

RBX / RX

Reactors



Description

CIRCUTOR has a standard range of rejection reactors $p = 7\%$, with a resonance frequency of 189 Hz for 50 Hz networks (or 227 Hz on demand for 60 Hz networks). This is the most frequent tuning value to avoid any resonance of the 5th harmonic and higher. The capacitor-reactor assembly absorbs the portion of the current of the 5th order harmonic and acts as a detuned filter for higher frequencies. In some installations, other values of $p\%$ are required, for example 5.6% (210 Hz), 6% (204 Hz), 14% (134 Hz), etc.

CIRCUTOR can build reactors on demand, which will be adapted to any power rating, $p\%$, voltage and frequency. **RX**-type low-power reactors are built with low-loss plates and are coiled with a copper conductor. The connection is made using suitable terminals. In the case of higher power ratings, **RBX** reactors are used, with a magnetic plate nucleus with multiple air gaps, which offer excellent features and a very low loss ratio. Aluminium band coils are used (or copper band on demand) and the input and output connections run through a busbar.

Both the **RX** and **RBX** reactors are impregnated with varnish in a vacuum to increase insulation, providing greater mechanical resistance and reducing noise levels.

Applications

The rejection reactors of the **RX / RBX** series have been specifically designed for use in capacitor banks in installations with a high harmonic content. The reactors must be connected in series to each capacitor to ensure adequate protection of the capacitors and to prevent resonance effects in the installation.

Technical features

Electrical features	Voltage	400 V / 480 V, on demand: up to 1000 V
	Network frequency	50 / 60 Hz
	Nominal power	Power rating I_n in accordance with selection table
	Value of $p\%$	7 % (189 Hz) 5,67 % (210 / 252 Hz) 14 % (134 / 160 Hz)
	Type of conductor	Aluminum band / copper wire
	Tolerance L	$\pm 5\%$
	Linearity (5 % L)	$1,8 \times I_n$
	Isolation voltage	4 kV
	Maximum room temperature	-10 ... +45 °C
	Internal isolation	Class F (155 °C) On demand: Class H (180 °C)
Maximum overload	Permanent	$1,17 \times I_n$
	Temporary (1 min)	$2 \times I_n$
Safety	Protection thermostat	Opening @ 90 °C
	Degree of protection	IP 00
	Installation	Indoor
Standards	EN-60289, IEC 60076	

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References

Reactors 400 V - 50 Hz, 7% / 189 Hz

Type	Code	Inductance	Rated Power	CLZ model	CFB model	For contactor
RX-5-400-7%	P72110	7.66 mH	5 kvar	CLZ-FP-46/6,25-HD	CFB-46/6	CMC-7,5B
RX-6.25-400-7%	P72112	6.12 mH	6.25 kvar	CLZ-FP-52/10-HD	CFB-46/7,75	CMC-7,5B
RX-10-400-7%	P72115	3.83 mH	10 kvar	CLZ-FP-46/12,5-HD	CFB-46/12,5	CMC-12B
RX-12.5-400-7%	P72117	3.06 mH	12.5 kvar	CLZ-FP-46/15-HD	CFB-46/15	CMC-12B
RX-15-400-7%	P72120	2.55 mH	15 kvar	CLZ-FP-46/19-HD	CFB-46/19	CMC-20B
RBX-20-400-7%	P72125	1.92 mH	20 kvar	CLZ-FP-46/25-HD	CFB-46/25	CMC-20B
RBX-25-400-7%	P72130	1.53 mH	25 kvar	CLZ-FP-46/30-HD	CFB-46/30	CMC-32B
RBX-30-400-7%	P72135	1.27 mH	30 kvar	2 x CLZ-FP-46/19-HD	CFB-46/37	CMC-40B
RBX-40-400-7%	P72140	0.95 mH	40 kvar	2 x CLZ-FP-46/25-HD	CFB-46/50	CMC-75B
RBX-50-400-7%	P72145	0.76 mH	50 kvar	2 x CLZ-FP-46/30-HD	CFB-46/62	CMC-75B
RBX-60-400-7%	P72150	0.63 mH	60 kvar	3 x CLZ-FP-46/25-HD	CFB-46/74	CMC-85B
RBX-80-400-7%	P72155	0.47 mH	80 kvar	4 x CLZ-FP-46/25-HD	CFB-46/100	CMC-150B

