

## LIQUID RING VACUUM PUMPS

### GMP 230/120 – GMP 230/160 – GMP 230/200

**PRESSURE RANGE** : 33 – 1013 mbara / 0.98 – 30 inHg

**SUCTION CAPACITY** : 120 – 465 m<sup>3</sup>/h / 70 – 274 cfm

GÜCÜM two stage liquid ring vacuum pumps are used for pumping dry and wet gases, small quantities of liquid can be handled. They are used in the areas at which vacuum needed between the pressures 1013 to 33 mbar

Gücüm Two stage liquid ring vacuum pumps have below features;

- Able to pump every kind of gases and vapors,
- Able to handle small quantities of liquid with gases,
- Oil-free, no need to lubrication,
- Pumped gas does not touch to oil,
- Minimum maintenance with high efficiency
- No metallic contact of the rotating parts,
- Works quiet and reduced vibration,
- Nearly everywhere used with suitable material choices.



### APPLICATION

Pumps are used for the discharge of dry and humid gases (containing vapor) and a certain amount of water. It can be used in all areas where absolute pressure between 1013 and 33 mbar is required.

### ADDITIONAL NOTE

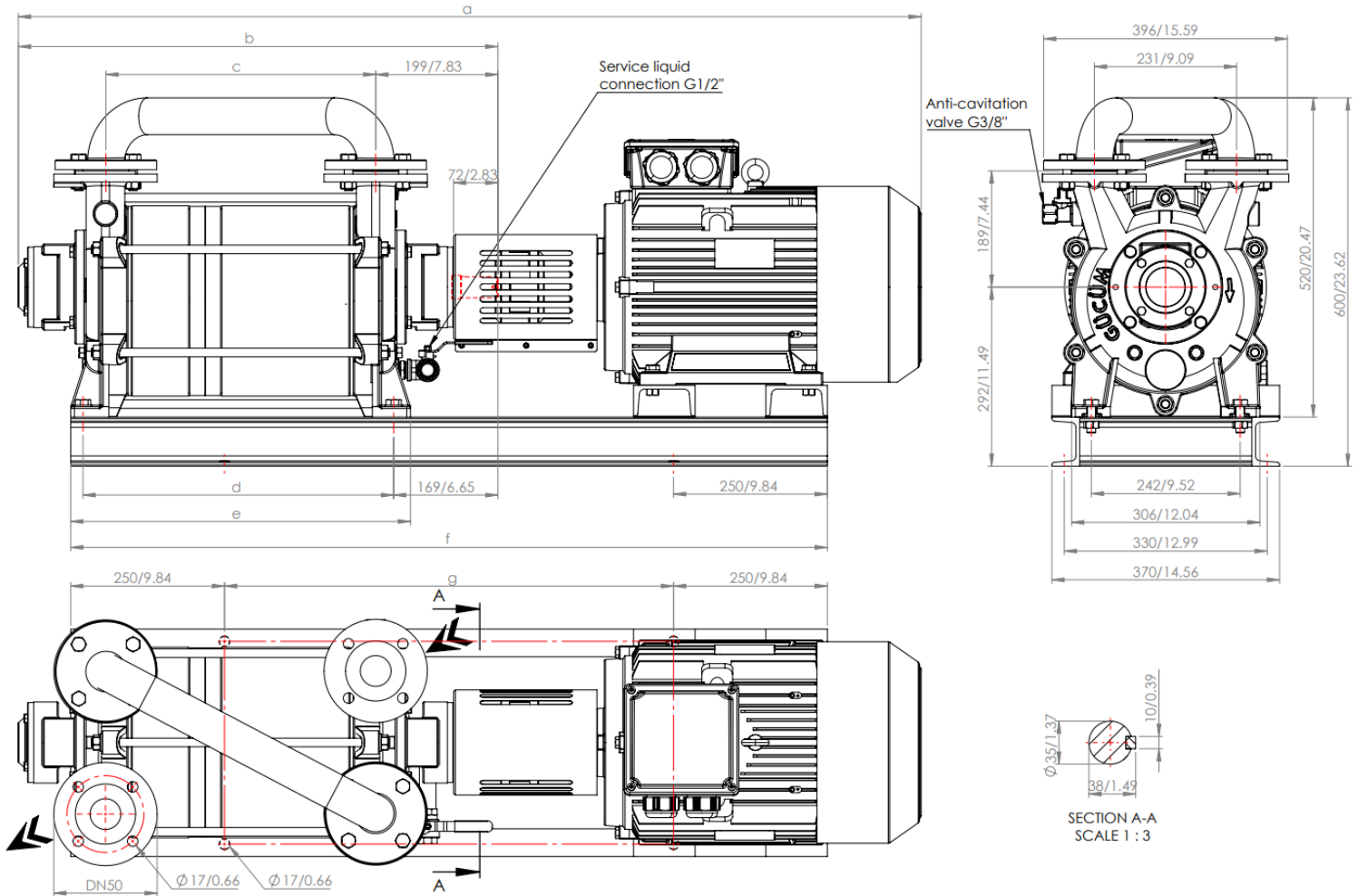
During operation, the pump must be continuously supplied with liquid (usually water) to replenish the water from the exhaust line and to reduce the pump temperature. The water discharged from the pump is separated from the gas and is suitable for reuse.

