ELINKS PAKISTAN

CAPACITORS GRUPPO ENERGIA

live with energy...

POWER FACTOR CORRECTION
LV CAPACITORS AND REACTORS
Made in Italy

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GRUPPO ENERGIA CAPACITORS live with energy... (Italy)

Power Factor Correction Capacitors
Three Phase

Gruppo Energia Capacitors Family

INTACT BASE (Standard): RCM-INB-3: designed to be used in standard conditions, where there are no significant non-linear loads.
NLL<10%

INTACT PLUS (Heavy Duty) RCM-INP-3: these capacitors function optimally also in difficult conditions, since they are resistant to voltage overloads and to a limited quantity of non-linear loads.
NLL<20%

INTACT AllPOWER (Extra Heavy Duty) RCM-INA-3: highly reliable, these capacitors can operate in harsh environments. They are resistant to a significant quantity of non-linear loads and to high overloads in current and voltage.
Intact AllPower capacitors are also resistant to high temperatures.
NLL<25%.

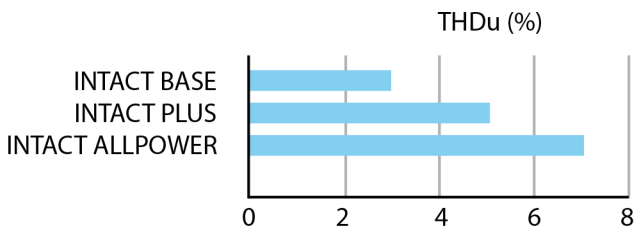
Important Notice:

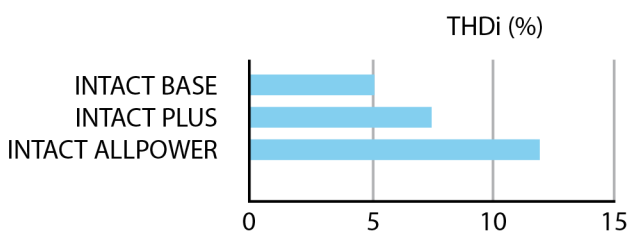
In order to choose the suitable capacitor family correctly, it is highly recommended to determine the harmonic level in your electrical network and to analyze the loads in detail.
An incorrect choice of capacitors may lead to malfunctions and shortening of the product lifespan.

Capacitor Selection Table

Capacitor Family	Type	Applications	Max. Conditions
Intact Base RCM - INB - 3	Standard Capacitor	• Networks with non-significant non-linear loads • Standard overcurrent • Standard operating temperature • Standard switching frequency • Standard life expectancy	• NLL< 10% • 1,5 In • -40 °C /+55 °C • 5000 / year • Up to 100000 h*
Intact Plus RCM - INP - 3	Heavy Duty Capacitor	• Few non-linear loads • Significant overcurrent • Standard operating temperature • Moderate switching frequency • Long life expectancy	• NLL< 20% • 1,8 In • -40 °C /+55 °C • 7000 / year • Up to 160000 h*
Intact AllPower RCM - INA - 3	Extra Heavy Duty Capacitor	• High amount of non-linear loads (up to 25%) • Significant overcurrent • Extreme temperature conditions • High switching frequency • Extra-long life expectancy	• NLL< 25% • 2,5 In • - 45 °C /+60 °C • 10000 / year • Up to 180000 h*

Selection of THDu (%) & THDi (%) level





* The maximum life expectancy is given considering standard operating conditions as rated voltage (Un), rated current (In), 35 °C ambient temperature.
* Attention: The life expectancy will be reduced if capacitors are used at maximum working conditions.

Power Factor Correction Capacitors
Three Phase

Selection of Capacitors According to the Amount of NLL and THD Levels

Capacitors are very sensitive to non-linear loads and in particular to voltage and current harmonics.

Since harmonics are caused by non-linear loads, an indicator of their magnitude is the proportion between the total power of non-linear loads and the power supply transformer rating.

This ratio is called NLL and must be measured carefully.

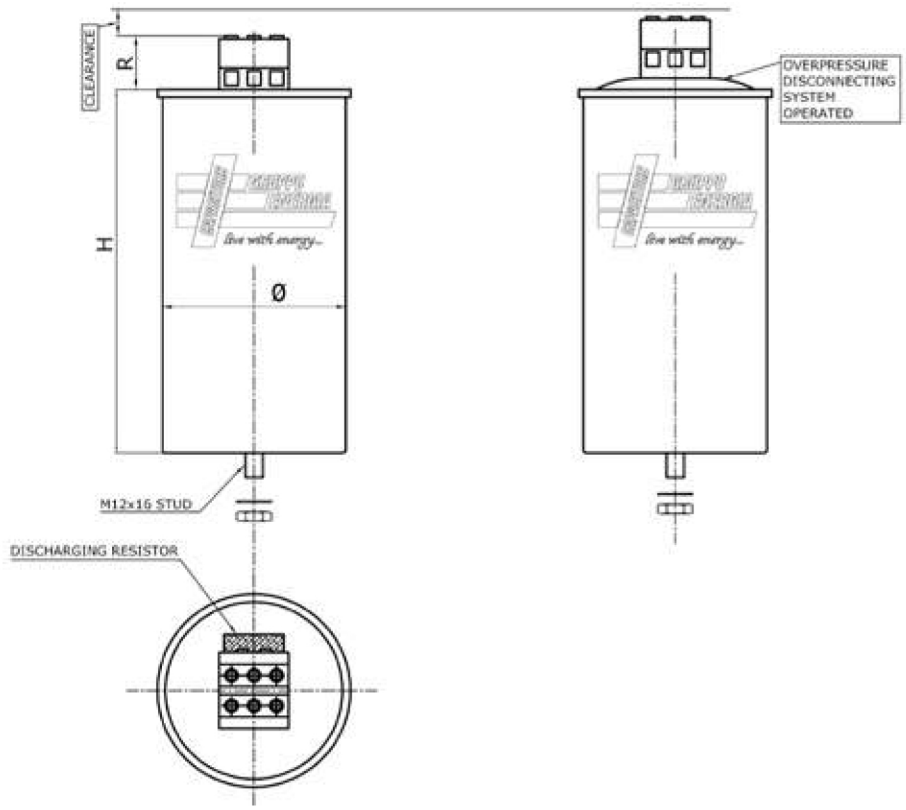
$$N_{LL} = \frac{Total\ Power\ of\ Non-Linear\ Loads}{Instaled\ Transformer\ Rating}$$

It is recommended to use detuned reactors with harmonic rated capacitors for NLL > 20% and up to 50%.

Important Notice:

NLL are an important parameter to take into account when selecting capacitors.
However, this parameter is not sufficient since harmonics in grid may also cause current amplification.
Current amplification can only be detected by an in-depth analysis of the grid.

Construction Diagram



CASE

- Expansion: Maximum 12 mm.
- Clearance: Minimum 15 mm.

MOUNTING

- M12 threaded bolt
- Tightening torque: T= 10 Nm.
- Toothed washer: DIN 6789.
- Hexagonal nut: DIN 439.

TERMINALS

- Finger-proof terminal: Yes.
- **MT 16**
  - For 16 sq mm cable.
  - M4 terminal screw.
  - Tightening torque: T= 1,3 Nm
  - R = 33 ±2
- **MT 25**
  - For 25 sq mm cable.
  - M5 terminal screw.
  - Tightening torque: T= 2,5 Nm
  - R = 33 ±2
- **MT 35**
  - For 35 sq mm cable.
  - M6 terminal screw.
  - Tightening torque: T= 3,0 Nm
  - R = 43 ±2

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Intact BASE - Standard
Capacitors Nll <10%

Technical Specification Intact Base RCM-INB

General	
Standards:	IEC 60831-1:2014, UL810, VDE 0560-46:2014-11
Origin:	100% made in Italy
Voltage range:	220 V to 1000 V
Frequency:	50 Hz / 60 Hz
Power range:	1 kVar to 62,5 kVar
Dielectric losses:	< 0,2 W/kVar
Total losses:	< 0,5 W/kVar
Capacitance tolerance:	± 5%
Voltage test between terminals:	2,15 Un, 50 Hz, 10 seconds (routine test)
Voltage test between terminals:	3,00 Un, 50 Hz, 60 seconds (type test)
Voltage test terminal / case:	≤ 525 V 3000 V, 50 Hz for 10 seconds or > 525 V 3660 V, 50 Hz for 10 seconds
Insulation level:	3 / 8 kV
External discharge resistor:	50 V in 1 min. 1 kVar - 30 kVar or 75 V in 3 min. 30,5 kVar - 62,5 kVar
Cooling:	Natural air or forced ventilation

Operating Conditions	
Ambient temperature:	-40 °C / 55 °C
Humidity:	up to 95%
Altitude above sea level:	2000 m.
Overvoltage:	Un+10% for 8 hrs. daily Un+15% for 30 min. daily Un+20% for 5 min. daily Un+30% for 1 min. daily
Overcurrent*:	up to 1,5 x In (Including Harmonics)
Inrush current:	up to 180 x In
Service life:	up to 100.000 hrs.
Harmonic presence:	Nll < 10%

Safety Features	
Safety:	Overpressure disconnector on 3 phase + Incorporated fuses + Self-healing + Discharge resistor
Protection degree:	IP20

Construction	
Casing:	Sealed metal (aluminum) enclosure
Dielectric:	Al/Zn slope metalized polypropylene film, wave-cut
Filling:	Gel-type polyurethane resin, Non-PCB

Installation	
Mounting position:	Preferably vertical for a better cooling
Fastening & Earthing:	Through 1 point, screw M12 at the bottom

* This maximum value may vary with each capacitor.

