# LIQUID RING VACUUM PUMPS

## GMVP 120/030 – GMVP 120/050

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

**SUCTION CAPACITY** : 6 – 35 cfm / 10 – 59 m³/h

GÜCÜM single stage liquid ring vacuum pumps
offer the following features with its monoblock structure;

> ➢ Operate safely and efficiently,
> ➢ Vacuum of all kinds of gases and vapors is ensured,
> ➢ Lesser amounts of liquid can also be vacuumed,
> ➢ The compression of the absorbed gases is isothermal,
> ➢ The rotating parts make no metallic contact,
> ➢ Operate quietly and without vibration,
> ➢ Low operating and investment costs,
> ➢ Can be used in any environment with a wide choice of materials.
> ➢ They operate at high efficiency for a long time without maintenance,
> ➢ It is oil-free and does not require any lubricant in its work environment,

## 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.
A standard mechanical seal ensures tightness.
It must be driven directly with the electric motor instead of using a coupling.

| 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 | mm²/sec |
| Noise level (at 80 mbar vacuum) | 69 ±3 | dB A |
| Highest density of service water | 1200 | kg/m³ |
| Highest heat exchanger flow resistance | 0,2 | bar |

# OVERALL DIMENSIONS



Anti-cavitation valve G 1/4"

124/4.88
75/2.95
179/7.04

Service liquid connection G 1/4"
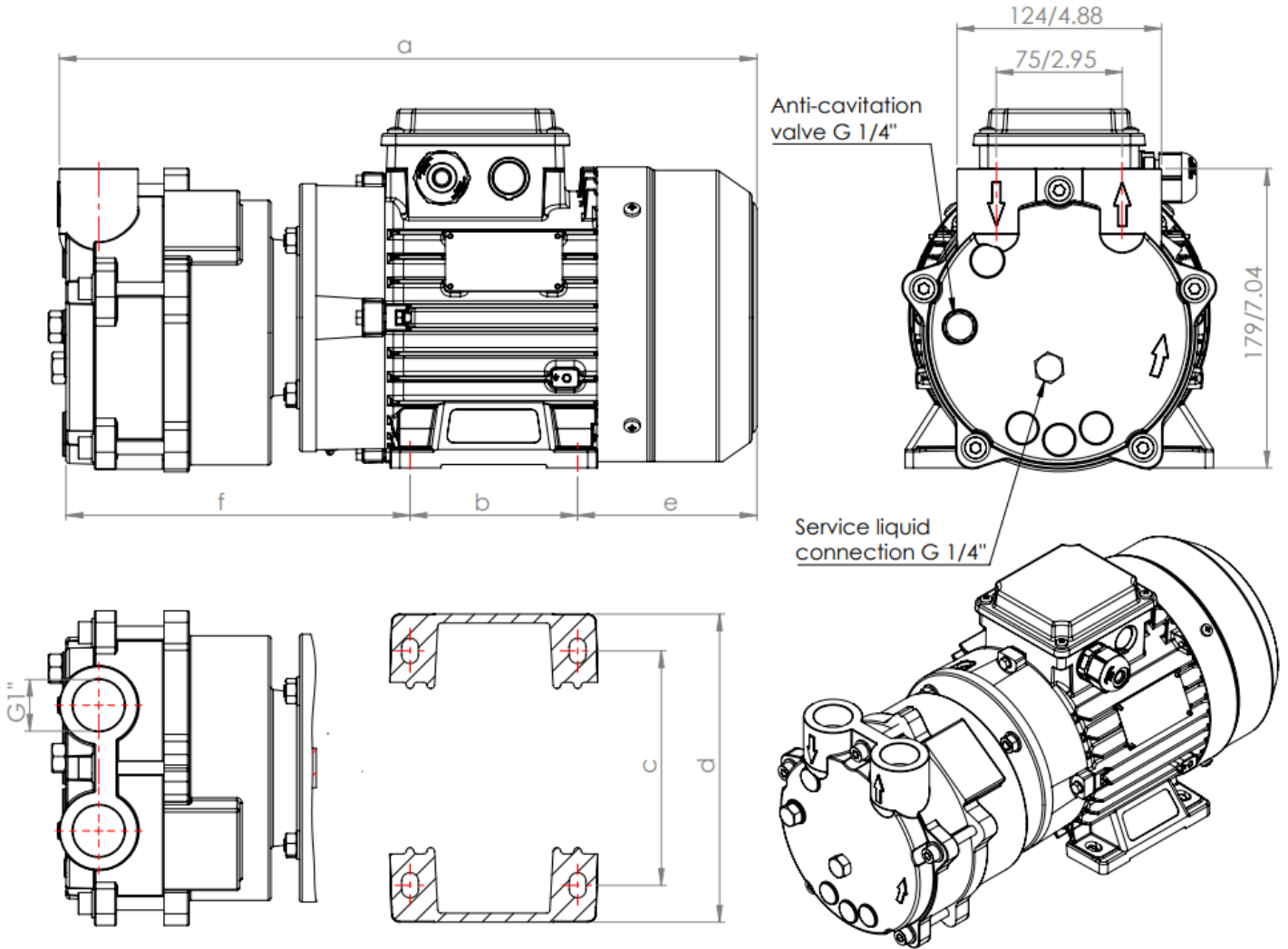
| MODEL | 50 Hz. | a | b | c | d | e | f | Weight |
|-------|--------|---|---|---|---|---|---|--------|
| | | mm / inch | | | | | | kg / lbs |
| GMVP 120/030 | | 383 / 15.07 | 100 / 3.93 | 125 / 4.92 | 164 / 6.45 | 100 / 3.93 | 180 / 7.08 | 18 / 40 |
| GMVP 120/050 | | 415 / 16.33 | 100 / 3.93 | 140 / 5.51 | 184 / 7.24 | 107 / 4.21 | 205 / 8.07 | 23 / 51 |

