

# MTE Sine Wave 2-8 kHz Series A Filter TR



Series A Sine Wave Filter

## Series A Sine Wave Filter

Motor Protection • 200 - 600 VAC 2 - 8 kHz

New MTE Series A sine-wave filters provide a sine-wave output voltage when driven from PWM inverters with switching frequencies from 2 kHz to 8 kHz. For drive applications, these filters eliminate the problem of motor insulation failures and reduce electromagnetic interference by eliminating the high  $dV/dt$  associated with inverter output waveforms.

For alternative energy applications, such as wind driven generators, where an inverter is used to return power to the utility distribution system through a step-up transformer, these filters meet the requirements of IEEE-519 and permit the use of standard transformers. Harmonic voltage distortion feeding a transformer at full load and at 60 Hz is 5% maximum. Harmonic voltage distortion feeding a motor at full load and at 60 Hz is 5% typical.

The Sine wave filter is available in 200 - 600 VAC for motors from 1.5 to 700 hp.

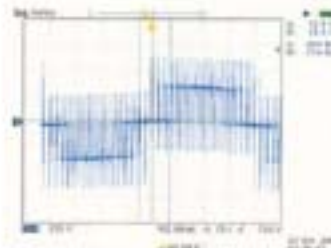
Panel-mount or NEMA 1, 2 and 3R enclosures are available.

Typical applications include submersible pumps, low voltage drives feeding medium voltage motors, HVAC equipment, wind turbines and applications where the distance between the motor and the inverter is up to 15,000 feet.

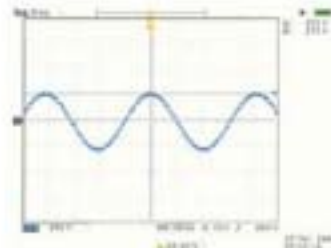
The Sine Wave filter has a continuous current rating of 100% RMS and intermittent current of 150% for 1 minute.



*Sine Wave Filters help eliminate the high  $dV/dt$  associated with inverter output waveforms in applications where the distance between the motor and the inverter is up to 15,000 feet.*



**Raw output voltage waveform.**



**Output Voltage after Sine Wave Filter**

# MTE Sine Wave 2-8 kHz Series A Filter TR

## PRODUCT SPECIFICATIONS Sine Wave 2-8 kHz Series A Filter

### Service Conditions:

Maximum ambient temperature: 50° C open filters; 40° C enclosed filters

Altitude without de-rating: 1000 meters

### Performance:

Harmonic voltage distortion feeding a transformer at full load and at 60Hz: 5% maximum

Harmonic voltage distortion feeding a motor at full load and at 60Hz: 5% typical

### Frequency

Minimum inverter switching frequency: 2 kHz

Maximum inverter switching frequency: 8 kHz

Inverter operating frequency: Nominal: 60 Hz, Minimum: 6 Hz, Maximum with de-rating: 90 Hz

### Current Rating:

Continuous current rating: 100% RMS Intermittent current ratings: 150 % for 1 minute

### Output Compatibility

Loading: Conventional 3 phase motors

Standard step-up transformer with 4% minimum output impedance

"No load" continuous operation

**Maximum Motor Lead Length:** 15,000 feet

**Insertion Loss:** 10% of rated voltage maximum

### Agency Approvals:

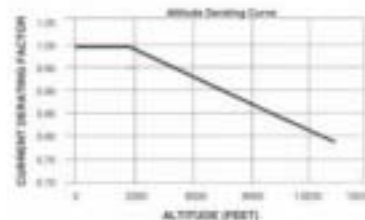
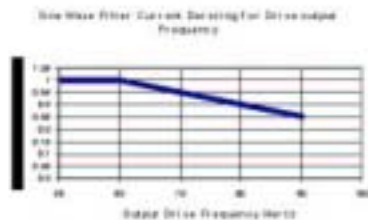
UL and cUL listed to UL508 and CSA-C22.2 No 14-95

File E180243: 3 -1000 hp, 120VAC through 600 VAC 50/60 Hz Three Phase

### Noise:

Maximum audible noise level at two meters for standard configuration: 76 dB-A

Data subject to change without notice.



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Form 1214

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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## MOTOR PROTECTION

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# **MTE Sine Wave 2-8 kHz Series A Filter** *TR* **MOTOR PROTECTION**

## **Selection & Application Guide**

MTE Series A sine-wave filters are designed to provide a sine wave output voltage when driven from PWM inverters with switching frequencies from 2 kHz to 8 kHz. For drive applications, these filters eliminate the problem of motor insulation failures and they also reduce electromagnetic interference by eliminating the high dv/dt associated with inverter output wave forms. For alternate energy applications where an inverter is used to return power to the utility distribution system through a step up transformer these filters meet the requirements of IEEE 519.

Sine wave filters are available in open panel, NEMA 1, 2, and 3R mechanical configurations. For both variable torque and constant torque applications, select filters based on the current rating of the motor. Filter current ratings have been designed to meet the requirements of NEC ratings. For applications that use motors with current ratings that exceed NEC values selected a filter with a current rating equal to or greater than that of the load. Where a single filter feeds multiple motors select the filter based on the total motor current.

For inverters feeding isolation transformers select a filter with a current rating equal to or greater than that of the transformer primary current.

Power and frequency converter applications which use PWM inverters to supply a wide range of loads require that the output of the Sine Wave filter must feed a Delta–Wye isolation transformer with the primary sized to the Sine wave filter full load current.

Typical applications for Series A sine-wave filters are submersible pumps, low voltage drives feeding medium voltage motors, HVAC equipment, wind turbines and applications where the distance between the motor and inverter is up to 15,000 feet.

Note: Series A sine-wave filters can only be used with PWM inverters with switching frequencies set between 2 and 8 kHz.

For non critical motor applications where the cable length between motor and inverter is less than 850 feet and /or the motor is tolerant of PWM inverter wave forms, see PB03-1100 AC Load / Line reactors or PB1700 dv/dt type MOTOR PROTECTION . For voltages other than 200-230, 380-480, 550-600 VAC, see PB03-1100.

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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Selection & Thermal Data

200 - 230 VAC

50 / 60 Hz

200 V		230 V		Filter Rating Amps	Open	NEMA 1**	NEMA 3R	Typical Thermal Watts
Motor HP	NEC Amps*	Motor HP	NEC Amps*		Cat. No.	Cat. No.	Cat. No.	
.5	2.8	.5	2	3	SWAP0003A	SWAGA0003A	SWAWA0003A	124
.75 - 1	4.2	.75 - 1	2.8	5	SWAP0005A	SWAGA0005A	SWAWA0005A	149
1.5	6	1.5	3.6	7	SWAP0007A	SWAGA0007A	SWAWA0007A	191
2	7.8	2	5.2	9	SWAP0009A	SWAGA0009A	SWAWA0009A	125
3	9.6	3	6.8	12	SWAP0012A	SWAGA0012A	SWAWA0012A	206
-	-	5	9.6	17	SWAP0017A	SWAGA0017A	SWAWA0017A	279
5	17.5	7.5	15.2	22	SWAP0022A	SWAGB0022A	SWAWB0022A	362
7.5	25	10	22	30	SWAP0030A	SWAGB0030A	SWAWB0030A	329
10	32	15	28	45	SWAP0045A	SWAGB0045A	SWAWB0045A	476
15	48	20	42	55	SWAP0055A	SWAGB0055A	SWAWB0055A	520
20	57	25	54	70	SWAP0070A	SWAGC0070A	SWAWC0070A	606
25	70	30	68	85	SWAP0085A	SWAGC0085A	SWAWC0085A	752
30	84	40	80	110	SWAP0110A	SWAGC0110A	SWAWC0110A	788
40	114	50	104	135	SWAP0135A	SWAGC0135A	SWAWC0135A	989
50	138	60	130	160	SWAP0160A	SWAGC0160A	SWAWC0160A	1062
60	162	75	154	200	SWAP0200A	SWAGC0200A	SWAWC0200A	1377
75	200	100	192	250	SWAP0250A	SWAGD0250A	SWAWD0250A	1617
100	270	125	248	320	SWAP0320A	SWAGD0320A	SWAWD0320A	1991

\*\* NOTE: Some enclosures meet NEMA 2 requirements refer to page [1701-21](#) for details.

\* NEC motor data shown for reference. Consult Motor Data Tag for specific motor FLA listings

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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Selection and Thermal Data

380 - 480 VAC

50 / 60 Hz

380 v 50hz		480 v 60 hz		Sine wave filter				Typical Thermal Watts
KW	Motor HP	Motor HP	NEC AMPS	Filter Current Rating	Open Cat. No.	NEMA 1* Cat. No.	NEMA 3R Cat. No.	
.75	1	1	2.1	2	SWAP0002D	SWAGA0002D	SWAWA0002D	40
1.5	1.5	1.5	3	3	SWAP0003D	SWAGA0003D	SWAWA0003D	53
2.2	3	2	3.4	5	SWAP0005D	SWAGA0005D	SWAWA0005D	93
3	4	3	4.8	5	SWAP0005D	SWAGA0005D	SWAWA0005D	93
4	5.5	5	7.6	9	SWAP0009D	SWAGA0009D	SWAWA0009D	128
5.5	7.5	7.5	11	12	SWAP0012D	SWAGA0012D	SWAWA0012D	162
7.5	10	10	14	17	SWAP0017D	SWAGA0017D	SWAWA0017D	151
11	15	15	21	22	SWAP0022D	SWAGB0022D	SWAWB0022D	229
-	-	20	27	27	SWAP0027D	SWAGB0027D	SWAWB0027D	216
15	20	25	34	35	SWAP0035D	SWAGB0035D	SWAWB0035D	262
18.5-22	25 - 30	30	40	45	SWAP0045D	SWAGB0045D	SWAWB0045D	360
-	-	40	52	55	SWAP0055D	SWAGB0055D	SWAWB0055D	457
30	40	50	65	65	SWAP0065D	SWAGB0065D	SWAWB0065D	454
37	50	60	77	80	SWAP0080D	SWAGC0080D	SWAWC0080D	596
45-55	60-75	75	96	110	SWAP0110D	SWAGC0110D	SWAWC0110D	878
-	-	100	124	130	SWAP0130D	SWAGC0130D	SWAWC0130D	836
75-90	100-120	125	156	160	SWAP0160D	SWAGC0160D	SWAWC0160D	996
110	150	150	180	200	SWAP0200D	SWAGD0200D	SWAWD0200D	1286
132	175	200	240	250	SWAP0250D	SWAGD0250D	SWAWD0250D	1424
160	220	250	302	305	SWAP0305D	SWAGD0305D	SWAWD0305D	1701
185-200	250-270	300	361	365	SWAP0365D	SWAGD0365D	SWAWD0365D	1841
-	-	350	414	415	SWAP0415D	SWAGD0415D	SWAWD0415D	2021
250	340	400	477	515	SWAP0515D	SWAGD0515D	SWAWD0515D	2944
-	-	450	515	515	SWAP0515D	SWAGD0515D	SWAWD0515D	2944
315	430	500	590	600	SWAP0600D	SWAGE0600D	SWAWE0600D	3698
355-400	480-540	600	708	720	SWAP0720D	SWAGE0720D	SWAWE0720D	4133

\* NOTE: Some enclosures meet NEMA 2 requirements refer to page [1701-21](#) for details.

