



**Elmo
Rietschle**

IE3



L-BV 54 N

Data sheet 2BV5 411

Liquid ring vacuum pump

General information

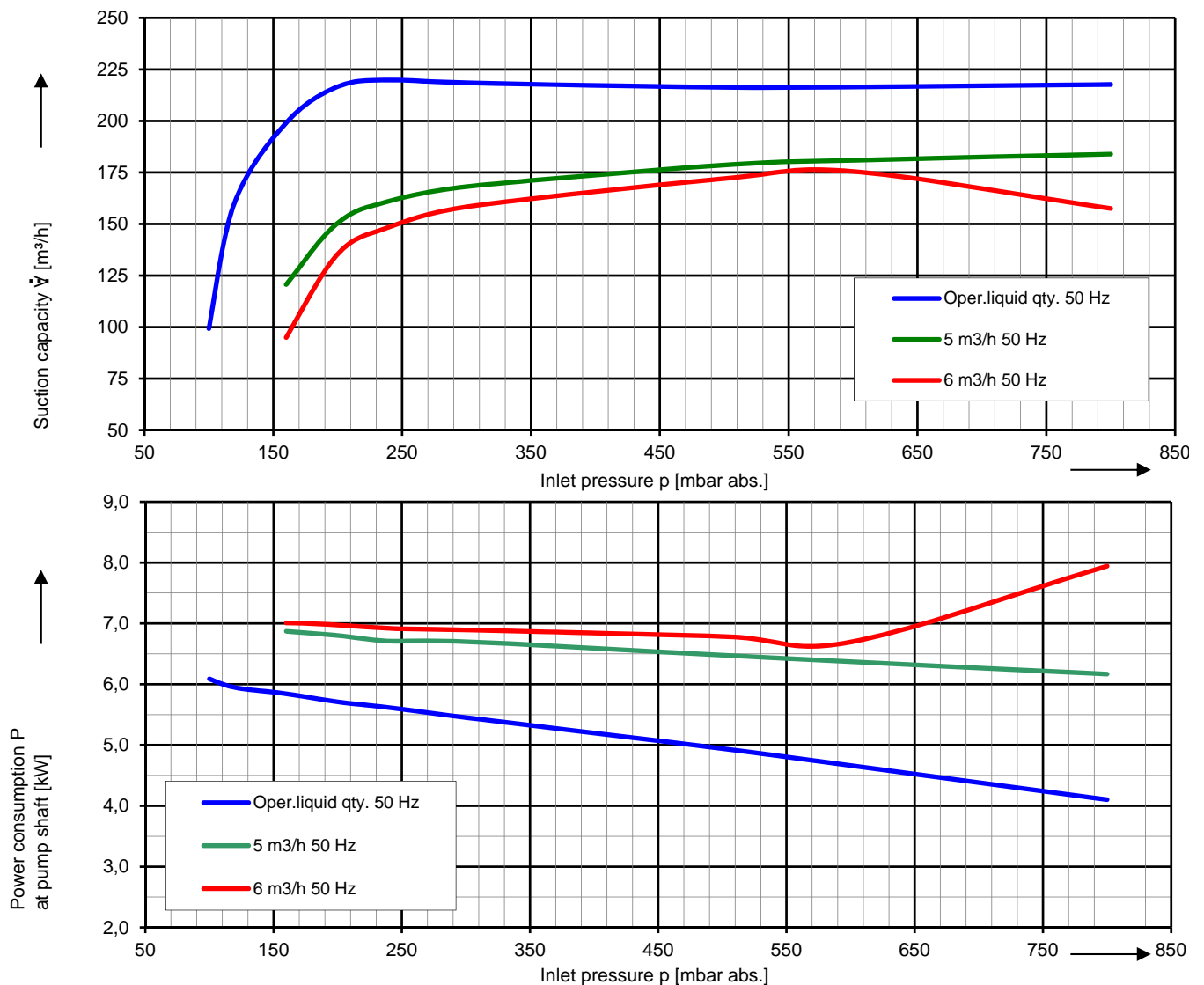
Elmo Rietschle vacuum pumps of the family L-BV54 are suitable for carryover large quantities of liquid - up to 6m³/h. Optimizations of the flow geometry in the block pumps have led to very low power requirements and extremely low noise levels.

