

SIHI^{LPH-X}
Liquid Ring Vacuum Pumps



SIHI^{LPH-X} Cool, robust and cost effective ...

Reliability, that has stood the test of time, ensures this generation of vacuum pump is positioned to tackle the most demanding applications. For almost 100 years SIHI has maintained its innovative position as a leading supplier of liquid ring vacuum and liquid ring compressor technologies.

The comprehensive SIHI range of liquid ring vacuum pumps is available in single and two stage designs, with suction capacity up to 12000 m³/h and pressures in the range 33 to 1013 mbar without further boosting equipment. Additionally, the liquid-ring principle is also used as a compressor in which to generate positive pressures up to circa. 11 barg.

Lately, the SIHI^{LPH-X} has been introduced to the range in which to address the elevated demands of our developing customers. Improved maintenance, longevity, reliability, modularity, and performance all being considered within the design of this ultra-modern liquid-ring construction.

Available in one and two stage variants the unit can operate at 50Hz and 60Hz speeds. Importantly, the SIHI^{LPH-X} has been designed for interchangeability with the well established LPHA range and offers the lowest cost of ownership.

The Proven Vacuum Solution

The modular SIHI^{LPH-X} is an ideal choice for the most demanding vacuum applications. Near isothermal compression presents an opportunity to handle thermally sensitive, and explosive, media in a secure manner.

ATEX Category 1, without flame-arrestors underpins the wide-reaching flexibility of the liquid-ring principal together with low noise and its suitability for temperatures up to 170 °C.

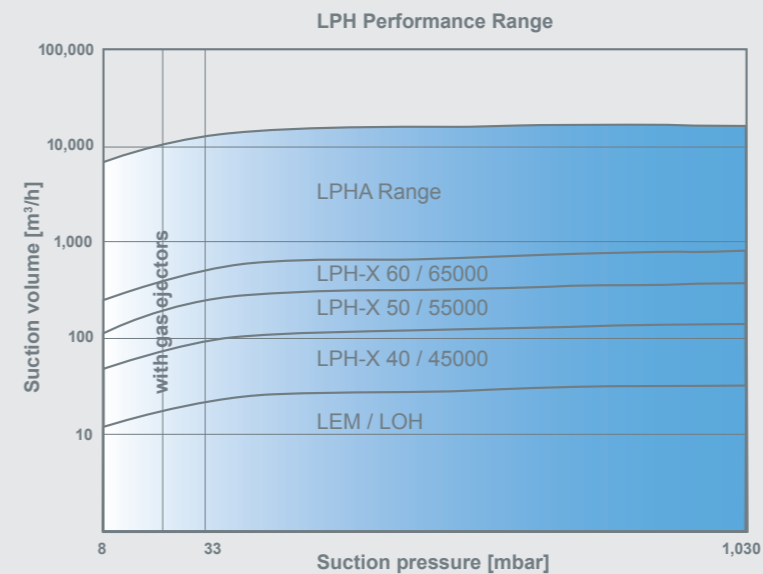


Industries/Markets

- Chemical
- Pharmaceutical
- Plastics & Plastic
- Food
- Beverage
- Ceramics
- Medical
- Textile
- Pulp & Paper
- Printing
- Electronics
- and many more

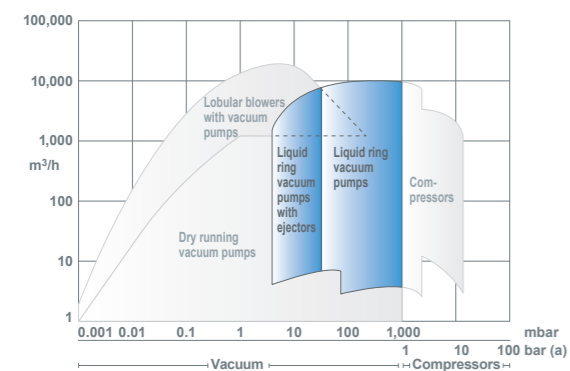
Applications

- Distillation
- Drying
- De-gassing
- Filtration
- De-odorisation
- De-oxygenation
- Sterilisation
- Filling
- Product transfer
- Vapour recovery
- Priming
- Central vacuum systems

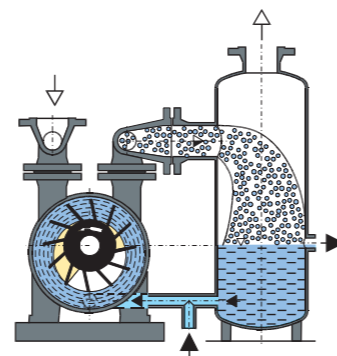


Water doesn't need to be the Liquid Ring ...

