Dry Running Vacuum Pumps for General Industries

SIHI dry

SIHI

SIHI^{dry} Simple, Dry and Reliable …

Simple operation and long-term reliability are at the centre of the SIHI^{dry} design.
Completely free from oil lubrication, no mechanical seals, and wide internal clearances, underpin the robust nature of this completely dry running vacuum pump.

The result...
+ No effluent or waste disposal costs of any service liquid
+ Uncontaminated vacuum - free from lubricant and service liquid
+ Flexible operation for batch process operations
+ Ease of maintenance together with integrated self diagnostics
+ Extremely Quiet
+ Low life-cycle costs

SIHI^{dry} satisfies the demand for a robust high-vacuum pump, that can adapt to rapidly changing process conditions – which could include liquid and solids carry-over.

Industries/Markets
Solar & Photovoltaic
Semi-conductor
Vacuum Induction Melting
Food & Beverage
Healthcare
Lighting
Aerospace
Electronics

Applications
Vacuum coating
Crystal pulling
Metallurgy furnaces
Central vacuum
Sterilisation
Freeze-drying
Degassing
Product transfer

Award Winning Vacuum Technology

Vertically oriented, and self-draining, makes the SIHI^{dry} ideal for industrial process where there is a high possibility of liquids or solids being carried-over into the pump.

Stand alone capacity ranges from 100 up to 1,500 m³/h, and can be increased dramatically by combining lobular type blowers.

Integrated within the pump is the intelligent drive system that performs ongoing rotor diagnostics, while giving an energy-efficient platform for variable speed/pressure control. Moreover, this method of rotor synchronisation permits gearbox-free operation in which to run extremely quietly, and without any lubrication.

Continual torque monitoring is another feature of the SIHI^{dry} design, whereby speed can be automatically adjusted in which to accommodate liquid and solids carry-over.

Reducing Life-Cycle Costs …

Capital Costs
+ No Booster
+ No Acoustic Cover
+ Simple Integration
+ No Suction Filter
+ No pressure-control valve

Energy Cost
+ Low Power Consumption

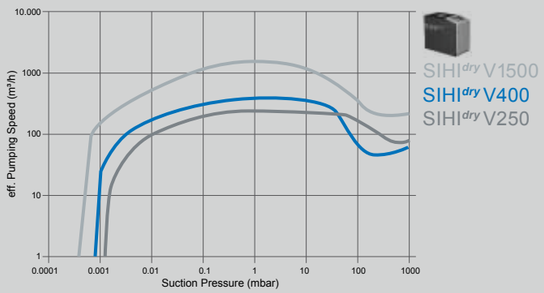
Maintenance Cost
+ No Routine Maintenance

Effluent Cost
+ None
+ Safe Handling of Toxic Media
+ Oil-free Operation
+ No Process Contamination

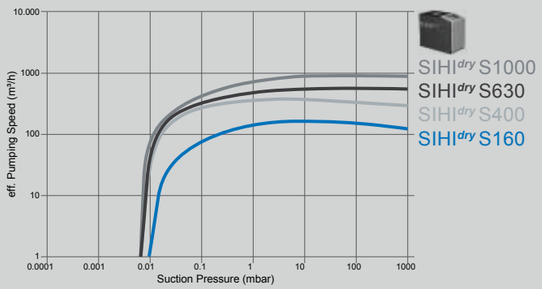
Down Time Costs
+ High Reliability
+ Simple Internal Cleaning
+ Quick Overhaul
+ Self Diagnostics

SIHI*dry* Simple, Dry and Reliable …

Performance range SIHI*dry* **V**-Version



Performance range **SIHI*dry* S**-Version



Reliable Operation

For dust laden processes

+ Generous internal clearances permit particles to be handled.

For corrosive processes

+ Optimised internal temperatures allow the machine to accommodate corrosive gases.

For wet processes

+ Vertical, self-draining, ensures that liquid flows through the pump and does not accumulate.

Examples include

+ Silicon Dioxide particles, condensate, or acidic vapour.