| MODEL | 60 Hz. | a | b | c | d | e | f | Weight |
|-------|--------|---|---|---|---|---|---|--------|
| | | mm / inch | | | | | | kg / lbs |
| GMVP 120/030 | | 395 / 15.55 | 100 / 3.9 | 140 / 5.5 | 184 / 7.25 | 107 / 4.2 | 185 / 7.3 | 19 / 42 |
| GMVP120/050 | | 441 / 17.4 | 125 / 4.9 | 140 / 5.5 | 184 / 7.25 | 107 / 4.2 | 205 / 8.1 | 26 / 57 |

| Motor Specifications | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|
| | 50 Hz | 60 Hz | 50 Hz | | | 60 Hz | | | |
| Type | Frame Size – Flange Type | | rpm | kW | HP | rpm | kW | HP | |
| GMVP 120/030 | 80M – B34 | 80M – B34 | 2850 | 0.75 | 1 | 3450 | 1.5 | 2 | |
| GMVP 120/050 | 90S – B34 | 90L – B34 | 2850 | 1.5 | 2 | 3450 | 2.2 | 3 | |

# EXPLODED VIEW AND PART LIST
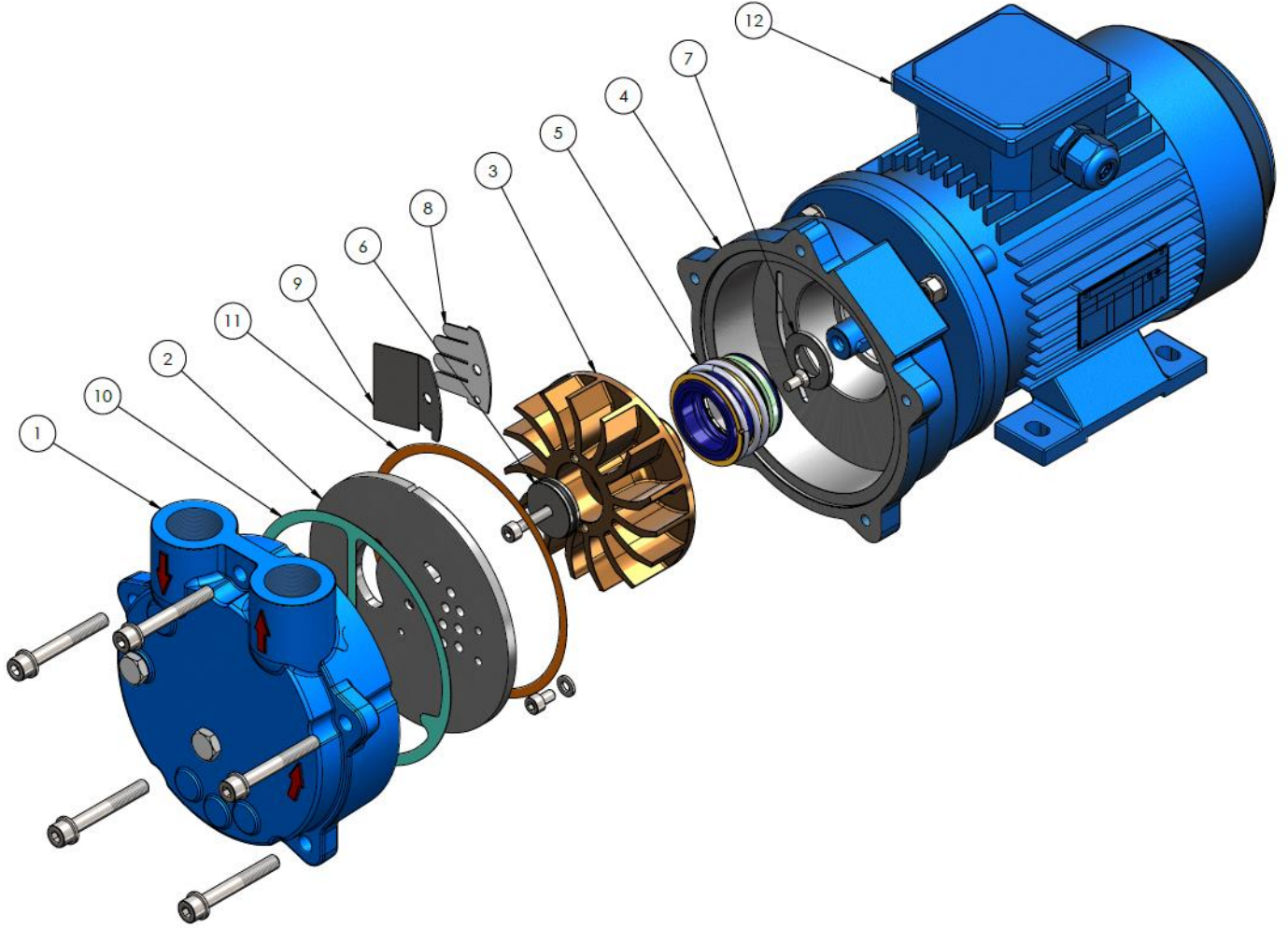


| PART LIST | Cast Iron | Nodular Cast Iron | AISI 420 | AISI 304 | AISI 316 | Bronze | St-37 | Qty. |
|---|---|---|---|---|---|---|---|---|
| 1. Suction & Discharge Casing | ✓ | | | ✓ | ✓ | | | 1 |
| 2. Plate | | | | ✓ | ✓ | | | 1 |
| 3. Impeller | | | | ✓ | ✓ | ✓ | | 1 |
| 4. Body | | ✓ | | ✓ | ✓ | | | 1 |
| 5. Mechanical Seal | MG1 – Ø35 – G6 / SiC – Carbon – Viton | | | | | | | 1 |
| 6. Impeller Cover | | | | ✓ | ✓ | | | 1 |
| 7. Impeller Washer | | | | ✓ | ✓ | | | 1 |
| 8. Valve | PTFE | | | | | | | 1 |
| 9. Valve Cover | | | | ✓ | ✓ | | | 1 |
| 10. Casing Gasket | Klingrite | | | | | | | 1 |
| 11. Body Gasket | Paper | | | | | | | 1 |
| 12. Electrical Motor | Aluminum Frame | | | | | | | 1 |