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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Selection and Thermal Data

550 – 600 Volts

60 HZ

Motor HP	NEC Motor Current AMPS	Sine wave filter				Typical Thermal Watts
		Current Rating	Open Cat. No.	NEMA 1* Cat. No.	NEMA 3R Cat. No.	
1.5	2.4	2	SWAP002E	SWAGA002E	SWAWA002E	57
2	2.7	3	SWAP003E	SWAGA003E	SWAWA003E	67
3	3.9	5	SWAP005E	SWAGA005E	SWAWA005E	95
5	6.1	7	SWAP007E	SWAGA007E	SWAWA007E	120
7.5	9	9	SWAP009E	SWAGA009E	SWAWA009E	155
10	11	12	SWAP0012E	SWAGA0012E	SWAWA0012E	177
15	17	17	SWAP0017E	SWAGB0017E	SWAWB0017E	219
20	22	22	SWAP0022E	SWAGB0022E	SWAWB0022E	253
25	27	27	SWAP0027E	SWAGB0027E	SWAWB0027E	295
30	32	35	SWAP0035E	SWAGB0035E	SWAWB0035E	323
40	41	45	SWAP0045E	SWAGB0045E	SWAWB0045E	489
50	52	55	SWAP0055E	SWAGC0055E	SWAWC0055E	535
60	62	65	SWAP0065E	SWAGC0065E	SWAWC0065E	650
75	77	80	SWAP0080E	SWAGC0080E	SWAWC0080E	806
100	99	110	SWAP0110E	SWAGC0110E	SWAWC0110E	1014
125	125	130	SWAP0130E	SWAGD0130E	SWAWD0130E	1157
150	144	160	SWAP0160E	SWAGD0160E	SWAWD0160E	1589
200	192	200	SWAP0200E	SWAGD0200E	SWAWD0200E	1315
250	242	250	SWAP0250E	SWAGD0250E	SWAWD0250E	1655
300	289	305	SWAP0305E	SWAGD0305E	SWAWD0305E	2237
350	336	365	SWAP0365E	SWAGD0365E	SWAWD0365E	2489
400	382	415	SWAP0415E	SWAGE0415E	SWAWE0415E	3098
450	424	515	SWAP0515E	SWAGE0515E	SWAWE0515E	3229
500	472	515	SWAP0515E	SWAGE0515E	SWAWE0515E	3229
600	567	600	SWAP0600E	SWAGE0600E	SWAWE0600E	3406
700	661	720	SWAP0720E	SWAGE0720E	SWAWE0720E	3935

\* NOTE: Some enclosures meet NEMA 2 requirements refer to page [1701-21](#) for details.

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# **MTE** Sine Wave 2-8 kHz Series A Filter **TR**

**200 – 600 VAC**

## **Options Selection**

### **Option 01**

A single contact normally closed (NC) thermal switch connected to a customer terminal block for system integration these (2 amp) contacts will open at 185 degree C

**To incorporate this option into a selected filter add the -01 suffix to the sine wave filter part number**

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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Non Standard Configuration Requests

For price and availability of a non standard configuration which falls outside the normal product offering submit the following information to MTE engineering.

Inverter output voltage. \_\_\_\_\_ AC    Inverter bus voltage \_\_\_\_\_ DC

Inverter switching frequency. \_\_\_\_\_ KHz

Inverter Fundamental frequency. \_\_\_\_\_ Hz

Load size \_\_\_\_\_ HP / KW

Load type motor, transformer or other \_\_\_\_\_

Required total harmonic output voltage distortion (THVD) at load \_\_\_\_\_

Mechanical configuration:

- Open panel
- General purpose NEMA 1-2
- NEMA 3R
- Industrial HD enclosure

Number of units requested \_\_\_\_\_

Target date product is wanted \_\_\_\_\_

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# **MTE** Sine Wave 2-8 kHz Series A Filter **TR**

## **PRODUCT SPECIFICATION**

### **Service Conditions**

Maximum ambient temperature: 50 degrees C open filters  
40 degrees C enclosed filters

Altitude without de-rating: 1000 meters

### **Performance**

Harmonic voltage distortion feeding a transformer at full load and at 60Hz: 5% maximum

Harmonic voltage distortion feeding a motor at full load and at 60Hz: 5% typical

### **Frequency**

Minimum inverter switching frequency: 2 kHz

Maximum inverter switching frequency: 8 kHz

Inverter operating frequency: Nominal: 60 Hz, Minimum: 6 Hz, Maximum with de-rating: 90 Hz

### **Current Rating**

Continuous current rating: 100% RMS

Intermittent current ratings: 150 % for 1 minute

### **Output compatibility**

Loading: Conventional 3 phase motors  
Standard step-up transformer with 4% minimum output impedance  
"No load" continuous operation

### **Motor Lead Length**

Maximum motor lead length: 15,000 feet

### **Insertion Loss**

Insertion loss: 10% of rated voltage maximum

### **Agency Approvals**

UL and cUL listed to UL508 and CSA-C22.2 No 14-95  
File E180243 (3 – 1000 HP, 120VAC through 600 VAC  
50. 50/60, 60 Hz Three Phase

### **Noise:**

Maximum audible noise level at two meters for standard configuration: 76 DB-A

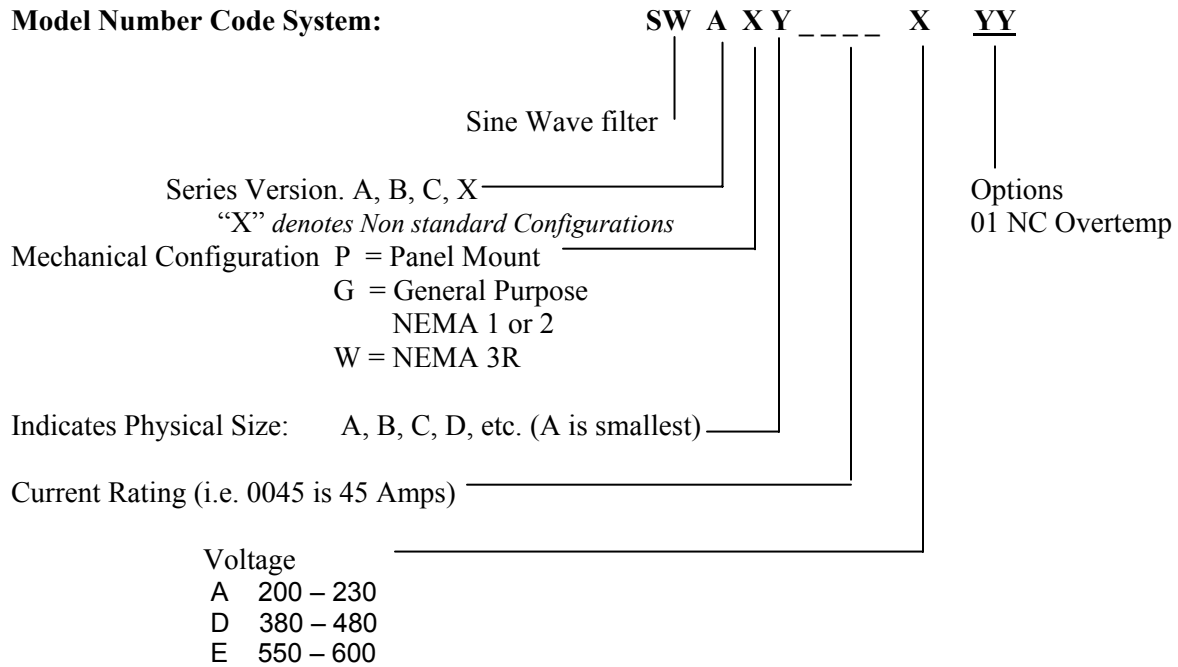
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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Specifications – continued...

### Model Code Part Number Configuration

#### Model Number Code System:



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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Mechanical Data

