

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.



Industries/Markets

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



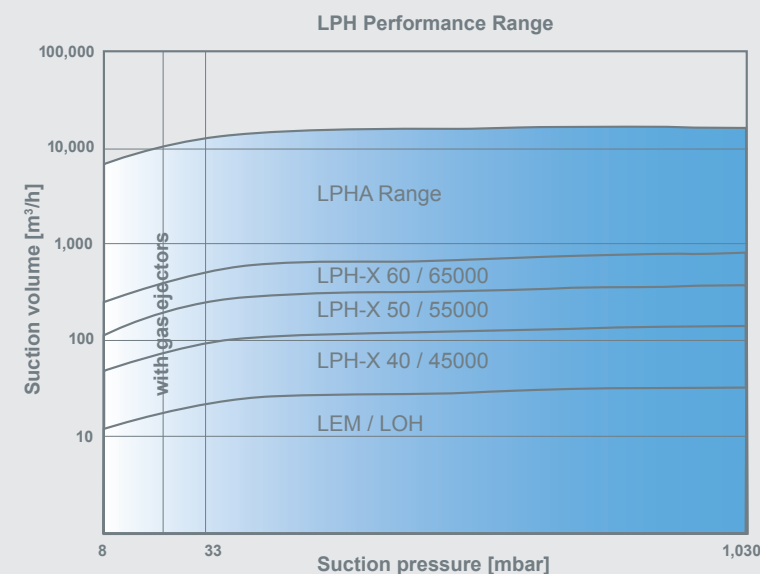
Applications

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

The Proven Vacuum Solution

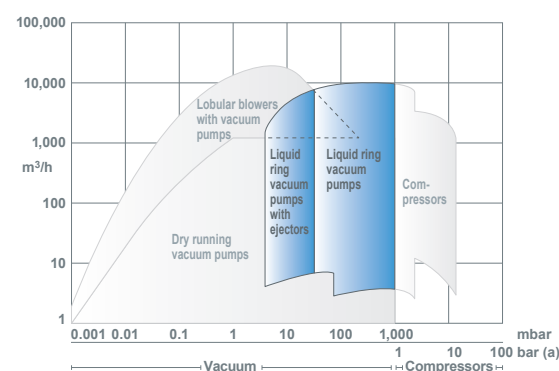
The modular SIHI^{LPH-X} is an ideal choice for the most demanding vacuum applications. Near isothermal compression presents an opportunity to handle thermally sensitive, and explosive, media in a secure manner.

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.



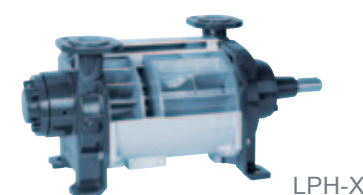
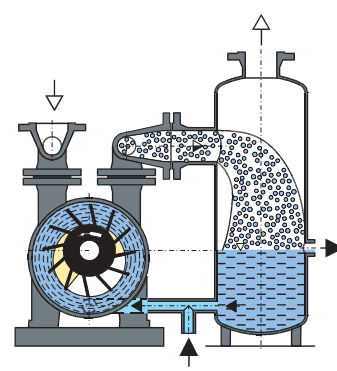
Water doesn't need to be the Liquid Ring...

- + 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-arrestors



LPH-X



LEM



Ejectors



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

Simple installation & Integration

- Universal flanges: DIN/EN, ANSI, and JIS

Cavitation protection

- Enhanced performance and reliability

Flexible sealing

- Seal replacement without dismantling the pump
- Various seal types available
- Seal-less mag-drive option

Increased shaft stiffness for extended seal life

- Reduced distance between bearings

Secure component sealing

- O-ring seals
- Reduced number of sealing faces

Diverse material options

- Guide discs available in different materials
- Exotic materials available throughout

Reduced internal wear

- Peripheral dirt drain permits continual liquid-ring cleaning

Drain

- Drain plug to empty the central bodies

Extended Mean Time Between Failure (MTBF)

- 20,000 hours, L10 life - maintenance free bearings
- Low shaft deflection for longer seal life

