LHR SERIES

Vertical Multi-stage Centrifugal Pumps 50 Hz







### INTRODUCTION

The Lubi **LHR** pumps are non-self priming, vertical, multistage, high head centrifugal pumps.

Motor and pump are close coupled in a convenient and compact design for quick installation in limited space.

These pumps are available from 1.10 to 2.20 kW for single phase as well as three phase power supply.

The pumps have radial suction port in the base and radial discharge port in the Motor Adaptor.

Impellers, Guide Vanes, Bowl Casing & Pump Jackets are Stainless Steel AISI 304. Pump Shaft is Stainless Steel AISI 316.

The pump is fitted with a maintenance-free, mechanical shaft seal.

### **APPLICATIONS**

These pumps are widely used in high head duty conditions. The typical applications are as follow:

- Reverse osmosis systems
- Pressure boosting in domestic, civil and industrial water supply systems
- Washing and cleaning
- Hydro-pneumatic systems
- Sprinkler systems

# FEATURES AND BENEFITS

- □ State-of-the art compact design
- Quiet running
- Robust construction
- High performance hydraulics
- Easy to install
   Reliable operation
- Supplied with oval flanges
- Easy serviceability.

#### **OPERATING CONDITIONS**

Flow range: 0.5 to 4 m³/hHead range: Up to 197 metresAmbient temperature: Max. +50°CLiquid temperature range:0°C to +90°C

#### MOTOR

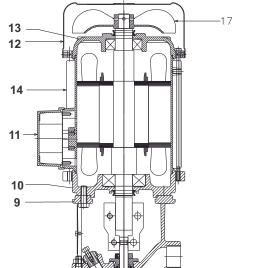
| Motor type                           | : TEFC 2-pole motor                       |  |  |  |  |  |
|--------------------------------------|---|--|--|--|--|--|
| Ratings                              | : 1 phase - 1.10 to 2.20 kW               |  |  |  |  |  |
| Rated speed                          | 3 phase - 1.10 to 2.20 kW<br>: 2900 rpm   |  |  |  |  |  |
| Enclosure class                      | : IP 55                                   |  |  |  |  |  |
| Insulation class                     | :F  |  |  |  |  |  |
| Nominal voltage                      | : 1 phase 230 V                           |  |  |  |  |  |
| (Tolerance ±10%)<br>Supply frequency | 3 phase 415 V<br>: 50 Hz                  |  |  |  |  |  |
| Duty / Rating                        | : S0 HZ<br>: S1 / Continuous              |  |  |  |  |  |
|                                      | Clockwise as seen from the motor rear end |  |  |  |  |  |
|                                      |   |  |  |  |  |  |

#### PUMPED LIQUIDS

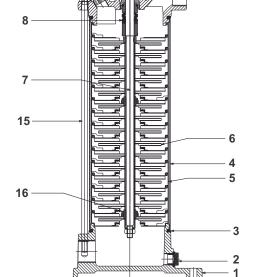
LHR pumps are designed for non explosive liquids which are clean and thin without any solid particles. For aggressive liquid please ensure that material of construction is suitable for liquid to be pumped.

If liquids with a viscosity higher than that of water, are to be pumped the power consumption of the pump will increase with increase in viscosity. This will require a larger motor for the pump. Head, discharge and pump efficiency will reduce with increase in viscosity.

When pumping liquids with a density higher than that of water, the power consumption of the pump will increase at a ratio corresponding to increase in density.



SECTIONAL DRAWING & MATERIALS

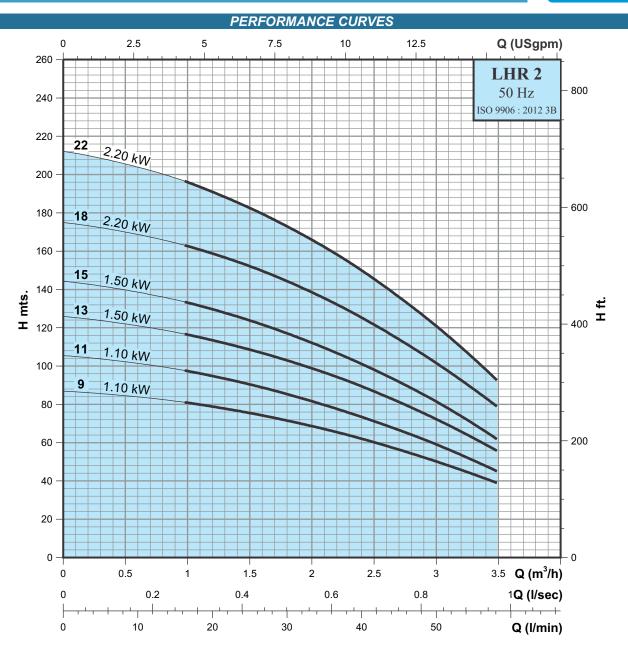


#### FIG.1 SECTIONAL DRAWING OF LHR PUMP

| POS. | COMPONENT         | MATERIAL                 |  |  |  |  |
|------|-------------------|--------------------------|--|--|--|--|
| 1    | Base              | Cast iron                |  |  |  |  |
| 2    | Drain Plug        | Stainless steel          |  |  |  |  |
| 3    | Rubber ring       | NBR                      |  |  |  |  |
| 4    | Jacket body       | AISI 304                 |  |  |  |  |
| 5    | Chamber           | AISI 304                 |  |  |  |  |
| 6    | Impeller          | AISI 304                 |  |  |  |  |
| 7    | Pump Shaft        | AISI 316                 |  |  |  |  |
| 8    | Shaft seal        | Sic/Carbon/AISI 316      |  |  |  |  |
| 9    | Pump head         | Cast iron                |  |  |  |  |
| 10   | Motor Adaptor     | Cast iron                |  |  |  |  |
| 11   | Terminal box      | Polyamide                |  |  |  |  |
| 12   | Fan cover         | Steel                    |  |  |  |  |
| 13   | Endshield         | Cast iron                |  |  |  |  |
| 14   | Stator body       | Aluminum                 |  |  |  |  |
| 15   | Pump fitting stud | Stainless steel          |  |  |  |  |
| 16   | Bearing assembly  | Ceramic/Tungsten Carbide |  |  |  |  |
| 17   | Motor fan         | Polypropylene            |  |  |  |  |







