Solenoid valves and pressure regulators for the railway industry
About Us

The Fluid Control Division Europe (FCDE) is a division of Parker Hannifin, a leader in the movement and control technologies sector. The basic skills in the FCDE division are the development and manufacture of a range of products for controlling fluids, comprising solenoid valves and pressure regulators.

Where To Find Us

Our head office is in Geneva along with R&D, marketing, application support, and product management. FCDE products are mainly manufactured in Carouge (Geneva, Switzerland) and Gessate (Milan, Italy). Parker Sales Companies and their extensive sales and service network provide support throughout Europe.

History

For more than 60 years, Parker FCDE has been a leader in the manufacture and development of solenoid valve technologies. Through its continuous research and development, the company has been able to offer innovative solutions to the market and introduce, for example, the use of synthetic ruby for critical applications with water or the reliability and unequalled accuracy of our pressure regulators. The know-how acquired and developed over the years has resulted in FCDE’s solutions being of the highest quality.

Markets served

Our products and solutions are typically designed for the following business sectors: industrial equipment, industrial automation, mobile systems, transportation, life sciences, beverage dispensers, and the control of fluids and processes.

Benefits

The modular design of our products integrating solenoid valves and separate electrical parts provides customers with greater flexibility by allowing them to use a variety of combinations. This increased flexibility allows distributors to reduce their stock of valves to a greater extent while continuing to offer the widest range. Parker also benefits from unrivalled experience in the development of custom products to the strictest technical, environmental, energy, and endurance requirements.
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FAILURE TO FOLLOW THE INSTRUCTIONS OR THE IMPROPER SELECTION OR INAPPROPRIATE USE OF THE PRODUCTS OR RELATED ITEMS DESCRIBED IN THIS DOCUMENT COULD RESULT IN DEATH, PERSONAL INJURY, OR DAMAGE TO PROPERTY.

• This document and any other information originating from Parker-Hannifin Corporation, its subsidiaries, or approved distributors refer to products and systems that should be tested and checked by competent users with technical expertise.

• On completion of his/her own analyses and tests, the user alone is responsible for the final choice of system and components and for ensuring that all conditions with regard to performance, durability, maintenance, safety, and caution for the application have been met. It is his/her responsibility to analyze all aspects of the application, to apply current industrial standards and to take on board information about the product appearing in the latest edition of the catalogue, plus any other documents supplied by Parker, its subsidiaries, or approved distributors.

• To the extent that Parker, its subsidiaries, or approved distributors supply component or system options based on data or specifications supplied by the user, it is the user’s responsibility to establish that these data and specifications are appropriate and adequate for all reasonably foreseeable applications and uses of the components or systems.
Solenoid valves and pressure regulators for controlling fluids in the railway industry

Parker is the world leader in fluid movement and control technology. We provide solutions designed for the rail transport industry with products which are extremely reliable, even under the most demanding environmental conditions. In spite of extreme weather phenomena, high levels of vibration, the presence of dust and aggressive contamination, the railway industry seeks to become ever more competitive, so our technical knowledge and customer service skills will always be a guarantee of results.

Our solenoid valves and pressure regulators used for controlling fluids in the railway industry are fully suited to handling these difficult conditions, maximizing reliability for the customer by reducing rolling stock operating costs.

So, by working with a recognized world leader in fluids control and technology, you will be assured of the best service with a technology that meets all your requirements.

Collaboration...
Creating solutions

Our world is much more than manufacturing standard components adapted for unique needs. Working together with you, we will produce solutions that not only meet your requirements but which also offer commercial and environmental advantages.

Our team of Parker engineers and technical support personnel aim to meet specifications and rigorous functional requirements to ensure the development of components and systems solutions that meet railway standards and meet application needs.

At Parker, we are committed to excellence, by encouraging transparency, creative interaction between professionals, and discussions on best practice.

We believe that the sharing of knowledge, skills, and experience provides the key to obtaining the most technically efficient and commercially viable results. Thus, from design to production, an open dialogue is always ensured.
A range of solenoid valves for fluid control applications in the railway industry

The Parker FCDE range for the railway industry includes normally closed, normally open, or bi-stable 2/2 direct control solenoid valves; normally closed, normally open, or universal 3/2 direct control solenoid valves, and also pressure regulators for all fluids present in on-board equipment: air, oil, water, etc.