3 Phase RCM-INB Capacitors - 400 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A400INB16(X)	1,25	8,3	1,8	MT 16	75x185
3PF2,5A400INB16(X)	2,5	16,6	3,6	MT 16	75x185
3PF5A400INB16(X)	5	33,2	7,2	MT 16	75x185
3PF6,25A400INB16(X)	6,25	41,4	9,0	MT 16	75x185
3PF7,5A400INB16(X)	7,5	49,7	10,8	MT 16	85x185
3PF10A400INB16(X)	10	66,3	14,4	MT 16	75x260
3PF12,5A400INB16(X)	12,5	82,9	18,0	MT 16	75x260
3PF15A400INB16(X)	15	99,5	21,7	MT 16	85x260
3PF20A400INB25(X)	20	132,6	28,9	MT 25	100x260
3PF25A400INB25(X)	25	165,8	36,1	MT 25	100x285
3PF30A400INB25(X)	30	198,9	43,3	MT 25	116x285
3PF33,3A400INB25(X)	33,3	220,8	48,1	MT 25	116x285
3PF40A400INB25(X)	40	265,3	57,7	MT 25	136x300
3PF50A400INB35(X)	50	331,6	72,2	MT 35	136x300
3PF62,5A400INB35(X)	62,5	414,5	90,2	MT 35	136x375

3 Phase RCM-INB Capacitors - 415 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A415INB16(X)	1,25	7,7	1,7	MT 16	75x185
3PF2,5A415INB16(X)	2,5	15,4	3,5	MT 16	75x185
3PF5A415INB16(X)	5	30,8	7,0	MT 16	75x185
3PF6,25A415INB16(X)	6,25	38,5	8,7	MT 16	75x185
3PF7,5A415INB16(X)	7,5	46,2	10,4	MT 16	75x185
3PF10A415INB16(X)	10	61,6	13,9	MT 16	85x185
3PF12,5A415INB16(X)	12,5	77,0	17,4	MT 16	85x225
3PF15A415INB16(X)	15	92,4	20,9	MT 16	85x260
3PF20A415INB25(X)	20	123,2	27,8	MT 25	85x285
3PF25A415INB25(X)	25	154,0	34,8	MT 25	100x260
3PF30A415INB25(X)	30	184,8	41,7	MT 25	100x285
3PF33,3A415INB25(X)	33,3	205,2	46,3	MT 25	116x285
3PF40A415INB25(X)	40	246,4	55,6	MT 25	136x300
3PF50A415INB35(X)	50	308,0	69,6	MT 35	136x300
3PF62,5A415INB35(X)	62,5	385,0	87,0	MT 35	136x375

3 Phase RCM-INB Capacitors - 440 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A440INB16(X)	1,25	6,9	1,6	MT 16	75 x 185
3PF2,5A440INB16(X)	2,5	13,7	3,3	MT 16	75 x 185
3PF5A440INB16(X)	5	27,4	6,6	MT 16	75 x 185
3PF5,6A440INB16(X)	5,6	30,7	7,3	MT 16	75 x 185
3PF6,25A440INB16(X)	6,25	34,3	8,2	MT 16	75 x 185
3PF7A440INB16(X)	7	38,4	9,2	MT 16	75 x 185
3PF7,5A440INB16(X)	7,5	41,1	9,8	MT 16	85 x 185
3PF10A440INB16(X)	10	54,8	13,1	MT 16	85 x 225
3PF11,3A440INB16(X)	11,3	61,9	14,8	MT 16	85 x 225
3PF12,5A440INB16(X)	12,5	68,5	16,4	MT 16	85 x 225
3PF14,1A440INB16(X)	14,1	77,3	18,5	MT 16	85 x 260
3PF15A440INB16(X)	15	82,2	19,7	MT 16	85 x 260
3PF20A440INB25(X)	20	109,6	26,2	MT 25	85 x 285
3PF22,5A440INB25(X)	22,5	123,3	29,5	MT 25	100 x 260
3PF25A440INB25(X)	25	137,0	32,8	MT 25	100 x 260
3PF28,1A440INB25(X)	28,1	154,0	36,9	MT 25	100 x 285
3PF30A440INB25(X)	30	164,4	39,4	MT 25	100 x 285
3PF33,3A440INB25(X)	33,3	182,5	43,7	MT 25	116 x 285
3PF40A440INB25(X)	40	219,2	52,5	MT 25	136 x 300
3PF50A440INB35(X)	50	274,0	65,6	MT 35	136 x 300
3PF62,5A440INB35(X)	62,5	342,5	82,0	MT 35	136 x 375

3 Phase RCM-INB Capacitors - 480 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A480INB16(X)	1,25	5,8	1,5	MT 16	75 x 185
3PF2,5A480INB16(X)	2,5	11,5	3,0	MT 16	75 x 185
3PF5A480INB16(X)	5	23,0	6,0	MT 16	75 x 185
3PF6,25A480INB16(X)	6,25	28,8	7,5	MT 16	75 x 185
3PF6,7A480INB16(X)	6,7	30,9	8,1	MT 16	85 x 185
3PF7,5A480INB16(X)	7,5	34,5	9,0	MT 16	85 x 185
3PF8,4A480INB16(X)	8,4	38,7	10,1	MT 16	85 x 185
3PF10A480INB16(X)	10	46,1	12,0	MT 16	75 x 260
3PF12,5A480INB16(X)	12,5	57,6	15,0	MT 16	85 x 285
3PF13,4A480INB16(X)	13,4	61,7	16,1	MT 16	85 x 285
3PF15A480INB16(X)	15	69,1	18,0	MT 16	85 x 285
3PF16,7A480INB16(X)	16,7	76,9	20,1	MT 16	85 x 285
3PF20A480INB25(X)	20	92,1	24,1	MT 25	100 x 260
3PF25A480INB25(X)	25	115,1	30,1	MT 25	100 x 285
3PF26,8A480INB25(X)	26,8	123,4	32,2	MT 25	100 x 285
3PF30A480INB25(X)	30	138,2	36,1	MT 25	116 x 285
3PF33,3A480INB25(X)	33,3	153,4	40,1	MT 25	116 x 285
3PF33,5A480INB25(X)	33,5	154,3	40,3	MT 25	116 x 285
3PF40A480INB25(X)	40	184,2	48,1	MT 25	136 x 300
3PF50A480INB35(X)	50	230,3	60,1	MT 35	136 x 300
3PF62,5A480INB35(X)	62,5	287,8	75,2	MT 35	136 x 375

3 Phase RCM-INB Capacitors - 525 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A525INB16(X)	1,25	4,8	1,4	MT 16	75 x 185
3PF2,5A525INB16(X)	2,5	9,6	2,7	MT 16	75 x 185
3PF5A525INB16(X)	5	19,2	5,5	MT 16	75 x 185
3PF6,25A525INB16(X)	6,25	24,1	6,9	MT 16	75 x 185
3PF7,4A525INB16(X)	7,4	28,5	8,1	MT 16	75 x 185
3PF7,5A525INB16(X)	7,5	28,9	8,2	MT 16	75 x 185
3PF9,3A525INB16(X)	9,3	35,8	10,2	MT 16	85 x 185
3PF10A525INB16(X)	10	38,5	11,0	MT 16	85 x 185
3PF12,5A525INB16(X)	12,5	48,1	13,7	MT 16	75 x 260
3PF14,8A525INB16(X)	14,8	57,0	16,3	MT 16	85 x 260
3PF15A525INB16(X)	15	57,7	16,5	MT 16	85 x 260
3PF18,5A525INB16(X)	18,5	71,2	20,3	MT 16	85 x 285
3PF20A525INB25(X)	20	77,0	22,0	MT 25	100 x 260
3PF25A525INB25(X)	25	96,2	27,5	MT 25	100 x 260
3PF29,6A525INB25(X)	29,6	113,9	32,6	MT 25	100 x 285
3PF30A525INB25(X)	30	115,5	33,0	MT 25	100 x 285
3PF33,3A525INB25(X)	33,3	128,2	36,6	MT 25	116 x 285
3PF37A525INB25(X)	37	142,4	40,7	MT 25	116 x 285
3PF40A525INB25(X)	40	154,0	44,0	MT 25	116 x 285
3PF50A525INB35(X)	50	192,5	55,0	MT 35	136 x 300
3PF62,5A525INB35(X)	62,5	240,6	68,7	MT 35	136 x 300

3 Phase RCM-INB Capacitors - 690 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF5A690INB16(X)	5	11,1	4,2	MT 16	85 x 185
3PF6,25A690INB16(X)	6,25	13,9	5,2	MT 16	75 x 260
3PF7,5A690INB16(X)	7,5	16,7	6,3	MT 16	75 x 260
3PF10A690INB16(X)	10	22,3	8,4	MT 16	85 x 260
3PF12,5A690INB16(X)	12,5	27,9	10,5	MT 16	85 x 285
3PF15A690INB25(X)	15	33,4	12,6	MT 25	100 x 260
3PF20A690INB25(X)	20	44,6	16,7	MT 25	100 x 285
3PF25A690INB25(X)	25	55,7	20,9	MT 25	116 x 285
3PF30A690INB25(X)	30	66,9	25,1	MT 25	136 x 300
3PF40A690INB25(X)	40	89,1	33,5	MT 25	136 x 300
3PF50A690INB35(X)	50	111,4	41,8	MT 35	136 x 375

3 Phase RCM-INB Capacitors - 780 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF12,5A780INB16(X)	12,5	21,8	9,3	MT 16	85 x 285
3PF20A780INB25(X)	20	34,9	14,8	MT 25	116 x 285
3PF25A780INB25(X)	25	43,6	18,5	MT 25	116 x 285
3PF40A780INB25(X)	40	69,8	29,6	MT 25	136 x 375
3PF50A780INB35(X)	50	87,2	37,0	MT 35	136 x 375

* The last alphanumeric symbol is supplied at the time of order by Gruppo Energia once the desired capacitor size has been selected.
** All dimensions will be confirmed at the time of order.

INTACT PLUS - HEAVY DUTY CAPACITORS NLL <20%

TECHNICAL SPECIFICATION INTACT PLUS RCM-INP

General	
Standards:	IEC 60831-1:2014, UL810, VDE 0560-46:2014-11
Origin:	100% made in Italy
Voltage range:	220 V to 1000 V
Frequency:	50 Hz / 60 Hz
Power range:	1 kVar to 50 kVar
Dielectric losses:	< 0,2 W/kVar
Total losses:	< 0,5 W/kVar
Capacitance tolerance:	± 5%
Voltage test between terminals:	2,15 Un, 50 Hz, 10 seconds (routine test)
Voltage test between terminals:	3,00 Un, 50 Hz, 60 seconds (type test)
Voltage test terminal / case:	≤ 525 V 3000 V, 50 Hz for 10 seconds or > 525 V 3660 V, 50 Hz for 10 seconds
Insulation level:	3 / 8 kV
External discharge resistor:	50 V in 1 min. 1 kVar - 30 kVar or 75 V in 3 min. 30,5 kVar - 62,5 kVar
Cooling:	Natural air or forced ventilation

Operating Conditions	
Ambient temperature:	-40 °C / 55 °C
Humidity:	up to 95%
Altitude above sea level:	2000 m.
Overvoltage:	Un+10% for 8 hrs. daily Un+15% for 30 min. daily Un+20% for 5 min. daily Un+30% for 1 min. daily
Overcurrent*:	up to 1,8 x In (Including Harmonics)
Inrush current:	up to 250 x In
Service life:	up to 160.000 hrs.
Harmonic presence:	NLL < 20%

Safety Features	
Safety:	Overpressure disconnector on 3 phase + Incorporated fuses + Self-healing + Discharge resistor
Protection degree:	IP20

Construction	
Casing:	Sealed metal (aluminum) enclosure
Dielectric:	Al/Zn slope metalized polypropylene film, wave-cut
Filling:	Gel-type polyurethane resin, Non-PCB

Installation	
Mounting position:	Preferably vertical for a better cooling
Fastening & Earthing:	Through 1 point, screw M12 at the bottom

* This maximum value may vary with each capacitor.

