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Code:

## Description

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**CIRCUTOR** has a complete range of detuned reactors,  $p = 7\%$ , with a resonance frequency of 189 Hz for 50 Hz networks (or, on demand, 227 Hz for 60 Hz networks). This is the most frequent tuning value to avoid any resonance with the 5th harmonic and over. The set of capacitors-reactors absorbs part of the current of the 5th harmonic and acts as a detuned filter for higher frequencies. In some installations, anyway, other value of  $p(\%)$  can be required, for example, 8,7 % (170 Hz), 14 % (134 Hz).... **CIRCUTOR** can manufacture reactors adapted to any power,  $p(\%)$ , frequency, voltage ( $U_n \leq 1000$  VAC).

Reactors for low power rating, **RZ** range, are built with low losses magnetic sheets and coiled with aluminum wires. A terminal block for the connection of the reactor is fitted. Higher powers are covered by RBH range. These reactors are based on a magnetic sheet core with multiple air gaps, which provides them with excellent characteristics and low loss ratios.

Both **RZ** and **RBZ** reactors are subjected to a varnish vacuum impregnation, based on polyester resin, to increase the insulation, providing a greater mechanical resistance and reducing the level of noise.

## Application

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**RZ** and **RBZ** detuned reactors have been specially designed for their use in installations with capacitor banks with considerably high harmonic distortion rates. The reactors must be connected in series to the proper power capacitor for the satisfactory protection of the own capacitors and to avoid the resonance effects in the installation.



Code:

## Specifications

### AC power supply

|           |       |
|-----------|-------|
| Frequency | 50 Hz |
|-----------|-------|

### Electrical characteristics

|                             |                                 |
|-----------------------------|---------------------------------|
| Permanent overload          | 1,17 x In                       |
| Linearity (5% L)            | 1,75 x In                       |
| Maximum transient current   | 2 In (1 min)                    |
| Voltage                     | 400 V, on request: up to 1000 V |
| Tolerance L                 | ± 5 %                           |
| L value (mH)                | 8.15                            |
| Insulation voltage, circuit | 3 kV                            |

### Electrical characteristic

|                          |               |
|--------------------------|---------------|
| Overvoltage factor (p %) | 14 % (134 Hz) |
|--------------------------|---------------|

### Mechanical characteristics

|                                  |                                                |
|----------------------------------|------------------------------------------------|
| Size (mm) width x height x depth | 250 x 245 x 130 (mm)                           |
| Envelope                         | Conductor type: Aluminium strip / copper cable |
| Weight (kg)                      | 16                                             |

### Environmental characteristics

|                                   |                                                 |
|-----------------------------------|-------------------------------------------------|
| Thermal Class                     | class F (+155 °C) On request: class H (+180 °C) |
| Protection class                  | IP 00                                           |
| Installation, location, position. | Inside                                          |
| Ambient temperature               | -10 ... +45 °C                                  |

### Standards

|           |                         |
|-----------|-------------------------|
| Standards | UNE-EN 60289, IEC 60076 |
|-----------|-------------------------|

### Protection

|                      |                      |
|----------------------|----------------------|
| Circuit breaker type | 9125°C NC thermostat |
|----------------------|----------------------|

### RZ-RBZ

Reactors III for detuned filters

| CODE                                         | TYPE        | L(mH) | For capacitor  | In (A) | Frequency (Hz) | kvar (400 V) | Losses | Un (V) | P% |
|----------------------------------------------|-------------|-------|----------------|--------|----------------|--------------|--------|--------|----|
| 400 Vac, 50 Hz, f resonance = 189 Hz / p= 7% |             |       |                |        |                |              |        |        |    |
| P73110.                                      | RZ-5-400    | 7,66  | CLZ-FP-46/6,25 | 7,2    | 50             | 5            | 26     | 400    | 7% |
| P73112.                                      | RZ-6,25-400 | 6,1   | CLZ-FP-52/10   | 9      | 50             | 6,25         | 33     | 400    | 7% |