Here are some standard application examples for using solenoid valves and pressure regulators.

- **Driving cab**
  - Windscreen wiper control
  - Audible warning control
  - Cab heating control

- **Air production**
  - Condensate drain

- **Diesel engines**
  - Solenoid valve for oil, air, water

- **Bogies and brakes**
  - Sanding control
  - Lateral suspension control
  - Braking / Anti-jamming control

- **Toilets**
  - Drinking water supply
  - Toilet water supply

- **Doors and steps**
  - Outer door control
  - Step control

- **Electrical circuit**
  - Circuit breaker
Solenoid Valves

Applications

Driving cab

- **Windscreen wiper control**
  - **Fluid:** Air
  - **Valve reference:** E131K04
  - **Benefits:** Reduced dimensions, easy installation, good internal sealing.

- **Warning horn**
  - **Fluid:** Air
  - **Valve reference:** E121K07
  - **Benefits:** Reduced dimensions, easy installation, long-life check valve.

- **Cabin heating**
  - **Fluid:** Hot water
  - **Valve reference:** Normally open 122KS4074A
  - **Benefits:** High flow rate, zero pressure difference.
Solenoid Valves

Applications

Air production

➢ Purge solenoid valve

Fluid: Air

Valve references: Normally closed E121K63-E121K042-E121K04

Normally open 122K8406-122K8306-122K8311

Benefits: Compact valves, limited power (9 W when hot), any orientation, great reliability, pilot can be delivered on its own (valve without body).

➢ Compressor vent solenoid valve

Fluid: Air

Valve references: Normally open 122K8408 -122K8406 - 122K8306 - 122K8311

Benefits: Compact valves, limited power (9 W when hot), any orientation, great reliability, pilot can be delivered on its own (valve without body).

Diesel engine

➢ Water, air, or oil solenoid supply valve (lubrication system)

Fluid: Water, air, oil

Valve reference: E121K45

Benefits: Compact high flow rate valve (air 2,500 l/min, oil 20 l/min), limited power (9 W when hot).
Solenoid Valves

Applications

Bogies and brakes

- Sanding control
  Fluid: Air
  Valve references: 131M74 - 131M75

  Benefits: Low power (2.5 W), simplified fitting plan, reduced dimensions.

- Electrical circuit

  - Circuit breaker
    Fluid: Air
    Solenoid control valve with pneumatic actuator: 131FS9366

    Benefits: Usable at low temperature (-40°C), manual control, easy installation.
**Solenoid Valves**

**Applications**

**Doors and steps**

> **Door control**

**Fluid:** Air  
**Valve references:**  
Normally open  
122K8306 - 122K8406

**Benefits:** Safety valves (open circuit in the event of a supply fault).

> **Step control**

**Fluid:** Air  
**Valve references:**  
E131F4350 - 131F4650

**Benefits:** Compact valves, easy installation, manual control.

**Toilets**

> **Drinking water supply**

**Fluid:** Water  
**Valve ref.:** 121V5163

**Benefits:** Stainless steel 303, ruby check valve, compatible with drinking water, direct control, high flow rate valve.

> **Toilet water supply**

**Fluid:** Air  
**Valve ref.:** 131T21

**Benefits:** Compact valve (3 connections integrated into the valve body).
# Solenoid Valves

## General specifications table

| **Function** | 2/2 NF & NO  
3/2 NF & NO & Universal |
| **Technology** | Direct control |
| **Fluid** | All fluids (air, water, oils, etc.) |
| **Max. pressure differential** | Between 0 and 40 bar (depending on orifice) |
| **Connection** | ¼”G - ½”G - Flanged and specials |
| **Manual control** | “Quarter turn” type - Available according to reference |
| **Seat seal** | FKM, EPDM, Ruby, PCTFE, PUR |
| **Material - Body** | Brass or stainless steel 303 |
| **Material - Control** | Stainless Steel |
| **Material - Electrical part** | PBT (polybutylene terephthalate) Class F or PPS (phenylene polysulfide) Class H |
| **Protection** | IP65 with DIN 43650A connector |
| **Power Supply** | 12, 24, 48, 72, 90, 96, 110 VDC & 220-230/50 VAC |
| **Electrical voltage range** | -25% to +30% |
| **Electrical power** | 9 W under 100% ED (12.5 W under 0% ED)  
2.5 W under 100% ED (3 W under 0% ED)  
5 W under 100% ED (6.5 W under 0% ED) |
| **Ambient temperature** | -40°C to +50°C with 100% ED permanent engagement with Class F coil  
-40°C to +70°C with 100% ED permanent engagement with Class H coil |
| **Fluid temperature** | -40°C to +100°C |
| **Storage temperature** | -40°C to +80°C |
| **Service life** | > 1 million operations |
| **Vibration resistance** | Test conducted on request |
| **Impact resistance** | Test conducted on request |
| **Internal leakage rate** | ≤2 Ncm³/min for elastomer check valve down to -15°C |
| **Electromagnetic compatibility** | DIN EN 61000-6-3 compatibility and DIN EN 61000-6-2 immunity |
| **RoHS** | In accordance with current standard |
| **Fire/smoke standard** | Product not submitted due to the bulk of the materials concerned in accordance with NF F16-101 / 102 / 103 |

