

A.C. MOTOR START CAPACITORS

NG

NUEVA GENERACION
M A N U F A C T U R A S

LEADER IN AC MOTOR START CAPACITORS



www.cge.com.mx



MISSION



**NG designs & manufactures
A.C. Motor Start Capacitors to
exceed international standards
and customer specifications at
a competitive price.**

NUEVA GENERACION
M A N U F A C T U R A S
CAPACITOR MANUFACTURER

INTRODUCTION

NG A.C. Motor Start capacitors are manufactured with high purity aluminum foils separated by chemically pure paper layers, which are impregnated with a conductive electrolyte. Units are provided with a deck made of phenolic or plastic as a cover with a positive pressure safety vent, and are assembled in phenolic or thermoplastic case.

APPLICATIONS

These non-polarized capacitors are widely applicable to start small A.C. Motors more specifically, they are suitable for washing machines, refrigerators, air conditioning systems, fans, machines tools, garage doors openers, etc. NG capacitors meet the requirements of the following international standards:

BS EN 60252
IMQ CE 133-3
SEV 1029
EIA RS 463
JIS C 4905
IEC 252

All designs meet the EIA dimensional standards.

APPROVALS

VDE:	110 V	21 to 400 μ F	File: 21609-4630-0009/32FA4 F35/bt	3/1.7 & 3/0.5
VDE:	220 V	21 to 196 μ F	File: 21609-4630-0001/22ZRP TB1/bt-dn	3/1.7 & 3/0.5
VDE:	250 V	21 to 196 μ F	File: 21609-4630-0003/230X1 TB1/bt-hp-dn	3/1.7 & 3/0.5
VDE:	330 V	21 to 216 μ F	File: 21609-4630-0004/306RA TB1/bt-hp-dn	3/1.7 & 3/0.5
UL/ULc:		E130758 (Recognized for construction)		
CE:		Any case size		

ELECTRICAL SPECIFICATIONS

Capacitance Range:	21 to 1410 μ F
Voltage Range:	110, 125, 165, 220, 250 and 330 VAC
Working Frequency:	50 / 60 HZ
Operating Temperature:	-20 + 65 °C max. (-4 + 149 °F max.)
Power Factor:	10% max. After applying working voltage for 4 sec.
Overload Test:	1,4 times WV for 1 sec.

MECHANICAL SPECIFICATIONS

Case:	Oil and moisture resistant phenolic or thermoplastic case with a positive pressure safety vent.
Terminals:	Designed to accept 1/4" single, double and triple quick female connectors with solder lug option.
Marking:	Manufacturer identification, capacitance range, nominal voltage and working frequency. Maximum operating temperature, manufacture month & year, production lot number and UL marking. Special marking available upon request. DATE CODE DY-MO-YR
Mounting:	Hardware and discharge resistors available upon request. (See page 7)

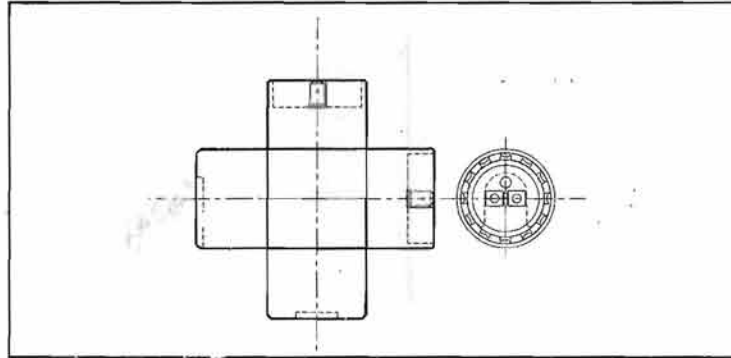
GENERAL CHARACTERISTICS AND CONDITIONS OF THE PRODUCT

PHENOLIC CASE

MOUNTING:

Vertical mounting of the capacitor with the terminals up is recommended.

Horizontal mounting of the capacitor is acceptable providing the pressure relief vent is in the up position. Vertical mounting with the terminals down or horizontal mounting with the pressure relief vent down is not recommended as it may cause possible reduction to the life of the capacitor as well as impairing the operation of the pressure relief vent.



