

MARS USA Motor Run Capacitors

- Why are there so many new ratings?
- Is there a difference between capacitors specified by OEM's and capacitors sold in the aftermarket?
- Can 440 Volt capacitors be used to replace 370 Volt models?
- How can quality be determined?
- What does 85°C temperature rating mean?

Why are there so many ratings?

- AC motor run capacitors are energy storage devices. In recent years, energy saving and energy management have become more critical than ever as HVAC equipment designs have been focused on ever higher efficiency levels. SEER, Seasonal Energy Efficiency Ratio, is the common standard by which air conditioning systems can be judged. The higher the SEER rating, the lower the cost to run the system.
- Higher levels of energy efficiency require capacitors with greater energy storage capacity. The new run capacitor models with higher microfarad ratings have been developed to accommodate higher system efficiency requirements.

Is there a difference between capacitors specified by OEM's and those sold in the aftermarket?

YES

- OEM run capacitors are generally manufactured with stronger dielectrics (polypropylene film, positioned between the capacitor's plates) than aftermarket run capacitors. Stronger dielectrics result from greater film thickness. By comparison, OEM specified dielectric is between 17.2% and 20.8% greater than general aftermarket ratings. All MARS brand run capacitors are built to OEM specifications.
- In some cases, there are different terminal requirements for specific OEM applications. That is why all MARS run capacitors have 4 spade quick connect terminals for maximum flexibility in wiring.

Can 440 Volt capacitors be used to replace 370 Volt models?

YES

- MARS now offers 440/370 volt dual voltage rated AC motor run capacitors.

How can quality be determined?

Today's AC motor run capacitors must meet rigid requirements to qualify for the two most important R/HVAC Industry specifications, EIA 456A and Tecumseh H-115. All MARS brand motor run capacitors meet these demanding specifications. That means contractors can install MARS brand run capacitors with the utmost of confidence.

EIA 456A, a standard set by the Electronics Industries Association, calls for testing at 125% of a capacitor's rated voltage and 100 degrees C above its rated temperature for 2,000 hours. This simulates 60,000 hours of operation in the field. The 1st year failure rate must be less than ½ of 1% in order for NGM's run capacitors to meet this spec.

EIA 456A is an extremely rigorous specification that apply defines the best and most needed characteristics of an AC motor run capacitor.

The Tecumseh H-115 test calls for 150% of rated voltage at 10°C above rated temp for 500 hours. The capacitance cannot change more than 5% during the test.

Look for the MARS brand. You and your customers deserve reliability, performance and value.

What does 85°C temperature rating mean?

Recently, there have been claims regarding run capacitors manufactured to an 85°C specification. This sounds impressive, yet strange. Eighty-five degrees C performance is not a typical specification. The temperature standard for rating capacitors is 70°C. As a rule of thumb, for every 10 degrees C increase over a capacitor's rated temperature, there is a 50% reduction in life. A run capacitor built to an 85°C specification must have increased dielectric film thickness and then, consequently, a larger case in most ratings. All of this does not help a capacitor perform its primary function, storing energy. No major R/HVAC OEM makes this temperature rating a requirement for their equipment.



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USA Motor Run Capacitors

Expanded Product Line

SINGLE SECTION	
MARS NO.	DESCRIPTION
Oval 370V	
14002	2 MFD 370V OVL
14003	3 MFD 370V OVL
14004	4 MFD 370V OVL
14005	5 MFD 370V OVL
14006	6 MFD 370V OVL
14007	7.5 MFD 370V OVL
14008	10 MFD 370V OVL
14009	12.5 MFD 370V OVL
14010	15 MFD 370V OVL
14012	17.5 MFD 370V OVL
14014	20 MFD 370V OVL
14015	25 MFD 370V OVL
14017	30 MFD 370V OVL
14018	35 MFD 370V OVL
14021	40 MFD 370V OVL
14023	45 MFD 370V OVL
14025	50 MFD 370V OVL
14024	55 MFD 370V OVL
14087	60 MFD 370V OVL
14089	70 MFD 370V OVL
14090	80 MFD 370V OVL

Oval 440/370V	
14026	2 MFD 440/370V OVL
14027	3 MFD 440/370V OVL
14028	4 MFD 440/370V OVL
14029	5 MFD 440/370V OVL
14030	6 MFD 440/370V OVL
14031	7.5 MFD 440/370V OVL
14032	10 MFD 440/370V OVL
14033	12.5 MFD 440/370V OVL
14034	15 MFD 440/370V OVL
14036	17.5 MFD 440/370V OVL
14037	20 MFD 440/370V OVL
14040	25 MFD 440/370V OVL
14041	30 MFD 440/370V OVL
14043	35 MFD 440/370V OVL
14045	40 MFD 440/370V OVL
14048	45 MFD 440/370V OVL
14049	50 MFD 440/370V OVL
14050	55 MFD 440/370V OVL
14051	60 MFD 440/370V OVL
14130	70 MFD 440/370V OVL
14140	80 MFD 440/370V OVL

SINGLE SECTION	
MARS NO.	DESCRIPTION
Round 370V	
14095	5 MFD 370V RND
14098	10 MFD 370V RND
14099	12.5 MFD 370V RND
14210	15 MFD 370V RND
14212	17.5 MFD 370V RND
14214	20 MFD 370V RND
14215	25 MFD 370V RND
14217	30 MFD 370V RND
14218	35 MFD 370V RND
14821	40 MFD 370V RND
14823	45 MFD 370V RND
14225	50 MFD 370V RND
14226	55 MFD 370V RND
14227	60 MFD 370V RND
14128	65 MFD 370V RND
14229	70 MFD 370V RND
14199	80 MFD 370V RND
14116	100 MFD 370V RND