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INTACT PLUS - HEAVY DUTY
CAPACITORS NLL <20%

3 Phase RCM-INP Capacitors - 400 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A400INP16(X)	1,25	8,3	1,8	MT 16	75 x 185
3PF2,5A400INP16(X)	2,5	16,6	3,6	MT 16	75 x 185
3PF5A400INP16(X)	5	33,2	7,2	MT 16	75 x 185
3PF6,25A400INP16(X)	6,25	41,4	9,0	MT 16	85 x 185
3PF7,5A400INP16(X)	7,5	49,7	10,8	MT 16	85 x 185
3PF10A400INP16(X)	10	66,3	14,4	MT 16	75 x 260
3PF12,5A400INP16(X)	12,5	82,9	18,0	MT 16	85 x 260
3PF15A400INP16(X)	15	99,5	21,7	MT 16	85 x 285
3PF20A400INP25(X)	20	132,6	28,9	MT 25	100 x 260
3PF25A400INP25(X)	25	165,8	36,1	MT 25	100 x 285
3PF30A400INP25(X)	30	198,9	43,3	MT 25	116 x 285
3PF33,3A400INP25(X)	33,3	220,8	48,1	MT 25	116 x 285
3PF40A400INP35(X)	40	265,3	57,7	MT 35	136 x 300
3PF50A400INP35(X)	50	331,6	72,2	MT 35	136 x 375

3 Phase RCM-INP Capacitors - 415 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A415INP16(X)	1,25	7,7	1,7	MT 16	75 x 185
3PF2,5A415INP16(X)	2,5	15,4	3,5	MT 16	75 x 185
3PF5A415INP16(X)	5	30,8	7,0	MT 16	75 x 185
3PF6,25A415INP16(X)	6,25	38,5	8,7	MT 16	75 x 185
3PF7,5A415INP16(X)	7,5	46,2	10,4	MT 16	85 x 185
3PF10A415INP16(X)	10	61,6	13,9	MT 16	75 x 260
3PF12,5A415INP16(X)	12,5	77,0	17,4	MT 16	85 x 260
3PF15A415INP16(X)	15	92,4	20,9	MT 16	85 x 260
3PF20A415INP25(X)	20	123,2	27,8	MT 25	100 x 260
3PF25A415INP25(X)	25	154,0	34,8	MT 25	100 x 285
3PF30A415INP25(X)	30	184,8	41,7	MT 25	116 x 285
3PF33,3A415INP25(X)	33,3	205,2	46,3	MT 25	116 x 285
3PF40A415INP35(X)	40	246,4	55,6	MT 35	136 x 300
3PF50A415INP35(X)	50	308,0	69,6	MT 35	136 x 375

3 Phase RCM-INP Capacitors - 440 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A440INP16(X)	1,25	6,9	1,6	MT 16	75 x 185
3PF2,5A440INP16(X)	2,5	13,7	3,3	MT 16	75 x 185
3PF5A440INP16(X)	5	27,4	6,6	MT 16	75 x 185
3PF6,25A440INP16(X)	6,25	34,3	8,2	MT 16	75 x 185
3PF7,5A440INP16(X)	7,5	41,1	9,8	MT 16	85 x 185
3PF10A440INP16(X)	10	54,8	13,1	MT 16	85 x 225
3PF12,5A440INP16(X)	12,5	68,5	16,4	MT 16	85 x 260
3PF15A440INP16(X)	15	82,2	19,7	MT 16	85 x 260
3PF20A440INP25(X)	20	109,6	26,2	MT 25	100 x 260
3PF25A440INP25(X)	25	137,0	32,8	MT 25	100 x 285
3PF30A440INP25(X)	30	164,4	39,4	MT 25	116 x 285
3PF33,3A440INP25(X)	33,3	182,5	43,7	MT 25	116 x 285
3PF40A440INP35(X)	40	219,2	52,5	MT 35	136 x 300
3PF50A440INP35(X)	50	274,0	65,6	MT 35	136 x 375

3 Phase RCM-INP Capacitors - 480 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A480INP16(X)	1,25	5,8	1,5	MT 16	75 x 185
3PF2,5A480INP16(X)	2,5	11,5	3,0	MT 16	75 x 185
3PF5A480INP16(X)	5	23,0	6,0	MT 16	85 x 185
3PF6,25A480INP16(X)	6,25	28,8	7,5	MT 16	85 x 185
3PF7,5A480INP16(X)	7,5	34,5	9,0	MT 16	75 x 260
3PF10A480INP16(X)	10	46,1	12,0	MT 16	85 x 260
3PF12,5A480INP16(X)	12,5	57,6	15,0	MT 16	85 x 285
3PF15A480INP16(X)	15	69,1	18,0	MT 16	85 x 285
3PF20A480INP25(X)	20	92,1	24,1	MT 25	100 x 285
3PF25A480INP25(X)	25	115,1	30,1	MT 25	116 x 285
3PF30A480INP25(X)	30	138,2	36,1	MT 25	116 x 285
3PF33,3A480INP25(X)	33,3	153,4	40,1	MT 25	136 x 300
3PF40A480INP25(X)	40	184,2	48,1	MT 25	136 x 300
3PF50A480INP35(X)	50	230,3	60,1	MT 35	136 x 375

3 Phase RCM-INP Capacitors - 525 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A525INP16(X)	1,25	4,8	1,4	MT 16	75 x 185
3PF2,5A525INP16(X)	2,5	9,6	2,7	MT 16	75 x 185
3PF5A525INP16(X)	5	19,2	5,5	MT 16	75 x 185
3PF6,25A525INP16(X)	6,25	24,1	6,9	MT 16	85 x 185
3PF7,5A525INP16(X)	7,5	28,9	8,2	MT 16	85 x 185
3PF10A525INP16(X)	10	38,5	11,0	MT 16	75 x 260
3PF12,5A525INP16(X)	12,5	48,1	13,7	MT 16	85 x 285
3PF15A525INP16(X)	15	57,7	16,5	MT 16	85 x 285
3PF20A525INP25(X)	20	77,0	22,0	MT 25	100 x 260
3PF25A525INP25(X)	25	96,2	27,5	MT 25	100 x 285
3PF30A525INP25(X)	30	115,5	33,0	MT 25	116 x 285
3PF33,3A525INP25(X)	33,3	128,2	36,6	MT 25	116 x 285
3PF40A525INP35(X)	40	154,0	44,0	MT 35	136 x 300
3PF50A525INP35(X)	50	192,5	55,0	MT 35	136 x 300

3 Phase RCM-INP Capacitors - 690 V 50 Hz

Order Code*	Qc	Cn	In	Terminal	ø x H**
	kVar	3 x µF	A	sq mm	mm
3PF1,25A690INP16(X)	1,25	2,8	1,0	MT 16	75 x 185
3PF2,5A690INP16(X)	2,5	5,6	2,1	MT 16	75 x 185
3PF5A690INP16(X)	5	11,1	4,2	MT 16	85 x 185
3PF6,25A690INP16(X)	6,25	13,9	5,2	MT 16	75 x 260
3PF7,5A690INP16(X)	7,5	16,7	6,3	MT 16	75 x 260
3PF10A690INP16(X)	10	22,3	8,4	MT 16	85 x 260
3PF12,5A690INP16(X)	12,5	27,9	10,5	MT 16	85 x 285
3PF15A690INP25(X)	15	33,4	12,6	MT 25	100 x 285
3PF20A690INP25(X)	20	44,6	16,7	MT 25	116 x 285
3PF25A690INP25(X)	25	55,7	20,9	MT 25	116 x 285
3PF30A690INP25(X)	30	66,9	25,1	MT 25	136 x 300
3PF33,3A690INP25(X)	33,3	74,2	27,9	MT 25	136 x 300
3PF40A690INP25(X)	40	89,1	33,5	MT 25	136 x 375
3PF50A690INP35(X)	50	111,4	41,8	MT 35	136 x 375

* The last alphanumeric symbol is supplied at the time of order by Gruppo Energia once the desired capacitor size has been selected.
** All dimensions will be confirmed at the time of order.

Harmonic Detuned Reactors

The use of several power electronic devices and non-linear devices contributes to the generation of harmonics, which adversely affect the operation of capacitors.
Harmonic reactors are designed to protect capacitors and reduce the overall level of harmonics in the network.
Capacitors and reactors form a resonant circuit. The resonance frequency of which is lower than the frequency of the higher harmonic present in the network.
Therefore, the use of harmonic detuned reactors prevents harmonic resonance, capacitor overload and reduces harmonic distortion in the network.
The most common reactor tuning frequencies are 210 Hz (P = 5.67%), 189 Hz (P = 7%) and 134 Hz (P = 14%). P = 14% is used at a high voltage level of the third harmonic.

Selection of harmonic detuned reactors

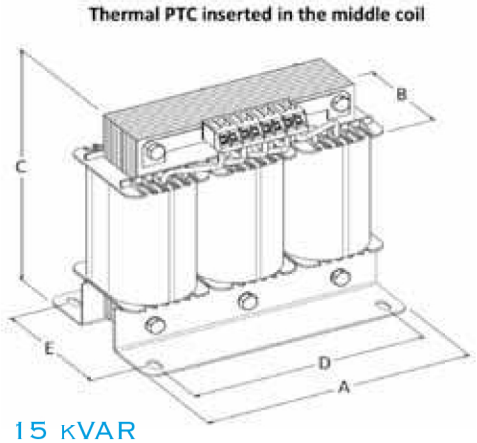
Adjusted rating: Consists of achieving a predefined power, by preselecting several matching reactors and capacitors. This ensures the required power compensation, considering the voltage increase within the resonant circuit.

