

Liquid Ring Vacuum Pumps

Single Stage



LPHCE 403 / 405 / 406

Pressure range: ≥ 33 mbar

Suction volume flow: $\leq 16,990$ m³/h

Description

SIHI liquid ring vacuum pumps are displacement pumps of uncomplicated and robust construction with the following particular features:

- handling of nearly all gasses and vapours
- non polluting due to a nearly isothermal compression
- oil-free, as no lubrication in the working chamber
- small quantities of entrained liquid can be handled
- easy maintenance and reliable operation
- low noise and nearly free from vibration
- wide choice of material, therefore applicable nearly anywhere
- suction side can be operated at different vacuum services

The SIHI liquid ring vacuum pumps of the LPHCE series are fully interchangeable with other major brands.



Note

During operation the pump must continuously be supplied with service liquid, normally water, in order to eliminate the heat resulting from the gas compression and to replenish the liquid ring, because part of the liquid is leaving the pump together with the gas. The liquid can be separated from the gas in a liquid separator. It is possible to reuse the service liquid. The pumps are equipped with a device by which the contaminated service liquid can continuously be drained during operation (dirt drain), if necessary.

The direction of rotation is clockwise, when looking from the drive on the pump.

Applications

Pumps of the LPHCE range meet the specific requirements of many applications including:

- Pulp and paper
- Sugar industries
- Power stations
- Chemical industry
- Food processing
- Mineral processing

Technical Data

| | Pump type | | |
|--------------------------------|--------------|---------------|---------------|
| | LPHCE 403 | LPHCE 405 | LPHCE 406 |
| Capacity in m ³ /h | 8495 - 14611 | 10194 - 16990 | 10194 - 16990 |
| Speed range in RPM | 330 - 565 | 330 - 565 | 330 - 565 |
| Weight in KG | 3300 | 3,300 | 3300 |
| Seal Flow in m ³ /h | 12.6 - 21.5 | 4.7 - 19.8 | 4.7 - 19.8 |
| Noise (at 1M) in dBA | 88 | 88 | 88 |

* With silencer and after inlet and outlet piping in 200 Torr.

LPHCE

Materials

| Product Identification Code | | | |
|-----------------------------|----------------|-----------------|--|
| Position | Characteristic | Code | Explanation |
| 1-3 | Type | LPH | Liquid Ring Vacuum Pump in Single Stage Construction |
| 4 | Construction | CE | 2BE1 |
| 5-10 | Size | 040 | Pump Range from 8495 to 16990 m3/h |
| 11 | Vacuum Range | 03 | 40 ~ 300mbarA |
| | | 05 | 300 ~ 900mbarA |
| | | 06 | 300 ~ 900mbarA. Housing with Partition wall |
| 12 | Bearing | B | 2 Antifriction Bearings |
| 13-15 | Shaft Sealing | 041 | Gland Packing |
| | | 01M | Single Mech. Seal |
| | | 02M | Double Mech. Seal |
| 16-18 | Material | See table below | |
| 19 | Casing Seal | 0 | Liquid Sealing |