200 - 230 Volts

Filter Amps	Terminal Wiring AWG	Terminal Torque In-Lbs	Open			NEMA 1*			NEMA 3R		
			Cat PN.	WT Lbs	Fig.	Cat PN.	WT Lbs	Fig.	Cat PN.	WT Lbs	Fig.
3	22-14	16	<b>SWAP0003A</b>	16	<a href="#">1</a>	<b>SWAGA0003A</b>	32	<a href="#">4</a>	<b>SWAWA0003A</b>	89	<a href="#">8</a>
5	22-14	16	<b>SWAP0005A</b>	21	<a href="#">1</a>	<b>SWAGA0005A</b>	37	<a href="#">4</a>	<b>SWAWA0005A</b>	94	<a href="#">8</a>
7	22-14	16	<b>SWAP0007A</b>	24	<a href="#">1</a>	<b>SWAGA0007A</b>	40	<a href="#">4</a>	<b>SWAWA0007A</b>	97	<a href="#">8</a>
9	22-14	16	<b>SWAP0009A</b>	24	<a href="#">1</a>	<b>SWAGA0009A</b>	40	<a href="#">4</a>	<b>SWAWA0009A</b>	97	<a href="#">8</a>
12	22-14	16	<b>SWAP0012A</b>	27	<a href="#">1</a>	<b>SWAGA0012A</b>	43	<a href="#">4</a>	<b>SWAWA0012A</b>	100	<a href="#">8</a>
17	22-5	16	<b>SWAP0017A</b>	31	<a href="#">1</a>	<b>SWAGA0017A</b>	47	<a href="#">4</a>	<b>SWAWA0017A</b>	104	<a href="#">8</a>
22	22-5	16	<b>SWAP0022A</b>	32	<a href="#">1</a>	<b>SWAGB0022A</b>	57	<a href="#">5</a>	<b>SWAWB0022A</b>	133	<a href="#">9</a>
30	22-5	16	<b>SWAP0030A</b>	38	<a href="#">2</a>	<b>SWAGB0030A</b>	60	<a href="#">5</a>	<b>SWAWB0030A</b>	136	<a href="#">9</a>
45	22-5	16	<b>SWAP0045A</b>	47	<a href="#">2</a>	<b>SWAGB0045A</b>	69	<a href="#">5</a>	<b>SWAWB0045A</b>	145	<a href="#">9</a>
55	18-4	20	<b>SWAP0055A</b>	55	<a href="#">2</a>	<b>SWAGB0055A</b>	77	<a href="#">5</a>	<b>SWAWB0055A</b>	153	<a href="#">9</a>
70	18-4	20	<b>SWAP0070A</b>	60	<a href="#">2</a>	<b>SWAGC0070A</b>	215	<a href="#">5</a>	<b>SWAWC0070A</b>	249	<a href="#">9</a>
85	6-0	45	<b>SWAP0085A</b>	73	Call factory	<b>SWAGC0085A</b>	228	<a href="#">6</a>	<b>SWAWC0085A</b>	262	<a href="#">6</a>
110	6-0	45	<b>SWAP0110A</b>	92	Call factory	<b>SWAGC0110A</b>	247	<a href="#">6</a>	<b>SWAWC0110A</b>	281	<a href="#">6</a>
135	3/0 75C	250	<b>SWAP0135A</b>	100	Call factory	<b>SWAGC0135A</b>	255	<a href="#">6</a>	<b>SWAWC0135A</b>	289	<a href="#">6</a>
160	4/0 75C	250	<b>SWAP0160A</b>	121	Call factory	<b>SWAGC0160A</b>	271	<a href="#">6</a>	<b>SWAWC0160A</b>	305	<a href="#">6</a>
200	3/0 90C	250	<b>SWAP0200A</b>	167	Call factory	<b>SWAGC0200A</b>	327	<a href="#">7</a>	<b>SWAWC0200A</b>	351	<a href="#">7</a>
250	4/0 90C 250MCM 75C	325	<b>SWAP0250A</b>	196	Call factory	<b>SWAGD0250A</b>	479	<a href="#">7</a>	<b>SWAWD0250A</b>	531	<a href="#">7</a>
320	400MCM 90C	375	<b>SWAP0320A</b>	228	Call factory	<b>SWAGD0320A</b>	511	<a href="#">7</a>	<b>SWAWD0320A</b>	563	<a href="#">7</a>

\* NOTE: Some enclosures meet NEMA 2 requirements refer to page [1701-21](#) for details.

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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Mechanical Data

380 - 480 Volts

Filter Amps	Terminal Wiring AWG	Terminal Torque In-Lbs	Open			NEMA 1*			NEMA 3R		
			Cat PN.	WT Lbs	Fig.	Cat PN.	WT Lbs	Fig.	Cat PN.	WT Lbs	Fig.
2	22-14	16	SWAP0002D	16	<a href="#">1</a>	SWAGA0002D	32	<a href="#">4</a>	SWAWA0002D	89	<a href="#">8</a>
3	22-14	16	SWAP0003D	18	<a href="#">1</a>	SWAGA0003D	34	<a href="#">4</a>	SWAWA0003D	91	<a href="#">8</a>
5	22-14	16	SWAP0005D	22	<a href="#">1</a>	SWAGA0005D	38	<a href="#">4</a>	SWAWA0005D	95	<a href="#">8</a>
9	22-14	16	SWAP0009D	27	<a href="#">1</a>	SWAGA0009D	94	<a href="#">4</a>	SWAWA0009D	100	<a href="#">8</a>
12	22-14	16	SWAP0012D	27	<a href="#">1</a>	SWAGA0012D	94	<a href="#">4</a>	SWAWA0012D	100	<a href="#">8</a>
17	22-5	16	SWAP0017D	30	<a href="#">1</a>	SWAGA0017D	94	<a href="#">4</a>	SWAWA0017D	100	<a href="#">8</a>
22	22-5	16	SWAP0022D	37	<a href="#">2</a>	SWAGB0022D	122	<a href="#">5</a>	SWAWB0022D	135	<a href="#">9</a>
27	22-5	16	SWAP0027D	38	<a href="#">2</a>	SWAGB0027D	123	<a href="#">5</a>	SWAWB0027D	136	<a href="#">9</a>
35	22-5	16	SWAP0035D	51	<a href="#">2</a>	SWAGB0035D	131	<a href="#">5</a>	SWAWB0035D	144	<a href="#">9</a>
45	22-5	16	SWAP0045D	57	<a href="#">2</a>	SWAGB0045D	137	<a href="#">5</a>	SWAWB0045D	150	<a href="#">9</a>
55	18-4	20	SWAP0055D	67	<a href="#">2</a>	SWAGB0055D	147	<a href="#">5</a>	SWAWB0055D	160	<a href="#">9</a>
65	18-4	20	SWAP0065D	77	<a href="#">3</a>	SWAGB0065D	157	<a href="#">5</a>	SWAWB0065D	170	<a href="#">9</a>
80	6-0	45	SWAP0080D	86	<a href="#">3</a>	SWAGC0080D	246	<a href="#">6</a>	SWAWC0080D	270	<a href="#">6</a>
110	6-0	45	SWAP0110D	117	<a href="#">A1 &amp; B</a>	SWAGC0110D	277	<a href="#">6</a>	SWAWC0110D	301	<a href="#">6</a>
130	3/0 75C	250	SWAP0130D	134	<a href="#">A2 &amp; B</a>	SWAGC0130D	294	<a href="#">6</a>	SWAWC0130D	318	<a href="#">6</a>
160	4/0 75C	250	SWAP0160D	163	<a href="#">A3 &amp; B</a>	SWAGC0160D	323	<a href="#">6</a>	SWAWC0160D	347	<a href="#">6</a>
200	3/0 90C	250	SWAP0200D	188	<a href="#">A4 &amp; B</a>	SWAGD0200D	471	<a href="#">7</a>	SWAWD0200D	523	<a href="#">7</a>
250	4/0 90C 250MCM 75C	325	SWAP0250D	233	<a href="#">A6 &amp; B</a>	SWAGD0250D	516	<a href="#">7</a>	SWAWD0250D	568	<a href="#">7</a>
305	400MCM 90C	375	SWAP0305D	266	<a href="#">A7 &amp; C</a>	SWAGD0305D	549	<a href="#">7</a>	SWAWD0305D	601	<a href="#">7</a>
365	600MCM 4/0 2X 90C	375	SWAP0365D	425	<a href="#">A8 &amp; C</a>	SWAGD0365D	631	<a href="#">7</a>	SWAWD0365D	683	<a href="#">7</a>
415	300MCM 2X 90C	375	SWAP0415D	500	<a href="#">A10 &amp; C</a>	SWAGD0415D	700	<a href="#">7</a>	SWAWD0415D	752	<a href="#">7</a>
515	350MCM 2X 90C	375	SWAP0515D	650	<a href="#">A12 &amp; C</a>	SWAGD0515D	814	<a href="#">7</a>	SWAWD0515D	866	<a href="#">7</a>
600	600MCM 2X 90C 300MCM 3X 90C	375	SWAP0600D	825	<a href="#">A13 &amp; D</a>	SWAGE0600D	1012	<a href="#">10</a>	SWAWE0600D	1063	<a href="#">10</a>
720	500MCM 3X 90C	375	SWAP0720D	1125	<a href="#">A14 &amp; D</a>	SWAGE0720D	1128	<a href="#">10</a>	SWAWE0720D	1179	<a href="#">10</a>

\* NOTE: Some enclosures meet NEMA 2 requirements refer to page [1701-21](#) for details.

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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Mechanical Data

