

# The Unisab III upgrade path for existing refrigeration compressor control systems



Using a Unisab III upgrade package, it is now possible to upgrade existing compressor control set-ups to enable them to monitor and control many different types of refrigeration compressor.

This is a straightforward procedure using a Unisab III upgrade package. This has been specially developed for the efficient, reliable operation of both reciprocating and screw compressors, in a wide range of different configurations.

Retrofitting the control system of an existing refrigeration set-up improves operating efficiency and provides better control, thus delivering a substantial boost to a company's operational competitiveness.

## Significant advantages

- Compatible with virtually all types and makes of refrigeration compressor equipment currently available.
- Easy to integrate into the vast majority of industrial control systems, with no need for expensive additional equipment.
- One consistent control system for virtually all compressors, featuring an intuitive, easy-to-use interface.
- Compressor sequencing and load sharing are possible without additional equipment.
- Monitoring, control and diagnostics capabilities combined in one compact, integrated design.

## Easy to install and operate

The Unisab III upgrade package is easy to install and operate. The overall Unisab III control structure features intuitive, user-friendly menus that require no special knowledge or training to operate.

## Maximum reliability

To ensure the highest overall performance of Unisab III units in both industrial and marine environments, they have been rigorously tested in relation to factors that include electrical and EMC interference, vibrations, heat and cold, and shock.

## Customer benefits

- ▶ Makes sure that refrigeration installations have the best possible performance, maximum uptime and lowest possible operating costs.
- ▶ Seamless transfer of data between systems ensures effective monitoring, control and diagnostics.
- ▶ Consistent "look and feel" for operating and monitoring equipment requires fewer operator skills, resulting in lower training costs.
- ▶ Optimised, energy-saving operation of multiple compressors keeps power consumption to a minimum and reduces operating costs.
- ▶ A single integrated control solution does away with the need for additional equipment, resulting in significant savings on installation costs.

## Advanced operation and monitoring

Upgrading an existing installation using an Unisab III control system provides access to all monitoring, control and limitation functions, ensuring safer and more efficient compressor operation. The Unisab III control panel enables the operator to view several operating values simultaneously and in real time.

## Advanced sequencing

Unisab III features optimised sequence control for any combination of up to 14 compressors in virtually any combination of types.

Unisab III was specially developed for use with all types of Sabroe screw and reciprocating compressors, as well as most other makes of refrigeration compressors.

Unisab III upgrade kits are available for a large number of the compressor makes and types used in industry. These include

### Screw compressors

- Sabroe VMY, SAB series
- Stal SV, R5, S80 series
- Gram GSV, GST, GSF series
- Frick XJS, XJF, TDSH series

### Single-stage reciprocating compressors

- Sabroe CMO, SMC series
- Gram HC series

### Two-stage reciprocating compressors

- Sabroe TCMO, TSMC series
- Gram HCT series

The Unisab II upgrade kit for each particular compressor includes

- Unisab III control unit
- instruction manual
- all the sensors and fittings required
- installation notes.

It completely replaces the existing control unit, integrating with all other functionalities and parts of the refrigeration compressor installation.

Unisab III upgrade kits are also available for other compressors (including those manufactured by other companies) on request.

## Technical data

Compressors	Control of screw and reciprocating compressors as well as combinations of both types
Refrigerants	All refrigerants normally used
Display	VGA b/w graphical display
Communication	Ethernet, Profibus, 2 x RS 485
Diagnostic functions	Storage/analysis of up to 30 alarms
External control	Possible via 4–20 mA or via external communication
V <sub>i</sub> regulation	0–100%
Configuration check	Possible during operation
Sequential operation	Unisab III controls and monitors virtually any combination of up to 14 screw and reciprocating compressors through the built-in Multisab program
Emergency stop	Included
Dimensions	Cabinet 380 x 300 x 210 mm
Voltage	85–250 V AC
Retrofit	Unisab III can easily be fitted onto most existing compressors. Unisab III also communicates with previous Unisab systems.
Factory test	A computer test is performed on all Unisab III units and a test certificate is issued.

All information is subject to change without previous notice

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