CLEANING:

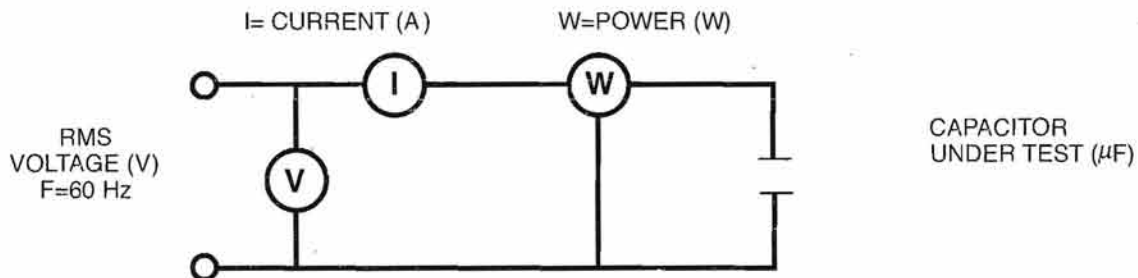
Halogenated cleaning solvents are not recommended.
Recommended cleaning solvents are those that are free of halogens.

SAFETY:

Because of the high watt-second value of AC motor capacitors, caution should be used during test and application. Misapplication such as exceeding duty cycle or applying continuous AC voltage may result in destruction or explosion of the capacitor.

PROCEDURE FOR CAPACITANCE AND POWER FACTOR MEASUREMENT

The capacitance and power factor of AC motor start capacitors are calculated by applying 60 HZ rated voltage to the capacitor and recording from the circuit below the voltage within 2 seconds, the current within 3 seconds and the wattage within 4 seconds.



Capacitance and power factor are calculated with the below equations:

$$C = \frac{I \times 10^6}{2\pi FV}$$

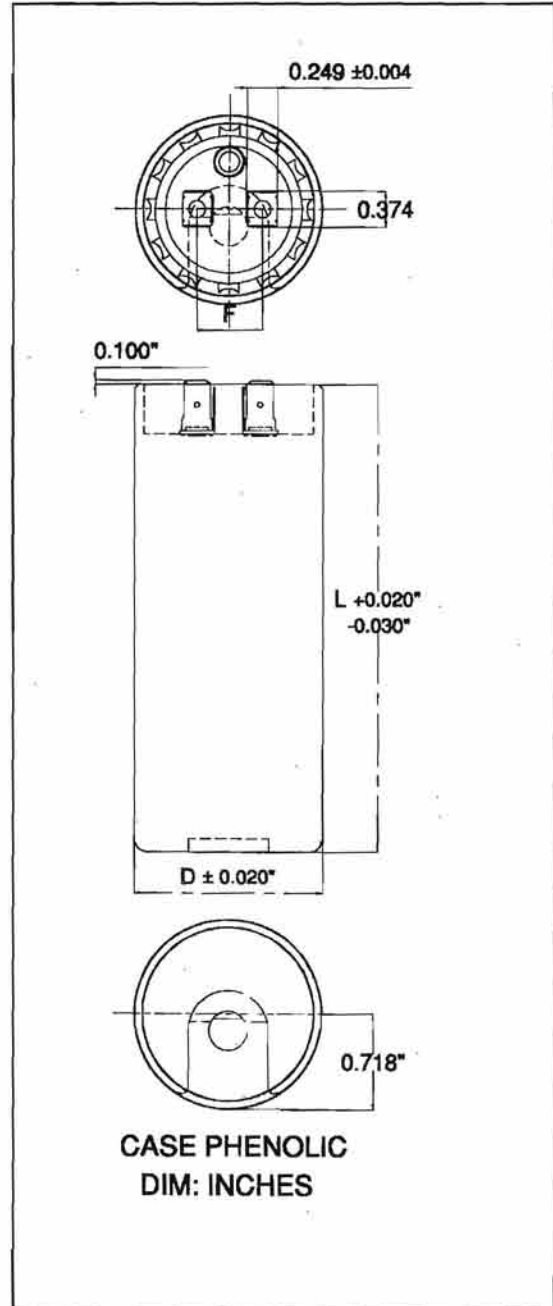
C = Capacitance in μF
I = Current in Amperes
F = Frequency in Hertz