Non-adjusted rating: This method consists of choosing matching reactors to existing capacitors, considering capacitor values, such as capacitance and voltage.
Be careful: mismatched capacitors are not protected against voltage overloads.
Excessive voltage loading may lead to failure of the capacitors and/or shortening of their service life.

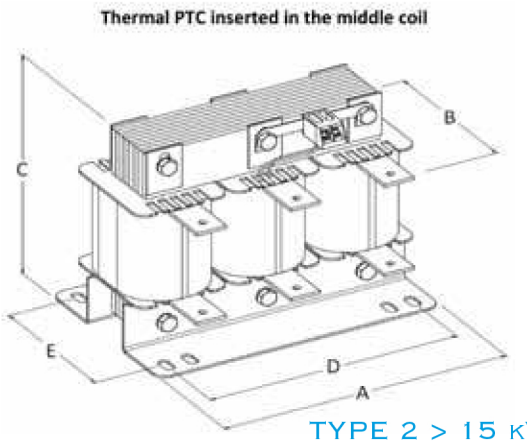
Attention: if you need to install harmonic detuned reactors in an existing system, please contact a specialist who will check the capacitance of the capacitors and confirm that they are not damaged.
This may occur when the capacitors operate without detuned reactors.

General	GE-RT3 Detuned Harmonic Reactors General specification
Standards:	IEC 61558-2-20 EN 61558-2-20
Origin:	100% made in Italy
Voltage range:	220 V to 1000 V
Frequency:	50 Hz — 60 Hz
Relative impedance:	5,67% ; 7% ; 14% (Other on request)
Tuning frequency:	189 Hz / 230 Hz, 134 Hz / 160 Hz, 210 Hz / 250 Hz (at 50 Hz / 60 Hz)
Power range:	2,5 kVar to 100 kVAR (other on request)
Insulation class:	Class H (Other on request)
Winding material:	Al (Cu on request)
Working class:	Class F (Other on request)
Protection degree:	IP00
Test voltage:	3kV/1'
Maximum ambient temperature:	Ta 40 °C / (50 °C or higher on request)

Construction Diagram



TYPE 1 ≤ 15 kVAR



TYPE 2 > 15 kVAR

Harmonic Detuned Reactors GE-RTM3
Adjusted Rating

3 Phase GE-RTM3 Reactors 210 Hz - 400 V P=5,67% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.400R210	2,5	12,2	3,6	180 x 90 x 173	3PF2,9A440INB(XXX)	2,5
GE3RTM5.400R210	5	6,1	7,2	180 x 90 x 173	3PF5.7A440INB(XXX)	5
GE3RTM6,25.400R210	6,25	4,9	9,0	180 x 90 x 173	3PF7,1A440INB(XXX)	6,25
GE3RTM7,5.400R210	7,5	4,1	10,8	180 x 90 x 173	3PF8,6A440INB(XXX)	7,5
GE3RTM10.400R210	10	3,1	14,4	180 x 102 x 173	3PF11,4A440INB(XXX)	10
GE3RTM12,5.400R210	12,5	2,4	18,0	180 x 113 x 173	3PF14,3A440INB(XXX)	12,5
GE3RTM15.400R210	15	2,0	21,7	180 x 128 x 173	3PF17,1A440INB(XXX)	15
GE3RTM20.400R210	20	1,5	28,9	240 x 160 x 185	3PF22,8A440INB(XXX)	20
GE3RTM25.400R210	25	1,2	36,1	240 x 160 x 185	3PF28,5A440INB(XXX)	25
GE3RTM30.400R210	30	1,0	43,3	250 x 165 x 205	3PF34,2A440INB(XXX)	30
GE3RTM40.400R210	40	0,8	57,7	250 x 175 x 205	2 x 3PF22,8A440INB(XXX)	40
GE3RTM50.400R210	50	0,6	72,2	250 x 175 x 205	2 x 3PF28,5A440INB(XXX)	50
GE3RTM75.400R210	75	0,4	108,3	300 x 175 x 260	3 x 3PF28,5A440INB(XXX)	75
GE3RTM100.400R210	100	0,3	144,3	300 x 200 x 260	4 x 3PF28,5A440INB(XXX)	100

3 Phase GE-RTM3 Reactors 210 Hz - 415 V P=5,67% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.415R210	2,5	13,2	3,5	180 x 90 x 173	3PF2,7A440INB(XXX)	2,5
GE3RTM5.415R210	5	6,6	7,0	180 x 90 x 173	3PF5,3A440INB(XXX)	5
GE3RTM6,25.415R210	6,25	5,3	8,7	180 x 90 x 173	3PF6,6A440INB(XXX)	6,25
GE3RTM7,5.415R210	7,5	4,4	10,4	180 x 90 x 173	3PF8A440INB(XXX)	7,5
GE3RTM10.415R210	10	3,3	13,9	180 x 102 x 173	3PF10,6A440INB(XXX)	10
GE3RTM12,5.415R210	12,5	2,6	17,4	180 x 113 x 173	3PF13,3A440INB(XXX)	12,5
GE3RTM15.415R210	15	2,2	20,9	180 x 128 x 173	3PF15,9A440INB(XXX)	15
GE3RTM20.415R210	20	1,6	27,8	240 x 160 x 185	3PF21,2A440INB(XXX)	20
GE3RTM25.415R210	25	1,3	34,8	240 x 160 x 185	3PF26,5A440INB(XXX)	25
GE3RTM30.415R210	30	1,1	41,7	250 x 165 x 205	3PF31,8A440INB(XXX)	30
GE3RTM40.415R210	40	0,8	55,6	250 x 175 x 205	2 x 3PF21,2A440INB(XXX)	40
GE3RTM50.415R210	50	0,7	69,6	250 x 175 x 205	2 x 3PF26,5A440INB(XXX)	50
GE3RTM75.415R210	75	0,4	104,3	300 x 175 x 260	3 x 3PF26,5A440INB(XXX)	75
GE3RTM100.415R210	100	0,3	139,1	300 x 200 x 260	4 x 3PF26,5A440INB(XXX)	100

3 Phase GE-RTM3 Reactors 189 Hz - 400 V P=7% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.400R189	2,5	15,3	3,6	180 x 90 x 173	3PF2,8A440INB(XXX)	2,5
GE3RTM5.400R189	5	7,7	7,2	180 x 90 x 173	3PF5,6A440INB(XXX)	5
GE3RTM6,25.400R189	6,25	6,1	9,0	180 x 90 x 173	3PF7A440INB(XXX)	6,25
GE3RTM7,5.400R189	7,5	5,1	10,8	180 x 90 x 173	3PF8,4A440INB(XXX)	7,5
GE3RTM10.400R189	10	3,8	14,4	180 x 102 x 173	3PF11,3A440INB(XXX)	10
GE3RTM12,5.400R189	12,5	3,1	18,0	180 x 113 x 173	3PF14,1A440INB(XXX)	12,5
GE3RTM15.400R189	15	2,6	21,7	180 x 128 x 173	3PF16,9A440INB(XXX)	15
GE3RTM20.400R189	20	1,9	28,9	240 x 160 x 185	3PF22,5A440INB(XXX)	20
GE3RTM25.400R189	25	1,5	36,1	240 x 160 x 185	3PF28,1A440INB(XXX)	25
GE3RTM30.400R189	30	1,3	43,3	250 x 165 x 205	3PF33,8A440INB(XXX)	30
GE3RTM40.400R189	40	1,0	57,7	250 x 175 x 205	2 x 3PF22,5A440INB(XXX)	40
GE3RTM50.400R189	50	0,8	72,2	250 x 175 x 205	2 x 3PF28,1A440INB(XXX)	50
GE3RTM75.400R189	75	0,5	108,3	300 x 175 x 260	3 x 3PF28,1A440INB(XXX)	75
GE3RTM100.400R189	100	0,4	144,3	300 x 200 x 260	4 x 3PF28,1A440INB(XXX)	100

3 Phase GE-RTM3 Reactors 189 Hz - 415 V P=7% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.415R189	2,5	16,5	3,5	180 x 90 x 173	3PF3,1A480INB(XXX)	2,5
GE3RTM5.415R189	5	8,3	7,0	180 x 90 x 173	3PF6,2A480INB(XXX)	5
GE3RTM6,25.415R189	6,25	6,6	8,7	180 x 90 x 173	3PF7,8A480INB(XXX)	6,25
GE3RTM7,5.415R189	7,5	5,5	10,4	180 x 90 x 173	3PF9,3A480INB(XXX)	7,5
GE3RTM10.415R189	10	4,1	13,9	180 x 102 x 173	3PF12,4A480INB(XXX)	10
GE3RTM12,5.415R189	12,5	3,3	17,4	180 x 113 x 173	3PF15,6A480INB(XXX)	12,5
GE3RTM15.415R189	15	2,8	20,9	180 x 128 x 173	3PF18,7A480INB(XXX)	15
GE3RTM20.415R189	20	2,1	27,8	240 x 160 x 185	3PF24,9A480INB(XXX)	20
GE3RTM25.415R189	25	1,7	34,8	240 x 160 x 185	3PF31,1A480INB(XXX)	25
GE3RTM30.415R189	30	1,4	41,7	250 x 165 x 205	3PF37,3A480INB(XXX)	30
GE3RTM40.415R189	40	1,0	55,6	250 x 175 x 205	2 x 3PF24,9A480INB(XXX)	40
GE3RTM50.415R189	50	0,8	69,6	250 x 175 x 205	2 x 3PF31,1A480INB(XXX)	50
GE3RTM75.415R189	75	0,6	104,3	300 x 175 x 260	3 x 3PF31,1A480INB(XXX)	75
GE3RTM100.415R189	100	0,4	139,1	300 x 200 x 260	4 x 3PF31,1A480INB(XXX)	100

