

# Roxburgh MIF3 Series EMI Filters

## Three-phase Drive Rated EMI Filters - Very High Performance

The MIF3 Series industrial multi-stage EMI filters are most suitable for drives applications requiring long cable lengths between the drive and motor, as well as a variety of other industrial applications. The multi-stage filters provide higher attenuation performance than two-stage KMF series filters (See respective filter attenuation curves in datasheet online for specific noise mitigation). All MIF3 series filters are installed on the line side, ahead of the drive, and provide effective filtering for supply

voltages from 0-500V and frequencies of 0-60Hz. Ideal for 230V or 460V drives as well as DC applications.

The MIF3 filters are available in 11 current ratings from 10 Amps to 800 Amps. The ultra-compact design offers flat or side mounting (MIF3800- side mounting only), a ventilated metal case, and screw or stud terminations. All products are RoHS compliant, include UL and cUL approvals, and are CE.

### Features

- 230/460 VAC, 50/60 Hz, 3-phase
- 10A - 800A models
- Panel mount, flat and side
- Ultra-compact, low profile ventilated metal case
- Screw or stud terminals

### Applications

- AC Drives applications requiring long cable lengths between drive and motor
- Electrically noisy applications requiring high filter performance.

### Standards and Certifications



Filter performance curves are available on item page at [www.AutomationDirect.com](http://www.AutomationDirect.com)



| MIF3 Series Filters      |            |                                                           |                                   |
|--------------------------|------------|-----------------------------------------------------------|-----------------------------------|
| Part Number              | Price      | Description                                               | Line & Load Side Protective Boot* |
| <a href="#">MIF310</a>   | \$189.00   | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 10A  | N/A                               |
| <a href="#">MIF316</a>   | \$197.00   | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 16A  |                                   |
| <a href="#">MIF323</a>   | \$228.00   | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 23A  |                                   |
| <a href="#">MIF330B</a>  | \$306.00   | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 30A  | SLV37 - 3pk                       |
| <a href="#">MIF350</a>   | \$731.00   | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 50A  | SLV38 - 3pk                       |
| <a href="#">MIF375</a>   | \$524.00   | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 75A  | SLV39 - 3pk                       |
| <a href="#">MIF3100</a>  | \$641.00   | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 100A |                                   |
| <a href="#">MIF3150</a>  | \$1,033.00 | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 150A | SLV40 - 3pk                       |
| <a href="#">MIF3180</a>  | \$1,025.00 | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 180A |                                   |
| <a href="#">MIF3400B</a> | \$1,791.00 | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 400A | N/A                               |
| <a href="#">MIF3800</a>  | \$3,267.00 | EMI Input Filter for 3-phase AC drives, 230/460 VAC, 800A |                                   |

# Roxburgh MIF3 Series EMI Filters

| General Specifications             |                                                                       |
|------------------------------------|-----------------------------------------------------------------------|
| <b>Voltage Rating</b>              | 230/460 VAC, 0-60 Hz                                                  |
| <b>Voltage Max.</b>                | 528V                                                                  |
| <b>Voltage Withstand</b>           | 2900VDC/ 60 secs.                                                     |
| <b>Phase</b>                       | 3                                                                     |
| <b>UL/IEC Pollution Class</b>      | Degree II                                                             |
| <b>Humidity</b>                    | 93% RH (non-condensing)                                               |
| <b>Overload Current</b>            | 135% 2Hrs, 150% 60s                                                   |
| <b>Insulation Resistance</b>       | 500VDC >3.5 MΩ                                                        |
| <b>Climate Class (IEC 60068-1)</b> | -25/85/21                                                             |
| <b>Temperature Rise</b>            | 45°C                                                                  |
| <b>Temperature Rating</b>          | -13 to 185°F (-25 to 85°C)                                            |
| <b>Flammability (UL94)</b>         | V-2                                                                   |
| <b>Case Material</b>               | Aluminum                                                              |
| <b>Altitude*</b>                   | 1000m (3000m with derating)                                           |
| <b>Mounting Clearance</b>          | ≥50mm gap                                                             |
| <b>Agency Approval**</b>           | CE (EN 60939-1), cURus: File# E191581 (Standard: UL1283 & C22.2 No.8) |

\* Derate 1% per 100m after 1000m; Max 3000m.

\*\*To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific component part number web page.

| Temperature Derating Chart above 40°C* |                 |            |        |        |        |        |        |        |        |        |
|----------------------------------------|-----------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|
|                                        | Part Number     | Ambient °C |        |        |        |        |        |        |        |        |
|                                        |                 | 40         | 45     | 50     | 55     | 60     | 65     | 70     | 75     | 80     |
| Continuous Ampacity at Ambient °C      | <b>MIF310</b>   | 10.00      | 9.34   | 8.65   | 7.94   | 7.18   | 6.36   | 5.46   | 4.42   | 3.10   |
|                                        | <b>MIF316</b>   | 16.00      | 14.94  | 13.84  | 12.70  | 11.49  | 10.18  | 8.74   | 7.08   | 4.96   |
|                                        | <b>MIF323</b>   | 23.00      | 21.48  | 19.90  | 18.25  | 16.51  | 14.64  | 12.56  | 10.17  | 7.13   |
|                                        | <b>MIF330B</b>  | 30.00      | 28.01  | 25.96  | 23.81  | 21.54  | 19.09  | 16.39  | 13.27  | 9.30   |
|                                        | <b>MIF350</b>   | 50.00      | 46.69  | 43.26  | 39.68  | 35.89  | 31.82  | 27.31  | 22.11  | 15.50  |
|                                        | <b>MIF375</b>   | 75.00      | 70.03  | 64.89  | 59.52  | 53.84  | 47.73  | 40.97  | 33.16  | 23.25  |
|                                        | <b>MIF3100</b>  | 100.00     | 93.37  | 86.52  | 79.36  | 71.79  | 63.64  | 54.63  | 44.22  | 31.00  |
|                                        | <b>MIF3150</b>  | 150.00     | 140.06 | 129.78 | 119.04 | 107.68 | 95.45  | 81.94  | 66.33  | 46.50  |
|                                        | <b>MIF3180</b>  | 180.00     | 168.07 | 155.74 | 142.85 | 129.22 | 114.55 | 98.33  | 79.59  | 55.80  |
|                                        | <b>MIF3400B</b> | 400.00     | 373.50 | 346.08 | 317.45 | 287.15 | 254.55 | 218.51 | 176.88 | 124.01 |
|                                        | <b>MIF3800</b>  | 800.0      | 747.00 | 692.17 | 634.89 | 574.31 | 509.09 | 437.02 | 353.75 | 248.02 |