$$\text{PF} = \frac{W \times 100}{VI}$$

V = Volts RMS
W = Power in Watts
PF = % Power Factor

PHENOLIC CASE CAPACITANCE VS. CASE DIMENSIONS *

VOLTAGE	110	125	165	220	250	330
CAPACITANCE VALUE μ F	CASE SIZE	CASE SIZE	CASE SIZE	CASE SIZE	CASE SIZE	CASE SIZE
21-25	1	1	1	1	1	1
25-30	1	1	1	1	1	1
30-36	1	1	1	1	1	1
36-43	1	1	1	1	1	1
43-52	1	1	1	1	1	2
47-56	1	1	1	1	1	2
53-64	1	1	1	1	1	4
64-77	1	1	1	1	2	4
72-86	1	1	1	1	4	4
88-106	1	1	1	1	4	4
108-130	1	1	1	2	4	5
130-156	1	1	1	4	4	5
145-175	1	1	1	4	4	5
161-193	1	1	1	4	5	5
189-227	1	1	2	4	5	7
216-259	1	1	2	4	5	7
233-280	1	1	4	4	5	8
243-292	1	1	4	5	5	8
270-324	1	1	4	5	7	8
324-389	1	2	4	5	7	8
340-408	1	2	4	5	7	8
378-454	1	2	4	5	8	
400-480	1	4	4	7	8	
430-516	2	4	5	7	8	
460-552	2	4	5	7	8	
540-648	4	4	5	7	8	
590-708	4	4	5	8	8	
708-850	4	4	5	8		
829-995	4	5	7	8		
1000-1200	5	5	7			
1020-1224	5	5	7			
1175-1410	5	5	8			



* EIA TYPE 2

CASE SIZE	D \varnothing	F	L
1	1.437(36.50)	0.500(12.70)	2.750(69.85)
2	1.437(36.50)	0.500(12.70)	3.375(85.72)
4	1.812(46.02)	0.630(16.00)	3.375(85.72)
5	1.812(46.02)	0.630(16.00)	4.375(111.12)
6	2.062(52.37)	0.630(16.00)	3.375(85.72)
7	2.062(52.37)	0.630(16.00)	4.375(111.12)
8	2.562(65.07)	0.630(16.00)	4.375(111.12)

DIM: INCHES (mm)

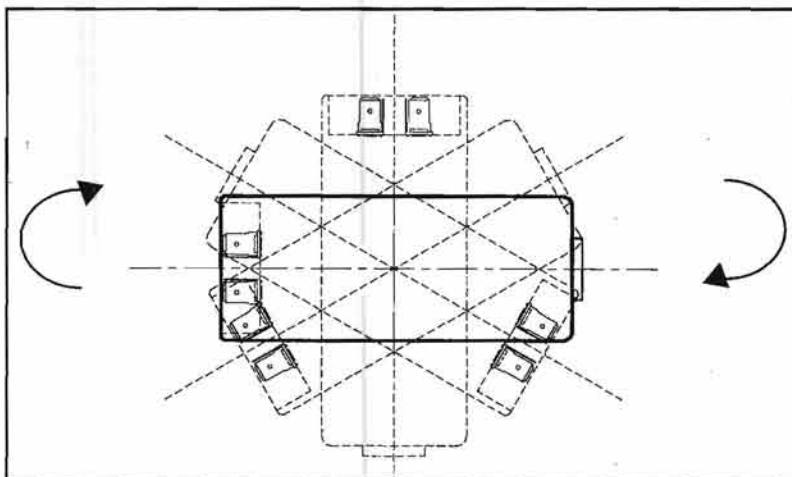
GENERAL NOTE:

ALL CAPACITORS ARE AVAILABLE IN LARGER CASES SIZES THAN THOSE INDICATED IN THE CHART

GENERAL CHARACTERISTICS AND CONDITIONS OF THE PRODUCT MAXSTART*

MOUNTING:

Can be mounted in any position.



CLEANING:

Halogenated cleaning solvents are not recommended.
Recommended cleaning solvents are those that are free of halogens.

SAFETY:

Because of the high watt-second value of AC motor capacitors, precaution should be taken during testing and application. Missapplication such as exceeding duty cycle or applying continuous AC voltage may result in destruction or explosion of the capacitor.

