Pearl
Pearl Swivel Joint
Swivel Joint
PK Series

CATALOG
Features

A self-aligning type that allows easy pipe laying.

Installation is easy as the product is small and lightweight.

Greasing is not required and maintenance is easy.

Table of Contents

Features ................................................................. P1
Service Conditions ............................................... P2
Styles ................................................................. P2
Structures and Materials ....................................... P2
Dimensions ......................................................... P3
Masses ............................................................... P4
Dynamic Torque .................................................. P4
Model Names and Types ........................................ P5
Precautions on Selection ..................................... P6
Maintenance ........................................................ P7
Product Order ...................................................... P7
Product Warranty ................................................ P8

The contents are subject to change without notice.
Service Conditions

<table>
<thead>
<tr>
<th>Series</th>
<th>Connection</th>
<th>Material (main parts)</th>
<th>Seal Ring</th>
<th>Style</th>
<th>Size</th>
<th>Max. Pressure (MPa)</th>
<th>Max. Temperature (℃)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PK</td>
<td>Taper Thread (Rc/R)</td>
<td>Ductile Cast Iron, Bronze</td>
<td>PTFE</td>
<td>1~4</td>
<td>15A~50A</td>
<td>2.3</td>
<td>230</td>
</tr>
</tbody>
</table>

Styles

The PK series provides four different styles of shapes.

- **Style 1**
- **Style 2**
- **Style 3**
- **Style 4**

Structures and Materials

- **PK**
  - Seal Ring
  - Spring
  - Spring Seat
  - Body
  - Cover
  - Hex. Bolt
  - Spring Washer
  - Shaft

Materials of Main Components (Standard Specification)

<table>
<thead>
<tr>
<th>Part Name</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaft</td>
<td>Bronze</td>
</tr>
<tr>
<td>Body</td>
<td>Ductile Cast Iron, Carbon Steel</td>
</tr>
<tr>
<td>Cover</td>
<td>Ductile Cast Iron</td>
</tr>
<tr>
<td>Seal Ring</td>
<td>PTFE</td>
</tr>
</tbody>
</table>

Heat-resistant paint is applied to external parts.

Note) Component materials are indicated on product drawings. Contact our sales representative for requests for product drawings.
**PK Series**

**Dimensions** (PK/PKX)

<table>
<thead>
<tr>
<th>Style 1</th>
<th>Style 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Diagram" /></td>
<td><img src="image2" alt="Diagram" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Style 3</th>
<th>Style 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="Diagram" /></td>
<td><img src="image4" alt="Diagram" /></td>
</tr>
</tbody>
</table>

### PK Dimension Table

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>A1</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>15A</td>
<td>Rc1/2</td>
<td>R1/2</td>
<td>70</td>
<td>30</td>
<td>84</td>
<td>82</td>
<td>75</td>
<td>100</td>
<td>98</td>
<td>107</td>
<td>24</td>
<td>30</td>
<td>91</td>
<td>6°</td>
</tr>
<tr>
<td>20A</td>
<td>Rc3/4</td>
<td>R3/4</td>
<td>85</td>
<td>30</td>
<td>97</td>
<td>93</td>
<td>92</td>
<td>116</td>
<td>111</td>
<td>130</td>
<td>34</td>
<td>38</td>
<td>100</td>
<td>6°</td>
</tr>
<tr>
<td>25A</td>
<td>Rc1</td>
<td>R1</td>
<td>100</td>
<td>38</td>
<td>110</td>
<td>120</td>
<td>110</td>
<td>135</td>
<td>143</td>
<td>157</td>
<td>38</td>
<td>48</td>
<td>121</td>
<td>6°</td>
</tr>
<tr>
<td>32A</td>
<td>Rc1¼</td>
<td>R1¼</td>
<td>118</td>
<td>45</td>
<td>131</td>
<td>145</td>
<td>140</td>
<td>159</td>
<td>173</td>
<td>196</td>
<td>43</td>
<td>57</td>
<td>137</td>
<td>6°</td>
</tr>
<tr>
<td>40A</td>
<td>Rc1½</td>
<td>R1½</td>
<td>125</td>
<td>55</td>
<td>140</td>
<td>150</td>
<td>140</td>
<td>170</td>
<td>180</td>
<td>202</td>
<td>54</td>
<td>63</td>
<td>149</td>
<td>6°</td>
</tr>
<tr>
<td>50A</td>
<td>Rc2</td>
<td>R2</td>
<td>150</td>
<td>70</td>
<td>165</td>
<td>170</td>
<td>165</td>
<td>203</td>
<td>208</td>
<td>240</td>
<td>62</td>
<td>77</td>
<td>170</td>
<td>6°</td>
</tr>
</tbody>
</table>