* For extreme combined conditions, please contact the factory.
# Solenoid Valves

## Technical characteristics table

### 2-way valves

<table>
<thead>
<tr>
<th>Reference</th>
<th>Function</th>
<th>Connection</th>
<th>Body material</th>
<th>Orifice (mm)</th>
<th>Qn (l/min)</th>
<th>Pressure range (bar)</th>
<th>Seat seal</th>
<th>Weight of solenoid valve (g)</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>121F67</td>
<td>2/2 NF</td>
<td>Flanged</td>
<td>Brass</td>
<td>1.5</td>
<td>80</td>
<td>0-25</td>
<td>Ruby</td>
<td>280</td>
<td>A</td>
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<tr>
<td>121F4606</td>
<td>2/2 NF</td>
<td>Flanged</td>
<td>Brass</td>
<td>2</td>
<td>140</td>
<td>0-10</td>
<td>FKM</td>
<td>280</td>
<td>A</td>
</tr>
<tr>
<td>121F63</td>
<td>2/2 NF</td>
<td>Flanged</td>
<td>Brass</td>
<td>2.5</td>
<td>220</td>
<td>0-10</td>
<td>Ruby</td>
<td>280</td>
<td>A</td>
</tr>
<tr>
<td>121F64</td>
<td>2/2 NF</td>
<td>Flanged</td>
<td>Brass</td>
<td>3</td>
<td>320</td>
<td>0-7</td>
<td>Ruby</td>
<td>280</td>
<td>A</td>
</tr>
<tr>
<td>E121K0402</td>
<td>2/2 NF</td>
<td>¼&quot;G</td>
<td>Brass</td>
<td>1.5</td>
<td>80</td>
<td>0-20</td>
<td>FKM</td>
<td>320</td>
<td>B</td>
</tr>
<tr>
<td>E121K04</td>
<td>2/2 NF</td>
<td>¼&quot;G</td>
<td>Brass</td>
<td>1.5</td>
<td>80</td>
<td>0-25</td>
<td>PCTFE</td>
<td>320</td>
<td>B</td>
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<tr>
<td>121K0605</td>
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<td>¼&quot;G</td>
<td>Brass</td>
<td>2</td>
<td>140</td>
<td>0-10</td>
<td>FKM</td>
<td>320</td>
<td>B</td>
</tr>
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<td>E121K07</td>
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<td>220</td>
<td>1-10</td>
<td>PCTFE</td>
<td>320</td>
<td>B</td>
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<tr>
<td>E121K63</td>
<td>2/2 NF</td>
<td>¼&quot;G</td>
<td>Brass</td>
<td>2.5</td>
<td>220</td>
<td>0-10</td>
<td>Ruby</td>
<td>280</td>
<td>B</td>
</tr>
<tr>
<td>121K0302</td>
<td>2/2 NF</td>
<td>¼&quot;G</td>
<td>Brass</td>
<td>3</td>
<td>320</td>
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<td>FKM</td>
<td>280</td>
<td>B</td>
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<tr>
<td>E121K45</td>
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<td>½&quot;G</td>
<td>Brass</td>
<td>11</td>
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<td>430</td>
<td>C</td>
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<tr>
<td>121V5163</td>
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<td>¼&quot;G</td>
<td>Stainless steel</td>
<td>5</td>
<td>(kV 10)</td>
<td>0-2</td>
<td>Ruby</td>
<td>410</td>
<td>D</td>
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<tr>
<td>122K8406</td>
<td>2/2 NO</td>
<td>¼&quot;G</td>
<td>Brass</td>
<td>1.5</td>
<td>80</td>
<td>0-20</td>
<td>FKM</td>
<td>320</td>
<td>B</td>
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<tr>
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<td>80</td>
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<td>Ruby</td>
<td>320</td>
<td>B</td>
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<td>122K8306</td>
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<td>¼&quot;G</td>
<td>Brass</td>
<td>2.5</td>
<td>200</td>
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<td>FKM</td>
<td>320</td>
<td>B</td>
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<tr>
<td>122K8311</td>
<td>2/2 NO</td>
<td>Pilot</td>
<td>-</td>
<td>2.5</td>
<td>200</td>
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<td>122K84074A</td>
<td>2/2 NO</td>
<td>20 mm dia.</td>
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<td>1,500</td>
<td>0-2</td>
<td>FKM</td>
<td>930</td>
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</table>

