

# LOW VOLTAGE POWER CAPACITORS TYPE RG-2

*Today's best capacitors for  
improvement of power factor  
and voltage regulation on  
low voltage AC power systems.*



## APPLIED STANDARD

The capacitor are designed, manufactured and tested to meet the requirements of the latest IEC Publication No. 831 and JIS C 4901.

## OPERATING CONDITIONS

- |                          |  |
|--------------------------|--|
| 1. Installation :        | Indoor                                     |
| 2. Ambient temperature : | -25°C to +45°C                             |
| 3. Altitude :            | Not exceeding 1,000 meters above sea level |

## TYPE AND RATINGS

- |                           |  |
|---------------------------|--|
| 1. Type :                 | RG-2.  |
| 2. Rated voltage :        | 230, 400, 415, 440, 525 volts (rms). Capacitors rated at other voltages are also available upon request. |
| 3. Rated output in kvar : | See the tables shown   |
| 4. Rated frequency :      | 50 Hz or 60 Hz.  |
| 5. Phase and connection : | Three (3) phase and delta. Single phase units are also available upon request.                           |



# TYPE RG-2

## LOW VOLTAGE POWER CAPACITORS



### ☐ SAFETY FEATURES

1. Discharge device : The capacitors are provided with an internal discharge resistor which will reduce the residual voltage from the peak value to 75 volts or less within a maximum time of 3 minutes after they are disconnected from the source of supply.
2. Protective : The capacitors are also provided with a pressure sensitive interrupter which will, in the event of an element failure, sense the build-up of pressure within the capacitor and interrupt the internal connections, disconnecting the capacitor from the circuit before rupture can occur.

### ☐ DESIGN AND CONSTRUCTION

1. Type RG-2 capacitors are made with specially processed metallized polypropylene film impregnated with non-PCB oil which has proved non-toxic and environmentally compatible.
2. The capacitors are normally designed to suit for mounting in vertical position with bushings on top.
3. The capacitor container is coated with non-corrosive poly-urethane resin enamel in Munsell color notation 5Y7/1 to extend maintenance free service life.

### ☐ ELECTRICAL CHARACTERISTICS

1. The capacitors are capable of withstanding the operation at the following overvoltages for the maximum duration shown below.

#### MAXIMUM PERMISSIBLE VOLTAGES vs DURATION

Voltage factor (x rated voltage)	Maximum duration
1.10	8 hours max. in every 24 hours
1.15	30 minutes max. in every 24 hours
1.20	5 minutes max. x 2 times max. in a month
1.30	1 minute max. x 2 times in a month

2. The capacitors are capable of continuous operation at a current not exceeding 1.3 times the rated current. For capacitors having a capacitance reading which is within the tolerance but in the positive side, the maximum permissible current can be increased by the positive percentage of the capacitance.
3. Every capacitor is subjected to the following tests to verify that the requirements of the applicable standard are met.

#### a. Dielectric withstand test :

The capacitors shall successfully withstand the application of the following voltages.

(1) Between terminals : 2.15 times the rated voltage for 2 seconds.

(2) Between terminals (connected together) and container : 3,000 volts rms for 10 seconds.

#### b. Capacitance (Output) :

The capacitors shall have a capacitance within +15% and -5% of the rated value when measured by LCR meter at a room temperature. Output will be calculated based on the capacitance value.

#### c. Capacitor losses :

Capacitor loss including the loss of the discharge resistor shall be not more than 2 watt/kvar when measured by Schering Bridge at the rated voltage.

Dielectric loss shall be between 0.2 and 0.3 watt/kvar depending on the output.

#### d. Sealing test :

Capacitors shall be free from leaks when heated to and maintained at 70°C for more than 2 hours.



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### WARRANTY

The company warrants these capacitors against defects in material and workmanship for one (1) full year from date of installation.

Exception for capacitors on networks that be damaged by harmonic, overvoltage, overcurrent and overambient temperature refer to IEC No. 831-1 1996, JIS C 4901 2000.

### NAMEPLATE MARKING

Each capacitor is provided with a nameplate showing the following information.

- |                           |   |
|---------------------------|---|
| a. Name of manufacturer   | g. Rated current                            |
| b. Type number            | h. Connection                               |
| c. Rated terminal voltage | i. Weight                                   |
| d. Rated output in kvar   | j. Internal discharge device fitted or not  |
| e. Rated frequency        | k. Internal protective device fitted or not |
| f. Number of phase        | l. Date of manufacture or serial number     |

### NOTE

The dimensions, characteristics and other details contained in this publication are accurate at date of issue. However, the Company reserves the right to mark, from time to time, such departure from the information contained in this publication as may be required to permit improvements in the design of its products.