The direction of shaft rotation is clockwise when viewed from the motor side.

The tightness is ensured by a standard mechanical seal.

TECHNICAL FEATURES		
Maximum allowable pressure differential	1.1	bar
Highest saturated air temperature	100	°C
Highest dry air temperature	200	°C
Highest service water temperature	70	°C
Highest service water viscosity	4	mm <sup>2</sup> /sec
Noise level (at 80 mbar vacuum)	66 ±3	dB A
Highest density of service water	1200	kg/m <sup>3</sup>
Highest heat exchanger flow resistance	0,2	bar

## OVERALL DIMENSIONS

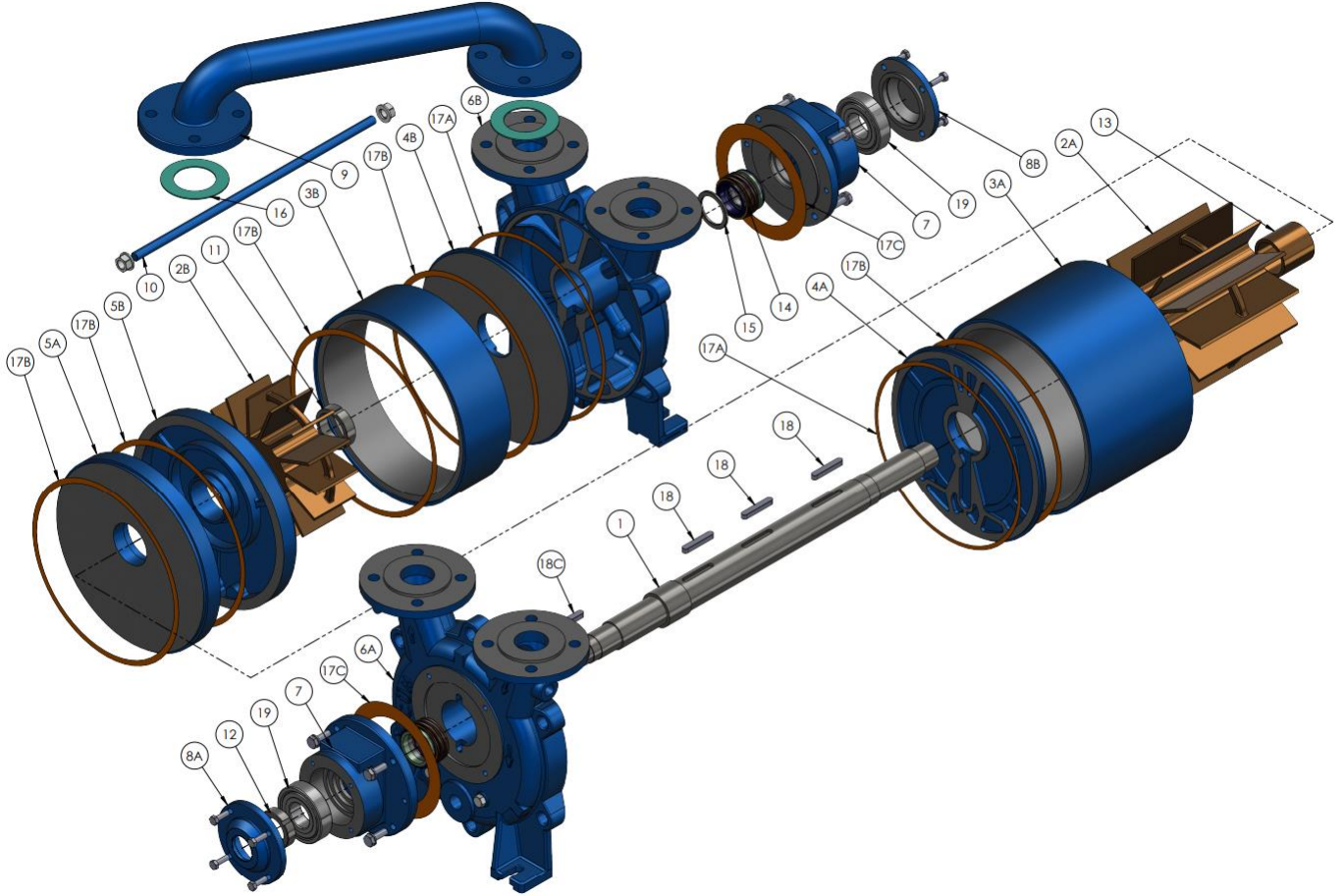


MODEL	50 Hz.	a	b	c	d	e	f	g	Weight (kg / lbs)	
		mm / inch							Bare Shaft	With Motor
GMP 230/120		1340 / 52.75	700 / 27.55	360 / 14.17	425 / 16.73	472 / 18.58	1100 / 43.30	600 / 23.62	138 / 304	260 / 573
GMP 230/160		1380 / 54.33	740 / 29.13	400 / 15.74	465 / 18.3	512 / 20.15	1140 / 48.88	640 / 25.19	152 / 335	275 / 606