3 Phase GE-RTM3 Reactors 134 Hz - 400 V P=14% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.400R134	2,5	33,2	3,6	180 x 110 x 173	3PF3,7A525INB(XXX)	2,5
GE3RTM5.400R134	5	16,6	7,2	180 x 110 x 173	3PF7,4A525INB(XXX)	5
GE3RTM6,25.400R134	6,25	13,3	9,0	180 x 110 x 173	3PF9,3A525INB(XXX)	6,25
GE3RTM7,5.400R134	7,5	11,1	10,8	180 x 110 x 173	3PF11,1A525INB(XXX)	7,5
GE3RTM10.400R134	10	8,3	14,4	240 x 120 x 220	3PF14,8A525INB(XXX)	10
GE3RTM12,5.400R134	12,5	6,6	18,0	240 x 130 x 220	3PF18,5A525INB(XXX)	12,5
GE3RTM15.400R134	15	5,5	21,7	240 x 130 x 220	3PF22,2A525INB(XXX)	15
GE3RTM20.400R134	20	4,1	28,9	240 x 145 x 240	3PF29,6A525INB(XXX)	20
GE3RTM25.400R134	25	3,3	36,1	280 x 175 x 205	3PF37A525INB(XXX)	25
GE3RTM30.400R134	30	2,8	43,3	300 x 170 x 260	3PF44,4A525INB(XXX)	30
GE3RTM40.400R134	40	2,1	57,7	300 x 180 x 260	2 x 3PF29,6A525INB(XXX)	40
GE3RTM50.400R134	50	1,7	72,2	300 x 200 x 260	2 x 3PF37A525INB(XXX)	50
GE3RTM75.400R134	75	1,1	108,3	360 x 230 x 305	3 x 3PF37A525INB(XXX)	75
GE3RTM100.400R134	100	0,8	144,3	360 x 250 x 305	4 x 3PF37A525INB(XXX)	100

3 Phase GE-RTM3 Reactors 134 Hz - 415 V P=14% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.415R134	2,5	35,7	3,5	180 x 110 x 173	3PF3,4A525INB(XXX)	2,5
GE3RTM5.415R134	5	17,8	7,0	180 x 110 x 173	3PF6,9A525INB(XXX)	5
GE3RTM6,25.415R134	6,25	14,3	8,7	180 x 110 x 173	3PF8,6A525INB(XXX)	6,25
GE3RTM7,5.415R134	7,5	11,9	10,4	180 x 110 x 173	3PF10,3A525INB(XXX)	7,5
GE3RTM10.415R134	10	8,9	13,9	240 x 120 x 220	3PF13,8A525INB(XXX)	10
GE3RTM12,5.415R134	12,5	7,1	17,4	240 x 130 x 220	3PF17,2A525INB(XXX)	12,5
GE3RTM15.415R134	15	5,9	20,9	240 x 130 x 220	3PF20,6A525INB(XXX)	15
GE3RTM20.415R134	20	4,5	27,8	240 x 145 x 240	3PF27,5A525INB(XXX)	20
GE3RTM25.415R134	25	3,6	34,8	280 x 175 x 205	3PF34,4A525INB(XXX)	25
GE3RTM30.415R134	30	3,0	41,7	300 x 170 x 260	3PF41,3A525INB(XXX)	30
GE3RTM40.415R134	40	2,2	55,6	300 x 180 x 260	2 x 3PF27,5A525INB(XXX)	40
GE3RTM50.415R134	50	1,8	69,6	300 x 200 x 260	2 x 3PF34,4A525INB(XXX)	50
GE3RTM75.415R134	75	1,2	104,3	360 x 230 x 305	3 x 3PF34,4A525INB(XXX)	75
GE3RTM100.415R134	100	0,9	139,1	360 x 250 x 305	4 x 3PF34,4A525INB(XXX)	100

* All dimensions will be confirmed at the time of order.

**The last alphanumeric symbols is supplied at the time of order by Gruppo Energia once the desired capacitor size has been selected.

Harmonic Detuned Reactors GE-RTM3
Adjusted Rating

3 Phase GE-RT3 Reactors 252 Hz - 400 V P=5,67% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.400R252	2,5	10,2	3,6	180 x 90 x 173	3PF2,9B440INB(XXX)	2,5
GE3RTM5.400R252	5	5,1	7,2	180 x 90 x 173	3PF5.7B440INB(XXX)	5
GE3RTM6,25.400R252	6,25	4,1	9,0	180 x 90 x 173	3PF7,1B440INB(XXX)	6,25
GE3RTM7,5.400R252	7,5	3,4	10,8	180 x 90 x 173	3PF8,6B440INB(XXX)	7,5
GE3RTM10.400R252	10	2,6	14,4	180 x 102 x 173	3PF11,4B440INB(XXX)	10
GE3RTM12,5.400R252	12,5	2,0	18,0	180 x 113 x 173	3PF14,3B440INB(XXX)	12,5
GE3RTM15.400R252	15	1,7	21,7	180 x 128 x 173	3PF17,1B440INB(XXX)	15
GE3RTM20.400R252	20	1,3	28,9	240 x 160 x 185	3PF22,8B440INB(XXX)	20
GE3RTM25.400R252	25	1,0	36,1	240 x 160 x 185	3PF28,5B440INB(XXX)	25
GE3RTM30.400R252	30	0,9	43,3	250 x 165 x 205	3PF34,2B440INB(XXX)	30
GE3RTM40.400R252	40	0,6	57,7	250 x 175 x 205	2 x 3PF22,8B440INB(XXX)	40
GE3RTM50.400R252	50	0,5	72,2	250 x 175 x 205	2 x 3PF28,5B440INB(XXX)	50
GE3RTM75.400R252	75	0,3	108,3	300 x 175 x 260	3 x 3PF28,5B440INB(XXX)	75
GE3RTM100.400R252	100	0,3	144,3	300 x 200 x 260	4 x 3PF28,5B440INB(XXX)	100

3 Phase GE-RT3 Reactors 252 Hz - 415 V P=5,67% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.415R252	2,5	11,0	3,5	180 x 90 x 173	3PF2,7B440INB(XXX)	2,5
GE3RTM5.415R252	5	5,5	7,0	180 x 90 x 173	3PF5,3B440INB(XXX)	5
GE3RTM6,25.415R252	6,25	4,4	8,7	180 x 90 x 173	3PF6,6B440INB(XXX)	6,25
GE3RTM7,5.415R252	7,5	3,7	10,4	180 x 90 x 173	3PF8B440INB(XXX)	7,5
GE3RTM10.415R252	10	2,7	13,9	180 x 102 x 173	3PF10,6B440INB(XXX)	10
GE3RTM12,5.415R252	12,5	2,2	17,4	180 x 113 x 173	3PF13,3B440INB(XXX)	12,5
GE3RTM15.415R252	15	1,8	20,9	180 x 128 x 173	3PF15,9B440INB(XXX)	15
GE3RTM20.415R252	20	1,4	27,8	240 x 160 x 185	3PF21,2B440INB(XXX)	20
GE3RTM25.415R252	25	1,1	34,8	240 x 160 x 185	3PF26,5B440INB(XXX)	25
GE3RTM30.415R252	30	0,9	41,7	250 x 165 x 205	3PF31,8B440INB(XXX)	30
GE3RTM40.415R252	40	0,7	55,6	250 x 175 x 205	2 x 3PF21,2B440INB(XXX)	40
GE3RTM50.415R252	50	0,5	69,6	250 x 175 x 205	2 x 3PF26,5B440INB(XXX)	50
GE3RTM75.415R252	75	0,4	104,3	300 x 175 x 260	3 x 3PF26,5B440INB(XXX)	75
GE3RTM100.415R252	100	0,3	139,1	300 x 200 x 260	4 x 3PF26,5B440INB(XXX)	100

3 Phase GE-RT3 Reactors 227 Hz - 400 V P=7% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.400R227	2,5	12,8	3,6	180 x 90 x 173	3PF2,8B440INB(XXX)	2,5
GE3RTM5.400R227	5	6,4	7,2	180 x 90 x 173	3PF5,6B440INB(XXX)	5
GE3RTM6,25.400R227	6,25	5,1	9,0	180 x 90 x 173	3PF7B440INB(XXX)	6,25
GE3RTM7,5.400R227	7,5	4,3	10,8	180 x 90 x 173	3PF8,4B440INB(XXX)	7,5
GE3RTM10.400R227	10	3,2	14,4	180 x 102 x 173	3PF11,3B440INB(XXX)	10
GE3RTM12,5.400R227	12,5	2,6	18,0	180 x 113 x 173	3PF14,1B440INB(XXX)	12,5
GE3RTM15.400R227	15	2,1	21,7	180 x 128 x 173	3PF16,9B440INB(XXX)	15
GE3RTM20.400R227	20	1,6	28,9	240 x 160 x 185	3PF22,5B440INB(XXX)	20
GE3RTM25.400R227	25	1,3	36,1	240 x 160 x 185	3PF28,1B440INB(XXX)	25
GE3RTM30.400R227	30	1,1	43,3	250 x 165 x 205	3PF33,8B440INB(XXX)	30
GE3RTM40.400R227	40	0,8	57,7	250 x 175 x 205	2 x 3PF22,5B440INB(XXX)	40
GE3RTM50.400R227	50	0,6	72,2	250 x 175 x 205	2 x 3PF28,1B440INB(XXX)	50
GE3RTM75.400R227	75	0,4	108,3	300 x 175 x 260	3 x 3PF28,1B440INB(XXX)	75
GE3RTM100.400R227	100	0,3	144,3	300 x 200 x 260	4 x 3PF28,1B440INB(XXX)	100

3 Phase GE-RT3 Reactors 227 Hz - 415 V P=7% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.415R227	2,5	13,8	3,5	180 x 90 x 173	3PF3,1B480INB(XXX)	2,5
GE3RTM5.415R227	5	6,9	7,0	180 x 90 x 173	3PF6,2B480INB(XXX)	5
GE3RTM6,25.415R227	6,25	5,5	8,7	180 x 90 x 173	3PF7,8B480INB(XXX)	6,25
GE3RTM7,5.415R227	7,5	4,6	10,4	180 x 90 x 173	3PF9,3B480INB(XXX)	7,5
GE3RTM10.415R227	10	3,4	13,9	180 x 102 x 173	3PF12,4B480INB(XXX)	10
GE3RTM12,5.415R227	12,5	2,8	17,4	180 x 113 x 173	3PF15,6B480INB(XXX)	12,5
GE3RTM15.415R227	15	2,3	20,9	180 x 128 x 173	3PF18,7B480INB(XXX)	15
GE3RTM20.415R227	20	1,7	27,8	240 x 160 x 185	3PF24,9B480INB(XXX)	20
GE3RTM25.415R227	25	1,4	34,8	240 x 160 x 185	3PF31,1B480INB(XXX)	25
GE3RTM30.415R227	30	1,1	41,7	250 x 165 x 205	3PF37,3B480INB(XXX)	30
GE3RTM40.415R227	40	0,9	55,6	250 x 175 x 205	2 x 3PF24,9B480INB(XXX)	40
GE3RTM50.415R227	50	0,7	69,6	250 x 175 x 205	2 x 3PF31,1B480INB(XXX)	50
GE3RTM75.415R227	75	0,5	104,3	300 x 175 x 260	3 x 3PF31,1B480INB(XXX)	75
GE3RTM100.415R227	100	0,3	139,1	300 x 200 x 260	4 x 3PF31,1B480INB(XXX)	100