- + Water is conventional, clean, and accessible
- + Oil can run hotter, and resist internal condensation
- + Hydrocarbons can be chilled to promote process-condensation for subsequent recovery



- Benefits**
- ✓ Extremely robust
 - ✓ Cool operation
 - ✓ Superior liquid, vapour and solids handling
 - ✓ High Volumetric flow-rate
 - ✓ Simple maintenance
 - ✓ Effective heat exchanger
 - ✓ ATEX Category 1 without flame-arresters



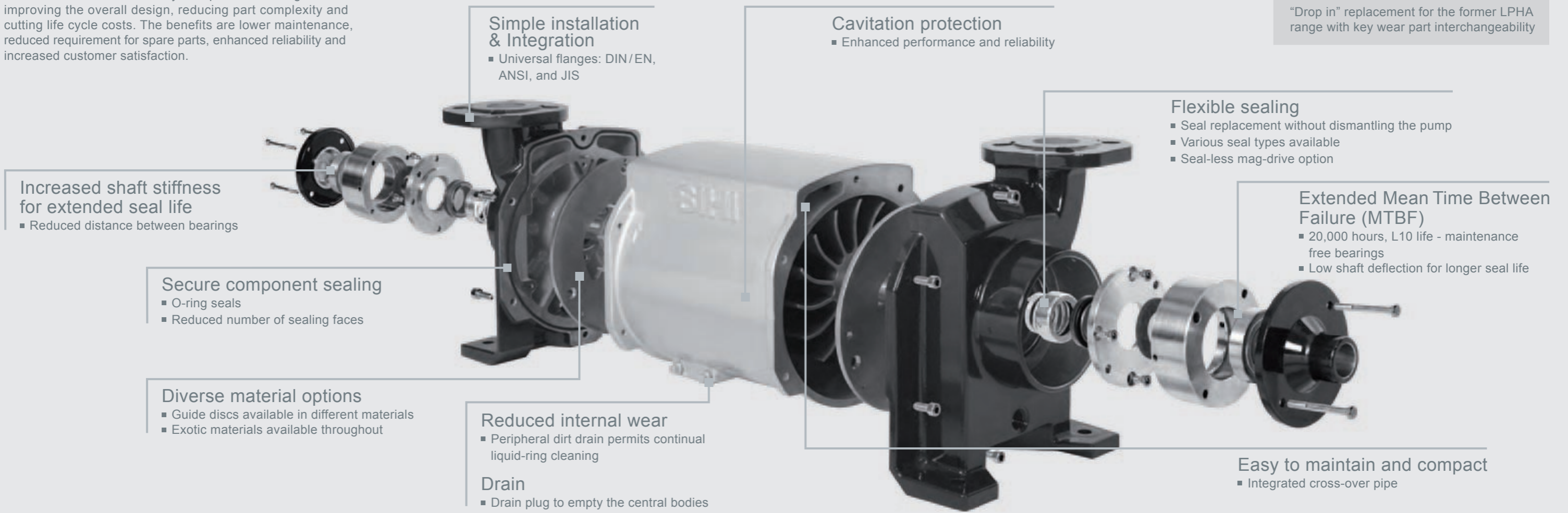
SIHI^{LPH-X} Performance Through Design

Design Features

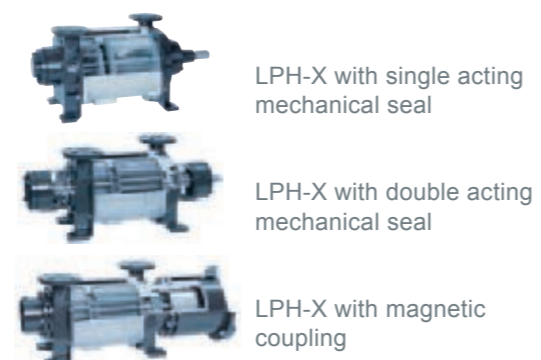
The SIHI^{LPH-X} range has been designed to incorporate the best features of the widely accepted LPHA range whilst improving the overall design, reducing part complexity and cutting life cycle costs. The benefits are lower maintenance, reduced requirement for spare parts, enhanced reliability and increased customer satisfaction.



