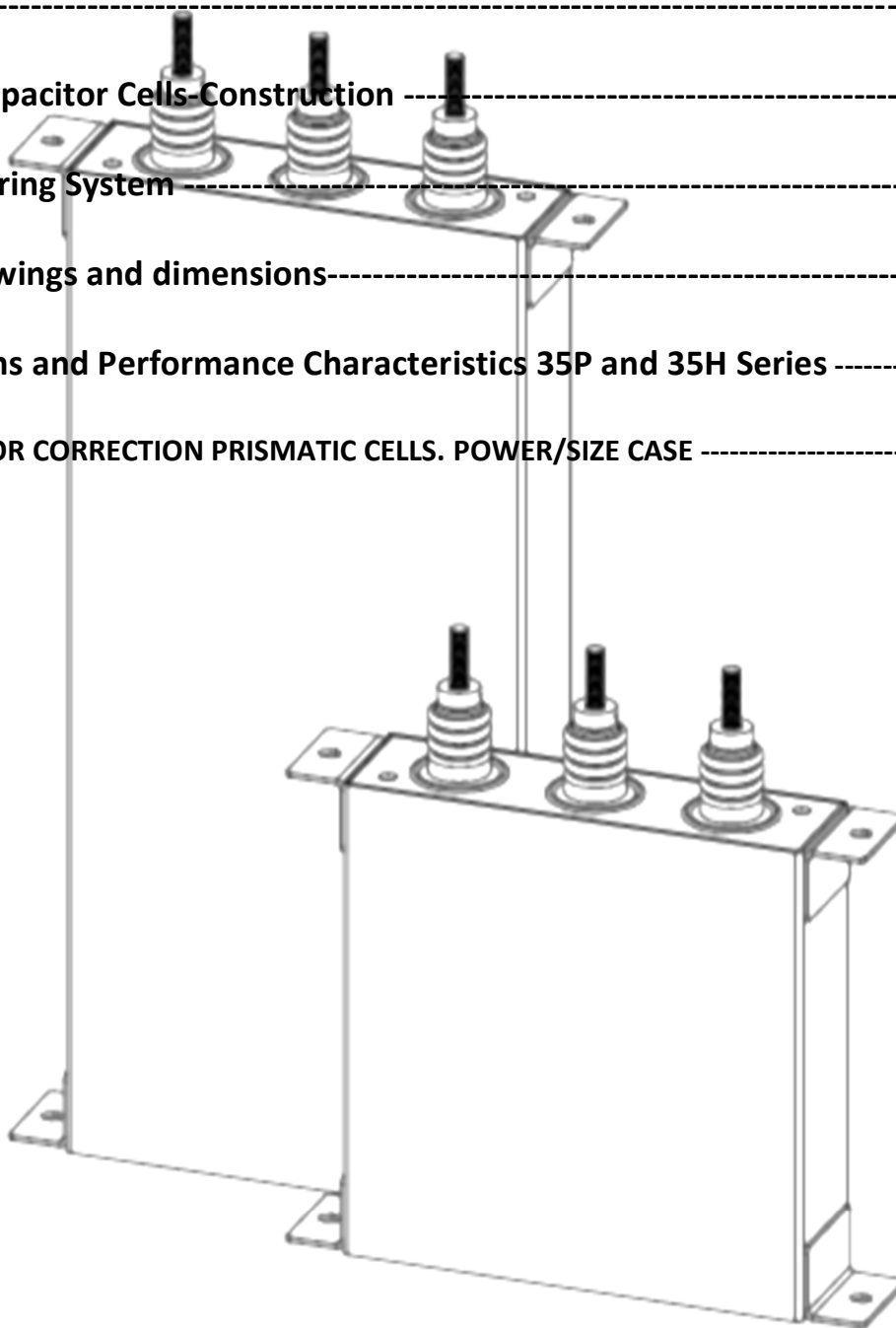


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The purpose of this catalog is to provide a reference for all NG's standard power factor correction and harmonic filters capacitor cells in prismatic case. Please consult NG sales or customer service for further information at [sales@ngm.com.mx](mailto:sales@ngm.com.mx). Tel. [52][55]5352-5244.