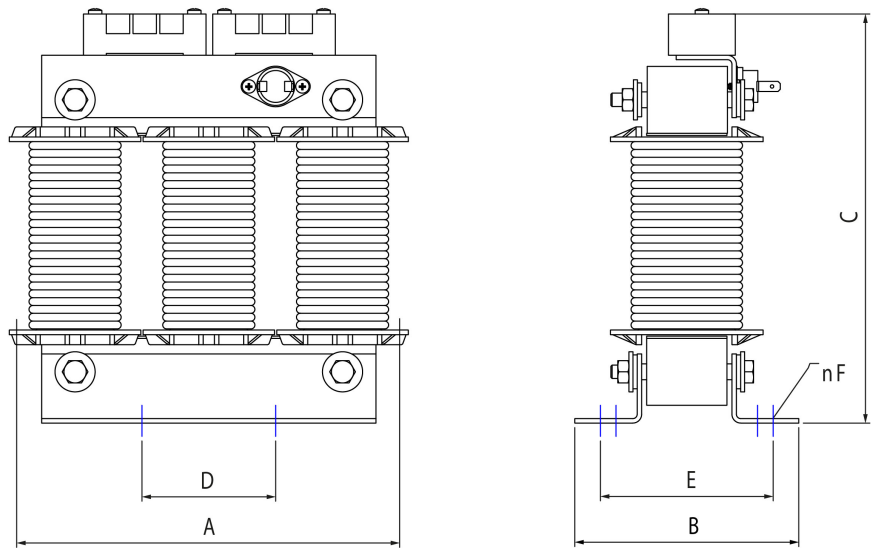
Code:

| CODE    | TYPE        | L(mH) | For capacitor      | In (A) | Frequency (Hz) | kvar (400 V) | Losses | Un (V) | P% |
|---------|-------------|-------|--------------------|--------|----------------|--------------|--------|--------|----|
| P73115. | RZ-10-400   | 3,83  | CLZ-FP-46/12,5     | 15     | 50             | 10           | 52     | 400    | 7% |
| P73117. | RZ-12,5-400 | 3,05  | CLZ-FP-46/15       | 18     | 50             | 12,5         | 57     | 400    | 7% |
| P73120. | RZ-15-400   | 2,55  | CLZ-FP-46/19       | 22     | 50             | 15           | 59     | 400    | 7% |
| P73125. | RBZ-20-400  | 1,91  | CLZ-FP-46/25       | 29     | 50             | 20           | 79     | 400    | 7% |
| P73130. | RBZ-25-400  | 1,53  | CLZ-FP-46/30       | 36     | 50             | 25           | 93     | 400    | 7% |
| P73135. | RBZ-30-400  | 1,27  | 2 x CLZ-FP-46/19   | 43     | 50             | 30           | 124    | 400    | 7% |
| P73140. | RBZ-40-400  | 0,95  | 2 x CLZ-FP-46/25   | 58     | 50             | 40           | 149    | 400    | 7% |
| P73145. | RBZ-50-400  | 0,76  | 2 x CLZ-FP-46/30   | 72     | 50             | 50           | 189    | 400    | 7% |
| P73150. | RBZ-60-400  | 0,63  | 3 x CLZ-FP-46/25   | 87     | 50             | 60           | 210    | 400    | 7% |
| P73155. | RBZ-80-400  | 0,48  | 3 x CLZ-FP-46/33,3 | 115    | 50             | 80           | 241    | 400    | 7% |



Code:

Dimensions



| Tipo        | A<br>mm | B<br>mm | C<br>mm | D*<br>mm | E*<br>mm | F<br>mm | G<br>mm | kg  |
|-------------|---------|---------|---------|----------|----------|---------|---------|-----|
| RZ-5-400    | 155     | 76      | 165     | 75       | 55       | 7       | -       | 4   |
| RZ-6,24-400 | 180     | 112     | 190     | 90       | 75       | 7       | -       | 6   |
| RZ-10-400   | 180     | 112     | 190     | 90       | 75       | 7       | -       | 6,5 |
| RZ-12,5-400 | 180     | 112     | 190     | 90       | 75       | 7       | -       | 7   |
| RZ-15-400   | 180     | 112     | 190     | 90       | 75       | 7       | -       | 8   |

| Tipo       | A<br>mm | B<br>mm | C<br>mm | D*<br>mm | E*<br>mm | F<br>mm | G<br>mm | kg |
|------------|---------|---------|---------|----------|----------|---------|---------|----|
| REZ-05-400 | 150     | 90      | 155     | 75       | 70       | 7       | -       | 4  |
| REZ-10-400 | 180     | 110     | 195     | 90       | 83       | 7       | -       | 7  |
| REZ-15-400 | 180     | 120     | 195     | 90       | 93       | 7       | -       | 9  |
| REZ-20-400 | 250     | 130     | 245     | 130      | 98       | 7       | -       | 15 |
| REZ-25-400 | 250     | 130     | 245     | 130      | 98       | 7       | -       | 16 |
| REZ-30-400 | 250     | 130     | 245     | 130      | 98       | 7       | -       | 17 |

\* Distance between fixations