H	12.6	23 Δ	IP 54	79	• 2BH1 810-1H C 3 6	205	1 x 114	2 x 115 [8]
101H	17.3	29.5 Δ	IP 54	79	2BH1 810-1H C 4 6 K)	221	—	2 x 115 [8]
104H	8.6	15.3 Δ	IP 54	79	• 2BH1 840-1 J C 2 6	160	1 x 152	1 x 153 [8]
105H	12.6	23 Δ	IP 54	80	• 2BH1 840-1 J C 3 6	200	3 x 114	1 x 151 [8]
119H	15.5	25.5 Δ	IP 54	80	2BH1 910-1H C 1 6	265	1 x 152	1 x 153 [8]
120H	20	34.5 Δ	IP 54	80	• 2BH1 910-1H C 2 6	278	1 x 150	1 x 153 [8]
121H	26.8	43.5 Δ	IP 54	85	• 2BH1 910-1H C 3 6	295	3 x 114	1 x 151 [8]
125H	17.5	29.5 Δ	IP 54	85	2BH1 943-1G C 2 6 [3]	270	1 x 154	1 x 155 [8]
126H	24.2	39 Δ	IP 54	85	• 2BH1 943-1G C 3 6 [3]	300	1 x 152	1 x 155 [8]
127H	29	46 Δ	IP 54	85	2BH1 943-1G C 4 6 [3]	330	1 x 152	1 x 153 [8]

Selection and ordering information for 60 Hz, EEx e II T3

201H	0.53	1.25 Y	IP 54	61	2BH1 300-1A G 2 4 [7]	10	1 x 114/142	1 x 115/144
203H	1.25	2.4 Y	IP 54	64	2BH1 400-1A G 2 4 [7]	16	1 x 114/142	1 x 115/144
205H	1.95	3.7 Y	IP 54	73	2BH1 500-1A G 3 4 [7]	24	1 x 114/146	1 x 115/148
207H	3.8	6.5 Y	IP 54	76	2BH1 600-1A G 3 4 [7]	49	1 x 114/146	1 x 115
209H	6.5 / 7.8	10.9 Δ / 13 Δ	IP 54	75	2BH1 800-1A G 2 8 [7]	132	1 x 114	1 x 115

Performances and currents for compressor operation

Voltages at 60 Hz

2BH1 . . . - . .	□	. □
460 V Y [4]	C	1 [6]
460 V Δ [4]	C	6 [6]
200 - 240 V Δ / 345 - 415 V Y	H	1
220 - 275 V Δ / 380 - 480 V Y	H	6
required voltage: ■	F	9
EEx e:		
460 V Y	G	4
460 V Δ	G	8
required voltage: ■	G	9

■ Please give required voltage in plain text and also give M1 Y.
e.g. 2BH1 800-1AF09
M1 Y
500 V, 60 Hz

Selection example

Application:

e.g. suction lifter

1. Required duty point:
   $\dot{V}$ = 60 m³/h at 60 Hz
   Δp = 300 mbar
2. Choose the performance curve which lies closest to the duty point ①.
   In this example, No. 70H
3. Selection and order code:
   No. 70H ≙ Type 2BH1 410-7HC31

1) Measuring-surface sound-pressure level acc. to EN 21680-1, measured at a distance of 1 m. The pump is throttled to a medium inlet pressure, a hose is connected to the discharge side, and a vacuum-relief valve is not fitted.

2) For selecting valves see accessories on pages 16 to 19. The pressure limits of the valves are based on a cooling-agent and ambient temperature of 25 °C, except for the curves 48H to 50H, 116H to 118H, 122H to 124H, (40 °C).

3) For 2BH1 943, only mounting on the end-casing is possible.

4) Permissible voltage range.

Rated voltage acc. to DIN IEC 38*	Permissible voltage range acc. to DIN VDE 0530 or DIN IEC 34-1**
230 V Δ / 400 V Y 400 V Δ / 690 V Y	220...240 V Δ / 380...420 V Y 380...420 V Δ / 660...725 V Y

* Voltage tolerance here ±10%.

** This voltage range is also indicated on the rating plate, together with the currents occurring in this range. For this range, the permissible voltage tolerance acc. to DIN VDE 0530 and IEC 34-1 is ±5%

5) With Δ connection, an overload protection with phase failure protection is obligatory.

6) Delivery times on request.

7) Not possible in voltage versions H.1 and C.1 and H.6 and C.6.

8) Pressure-relief valve can only be delivered loose for these types, see accessories.

9) Motors designed for heat class F.

V) Only for vacuum operation.

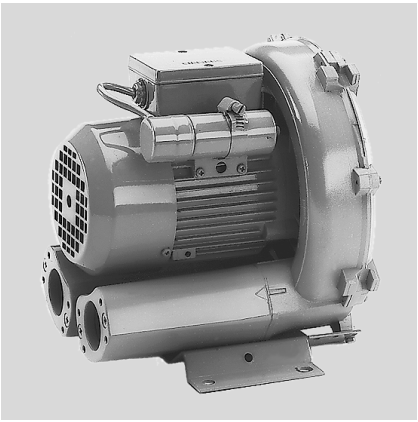
K) Compressor operation.

This table offers a selection of standard types.
Further versions and electric connection variants on request.

Accessories see pages 16 to 19.

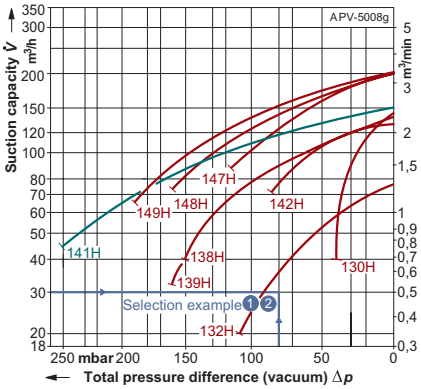
ELMO-G Vacuum Pumps/Compressors, Range 2BH1, Single-Phase AC, 50/60 Hz

G

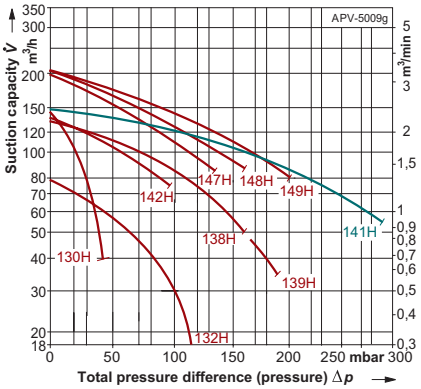


Selection diagram

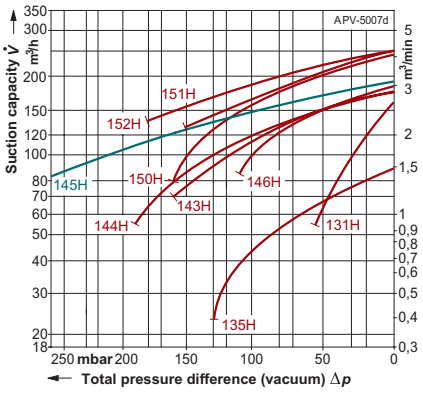
Vacuum operation 50 Hz



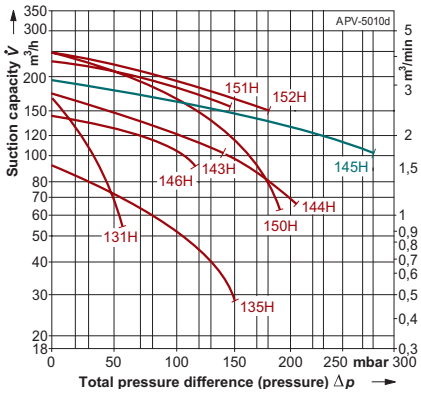
Compressor operation 50 Hz



Vacuum operation 60 Hz



Compressor operation 60 Hz



The performance curves apply for pumping air at 15 °C at the inlet flanges with an air pressure of 1013 mbar with a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25 °C.

ELMO-G Vacuum Pumps/Compressors, Range 2BH1, Single-Phase AC, 50/60 Hz

with single-phase AC motor and integral continuous duty capacitor

Selection and ordering information for 50 Hz

Curve No.	Motor: Rated output kW	Motor: Rated current A	Degree of protection	Capacitor: Capacity µF	Sound-pressure level [1] dB(A)	Order No. • AVAILABLE EX STOCK	Weight approx. kg	Vacuum-relief valve [2] Items x Type 2BX2...	Pressure-relief valve [2] Items x Type 2BX2...
130H	0.25	1.95	IP 55	8	57	•2BH1 200-7A A 0 1	8	—	—
3 132H	0.37	2.6	IP 55	10	58	•2BH1 300-7A A 1 1	10	1 x 110/141	1 x 111/143
138H	0.8	5.2	IP 55	20	63	•2BH1 400-7A A 1 1	15	1 x 110/141	1 x 111/143
139H	1.1	6.2	IP 55	25	63	2BH1 400-7A A 2 1	17	1 x 110/141	1 x 111/143
141H	1.5	9.1	IP 55	40	66	2BH1 410-7H A 3 1	19	1 x 110/141	1 x 111/143
142H	0.5	4.1	IP 55	20	63	2BH1 490-7A A 1 1	15	—	—
147H	1.2	7.9	IP 55	40	66	2BH1 590-7A A 2 1	21	—	—
148H	1.1	6.9	IP 55	25	66	2BH1 500-7A A 1 1	20	1 x 110/145	1 x 111/147
149H	1.5	9	IP 55	40	66	2BH1 500-7A A 2 1	21	1 x 110/145	1 x 111/147

Motor-rated voltage [3]: 230 V

Capacitor, continuous duty voltage: 450 V

Selection and ordering information for (50) 60 Hz

Curve No.	Motor: Rated output kW	Motor: Rated current A	Degree of protection	Capacitor: Capacity µF	Sound-pressure level [1] dB(A)	Order No.	Weight approx. kg	Vacuum-relief valve [2] Items x Type 2BX2...	Pressure-relief valve [2] Items x Type 2BX2...
131H	0.32	4.8	IP 54	20	61	2BH1 200-2A B 0 6	8	—	—
135H	0.45	6.3	IP 55	40	61	2BH1 300-7A B 1 6	10	1 x 114	1 x 115
143H	0.9	11.6	IP 55	80	64	2BH1 400-7A B 1 6	14	1 x 114/142	1 x 115/144
144H	1.3	16.4	IP 55	100	64	2BH1 400-7A B 2 6	16	1 x 114/142	1 x 115/144
145H	1.75	21.5	IP 54	150	69	2BH1 410-1H B 3 6	24	1 x 114/142	1 x 115/144
146H	0.62	10	IP 55	60	64	2BH1 490-7A B 1 6	14	—	—
150H	1.75	21.5	IP 55	150	73	2BH1 590-7A B 2 6	21	—	—
151H	1.3	16	IP 54	100	73	2BH1 500-1A B 1 6	20	1 x 114/146	1 x 115/148
152H	1.75	21.5	IP 54	150	73	2BH1 500-1A B 2 6	21	1 x 114/146	1 x 115/148

Motor-rated voltage [3]: 115 V

Capacitor, continuous duty voltage: 240 V

Other voltages

2BH1 . . . - . .	□	□
Required voltage:	↑	↑
- 50 Hz ■	A	9
- 60 Hz ■	B	9

■ Please give required voltage in plain text and also give M1 Y.
e.g. 2BH1 800-1AA09
M1 Y
200 V, 50 Hz

Selection example

Application:

e.g. sewing machines

1. Required duty operating point:
   $\dot{V}$ = 30 m³/h
   Δp = 80 mbar at 50 Hz
2. Choose the performance curve which lies closest to the duty point ①.
   In this example, No. **132H**
3. Selection and order code:
   No. **132H** ≙ Type 2BH1 300-7AA11

1) Measuring-surface sound-pressure level acc. to EN 21680-1, measured at 1 m distance at medium throttle and with a connected hose line on the pressure-side; without vacuum-relief valve.

2) For selection and ordering information, see accessories. The pressure-relief values of the valves are based on a coolant and ambient temperature of 25 °C.

3) Tolerance ±5%.
If during continuous duty only up to 90% of the maximum permissible end pressure are used, the permissible voltage tolerance is increased to ±10%.

Accessories see pages 16 to 19.

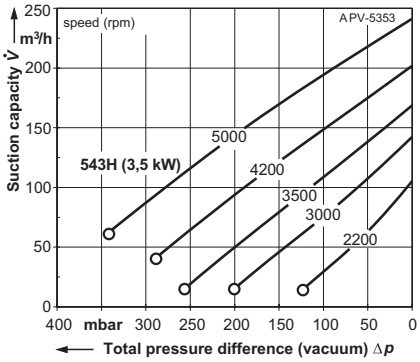
ELMO-GS Vacuum Pumps/Compressors, Range 2BH1 with Integrated Frequency Converter

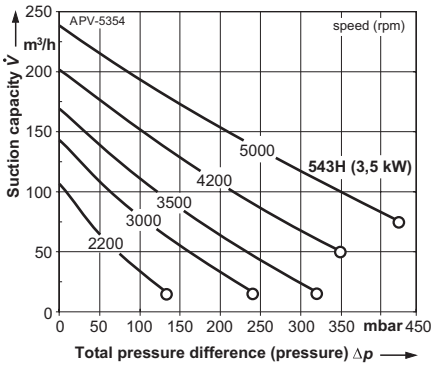
Selection diagram

Vacuum operation

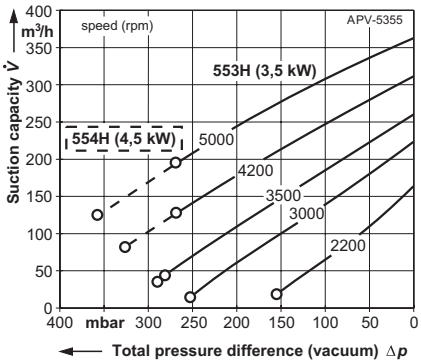
Compressor operation

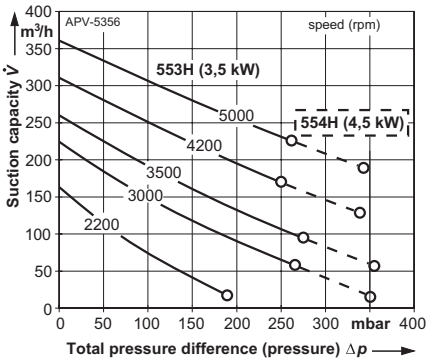
ELMO-GS types 2BH1 400-7AS..



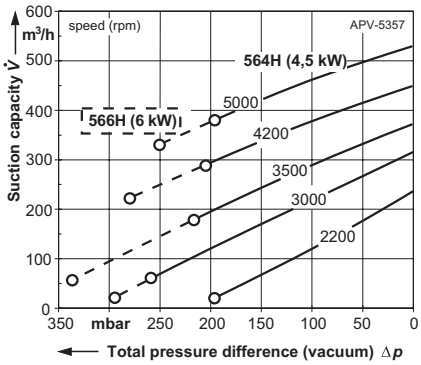


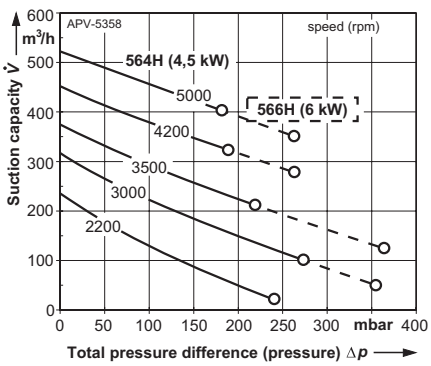
ELMO-GS types 2BH1 500-7AS..





ELMO-GS types 2BH1 600-7AS..





The performance curves are valid for pumping air at 15 °C at the inlet flanges with an air pressure of 1013 mbar with a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25 °C.

ELMO-GS Vacuum Pumps/Compressors, Range 2BH1, with Integrated Frequency Converter

Selection and ordering information — 3 ~ 50 … 60 Hz, IP 54 (Converter IP 55)

Curve No. Speed	Order No.	Input frequency	Rated output	Input voltage [1]	Input current	Max. differential pressure [2]		Sound-pressure level [3]	Weight approx.
						Vacuum p.p.	Compressor		
rpm		Hz	kW	V	A	mbar	mbar	dB(A)	kg
ELMO-GS types 2BH1 400-7AS..									
543H	**2BH1 400-7AS42**	47 … 63	3.5	380 … 480	6.4	—	—	—	27
5000						340	425	on request	
4200						290	350	on request	
3500						260	325	on request	
3000						200	245	63	
2200						125	135	on request	
ELMO-GS types 2BH1 500-7AS..									
553H	**2BH1 500-7AS32**	47 … 63	3.5	380 … 480	6.4	—	—	—	29
5000						270	260	on request	
4200						270	250	on request	
3500						280	275	on request	
3000						250	265	66	
2200						155	190	on request	
554H	**2BH1 500-7AS62**	47 … 63	4.5	380 … 480	10	—	—	—	32
5000						355	340	on request	
4200						325	340	on request	
3500						290	355	on request	
3000						250	350	66	
2200						155	190	on request	
ELMO-GS types 2BH1 600-7AS..									
564H	**2BH1 600-7AS62**	47 … 63	4.5	380 … 480	10	—	—	—	36
5000						195	180	on request	
4200						205	190	on request	
3500						215	220	on request	
3000						260	275	72	
2200						195	240	on request	
566H	**2BH1 600-7AS72**	47 … 63	6	380 … 480	12.1	—	—	—	43
5000						250	265	on request	
4200						280	265	on request	
3500						335	365	on request	
3000						295	355	72	
2200						195	240	on request	

1) Permissible voltage range: 3 ~ voltage at converter: 380 ... 480 V: Voltage tolerance: ±10%
Input frequency: 47... 63 Hz
Other voltages on request.
Version with separately located converter on request.

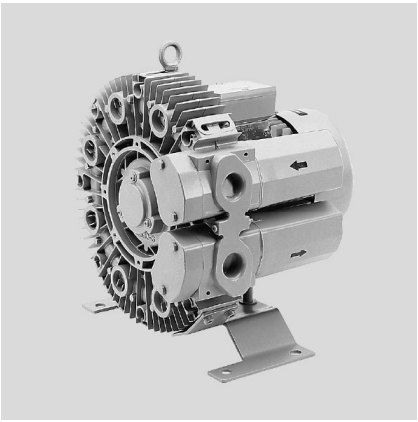
2) For the differential pressure limitation, vacuum-/pressure-relief valves are available as accessories.

3) Measuring-surface sound-pressure level acc. to EN 21680-1, measured at 1 m distance at medium throttle and with a connected hose line on the pressure-side (vacuum pump)/suction-side (compressor); without vacuum-relief valve/pressure-relief valve.

Accessories on request.

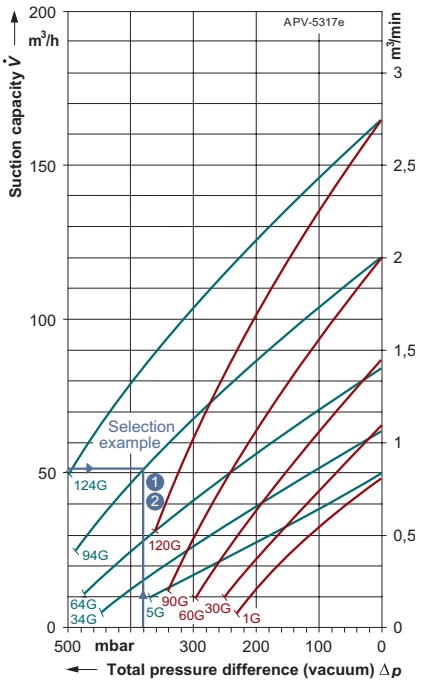
ELMO-G Vacuum Pumps/Compressors, Range 2BH7, Three-Phase 50/60 Hz

G

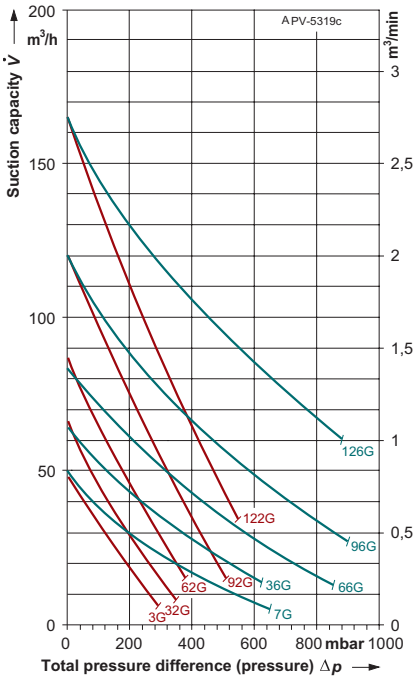


Selection diagram

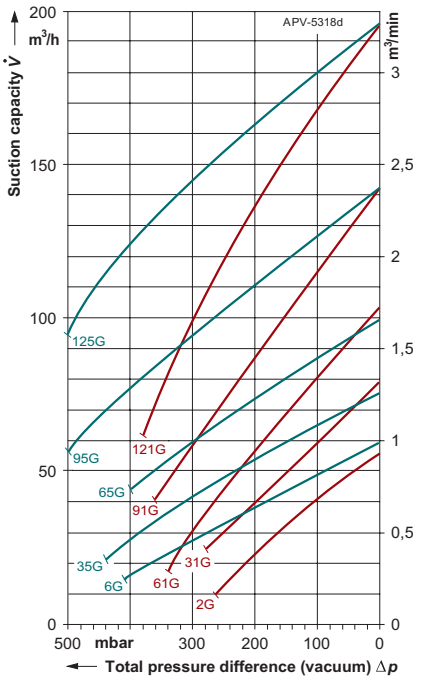
Vacuum operation 50 Hz



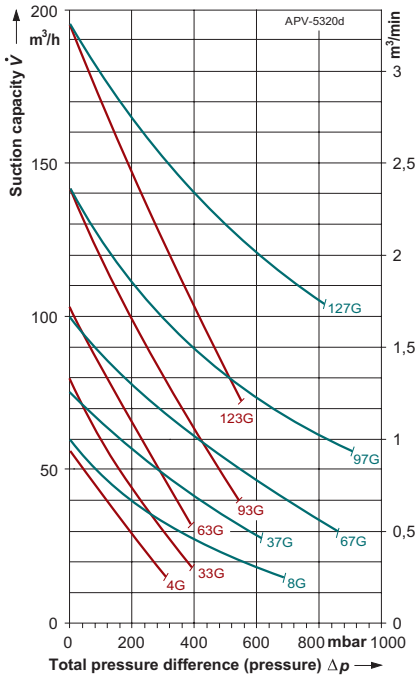
Compressor operation 50 Hz



Vacuum operation 60 Hz



Compressor operation 60 Hz



The performance curves are valid for pumping air at 15 °C at the inlet flanges with an air pressure of 1013 mbar with a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25 °C.

ELMO-G Vacuum Pumps/Compressors, Range 2BH7, Three-Phase 50/60 Hz

Selection and ordering information for 50 Hz 3AC, IP 55

Curve No.	Motor Rated output kW	Motor Rated current A	Sound-pressure level [1] dB(A)	Order No. • AVAILABLE EX STOCK	Weight approx. kg	Vacuum-relief valve [2] Items x Type 2BX2...	Pressure-relief valve [2] Items x Type 2BX2...
Vacuum pumps							
1G	0.55	3.55 Δ / 2.05 Y	57	•2BH7 210-0A C 1 1 -7	16	1 x 110/141	—
30G	0.55	3.55 Δ / 2.05 Y	57	2BH7 310-0A C 1 1 -7	16	1 x 110/141	—
60G	1.1	5.7 Δ / 3.3 Y	58	•2BH7 410-0A C 1 1 -7	23	1 x 110/141	—
90G	1.5	6.3 Δ / 3.65 Y	64	•2BH7 510-0A C 1 1 -8	26	1 x 110/141	—
120G	2.2	9.7 Δ / 5.6 Y	65	•2BH7 610-0A C 1 1 -8	32	1 x 110/141	—
5G	1.3	3.1 Δ / 1.8 Y	58	•2BH7 220-0A C 2 1 -7	24	1 x 110/141	—
34G	1.5	6.3 Δ / 3.65 Y	59	2BH7 320-0A C 5 1 -7	28	1 x 110/141	—
64G	1.5	6.3 Δ / 3.65 Y	61	•2BH7 420-0A C 2 1 -7	33	1 x 110/141	—
③ 94G	2.2	9.7 Δ / 5.6 Y	64	•2BH7 520-0A C 2 1 -8	40	1 x 110/141	—
124G	3.3	11.8 Δ / 6.8 Y	67	•2BH7 620-0A C 3 1 -8	48	1 x 110/141	—
Compressors							
3G	0.55	3.55 Δ / 2.05 Y	57	•2BH7 210-0A C 1 1 -7	16	—	1 x 111/143
32G	0.81	3.1 Δ / 1.8 Y	57	•2BH7 310-0A C 2 1 -7	17	—	1 x 111/143
62G	1.1	5.7 Δ / 3.3 Y	58	•2BH7 410-0A C 1 1 -7	23	—	1 x 111/143
92G	2.2	9.7 Δ / 5.6 Y	64	•2BH7 510-0A C 2 1 -8	29	—	1 x 111/143
122G	3.3	11.8 Δ / 6.8 Y	65	•2BH7 610-0A C 3 1 -8	35	—	1 x 111/143
7G	1.5	6.3 Δ / 3.65 Y	58	•2BH7 220-0A C 5 1 -7	28	—	1 x 111/143
36G	1.5	6.3 Δ / 3.65 Y	59	•2BH7 320-0A C 5 1 -7	30	—	1 x 111/143
66G	3	11.8 Δ / 6.8 Y	61	•2BH7 420-0A C 5 1 -7	39	—	1 x 111/143
96G	4	7.8 Δ / 4.5 Y [4]	65	•2BH7 520-0A C 7 6 -8	51	—	1 x 111/143
126G	5.7	9.4 Δ / 5.4 Y [4]	68	•2BH7 620-0A C 5 6 -8	65	—	1 x 111/143

Rated voltage [3]: 230 Δ / 400 Y (400 Δ / 690 Y [4]), 50 Hz

Selection and ordering information for 60 Hz 3AC, IP 55

Curve No.	Motor Rated output kW	Motor Rated current A	Sound-pressure level [1] dB(A)	Order No. • AVAILABLE EX STOCK	Weight approx. kg	Vacuum-relief valve [2] Items x Type 2BX2...	Pressure-relief valve [2] Items x Type 2BX2...
Vacuum pumps							
2G	0.63	2.1 Y	62	•2BH7 210-0A C 1 1 -7	16	1 x 114/142	—
31G	0.63	2.1 Y	62	2BH7 310-0A C 1 1 -7	16	1 x 114/142	—
61G	1.3	3.25 Y	62	•2BH7 410-0A C 1 1 -7	23	1 x 114/142	—
91G	1.75	3.7 Y	68	•2BH7 510-0A C 1 1 -8	26	1 x 114/142	—
121G	2.6	5.8 Y	71	•2BH7 610-0A C 1 1 -8	32	1 x 114/142	—
6G	0.94	1.9 Y	62	•2BH7 220-0A C 2 1 -7	24	1 x 114/142	—
35G	1.75	3.7 Y	63	2BH7 320-0A C 5 1 -7	28	1 x 114/142	—
65G	1.75	3.7 Y	66	•2BH7 420-0A C 2 1 -7	33	1 x 114/142	—
95G	2.6	5.7 Y	70	•2BH7 520-0A C 2 1 -8	40	1 x 114/142	—
125G	3.8	6.8 Y	71	•2BH7 620-0A C 3 1 -8	48	1 x 114/142	—
Compressors							
4G	0.63	2.1 Y	62	•2BH7 210-0A C 1 1 -7	16	—	1 x 115/144
33G	0.94	1.9 Y	62	•2BH7 310-0A C 2 1 -7	17	—	1 x 115/144
63G	1.3	3.25 Y	62	•2BH7 410-0A C 1 1 -7	23	—	1 x 115/144
93G	2.6	5.7 Y	68	•2BH7 510-0A C 2 1 -8	29	—	1 x 115/144
123G	3.8	6.8 Y	71	•2BH7 610-0A C 3 1 -8	35	—	1 x 115/144
8G	1.75	3.7 Y	62	•2BH7 220-0A C 5 1 -7	28	—	1 x 115/144
37G	1.75	3.7 Y	63	•2BH7 320-0A C 5 1 -7	30	—	1 x 115/144
67G	3.5	6.8 Y	66	•2BH7 420-0A C 5 1 -7	39	—	1 x 115/144
97G	4.6	8.0 Δ [5]	71	•2BH7 520-0A C 7 6 -8	51	—	1 x 115/144
127G	6.6	9.5 Δ [5]	72	•2BH7 620-0A C 5 6 -8	65	—	1 x 115/144

Rated voltage [3]: 460 Y (460 Δ[5]), 60 Hz

Other voltages

2BH7 . . . - . .	□	□
50 Hz:	↑	↑
400 V Δ / 690 V Y [3]	C	6
required voltage: ■	E	9
60 Hz:		
460 V Δ[3]	C	6
required voltage: ■	F	9

■ Please give required voltage in plain text and add M1 Y.
Single-phase AC on request.
e.g. 2BH7 210-0AF19-7
M1 Y
380 V Δ, 60 Hz

Selection example

Application:

e.g. holding and lifting

① Required duty point:
$\dot{V}$ = 52 m³/h
Δp = 380 mbar
at 50 Hz

② Choose the performance curve which lies closest to the duty point ①.
In this example, No. **94G**

③ Selection and order code:
No. **94G** ≙ Type 2BH7 520-0AC21-8

1) Measuring-surface sound-pressure level acc. to EN 21680-1, measured at a distance of 1 m. The pump is throttled to a medium inlet pressure, a hose is connected to the discharge side, and a vacuum-relief valve is not fitted.

2) For selecting valves see accessories on pages 16 to 19. The pressure limits of the valves are based on a cooling-agent and ambient temperature of 25 °C,

Rated voltage acc. to DIN IEC 38*	Permissible voltage range acc. to DIN VDE 0530 or DIN IEC 34-1**	Frequency Hz
230 V Δ / 400 V Y 400 V Δ / 690 V Y	220...240 V Δ / 380...420 V Y 380...420 V Δ / 660...725 V Y	50
460 V Y 460 V Δ	440...480 V Y 440...480 V Δ	60

3) Permissible voltage range.

* Voltage tolerance here ±10%.

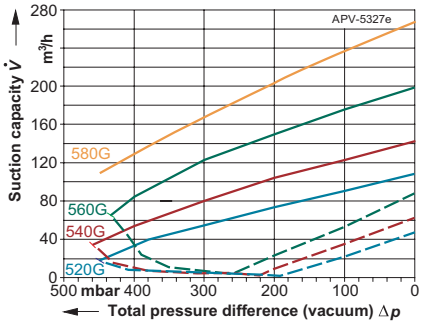
** This voltage range is also indicated on the rating plate, together with the currents occurring in this range. For this range, the permissible voltage tolerance acc. to DIN VDE 0530 and IEC 34-1 is ±5%.

Accessories see pages 16 to 19.

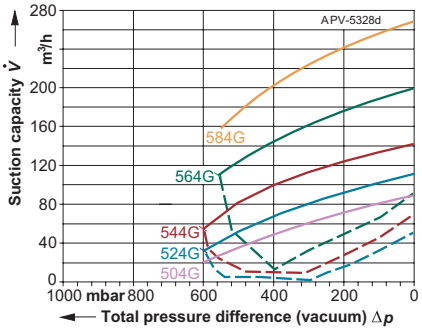
ELMO-GS Vacuum Pumps/Compressors, Range 2BH7, with Integrated Frequency Converter

Selection diagram, vacuum operation

2BH7 .10-0AS (single-stage)

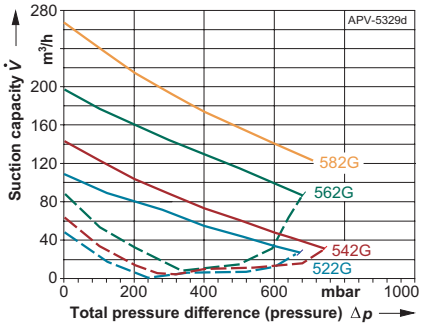


2BH7 .20-0AS (two-stage)

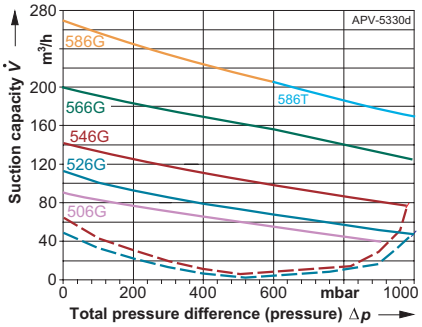


Selection diagram, compressor operation

2BH7 .10-0AS (single-stage)



2BH7 .20-0AS (two-stage)



The performance curves are valid for pumping air at 15 °C at the inlet flanges with an air pressure of 1013 mbar with a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25 °C.

Selection and ordering information

Curve No.	Motor			Sound-pressure level [1]	Order No.	Weight approx.	Vacuum-relief valve [2] Items x Type	Pressure-relief valve [2] Items x Type
	Rated output	voltage [3]	current					
	kW	V	A	dB(A)		kg	2BX2...	2BX2...
Vacuum pumps								
520G	2.3	380...480 V	4.7	76	2BH7 310-0AS52-7	19	1 x 110	—
540G	3.3	380...480V	6.4	76	2BH7 410-0AS32-7	29	1 x 110	—
560G	4.5	380...480 V	10	78	2BH7 510-0AS42-8	36	1 x 110	—
580G	4.5	380...480 V	10	77	2BH7 610-0AS32-8	36	1 x 110	—
504G	2.3	380...480 V	4.7	74	2BH7 220-0AS52-7	29	1 x 110	—
524G	2.3	380...480 V	4.7	76	2BH7 320-0AS52-7	34	1 x 110	—
544G	3.3	380...480 V	6.4	76	2BH7 420-0AS32-7	37	1 x 110	—
564G	4.5	380...480 V	10	78	2BH7 520-0AS42-8	48	1 x 110	—
584G	6	380...480 V	12.2	80	2BH7 620-0AS42-8	59	1 x 110	—
Compressors								
522G	3.3	380...480 V	6.4	76	2BH7 310-0AS62-7	22	—	on request
542G	4.5	380...480 V	10	76	2BH7 410-0AS52-7	33	—	on request
562G	6	380...480 V	12.2	79	2BH7 510-0AS62-8	42	—	on request
582G	8.3	380...480 V	16	77	2BH7 610-0AS52-8	54	—	on request
506G	3.3	380...480 V	6.4	74	2BH7 220-0AS62-7	32	—	on request
526G	4.5	380...480 V	10	76	2BH7 320-0AS82-7	41	—	on request
546G	6	380...480 V	12.2	76	2BH7 420-0AS72-7	47	—	on request
566G	8.3	380...480 V	16	78	2BH7 520-0AS82-8	66	—	on request
586G	8.3	380...480 V	16	80	2BH7 620-0AS52-8	66	—	on request
586T	11.3	380...480 V	25	80	2BH7 620-0AT61-8 [4]	74	—	on request

Dimensions see page 28.

1) Measuring-surface sound-pressure level, given for 5,000 rpm, acc. to EN 21680-1, measured at 1 m distance at medium throttle and a connected hose line on the suction-side (compressor)/pressure-side (vacuum pump); without pressure-/vacuum-relief valve.

2) For selection and ordering information, see accessories. The pressure-relief values of the valves are based on a coolant and ambient temperature of 25 °C.