Round 440/370V	
14102	2 MFD 440/370V RND
14103	3 MFD 440/370V RND
14104	4 MFD 440/370V RND
14105	5 MFD 440/370V RND
14106	6 MFD 440/370V RND
14107	7.5 MFD 440/370V RND
14232	10 MFD 440/370V RND
14833	12.5 MFD 440/370V RND
14234	15 MFD 440/370V RND
14237	20 MFD 440/370V RND
14240	25 MFD 440/370V RND
14241	30 MFD 440/370V RND
14243	35 MFD 440/370V RND
14245	40 MFD 440/370V RND
14248	45 MFD 440/370V RND
14251	50 MFD 440/370V RND
14252	55 MFD 440/370V RND
14254	60 MFD 440/370V RND
14256	65 MFD 440/370V RND
14258	70 MFD 440/370V RND
14259	80 MFD 440/370V RND

DUAL SECTION	
MARS NO.	DESCRIPTION
Oval 370V	
14063	20/5 MFD 370V OVL
14066	25/5 MFD 370V OVL
14069	30/5 MFD 370V OVL
14072	35/5 MFD 370V OVL
14171	40/5 MFD 370V OVL
14174	45/5 MFD 370V OVL

Oval 440/370V	
14170	10/10 MFD 440/370V OVL
14184	25/5 MFD 440/370V OVL
14187	30/5 MFD 440/370V OVL
14085	35/3 MFD 440/370V OVL
14185	35/5 MFD 440/370V OVL
14188	35/7.5 MFD 440/370V OVL
14086	40/5 MFD 440/370V OVL
14189	40/7.5MFD 440/370V OVL
14190	45/5 MFD 440/370V OVL
14274	45/7.5 MFD 440/370V OVL
14275	55/5 MFD 440/370V OVL
14297	80/5 MFD 440/370V OVL
14298	80/7.5MFD 440/370 OVL

Round 370V	
14260	20/5 MFD 370V RND
14208	20/10 MFD 370V RND
14261	25/5 MFD 370V RND
14213	25/10 MFD 370V RND
14244	30/3 MFD 370V RND
14263	30/4 MFD 370V RND
14082	35/3 MFD 370V RND
14131	35/4 MFD 370V RND
14264	30/5 MFD 370V RND
14266	35/5 MFD 370V RND
14238	35/10 MFD 370V RND
14178	40/5 MFD 370V RND
14268	40/7.5 MFD 370V RND
14246	40/10 MFD 370V RND
14073	45/3 MFD 370V RND
14269	45/5 MFD 370V RND
14249	45/7.5 MFD 370V RND
14250	45/10 MFD 370V RND
14075	50/3 MFD 370V RND
14191	50/5 MFD 370V RND
14192	50/7.5 MFD 370V RND
14239	50/10 MFD 370V RND
14193	55/5MFD 370V RND
14194	55/7.5 MFD 370V RND
14195	60/5 MFD 370V RND
14196	60/7.5 MFD 370V RND
14265	60/10 MFD 370V RND
14042	65/5 MFD 370V RND
14053	70/5 MFD 370V RND
14054	70/7.5 MFD 370V RND
14197	80/5 MFD 370V RND
14198	80/7.5 MFD 370V RND
14201	80/10 MFD 370V RND

DUAL SECTION	
MARS NO.	DESCRIPTION
Round 440/370V	
14115	20/5 MFD 440/370V RND
14353	25/3 MFD 440/370V RND
14278	25/5 MFD 440/370V RND
14279	25/7.5 MFD 440/370 RND
14113	25/10 MFD 440/370V RND
14126	30/3 MFD 440/370V RND
14281	30/5 MFD 440/370V RND
14282	30/7.5 MFD 440/370V RND
14352	30/10 MFD 440/370V RND
14077	35/3 MFD 440/370V RND
14070	35/4 MFD 440/370V RND
14283	35/5 MFD 440/370V RND
14284	35/7.5 MFD 440/370V RND
14091	35/10 MFD 440/370V RND
14078	40/3 MFD 440/370V RND
14286	40/5 MFD 440/370V RND
14287	40/7.5 MFD 440/370V RND
14088	40/10 MFD 440/370V RND
14079	45/3 MFD 440/370V RND
14288	45/5 MFD 440/370V RND
14289	45/7.5 MFD 440/370V RND
14172	45/10 MFD 440/370V RND
14290	50/5 MFD 440/370V RND
14291	50/7.5 MFD 440/370V RND
14124	50/10 MFD 440/370V RND
14299	55/10 MFD 440/370V RND
14292	55/5 MFD 440/370V RND
14293	55/7.5 MFD 440/370V RND
14294	60/5 MFD 440/370V RND
14295	60/7.5 MFD 440/370V RND
14296	60/10 MFD 440/370V RND
14358	65/5 MFD 440/370V RND
14359	65/7.5 MFD 440/370V RND
14162	65/10 MFD 440/370V RND
14255	70/5 MFD 440/370V RND
14166	70/7.5 MFD 440/370V RND
14169	70/10 MFD 440/370V RND
14168	75/5 MFD 440/370V RND
14125	75/7.5 MFD 440/370V RND
14027	75/10MFD 440/370V RND
14257	80/5 MFD 440/370V RND
14216	80/7.5 MFD 440/370V RND
14117	80/10 MFD 440/370V RND



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