### PKX Dimension Table

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>A1</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>15A</td>
<td>Rc1/2</td>
<td>R1/2</td>
<td>70</td>
<td>30</td>
<td>84</td>
<td>82</td>
<td>75</td>
<td>100</td>
<td>98</td>
<td>106</td>
<td>24</td>
<td>30</td>
<td>91</td>
<td>6°</td>
</tr>
<tr>
<td>20A</td>
<td>Rc3/4</td>
<td>R3/4</td>
<td>85</td>
<td>30</td>
<td>100</td>
<td>94</td>
<td>94</td>
<td>119</td>
<td>113</td>
<td>132</td>
<td>34</td>
<td>38</td>
<td>100</td>
<td>6°</td>
</tr>
<tr>
<td>25A</td>
<td>Rc1</td>
<td>R1</td>
<td>100</td>
<td>38</td>
<td>108</td>
<td>120</td>
<td>107</td>
<td>132</td>
<td>143</td>
<td>154</td>
<td>38</td>
<td>48</td>
<td>121</td>
<td>6°</td>
</tr>
<tr>
<td>32A</td>
<td>Rc1¼</td>
<td>R1¼</td>
<td>118</td>
<td>45</td>
<td>121</td>
<td>136</td>
<td>130</td>
<td>149</td>
<td>164</td>
<td>186</td>
<td>43</td>
<td>57</td>
<td>127</td>
<td>6°</td>
</tr>
<tr>
<td>40A</td>
<td>Rc1½</td>
<td>R1½</td>
<td>125</td>
<td>55</td>
<td>137</td>
<td>142</td>
<td>130</td>
<td>168</td>
<td>173</td>
<td>192</td>
<td>54</td>
<td>63</td>
<td>149</td>
<td>6°</td>
</tr>
</tbody>
</table>

Note 1) K of 50A is the width across flats of an octagon.

2) L of 32A and 40A is the width across flats of an octagon, and L of 50A is the width across flats created on the round bar.

3) N is an allowable moving range (angle) of a shaft.
### Masses of PK Series

<table>
<thead>
<tr>
<th>Size</th>
<th>Style 1</th>
<th>Style 2</th>
<th>Style 3</th>
<th>Style 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>15A</td>
<td>1.1</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>20A</td>
<td>1.8</td>
<td>1.5</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>25A</td>
<td>2.8</td>
<td>2.4</td>
<td>2.6</td>
<td>2.5</td>
</tr>
<tr>
<td>32A</td>
<td>4.2</td>
<td>3.6</td>
<td>4.0</td>
<td>3.9</td>
</tr>
<tr>
<td>40A</td>
<td>5.2</td>
<td>4.8</td>
<td>4.9</td>
<td>5.0</td>
</tr>
<tr>
<td>50A</td>
<td>8.0</td>
<td>7.1</td>
<td>7.8</td>
<td>7.0</td>
</tr>
</tbody>
</table>

### Dynamic Torque

1) Dynamic torque varies depending on product storage conditions, storage period, or fluid types.

2) Starting torque is larger than dynamic torque. Although starting torque is even larger when wringing occurs, it does not indicate any fault.

3) Data are typical values measured based on in-house test standards. They are not guaranteed values.
PK Series

Model Names and Types

Model Name

Type

PK Z

3 S

Size

25A

Style

1 U-shape
2 Liner shape
3 L-shape
4 L-shape (opposite)

Size

15A 32A
20A 40A
25A 50A

Option (Part Change/Addition)

L Standard specification
X The spring seat shape is changed and a washer and Teflon sheet are added.
Z The seal ring is changed to that of the three-part configuration.

Option (Spacer)

L Without spacer (standard specification)
S With spacer

Note 1) “_” indicates a space. A model name is indicated without spaces.
2) If two or more option (part change/addition) codes are selected, they are indicated in alphabetical order.
3) Option (part change/addition) code X is applicable to sizes 15A - 40A.