Easy to maintain and compact

- Integrated cross-over pipe

Materials

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



LPH-X with single acting mechanical seal



LPH-X with double acting mechanical seal



LPH-X with magnetic coupling

Features

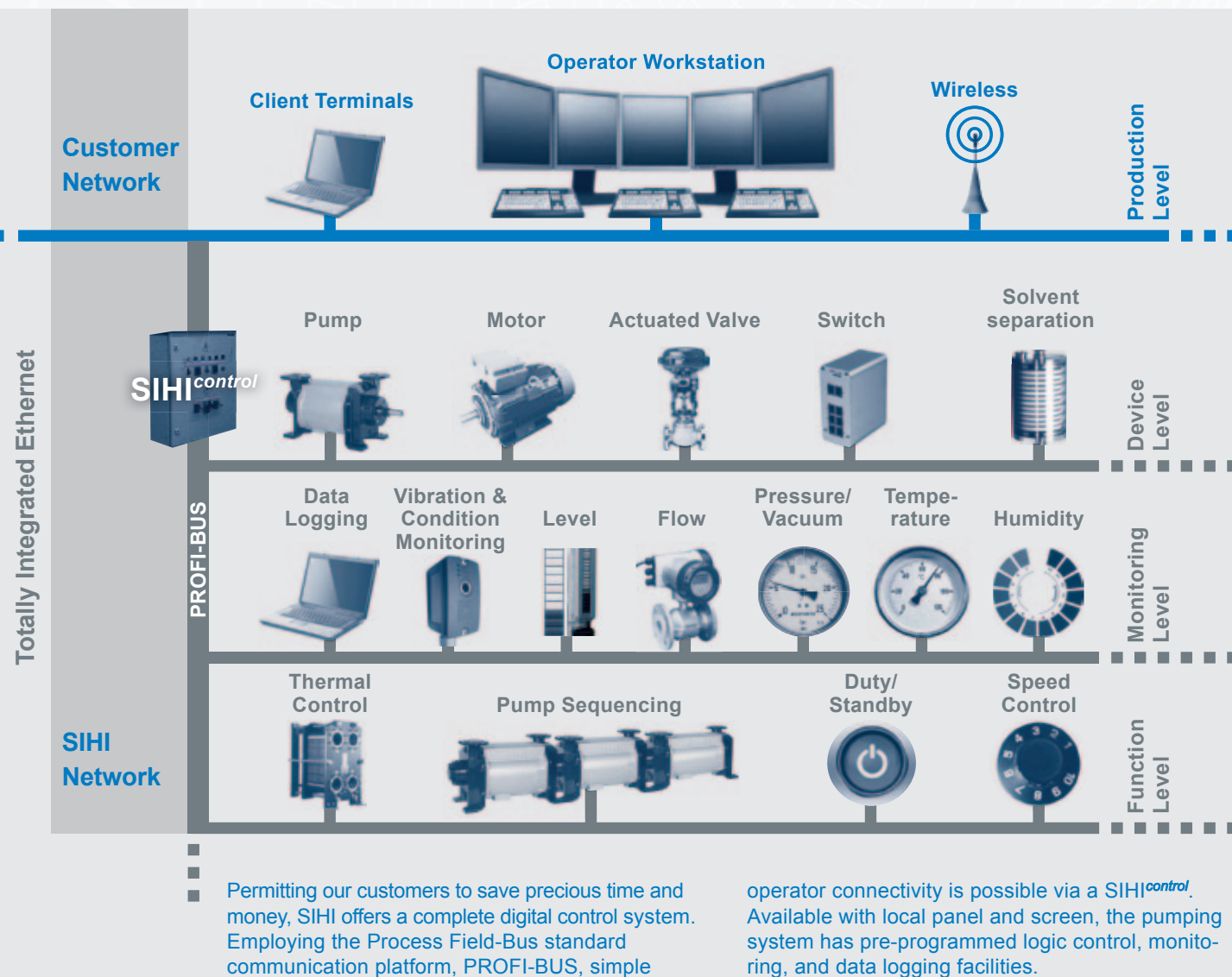
- + Interchangeable with previous LPH-Range
- + Complies with ATEX legislation
- + Single and two stage
- + Modular construction
- + Compact design
- + Fewer components
- + Extensive range of sizes, materials and shaft sealings
- + Seal accessibility
- + Engineered systems

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



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

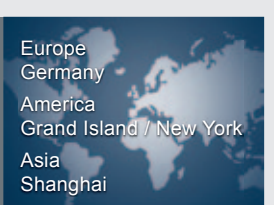
- + Total Quality Management
 - + ISO9000
 - + Rigorous health and safety culture
- ... Long term security