550 - 600 Volts

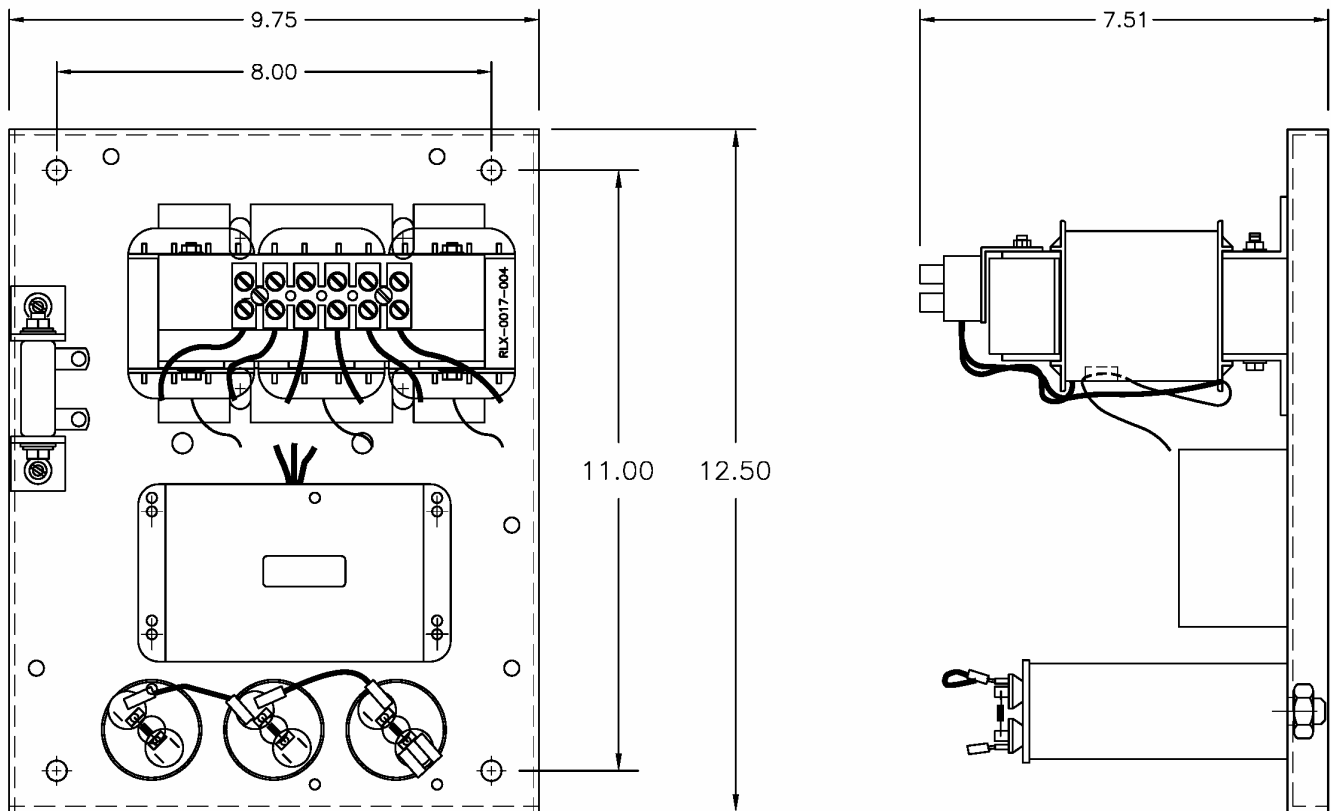
Filter Amps	Terminal Wiring AWG	Terminal Torque In-Lbs	Open			NEMA 1*			NEMA 3R		
			Cat PN.	WT Lbs	Fig.	Cat PN.	WT Lbs	Fig.	Cat PN.	WT Lbs	Fig.
2	22-14	16	SWAP0002E	18	<a href="#">1</a>	SWAGA0002E	34	<a href="#">4</a>	SWAWA0002E	91	<a href="#">8</a>
3	22-14	16	SWAP0003E	21	<a href="#">1</a>	SWAGA0003E	37	<a href="#">4</a>	SWAWA0003E	94	<a href="#">8</a>
5	22-14	16	SWAP0005E	24	<a href="#">1</a>	SWAGA0005E	40	<a href="#">4</a>	SWAWA0005E	97	<a href="#">8</a>
7	22-14	16	SWAP0007E	26	<a href="#">1</a>	SWAGA0007E	42	<a href="#">4</a>	SWAWA0007E	99	<a href="#">8</a>
9	22-14	16	SWAP0009E	27	<a href="#">1</a>	SWAGA0009E	94	<a href="#">4</a>	SWAWA0009E	100	<a href="#">8</a>
12	22-14	16	SWAP0012E	27	<a href="#">1</a>	SWAGA0012E	94	<a href="#">4</a>	SWAWA0012E	100	<a href="#">8</a>
17	22-5	16	SWAP0017E	37	<a href="#">2</a>	SWAGB0017E	101	<a href="#">5</a>	SWAWB0017E	107	<a href="#">9</a>
22	22-5	16	SWAP0022E	38	<a href="#">2</a>	SWAGB0022E	123	<a href="#">5</a>	SWAWB0022E	136	<a href="#">9</a>
27	22-5	16	SWAP0027E	45	<a href="#">2</a>	SWAGB0027E	130	<a href="#">5</a>	SWAWB0027E	143	<a href="#">9</a>
35	22-5	16	SWAP0035E	58	<a href="#">2</a>	SWAGB0035E	138	<a href="#">5</a>	SWAWB0035E	151	<a href="#">9</a>
45	22-5	16	SWAP0045E	63	<a href="#">2</a>	SWAGB0045E	143	<a href="#">5</a>	SWAWB0045E	156	<a href="#">9</a>
55	18-4	20	SWAP0055E	75	<a href="#">3</a>	SWAGB0055E	155	<a href="#">5</a>	SWAWB0055E	168	<a href="#">9</a>
65	18-4	20	SWAP0065E	86	<a href="#">3</a>	SWAGB0065E	166	<a href="#">5</a>	SWAWB0065E	179	<a href="#">9</a>
80	6-0	45	SWAP0080E	117	<a href="#">A1 &amp; B</a>	SWAGC0080E	277	<a href="#">6</a>	SWAWC0080E	301	<a href="#">6</a>
110	6-0	45	SWAP0110E	146	<a href="#">A3 &amp; B</a>	SWAGC0110E	306	<a href="#">6</a>	SWAWC0110E	330	<a href="#">6</a>
130	3/0 75C	250	SWAP0130E	166	<a href="#">A4 &amp; B</a>	SWAGC0130E	326	<a href="#">6</a>	SWAWC0130E	350	<a href="#">6</a>
160	4/0 75C	250	SWAP0160E	194	<a href="#">A5 &amp; B</a>	SWAGC0160E	354	<a href="#">6</a>	SWAWC0160E	378	<a href="#">6</a>
200	3/0 90C	250	SWAP0200E	236	<a href="#">A6 &amp; B</a>	SWAGD0200E	519	<a href="#">7</a>	SWAWD0200E	571	<a href="#">7</a>
250	4/0 90C 250MCM 75C	325	SWAP0250E	280	<a href="#">A7 &amp; B</a>	SWAGD0250E	547	<a href="#">7</a>	SWAWD0250E	599	<a href="#">7</a>
305	400MCM 90C	375	SWAP0305E	425	<a href="#">A8 &amp; C</a>	SWAGD0305E	630	<a href="#">7</a>	SWAWD0305E	682	<a href="#">7</a>
365	600MCM 4/0 2X 90C	375	SWAP0365E	490	<a href="#">A9 &amp; C</a>	SWAGD0365E	696	<a href="#">7</a>	SWAWD0365E	748	<a href="#">7</a>
415	300MCM 2X 90C	375	SWAP0415E	726	<a href="#">A11 &amp; D</a>	SWAGD0415E	801	<a href="#">7</a>	SWAWD0415E	853	<a href="#">7</a>
515	350MCM 2X 90C	375	SWAP0515E	750	<a href="#">A12 &amp; C</a>	SWAGD0515E	916	<a href="#">7</a>	SWAWD0515E	968	<a href="#">7</a>
600	600MCM 2X 90C 300MCM 3X 90C	375	SWAP0600E	1225	<a href="#">A15 &amp; D</a>	SWAGE0600E	1203	<a href="#">10</a>	SWAWE0600E	1254	<a href="#">10</a>
720	500MCM 3X 90C	375	SWAP0720E	1375	<a href="#">A16 &amp; D</a>	SWAGE0720E	1327	<a href="#">10</a>	SWAWE0720E	1378	<a href="#">10</a>

\* NOTE: Some enclosures meet NEMA 2 requirements refer to page [1701-21](#) for details.

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# MTE Sine Wave 2-8 kHz Series A Filter TR

## Open Outline Drawings



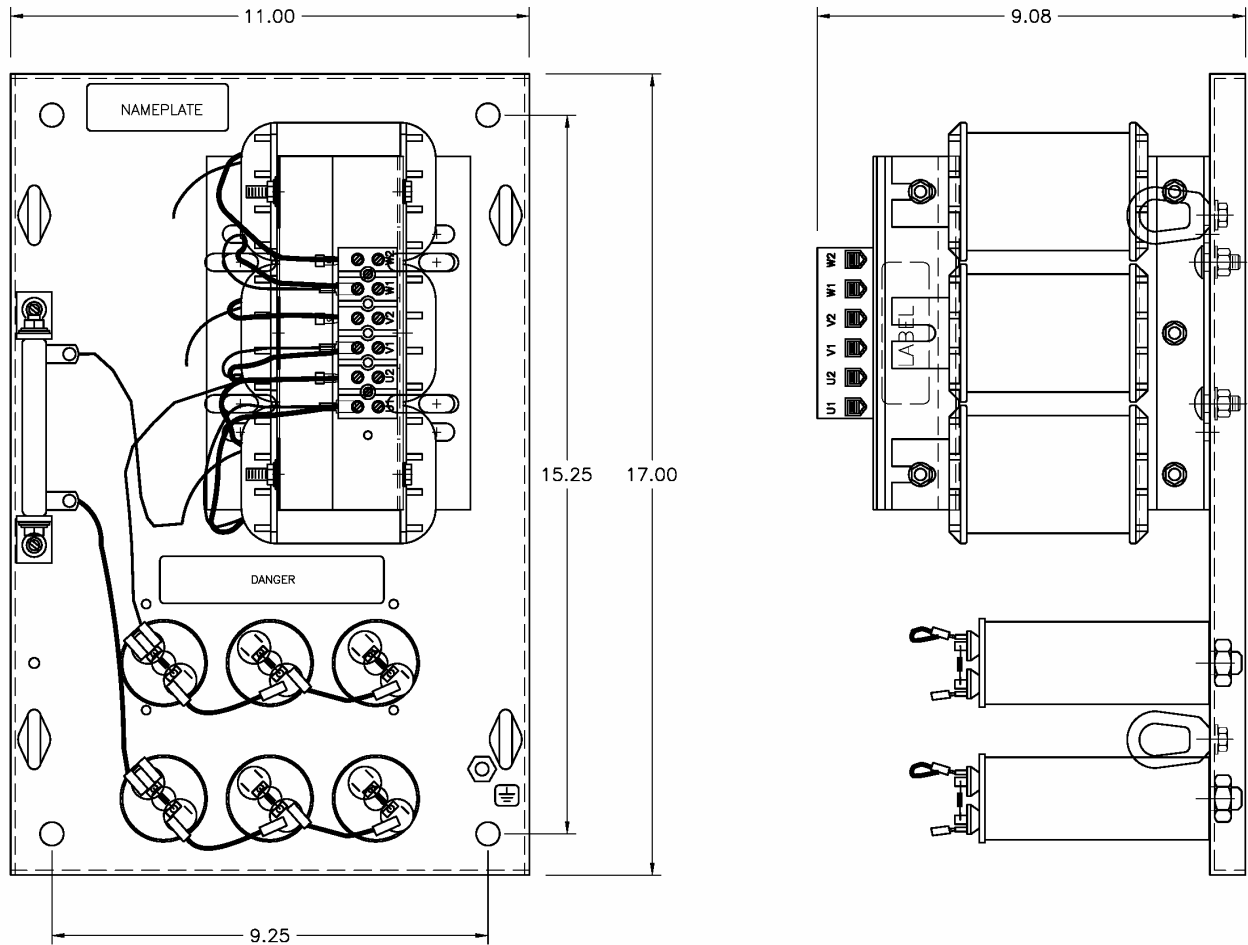
3 - 22 AMPS 200 - 230 VAC  
2 - 17 AMPS 380 - 480 VAC  
2 - 12 AMPS 550 - 600 VAC