The vacuum pump of the model range 2BV5 are especially space-saving in their monoblock design. They are available in cast iron (standard color RAL 9006). The motor is painted as standard in RAL 9006.



Performance curves

Vacuum operation 50 Hz

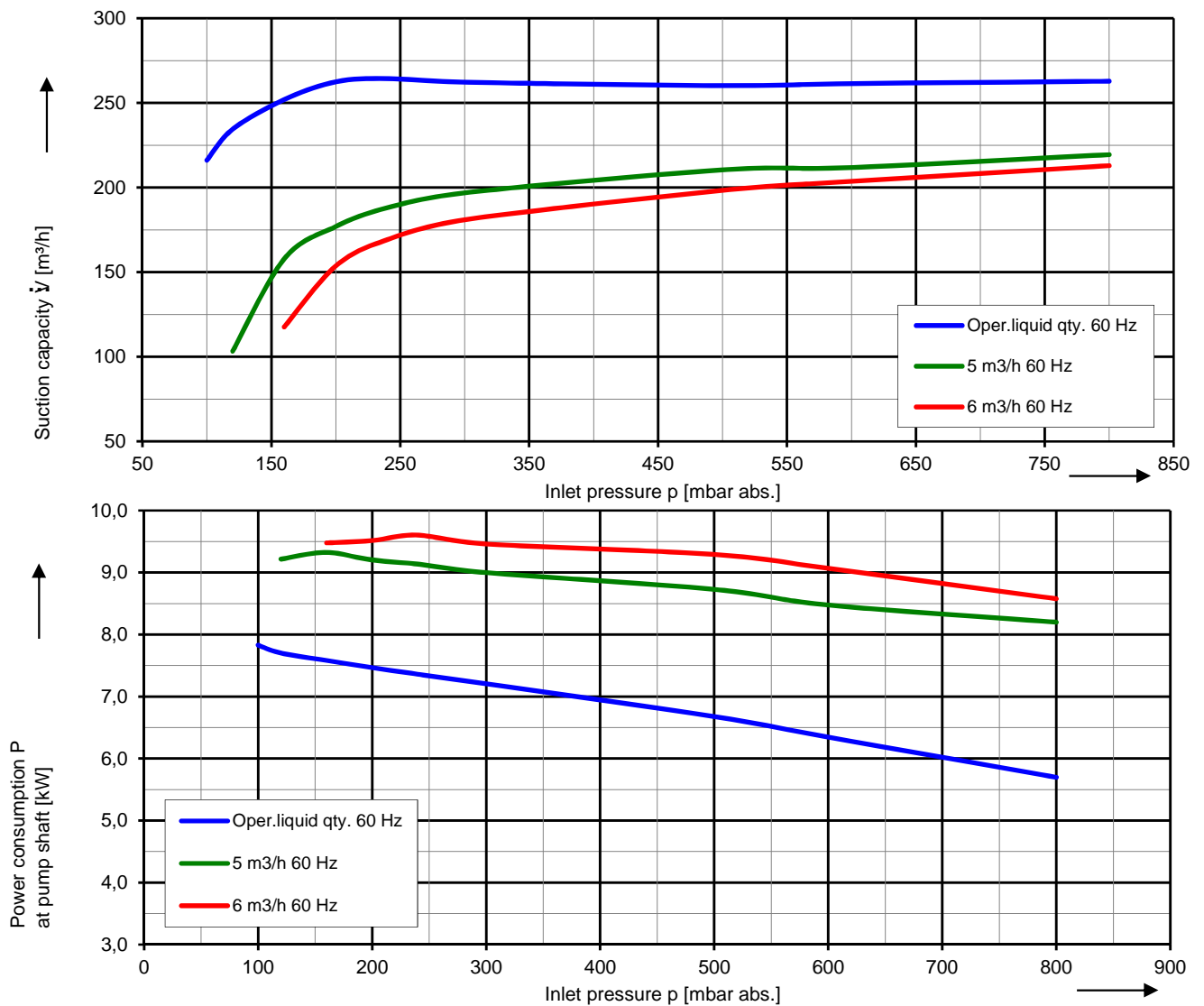


The characteristic curves are based on the evacuation of 50 % saturated air and an intake temperature of 20 °C. At a suction pressure of 1013 mbar abs. and a temperature of the operating liquid of 15 °C (water as operating liquid) the characteristic curves will be achieved. The tolerance is $\pm 10\%$.