3 Phase GE-RT3 Reactors 160 Hz - 400 V P=14% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.400R160	2,5	27,6	3,6	180 x 110 x 173	3PF3,7B525INB(XXX)	2,5
GE3RTM5.400R160	5	13,8	7,2	180 x 110 x 173	3PF7,4B525INB(XXX)	5
GE3RTM6,25.400R160	6,25	11,1	9,0	180 x 110 x 173	3PF9,3B525INB(XXX)	6,25
GE3RTM7,5.400R160	7,5	9,2	10,8	180 x 110 x 173	3PF11,1B525INB(XXX)	7,5
GE3RTM10.400R160	10	6,9	14,4	240 x 120 x 220	3PF14,8B525INB(XXX)	10
GE3RTM12,5.400R160	12,5	5,5	18,0	240 x 130 x 220	3PF18,5B525INB(XXX)	12,5
GE3RTM15.400R160	15	4,6	21,7	240 x 130 x 220	3PF22,2B525INB(XXX)	15
GE3RTM20.400R160	20	3,5	28,9	240 x 145 x 240	3PF29,6B525INB(XXX)	20
GE3RTM25.400R160	25	2,8	36,1	280 x 175 x 205	3PF37B525INB(XXX)	25
GE3RTM30.400R160	30	2,3	43,3	300 x 170 x 260	3PF44,4B525INB(XXX)	30
GE3RTM40.400R160	40	1,7	57,7	300 x 180 x 260	2 x 3PF29,6B525INB(XXX)	40
GE3RTM50.400R160	50	1,4	72,2	300 x 200 x 260	2 x 3PF37B525INB(XXX)	50
GE3RTM75.400R160	75	0,9	108,3	360 x 230 x 305	3 x 3PF37B525INB(XXX)	75
GE3RTM100.400R160	100	0,7	144,3	360 x 250 x 305	4 x 3PF37B525INB(XXX)	100

3 Phase GE-RT3 Reactors 160 Hz - 415 V P=14% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.415R160	2,5	29,7	3,5	180 x 110 x 173	3PF3,4B525INB(XXX)	2,5
GE3RTM5.415R160	5	14,9	7,0	180 x 110 x 173	3PF6,9B525INB(XXX)	5
GE3RTM6,25.415R160	6,25	11,9	8,7	180 x 110 x 173	3PF8,6B525INB(XXX)	6,25
GE3RTM7,5.415R160	7,5	9,9	10,4	180 x 110 x 173	3PF10,3B525INB(XXX)	7,5
GE3RTM10.415R160	10	7,4	13,9	240 x 120 x 220	3PF13,8B525INB(XXX)	10
GE3RTM12,5.415R160	12,5	5,9	17,4	240 x 130 x 220	3PF17,2B525INB(XXX)	12,5
GE3RTM15.415R160	15	5,0	20,9	240 x 130 x 220	3PF20,6B525INB(XXX)	15
GE3RTM20.415R160	20	3,7	27,8	240 x 145 x 240	3PF27,5B525INB(XXX)	20
GE3RTM25.415R160	25	3,0	34,8	280 x 175 x 205	3PF34,4B525INB(XXX)	25
GE3RTM30.415R160	30	2,5	41,7	300 x 170 x 260	3PF41,3B525INB(XXX)	30
GE3RTM40.415R160	40	1,9	55,6	300 x 180 x 260	2 x 3PF27,5B525INB(XXX)	40
GE3RTM50.415R160	50	1,5	69,6	300 x 200 x 260	2 x 3PF34,4B525INB(XXX)	50
GE3RTM75.415R160	75	1,0	104,3	360 x 230 x 305	3 x 3PF34,4B525INB(XXX)	75
GE3RTM100.415R160	100	0,7	139,1	360 x 250 x 305	4 x 3PF34,4B525INB(XXX)	100

* All dimensions will be confirmed at the time of order.

**The last alphanumeric symbols is supplied at the time of order by Gruppo Energia once the desired capacitor size has been selected.

Harmonic Detuned Reactors GE-RT3
Non-Adjusted Rating

3 Phase GE-RT3 Reactors 189 Hz - 400/440 V P=7% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
RT2,5.400/440/189	2,5	17,3	3,2	180 x 90 x 173	3PF2,5A440INB(XXX)	2,2
RT5.400/440/189	5	8,6	6,4	180 x 90 x 173	3PF5A440INB(XXX)	4,4
RT6,25.400/440/189	6,25	6,9	8,0	180 x 90 x 173	3PF6,25A440INB(XXX)	5,6
RT7,5.400/440/189	7,5	5,8	9,6	180 x 90 x 173	3PF7,5A440INB(XXX)	6,7
RT10.400/440/189	10	4,3	12,8	180 x 102 x 173	3PF10A440INB(XXX)	8,9
RT12,5.400/440/189	12,5	3,5	16,0	180 x 113 x 173	3PF12,5A440INB(XXX)	11,1
RT15.400/440/189	15	2,9	19,2	180 x 128 x 173	3PF15A440INB(XXX)	13,3
RT20.400/440/189	20	2,2	25,7	240 x 160 x 185	3PF20A440INB(XXX)	17,8
RT25.400/440/189	25	1,7	32,1	240 x 160 x 185	3PF25A440INB(XXX)	22,2
RT30.400/440/189	30	1,4	38,5	250 x 165 x 205	3PF30A440INB(XXX)	26,7
RT40.400/440/189	40	1,1	51,3	250 x 175 x 205	2 x 3PF20A440INB(XXX)	35,5
RT50.400/440/189	50	0,9	64,1	250 x 175 x 205	2 x 3PF25A440INB(XXX)	44,4
RT75.400/440/189	75	0,6	96,2	300 x 175 x 260	3 x 3PF25A440INB(XXX)	66,6
RT100.400/440/189	100	0,4	128,3	300 x 200 x 260	4 x 3PF25A440INB(XXX)	88,9

3 Phase GE-RT3 Reactors 189 Hz - 415/450 V P=7% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
RT2,5.415/450/189	2,5	18,0	3,2	180 x 90 x 173	3PF2,5A450INB(XXX)	2,29
RT5.415/450/189	5	9,0	6,4	180 x 90 x 173	3PF5A450INB(XXX)	4,57
RT6,25.415/450/189	6,25	7,2	8,0	180 x 90 x 173	3PF6,25A450INB(XXX)	5,72
RT7,5.415/450/189	7,5	6,0	9,5	180 x 90 x 173	3PF7,5A450INB(XXX)	6,86
RT10.415/450/189	10	4,5	12,7	180 x 102 x 173	3PF10A450INB(XXX)	9,15
RT12,5.415/450/189	12,5	3,6	15,9	180 x 113 x 173	3PF12,5A450INB(XXX)	11,43
RT15.415/450/189	15	3,0	19,1	180 x 128 x 173	3PF15A450INB(XXX)	13,72
RT20.415/450/189	20	2,3	25,4	240 x 160 x 185	3PF20A450INB(XXX)	18,29
RT25.415/450/189	25	1,8	31,8	240 x 160 x 185	3PF25A450INB(XXX)	22,86
RT30.415/450/189	30	1,5	38,2	250 x 165 x 205	3PF30A450INB(XXX)	27,44
RT40.415/450/189	40	1,1	50,9	250 x 175 x 205	2 x 3PF20A450INB(XXX)	36,58
RT50.415/450/189	50	0,9	63,6	250 x 175 x 205	2 x 3PF25A450INB(XXX)	45,73
RT75.415/450/189	75	0,6	95,4	300 x 175 x 260	3 x 3PF25A450INB(XXX)	68,59
RT100.415/450/189	100	0,5	127,2	300 x 200 x 260	4 x 3PF25A450INB(XXX)	91,45

3 Phase GE-RT3 Reactors 134 Hz - 400/480 V P=14% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
RT2,5.400/480/134	2,5	41,1	2,9	180 x 110 x 173	3PF2,5A480INB(XXX)	2,0
RT5.400/480/134	5	20,5	5,8	180 x 110 x 173	3PF5A480INB(XXX)	4,0
RT6,25.400/480/134	6,25	16,4	7,3	180 x 110 x 173	3PF6,25A480INB(XXX)	5,0
RT7,5.400/480/134	7,5	13,7	8,7	180 x 110 x 173	3PF7,5A480INB(XXX)	6,1
RT10.400/480/134	10	10,3	11,7	240 x 120 x 220	3PF10A480INB(XXX)	8,1
RT12,5.400/480/134	12,5	8,2	14,6	240 x 130 x 220	3PF12,5A480INB(XXX)	10,1
RT15.400/480/134	15	6,8	17,5	240 x 130 x 220	3PF15A480INB(XXX)	12,1
RT20.400/480/134	20	5,1	23,3	240 x 145 x 240	3PF20A480INB(XXX)	16,1
RT25.400/480/134	25	4,1	29,1	280 x 175 x 205	3PF25A480INB(XXX)	20,2
RT30.400/480/134	30	3,4	35,0	300 x 170 x 260	3PF30A480INB(XXX)	24,2
RT40.400/480/134	40	2,6	46,6	300 x 180 x 260	2 x 3PF20A480INB(XXX)	32,3
RT50.400/480/134	50	2,1	58,3	300 x 200 x 260	2 x 3PF25A480INB(XXX)	40,4
RT75.400/480/134	75	1,4	87,4	360 x 230 x 305	3 x 3PF25A480INB(XXX)	60,6
RT100.400/480/134	100	1,0	116,6	360 x 250 x 305	4 x 3PF25A480INB(XXX)	80,7

