

## Skid-Mounted AMB Controller

An industry first, the skid-mounted Zephyr® active magnetic bearing (AMB) controller from Waukesha Magnetic Bearings® provides optimized performance in a compact equipment footprint.

- Certified for Class 1 / Division 2 hazardous area installation
- On-skid controller eliminates costly cabling, speeds up commissioning
- Simple, fail-safe integration of controller and machine station via digital output/input
- Automated Commissioning capability reduces start-up time and costs
- Secure remote connectivity for monitoring and tuning limits the need for on-site support
- Built-in condition monitoring system provides comprehensive diagnostics
- High processing performance for complex algorithms provides high dynamic efficiency for flexible production output capacity
- High reliability and low maintenance costs lower the total cost of ownership

### CONFIGURATION

- 5-axis control

### INTERFACES

- Hardwired discrete UCP interface
- Analogue diagnostic outputs\*
- Magnet temperature monitoring via RTD\*
- MODBUS TCP slave\*
- SOAP slave\*

### CONTROL LAW CAPABILITY

- SISO/MIMO controller with tracking filters
- Multi-coordinate control (MCC)
- Automatic balancing algorithm (ABA)
- Runout compensation
- Open loop feed forward\*
- Advanced amplifier algorithm (for software flux feedback)

### SENSOR SUPPORT

- Inductive

### DIAGNOSTIC CAPABILITIES

- Web server interface
- Event logging
- Automatic clearance check
- Integrated transfer function measurement\*
- Integrated spectra capability\*
- Integrated harmonic capture (order tracking)\*
- 3rd level trip\*
- Built-in tools show compliance with ISO sensitivity performance criteria\*

### OTHER

- Support for purge protected bearings

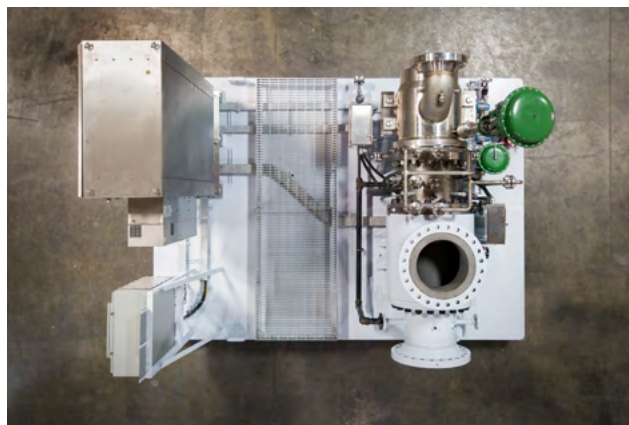
\* Available as an option





## SPECIFICATION

INSTALLATION	Mounted on turboexpander skid; installation indoors or outdoors
ENCLOSURE	Eex p purged enclosure
ENCLOSURE SIZE	2.3 x 1.2 x 0.6m HxWxD (including plinth, excluding sun canopy)
ENCLOSURE RATING	NEMA 4X
COOLING	Closed loop, purged air conditioner
MAXIMUM WEIGHT	675 kg
ELECTRICAL SUPPLY	Main supply: 240V L1-L2 50/60Hz 24A Hazardous area heaters supply: 240V L1-L2 50/60Hz 5A External UPS required SCCR 5KA
OUTPUT POWER	390V @ 24A per magnet (continuous), 28A (peak)
PROTECTIVE GAS SUPPLY	4-8 Bar, 12.4 cubic ft/min (350 L/min)
OPERATING TEMPERATURE RANGE	-40°C (-40°F) to 43.3°C (110°F)
RELATIVE HUMIDITY RANGE	100% in operation 100% during transportation (with humidity control internal to the cabinet)
AREA CLASSIFICATION	National Electric Code NFPA 70, Class 1 / Division 2 Hazardous Area Installation – Gas group: C & D; Temperature class: T3
CERTIFICATION	UL File Numbers: E503038 CCN QUYX E497264 CCN NNNY E499853 CCN NITW E497265 CCN NRBX IEC 61326-1 TUV CB: DE 3-E00018 IEC 61010-1 TUV CB: DE 3-30869



The on-skid AMB controller is an integral part of the ARES AMB turboexpander from L.A. Turbine, designed for use in gas processing plants. (Photos courtesy of L.A. Turbine.)