See The TECO Difference!

TECO MAGIC II

Rotating Sensing Disk Consistency Transmitter Pre-Calibrated with SMART + HART

BOLT-IN REPLACEMENT FOR DEZURIK® SDP

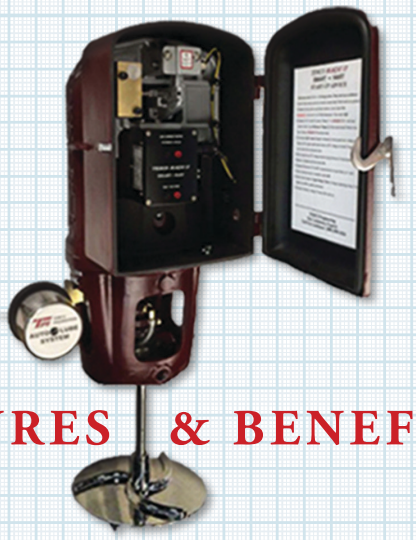
PRODUCT SUMMARY

TECO's Magic II is a loop powered SMART + HART consistency transmitter. The transmitter measures consistency by sensing the change in torque with a disk rotating in the paper stock. A non-contact electronic system eliminates accuracy issues brought on by friction and drifting problems that may be by wear and corrosion.

Magic II's SMART feature has ten available response curves to match the nonlinear pulp response curves. This gives higher accuracy than traditional nonlinear response curves because it adjusts for higher sensitivity at low consistency and lower sensitivity at higher consistency.

Magic II's HART feature uses digitally set upper and lower range values. With a HART compatible device, you can program or read the loop's current output and consistency value anywhere the 4mA to 20mA wires run; from the control room to the transmitter.

The Magic technology is more responsive to rapid changes in consistency. This enables the controller to "see" process upsets and hold consistency closer to set point. By reducing consistency variations in the feed stock to the Paper Machine, paper quality will be improved while using less fiber.



FEATURES & BENEFITS

- Non-Contact Torque Torque Measurement
  - No drift
  - No damage to electronics
- HART Compatible
  - Bi-directional communication enhances diagnostics and configuration and provides quick visibility into the device
  - Early warnings and problem detection minimizes impact of deviations and prevents costly shutdowns
- SMART motor driven consistency transmitter
  - High sensitivity to consistency changes ensures accurate and responsive measurements
  - Insensitive to variations in fiber length
  - Velocity immunity eliminates the need for velocity compensation or increasing pipe size
- Loop Powered 24 volts
  - Simplified wiring requires only one pair of wires for both power and output
  - Transmission that outperforms voltage signals over long distances and noisy environments.

Thompson Equipment Company
125 Industrial Avenue
New Orleans, LA 70121

+1 504-833-6381
sales@teco-inc.com

24 Hour Technical Support
+1 800-528-8997 or support@teco-inc.com

TECO THOMPSON EQUIPMENT COMPANY

www.TECO-inc.com

TECO

MAGIC II

DESCRIPTION

Magic II measures consistency by sensing changes in torque, and converting it into a 4mA to 20mA reading. The degree of torque applied to the rotary disk affects the distance (air gap) between the torque arm and the proximity sensor. A change in distance between the torque arm and the proximity sensor changes the inductance. This change in inductance affects the frequency of the oscillator circuit which affects the amount of voltage drop across a coil / capacitance circuit. A two-wire core processor with HART protocol converts this voltage change to a 4mA to 20mA current signal which is independent of load or supply voltage.

A silicone oil damper removes most of the normal consistency noise. A digital filter is built in for additional damping if necessary. A thermistor inside the proximity sensor is used for temperature compensation.

The only maintenance for the MAGIC II is occasional greasing of the shaft that drives the sensing disk. Greasing can be manually done every three months or automatically with the optional cartridge system. The automatic system adds a small amount every other day. The cartridge should be replaced at least every 18 months.

SPECIFICATIONS

Sensitivity	**@ 2.5 % consistency as ± 0.003%** **@ 4.0 % consistency as ± 0.002%**
Consistency	**Range adjustments made in % consistency from any HART Protocol adjustment device such as a Meriam™, Rosemount™ (375,475), SMAR™ or Emerson AMS Trex Communicator.**
	Sensing - Motor Driven Disc and Shaft to Generate Torque from Consistency Changes
Pulp Curves	**Furnish-specific calibration curve, 0.5 to 7.0% installed in transmitter, additional curves available**
Torque Sensing	**Non-Contact Inductive coupling with Stationery Proximity Sensor; approximately .030 in Air Gap**
Power	**2-wire, 24-30 volts DC, minimum 250 ohm loop resistance**
Sensing Motor	**Standard 440 vac 3 phase 1/2 hp @ 1 amp. Optional 575 vac motor is available**
Output Signal	**Liner 4-20mA into 350 ohm max. load @ 24 volts,1300 ohms @ 30 volts**
Output Dampening	**Silicon oil dampener plus digital electronic filtering, 1.5 to 100 seconds (1.5 sec. factory setting)**
Output Test Points	**4mA and 20mA**

TECO THOMPSON EQUIPMENT COMPANY

Thompson Equipment Company
125 Industrial Avenue • New Orleans, LA 70121
+1 504-833-6381 • sales@teco-inc.com

QR code to come

SCAN for more information!