### 3-way valves

<table>
<thead>
<tr>
<th>Reference</th>
<th>Function</th>
<th>Connection</th>
<th>Body material</th>
<th>Orifice (mm)</th>
<th>Qn (l/min)</th>
<th>Pressure range (bar)</th>
<th>Seat seal</th>
<th>Weight of solenoid valve (g)</th>
<th>Drawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>131F9396*</td>
<td>3/2 NF</td>
<td>Flanged</td>
<td>Brass</td>
<td>1.5 / 1.5</td>
<td>80 / 80</td>
<td>2-10</td>
<td>PUR</td>
<td>280</td>
<td>E</td>
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<tr>
<td>E131F44</td>
<td>3/2 NF</td>
<td>Flanged</td>
<td>Brass</td>
<td>1.5 / 1.5</td>
<td>80 / 80</td>
<td>0-15</td>
<td>FKM</td>
<td>280</td>
<td>E</td>
</tr>
<tr>
<td>131F46</td>
<td>3/2 NF</td>
<td>Flanged</td>
<td>Brass</td>
<td>2 / 2.5</td>
<td>140 / 220</td>
<td>0-10</td>
<td>FKM</td>
<td>280</td>
<td>E</td>
</tr>
<tr>
<td>131F450*</td>
<td>3/2 NF</td>
<td>Flanged</td>
<td>Brass</td>
<td>2 / 2.5</td>
<td>140 / 220</td>
<td>0-10</td>
<td>FKM</td>
<td>280</td>
<td>E</td>
</tr>
<tr>
<td>E131F43</td>
<td>3/2 NF</td>
<td>Flanged</td>
<td>Brass</td>
<td>2.5 / 2.5</td>
<td>220 / 220</td>
<td>0-7</td>
<td>FKM</td>
<td>280</td>
<td>E</td>
</tr>
<tr>
<td>E131F4350*</td>
<td>3/2 NF</td>
<td>Flanged</td>
<td>Brass</td>
<td>2.5 / 2.5</td>
<td>220 / 220</td>
<td>0-7</td>
<td>FKM</td>
<td>280</td>
<td>E</td>
</tr>
<tr>
<td>E131K04</td>
<td>3/2 NF</td>
<td>¼&quot;G</td>
<td>Brass</td>
<td>1.5 / 1.5</td>
<td>80 / 80</td>
<td>0-16</td>
<td>FKM</td>
<td>320</td>
<td>F</td>
</tr>
<tr>
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<td>¼&quot;G</td>
<td>Brass</td>
<td>2 / 2.5</td>
<td>140 / 220</td>
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<td>FKM</td>
<td>320</td>
<td>F</td>
</tr>
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<td>E131K03</td>
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<td>¼&quot;G</td>
<td>Brass</td>
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<td>220 / 220</td>
<td>0-7</td>
<td>FKM</td>
<td>320</td>
<td>F</td>
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<tr>
<td>131M74</td>
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<td>Flanged</td>
<td>Brass</td>
<td>1.5 / 1.5</td>
<td>70 / 70</td>
<td>0-7</td>
<td>FKM</td>
<td>120</td>
<td>G</td>
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<tr>
<td>131M75</td>
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<td>Flanged</td>
<td>Brass</td>
<td>1.2 / 1.5</td>
<td>50 / 70</td>
<td>0-10</td>
<td>FKM</td>
<td>120</td>
<td>G</td>
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<tr>
<td>131T21</td>
<td>3/2 NF</td>
<td>¼&quot;G</td>
<td>Brass</td>
<td>4.5 / 6</td>
<td>500 / 750</td>
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<td>FKM</td>
<td>400</td>
<td>H</td>
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<td>132F44</td>
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<td>Flanged</td>
<td>Brass</td>
<td>1.5 / 1.5</td>
<td>80 / 80</td>
<td>0-16</td>
<td>FKM</td>
<td>280</td>
<td>E</td>
</tr>
<tr>
<td>132F46</td>
<td>3/2 NO</td>
<td>Flanged</td>
<td>Brass</td>
<td>2 / 2</td>
<td>125 / 125</td>
<td>0-10</td>
<td>FKM</td>
<td>280</td>
<td>E</td>
</tr>
<tr>
<td>132F4301</td>
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<td>Flanged</td>
<td>Brass</td>
<td>2.5 / 2.5</td>
<td>160 / 160</td>
<td>0-9</td>
<td>PUR</td>
<td>280</td>
<td>E</td>
</tr>
<tr>
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<td>¼&quot;G</td>
<td>Brass</td>
<td>1.5 / 1.5</td>
<td>80 / 80</td>
<td>0-16</td>
<td>FKM</td>
<td>320</td>
<td>F</td>
</tr>
<tr>
<td>133F46</td>
<td>3/2 Universal</td>
<td>Flanged</td>
<td>Brass</td>
<td>2 / 2</td>
<td>140 / 140</td>
<td>0-7</td>
<td>FKM</td>
<td>280</td>
<td>E</td>
</tr>
</tbody>
</table>