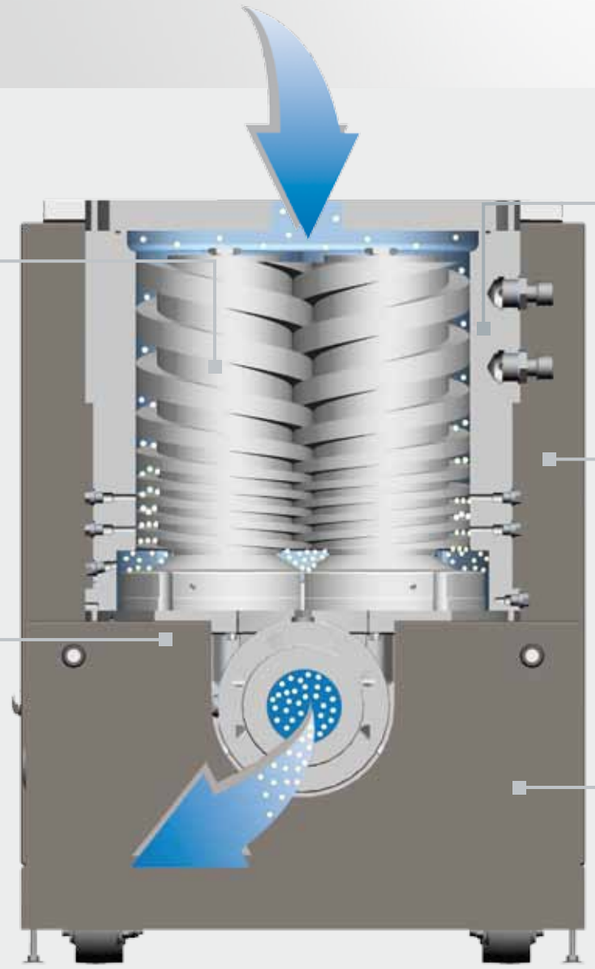
Extremely Versatile

Installation

+ Position the pump on an even base
  Connect cooling circuit, process piping, and power supply.
+ Switch on
  and it is fully operational …

Operation

+ SIHI*dry* is completely dry and does not generate waste disposal costs.
  Energy is minimised by simple adjustment of the rotational speed in order to match the required duty.



Maintenance Free

The SIHI*dry* operates absolutely oil-free in contrast to conventional dry running vacuum pumps. This means no more oil checks and oil changes.

Intelligent Monitoring

Critical process, thermal, and mechanical parameters are continually recorded by the integrated drive unit.
From site, or home, the operator can monitor the current running status.

Very Quiet

The SIHI*dry* is quieter than the internal noise of an average quality car.

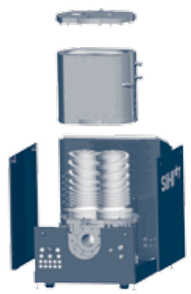
Technical data

SIHI*dry* Size	V1500	V400	V250	S160	S400	S630	S1000
Suction capacity (m^3/h)	1400	400	250	160	400	630	1000
Ultimate pressure (mbar)	<0.001	<0.001	<0.005	<0.01	<0.01	<0.01	<0.01
Power consumption at ultimate pressure (kW)	10.0	2.5	2.3	3.5	7.0	10.0	18.0
Noise level as per DIN dB(A)	75	54	54	54	64	70	74