Aftermarket – a local approach

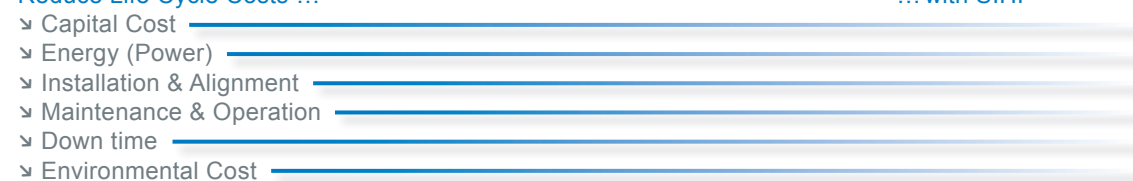
- + Dedication to process uptime
 - + Locally positioned service & technical centres
 - + Easy access to support, on a worldwide level
- ... Highest level of customer care

Competence Centre

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



Reduce Life Cycle Costs ...



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

150.71201.54.01 E 04/2015 SMH All Rights Reserved – SIHI Group BV

EUROPE

Sterling Fluid Systems (Austria)
Wien
Tel. +43 (0) 1 680 050
sales_austria@sterlingsihi.de

Sterling SIHI (Belgium)
Groot-Bijgaarden
Tel. +32 (0) 2 481 7711
sales_be@sterlingfluid.com

Sterling SIHI (Bulgaria)
Sofia-Iinden
Tel. +359 (0) 2 8228311
office@sterlingsihi.bg

Sterling Fluid Systems
(Czech Rep.) Olomouc
Tel. +420 587 433 651
sterling@sterling.cz

Sterling SIHI (France)
Trappes
Tel. +33 (0) 1 34 823 900
sales.france@sterlingfluid.com

Sterling SIHI (Germany)
Itzehoe
Tel. +49 (0) 4821 771 01
sales@sterlingsihi.de

Sterling Fluid Systems (Hungary)
Veszprem
Tel. +36 (0) 88 406 633
info@sterlingsihi.hu

Sterling Fluid Systems (Italy)
Monza, Milan
Tel. +39 039 282 41
sterlingitaly@sidro.it

Sterling SIHI (Netherlands)
Beverwijk
Tel. +31 (0) 251 263 232
info@sihi.nl

Sterling Fluid Systems (Poland)
Warszawa
Tel. +48 (0) 22 335 2480/81
sterling@sterling.pl

Sterling Fluid Systems (Romania)
Bucuresti
Tel. +40 (0) 21 610 7188
office@sterlingsihi.ro

Sterling SIHI (Spain)
Madrid
Tel. +34 91 709 1310
sihi@sihi.es

Sterling Fluid Systems (Switzerland)
Schaffhausen
Tel. +41 (0) 52 644 0606
info@sterling.ch

Sterling Fluid Systems (UK)
Altrincham, Cheshire
Tel. +44 (0)161 928 6371
uksales@sterlingfluid.com

ASIA

SIHI Pumps (Singapore)
Singapore
Tel. +65 656 283 00
info.singapore@sihipumpsasia.com

SIHI Pumps (Malaysia)
Selangor Darul Ehsan
Tel. +60 3 8942 6877
info.malaysia@sihipumpsasia.com

SIHI Pumps (China)
Shanghai
Tel. +8621 621 880 68
info.china@sihipumpsasia.com

SIHI Pumps & Services (Thailand)
Chonburi
Tel. +66 38 079 877
info.thailand@sihipumpsasia.com

SIHI Pumps (Taiwan)
Taipei County 251
Tel. +886 2 2618 2065
info.taiwan@sihipumpsasia.com

SIHI Pumps (Korea)
Seoul
Tel. +82 2 553 2592
info.korea@sihipumpsasia.com

AMERICAS

SIHI Pumps Limited (Canada)
Guelph Ontario
Tel. +1 519 824 4600
mail@sihi.com

SIHI Pumps Inc. (USA)
Grand Island, New York
Tel. +1 716 773 6450
mail@sihi.com

SIHI Ltda. (Chile)
Quilicura, Santiago
Tel. +56 2 756 5900
ventas@sihichile.cl

SIHI do Brazil (Brazil)
Campinas
Tel. +55 19 2512 2127
info@sihi.com.br

SIHI Pumps (Colombia)
Bogota
Tel. +57 1 364 92 64
info@sihi.com.co

SIHI (Peru)
Lima
Tel. +51 1 421 7411
ventas@sihiperu.com.pe

BLUECOMPETENCE

Alliance Member

Partner of the Engineering Industry
Sustainability Initiative

STERLING

HALBERG

LaBour

DARWINS

Pumping Technology For A Better Future