Material Table

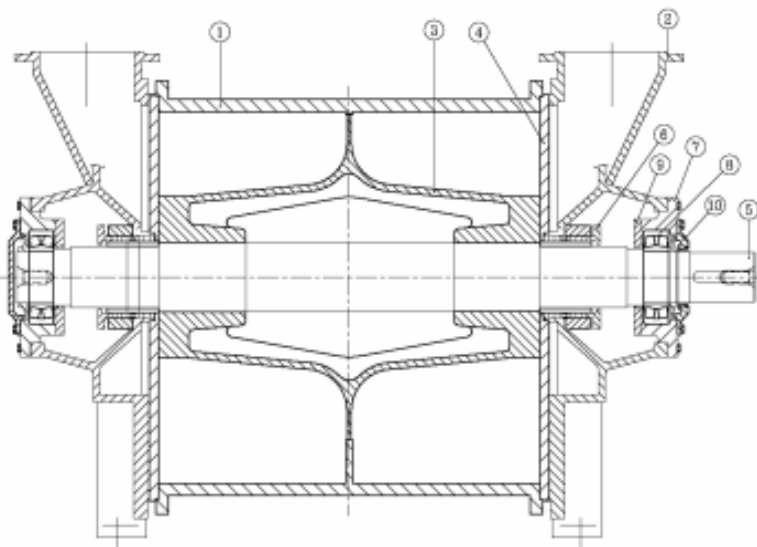
| Parts Name | FCD | STD | XVS | SS4 | PVS | SS6 |
|-----------------|------------|--------|---------|---------|---------|---------|
| Port Plate | FC 200 | FC 200 | SCS 13 | SCS 13 | SCS 14 | SCS 14 |
| Heads | FC 200 | FC 200 | FC 200 | SCS 13 | FC 200 | SCS 14 |
| Housing | FC 200 | FC 200 | SCS 13 | SCS 13 | SCS 14 | SCS 14 |
| Shaft | S45C | S45C | SUS 410 | SUS 410 | SUS 316 | SUS 316 |
| Rotor | FCD 400-18 | SCS 13 | SCS 13 | SCS 13 | SCS 14 | SCS 14 |
| Bearing Bracket | FC 200 | FC 200 | FC 200 | FC 200 | FC 200 | FC 200 |
| Bearing Cap | FC 200 | FC 200 | FC 200 | FC 200 | FC 200 | FC 200 |

*1.4006 = X10 Cr 13 (DIN) = 410 (ASTM) = SUS410 (JIS)

*1.4308 = G-X6CrNi18 9 (DIN) = CF-8 (ASTM) = SCS13 (JIS)

*1.4408 = G-X6CrNiMo18 10 (DIN) = CF-8M (ASTM) = SCS14 (JIS)