- Tolerances in accordance with ISO 9906 : 2012 3B.
   The motors used for the measurement of the measurem
- The motors used for the measurement are standard motors.
- Test results with clean cold water, without gas content. Measurements have been made with airless water at a temperature of  $20^{\circ}$ C.

Head and power values valid for liquids with density ρ = 1,0 kg/dm³ and kinematic viscosity v = max 1 mm²/s (1 cSt).
 The QH curves apply to a rated motor speed of 2900 min<sup>-1</sup>.

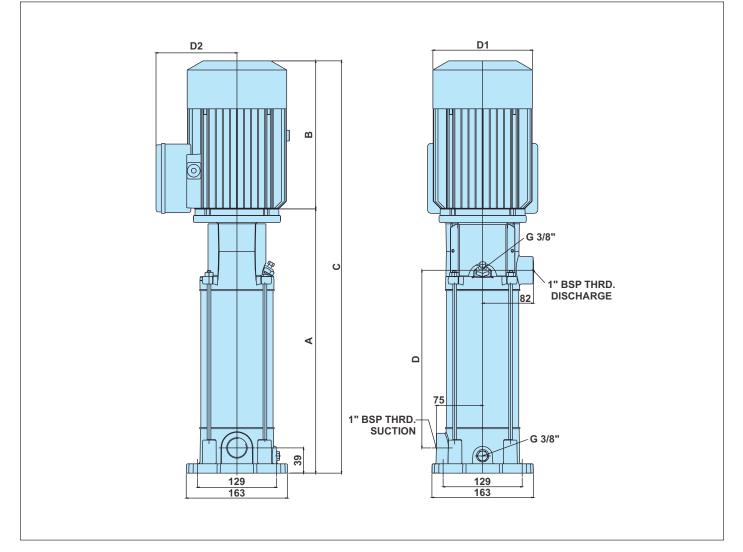
## PERFORMANCE DATA

| PUMP TYPE    |             | MOTOR POWER |      | <b>Q</b> m³/h  | 1.0  | 1.6  | 2.3  | 3.0  | 3.5  |
|--------------|-------------|-------------|------|----------------|------|------|------|------|------|
| SINGLE PHASE | THREE PHASE | kW          | HP   | <b>Q</b> I/min | 16.7 | 26.7 | 38.3 | 50.0 | 58.3 |
| LHR 2-9      | LHRT 2-9    | 1.10        | 1.50 | H              | 81   | 74   | 64   | 51   | 39   |
| LHR 2-11     | LHRT 2-11   | 1.10        | 1.50 |                | 98   | 89   | 76   | 60   | 45   |
| LHR 2-13     | LHRT 2-13   | 1.50        | 2.00 |                | 117  | 107  | 96   | 74   | 56   |
| LHR 2-15     | LHRT 2-15   | 1.50        | 2.00 |                | 134  | 122  | 105  | 83   | 62   |
| LHR 2-18     | LHRT 2-18   | 2.20        | 3.00 |                | 163  | 150  | 130  | 104  | 79   |
| LHR 2-22     | LHRT 2-22   | 2.20        | 3.00 |                | 197  | 180  | 155  | 123  | 93   |

LHR



# **DIMENSIONS & WEIGHT**



| PUMP TYPE    |             | MO<br>POV | TOR<br>VER | FRAME | DIMENSIONS [mm] |     |     |     |     |     |      | GROSS<br>VOLUME |
|--------------|-------------|-----------|------------|-------|-----------------|-----|-----|-----|-----|-----|------|-----------------|
| SINGLE PHASE | THREE PHASE | kW        | HP         |       | Α               | В   | С   | D   | D1  | D2  | [kg] | [m³]            |
| LHR 2-9      | LHRT 2-9    | 1.10      | 1.50       | 80    | 372             | 264 | 636 | 260 | 160 | 113 | 33.5 | 0.08            |
| LHR 2-11     | LHRT 2-11   | 1.10      | 1.50       | 80    | 408             | 264 | 672 | 296 | 160 | 113 | 34.0 | 0.08            |
| LHR 2-13     | LHRT 2-13   | 1.50      | 2.00       | 90    | 459             | 278 | 737 | 332 | 165 | 130 | 35.2 | 0.09            |
| LHR 2-15     | LHRT 2-15   | 1.50      | 2.00       | 90    | 495             | 278 | 773 | 368 | 165 | 130 | 35.7 | 0.09            |
| LHR 2-18     | LHRT 2-18   | 2.20      | 3.00       | 90    | 549             | 278 | 827 | 422 | 165 | 130 | 38.4 | 0.09            |
| LHR 2-22     | LHRT 2-22   | 2.20      | 3.00       | 90    | 621             | 278 | 899 | 494 | 165 | 130 | 39.3 | 0.09            |

Note: All dimensions in mm unless otherwise noted.

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Product Improvement is a continuous process at 'LUBI'. The data given in this publication is therefore subject to revision.
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