Reactors 400 V - 50 Hz, 14% / 134 Hz

Type	Code	Inductance	Rated Power	CLZ model	CFB model	For contactor
RX-5-400-14%	P71021	16.31 mH	5 kvar	CLZ-FP-52/7,5-HD	CFB-52/7,5	CMC-7,5B
RX-10-400-14%	P71022	8.15 mH	10 kvar	CLZ-FP-52/15-HD	CFB-52/15	CMC-12B
RX-12.5-400-14%	P71023	6.52 mH	12.5 kvar	CLZ-FP-52/20-HD	CFB-52/19	CMC-12B
RX-15-400-14%	P71024	5.43 mH	15 kvar	CLZ-FP-52/25-HD	CFB-52/23	CMC-20B
RX-20-400-14%	P71025	4.07 mH	20 kvar	CLZ-FP-52/30-HD	CFB-52/30	CMC-20B
RBX-25-400-14%	P72330	3.26 mH	25 kvar	CLZ-FP-52/37,5-HD	CFB-52/38	CMC-32B
RBX-30-400-14%	P72335	2.71 mH	30 kvar	CLZ-FP-52/25-HD + CLZ-FP-52/20-HD	CFB-52/46	CMC-40B
RBX-40-400-14%	P72340	2.03 mH	40 kvar	2 x CLZ-FP-52/30-HD	CFB-52/60,5	CMC-75B
RBX-50-400-14%	P72345	1.63 mH	50 kvar	2 x CLZ-FP-52/37,5-HD	CFB-52/76	CMC-75B
RBX-60-400-14%	P72350	1.35 mH	60 kvar	3 x CLZ-FP-52/30-HD	CFB-52/91	CMC-85B

Reactors 400 V - 50 Hz, 5,67% / 210 Hz

Type	Code	Inductance	Rated Power	CLZ model	CFB model	For contactor
RX-5-440-5,67%	P72210	6.11 mH	5 kvar	CLZ-FP-46/6,25	CFB-46/6	CMC-7,5B
RX-6.25-440-5,67%	P72212	4.88 mH	6,25 kvar	CLZ-FP-52/10	CFB-46/7,75	CMC-7,5B
RX-10-440-5,67%	P72215	3.05 mH	10 kvar	CLZ-FP-46/12,5	CFB-46/12,5	CMC-12B
RX-12.5-440-5,67%	P72217	2.44 mH	12,5 kvar	CLZ-FP-46/15	CFB-46/15	CMC-12B
RX-15-440-5,67%	P72220	2.04 mH	15 kvar	CLZ-FP-46/19	CFB-46/19	CMC-20B
RBX-20-440-5,67%	P72225	1.53 mH	20 kvar	CLZ-FP-46/25	CFB-46/25	CMC-20B
RBX-25-440-5,67%	P72230	1.22 mH	25 kvar	CLZ-FP-46/30	CFB-46/30	CMC-32B
RBX-30-440-5,67%	P72235	1.02 mH	30 kvar	2 x CLZ-FP-46/19	CFB-46/37	CMC-40B
RBX-40-440-5,67%	P72240	0.76 mH	40 kvar	2 x CLZ-FP-46/25	CFB-46/50	CMC-75B
RBX-50-440-5,67%	P72245	0.61 mH	50 kvar	2 x CLZ-FP-46/30	CFB-46/62	CMC-75B
RBX-60-440-5,67%	P72250	0.51 mH	60 kvar	2 x CLZ-FP-46/25	CFB-46/74	CMC-85B
RBX-80-440-5,67%	P72255	0.38 mH	80 kvar	4 x CLZ-FP-46/25	CFB-46/100	CMC-150B