Sectional Drawing

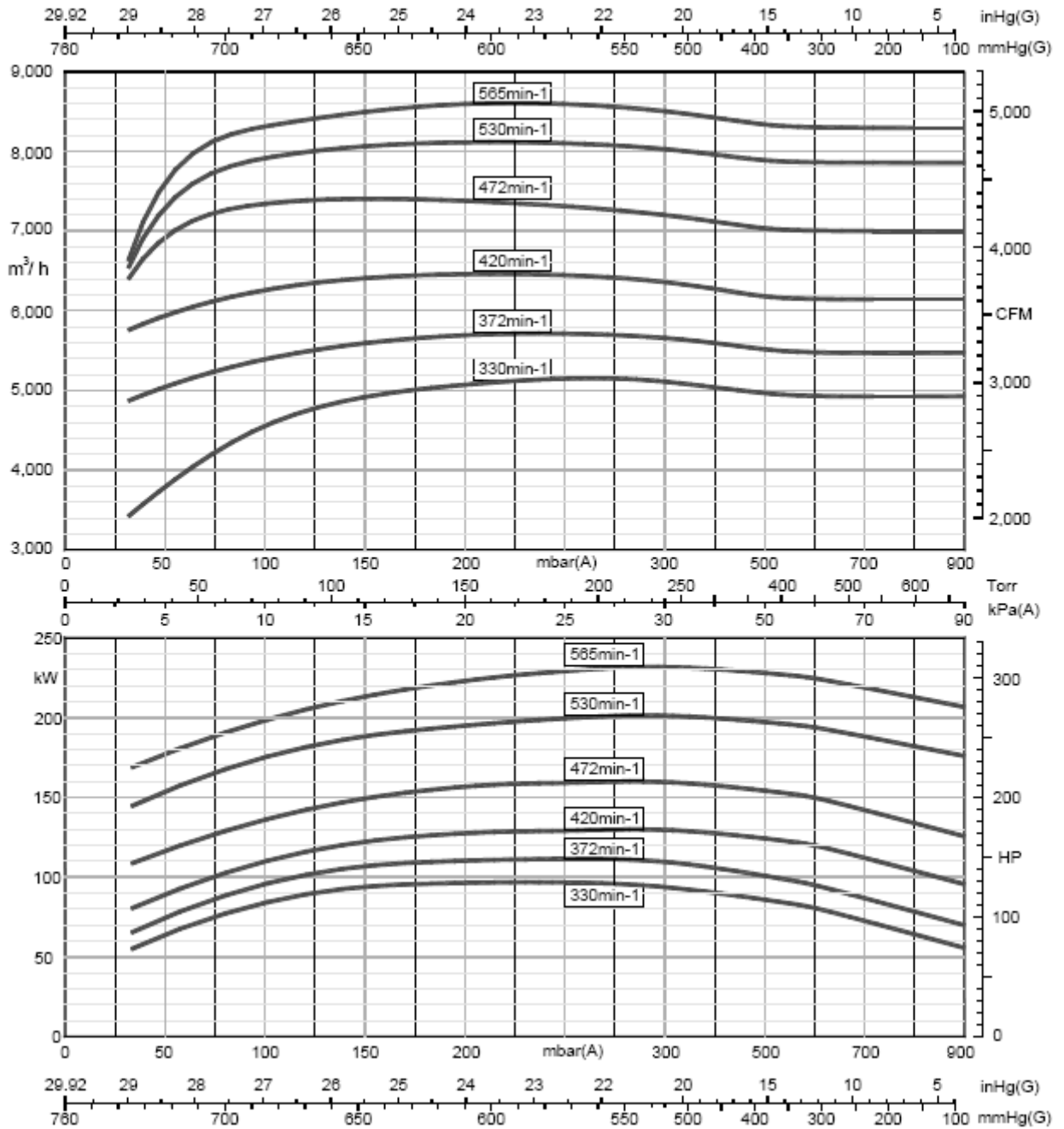


| Item | Part | Build Qty |
|------|-----------------|-----------|
| 1 | Housing | 1 |
| 2 | Heads | 2 |
| 3 | Impeller | 1 |
| 4 | Port Plate | 2 |
| 5 | Shaft | 1 |
| 6 | Packing Gland | 2 |
| 7 | Bearing Carrier | 2 |
| 8 | Bearing | 2 |
| 9 | IB Cap | 2 |
| 10 | OB Cap | 2 |