### **DESCRIPTION**

NG's range of PFC capacitors and harmonic filter capacitors feature, metalized polypropylene film, welded steel cases and ceramic insulated stud terminals. The capacitors offer a voltage range from 240 to 600 VAC, 50 Hz and 60 Hz, including versions for high harmonic applications and power rating reactive from 25KVAR to 100 KVAR. They are meeting the standard UL810, C22.2.190 and IEC 60831. The welded case capacitors are manufactured in NG Mexico City. The welded case cells, like all of NG's products, are designed to offer a great value to our customers by providing world-class reliability, great customer service, and a competitive price.

NG's Prismatic capacitors 35 series are dry capacitors in a welded case provide with a pressure interrupter system in compliance with UL810 and IEC 60831, type of filling material patented by our trade mark and new technologies on metallized polypropylene film are used in this prismatic design increasing increase the life of the cells in the final application.

NG Capacitors are free of PCB's and are RoHS and REACH compliance.

Prismatic design can be used in applications like Power factor correction, harmonic filters and power electronic circuits.

NG has 2 type of prismatic capacitors.

- Standard Design. It design can withstand up to 135% the rated current, where the current is a result of: Capacitance value, frequency in the circuit and voltage applied.
- Heavy-duty design for high harmonic- It design can withstand up to 150% the rated current voltage.

Notes:

- The Effects of Harmonics on Capacitors include additional heating - and in severe cases overloading, increased dielectric or voltage stress, and unwanted losses. Also, the combination of harmonics and capacitors in a system could lead to a more severe power quality condition called harmonic resonance, which has the potential for extensive damage. Consequently, these negative effects will shorten capacitor life.
- Capacitors are typically installed in the electrical power system – from commercial and industrial to distribution and transmission systems – as power factor correction devices. However, even though it is a basic component of a harmonic filter (aside from the reactor), it is not free from the damaging effects of harmonics. In a power system characterized by high harmonic distortion levels, capacitor banks are vulnerable to failures.

### **PRISMATIC CAPACITOR CELLS-CONSTRUCTION**

NG Cells are non-polarized capacitors with an insulating plastic film as the dielectric wound into a cylindrical winding. The film capacitors is metallized with aluminum and zinc, applied on one side of the plastic film. Several capacitor elements are interconnected delta for 3 phases.

Metallized film capacitors offer self-healing properties. Dielectric breakdowns or shorts between the electrodes do not destroy the component.

A key advantage of every film capacitor's internal construction is direct contact to the electrodes on both ends of the winding. This contact keeps all current paths very short. The design behaves like a large number of individual capacitors connected in parallel, thus reducing the internal Ohmic losses (ESR) and parasitic inductance (ESL). Which makes them suitable for applications with high surge currents (snubbers) and for AC power applications, or for applications at higher frequencies.

Metalized polypropylene capacitors manufactured by Nueva Generacion Manufacturas (NG) offer improved performance and proven reliability in applications requiring power factor correction, harmonic filtering or power electronic circuits.

Metallized polypropylene film is used for its ability to operate at low temperatures and minimal loss of capacitance over the life of the cell. Encapsulated by a thermal setting polymer resin, excellent heat dissipation is achieved. In the event of a fault, single or three-phase pressure sensitive interrupters disconnect all three phases effectively taking the capacitor out of the circuit.

Dielectric:	Polypropylene Film
Case:	Painted steel
Cover:	Painted steel
Potting:	Dry (Resin base material)
Terminals:	Screw Terminals ½-13UNC-2A
Phases:	Triple phases are internally delta connection.
Internal Protection:	Pressure-sensitive circuit interrupters.

