

Polysilicon Industry Solution



Polysilicon Plants use Emerson™ Products for Precise Pressure Control

Polysilicon Overview

Polysilicon is widely used in Integrated Circuit (IC) and Photovoltaic (PV) industries. It is a major material used in making semiconductor chips and solar cells. The semiconductor chips are used for the production of electrical and electronic devices like computers while the solar cells are used to manufacture solar panels that convert solar energy to electricity.

Polysilicon is categorized into two grades: Solar Grade Silicon (SG) which has a silicon content of 99.9999% and Electronic Grade Silicon (EG) which has a silicon content of 99.999999999%.

Market demand for polysilicon has increased due to the use of alternative and more environment-friendly sources of energy. The production of polysilicon has increased to meet the market demand.

Polysilicon Manufacturing Process

The process of manufacturing polysilicon starts with refining its raw material, silica. Silica, found in sand and quartz, is reduced to remove impurities and then purified to produce Metallurgical-Grade Silicon (MGS). The metallic silicon is processed using either the Siemens reactor or Fluidized Bed reactor. Both processes use Trichlorosilane (TCS) undergoing further chemical or physical processes to produce polysilicon.

Emerson Process Management Solution

Fisher® and Tescom® products are widely installed throughout the world's polysilicon plants. Our products are used in many applications, such as feeding gas, gas recovery and ultra high purity pressure control of the reactor. Our expertise and technical knowledge assure you that our products have high reputation for reliability and durability.

Fisher® and Tescom® Polysilicon Plant Products

Products

Description

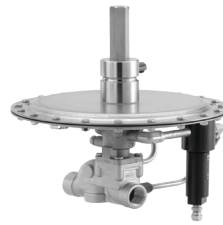


*95 Series
Pressure Reducing Regulator*

- Direct-Operated for Fast Pressure Control
- Multi-Purpose - Used in various applications
- Rugged Construction
- Multiple End Connections Available
- Available in Differential Pressure Control, High Temperature and High Pressure Construction
- Easy Maintenance

Products

Description



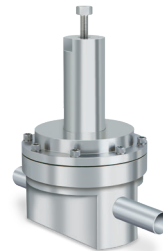
*Type ACE95
Tank Blanketing Regulator*

- Pilot-Operated for Accurate Pressure Control
- Low Setpoint for Nitrogen Savings
- Easy Installation & Maintenance
- High Sensitivity Provided by Oversized Actuator
- Diagnostic Port for In-Line Analysis
- Stainless Steel Construction



*Type Y690A
Tank Blanketing Regulator*

- Direct-Operated for Fast Pressure Control
- Compact Construction for Small Tanks and Vessels
- Easy Conversion between Constructions
- Sour Gas Service Capability & Corrosion Resistance
- NPS 1-1/2 and 2 Body Sizes Available in Type Y696



*Tescom® 15 Series Bulk Gas
Regulator for Hydrogen
mixing Panels*

- Metal Diaphragm or Bellow sensing element maintains very accurate downstream pressure control at ultra high flow rates
- 316L Stainless Steel bar stock construction for superior corrosion resistance, up to 10 Ra microinch electropolished internal surface finish
- Spring/wrench-adjust or air-actuated compatible with ER3000 Series Electronic Controller



*Type 63EG-98HM
Backpressure Regulator*

- Pilot-Operated for Accurate Pressure Control
- Versatility in Both Liquid and Gas Service
- NACE Availability
- Fast Speed of Response
- Low Build-up Capability
- Tight Shutoff
- Excellent Overpressure Protection



*Tescom® ER3000 Series
Electronic Pressure Controller*

- Electropneumatic digital controller
- High precision (0.1% accuracy) device
- Free Software
- Explosion-proof housing available
- Extra analog/digital inputs/ outputs available
- Combine with any air actuated regulator to control a wide range of pressures and flows

Industrial Regulators

Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters
McKinney, Texas 75069-1872 USA
Tel: 1-800-558-5853
Outside U.S. 1-972-548-3574

Asia-Pacific
Shanghai, China 201206
Tel: 86-21-2892 9000

Europe
Bologna, Italy 40013
Tel: 39 051 4190611

Middle East and Africa
Dubai, United Arab Emirates
Tel: +971 4811 8100

Tescom

Emerson Process Management Tescom Corporation

USA - Headquarters
Elk River, Minnesota 55330-2445 USA
Tel: 1-763-241-3238

Europe
Selmsdorf, Germany 23923
Tel: +49 (0) 38823 31 0

For further information, visit www.emersonprocess.com/regulators

Our Global Product Brands:

