Meggitt Control Systems

Energy products
Since its founding in 1942, Whittaker Controls has provided innovative products for the aerospace and industrial fluid control industries.

The valves and subsystems produced by the company since its inception number in the thousands, each a unique, engineered product. This experience ensures our customers the most appropriate solution to their fluid control challenges.

Today, as a Meggitt group company, Whittaker continues to produce and support fuel, hydraulic, and pneumatic products for nearly every aircraft and industrial gas turbine in the free world.

Whittaker is a unit of the Meggitt Control Systems.

Worldwide coverage

Meggitt PLC, which specializes in extreme environment engineering for aerospace, defense and energy customers worldwide, is integrating a group of over 30 operating companies into five new divisions.

Each division is dedicated to the development of complementary Meggitt technologies and capabilities - Meggitt Control Systems, Meggitt Polymers & Composites, Meggitt Aircraft Braking Systems and Meggitt Sensing Systems. A fifth division - Meggitt Equipment Group - will enable business representing specialized capabilities such as flight displays and fire detection to maintain their market focus.

This reorganization is designed to transform Meggitt from a set of strong individual businesses into one high performance engineering group. Working together like this will enable us to meet the needs of our customers and partners better, thereby contributing to our mutual success.
Driving toward high technology

Our industrial gas turbine control products are a derivative of our renowned aerospace technology. We have pioneered the application of many state-of-the-art technologies in this industry including the use of electric and digital controls for gas turbine fuel metering. By driving toward high technology, low cost solutions with a sharp focus on continuous improvement, Meggitt Controls has set itself apart from other suppliers.

Meggitt offers a unique advantage for its industrial customers; the responsiveness and versatility of a dedicated engineering and manufacturing organization, backed by the solid financial resources necessary to bring a customer’s solution to market quickly.

While reliability is designed into Meggitt’s turbine control products, we also understand that quality must be built in. Meggitt employs the latest advances in lean manufacturing and continuous improvement to ensure that all products are delivered exactly to the customer’s specification with uncompromised quality.
Six Sigma is a philosophy of continuous improvement focused on reducing process variation and increasing the robustness of product designs. This philosophy not only guides our manufacturing and quality operations, it also permeates the entire organization from top to bottom and in each functional department.

Meggitt’s advanced in-house engineering and test capabilities equate to fast turnaround times from initial customer contact through shipment of qualified hardware. Meggitt understands that, in today’s industry, the ability to respond quickly and to create value while continuously improving is the key to competitive excellence. Our broad technology base allows us to significantly reduce the time to market for standard and custom products, which are designed to provide the lowest cost of ownership.
The driving force behind our ability to remain a leader in this industry is our commitment to ongoing research and development in the field of hydraulic, pneumatic, electronic, and servo control systems. Meggitt focuses its resources on developing and improving key core competencies such as valve and actuation technologies that are compatible with the industry’s leading control systems. Our R&D programs focus squarely on finding new ways to add value to our customers’ businesses.

Meggitt’s experienced design and application engineers work closely with original equipment manufacturers and end users to develop hardware solutions that meet the customer’s need and that provide superior performance. This close partnership with the customer is the primary strength of the Meggitt business approach. By putting the customer side by side with the Meggitt design team, we ensure that all requirements are met.

Customer partnerships

Developing and improving key core competencies
Meggitt manufactures a complete line of modulating control valves including fuel metering, compressor bleed, anti-surge, vent, loading, drain and dual fuel gas blowoff valves.

Hydraulic, pneumatic and electric actuation is available with temperature capabilities ranging up to 1200°F.

Meggitt’s extensive experience with aircraft engine bleed air applications has made us a recognized authority on the development of robust air control valves for the harsh environments in which industrial gas turbines operate.

In the drive toward low NOX emissions and decreased fuel consumption for all gas turbines, Meggitt’s range of high precision fuel metering valves continues to lead the way in providing turbine manufacturers with the most accurate and precise fuel delivery systems currently available.

Robust controls for extreme environments
High performance solutions

On DLE applications (2 to 5 combustor paths) that require detailed flow mapping, Meggitt electric metering valves achieve accuracies of better than 2% of point. Meggitt’s electric metering valves have an accumulated experience base of millions of operating hours on aeroderivative and large frame turbines.

Valve actuation for both base and DLE is accomplished with either electric servo motors or hydraulics.

Other applications include high speed shut off, burner staging and water injection valves.

Precision fuel delivery
Integrated valves and actuators

For over sixty years, one of Meggitt’s key core competencies has been valve design and manufacturing. We have accumulated one of the largest collections of active valve designs in the industrial and aerospace industries.

Our robust designs address a wide range of fluids (fuel, gas, bleed air, etc.) and environmental characteristics ranging up to 15,000 psi and up to 1200° F.

Performance, long life, low cost of ownership, and ease of maintenance are all trademarks of Meggitt valves while our attention to parts commonality and interchangeability always ensures the customer the most value for its money.

Meggitt’s actuation capabilities are well proven in the industry. Our qualified designs include hydraulic, pneumatic and electric actuators operating on a variety of gas turbine platforms.

Further, Meggitt was a pioneer and is now the industry leader in the application of electric servo actuators to gas turbine valves. Our electric, hydraulic and pneumatic valves have accumulated many millions of field operating hours on small frame, aeroderivative, and large frame gas turbine packages.

Our philosophy of balancing valve loads for the lowest actuation forces possible always ensures the customer the most compact and reliable package available.
Customer support

Meggitt products are supported from facilities and offices in the US, Asia, and Europe, thus ensuring that technical and logistic issues are addressed in the shortest possible time.

Regionally stocked rotatable pools enable us to respond rapidly to any scheduled or unscheduled turbine shut down on a worldwide basis.

Comprehensive product support programs can be customized for OEMs and operators and the Meggitt engineering team is readily available to support fuel and bleed air system CM&U retrofits.

Adding value through product support
High performance solutions for industrial gas turbines
### Systems

<table>
<thead>
<tr>
<th>Part number</th>
<th>Line size</th>
<th>Description</th>
<th>Type</th>
<th>Fluid</th>
<th>Power requirement</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>C173165</td>
<td>2 inch</td>
<td>Fuel metering system</td>
<td>Electric and hydraulic</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
<td>14</td>
</tr>
<tr>
<td>C173165-2</td>
<td>2 inch</td>
<td>Fuel metering skid</td>
<td>Electric and hydraulic</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
<td>16</td>
</tr>
<tr>
<td>C173285</td>
<td>2 inch</td>
<td>Fuel metering skid</td>
<td>Electric</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
<td>18</td>
</tr>
<tr>
<td>C173445</td>
<td>2 inch</td>
<td>Fuel metering skid</td>
<td>Electric</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
<td>20</td>
</tr>
<tr>
<td>C173535</td>
<td>2 inch</td>
<td>Fuel metering skid</td>
<td>Electric</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
<td>22</td>
</tr>
<tr>
<td>C173675</td>
<td>2 inch</td>
<td>Fuel metering skid</td>
<td>Electric</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
<td>24</td>
</tr>
</tbody>
</table>

### Electronics

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
<th>Type</th>
<th>Fluid</th>
<th>Power requirement</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>C159980</td>
<td>Servo motor controller</td>
<td>Digital pulse-width modulated servo-amplifier</td>
<td>Gas</td>
<td>60 to 300 vdc</td>
<td>26</td>
</tr>
<tr>
<td>C173255</td>
<td>Pressure transducer set</td>
<td>Digital absolute pressure in explosion proof enclosure</td>
<td>Gas</td>
<td>5 to 16 vdc</td>
<td>28</td>
</tr>
<tr>
<td>C173455</td>
<td>Servo motor controller</td>
<td>Digital pulse-width modulated servo-amplifier</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
<td>30</td>
</tr>
<tr>
<td>C173465</td>
<td>Servo motor controller</td>
<td>Digital pulse-width modulated servo-amplifier</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
<td>32</td>
</tr>
<tr>
<td>C173735</td>
<td>Servo motor controller</td>
<td>Digital pulse-width modulated servo-amplifier</td>
<td>Gas</td>
<td>60 to 600 vdc</td>
<td>34</td>
</tr>
<tr>
<td>C173815</td>
<td>Servo motor controller</td>
<td>Digital pulse-width modulated servo-amplifier</td>
<td>Gas</td>
<td>60 to 600 vdc</td>
<td>36</td>
</tr>
<tr>
<td>C173855</td>
<td>Servo motor controller</td>
<td>Digital pulse-width modulated servo-amplifier</td>
<td>Gas</td>
<td>60 to 600 vdc</td>
<td>38</td>
</tr>
<tr>
<td>C450065</td>
<td>Servo motor controller</td>
<td>Digital pulse-width modulated servo-amplifier</td>
<td>Gas</td>
<td>90 to 150 vdc</td>
<td>40</td>
</tr>
</tbody>
</table>

### Heat exchangers

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
<th>Type</th>
<th>Fluid</th>
<th>Power requirement</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>C173155</td>
<td>Air cooling system</td>
<td>Electric and hydraulic</td>
<td>Air</td>
<td>90 to 140 vdc</td>
<td>42</td>
</tr>
<tr>
<td>C325852</td>
<td>Heat exchanger</td>
<td>Plate and fin</td>
<td>Air</td>
<td>90 to 140 vdc</td>
<td>44</td>
</tr>
<tr>
<td>C327355</td>
<td>Heat exchanger</td>
<td>Plate and Fin</td>
<td>Air to water</td>
<td>–</td>
<td>46</td>
</tr>
</tbody>
</table>

### Valves

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
<th>Type</th>
<th>Fluid</th>
<th>Power requirement</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>C173205</td>
<td>Isolation valve set</td>
<td>Poppet</td>
<td>Gas</td>
<td>20 to 28 vdc or 95 to 140 vdc</td>
<td>48</td>
</tr>
<tr>
<td>C236385</td>
<td>Liquid metering valve</td>
<td>Rotary spool and sleeve</td>
<td>Liquid fuel</td>
<td>150 to 200 vdc</td>
<td>50</td>
</tr>
<tr>
<td>C236435</td>
<td>Fuel staging valve</td>
<td>Poppet</td>
<td>Liquid fuel</td>
<td>95 to 140 vdc</td>
<td>52</td>
</tr>
<tr>
<td>C236765</td>
<td>Liquid metering valve</td>
<td>Rotary spool and sleeve</td>
<td>Liquid fuel</td>
<td>150 to 200 vdc</td>
<td>54</td>
</tr>
<tr>
<td>C327335</td>
<td>Purge valves</td>
<td>Right angle sleeve, VB, normally closed</td>
<td>Hot air</td>
<td>18 to 30 vdc</td>
<td>56</td>
</tr>
<tr>
<td>C327405</td>
<td>Purge valves</td>
<td>Right angle sleeve, VA, normally closed</td>
<td>Hot air</td>
<td>18 to 30 vdc</td>
<td>56</td>
</tr>
<tr>
<td>C327765</td>
<td>Purge valves</td>
<td>Right angle sleeve, VA, normally closed</td>
<td>Hot air</td>
<td>95 to 140 vdc</td>
<td>56</td>
</tr>
<tr>
<td>C327775</td>
<td>Purge valves</td>
<td>Right angle sleeve, VB, normally closed</td>
<td>Hot air</td>
<td>95 to 140 vdc</td>
<td>56</td>
</tr>
<tr>
<td>Part number</td>
<td>Line size</td>
<td>Description</td>
<td>Type</td>
<td>Fluid</td>
<td>Power requirement</td>
</tr>
<tr>
<td>------------</td>
<td>-----------</td>
<td>----------------------------------</td>
<td>---------------------------</td>
<td>--------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>C327345</td>
<td>3 inch</td>
<td>Vent valves</td>
<td>Right angle sleeve</td>
<td>Hot air</td>
<td>18 to 30 vdc or 95 to 140 vdc</td>
</tr>
<tr>
<td>C327785</td>
<td>3 inch</td>
<td>Vent valves</td>
<td>Right angle sleeve</td>
<td>Hot air</td>
<td>18 to 30 vdc or 95 to 140 vdc</td>
</tr>
<tr>
<td>C327395</td>
<td>3 inch</td>
<td>Blowoff valve</td>
<td>Right angle sleeve, normally open</td>
<td>Gas</td>
<td>20 to 28 vdc</td>
</tr>
<tr>
<td>C327755</td>
<td>3 inch</td>
<td>Blowoff valve</td>
<td>Right angle sleeve, normally open</td>
<td>Gas</td>
<td>95 to 140 vdc</td>
</tr>
<tr>
<td>C423105</td>
<td>3 inch</td>
<td>Blowoff valve</td>
<td>Right angle sleeve, normally open</td>
<td>Gas</td>
<td>20 to 28 vdc</td>
</tr>
<tr>
<td>C327735</td>
<td>3 inch</td>
<td>Gas metering valve</td>
<td>Right angle sleeve</td>
<td>Gas</td>
<td>150 to 200 vdc</td>
</tr>
<tr>
<td>C327835</td>
<td>1½ inch</td>
<td>Gas metering valve</td>
<td>Globe</td>
<td>Gas</td>
<td>150 to 200 vdc</td>
</tr>
<tr>
<td>C327845</td>
<td>2 inch</td>
<td>Flow shutoff valve</td>
<td>Angle poppet, normally closed</td>
<td>Gas</td>
<td>20 to 28 vdc</td>
</tr>
<tr>
<td>C327875</td>
<td>1 inch</td>
<td>Fuel staging valve</td>
<td>Poppet</td>
<td>Gas</td>
<td>95 to 140 vdc</td>
</tr>
<tr>
<td>C327895</td>
<td>2 inch</td>
<td>Gas metering valve</td>
<td>Globe</td>
<td>Gas</td>
<td>150 to 200 vdc</td>
</tr>
<tr>
<td>C327935</td>
<td>1½ inch</td>
<td>Flow shutoff valve</td>
<td>Poppet</td>
<td>Gas</td>
<td>20 to 28 vdc</td>
</tr>
<tr>
<td>C329235</td>
<td>1 inch</td>
<td>Fuel staging valve</td>
<td>Poppet</td>
<td>Gas</td>
<td>95 to 140 vdc</td>
</tr>
<tr>
<td>C329245</td>
<td>1 inch</td>
<td>Fuel staging valve</td>
<td>Poppet</td>
<td>Gas</td>
<td>95 to 140 vdc</td>
</tr>
<tr>
<td>C329275</td>
<td>1½ and 2 inch</td>
<td>Pressure metering tube</td>
<td>Flanged pipe with pressure ports</td>
<td>Gas</td>
<td>–</td>
</tr>
<tr>
<td>C329305</td>
<td>2 inch</td>
<td>Flow control valve</td>
<td>Poppet</td>
<td>Gas</td>
<td>95 to 140 vdc</td>
</tr>
<tr>
<td>C329465</td>
<td>2 inch</td>
<td>Flow control valve</td>
<td>Right angle sleeve</td>
<td>Gas</td>
<td>Hydraulic</td>
</tr>
<tr>
<td>C329635</td>
<td>2 inch</td>
<td>Gas metering valves</td>
<td>Right angle sleeve</td>
<td>Gas</td>
<td>95 to 140 vdc</td>
</tr>
<tr>
<td>C329925</td>
<td>3 inch</td>
<td>Gas metering valve</td>
<td>Right angle plug</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
</tr>
<tr>
<td>C421725</td>
<td>2 inch</td>
<td>Gas metering valve</td>
<td>Right angle plug</td>
<td>Gas</td>
<td>Hydraulic</td>
</tr>
<tr>
<td>C421735</td>
<td>2 inch</td>
<td>Gas metering valve</td>
<td>Right angle plug</td>
<td>Gas</td>
<td>Hydraulic</td>
</tr>
<tr>
<td>C421755</td>
<td>4 inch</td>
<td>Air bleed valve</td>
<td>Ball</td>
<td>Air</td>
<td>Hydraulic</td>
</tr>
<tr>
<td>C421765</td>
<td>6 inch</td>
<td>Anti-surge valve</td>
<td>Ball</td>
<td>Hot air</td>
<td>Hydraulic</td>
</tr>
<tr>
<td>C421895</td>
<td>3 inch</td>
<td>Gas metering valve</td>
<td>Globe</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
</tr>
<tr>
<td>C421935</td>
<td>8 inch</td>
<td>Bleed air valve</td>
<td>Globe</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
</tr>
<tr>
<td>C422165</td>
<td>3 inch</td>
<td>Bleed air control valve</td>
<td>Balanced plug</td>
<td>Hot air</td>
<td>90 to 140 vdc</td>
</tr>
<tr>
<td>C422425</td>
<td>½ inch</td>
<td>Gas and liquid shutoff valves</td>
<td>Solenoid poppet, normally open w/open position switch</td>
<td>Gas, air, liquid</td>
<td>20 to 28 vdc</td>
</tr>
<tr>
<td>C422685</td>
<td>½ inch</td>
<td>Gas and liquid shutoff valves</td>
<td>Solenoid poppet, normally open w/open position switch</td>
<td>Gas, air, liquid</td>
<td>20 to 28 vdc</td>
</tr>
<tr>
<td>C422695</td>
<td>½ inch</td>
<td>Gas and liquid shutoff valves</td>
<td>Solenoid poppet, normally closed w/closed position switch</td>
<td>Gas, air, liquid</td>
<td>20 to 28 vdc</td>
</tr>
<tr>
<td>C422705</td>
<td>½ inch</td>
<td>Gas and liquid shutoff valves</td>
<td>Solenoid poppet, normally closed w/o position switch</td>
<td>Gas, air, liquid</td>
<td>20 to 28 vdc</td>
</tr>
<tr>
<td>C422465</td>
<td>1 inch</td>
<td>Fuel staging valve</td>
<td>Poppet</td>
<td>Gas</td>
<td>110 to 140 vdc</td>
</tr>
<tr>
<td>C422485</td>
<td>2 inch</td>
<td>Gas metering valve</td>
<td>Globe</td>
<td>Gas</td>
<td>150 to 200 vdc</td>
</tr>
<tr>
<td>C422635</td>
<td>4 inch</td>
<td>Hot air bleed control valve</td>
<td>Linear variable plug</td>
<td>Hot air</td>
<td>110 to 150 vdc</td>
</tr>
<tr>
<td>Part number</td>
<td>Line size</td>
<td>Description</td>
<td>Type</td>
<td>Fluid</td>
<td>Power requirement</td>
</tr>
<tr>
<td>-------------</td>
<td>-----------</td>
<td>---------------------------------</td>
<td>-------------------------------</td>
<td>---------</td>
<td>-------------------</td>
</tr>
<tr>
<td>C422845</td>
<td>2 inch</td>
<td>Gas metering valve</td>
<td>Right angle sleeve</td>
<td>Gas</td>
<td>90 to 140 vdc</td>
</tr>
<tr>
<td>C422855</td>
<td>1½ inch</td>
<td>Gas metering valve</td>
<td>Globe</td>
<td>Gas</td>
<td>150 to 200 vdc</td>
</tr>
<tr>
<td>C422965</td>
<td>2 inch</td>
<td>High recovery gas metering valves</td>
<td>Right angle plug hydraulic actuator</td>
<td>Gas</td>
<td>8 milliamp</td>
</tr>
<tr>
<td>C422975</td>
<td>3 inch</td>
<td>High recovery gas metering valves</td>
<td>Right angle plug hydraulic actuator</td>
<td>Gas</td>
<td>8 milliamp</td>
</tr>
<tr>
<td>C422195</td>
<td>4 inch</td>
<td>High recovery gas metering valves</td>
<td>Right angle plug hydraulic actuator</td>
<td>Gas</td>
<td>8 milliamp</td>
</tr>
<tr>
<td>C423025</td>
<td>2 inch</td>
<td>High recovery gas metering valves</td>
<td>Right angle plug hydraulic actuator</td>
<td>Gas</td>
<td>90-140 vdc</td>
</tr>
<tr>
<td>C423035</td>
<td>3 inch</td>
<td>High recovery gas metering valves</td>
<td>Right angle plug hydraulic actuator</td>
<td>Gas</td>
<td>90-140 vdc</td>
</tr>
<tr>
<td>C423045</td>
<td>4 inch</td>
<td>High recovery gas metering valves</td>
<td>Right angle plug hydraulic actuator</td>
<td>Gas</td>
<td>90-140 vdc</td>
</tr>
<tr>
<td>C423095</td>
<td>½ inch</td>
<td>Drain valves</td>
<td>Poppet</td>
<td>Gas</td>
<td>18 to 30 vdc</td>
</tr>
<tr>
<td>C423115</td>
<td>1 inch</td>
<td>Shut off valve</td>
<td>Solenoid poppet, normally open valve</td>
<td>Gas</td>
<td>110 to 140 vdc</td>
</tr>
<tr>
<td>C423165</td>
<td>1 inch</td>
<td>Shut off valve</td>
<td>Solenoid poppet, normally open valve</td>
<td>Gas</td>
<td>110 to 140 vdc</td>
</tr>
<tr>
<td>C423505</td>
<td>1½ inch</td>
<td>Purge valve</td>
<td>Poppet</td>
<td>Gas</td>
<td>20 to 28 vdc</td>
</tr>
<tr>
<td>C424035</td>
<td>2½ inch</td>
<td>Butterfly bleed air valve</td>
<td>Butterfly</td>
<td>Air</td>
<td>60 milliamp</td>
</tr>
<tr>
<td>C424065</td>
<td>6 inch</td>
<td>Bleed air valve</td>
<td>Butterfly valve, hydraulic actuator</td>
<td>Bleed air</td>
<td>60 milliamp</td>
</tr>
<tr>
<td>C520245</td>
<td>4 inch</td>
<td>Bleed air valve</td>
<td>Butterfly valve, hydraulic actuator</td>
<td>Bleed air</td>
<td>60 milliamp</td>
</tr>
<tr>
<td>C520265</td>
<td>6 inch</td>
<td>Bleed air control valve</td>
<td>Globe</td>
<td>Hot air</td>
<td>120-230 vac</td>
</tr>
<tr>
<td>EA100716E</td>
<td></td>
<td>Multiple valve manifolds</td>
<td>Poppet</td>
<td>Air</td>
<td>24 to 50 volts pwm</td>
</tr>
</tbody>
</table>
**Energy products**

**Fuel metering system**

C173165

90 to 140 vdc, gas turbine engine fuel flow control

Meggitt’s fuel gas flow control components and systems are in use on a variety of gas turbine engines. This engine control system continues to prove the high reliability of Meggitt design technology.

**Specifications**

<table>
<thead>
<tr>
<th>Function:</th>
<th>A fully self-contained hydraulically actuated gas fuel metering system. The system is designed to control delivered gas flow to the individual engine manifolds using indirect (calculated) flow control methods.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage:</td>
<td>90 to 140 VDC</td>
</tr>
<tr>
<td>Inlet and outlet connections:</td>
<td>Flanges per ANSI B16.5, two-inch pipe, class 600RF</td>
</tr>
<tr>
<td>Ambient temperature:</td>
<td>0 to 70°C (32 to 158°F)</td>
</tr>
<tr>
<td>Operating gas pressures:</td>
<td>200 to 700 psia</td>
</tr>
<tr>
<td>Fluid temperature:</td>
<td>0 to 300°F</td>
</tr>
<tr>
<td>Hydraulic fluid:</td>
<td>600 to 1000 psig, 70 to 200°F</td>
</tr>
<tr>
<td>Variations:</td>
<td>Also available skid-mounted for test cell applications</td>
</tr>
</tbody>
</table>

**Key features**

- Two fuel gas isolation shutoff valves
- One fuel metering valve
- Three fuel trim valves
- Four absolute pressure transducers (with associated electrical interface cards)
- Six differential pressure transducers
- One dual element RTD temperature transmitter
- Used on DLE turbine engines
- Explosion proof design, CSA/UL, and CENELEC certified
- No maintenance required under normal conditions
Energy products

Fuel metering system
C173165

Key dimensions

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s fuel gas flow control components and systems are in use on a variety of gas turbine engines. This engine control system continues to prove the high reliability of Meggitt design technology.

**Specifications**

**Function:** A fully self-contained hydraulically actuated gas fuel metering system. The system is designed to control delivered gas flow to the individual engine manifolds using indirect (calculated) flow control methods.

**Input voltage:** 90 to 140 VDC

**Inlet and outlet connections:** Flanges per ANSI B16.5, two-inch pipe, class 600RF

**Ambient temperature:** 0 to 70°C (32 to 158°F)

**Operating gas pressures:** 200 to 700 psia

**Fluid temperature:** 0 to 300°F

**Hydraulic fluid:** 600 to 1000 psig, 70 to 200°F

**Shop air supply:** 85 to 125 psig

**Variations:** Also available skid-mounted for test cell applications

**Key features**

- Gas isolation valves
- Fuel metering valve
- Four fuel trim valves
- Absolute pressure transducers (with associated electrical interface cards)
- Differential pressure transducers
- Used on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL, and CENELEC certified
- No maintenance required under normal conditions

**Energy products**

**Fuel metering skid**

C173165-2

90 to 140 vdc, gas turbine engine fuel flow control
Energy products

Fuel metering skid
C173165-2

Key dimensions

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES.
Meggitt’s all electric fuel gas flow control components and systems are in use on a variety of industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt technology.

**Specifications**

**Function:** A fully self-contained electrically operated gas fuel metering system. The system is designed to control delivered gas flow to the individual SAC or DLE engine manifolds using indirect (calculated) flow control methods.

**Input voltage:** 90 to 140 VDC

**Inlet and outlet connections:** Flanges per ANSI B16.5, two-inch pipe, class 600RF

**Ambient temperature:** -54 to 104°C (-65 to 220°F)

**Weight:** 1350 pounds (615 kg)

**Typical applications:** General Electric LM1600, LM2500, LM2500+ and LM6000 gas turbine engines

**Operation:** Natural gas is applied to the skid gas inlet from the facility supply system. Fuel flow through the fuel metering system is initiated by electrically commanding the gas actuated isolation valves to open and the inter-vent shutoff valve to close. The electric fuel metering valves are precisely modulated to control the flow of natural gas fuel to the individual engine combustor manifolds. The fuel metering valves respond to digital position commands received via the motor controllers.

**Variations:** Customizable to suit many customer applications.

**Key features**

- Two fuel gas isolation shutoff valves
- Four fuel metering valves and associated motor controllers
- SAC/DLE manual selector valve
- Inter vent shutoff valve
- Twelve absolute pressure transducers (with associated electrical interface cards)
- Six differential pressure transducers
- One dual element RTD gas supply temperature transmitter
- Explosion proof design, CSA/UL and CE-ATEX and PED certified components
Energy products

Fuel metering skid
C173285

Key dimensions

Contact
Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

Meggitt Control Systems
Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
**Energy products**

**Fuel metering system**
C173445

90 to 140 vdc, turbine engine fuel flow control

---

Meggitt’s gas fuel flow control components and systems are in use on a variety of industrial gas turbine engines. This system provides ultra reliable fuel metering for OEM engines.

**Specifications**

<table>
<thead>
<tr>
<th>Function</th>
<th>A fully self-contained electrically operated gas fuel metering skid. The system is designed to control delivered gas flow to the SAC manifold using indirect (calculated) flow control methods.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>90 to 140 VDC</td>
</tr>
<tr>
<td>Inlet connection</td>
<td>Fitting end per MS33656-32</td>
</tr>
<tr>
<td>Outlet connection</td>
<td>Flange per ANSI B16.5, two-inch pipe, class 600RF</td>
</tr>
<tr>
<td>Operating pressure range</td>
<td>200 to 700 psia at 0 to 300°F</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>−54 to 105°C (−65 to 221°F)</td>
</tr>
<tr>
<td>Operation</td>
<td>Natural gas is applied to the fuel inlet from the facility supply system. Fuel flow through the fuel metering skid is initiated by electrically commanding the gas isolation valve to open. The fuel metering valve is precisely modulated to control the flow of natural gas fuel to the engine combustor manifold. The fuel metering valve responds to position commands received via the motor controller.</td>
</tr>
<tr>
<td>Variations</td>
<td>Customizable to suit many customer applications.</td>
</tr>
</tbody>
</table>

---

**Key features**

- Gas fuel isolation shutoff valve
- Fuel metering valve and associated motor controller
- Absolute pressure transducer (with associated electrical interface card)
- Explosion proof design, CSA/UL, CENELEC and CE-PED certified. ATEX pending.

---

**Meggitt Control Systems**

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Fuel metering skid
C173445

Key dimensions

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES.

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s gas fuel flow control components and systems are in use on a variety of industrial gas turbine engines. This system provides ultra-reliable fuel metering for OEM engine test cells.

**Specifications**

**Function:**
A fully self-contained electrically operated gas fuel metering system. The system is designed to control delivered gas flow to the SAC or DLE engine manifolds using indirect (calculated) flow control methods.

**Input voltage:**
90 to 140 VDC

**Inlet and outlet connection:**
Flange per ANSI B16.5, two-inch pipe, class 600RF

**Ambient temperature:**
–54 to 105°C (-65 to 221°F)

**Typical applications:**
LM1600, LM2500, LM2500+ and LM6000 gas turbine engines

**Operation:**
Natural gas is applied to the skid gas inlet from the facility supply system. Fuel flow through the fuel metering skid is initiated by electrically commanding the gas actuated gas isolation valves to open and the inter-vent shutoff valve to close. The fuel metering valves are precisely modulated to control the flow of natural gas fuel to the individual engine combustor manifolds. The fuel metering valves respond to position commands received via the motor controllers.

**Variations:**
Customizable to suit many customer applications.
Energy products

Fuel metering skid
C173535

Key dimensions

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s all electric fuel gas flow control components and systems are in use on a variety of industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt technology.

Specifications

Function: A fully self-contained electrically operated gas fuel metering system. The system is designed to control delivered gas flow to the individual DLE engine manifolds, using indirect [calculated] flow control methods.

Input voltage: 90 to 140 VDC

Inlet and outlet connections: Flanges per ANSI B16.5, two-inch pipe, class 600RF

Ambient temperature: -54 to 104°C (-65 to 220°F)

Weight: 1350 pounds (615 kg)

Typical applications: General Electric LM2500/LM2500+ and LM6000 PD gas turbine engines

Variations: Customizable to suit many customer applications.

Operation: Natural gas is applied to the skid gas inlet from the facility supply system. The electric fuel metering valves are precisely modulated to control the flow of natural gas fuel to the individual engine combustor manifolds. The fuel metering valves respond to digital position commands.

Key features

- Three fuel metering valves and associated motor controllers
- High precision and accuracy – fully calibrated flow valves
- Nine absolute pressure transducers (with associated electrical interface cards)
- Explosion proof design, CSA/UL, CE-ATEX and PED certified components.

Meggitt Control Systems

Our product competencies & services:
- Aerospace valves
- Thermal management solutions
- Environmental control systems
- Electro-mechanical products
- Ground fueling products
- Energy products
- Aftermarket services
Energy products

Fuel metering skid
C173675

Key dimensions

NOTE:
ALL DIMENSIONS SHOWN ARE IN MM.

Contact
Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s high power 60 to 600 VDC motor controller is available for use on a variety of industrial valve control applications. Our latest design continues to prove the precision and high reliability of Meggitt EMA technology.

Specifications

Function: Controller for positioning of precision valves used on aero-derivative and frame turbine engines

Type: Digital pulse-width modulated servo-amplifier, with closed loop position control card

Physical size: 8.612” wide, 8.0” high, 12.6” deep

Weight: 13.2 pounds

Input voltage: up to 600 VDC [460 VAC]

Output current: 14 amperes rms, 42 amperes peak

Digital input/output: 0 to 5 VDC

Electrical connections: Terminal strip, AWG 14 to 22

Position feedback: Resolver or encoder

Communications: Protocols – serial port interface RS 232; analog interface 4-20 milliamperes, CAN open, Device Net

Ambient temperature: 0 to 40ºC [32 to 104ºF]

Remote installation: Up to 600 feet wire run length from controlled valve

The controller consists of a servo amplifier, a position control I/O card and a power converter packaged in a compact unit with readily accessible interface terminations on its top plate. The servo amplifier is mounted on a cold plate for improved heat conduction when enclosure mounted.

Key features

- Exceptional positioning control accuracy and speed when used with Meggitt precision control valves
- Designed for control of high speed 3-phase brushless dc servo motors
- Designed for use on both DLE and SAC turbine engines
- Extensive built in test information, programmable tuning, graphical user interface
- No maintenance required under normal conditions
- Available options: EMI filter, heater explosion proof enclosure and environmental enclosure

Meggitt Control Systems

Our product competencies & services: Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products

Ground fueling products | Energy products | Aftermarket services
Energy products

Servo motor controller
C159980

Key dimensions

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES.

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s gas fuel flow control components and systems are in use on a variety of industrial gas turbine engines. This component provides ultra reliable fuel pressure sensing for OEM engines.

**Specifications**

- **Function:** High accuracy pressure sensing for precise fuel flow metering
- **Input voltage:** 5 to 16 vdc
- **Pressure tube fittings:** 0.375” male Swagelock (SS-600-1-6)
- **Electrical conduit fittings:** 3/4-inch NPT
- **Operating pressure range:** 0 to 1000 psia
- **Ambient temperature:** –54 to 105°C (-65 to 221°F)
- **Variations:** Customizable to suit many customer applications. C173255, C173255-1 and C173255-3; 4 Transducers. C173255, C173255-2, C173255-4 and C173255-5; 3 Transducers.

**Key features**

- Electrically grounded explosion proof enclosure
- Absolute pressure transducers (with GE RS485/RS422 electrical interface card)
- CE-ATEX Group II, Category 2, Zone 1
- High reliability (>100,000 hours MTBF)
- High accuracy pressure sensing (±0.02%)
- Excellent long term stability, and shock resistant design
- Built-in flame arrestors
Energy products

Pressure transducer assembly
C173255

Key dimensions

NOTE: DIMENSIONS SHOWN ARE IN INCHES

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services

smart engineering for extreme environments
Meggitt’s 90 to 140 VDC motor controller is in use on a variety of industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt EMA technology.

Specifications

Function: Positioning controller for precision gas fuel metering valves used on aero-derivative and frame turbine engines.

Type: Digital pulse-width modulated servo-amplifier

Physical size: 9.625” wide, 8.5” high, 13.55 deep

Weight: 25 pounds

Input voltage: 90 to 140 VDC

Input current: 7.5 amperes maximum

Output current: 0.3 ampere (continuous), 7.0 amperes (peak)

Digital input/output: 0 to 5 VDC

Electrical connections: Terminal strip, AWG 14 to 22

Communications: C173455 – serial port interface RS-485; C173455-2 – analog interface 4-20 ma

Ambient temperature: 0 to 70ºC (32 to 158ºF)

Remote installation: Up to 60 meters (200 feet) wire run length from the fuel metering valve. The controller consists of a servo amplifier, an I/O signal noise filter, and a capacitor, which are packaged in a compact three level unit with readily accessible interface terminations on its top plate. The servo amplifier is mounted on a cold plate on the lower level, and the resistor/capacitor network, inlet EMI noise filter and outlet common mode choke filter are on the middle level.
Energy products

Servo motor controller
C173455

Key dimensions

Notes:
1. SHOWN WITH COVER REMOVED
2. ALL DIMENSIONS SHOWN ARE IN INCHES.

Meggitt Control Systems

Our product competencies & services:
Aerospace valves  |  Thermal management solutions  |  Environmental control systems  |  Electro-mechanical products
Ground fueling products  |  Energy products  |  Aftermarket services

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s 90 to 140 vdc motor controller is available for use on a variety of industrial valve control applications. With millions of field operating hours, this design continues to prove the high reliability of Meggitt EMA technology.

### Specifications

**Function:** Controller for positioning of precision valves used on aero-derivative and frame turbine engines

**Type:** Digital pulse-width modulated servo-amplifier, with closed loop position control card

**Physical size (approx):** 18” wide, 20” long, 8” deep

**Input voltage:** 90 to 140 VDC

**Output current:** 0 to 7.5 amperes maximum

**Digital input/output:** 0 to 5 VDC

**Electrical connections:** Terminal strip, AWG 14 to 22

**Position feedback:** Resolver

**Communications:** Protocols – analog interface 4-20 milliamperes or RS-485

**Ambient temperature:** 0 to 70ºC (32 to 158ºF)

**Remote installation:** Up to 600 feet wire run length from controlled valve. The controller consists of a servo amplifier, a position control I/O card and a power converter packaged in a compact unit with readily accessible interface terminations on its top plate. The servo amplifier is mounted on a cold plate for improved heat conduction when enclosure mounted.

---

**Energy products**

**Servo motor controller**

C173465

90 to 140 vdc valve position control

---

**Key features**

- Exceptional positioning control accuracy and speed when used with whittaker precision control valves
- Designed for control of high speed 3-phase brushless dc servo motors
- Designed for use on both DLE and SAC turbine engines
- Extensive built-in test information, programmable tuning
- No maintenance required under normal conditions
- Explosion proof enclosure
- CE-ATEX, Group II, Category 2, Zone 1 (2G)
Energy products

Servo motor controller
C173465

Key dimensions

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES.

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s high power 60 to 600 VDC motor controller is available for use on a variety of industrial valve control applications. Our latest design continues to prove the precision and high reliability of Meggitt EMA technology.

Specifications

**Function:** Controller for positioning of precision valves used on aero-derivative and frame turbine engines

**Type:** Digital pulse-width modulated servo-amplifier, with closed loop position control card

**Physical size (approx):** 18” wide, 20” long, 8” deep

**Input voltage:** up to 600 VDC (460 VAC)

**Output current:** 5 to 40 amperes peak

**Digital input/output:** 24 VDC

**Electrical connections:** Terminal strip, AWG 14 to 22

**Position feedback:** Resolver or encoder

**Communications:** Protocols – analog interface 4-20 milliamperes, CANBUS, CAN open, Device Net, DS 402

**Ambient temperature:** 0 to 40°C (32 to 104°F)

**Remote installation:** Up to 600 feet wire run length from controlled valve. The controller consists of a servo amplifier, a position control I/O card and a power converter packaged in a compact unit with readily accessible interface terminations on its top plate. The servo amplifier is mounted on a cold plate for improved heat conduction when enclosure mounted.

**Key features**

- Exceptional positioning control accuracy and speed when used with Meggitt precision control valves
- Stainless steel enclosure, NEMA 4, IP66
- Designed for control of high speed 3-phase brushless dc servo motors
- Designed for use on both DLE and SAC turbine engines
- Extensive built in test information, programmable tuning, graphical user interface
- No maintenance required under normal conditions
- Available options: EMI filter, heater, and explosion proof enclosure

**Meggitt Control Systems**

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products

Ground fueling products | Energy products | Aftermarket services
Energy products

Servo motor controller
C173735

Key dimensions

14.00 MOUNTING CENTERS

20.00 MOUNTING CENTERS

18.00

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES.

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s high power 90 to 200 Vdc motor controller is available for use on a variety of industrial valve control applications. Our latest design continues to prove the precision and high reliability of Meggitt EMA technology.

Specifications

Function: Positioning controller for precision gas fuel metering valves used on aero-derivative and frame turbine engines
Type: Digital pulse-width modulated servo amplifier, with closed loop position control card
Physical size: 22.25” wide, 10.58” high, 16.25” deep
Input voltage: 90 to 200 Vdc Nominal
Output current: 5 to 40 ampere peak
Electrical connections: Terminal strip, AWG 14 to 22
Position feedback: Resolver or encoder
Communications: Protocols - analog interface 4-20 milliamperes, CANBUS, CANopen, DeviceNet, DS 402
Ambient temperature: 0 to 55°C (-50°C to 55°C with heater)
Remote Installation: Up to 600 feet other run length from controlled valve

The controller consists of a servo amplifier, a position control I/O card and power converter packaged in a compact unit with readily accessible interface terminations. The servo amplifier is mounted on a cold plate for improved heat conduction when enclosure mounted. An optional heater can be provided where ambient temperature may go below 0°C [32°F].
Energy products

Servo Motor Controller
C173815

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s high power 90 to 200 Vdc motor controller is available for use on a variety of industrial valve control applications. Our latest design continues to prove the precision and high reliability of Meggitt EMA technology.

**Specifications**

**Function:** Positioning controller for precision gas fuel metering valves used on aero-derivative and frame turbine engines

**Type:** Digital pulse-width modulated servo amplifier, with closed loop position control card

**Physical size:** 40.875” wide, 12.54” high, 22.875” deep

**Input voltage:** 90 to 200 Vdc Nominal

**Output current:** 5 to 40 ampere peak

**Electrical connections:** Terminal strip, AWG 14 to 22

**Position feedback:** Resolver or encoder

**Communications:** Protocols - analog interface 4-20 milliamperes, CANBUS, CANopen, DeviceNet

**Ambient temperature:** 0 to 55°C [-50°C to 55°C with heater]

**Remote Installation:** Up to 600 feet wire run length from controlled valve

The controller consists of a servo amplifier, a position control I/O card and power converter packaged in a compact unit with readily accessible interface terminations. The servo amplifier is mounted on a cold plate for improved heat conduction when enclosure mounted. An optional heater can be provided where ambient temperature may go below 0°C [32°F]

**Key features**

- Exceptional positioning control accuracy and speed when used with Meggitt precision control valves
- Designed for control of high speed 3-phase brushless dc servo motors
- Designed for use on both DLE and SAC turbine engines
- Extensive built in test information, programmable tuning, graphical user interface
- Electrically grounded explosion proof enclosure
- Optional heater
- No maintenance required under normal conditions
- CE-ATEX, Group II, Category 2, Zone 1
Energy products

Servo Motor Controller
C173855

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Whittaker’s 90 to 150 VDC motor controller is used on a variety of industrial gas turbine engines. Our latest design continues to prove the precision and high reliability of Whittaker EMA technology.

**Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function</td>
<td>Positioning controller for precision gas fuel metering valves used on aero-derivative and frame turbine engines</td>
</tr>
<tr>
<td>Type</td>
<td>Digital pulse-width modulated servo-amplifier, with closed loop position control card</td>
</tr>
<tr>
<td>Physical Size</td>
<td>4.80” wide, 3.62” high, 7.10” deep</td>
</tr>
<tr>
<td>Weight</td>
<td>5 pounds</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>90 to 150 VDC</td>
</tr>
<tr>
<td>Output Current</td>
<td>3 Arms continuous / 6 Arms peak</td>
</tr>
<tr>
<td>Digital Input/Output</td>
<td>0 to 5 VDC</td>
</tr>
<tr>
<td>Electrical Connections</td>
<td>Terminal Connectors, 14 to 22 AWG</td>
</tr>
<tr>
<td>Position Feedback</td>
<td>Resolver</td>
</tr>
<tr>
<td>Communications</td>
<td>RS-485, Analog 4-20mA or DeviceNet</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>-20°C to 60°C (-4°F to 140°F)</td>
</tr>
<tr>
<td>Remote Installation</td>
<td>Up to 300 feet wire run length from controller to valve.</td>
</tr>
</tbody>
</table>

The controller consists of a servo amplifier, a position control control I/O card and a power converter packaged in a compact unit with readily accessible interface terminations through the connectors on the face of the drive. The servo amplifier is mounted on a cold plate for improved heat conduction.
Energy products

Servo motor controller
C450065

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s air cooling system is designed for use on aero-derivative and large frame industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt technology.

Specifications

Function: Air to air heat exchanger for turbine engine intercoolers

Physical size (approx): 87.7” high, 43” wide, 43.5” deep

Weight: 1125 pounds (C173155-1);

Rated pressure: 230 psi

Inlet temperature: 785 to 960°F

Outlet temperature: 170 to 365°F

Flow rates:
- Hot side: 0.44 to 1.33 pounds/second
- Cold side: 925 to 2700 cfm

Ambient temperature: –20 to 120°F

Heat transfer: 238,000 to 530,000 BTU/hour

Filtration: 50 micron filtration required

Electrical:
- Alternating current induction motor, 3/5 hp, 380/460 V, 3-phase, 1450/1750 rpm, variable frequency speed controller, (10,000 cfm air movement)

Variations:
- Vertical or horizontal arrangements, extended operating ambient temperature

Energy products

Air cooling system

C173155

Key features

- High heat transfer efficiency
- Plate and fin cooler, air-to-air
- Bird screen
- Remote temperature control command signal
- Used on both DLE and SAC turbine engines
- Stainless steel plates, flanges and headers
- No maintenance required under normal conditions
Energy products

Air cooling system
C173155

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s heat exchanger is designed for use on aero-derivative and large frame industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt technology.

**Specifications**

- **Function:** Air to air; bearing cooler
- **Physical size (core):** 2.875” x 14.58” x 26.0”
- **Line pressure:** Inlet – 92 to 308 psia; Outlet – 84.5 to 293 psia
- **Inlet air temperature:** 785 to 960°F
- **Outlet air temperature:** 200 to 350°F
- **Cold side flow rate:** 925 to 1175 cfm
- **Ambient temperature:** –20 to 120°F
- **Heat transfer:** 220,000 to 530,000 Btu/hour

Five configurations available

**Key features**

- High heat transfer rate
- Used on both DLE and SAC turbine engines
- Stainless steel plates, flanges and headers; Inconel and nickel heat exchanger materials
- No maintenance required under normal conditions
Energy products

Heat exchanger
C325852 Core – C173155 System

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s in-line heat exchanger is used on aero-derivative and large frame industrial gas turbine engines. Extremely compact, high efficiency, counter flow plate and fin design.

**Specifications**

<table>
<thead>
<tr>
<th>Function:</th>
<th>Air to water heat exchanger for turbine engine intercoolers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical size:</td>
<td>12.75&quot; high, 11.6&quot; wide</td>
</tr>
<tr>
<td>Weight:</td>
<td>65 pounds (maximum, dry)</td>
</tr>
<tr>
<td>Line pressure:</td>
<td></td>
</tr>
<tr>
<td>Air (hot) side:</td>
<td>452 psig (in); 451 psig (out)</td>
</tr>
<tr>
<td>Water (cold) side:</td>
<td>65 psig (in); 50 psig (out)</td>
</tr>
<tr>
<td>Fluid temperature:</td>
<td></td>
</tr>
<tr>
<td>Air (hot) side:</td>
<td>1065°F (in); 750°F (out)</td>
</tr>
<tr>
<td>Water (cold) side:</td>
<td>90°F (in); 140°F (out)</td>
</tr>
<tr>
<td>Flow rates:</td>
<td></td>
</tr>
<tr>
<td>Air (hot) side:</td>
<td>1.2 pounds/second</td>
</tr>
<tr>
<td>Water (cold) side:</td>
<td>15 gpm</td>
</tr>
<tr>
<td>Ambient temperature:</td>
<td>~65 to 350°F</td>
</tr>
<tr>
<td>Heat transfer:</td>
<td>354,350 BTU/hour</td>
</tr>
<tr>
<td>Filtration:</td>
<td>50 micron filtration required</td>
</tr>
<tr>
<td>Water Quality:</td>
<td>Recommended TDS and minerals &gt; 500 mg/liter, total hardness &gt; 50 ppm, pH 7.0 to 8.5</td>
</tr>
</tbody>
</table>

**Key features**

- Compact plate and fin design
- High heat transfer efficiency
- Counter flow design
- CDP gas turbine intercooler
- Stainless steel plates, flanges and headers
- No maintenance required under normal conditions
- Pipe weld neck flange kit available
Energy products

Heat exchanger
C327355

Key dimensions

NOTE: DIMENSIONS SHOWN ARE IN INCHES (MM).

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s two inch poppet style gas flow isolation valve set is in use on a variety of industrial gas turbine engines. Millions of field operating hours continue to prove the high reliability of Meggitt design technology.

**Specifications**

**Function:** Fail-safe fuel gas flow shutoff for gas turbine engines, with double block and bleed assembly

**Physical size:** 24.67” flange to flange, 12.04” high

**Weight:** 175 pounds maximum

**Flange type:** 2.0” ANSI B16.5 CL 600 raised face flanges

**Line pressure:** 0 to 1000 psig

**Fluid temperature:** –20 to 380°F

**Performance:**
- **Flow:** 0 to 6.1 pounds/sec natural gas, Cv = 55
- **Leakage:** ANSI class IV
- **Operating time:** 100 msec fail-safe closed (de-energized), 200 msec to fully open
- **Ambient temperature:** –65 to 220°F
- **Minimum actuation pressure:** 150 psig

**Electrical:**
- **Solenoid:**
  - P/N C173205-3, continuous duty, 24 VDC nominal (20 to 28 VDC)
  - P/N C173205-4, continuous duty, 125 VDC nominal (95 to 140 VDC)
- **Closed position indicating switch:** 3-wire, SPDT

**Key features**

- C173205-3 utilizes two C327845-3 flow shutoff valves
- C173205-4 utilizes two C329305-2 flow shutoff valves
- 200 msec full stroke opening response time
- 100 msec fail-safe closing time (de-energized)
- Used on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4
- CENE-LEC, zone 1, EExd IIB, ATEX pending, CE-PED certified
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Isolation valve set
C173205

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services

MEGGITT
smart engineering for extreme environments
Meggitt’s one-inch spool and sleeve style liquid fuel metering valve is in use on several aero-derivative gas turbines. With many years of successful field operation, this design demonstrates the precision of Meggitt EMA technology.

**Specifications**

**Function:** Precision liquid fuel metering for aero-derivative turbine engine control

**Physical size:** 12.1” x 6.00” x 19.33” high

**Weight:** 60 pounds

**Fluid connection type:** 1” pipe, code 61, SAE J518

**Line pressure:** 0 to 1440 psig

**Fluid temperature:** 32 to 176°F

**Ambient temperature:** –40 to 180°F

**Performance:**
- **Flow:** Linear trim, 0 to 57 gpm
- **Operating speed:** Less than 200 msec full stroke response
- **Internal leakage:** 0.75 gpm or less at 100 psid

**Electrical:**
- **Motor:** Steady state, 150 to 200 VDC, 0.50 ampere; 10 amperes maximum transient for 100 msec
- **Resolver:** 4 VAC, 25 to 60 ma maximum
- **Closed position indicating switch:** 20 to 32 VDC, SPDT

**Key features**

- Accuracy, ±5% at 3.0 to 57 gpm
- High speed brushless DC servo motor performance, 20 Hz frequency response
- 200 msec full stroke response time
- Used on SAC turbine engines
- UL certified for NEC class 1, division 1, groups C and D, temp code T4, CE-PED certified
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions

**Meggitt Control Systems**

**Our product competencies & services:**
- Aerospace valves
- Thermal management solutions
- Environmental control systems
- Electro-mechanical products
- Ground fueling products
- Energy products
- Aftermarket services
Energy products

Liquid metering valve
C236385

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s one-inch poppet style liquid fuel staging valve is used on a variety of aero-derivative industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt technology.

**Specifications**

- **Function:** Liquid fuel staging for aero-derivative turbine engine control
- **Type:** Two position, normally open, poppet, solenoid actuated (SA)
- **Physical size:** 3.70” x 5.84” x 15.49” high
- **Weight:** 26.8 pounds
- **Fluid connection type:** 1” pipe, SAE J534P60
- **Line pressure:** 0 to 1200 psig; 0 to 800 psid across closed valve
- **Fluid temperature:** –20 to 150°F
- **Ambient temperature:** –40 to 250°F
- **Performance:**
  - **Operating speed:** Less than 150 msec full stroke response
  - **Internal leakage:** ANSI/FCI 70-2 class V
  - **Pressure drop:** 5 psid at 12 gpm
- **Electrical:**
  - **Solenoid:** 95 to 140 VDC, 1 ampere maximum
  - **Closed position indicating switch:** 10 to 32 VDC, SPDT

---

**Key features**

- Fail-safe closed (de-energized)
- Closed position indicating switch circuit
- 150 msec full stroke response time
- Used on both DLE and SAC turbine engines
- Non incendiary design, CSA/UL certified for NEC class 1, division 2, group D, T2C CE-ATEX group II, category 3, zone 2, EEx nC II T2, CE-PED certified
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions

---

**Meggitt Control Systems**

*Our product competencies & services:*

Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products

Ground fueling products | Energy products | Aftermarket services
Energy products

Fuel staging valve
C236435

Key dimensions

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES.

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s spool and sleeve style liquid fuel metering valves are in use on a variety of aero-derivative gas turbines. With many years of successful field operation, this design demonstrates the reliability of Meggitt EMA technology.

**Specifications**

**Function:**
Precision liquid fuel metering for aero-derivative turbine engine control

**Physical size:**
14.79” x 6.00” x 21.75” high

**Weight:**
60 pounds

**Fluid connection type:**
1.5” pipe, code 61, SAE J518

**Line pressure:**
100 to 1500 psig

**Fluid temperature:**
–4 to 176°F

**Ambient temperature:**
–40 to 158°F

**Performance:**
- **Flow:** Linear trim, 0 to 85 gpm
- **Drain bypass flow:** 125 gpm maximum
- **Operating speed:** Less than 200 msec full stroke response
- **Internal leakage:** 0.425 gpm or less at 100 psid

**Electrical:**
- **Motor:** Steady state, 150 to 200 VDC, 0.50 ampere; 10 amperes maximum transient for 100 msec
- **Resolver:** 4 VAC, 25 to 60 ma maximum
- **Closed position indicating switch:** 20 to 32 VDC, SPDT

**Key features**

- Accuracy, ±5% at 3.0 to 85 gpm
- High speed brushless DC servo motor performance, 20 Hz frequency response
- 200 msec full stroke response time
- Used on SAC and dual fuel turbine engines
- UL certified for NEC class 1, division 1, groups C and D, temp code T4, CE-PED certified; ATEX zone 1, group II B, EExd T4; IP54
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Liquid metering valve
C236765

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s three-inch sleeve style hot air purge valve is in use on many aero-derivative industrial gas turbines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt technology.

Specifications

**Function:** Hot air (compressor bleed) purge for aero-derivative turbine engines

**Type:** Normally closed (fail closed), solenoid-pilot actuated, two or three inch, elbow, sleeve valve, 24 or 125 VDC

**Physical size:** 7.5” wide, 25” high

**Weight:** 84 to 91 pounds

**Flange type:** 3.0” ANSI B16.5 CL 600 raised face flanges

**Line pressure:** 0 to 500 psig

**Actuation pressure:** 80 to 125 psig

**Fluid temperature:** 32 to 1100°F (bleed air)

**Ambient temperature:** -20 to 240°F

**Heat soak:** 400°F maximum ambient, 1 to 2 hours, de-energized

**Flow:** 1.2 pounds/sec compressor bleed air

**Pressure drop:** 0.70 psid maximum at all normal operation conditions

**Internal leakage:** 0.00025 pound/minute maximum

**Operating time:** 1 second full stroke response, opening or closing

**Performance:***

**Electrical:**

**Solenoid:** Continuous duty, 24 VDC nominal [18 to 30 VDC], 1.92 amperes maximum or 125 VDC [95 to 140 VDC], 0.43 ampere maximum

**Position indicating switch:** 125 VDC, 3-wire, SPDT

**Key features**

- Fail-safe closed (de-energized)
- Open and closed position indicating switch circuits
- 1 second full stroke response time (opening or closing)
- Supplied with mounting kit
- Used on both DLE and SAC turbine engines
- Non incendiary design, CE-ATEX and PED certified
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Purge valve
C327335, C327405, C327765, C327775

Key dimensions

Contact
Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s three-inch sleeve style gas vent valve is in use on many aero-derivative industrial gas turbines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt technology.

Specifications

**Function:** Hot gas vent for aero-derivative turbine engines

**Type:** Normally closed (fail closed), solenoid-pilot actuated, two or three inch, elbow, sleeve valve, 24 or 125 VDC

**Physical size:** 7.5” wide, 25” high

**Weight:** 83 pounds

**Flange type:** 3.0” ANSI B16.5 CL 600 raised face flanges

**Line pressure:** 0 to 500 psig

**Actuation pressure:** 80 to 125 psig

**Fluid temperature:** 32 to 1100°F (bleed air)

**Ambient temperature:** –20 to 240°F

**Heat soak:** 400°F maximum ambient, 1 to 2 hours, de-energized

**Performance:**

- **Flow:** 1.2 pounds/sec compressor bleed air
- **Pressure drop:** 0.70 psid maximum at all normal operation conditions
- **Internal leakage:** 0.00025 pound/minute maximum
- **Operating time:** 1 second full stroke response, opening or closing

**Electrical:**

- **Solenoid:** Continuous duty, 24 VDC nominal (18 to 30 VDC), 1.92 amperes maximum or 125 VDC (95 to 140 VDC), 0.43 ampere maximum
- **Position indicating switch:** 125 VDC, 3-wire, SPDT

Key features

- Fail-safe closed (de-energized)
- Open and closed position indicating switch circuits
- 1 second full stroke response time (opening or closing)
- Supplied with mounting kit
- Used on both DLE and SAC turbine engines
- Non incendiary design, CE-ATEX and PED certified
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Purge valve
C327345, C327785

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s three-inch sleeve style gas blowoff valve is in use on aero-derivative industrial gas turbines.

**Specifications**

**Function:**
Natural gas or air (compressor discharge) blowoff for gas turbine engines

**Type:**
Normally open (fail open), solenoid-pilot actuated, three inch elbow, sleeve valve, 24 or 95-140 VDC

**Physical size:**
7.5” wide, 25” high

**Weight:**
94 pounds maximum

**Flange type:**
3.0” ANSI B16.5 CL 600 raised face flanges (C237395 and C327755 – 2.0” ANSI B16.5 CL 600 raised face inlet flange)

**Line pressure and temperatures:**

- **Gas operation:** C327395 and C327755 – 720 psig (natural gas), 300°F maximum; C423105 – 900 psig (natural gas), 400°F maximum
- **Fuel operation:** 327395 and C327755 – 452 psig, 1100°F compressor discharge air; C423105 – 640 psig, 800°F compressor discharge air

**Actuation pressure:**
80 to 125 psig (externally supplied)

**Ambient temperature:**
-20 to 240°F

**Heat soak:**
400°F maximum ambient, 1 to 2 hours

**Performance:**

- **Internal leakage:** Complies with MSS-SP-61
- **Operating time:** 100 to 110 msec full stroke opening response, 1 second full stroke closing response

**Electrical:**

- **Solenoid:** C327395 and C423105 – Continuous duty, 24 VDC nominal (18 to 30 VDC), 1.92 amperes maximum; C327755 – Continuous duty, 95-140 VDC, 0.43 ampere maximum
- **Position indicating switch:** C327395 and C423105 – Dual 24 VDC, 2-wire, SPDT; C327755 – Dual 125 VDC, 2-wire, SPDT

---

**Meggitt Control Systems**

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Blowoff valve
C327395, C327755, C423105

Key dimensions

Contact
Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s three-inch right angle, sleeve style fuel trim valve is designed for use on industrial gas turbine engines.

Specifications

Function: Precision fuel trim large frame turbine engine control, fail-safe open
Physical size: 11.0” wide, 10.0” deep, 33.0” long
Weight: 145 pounds (maximum, wet)
Flange type: 3” ANSI B16.5 CL 300 raised face flanges
Line pressure: 0 to 720 psig (natural gas); 0 to 440 psig (CDP air)
Actuation pressure: 600 to 1000 psig, 70 to 200°F
Fluid temperature: 300°F maximum (natural gas); 1100°F maximum (CDP air)
Ambient temperature: –65 to 350°F
Performance:
Flow: 0 to 9460 pounds/hour normal; 11,000 pounds/hour maximum
Pressure drop: Less than 5 psid at 515 psia, 300°F, 11,000 pounds/hour, fully open
Internal leakage: Less than 50 pounds/hour at all operating pressures
Operating time: 250 msec opening or closing, fail-safe open within 5 seconds (electrical failure)

Electrical:
Servo valve: 2 coils, 20 to 190 ma
LVDT: Excitation, 7.07 (±0.14) volts rms, 3000 (±300) Hz
Position indicating switches: Open and closed, 24 VDC

Key features

• Fail-safe open
• Hydraulic servo valve position control
• Open and closed position indicating switches
• LVDT position feedback
• For use on both DLE and SAC turbine engines
• High temperature gas control [1100°F]
• All stainless steel valve and yoke materials for NACE compliance
• No maintenance required under normal conditions
Energy products

Fuel trim valve
C327735

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

NOTE: DIMENSIONS SHOWN ARE IN INCHES (MM).

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Meggitt’s 1½-inch globe style gas metering valve is in use on a variety of industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt EMA technology.

Specifications

Function: Precision Fuel Gas Metering for aero-derivative turbine engine control

Physical size: 9.88” flange to flange, 23” high

Weight: 75 pounds

Flange type: 1.5” ANSI B16.5 CL 600 raised face flanges

Line pressure: 0 to 600 psig

Fluid temperature: 0 to 400°F

Ambient temperature: –40 to 220°F

Performance:

Flow: Linear trim, 0 to 4.0 pounds/sec natural gas, Cv = 40

Pressure drop: 25 psid maximum (3.5 pounds/sec, 500 psig)

Leakage: ANSI class IV

Operating time: 100 msec full stroke response, 300 msec fail-safe closed

Electrical:

Motor: Steady state, 75 watts, 150 to 200 VDC, 0.30 amperes; peak (100 msec); 1200 watts, 8 amperes maximum

Resolver: 4 VAC, 25 to 60 ma maximum

Position switch: 20 to 32 VDC, SPDT

Actuator also available in 90 to 130 VDC version
Energy products

Gas metering valve
C327835

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s two-inch poppet style gas flow shutoff valve is in use on a variety of industrial gas turbines with millions of field operating hours. This product continues to prove the high reliability of Meggitt design technology.

**Specifications**

**Function:** Fail-safe fuel gas flow shutoff for gas turbine engines

**Physical size:** 9.00” flange to flange, 15.19” high

**Weight:** 80 pounds maximum

**Flange type:** 2” ANSI B16.5 CL 600 raised face flanges

**Line pressure:** 0 to 1000 psig

**Fluid temperature:** 32 to 350°F

**Ambient temperature:** –65 to 150°F

**Performance**

<table>
<thead>
<tr>
<th>Flow:</th>
<th>0 to 3.5 pounds/sec natural gas, Cv = 55</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leakage:</td>
<td>ANSI class V</td>
</tr>
<tr>
<td>Operating time:</td>
<td>100 msec fail-safe closed (de-energized);</td>
</tr>
<tr>
<td></td>
<td>200 msec to fully open</td>
</tr>
<tr>
<td>Pressure drop (full open):</td>
<td>11 psid maximum at 80°F and 3.5 pounds/second flow</td>
</tr>
</tbody>
</table>

**Electrical**

<table>
<thead>
<tr>
<th>Solenoid:</th>
<th>Continuous duty, 24 VDC nominal (20 to 28 VDC), 2 amperes maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed position indicating switch:</td>
<td>28 VDC, 2.5 amperes, 3-wire, SPDT</td>
</tr>
</tbody>
</table>

**Key features**

- Fail-safe closed (de-energized)
- Closed position indicating switch
- 100 msec fail-safe closing time
- 200 msec opening time
- High temperature poppet seal
- For use on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4, CE zone 1, EExd IIB, CE-ATEX and PED certified
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Flow shutoff valve
C327845

Key dimensions

NOTE: DIMENSIONS SHOWN ARE IN INCHES (IN).
Meggitt’s one-inch poppet style gas fuel staging valve is in use on a variety of industrial gas turbine engines. Millions of field operating hours continue to prove the high reliability of Meggit design technology.

**Specifications**

**Type:** Normally open, poppet, solenoid actuated, 125 VDC

**Function:** Fuel gas flow shutoff for aero-derivative turbine engines

**Physical size:** 3.57” wide, 3.57 deep, 12.04” high

**Weight:** 26 pounds maximum

**Line pressure:** 0 to 560 psia

**Fluid temperature:** -40 to 300°F

**Ambient temperature:** -40 to 300°F

**Performance:**
- **Pressure drop:** 7.5 psid at 495 psia, 150°F and 840 pph
- **Internal leakage:** 0.1 pph maximum at all operating conditions
- **Operating time:** 150 msec maximum full stroke response to fully open or fully closed position

**Electrical:**
- **Solenoid:** Continuous duty, 125 VDC nominal (95 to 140 VDC), 1 ampere maximum
- **Closed position indicating switch:** 10 to 32 VDC, 3-wire, SPDT
- **Electrical connector:** M83723/83G1407N

**Key features**

- Normally open, fail open
- Closed position indicating switch circuit
- 150 msec full stroke response time, open or close
- High temperature poppet seal
- Used on both DLE and SAC turbine engines
- Non incendiary design, CSA/UL certified for NEC class 1, division 2, group D, temp code T2C
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions

**Meggitt Control Systems**

**Our product competencies & services:**
- Aerospace valves
- Thermal management solutions
- Environmental control systems
- Electro-mechanical products
- Ground fueling products
- Energy products
- Aftermarket services
Energy products

Gas fuel staging valve
C327875

Key dimensions

Contact
Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Gas metering valve
C327895

Two-inch flange, 150 to 200 vdc, electromechanically actuated (EMA)

Meggitt’s two-inch globe style gas metering valve is in use on a variety of industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt EMA technology.

Specifications

Function: Precision fuel gas metering for aero-derivative turbine engine control

Physical size: 11.245” flange to flange, 23” high

Weight: 85 pounds

Flange type: 2” ANSI B16.5 CL 600 raised face flanges

Line pressure: 0 to 600 psig

Fluid temperature: 32 to 400°F

Ambient temperature: –65 to 350°F

Performance:

Flow: 0 to 4.0 pounds/sec natural gas
Pressure drop: 25 psid maximum (4 pounds/sec, 500 psig)
Internal leakage: ANSI class IV
Operating time: 120 msec full stroke response, 300 msec fail-safe closed

Electrical:

Motor: Steady state, 75 watts, 150 to 200 VDC, 0.30 amperes; 8 amperes maximum peak (100 msec)
Resolver: 4 VAC, 25 to 60 ma maximum
Closed position indicating switch: 28 VDC, 2 wire SPDT
Thermostat: Opens at 329 to 347°F; resets at 252 to 269°F
Actuator also available in 90 to 130 VDC version

Key features

• Accuracy, ±3% of flow point
• High speed brushless DC servo motor performance, 20 Hz frequency response
• 120 msec full stroke response time
• Used on both DLE and SAC turbine engines
• Explosion proof design, CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4, CE, EExd IIB, Zone 1, ATEX and PED certified
• All stainless steel valve and yoke materials for NACE compliance
• No maintenance required under normal conditions

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Gas metering valve
C327895

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s 1½ inch poppet style gas flow shutoff valve is designed for use on industrial gas turbine engines. This product is very similar to the 2 inch, C327845, Flow Shutoff Valve, except with a 1½ inch flow body.

### Specifications

**Function:** Fail-safe fuel gas flow shutoff for gas turbine engines

**Physical size:** 9.95” flange to flange, 15.19” high

**Weight:** 85 pounds maximum

**Flange type:** 1.5” ANSI B16.5 CL 600 raised face flanges

**Line pressure:** 0 to 1000 psig

**Fluid temperature:** –20 to 350°F

**Performance:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow</td>
<td>0 to 3.0 pounds/sec natural gas</td>
</tr>
<tr>
<td>Leakage</td>
<td>ANSI class V</td>
</tr>
<tr>
<td>Operating time</td>
<td>100 msec fail-safe closed (de-energized); 200 msec to fully open</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>–65 to 150°F</td>
</tr>
</tbody>
</table>

**Electrical:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solenoid</td>
<td>Continuous duty, 24 VDC nominal (20 to 28 VDC), 2 amperes maximum</td>
</tr>
<tr>
<td>Closed position indicating switch</td>
<td>28 VDC, 2.5 amperes, 3-wire, SPDT</td>
</tr>
</tbody>
</table>

### Key features

- Fail-safe closed (de-energized)
- Closed position indicating switch
- 100 msec fail-safe closing time
- 200 msec opening time
- High temperature poppet seal
- Used on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4, CE zone 1, EExd IIB, CE-ATEX and PED certified
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Flow shutoff valve
C327935

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

NOTE: DIMENSIONS SHOWN ARE IN INCHES (MM).
Meggitt's one-inch poppet style gas fuel staging valve is in use on a variety of industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt design technology.

Specifications

Function: Gas fuel burner staging for aero-derivative turbine engine control
Type: Two position, three way, normally open, poppet, solenoid actuated
Physical size: 3.50" x 4.50" x 12.21" high
Weight: 26 pounds
Fluid connection type: 1” pipe, GE J534P58
Line pressure: 0 to 560 psia
Fluid temperature: 0 to 300°F maximum
Ambient temperature: 20 to 300°F

Performance:
- Operating speed: Less than 150 msec full stroke response
- Internal leakage: 0.1 pph maximum at all operating conditions
- Pressure drop: 6.0 psid at 194 psia, 75°F and 360 pph air flowing through a single fitting

Electrical:
- Solenoid: 95 to 140 VDC, 1 ampere maximum
- Position indicating switch: 10 to 32 VDC, SPDT
- Electrical connector: M83723/83G1407N

Key features

- Fail-safe open (de-energized)
- Closed position indicating switch circuit
- 150 msec full stroke response time
- Used on both DLE and SAC turbine engines
- Non incendiary design, CSA/UL certified for NEC class 1, division 2, group D, temp code T2C
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Fuel staging valve
C329235

Key dimensions

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES.

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Meggitt’s one-inch poppet style gas fuel staging valve is in use on a variety of aero-derivative industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt technology.

**Specifications**

**Function:** Gas fuel burner staging for aero-derivative turbine engine control

**Type:** Two position, normally open, poppet, solenoid actuated

**Physical size:** 3.50” x 4.53” x 12.3” high

**Weight:** 26 pounds

**Fluid connection type:** 1” pipe, GE J534P58

**Line pressure:** 0 to 560 psia

**Fluid temperature:** 0 to 300°F maximum

**Ambient temperature:** 20 to 300°F

**Performance:**

- **Operating speed:** Less than 150 msec full stroke response
- **Internal leakage:** 0.1 pph maximum at all operating conditions
- **Pressure drop:** 6.0 psid at 194 psia, 75°F and 360 pph air flowing through a single fitting

**Electrical:**

- **Solenoid:** 95 to 140 VDC, 1 ampere maximum
- **Position indicating switch:** 10 to 32 VDC, SPDT
- **Electrical connector:** M83723/83G1407N

**Key features**

- Fail-safe open (de-energized)
- Closed position indicating switch circuit
- 150 msec full stroke response time
- Used on both DLE and SAC turbine engines
- Non incendiary design, CSA/UL certified for NEC class 1, division 2, group D, temp code T2C
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions

**Meggitt Control Systems**

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Gas staging valve
C329245

Key dimensions

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES.

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

Meggitt Control Systems

Our product competencies & services: Aerospace valves  |  Thermal management solutions  |  Environmental control systems  |  Electro-mechanical products  
Ground fueling products  |  Energy products  |  Aftermarket services
Energy products

Pressure metering tube
C329275

1½-inch and 2-inch tube size, flanged pipe with static pressure taps

Meggitt’s static pressure metering tube is in use on a variety of industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt technology.

Specifications

**Function:** Pressure metering instrumentation tap and mount for 1½ and 2 inch gas fuel lines on turbine engines

**Physical size:** 16.51” flange to flange, 6.18” diameter (C329275 and C329275-1); 22.06” flange to flange, 6.18” diameter (C329275-2)

**Weight:** 30 pounds maximum (C329275 and C329275-1); 35 pounds maximum (C329275-2)

**Flange type:** 1.5” (C329275 and C329275-1) and 2” (C329275-2) ANSI B16.5 CL 600 raised face flanges

**Line pressure:** 0 to 1440 psia

**Fluid temperature:** 32 to 400°F

Key features

- Used on both DLE and SAC turbine engines
- All stainless steel tube and flange materials for NACE compliance
- No maintenance required under normal conditions

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
**Energy products**

**Pressure metering tube**

C329275

---

### Key dimensions

```
<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DIMENSION A</th>
<th>FLANGE SIZE</th>
<th>PIPE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>C329275</td>
<td>16.56/16.44</td>
<td>12.06/11.94</td>
<td>1-1/2 INCH</td>
</tr>
<tr>
<td>C329275-1</td>
<td>16.56/16.44</td>
<td>12.06/11.94</td>
<td>1-1/2 INCH</td>
</tr>
<tr>
<td>C329275-2</td>
<td>22.06/21.94</td>
<td>16.06/15.94</td>
<td>2 INCH</td>
</tr>
</tbody>
</table>
```

**NOTE:** EXCEPT WHERE INDICATED, ALL DIMENSIONS ARE IN INCHES.

---

**Contact**

**Meggitt Controls**

12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

---

**Meggitt Control Systems**

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Flow shutoff valve
C329305

Two-inch flange, 125 vdc, solenoid pilot actuated (SPA)

Meggitt’s two-inch poppet style gas flow shutoff valve is in use on a variety of industrial gas turbine engines. Millions of field operating hours continue to prove the high reliability of Meggitt design technology.

Specifications

Function: Fail-safe fuel gas flow shutoff for aero-derivative gas turbine engines

Physical size: 9.95” flange to flange, 15.19” high

Weight: 85 pounds maximum

Flange type: 2.0” ANSI B16.5 CL 600 raised face flanges

Line pressure: 0 to 1000 psig

Fluid temperature: 32 to 380°F

Ambient temperature: –65 to 220°F

Performance:

Flow: Linear trim, 0 to 6.1 pounds/sec natural gas, Cv = 55

Leakage: ANSI class V

Operating time: 100 msec full stroke response, 100 msec fail-safe closed (de-energized)

Electrical:

Solenoid: Continuous duty, 125 VDC nominal (95 to 140 VDC), 0.43 ampere at 140 VDC and –65EF

Closed position indicating switch: 125 VDC, 3-wire, SPDT

Key features

- Fail-safe open (de-energized)
- Closed position indicating switch
- 100 msec full stroke response time
- High temperature poppet seal
- For use on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4, CE zone1, PED certified
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions

Meggitt Control Systems
Energy products

Flow shutoff valve
C329305

Key dimensions

NOTE: DIMENSIONS SHOWN ARE IN INCHES

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s two-inch right angle style fuel control valve is in use on aero-derivative industrial gas turbine engines. With extensive on-turbine operating time, this design continues to prove the high reliability of Meggitt technology.