**PART NUMBERING SYSTEM.**

**35   P   3   48   1000   B   B   085   X   NG**  
I   II   III   IV   V   VI   VII   VIII   IX   X

**I.- Series Name**

35 = Power Factor Capacitor in Welded Case (Prismatic capacitor)

**II.- Application**

P = Power factor Correction Cell

H = Power Factor Correction Cell high Harmonics

F = Power Factor Circuits Cell

**III.- # Phases**

1 = Single Phase (60 Hz)

3 = Three Phases (60Hz)

S = Single Phase (50 Hz)

T = Three Phases (50Hz)

**IV.- Rated Voltage**

For Example

24 = 240 Vac    44 = 440 Vac

40 = 400 Vac    48 = 480 Vac

60 = 600 Vac

**V.- Reactive Power [KVA<sub>r</sub>]**

For Example

0600 = 60.0

0255 = 25.5

1000 = 100.0

**VI.- Capacitance Tolerance**

For Example

A = +10% -0%

B = +15% -0%

**VII.- Case Dimension in the base [in]**

B = 3.75 x 13.5

**VIII.- Height of the case [in]**

For example

085 = 8.5

095 = 9.5

115 = 11.5

135 = 13.5

185 = 18.5

195 = 19.5

205 = 20.5

240 = 24

Etc.

**IX.- External Accessories**

For Example:

X = Without Accessories

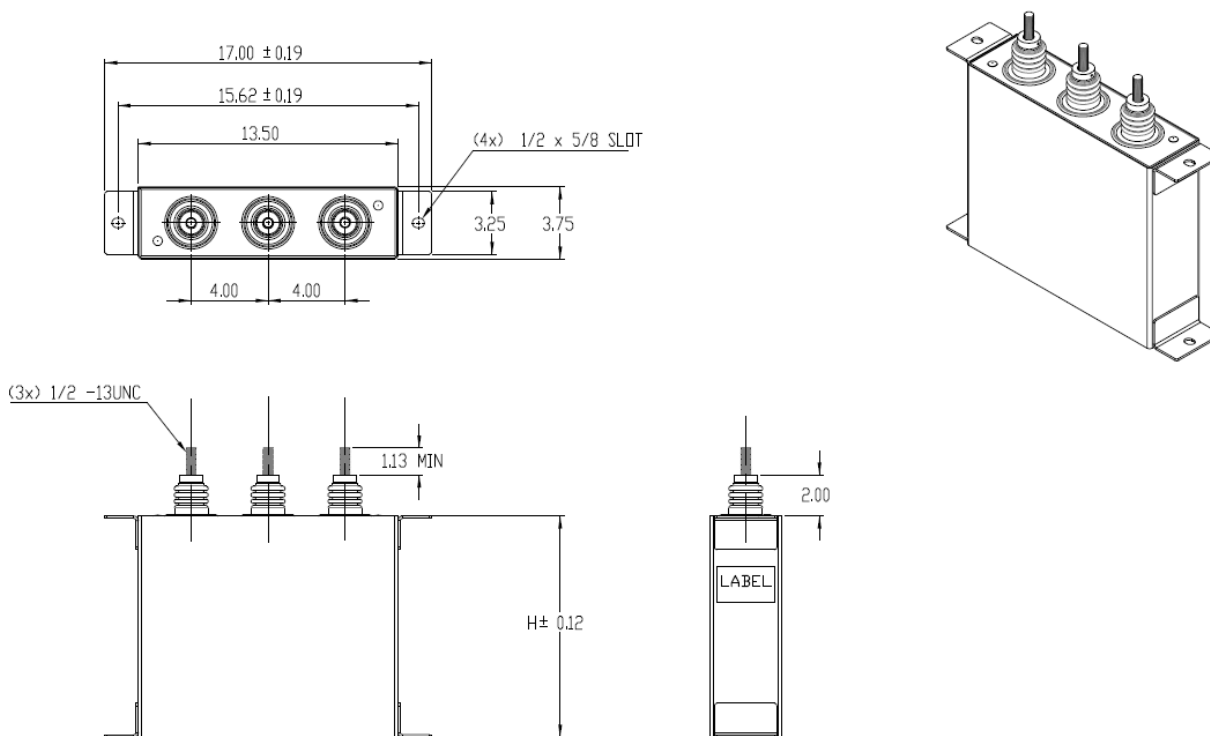
**X.- Indicate the customer name and differences between products**

For example

4G = Standard Design (maximum ambient temperature 45°C)