3) Tolerance ±10%. Input frequency 47 to 63 Hz. Other voltages on request.

Version with separate converter on request.

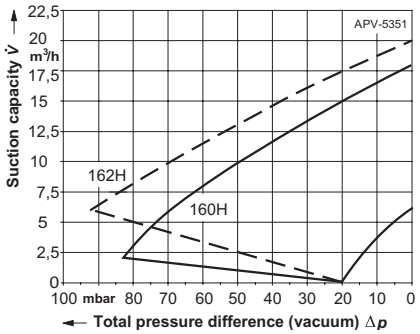
4) Without converter: suitable for operation with separate converter 6SE3222-4DG40.

Accessories see page 16 to 19.

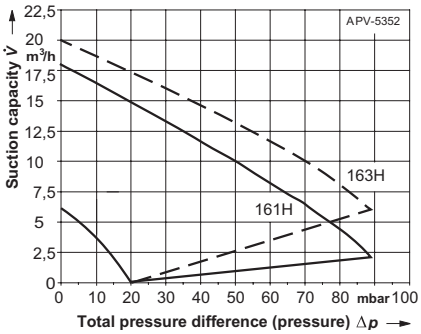
ELMO-G Vacuum Pumps/Compressors, Range 2BH100 “Little Star”

Selection diagram

Vacuum operation



Compressor operation



Selection and ordering information

ELMO-G types 2BH100

Curve No. / Speed n	Control voltage (0...10 V DC)	Order No. • AVAILABLE EX STOCK	Rated output	Rated voltage	Rated current	Max. differential pressure Vacuum p.p.	Max. differential pressure Compressor	Sound-pressure level 1)	Weight approx.
rpm	V		W	V	A	mbar	mbar	dB(A)	kg
IP 66, with cover (electronics as accessories 2))									
160H / 161H		• **2BH1 000-0AA42** 2)	70	24 DC	4.25	—	—	48	1.0
$n_{max.}$	10					83	89		
7000	7 ± 0.2					78	87		
6000	6.1 ± 0.2					69	68		
5000	5.2 ± 0.2					51	54		
4000	4.35 ± 0.2					34	35		
3000	3.5 ± 0.2					20	20		
IP 66, with cover and integrated electronics									
162H / 163H		• **2BH1 000-0AB32**	80	24 DC	4.5	—	—	48	1.0
$n_{max.}$	10					92	89		
7000	7.15 ± 0.1					81	88		
6000	6.1 ± 0.1					68	72		
5000	5.1 ± 0.1					52	55		
4000	4.05 ± 0.1					34	36		
3000	3.05 ± 0.1					20	21		

Version without cover available on request.

1) Measuring-surface sound-pressure level acc. to EN 21680, T1, measured at 1 m distance with closed suction and pressure-side, at 7400 rpm. Tolerance: ±3 dB(A).

2) Characteristic data determined with external electronics, type 2BX4 130, or abbreviation “B30” (see accessories).

Accessories see page 19.

The performance curves are valid for pumping air at 15 °C at the inlet flanges with an air pressure of 1013 mbar with a tolerance of ±10%. The total pressure differences are valid up to an intake and ambient temperature of 25 °C.

Accessories for ELMO-G/GS Vacuum Pumps and Compressors

Selection and ordering information

			For ELMO-G/GS Type	Order No.	∅ thread mm / inches	Weight approx. kg
	**Suction-side through-filter for vacuum pumps** [1] incl. mounting kit for fixed installation: Gasket, threaded flange, double pipe nipple, pipe elbow, through-filter		**2BH1** 3	**2BX2 060**		2.7
			2BH7 2..-...1. /-...2. /-...4. / 2BH7 3 / 74 / 75 / 76	**2BX2 060**		2.7
			2BH7 2..-...5.	**2BX4 060**		2.7
	Suction-side through-filter for vacuum pumps [1] incl. gasket, hose flange [2], double nipple, through-filter, hose clips, without hose line between filter and vacuum pump		**2BH1** 2 / 2BH1 40.-...0. /-...1. /-...2. / 2BH1 49 / 2BH15 /16	**2BX2 061**		5
			2BH1 40.-...3. /-...4. / 2BH1 41	**2BX2 064**		5
	Suction-side through-filter for vacuum pumps [1] incl. double nipple, through-filter, hose clips, without hose line between filter and vacuum pump		**2BH1** 8	**2BX2 063**		5.5
	including connecting flange, gasket, reducing nipple, through-filter, hose clips with hose line between filter and vacuum pump		2BH1 90 / 91	**2BX2 065**		20
			2BH1 94	**2BX2 066**		22
	Replacement filter cartridge for 2BX2 060			**2BY7 101**		0.4
	for 2BX2 061/063/064			**2BY7 103**		0.6
	for 2BX2 065/066			**2BY7 104**		0.8
	**Suction filter for compressors** [1] including mounting kit: Gasket, threaded flange [3], pipe elbow and, dep. on ELMO-G type, spigot, adapter flange, nipple, reducing coupling		**2BH1** 2 ./ 2BH1 40.-...0. / -...1. / -...2. / 2BH1 49	**2BX2 101**		3
			2BH1 3 .	**2BX2 100**		1.4
			2BH1 40.-...3. / -...4. / 2BH1 41	**2BX2 107**		3
			2BH1 5. / 60 / 61 / 69	**2BX2 102**		2.7
			2BH1 64	**2BX2 103**		5.1
			2BH1 8.	**2BX2 104**		5.1
			2BH7 2..-..C1. / -..C2. / -..C4. / 2BH7 3..-..C.. / 2BH7 4..-..C..	**2BX2 100**		1.4
			2BH7 2..-..C5..	**2BX4 080**		1.4
			2BH7 3..-..S.. / 2BH7 4..-..S.. / 2BH7 5 / 76	**2BX2 108**		3
	Through filter, suction-side		2BH1 90 / 91	**2BX2 065**		20
			2BH1 94	**2BX2 066**		22
	Replacement filter cartridge for 2BX2 100			**2BY7 100**		0.4
	for 2BX2 101 / 102 / 107 / 108			**2BY7 101**		0.5
	for 2BX2 103 / 104			**2BY7 102**		0.6
	**Additional silencer** incl. gasket and screws	Silencing dB				
		3	**2BH1** 2	**2BX1 030**	50	0.5
		4	2BH1 3	**2BX1 031**	40	0.45
		3	2BH1 40.-...0. / -...1. / -...2. / 2BH1 49	**2BX1 030**	50	0.5
	Silencing was measured at a distance	3	2BH1 40.-...3. / -...4. / 2BH1 41.	**2BX1 045**	50	0.5
	of 1 m at medium throttle with a	4	2BH1 5	**2BX1 030**	50	0.5
	connected hose line on the suction-side	5	2BH1 6	**2BX1 030**	50	0.5
	(vacuum operation) or pressure-side	4	2BH1 8	**2BX1 055**	80	1.2
	(compressor operation).	4	2BH1 90 / 91	**2BX1 056**	115	1.5
		4	2BH1 94	**2BX1 057**	150	1.7
		4	**2BH7** 2..-...1. / -...2. / -...4. / 2BH7 3 / 74 / 75 / 76	**2BX1 031**	40	0.45
		on request	2BH7 2..-...5.	**2BX4 000**	40	0.45
	**Threaded flange** incl. gasket and screws		**2BH1** 2 / 2BH1 40.-...0. / -...1. / -...2. / 2BH1 49	**2BX1 038**	G1 1/2	0.46
			2BH1 3	**2BX1 037**	G1 1/4	0.22
			2BH1 40.-...3. / -...4. / 2BH1 41	**2BX1 040**	G1 1/2	0.46
			2BH1 5 / 16	**2BX1 041**	G2	0.46
			2BH1 90 / 91	**2BX1 042**	G4	1.6
			2BH1 94	**2BX1 043**	G5	5.9
			2BH7 2..-...1. / -...2. / -...4. / 2BH7 3 / 74 / 75 / 76	**2BX1 037**	G1 1/4	0.22
			2BH7 2..-...5.	**2BX4 040**	G1 1/2	0.22

1) All filters are suitable only for separation with dry air and cannot be used for liquids. Installation must be made to ensure that no water can enter the filter.

2) Through-filter 2BX2 064 with hose flange 2BX1 034.

3) Suction filter 2BX2 107 with threaded flange 2BX1 040.

Accessories for ELMO-G/GS Vacuum Pumps and Compressors

Selection and ordering information

		For ELMO-G/GS Type	Order No.	∅ (thread) mm / inches	Weight approx. kg
	**Hose flange** incl. gasket and screws	**2BH1** 2 / 2BH1 40.-...0. / -...1. / -...2. / 2BH1 49 / 2BH1 5	**2BX1 033**	50	0.11
		2BH1 3 2BH1 40.-...3. / -...4. / 2BH1 41 2BH1 6 2BH1 8 2BH1 90 / 91 2BH1 94	**2BX1 032** **2BX1 034** **2BX1 036** **2BX1 047** **2BX1 048** **2BX1 046**	40 50 60 G1½ 114 150	0.1 0.13 0.17 0.4 2.6 7.5
		2BH7 2..-...1. / -...2. / -...4. / 2BH7 3 / 74 / 75 / 76	**2BX1 032**	40	0.1
		2BH7 2..-...5.	**2BX4 020**	40	0.1
	**1 set of feet** for vertical mounting on the end cover (1 set = 3 pieces)	**2BH1** 2 2BH1 3 / 14 2BH1 5 2BH1 6 2BH1 8 2BH1 90 / 91	— **2BX2 120** **2BX2 121** **2BX2 122** **2BX2 123** **2BX2 123**		0.15 0.15 0.45 1.4 1.4
		2BH7 2 2BH7 3 / 74 2BH7 5 / 76	**2BX2 135** **2BX2 127** **2BX2 128**		0.15 0.15 0.2
	Fixing clamps for floor mounting (1 set = 4 retaining washers, 4 fixing screws M 12 x 20 and 5 clamping devices)	2BH1 943	**2BX2 124**		3.5
	**Vacuum-relief valve, suction-side** [1] with built-on adapter, one gasket and screws				
	for 50-Hz operation:	**2BH1** 3 [2] / 14 2BH1 5 / 16	**2BX2 141** ■ **2BX2 145** ■		0.5 0.5
		2BH7 2..-...1. / -...2. / -...4. / 2BH7 3 / 74 / 75 / 76	**2BX2 141** ■		0.5
		2BH7 2...-...5.	**2BX2 171** ■		0.5
	for 60-Hz operation:	**2BH1** 3 [2] / 14 2BH1 5 / 16	**2BX2 142** ■ **2BX2 146** ■		0.5 0.5
		2BH7 2..-...1. / -...2. / -...4. / 2BH7 3 / 74 / 75 / 76	**2BX2 142** ■		0.5
		2BH7 2...-...5.	**2BX2 172** ■		0.5
	**Pressure-relief valve, suction-side** [2] with built-on adapter, one gasket and screws				
	for 50-Hz operation:	**2BH1** 3 [2] / 14 2BH1 5 / 16	**2BX2 143** ■ **2BX2 147** ■		0.5 0.5
		2BH7 2..-...1. / -...2. / -...4. / 2BH7 3 / 74 / 75 / 76	**2BX2 143** ■		0.5
		2BH7 2...-...5.	**2BX2 173** ■		0.5
	for 60-Hz operation:	**2BH1** 3 [2] / 14 2BH1 5 / 16	**2BX2 144** ■ **2BX2 148** ■		0.5 0.5
		2BH7 2..-...1. / -...2. / -...4. / 2BH7 3 / 74 / 75 / 76	**2BX2 144** ■		0.5
		2BH7 2...-...5.	**2BX2 174** ■		0.5

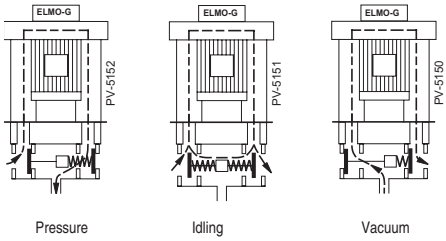
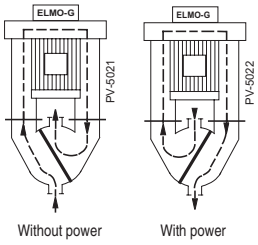
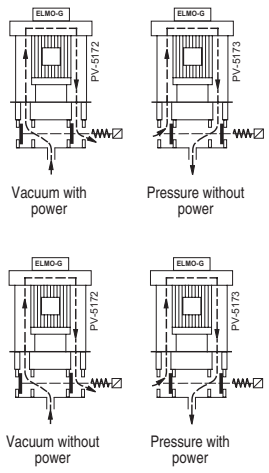
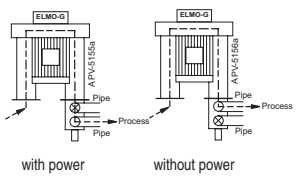
1) For the required quantity, see pages 5, 7, 9, 13.

2) Except for 2BH1 30.-.AB1. / -.AH1., on request.

■ Add a "**-Z**" to the order number and the order no. of the ELMO-G should be given as follows: Example 2BX2 142-**Z**
MLFB=2BH1 400-7AH16

Accessories for ELMO-G/GS Vacuum Pumps and Compressors

Selection and ordering information

	Solenoid valves	Rated voltage	Rated current	For ELMO-G/GS Type	Order No.	Weight approx. kg
	**Changeover valve** Single spool for changeover from vacuum to pressure operation Load factor: 100 % Operate time: ≤ 0.35 s Release time: ≤ 0.4 s	24 V DC voltage	1.5 A	2BH1 30 2BH1 40 2BH1 59 2-phase	**2BX9 328 - 0MA0** **2BX9 328 - 0MC0** **2BX9 328 - 0ME0** on request	2.5
		230 V AC 50 / 60 voltage	0.16 A	2BH1 30 2BH1 40 2BH1 59 2-phase	**2BX9 328 - 0MA1** **2BX9 328 - 0MC1** **2BX9 328 - 0ME1** on request	2.5
	**Changeover valve** Double spool for changeover from/to vacuum, pressure or idling operation Load factor: 100 % Operate time: ≤ 0.35 s Release time: ≤ 0.4 s	24 V DC voltage	0.8 A	2BH1 30 2BH1 40 2BH1 59 2-phase	**2BX9 328 - 0MB0** **2BX9 328 - 0MD0** **2BX9 328 - 0MF0** on request	2.5
		230 V AC 50 / 60 Hz voltage	0.14 A	2BH1 30 2BH1 40 2BH1 59 2-phase	**2BX9 328 - 0MB1** **2BX9 328 - 0MD1** **2BX9 328 - 0MF1** on request	2.5
 	**Changeover valve** for changeover from vacuum to pressure operation Load factor: 100 % Operate time: ≤ 0.35 s Release time: ≤ 0.4 s	24 V DC voltage	1.0 A	2BH1 50 2BH1 60 2BH1 69 2-phase	**2BX9 328 - 0ML0** on request	9.6
		230 V AC 50 / 60 Hz voltage	0.13 A	2BH1 50 2BH1 60 2BH1 69 2-phase	**2BX9 328 - 0ML1** on request	9.6
 	**Changeover valve** for changeover from vacuum to pressure operation Load factor: 100 % Operate time: ≤ 0.35 s Release time: ≤ 0.4 s	24 V DC voltage	1.0 A	2BH7 .1.	**2BX9 328 - 1MC0**	on request
		230 V AC 50 / 60 Hz voltage	0.13 A	2BH7 .1.	**2BX9 328 - 1MC1**	on request
	Changeover valve for changeover from vacuum to pressure operation Load factor: 100 % Operate time: ≤ 0.35 s Release time: ≤ 0.4 s	24 V DC voltage	on request	2BH1 80 / 81 2BH1 90 / 91	**2BX9 328 - 1MA0** **2BX9 328 - 1MB0**	9.5 10.5
		230 V AC 50 / 60 Hz voltage	on request	2BH1 80 / 81 2BH1 90 / 91	**2BX9 328 - 1MA1** **2BX9 328 - 1MB1**	9.5 10.5
 	**Switch-over valve** to switch between two different pressure/vacuum conducts with the same flow direction or flow interruption with one conveyor conduct. Load factor: 100 % Operate time: ≤ 0.35 s Release time: ≤ 0.4 s	24 V DC voltage	2.4 A	2BH1 5 / 16	**2BX9 328 - 0MJ0**	4.8
		230 V AC 50 / 60 Hz voltage	0.5 A	2BH1 5 / 16	**2BX9 328 - 0MJ1**	4.8

for 2BH7: on request.

Accessories for ELMO-G/GS Vacuum Pumps and Compressors

Selection and ordering information

		For ELMO-G/GS Type	Order No.	Weight approx. kg
 2BX2 11.	**Vacuum-relief valve, suction-side** [1] for pipeline mounting			
	for 50-Hz operation:	**2BH1** 3. to 2BH1 8. 2BH1 900-...1. / -...2. 2BH1 910-...2. / -...3. / -...4. 2BH1 943-...4.	**2BX2 110** ■	0.3
		2BH1 900-...0. / 2BH1 910-...1. 2BH1 943-...2. / -...3.	**2BX2 150** ■ **2BX2 152** ■	14 27
		2BH7	**2BX2 110** ■	0.3
 2BX2 15.	for 60-Hz operation:	**2BH1** 3. to 2BH1 6 2BH1 80 / 81 2BH1 840-...3. 2BH1 900-...1. / -...2. 2BH1 910-...3. 2BH1 910-...2. 2BH1 840-...2. 2BH1 900-...0. 2BH1 910-...1. 2BH1 943-...3. / -...4. 2BH1 943-...2.	**2BX2 114** ■ **2BX2 150** ■ **2BX2 152** ■ **2BX2 154** ■	0.3 14 27 54
		2BH7	**2BX2 114** ■	0.3
 2BX2 11.	**Pressure-relief valve, discharge-side** [1] for pipeline mounting up to max. Δp = 600 mbar			
	for 50-Hz operation:	**2BH1** 3. to 2BH1 6 2BH1 80 / 81 2BH1 840-...3. 2BH1 900-...1. / -...2. 2BH1 910-...3. / -...4. 2BH1 840-...2. 2BH1 900-...0. 2BH1 910-...1. / -...2. / -...4. 2BH1 943-...2. / -...3. / -...4.	**2BX2 111** ■ **2BX2 151** ■ **2BX2 153** ■	0.3 8 18
		2BH7	**2BX2 111** ■	0.3
 2BX2 15.	for 60-Hz operation:	**2BH1** 3. to 2BH1 6 2BH1 80 / 81 2BH1 900-...2. 2BH1 840-...3. 2BH1 900-...1. 2BH1 910-...3. 2BH1 840-...2. 2BH1 900-...0. 2BH1 910-...1. / -...2. 2BH1 943-...4. 2BH1 943-...2. / -...3.	**2BX2 115** ■ **2BX2 151** ■ **2BX2 153** ■ **2BX2 155** ■	0.3 8 18 33
		2BH7	**2BX2 115** ■	0.3

1) For the required quantity, see pages 5, 7, 9, 13.

■ Please add a "**-Z**" to the order number and give the order number for the ELMO-G as follows: Example 2BX2 142-**Z**
MLFB=2BH1 400-7AH16

Accessories for 2BH100

	Delivery loose **Order No.** •**AVAILABLE EX STOCK**	Delivery with the pump **Abbreviation** [1]	Weight approx. kg
External electronics (Variotronic) [2], **Loose**	•**2BX4 130**	—	0.2
Set of plugs [3], **loose**, eight-pole, for connecting motor Variotronic, comprising: 1 x socket casing, 3 x socket contact AWG 20 5 x socket contact AWG 26, 2 x 1 each spare contact	•**2BX4 131**	—	—
External electronics (Variotronic) [2], **complete**, comprising: Electronics type 2BX4 130, socket set type 2BX4 131	—	**B30**	0.2
Rubber buffer (1 set = 4 pieces) (rubber metal bearing)	•**2BX4 132**	**B31**	—

1) Please add a "**-Z**" to the order number and add the abbreviation as follows: Example 2BH1 000-0AA42-**Z**
B30 + B31

2) With ambient temperatures over 25 °C the operating speed may be less depending on the cooling of the electronics system.

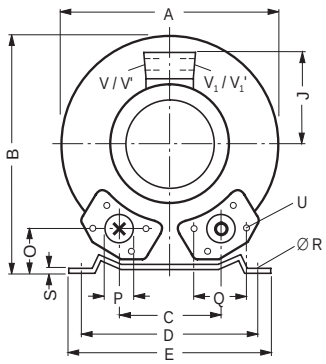
3) Note: Pliers for the socket contacts are not included with delivery; obtainable from Molex Deutschland / Heilbronn; Germany
Fax ++49 (0) 70 66 / 95 55 29; Type 69008-0274.

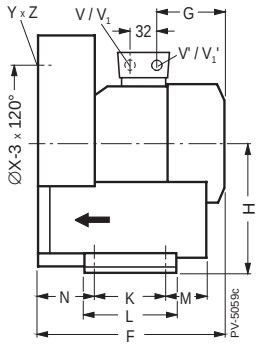
Dimensions for ELMO-G Vacuum Pumps and Compressors, Range 2BH1

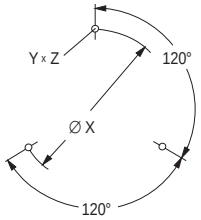
G

Dimensions for 2BH1 20., 2BH1 30., 2BH1 40., 2BH1 49. (mm)

2BH1 30./2BH1 40./2BH1 49.

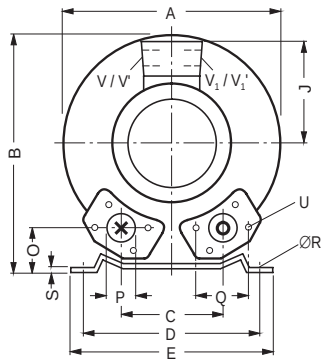


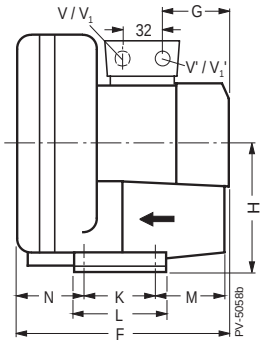




Hole pattern, cover

2BH1 200





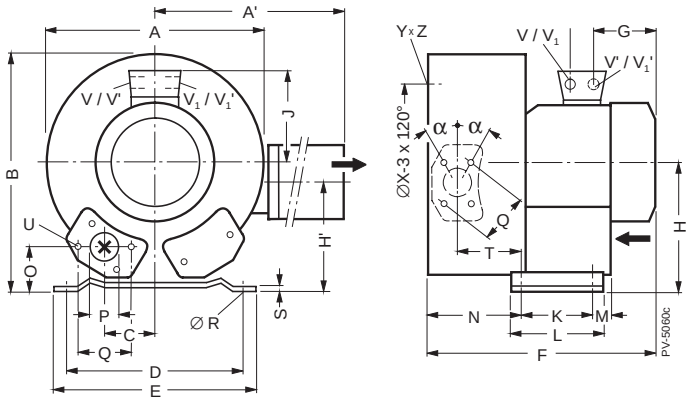
Type	Phases	Curve No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O
2BH1 200 - 7AA0.	1 ~	130H	233	250	110	205	230	244	96	136	101	83	108	100	75	52
- 2AB0.		131H							90							
- 7AH0.	3 ~	1H/2H							92							
2BH1 30. - 7A.1.	1 ~	132H/135H	246	247	90	205	230	256	133	128	111	83	108	75	71	39
- 7AD..	3 ~ EEx	200H							108		145					
- 7A.0.	3 ~	3H/7H						219	92		101					
- 7A.1.		6H/10H						256	129		111					
2BH1 40. - 7A.1.	1 ~	138H/143H	285	302	115	225	255	292	156	154	120	95	130	70	75	46
- 7A.2.		139H/144H														
- 7AD..	3 ~ EEx	202H							131		154					
2BH1 40. - 7A.0.	3 ~	11H/15H	285	302	115	225	255	269	129	154	111	95	130	70	75	46
- 7A.1.		12H/16H						292	153		120					
- 7A.2.		13H/17H														
2BH1 49. - 7AA1.	1 ~	142H	285	302	115	225	255	292	156	154	120	95	130	70	75	46
- 7AB1.		146H														
- 7AH1.	3 ~	14H/18H							153							

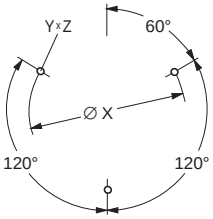
Type	Phases	Curve No.	P	Q	∅ R	S	U	V (1 ~)	V' (1 ~)	V_1 (3 ~)	V'_1 (3 ~)	Y x Z	X holes	∅ X
2BH1 200 - 7AA0.	1 ~	130H	G 1½	72	10	2.5	M 6 x 19	M 16 x 1.5	M 25 x 1.5	—	—	—	—	
- 2AB0.		131H	(15 deep)					—	Pg 11	—	—			
- 7AH0.	3 ~	1H/2H						—	—	M 25 x 1.5	M 16 x 1.5			
2BH1 30. - 7A.1.	1 ~	132H/135H	G 1¼	64	10	2.5	M 6 x 17	M 16 x 1.5	M 25 x 1.5	—	—	M 6 x 15	0°/120°/240°	∅ 140
- 7AD..	3 ~ EEx	200H	(15 deep)					—	—	M 25 x 1.5	M 16 x 1.5			
- 7A.0.	3 ~	3H/7H						—	—					
- 7A.1.		6H/10H						—	—					
2BH1 40. - 7A.1.	1 ~	138H/143H	G 1½	72	12	3	M 6 x 19	M 16 x 1.5	M 25 x 1.5	—	—	M 6 x 15	0°/120°/240°	∅ 174
- 7A.2.		139H/144H	(15 deep)							—	—			
- 7AD..	3 ~ EEx	202H						—	—	M 25 x 1.5	M 16 x 1.5			
2BH1 40. - 7A.0.	3 ~	11H/15H						—	—					
- 7A.1.		12H/16H						—	—					
- 7A.2.		13H/17H						—	—					
2BH1 49. - 7AA1.	1 ~	142H	G 1½	72	12	3	M 6 x 19	M 16 x 1.5	M 25 x 1.5	—	—	M 6 x 15	0°/120°/240°	∅ 174
- 7AB1.		146H	(15 deep)							—	—			
- 7AH1.	3 ~	14H/18H						—	—	M 25 x 1.5	M 16 x 1.5			

Dimensions for ELMO-G Vacuum Pumps and Compressors, Range 2BH1

Dimensions for 2BH1 31., 2BH1 41. (mm)

2BH1 31. / 2BH1 41.





Hole pattern, cover

Type	Phases	Curve No.	A	A'	B	C	D	E	F	G	H	H'	J	K	L	M
2BH1 31. - 7H.2.	3 ~	61H/65H	284	316	270	45	205	230	316	129	128	106	111	83	108	75
2BH1 41. - 7H.3. - 1HD.. - 1H.3. - 1H.4.	1 ~ 3 ~ EEx 3 ~	141H/145H 232H 68H/70H 69H/71H	321	321	315	58	225	255	401 401 401 401	185 163 185 185	154	154	128 162 128 128	95	130	70

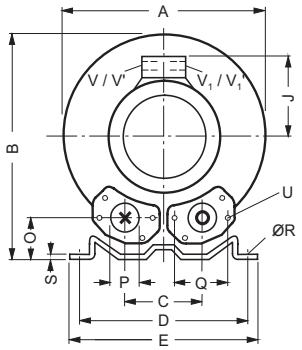
Type	Phases	Curve No.	N	O	P	Q	∅ R	S	T	U	V (1 ~)	V' (1 ~)	V_1 (3 ~)	V'_1 (3 ~)	α	∅ X	Y x Z	X holes
2BH1 31. - 7H.2.	3 ~	61H/65H	130	39	G 1¼ (15 deep)	64	10	2.5	88	M 6 x 17	—	—	M 25 x 1.5	M 16 x 1.5	27°	140	M 6 x 15	51°/171°/291°
2BH1 41. - 7H.3. - 1HD.. - 1H.3. - 1H.4.	1 ~ 3 ~ EEx 3 ~	141H/145H 232H 68H/70H 69H/71H	151	46	G 1½ (15 deep)	72	12	3	106	M 6 x 19	M 16 x 1.5 — — —	M 25 x 1.5 — — —	— M 25 x 1.5	— M 16 x 1.5	28°	174	M 6 x 15	51°/171°/291°

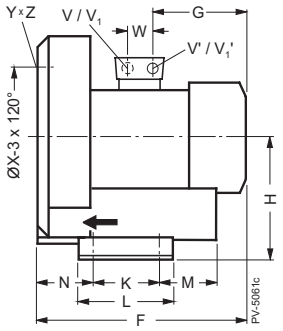
Dimensions for ELMO-G Vacuum Pumps and Compressors, Range 2BH1

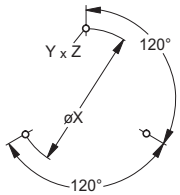
G

Dimensions for 2BH1 50., 2BH1 59., 2BH1 60., 2BH1 69. (mm)

2BH1 50. / 2BH1 59.
2BH1 60. / 2BH1 69.







Hole pattern, cover

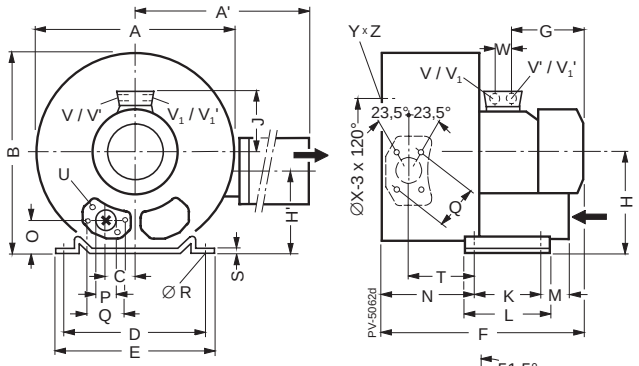
Type	Phases	Curve No.	A	B	C	D	E	F	G	H	J	K	L	M	N	O
2BH1 50. - 7A.1.	1. ~	148H/151H	334	337	120	260	295	313	156	175	120	115	155	96	87	48
- 7A.2.		149H/152H						345	188		128					
- 7AD..	3 ~ EEx	204H						345	163		162					
2BH1 50. - 7A.0.	3 ~	19H/24H	334	337	120	260	295	314	153	175	120	115	155	96	87	48
- 7A.1.		20H/25H						314	153							
- 7A.2.		21H/26H						346	185		128					
- 7A.3.		22H/27H/204H						346	185							
2BH1 59. - 7AA2.	1 ~	147H	334	337	120	260	295	345	188	174.5	128	115	155	96	87	48
- 7AB2.		150H														
- 7AE1.	3 ~	23H						314	153		120					
- 7AH2.		28H						345	185		128					
2BH1 60. - 7A.0.	3 ~	29H	382	384	125	290	325	377	185	198	128	140	180	84	109	54
- 7A.1.		30H/35H														
- 7A.2.		31H/36H						411	190		135					
- 7A.3.		32H/37H/206H						432	211		148					
2BH1 69. - 7A.1.			382	384	125	290	325	377	185	198	128	140	180	84	109	54
- 7A.2.											135					

Type	Phases	Curve No.	∅ P	Q	∅ R	S	U	V (1 ~)	V' (1 ~)	V_1(3 ~)	V'_1(3 ~)	∅ X	Y x Z	X holes	W
2BH1 50. - 7A.1.	1 ~	148H/151H	55	83	14	4	M 8 x 17	M 16 x 1.5	M 25 x 1.5	—	—	200	M 8 x 20	0°/120°/240°	32
- 7A.2.		149H/152H								—	—				
- 7AD..	3 ~ EEx	204H						—	—	M 25 x 1.5	M 16 x 1.5				
2BH1 50. - 7A.0.	3 ~	19H/24H						—	—						
- 7A.1.		20H/25H						—	—						
- 7A.2.		21H/26H						—	—						
- 7A.3.		22H/27H/204H						—	—						
2BH1 59. - 7AA2.	1 ~	147H	55	83	14	4	M 8 x 17	M 16 x 1.5	M 25 x 1.5	—	—	200	M 8 x 20	0°/120°/240°	32
- 7AB2.		150H								—	—				
- 7AE1.	3 ~	23H						—	—	M 25 x 1.5	M 16 x 1.5				
- 7AH2.		28H						—	—						
2BH1 60. - 7A.0.	3 ~	29H	55	83	15	4.5	M 8 x 17	—	—	M 25 x 1.5	M 16 x 1.5	240	M 10 x 20	0°/120°/240°	32
- 7A.1.		30H/35H						—	—						
- 7A.2.		31H/36H						M 32 x 1.5	M 32 x 1.5	M 32 x 1.5	M 32 x 1.5				42
- 7A.3.		32H/37H/206H													
2BH1 69. - 7A.1.	3 ~	33H	55	83	15	4.5	M 8 x 17	—	—	M 25 x 1.5	M 16 x 1.5	240	M 10 x 20	0°/120°/240°	32
- 7A.2.		33H/38H						M 32 x 1.5	M 32 x 1.5	M 32 x 1.5	M 32 x 1.5				42

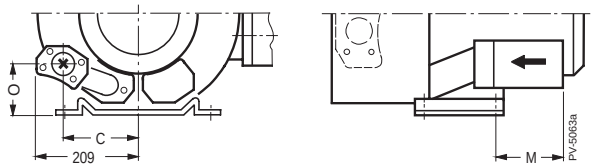
Dimensions for ELMO-G Vacuum Pumps and Compressors, Range 2BH1

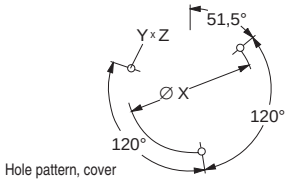
Dimensions for 2BH1 51., 2BH1 61., 2BH1 64. (mm)

2BH1 51.
2BH1 61.-...1.
-...2.
-...3.



2BH1 61.-...4.
-...5.



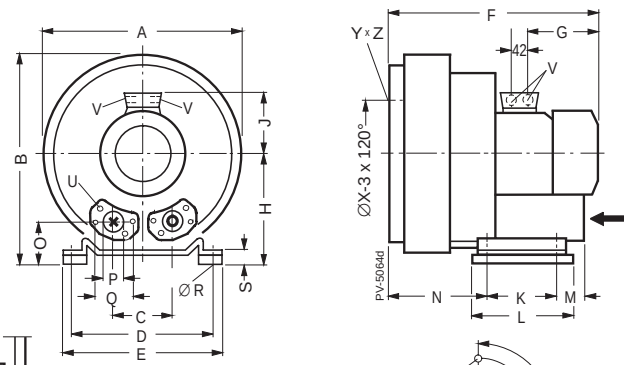


Hole pattern, cover

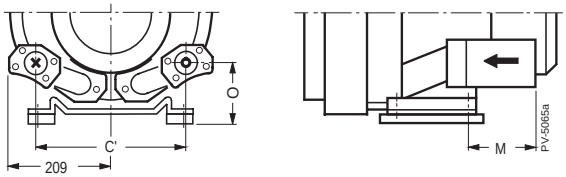
Type	Curve No.	A	A'	B	C	D	E	F	G	H	H'	J	K	L	M
2BH1 51. - 7H.4. - 7H.5.	74H/78H 75H/79H/234H	372	411	371	60	260	295	465 499	190 224	175	144	135	115	155	98
2BH1 61. - 7H.1. - 7H.2. - 7H.3. - 1H.4. - 1H.5.	80H/85H 81H/86H 82H/87H 83H/88H 84H/89H/236H	426	424	420	63 155	290	325	473 507 528 569	185 190 211 256	198	164	128 135 148 196	140	180	84 225

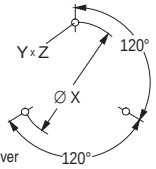
Type	Curve No.	N	O	Ø P	Q	Ø R	S	T	U	V	V'	V_1	V'_1	Ø X	Y x Z	X holes	W
2BH1 51. - 7H.4. - 7H.5.	74H/78H 75H/79H/234H	171	48	55	83	14	4	116	M 8 x 17			4 x M 32 x 1.5		200	M 8 x 20	51.5°/171.5°/291.5°	42
2BH1 61. - 7H.1. - 7H.2. - 7H.3. - 1H.4. - 1H.5.	80H/85H 81H/86H 82H/87H 83H/88H 84H/89H/236H	205	54 94	55	83	15	4.5	129	M 8 x 17	M 25 x 1.5 — —	M 16 x 1.5 4 x M 32 x 1.5 — —	— — 2 x Pg 21	— —	240	M 10 x 20	51.5°/171.5°/291.5°	32 42

2BH1 64.-...3.