"Drop in" replacement for the former LPHA range with key wear part interchangeability



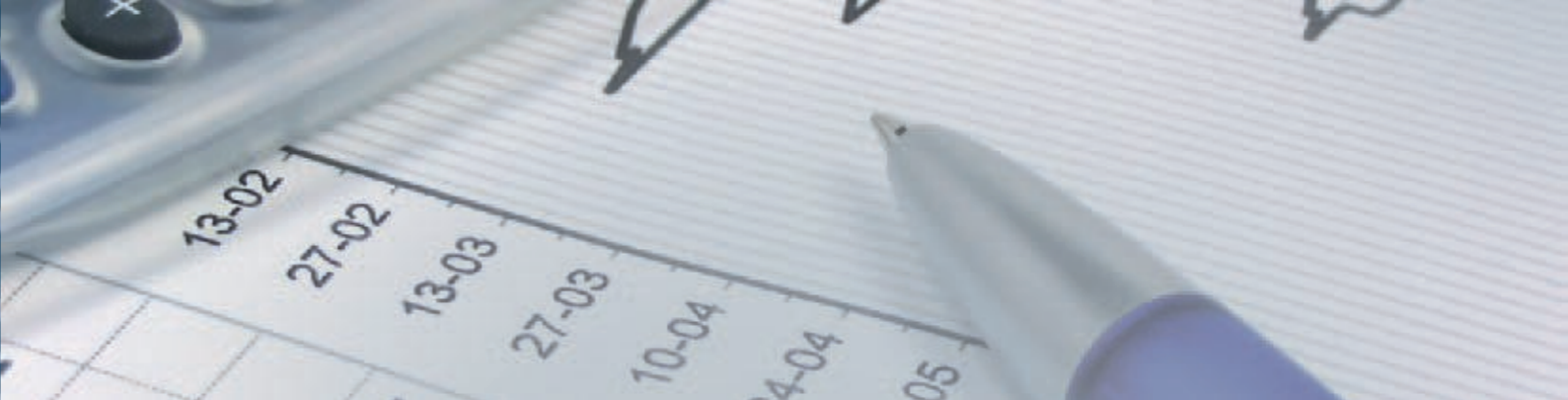
Item	Material of Construction
Casing	Grey cast iron, stainless steel
Central Body	Grey cast iron, stainless steel
Impeller	Cast steel, bronze, stainless steel
Guide Disc	Grey cast iron, stainless steel
Shaft	Chrome steel, stainless steel



- Features**
- + Interchangeable with previous LPH-Range
 - + Complies with ATEX legislation
 - + Single and two stage
 - + Modular construction
 - + Compact design
 - + Fewer components
 - + Extensive range of sizes, materials and shaft sealings
 - + Seal accessibility
 - + Engineered systems

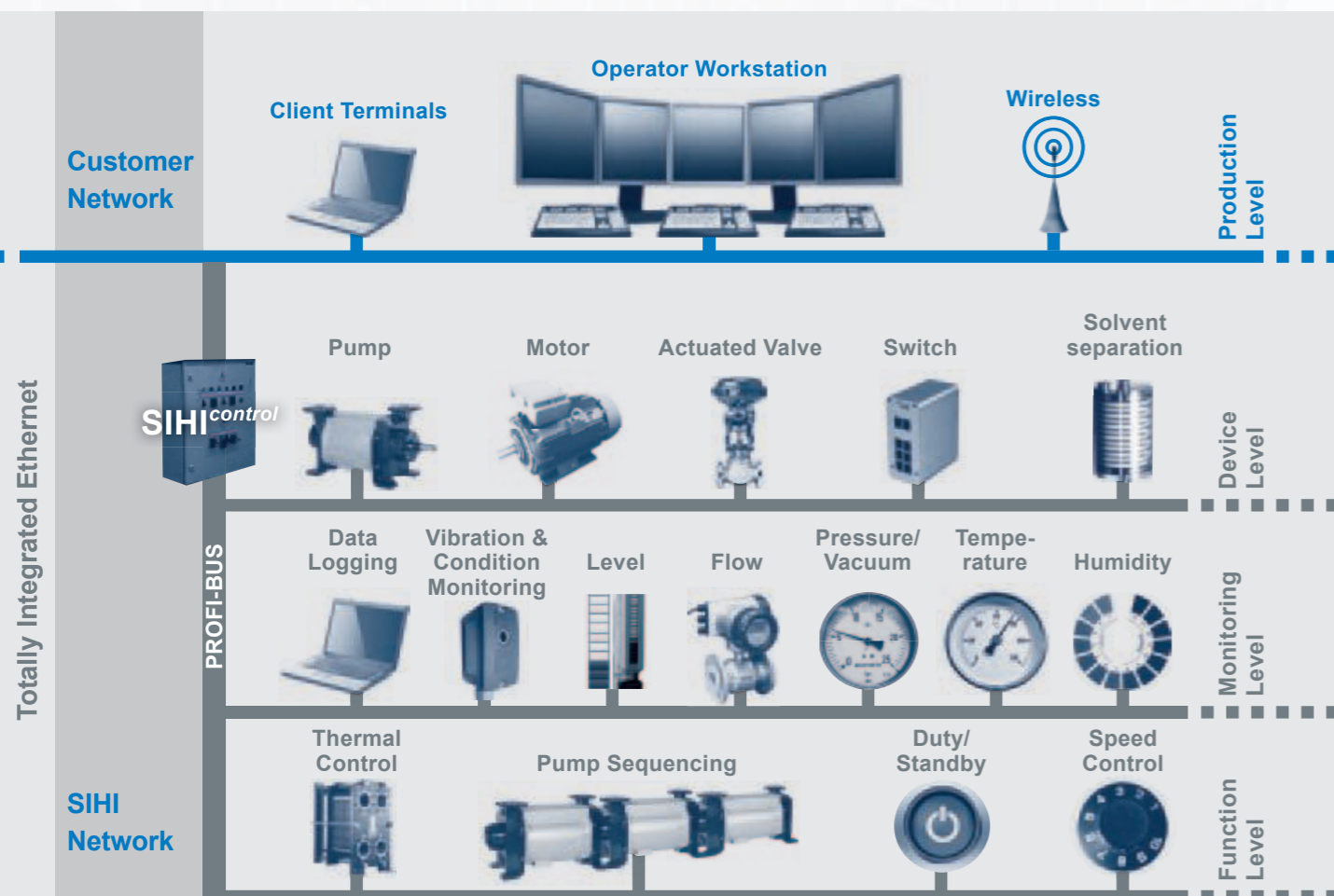
- Benefits**
- ✓ "Drop in" replacement with key parts interchangeability
 - ✓ Certified for Category 1 and Category 2
 - ✓ Enhanced performance range
 - ✓ Ease of maintenance and low inventories of spare parts
 - ✓ Space saving
 - ✓ Short lead times and fast deliveries
 - ✓ Ensures optimal solution for the application
 - ✓ Ease of maintenance
 - ✓ Complete solution





