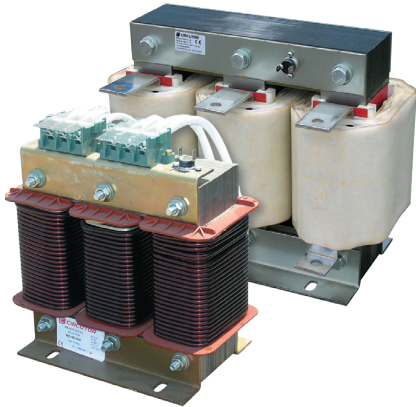


RE / RBE

Three-phase reactors for static capacitor banks



Description

CIRCUTOR has standardised the reactors of the **RE / RBE** series for their use in static capacitor banks. The best operation of the unit requires the reactors to be connected within the triangle made up of the capacitor-reactor group. At the same power rating, the **RE / RBE** reactors have a nominal current value that is 1.73 times lower and an inductance value that is 3 times higher than that in an **R / RB** reactor.

There is a standard range of 400 V rejection reactors with $p = 7\%$, with a resonance frequency of 189 Hz for 50 Hz networks (or 227 Hz on demand for 60 Hz networks). In addition, reactors can be manufactured on demand for static capacitor banks adapted to any value of the power rating, $p\%$, voltage and frequency.

RE-type low-power reactors are built with low-loss plates and are coiled with copper wire. The connection is made using suitable terminals. In the case of higher power ratings, **RBE** reactors are used, with a magnetic plate nucleus and multiple air gaps, which offer excellent features and a low loss ratio. The coils are made with an aluminium band (or copper band, on demand). The input and output connections run through a busbar. Both **RE** and **RBE** type reactors are impregnated with a varnish in a vacuum to increase insulation and reduce noise levels.

Application

The rejection reactors of the **RE / RBE** series have been specifically designed for use in static capacitor banks in installations with a high harmonic content. The reactors must be connected in series with each capacitor for adequate protection of the capacitors and the static operations module, and to avoid resonance effects in the installation.

Technical features

| | | |
|-------------------------|-------------------------------|--|
| Features | Voltage | 400 V On demand: up to 1,000 V |
| | Mains frequency | 50 Hz On demand: 60 Hz |
| | Power | According to the table Other values on demand |
| | Value of $p\%$ | 7% (189 Hz) Other values on demand |
| | Type of conductor | RE: copper wire RBE: aluminium band |
| | Tolerance L | $\pm 5\%$ |
| | Linearity (5% L) | $1.8 I_n$ |
| | Insulation voltage | 4 kV |
| | Maximum room temperature | -10 °C...+45 °C |
| | Internal insulation | Class F (155 °C) On demand: Class H (180 °C) |
| Maximum overload | Permanent | $1.17 I_n$ |
| | Temporary (1 min) | $2 I_n$ |
| Safety | Protection thermostat | Opening at 90 °C |
| | Protection degree | IP 00 |
| | Installation | Interior |
| Standards | UNE-EN60289, IEC 60076 | |

RE / RBE

Three-phase reactors for static capacitor banks

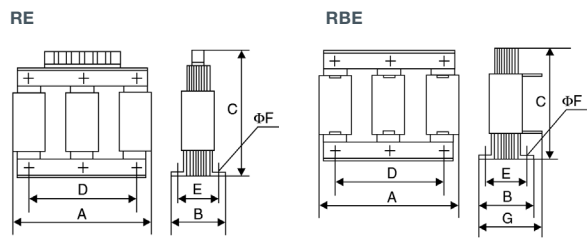
References

RE/ RBE series reactors III at 400 Vac, 50 Hz, p = 7% (189 Hz)

| Type | Code | For capacitor | kvar | I_n (A) | L (mH) | Losses (W) | Weight (kg) |
|----------------------|--------|-----------------|------|-----------|--------|------------|-------------|
| RE-5-400 / 6-460 | P70210 | CF 46 / 6-6B | 5 | 5 | 23,67 | 25 | 6 |
| RE-10-400 / 12,5-460 | P70215 | CF 46 / 12,5-6B | 10 | 9 | 11,27 | 50 | 8 |
| RE-15-400 / 19-460 | P70220 | CF 46 / 19-6B | 15 | 13 | 7,50 | 57 | 9,5 |
| RE-20-400 / 25-460 | P70225 | CF 46 / 25-6B | 20 | 17 | 5,68 | 76 | 11,5 |
| RE-25-400 / 30-460 | P70230 | CF 46 / 30-6B | 25 | 21 | 4,68 | 90 | 17 |
| RE-30-400 / 37-460 | P70235 | CF 46 / 37-6B | 30 | 26 | 3,84 | 120 | 20,5 |
| RE-40-400 / 50-460 | P70240 | CF 46 / 50-6B | 40 | 35 | 2,84 | 145 | 25,5 |
| RBE-50-400 / 62-460 | P70245 | CF 46 / 62-6B | 50 | 42 | 2,29 | 185 | 29 |
| RBE-60-400 / 74-460 | P70250 | CF 46 / 74-6B | 60 | 51 | 1,89 | 205 | 30 |
| RBE-80-400 / 100-460 | P70255 | CF 46 / 100-6B | 80 | 68 | 1,42 | 235 | 41 |

Dimensions

| Type | a | b | c | d | e | f | g |
|------------|-----|-----|-----|-----|-----|----|-----|
| RE-5-400 | 155 | 92 | 165 | 75 | 75 | 7 | - |
| RE-10-400 | 180 | 102 | 190 | 90 | 75 | 7 | - |
| RE-15-400 | 180 | 112 | 190 | 90 | 85 | 7 | - |
| RE-20-400 | 180 | 122 | 190 | 90 | 95 | 7 | - |
| RE-25-400 | 240 | 122 | 250 | 130 | 90 | 9 | - |
| RE-30-400 | 240 | 132 | 250 | 130 | 100 | 9 | - |
| RE-40-400 | 240 | 147 | 250 | 130 | 115 | 9 | - |
| RBE-50-400 | 310 | 154 | 233 | 160 | 120 | 9 | 185 |
| RBE-60-400 | 310 | 154 | 234 | 160 | 120 | 9 | 185 |
| RBE-80-400 | 338 | 165 | 280 | 160 | 130 | 11 | 195 |



Connections

