

CDE

Motor Run & General Purpose AC Capacitors

AC FILM CAPACITORS FOR
MOTOR RUN, UPS AND GENERAL
PURPOSE APPLICATIONS

RoHS COMPLIANT



Intelligent Capacitor Solutions



For safe and reliable performance of virtually any motor run system, choose Cornell Dubilier capacitors. Our SuperMet™ line of oil impregnated, AC capacitors for use in motor run, HVAC, UPS and other general purpose applications are constructed using high quality materials and Lean Six Sigma manufacturing practices. If you have specialized needs, our flexible manufacturing processes allow us to quickly provide custom configurations.

CDE capacitors undergo 100% electrical testing including: Accelerated Life Testing (ALT) for 2000 hours at 125% voltage rating and temperature at 10°C greater than maximum rating, fault current, and mechanical testing. The SuperMet line is designed to meet performance testing outlined in the Electrical Industry Association (EIA) standard #RS-456A.



CDE provides intelligent capacitor solutions.

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Applications

- UPS Systems
- HVAC Systems
- Single Phase Motors
- Phase Converters
- Pumps
- Compressors
- White Goods (e.g. Washing Machines, Refrigerators)
- Blowers/Fans
- Unitary/Window Air Conditioners
- Condensing Units
- Dehumidifiers
- Power Factor Correction

CDE's line of SuperMet capacitors are manufactured using state-of-the-art, self-healing metallized polypropylene film technology. Designed to operate in environments where there is a requirement for an internal protective device, these capacitors incorporate a UL-approved pressure-sensitive interrupter to remove the capacitor from the circuit at end of life.

Each capacitor is filled with our patented, environmentally-friendly ESO (Epoxidized Soybean Oil). Used as the dielectric fluid, the soybean oil protects metallized film from corrosion, aids optimum heat transfer, and helps suppress the degrading effects of corona, which may otherwise cause premature failures. Proprietary processing with vacuum and heat cycles ensures complete removal of moisture, resulting in superior capacitance stability and long term reliability.

SuperMet capacitors are available in single and dual ratings, and in industry-standard round and oval, oil-filled, metal can designs as well as a European styled aluminum or plastic can with a mounting stud on the bottom.

All capacitors are built to UL810 standards, and designed to meet or exceed EIA-456-A performance standards.

Highlights

- Made to EIA-456-A standards
- Aluminum, steel or plastic* case options
- Special high temperature 90°C versions available
- UL-810 fault current protection
- RoHS compliant

*Available upon request



Specifications

Capacitance Range:	0.5 μ F to 120 μ F
Capacitance Tolerance:	\pm 10% standard; \pm 3% to \pm 6% optional
AC Voltage Range:	120 VAC to 660 VAC
Temperature Range:	-40°C to +70°C standard; +90°C optional
Approval Certification:	UL, cUL, CE2, IEC 60252

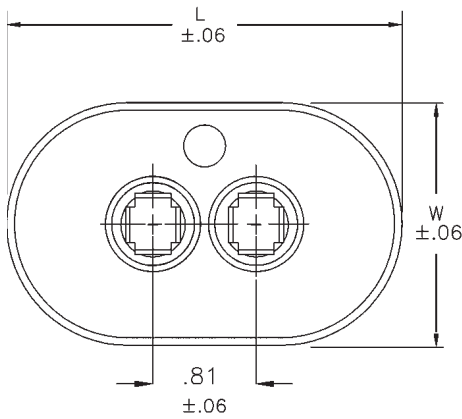
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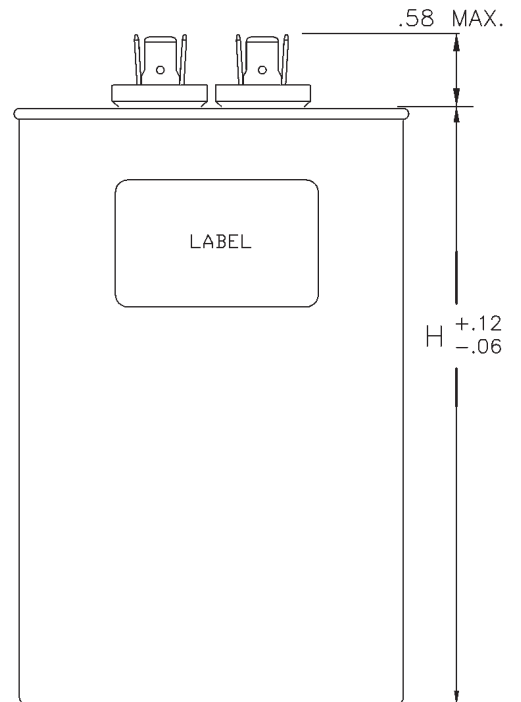
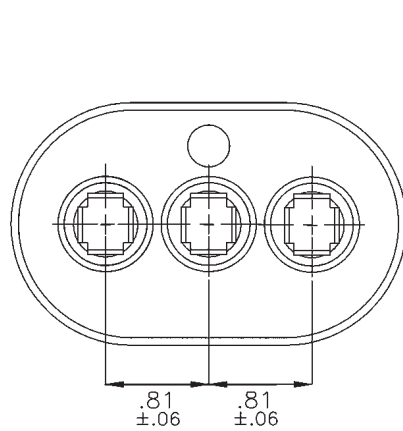
Oval Oil-Filled Case Sizes