Figure 1

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# MTE Sine Wave 2-8 kHz Series A Filter TR

## Open Outline Drawings



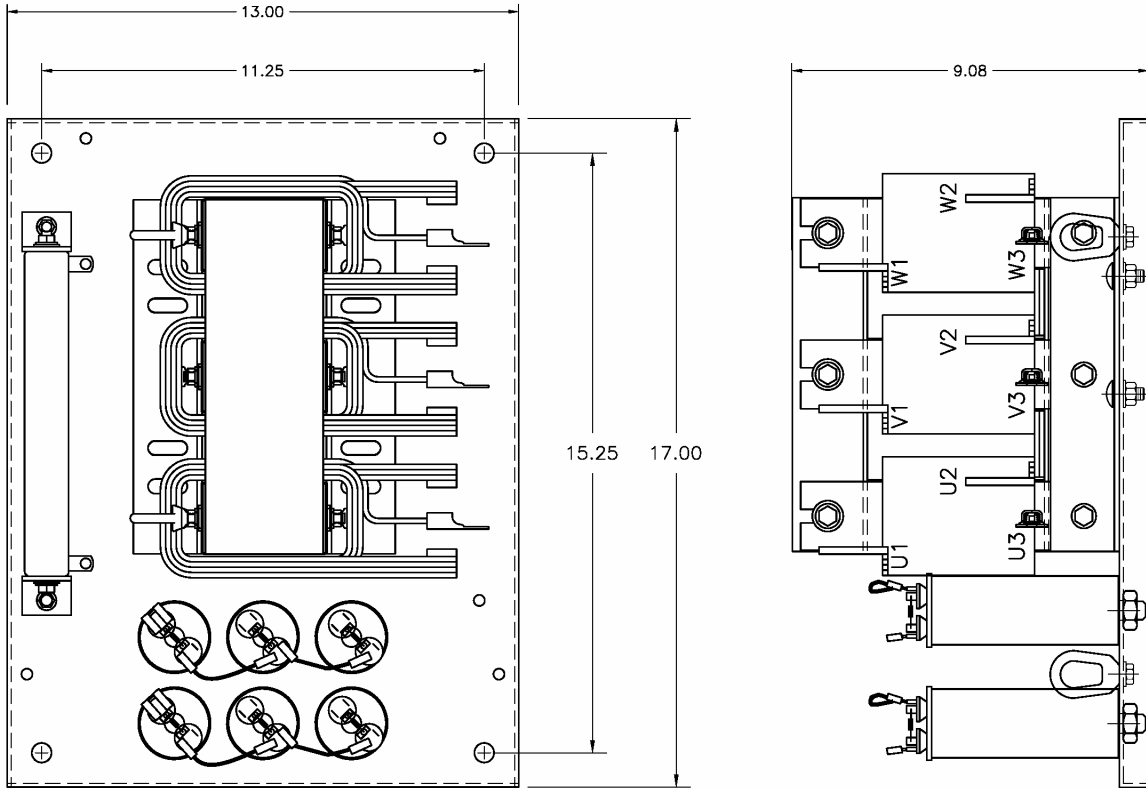
45 - 60 AMPS 200 - 230 VAC  
22 - 55 AMPS 380 - 480 VAC  
17 - 45 AMPS 550 - 600 VAC

**Figure 2**

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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Open Outline Drawings



65 - 80 AMPS 380 - 480 VAC  
55 - 65 AMPS 550 - 600 VAC

**Figure 3**

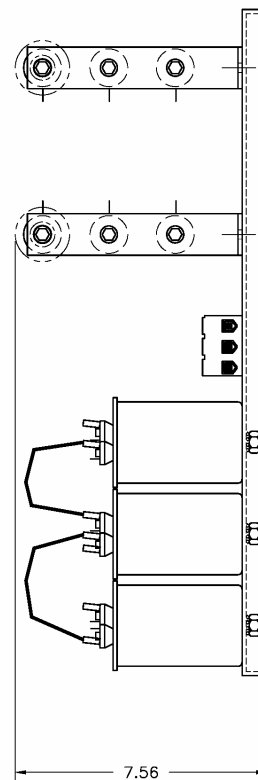
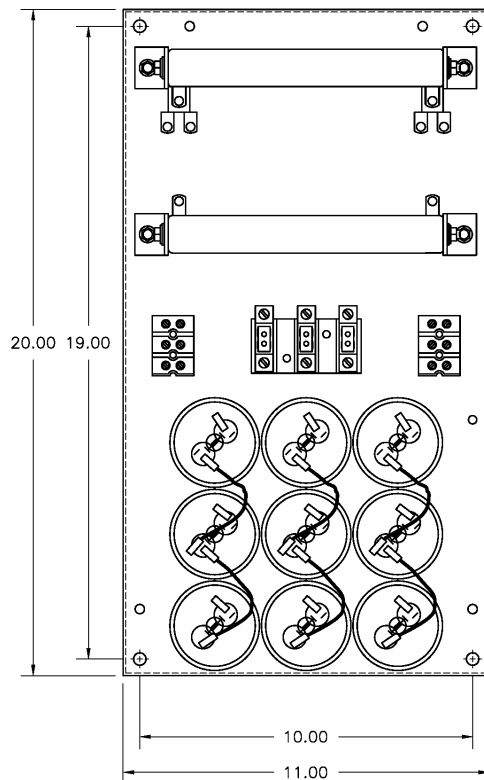
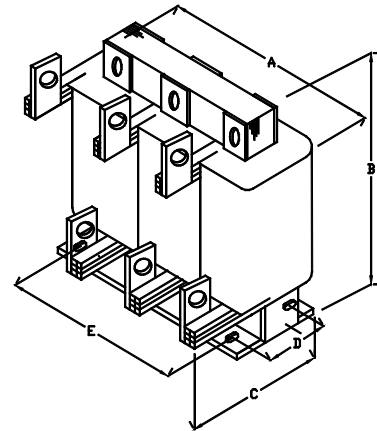
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# MTE Sine Wave 2-8 kHz Series A Filter TR

## Open Kit Drawings

Figure	DIMENSIONS Inches				
	A	B	C	D	E
A1	14	11.3	9.5	5.2	4.6
A2	14	11.3	10	5.6	4.5
A3	14	11.3	10.5	6.2	4.6
A4	14	11.3	11	6.6	4.6
A5	14	11.3	11.5	7.2	4.6
A6	14	11.3	12.5	8.2	4.6
A7	14	11.3	14.3	9.2	4.6
A8	22	17.0	11.8	6.7	7.2
A9	22	17.0	12.8	7.7	7.2
A10	22	17.0	15.5	8.2	7.2
A11	22	17.0	17.0	9.7	7.2
A12	22	17.0	18.5	11.2	7.2
A13	22	17.0	19.5	12.2	7.2
A14	33.5	30.3	19.5	11.0	15.0
A15	33.5	30.3	20.0	11.0	15.0
A16	33.5	30.3	21.0	11.0	15.0

Figure A: REACTOR



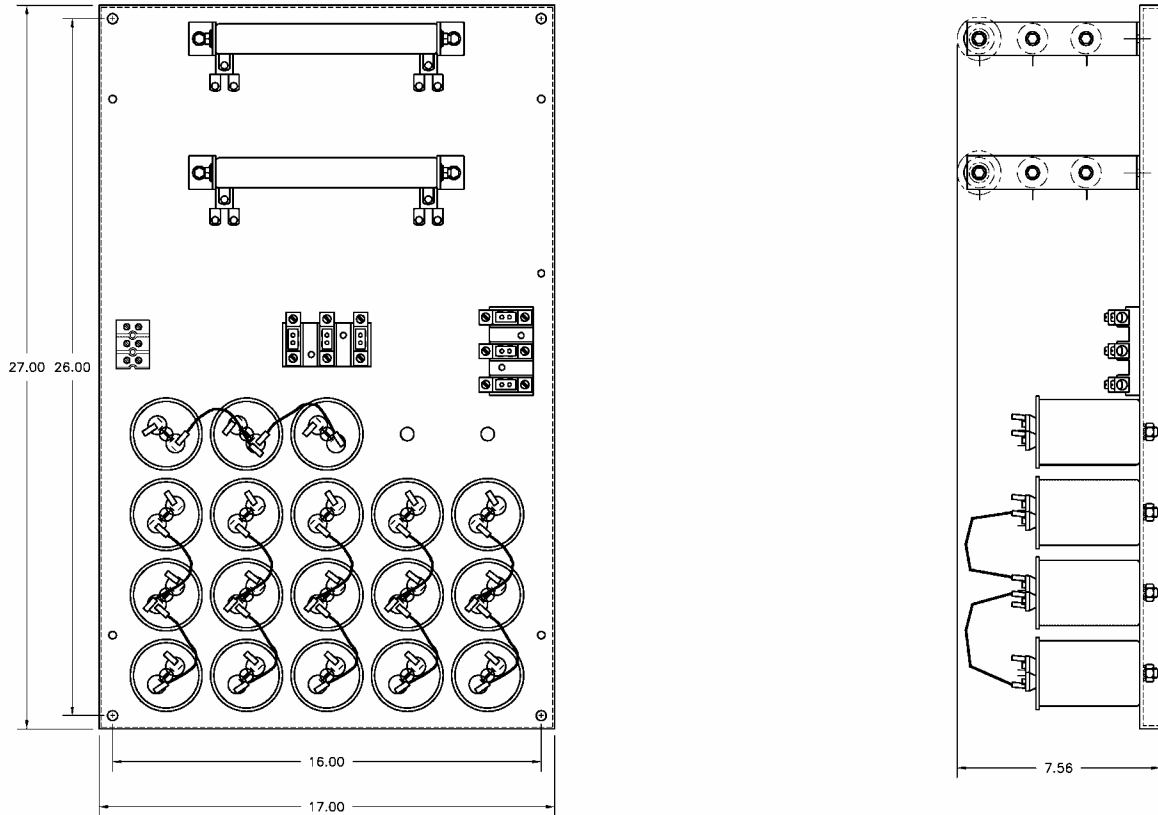
110 - 250 AMPS 380 - 480 VAC  
80 - 250 AMPS 550 - 600 VAC

Figure B

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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Open Kit Drawings Cont.