2BH1 64.-...4.
-...5.





Hole pattern, cover

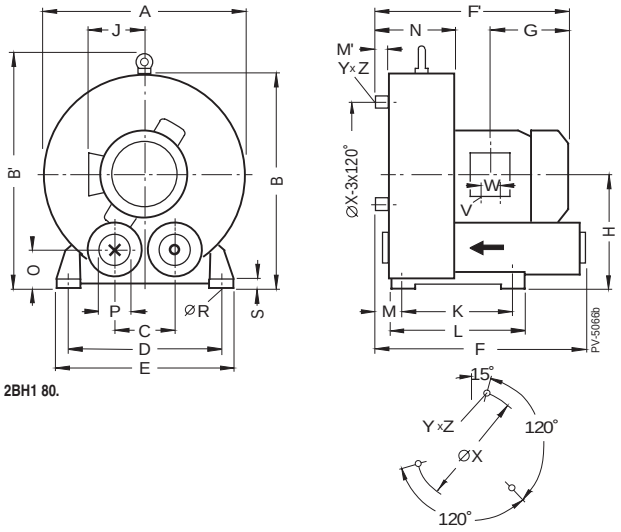
Type	Curve No.	A	B	C	C'	D	E	F	G	H	J	K	L	M
2BH1 64. - 7G.3. - 1G.4. - 1G.5.	90H 91H/94H 92H/95H	424	430	125 —	— 309	290	325	528 596	211 256	218	148 196	140	188	84 225

Type	Curve No.	N	O	Ø P	Q	Ø R	S	U	V	Ø X	Y x Z	X holes
2BH1 64. - 7G.3. - 1G.4. - 1G.5.	90H 91H/94H 92H/95H	205	74 114	55	83	15	24.5	M 8 x 17	4 x M 32 x 1.5 2 x Pg 21	240	M 10 x 20	0°/120°/240°

Dimensions for ELMO-G Vacuum Pumps and Compressors, Range 2BH1

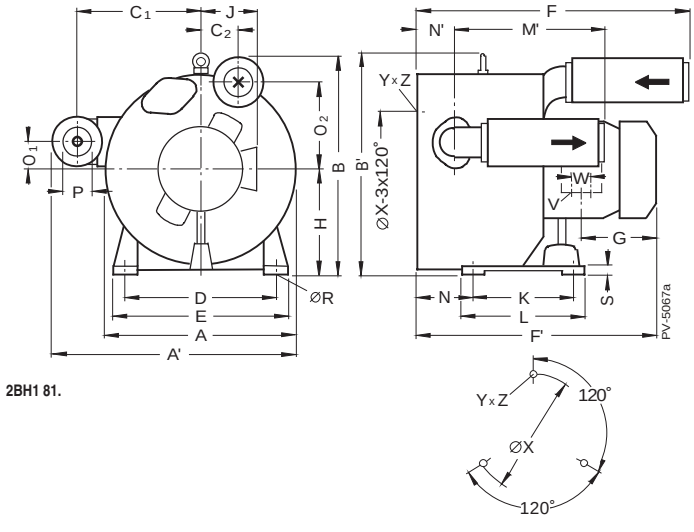
G

Dimensions for 2BH1 80., 2BH1 81., 2BH1 84. (mm)



2BH1 80.

Hole pattern, cover



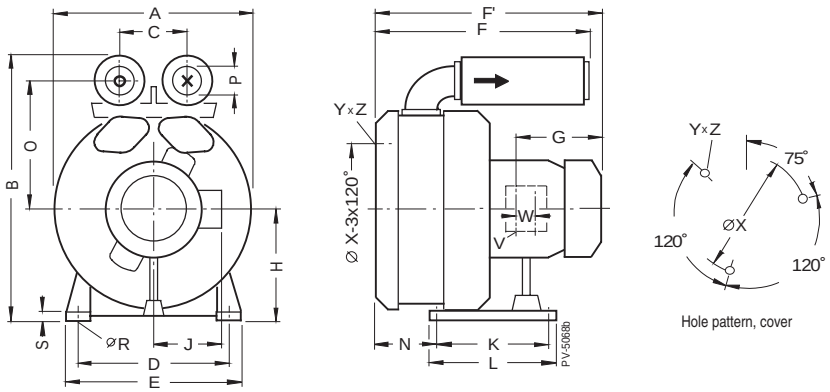
2BH1 81.

Hole pattern, cover

Type	Curve No.	A	A'	B	B'	C	C_1	C_2	D	E	F	F'	G	H	J	K	L
2BH1 80. - 1A.0. - 1A.1. - 1A.2.	39H/42H 40H/43H 41H/44H/208H	498	—	514	567	145	—	—	365	420	495	447.5 477	193 232.5	265	171 196	280	316
2BH1 81. - 1HE1. - 1H.2. - 1H.3. - 1H.4.	114H 96H/99H 97H/100H 98H/101H/238H	501	640.5	516 563	567	—	317.5	72.5 91	365	420	595.5 720.5	583 654	232.5 287	265	196 234	280	316

Type	Curve No.	M	M'	N	N'	O	O_1	O_2	∅ P	∅ R	S	V	W	∅ X	Y x Z	X holes
2BH1 80. - 1A.0. - 1A.1. - 1A.2.	39H/42H 40H/43H 41H/44H/208H	35	10	170	—	81	—	—	G 2½	15	22	2 x Pg 21	42	408	M 12 x 20	15°/135°/255°
2BH1 81. - 1HE1. - 1H.2. - 1H.3. - 1H.4.	114H 96H/99H 97H/100H 98H/101H/238H	—	402	140.5	104	—	66	184 231	G 2½	15	22	2 x Pg 21 2 x Pg 29	42 54	408	M 12 x 20	0°/120°/240°

2BH1 84.



Hole pattern, cover

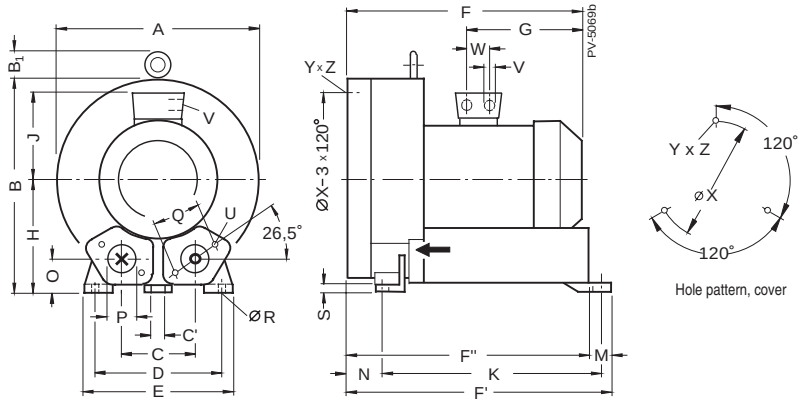
Type	Curve No.	A	B	C	D	E	F	F'	G	H	J	K
2BH1 84. - 1J.2. - 1J.3.	102H/104H 103H/105H	498	654.5	160	365	420	521	583 654	232.5 287	265	196 234	280

Type	Curve No.	L	N	O	∅ P	∅ R	S	V	W	∅ X	Y x Z	X holes
2BH1 84. - 1J.2. - 1J.3.	102H/104H 103H/105H	316	140.5	317.5	G 2½	15	22	2 x Pg 21 2 x Pg 29	42 54	408	M 12 x 20	75°/195°/315°

Dimensions for ELMO-G Vacuum Pumps and Compressors, Range 2BH1

Dimensions for 2BH1 90., 2BH1 91. (mm)

2BH1 90.

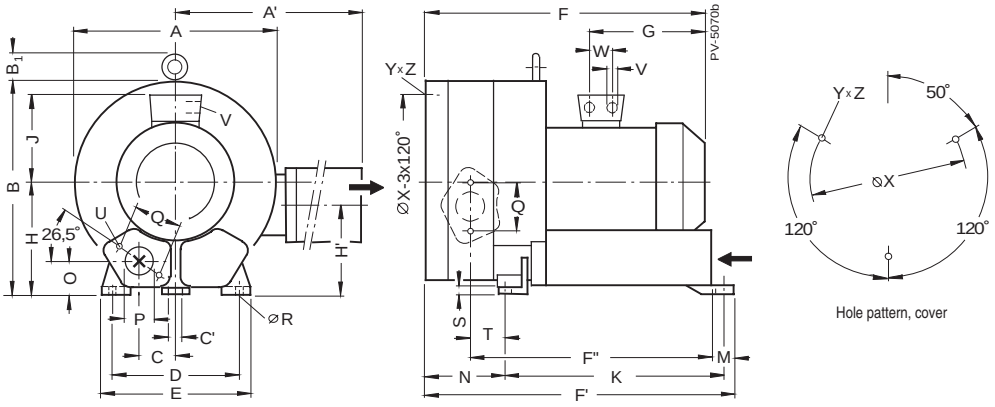


Hole pattern, cover

Type	Curve No.	A	B	B1	C	C'	D	E	F	F'	F''	G	H	J	K	M
2BH1 90. - 1A.0. - 1A.1. - 1A.2.	48H/51H 49H/52H 50H/53H 210H	550	570	62	207	15	360	415	516 605	726	674	256 317	300	196 234	600	52

Type	Curve No.	N	O	∅ P	Q	∅ R	S	U	V	W	∅ X	Y x Z	X holes
2BH1 90. - 1A.0. - 1A.1. - 1A.2.	48H/51H 49H/52H 50H/53H 210H	106	91	100	150	15	25	M 12 x 30	2 x Pg 21 2 x Pg 29	42 54	490	M 12 x 30	0°/120°/240°

2BH1 91.



Hole pattern, cover

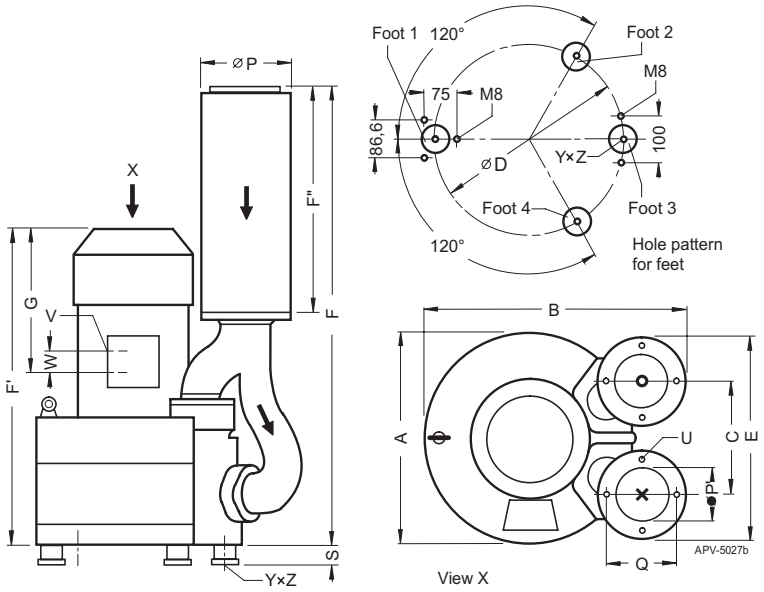
Type	Curve No.	A	A'	B	B1	C	C'	D	E	F	F'	F''	G	H	H'	J
2BH1 91. - 1H.1. - 1H.2. - 1H.3. - 1H.4.	116H/119H 117H/120H 118H/121H 239H	550	796	570	62	104	15	360	415	740 785	860	661	317 345	300	245	234

Type	Curve No.	K	M	N	O	∅ P	Q	∅ R	S	T	U	V	W	∅ X	Y x Z	X holes
2BH1 91. - 1H.1. - 1H.2. - 1H.3. - 1H.4.	116H/119H 117H120H 118H/121H 239H	600	52	240	91	100	150	15	25	93	M 12 x 30	2 x Pg 29	54	490	M 12 x 30	50°/170°/290°

Dimensions for ELMO-G Vacuum Pumps and Compressors, Range 2BH1

G

Dimensions for 2BH1 943 (mm)



2BH1 943 (only cover mounting possible)
Dimensions for fixing elements 2BX2 124, see page 31
(not included in the scope of delivery of the pump/compressor).

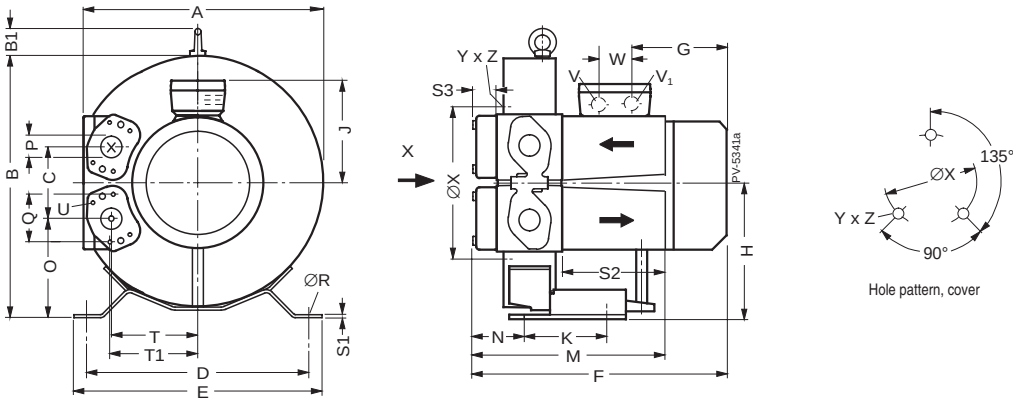
Type	Curve No.	A	B	C	D	E	F	F'	F''	G
2BH1 943 - 1G.2.	122H/125H	554	704	307	490	560	1203	740	600	317
- 1G.3.	123H/126H							740		317
- 1G.4.	124H/127H							785		365

Type	Curve No.	P	P'	Q	S	U	V	W	Y x Z
2BH1 943 - 1G.2.	122H/125H	250	130	210	40	M 16 x 30	2 x Pg 29	54	M 12 x 30
- 1G.3.	123H/126H								
- 1G.4.	124H/127H								

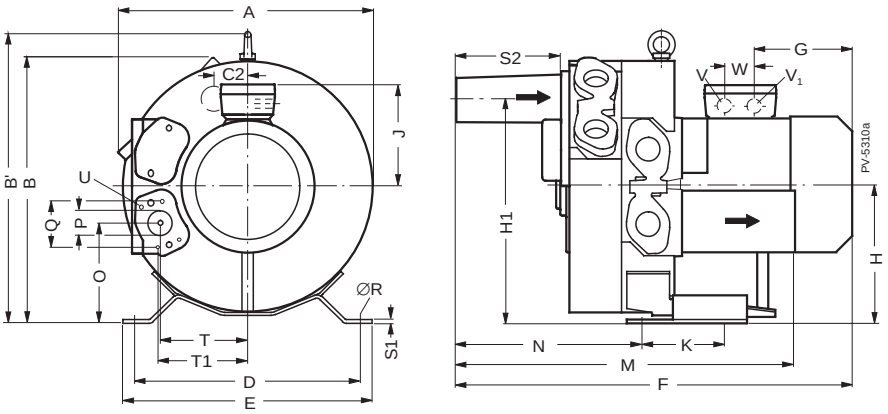
Dimensions for ELMO-G Vacuum Pumps and Compressors, Range 2BH7

Dimensions for 2BH7 2., 2BH7 3., 2BH7 4., 2BH7 5., 2BH7 6. (mm)

2BH7 21., 2BH7 31., 2BH7 41., 2BH7 51., 2BH7 61.



2BH7 22., 2BH7 32., 2BH7 42., 2BH7 52., 2BH7 62.



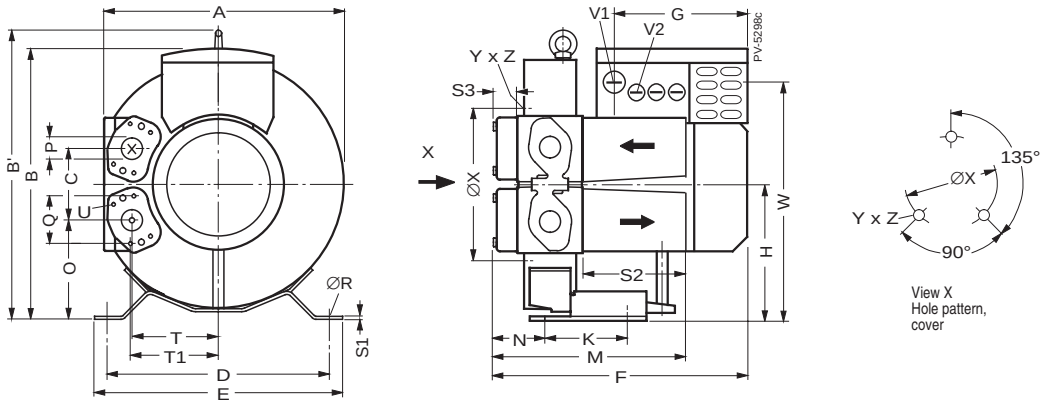
Type	Curve No.	A	B	B'	B1	C	C2	D	E	F	G	H	H1	J	K	M	N
2BH7 210 - 0AC1.	1G/2G/3G/4G	294	319	—	39	87	—	260	298	293	129	167	—	111	105	252	65
2BH7 310 - 0AC1.	30G/31G	313	339	—	39	94	—	290	325	295	129	177	—	120	105	256	67
- 0AC2.	32G/33G																
2BH7 410 - 0AC1.	60G/61G/62G/63G	346	375	—	38	103	—	315	350	321	153	195	—	120	130	260	66
2BH7 510 - 0AC1.	90G/91G	368	395	—	39	114	—	328	363	361	185	205	—	128	152	265	68
- 0AC2.	92G/93G																
2BH7 610 - 0AC1.	120G/121G	418	455	—	39	127	—	371	406	364	185	235	—	128	152	271	72
- 0AC3.	122G/123G									390	211					271	
2BH7 220 - 0AC2.	5G/6G	313	326	359	—	—	43	260	298	469	130	167	272	111	105	426	241
- 0AC5.	7G/8G									525	185			128			
2BH7 320 - 0AC4.	34G/35G	331	345	380	—	—	47	290	325	495	153	177	291	120	105	431	243
- 0AC5.	36G/37G									527	185			128			
2BH7 420 - 0AC2.	64G/65G	363	377	414	—	—	52	315	350	529	180	195	319	128	130	436	243
- 0AC5.	66G/67G									554	211						
2BH7 520 - 0AC2.	94G/95G	387	402	435	—	—	57	328	363	549	185	206	343	128	152	453	256
- 0AC7.	96G/97G									603	211			148			
2BH7 620 - 0AC3.	124G/125G	442	457	495	—	—	63	372	406	578	211	236	389	128	152	458	259
- 0AC5.	126G/127G									643	248			148			

Type	Curve No.	O	P	Q	R	S1	S2	S3	T	T1	U	V	V_1	W	X	Y x Z
2BH7 210 - 0AC1.	1G/2G/3G/4G	124	G $1^1/_4$	64	14	4	140	31	105	107	M 6 x 17	M 25 x 1.5	M 16 x 1.5	32	153	M 6 x 15
2BH7 310 - 0AC1.	30G/31G	130	(18 deep)						114	116						
- 0AC2.	32G/33G															
2BH7 410 - 0AC1.	60G/61G/62G/63G	143							125	127					167	
2BH7 510 - 0AC1.	90G/91G	148				5			137	138					192	M 8 x 15
- 0AC2.	92G/93G															
2BH7 610 - 0AC1.	120G/121G	172							153	155					228	
- 0AC3.	122G/123G															
2BH7 220 - 0AC2.	5G/6G	123	G $1^1/_4$	63.8	14	4	140		105	107	M 6 x 17	M 25 x 1.5	M 16 x 1.5	32	—	—
- 0AC5.	7G/8G		(18 deep)												—	—
2BH7 320 - 0AC4.	34G/35G	130							114	116					—	—
- 0AC5.	36G/37G														—	—
2BH7 420 - 0AC2.	64G/65G	143							125	127					—	—
- 0AC5.	66G/67G														—	—
2BH7 520 - 0AC2.	94G/95G	148				5			137	138					—	—
- 0AC7.	96G/97G											2 x M 32 x 1.5		42	—	—
2BH7 620 - 0AC3.	124G/125G	173							153	155		M 25 x 1.5	M 16 x 1.5	32	—	—
- 0AC5.	126G/127G											2 x M 32 x 1.5		42	—	—

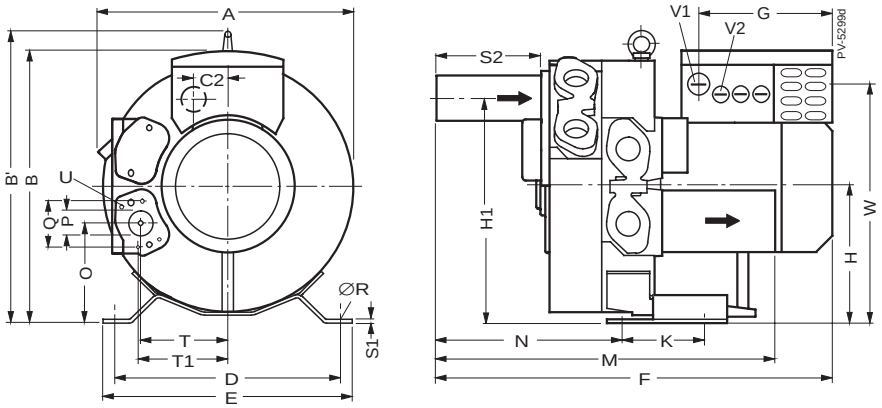
Dimensions for ELMO-G Vacuum Pumps and Compressors, Range 2BH7 with Integrated Frequency Converter

Dimensions for 2BH7 2., 2BH7 3., 2BH7 4., 2BH7 5., 2BH7 6. (mm)

2BH7 31., 2BH7 41., 2BH7 51., 2BH7 61.



2BH7 22., 2BH7 32., 2BH7 42., 2BH7 52., 2BH7 62.

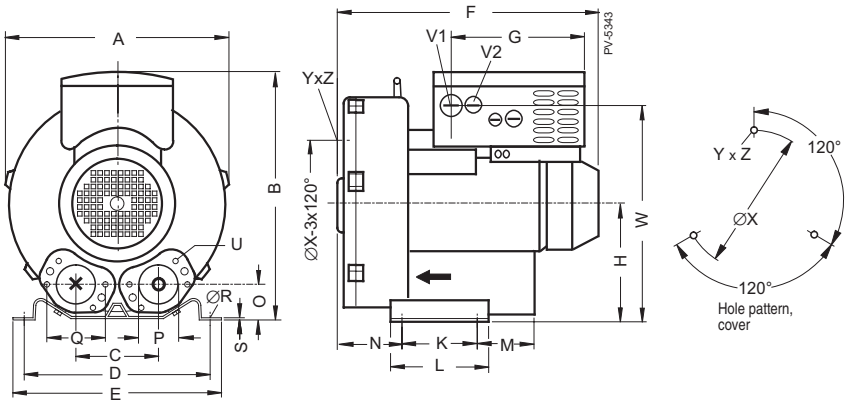


Type	Curve No.	A	B	B'	C	C2	D	E	F	G	H	H1	K	M	N	O	P
2BH7 310 - 0AS52-. 2BH7 310 - 0AS62-.	520G 522G	313	412	379	94	—	290	325	376	213	177	—	105	256	67	130	G 1¼ (18 deep)
2BH7 410 - 0AS32-. 2BH7 410 - 0AS52-.	540G 542G	346	429	414	103	—	315	350	378 378	213	195	—	130	260	66	143	
2BH7 510 - 0AS42-. 2BH7 510 - 0AS62-.	560G 562G	368	440	434	115	—	328	363	387 428	213	205	—	152	265	68	148	
2BH7 610 - 0AS32-. 2BH7 610 - 0AS52-.	580G 582G	418	470 484	494	127	—	372	406	390 455	213	235	—	152	271	72	172	
2BH7 220 - 0AS52-. 2BH7 220 - 0AS62-.	504G 506G	313	400	359	—	43	260	298	550	213	167	272	105	426	241	123	G 1¼ (18 deep)
2BH7 320 - 0AS52-. 2BH7 320 - 0AS82-.	524G 526G	331	412	379	—	47	290	325	552 552	213	177	291	105	431	243	130	
2BH7 420 - 0AS32-. 2BH7 420 - 0AS72-.	544G 546G	363	430 430	414 414	—	52	315	350	554 596	213	195	319	130	436	243	143	
2BH7 520 - 0AS42-. 2BH7 520 - 0AS82-.	564G 566G	387	440 454	435 435	—	57	328	363	575 640	213	206	343	152	453	256	148	
2BH7 620 - 0AS42-. 2BH7 620 - 0AS52-.	584G 586G	442	484	495	—	63	372	406	605 643	213	236	389	152	459	259	173	

Type	Curve No.	Q	R	S1	S2	S3	T	T1	U	V1	V2	W	X	Y x Z
2BH7 310 - 0AS52-. 2BH7 310 - 0AS62-	520G 522G	63.8	14	4	140	31	114	116	M 6 x 17	Pg 21	Pg 16	362	153	M 6 x 15
2BH7 410 - 0AS32-. 2BH7 410 - 0AS52-	540G 542G	63.8	14	4	140	31	125	127	M 6 x 17	Pg 21	Pg 16	379	167	M 6 x 15
2BH7 510 - 0AS42-. 2BH7 510 - 0AS62-	560G 562G	63.8	14	5	140	31	137	138	M 6 x 17	Pg 21	Pg 16	390 390	192	M 8 x 15
2BH7 610 - 0AS32-. 2BH7 610 - 0AS52-	580G 582G	63.8	14	5	140	31	153	155	M 6 x 17	Pg 21	Pg 16	420 434	228	M 8 x 15
2BH7 220 - 0AS52-. 2BH7 220 - 0AS62-	504G 506G	63.8	14	4	140	—	105	107	M 6 x 17	Pg 21	Pg 16	350	—	—
2BH7 320 - 0AS52-. 2BH7 320 - 0AS82-	524G 526G	63.8	14	4	140	—	114	116	M 6 x 17	Pg 21	Pg 16	362	—	—
2BH7 420 - 0AS32-. 2BH7 420 - 0AS72-	544G 546G	63.8	14	4	140	—	125	127	M 6 x 17	Pg 21	Pg 16	380 380	—	—
2BH7 520 - 0AS42-. 2BH7 520 - 0AS82-	564G 566G	63.8	14	5	140	—	137	138	M 6 x 17	Pg 21	Pg 16	390 404	—	—
2BH7 620 - 0AS42-. 2BH7 620 - 0AS52-	584G 586G	63.8	14	5	140	—	153	155	M 6 x 17	Pg 21	Pg 16	434	—	—

Dimensions for ELMO-G Vacuum Pumps and Compressors, Range 2BH1 with Integrated Frequency Converter and for 2BH100

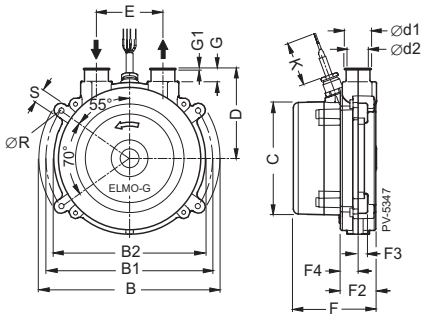
Dimensions for 2BH14/15/16. .-. .S. . (mm)



Type	A	B	C	D	E	F	G	H	K	L	M	N	O	P	Q	Ø R	S
2BH1 400-7AS42	285	386	115	225	255	368	213	154	95	130	70	75	46	G $1^{1}/_{4}$ (14 deep)	72	12	3
2BH1 500-7AS32 2BH1 500-7AS62	334	408	120	260	295	389	213	176	115	155	98	88	48	55	83	14	4
2BH1 600-7AS62 2BH1 600-7AS72	381	430	125	290	325	420 444	213	198	140	180	80	112	54	55	83	15	4.5

Type	U	V 1	V 2	W	Ø X	Y x Z
2BH1 400-7AS42	M 6 x 17 deep	PG21	PG16	336	174	M 6 x 15 deep (3 x)
2BH1 500-7AS32 2BH1 500-7AS62	M 8 x 17 deep			358	200	M 8 x 20 deep (3 x)
2BH1 600-7AS62 2BH1 600-7AS72				380 383	240	M 10 x 20 deep (3 x)

Dimensions for 2BH100. - . . . (mm)



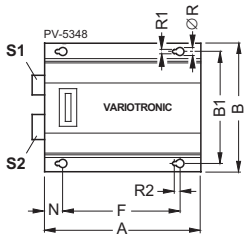
Type	B	B 1	B 2	C	D	Ø d1	Ø d2	E	F	F 2	F 3	F 4	G	G 1	K	Ø R	S
2BH1 000-0AA42 2BH1 000-0AB32	145	133	121	90	72	20	19	53	66	28.3	7.5	14.2	11	1	450	4.2	11

Dimensional drawings are also available on request as .dxf files.

Accessories for ELMO-G Vacuum Pumps and Compressors, Range 2BH1

G

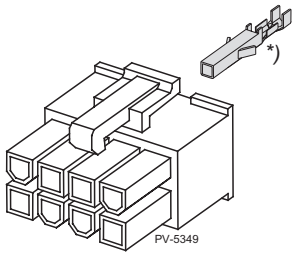
Dimensions Accessories for 2BH100 (mm)



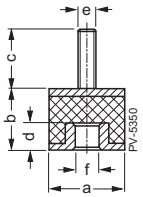
S1 Control signal

S2 Motor connection

External electronics (Variotronic)
2BX4 130 / B30



Set of plugs
2BX4 131 / B30



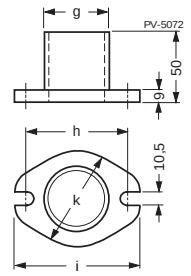
Rubber buffer
2BX4 132 / B31

Order No. / Abbreviation								
2BX4 130 / B30	A	B	B 1	F	N	∅ R	R 1	R 2
	112	92	80	84	13	6.5	3	5.5
2BX4 132 / B31	a	b	c	d	e	f		
	∅ 10	10	10	4	M 4	M 4		

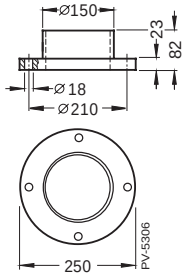
*) 2BX4 131: Pliers not included in delivery.

Accessories for ELMO-G Vacuum Pumps and Compressors, Range 2BH1 and 2BH7

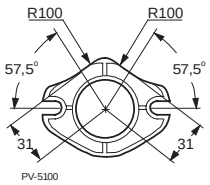
Dimensions (mm)



Hose flange
2BX1 03.



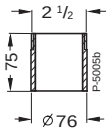
Hose flange
2BX1 046



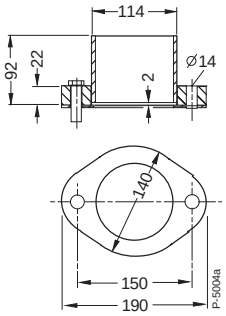
Hose flange
2BX1 034
all other dimensions as for 2BX1 033

2BX1 03./056

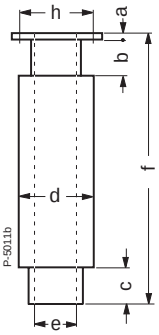
To be screwed directly into the inner thread of the silencer



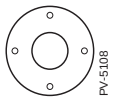
Hose flange
2BX1 047



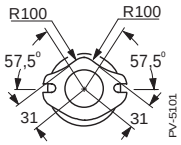
Hose flange
2BX1 048



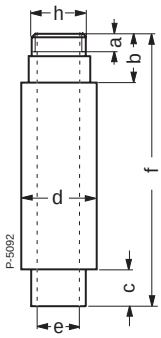
Additional silencer
2BX1 03./045/056/057



2BX1 057



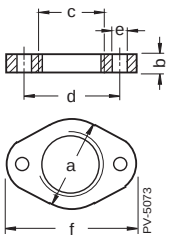
2BX1 045
all other dimensions as for 2BX1 030



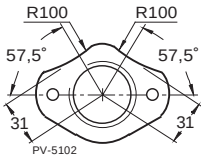
Additional silencer
2BX1 055

Type	g	h	i	k
2BX1 032	40	64.5	85	60
2BX1 033	50	75.5	100	72
2BX1 034	50	75.5	100	72
2BX1 036	60	83	100	74

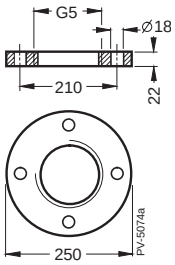
Type	a	b	c	d	e	f	h
2BX1 030	9	45	40	80	50	293	75.5
2BX1 031	9	45	40	75	40	293	64.5
2BX1 045	9	45	40	80	50	293	75.5
2BX1 055	30	95	56	127	80	651	G 2½
2BX1 056	22	70	60	167	115	652	150
2BX1 057	22	65	60	209	150	647	210



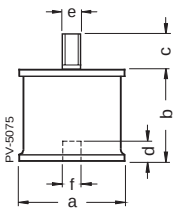
Threaded flange
2BX1 037 to 2BX1 042



Threaded flange
2BX1 040
all other dimensions as for 2BX1 038



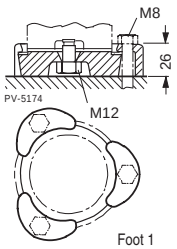
Threaded flange
2BX1 043

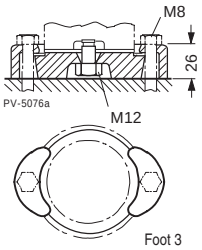


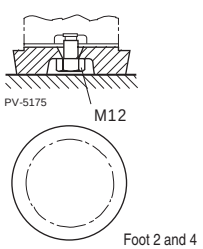
Feet for end-casing mounting
2BX2 12.