GMP 230/200		1470 / 57.87	780 / 30.7	440 / 17.32	505 / 19.88	552 / 21.73	1230 / 48.42	730 / 28.74	170 / 375	315 / 695

MODEL	60 Hz.	a	b	c	d	e	f	g	Weight (kg / lbs)	
		mm / inch							Bare Shaft	With Motor
GMP 230/120		1390 / 54.72	700 / 27.55	360 / 14.17	425 / 16.73	472 / 18.58	1150 / 45.27	650 / 25.59	138 / 304	280 / 617
GMP 230/160		1430 / 56.29	740 / 29.13	400 / 15.74	465 / 18.3	512 / 20.15	1190 / 46.85	690 / 27.16	152 / 335	295 / 650
GMP 230/200		1520 / 59.84	780 / 30.7	440 / 17.32	505 / 19.88	552 / 21.73	1230 / 48.42	730 / 28.74	170 / 375	335 / 738

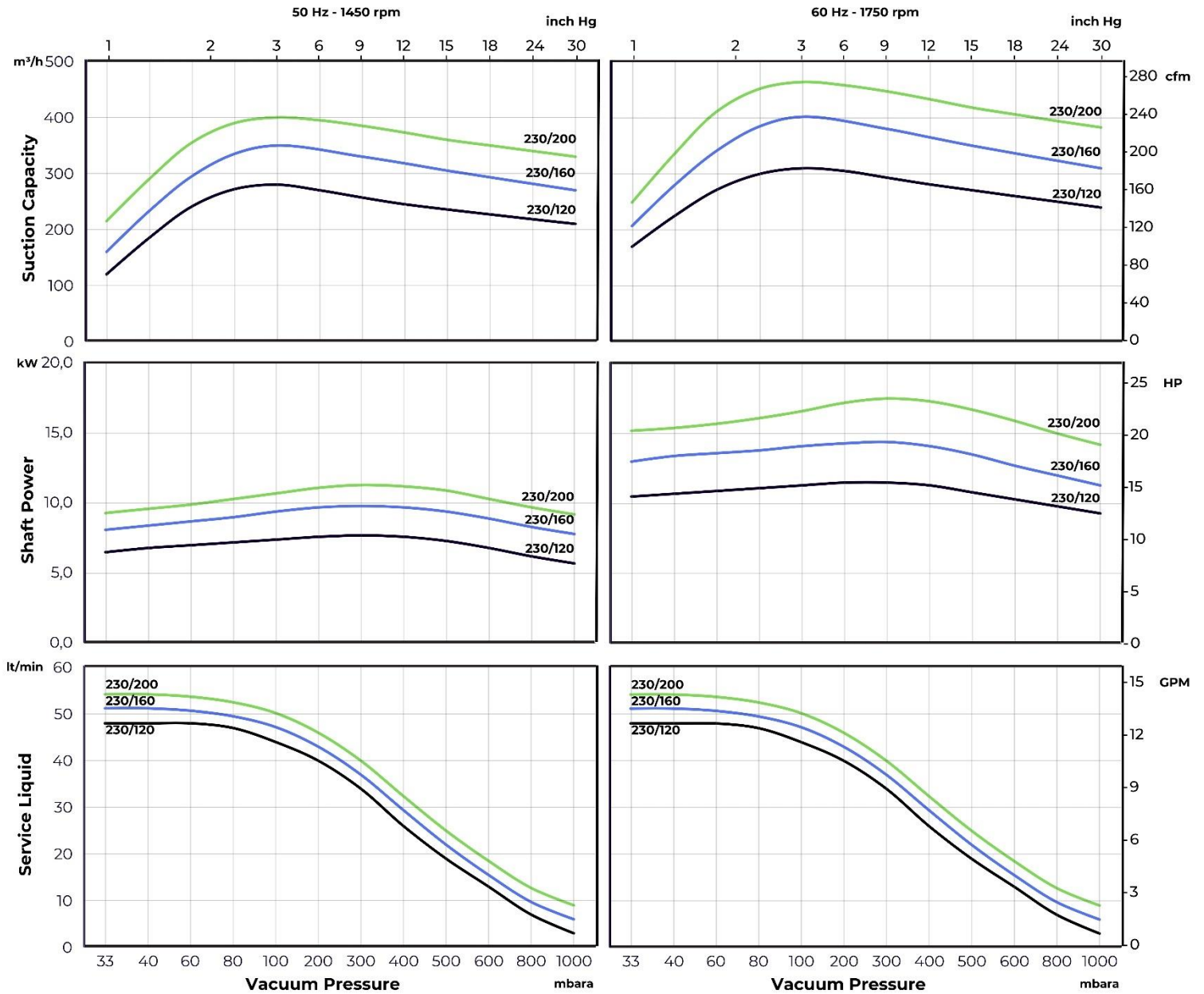
Motor Specifications										
Type	50 Hz		60 Hz		50 Hz			60 Hz		
	Frame Size – Flange Type		Frame Size – Flange Type		rpm	kW	HP	rpm	kW	HP
GMP 230/120	160M – B3		160L – B3		1450	11	15	1750	15	20
GMP 230/160	160M – B3		160L – B3		1450	11	15	1750	15	20
GMP 230/200	160L – B3		180M – B3		1450	15	20	1750	18.5	25