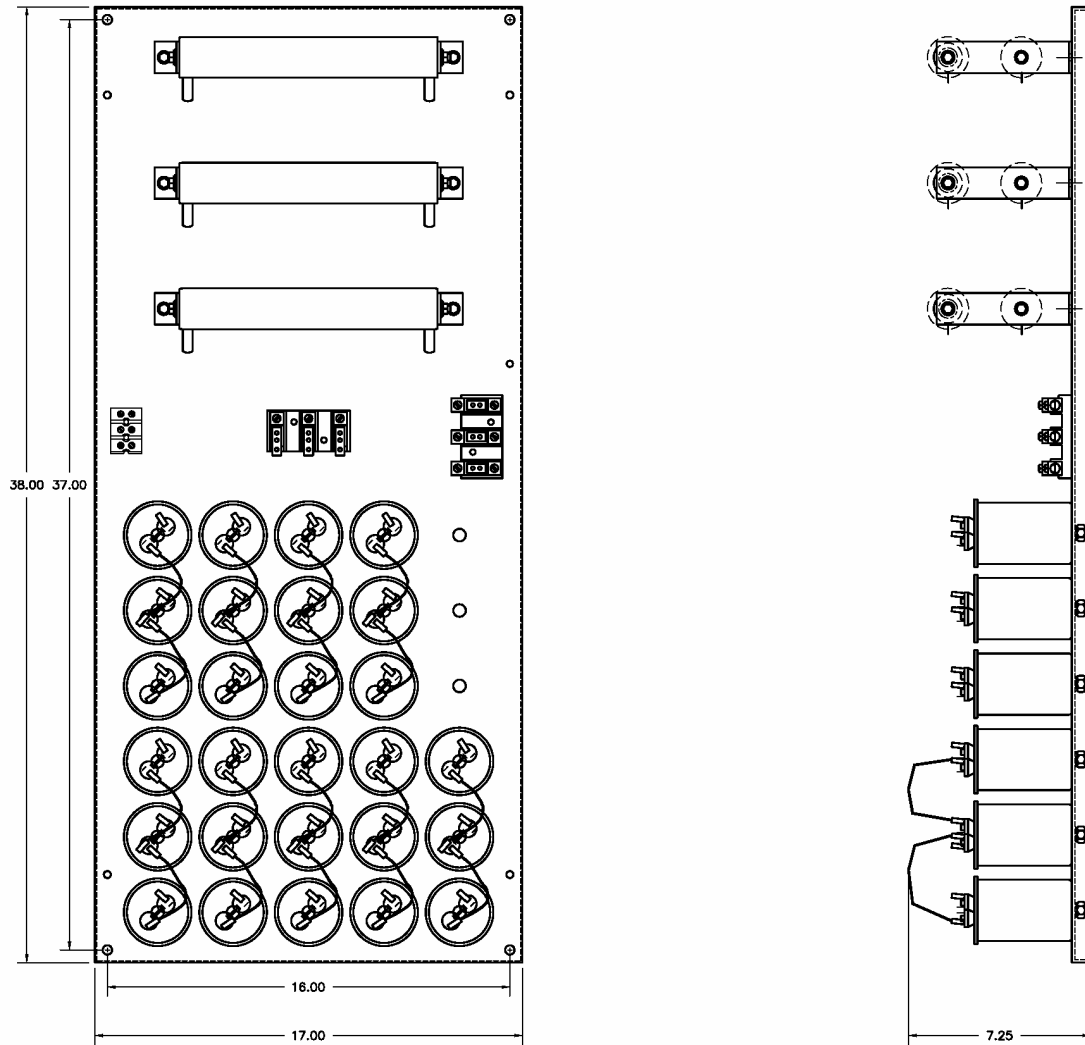
**305 - 515 AMPS 380 - 480 VAC**  
**305, 365, 515 AMPS 550 - 600 VAC**

Figure C

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# MTE Sine Wave 2-8 kHz Series A Filter TR

## Open Kit Drawings Cont.



600 - 720 AMPS 380 - 480 VAC  
415, 600, 720 AMPS 550 - 600 VAC

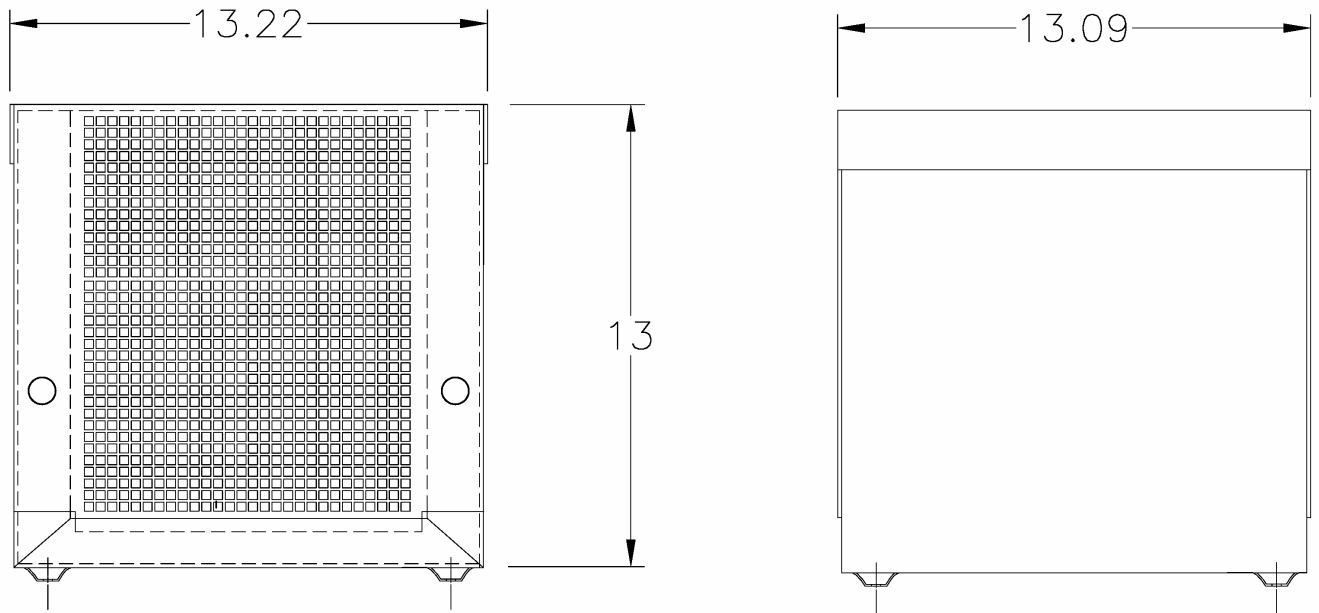
Figure D

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# MTE Sine Wave 2-8 kHz Series A Filter TR

## Enclosed Outline Drawings

Enclosure Indicator	Width	Height	Depth	Cab Part No.	NEMA Type	Figure
GA	13	13	13	Cab 13V	NEMA 1	4
GB	17	24	18	Cab 17V	NEMA 1	5
GC	27	47	25	Cab 26C	NEMA 1 -2	6
GD	31	72	31	Cab 30C	NEMA 1 -2	7
GE	43	72	25	Cab 42C	NEMA 1 -2	10
WA	12.5	24	18	Cab 12C	NEMA 3R	8
WB	17.5	31	21	Cab 17C	NEMA 3R	9
WC	26.5	47	30	Cab 26C	NEMA 3R	6
WD	30.5	72	40	Cab 30C	NEMA 3R	7
WE	43	72	34	Cab 42C	NEMA 3R	10



**Figure 4 Cab 13V**

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# MTE Sine Wave 2-8 kHz Series A Filter TR

## Enclosed Outline Drawings

NEMA 1-2 and 3R Enclosures

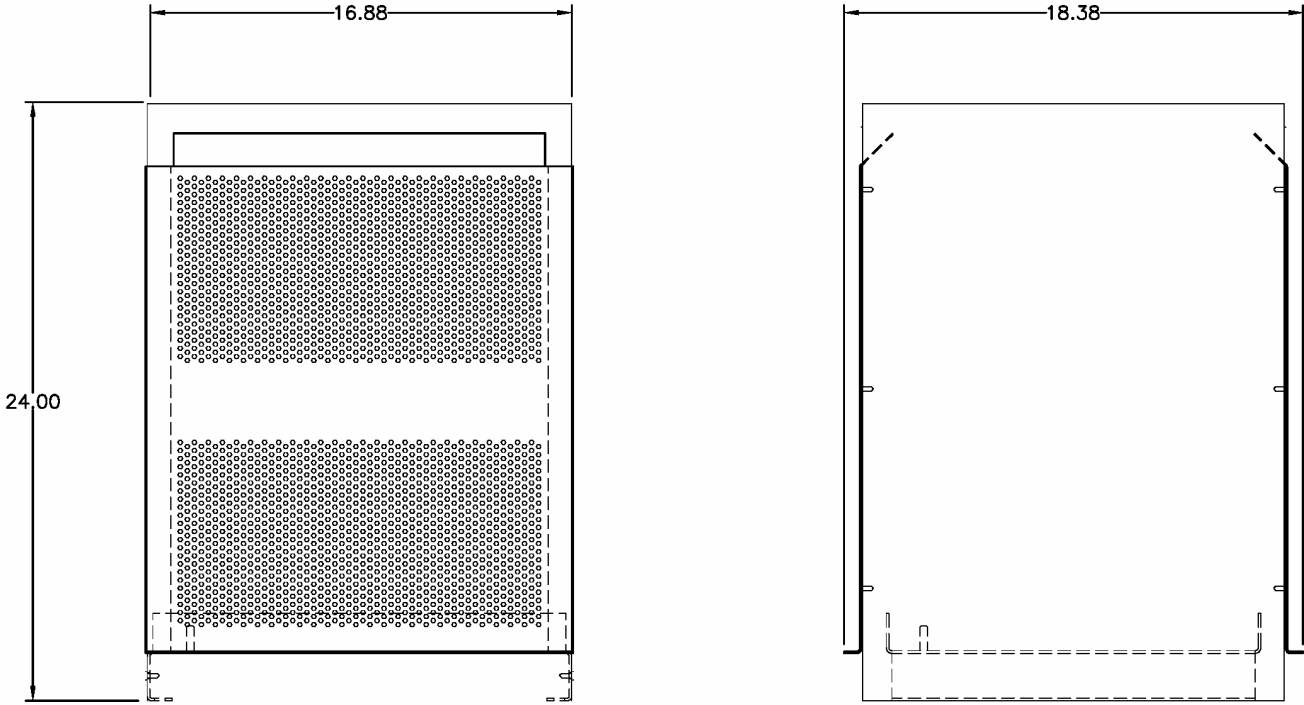


Figure 5 Cab 17V

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# MTE Sine Wave 2-8 kHz Series A Filter *TR*