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.

Performance curves

Vacuum operation 60 Hz



The characteristic curves are based on the evacuation of 50 % 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 2BV5 411

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	-	m ³ /h	dB(A)	kg	
3~ 50/60 Hz, IP55, Insulation material class F, UL 1450 (certificate number E225239)									
50	190-210 Δ	45,0 Δ	6,1	1,80	IE3	0,80	73	140	2BV5411-1 □ K04-1B
60	190-210 YY / 380-420 Y	50,0 YY / 25,0 Y	7,8	1,62	IE3	0,80	77		
	200 YY	43,0 YY	7,8	1,42	NP	0,80	77		
3~ 50/60 Hz, IP55, Insulation material class F, UL 1450 (certificate number E225239)									
50	220-240 Δ / 380-420 Y	40,0 Δ / 22,5 Y	6,1	1,80	IE3	0,80	73	140	2BV5411-1 □ K04-6B
60	220-240 YY / 440-480 Y	44,0 YY / 22,0 Y	7,8	1,62	IE3	0,80	77		
	230 YY / 460 Y	38,0 YY / 18,9 Y	7,8	1,62	NP	0,80	77		
3~ 50/60 Hz, IP55, Insulation material class F, UL 1450 (certificate number E225239)									
50	475-525 Y	18,1 Y	6,1	1,80	IE3	0,80	73	140	2BV5411-1 □ Q04-3B
60	550-600 Y	17,4 Y	7,8	1,42	NP	0,80	77		
3~ 50/60 Hz, IP55, Insulation material class F, UL 1450 (certificate number E225239)									
50	380-420 Δ / 660-725 Y	22,5 Δ / 12,9 Y	6,1	1,80	IE3	0,80	73	140	2BV5411-1 □ Q04-7B
60	440-480 Δ	22,0 Δ	7,8	1,62	IE3	0,80	77		
	460 Δ	19,0 Δ	7,8	1,42	NP	0,80	77		

Materials

Casing	Port plate	Impeller	Lantern	
Cast iron (internal surface with ceramic coating)	Cast iron	Bronze	-	G

- 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 ±3 dB (A).

Voltage range		Efficiency	cUL [®] US	Order No.	
50 Hz	60 Hz			60 Hz	2BV5....- □ .. □
3~					
200 VΔ	200 V YY / 230 VΔ / 400 VY	NEMA Premium IE3	•	K	1
190-210 VΔ	190-210 VYY / 220-240 VΔ / 380-420VY				
200 V YY / 230 VΔ / 400 VY	230 V YY / 460 VY	NEMA Premium IE3	•	K	6
190-210 VYY / 220-240 VΔ / 380-420VY	220-240 VYY / 440-480VY				
475-525 V Y	550-600 V Y	NEMA Premium	•	Q	3
475-525 VΔ	550-600 VΔ				
400 VΔ / 690 V Y	460 VΔ				

All L-BV fulfil the 2006/42/EC (machinery) and 2006/95/EC (low voltage) directives and the EN 60034-1 norm "Rotating electrical machines". The motors comply with EN 60 034-1 / -2 / -30 (IEC 60034) and thermal class F. Voltage tolerances for three phase motors are +/-10%. The frequency tolerance is +/- 2 % maximum. Service factor (SF) and motor efficiency according NEMA MG1-12.