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References

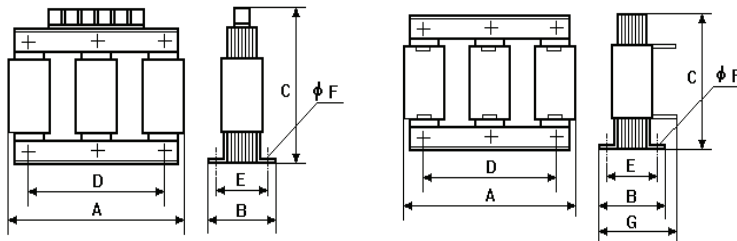
Reactors 480 V - 60 Hz, 7% / 227 Hz

Type	Code	Inductance	Rated Power	CLZ model	CFB model	For contactor
RX-6,25-480-60Hz-7%	P721120017000	7,66 mH	6,25 kvar	CLZ-FP-52/7,5-HD	CFB-55/7,5-60Hz	CMC-7,5B
RX-7,5-480-60Hz-7%	P721130017000	6.12 mH	7,5 kvar	CLZ-FP-52/10-HD	CFB-55/9-60Hz	CMC-7,5B
RX-12,5-480-60Hz-7%	P721170017000	3.83 mH	12,5 kvar	CLZ-FP-52/15-HD	CFB-55/15-60Hz	CMC-12B
RX-15-480-60Hz-7%	P721200017000	3.06 mH	15 kvar	CLZ-FP-52/10-HD + CLZ-FP-52/7,5-HD	CFB-55/18,5-60Hz	CMC-20B
RX-18-480-60Hz-7%	P721220017000	2.55 mH	18 kvar	CLZ-FP-52/7,5-HD + CLZ-FP-52/15-HD	CFB-55/22-60Hz	CMC-32B
RBX-25-480-60Hz-7%	P721300017000	1.92 mH	25 kvar	CLZ-FP-52/30-HD	CFB-55/30-60Hz	CMC-40B
RBX-30-480-60Hz-7%	P721350017000	1.53 mH	30 kvar	CLZ-FP-52/10 -HD+ CLZ-FP-52/25-HD	CFB-55/37-60Hz	CMC-75B
RBX-37,5-480-60Hz-7%	P721370017000	1.27 mH	37,5 kvar	CLZ-FP-52/15-HD + CLZ-FP-52/30-HD	CFB-55/44-60Hz	CMC-75B
RBX-50-480-60Hz-7%	P721450017000	0.95 mH	50 kvar	CLZ-FP-52/30-HD x2	CFB-55/60-60Hz	CMC-85B
RBX-60-480-60Hz-7%	P721500017000	0.76 mH	60 kvar	CLZ-FP-52/7,5-HD + CLZ-FP-52/30-HD	CFB-55/74-60Hz	CMC-150B
RBX-75-480-60Hz-7%	P721530017000	0.63 mH	75 kvar	CLZ-FP-52/25-HD + CLZ-FP-52/30-HD x2	CFB-55/89-60Hz	CMC-150B

Reactors 480 V - 60 Hz, 14% / 160 Hz

Type	Code	Inductance	Rated Power	CLZ model	CFB model	For contactor
RX-6-480-60Hz-14%	P710210017300	16.31 mH	6 kvar	CLZ-FP-60/7,5-HD	CFB-60/8-60Hz	CMC-7,5B
RX-12-480-60Hz-14%	P710220017300	8.15 mH	12 kvar	CLZ-FP-60/15-HD	CFB-60/16,5-60Hz	CMC-12B
RX-15-480-60Hz-14%	P710230017300	6.52 mH	15 kvar	CLZ-FP-60/17,5-HD	CFB-60/20,5-60Hz	CMC-20B
RX-18-480-60Hz-14%	P710240017300	5.43 mH	18 kvar	CLZ-FP-60/20-HD	CFB-60/25-60Hz	CMC-20B
RX-24-480-60Hz-14%	P710250017300	4.07 mH	24 kvar	CLZ-FP-60/27,5-HD	CFB-60/33-60Hz	CMC-32B
RBX-30-480-60Hz-14%	P723300017300	3.26 mH	30 kvar	CLZ-FP-60/35-HD	CFB-60/41-60Hz	CMC-40B
RBX-36-480-60Hz-14%	P723350017300	2.71 mH	36 kvar	2 x CLZ-FP-60/20-HD	CFB-60/50-60Hz	CMC-75B
RBX-48-480-60Hz-14%	P723400017300	2.03 mH	48 kvar	2 x CLZ-FP-60/27,5-HD	CFB-60/66-60Hz	CMC-75B
RBX-60-480-60Hz-14%	P723450017300	1.63 mH	60 kvar	2 x CLZ-FP-6035-HD	CFB-60/82-60Hz	CMC-85B
RBX-72-480-60Hz-14%	P723500017300	1.35 mH	72 kvar	3 x CLZ-FP-60/27,5-HD	CFB-60/100-60Hz	CMC-150B

Dimensions



Type	A mm	B mm	C mm	D* mm	E* mm	F mm	G mm	kg
RX-5-400	155	90	165	75	70	7	--	5
RX-6,24-400	180	100	190	90	75	7	--	7
RX-10-400	180	100	190	90	75	7	--	7,5
RX-12,5-400	180	110	190	90	85	7	--	8
RX-15-400	180	110	190	90	85	7	--	8,5
RBX-20-400	235	125	165	150	95	9	145	14
RBX-25-400	235	125	165	150	95	9	145	14
RBX-30-400	255	125	200	160	95	9	150	19
RBX-40-400	255	125	200	160	95	9	150	20
RBX-50-400	255	145	220	160	115	9	175	25
RBX-60-400	280	145	240	180	115	9	175	28
RBX-80-400	305	155	235	180	121	11	190	31