## Enclosed Outline Drawings

### NEMA 1-2 and 3R Enclosures

#### Enclosure Dimensions

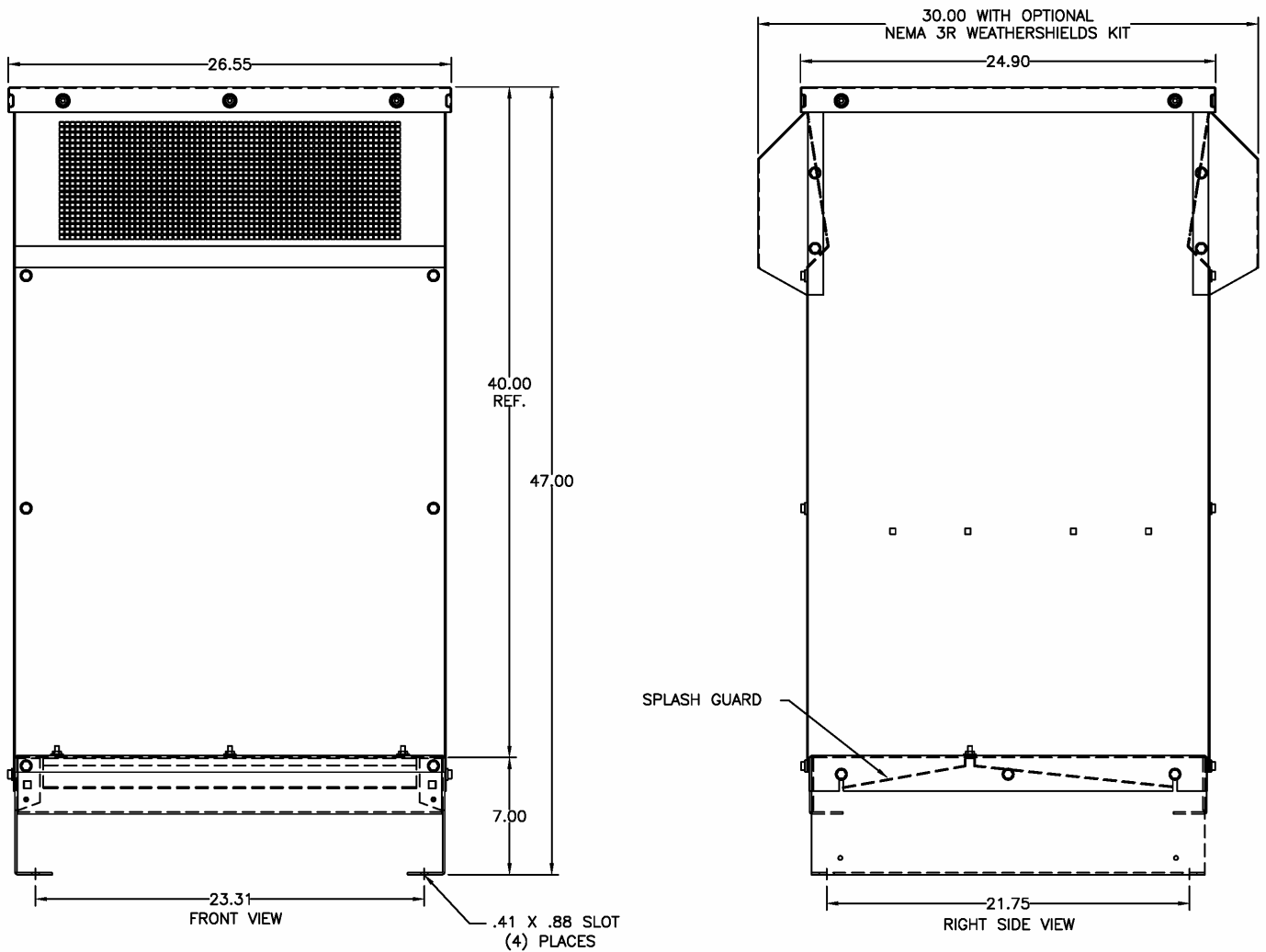


Figure 6 Cab 26C

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# MTE Sine Wave 2-8 kHz Series A Filter TR

## Enclosed Outline Drawings

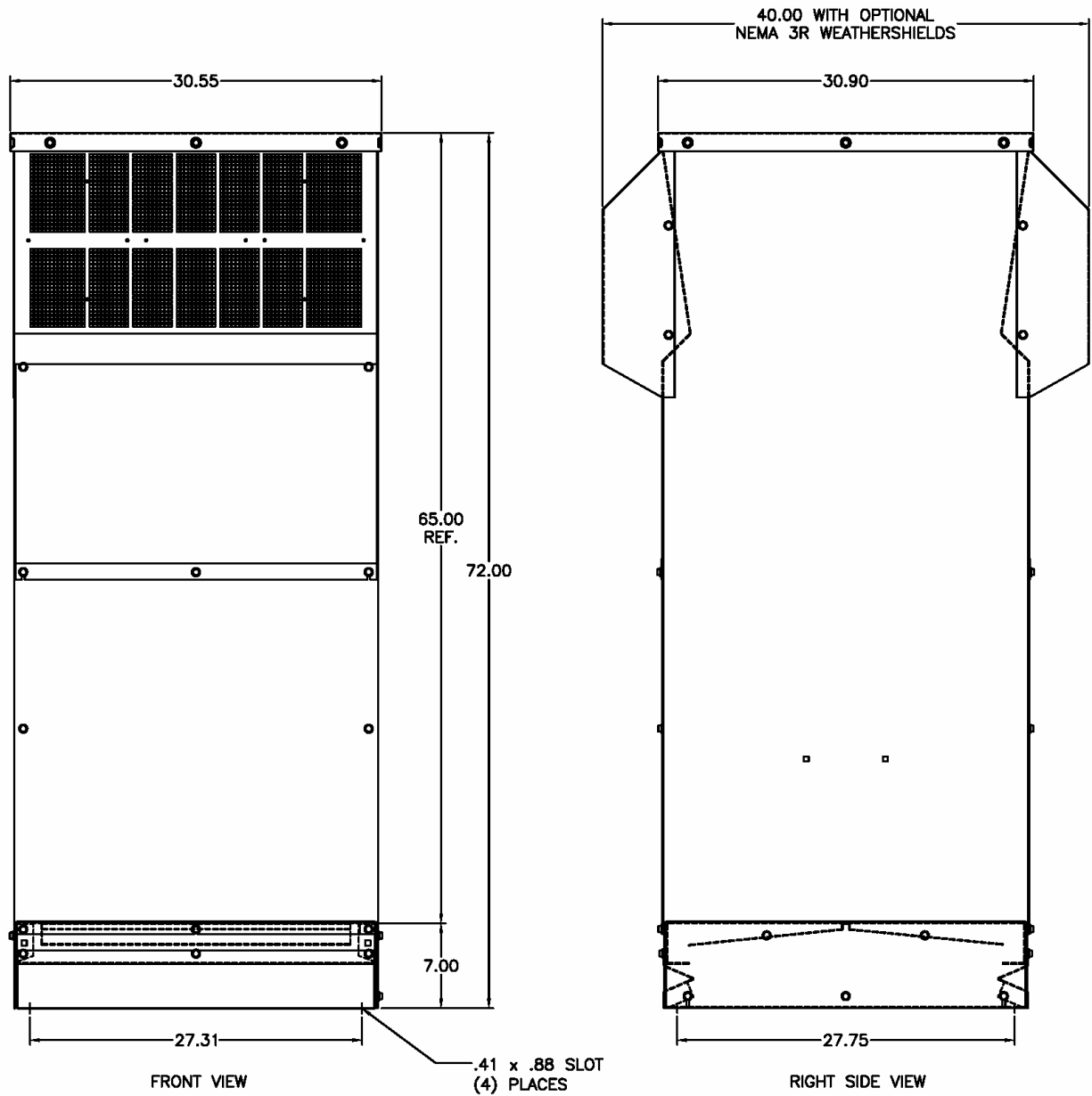


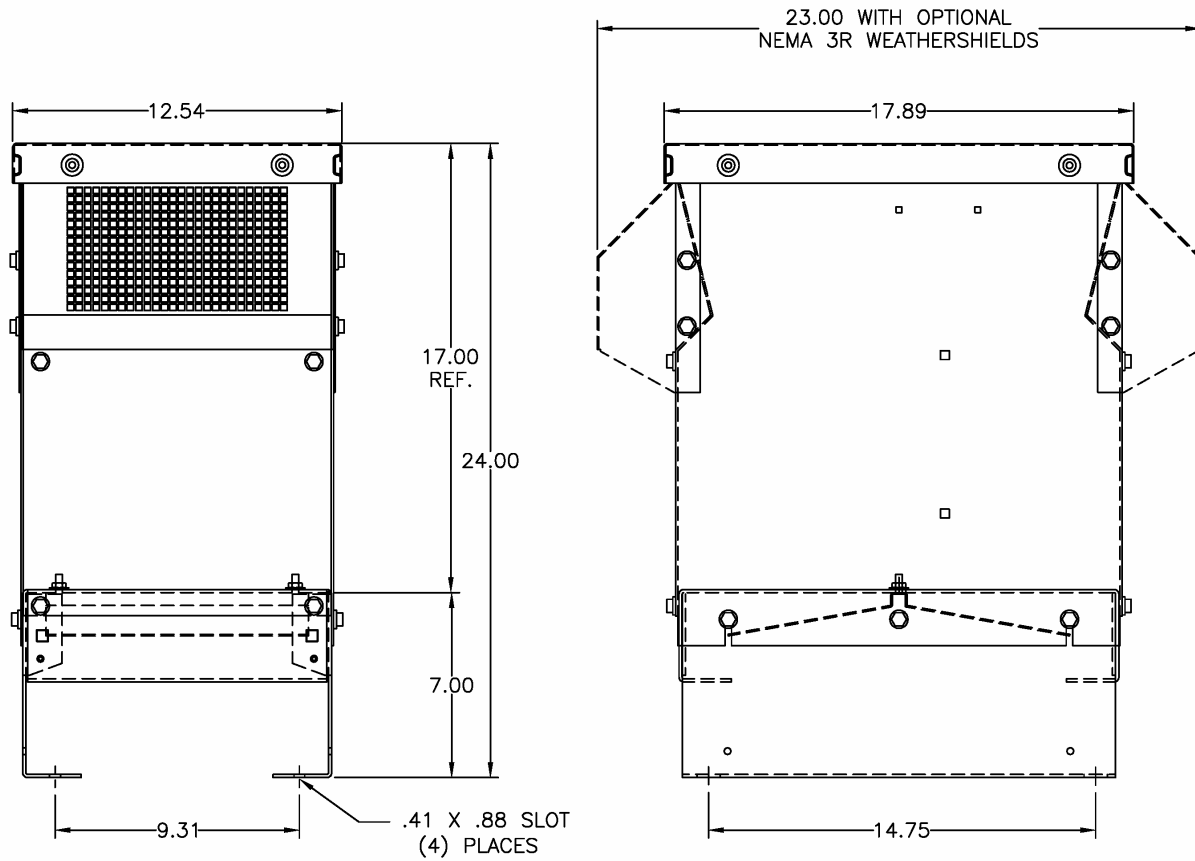
Figure 7 Cab 30C

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# MTE Sine Wave 2-8 kHz Series A Filter TR

