

# L-BV 3

## Data sheet 2BV3 151

### Liquid ring vacuum pump

**IE2**



#### General information

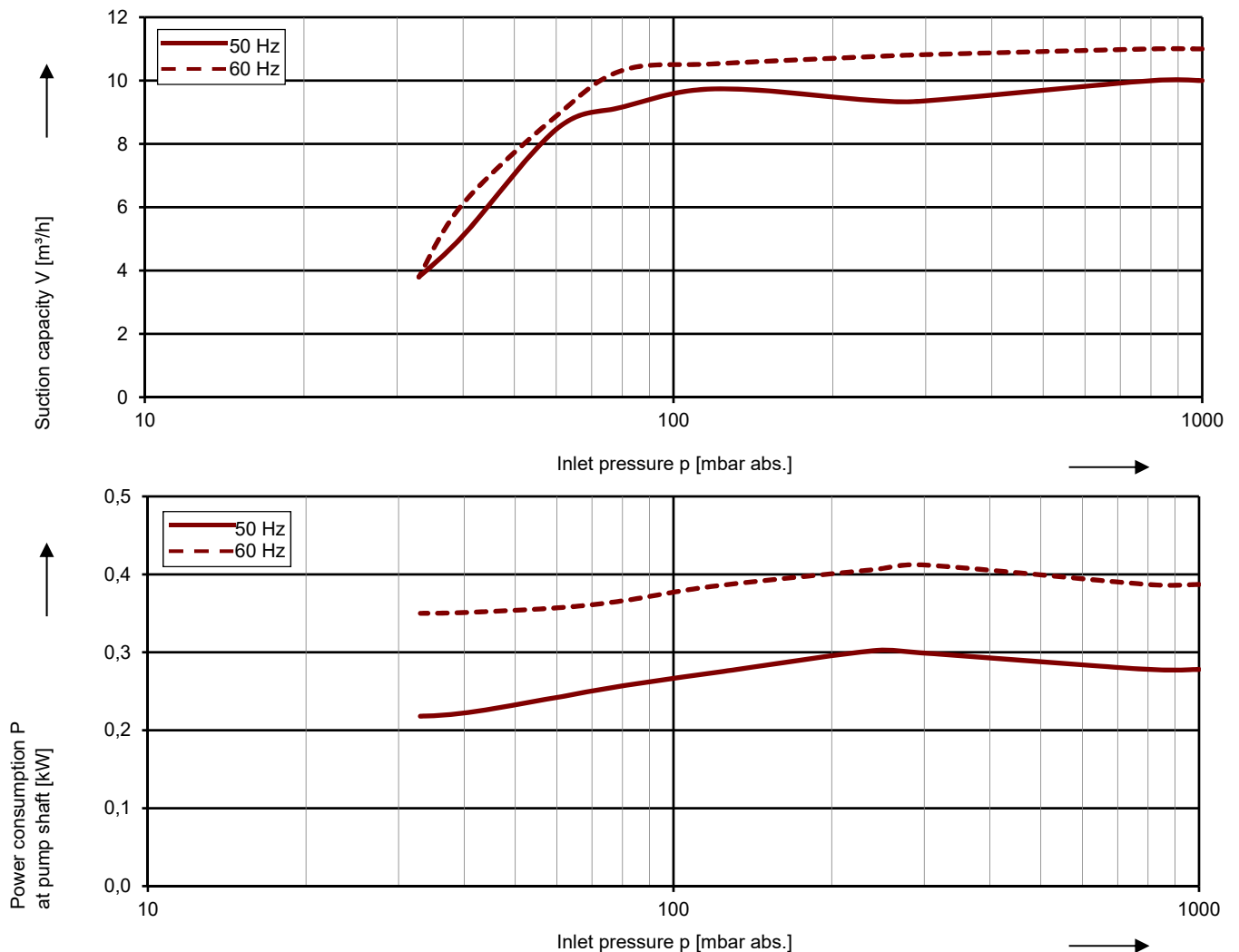
Elmo Rietschle vacuum pumps of the family L-BV3 are suitable for evacuating gases and wet vapours down to inlet pressures of 33 mbar abs. (97 % vacuum). All these vacuum pumps are equipped with built-in cavitation protection. They work cavitation free down to 80 mbar abs. For operation at lower inlet pressures the integrated cavitation protection should be connected for protecting the vacuum pump (no external pipes necessary).