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

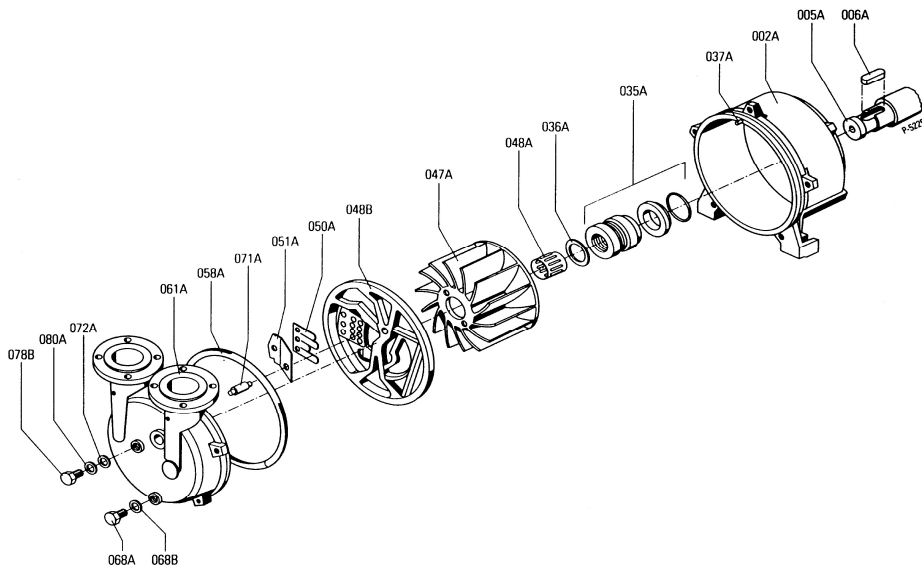
p1 mbar abs.	Fresh water	Partial recirculation		
	15 °C	8 °C	10 °C	12 °C
> 500	0,8 / 0,8	-	-	-
200 - 500	0,8 / 0,8	-	-	-
< 200	0,8 / 0,8	-	-	-

Max. additional water carry over / Back pressure

Frequency [Hz]	Water carry-over [m ³ /h]	Back pressure [mbar] atm.
50	6	-
60	6	-

The cast iron machines are completely painted in standard color RAL 9006.

Materials



Part No.		Materials	
		2BV54 ...-G ...	
		Cast iron / Cast iron / bronze	
002	Casing	Cast iron (EN-GJL HB 195 / EN-JL2030) EN 1561	
005	Pump shaft	Chrome steel (X20Cr13 / 1.4021) EN 10088 - 3	
006	Feather key	Chrome-nickel-molybdenum steel (X6CrNiMoTi 17-12-2 / 1.4571) EN 10088 - 3	
035	Mechanical seal	Carbon / SiC / Viton (FPM) / Chrome-nickel-molybdenum steel (EN 12756 - BQ1VGG)	
036	Washer	Chrome steel (X20Cr13 / 1.4021) EN 10088 - 3	
037	Set screw	Chrome-nickel-molybdenum steel (X5CrNiMo 17-12-2 / 1.4401) EN 10088 - 3	
047	Impeller	Cast aluminium bronze (G-CuAl10Fe5Ni5 / CC33G-GS) EN 10088 - 2	
048	Tolerance ring for impeller	Chrome-nickel steel (X12CrNi 17-7 / 1.4310) EN 10088 - 2	
058	Gasket for cover	Nitrile-butadiene-caotchouc (NBR 70) ISO 1629	
061	Cover with integrated port plate	Cast iron (EN-GJL HB 195 / EN-JL2030) EN 1561	
063	Screw	Steel (DIN ISO 8992)	
068	Plug screw	Machining steel, lead alloyed (11SMnPb30 / 1.0718) EN 10088 - 2	
069	Sealing ring	Aramid fiber,NBR,PTFE	
071	Pipe of cavitation	Teflon (PTFE)	
072	Washer for cavitation protection	Chrome-nickel steel (X5CrNi 18-10 / 1.4301) EN 10088 - 3	
079	Plug screw	Machining steel, lead alloyed (11SMnPb30 / 1.0718) EN 10088 - 2	
080	Sealing ring	Teflon (PTFE)	

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 shown.

Elmo Rietschle is a brand of Gardner Denver

**Gardner
Denver**

Your Ultimate Source for Vacuum and Pressure

Gardner Denver Deutschland GmbH

Industriestraße 26
97616 Bad Neustadt - Germany
Tel.: +49 9771 6888-0
Fax: +49 9771 6888-4000

www.gd-elmorietschle.com • er.de@gardnerdenver.com

Gardner Denver Schopfheim GmbH

Roggenbachstraße 58
79650 Schopfheim - Germany
Tel.: +49 7622 392-0
Fax: +49 7622 392-300