5G = Standard Design (maximum ambient temperature 55°C)

OUTLINE DRAWINGS AND DIMENSIONS



Part Numbering (base)	Base Case (B)	Height (H)	Terminals
B	3.75 x 13.5 in	8.5, 9.5, 11.5, 13.5, 18.5, 19.5, 20.5, 24	Screw terminal 1/2-13 UNC

**SPECIFICATIONS AND PERFORMANCE CHARACTERISTICS 35P AND 35H SERIES**

Parameter	35P Series	35H Series
Rated voltage	Up to 600 [Vac]	Up to 600 [Vac]
Power	25-100 KVAR @60 Hz	25-100 KVAR @60 Hz
Rated frequency	50 and 60 Hz	50 and 60 Hz
Capacitance tolerance std.	-0 + 15%	-0 + 15%
Temperature Class	-40 / D max.	-40 / D max.
Tangent of the loss angle	< 0.5 [W/KVAR] 60Hz, 25°C	< 0.5 [W/KVAR] 60Hz, 25°C
Maximum permissible A.C. voltage	Vn + 10% up to 8h daily / Vn+15% up to 30min daily / Vn+20% up to 5min daily / Vn+30% up to 1min daily	Vn + 20% up to 8h daily / Vn+25% up to 30min daily / Vn+30% up to 5min daily / Vn+40% up to 1min daily
Maximum Permissible A.C. current (including combined effects oh harmonics, over voltages and capacitance tolerance	1.3 In	1.5 In
Discharge device	On IEC 60831	On IEC 60831
Pressure interrupter device	On UL 810 / 10000AFC	On UL 810 / 10000AFC
Dielectric Strength Terminal to Terminal	2.15Un for 10s	2.15Un for 10s
Dielectric Strength Terminal to Case	2VN + 2000 Vac or 3000 Vac whichever is the higher for 10 s	
Impregnation	Gel: base Resin/oil Mix patented by CSC.	Gel: base Resin/oil Mix patented by CSC.
Mounting	Vertical / Horizontal Position. It should not be mounted facedown	
Connection	Screw terminals ½-13UNC	Screw terminals ½-13UNC
Service life	>100,000 hours Ambient temp. 55°C and > 200,000 hours Ambient temperature 45°C	>100,000 hours Ambient temp. 55°C and > 200,000 hours Ambient temperature 45°C
Standard	cUL - Capacitor certified for Canada (CYWT8) on CSA-C22.2 No.190 UL - Capacitor (CYWT2) - on ANSI UL810 IEC-60831-1/2	
International directives	RoHS2 and REACH	RoHS2 and REACH
Storage Temperature	-40 to 85 °C	-40 to 85 °C
Material Case / Cover	Painted steel	
Dielectric	Polypropylene SH	Polypropylene SH
UL file	Open draft	