* With manual control.
Coils for solenoid valves

Coils for connecting to DIN plugs

32 mm coils

These coils may be fitted on all Parker solenoid valves from this catalogue (Except for 131M74 and 131M75 use coil on page 13).

Encapsulated assembly comprising a coil, a magnetic circuit, and a plug-in connector.

The synthetic casing material (PBT or PPS) protects the compact assembly against the penetration of foreign bodies e.g.: dust, oil, water, etc.).

Easy to fit in confined spaces.

Protection against impacts and corrosion.

Coils comply with the European “low voltage” directive.

<table>
<thead>
<tr>
<th>Features</th>
<th>Standard</th>
<th>High temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>References (without DIN plug)</td>
<td>481865</td>
<td>492453</td>
</tr>
<tr>
<td>References (with DIN plug)</td>
<td>482725</td>
<td>492726</td>
</tr>
<tr>
<td>Protection index</td>
<td>IP65 as per IEC/EN 60529 standards</td>
<td></td>
</tr>
<tr>
<td>Insulation class</td>
<td>F 155°C</td>
<td>H 180°C</td>
</tr>
<tr>
<td>Electrical connection</td>
<td>The coil is connected using a 2P+E plug as per EN 175301-803, type A.</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>The application is also limited by the valve temperature range.</td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>DC</td>
<td>AC</td>
</tr>
<tr>
<td>Pn (hot)</td>
<td>9 W</td>
<td></td>
</tr>
<tr>
<td>Pn (cold) 20°C</td>
<td>12 W</td>
<td>12 W</td>
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<tr>
<td>Pn (holding)</td>
<td>8 W</td>
<td>8 W</td>
</tr>
<tr>
<td>Attraction (cold)</td>
<td>26VA (9 W)</td>
<td>26VA (9 W)</td>
</tr>
<tr>
<td>Weight</td>
<td>130 g (without plug)</td>
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"Un" voltages

<table>
<thead>
<tr>
<th>VAC/Hz</th>
<th>Code</th>
<th>VDC</th>
<th>Code</th>
<th>VAC/Hz</th>
<th>Code</th>
<th>VDC</th>
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<tbody>
<tr>
<td>between -10% and +10% of Un</td>
<td>220-230/50</td>
<td>3D</td>
<td>12</td>
<td>C1</td>
<td>220-230/50</td>
<td>3D</td>
<td>12</td>
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<tr>
<td></td>
<td></td>
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<td>24</td>
<td>C2</td>
<td></td>
<td></td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>48</td>
<td>C4</td>
<td></td>
<td></td>
<td>110</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>72</td>
<td>ON</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>90</td>
<td>M8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>96</td>
<td>1T</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>110</td>
<td>C5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To order a coil, choose ref. coil + the voltage code, for example: 481865 for 24VDC = 481865C2

These coils must be used with suitable housings.