Specifications

Function: Precision gas flow control for aero-derivative turbine engine control

Physical size: 6.5” wide, 8.23” deep, 26.48” long

Weight: 57 pounds maximum (dry)

Flange type: 2” ANSI B16.5 CL 300 raised face flanges

Line pressure: 0 to 700 psig

Fluid temperature: –65 to 300°F

Ambient temperature: –65 to 250°F

Performance:

Flow: 300 to 22,000 pounds/hour, natural gas
Leakage: ANSI class IV
Operating time: 200 msec full stroke response (opening or closing), 250 msec fail-safe closed

Electrical:

Servo valve: 3 coils, 80 ma/coil for maximum flow
LVDT: Excitation, 7.07 (±0.14) volts rms, 3000 (±300) Hz

Variations: Outlet orientation direction optional (90E increments), fail open or fail closed

Key features

- Accuracy, ±2% of flow point
- Fail-safe open (C329465-1 and C329465-3; fail-safe closed (C329465-2 and C329465-4)
- Three-coil servo valve
- Used on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL, and CENELEC zone1, EExd IIA
- All stainless steel valve and yoke materials for NACE compliance

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Meggitt’s two-inch right angle style gas metering valve is in use on a variety of aero-derivative gas turbines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt EMA technology.

**Specifications**

**Function:** Precision fuel gas metering for aero-derivative, small and large frame turbine engine control

**Physical size:** 5.56” wide, 10.30” high, 28.72” long

**Weight:** 95 pounds

**Flange type:** 2” ANSI B16.5 CL 300 raised face flanges

**Line pressure:** 0 to 700 psia

**Fluid temperature:** –40 to 300°F

**Ambient temperature:** –65 to 220°F

**Performance:**
- **Internal leakage:** ANSI class IV
- **Operating time:** Less than 400 msec full stroke response, 300 msec failsafe closed

**Electrical:**
- **Motor:** Steady state, 90 to 140 VDC, 0.30 ampere; 7.0 amperes maximum peak
- **Resolver:** 4 VAC, 25 to 60 ma maximum
- **LVDT:** Excitation, 7.07 (±0.14) volts rms, 3000 (±300) Hz
- **Thermostat:** Opens at 329 to 347°F; resets at 251 to 270°F

**Variations:** Outlet orientation direction optional, flow ranges from 80 to 22,000 pph
Energy products

Gas metering valve
C329635

Key dimensions
Meggitt’s three-inch right angle style gas metering valve is in use on a variety of large frame industrial gas turbine engines. With millions of field operating hours, this design continues to prove the reliability of Meggitt EMA technology.

**Specifications**

**Function:** Precision fuel gas metering for aero-derivative turbine engine control

**Physical size:** 9.8” wide, 7.0” deep, 45.96” long

**Weight:** 160 pounds (estimated, dry)

**Flange type:** 3” ANSI B16.5 CL 300 raised face flanges

**Line pressure:** 0 to 350 psia

**Fluid temperature:** 32 to 200°F

**Ambient temperature:** –65 to 200°F

**Performance:**
- **Flow:** Linearly proportional to valve stroke over sonic range
- **Internal leakage:** ANSI/FC170-2, class IV
- **Operating time:** Less than 175 msec full stroke response, 150 msec 50% step response, 350 msec fail-safe closed (power loss)

**Electrical:**
- **Motor:** Steady state, 90 to 140 VDC, 0.50 ampere; 7 amperes maximum transient for 100 msec
- **Resolver:** 4 VAC, 25 to 60 ma maximum
- **Thermostat:** Opens at 329 to 347°F; resets at 251 to 270EF

**Variations:** Outlet orientation direction optional, flow ranges from Cv 72 to Cv 180

**Key features**

- Accuracy, ±3% of flow point
- High speed brushless DC servo motor performance, 20 Hz frequency response
- 175 msec full stroke response time
- Used on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Gas metering valve
C329925

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Gas metering valve
C421725

Two-inch flange, electro-hydraulic servo actuated (EHA)

Meggitt’s two-inch right angle, plug style gas metering valve is designed for use on large frame industrial gas turbine engines. This product includes high pressure recovery trim with exceptional position control.

Specifications

Function: Precision fuel gas metering for large frame turbine engine control, fail-safe closed
Physical size: 10.94” wide, 10.8” deep, 27.1” long
Weight: 57 pounds (estimated, dry)
Flange type: 2” ANSI B16.5 CL 300 raised face flanges
Trim size: 5/8 inch
Line pressure: 0 to 700 psia
Actuation pressure (hydraulic fluid): 1016 to 1160 psig, 2 gpm maximum flow, 10 to 200EF
Fluid temperature: −65 to 300°F
Ambient temperature: −65 to 250°F
Flow: 300 to 22,000 pounds/hour, natural gas
Pressure drop: 16 psid at 450 psia, 300°F, 15,000 pounds/hour, fully open
Internal leakage: ANSI/FC170-2, class IV
Operating time: 700 msec opening or closing, 200 msec trip time
Servo valve: 3 coils, 80 ma/coil for maximum flow
LVDT: Excitation, 7.07 (±0.14) volts rms, 3000 (±300) Hz
Outlet orientation direction optional

Key features

- Accuracy, ±3% of flow point
- Hydraulic servo valve position control
- Used on both DLE and SAC turbine engines
- Explosion proof design
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions

Meggitt’s Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Gas metering valve
C421725

Key dimensions

Contact
Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s two-inch right angle, plug style gas metering valve is designed for use on large frame industrial gas turbine engines. This product includes high pressure recovery trim with exceptional position control.

**Specifications**

**Function:** Precision fuel gas metering for large frame turbine engine control, fail-safe closed

**Physical size:** 10.94” wide, 10.8” deep, 27.1” long

**Weight:** 57 pounds (estimated, dry)

**Flange type:** 2” ANSI B16.5 CL 300 raised face flanges

**Trim size:** 1 inch

**Line pressure:** 0 to 700 psia

**Actuation pressure:** 1016 to 1160 psig, 2 gpm maximum flow, 10 to 200°F (hydraulic fluid)

**Fluid temperature:** –65 to 300°F

**Ambient temperature:** –65 to 250°F

**Performance:**
- **Flow:** 300 to 22,000 pounds/hour, natural gas
- **Pressure drop:** 16 psid at 450 psia, 300°F, 15,000 pounds/hour, fully open
- **Internal leakage:** ANSI/FC170-2, class IV
- **Operating time:** 500 msec opening or closing, 200 msec trip time

**Electrical:**
- **Servo valve:** 3 coils, 80 ma/coil for maximum flow
- **LVDT:** Excitation, 7.07 [±0.14] volts rms, 3000 [±300] Hz

**Variations:** Outlet orientation direction optional

---

**Key features**

- Accuracy, ±3% of flow point
- Hydraulic servo valve position control
- For use on both DLE and SAC turbine engines
- Explosion proof design
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Gas metering valve
C421735

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s four-inch ball style air bleed valve is designed for use on aero-derivative and large frame industrial gas turbines. This product offers high speed and exceptional position control for hot bleed air environments.

**Specifications**

**Function:** High speed, precision hot bleed air flow control for turbine engines

**Physical size:** 16.5" flange to flange, 18.9" wide, 23.2" high

**Weight:** 240 pounds

**Flange type:** 4" ANSI B16.5 CL 300 raised face flanges

**Line pressure:** 334 psia maximum

**Hydraulic pressure:** 1015 to 1160 psig

**Hydraulic flow:** 3.7 gpm maximum

**Hydraulic fluid temperature:** 32 to 212°F

**Ambient temperature:** -40 to 250°F

**Performance:**

- **Air flow:** 520 pounds/minute maximum, 40 psia inlet pressure, 70°F, \( \text{Cg} = 10,300 \) maximum
- **Internal leakage:** FCI 70-2, class IV (0.20 pounds/minute max at 50 psig inlet pressure)
- **External leakage:** 0.02 pounds/minute maximum

**Electrical:**

- **Servo valve:** 24 vdc, 3 coils, 80 milliamperes per coil for maximum flow
- **LVDT:** 7.07 (±0.14) VRMS, 3000 (±300) Hz
Energy products

Air bleed valve
C421755

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

NOTE: DIMENSIONS SHOWN ARE IN INCHES
Meggitt’s six-inch ball style anti-surge valve is designed for use on aero-derivative and large frame industrial gas turbines. This product offers high speed and exceptional position control for hot bleed air environments.

Specifications

Function: High speed, precision hot bleed air flow control for turbine engines
Physical size: 21” flange to flange, 18.9” wide, 25” high
Weight: 365 pounds
Flange type: 6” ANSI B16.5 CL 300 raised face flanges
Line pressure: 0 to 130 psig
Hydraulic pressure: 1015 to 1160 psig
Hydraulic flow: 3.7 gpm maximum
Hydraulic fluid temperature: 32 to 212°F
Ambient temperature: –40 to 250°F

Performance:
- Air flow: 1130 pounds/minute, 40 psia inlet pressure, 70°F, Cg = 21,200 maximum
- Internal leakage: FCI 70-2, class IV (0.20 pounds/minute max at 50 psi inlet pressure)
- External leakage: 0.02 pounds/minute maximum

Electrical:
- Servo valve: 24 vdc, 3 coils, 80 milliamperes per coil for maximum flow
- LVDT: 7.07 ±0.14) VRMS, 3000 ±300 Hz

Key features

- Exceptional position control accuracy and speed
- Electro-hydraulic servo actuated valve
- Fail-safe open
- Designed for use on both DLE and SAC turbine engines
- Explosion proof design
- All stainless steel valve and manifold materials
- No maintenance required under normal conditions

Meggitt’s six-inch ball style anti-surge valve is designed for use on aero-derivative and large frame industrial gas turbines. This product offers high speed and exceptional position control for hot bleed air environments.
Energy products

Anti-surge valve
C421765

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

NOTE: DIMENSIONS SHOWN ARE IN INCHES

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Meggitt’s three-inch globe style gas metering valve is designed for use on a variety of industrial gas turbines. This product utilizes the same high reliability features as all Meggitt electric gas metering valves.

**Specifications**

**Function:** Precision fuel gas metering for aero-derivative turbine engine control

**Physical size:** 12.5” flange to flange, 9.78” wide, 28” high

**Weight:** 120 pounds

**Flange type:** 3” ANSI B16.5 CL 600 raised face flanges

**Line pressure:** 0 to 350 psia

**Fluid temperature:** 32 to 300°F

**Ambient temperature:** –65 to 150°F

**Performance:**

- **Flow:** Linearly proportional to valve stroke
- **Internal leakage:** ANSI class IV
- **Operating time:** 175 msec full stroke response, 150 msec 50% step response, 300 msec fail-safe closed (power loss)

**Electrical:**

- **Motor:** Steady state, 90 to 140 VDC, 0.50 amperes; 10 amperes maximum transient (100 msec)
- **Resolver:** 4 VAC, 25 to 60 ma maximum
- **Closed position indicating switch:** SPDT
- **Thermostat:** Opens at 329 to 347°F; resets at 251 to 270°F

**Key features**

- Accuracy, ±3% of flow point
- High speed brushless DC servo motor performance, 20 Hz frequency response
- 175 msec full stroke response time
- Used on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4, CE EExd IIB, Zone 1, CE-ATEX certified
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Gas metering valve
C421895

Key dimensions

NOTE: DIMENSIONS SHOWN ARE IN INCHES

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Meggitt’s eight-inch globe style bleed air valve is designed for use on large frame industrial gas turbine engines. Its exceptional response characteristics outperform hydraulic or pneumatic solutions.

**Specifications**

- **Function:** Inlet air bleed for large frame turbine engine control
- **Physical size:** 22.5” flange to flange, 16.75” wide, 49.67” high
- **Weight:** 1000 pounds
- **Flange type:** 8” ANSI B16.5 CL 300 raised face flanges
- **Line pressure:** 0 to 350 psig
- **Fluid temperature:** 0 to 850°F
- **Ambient temperature:** –65 to 200°F

- **Flow:** Linear characteristics, $C_g = 22,000$, quiet trim
- **Internal leakage:** ANSI class IV
- **Operating time:** Fully open or fully closed within 1.5 seconds, fail-safe open (power loss)

**Electrical:**
- **Motor:** 120-230 VAC, 5 amperes steady state maximum; 20 amperes maximum peak
- **Resolver:** 4 VAC, 25 to 60 ma maximum

**Control interfaces:** 4 to 20 ma commands; RS-422/RS-485 serial communications

**Key features**

- Accuracy, ±3% of flow point
- High speed brushless DC servo motor performance, 20 Hz frequency response
- Fail-safe open in less than 1.5 seconds
- 1.5 seconds full stroke response time
- Designed for use on both DLE and SAC turbine engines
- Explosion proof design
- All steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Bleed air valve
C421935

Key dimensions

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES.

ACTUATOR

YOKE ASSEMBLY

VALVE BODY

RESOLVER JUNCTION BOX

MOTOR JUNCTION BOX

49.67

16.75

22.50
Meggitt’s three-inch balanced plug style bleed air valve is designed for use on aero-derivative and large frame industrial gas turbines. This product offers high speed and exceptional position control for hot bleed air environments.

**Specifications**

<table>
<thead>
<tr>
<th>Function</th>
<th>High speed, precision hot bleed air flow control for turbine engines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical size</td>
<td>12.5” flange to flange, 32.75” high</td>
</tr>
<tr>
<td>Weight</td>
<td>123 pounds</td>
</tr>
<tr>
<td>Flange type</td>
<td>3” ANSI B16.5 CL 300 raised face flanges</td>
</tr>
<tr>
<td>Line pressure</td>
<td>0 to 350 psig</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>–20 to 850°F</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>–40 to 220°F</td>
</tr>
<tr>
<td>Performance</td>
<td>Linear characteristics, 23 pounds/sec at 560°F, Cv = 271</td>
</tr>
<tr>
<td>Pressure drop</td>
<td>25 psid maximum (at 3.5 pounds/sec, 500 psig)</td>
</tr>
<tr>
<td>Internal leakage</td>
<td>ANSI/FC170-2, class IV</td>
</tr>
<tr>
<td>Operating time</td>
<td>175 msec full stroke response (opening or closing), 350 fail-safe open</td>
</tr>
<tr>
<td>Electrical</td>
<td>90-140 VDC, 0.3 amperes steady state maximum; 8 amperes maximum transient (100 msec)</td>
</tr>
<tr>
<td>Motor</td>
<td>4 VAC, 25 to 60 ma maximum</td>
</tr>
<tr>
<td>Resolver</td>
<td>Rated for 4 amperes, 120 VAC, opens at 329 to 347°F, resets at 251 to 270°F</td>
</tr>
</tbody>
</table>

**Key features**

- Exceptional position control accuracy and speed
- High speed brushless DC servo motor performance, 20 Hz frequency response
- Fail-safe open
- 175 msec full stroke response time
- Designed for use on both DLE and SAC turbine engines
- Explosion proof design
- All steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Bleed air control valve
C422165

Key dimensions

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s ½-inch direct solenoid operated gas shutoff valve is designed for use in fuel gas, air, and liquid control systems. This product offers a very high degree of reliability in fluid control systems.