Type	a	b	c	d	e	f
2BX1 037	56	14	G 1¼	64	9.5	80
2BX1 038	72	14	G 1½	75	9.5	100
2BX1 040	72	14	G 1½	75	9.5	100
2BX1 041	80	16	G 2	83	12	112
2BX1 042	140	22	G 4	150	14	190

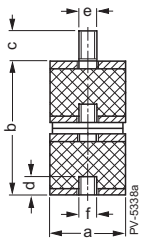
Type	a	b	c	d	e	f
2BX2 120	25	20	10	6	M 6	M 6
2BX2 121	30	20	13	8	M 8	M 8
2BX2 122	50	30	15	10	M 10	M 10
2BX2 123	75	40	18	10.5	M 12	M 12
2BX2 127	35	45	11	8	M 6	M 6
2BX2 128	35	45	11	8	M 8	M 8
2BX2 135	25	44	10	6	M 6	M 6







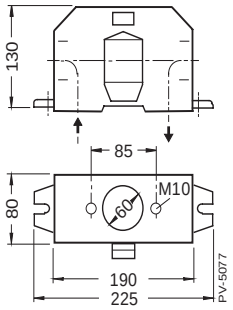
Fixing clamps for 2BH1 943 (1 set = 4 feet)
2BX2 124



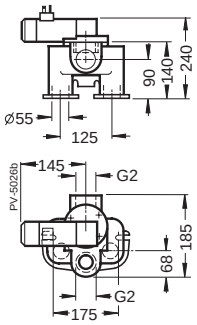
Rubber buffer
2BX2 135

Accessories for ELMO-G Vacuum Pumps and Compressors, Range 2BH1 and 2BH7

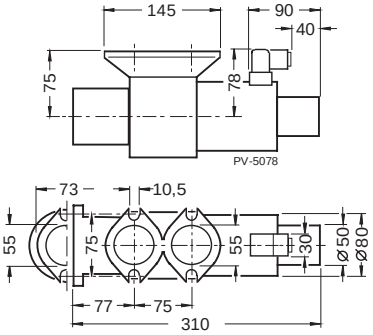
Dimensions (mm)



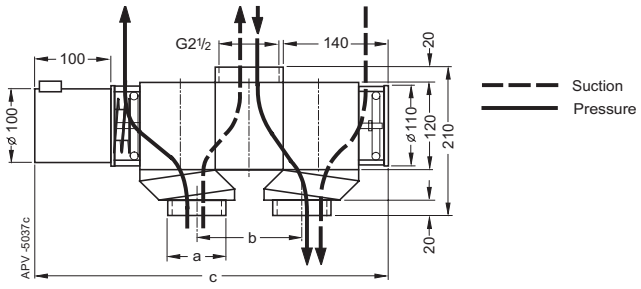
Changeover valve
2BX9 328 - 0M.



Changeover valve
2BX9 328 - 0ML0, 2BX9 328 - 0ML1

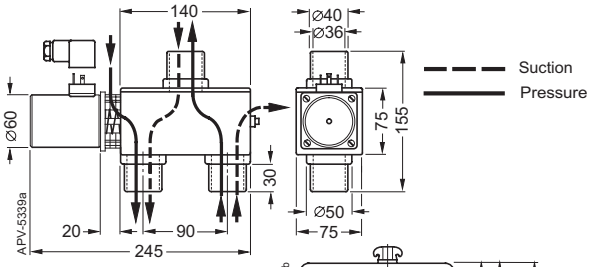


Switch-over valve
2BX9 328 - 0MJ.

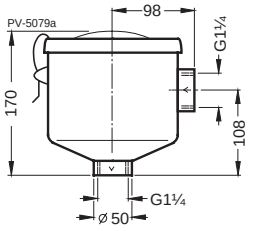


Type	a	b	c
2BX9 328 - 1MA. 2BX9 328 - 1MB.	G 2½ G 3	145 208	470 533

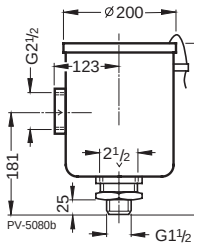
Changeover valve
2BX9 328 - 1MA., 2BX9 328 - 1MB.



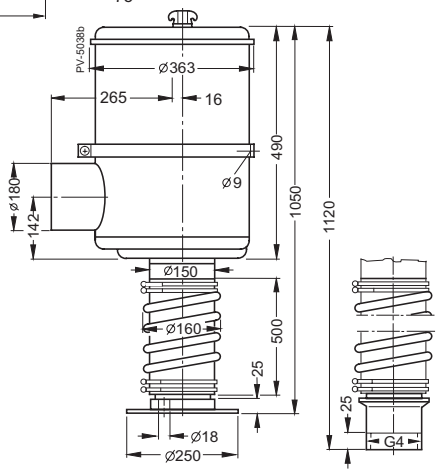
Changeover valve
2BX9 328 - 1MC



Through filter, suction-side
2BX2 060



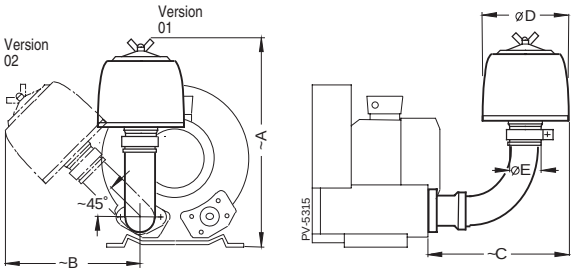
Through filter, suction-side
2BX2 06.
(for 2BH18. remove nipple)



Through filter, suction-side
2BX2 066

2BX2 065

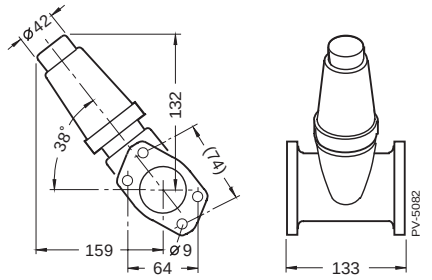
Type	for ELMO-G	Version	A	B	C	D	E
2BX2 100	2BH1 3. . - 1. .0/ - 1. .1/ - 1. .2, 2BH7 2. . - 0. .1/ - 0. .2, 2BH7 3. . - 0. .1/ - 0. .2 2BH1 3. . - 1. .4, 2BH7 2. . - 0. .5, 2BH7 3. . - 0. .4/ - 0. .5, 2BH7 4. . - 0. .1/ - 0. .2/ - 0. .5	01 02	260 190	— 190	165	132	40
2BX2 101	2BH1 2. . - 2. .0, 2BH1 40. - 1. .0/ - 1. .1/ - 1. .2, 2BH1 49. - 1. .1	01	300	—	265	170	60
2BX2 102	2BH1 5. . - 1. .0/ - 1. .1/ - 1. .2, 2BH1 60. - 1. .0 2BH1 5. . - 1. .3/ - 1. .4/ - 1. .5, 2BH1 60. - 1. .1/ - 1. .2/ - 1. .3, 2BH1 61. - 1. .1/ - 1. .2/ - 1. .3/ - 1. .4/ - 1. .5, 2BH1 69. - 1. .1/ - 1. .2	01 02	300 240	— 240	220	170	60
2BX2 103	2BH1 64. - 1. .3/ - 1. .4/ - 1. .5	02	310	310	280	283	100
2BX2 104	2BH1 80. - 1. .0/ - 1. .1/ - 1. .2, 2BH1 81. - 1. .1/ - 1. .2/ - 1. .3/ - 1. .4, 2BH1 84. - 1. .2/ - 1. .3	01	380	—	280	283	100
2BX2 107	2BH1 41. - 1. .3/ - 1. .4	01	300	—	265	170	60
2BX2 108	2BH7 5. . - 0. .1/ - 0. .2/ - 0. .7, 2BH7 6. . - 0. .1/ - 0. .3/ - 0. .5	01	300	—	265	170	60



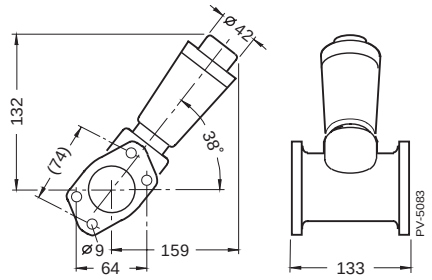
Suction filter
2BX2 10.

Accessories for ELMO-G Vacuum Pumps and Compressors, Range 2BH1 and 2BH7

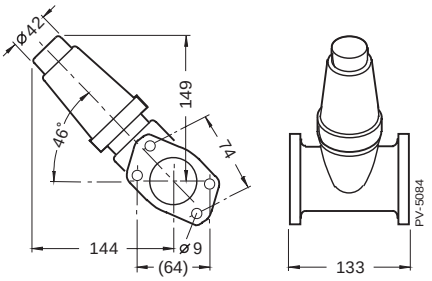
Dimensions (mm)



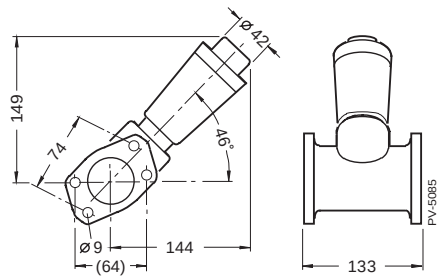
For 2BH1 3:
Vacuum-relief valve, suction-side
2BX2 141
2BX2 142



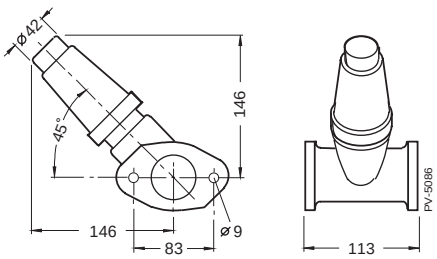
For 2BH1 3:
Pressure-relief valve, discharge-side
2BX2 143
2BX2 144



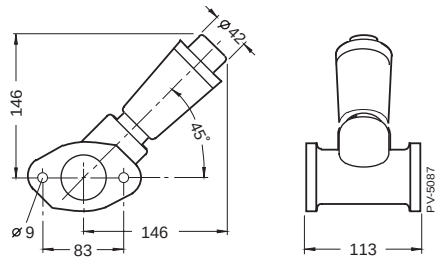
For 2BH1 4:
Vacuum-relief valve, suction-side
2BX2 141
2BX2 142



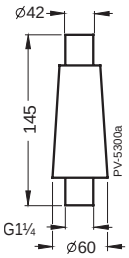
For 2BH1 4:
Pressure-relief valve, discharge-side
2BX2 143
2BX2 144



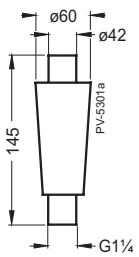
For 2BH1 5/2BH1 6:
Vacuum-relief valve, suction-side
2BX2 145
2BX2 146



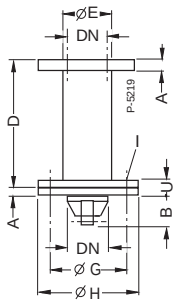
For 2BH1 5/2BH1 6:
Pressure-relief valve, discharge-side
2BX2 147
2BX2 148



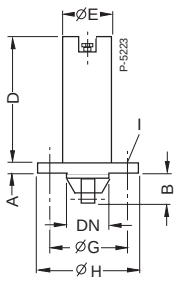
Loose vacuum-relief valve
2BX2 110
2BX2 114



Loose pressure-relief valve
2BX2 111
2BX2 115



Loose vacuum-relief valve
2BX2 150
2BX2 152
2BX2 154



Loose pressure-relief valve
2BX2 151
2BX2 153
2BX2 155

Type	DN	A	B	D	E	G	H	I	U
2BX2 150	80	19	41	220	89	160	200	8 x ∅ 18	41
2BX2 152	125	22	70	370	133	210	250		46
2BX2 154	200	22	124	570	206	295	340	8 x ∅ 23	48
2BX2 151	80	19	41	220	90	160	200	8 x ∅ 18	—
2BX2 153	125	22	70	370	137	210	250		—
2BX2 155	200	22	124	570	206	295	340	8 x ∅ 23	—

ELMO-L
Vacuum Pumps

The complete system with patented discharge-air cooling

ELMO-L vacuum pumps are compact, ready-to-connect systems: connect the power supply, fill the water tank and install the suction line – finished. No need for a foundation. ELMO-L pumps are 100% oil-free. Throughout the entire working range the casing temperature is max. 15 °C above room temperature. The discharge air leaves the pump at room temperature or lower – clean and dust-free.

L

Reliable in continuous duty

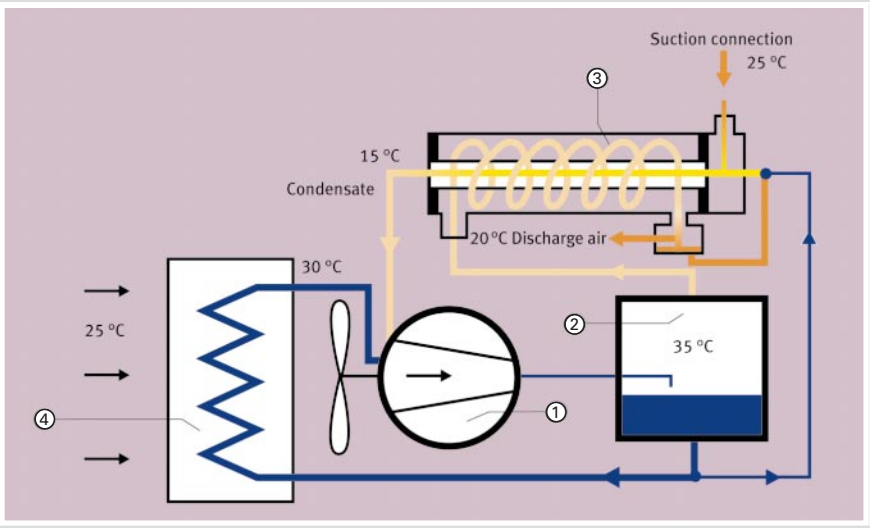
Insensitive to condensate from the air being handled and unaffected by water vapour. Problem-free continuous duty at end vacuum (closed suction gate valve) is guaranteed: the pump remains cold, power consumption is reduced to a minimum.
At 50 Hz the sound-pressure level is between 63 and 72 dB (A), depending on size. Sound-absorbing covers and discharge-air silencers are therefore not needed.
The complete vacuum system is a low-maintenance system. Thanks to contact-free compression, it is wear-free in operation – i.e. no periodic maintenance, lubrication or replacement of wearing parts.

No need for additional energy: patented ELMO discharge-air cooling

Discharge-air cooling in ELMO-L vacuum pumps is by means of a special, patented process – with no need for additional outside energy. Unlike conventional closed-circuit systems with liquid-ring vacuum pumps (1), the ELMO-L system uses a special discharge-air cooler (3) to cool the water-vapour-saturated, hot discharge-air downstream of the water separator (2). The temperature falls below room temperature. Water vapour condenses out of the discharge air as a result of cooling. This condensate is returned to the operating liquid. This means that ELMO-L vacuum pumps can be operated without the continuous supply of make-up water. A further advantage over conventional systems is, that there are no problems with materials as a result of corrosive pollutants, because there is no build-up of dissolved constituents in the operating liquid as a consequence of the escape of water vapour on the discharge side.

ELMO-L vacuum pump, compact version – ready to connect, easy fit, highly integrated.

ELMO-L vacuum pump 2BL1 500 – more power and flexibility, for decentralised mounting.



Schematic of patented discharge-air cooling

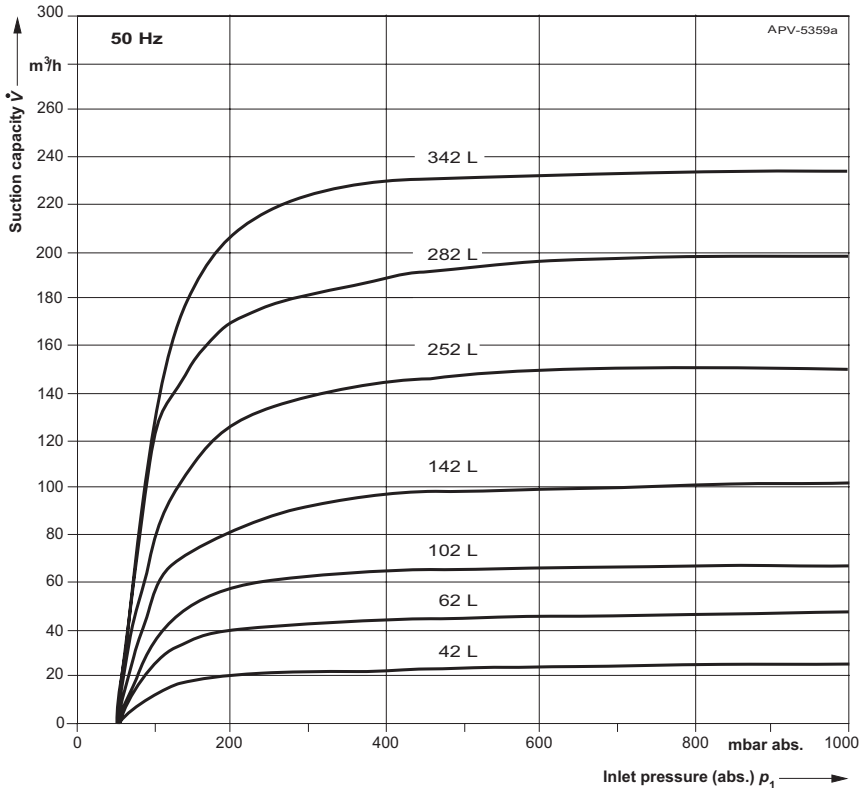
① *Liquid-ring vacuum pump*
② *Separator*
③ *Discharge-air cooler*
④ *Air-water cooler for operating liquid*

Applications

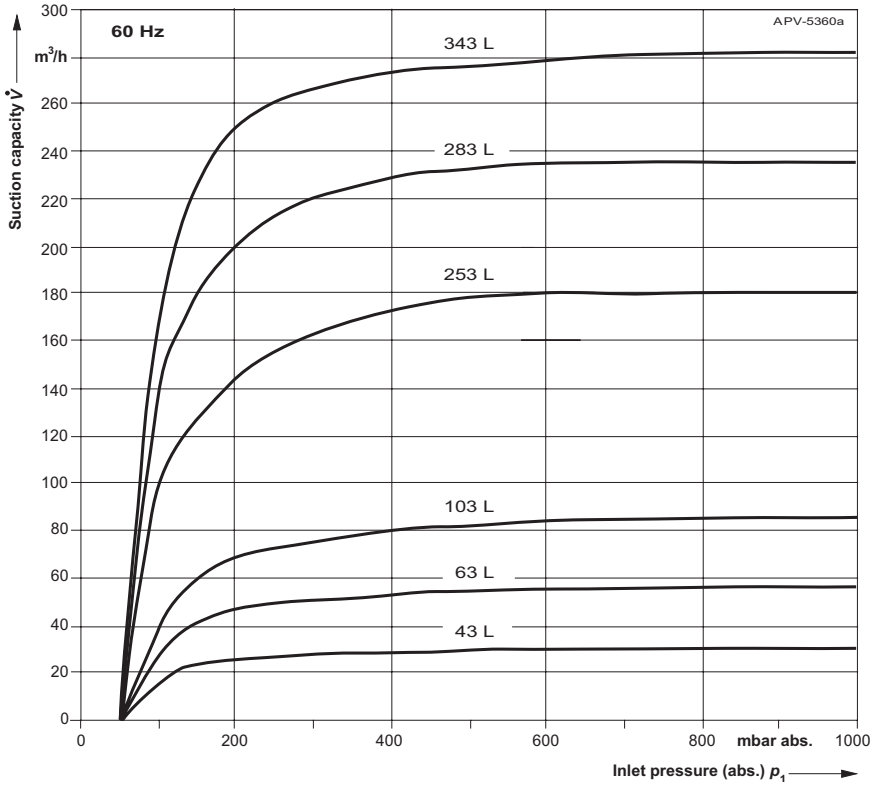
- Plastics industry: degassing, vacuum forming
- Beverage industry: bottles-filling machines, water degassing
- Hospitals: central vacuum installations, sterilisers
- Ceramics industry
- Packaging machines
- Printing presses
- Lifting and holding: e.g. wood, glass, laminex and veneer plywood

ELMO-L Compact Vacuum Pumps, Range 2BL, 50/60 Hz

Selection diagram 50 Hz



Selection diagram 60 Hz



The performance curves are valid for atmospheric air with 50% relative humidity, ambient temperature 20 °C and an ambient pressure of 1013 mbar with a tolerance of ±10%. The lowest achievable inlet pressure is 50 mbar.

ELMO-L Compact Vacuum Pumps, Range 2BL, 50/60 Hz

Selection and ordering information

Curve	Motor			Sound-pressure level [2]	Order No.	Empty weight approx.
	Rated output	Rated voltage [1]	Rated current			
No.	kW	V	A	dB(A)	**Cast iron**	kg
50 Hz, IP 55						
42L	0.81	1~, 230 V 230 Δ / 400 Y	6.9 3.6 Δ / 2.1 Y	63	**2BL1 040-2N A 00-1 S** [3] **2BL1 040-2N C 00-1 S** [3]	43
62L	1.45	1~, 230 V 230 Δ / 400 Y	10.2 6.4 Δ / 3.7 Y	66	**2BL1 060-2N A 02-1 S** [3] **2BL1 060-2N C 02-1 S** [3]	59
102L	2.35	230 Δ / 400 Y	10.4 Δ / 6.0 Y	68	**2BL1 100-2N C 00-1 S** [3]	70
142L	3.85	230 Δ / 400 Y	14.5 Δ / 8.4 Y	72	**2BL1 140-2N C 03-1 S**	94
252L	4.0	400 Δ / 690 Y	9.9 Δ / 5.7 Y	67	**2BL1 250-2K C 00-6 S**	180
282L	5.5	400 Δ / 690 Y	13.1 Δ / 7.6 Y	70	**2BL1 280-2K C 00-6 S**	185
342L	7.5	400 Δ / 690 Y	17.3 Δ / 10 Y	71	**2BL1 340-2K C 00-6 S**	270
60 Hz, IP 55						
43L	1.27	220 … 275 Δ / 380 … 480 Y	5.1 Δ / 2.35 Y	66	**2BL1 041-2N H 01-8 S** [3]	43
63L	2.0	220 … 275 Δ / 380 … 480 Y	7.8 Δ / 4.5 Y	67	**2BL1 061-2N H 03-8 S** [3]	59
103L	3.45	220 … 275 Δ / 380 … 480 Y	14.2 Δ / 8.2 Y	72	**2BL1 101-2N H 01-8 S** [3]	83
253L	6.2	460 Δ	11.3 Δ	71	**2BL1 251-2K H 01-6 S**	180
283L	8.2	460 Δ	14.3 Δ	73	**2BL1 281-2K H 01-6 S**	185
343L	11.4	460 Δ	21 Δ	76	**2BL1 341-2K H 01-6 S**	270
E Exe II T3, 50 Hz, IP 54						
24L	1	230 Δ / 400 Y	on request	63	**2BL1 040-2N D 01-4**	43
62L	1.75	230 Δ / 400 Y	6.3 Δ / 3.65 Y	66	**2BL1 060-2N D 03-4**	62
102L	2.8	230 Δ / 400 Y	9.5 Δ / 5.5 Y	68	**2BL1 100-2N D 01-4**	94

USA design pumps available on request

Accessories

	Brief information [4]	Weight approx. kg
Attached loose: - Intake filter - Vacuum control valve - Drainage tap	 **F50** **F51** **F55**	 0.5 … 4.2 0.5 a. A.
Built-in: - Mechanical inflow control - Mechanical outflow control - Electrical level switch	 **F52** **F53** **F54**	 0.5 0.5 0.7
With stainless steel cladding	**F56**	0.5

4) A "**Z**" and a brief indication should be added to the order no. as follows: Example 2BL1 040-2NC00-1S-**Z**
F50 + F52.

Other voltages

2BL1 . . . - . .	□	. . - □
50 Hz, 3~:	↑	↑
230 V Δ / 400 V Y	**C**	. . - **1**
400 V Δ / 690 V Y	**C**	. . - **6**
60 Hz, 3~:		
460 VΔ	**H**	. . - **6**
220...275 V Δ / 380...480 V Y	**H**	. . - **8**
200...245 V Δ / 345...440 V Y	**H**	. . - **0**
Other voltages	.	. . - **9**

■ Please give required voltage in plain text and then add N1 Y.
Ordering example:
2BL1 040-2NC00-9S
N1 Y
500 V Y, 50 Hz

Other materials

2BL1 . . . -. □ . . . -. .	↑
Standard version = cast iron	
Version containing no non-ferrous metal *)	**C**
Version containing no cast iron *)	**R**
Stainless steel version *)	**H**
Part-stainless steel version; IP 55	**B**

*) Not available for 2BL1 04.

1) Permissible voltage range:

Rated voltage acc. to DIN IEC 38, Voltage tolerance ±10 %	Permitted voltage range acc. to DIN EN 60034 or DIN IEC 34-1, Voltage tolerance ±5 %	Frequency Hz
230 V Δ / 400 V Y 400 V Δ / 690 V Y	220...240 V Δ / 380...420 V Y 380...420 V Δ / 660...725 V Y	50
460 V Δ —	440...480 V Y 220...275 V Δ / 380...480 V Y	60

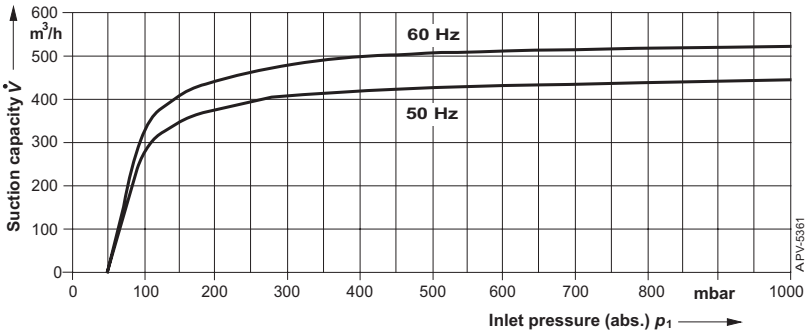
2) Measuring-surface sound-pressure level acc. to DIN EN 21 680 Part 1 / ISO 1680-1, measured at 1 m distance with a total pressure difference (vacuum) of 80 to 120 mbar and connected inlet pipe. Tolerance ±3 dB(A).

3) Also available as improved version for use with intake pressures less than 200 mbar.
The order no. then changes to: 2BL1 ...-**0**.
Can also be upgraded later to version 2BL1 …-**0**.

L

ELMO-L Vacuum Pumps, Range 2BL1 500, 50/60 Hz

Selection diagram

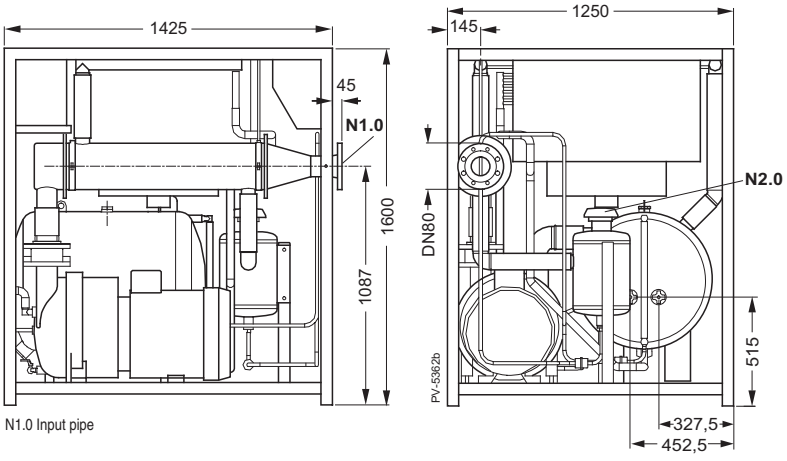


Order information *	2BL1 500-0KC00-6	2BL1 501-0KH02-6
Motor characteristic data:		
Frequency [Hz]	50	50 / 60
Rated output [kW]	12	15 / 18
Rated voltage [V]	400 Δ / 690 Y	400 Δ / 690 Y; 50 Hz 460 Δ; 60 Hz
Degree of protection	IP 55	IP 55
Materials **		
Monoblock pump Casing / port plate and cover / impeller	GG20 coated / GG20 / G-CuAl10Ni	GG20 coated / GG20 / G-CuAl10Ni
Condensation cooler	Stainless steel	Stainless steel
Separator	Galvanised steel	Galvanised steel
Pipework	PE, PVC	PE, PVC

* further types and voltages on request.

** other material versions on request.

Dimensions (mm)

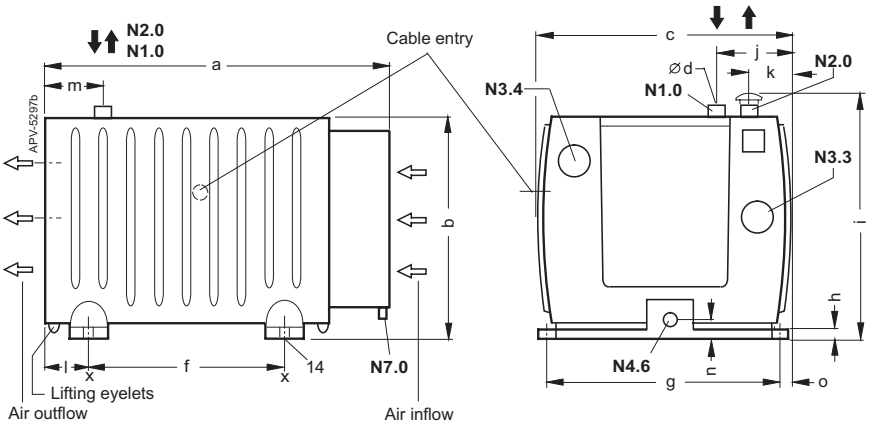


N1.0 Input pipe

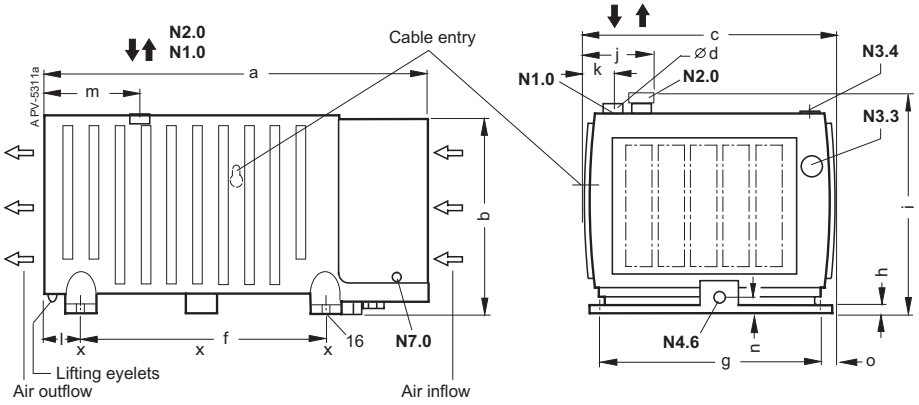
Accessories and Dimensions for ELMO-L Vacuum Pumps

Dimensions (mm)

2BL1 040 … 2BL1 100



2BL1 101 … 2BL1 341



N1.0 Suction connection
N2.0 Discharge connection
N3.3 Connection for in- and outflow controller
N3.4 Filling
N4.6 Total drain or sealant supply
N7.0 Drain of heat exchanger, piping side
x Bearing point

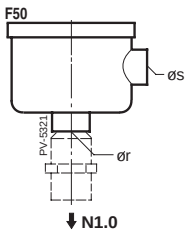
Type	a	b	c	d	g	h	i	j	k	l	m	n	o	N 1.0 ∅ d)	N 3.3	N 3.4	N 4.6	N 7.0
2BL1 040 / 041	600	390	420	345	370	25	440	115	65	80	116	35	25	32	S 56 x 4	S 56 x 4	G ¾ “	G 1/8 “
2BL1 060 / 061	740	430	520	450	460	25	485	150	80	85	120	35	30	50	S 56 x 4	S 56 x 4	G ¾ “	G 1/8 “
2BL1 100	760	430	520	450	460	25	485	150	80	85	120	35	30	50	S 56 x 4	S 56 x 4	G ¾ “	G 1/8 “
2BL1 101 / 140	920	470	620	590	535	25	525	142	72	90	225	35	42.5	50	S 56 x 4	Rd 30 x ¼	G 1 “	G 1/8 “
2BL1 2. / 3.	1100	630	845	755	725	30	710	240	120	90	310	35	60	63	S 56 x 4	Rd 30 x ¼	G 1 “	G 1/8 “

Accessories dimensions (mm)

For type	Brief information		
	F50	**F51**	**F52 / F53**
	∅ r / s	∅ t	min. x
2BL1 040 / 041	R ¾ “	G ¾ “	135
2BL1 060 / 061	R 1 ¼ “	G ¾ “	135
2BL1 100	R 1 ¼ “	G ¾ “	135
2BL1 101 / 140	R 1 ¼ “	G 1 “	135
2BL1 2.	R 1 ¼ “	G 1 “	135
2BL1 3.	R 2 “	G 1 “	135

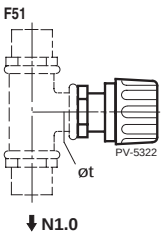
F55: Total drain valve on request

F50



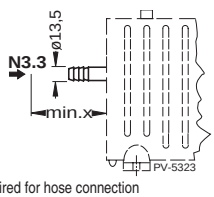
Suction filter

F51



Vacuum relief valve

F52/F53



Space required for hose connection

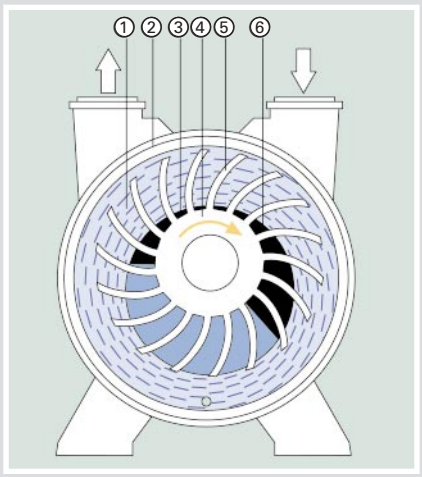
Inflow/outflow controller

ELMO-F Liquid-Ring Vacuum Pumps/Compressors

Robust technology for every application

We have been building liquid-ring vacuum pumps and compressors for almost 100 years and have acquired a unique level of know-how which we systematically build upon – with great success throughout the world.

Whether from our 2BV, 2BE or 2BG/2BK range, ELMO-F liquid-ring vacuum pumps and compressors are ideally equipped for use in wet processes. They are insensitive to thermal loading, condensate, dust, dirt particles and water slugs. They extract or compress even explosive gas mixtures safely and reliably. ELMO-F vacuum pumps and compressors are 100% oil-free in operation. The suction capacity is maximised by internal condensation of the steam in the suction flow, which means maximum performance when extracting steam-air mixtures.



Operating principle of a 2BE pump

① *Operating liquid*
② *Casing*
③ *Discharge port*
④ *Impeller hub*
⑤ *Impeller*
⑥ *Suction port*

F

M o n o b l o c k p u m p s:

ELMO-F vacuum pumps 2BV2/2BV5 (IP 54 degree of protection) – motor and pump form one structural unit – amazingly space-saving.

ELMO-F vacuum pumps 2BV3 (IP 54) – reliable monoblock pumps for low suction flows.

ELMO-F vacuum pumps 2BV7 (IP 55) – ultra-compact with the lowest water consumption.

ELMO-F vacuum pumps 2BV6 (IP 55, explosion protected) – with single or double mechanical seals and in stainless steel.

Simple and robust

The principle is simple and robust: the impeller is the only moving part and rotates without making contact – that means without contact with the casing or with the port plates, which limit the end faces of the impeller. Sealing is provided by an operating liquid ring (1) which rotates together with the impeller (5) in the casing (2). At the topmost point, the liquid completely fills the impeller chamber; and, as the impeller rotates around, the liquid falls away from the hub (4). As the space between the operating liquid and the impeller hub increases, it is filled with gas, which is drawn in through the suction port (6) of the port plate.
At the discharge-side, the liquid ring moves back towards the hub and compresses the gas just like a piston, which is then discharged through the flexible discharge port (3) of the port plate.