3 Phase GE-RT3 Reactors 134 Hz - 415/525 V P=14% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
RT2,5.415/525/134	2,5	49,1	2,5	180 x 110 x 173	3PF2,5A525INB(XXX)	1,8
RT5.415/525/134	5	24,6	5,1	180 x 110 x 173	3PF5A525INB(XXX)	3,6
RT6,25.415/525/134	6,25	19,7	6,3	180 x 110 x 173	3PF6,25A525INB(XXX)	4,5
RT7,5.415/525/134	7,5	16,4	7,6	180 x 110 x 173	3PF7,5A525INB(XXX)	5,4
RT10.415/525/134	10	12,3	10,1	240 x 120 x 220	3PF10A525INB(XXX)	7,3
RT12,5.415/525/134	12,5	9,8	12,6	240 x 130 x 220	3PF12,5A525INB(XXX)	9,1
RT15.415/525/134	15	8,2	15,2	240 x 130 x 220	3PF15A525INB(XXX)	10,9
RT20.415/525/134	20	6,1	20,2	240 x 145 x 240	3PF20A525INB(XXX)	14,5
RT25.415/525/134	25	4,9	25,3	280 x 175 x 205	3PF25A525INB(XXX)	18,2
RT30.415/525/134	30	4,1	30,3	300 x 170 x 260	3PF30A525INB(XXX)	21,8
RT40.415/525/134	40	3,1	40,4	300 x 180 x 260	2 x 3PF20A525INB(XXX)	29,1
RT50.415/525/134	50	2,5	50,5	300 x 200 x 260	2 x 3PF25A525INB(XXX)	36,3
RT75.415/525/134	75	1,6	75,8	360 x 230 x 305	3 x 3PF25A525INB(XXX)	54,5
RT100.415/525/134	100	1,2	101,1	360 x 250 x 305	4 x 3PF25A525INB(XXX)	72,7

3 Phase GE-RT3 Reactors 189 Hz - 690/780 V P=7% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
RT2,5.690/780/189	2,5	54,2	1,8	On request	3PF2,5A780INB(XXX)	2,1
RT5.690/780/189	5	27,1	3,5	On request	3PF5A780INB(XXX)	4,2
RT6,25.690/780/189	6,25	21,7	4,4	On request	3PF6,25A780INB(XXX)	5,3
RT7,5.690/780/189	7,5	18,1	5,3	On request	3PF7,5A780INB(XXX)	6,3
RT10.690/780/189	10	13,6	7,0	On request	3PF10A780INB(XXX)	8,4
RT12,5.690/780/189	12,5	10,8	8,8	On request	3PF12,5A780INB(XXX)	10,5
RT15.690/780/189	15	9,0	10,6	On request	3PF15A780INB(XXX)	12,6
RT20.690/780/189	20	6,8	14,1	On request	3PF20A780INB(XXX)	16,8
RT25.690/780/189	25	5,4	17,6	240 x 145 x 240	3PF25A780INB(XXX)	21,0
RT30.690/780/189	30	4,5	21,1	On request	3PF30A780INB(XXX)	25,2
RT40.690/780/189	40	3,4	28,2	On request	2 x 3PF20A780INB(XXX)	33,7
RT50.690/780/189	50	2,7	35,2	300 x 160 x 300	2 x 3PF25A780INB(XXX)	42,1
RT75.690/780/189	75	1,8	52,8	On request	3 x 3PF25A780INB(XXX)	63,1
RT100.690/780/189	100	1,4	70,4	On request	4 x 3PF25A780INB(XXX)	84,1

3 Phase GE-RT3 Reactors 189 Hz - 690 V P=7% 50 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.690R189	2,5	45,6	2,1	On request	3PF2,9A776INB(XXX)	2,5
GE3RTM5.690R189	5	22,8	4,2	On request	3PF5,9A777INB(XXX)	5
GE3RTM6,25.690R189	6,25	18,3	5,2	On request	3PF7,4A778INB(XXX)	6,25
GE3RTM7,5.690R189	7,5	15,2	6,3	On request	3PF8,9A779INB(XXX)	7,5
GE3RTM10.690R189	10	11,4	8,4	On request	3PF11,9A780INB(XXX)	10
GE3RTM12,5.690R189	12,5	9,1	10,5	On request	3PF14,9A780INB(XXX)	12,5
GE3RTM15.690R189	15	7,6	12,6	On request	3PF17,8A780INB(XXX)	15
GE3RTM20.690R189	20	5,7	16,7	On request	3PF23,8A780INB(XXX)	20
GE3RTM25.690R189	25	4,6	20,9	240 x 145 x 240	3PF29,7A780INB(XXX)	25
GE3RTM30.690R189	30	3,8	25,1	On request	3PF35.7A780INB(XXX)	30
GE3RTM40.690R189	40	2,9	33,5	On request	2 x 3PF23,8A780INB(XXX)	40
GE3RTM50.690R189	50	2,3	41,8	300 x 160 x 300	2 x 3PF29,7A780INB(XXX)	50
GE3RTM75.690R189	75	1,5	62,8	On request	3 x 3PF29,7A780INB(XXX)	75
GE3RTM100.690R189	100	1,1	83,7	On request	4 x 3PF29,7A780INB(XXX)	100

* All dimensions will be confirmed at the time of order.

**The last alphanumeric symbols is supplied at the time of order by Gruppo Energia once the desired capacitor size has been selected.

Harmonic Detuned Reactors GE-RT3
Non-Adjusted Rating

3 Phase GE-RT3 Reactors 227 Hz - 400/440 V P=7% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
RT2,5.400/440/227	2,5	14,4	3,2	180 x 90 x 173	3PF2,5B440INB(XXX)	2,2
RT5.400/440/227	5	7,2	6,4	180 x 90 x 173	3PF5B440INB(XXX)	4,4
RT6,25.400/440/227	6,25	5,8	8,0	180 x 90 x 173	3PF6,25B440INB(XXX)	5,6
RT7,5.400/440/227	7,5	4,8	9,6	180 x 90 x 173	3PF7,5B440INB(XXX)	6,7
RT10.400/440/227	10	3,6	12,8	180 x 102 x 173	3PF10B440INB(XXX)	8,9
RT12,5.400/440/227	12,5	2,9	16,0	180 x 113 x 173	3PF12,5B440INB(XXX)	11,1
RT15.400/440/227	15	2,4	19,2	180 x 128 x 173	3PF15B440INB(XXX)	13,3
RT20.400/440/227	20	1,8	25,7	240 x 160 x 185	3PF20B440INB(XXX)	17,8
RT25.400/440/227	25	1,4	32,1	240 x 160 x 185	3PF25B440INB(XXX)	22,2
RT30.400/440/227	30	1,2	38,5	250 x 165 x 205	3PF30B440INB(XXX)	26,7
RT40.400/440/227	40	0,9	51,3	250 x 175 x 205	2 x 3PF20B440INB(XXX)	35,5
RT50.400/440/227	50	0,7	64,1	250 x 175 x 205	2 x 3PF25B440INB(XXX)	44,4
RT75.400/440/227	75	0,5	96,2	300 x 175 x 260	3 x 3PF25B440INB(XXX)	66,6
RT100.400/440/227	100	0,4	128,3	300 x 200 x 260	4 x 3PF25B440INB(XXX)	88,9

3 Phase GE-RT3 Reactors 227 Hz - 415/450 V P=7% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
RT2,5.415/450/227	2,5	15,0	3,2	180 x 90 x 173	3PF2,5B450INB(XXX)	2,29
RT5.415/450/227	5	7,5	6,4	180 x 90 x 173	3PF5B450INB(XXX)	4,57
RT6,25.415/450/227	6,25	6,0	8,0	180 x 90 x 173	3PF6,25B450INB(XXX)	5,72
RT7,5.415/450/227	7,5	5,0	9,5	180 x 90 x 173	3PF7,5B450INB(XXX)	6,86
RT10.415/450/227	10	3,8	12,7	180 x 102 x 173	3PF10B450INB(XXX)	9,15
RT12,5.415/450/227	12,5	3,0	15,9	180 x 113 x 173	3PF12,5B450INB(XXX)	11,43
RT15.415/450/227	15	2,5	19,1	180 x 128 x 173	3PF15B450INB(XXX)	13,72
RT20.415/450/227	20	1,9	25,4	240 x 160 x 185	3PF20B450INB(XXX)	18,29
RT25.415/450/227	25	1,5	31,8	240 x 160 x 185	3PF25B450INB(XXX)	22,86
RT30.415/450/227	30	1,3	38,2	250 x 165 x 205	3PF30B450INB(XXX)	27,44
RT40.415/450/227	40	0,9	50,9	250 x 175 x 205	2 x 3PF20B450INB(XXX)	36,58
RT50.415/450/227	50	0,8	63,6	250 x 175 x 205	2 x 3PF25B450INB(XXX)	45,73
RT75.415/450/227	75	0,5	95,4	300 x 175 x 260	3 x 3PF25B450INB(XXX)	68,59
RT100.415/450/227	100	0,4	127,2	300 x 200 x 260	4 x 3PF25B450INB(XXX)	91,45

3 Phase GE-RT3 Reactors 160 Hz - 400/480 V P=14% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
RT2,5.400/480/160	2,5	34,2	2,9	180 x 110 x 173	3PF2,5B480INB(XXX)	2,0
RT5.400/480/160	5	17,1	5,8	180 x 110 x 173	3PF5B480INB(XXX)	4,0
RT6,25.400/480/160	6,25	13,7	7,3	180 x 110 x 173	3PF6,25B480INB(XXX)	5,0
RT7,5.400/480/160	7,5	11,4	8,7	180 x 110 x 173	3PF7,5B480INB(XXX)	6,1
RT10.400/480/160	10	8,6	11,7	240 x 120 x 220	3PF10B480INB(XXX)	8,1
RT12,5.400/480/160	12,5	6,8	14,6	240 x 130 x 220	3PF12,5B480INB(XXX)	10,1
RT15.400/480/160	15	5,7	17,5	240 x 130 x 220	3PF15B480INB(XXX)	12,1
RT20.400/480/160	20	4,3	23,3	240 x 145 x 240	3PF20B480INB(XXX)	16,1
RT25.400/480/160	25	3,4	29,1	280 x 175 x 205	3PF25B480INB(XXX)	20,2
RT30.400/480/160	30	2,9	35,0	300 x 170 x 260	3PF30B480INB(XXX)	24,2
RT40.400/480/160	40	2,1	46,6	300 x 180 x 260	2 x 3PF20B480INB(XXX)	32,3
RT50.400/480/160	50	1,7	58,3	300 x 200 x 260	2 x 3PF25B480INB(XXX)	40,4
RT75.400/480/160	75	1,1	87,4	360 x 230 x 305	3 x 3PF25B480INB(XXX)	60,6
RT100.400/480/160	100	0,9	116,6	360 x 250 x 305	4 x 3PF25B480INB(XXX)	80,7