CONSTRUCTION:

Thermoplastic case, ultrasonic sealing with a plastic vent system.

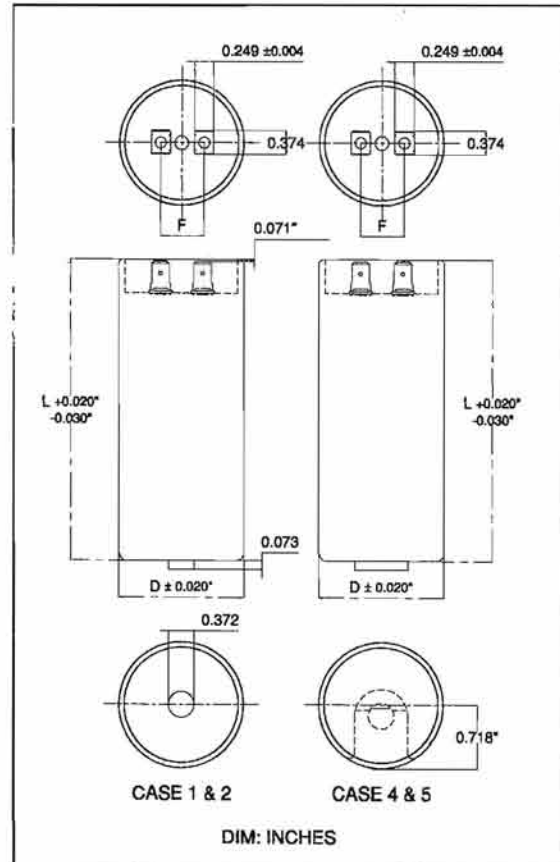
THE MAXSTART ADVANTAGES:

- ✓ HIGH IMPACT RESISTANCE THERMOPLASTIC CONSTRUCTION
- ✓ 50% TRANSPORTATION COST SAVINGS
- ✓ LONGER LIFE
- ✓ PATENT PENDING FAILURE SYSTEM
- ✓ EXCEED ALL INTERNATIONAL STANDARDS
- ✓ COMPACT DESIGN

* Patent pending

MAXSTART CAPACITANCE VS, CASE DIMENSIONS*

VOLTAGE CAPACITANCE VALUE µF	110 CASE SIZE	125 CASE SIZE	165 CASE SIZE	220 CASE SIZE	250 CASE SIZE	330 CASE SIZE
21-25	1	1	1	1	1	1
25-30	1	1	1	1	1	1
30-36	1	1	1	1	1	1
36-43	1	1	1	1	1	1
43-52	1	1	1	1	1	1
47-56	1	1	1	1	1	1
53-64	1	1	1	1	1	1
64-77	1	1	1	1	1	2
72-86	1	1	1	1	1	2
88-106	1	1	1	1	1	4
108-130	1	1	1	1	1	4
124-149	1	1	1	1	2	4
130-156	1	1	1	1	2	4
145-175	1	1	1	1	4	5
161-193	1	1	1	2	4	5
189-227	1	1	1	2	4	5
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324-389	1	1	2	4		
340-408	1	1	2	4		
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400-480	1	1	4	5		
430-516	1	2	4	5		
460-552	1	2	4	5		
540-648	2	4	4			
590-708	4	4	4			
708-850	4	4	5			
829-995	4	4				
1000-1200	4	5				
1020-1224	4	5				
1175-1410	5	5				



* EIA TYPE 2

CASE SIZE	DØ	F	L
1	1.437(36.50)	0.500(12.70)	2.758(70.05)
2	1.437(36.50)	0.500(12.70)	3.374(85.72)
4	1.812(46.02)	0.630(16.00)	3.374(85.72)
5	1.812(46.02)	0.630(16.00)	4.375(111.12)

DIM. INCHES (mm)

GENERAL NOTE:

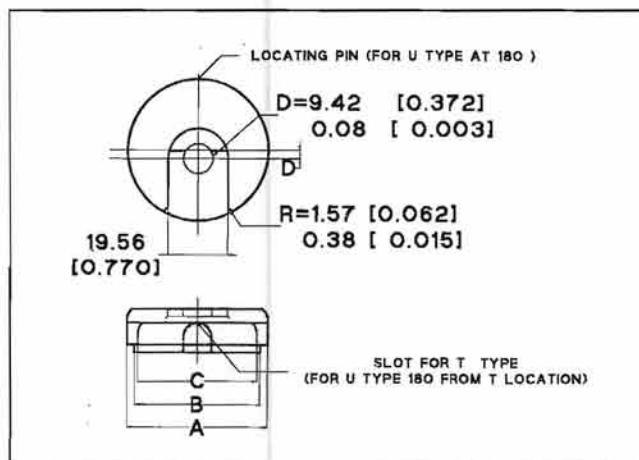
ALL CAPACITORS ARE AVAILABLE IN LARGER CASES SIZES THAN THOSE INDICATED IN THE CHART

HARDWARE ACCESORIES

End Cap

FOR CASE	A	B	C	D
1, 2 & 3	1,437 (36,50)	1,241 (31,52)	1,093 (27,56)	See Note
4 & 5	1,812 (46,02)	1,611 (40,92)	1,468 (37,25)	0,100 (2,79)
6 & 7	2,062 (52,37)	1,866 (47,40)	1,718 (43,64)	0,235 (5,97)
8	2,562 (65,07)	2,366 (60,09)	2,218 (56,33)	0,485 (12,31)

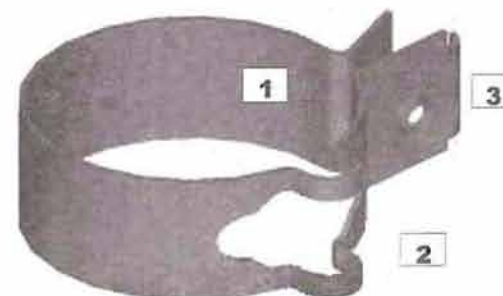
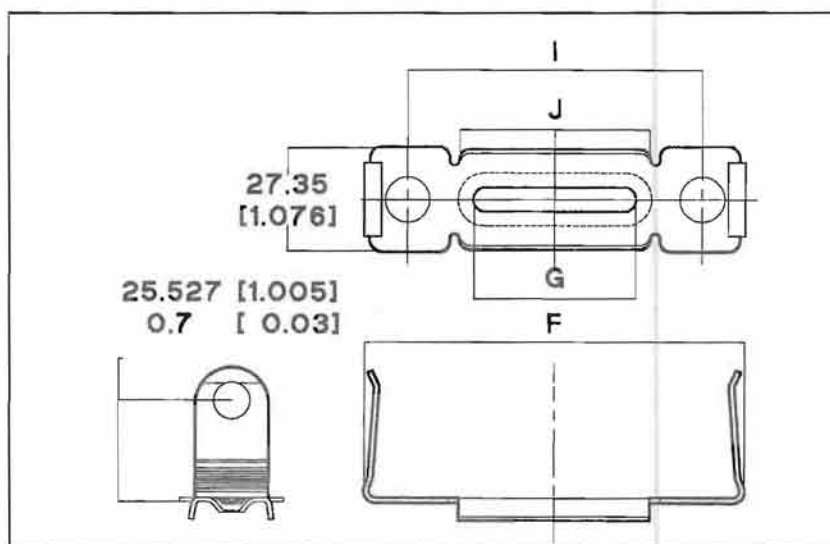
DIM: INCHES (mm) TOL: ±0,010 (0,28)



Bracket

FOR CASE	F	G	I	J
1	3,401 (86,40)	1,086 (27,60)	2,539 (64,50)	1,444 (36,70)
2,4 & 6	3,956 (100,5)	1,673 (42,50)	3,098 (78,70)	1,998 (50,75)
3,5,7 & 8	4,960 (126,0)	2,723 (69,18)	4,174 (106,04)	3,084 (78,34)