Applications

- Mining
- Chemical, pharmaceutical and refinery plants
- Evacuation of condensers in steam-electric power plants
- Plastic industry
- Medical technology
- Food industry
- Paper industry
- Textile industry
- Environmental engineering
- Vacuum filtration for processing of ore
- Process engineering
- Sugar factories

Modular design:

ELMO-F vacuum unit 2BE1 – successfully used worldwide in moist processes.

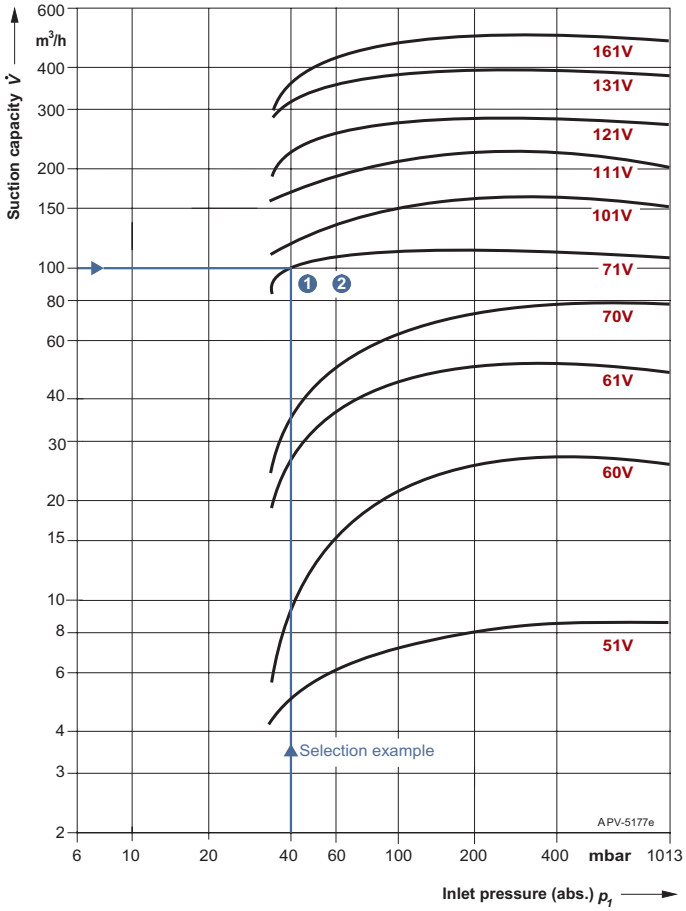
ELMO-F 2BE3 – high performance for extraction and compression of steam-air mixtures.

ELMO-F liquid-ring compressor 2BG, 10 sizes – up to 400 kW and 14 bar abs. pressure.

ELMO-F Liquid-Ring Vacuum Pumps, Range 2BV, 50 Hz

The performance curves are valid for pumping air with 100% relative humidity and 20 °C, compression to 1013 mbar, and water at 15 °C as the operating liquid.

Selection diagram 50 Hz



F

ELMO-F Liquid-Ring Vacuum Pumps, Range 2BV, 50 Hz

Selection and ordering information

Curve No.	Materials [1] Casing/ port plate/ impeller	Motor: Rated output	Motor: Rated voltage [2]	Motor: Rated current	Operating fluid requirement [3]	Sound-pressure level [4]	Order No. • AVAILABLE EX STOCK	Weight approx.
		kW	V	A	m^3/h	dB(A)		kg
Monoblock design 50 Hz [5]								
51V	Bronze/CrNi steel/bronze	0.3	1 ~ 230	2.9	0.078	57	• 2BV3 051-0GA01-1E	8.5
60V	CrNi steel/bronze/cast iron	0.83	230 Δ / 400 Y	3.3 Δ / 1.9 Y	0.1	62	2BV7 060-1AE00-1S	16
61V	CrNi steel/bronze/cast iron [8]	1.2	1 ~ 230 230 Δ / 400 Y	10.3 8.8 Δ / 5.1 Y	0.12	65	2BV7 061-1AA00-1S 2BV7 061-1AC00-1S	22 22
70V	CrNi steel/bronze/cast iron	2.4	230 Δ / 400 Y	11.6 Δ / 6.7 Y	0.15	66	2BV7 070-1AE00-1S	31
③ 71V	CrNi steel/bronze/cast iron	3.5	400 Δ / 690 Y	8.5 Δ / 4.9 Y	0.22	70	2BV7 071-1AE00-6S	38
101V	CrNi steel/bronze/cast iron	4	400 Δ / 690 Y	9.9 Δ / 5.7 Y	0.45 / 0.25	68	2BV5 110-0KC00-6S	78
111V	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	5.5	400 Δ / 690 Y	13.1 Δ / 7.6 Y	0.5 / 0.3	68	• 2BV5 111-0KC00-6P 2BV5 111-0HC00-6P	100
121V	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	7.5	400 Δ / 690 Y	17.3 Δ / 10 Y	0.6 / 0.3	69	• 2BV5 121-0KC00-6P 2BV5 121-0HC00-6P	145
131V	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	11	400 Δ / 690 Y	23 Δ / 13.4 Y	0.9 / 0.4	73	• 2BV5 131-0KC00-6P 2BV5 131-0HC00-6P	165
161V	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	12	400 Δ / 690 Y	29 Δ / 16.8 Y	1.2 / 0.6	74	• 2BV5 161-0KC00-6P 2BV5 161-0HC00-6P	252
Monoblock design 50 Hz, motor in EEx e II T3 [6]								
60V 61V	Cast iron/ceramic/bronze Cast iron/ceramic/bronze	1.1 1.85	230 Δ / 400 Y	4.2 Δ / 2.4 Y 6.3 Δ / 3.65 Y	0.12	62 65	2BV2 060-0ND01-4S 2BV2 061-0ND03-4S	20 25
70V	Cast iron/ceramic/bronze CrNi steel/ceramic/CrNi steel CrNi steel/CrNi steel/CrNi steel	2.5	230 Δ / 400 Y	8.6 Δ / 4.95 Y	0.15	66	2BV2 070-0ND01-4S 2BV2 070-0PD01-4S 2BV2 070-0HD01-4S	42
71V	Cast iron/ceramic/bronze CrNi steel/ceramic/CrNi steel CrNi steel/CrNi steel/CrNi steel	4.6	230 Δ / 400 Y	15 Δ / 8.6 Y	0.25	72	2BV2 071-0ND04-4S 2BV2 071-0PD04-4S 2BV2 071-0HD04-4S	60
101V	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	5	400 Δ / 690 Y	10.4 Δ / 6 Y	0.45 / 0.25	63	2BV5 110-0KD02-8S 2BV5 110-0HD02-8S	83
111V	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	6.8	400 Δ / 690 Y	14 Δ / 8.1 Y	0.5 / 0.3	68	2BV5 111-0KD02-8P 2BV5 111-0HD02-8P	105
121V	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	10	400 Δ / 690 Y	19.5 Δ / 11.4 Y	0.6 / 0.3	69	2BV5 121-0KD02-8P 2BV5 121-0HD02-8P	165
131V	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	13.5	400 Δ / 690 Y	26 Δ / 15.1 Y	0.9 / 0.4	73	2BV5 131-0KD02-8P 2BV5 131-0HD02-8P	185
161V	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	13.2	400 Δ / 690 Y	28 Δ / 16 Y	1.2 / 0.6	74	2BV5 161-0KD02-8P 2BV5 161-0HD02-8P	260
Close-coupled design 50 Hz								
101V 111V 121V 131V 161V	CrNi steel/CrNi steel/CrNi steel	4 5.5 7.5 11 12	400 Δ / 690 Y	9.9 Δ / 5.7 Y 13.1 Δ / 7.6 Y 17.3 Δ / 10 Y 23 Δ / 13.4 Y 29 Δ / 16.8 Y	0.45 / 0.25 0.5 / 0.3 0.6 / 0.3 0.9 / 0.4 1.2 / 0.6	63 68 69 73 74	2BV6 110-0HC00-6S 2BV6 111-0HC00-6S 2BV6 121-0HC00-6S 2BV6 131-0HC00-6S 2BV6 161-0HC00-6S	107 142 165 246 342
Close-coupled design 50 Hz, motor in EEx e II T3 [6]								
101V 111V 121V 131V 161V	CrNi steel/CrNi steel/CrNi steel	5 6.8 10 13.5 13.2	400 Δ / 690 Y	10.3 Δ / 6 Y 13.8 Δ / 8 Y 18.6 Δ / 10.8 Y 25.7 Δ / 14.9 Y 27.6 Δ / 16 Y	0.45 / 0.25 0.5 / 0.3 0.6 / 0.3 0.9 / 0.4 1.2 / 0.6	63 68 69 73 74	2BV6 110-0HD02-8S 2BV6 111-0HD02-8S 2BV6 121-0HD02-8S 2BV6 131-0HD02-8S 2BV6 161-0HD02-8S	117 142 165 246 350
Close-coupled design 50 Hz, motor in EEx de II C								
101V 111V 121V 131V 161V	CrNi steel/CrNi steel/CrNi steel	5.5 7.5 11 15 15	400 Δ / 690 Y	11.1 Δ / 6.4 Y 14.8 Δ / 8.6 Y 20.9 Δ / 12.1 Y 28.5 Δ / 16.5 Y 29.5 Δ / 17.1 Y	0.45 / 0.25 0.5 / 0.3 0.6 / 0.3 0.9 / 0.4 1.2 / 0.6	63 68 69 73 74	2BV6 110-0HE02-6L 2BV6 111-0HE02-6L 2BV6 121-0HE02-6L 2BV6 131-0HE02-6L 2BV6 161-0HE02-6L	117 142 198 238 350

2BV vacuum pumps are made as standard with single mechanical seals with **internal** supply.

For the 2BV6 range, the following alternatives are also available:	Order No. **2BV6 . . . - . . . □ . - . .**
Single mechanical seals, **external** supply	3
Double mechanical seals, **external** supply	**5**

For footnotes, see page 45.

For dimensions, see pages 51 to 53.

Selection example

Application:
e.g. sterilisation

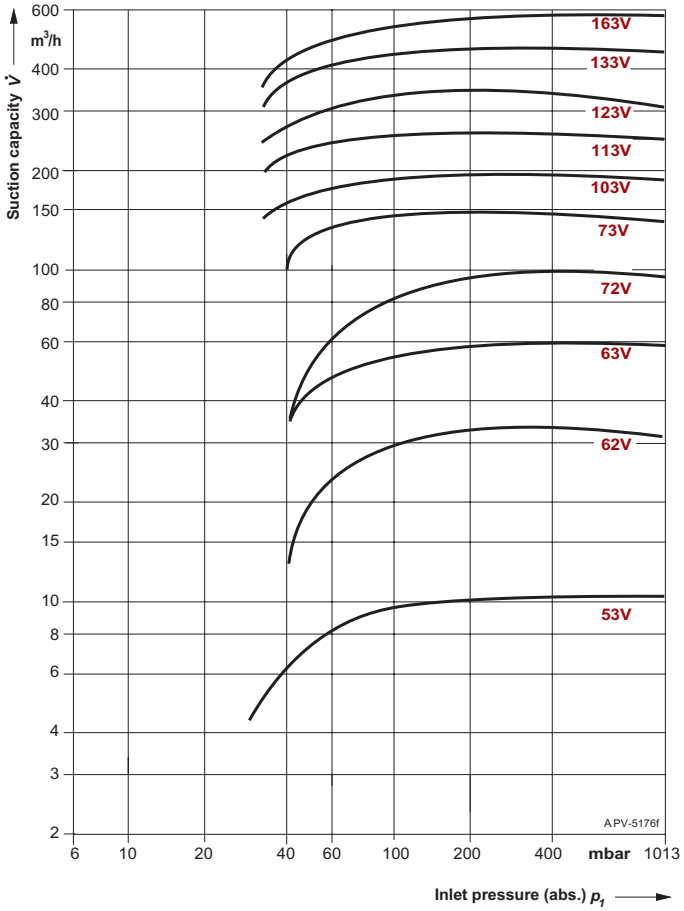
1. Required duty point at 50 Hz:
   $\dot{V}$ = 100 m^3/h
   p_1 = 40 mbar
2. Choose the performance curve which lies closest to the duty point ①.
   In this example, No. **71V**
3. Selection and order code (standard version):
   No. **71V** ≙ Type 2BV7 071-1AE00-6S

F

ELMO-F Liquid-Ring Vacuum Pumps, Range 2BV, 50/60 Hz

The performance curves are valid for pumping air with 100% relative humidity and 20 °C, compression to 1013 mbar, and water at 15 °C as the operating liquid.

Selection diagram 60 Hz



F

ELMO-F Liquid-Ring Vacuum Pumps, Range 2BV, 50/60 Hz

Selection and ordering information

Curve No.	Frequency	Service-factor 7)	Motor			Operating fluid requirement 3)	Sound-pressure level 4)	Order No.	Weight approx.
			Rated output	Rated voltage 2)	Rated current			• AVAILABLE EX STOCK	
	Hz	SF	kW	V	A	m^3/h	dB(A)		kg
Monoblock design 50/60 Hz (at 50 Hz also for more difficult operating conditions)									
51V	50	1.33	0.3	185...220 Δ / 320...380 Y	3.6 Δ / 2.1 Y	0.078	57	**2BV3 051-0GH02-0E**	8.5
53V	60	1.3	0.4	200...254 Δ / 345...440 Y	3.6 Δ / 2.1 Y	0.085	61		9.2
51V	50	1.33	0.3	200...240 Δ / 345...415 Y	3.8 Δ / 2.2 Y	0.078	57	**2BV3 051-0GH02-8E**	8.5
53V	60	1.3	0.4	220...275 Δ / 380...480 Y	3.8 Δ / 2.2 Y	0.085	61		9.2
51V	50	1.65	0.3	1 ~ 100 / 200	9.0 Δ / 4.5 Y	0.078	57	**2BV3 051-0GV02-4E**	8.5
53V	60	1.45	0.4	1 ~ 100 / 200	10.0 Δ / 5.0 Y	0.085	61		9.2
51V	50		0.3	1 ~ 115 / 230	9.0 Δ / 4.5 Y	0.078	57	**2BV3 051-0GV02-5E**	8.5
53V	60		0.4	1 ~ 115 / 230	10.0 Δ / 5.0 Y	0.085	61		9.2
60V	50	1.33	0.83	200... 240 Δ / 345...415 Y	5.0 Δ / 2.9 Y	0.1 / 0.03	62	• **2BV7 060-2AH00-8S**	17
62V	60	1.04	1.04	220...275 Δ / 380...480 Y	5.0 Δ / 2.9 Y	0.1 / 0.03	67		
60V	50	1.33	0.83	185...220 Δ / 320...380 Y	6.0 Δ / 3.4 Y	0.1 / 0.03	62	**2BV7 060-2AH00-0S**	17
62V	60	1.25	1.04	200...254 Δ / 345...440 Y	5.7 Δ / 3.3 Y	0.1 / 0.03	67		
61V	50	1.83	1.2	200...240 Δ / 345...415 Y	9.5 Δ / 5.5 Y	0.12 / 0.06	65	• **2BV7 061-1AH00-8S**	22
63V	60	1.59	1.6	220...275 Δ / 380...480 Y	9.5 Δ / 5.5 Y	0.12 / 0.06	69		
61V	50	1.83	1.2	185...220 Δ / 320...380 Y	10.0 Δ / 5.8 Y	0.12 / 0.06	65	**2BV7 061-1AH00-0S**	22
63V	60	1.59	1.6	200...254 Δ / 345...440 Y	10.8 Δ / 6.2 Y	0.12 / 0.06	69		
70V	50	1.75	2.4	200...240 Δ / 345...415 Y	16.6 Δ / 9.6 Y	0.15 / 0.06	66	• **2BV7 070-2AH00-8S**	31
72V	60	1.34	3.5	220...275 Δ / 380...480 Y	16.6 Δ / 9.6 Y	0.15 / 0.07	72		
70V	50	1.75	2.4	185...220 Δ / 320...380 Y	18.4 Δ / 10.6 Y	0.15 / 0.06	66	**2BV7 070-2AH00-0S**	31
72V	60	1.34	3.5	200...254 Δ / 345...440 Y	18.4 Δ / 10.6 Y	0.15 / 0.07	72		
71V	50	1.57	3.5	200...240 Δ / 345...415 Y	22.1 Δ / 12.8 Y	0.15 / 0.06	66	• **2BV7 071-2AH00-8S**	31
73V	60	1.21	5.2	220...275 Δ / 380...480 Y	22.1 Δ / 12.8 Y	0.15 / 0.07	72		
71V	50	1.57	3.5	185...220 Δ / 320...380 Y	24.0 Δ / 14.0 Y	0.15 / 0.06	66	**2BV7 071-2AH00-0S**	31
73V	60	1.21	5.2	200...254 Δ / 345...440 Y	24.0 Δ / 14.0 Y	0.15 / 0.07	72		
101V	50	1.3	4	200...240 Δ / 345...415 Y	25.5 Δ / 14.7 Y	0.45 / 0.25	63	• **2BV5 110-0KH01-8S** **2BV5 110-0HH01-8S** 1)	83
103V	60	1	6.2	220...275 Δ / 380...480 Y	25.5 Δ / 14.7 Y	0.45 / 0.25	63	• **2BV5 110-0KH01-8S** **2BV5 110-0HH01-8S** 1)	83
111V	50	1.25	5.5	200...240 Δ / 345...415 Y	31 Δ / 17.8 Y	0.5 / 0.3	68	• **2BV5 111-0KH01-8P** **2BV5 111-0HH01-8P** 1)	105
113V	60	1	8.2	220...275 Δ / 380...480 Y	31 Δ / 17.8 Y	0.5 / 0.3	68	• **2BV5 111-0KH01-8P** **2BV5 111-0HH01-8P** 1)	105
121V	50	1.3	7.5	200...240 Δ / 345...415 Y	43 Δ / 25 Y	0.6 / 0.3	69	• **2BV5 121-0KH01-8P** **2BV5 121-0HH01-8P** 1)	165
123V	60	1	11.4	220...275 Δ / 380...480 Y	43 Δ / 25 Y	0.6 / 0.3	69	• **2BV5 121-0KH01-8P** **2BV5 121-0HH01-8P** 1)	165
131V	50	1.2	11	200...240 Δ / 345...415 Y	50 Δ / 29 Y	0.9 / 0.4	73	**2BV5 131-0KH01-8P** **2BV5 131-0HH01-8P** 1)	185
133V	60	1	16.2	220...275 Δ / 380...480 Y	56 Δ / 32.5 Y	0.9 / 0.4	73	**2BV5 131-0KH01-8P** **2BV5 131-0HH01-8P** 1)	185
161V	50	1.25	12	200...240 Δ / 345...415 Y	63.5 Δ / 36.5 Y	1.2 / 0.6	74	**2BV5 161-0KH02-8P** **2BV5 161-0HH02-8P** 1)	260
163V	60	1	18	220...275 Δ / 380...480 Y	72 Δ / 41.5 Y	1.2 / 0.6	74	**2BV5 161-0KH02-8P** **2BV5 161-0HH02-8P** 1)	260
Close-coupled design 50/60 Hz (at 50 Hz also for onerous operating conditions)									
101V	50		5.5	400 Δ / 690 Y 2)	11.4 Δ / 6.6 Y	0.45 / 0.25	63	**2BV6 110-0HH02-6S** 1)	117
103V	60		6.3	460 Δ 2)	11.2 Δ	0.45 / 0.25	67		
111V	50		7.5	400 Δ / 690 Y 2)	15.4 Δ / 8.9 Y	0.5 / 0.3	68	**2BV6 111-0HH02-6S** 1)	142
113V	60		8.6	460 Δ 2)	15 Δ	0.5 / 0.3	74		
121V	50		11	400 Δ / 690 Y 2)	21.1 Δ / 12.2 Y	0.6 / 0.3	69	**2BV6 121-8HH02-6S** 1)	165
123V	60		12.6	460 Δ 2)	21 Δ	0.6 / 0.3	75		
131V	50		15	400 Δ / 690 Y 2)	28.5 Δ / 16.5 Y	0.9 / 0.4	73	**2BV6 131-0HH02-6S** 1)	246
133V	60		17.3	460 Δ 2)	29 Δ	0.9 / 0.4	77		
161V	50		15	400 Δ / 690 Y 2)	30 Δ / 17.3 Y	1.2 / 0.6	74	**2BV6 161-0HH02-6S** 1)	342
163V	60		18	460 Δ 2)	31 Δ	1.2 / 0.6	75		
Close-coupled design 60 Hz, motor to EEx de II C									
103V			8.6	460 Δ 2)	15 Δ	0.45 / 0.25	67	**2BV6 110-0HR03-6L**	129
113V			8.6	460 Δ 2)	15 Δ	0.5 / 0.3	74	**2BV6 111-0HR02-6L**	142
123V			12.6	460 Δ 2)	21 Δ	0.6 / 0.3	75	**2BV6 121-0HR02-6L**	238
133V			17.3	460 Δ 2)	29 Δ	0.9 / 0.4	77	**2BV6 131-0HR02-6L**	232
163V			18	460 Δ 2)	31 Δ	1.2 / 0.6	75	**2BV6 161-0HR02-6L**	362

50 Hz curves, see page 42

Ordering example for special voltages:
2BV7 061-1AA00-9S
N1 Y
220 V Δ, 50 Hz

3) Operating liquid quantity: Based on operating duty "partial operating liquid flow" with use of a discharge-liquid separator. 2BV2: Values are valid for the complete inlet pressure range. 2BV5 and 2BV6: Valid for inlet pressure < 200/>= 200 mbar.

4) Measuring-surface sound-pressure level acc. to EN 21680-1, measured at a distance of 1 m, with medium inlet pressure (100 mbar abs.) and with pipes connected.

5) For version for onerous operating conditions see page 45.

6) With Δconnection, an overload protection with phase failure protection is obligatory.

7) The pumps with a service factor > 1 have additional motor reserves for onerous operating conditions.
Example:
If the rated output is 0.81 kW and SF = 1.35, the maximum permissible motor output is 0.81 kW x 1.35 = 1.093 kW.

8) Casing, cover and impeller also available in chrome-nickel steel (G-X6CrNiMo 1810/1.4408). Please inquire.

Accessories, see pages 48 to 50.

Materials

for	for pump	Pump part		
Casing/port plate/impeller	Type	Pump casing	Port plate	Impeller
Cast iron/ceramic/bronze	**2BV2**	GG 20	KER 221	G-CuAl 10 Ni
Bronze/CrNi steel/bronze	**2BV3**	G-Cu Al 10 Ni	X6CrNiTi 1810	G-CuAl 10 Ni
Cast iron/cast iron/bronze	**2BV5**	GG 20	GG 20	G-CuAl 10 Ni
CrNi steel/ceramic/CrNi steel	**2BV2**	G-X6CrNiMo 1810	KER 221	G-X6CrNiMo 1810
CrNi steel/CrNi steel/CrNi steel 1)	**2BV2** **2BV5/6**	G-X6CrNiMo 1810 G-X5CrNiMoNb 1810	G-X6CrNiMo 1810 G-X5CrNiMoNb 1810	G-X6CrNiMo 1810 G-X5CrNiMoNb 1810
CrNi steel/CrNi steel/bronze	**2BV7**	X5CrNi 1810 (Lantern: EN-GJL-200)	X6CrNiMoTi 17-12-2	G-CuAl 10 Ni

2) Permissible voltage range

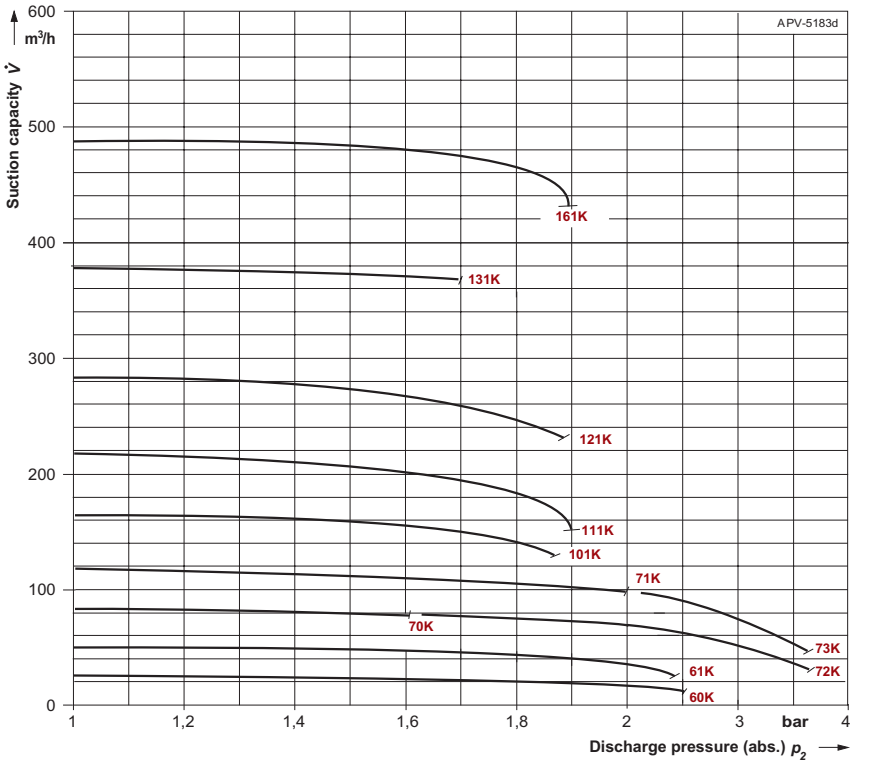
Rated voltage acc. to DIN IEC 38 Voltage tolerance here ±10 %		Permissible voltage range acc. to DIN VDE 0530 or DIN IEC 34-1 Voltage tolerance here ±5 %	
50 Hz	60 Hz	50 Hz	60 Hz
230 V Δ / 400 V Y 400 V Δ / 690 V Y	460 V Y 460 V Δ	220...240 V Δ / 380...420 V Y 380...420 V Δ / 660...725 V Y	440...480 V Y 440...480 V Δ

F

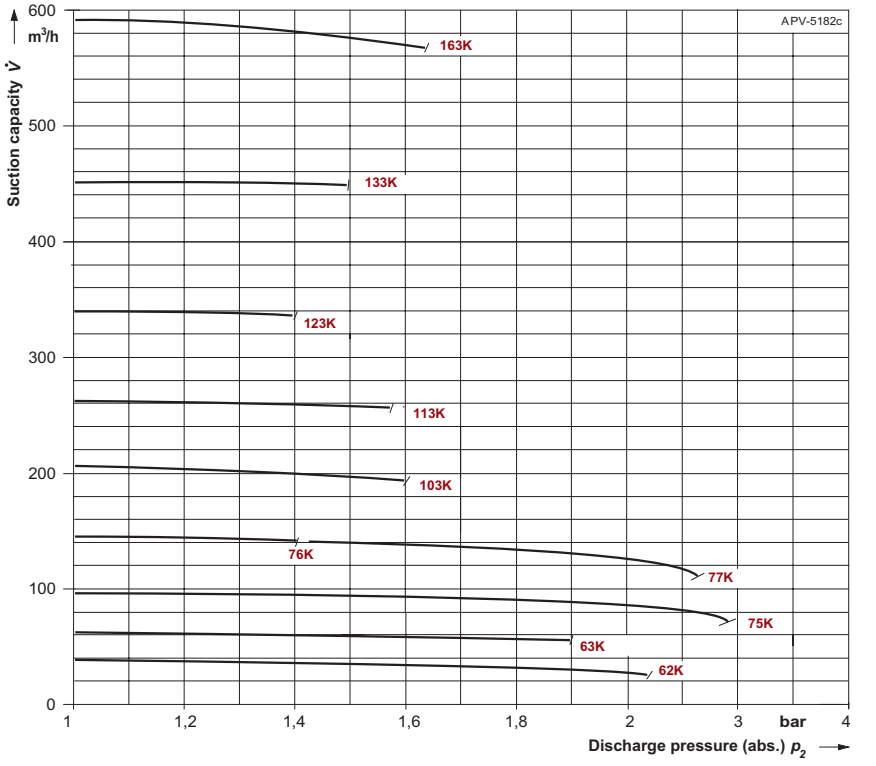
ELMO-F Liquid-Ring Compressors, Range 2BV, 50/60 Hz

Selection diagram

50 Hz



60 Hz



The performance curves are valid for pumping air with 100% relative humidity and 20 °C, compression to 1013 mbar, and water at 15 °C as the operating liquid.

F

ELMO-F Liquid-Ring Compressors, Range 2BV, 50/60 Hz

Selection and ordering information

Curve No.	Materials [1] Casing/ port plate/ impeller	Frequency	Motor				Operating fluid requirement [3]	Sound-pressure level [4]	Order No.	Weight approx.
			Rated output	Service-factor [5]	Rated voltage	Rated current			• AVAILABLE EX STOCK	
		Hz	kW	SF	V	A	m^3/h	dB(A)		kg
Compressors in monoblock design for 50/60 Hz										
60K	Cast iron/ceramic/bronze	50	1.5	1	230 Δ / 400 Y [2]	6.0 Δ / 3.4 Y	0.2	67	**2BV2 060-8NH02-1S**	23
62K		60	1.73		460 Y [2]	3.4 Y		69		
61K	Cast iron/ceramic/bronze	50	2.2	1	230 Δ / 400 Y [2]	8.1 Δ / 4.7 Y	0.25	70	**2BV2 061-8NH03-1S**	25
63K		60	2.53		460 Y [2]	4.7 Y		72		
70K	Cast iron/ceramic/bronze CrNi steel/ceramic/CrNi steel CrNi steel/CrNi steel/CrNi steel	50	2.35	1.25	200...240 Δ / 345...415 Y	12.8 Δ / 7.4Y	0.5	73	• **2BV2 070-0NH01-8S** **2BV2 070-0PH01-8S** **2BV2 070-0HH01-8S**	35
72K	Cast iron/ceramic/bronze CrNi steel/ceramic/CrNi steel CrNi steel/CrNi steel/CrNi steel	50	5.5	1	400 Δ / 690 Y [2]	11.3 Δ / 6.5 Y	0.5	73	**2BV2 070-8NH03-6S** **2BV2 070-8PH03-6S** **2BV2 070-8HH03-6S**	70
75K	Cast iron/ceramic/bronze CrNi steel/ceramic/CrNi steel CrNi steel/CrNi steel/CrNi steel	60	6.3	1	460 Δ [2]	11.3 Δ	0.5	75	**2BV2 070-8NH03-6S** **2BV2 070-8PH03-6S** **2BV2 070-8HH03-6S**	70
71K	Cast iron/ceramic/bronze CrNi steel/ceramic/CrNi steel CrNi steel/CrNi steel/CrNi steel	50	3.85	1.4	200...240 Δ / 345...415 Y	22.1 Δ / 12.8 Y	0.7	76	• **2BV2 071-0NH04-8S** **2BV2 071-0PH04-8S** **2BV2 071-0HH04-8S**	60
76K	Cast iron/ceramic/bronze CrNi steel/ceramic/CrNi steel CrNi steel/CrNi steel/CrNi steel	60	6.3	1	220...275 Δ / 380...480 Y	22.1 Δ / 12.8 Y	0.7	77	• **2BV2 071-0NH04-8S** **2BV2 071-0PH04-8S** **2BV2 071-0HH04-8S**	60
73K	Cast iron/ceramic/bronze CrNi steel/ceramic/CrNi steel CrNi steel/CrNi steel/CrNi steel	50	7.5	1	400 Δ / 690 Y [2]	14.7 Δ / 8.5 Y	0.7	76	**2BV2 071-8NH05-6S** **2BV2 071-8PH05-6S** **2BV2 071-8HH05-6S**	79
77K	Cast iron/ceramic/bronze CrNi steel/ceramic/CrNi steel CrNi steel/CrNi steel/CrNi steel	60	8.6	1	460 Δ [2]	14.7 Δ	0.7	77	**2BV2 071-8NH05-6S** **2BV2 071-8PH05-6S** **2BV2 071-8HH05-6S**	79
101K	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	50	4	1.3	200...240 Δ / 345...415 Y	25.5 Δ / 14.7 Y	0.9	67	• **2BV5 110-0KH01-8S** **2BV5 110-0HH01-8S**	83
103K	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	60	6.2	1	220...275 Δ / 380...480 Y	25.5 Δ / 14.7 Y	0.9	71	• **2BV5 110-0KH01-8S** **2BV5 110-0HH01-8S**	83
111K	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	50	5.5	1.25	200...240 Δ / 345...415 Y	31 Δ / 17.8 Y	1.2	69	• **2BV5 111-0KH01-8P** **2BV5 111-0HH01-8P**	105
113K	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	60	8.2	1	220...275 Δ / 380...480 Y	31 Δ / 17.8 Y	1.2	73	• **2BV5 111-0KH01-8P** **2BV5 111-0HH01-8P**	105
121K	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	50	7.5	1.3	200...240 Δ / 345...415 Y	43 Δ / 25 Y	1.5	73	• **2BV5 121-0KH01-8P** **2BV5 121-0HH01-8P**	165
123K	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	60	11.4	1	220...275 Δ / 380...480 Y	43 Δ / 25 Y	1.5	76	• **2BV5 121-0KH01-8P** **2BV5 121-0HH01-8P**	165
131K	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	50	11	1.2	200...240 Δ / 345...415 Y	50 Δ / 29 Y	1.8	76	**2BV5 131-0KH01-8P** **2BV5 131-0HH01-8P**	185
133K	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	60	16.2	1	220...275 Δ / 380...480 Y	56 Δ / 32.5 Y	1.8	78	**2BV5 131-0KH01-8P** **2BV5 131-0HH01-8P**	185
161K	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	50	12	1.25	200...240 Δ / 345...415 Y	63.5 Δ / 36.5 Y	2.4	77	**2BV5 161-0KH02-8P** **2BV5 161-0HH02-8P**	260
163K	Cast iron/cast iron/bronze CrNi steel/CrNi steel/CrNi steel	60	18	1	220...275 Δ / 380...480 Y	72 Δ / 41.5 Y	2.4	78	**2BV5 161-0KH02-8P** **2BV5 161-0HH02-8P**	260
Other voltages at 50/60 Hz on request										

Ordering example for special voltages:
2BV2 060-0NC00-9S
N1 Y
220 V Δ, 50 Hz

For dimensions, see page 55.

1) Materials

for	for Compressor	Compressor part		
Casing/port plate/impeller	Type	Casing	Port plate	Impeller
Cast iron/cast iron/bronze	**2BV2 06./7.**	GG 20	KER 221	G-CuAl 10 Ni
Cast iron/ceramic/bronze	**2BV5 . . .**	GG 20	GG 20	G-CuAl 10 Ni
CrNi steel/ceramic/CrNi steel	**2BV2 07.**	G-X6CrNiMo 1810	KER 221	G-X6CrNiMo 1810
CrNi steel/CrNi steel/CrNi steel	**2BV2 07.** **2BV5 . . .**	G-X6CrNiMo 1810 G-X5CrNiMoNb 1810	G-X6CrNiMo 1810 G-X5CrNiMoNb 1810	G-X6CrNiMo 1810 G-X5CrNiMoNb 1810

2) Permissible voltage range

Rated voltage acc. to DIN IEC 38*	Permissible voltage range acc. to DIN VDE 0530 or DIN IEC 34-1**
230 V Δ / 400 V Y 400 V Δ / 690 V Y	220...240 V Δ / 380...420 V Y 380...420 V Δ / 660...725 V Y

* Voltage tolerance here ±10 %.