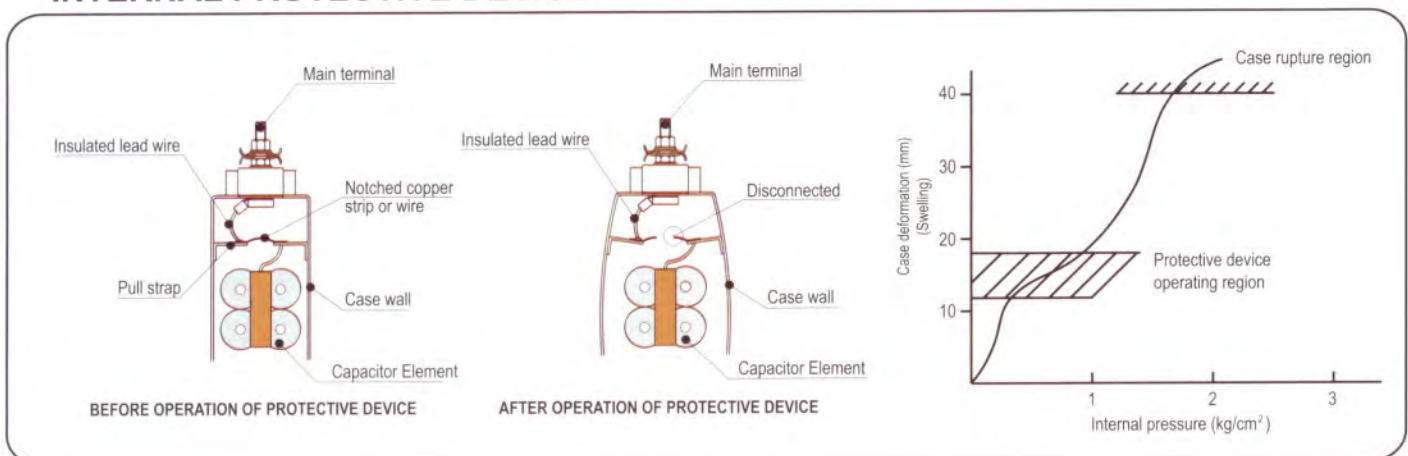
### INTERNAL PROTECTIVE DEVICE

#### OPERATION PRINCIPLE OF INTERNAL PRESSURE SENSITIVE DISCONNECTOR

The build-up of pressure within the capacitor, resulting from frequent self-healing, will cause the resilient wall of the capacitor case to bulge out. The notched strip will then be torn into two sections and the current will be interrupted as shown below.

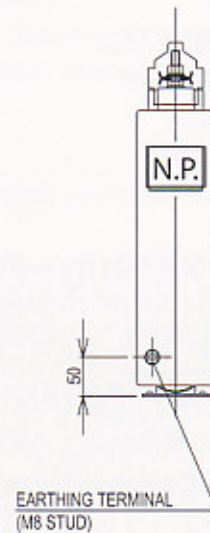
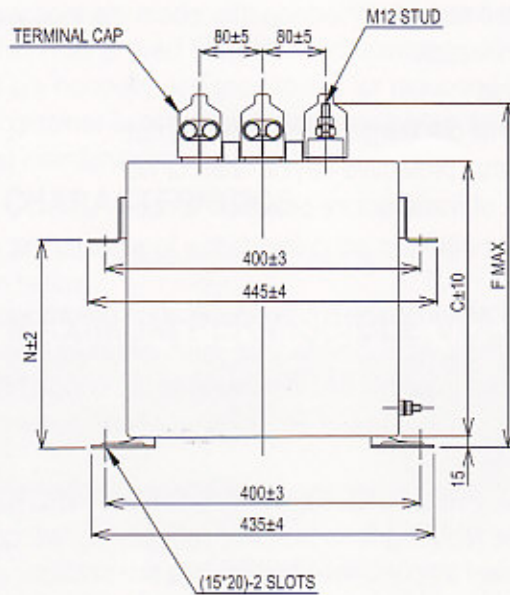
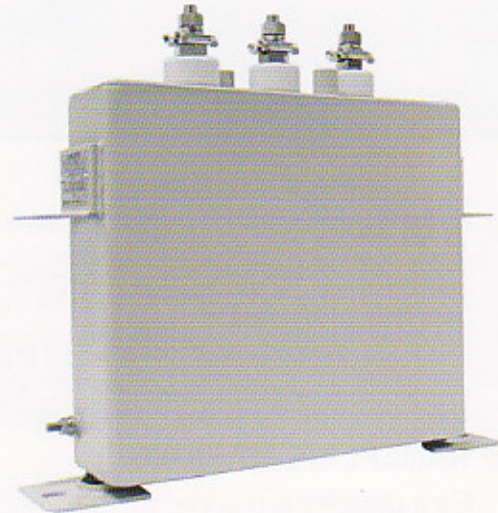
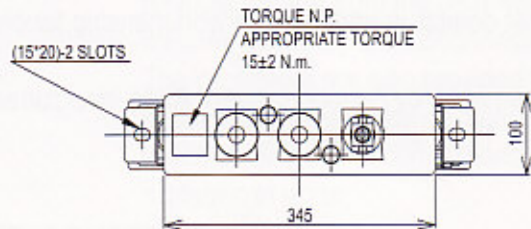
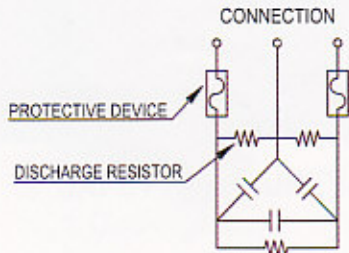
Thus, the capacitor will be disconnected from the power supply to prevent case rupture and consequent fire hazard.