Base Size	Description	L Inches	W Inches
A	1¼" Oval	2.16	1.31
C	1¾" Oval	2.91	1.91
D	2" Oval	3.66	1.97

Oval Single Cover Configuration



Oval Dual Cover Configuration



Tolerance on all case dimensions is ± 0.06 .



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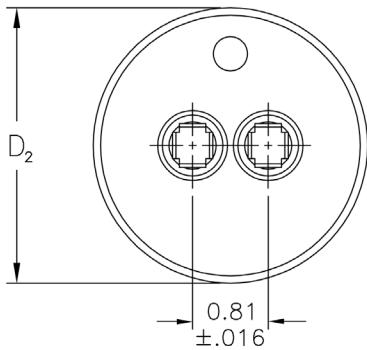
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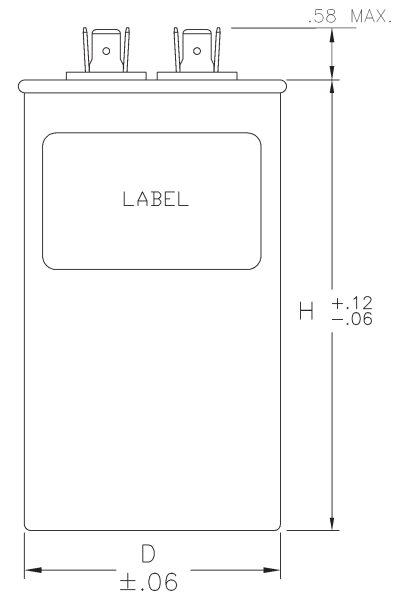
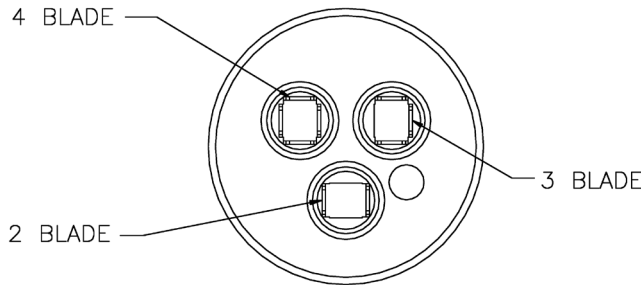
Round Oil-Filled Case Sizes

Base Size	Description	D Inches	D ₂ Inches
P	1¾" Round	1.75	1.87
S	2" Round	2.00	2.12
T	2½" Round	2.50	2.62