See examples below:

The coil assembly kit with reference 2995 corresponds to the numbering system for housing (valve - housing - coil - voltage).

It comprises a name plate with information on the type of valve with its main specifications, a washer, and a nut for fixing the 32 mm coil on the valve.
Coils for solenoid valves

Coils for connecting to DIN plugs

> 22 mm coils

These coils may be fitted on Parker solenoid valves models 131M74, 131M75.
This coil was designed for valves fitted with a set of miniature tubes (series 2000 valves).
Encapsulated assembly comprising a coil, a magnetic circuit and a plug-in connector.
The synthetic casing material protects the compact assembly against the penetration of foreign bodies e.g.: dust, oil, water, etc.).
Easy to fit in confined spaces - Protection against impacts and corrosion. This coil meets IEC/CENELEC safety standards and also the European “low voltage” directive.

<table>
<thead>
<tr>
<th>Features</th>
<th>Low power</th>
<th>High power</th>
</tr>
</thead>
<tbody>
<tr>
<td>References (without DIN plug)</td>
<td>488980</td>
<td>481180</td>
</tr>
<tr>
<td>References (with DIN plug)</td>
<td>481045</td>
<td>481530</td>
</tr>
<tr>
<td>Protection index</td>
<td>IP65 as per IEC/EN 60529 standards (with DIN plug).</td>
<td></td>
</tr>
<tr>
<td>Insulation class</td>
<td>F155 C</td>
<td></td>
</tr>
<tr>
<td>Electrical connection</td>
<td>The coil is connected using a 2P+E plug as per EN 175301-803, type B.</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>between -40°C and +50°C</td>
<td>The application is also limited by the valve temperature range.</td>
</tr>
<tr>
<td>Power Supply DC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pn (hot)</td>
<td>2.5 W</td>
<td>5 W</td>
</tr>
<tr>
<td>P (cold) 20°C</td>
<td>3 W</td>
<td>6.5 W</td>
</tr>
<tr>
<td>AC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pn (holding)</td>
<td>2 W</td>
<td>4 W</td>
</tr>
<tr>
<td>Attraction (cold)</td>
<td>5.7 VA (2.5 W)</td>
<td>8.9 VA (5 W)</td>
</tr>
<tr>
<td>Weight</td>
<td>100 g with DIN plug</td>
<td></td>
</tr>
<tr>
<td>&quot;Un&quot; voltages</td>
<td>220-230/50</td>
<td>220-230/50</td>
</tr>
<tr>
<td>VAC/Hz Code</td>
<td>3D</td>
<td>3D</td>
</tr>
<tr>
<td>VDC Code</td>
<td>12, 24, 48, 110</td>
<td>12, 24, 110</td>
</tr>
<tr>
<td>Code</td>
<td>C1, C2, C4, C5</td>
<td>C1, C2, C5</td>
</tr>
</tbody>
</table>

To order a coil, choose ref. coil + the voltage code, for example: 488980 for 24V dc = 488980C2
Other possible voltages can be found in the voltage codes table at the end of the coils section.

These coils must be used with suitable housings.
See examples below:
The coil assembly kit with reference 8993 corresponds to the numbering system for housing (valve - housing - coil - voltage).
It comprises a name plate with information on the type of valve with its main specifications, a washer and a nut for fixing the 22 mm coil on the valve.
2-way solenoid valves
Dimensional drawings

Drawing A

Drawing B

Drawing C

Drawing D
3-way solenoid valves
Dimensional drawings

Drawing E

Drawing F

Drawing G

Drawing H

Weight: 0.4 kg
manual override

Catalogue FCDE 3220/UK - 05/2013
Pressure regulators

Applications

Bogies and brakes

➢ Lateral suspension control

Pressure regulator mounted on a "Pendolino" type train.
The pressure regulator ensures that the train is re-centered in relation to the track, counter-balancing the centrifugal force created when negotiating bends.