3 Phase GE-RT3 Reactors 160 Hz - 415/525 V P=14% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
RT2,5.415/525/160	2,5	40,9	2,5	180 x 110 x 173	3PF2,5B525INB(XXX)	1,8
RT5.415/525/160	5	20,5	5,1	180 x 110 x 173	3PF5B525INB(XXX)	3,6
RT6,25.415/525/160	6,25	16,4	6,3	180 x 110 x 173	3PF6,25B525INB(XXX)	4,5
RT7,5.415/525/160	7,5	13,6	7,6	180 x 110 x 173	3PF7,5B525INB(XXX)	5,4
RT10.415/525/160	10	10,2	10,1	240 x 120 x 220	3PF10B525INB(XXX)	7,3
RT12,5.415/525/160	12,5	8,2	12,6	240 x 130 x 220	3PF12,5B525INB(XXX)	9,1
RT15.415/525/160	15	6,8	15,2	240 x 130 x 220	3PF15B525INB(XXX)	10,9
RT20.415/525/160	20	5,1	20,2	240 x 145 x 240	3PF20B525INB(XXX)	14,5
RT25.415/525/160	25	4,1	25,3	280 x 175 x 205	3PF25B525INB(XXX)	18,2
RT30.415/525/160	30	3,4	30,3	300 x 170 x 260	3PF30B525INB(XXX)	21,8
RT40.415/525/160	40	2,6	40,4	300 x 180 x 260	2 x 3PF20B525INB(XXX)	29,1
RT50.415/525/160	50	2,0	50,5	300 x 200 x 260	2 x 3PF25B525INB(XXX)	36,3
RT75.415/525/160	75	1,4	75,8	360 x 230 x 305	3 x 3PF25B525INB(XXX)	54,5
RT100.415/525/160	100	1,0	101,1	360 x 250 x 305	4 x 3PF25B525INB(XXX)	72,7

3 Phase GE-RT3 Reactors 227 Hz - 690/780 V P=7% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
RT2,5.690/780/227	2,5	45,2	1,8	On request	3PF2,5B780INB(XXX)	2,1
RT5.690/780/227	5	22,6	3,5	On request	3PF5B780INB(XXX)	4,2
RT6,25.690/780/227	6,25	18,1	4,4	On request	3PF6,25B780INB(XXX)	5,3
RT7,5.690/780/227	7,5	15,1	5,3	On request	3PF7,5B780INB(XXX)	6,3
RT10.690/780/227	10	11,3	7,0	On request	3PF10B780INB(XXX)	8,4
RT12,5.690/780/227	12,5	9,0	8,8	On request	3PF12,5B780INB(XXX)	10,5
RT15.690/780/227	15	7,5	10,6	On request	3PF15B780INB(XXX)	12,6
RT20.690/780/227	20	5,6	14,1	On request	3PF20B780INB(XXX)	16,8
RT25.690/780/227	25	4,5	17,6	240 x 145 x 240	3PF25B780INB(XXX)	21,0
RT30.690/780/227	30	3,8	21,1	On request	3PF30B780INB(XXX)	25,2
RT40.690/780/227	40	2,8	28,2	On request	2 x 3PF20B780INB(XXX)	33,7
RT50.690/780/227	50	2,3	35,2	300 x 160 x 300	2 x 3PF25B780INB(XXX)	42,1
RT75.690/780/227	75	1,5	52,8	On request	3 x 3PF25B780INB(XXX)	63,1
RT100.690/780/227	100	1,1	70,4	On request	4 x 3PF25B780INB(XXX)	84,1

3 Phase GE-RT3 Reactors 227 Hz - 690 V P=7% 60 Hz

Order Code	Qr	Hn	In	AxBxC*	Suitable Capacitor**	Q(L-C)
	kVar	3 x µF	A	mm		kVar
GE3RTM2,5.690R227	2,5	38,0	2,1	On request	3PF2,9B776INB(XXX)	2,5
GE3RTM5.690R227	5	19,0	4,2	On request	3PF5,9B777INB(XXX)	5
GE3RTM6,25.690R227	6,25	15,2	5,2	On request	3PF7,4B778INB(XXX)	6,25
GE3RTM7,5.690R227	7,5	12,7	6,3	On request	3PF8,9B779INB(XXX)	7,5
GE3RTM10.690R227	10	9,5	8,4	On request	3PF11,9B780INB(XXX)	10
GE3RTM12,5.690R227	12,5	7,6	10,5	On request	3PF14,9B780INB(XXX)	12,5
GE3RTM15.690R227	15	6,3	12,6	On request	3PF17,8B780INB(XXX)	15
GE3RTM20.690R227	20	4,8	16,7	On request	3PF23,8B780INB(XXX)	20
GE3RTM25.690R227	25	3,8	20,9	240 x 145 x 240	3PF29,7B780INB(XXX)	25
GE3RTM30.690R227	30	3,2	25,1	On request	3PF35.7B780INB(XXX)	30
GE3RTM40.690R227	40	2,4	33,5	On request	2 x 3PF23,8B780INB(XXX)	40
GE3RTM50.690R227	50	1,9	41,8	300 x 160 x 300	2 x 3PF29,7B780INB(XXX)	50
GE3RTM75.690R227	75	1,3	62,8	On request	3 x 3PF29,7B780INB(XXX)	75
GE3RTM100.690R227	100	1,0	83,7	On request	4 x 3PF29,7B780INB(XXX)	100

General Safety Conditions For Capacitors

Safety First

Power capacitors are electrical energy storage devices, therefore they must be always handled with caution. It happens that even after being turned off for a long period of time, they can still be charged with high voltage THAT CAN BE EVEN LETHAL. So please be extremely careful when handling capacitors and electrically connected devices. The general rules of good electrical engineering practice must be always complied with when handling live components in electrical systems.
In particular, before putting a new capacitor on duty these aspects should be checked once more:
- capacitance
- resistance of discharging devices
- overall screws tightening at the specified torque (when applicable).

A good rule of thumb is to assume that a capacitor is always charged, so before touching or being anyhow in contact with its terminals the user should discharge the capacitor itself by short circuiting its terminals to each other and to ground.

General Conditions for Storage and Use

1) The capacitors should always be stored in a dry and safe place indoor, in an upright position (not upside down).
2) The capacitors can't be stored on top of one another.
3) The capacitors must never be stored or used outside the specified temperature ranges. The ambient temperature category for most standard types is -45/60.
This means a max. temperature of 55°C, an average temperature over 24 hours of 45°C, and the average temperature in one year should not exceed 35°C. The maximum casing temperature of 6O°C must not be exceeded. Temperature is one of the main stress factors for polypropylene type capacitors. Temperature has a major influence on the useful life expectancy of the capacitor.
4) Exceeding the maximum allowed temperature may set the safety device out of operation.
5) Capacitors have not to be stored or operated in corrosive atmospheres, particularly not when chlorides, sulfides, acids, alkalis, salts, organic solvents or similar substances are present.
6) In a dusty or somehow dirty environment, regular maintenance and cleaning, especially of the terminals is required to avoid a conductive path between phases and/or phases and ground.
7) Mechanically or electrically damaged, leaky or otherwise damaged capacitors are not to be used in any way.
8) Existing protective devices on capacitors are not to be manipulated, removed or impaired in their function.
9) The integrity of discharge resistors should always be checked before installation.
10) A means of sufficient dissipation of heat loss (fan, cooling) and escaping gases in case of malfunction must be provided. Required minimum distances (e.g. to sources of heat) must be maintained.

Risk Factor for Capacitors

The most frequent risk factors which cause capacitor damage and possibly also the
failure of the internal protective devices are:
1) Exceeding the permissible temperature on the capacitor surface (a steady
increase of 7°C in operating temperature cuts the life expectancy in half).
2) Overvoltage, over current and high inrush currents even if they only occur briefly or cyclically (a steady increase of 8% in the operating voltage of the capacitor cuts
life expectancy in half).
3) Network harmonics, resonances created by harmonics or flickering even when they
occur only briefly or cyclically.
4) Aging of the lighting equipment and an excess temperature or high UV stress.
5) Failure of other components in a common circuit and overvoltage or over current accordingly.
6) Interaction with other reactive power components, and also parasitic capacitances or inductivities (cable) in common circuits.
7) Even if the test based on the capacitor standard is passed, this does not ensure comprehensive protection against all possible overloading.
8) Power capacitors can be a significant risk in the case of failure due to their stored energy and/or their properties during operation in networks with high short-circuit power.
9) Power capacitors can actively fail when internal or external protective devices are mis- sing,
incorrectly dimensioned or have failed. They can burst, burn or, in extreme cases, explode.
10) The gases (e.g., hydrocarbons as decom- position products of the organic insulating materials used) released in case of damage are flammable and can create explosive mixtures.
The fire load of a power capacitor is approx. 40 MJ/kg.
It is to be noted that, depending on size, combustible materials make up around 55% of the total mass of small capacitors and around 75% of big capacitors.

Risk Minimalization

1) The capacitor manufacturer cannot predict all possible stresses which a power capacitor may be subjected to, and which have to be taken into account in a proper design.
This means that the user bears crucial co-responsibility here.
For this reason alone, safety and quality should be the top priorities selecting a capacitor.
2) Before designing the application, capacitors must be checked for their suitability for
that specific application. Every parameter is to be considered.
Unexamined use in an application may have serious consequences.
Particularly with sensitive applications, the internal protective devices of the capacitors should be supplemented by the user with suitable external protective measures.
External protective measures are even mandatory when capacitors are used without internal protective devices.
3) When power capacitors are used, suitable measures must always be taken to eliminate possible danger to humans, animals and property both during operation and when a failure occurs.
This applies to capacitors both without and with protective devices.

Cautions and Warning

In case of dents of more than 1 mm depth or any other mechanical damage, capacitors must not be used at all. This applies also in cases of leakage.
To ensure the functionality of the overpressure disconnector, elastic elements must not be hindered, and a minimum space of 12 mm has to be kept above each capacitor.
Check tightness of the connections/terminals periodically.
The energy stored in capacitors may be lethal. To prevent any chance of shock and short circuit, discharge the capacitor before handling.

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