**Specifications**

Function: Gas shutoff or vent valve for turbine engines

Physical size: 5.75” diameter, 9.81” high

Weight: 30 pounds

Pipe size: ½ inch NPT

Line pressure: 0 to 1500 psi

Fluid temperature: –40 to 400°F

Ambient temperature: –40 to 212°F

Electrical:
- Voltage: 24 VDC nominal (20 to 28 VDC range), 1 ampere maximum at 25 VDC, continuous duty
- Position indicating switch:
  - C422425 – Normally open valve with open position switch
  - C422695 – Normally closed valve with closed position switch
  - C422685 – Normally open valve without position switch
  - C422705 – Normally closed valve without position switch

Leakage: ANSI class VI

**Key features**

- Fail-safe closed or failsafe open (either available)
- Explosion proof design, CSA/UL, and CE-ATEX certified
- All steel materials for NACE 2002 compliance
- No maintenance required under normal conditions
- Direct acting design for high reliability
- Cv = 2.7
Energy products

Gas and liquid shutoff valve
C422425, C422685, C422695, C422705

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s one-inch poppet style gas fuel staging valve is in use on a variety of aero-derivative industrial gas turbine engines. Millions of field operating hours continue to prove the high reliability of Meggitt technology.

Specifications

Type: Normally open, poppet, solenoid actuated
Function: Fuel gas flow shutoff for aero-derivative turbine engine control
Physical size: 3.57” wide, 3.57” deep, 12.04” high
Weight: 26 pounds maximum
Operating pressure: 900 psig maximum at 300°F maximum
Fluid temperature: –40 to 300°F
Ambient temperature: –40 to 250°F

Performance:
- Flow: 2520 pounds/hour maximum
- Pressure drop: 7.5 psid at 495 psia, 150°F and 840 pounds/hour
- Internal leakage: 2.5 pounds/hour maximum, all operating conditions
- Operating time: Less than 150 msec full stroke response, fully open or fully closed

Electrical:
- Solenoid: Continuous duty, 125 VDC nominal (110 to 140 VDC), 1 ampere maximum, dropout voltage 8 VDC
- Closed position indicating switch: 10 to 32 VDC, 3-wire, SPDT
- Electrical connector: M83723/83G1407N

Key features

- Normally open, fail open
- Closed position indicating switch circuit
- 150 msec full stroke response time, open or close
- Used on both DLE and SAC turbine engines
- Non incendiary design, CSA/UL certified for NEC class 1, division 2, group D, T2C CE- ATEX group II, category 3, zone 2, EEEx nC II T2 , CE-PED certified
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Gas fuel staging valve
C422465

Key dimensions

ELECTRICAL CONNECTOR M83723/83G1407N

8.73 (222) MAX

9.28/ 9.53 (236/ 242)

3.55 (90.2) MAX

2.63 (66.8) MAX

3.58 (90.9) MAX

3.19 (81.0) MAX

INLET PORT

SEALING AREA

VALVE BODY

SEALING AREA

OUTLET PORT

NOTE: ALL DIMENSIONS SHOWN ARE IN INCHES AND (MM).

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Energy products

Gas metering valve
C422485

Two-inch flange, 150 to 200 vdc, electromecanically actuated (EMA)

Meggitt’s two-inch globe style gas metering valve is in use on a variety of industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt EMA technology.

Specifications

Function: Precision fuel gas metering for aero-derivative turbine engine control

Physical size: 11.23” flange to flange, 23” high

Weight: 85 pounds

Flange type: 2” ANSI B16.5 CL 600 raised face flanges

Line pressure: 100 to 1120 psig

Fluid temperature: 32 to 300°F

Ambient temperature: –65 to 158°F

Performance:

Flow: 0 to 10.5 pounds/sec natural gas
Pressure drop: 20 psid maximum (10.5 pounds/sec, 500 psig)
Internal leakage: ANSI class IV
Operating time: 120 msec full stroke response, 300 msec fail-safe closed

Electrical:

Motor: Steady state, 75 watts, 150 to 200 VDC, 0.30 amperes; 8 amperes maximum peak (100 msec)
Resolver: 4 VAC, 25 to 60 ma maximum
Closed position indicating switch: 28 VDC, 2 wire SPDT
Thermostat: Opens at 329 to 347°F; resets at 252 to 269EF
Actuator also available in 90 to 130 VDC version

Contact your local Meggitt representative or Meggitt directly for technical information not listed in the technical section of this catalog.

Key features

- Accuracy, ±3% of flow point
- High speed brushless DC servo motor performance, 20 Hz frequency response
- 120 msec full stroke response time
- Used on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4, CE, EExd IIB, Zone 1, ATEX and PED certified
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Gas metering valve
C422485

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s four-inch linear variable plug style bleed air control valve is designed for use on aero-derivative and large frame industrial gas turbines. This product offers a very high degree of flow accuracy and resolution for hot bleed air environments.

**Specifications**

<table>
<thead>
<tr>
<th>Function</th>
<th>High speed, precision hot bleed air flow control and resolution for turbine engines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical size</td>
<td>13.5” wide, 12.5” deep, 45.5” long</td>
</tr>
<tr>
<td>Weight</td>
<td>230 pounds</td>
</tr>
<tr>
<td>Flange type</td>
<td>4” ANSI B16.5 CL 300 raised face flanges</td>
</tr>
<tr>
<td>Line pressure</td>
<td>180 to 360 psia</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>100 to 920°F</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>–40 to 400°F</td>
</tr>
<tr>
<td>Performance:</td>
<td></td>
</tr>
<tr>
<td>Flow</td>
<td>Approximately equal percentage, Cv = 295 minimum</td>
</tr>
<tr>
<td>Internal leakage</td>
<td>11 pounds/minute maximum at 350 psia</td>
</tr>
<tr>
<td>Operating time</td>
<td>Slew rate = 200 msec maximum, 5 seconds maximum fail-safe closed (power loss)</td>
</tr>
<tr>
<td>Electrical:</td>
<td></td>
</tr>
<tr>
<td>Motor</td>
<td>110-150 VDC, 1.0 ampere steady state maximum; 8 amperes maximum peak</td>
</tr>
<tr>
<td>Resolver</td>
<td>4 VAC, 25 to 60 ma maximum</td>
</tr>
<tr>
<td>Thermostat</td>
<td>Normally closed; rated for 4 amperes, 120 VAC; opens at 293 to 311°F, resets at 239 to 257°F</td>
</tr>
</tbody>
</table>

**Key features**

- High resolution and flow accuracy
- High speed brushless DC servo motor performance
- Fail-safe closed
- Visual position indication
- Thermal overload protection
- 200 msec full stroke response time
- Designed for use on both DLE and SAC turbine engines
- Explosion proof design, ATEX: EExd T3, gas group IIc, T3, EC94; PED, CSA and UL: class 1, division 1, groups C and D; ingress protection: IP65
- All steel valve and yoke materials for NACE 2002 compliance
- No maintenance required under normal conditions
Energy products

Hot air bleed control valve
C422635

Key dimensions

JUNCTION BOX

ACTUATOR

POSITION INDICATOR

VENT

VALVE BODY

4", 300 LB RAISED FACE ANSI B16.5 FLANGE (2 PLACES)

NOTE:
ALL DIMENSIONS SHOWN ARE IN INCHES.

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Meggitt’s two-inch right angle style gas metering valve is in use on a variety of aero-deriviative gas turbines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt EMA technology.

Specifications

| Function: | Precision fuel gas metering valve for aero-derivative, small and large frame turbine engine contro |
| Weight: | 95 lbs maximum |
| Flange: | 2” ANSI B16.5 CL 600 |
| Line pressure: | 0 to 700 psia |
| Fluid temperature: | -40 to 300°F |
| Ambient temperature: | -65 to 220°F |

Performance:
- Internal leakage: 15 pph max at 700 psia
- Operating time: Less than 400 msec full stroke response, full open of fully closed

Electrical:
- Motor: Steady state, 90 to 140 VDC, 0.30 ampere; 70 amperes maximum peak
- Resolver: 4 VAC, 25 to 60 ma maximum
- LVDT: Excitation, 707 (±0.14) Vrms, 3000 (±300) Hz
- Thermostat: Opens at 329 to 347°F, resets at 251 to 270°F

Key features

- Exceptional accuracy, ±1% of flow point
- Fail-safe closed
- High speed brushless DC servo motor performance
- Less than 400 msec full stroke response time
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions
- Explosion proof design, CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4, CE EEExd IIB, T4, CE-ATEX and PED certified
Energy products

Gas metering valve
C422845

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Gas metering valve
C422855

1½-inch flange, 150 to 200 vdc, electromechanically actuated (EMA)

Meggitt’s 1½-inch globe style gas metering valve is in use on a variety of industrial gas turbine engines. With millions of field operating hours, this design continues to prove the high reliability of Meggitt EMA technology.

Specifications

Function: Precision Fuel Gas Metering for aero-derivative turbine engine control
Physical size: 9.88” flange to flange, 23” high
Weight: 75 pounds
Flange type: 1.5” ANSI B16.5 CL 600 raised face flanges
Line pressure: 100 to 1120 psig
Fluid temperature: 0 to 300°F
Ambient temperature: -40 to 158°F

Performance:
Flow: Linear trim, 0 to 4.0 pounds/sec natural gas, Cv = 40
Pressure drop: 25 psid maximum (3.5 pounds/sec, 500 psig)
Leakage: ANSI class IV
Operating time: 100 msec full stroke response, 300 msec fail-safe closed

Electrical:
Motor: Steady state, 75 watts, 150 to 200 VDC, 0.30 amperes; peak (100msec); 1200 watts, 8 amperes maximum
Resolver: 4 VAC, 25 to 60 ma maximum
Position switch: 20 to 32 VDC, SPDT

Actuator also available in 90 to 130 VDC version

Key features

- Exceptional accuracy, ±1% of flow point
- High speed brushless DC servo motor performance, 20 Hz frequency response
- 100 msec full stroke response time
- Used on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4, CE zone 1, EExd IIB, CE-ATEX and PED certified
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Gas metering valve
C422855

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves  |  Thermal management solutions  |  Environmental control systems  |  Electro-mechanical products
Ground fueling products  |  Energy products  |  Aftermarket services
Meggitt’s precision plug style gas metering valve is designed for use on aero-derivative and large frame industrial gas turbines. This product offers precision gas flow metering with exceptionally high pressure recovery.

**Specifications**

**Function:** High pressure recovery, gas flow control for turbine engines  
**Physical size:** See tabulation  
**Weight:** 2”, 165 pounds; 3” 227 pounds; 4”, 270 pounds  
**Flange type:** ANSI B16.5 CL 300 raised face flanges  
**Line pressure:** 0 to 500 psig  
**Fluid temperature:** 450°F maximum  
**Ambient temperature:** –50 to 250°F  
**Performance:** (Numerous flow profiles available)  
- **Trim profiles:** Cg = 300, 600, 800, 1200, 2000, 2900 and 3500  
- **Pressure drop:** Choked flow pressure ratio ≤ 1.08  
**Hydraulic system:**  
- **Maximum pressure:** 3000 psig  
- **Operating pressure:** 1200 to 1700 psi  
- **Return pressure:** 30 psi, hydraulic trip function  
**Electrical:**  
- **Servovalve:** 8 milliamperes peak  
- **LVDT:** Excitation, 7.07 [±0.14] volts rms, 3000 [±300] Hz

**Key features**

- Patented design  
- Exceptionally high gas pressure recovery  
- Fail-safe closed  
- Designed for use on both DLE and SAC turbine engines  
- NEC class 1, division 1, groups C and D; T4 temp code, CE PED certified, ATEX group II, category 2, zone 1 (II2G)  
- All stainless steel valve and yoke materials for NACE 2002 compliance  
- No maintenance required under normal conditions
High recovery gas metering valve
C422965, C422975, C422195

Contact
Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

Energy products

Key dimensions

NOTE: ALL DIMENSIONS SHOWN ANE IN INCHES.

<table>
<thead>
<tr>
<th>FLANGE SIZE</th>
<th>2-INCH</th>
<th>3-INCH</th>
<th>4-INCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIMENSION A</td>
<td>35.81</td>
<td>37.43</td>
<td>40.14</td>
</tr>
</tbody>
</table>
Meggitt’s precision plug style gas metering valve is designed for use on aero-derivative and large frame industrial gas turbines. This product offers precision gas flow metering with exceptionally high pressure recovery.

**Specifications**

**Function:** High pressure recovery, gas flow control for turbine engines  
**Physical size:** See tabulation  
**Weight:** 2”, 100 pounds; 3” 160 pounds; 4”, 230 pounds  
**Flange type:** ANSI B16.5 CL 300 raised face flanges  
**Line pressure:** 0 to 500 psig  
**Fluid temperature:** –40 to 450°F  
**Ambient temperature:** –20 to 200°F  
**Performance:** (Numerous flow profiles available)  
**Trim profiles:** Cg = 300, 600, 800, 1200, 2000, 2900 and 3500  
**Pressure drop:** Choked flow pressure ratio ≤1.08  
**Electrical:**  
**Motor:** 90 to 200 VDC, 0.3 ampere steady state, 8 amperes peak  
**Resolver:** 4 VAC, 25 to 60 milliamperes  
**LVDT:** Excitation, 7.07 ±0.14 volts rms, 3000 ±300 Hz  
**Thermostat:** Opens at 329 to 347°F, resets at 251 to 270°F

**Key features**

- Patented design  
- Exceptionally high gas pressure recovery  
- Fail-safe closed  
- Designed for use on both DLE and SAC turbine engines  
- NEC class 1, division 1, groups C and D; T4 temp code, CE PED certified, ATEX group II, category 2, zone 1 (II2G)  
- All stainless steel valve and yoke materials for NACE compliance  
- No maintenance required under normal conditions
Energy products

High recovery gas metering valve
C423025, C423035, C423045

Key dimensions

NOTE: ALL DIMENSIONS ARE IN INCHES.

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s ½-inch direct solenoid operated drain valve is designed for use in fuel gas, air, and liquid control systems. This product offers a very high degree of reliability in fluid control systems.