POWER FACTOR CORRECTION PRISMATIC CELLS. POWER/ SIZE CASE

Rated Voltage [Vac]	Capacitance Tolerance	Power rating [kVAR]	Nominal Current [Arms]	Nominal Capacitance [uF]	Cap per Fase [uF]	Case Height (H) [inches]	Applications	Codification (Series)
240	-0% to +15%	20	48.1	921.0	307.0	9.5	Low Harmonics	35P
240	-0% to +15%	25	60.1	1151.3	383.8	11.5	Low Harmonics	35P
240	-0% to +15%	30	72.2	1381.6	460.5	11.5	Low Harmonics	35P
240	-0% to +15%	20	48.1	921.0	307.0	11.5	High Harmonic	35H
240	-0% to +15%	25	60.1	1151.3	383.8	11.5	High Harmonic	35H
240	-0% to +15%	30	72.2	1381.6	460.5	11.5	High Harmonic	35H
480	-0% to +15%	25	30.1	287.8	95.9	8.5	Low Harmonics	35P
480	-0% to +15%	30	36.1	345.4	115.1	9.5	Low Harmonics	35P
480	-0% to +15%	35	42.1	403.0	134.3	11.5	Low Harmonics	35P
480	-0% to +15%	40	48.1	460.5	153.5	11.5	Low Harmonics	35P
480	-0% to +15%	45	54.1	518.1	172.7	13.5	Low Harmonics	35P
480	-0% to +15%	50	60.1	575.6	191.9	13.5	Low Harmonics	35P
480	-0% to +15%	60	72.2	690.8	230.3	18.5	Low Harmonics	35P
480	-0% to +15%	75	90.2	863.5	287.8	18.5	Low Harmonics	35P
480	-0% to +15%	80	96.2	921.0	307.0	18.5	Low Harmonics	35P
480	-0% to +15%	90	108.3	1036.2	345.4	19.5	Low Harmonics	35P
480	-0% to +15%	100	120.3	1151.3	383.8	19.5	Low Harmonics	35P
480	-0% to +15%	25	30.1	287.8	95.9	9.5	High Harmonic	35H
480	-0% to +15%	30	36.1	345.4	115.1	9.5	High Harmonic	35H
480	-0% to +15%	35	42.1	403.0	134.3	13.5	High Harmonic	35H
480	-0% to +15%	40	48.1	460.5	153.5	13.5	High Harmonic	35H
480	-0% to +15%	45	54.1	518.1	172.7	13.5	High Harmonic	35H
480	-0% to +15%	50	60.1	575.6	191.9	13.5	High Harmonic	35H
480	-0% to +15%	60	72.2	690.8	230.3	18.5	High Harmonic	35H
480	-0% to +15%	75	90.2	863.5	287.8	19.5	High Harmonic	35H
480	-0% to +15%	80	96.2	921.0	307.0	19.5	High Harmonic	35H
480	-0% to +15%	90	108.3	1036.2	345.4	20.5	High Harmonic	35H
480	-0% to +15%	100	120.3	1151.3	383.8	24.0	High Harmonic	35H

Best Solution in AC Capacitors



600	-0% to +15%	25	24.1	184.2	61.4	8.5	Low Harmonics	35P
600	-0% to +15%	30	28.9	221.0	73.7	9.5	Low Harmonics	35P
600	-0% to +15%	35	33.7	257.9	86.0	11.5	Low Harmonics	35P
600	-0% to +15%	40	38.5	294.7	98.2	11.5	Low Harmonics	35P
600	-0% to +15%	45	43.3	331.6	110.5	13.5	Low Harmonics	35P
600	-0% to +15%	50	48.1	368.4	122.8	13.5	Low Harmonics	35P
600	-0% to +15%	60	57.7	442.1	147.4	13.5	Low Harmonics	35P
600	-0% to +15%	75	72.2	552.6	184.2	15.5	Low Harmonics	35P
600	-0% to +15%	80	77.0	589.5	196.5	15.5	Low Harmonics	35P
600	-0% to +15%	90	86.6	663.1	221.0	19.5	Low Harmonics	35P
600	-0% to +15%	100	96.2	736.8	245.6	20.5	Low Harmonics	35P
600	-0% to +15%	25	24.1	184.2	61.4	9.5	High Harmonic	35H
600	-0% to +15%	30	28.9	221.0	73.7	9.5	High Harmonic	35H
600	-0% to +15%	35	33.7	257.9	86.0	11.5	High Harmonic	35H
600	-0% to +15%	40	38.5	294.7	98.2	11.5	High Harmonic	35H
600	-0% to +15%	45	43.3	331.6	110.5	13.5	High Harmonic	35H
600	-0% to +15%	50	48.1	368.4	122.8	13.5	High Harmonic	35H
600	-0% to +15%	60	57.7	442.1	147.4	13.5	High Harmonic	35H
600	-0% to +15%	75	72.2	552.6	184.2	18.5	High Harmonic	35H
600	-0% to +15%	80	77.0	589.5	196.5	18.5	High Harmonic	35H
600	-0% to +15%	90	86.6	663.1	221.0	20.5	High Harmonic	35H
600	-0% to +15%	100	96.2	736.8	245.6	24.0	High Harmonic	35H
525	-0% to +15%	30	33.0	288.7	96.2	11.5	Low Harmonics	35P