Round Single Cover Configuration



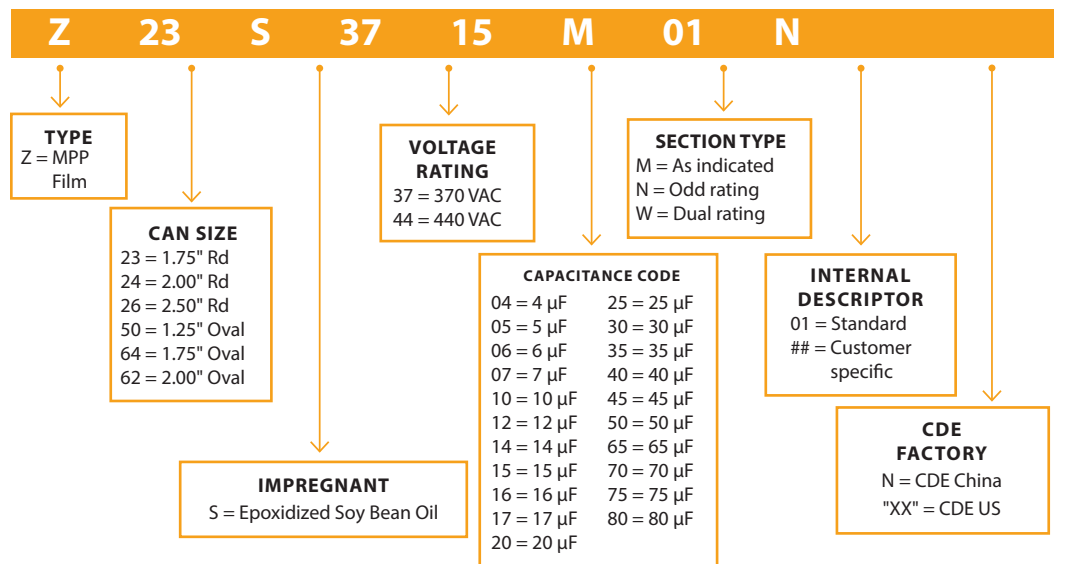
Round Dual Cover Configuration



For 1.75" and 2.00" OD units, spacing is 0.78" rather than 0.81"

Part Numbering System

CDE's SuperMet part numbering system is a descriptive part number made up of several different components such as can size, voltage rating, etc. The descriptors are explained here using Z23S3715M01N as a representative part number:



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SuperMet Oval Oil Filled Metal Case Single Rating

Rated for 60,000 hour duty @ 70°C

CAP (µF)	CDE P/N	BASE SIZE	CAN HEIGHT Inches (mm)
370 VAC, 70°C Case Temperature			
3	Z50S3703M	A	1.56 (39.6)
4	Z50S3704M	A	1.56 (39.6)
5	Z50S3705M	A	1.56 (39.6)
6	Z50S3706M	A	2.38 (60.5)
7.5	Z50S3707N	A	2.38 (60.5)
10	Z50S3710M	A	2.75 (69.9)
12.5	Z50S3712N	A	3.25 (82.6)
15	Z50S3715M	A	3.94 (100.1)
20	Z64S3720M	C	2.38 (60.5)
25	Z64S3725M	C	2.75 (69.9)

440 VAC, 70°C Case Temperature

3	Z50S4403M	A	1.56 (39.6)
5	Z50S4405M	A	2.12 (53.8)
7.5	Z50S4407N	A	3.15 (80.0)
10	Z50S4410M	A	3.25 (82.6)
15	Z50S4415M	A	4.13 (104.9)
25	Z64S4425M	C	3.25 (82.6)

SuperMet Round Oil Filled Metal Case Single Rating

Rated for 60,000 hour duty @ 70°C

CAP (µF)	CDE P/N	BASE SIZE	CAN HEIGHT Inches (mm)
370 VAC, 70°C Case Temperature			
4	Z23S3704M	P	2.16 (54.9)
5	Z23S3705M	P	2.16 (54.9)
6	Z23S3706M	P	2.16 (54.9)
7.5	Z23S3707N	P	2.16 (54.9)
10	Z23S3710M	P	2.36 (59.9)
12.5	Z23S3712N	P	2.36 (59.9)
15	Z23S3715M	P	2.56 (65.0)
20	Z23S3720M	P	2.75 (69.9)
25	Z23S3725M	P	3.15 (80.0)
30	Z23S3730M	P	3.15 (80.0)
35	Z23S3735M	P	4.25 (108.0)
40	Z24S3740M	S	3.55 (90.2)
45	Z24S3745M	S	3.95 (100.3)
50	Z24S3750M	S	3.88 (98.6)

440 VAC, 70°C Case Temperature

15	Z23S4415M	P	3.25 (82.6)
20	Z23S4420M	P	3.15 (80.0)
25	Z23S4425M	P	3.54 (89.9)
30	Z24S4430M	S	3.75 (95.3)
35	Z24S4435M	S	3.94 (100.1)
40	Z24S4440M	S	4.33 (110.0)
45	Z26S4445M	T	3.35 (85.1)
50	Z26S4450M	T	3.25 (82.6)
55	Z26S4455M	T	3.25 (82.6)
60	Z26S4460M	T	3.75 (95.3)

For additional ratings about steel cases or shorter heights, please contact us.