** This voltage range is also indicated on the rating plate, together with the currents occurring in this range. For this range, the permissible voltage tolerance acc. to DIN VDE 0530 and IEC 34-1 is ±5%.

3) Operating liquid quantity: Based on operating duty "increased operating liquid flow". The values are valid for the complete pressure range.

4) Measuring-surface sound-pressure level acc. to EN 21680-1, measured at 1 m distance, at medium discharge-pressure and with pipes connected.

5) The permissible motor rating is derived from the rated power x SF (service factor).

F

Accessories for ELMO-F Vacuum Pumps, Range 2BV2

Selection and ordering information

		Material	For ELMO-F Type	Order No. • AVAILABLE EX STOCK	Weight approx. kg
	**Discharge-liquid separator** including return pipework and cavitation protection pipework	Plastic/ Steel PPN 4060/ GTW/St 33, zinc-coated	2BV2 060 - 0N . . . 2BV2 061 - 0N . . . 2BV2 070 - 0N . . . 2BV2 071 - 0N . . .	• **2BX1 061** • **2BX1 061** • **2BX1 062** • **2BX1 062**	0.8 0.8 1.3 1.3
		Chrome-nickel steel/ chrome-nickel steel X6CrNiMoTi 17122/ 1.4571	2BV2 070 - 0H . . . 2BV2 070 - 0P . . . 2BV2 071 - 0H . . . 2BV2 071 - 0P . . .	**2BX1 063**	4.8
	**Non-return valve** directly screwed into the inlet flange of the pump	Brass	2BV2 060 - 0N . . . 2BV2 061 - 0N . . . 2BV2 070 - 0N . . . 2BV2 071 - 0N . . .	• **2BY6 930 - 0AX08** • **2BY6 930 - 0AX08** • **2BY6 932 - 0AX08** • **2BY6 932 - 0AX08**	0.7 0.7 1.4 1.4
	**Non-return valve** (between flanges) for vertical mounting	Chrome-nickel steel X6CrNiMoTi 17122/ 1.4571	2BV2 070 - 0H . . . 2BV2 070 - 0P . . . 2BV2 071 - 0H . . . 2BV2 071 - 0P . . .	**2BY6 904 - 0HX08**	0.7
	**Mounting kit** for direct mounting of the non-return valve 2BY6 904 - 0HX08 onto the pump comprising 1 set Flange, fixing screws and gaskets	Chrome-nickel steel G-X6CrNiMo 1810/ 1.4408 X5CrNiMo 17122/ 1.4401	2BV2 070 - 0H . . . 2BV2 070 - 0P . . . 2BV2 071 - 0H . . . 2BV2 071 - 0P . . .	**2BX1 080**	1.9
	**2 connections and 2 mating flanges** (threaded flanges) including fixing screws and gaskets	Cast iron GGG50/USt 37-1	2BV2 060 - 0N . . . 2BV2 061 - 0N . . . 2BV2 070 - 0N . . . 2BV2 071 - 0N . . .	• **2BX1 071** • **2BX1 071** • **2BX1 075** • **2BX1 077**	1.1 1.1 1.9 2.1
	2 connections and 2 mating flanges with weld-neck acc. to DIN 2642 G40 x 48.3 including fixing screws and gaskets	Chrome-nickel steel G-X6CrNiMo 1810/ 1.4408 X5CrNiMo 17122/ 1.4401	2BV2 070 - 0H . . . 2BV2 070 - 0P . . . 2BV2 071 - 0H . . . 2BV2 071 - 0P . . .	**2BX1 076** **2BX1 076** **2BX1 078** **2BX1 078**	1.9 1.9 2.1 2.1 (each piece)
	**Gas ejector** [1]				
	Mains frequency **50 Hz** and **60 Hz**				
		Head; diffusor; jet			
		Cast iron (GG 20); Brass (MS 58); Brass (MS 58)	2BV2 060 - 0N . . .	**2BP1 061 - 1N**	2
			2BV2 061 - 0N . . .	**2BP1 061 - 1N**	
			2BV2 070 - 0N . . .	**2BP1 070 - 1N**	3
			2BV2 071 - 0N . . .	**2BP1 071 - 1N**	4
		Chrome-nickel steel *; Chrome-nickel steel **; Chrome-nickel steel **	2BV2 070 - 0H . . . 2BV2 070 - 0P . . . 2BV2 071 - 0H . . . 2BV2 071 - 0P . . .	**2BP1 070 - 1H** **2BP1 070 - 1H** **2BP1 071 - 1H** **2BP1 071 - 1H**	3 4

1) With connection to the vacuum pump, inlet pressures down to 10 mbar can be reached (propelling gas: ambient air at 20 °C, 1013 mbar).

*) G-X7CrNiMoNb 1810/1.4581

**) X10CrNiMoTi 1810/1.4571

For dimensions, see pages 56, 57.

F

Accessories for ELMO-F Vacuum Pumps, Range 2BV5/6

Selection and ordering information

		Material	For ELMO-F Type	Order No. • AVAILABLE EX STOCK	Weight approx. kg
	**Discharge-liquid separator** including return pipework, cavitation protection pipework, gaskets and screws	Plastic/ Steel PPN 4060/ GTW/St33, zinc-coated	2BV5 11 . - 0K. 2BV5 12 ./13. - 0K. 2BV5 16 . - 0K.	• **2BX1 100** • **2BX1 101** **2BX1 106**	7 9 12
		Chrome-nickel steel/ Chrome-nickel steel X6CrNiMoTi 17122/1.4571	2BV. 11 . - 0H. 2BV. 12 ./13. - 0H. 2BV. 16 . - 0H.	**2BX1 102** **2BX1 103** **2BX1 107**	17 19.5 38
	**Non-return valve** (between flanges) for vertical mounting	Steel housing Stainless steel cup Teflon gasket X10Cr 13/1.4006 X6CrNiMoTi 17122/1.4571 PTFE	2BV5 11 . - 0K. 2BV5 12 ./13. - 0K. 2BV5 16 . - 0K.	• **2BY6 905 - 5BX08** • **2BY6 906 - 5BX08** **2BY6 908 - 5BX08**	1.2 1.7 2.3
		Stainless steel housing Stainless steel cup X6CrNiMoTi 17122/1.4571 X6CrNiMoTi 17122/1.4571	2BV. 11 . - 0H. 2BV. 12 ./13. - 0H. 2BV. 16 . - 0H.	**2BY6 905 - 5HX08** **2BY6 906 - 5HX08** **2BY6 908 - 5HX08**	1.2 1.7 2.3
	**Mounting kit** For direct mounting of the non-return valve on the pump, comprising 1 mating flange with weld-neck acc. to DIN 2642, PN 10, gaskets and fixing screws	Flange: Cast steel Weld-neck: Chrome-nickel steel GGG 60 X5CrNiMo 17122/1.4401	2BV. 110 - 0. 2BV. 111 - 0. 2BV. 121 - 0. 2BV. 131 - 0. 2BV. 161 - 0.	**2BX1 081** **2BX1 081** **2BX1 082** **2BX1 082** **2BX1 083**	3 3 3.5 3.5 4
	comprising 1 mating flange (threaded flange) acc. to DIN 2566, PN 16, gaskets and fixing screws	Steel USt 37.1	2BV. 110 - 0K 2BV. 111 - 0K 2BV. 121 - 0K 2BV. 131 - 0K 2BV. 161 - 0K	**2BX1 090** **2BX1 090** **2BX1 091** **2BX1 091** **2BX1 092**	3 3 3.5 3.5 4
	Mating flange 1 loose flange with weld-neck, acc. to DIN 2642, PN 10, gasket and fixing screws	Flange: Cast steel Weld-neck: Chrome-nickel steel GGG 60 X5CrNiMo 17122/1.4401	2BV. 110 - 0. 2BV. 111 - 0. 2BV. 121 - 0. 2BV. 131 - 0. 2BV. 161 - 0.	**2BX1 093** **2BX1 093** **2BX1 094** **2BX1 094** **2BX1 095**	3 3 3.5 3.5 4
	Threaded mating flange 1 loose mating flange acc. to DIN 2566, PN 16 with gasket and fixing screws	Steel USt 37.1	2BV. 110 - 0K 2BV. 111 - 0K 2BV. 121 - 0K 2BV. 131 - 0K 2BV. 161 - 0K	**2BX1 096** **2BX1 096** **2BX1 097** **2BX1 097** **2BX1 098**	3 3 3.5 3.5 4
	**Gas ejector** [1]				
	Mains frequency **50 Hz**				
		Head; diffusor; jet			
		Cast iron (GGG 40); Cast iron (GGG 40); Chrome-nickel steel (CrNi-St)	2BV5 110 - 0K 2BV5 111 - 0K 2BV5 121 - 0K 2BV5 131 - 0K 2BV5 161 - 0K	**2BP5 110 - 1KC** **2BP5 111 - 1KC** **2BP5 121 - 1KC** **2BP5 131 - 1KC** **2BP5 161 - 1KC**	15 15 19 19 25
		Chrome-nickel steel *; Chrome-nickel steel **; Chrome-nickel steel **	2BV. 110 - 0H 2BV. 111 - 0H 2BV. 121 - 0H 2BV. 131 - 0H 2BV. 161 - 0H	**2BP5 110 - 1HC** **2BP5 111 - 1HC** **2BP5 121 - 1HC** **2BP5 131 - 1HC** **2BP5 161 - 1HC**	15 15 19 19 25
	Mains frequency **60 Hz**				
		Head; diffusor; jet			
		Cast iron (GGG 40); Cast iron (GGG 40); Chrome-nickel steel (CrNi-St)	2BV5 110 - 0K 2BV5 111 - 0K 2BV5 121 - 0K 2BV5 131 - 0K 2BV5 161 - 0K	**2BP5 110 - 1KF** **2BP5 111 - 1KF** **2BP5 121 - 1KF** **2BP5 131 - 1KF** **2BP5 161 - 1KF**	15 15 19 19 25
		Chrome-nickel steel *; Chrome-nickel steel **; Chrome-nickel steel **	2BV. 110 - 0H 2BV. 111 - 0H 2BV. 121 - 0H 2BV. 131 - 0H 2BV. 161 - 0H	**2BP5 110 - 1HF** **2BP5 111 - 1HF** **2BP5 121 - 1HF** **2BP5 131 - 1HF** **2BP5 161 - 1HF**	15 15 19 19 25
	Pressure gauge -1 to +0.6 bar including stopcock and gasket		2BV. 110 - . . . to 2BV. 161 - . . .	**2BX9 012 - 1HD20**	1

1) With connection to the vacuum pump, inlet pressures down to 10 mbar can be achieved (propelling gas: ambient air at 20 °C, 1013 mbar).

*) G-X7CrNiMoNb 1810/1.4581

**) X10CrNiMoTi 1810/1.4571

For dimensions, see pages 56, 57.

Accessories for ELMO-F Vacuum Pumps, Range 2BV7

Selection and ordering information

		Material	For ELMO-F Type	Order No.	Weight approx. kg
 Example	**Discharge-liquid separator**	on request	2BV7 060 - . A 2BV7 061 - . A 2BV7 070 - . A 2BV7 071 - . A	**2BX3 000 - 1A** **2BX3 001 - 1A**	1.5 on request
 Example	**Non-return valve** screwed directly on the pump suction connection	Brass / NBR, 1.4301	2BV7 060 - . A 2BV7 061 - . A 2BV7 070 - . A 2BV7 071 - . A	**2BX3 130 - 1A** **2BX3 131 - 1A**	0.9 on request
 Example	**2 connections and 2 mating flanges** (threaded flanges) with gaskets and fixing screws	Metalleable iron zinc coated (EN 10 242)	2BV7 060 - . A 2BV7 061 - . A 2BV7 070 - . A 2BV7 071 - . A	**2BX3 020 - 1A** **2BX3 021 - 1A**	1.2 on request
	**Air ejector** [1]	Cast iron / brass / Metalleable iron zinc coated (EN 10 242)	2BV7 060 - . A 2BV7 061 - . A 2BV7 070 - . A 2BV7 071 - . A	**2BX3 160 - 1A** **2BX3 161 - 1A** **2BX3 162 - 1A**	2.0 on request on request
 Example	**Valve for cavitation protection**	on request	2BV7 060 - . A 2BV7 061 - . A 2BV7 070 - . A 2BV7 071 - . A	**2BX3 110 - 1A** **2BX3 111 - 1A**	0.1 on request

1) Air ejector with connection to the vacuum pump, inlet pressures down to 10 mbar abs. can be achieved (propelin gas: ambient air of 20 °C, 1013 mbar).

The illustrations are preliminary and not obligatory.

Dimensions on request.

Accessories (supplied with pump)

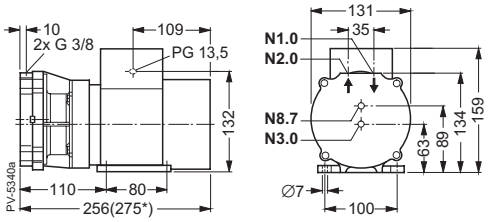
	Abbreviation [1]
Liquid separator	**B11**
Non-return valve can be screwed directly onto the inlet flange of the pump	**B12**
2 connections and 2 mating flanges (Threaded flanges) incl. screws and gaskets	**B13**
Gas ejector [1]	**B14**
Valve for cavitation protection	**B15**

1) A "**Z**" and the abbreviation should be added to the order no. as follows: Example 2BV7 061-2AC00-1S-**Z**
B11 + B14

F

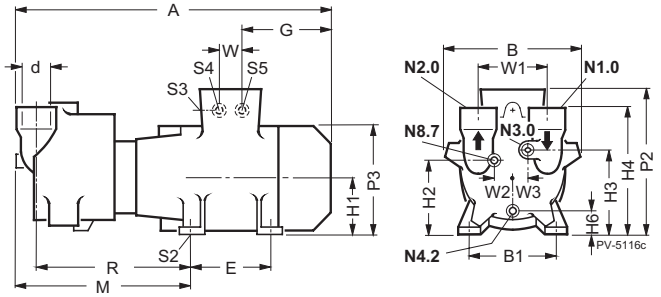
Dimensions for ELMO-F Vacuum Pumps, Range 2BV2/3

Dimensions for 2BV2 06., 2BV2 07., 2BV3 05. (mm)



2BV3 051

N1.0 Suction connection
N2.0 Discharge connection
N3.0 Operating water connection (G⅛)
N8.7 Cavitation protection (built-in) (G⅛)
* Dimensions of 2BV3 051-0GB02-1E
Capacitor integrated in terminal box.



2BV2 06./2BV2 07.

N1.0 Suction connection
N2.0 Discharge connection
N3.0 Operating water connection
N4.2 Drain or sealant supply
N8.7 Cavitation protection (built-in)

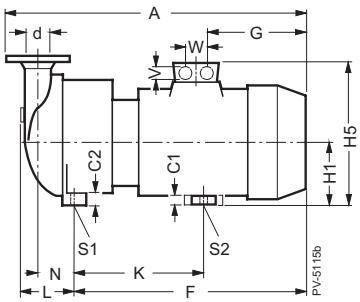
Type	Curve No.	A	B	B1	E	G	H1	H2	H3	H4	H6	M	P2	P3
2BV2 060 - 0	60V	403	186	125	100	153	80	108	116	185	27,5	219	200	158
- 1	60V/62V													
- 0ND01	60V					138							234	
2BV2 061 - 2	61V	476	186	140	100	185	90	118	126	195	37,5	251	218	177
- 3	61V/63V													
- 0ND03	61V					170							252	
2BV2 070 - 0	70V	494	223	140	100	185	90	117.5	136	212	23	265	218	177
- 1	70V/72V	552		160	140	190	100	127.5	146	222	33	300	235	197
- 0ND01	70V													
2BV2 071 - 3	71V	559	223	160	140	190	100	127.5	146	222	33	307	235	198
	71V/73V	564		216		254	132	159.5	178	254	65	276	327	262
	71V													

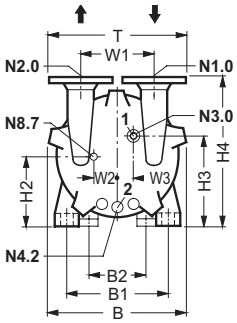
Type	Curve No.	R	S2	S3/S4	S5	W	W1	W2	W3	d	N3.0	N4.2	N8.7
2BV2 060 - 0	60V	193	9,5	M 25 x 1.5	M 16 x 1.5	32	110	25.5	21	G 1	G ⅜	G ¼	G ⅜
- 1	60V/62V									(18 deep)	(12 deep)	(12 deep)	(11 deep)
- 0ND01	60V												
2BV2 061 - 2	61V	224	10				110	25.5	21	G 1	G ⅜	G ¼	G ⅜
- 3	61V/63V									(18 deep)	(12 deep)	(12 deep)	(11 deep)
- 0ND03	61V												
2BV2 070 - 0	70V	234	10				110	33	27	G 1½	G ⅜	G ¼	G ⅜
- 1	70V/72V	269	12	4 x M 32 x 1.5		42				(22 deep)	(12 deep)	(12 deep)	(11 deep)
- 0ND01	70V												
2BV2 071 - 3	71V	276	12				110	33	27	G 1½	G ⅜	G ¼	G ⅜
	71V/73V	246								(22 deep)	(12 deep)	(12 deep)	(11 deep)
	71V												

F

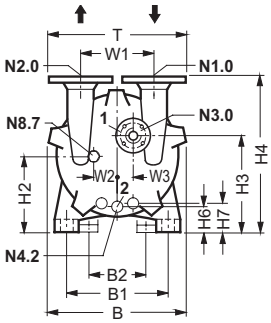
Dimensions for ELMO-F Vacuum Pumps, Range 2BV5

Dimensions for 2BV5 110, 2BV5 111, 2BV5 121, 2BV5 131, 2BV5 161 (mm)



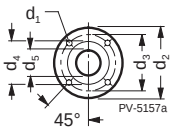


2BV5... - 0K
(cast iron version)

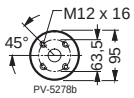


2BV5... - 0H
(CrNi steel version)

N1.0 Suction connection
N2.0 Discharge connection
N3.0 Operating water connection
N4.2 Drain or sealant supply
N8.7 Cavitation protection (built-in)



N1.0, N2.0 [1]



N3.0 (only 2BV5 … - 0H.) [2]

Type	Curve No.	A	B	B1	B2	C1	C2	H1	H2	H3	H4	H5	H6	H7	K	L
2BV5 110 - 0K ... 2BV5 110 - 0H ...	101V/103V	639	326 326	255	190	20	26	140	156 153	202 203	361	288	38.5	58	295 295	128
2BV5 110 - 0KD.2 2BV5 110 - 0HD.2	101V	669	325 330	255	190	20	36	150	166 163	211 213	371	345	47.5	67	306	130
2BV5 111 - 0K ... 2BV5 111 - 0H ...	111V/113V	655	325 330	265	190	20	26	150	166 163	212 213	371	345	47.5	68 67	291	130
2BV5 111 - 0KD.2 2BV5 111 - 0HD.2	111V	693	325 330	265	190	20	26	150	166 163	212 213	371	345	47.5	68 67	291	130
2BV5 121 - 0K ... 2BV5 121 - 0H ...	121V/123V	715	347 352	265	190	20	26	150	167	217	385	345	38.5	60	336	141
2BV5 121 - 0KD.2 2BV5 121 - 0HD.2	121V	798	347 352	265	190	20	51	175	192	242	410	408	63.5	85	375	141
2BV5 131 - 0K ... 2BV5 131 - 0H ...	131V/133V	802	377 382	300	190	20	30	175	194	249	427	409	53	76	373	147 150
2BV5 131 - 0KD.2 2BV5 131 - 0HD.2	131V	842	377 382	300	190	20	30	175	194	249	427	409	53	76	373	147 150
2BV5 161 - 0KC.0 2BV5 161 - 0HC.0	161V	895	479 484	370	190	20	30	210	225	303 305	521	444	51	79.5	422.5	201
2BV5 161 - 0K ..2 2BV5 161 - 0H ..2	161V/163V	1011	479 484	370	370	30	30	210	225	303	521	485	51	79.5	617.5	201

Type	Curve No.	F	G	N	S1	S2	T	V	d_1	d_2	d_3	d_4	d_5
2BV5 110 - 0 .... 2BV5 110 - 0.D.2	101V/103V 101V	468 497	208 233	92	12 x 23	12	340	4 x M 32 x 1.5	19	160	123	97	52
2BV5 111 - 0 .... 2BV5 111 - 0.D.2	111V/113V 111V	483 521	233 271	92	12 x 23	12	340	2 x Pg 21	19	160	123	97	52
2BV5 121 - 0 .... 2BV5 121 - 0.D.2	121V/123V 121V	528 610	233 287	97	12 x 23	12 14	382	2 x Pg 21 2 x Pg 29	19	182	142	113	66.5
2BV5 131 - 0 .... 2BV5 131 - 0.D.2	131V/133V 131V	608 648	287 327	103	15 x 25	14	382	2 x Pg 29	19	182	142	113	66.5
2BV5 161 - 0.C.0 2BV5 161 - 0 ...2	161V 161V163V	658 773.5	243 450	137.5	15 x 27	14	450	2 x Pg 29	22	200	156	130	80

Type	Curve No.	W	W1	W2	W3	d (N1.0, N2.0)	N3.0	N4.2	N8.7
2BV5 110 - 0K ... 2BV5 110 - 0H ...	101V/103V	42	180	52.5	27 24.5	DN 50/PN 40	G ¾ (24 deep) DN 15 + G ¾ (24 deep)	G ⅜ (25 deep)	G ⅜ (11 deep)
2BV5 111 - 0K ... 2BV5 111 - 0H ...	111V/113V	42	180	52.5	27 24.5	DN 50/2''	G ¾ (24 deep) DN 15 + G ¾ (24 deep)	G ⅜ (25 deep)	G ⅜ (11 deep)
2BV5 121 - 0K ... 2BV5 121 - 0H ...	121V/123V	42 [3]	200	57	29	DN 65/2 ½''	G ¾ (24 deep) DN 15 + G ¾ (24 deep)	G ⅜ (25 deep)	G ⅜ (11 deep)
2BV5 131 - 0K ... 2BV5 131 - 0H ...	131V/133V	54	200	62.5	32	DN 65/2 ½''	G ¾ (24 deep) DN 15 + G ¾ (24 deep)	G ⅜ (25 deep)	G ⅜ (11 deep)
2BV5 161 - 0K ..2 2BV5 161 - 0H ..2	161V/163V	75 [4]	250	81	41	DN 80/3''	G ¾ (24 deep) DN 15 + G ¾ (24 deep)	G ⅜ (25 deep)	G ⅜ (11 deep)

1) Suitable for mating flange acc. to DIN 2501, ND 16 or ANSI B16.5-3-150.

2) Suitable for round flange acc. to DIN 2633, ND 16, nominal diameter 15, or ANSI B16.5-1/2-150.

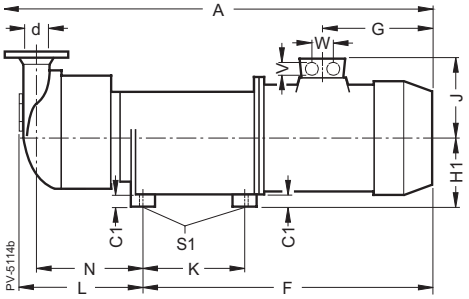
3) 2BV5 121-0.D.: 54 mm

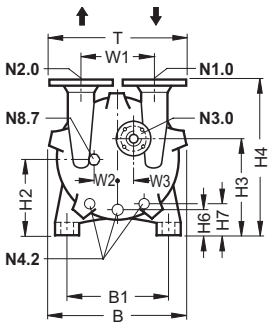
4) 2BV5 161-0.C.O.: 54 mm

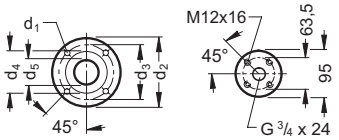
F

Dimensions for ELMO-F Vacuum Pumps, Range 2BV6

Dimensions for 2BV6 110, 2BV6 111, 2BV6 121, 2BV6 131, 2BV6 161 (mm)







N1.0 Suction connection
N2.0 Discharge connection
N3.0 Operating liquid connection
N4.2 Drain and sealant supply
N8.7 Cavitation protection (built-in)

N1.0, N2.0 1)

N3.0 2)

Type	Curve No.	A	B	B1	C1	F	G	J	V	W
2BV6 110 - 0HC.0	101V	986	330	255	26	626	195	171	2 x Pg 21	42
2BV6 110 - 0HD.2	101V	1044				684	233	195		
2BV6 110 - 0HH.2	103V									
2BV6 110 - 0HE.2	101V	1118				758	305	253		54
2BV6 110 - 0HR.3	103V									
2BV6 111 - 0HC.0	111V	1124	330	279	26	733	233	195	2 x Pg 21	42
2BV6 111 - 0HD.2	111V	1162				771	271			
2BV6 111 - 0HH.2	113V	1124				733	233			
2BV6 111 - 0HE.2	111V	1198				807	305	253		54
2BV6 111 - 0HR.2	113V									
2BV6 121 - 0HC.0	121V	1152	351	279	26	733	233	195	2 x Pg 21	42
2BV6 121 - 0HD.2	121V	1287				868	287	233	2 x Pg 29	54
2BV6 121 - 0HH.2	123V									
2BV6 121 - 0HE.2	121V	1294				875	339	276		
2BV6 121 - 0HR.2	123V									
2BV6 131 - 0HC.0	131V	1383	382	320	26	939	287	233	2 x Pg 29	54
2BV6 131 - 0HD.2	131V	1423				979	327			
2BV6 131 - 0HH.2	133V	1383				939	287			
2BV6 131 - 0HE.2	131V	1456				1012	390	292		117
2BV6 131 - 0HR.2	133V									
2BV6 161 - 0HC.0	161V	1441	484	320	26	939	287	233	2 x Pg 29	54
2BV6 161 - 0HD.2	161V	1569				1067	450	275		75
2BV6 161 - 0HH.2	163V									
2BV6 161 - 0HE.2	161V	1573				1071	454	310		
2BV6 161 - 0HR.2	163V									

Type	Curve No.	H1	H2	H3	H4	H6	H7	K	L	N	S1	T	W1	W2	W3
2BV6 110 -	101V103V	160	173	223	381	58	77	250	319	281	Ø 13 x 23	340	180	52	27
2BV6 111 -	111V/113V	180	193	243	401	78	97	320	349	311	Ø 13 x 23	340	180	52	27
2BV6 121 -	121V/123V	180	197	247	415	69	90	320	372	328	Ø 13 x 23	381.5	200	57	29
2BV6 131 -	131V/133V	215	234	287	467	93	116	414	400	353	Ø 15 x 27	381.5	200	62.5	32
2BV6 161 -	161V/163V	215	230	310	526	56	85	414	466	402	Ø 15 x 27	450	250	81	41

Type	Curve No.	d_1	d_2	d_3	d_4	d_5	d (N1.0, N2.0)	N3.0	N4.2	N8.7
2BV6 110 -	101V/103V	19	160	123	97	52	DN 50/2''	DN 15 + G ¾ (24 deep)	G ⅜ (25 deep)	G ⅜ (11 deep)
2BV6 111 -	111V/113V	19	160	123	97	52	DN 50/2''	DN 15 + G ¾ (24 deep)	G ⅜ (25 deep)	G ⅜ (11 deep)
2BV6 121 -	121V/123V	19	181.5	142	113	66.5	DN 65/2½''	DN 15 + G ¾ (24 deep)	G ⅜ (25 deep)	G ⅜ (11 deep)
2BV6 131 -	131V/133V	19	181.5	142	113	66.5	DN 65/2½''	DN 15 + G ¾ (24 deep)	G ⅜ (25 deep)	G ⅜ (11 deep)
2BV6 161 -	161V/163V	22	200	156	130	80	DN 80/3''	DN 15 + G ¾ (24 deep)	G ⅜ (25 deep)	G ⅜ (11 deep)

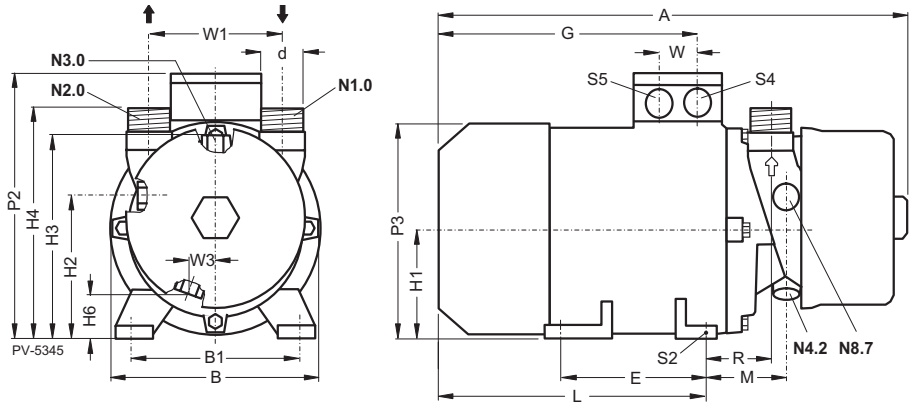
1) Suitable for mating flange acc. to DIN 2501, ND 16 or ANSI B16.5-3-150.

2) Suitable for round flange acc. to DIN 2633, ND 16, nominal diameter 15, or ANSI-B16.5-1/2-150.

F

Dimensions for ELMO-F Vacuum Pumps, Range 2BV7

Dimensions for 2BV7 (mm)



2BV7

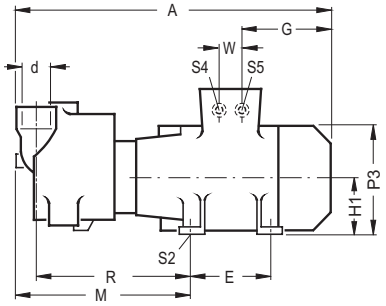
N1.0 Suction connection
N2.0 Discharge connection
N3.0 Operating water connection
N4.2 Drain or sealant supply
N8.7 Cavitation protection (built-in)

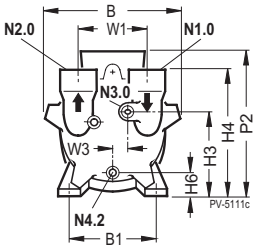
Type	Curve No.	A	B	B_1	E	G	H_1	H_2	H_3	H_4	H_6	M	P_2	P_3	R	S_2	S_4	S_5	W	W_1	W_3	d	N3.0	N4.0
2BV7 060 - 1	60V	325	162	125	100	154	80	107	156	180	26	72	200	161	59	10	M 25 x 1.5	M 16 x 1.5	32	110	23	R1''	G ¼	G ¼
2BV7 060 - 2		372	180	140		186	90	117	166	190	35	68	218	161	55									
2BV7 061	61V	394	180	140	100	186	90	117	166	190	36	68	218	180	55	10	M 25 x 1.5	M 16 x 1.5	32	110	23	R1''	G ¼	G ¼
2BV7 070 - 1	70V	438	202	160	140	241	100	127	194	222	34	89	235	201	71	12	M 32 x 1.5	M 32 x 1.5	42	120	28	R1 ½''	G ¼	G ¼
2BV7 070 - 2		473				266																		
2BV7 071 - 1	71V	488	227	190	140	252	112	139	208	234	46	96	260	225	78	12	M 32 x 1.5	M 32 x 1.5	42	120	28	R1 ½''	G ¼	G ¼
2BV7 071 - 2		511	266	216		266	132	159	226	254	66	99	288	265	81				42					

F

Dimensions for ELMO-F Compressors, Range 2BV.

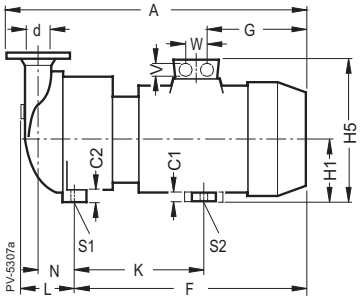
Dimensions for 2BV2 06., 2BV2 07., 2BV5 (mm)



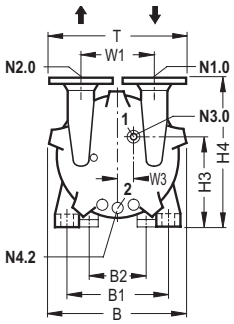


2BV2 06., 2BV2 07.

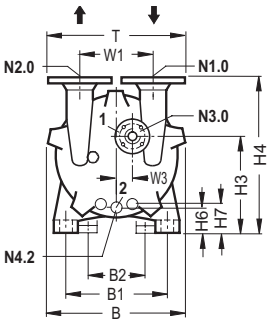
N1.0 Suction connection
N2.0 Discharge connection
N3.0 Operating water connection
N4.2 Drain or sealant supply



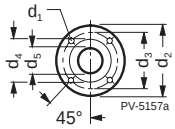
2BV5



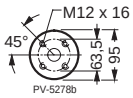
2BV5 ...-0K
(Cast iron version)



2BV5 ...-0H
(CrNi steel version)



N1.0, N2.0 [1]



N3.0 (only 2BV5. ...-0H.) [2]

Type	Curve No.	A	B	B1	E	G	H1	H3	H4	H6	M	P2	P3	R	S2	S4	S5	W	W1	W3	d	N3.0	N4.2
2BV2 060 - 2	60K/62K	457	186	140	100	185	90	126	195	37.5	276	218	177	205	10	M 25 x 1.5	M 16 x 1.5	32	110	21	G 1	G ¾	G ¼
2BV2 061 - 3	61K/63K	476				185					251	218	177	224				32				12 deep	12 deep
2BV2 070 - 1	70K	552	223	160	140	190	100	146	222	33	300	235	197	269	12	4 x M 32 x 1.5		42	110	27	G 1½	G ¾	G ¼
- 3	72K/75K	557		216		225	132	178	254	65	302	299	261	239								12 deep	12 deep
2BV2 071 - 4	71K/76K	564	223	216	140	225	132	261	254	65	276	299	261	246	12	4 x M 32 x 1.5		42	110	27	G 1½	G ¾	G ¼
- 5	73K/77K																					12 deep	12 deep

Type	Curve No.	A	B	B1	B2	C1	C2	H1	H3	H4	H5	H6	H7	K	L	F	G	N	S1	S2	T	V
2BV5 110 - 0K...	101K/103K	647	325	255	190	20	26	140	201	361	311	38	57	297.5	130	475	195	92	12 x 23	12	340	2 x Pg 21
2BV5 110 - 0H...			330						203													
2BV5 111 - 0K...	111K/113K	655	325	265	190	20	26	150	212	371	346	48	68	291	130	483	233	92	12 x 23	12	340	2 x Pg 21
2BV5 111 - 0H...			330						213				67									
2BV5 121 - 0K...	121K/123K	715	347	265	190	20	26	150	217	385	346	39	60	336	141	528	233	97	12 x 23	12	382	2 x Pg 21
2BV5 121 - 0H...			352																			
2BV5 131 - 0K...	131K/133K	802	377	300	190	20	30	175	249	427	409	53	76	373	147	608	287	103	15 x 25	14	382	2 x Pg 29
2BV5 131 - 0H...			382												150							
2BV5 161 - 0K...	161K/163K	1011	479	370	370	30	30	210	303	521	485	51	80	617.5	201	773.5	450	137.5	15 x 27	15	450	2 x Pg 29
2BV5 161 - 0H...			484						305													

Type	Curve No.	d_1	d_2	d_3	d_4	d_5	W	W1	W3	d (N1.0, N2.0)	N3.0	N4.2
2BV5 110 - 0K...	101K/103K	19	160	123	97	52	42	180	27	DN 50/2"	G ¾ (24 deep)	G ⅜ (25 deep)
2BV5 110 - 0H...									24		DN 15 + G ¾ (24 deep)	
2BV5 111 - 0K...	111K/113K	19	160	123	97	52	42	180	27	DN 50/2"	G ¾ (24 deep)	G ⅜ (25 deep)
2BV5 111 - 0H...									24		DN 15 + G ¾ (24 deep)	
2BV5 121 - 0K...	121K/123K	19	182	142	113	66.5	42	200	29	DN 65/2 ½'	G ¾ (24 deep)	G ⅜ (25 deep)
2BV5 121 - 0H...											DN 15 + G ¾ (24 deep)	
2BV5 131 - 0K...	131K/133K	19	182	142	113	66.5	54	200	32	DN 65/2 ½"	G ¾ (24 deep)	G ⅜ (25 deep)
2BV5 131 - 0H...											DN 15 + G ¾ (24 deep)	
2BV5 161 - 0K...	161K/163K	22	200	156	130	80	75	250	41	DN 80/3"	G ¾ (24 deep)	G ⅜ (25 deep)
2BV5 161 - 0H...											DN 15 + G ¾ (24 deep)	

1) Suitable for mating flange acc. to DIN 2501, ND 16 or ANSI B16.5-3-150.

