

Talas Dryer Datasheet

KEY FEATURES

- Automatic megohmmeter that can dry winding insulation
- Measures the winding insulation resistance when motor is de-energized
- Standby heating mode
- Drying procedure requires no decommissioning work
- Installed close to MCC
- MODBUS protocol for control system integration
- Monitor from any computer or smart device via Talas Monitoring System
- Powered by standard mains electricity

KEY BENEFITS

- No need to disassemble the motor for drying
- Can recover the winding insulation of flooded electric motors
- No maintenance required
- Extremely cost-effective and energy efficient solution for monitoring and drying winding insulation

Product Highlights

Currently, electric motors with low insulation resistance are either replaced or taken to the drying oven. Talas Dryer monitors winding insulation resistance and keeps the insulation dry at all times without decommissioning the motor. The drying procedure is fully automatic and stops after the insulation resistance has reached the specified high value.

The device is connected to two phases and ground of the electric motor's feed circuit. It is powered by the standard mains electricity (220-240 VAC) and has a RS485 interface with MODBUS protocol for transferring data to most process control systems and to Talas Monitoring system. The Talas Monitoring service allows its users to monitor their electric motors from any computer or smart device. SMS and e-mail notifications can also be activated.

Insulation resistance measuring and drying

One of the main causes of electric motor failure is winding insulation deterioration and insulation resistance reduction. Worldwide, millions of electric motors are working in harsh conditions; hot and damp environments accelerate the deterioration of motor windings.

These motors are often driving critical processes such as:

- Public infrastructure networks
- Underground ventilation
- Lifting equipment
- Industrial process

In case of low insulation resistance readings, electric motors are usually dried by using electric heater fans or they are taken to the oven for drying. Both options require a significant number of manhours. With Talas Dryer, the motor is automatically kept dry in an energy efficient way.

RELATED PRODUCTS

Talas Electric offers additional services that can take electric motor fleet monitoring to the next level:

- Portable Talas Dryer: Megohmmeter that can recover the insulation resistance without any decommissioning work
- Talas Measurer: automatic insulation resistance monitoring device for electric motors
- Talas Monitoring system: monitor your electric motor from any computer or smart device

ADDITIONAL INFORMATION

More information can be found at:

www.talaselectric.com

Energy efficiency

Motors operating in harsh conditions are often equipped with anti-condensation heating which maintains the temperature inside the motor a few degrees higher than the surrounding air temperature. The disadvantage of anti-condensation heating is that the motor is always being heated, even when the insulation resistance is at excellent levels and no heating is needed.

Talas Dryer measures the insulation resistance by feeding direct current voltage to the circuit and then monitors the leakage current from the ground. When the insulation resistance is low, Talas Dryer switches on the drying mode and starts sending direct current impulses to the windings of the electric motor. During the drying mode, Talas Dryer also monitors the winding insulation; when the insulation resistance has reached a satisfactory value, the drying mode switches off and the measurement mode continues. Talas Dryer also has an intellectual standby heating mode that switches on after the motor has stopped; for increased energy efficiency, the user can set short heating pauses.

Technical Specifications

SPECIFICATIONS: Talas Dryer	
Input voltage	220-240 VAC (mains)
Test voltage	50 VDC (optional 105VDC)
Communication protocol	MODBUS
Communication interface	RS485
Measuring range	0.2-20MΩ (optional 0.3-60MΩ, Test voltage 105VDC)
IP	20

Appendices

- Appendix 1: Talas Dryer measurements.**
- Appendix 2: Power range of electric motors (in drying mode).**
- Appendix 3: Power and current consumption.**
- Appendix 4: Example of installations.**

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Appendix 1 – Talas Dryer Specifications

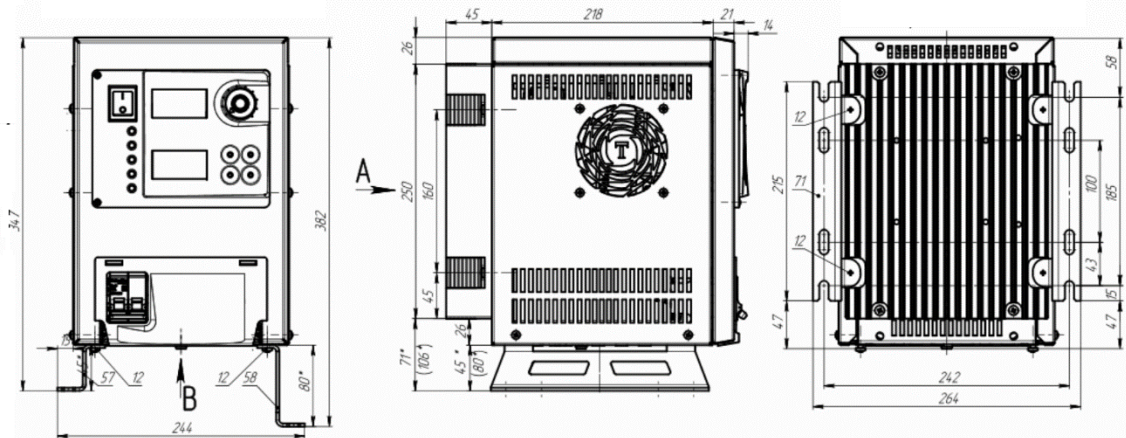


Image 1: Specifications of Talas Dryer from different views.