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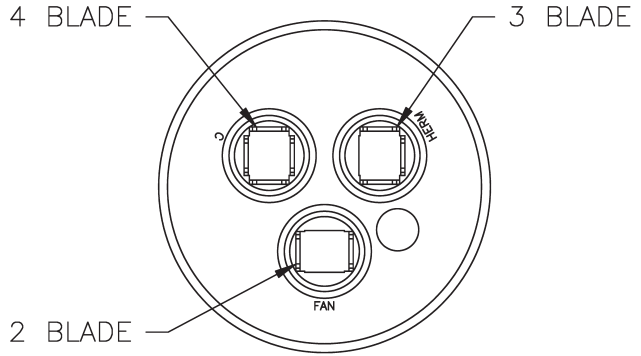
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Dual Capacitors

CDE dual protected capacitors are designed for optimum performance in HVAC applications such as unitary and window air conditioners. By winding two capacitors on one core, CDE is able to provide both capacitor values in an efficient size and cost effective 3-terminal package. These capacitors are available in 370 VAC and 440 VAC, with typical fan ratings of 3, 5, 7.5, and 10 μ F. Compressor (Herm) cap ratings are available in ratings of 15 μ F to 80 μ F.

The most popular ratings are shown below, and CDE maintains the designs for hundreds of different combinations that are also available. Unlike a single value capacitor, the dual units have a three-terminal cover with a connection for the fan, the herm, and common. The diagram to the right shows the number of blades per terminal.

2, 3, 4 Blade Terminal (Dual)



SuperMet Round Oil Filled Metal Case Dual Rating

Rated for 60,000 hour duty @ 70°C

CAP (μ F)	CDE P/N	BASE SIZE	CAN HEIGHT Inches (mm)
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370 VAC, 70°C Case Temperature

25+5	Z24S3730W05	S	3.00 (72.2)
30+5	Z24S3735W05	S	3.54 (89.9)
35+5	Z24S3740W05	S	3.94 (100.1)
40+5	Z24S3745W05	S	4.13 (104.9)
45+5	Z24S3750W05	S	4.33 (110.0)
50+5	Z26S3755W05	T	3.54 (89.9)
50+10	Z26S3760W01	T	3.54 (89.9)
55+10	Z26S3765W01	T	3.75 (95.3)
60+5	Z26S3765W05	T	3.75 (95.3)
60+10	Z26S3770W01	T	4.13 (104.9)
70+10	Z26S3780W01	T	4.33 (110.0)
80+5	Z26S3785W05	T	4.33 (110.0)
80+10	Z26S3790W01	T	4.73 (95.3)

CAP (μ F)	CDE P/N	BASE SIZE	CAN HEIGHT Inches (mm)
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440 VAC, 70°C Case Temperature

35+5	Z26S4440W05	T	3.15 (80.0)
40+5	Z26S4445W05	T	3.54 (89.9)
40+10	Z26S4450W01	T	3.54 (89.9)
50+5	Z26S4455W05	T	3.75 (95.3)
60+5	Z26S4465W05	T	4.13 (104.9)
60+7.5	Z26S4467W01	T	4.13 (104.9)
60+10	Z26S4470W01	T	4.33 (110.0)
80+7.5	Z26S4487W01	T	4.92 (125.0)



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Accessories

Order Optional Mounting Accessories Separately

Terminal Covers, Rubber Boots

CASE STYLE(S)	FIGURE	CDE P/N	D
P	1	44603-0008	1.88" (47.6 mm)
S	1	44603-0012	2.08" (52.8 mm)
A,C,D,T	2	44603-0000	1.50"(38.1 mm)
A,C,D,T	2	44603-0009	1.59"(40.5 mm)

Figure 1

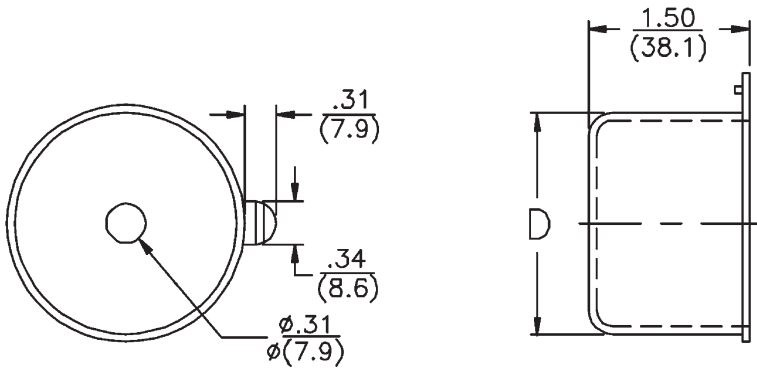
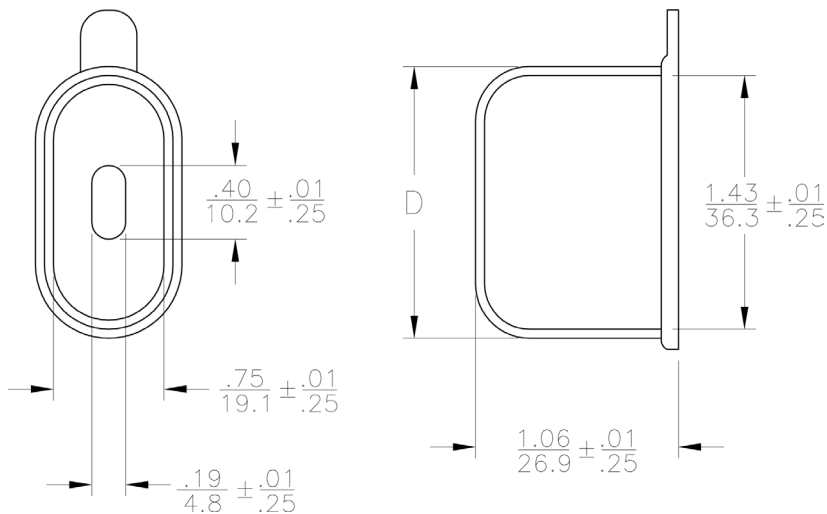