# CHARACTERISTIC CURVES

**50 Hz - 2850 rpm**

**60 Hz - 3450 rpm**
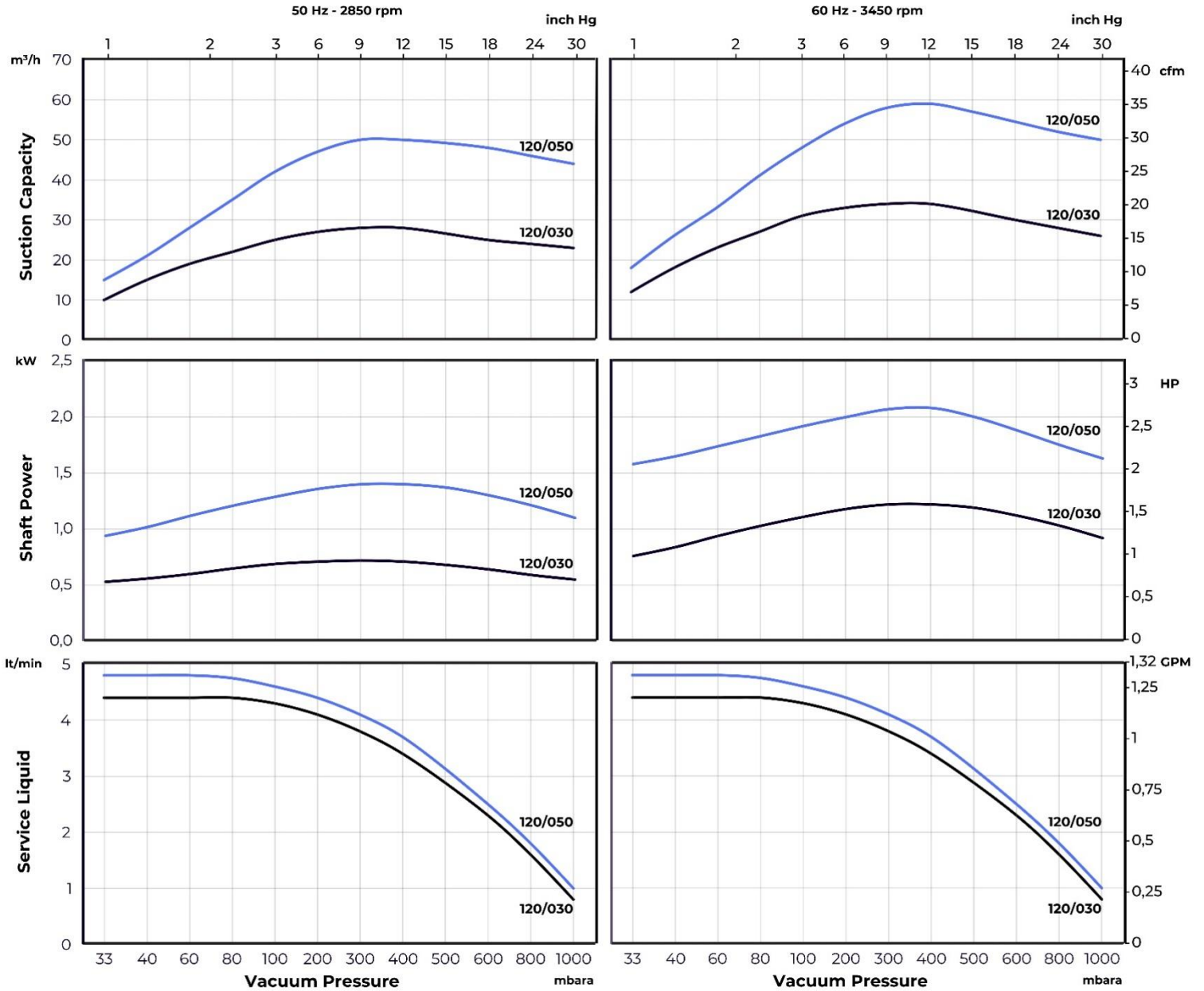


| Suction Capacity | | |
|---|---|---|
| **Type** | **50 Hz** | **60 Hz** |
| GMVP 120/030 | 10 – 28 m³/h  /  6 – 17 cfm | 12 – 34 m³/h  /  7 – 20 cfm |
| GMVP 120/050 | 15 – 50 m³/h  /  9 – 30 cfm | 18 – 59 m³/h  /  11 – 35 cfm |

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.