### INTERNAL PROTECTIVE DEVICE





# APPEARANCE AND DIMENSIONS



## RATING & DIMENSIONS (mm.) 50 Hz.

NO.	CODE	RATED		DIMENSION (mm.)			GROSS MASS
		VOLTAGE	CAP. / CURRENT	C	F	N	
1	RG223020D1E	230 V	20 kvar / 50.2A	250	350	165	15kg
2	RG223025D1E		25 kvar / 62.8A	250	350	165	15kg
3	RG223030D1E		30 kvar / 75.3A	290	390	205	17kg
4	RG223040D1E		40 kvar / 100A	420	520	335	23kg
5	RG223050D1E		50 kvar / 126A	510	610	425	27kg
1	RG240020D1E	400 V	20 kvar / 28.9A	160	260	75	11kg
2	RG240025D1E		25 kvar / 36.1A	210	310	125	13kg
3	RG240030D1E		30 kvar / 43.3A	210	310	125	13kg
4	RG240040D1E		40 kvar / 57.7A	250	350	165	15kg
5	RG240050D1E		50 kvar / 72.2A	290	390	205	17kg
6	RG240075D1E		75 kvar / 108A	420	520	335	23kg
7	RG240010E1E		100 kvar / 144A	510	610	425	27kg
1	RG241520D1E	415 V	20 kvar / 27.8A	160	260	75	11kg
2	RG241525D1E		25 kvar / 34.8A	210	310	125	13kg
3	RG241530D1E		30 kvar / 41.7A	210	310	125	13kg
4	RG241540D1E		40 kvar / 55.6A	250	350	165	15kg
5	RG241550D1E		50 kvar / 69.6A	290	390	205	17kg
6	RG241575D1E		75 kvar / 104A	420	520	335	23kg
7	RG241510E1E		100 kvar / 139A	510	610	425	27kg

NO.	CODE	RATED		DIMENSION (mm.)			GROSS MASS
		VOLTAGE	CAP. / CURRENT	C	F	N	
1	RG244020D1E	440 V	20 kvar / 26.2A	160	260	75	11kg
2	RG244025D1E		25 kvar / 32.8A	210	310	125	13kg
3	RG244030D1E		30 kvar / 39.4A	210	310	125	13kg
4	RG244040D1E		40 kvar / 52.5A	250	350	165	15kg
5	RG244050D1E		50 kvar / 65.6A	290	390	205	17kg
6	RG244075D1E		75 kvar / 98.4A	420	520	335	23kg
7	RG244010E1E	100 kvar / 131A	510	610	425	27kg	
1	RG252520D1E	525 V	20 kvar / 22.0A	210	310	125	13kg
2	RG252525D1E		25 kvar / 27.5A	210	310	125	13kg
3	RG252530D1E		30 kvar / 33.0A	210	310	125	13kg
4	RG252540D1E		40 kvar / 45.0A	250	350	165	15kg
5	RG252550D1E		50 kvar / 55.0A	290	390	205	17kg
6	RG252575D1E		75 kvar / 82.6A	360	420	275	20kg
7	RG252510E1E		100 kvar / 110A	510	610	425	27kg

Rated Voltage 200, 210, 220, 240 volts are also available. Frequency 60 Hz is also available.  
Capacitor Rated Voltages with L= 6%, L=13% SR are also available.