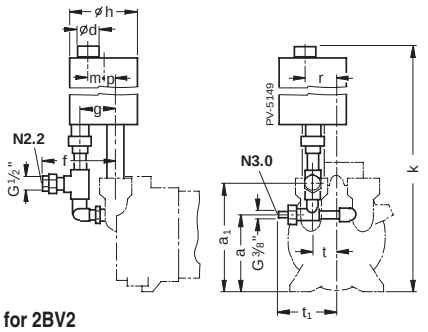
2) Suitable for round flange acc. to DIN 2633, ND 16, nominal diameter 15, or ANSI B16.5-1/2-150.

F

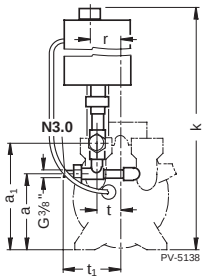
Accessories for ELMO-F Vacuum Pumps and Compressors, Range 2BV.

Dimensions (mm)

Discharge-liquid separator without pipe for cavitation protection



Discharge-liquid separator with pipe for cavitation protection

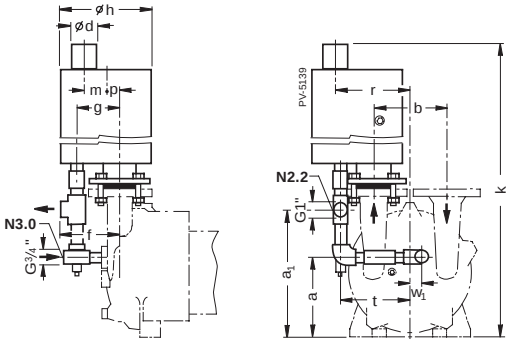


N2.2 Separator overflow
N3.0 Operating liquid connection

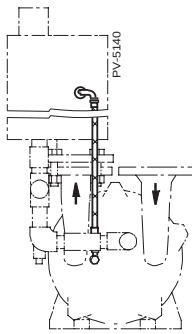
Discharge-liquid separator for 2BV2

Order No.	For type	a	a_1	Ø d	f	g	Ø h	k	m	p	r	t	t_1
2BX1 061	2BV2 060	116	191	40	153	72	125	521	27	30	71	75	185
2BX1 061	2BV2 061	126	201	40	153	72	125	531	27	30	71	75	185
2BX1 062/063	2BV2 070-0...0	136	211	50	167	86	161	620	19	31	86	69	179
2BX1 062/063	2BV2 070-0...1	146	221	50	167	86	161	630	19	31	86	69	179
2BX1 062/063	2BV2 071-0...3	146	221	50	167	86	161	630	19	31	86	69	179
2BX1 062/063	2BV2 071-0...4	178	253	50	167	86	161	662	19	31	86	69	179

Discharge-liquid separator without pipe for cavitation protection



Discharge-liquid separator with pipe for cavitation protection

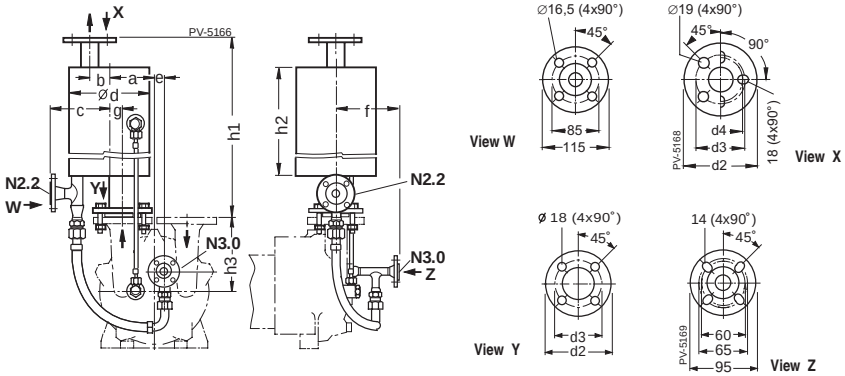


N2.2 Separator overflow
N3.0 Operating liquid connection

Discharge-liquid separator for 2BV5

Order No.	For type	a	a_1	b	Ø d	f_1	f_2	g	Ø h	k	m	p	r	t	w_1
2BX1 100	2BV5 110	202	322	180	63	125	120	87	200	904	54	22	144	151	27
	2BV5 111	212	332							914					27
2BX1 101	2BV5 121	217	337	200	75	131	126	93	250	915	18	12	200	200	29
	2BV5 131	249	369							955					32
2BX1 106	2BV5 161	305	425	250	90	151	146	113	315	1120	0	0	255	182	41

Discharge-liquid separator with pipe for cavitation protection



N2.2 Separator overflow [1]
N3.0 Operating liquid connection

1) 2BX1 10.: Flange DIN 2633, ND 16 suitable for ANSI-1¼-150

2) 2BX1 102: Flange B DIN 2576 suitable for ANSI-2-150
2BX1 103: Flange B DIN 2576 suitable for ANSI-2½-150
2BX1 107: Flange 100/108 DIN 2633 suitable for ANSI-4-150

3) 2BX1 102: Loose flange DIN 2642
2BX1 103: Loose flange DIN 2642
2BX1 107: Flange 80/88.9 DIN 2633

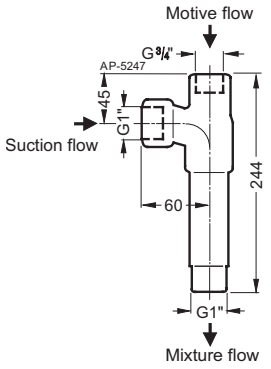
Discharge-liquid separator for 2BV5 ...-0H and 2BV6

												Flange view X [2]			Flange view Y [3]	
Order No.	For type	a	b	c	d	e	f	g	h1	h2	h3	d2	d3	d4	d2	d3
2BX1 102	2BV. 110	123	45	157	204	25	164	33	598	380	221	165	125	120.6	165	125
	2BV. 111															
2BX1 103	2BV. 121	143	62	157	254	29	170	43	598	380	235	185	145	139.7	185	145
	2BV. 131					32	173				252					
2BX1 107	2BV. 161	203	100	77	355	41	188	78	717	505	311	220	190.5	180	200	160

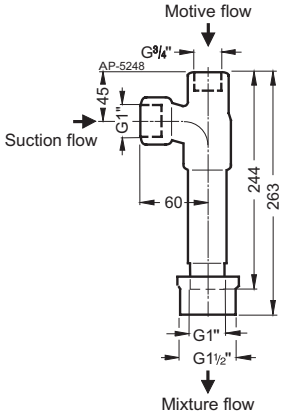
F

Accessories for ELMO-F Vacuum Pumps and Compressors, Range 2BV.

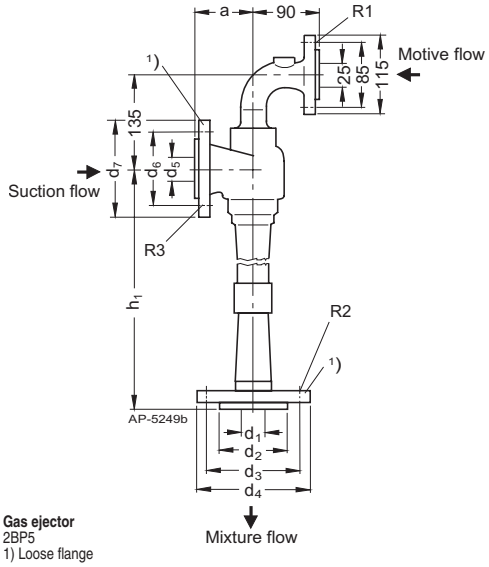
Dimensions for Accessories 2BV2 06., 2BV2 07., 2BV5 (mm)



Gas ejector
2BP1 061



Gas ejector
2BP1 07.



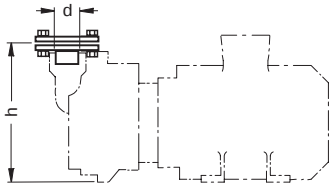
Gas ejector
2BP5
1) Loose flange

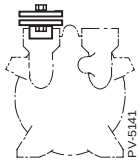
Gas ejector for 2BV5 and 2BV6

Order No.	For type	a	d_1	d_2	d_3	d_4	d_5	d_6	d_7	h_1	R1	R2	R3
50 Hz													
2BP5 110 - 1.C	2BV. 110	104	32	78	125	165	32	100	140	352	4 x 14	4 x 18	4 x 18
2BP5 111 - 1.C	2BV. 111	104	32	78	125	165	32	100	140	352	4 x 14	4 x 18	4 x 18
2BP5 121 - 1.C	2BV. 121	114	40	88	145	185	40	110	150	412	4 x 14	4 x 18	4 x 18
2BP5 131 - 1.C	2BV. 131	114	40	88	145	185	40	110	150	412	4 x 14	4 x 18	4 x 18
2BP5 161 - 1.C	2BV. 161	100	50	102	160	200	50	125	165	605	4 x 14	8 x 18	4 x 18
60 Hz													
2BP5 110 - 1.F	2BV. 110	104	32	78	125	165	32	100	140	352	4 x 14	4 x 18	4 x 18
2BP5 111 - 1.F	2BV. 111	114	40	78	125	165	40	100	140	412	4 x 14	4 x 18	4 x 18
2BP5 121 - 1.F	2BV. 121	114	40	88	145	185	40	110	150	412	4 x 14	4 x 18	4 x 18
2BP5 131 - 1.F	2BV. 131	100	50	88	145	185	50	110	150	605	4 x 14	4 x 18	4 x 18
2BP5 161 - 1.F	2BV. 161	100	50	102	160	200	50	125	165	605	4 x 14	8 x 18	4 x 18

Flange connection for 2BV2

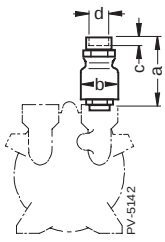
Order No.	For type	d	h
2BX1 071	2BV2 060 2BV2 061	G 1	211 221
2BX1 075/076	2BV2 070 - 0...0 2BV2 070 - 0...1	G 1½	240 250
2BX1 077/78	2BV2 070 - 0...3 2BV2 071 - 0...4	G 1½	250 282



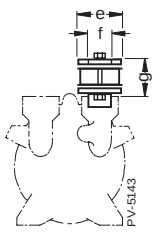


Non-return valve for 2BV2, 2BV5 and 2BV6

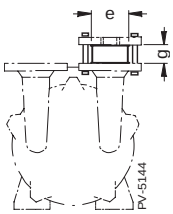
	2BY6 93.				2BY6 90. with 2BX1 080		
For type	a	b	c	d	e	f	g
2BV2 060/2BV2 061	79	57	17	G 1	—	—	—
2BV2 070/2BV1 071	85	75	20	G 1½	90	54	86
2BV. 110/2BV. 111	—	—	—	—	100	—	42
2BV. 121/2BV. 131	—	—	—	—	118	—	48
2BV. 161	—	—	—	—	138	—	55



2BY6 930 - 0AX08
2BY6 932 - 0AX08



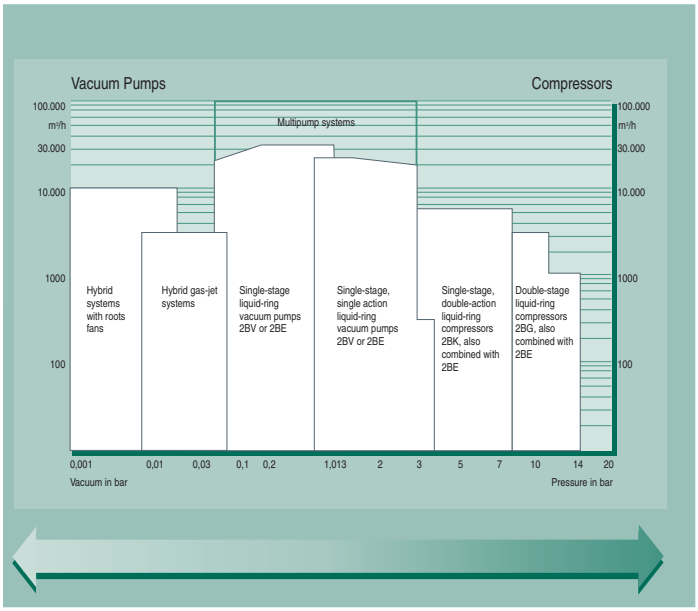
2BY6 904 - 0HX08
with mounting kit
2BX1 080



2BY6 9.
with mounting kit
2BX1 08.

F

ELMO-F Vacuum Units with Vacuum Pumps, Range 2BE



ELMO systems as standard or customer-specific solutions covering a wide range of uses:
from
1 mbar to 14 bar,
from
10 to 100,000 m³/h

Selection example

Application:

e.g. foundry machines, casting technology

1. Duty point:
   $\dot{V}$ = 570 m³/h at 50 Hz
   p_1 = 100 mbar
2. Choose the performance curve which lies closest to the duty point ①. In this example, No. **157 E**
3. Selection and order code:
   ELMO-F vacuum unit with
   vacuum pump 2BE1 153 - 0
   No. **157 E** ≙ Type 2BE1 153-0BY4-Z
   F43+F44+F97
   Motor 1LA5 183 - 4AA60 1)
   Note: When ordering motor, always indicate as separate item.

1) Scope of supply:
2BE1: vacuum pump with internal sealant supply, complete with mounted manifold, discharge-liquid separator, coupling, coupling guard and baseplate; **without motor.**

2) Motor should be ordered separately. For prices, other voltages etc., see Siemens price list M11.

3) Permissible voltage range:

Degree of protection	Rated voltage acc. to DIN IEC 38	perm. Voltage range acc. to DIN VDE or DIN IEC 34-1
IP 55	400 V Δ / 690 V Y **	380...420 V Δ / 660...725 V Y ***
EEx e II T3	400 V Δ / 690 V Y **	400 V Δ / 690 V Y *

* Voltage tolerance here ±5%

** Voltage tolerance here ±10%

*** This voltage range is also shown on the rating plate, together with the currents occuring in this range. For this range, the permissible voltage tolerance acc. to DIN VDE 0530 or IEC 34-1 is ±5%

4) Based on operating duty "Standard" for inlet pressures:
2BE1: < 200 / ≥ 200 mbar abs.

5) Measuring-surface sound-pressure level acc. to EN 21680-1, measured at 1 m distance in a free field, at medium inlet pressure and with inlet and discharge pipes connected. Tolerance: +3 dB.

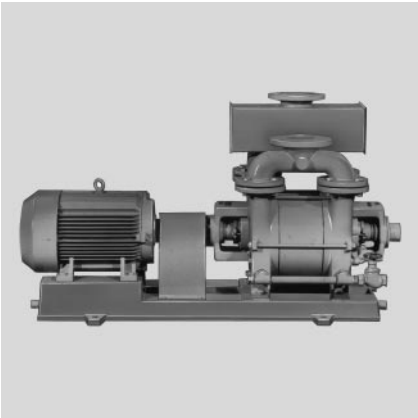
6) Special materials of construction, gaskets, motors and expanded scope of supply available on request.

7) **See accessories.**

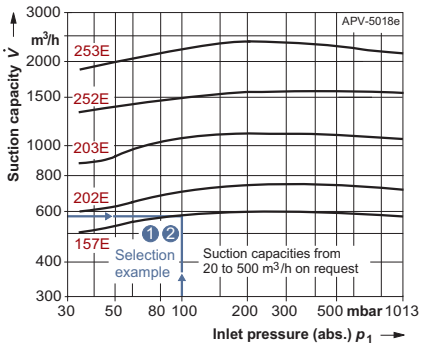
8) Including motor.

For dimensions, see page 61.

Selection and ordering examples for applications in the machine tools industry



Selection diagram



The selection diagram corresponding to PNEUROP with a tolerance of ±10% for:

- The evacuation of 100% saturated air with a temperature of 20 °C (68 °F).
- Discharge pressure is 1013 mbar.
- The operating liquid is water with a temperature of 15 °C (59 °F).

Selection and ordering information

Curve No.	Motor					Vacuum pump		Sound-pressure level 5)	Order No. 6)		
	Rated output	Motor - Order No. 2)	Rated voltage 3)	Rated current	Degree of protection	Rated speed	Operating fluid requirement 4)		Vacuum pump	Accessories + mounting 7)	Total weight 8)
	kW		V	A		rpm	m³/h	dB(A)			kg
3 **157E**	18.5	1LA5 183 - 4AA60	400 Δ / 690 Y	35 Δ / 20.2 Y	IP 55	1460	1.9 / 1.3	70	**2BE1 153-0BY4 - Z**	F43 + F44 + F97	432
	17.5	1MA6 186 - 4BC80	400 Δ / 690 Y	33.5 Δ / 19.3 Y	EEx e II T3	1470			**2BE1 153-0BY4 - Z**	F43 + F44 + F98	500
202E	22	1LA5 207 - 6AA60	400 Δ / 690 Y	45.5 Δ / 26.3 Y	IP 55	975	2.1 / 1.4	71	**2BE1 202-0BY4 - Z**	F43 + F44 + F97	825
	20	1MA6 207 - 6BC80	400 Δ / 690 Y	39 Δ / 22.5 Y	EEx e II T3	980			**2BE1 202-0BY4 - Z**	F43 + F44 + F97	870
203E	30	1LA5 223 - 6AA60	400 Δ / 690 Y	61 Δ / 35.3 Y	IP 55	980	2.6 / 1.7	71	**2BE1 203-0BY4 - Z**	F43 + F44 + F96	815
	33	1MA6 253 - 6BC80	400 Δ / 690 Y	66 Δ / 38.2 Y	EEx e II T3	985			**2BE1 203-0BY4 - Z**	F43 + F44 + F97	1000
252E	45	1LA6 283 - 8AB60	400 Δ / 690 Y	84 Δ / 48.5 Y	IP 55	730	4.4 / 2.9	73	**2BE1 252-0BY4 - Z**	F43 + F44 + F97	1690
	45	1MJ6 283 - 8CB60	400 Δ / 690 Y	84 Δ / 48.5 Y	EEx de II C				**2BE1 252-0BY4 - Z**	F43 + F44 + F97	1710
253E	75	1LA6 313 - 8AB60	400 Δ / 690 Y	138 Δ / 80 Y	IP 55	740	5.2 / 3.5	73	**2BE1 253-0BY4 - Z**	F43 + F44 + F97	2110
	75	1MJ6 313 - 8CB60	400 Δ / 690 Y	138 Δ / 80 Y	EEx de II C				**2BE1 253-0BY4 - Z**	F43 + F44 + F97	2150

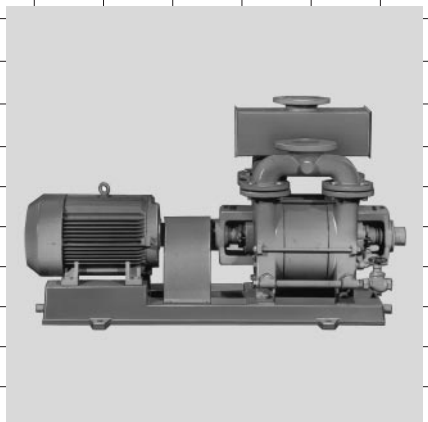
Selection overviews for range 2BE1

Speed of pump in rpm →

Speed performance area of 2BE1 pumps

All figures are for guidance only. For precise design, please ask for our catalogue sheets or contact your nearest office.

210	236	266	288	330	372	420	472	530	565	590	660	740	790	820	880	920	980	1100	1300	1450	1625	1810	2190
																2BE1 101 - 0	m³/h	150	175	190		250
																	kW	3.6	4.3	5		8.3
																2BE1 102 - 0	m³/h	200	235	270		340
																	kW	4.9	5.8	6.9		11.1
																2BE1 103 - 0	m³/h	290	330	380		490
																	kW	7	8.2	10		16
															2BE1 151 - 0		m³/h	290	360	400	440	480	
																	kW	7	9	11	13	16	
															2BE1 152 - 0		m³/h	340	400	460	500	540	
																	kW	8.1	10.5	12.4	15	18.1	
															2BE1 153 - 0		m³/h	440	510	600	660	710	
																	kW	10.8	13.5	16.5	19.5	24	
										2BE1 202 - 0		m³/h	580		660		760	840	940				
												kW	13.5		16		18	22	30				
										2BE1 203 - 0		m³/h	840		1000		1120	1240	1400				
												kW	20		23		27	33	44.2				
						2BE1 252 - 0		m³/h	1150		1450	1650		1850		2050							
								kW	26		32	38		46		58							
						2BE1 253 - 0		m³/h	1700		2100	2400		2650		2950							
								kW	38		45	54		65		83							
							2550	2800		3200	3600	4000	m³/h	2BE1 303 - 0									
							50	56		65	80	100	kW										
					3400	3700	4200	4400		4700	5800	m³/h	2BE1 353 - 0										
					75	75	90	110		132	160	kW											
				5000	5600	6400	7200	8000	m³/h	2BE1 403 - 0													
				110	132	160	200	250	kW														
		6800	7400	8200	9300	10500	11600	m³/h	2BE1 503 - 0														
		132	160	220	250	275	346	kW															
	9500	10700	12400	14000	15400	m³/h	2BE1 603 - 0																
	200	220	275	315	390	kW																	
14000	16000	18000	20500	22500	m³/h	2BE1 703 - 0																	
316	346	390	500	630	kW																		



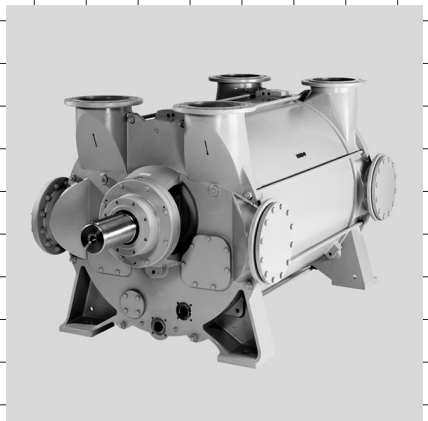
Selection overviews for range 2BE3

Speed of pump in rpm →

Speed performance area of 2BE3 pumps

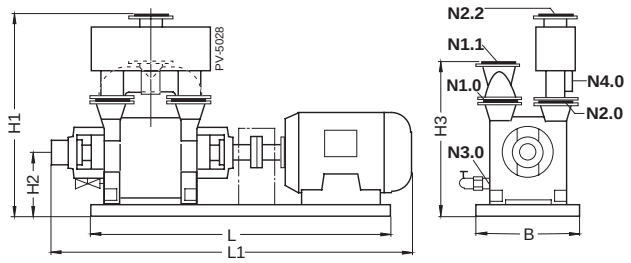
All figures are for guidance only. For precise design, please ask for our catalogue sheets or contact your nearest office.

170	180	190	200	210	230	240	260	270	290	300	320	330	340	350	370	380	390	400	420	440	450	470	490	530	560	570	610	630	690	740	810
																		2BE3 30. - 2		m³/h	2700		2900		3300			3700	4000	4300	4700
																				kW	45		51		60			71	81	91	109
																		2BE3 32. - 2		m³/h	3750		4100		4700			5200	5600	6000	6500
																				kW	62		70		85			100	116	126	151
							2BE3 40. - 2		m³/h	4100			4800				5500			6150			6750	7300		7800	8400				
										63			80				95			113			130	149		168	185				
							2BE3 42. - 2		m³/h	5600			6500				7500			8400			9200	9950		10700	11400				
										82			108				130			160			180	210		230	270				
		2BE3 50. - 2		m³/h	7400		8600			10000			9200			12300			13600			15100								
				kW	110		138			170			205			287			276			338								
		2BE3 52. - 2		m³/h	9000		10500			12100			13700			15050			16600			18500								
				kW	130		170			210			245			285			335			415								
			10700		12500		14100		15800		17100			18700				21200	m³/h	2BE3 60. - 2										
			160		205		240		280		325			375				470	kW											
			13000		15200		17200		19100		20900			22800				25500	m³/h	2BE3 62. - 2										
			190		250		295		340		395			426				575	kW											
	14900			17800		20500		22700		24900	26400	27200			30500	m³/h	2BE3 67. -2														
	220			280		345		410		475	525	545			675	kW															
18500		21000		23500		26400		29400		32500			37000	m³/h	2BE3 72. - 2																
270		335		380		470		550		640			805	kW																	



Dimensions for ELMO-F Units 2BE and Accessories

Dimensions for 2BE1 15. to 2BE1 25. (mm)



2BE1 153 to 2BE1 253

2BE1

Type	Curve No.	For motor size:	B	H1	H2	H3	L	L1	Vacuum-/pressure-side pipe socket			
									N1.0/N2.0 DN DIN 2501 PN 10	N1.1/N2.2 DN DIN 2501 PN 10	N3.0 Connection for op. liquid ISO 7/1	N4.0 Drain of separator ISO 7/1
2BE1 153	157 E 158 E	180M 180L	450	845	325	700	1265	1610	65	100	Rp ¼	Rp 2
2BE1 202	202 E 204 E	200L	660	1085	415	940	1625	1755	100	125	Rp 1	Rp 3
2BE1 203	203 E 206 E	225M 250M	660	1110	415	965	1625	1935 2030	100	125	Rp 1	Rp 3
2BE1 252	252 E 254 E	280M	630	1400	555	1185	1800	2255	125	150	Rp 1¼	Rp 3
2BE1 253	253 E 256 E	315M	700	1400	555	1185	2060	2540	125	150	Rp 1¼	Rp 3

Accessories 2BE

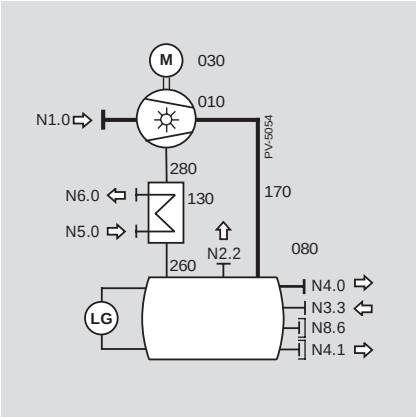
		For vacuum pump Type	Order No.	Weight kg
Compressed-air gauge, loose Chrome-nickel steel	0.8 - 4 m^3/h	2BE1 15. to 2BE1 20.	**2BX9 284 - 0HX02**	8
for operating liquid	0.8 - 4 m^3/h	2BE1 25.	**2BX9 284 - 0HX03**	14
Pressure gauge -1 to +0.6 bar including shutoff tap and gaskets		2BE1	**2BX9 012 - 1HD20**	1
			Order codes	
Discharge-liquid separator			F43	
Manifold			F44	
Coupling, coupling protection, baseplate incl. motor mounting			F96, F97, F98	

F

ELMO-F Systems

Standard closed-circuit units

ELMO-F closed-circuit vacuum pump range 2BW3



Key:

010 Vacuum pump
030 Three-phase motor
080 Separator
130 Heat exchanger

Connections:

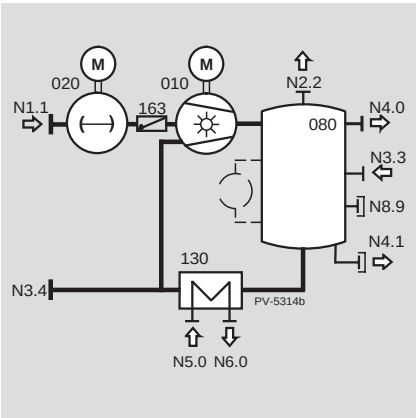
N1.0 Gas inlet
N2.2 Gas outlet
N3.3 Make-up
N4.0 Overflow
N4.1 Total drain
N5.0 Cooling water inlet
N6.0 Cooling water outlet
N8.6 Measurement point

The ELMO-F Standard closed-circuit vacuum pumps/compressors 2BW consist of a vacuum pump/compressor with three-phase motor, liquid separator, heat exchanger, base frame and pipework.
The schematic structure is shown in the picture above right.

With **ELMO-F closed-circuit vacuum pumps/compressors 2BW**, the condensate from the extracted process vapours is conveyed as the operating liquid in a closed circuit (vacuum pump/compressor → separator → heat exchanger → vacuum pump/compressor).
This prevents polluted waste water and avoids the need to use fresh water. Recovered condensate can be removed for further use. The cooling water is only heated up, not polluted.

Closed-circuit vacuum pump with roots backing pump

ELMO-F closed-circuit vacuum pump with roots backing pump for inlet pressures to 10 mbar abs.



Key:

010 Vacuum pump with motor
020 Roots backup pump
080 Separator, vertical
130 Heat exchanger
163 Non-return valve

Connections:

N1.1 Gas inlet
N2.2 Gas outlet
N3.3 Make-up
N3.4 TI measurement nozzle
N4.0 Overflow
N4.1 Total drain
N5.0 Cooling water inlet
N6.0 Cooling water outlet
N8.9 Measurement point

Further versions:

ELMO-F vacuum pumps with backing pumps like gas ejectors, steam ejectors, roots pumps (see figure above) and ELMO-G for low limit pressure from 1 to 100 mbar abs.

ELMO-F plants with several parallel vacuum pumps and compressors for higher suction capacities.

To optimize the speed of ELMO-F closed-circuit vacuum pumps and compressors in accordance with the required process data, the following drives are possible:

- Direct drive via coupling with electrical or other motors (e.g. Diesel motor)
- Drive via belt drive with electrical or other motors (e.g. Diesel motor)
- Drive via gear with electrical or other motors (e.g. Diesel motor)

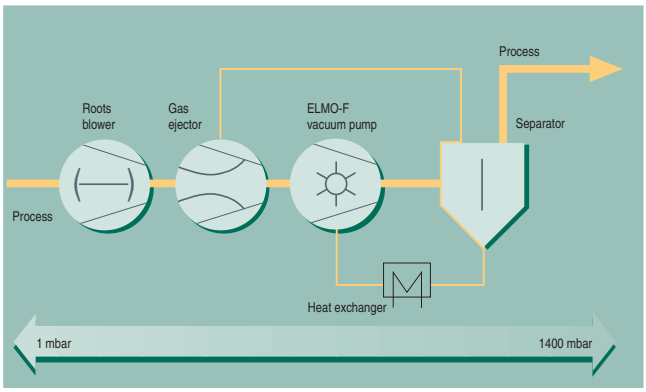
For a flexible matching of ELMO-F closed-circuit vacuum pumps and compressors to the process data, the following control concepts can be supplied:

- Bypass control,
- Speed control with frequency converters when using electrical motors,
- Process-bound complete control systems for plants

F

ELMO-F Systems

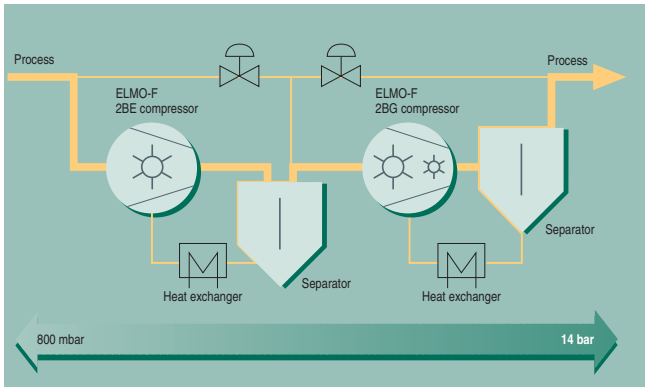
Vacuum system with roots backing pump and gas ejector



Sets for the range to 1 mbar.

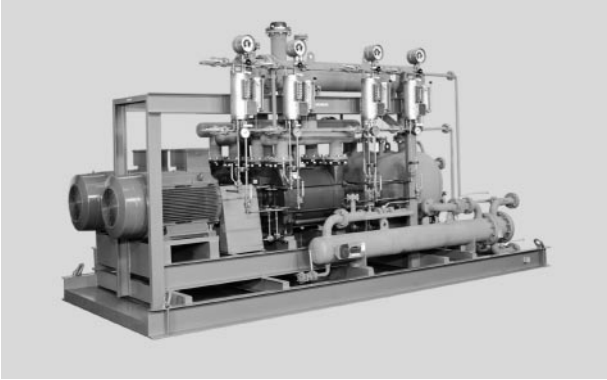
When combined with reliable components such as roots pumps or gas ejectors, the area of use of ELMO-F compressors is considerably extended. Even mixed operation from vacuum to pressure presents no problems for the machines.

Series-connected ELMO-F compressors



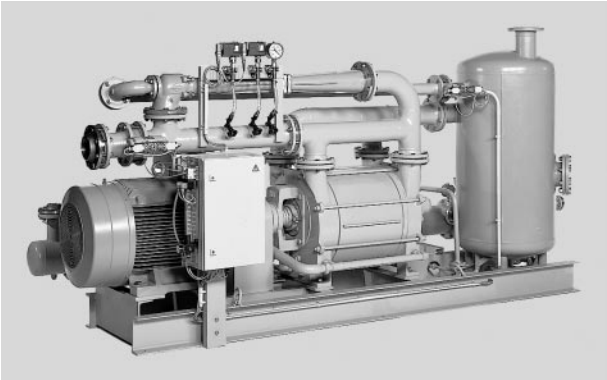
Series connection of ELMO-F compressors for use up to 14 bar abs.

