PHASiQ™ Control and Visualisation Panel

Revolutionary control for dense phase conveying

- **Advanced adaptable software**
- **Rapid commissioning and installation**
- **Network or stand-alone operation**
- **Client engineering minimised**
- **Five dense phase conveying modes**
- **Parameter management, allowing one machine to convey many materials**
- **Powerful data storage facilitating data analysis and performance optimisation**
- **Remote access and IoT ready**
- **Expandable to control up to nineteen valves and twenty silos**

Description:

The PHASiQ™ control panel provides pre-engineered, sequence control, visualisation and data capture for the ProPhase™ dense phase conveying pump.

The panel is mounted on the ProPhase™ pump and pre-wired, piped and tested. Prior to shipping, software is loaded into the controller and the ProPhase™ pump is sequenced and tested using simulation algorithms.

Once the power supply and network cables have been installed the ProPhase™ pump can be commissioned in just minutes.

PHASiQ™ can be operated as a stand-alone machine or networked to existing control systems.

The ease in which PHASiQ™ can be integrated into existing customer control systems, dramatically reduces installation and commissioning times and their associated costs.

An open network interface allows the data to be transferred to the customer and all commands to be transferred to PHASiQ™.

The ProPhase™ pump can be started and stopped from the customer control system via the network or via the HMI (Human Machine Interface/touch screen), for simpler control.

The on board HMI provides a detailed operator interface. As well as showing machine status the HMI provides powerful data analysis tools, such as historical trending and service values.

Due to the comprehensive nature of the HMI, customers need only create simple plant level operator interface screens.

PHASiQ™ is IoT/ Industry 4.0 ready and can be connected to our cloud based data harvest and analysis app E-nizing.

Remote access can be facilitated with the addition of a PROXiQ® router. This allows access to all stored operational data allowing speedy analysis of performance without unnecessary travel.

Instrumentation such as reception silo level probes can easily be connected to PHASiQ™.

The performance of the ProPhase™ pump can be finely tuned via the HMI parameters to optimise reliability and energy saving.

Powerful parameter management tools allow PHASiQ™ to be highly adaptable. Operating modes can be changed at the touch of a button, or via a network command, allowing a single machine to convey different materials from one cycle to the next.

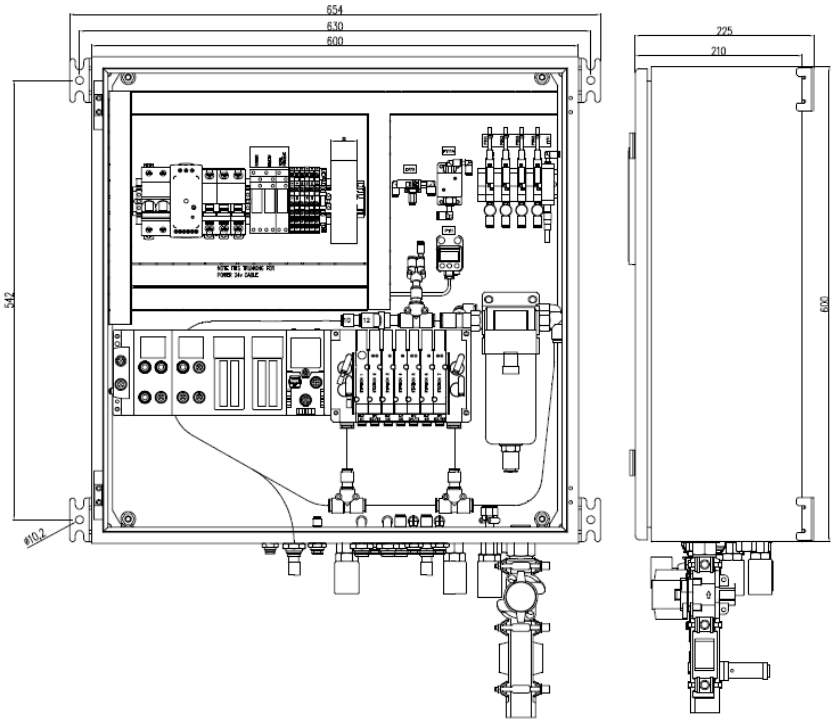
Parameters are permanently stored to the on-board SD card.

