Vibrations Mat Instrument

BM CONSOLE
Technical Specification

1. INTRODUCTION

The BM CONSOLE is a complete Instrument for balancing rotating equipment on a balancing machine. A wide range of features are available to cover all the requirements of precision balancing, including comparison to established tolerances and printing a certificate to document the balancing results.

The touch activated, flat LCD screen allows quick data entry and menu selection. Screen prompts and online help files assist the operator in obtaining fast accurate results. Polar or large digital displays are available to provide the operator with a graphic representation of the balance vectors.
In addition, the BM CONSOLE can be used for replacing older instruments to improve the performance of older machines.
The BM CONSOLE electronics, based on a Pentium processor and a APT326 Balancing Interface, provides a wide range of balancing speeds, high measurement accuracy and signal filtering.

The BM CONSOLE has four parts:

- 15" LCD Display with Touch Screen
- Single Board computer running Windows XP and APT300 software
- APT326 Balancing Interface Board
- A mounting plate to be use to place a Speed Controller for any asynchronous AC electrical motor with power from 1.1 kW up to 15 kW

2. GENERAL SPECIFICATIONS:

• Balancing speed: 120 to 3,000 RPM
• Auto-range between ± 5Vac input signal level
• Filter: Dual, narrow band shaft synchronous, digital tracking filters, with averaging
• Number of balance planes: 1 or 2
• Calibration method: Trial Weights
• Unbalance units: gmm or grams
• Vibration units: micrometers, mm/sec or g.
• Unbalance Tolerance: according ISO 1940/1
• Colored indication for "OK". and "Not OK" balance conditions.
• Display of dynamic (Left / Right) unbalance or Static / Couple unbalance.
• Display: High resolution flat color 15" LCD Display
• Touch activated LCD screen for user input (numeric keypad and ASCII keyboard)
• Display correction angles for adding or removing rotor balance mass.
• Unbalance display in digital format or combined polar / digital format.
• Rotor memory storage: unlimited
• Vector splitting of unbalance corrections
• Vector addition of unbalance corrections for combining mass
• Semi-automatic or manual balance mode cycles.
• Electronic compensation for tooling errors caused by adapters
• Customized balance reports on optional USB external printer

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• Angle encoder input for the display of the unbalance position (requires 360 pulse/revolution external encoder)
• Desktop configuration or 19" Rack enclosure
. Power supply: 230VAC/50Hz
• Language selection

3. TECHNICALSPECIFICATION

INPUTS	
Vibration – 2channels (max. 5000 mV rms)	Suitable for accelerometer, velocity transducers or non-contact displacement sensors.
Speed	Suitable for any photocell having a output swing from +5V to +24Vd.c.
Angle	Suitable for any quadrature Encoder with sensitivity between 360 - 600 pulse/revolution and TTL compatible
OUTPUTS	
USB Universal Host Ports (2)	Suitable to connect any USB device (Printer, USB Memory Stick, external Mouse or Keypad)
Digital output	Motor Stop command (max 1A/24V, normal close contact)
GAIN	
	From x 0.25 to x128 gain for both channels, auto-ranging
ACCURACY	
Vibration	< 1% or ±0.5 mVrms
Angle	<1% or ±1°
Speed	<0.1% or ±1 RPM
TRANSDUCER POWER	
Displacement sensors	+24V, regulated, max.150 mA
Accelerometers	2.4 mA@ max 24V
Photocell	+24V, regulated, max.100 mA
Encoder	+5V, regulated, max.100mA
LED INDICATORS	
Green LED	Computer Power ON
Red LED	Computer RESET
Green LED	APT326 Interface ON
Yellow LED	Tape status
BUTTONS	
Green push button	APT Computer ON/OFF
Black push button	LCD Display ON/OFF
Red push button	Computer RESET
SOFTWARE	
Operation System	Windows XP
Balancing Software	APT Software
POWER FOR COMPUTER	220Vac/50Hz, max 330VA
DIMENSION	
Weight	40 kg

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4. OPTIONAL ACCESORIES

- Vibration transducer (Displacement sensors, velocity sensors or accelerometers)
- Extension cable (5m) for vibration transducers
- Photocell
- Extension cable (5m) for photocell
- Angle transducer (Encoder)
- Extension cable (5m) for angle indicator
- ALTIVAR 71 Seep Controller for asynchronous AC Motors

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