Solutions for Valve Process automation

WIEFP2016
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Fluid Automation

Process Automation Market
- Power
- Chemicals
- Oil and Gas
- Water / Wastewater
- Refining

Hybrid Market
- Metals & Mining
- Pulp & Paper
- Cement & Glass
- Life Science
- Food / Bev

Discrete Automation Market
- Printing
- Handling
- Packaging
- Electronics / Electrical
- Textiles
- Auto / Tire

Handling

Hybrid Market

Discrete Automation Market
Process market
Process automation market
Process Valves

Different constructions according to the application
Valve automation

- Air preparation
- Monitoring
- Valve automation
- Pneumatic actuators
- Directional Solenoid valve
Compressed air – source of energy

Generation – Treatment – Storage - Use

Compressed air tanks may be installed in front and/or behind the dryer.

Intake filter → Compressor → Aftercooler → Compressed air tank → Dryer → Compressed air tank → Compressed air network

Delta™ Series:

- Water Separator Type X
- Filter Type G
- Possibly Fine Coalescing Filter Type H or Finest Coalescing Filter Type D
- Possibly Particulate Filter Type G
- Fine Coalescing Filter Type H or Finest Coalescing Filter Type D

EMERSON
Air Treatment

Types of filters:

Filter Water separator;
Particle filter 40 µm, 25 µm and 3 µm;
Coalescent filter of 0.01 µm and 1 µm (fine and Ultrafine);
Adsorption (carbon element) filter.
Filter & Regulator

- Air or inert gas
- No water
- No particules
- Regulated pressure

- Remote pressure monitoring
- Alarms
- Material compability
Monitoring
Monitoring – open or close?

Valve Monitoring System - VMS
Rotary & linear actuators

- Visual indication
- Electrical switch
- Bus communication
Directional Solenoid Valve
Single or Double actuators
Solenoid Valve operated

Solenoid operator

Operation

Body

Sealing
Flow – Material - Construction

- 1/8” up to 1”
- Nitrile, FPM, metal
- Aluminum, Brass, Stainless Steel
- Direct operated
- Internal piloted
Hazards location – solenoid enclosures

- PVA
- NF WSNF
- SC
- EF EV
- EM WSEM
- JPIS
- WBIS

Ultra low power Nozzle e Piezoelétrico
Safety
Redundant system

Solenoid A

Solenoid B

Control room

Safety Integrity Level
SIL
IEC 61508/61511
Digital communication
Simplify our life….
**Discrete I/O Side**
- 16 Module Capability
- Digital I/O
- Analog I/O
- Up to 1200 I/O

**Pneumatic Valve Side**
- 32 Solenoid Output Capability
- Including Valve side Sub-D

**Communication Module (Node)**
- CANopen
- DeviceNet*
- DeviceLogix
- Profibus-DP*
- Ethernet/IP*
- Ethernet Modbus TCP
- PROFINET
- PROFINET
- and more…

* primary release
Success cases
Petrobras – REPLAN (Paulínea) combustion gas line - burners
UTE Thermoelectric (Rio de Janeiro) combustion gas pipeline – main control valve
Petrobras – REVAP (São José dos Campos) ETA - water treatment station
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