LPHCE

Performance Characteristics

LPHCE 0403



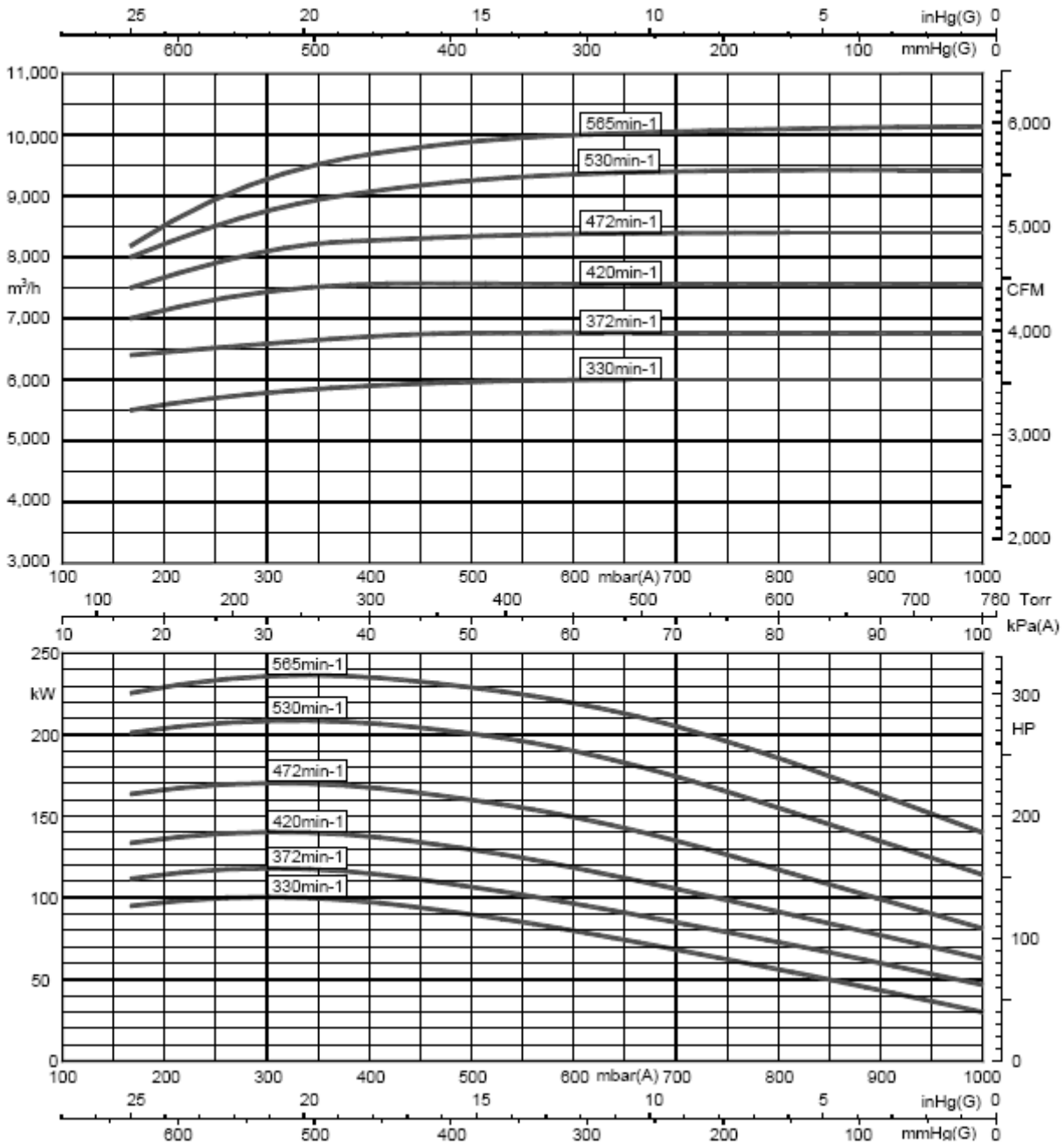
These performance curves are based on operating conditions with saturated air at a temperature of 20 °C, operating water at a temperature of 15 °C, and discharge pressure of 1013mbar with a tolerance of +/- 10%.

| mbarA | Flow Requirement m ³ /hr | |
|-------|-------------------------------------|------|
| | 40~300 | >300 |
| 330 | 12.6 | 9 |
| 372 | 14.2 | 11 |
| 420 | 16 | 12 |
| 472 | 18 | 15 |
| 530 | 20.2 | 16 |
| 565 | 21.5 | 18 |

LPHCE

Performance Characteristics

LPHCE 0405 / 0406



These performance curves are based on operating conditions with saturated air at a temperature of 20 °C, operating water at a temperature of 15 °C, and discharge pressure of 1013mbar with a tolerance of +/- 10%.

