The only passive harmonic filter for 3-phase Adjustable Speed Drives operating on 1-phase supply

Standard 3-phase Adjustable Speed Drives (ASD) are often used as phase converters to supply 3-phase motors when only 1-phase power is available. This is common practice in remote locations such as farms, golf courses, oil and gas fields as well as residential areas for water and waste water systems. In these applications the ASD rectifiers generate much higher input current harmonic distortion when used on single phase supply.

The Lineator-1Q3™ has been designed to address the problems associated with single phase supply on 3-phase ASD’s. This is achieved by accepting 1-phase input and supplying a quasi 3-phase supply to the ASD. This will significantly lower both input harmonic current distortion (by up to 10x) and DC ripple current within the ASD.

Reducing the ripple current when using a Lineator-1Q3™ may allow for less derating of the ASD. Since most drive manufacturers recommend you double the size of the ASD to the load on single phase supplies. Less derating can reduce the overall cost of your system.
General Specifications:

**HP / kW RATING**
Available for motor/drive system sizes up to 150HP / 110kW

**VOLTAGE**
Standard voltages up to 600V

**FREQUENCY**
60Hz (50Hz available)

**HARMONICS TREATED**
3rd, 5th, 7th, 9th, 11th, 13th,...

**K-FACTOR SUITABILITY**
Up to 20

**INPUT K-FACTOR**
Reduced to < 1.5

**INPUT CURRENT DISTORTION**
< 12% @ Full Load

**EFFICIENCY**
> 99%

**ELEVATION**
≤ 3300ft [1000m] above sea level

**AMBIENT TEMPERATURE**
≤ 104 Deg F [40 Deg C]

**VENTILATION**
Convection air cooled

**WINDING MATERIAL**
Copper

**ENCLOSURE**
Nema 3R Grey
(SU2 & 3 suitable for Wall Mount)

**OPTIONS**
Nema 3R Enhanced

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### Typical Application

- **Filter capacitors off whenever the VFD is in the control system that automatically switches the frequency.**

- **Ventilation:**
  - **AMBIENT TEMPERATURE:** ≤ 104 Deg F [40 Deg C]
  - **ELEVATION:** ≤ 3300ft [1000m] above sea level

- **HARMONICS:**
  - 3rd, 5th, 7th, 9th, 11th, 13th,...

- **K-FACTOR:**
  - Up to 20

- **INPUT CURRENT:**
  - < 12% @ Full Load

- **EFFICIENCY:**
  - > 99%

- **ELEVATION:**
  - ≤ 3300ft [1000m] above sea level

### Application with Lineator-1Q3™

- **1-phase supply and excess ripple current requires drive derating of 2x**

- **1Q3 reduces ripple current which may allow for less derating when approved by VFD manufacturer.**

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### MOTOR SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Motor Horsepower</th>
<th>Line Voltage</th>
<th>Frequency</th>
<th>Load Type</th>
<th>Enclosure Type</th>
<th>Optional</th>
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<tbody>
<tr>
<td></td>
<td>SU4</td>
<td>40.00 [1016]</td>
<td>18.50 [470]</td>
<td>23.00 [564]</td>
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<td>Nema 3R Enhanced</td>
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<td>MT3</td>
<td>45.00 [1143]</td>
<td>26.00 [661]</td>
<td>25.00 [635]</td>
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<td></td>
<td>MT4</td>
<td>51.50 [1308]</td>
<td>32.00 [813]</td>
<td>29.50 [749]</td>
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### DIMENSIONS

<table>
<thead>
<tr>
<th>Motor Size</th>
<th>Linearating Rating</th>
<th>240V (60Hz)</th>
<th>480V (60Hz)</th>
<th>600V (60Hz)</th>
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<tbody>
<tr>
<td>HP</td>
<td>kW</td>
<td>Input Amps (1ph/60Hz)</td>
<td>Output</td>
<td>Case Style</td>
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<tr>
<td>5</td>
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<td>23</td>
<td>12</td>
<td>9</td>
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<td>7.5</td>
<td>5.5</td>
<td>33</td>
<td>17</td>
<td>13</td>
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