**Specifications**

**Function:** Drain valve for turbine engines and other applications

**Physical size:** 5.75” diameter, 9.81” high

**Weight:** 30 pounds

**Pipe size:** ½ inch NPT

**Line pressure:** 0 to 1500 psi

**Fluid temperature:** –40 to 400°F (800°, 10 seconds maximum, 0.2 pounds/min maximum)

**Ambient temperature:** –40 to 212°F

**Electrical:**

- **Voltage:** 24 VDC nominal (20 to 28 VDC range), 1 amperes maximum at 25 VDC, continuous duty
- **Position indicating switch:** Normally closed, rated for 2.5 amperes, 28 VDC

**Leakage:** ANSI class VI

**Fluids:**
- 423095 – Natural gas, air, diesel fuel, kerosene or naphtha
- 423155 – Natural gas, air or demineralized water

**Key features**

- Fail-safe closed
- ANSI class IV leakage
- United States and Canada: Certified explosion proof, CSA/UL class 1, division 1, groups C and D, temp code T3, maximum ambient 100°C
- CE-ATEX certified explosion proof, Exd IIB, temp code T3, maximum ambient 100°C
- All steel materials for NACE 2002 compliance
- No maintenance required under normal conditions
- Direct acting design for high reliability
- Closed position indicating switch
Energy products

Drain valve
C423095, C423155

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s shut off valve is derived from our gas fuel staging valves which are in use on a variety of aero-derivative industrial gas turbine engines. Millions of field operating hours continue to prove the high reliability of Meggitt’s technology.

**Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Two position, normally open, poppet, solenoid actuated</td>
</tr>
<tr>
<td>Function</td>
<td>Nitrogen gas shut off for aero-derivative turbine engine control</td>
</tr>
<tr>
<td>Weight</td>
<td>32 lbs maximum</td>
</tr>
<tr>
<td>Inlet pressure and temperature</td>
<td>1000 psig max at 365°F max</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>–39 to 180°F</td>
</tr>
<tr>
<td>Operating speed</td>
<td>130 msec full stroke response (opening or closing)</td>
</tr>
<tr>
<td>Internal leakage</td>
<td>Class VI leakage</td>
</tr>
<tr>
<td>Pressure drop</td>
<td>5.0 psid at 815 psia, 365°F and 1000 pph natural gas</td>
</tr>
<tr>
<td>Solenoid</td>
<td>110 - 140 Vdc operating voltage, 1 amp maximum, 8 Vdc dropout voltage</td>
</tr>
<tr>
<td>Position indicating switch</td>
<td>10 to 32 Vdc, 3-wire, SPDT</td>
</tr>
</tbody>
</table>

**Key features**

- Fail-safe open
- 130 msec full stroke response time
- CSA/UL certified for Class 1, Division 2, Group D, T2C, CE ATEX EEx nC II T3, IP55
- Open and closed position indicating switch circuit
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Solenoid shut off valve
C423115

Key dimensions

NOTE: ALL DIMENSIONS ARE SHOWN IN INCHES

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com

Meggitt Control Systems
Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Meggitt’s shut off valve is derived from our gas fuel staging valves which are in use on a variety of aero-derivative industrial gas turbine engines. Millions of field operating hours continue to prove the high reliability of Meggitt’s technology.

Specifications

| Type:          | Two position, normally closed, poppet, solenoid actuated |
| Function:      | Fuel gas shutoff for aero-derivative turbine engine control |
| Weight:        | 32 lbs maximum |
| Inlet pressure and temperature: | 1000 psig max at 365°F max |
| Ambient temperature: | -39 to 180°F |
| Performance:   | 130 msec full stroke operation |
| Internal leakage: | Class VI leakage |
| Pressure drop: | 5.0 psid at 815 psia, 365°F and 1000 pph natural gas |
| Electrical:    | 110 - 140 Vdc operating voltage, 1 amp maximum, 8 Vdc dropout voltage |
| Connector:     | M87323/83G1407N |
| Position indicating switch: | 10 to 32 Vdc, 3-wire, SPDT |

Key features

- Fail-safe closed
- 130 msec full stroke response time
- CSA/UL and ATEX certified for Class 1, division 2, Group D, T2C, CE ATEX Ex nC II T3
- Open and closed position indicating switch circuit
- All stainless steel valve and body materials for NACE compliance
- No maintenance required under normal conditions

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Solenoid shut off valve
C423165

Key dimensions

NOTE: ALL DIMENSIONS ARE SHOWN IN INCHES

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Meggitt’s 1½-inch poppet style gas flow purge valve is used on industrial gas turbines to purge liquid fuel from engine piping.

### Specifications

**Function:** Fail-safe gas flow purge for gas turbine engines

**Physical size:** 9.00” flange to flange, 15.19” high

**Weight:** 80 pounds maximum (dry)

**Flange type:** 1.5” ANSI B16.5 CL 600 raised face flanges

**Line pressure:** 0 to 1000 psig

**Actuation pressure:** 150 to 1000 psig (externally supplied)

**Fluid temperature:** 32 to 380°F

**Ambient temperature:** –65 to 180°F

**Performance:**

- **Flow:** 0 to 3.5 pounds/sec natural gas
- **Leakage:** ANSI class V
- **Operating time:** 100 msec maximum fail-safe closed (de-energized); 200 msec maximum to fully open
- **Pressure drop (full open):** 5 psid maximum at 365°F and 800 psig, 5700 pounds/hour flow and 3 inch effective area

**Electrical:**

- **Solenoid:** Continuous duty, 24 VDC nominal (20 to 28 VDC), 2 amperes maximum
- **Open position indicating switch:** 28 VDC, 2.5 amperes, 2-wire, SPDT

### Key features

- Fail-safe closed (de-energized)
- Open position indicating switch
- 100 msec fail-safe closing time
- 200 msec opening time
- High temperature poppet seal
- Back flow protection
- For use on both DLE and SAC turbine engines
- Explosion proof design, CE-ATEX II 2 G, Ex d IIB T4 (Tamb = –20 to 120°C), CSA/UL certified for NEC class 1, division 1, groups C and D, temp code T4, IP57
- All stainless steel valve and body materials for NACE compliance

---

**Meggitt Control Systems**

Our product competencies & services:

- Aerospace valves
- Thermal management solutions
- Environmental control systems
- Electro-mechanical products
- Ground fueling products
- Energy products
- Aftermarket services
Energy products

Gas purge valve
C423505

Key dimensions

NOTE: DIMENSIONS SHOWN ARE IN INCHES

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves  |  Thermal management solutions  |  Environmental control systems  |  Electro-mechanical products
Ground fueling products  |  Energy products  |  Aftermarket services
Meggitt’s butterfly valves are designed for bleed air control on aero-derivative industrial gas turbine engines. This design was generated specifically for increased cycle life of the bearings and butterfly element while implementing precision control and position indication.

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange Connections</td>
<td>AS1895/12-250</td>
</tr>
<tr>
<td>Type</td>
<td>Normally Open Hydraulically Actuated Modulating Valve</td>
</tr>
<tr>
<td>Function</td>
<td>Compressor bleed regulation</td>
</tr>
<tr>
<td>Inlet pressure</td>
<td>0 to 850 psia max</td>
</tr>
<tr>
<td>Bleed air temperature</td>
<td>1200°F max</td>
</tr>
<tr>
<td>Weight</td>
<td>43 lbs maximum</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>−65 to 350°F</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
</tr>
<tr>
<td>Operating speed</td>
<td>320 msec full stroke operation</td>
</tr>
<tr>
<td>Internal leakage</td>
<td>6.0 ppm max at 850 psia</td>
</tr>
<tr>
<td>Electrical</td>
<td></td>
</tr>
<tr>
<td>Servo valve</td>
<td>−100 to +60 mA operating current</td>
</tr>
<tr>
<td>Electrical connector</td>
<td>M83723 type</td>
</tr>
<tr>
<td>LVDT</td>
<td>7.07±.14 Vrms at 3kHz excitation, −0.435 to 0.435 v/v output</td>
</tr>
</tbody>
</table>

Key features

- Redundant position indicating LVDT
- Robust bearing shaft design
- Bearings designed for dither cycle service
- High temperature bearing material
- Increased thermal isolation of electric components
- Butterfly disk permanently joined to the shaft
- Effective flow area = 2.5 square inches max
- Less than 320 millisecond full stroke response time

Meggitt’s butterfly valves are designed for bleed air control on aero-derivative industrial gas turbine engines. This design was generated specifically for increased cycle life of the bearings and butterfly element while implementing precision control and position indication.
Energy products

2.5” Butterfly bleed air valve
C424035

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Meggitt’s butterfly valves are designed for bleed air control on aero-derivative industrial gas turbine engines. This design was generated specifically for increased cycle life of the bearings and butterfly element while implementing precision control and position indication.

**Specifications**

- **Flange Connections:** AS1895
- **Type:** Normally Open Hydraulically Actuated Modulating Valve
- **Function:** Compressor bleed regulation
- **Inlet pressure:** 0 to 250 psia max
- **Bleed air temperature:** 745°F max
- **Weight:** 55 lbs
- **Ambient temperature:** -65 to 350°F
- **Performance:**
  - Operating speed: 320 msec full stroke operation
  - Internal leakage: 6.0 ppm max at 200 psia
- **Electrical:**
  - Servo valve: -100 to +60 mA operating current
  - Electrical connector: M83723 type
  - LVDT: 7.07± .14 Vrms at 3kHz excitation, -0.435 to 0.435 v/v output

**Key features**

- Redundant position indicating LVDT
- Robust bearing shaft design
- Bearings designed for dither cycle service
- High temperature material in bearing
- Increased thermal isolation of electric components
- Butterfly disk permanently joined to the shaft
- Effective flow area = 19.1 square inches max
- Fail-safe open
- Less than 320 millisecond full stroke response time

**Meggitt Control Systems**

**Our product competencies & services:**
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

6” Butterfly bleed air valve
C424065

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com
Meggitt’s two-inch right angle sleeve style gas metering valve is in use on a variety of large frame industrial gas turbine engines. With millions of field operating hours, this design continues to prove the reliability of Meggit EMA technology. Now available with quick change electrical cables and connectors.

**Specifications**

**Function:** Precision fuel gas metering for aero-derivative turbine engine control

**Physical size:** 10.3” wide, 5.56” deep, 29.0” long

**Weight:** 95 pounds (estimated, dry)

**Flange type:** 2” ANSI B16.5 CL 600 raised face flanges

**Line pressure:** 200 to 700 psia

**Fluid temperature:** –40 to 300°F

**Ambient temperature:** –65 to 220°F, 350°F maximum transient

**Performance:**

- **Internal leakage:** ANSI class IV
- **Operating time:** Less than 400 msec full stroke response, 300 msec fail-safe closed

**Electrical:**

- **Motor:** Steady state, 90 to 140 VDC, 0.30 ampere steady state; 7.0 amperes maximum peak
- **Resolver:** 4 VAC, 25 to 60 ma maximum
- **Thermostat:** Opens at 329 to 347°F, resets at 251 to 270°F
- **LVDT:** Excitation – 7.07 (±0.14) VRMS, 3000 (±300) Hz

**Variations:** Outlet orientation direction optional, flow ranges from 80 to 22,000 pph

---

**Key features**

- Foolproof electrical cables and connectors
- Accuracy, ±1% of flow point
- High speed brushless DC servo motor performance, 20 Hz frequency response
- Less than 400 msec full stroke response time
- Used on both DLE and SAC turbine engines
- Explosion proof design, CSA/UL certified for NEC class 1, division 2, groups C and D, temp code T4, CE Exed 11B, T4, zone 2. CE-ATEX and PED certified. (Cable certification ponding.)
- All stainless steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions

---

**Meggitt Control Systems**

Our product competencies & services:

Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products

Ground fueling products | Energy products | Aftermarket services
Energy products

Gas metering valve
C520245

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services

smart engineering for extreme environments
Meggitt’s six-inch globe style bleed air control valve is designed for use on aero-derivative and large frame industrial gas turbines. This product offers high speed and exceptional position control for hot bleed air environments.

Specifications

**Function:** High speed, precision hot bleed air flow control for turbine engines

**Physical size:** 18.62” flange to flange, 50.87” high

**Weight:** 500 pounds

**Flange type:** 6” ANSI B16.5 CL 300 raised face flanges

**Line pressure:** 0 to 350 psig

**Leakage:** ANSI CL IV

**Fluid temperature:** –100 to 900°F

**Ambient temperature:** –40 to 185°F

**Flow:**
Linear characteristics, 23 pounds/sec at 560°F, Cv = 271

**Pressure drop:** 25 psid maximum (at 3.5 pounds/sec, 500 psig)

**Internal leakage:** ANSI/FC170-2, class IV

**Operating time:** 200 msec full stroke response (opening or closing), 250 fail-safe open

**Motor:** +120-230 VAC, 5 amperes steady state maximum;
20 amperes maximum peak

**Resolver:** 4 VAC, 25 to 60 ma maximum

Key features

- Exceptional position control accuracy and speed
- High speed brushless DC servo motor performance
- Fail-safe open
- 200 msec full stroke response time
- Designed for use on both DLE and SAC turbine engines
- Explosion proof design
- All steel valve and yoke materials for NACE compliance
- No maintenance required under normal conditions
Energy products

Bleed air control valve
C520265

Key dimensions

Contact
Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA
Telephone: (818) 765-8160
FAX: (818) 759-2194
www.meggitt.com
Energy products

Multiple solenoid valve manifold
EA100716E

24 to 50 volts pwm, solenoid actuated

This valve manifold contains three solenoid valves, which direct pneumatic signals to the associated bleed valves.

Specifications

Pneumatic medium: Engine Air
Weight: 2.5 kilograms (5.5 pounds)

Performance:
- Minimum operating pressure: 92.4 kN/m² (13.4 lbf/in²)
- Maximum operating pressure: 1,924 kN/m² (279.4 lbf/in²)
- Maximum ambient temperature: 150°C (302°F)
- Maximum mounting temperature: 200°C (392°F)

Electrical supply voltage:
Current: 150 milliamperes maximum

Operational modes:
- Solenoid not energized: Inlet union connected to bleed valve supply unions (bleed valve open)
- Solenoid energized: Bleed valve supply unions connected to body exhaust vents (bleed valve closed)

Unions:
- IP unions: 1/2 inch-20-UNS
- HP unions: 5/8 inch-18-UNS
- Inlet unions: 13/16 inch-16-UNS

Key features

- Excellent corrosion resistance
- Fail-safe open
- High reliability – designed to aerospace standards
- Dual redundancy
- No maintenance required under normal conditions

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services
Energy products

Multiple solenoid valve manifold
EA100716E

Key dimensions

Contact

Meggitt Controls
12838 Saticoy St
North Hollywood
California 91605-3505
USA

Telephone: (818) 765-8160
FAX: (818) 759-2194

www.meggitt.com

Meggitt Control Systems

Our product competencies & services:
Aerospace valves | Thermal management solutions | Environmental control systems | Electro-mechanical products
Ground fueling products | Energy products | Aftermarket services