## EXPLODED VIEW AND PART LIST



PART LIST	Cast Iron	Nodular Cast Iron	AISI 420	AISI 304	AISI 316	Bronze	St-37	Qty.
1. Shaft			✓	✓	✓			1
2A. First Stage Impeller				✓	✓	✓		1
2B. Second Stage Impeller				✓	✓	✓		1
3A. First Stage Cover				✓	✓		✓	1
3B. Second Stage Cover				✓	✓		✓	1
4A. Suction Plate		✓		✓	✓			1
4B. Discharge Plate		✓		✓	✓			1
5A. First Intermediate Plate		✓		✓	✓			1
5B. Second Intermediate Plate		✓		✓	✓			1
6A. Suction Casing	✓			✓	✓			1
6B. Discharge Casing	✓			✓	✓			1
7. Bearing Carrier	✓			✓	✓			2
8A. Bearing Cover	✓			✓	✓			2
8B. Bearing End Cover								2
9. Manifold				✓	✓		✓	1
10. Tie Rod							✓	4
11. Impeller Nut			✓					1
12. Bearing Nut			✓					1
13. Impeller Spacer			✓					1
14. Mechanical Seal			MG1 – Ø45 – G6 / SiC – Carbon – Viton					2
15. Mechanical Seal Spacer				✓	✓			1
16. Klingrite Gasket				Klingrite				2
17A. Casing Gasket				Paper				2
17B. Cover Gasket				Paper				4
17C. Bearing Carrier Gasket				Paper				2
18. Impeller Key				✓	✓		✓	3
18C. Coupling Key				✓	✓		✓	1
19. Bearing			6308-ZZ/C3 / 100Cr6					2

## CHARACTERISTIC CURVES



Suction Capacity		
Type	50 Hz	60 Hz
GMP 230/120	120 – 280 m <sup>3</sup> /h / 70 – 165 cfm	170 – 310 m <sup>3</sup> /h / 100 – 183 cfm
GMP 230/160	160 – 350 m <sup>3</sup> /h / 95 – 206 cfm	205 – 400 m <sup>3</sup> /h / 120 – 235 cfm
GMP 230/200	215 – 400 m <sup>3</sup> /h / 126 – 235 cfm	250 – 465 m <sup>3</sup> /h / 147 – 274 cfm

The above characteristic curves have been prepared in accordance with ISO 21360 standards. The curves are valid for the vacuum of 15°C service water and 20°C dry air supplied to the liquid ring vacuum pump at atmospheric pressure (760 mmHg / 1013 mbar). The values in the chart have a tolerance of ±10%.

Characteristic curves vary under different operating conditions.