## Enclosed Outline Drawings

### NEMA 1-2 and 3R Enclosures Continued



**Figure 8 Cab 12C**

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# MTE Sine Wave 2-8 kHz Series A Filter TR

## Enclosed Outline Drawings

### NEMA 1-2 and 3R Enclosures Continued

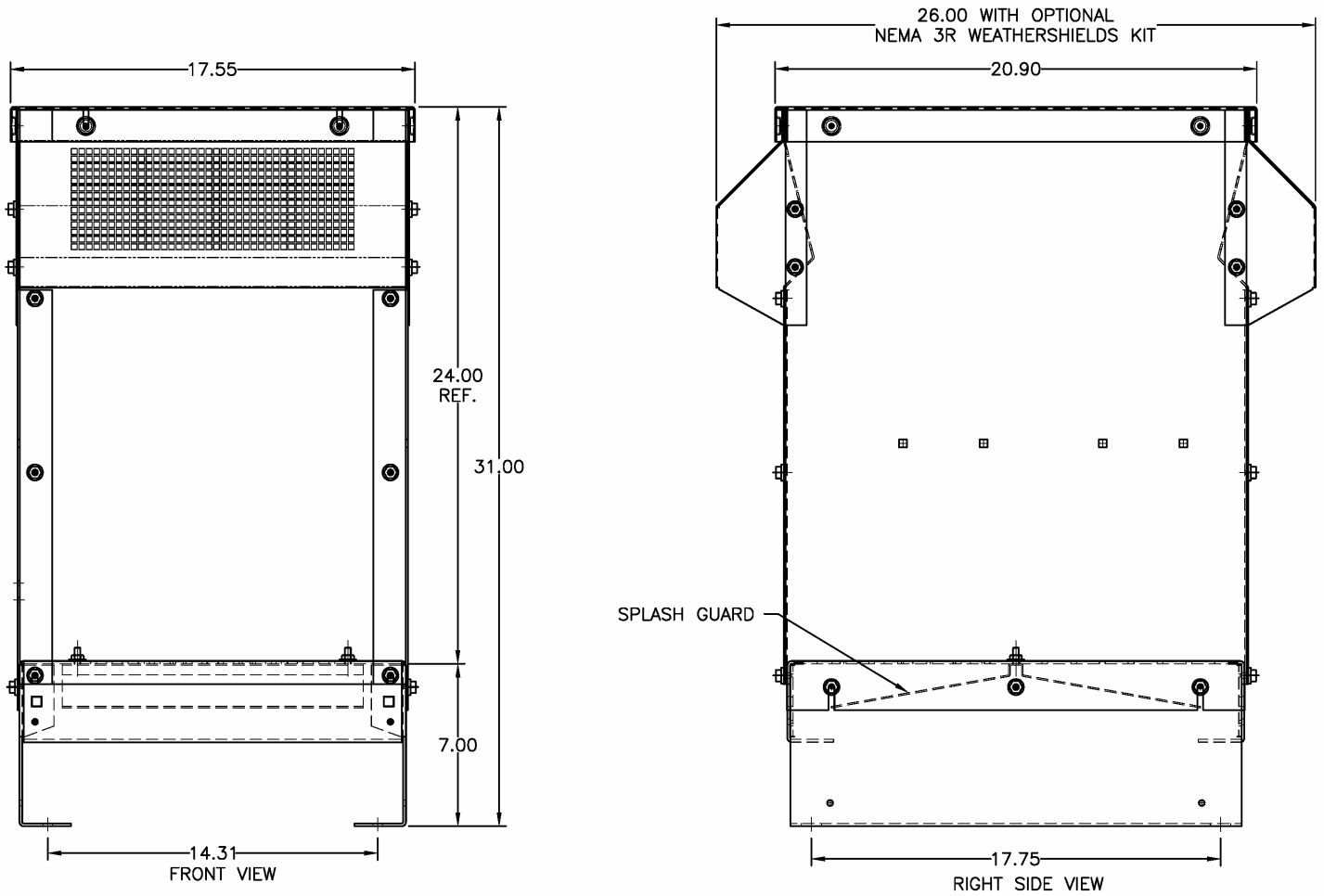


Figure 9 Cab 17C

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# MTE Sine Wave 2-8 kHz Series A Filter TR

## Enclosed Outline Drawings

### NEMA 1-2 and 3R Enclosures Continued

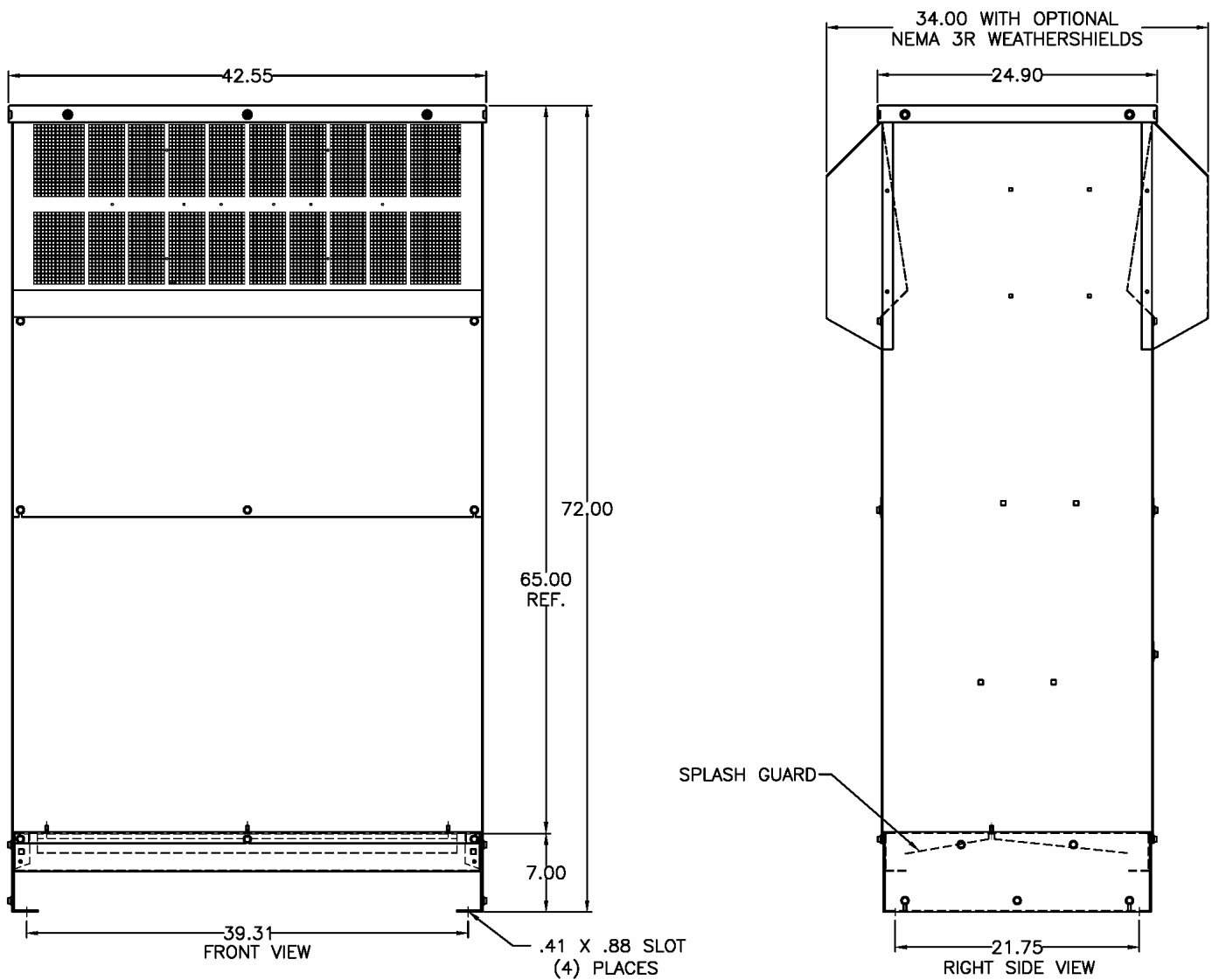


Figure 10 Cab 42C

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# MTE Sine Wave 2-8 kHz Series A Filter TR

ISO 7.2.3	Motor Protection Sine Wave 2-8 kHz Series A Filters	TR-1701
Responsibility:	Sales	
Approved by:	Karl Hink	
File Location:	F:\Public\Controlled Documents\Sales\PRICE BOOK	
<b>Revision</b>	<b>Date</b>	<b>Revision History (recorded by date on document)</b>
---	12-22-04	New document written WRW
001	8-25-05	Revised by Wayne improved Hyperlinks for PDF operation
002	10/10/05	Revised by WRW added 200 volt and lower current product
003	10/13/05	Rev by WRW pg 5: SWAGC160A to SWAGC200A for 200 amp rating