**Pressure regulator references:** EPP3BC41I10410  
EPP3BC41I12810A - EPP3BC41I17510 EPP3BC41I17610

➢ Braking / Anti-skidding control

**Pressure regulator references:** EPP3BF41I10410 / EPP3BF41U10410

➢ Benefits

- Low consumption (3.5 W)
- Long service life (more than 300 million cycles)
- Integrated discharge valve
- Low temperature operation (down to -40°C)
- Product flanged as per ISO 3 (for EPP3 BF, etc.)
- Easy to install
- Meets EN50121.3.2, EN50155, EN61373
- Service kit and maintenance kit available
## EPP3 pressure regulators

### Technical characteristics table

<table>
<thead>
<tr>
<th>Regulator reference</th>
<th>Connection</th>
<th>Pressure range (bar)</th>
<th>Control signal</th>
<th>Operating range</th>
<th>Connector type</th>
<th>Electrical output</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPP3BC41I104110</td>
<td>½&quot;G</td>
<td>0.2-10 bar</td>
<td>4-20 ma</td>
<td>-40°C +70°C</td>
<td>VEAM</td>
<td>Upper</td>
<td>2.1</td>
</tr>
<tr>
<td>EPP3BC41I12810A</td>
<td>½&quot;G</td>
<td>0.2-10 bar</td>
<td>4-20 ma</td>
<td>-30°C +70°C</td>
<td>VEAM</td>
<td>Upper</td>
<td>2.1</td>
</tr>
<tr>
<td>EPP3BC41I17510</td>
<td>½&quot;G</td>
<td>0.2-10 bar</td>
<td>4-20 ma</td>
<td>-30°C +70°C</td>
<td>VEAM</td>
<td>Lateral</td>
<td>2.1</td>
</tr>
<tr>
<td>EPP3BC41I17610</td>
<td>½&quot;G</td>
<td>0.2-10 bar</td>
<td>4-20 ma</td>
<td>-40°C +70°C</td>
<td>VEAM</td>
<td>Lateral</td>
<td>2.1</td>
</tr>
<tr>
<td>EPP3BF41I104110</td>
<td>Flanged ISO 3</td>
<td>0.2-10 bar</td>
<td>4-20 ma</td>
<td>-40°C +70°C</td>
<td>VEAM</td>
<td>Upper</td>
<td>2.1</td>
</tr>
<tr>
<td>EPP3BF41U104110</td>
<td>Flanged ISO 3</td>
<td>0.2-10 bar</td>
<td>0-10 V</td>
<td>-40°C +70°C</td>
<td>VEAM</td>
<td>Upper</td>
<td>2.1</td>
</tr>
</tbody>
</table>
EPP3 pressure regulators

Dimensional drawings

EPP3 with ½"G connection

EPP3 with ISO 3 flange connection
At Parker, we’re guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 00800 27 27 5374

**Parker’s Motion & Control Technologies**

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- Key Markets
  - Commercial transports
  - Military aircraft
  - Launch vehicles
  - Helicopters
  - General & business aviation
  - Engines
- Key Products
  - Control systems & actuators
  - Engine systems & components
  - Fluid conveyance systems & components
  - Fluid metering, delivery & atomization devices
  - Fuel systems & components
  - Multi-fuel injection systems
  - Hydraulic systems & components
  - Thermal management
  - Wheels & brakes

**Climate Control**
- Key Markets
  - Air conditioning
  - Construction/Machinery
  - Food & beverage
  - Industrial machinery & life sciences
  - Life sciences
- Key Products
  - Accumulators
  - Engine controls
  - Electronic controllers
  - Filter driers
  - Hand shut-off valves
  - Heat exchangers
  - Hose & fittings
  - Pressure regulating valves
  - Refrigeration distribution
  - Safety relief valves
  - Smart pumps
  - Solenoid valves
  - Thermostatic expansion valves

**Electromechanical**
- Key Markets
  - Aerospace
  - Factory automation
  - Life sciences & medical
  - Machine tools
- Key Products
  - Electrohydraulic actuators
  - Accumulators
  - Advanced actuators
  - CO2 controls
  - Electronic controllers
  - Filter driers
  - Hand shut-off valves
  - Heat exchangers
  - Hose & fittings
  - Pressure regulating valves
  - Refrigeration distribution
  - Safety relief valves
  - Smart pumps
  - Solenoid valves
  - Thermostatic expansion valves