Talas Dryer Mass							
Model	Casing	Depth	Height	Width with feet	Attachment hole distance	Width without feet	Weight (kg)
TD-10/50 – TD 50/50	1	298	302	242	100	222	12-16
TD 90/50	2	320	302	242	100	222	20

Appendix 2 – Power range of electric motors (in drying mode)

Specifications of Talas Dryer Models					
Model	TD-10/50	TD-20/50	TD-30/50	TD-50/50	TD-90/50
Power range of electric motors	2-15 kW	10-30 kW	20-50 kW	40-90 kW	75-200 kW
Power range of electric motors (in heating mode)	6-30 kW	30-90 kW	60-150 kW	120-225 kW	200-600 kW
Maximum current “Drying”, A	10	20	30	50	90
Maximum measuring voltage, V (VDC)	50	50	50	50	50
Maximum resistance between phases L1 and L2 for nominal drying current output	2.1Ω	1.1Ω	0.5Ω	0.25Ω	0.11Ω

Appendix 3 – Power and current consumption

Power and current consumption			
Model	Power	Max. current	Recommended fuse
10A	400W	3A	10C
20A	650W	4A	10C
30A	800W	4A	10C
50A	1000W	5A	16C
90A	1500W	8A	16C

Appendix 4 – Example of installations

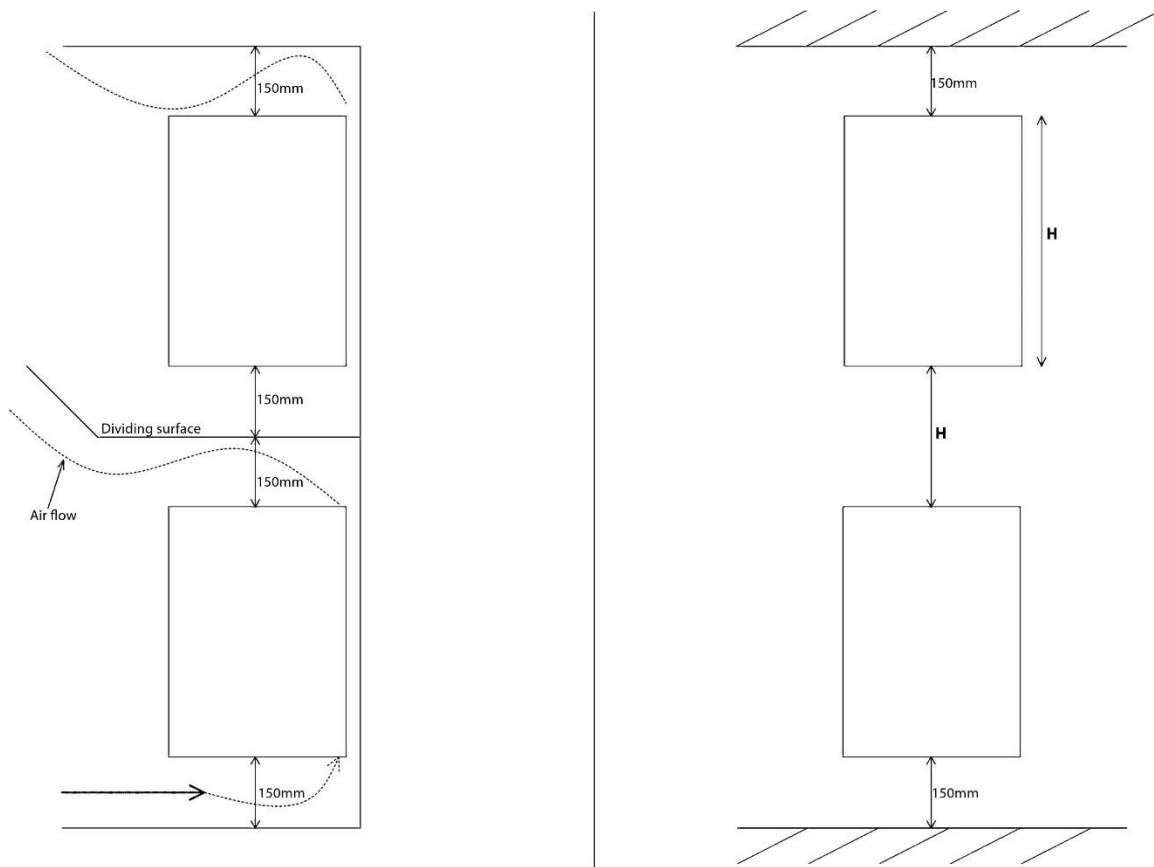


Image 2: Installation with steel wall attachment (left) and free-standing installation (right).