From concept to integration

Your process partner Committed to engineering excellence



Permitting our customers to save precious time and money, SIHI offers a complete digital control system. Employing the Process Field-Bus standard communication platform, PROFI-BUS, simple

operator connectivity is possible via a SIHI^{control}. Available with local panel and screen, the pumping system has pre-programmed logic control, monitoring, and data logging facilities.

Understanding the process

- + 100 years of experience
 - + Staff trained to communicate at all levels
 - + Deep application knowledge
- ... Solutions with minimal customer effort

Optimum product range

- + Unique process can be treated with simplicity
 - + Reduced cost of design, manufacture, and documentation
 - + Predictable site testing and commissioning
- ... Customised solutions for standard capital costs

Design

- + Advanced design tools
 - + Highest level of machine efficiency
 - + Long lasting reliability
- ... Reduced energy, maintenance, and environmental costs

Manufacturing

- + Centre of excellence structure
 - + High level of skill and competence
 - + Ongoing people and process development
- ... Reduced integration costs

Testing & documentation

- + Factory and Site Acceptance Tests
 - + Certified documentation
 - + Witnessed customised testing
- ... Reduced validation and commissioning costs

Quality assurance

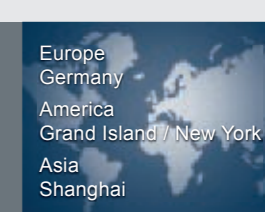
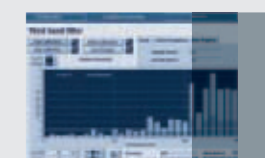
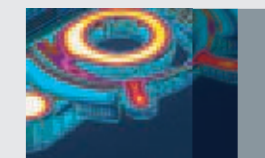
- + Total Quality Management
 - + ISO9000
 - + Rigorous health and safety culture
- ... Long term security

Aftermarket – a local approach

- + Dedication to process uptime
 - + Locally positioned service & technical centres
 - + Easy access to support, on a worldwide level
- ... Highest level of customer care

Competence Centre

- + Centralised design, purchasing, production, compliance, and local support
- + De-centralised (local) quotation and project management teams



Reduce Life Cycle Costs ...

- › Capital Cost
 - › Energy (Power)
 - › Installation & Alignment
 - › Maintenance & Operation
 - › Down time
 - › Environmental Cost
- ... with SIHI



SIHI^{detect} – Condition based monitoring

- Detect wear before damage occurs**
- + Cavitation and process turbulence
 - + Simple to connect
 - + LED display
 - + Available Ex
 - + All rotating machinery
 - + DCS integration and continual monitoring

Noise and Vibration analysis allows this compact device to diagnose the (often hidden) symptoms of longer term damage *even* before vibration occurs.

For further address details please visit:
www.SIHI.com

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