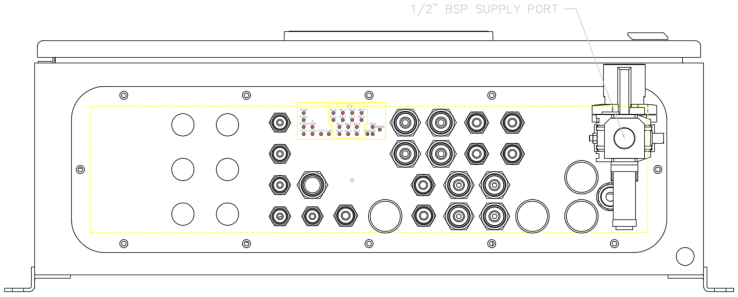
Advanced functions such as auto unblock and standard deviation are provided.

PHASiQ™ is embedded with an AS-I (actuator-sensor interface) valve control package. With the addition of the AS-I Gateway add on, PHASiQ™ can control up to nineteen routing valves and thus convey up to twenty destinations. The package allows the interfacing of reception silo level probe and filter controllers.

Functions:

- High resolution, colour touchscreen HMI with robust, IP66, True Glass display. Resistant to scratching, UV and chemicals
- Live and historic trending of conveying cycles
- Live and historic alarm handling
- Data storage of alarms, events and trends for up to five years
- Customers can transfer the last twelve hours of stored data to USB. This can then be sent to Schenck for analysis
- Five modes of dense phase operation selectable via HMI
- Up to four separate parameter sets can be used and permanently stored on the on-board industrial SD card
- Selectable default parameter set, containing the most commonly used settings is available for rapid commissioning
- Network protocols can be selected from the HMI
- Network testing facility provided by HMI
- If a network is not available then local control can be provided via the HMI and/or a simple hard-wired interface
- Programming software not required as software can be loaded via USB
- Separate operator and supervisor access levels. Operator can view all information but only supervisors can adjust parameters
- Remote - software access, HMI visualisation, parameter change and performance data capture if PROXiQ router fitted
- Up to five PHASiQ panels can be attached to a single PROXiQ router thus providing remote access for up to five machines
- A volt free “client interlock” contact can be connected to PHASiQ to inhibit pump cycle due to external conditions
- “Running” and “Healthy” volt free outputs provided
- Cage clamp terminals provided for hardwired connection
- 20mm cable gland holes pre-cut for speedy installation
- Operation data is stored and warnings are provided when a service is required
- PHASiQ is configured to connect to a single switch valve. Facilitating two reception conveying without increasing control engineering costs
- Can be expanded to control up to nineteen valves routed to twenty destinations with the addition of the ASI Gateway panel and AS-I IO blocks
- Can be interfaced to a second PHASiQ to facilitate conveying line sharing
- Configured for connection to a DISOCONT ® Tersus to provide a basic load cell amplifier or a batch controller





Technical Data:

Power Supply	110 - 230 VAC, 47 – 63 Hz, (1.8 - 1.0 A)
Power Supply Termination Point	Surface mounted MCB, Q1 (incoming cross sectional area capacity 1.0 -25.0 mm^2)
Panel Dimensions	600 x 600 x 210 (mm)
Protection Class	Control panel IP54, HMI IP66
Panel Colour	RAL 7032
Ambient Temperature	-10 to 45 degrees centigrade (can be enhanced- see options)
Combined HMI/Controller	EXOR eX707
CPU	ARM Cortex-A9 dual core 800MHz
Operating System	Linux RT
HMI Type	High resolution, colour, touchscreen, true glass
HMI Size	7”
On-Board Network Communication	Modbus TCP/IP, Profibus DP, others available on request.
Ethernet Port	1 spare RJ45 port (3 in total)
USB	2 spare
Serial Ports	RS-232, RS-485, RS422
Profibus DP Connection (optional)	D sub, 9 pin, female
Maximum Cross Sectional Area of Digital Input Wires	1.5mm^2
Digital Input Protection	Electronic
Hard Wired Interface	2 outputs and 1 input
Language	English, German, others available on request
Data Storage Capacity	Up to 5 years
Remote Access	Via optional PROXiQ® router and network or 3G SIM
Certification	CE

Increased performance and capabilities can be provided with the following additional packages:

PROXiQ®	Remote access router
AS-I Valves	AS-I IO extension for routing valve control
Panel Cooling	Vortex cooler allowing PHASiQ™ to operate in ambient temperatures > 45 degrees centigrade
E-nizing App	Data harvest and analysis app.

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