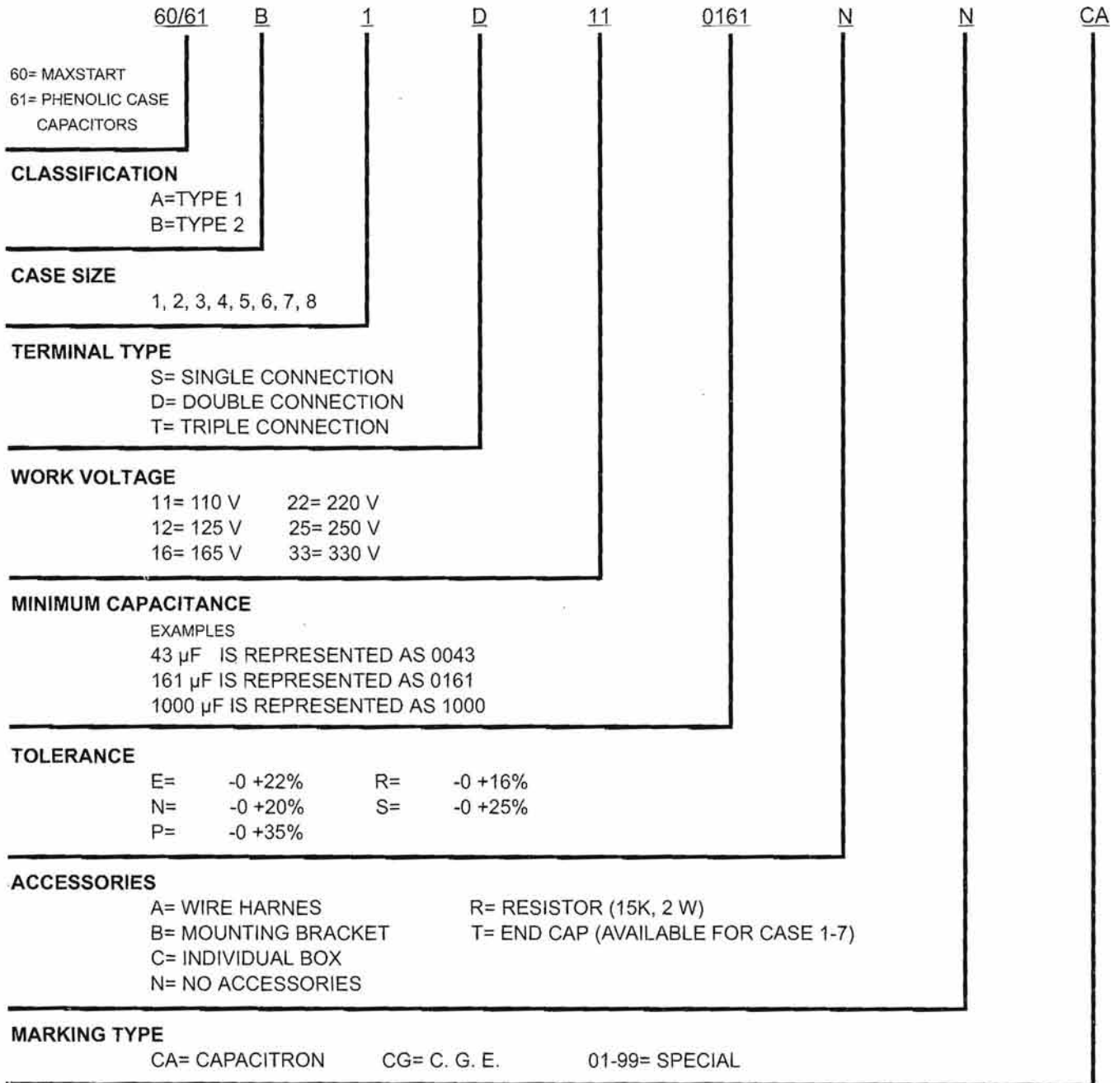
DIM: INCHES (mm) TOL: ±0,015 (0,38)



ONLY AVAILABLE FOR MAXSTART

- 1,- Ø INT=38,40MM
- 2,- Ø SUP=6,00MM
- 3,- M4x 0.7 6HIPROSCA

PART NUMBERING SYSTEM



Consult www.cge.com.mx for a cross reference of all manufacturers of A.C. Motor Starts



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M A N U F A C T U R A S
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ISO 9001
CERTIFIED



FOR MORE INFORMATION PLEASE CALL YOUR AREA
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A.C. MOTOR START CAPACITORS

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