Due to the compact design the vacuum pump of the family L-BV3 is the most spacesaving of their kind. By their up-to-date technology they realise high performance with very low quantities of operating liquids and required power. As standard they are available in corrosion free materials bronze and stainless steel. Thereby many of their requests can be achieved by a standard pump.



#### Performance curves

##### Vacuum operation



The characteristic curves are based on the evacuation of 100 % saturated air and an intake temperature of 20 °C. At a suction pressure of 1013 mbar abs. and a temperature of the operating liquid of 15 °C (water as operating liquid) the characteristic curves will be achieved. The tolerance is  $\pm 10\%$ .

The motors are supplied as standard for the input voltage ranges of 50 and 60 Hz and for the protection category IP55 as well as approved for UL and CSA.

## Selection and ordering data

### Typ 2BV3 151

Fre- quency	Rated			Service factor	Efficiency	Quantity of operating liquid 1)	Sound pressure level 2)	Weight Approx.	Order No.
	Voltage	Current	Power						
Hz	V	A	kW	SF	-	l/min	dB(A)	kg	
<b>3~ 50/60 Hz, IP55, Insulation material class F, UL 1450 and CAN/CSA C22.2 No. 68-09 (certificate number E225239)</b>									
50	185-240 Δ / 320-415 Y	1,45 Δ / 0,84 Y	0,30	1,33	IE2	1,30	55	10	2BV3151-0 □ P02-4E
		1,88* Δ / 1,09* Y							
60	200-275 Δ / 345-480 Y	1,65 Δ / 0,95 Y	0,40	1,30	IE2	1,30	62		
		2,15* Δ / 0,95* Y							

Casing	Port plate	Impeller	Lantern
Bronze	Edelstahl	Bronze	-

- 1) The quantities of operating liquid apply for fresh water operation without discharge liquid separator.
- 2) Measuring surface sound pressure level acc. to EN ISO 3744, measured with an equivalent unit at a distance of 1 m. The pump is throttled to an average suction pressure, with piping connected, but no relief valves fitted, tolerance  $\pm 3$  dB (A).
- \*\*) Max. current for heavy-duty conditions (water carry over, back pressure)

## Other Voltages [V]

Voltage range		Efficiency	60 Hz	2BV3...-.. □ ... □
50 Hz	60Hz			
3~		<b>IE2</b>		
185-240 Δ / 320-415 Y	200-275 Δ / 345-480 Y		•	P 4

All L-BV fulfil the 2006/42/EC (machinery) and 2014/35/EU (low voltage) directives and the EN 60034-1 norm "Rotating electrical machines". The motors comply with EN 60 034 (IEC 60034) and thermal class F. Voltage tolerances for three phase motors are +/-10%. The frequency tolerance is +/- 2 % maximum.

## Operation liquid quantity for 50 Hz / 60 Hz [m³/h]

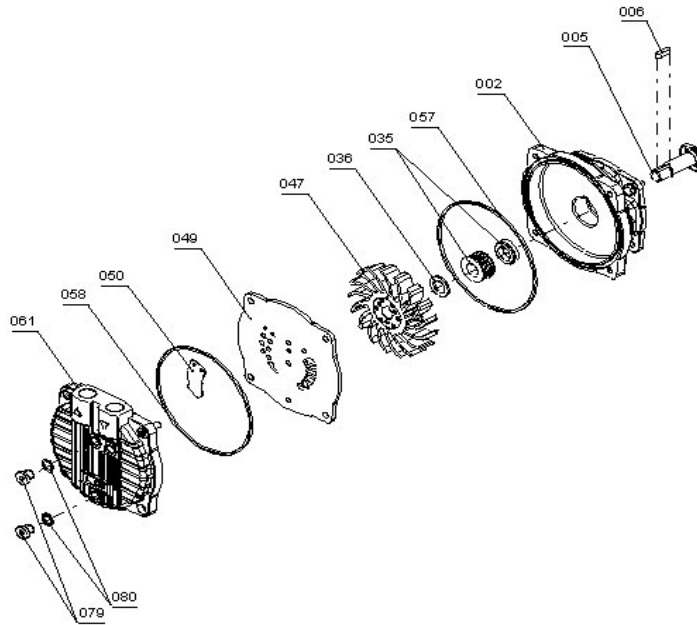
p1	Fresh water	Partial recirculation
mbar abs.	15 °F	
>500	1,3 / 1,3	0,65 / 0,65
200-500	1,3 / 1,3	0,65 / 0,65
<200	1,3 / 1,3	-