Examples of vacuum/compressor systems with ELMO-F pumps



Double unit 2BW4 203 - 0ZY99 - Z

Suction flow:	N_2, Dichlorethane (EDC), VC, HCL
Suction capacity:	105 Nm^3/h
Vacuum:	0.16 bar abs.
Pressure:	1.7 bar abs.
Drive capacity:	38 kW



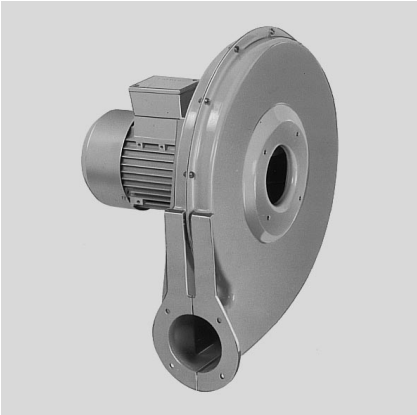
Power unit 2BW4 253 - 0BL4. - Z with gas ejector

Condenser evacuation

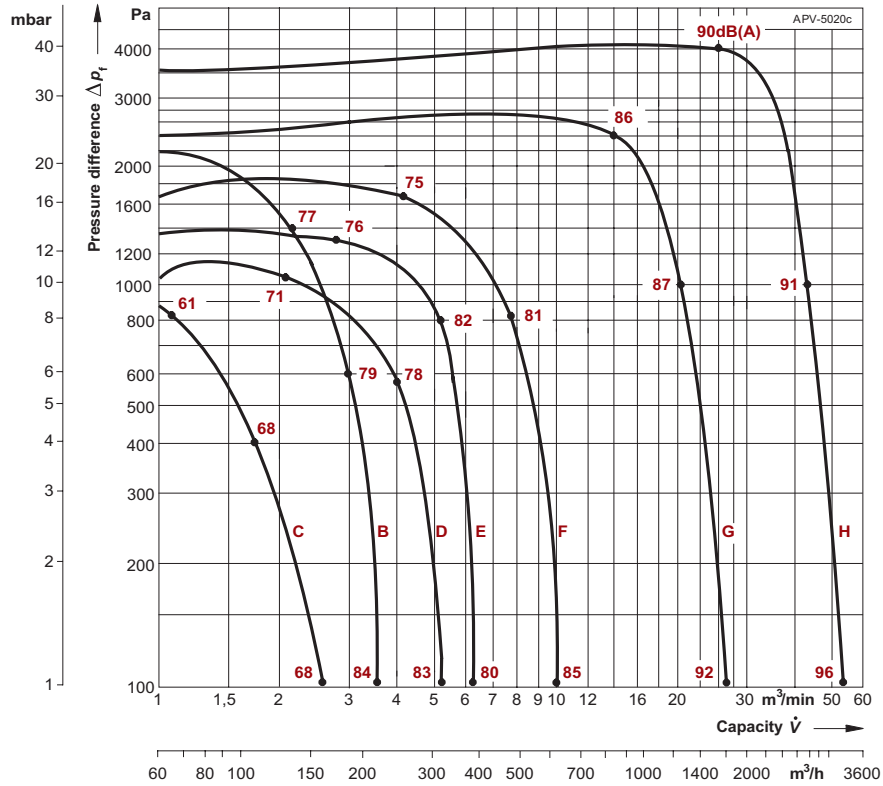
Suction flow:	Vapour-air mixture
Leakage air flow evaporation:	10.32 kg/h
Vacuum:	0.015 bar abs.
Drive capacity:	47 kW

F

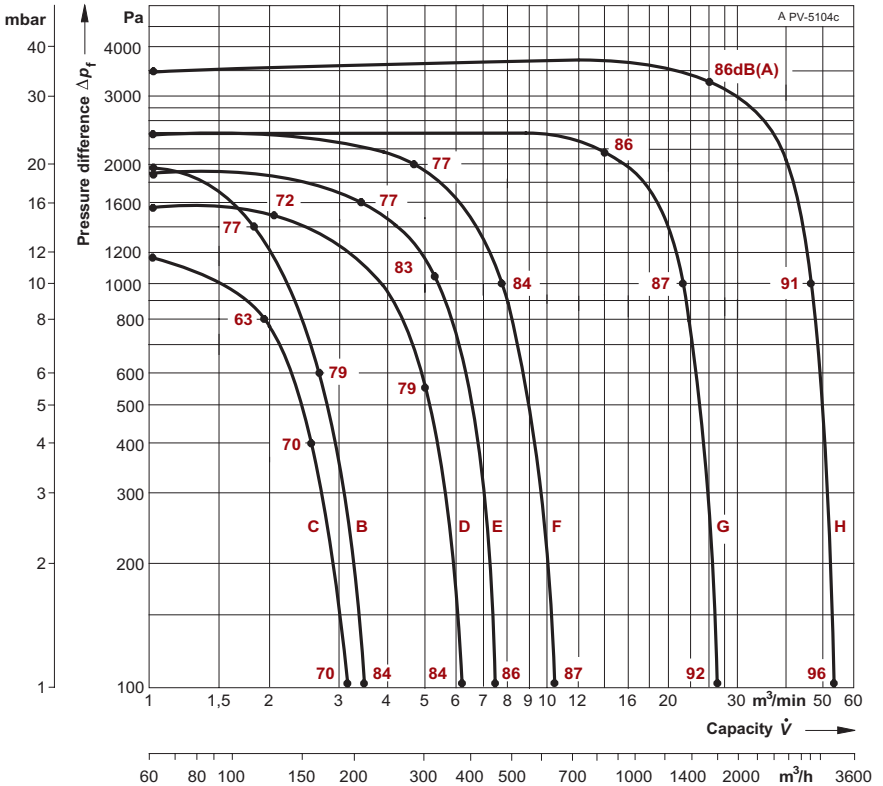
Radial Blowers Range 2CF1 and 2CF2



Selection diagram 50 Hz



Selection diagram 60 Hz



The performance curves are valid for a medium with a density r = 1.2 kg/m³ (measured on the suction side).

Radial Blowers Range 2CF1 and 2CF2 and Accessories

Selection and ordering information

Size	Designation letter	Speed	Sound-pressure level at 1 m distance [1]	Temperature of conveying liquid [2]	Motor				Order No.	Weight approx.
					Type	Rated output	Rated voltage [3]	Rated current		
mm		rpm	dB(A)	max.°C		kW	V	A	• AVAILABLE EX STOCK	kg
Radial blowers with three-phase motor 50 Hz, IP 54 degree of protection										
50	B	7350 [4]	79	65	1LA5 053	0.12	230 Δ / 400 Y	0.34 [5]	• 2CF1 052 - 0BA1	6.2
50	C	2850	68	50	1PP4 060	0.06	230 Δ / 400 Y	0.36 [5]	• 2CF2 052 - 2EA1	4.3
63	D	2780	78	110	1LA5 060	0.18	230 Δ / 400 Y	0.52 [5]	• 2CF2 062 - 0EA1	8.8
71	E	2750	82	110	1LA5 063	0.25	230 Δ / 400 Y	0.69 [5]	• 2CF2 072 - 0EA1	10.2
80	F	2740	82	110	1LA5 070	0.42	230 Δ / 400 Y	1.2 [5]	• 2CF2 082 - 0EA1	12.5
140	G	2900	87	65	1LA5 083	1.17	230 Δ / 400 Y	2.6 [5]	• 2CF1 142 - 0EA1	30
180	H	2890	91	65	1LA5 113	4.2	400 Δ / 690 Y	8.2 [5]	• 2CF1 182 - 0EA6	74
Radial blowers with three-phase motor 60 Hz, IP 54 degree of protection										
50	B	7350 [4]	79	65	1LA5 053	0.14	460 Y	0.35	2CF1 052 - 0BA8	6.2
50	C	3300	70	50	1LA5 050	0.09	460 Y	0.23	2CF2 052 - 2EA8	4.3
63	D	3240	79	110	1LA5 060	0.24	460 Y	0.58	• 2CF2 062 - 0EA1	8.8
71	E	3300	83	110	1LA5 063	0.29	460 Y	0.68	2CF2 072 - 0EA8	10.2
80	F	3280	84	110	1LA5 073	0.63	460 Y	1.35	2CF2 082 - 0EA8	12.5
140	G	3480	87	65	1LA5 083	1.27	460 Y	2.3	2CF1 142 - 0EA8	30
180	H	3480	91	65	1LA5 113	4.2	460 Y	7.3	2CF1 182 - 0EA8	74
Radial blowers with single-phase AC motor 50 Hz, IP 54 degree of protection										
50	B	7490 [4]	79	60	1LF5 053	0.12	230 [6]	0.85	• 2CF1 052 - 1BH1	6.2
50	C	2850	68	50	1LF4 063	0.09	230 [6]	0.80	2CF2 052 - 2EH1	4.5

Accessories

Selection and ordering information

For type	Duct connector for inlet-side	Weight approx.	for discharge-side	Weight approx.	Hose for inlet-side	Weight approx.	for discharge-side	Weight approx.	Metal filter for inlet-side	Weight approx.
	Order No.	kg	Order No.	kg	Order No.	kg	Order No.	kg	Order No.	kg
2CF1 052	• 2CX3 000	0.45	• 2CX3000	0.45	2CX3 004	1.5	• 2CX3 004	1.5	2CX3 003	1.2
2CF2 052	not necessary		not necessary		• 2CX3 717	1.2	2CX3 722	0.7	• 2CX3 730	2.4
2CF2 062	2CX3 726	0.24	• 2CX3 705	0.19	• 2CX3 717	1.2	2CX3 723	1.1	• 2CX3 731	1.8
2CF2 072	2CX3 727	0.28	• 2CX3 706	0.22	2CX3 720	1.3	2CX3 724	1.2	• 2CX3 732	2
2CF2 082	• 2CX3 728	0.30	2CX3 726	0.24	2CX3 721	1.4	2CX3 725	1.2	2CX3 733	2

For type	Filter bag for discharge-side	Weight approx.	Guard screen for inlet-side	Weight approx.	Connecting elbow	Weight approx.	Heating cartridge for discharge-side	Weight approx.	• AVAILABLE EX STOCK
	Order No.	kg	Order No.	kg	Order No.	kg	Order No.	kg	
2CF1 052	2CX3 002	0.75	—	—	2CX3 001	1.8	2CX3 005	0.75	
2CF2 052	2CX3 713	1.5	—	—	—	—	—	—	
2CF2 062	2CX3 714	1.5	2CX3 735	0.22	—	—	—	—	
2CF2 072	2CX3 715	1.5	2CX3 736	0.25	—	—	—	—	
2CF2 082	2CX3 716	1.5	2CX3 737	0.27	—	—	—	—	

Features
The blower and motor form a single unit with the impeller mounted directly on the motor shaft. Only the types 2CF1 052-0BA. and 2CF1 052-1BH. have a gearbox between the impeller and the motor.

Drive
The blowers have surface-cooled, three-phase or single-phase motors with IP 55 class of protection. They are suitable for continuous operation.

Noise
In the performance curves and selection tables, the noise values given are for an average sound-pressure level, measured at a distance of 1 m. The noise levels given are for a steadily-running machine, connected for extraction, and are evaluated according to DIN 45 635, Part 13. Tolerance is + 3 dB.

Other designs
Radial blowers with 3-phase motors for other voltages and/or frequencies are available on request. Accessories can also be supplied.

Other voltages

		2CF … – … □
The rated voltages shown alongside are available at no extra cost.	Voltage, frequency	Voltage code number ↑
	500 V Y, 50 Hz	3
Required voltage and frequency: ■		9

■ Please indicate in plain text and add **L1 Y**.

1) The tabulated values are with medium throttling.

2) Max. ambient temperature 40 °C.

3) Permissible voltage range.

Rated voltage acc. to DIN IEC 38*	Permissible voltage range acc. to DIN VDE 0530 or DIN IEC 34-1**	Frequency Hz
230 V Δ / 400 V Y 400 V Δ / 690 V Y	220...240 V Δ / 380...420 V Y 380...420 V Δ / 660...725 V Y	50 50
460 V Y 460 V Δ	440...480 V Y 440...480 V Δ	60 60

* Voltage tolerance here ±10%.

** This voltage range is also shown on the rating plate, together with the currents occuring in this range. For this range, the permissble voltage tolerance acc. to DIN VDE 0530 or DIN IEC 34-1 is ±5%.

4) 2-pole motor with gearbox.

5) At 400 V, 50 Hz.

6) Permissible voltage tolerance ±5%.

For dimensions, see page 66.

Selection example

Required air performance:
$\dot{V}$ = 6 m³/min, Δp_t = 1100 Pa at 50 Hz

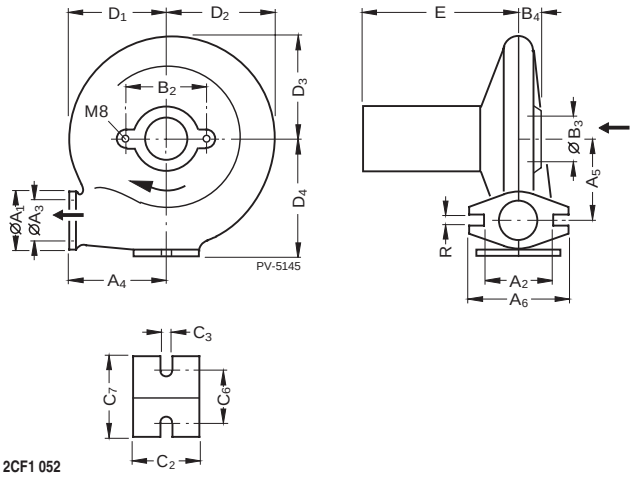
Two selections are possible:
Type 2CF2 072 ($\dot{V}$: -15 %), curve E
Type 2CF2 082 ($\dot{V}$: +5 %), curve F
Eventual choice depends on cost and performance priorities.

Applications

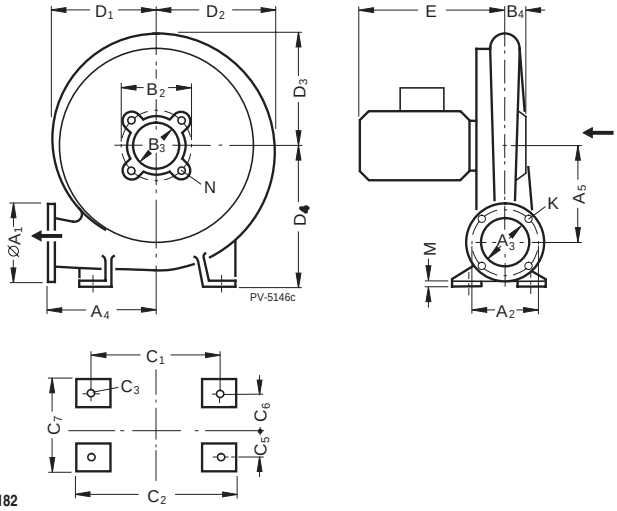
- The extraction of gases from moulding presses and injection machines.
- The extraction of dust, chips, fibres and threads when using a preseparator.
- Holding of paper, cardboard.
- Cooling.

Dimensions for Radial Blowers 2CF1 and 2CF2

Dimensions for 2CF1 0, 2CF1 1, 2CF2 0 (mm)



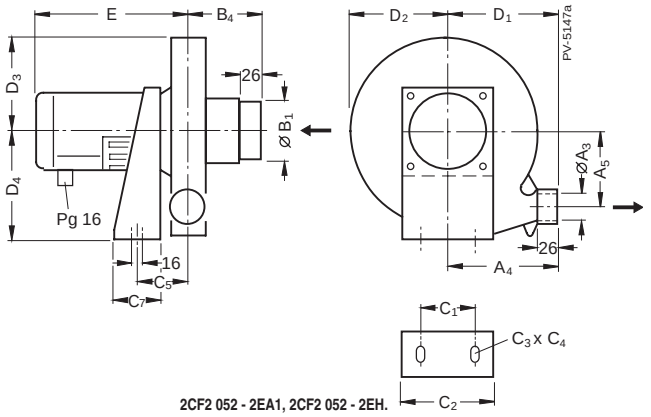
2CF1 052



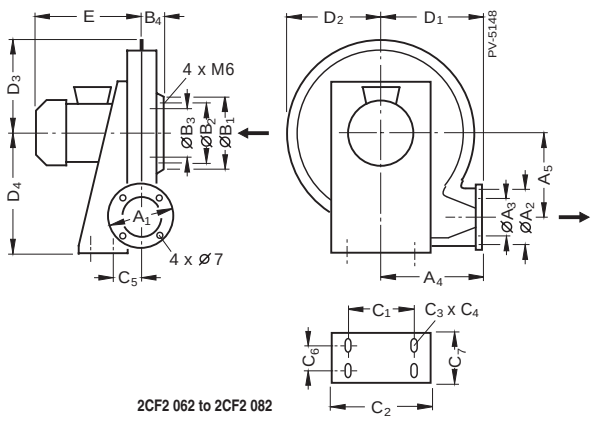
2CF1 142 to 2CF1 182

Type	Curve	A_1	A_2	A_3	A_4	A_5	A_6	B_1	B_2	B_3	B_4	C_1	C_2	C_3
2CF1 052 - 0BA.	B	70	70	50	100	80	100	—	85	50	22	—	70	12
2CF1 052 - 1BH.	B	70	70	50	100	80	100	—	85	50	22	—	70	12
2CF1 142 - 0EA.	G	210	180	140	275	250	—	—	180	140	35	300	360	18
2CF1 182 - 0EA.	H	260	230	180	350	320	—	—	230	180	45	400	480	18

Type	Curve	C_4	C_5	C_6	C_7	D_1	D_2	D_3	D_4	E	K	M	N	R
2CF1 052 - 0BA.	B	—	—	62	90	96	111	103	120	250	—	—	—	12
2CF1 052 - 1BH.	B	—	—	62	90	96	111	103	120	250	—	—	—	12
2CF1 142 - 0EA.	G	—	55	125	230	263	301	284	360	302	4 x 11.5	15	M 10	—
2CF1 182 - 0EA.	H	—	80	170	310	337	386	364	460	376	4 x 14	15	M 12	—



2CF2 052 - 2EA1, 2CF2 052 - 2EH.



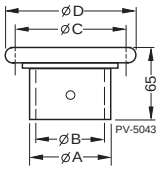
2CF2 062 to 2CF2 082

Type	Curve	A_1	A_2	A_3	A_4	A_5	A_6	B_1	B_2	B_3	B_4	C_1
2CF2 052 - 2EA.	C	—	—	42.3	143	96	—	80	—	—	95	73
2CF2 052 - 2EH.	C	—	—	42.3	143	96	—	80	—	—	95	73
2CF2 062 - 0EA.	D	110	92	63	155	138	—	130	108	80	32	120
2CF2 072 - 0EA.	E	120	100	71	172	156	—	140	118	90	35	160
2CF2 082 - 0EA.	F	130	108	80	192	175	—	150	129	100	39	160

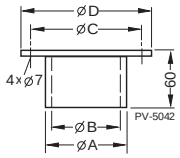
Type	Curve	C_2	C_3	C_4	C_5	C_6	C_7	D_1	D_2	D_3	D_4	E
2CF2 052 - 2EA.	C	120	12	16	62	—	60	120	125	123	140	214
2CF2 052 - 2EH.	C	120	12	16	62	—	60	120	125	123	140	214
2CF2 062 - 0EA.	D	160	12	16	51	40	80	153	161	157	195	217
2CF2 072 - 0EA.	E	200	12	16	54	40	80	171	180	175	220	219
2CF2 082 - 0EA.	F	200	12	16	57	40	80	191	201	196	245	243

Dimensions for Accessories for Radial Blowers 2CF1 and 2CF2

Dimensions (mm)



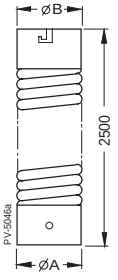
Connection piece for 2CF1



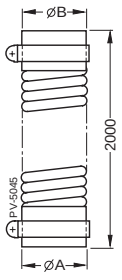
Connection piece for 2CF2

Connection piece for suction and pressure-side (to be used for hose, filter bag or heater cartridge)

For ventilator Type	Connection piece for suction side Order No.	A	B	C	D	for pressure-side Order No.	A	B	C	D
2CF1 052	2CX3 000	54	46	84	100	2CX3 000	54	46	84	100
2CF2 062	2CX3 726	80	73	108	130	2CX3 705	70	63	92	110
2CF2 072	2CX3 727	95	88	118	140	2CX3 706	75	68	100	120
2CF2 082	2CX3 728	100	93	129	150	2CX3 726	80	73	108	130



Hose for 2CF1

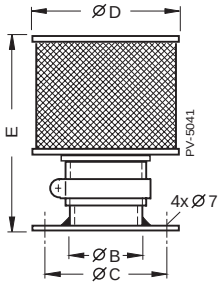


Hose for 2CF2

Hose

Temperature range -55 to +150 °C: bending radius 12 to 75 mm;
Hose can be compressed to 60 % of total length.

For ventilator Type	Hose for suction side Order No.	A	B	for pressure-side Order No.	A	B
2CF1 052	2CX3 004	54	58	2CX3 004	54	58
2CF2 052	2CX3 717	83	72	2CX3 722	51	51
2CF2 062	2CX3 717	83	72	2CX3 723	70	75
2CF2 072	2CX3 720	95	102	2CX3 724	76	80
2CF2 082	2CX3 721	102	102	2CX3 725	83	85

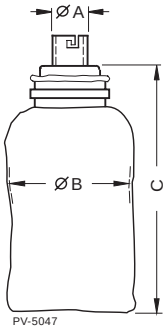


Metal filter
for 2CF1 and 2CF2

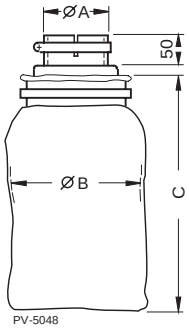
Metal filter complete with connection piece

For ventilator Type	Order No.	B	C	D	E
2CF1 052	2CX3 003	50	84	130	140
2CF2 052	2CX3 730	70	1)	130	1)
2CF2 062	2CX3 731	70	108	130	165
2CF2 072	2CX3 732	100	118	180	180
2CF2 082	2CX3 733	102	129	180	180

1) The metal filter is supplied without connection piece, but with 2 m long plastic hose NW 83.



Filter bag for 2CF1

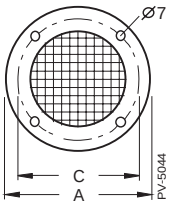


Filter bag for 2CF2

Filter bag complete with connection piece

Flow resistance of empty bag
500 Pa at $\dot{V}$ = 2 m³/min

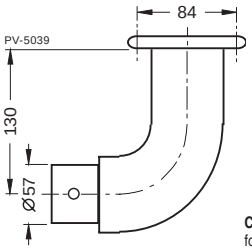
For ventilator Type	Order No.	A	B	C
2CF1 052	2CX3 002	55	250	500
2CF2 052	2CX3 713	48	250	500
2CF2 062	2CX3 714	71	300	600
2CF2 072	2CX3 715	76	300	600
2CF2 082	2CX3 716	81	350	700



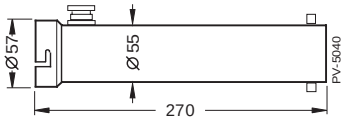
Guard screen
for 2CF2

Guard screen for suction-side

For ventilator Type	Order No.	A	C
2CF2 062	2CX3 735	130	108
2CF2 072	2CX3 736	140	118
2CF2 082	2CX3 737	150	129



Connecting elbow
for 2CF1



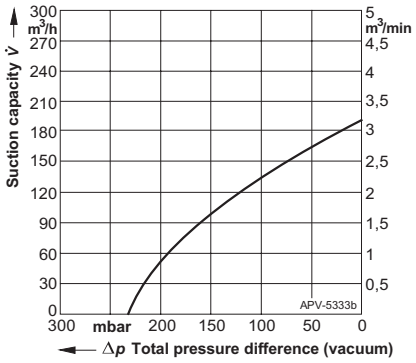
Heater cartridge for 2CF1 052
Heating capacity: 1000 W; power connection: 230 V
Flow resistance: approx. 550 Pa at $\dot{V}$ = 1.2 m³/min

Radial Blower, Range 1BA

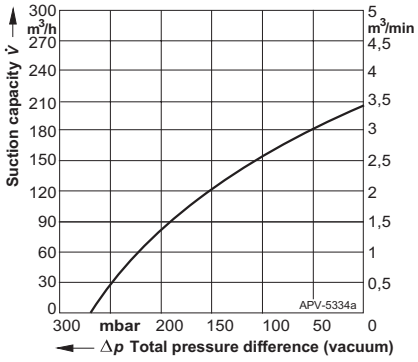
These single-circuit radial blowers are particularly suitable for vacuum cleaners, small vacuum-transfer machines and pneumatic mail systems with short running times.
The blowers have motors without fans. The air is sucked through a prefilter and simultaneously cools the motor. The blowers have commutator motors which are suitable for a 230 V, 50 Hz electrical supply. The service-life of the brushes (before re-machining the commutator) is given in the table below. The motor rotor, with bearings, should be replaced at the end of this period. Phase control and radio interference suppression are both possible.

Selection diagram

1BA4 420 - 6FE04



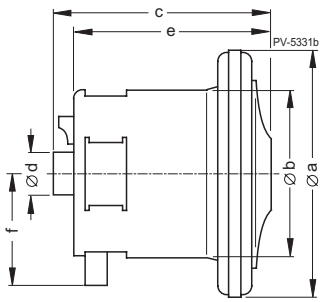
1BE4 425 - 6JE03



Selection and ordering information

Motor					Suction capacity max.	Vacuum max.	Order No.	Weight approx.
Average power consumption	Rated voltage	Frequency	Speed	Service life of brushes				
W	V	Hz	rpm	h	m^3/h	mbar		kg
1100	230	50	32000 to 43200	850	184	235	**1BA4 420 - 6FE01**	1.6
1400	230	50	34000 to 47 000	850	206	271	**1BA4 425 - 6JE03**	1.7

Dimensions (mm)



Radial blower

Type	a	b	c	d	e	f
1BA4 420 - 6FE01	138.8	97.5	121.7	24.5	110.2	63.25
1BA4 425 - 6JE03	138.8	97.5	121.7	24.5	110.2	63.25

Conversion Tables

Pressure

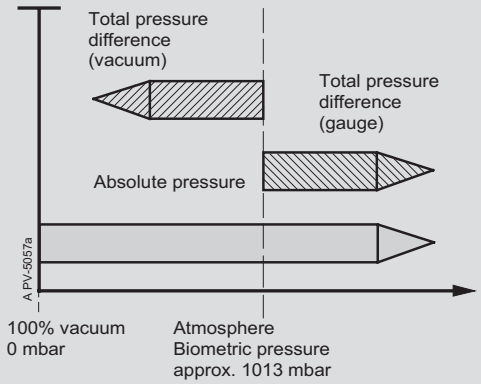
Multiplication of the value with units	With conversion factor	Results in the value with units
Pa	0.01	mbar
hPa	1.0	mbar
kPa	10.0	mbar
mm H_2O	0.098	mbar
m H_2O	98.07	mbar
at	980.7	mbar
inch H_2O	2.491	mbar
PSI lpf/in^2	68.948	mbar
mbar	100	Pa
mbar	10.2	mm H_2O
mbar	$10.2 \cdot 10^{-3}$	m H_2O
mbar	$1.02 \cdot 10^{-3}$	at
mbar	0.4016	inch H_2O
mbar	$14.505 \cdot 10^{-3}$	PSI lpf/in^2

Example of conversion:
250 [inch H_2O] · 2.491 = 622.5 [mbar]

The following formula is used to convert values in the unit – inch of mercury vacuum to values in the unit – mbar abs.ii:
1013 - X [inches of mercury vacuum] · 33.8 ≙ Y [mbar abs.]

Types of pressure

- Absolute pressure
  The pressure measured from absolute zero, using ideal vacuum as the datum. The measured pressure is always greater than the reference pressure.
- Total pressure difference, pressure
  The pressure measured above the prevailing atmospheric pressure. The datum is the prevailing atmospheric pressure and the measured pressure is always higher than the datum.
- Total pressure difference, vacuum
  The pressure measured lower than the prevailing atmospheric pressure. The datum is the prevailing atmospheric pressure and the measured pressure is always lower than the datum.



Suction capacity

Multiplication of the value with units	With conversion factor	Results in the value in units
l/min	0.06	m^3/h
gal/min	0.227	m^3/h
ft^3/min	1.699	m^3/h
m^3/h	16.667	l/min
m^3/h	4.403	gal/min
m^3/h	0.588	ft^3/min

Electrical power

Multiplication of the value with units	With conversion factor	Results in the value in units
hp	0.746	kW
Btu/h	293.1	kW
kW	1.341	hp
kW	$3.41 \cdot 10^{-3}$	Btu/h

Weight

Multiplication of the value with units	With conversion factor	Results in the value in units
lbm	0.454	kg
kg	2.205	lbm

Length

Multiplication of the value with units	With conversion factor	Results in the value in units
in.	25.4	mm
in.	0.0254	m
ft	305	mm
ft	0.305	m
m	39.37	in.
m	3.28	ft

Temperature conversion

Conversion from	to	
°F	K	$T[K] = \frac{t[°F] + 459.67}{1.8}$
°F	°C	$t[°C] = \frac{t[°F] - 32}{1.8}$
K	°F	$t[°F] = 1.8 \cdot T[K] - 459.67$
°C	°F	$t[°F] = 1.8 \cdot t[°C] + 32$

General Safety Information

NOTE:

The products in this catalogue are used in the

- capital goods industry
- consumer goods industry

and in such sectors as

- agriculture
- the building industry and
- allied trades.

This equipment has bare parts that are dangerous because they are live during operation, in some cases these are moving or rotating parts. Such parts could cause severe injury to persons and severe damage to property, for example in the event of unauthorised removal of protective covers, improper use, wrong operation or insufficient maintenance.

The people in charge of safety must therefore guarantee that

- only qualified personnel are allowed to work on or around this equipment;
- this personnel have access at all times while working on the equipment to the appropriate operating instructions and other documents supplied with the equipment, and are under an obligation to systematically follow the instructions given therein;
- unqualified personnel are not allowed to work on these machines or equipment or in the vicinity thereof.

Qualified personnel are persons who – on account of their training, experience, instruction, knowledge of the appropriate standards, specifications, accident prevention regulations and the operating enviroment – have been authorised by those responsible for plant safety to perform the necessary work and at the same time to recognise and circumvent potential hazards.

Knowledge of first aid and familiarity with the pertinent life-saving equipment are also necessary.

The debarring of unqualified personnel from work on heavy-current equipment is regulated by DIN VDE 0105 or IEC 364.

For the sake of clarity, the operating instructions supplied with the machines are not intended to cover all details of equipment variations, or to provide for every possible contingency that might arise in installation, operation or maintenance. The operating instructions therefore only contain the information necessary to enable qualified personnel (see above) to operate the machines or equipment correctly in industrial applications.

In the event that the machines or equipment are intended for service outside of industry, where more exacting demands may be placed on them (such as touch protection for children), the installation work must be supplemented by further protective measures that are to be implemented by others.

Where clarifications are necessary, particularly with respect to lack of product-specific detailed information, please contact the sales office concerned, quoting the type designation of the machine or equipment.

It is advisable to arrange for our service centres to take charge of the necessary planning, installation, commissioning and after-sales service.

Conditions of Sale and Delivery, Export Regulations

Small orders

With small orders, the costs of handling the order exceed the value of the order. It is recommended that requirements are added together. If this is not possible, we will be obliged to charge a handling supplement of EUR 20.- for orders with a net goods value of less than EUR 100.– to cover a proportion of our costs for order handling and invoicing.

Ordering special versions

If products are orders that are different from the versions given in the catalogue, a **"–Z"** is to be added to the order number given in the catalogue, and the required characteristic is then also to be added in **full text.**

Conditions of Sale and Delivery

Within Germany:

The General Conditions of Sale apply,
plus the
General Conditions of Delivery
for electrical products and services.

Prices are given in EURO ex factory,
excluding packaging; this is charged at cost.

Value-added tax is not included
in the prices.
It will be charged at the rate valid at the
time in accordance with the requirements
of the law.

For export:

The General Conditions of Delivery for products and services from the electrical industry and all other conditions agreed with the recipients of the price lists.

■

Unless otherwise stated on the individual pages of this catalogue, we reserve the right to make changes, especially to the given values, dimensions and weights.

Illustrations are not binding.

We also reserve the right to make price modifications and will charge the prices valid on delivery.

Export regulations

According to the current provisions (09/98) of the German and US export regulations, the products listed in this catalogue do not require any export permit. Export or re-export is therefore allowed without the permission of the competent authorities unless the Order on Foreign Trade lays down country-specific restrictions. The markings given on the delivery slip and invoice are the decisive criteria. An export permit obligation may arise for specific countries as a result of the intended use of the products.

Responsible for the
technical content
Lutz Kasimir
elmo vacuum technology GmbH
Marketing Communication

Only Quality Has a Future

Electronic check of the dimension accuracy of an ELMO-G impeller.

Fully automatical final check of endshields of ELMO-F and -G drives.

Check of performance data and printing of the test protocol.

CERTIFICATE

DQS Deutsche Gesellschaft zur Zertifizierung von Managementsystemen mbH

hereby certifies that the Company

SIEMENS AG

Automatisierungs- und Antriebstechnik (A&D)
Geschäftsgebiet Strömungsmaschinen, Stellantriebe, Apparate (A&D PU)
Vogelweiherstraße 1- 15
D-90441 Nürnberg
Siemensstraße 15
D-97616 Bad Neustadt a.d. Saale

und ENTRAK GmbH & Co. KG

Richtweg 33
D-90530 Wendelstein

Development, Manufacture, Sales and Service for Liquid- and Gas-Ringpumps as for Electrical Actuators, Apparatus and Electrical equipment for aeronautical and special-purpose vehicles

has implemented and maintains a

Quality Management System,

A quality audit, documented in an audit report, has verified that this quality system fulfills the requirements of the following Standard:

DIN EN ISO 9001
August 1994 edition

This certificate is valid until: 2002-08- 13
Certificate Registration No.: 358-04
Frankfurt am Main, Berlin 1999-08- 14

Dr.-Ing. K. Pastrick
Dipl.-Ing. J. Pirsch

DQS is member of IQNet

Offices: MANAGING DIRECTORS
D-60433 Frankfurt am Main, August-Schanz-Straße 21
D-10787 Berlin, Burggrafenstraße 6

Technical progress and market success are inseparable from the high quality of ELMO vacuum pumps and compressors. To guarantee this high quality level, a reliable quality assurance system has been established for monitoring all phases of production from development to delivery.

This quality assurance system meets the worldwide requirements, corresponds with the relevant standards and specifications and fulfils the requirements of ISO 9001.

This gives our customers the following advantages:

- maximum operational safety;
- high, consistent supply reliability;
- compliance with the requirements of the European Market;
- participation in national and international tenders.

Your direct contact to elmo

Sales region	Address	Contact	Telephone	Fax
Europe				
Headquarters Europe	**elmo** vacuum technology GmbH A Siemens Company Humboldtstraße 59 D-90459 Nürnberg Germany	Mr. J. Müller, Dep. M BD2 Juergen.Mueller@nbg7.siemens.de	+49 (911) 433-7773	+49 (911) 433-6935
America				
Headquarters NAFTA	Siemens E&A, Inc Dep. IPD/VP&C 4620 Forest Ave Norwood, OH 45212 USA	vpcsales@sea.siemens.com www.siemensvpc.com/sales	+1 (513) 841-3300	+1 (513) 841-3302
Asia				
Headquarters Asia Pacific	**elmo** vacuum technology Pte. Ltd. A Siemens Company Blk 164 Kallang Way, #04-38 Singapore 349248	Mr. Leslie J. Croyston Leslie.Croyston@sae.siemens.com.sg	+65 845-4780	+65 845-4789
Australia				
Headquarters Australia	Siemens Ltd. 885, Mountain Highway Bayswater, Vic. 3153 Australia	Mr. Glenn Plymin, Dep. A&D Glenn.Plymin@siemens.com.au	+61 (3) 9721-7542	+61 (3) 9721-7908
China				
Headquarters China	Siemens Vacuum Pump & Compressor Co. Ltd. No. 448, BaiYucheng ZiBo 255213 BoShan, ZiBo, ShangDong Rep. of China	Mrs. Qiulan Liu, Dep. elmo GM qiulan.liu@pek1.siemens.com.cn	+86 (533) 465-4800	+86 (533) 465-0166

The above table shows our regional headquarters worldwide.

For your local contact partner, please take a look in our Internet site under www.elmo-vacuum.com >> contacts or contact the regional office for further assistance.

PUBLICIS MCD

www.elmo-vacuum.com

elmo vacuum technology GmbH
Humboldtstraße 59, D-90459 Nürnberg
Germany; Fax ++49 911 433-6935

Subject to change

A Siemens Company

Order-No. evl:K2600A101B176
Dispo 68202/SEK 30174
Printed in Germany
63/36001 WS 01018.0

elmo
Yes, we can.