**Fluid & Gas Handling**
- Key Markets
  - Aerial lift
  - Agriculture
  - Bulk chemical handling
  - Construction machinery
  - Food & beverage
  - Fuel & gas delivery
  - Industrial machinery
  - Life sciences
  - Marine
  - Mobile
  - Oil & gas
  - Renewable energy
  - Transportation
- Key Products
  - Check valves
  - Connectors for low pressure fluid conveyance
  - Deep sea umbilicals
  - Diaphragm pumps
  - Hose couplings
  - Hydrostatic steering
  - Hydraulic motors & pumps
  - Key Products
  - Air preparation
  - Brass fittings & valves
  - Manifolds
  - Pneumatic actuators
  - Pneumatic valves & controls
  - Quick disconnects
  - Rotary actuators
  - Rubber & thermoplastic hose & couplings
  - Structural extrusions
  - Thermoplastic tubing & fittings
  - Vacuum generators, cups & sensors

**Hydraulics**
- Key Markets
  - Aerial lift
  - Agriculture
  - Alternative energy
  - Construction machinery
  - Food & beverage
  - Industrial machinery
  - Machine tools
  - Marine
  - Material handling
  - Mining
  - Mobile
  - Oil & gas
  - Renewable energy
  - Transportation
- Key Products
  - Accumulators
  - Cartridge valves
  - Electrohydraulic actuators
  - Human machine interfaces
  - Hybrid drives
  - Hydraulic cylinders
  - Hydraulic motors & pumps
  - Hydraulic systems
  - Hydraulic valves & controls
  - Hydrostatic steering
  - Integrated hydraulic circuits
  - Power take-offs
  - Power units
  - Rotary actuators
  - Sensors

**Pneumatics**
- Key Markets
  - Aerial lift
  - Agriculture
  - Alternative energy
  - Construction machinery
  - Food & beverage
  - Industrial machinery
  - Machine tools
  - Packaging machinery
  - Transportation & automotive
- Key Products
  - Accumulators
  - Advanced actuators
  - CO2 controls
  - Electronic controllers
  - Filter driers
  - Hand shut-off valves
  - Heat exchangers
  - Hose & fittings
  - Pressure regulating valves
  - Refrigeration distribution
  - Safety relief valves
  - Smart pumps
  - Solenoid valves
  - Thermostatic expansion valves

**Process Control**
- Key Markets
  - Alternative fuels
  - Biopharmaceuticals
  - Chemical & petrochemicals
  - Food & beverage
  - Marine & shipbuilding
  - Medical & dental
  - Microelectronics
  - Nuclear Power
  - Offshore oil exploration
  - Oil & gas
  - Power generation
  - Renewable energy
  - Telecommunications
  - Transportation
- Key Products
  - Analytical instruments
  - Analytical sample conditioning products & systems
  - Chemical injection fittings & valves
  - Fluoropolymer chemical delivery fittings, valves & pumps
  - High purity gas delivery fittings, valves, regulators & digital flow controls
  - Industrial mass flow meters & controllers
  - Industrial no-weld tube fittings
  - Precision industrial regulators & flow controllers
  - Process control double block & bleed
  - Process control fittings, valves, regulators & manifolds

**Sealing & Shielding**
- Key Markets
  - Aerospace
  - Automotive & transportation
  - Food & beverage
  - Industrial plant & equipment
  - Life sciences
  - Marine
  - Mobile equipment
  - Oil & gas
  - Power generation & renewable energy
  - Process
  - Transportation
  - Water purification
- Key Products
  - Advanced actuators
  - Accumulators
  - Engine controls
  - Electronic controllers
  - Filter driers
  - Hand shut-off valves
  - Heat exchangers
  - Hose & fittings
  - Pressure regulating valves
  - Refrigeration distribution
  - Safety relief valves
  - Smart pumps
  - Solenoid valves
  - Thermostatic expansion valves

**Filtration**
- Key Markets
  - Aerospace
  - Chemical processing
  - Consumer
  - Industrial
  - Life sciences
  - Microelectronics
  - Military
  - Oil & gas
  - Power generation
  - Renewable energy
  - Telecommunications
  - Transportation
- Key Products
  - Dynamic seals
  - Elastomeric o-rings
  - Electric medical instrument design & assembly
  - EMI shielding
  - Engineered & precision coated, fabricated elastomeric seals
  - High temperature metal seals
  - Hairline smooth & integrated elastomeric shapes
  - Medical device fabrication & assembly
  - Metal & plastic retention composite seals
  - Shielded optical windows
  - Silicone tubing & extrusions
  - Thermofluid management
  - Vibrations dampening

**Engineering Your Success.**