For partial recirculation operation the quantity of the fresh applied refrigerant can be reduced by circulation of the operating liquid in a circuit (with discharge liquid separator and internal recirculation of the operating liquid, available as accessories). Complete circuit systems L-SV available on request.

## Max. additional water carry over / Back pressure

Frequency [Hz]	water carry over [l/min]	Back pressure [mbar] abs.
50	3,3	1100
60	3,3	1100

# Materials



Part No.	Materials	
	Bronze / CrNi steel / bronze	
002	Casing	Cast aluminium bronze (G-CuAl10Fe5Ni5 / CC33G-GS) EN 1982
005	Pump shaft	Chromemolybdenum steel (X12CrMoS 17 / 1.4104) EN 10088 - 3
006	Feather key	Chrome-nickel-molybdenum steel (X6CrNiMoTi 17-12-2 / 1.4571) EN 10088 - 3
013	Rubber pressure piece	Silicon rubber MVQ ISO 1629
020	Ventilation assembly	fan cowling / fan impeller / shaft sealing ring PA-6-GF30 ( PA 6GF-30-UL94HP) / PA 6-GF30 / NBR polyamide6 with
024	Washer	Chrome-nickel steel (X5CrNi 18-10 / 1.4301 / A4-70) EN ISO 3506-1
025	Fixing screw	Chrome-nickel steel (X5CrNi 18-10 / 1.4301 / A2-70) EN ISO 3506-1
035	Mechanical seal - single-acting	SIC / Carbon / Viton (FPM) / chrome-nickel-molybdenum steel (EN 12756 - BQ1VGG)
036	Washer	Chromenickelsteel (X5CrNi 18-10 / 1.4301) EN 10088 - 2
045	Fixing screw	Chrome-nickel steel (X5CrNi 18-10 / 1.4301 / A2-70) EN ISO 3506-1
047	Impeller	Cast aluminium bronze (G-CuAl10Fe5Ni5 / CC33G-GS) EN 1982
049	Port plate	Chromenickelsteel (X6CrNiTi 18-10 / 1.4541) EN 10088 - 2
050	Valve plate	Teflon(PTFE)
053	Plug	Polypropylene
057	Gasket	Nitrile-butadiene-caotchouc (NBR) ISO 1629
058	Gasket for cover	Nitrile-butadiene-caotchouc (NBR) ISO 1629
061	Cover	Cast aluminium bronze (G-CuAl10Fe5Ni5 / CC33G-GS) EN 1982
063	Fixing screw	Chrome-nickel steel (X5CrNi 18-10 / 1.4301 / A4-70) EN ISO 3506-1
079	Plug screw	copper-zinc-alloy (CuZn37 / CW 508 L) EN 12449
080	Sealing ring	Kupfer DIN 7603 - Cu
300	Motor complete Pump shaft	Chromemolybdenum steel (X12CrMoS 17 / 1.4104) EN 10088 - 3
700	Operating condenser	10 µm 400V for 2BV3151-0GW02-1E
701	Starting condenser	60 µm 280V for 2BV3151-0GW02-1E

Changes in particular of the quoted performance curve, data and weights may occur without prior notice. The data given do not constitute an obligation from our side to deliver as sho



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