Standard Spec : Without Options
Quasi-standard Spec : With Options

If you have any questions, contact our sales representative.
Precautions on Selection

1. Select a product whose operating conditions are within the service conditions (listed in the table on page 2).
2. Although the shaft rotates 360° in the swivel direction, the upper limit of its self-aligning angle is 6° (±3°).
   When introducing a hose for connecting the product or a movable pipeline for using multiple products, carefully consider the motion of the hose and the movable pipeline before selecting a style.
3. Select an option as necessary.
   1) See “Model Names and Types” (page 5) for the types of options.
   2) If heating and cooling are alternately carried out, select option (part change/addition) code Z.
   3) To limit the self-aligning function, select option (spacer) code S.
4. The use of the product in a continuous rotation condition is not appropriate. The product lifetime becomes shortened.
5. The product is structured so that a shaft and a seal ring closely contact with each other due to fluid pressure and a spring, in order to seal fluid. Therefore, applying excessive load in the direction of pushing the shaft towards the body reduces the seal face pressure and opens the seal face, easily causing fluid leakage.
6. The product cannot be used for fluid that causes corrosion on it.
7. The product is not designed according to the general design rules for safety and hygiene of food processing machinery (JIS B 9650). Consult with us when considering the use of the product in food-related facilities.
8. Depending on the fluid used, the product may subject to restrictions due to national laws or local regulations.

As for customized products, we can produce products with modifications that are not included in the options. If you have any questions or wish to purchase customized products, contact our sales representative.
1) Greasing
   Greasing is not required for the PK series.

2) Replacement of consumables
   You can use the product for an extended period of time by replacing consumables.
   Contact us for replacement. We carry it out according to our repair program.
   Depending on the products, expenses for purchasing new products may be lower than repair expenses.
   Contact us for more information.

Please provide the following information.

1) When ordering our product you are currently using
   ① Model name (indicated on the product’s nameplate)

2) When newly ordering our products
   ① Model name (see page 5.)
   ② Related information
       · The name of equipment to which our product is installed
       · The name of the fluid used
       · Fluid pressure and temperature
       · Operation (rotation or swivel) and its frequency
       · Service environment
       · Requests, etc.

If you have any questions, contact our sales representative.
Product Warranty

If a malfunction occurs during the warranty period, contact us or the distributor and send the product to us. Be sure to carefully pack the product for protection before sending it. After receiving the product, we will confirm the malfunction. If the malfunction was clearly caused by the materials of product components or the manufacturing method, we will repair the product in question or replace it with a new one free of charge.

1. Warranty Period
   < New products >
   One (1) year and six (6) months after shipment (from the manufacturing date) or one (1) year after installation, whichever comes first.
   < Repaired products >
   Six (6) months after shipment (from the manufacturing date).

2. We charge a fee for repairs in any of the following cases.
   ① Failure after the warranty period has expired
   ② Failure caused by use of the product deviating from the service conditions
   ③ Failure caused by misuse (improper storage, installation, pipe laying, operation or maintenance, etc.)
   ④ Failure caused by fluid contaminants or foreign objects in the fluid
   ⑤ Failure caused by relocation, transport, or falling of the product after delivery
   ⑥ Failure caused by disassembly, repair, or modification done by personnel other than our service personnel
   ⑦ Failure of the product attributed to using materials or according to standards specified by the customer
   ⑧ Failure of the product attributed to using materials provided by the customer
   ⑨ Failure caused due to unavoidable acts of nature such as fires or other natural disasters

3. Scope of Responsibility
   Our responsibility shall be limited to repairs, replacements, or transport expenses covered by this product warranty provision. Expenses or damages caused by said failures above shall not be covered.

4. Applicable Regions
   This product warranty provision shall be applicable to products installed in Japan.

5. Another Agreement
   If another product warranty agreement is made separately with us and clearly states that said agreement shall have priority over this product warranty provision, this provision shall not be applicable.

6. This product warranty provision shall not restrict the customer's legal rights.
Export Department
Phone: +81-3-3598-1400   Fax: +81-3-3598-2700
E-mail: sgk-tk@sgk-p.co.jp

Headquarters
7-24, Nishi-Kobari, Ina-Machi, Saitama, 362-0811 Japan
Phone: +81-48-728-9460   Fax: +81-48-728-9461

Tokyo Sales Office
2-64-11, Akabane, Kita-ku, Tokyo, 115-0045 Japan
Phone: +81-3-3598-1400   Fax: +81-3-3598-2700

Osaka Sales Office
2-9-7, Toyosaki, Kita-ku, Osaka, 531-0072 Japan
Phone: +81-6-6371-8341   Fax: +81-6-6371-6283

Nagoya Sales Office
1-107, Takaharidai, Meito-ku, Nagoya, 465-0054 Japan
Phone: +81-52-701-4068   Fax: +81-52-704-4051

URL http://www.sgk-p.co.jp