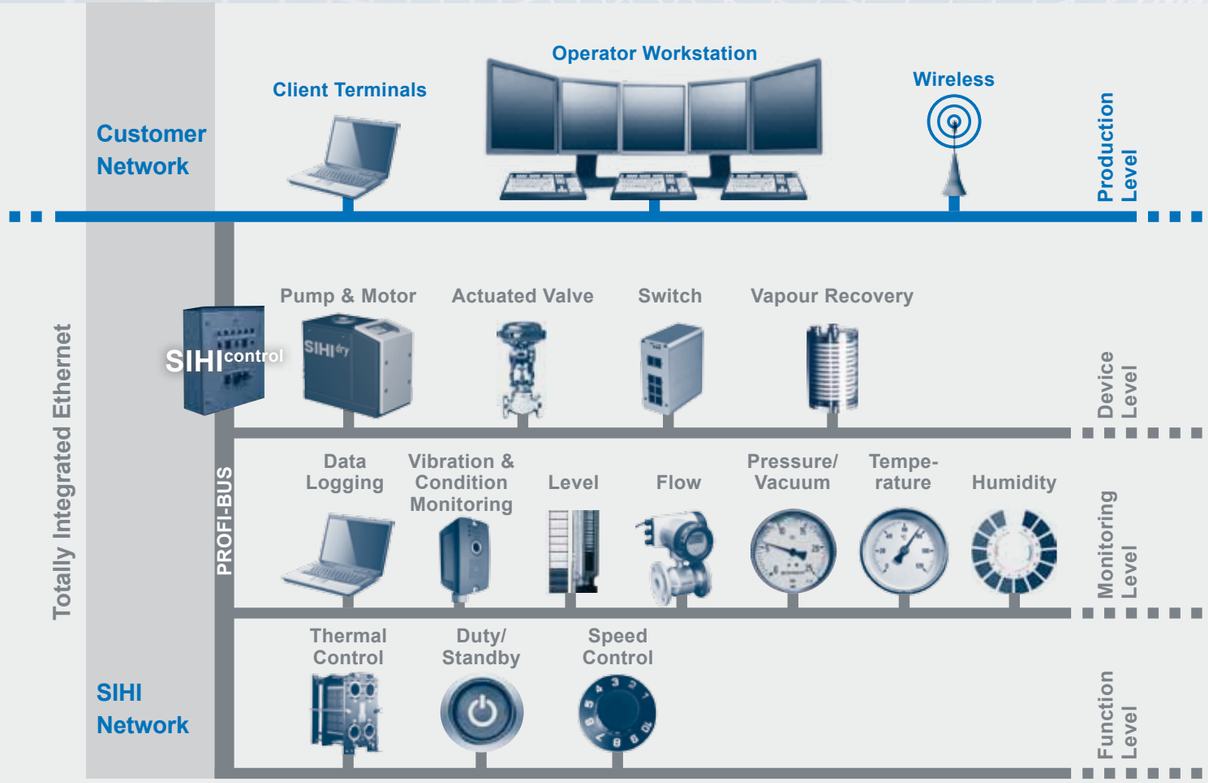
Simple Service

SIHI*dry* permits very easy removal of the casing in order to give access to the pump internals, e.g. for cleaning.

Modular construction permits simple removal and exchange of components in which to facilitates pit-stop type maintenance performance.



SIHI^{dry} Intelligent System Management (DCS)



Modern communication

All components within the vacuum system have the option to be controlled and assessed using modern field-bus technology. Should problems arise, the integrated data storage unit permits rapid fault diagnosis.

Additionally, all operating parameters can be viewed and monitored from a personal computer via a local area network (LAN) or Internet. Moreover, this information is available through standard Internet web browser software.

Drive Options

The innovative drive concept of SIHI^{dry} enables it to be supplied as a basic unit for stand-alone operation, or as an ”intelligent” unit for total system integration. Depending upon the level of automation required, there are three standard drive-modules:

Basic

The Basic version contains “intelligent” overload protection, and rapid fault diagnosis via an error coding platform. Deeper analysis is available via a simple serial interface.

Dynamic

Coupled to the facility supplied with the Basic variant, the Dynamic execution offers an additional variable speed function. This allows the suction capacity/ pressure to be regulated in harmony with the process requirement. Speed can be set by the process PLC output signal of 4 – 20 mA.

Control

Coupled to the Basic and Dynamic platforms, the Control drive variant offers two additional benefits:

(1) Independent speed variation in which to match a pressure-related setting that can be chosen by the operator, and/or

(2) Logic control and DCS integration of the valves and other add-on devices without device programming.

Examples would include automatic start-up and shut-down sequencing, and/or Clean-In-Place functionality, without the need for external input.

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

Pumping Technology For A Better Future

For further address details please visit:
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