Figure 2



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Mounting Brackets

CASE STYLE	FIGURE	CDE P/N	A	B
P	A	51045-0007	1.75" (44.5 mm)	1.13" (28.7 mm)
S	A	51045-0008	2.00" (50.8 mm)	1.25" (31.8 mm)
T	A	51045-0009	2.50" (63.5 mm)	1.50" (38.1 mm)
A	B	43547-0001	2.94" (74.7 mm)	2.56" (65.0 mm)
C	B	51300-0101	3.81" (96.8 mm)	3.31" (84.2 mm)
D	B	51300-0102	4.56" (115.9 mm)	4.06" (103.1 mm)

Figure A

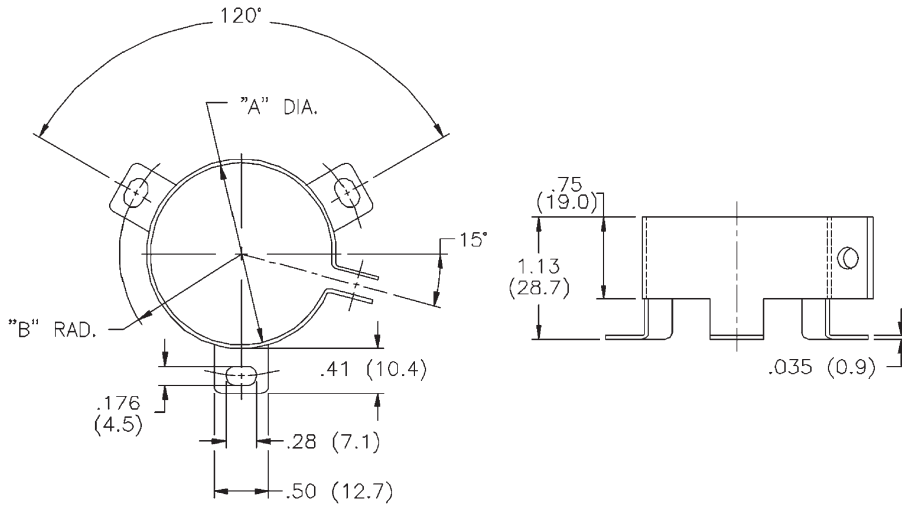
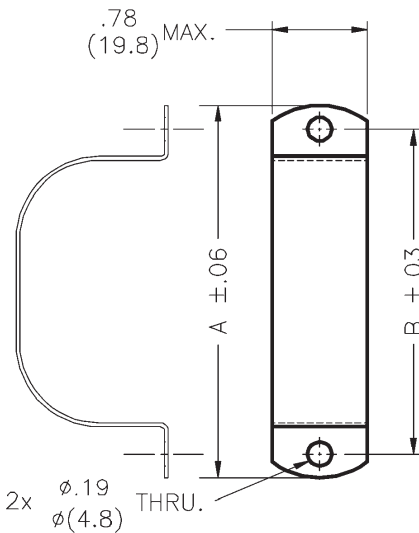


Figure B



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About CDE

CDE is a leading provider of film capacitors for industrial, medical and specialized applications serving original equipment manufacturers (OEM) and distributors. The company has world-class design, manufacturing and testing facilities in New Bedford, Massachusetts and global manufacturing facilities in China and India to enable quick turn-around for shipping and delivery worldwide.

CDE capacitors are among the world's most reliable components. Our extensive custom design and development capabilities coupled with broad, standardized product offerings allow us to provide intelligent capacitor solutions that meet or exceed our customers' application requirements.

Our aim is to be the best and most sought after provider of capacitor solutions for specialty markets.



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