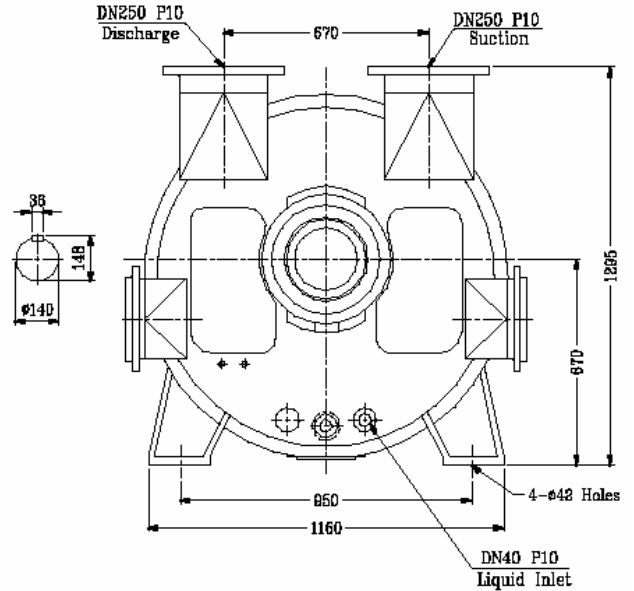
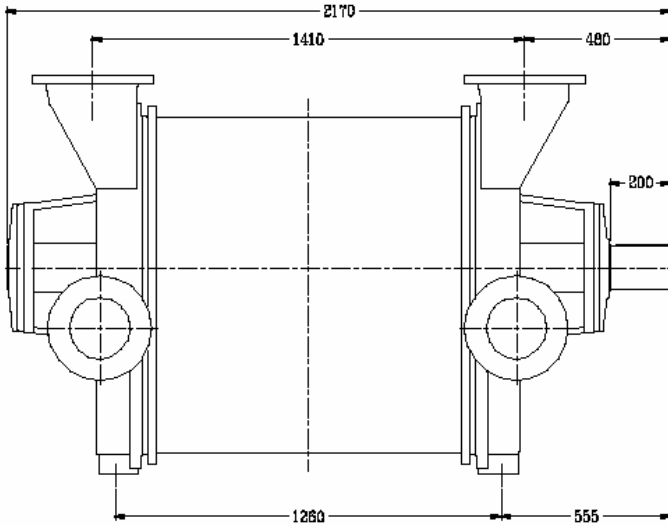
| mbarA RPM | Flow Requirement m ³ /hr | | | | |
|--------------|-------------------------------------|------|------|------|------|
| | 200 | 300 | 400 | 500 | 600 |
| 330 | 11.6 | 11.1 | 9.9 | 8.5 | 7.2 |
| 372 | 13.1 | 12.6 | 11.2 | 9.6 | 8.1 |
| 420 | 14.7 | 14.2 | 12.6 | 10.9 | 9.2 |
| 472 | 16.6 | 15.9 | 14.2 | 12.2 | 10.3 |
| 530 | 18.6 | 17.9 | 15.9 | 13.7 | 11.6 |
| 565 | 19.8 | 19.1 | 16.9 | 14.6 | 12.4 |

LPHCE

Dimension table

All dimensions in mm

LPHCE



SIHI – NASH Interchangeable Model Chart

SIHI
LPHCE

NASH / Siemens ELMO
2BE1

Addresses Asia

| | | |
|---|---|--|
| <p>SIHI Pumps (Singapore) Singapore Tel.: (65) 656 283 00 Fax: (65) 656 283 08 Email: info.singapore@sihipumpsasia.com</p> | <p>SIHI Pumps (Australia) Knoxfield Tel.: (61) 3 9800 6200 Fax: (61) 3 9801 4011 Email: info.australia@sihipumpsasia.com</p> | <p>SIHI Pumps (China) Shanghai Tel.: (8621) 621 880 68 Fax: (8621) 621 780 86 Email: info.china@sihipumpsasia.com</p> |
| <p>SIHI Pumps (Malaysia) Selangor Darul Ehsan Tel.: (60) 3 89426877 Fax: (60) 3 89428599 Email: info.malaysia@sihipumpsasia.com</p> | <p>SIHI Pumps (Thailand) Bangkok Tel.: (66-2) 319 2567 Fax: (66-2) 319 2573/4 Email: info.thailand@sihipumpsasia.com</p> | <p>SIHI Pumps (Taiwan) Taipei County 251 Tel.: (886) 2 2808 4675 Fax: (886) 2 2808 4552 Email: info.taiwan@sihipumpsasia.com</p> |

www.sihipumpsasia.com

SIHI HALBERG *LaTour* SERVICE