\* NOTE: Using these filters above 40°C would comprise a non-UL application of device.

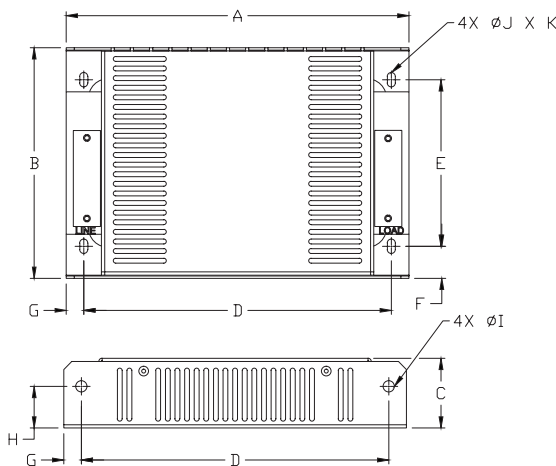
| Specifications |                                         |           |            |            |            |            |            |            |             |              |                   |                   |  |
|----------------|-----------------------------------------|-----------|------------|------------|------------|------------|------------|------------|-------------|--------------|-------------------|-------------------|--|
|                | Parameter                               | MIF310    | MIF316     | MIF323     | MIF330B    | MIF350     | MIF375     | MIF3100    | MIF3150     | MIF3180      | MIF3400B          | MIF3800           |  |
|                | Max Power, kW [max/ph]                  | 8.3 [2.4] | 13.3 [3.8] | 19.1 [5.5] | 24.9 [7.2] | 41.5 [12]  | 62.3 [18]  | 83 [24]    | 124.6 [36]  | 149.5 [43.2] | 332.2 [96]        | 664.3 [192]       |  |
|                | Current Rating (A)                      | 10        | 16         | 23         | 30         | 50         | 75         | 100        | 150         | 180          | 400               | 800               |  |
|                | SCCR Rating (kA)                        | 5         |            |            |            |            | 10         |            |             |              |                   | 30                |  |
|                | Ingress Protection                      | IP20      |            |            |            | IP00       |            |            |             |              |                   |                   |  |
| GND Terminal   | Terminal Style                          | Screw     |            |            | Stud M5    | Stud M8    |            |            |             |              | Stud M10          |                   |  |
|                | Torque, lb·in [N·m]                     | 4.4 [0.5] |            |            | 17.7 [2]   | 53.1 [6]   |            |            |             |              | 221.2 [25]        |                   |  |
|                | Ring Terminal Size                      | N/A       |            |            | M5 (#10)   | M8 (5/16") |            |            |             |              | M10 (3/8")        |                   |  |
| Wire Terminal  | Terminal Style                          | Screw     |            |            | Stud M5    | Stud M8    |            |            | Stud M10    |              | Stud M12          |                   |  |
|                | Torque, lb·in [N·m]                     | 4.4 [0.5] |            |            | 17.7 [2]   | 39.8 [4.5] | 53.1 [6]   |            | 177 [20]    |              | 265.5 [30]        |                   |  |
|                | Max Wire Gauge (AWG)                    | 12        |            |            | N/A        |            |            |            |             |              |                   |                   |  |
|                | Ring Terminal Size                      | N/A       |            |            | M5 (#10)   | M8 (5/16") |            |            | M10 (3/8")  |              | M12 (1/2")        |                   |  |
|                | Operational Leakage Current (mA)        | 4.2       | 8.9        | 8.9        | 15.0       | 7.3        | 10.4       | 15.0       | 22.6        |              | 663.4             | 884.5             |  |
|                | Total Resistance (Line to Load) (mΩ/ph) | 44        | 13.3       | 12.7       | 14.1       | 3.4        | 3.4        | 2.5        | 1.23        | 1.63         | 88μΩ/ph           | 31μΩ/ph           |  |
|                | Residual Voltage (V@5s)                 | 1         | 44         |            | 391        | 19         | 126        | 132        | 288         |              | 595V@5s, 0V @270s | 615V@5s, 0V @300s |  |
|                | Heat Dissipation (W/ph)                 | 4.4       | 3.4        | 6.7        | 12.7       | 8.47       | 19         | 25         | 27.7        | 52.7         | 14.1              | 20                |  |
|                | Weight (lb [kg])                        | 1.8 [0.8] | 3.4 [1.5]  | 3.0 [1.4]  | 5.3 [2.4]  | 11.9 [5.3] | 13.4 [6.1] | 20.2 [9.2] | 38.8 [17.6] | 32.2 [14.6]  | 48.7 [22.12]      | 74.2 [33.7]       |  |

# Roxburgh MIF3 Series EMI Filters

## Dimensions

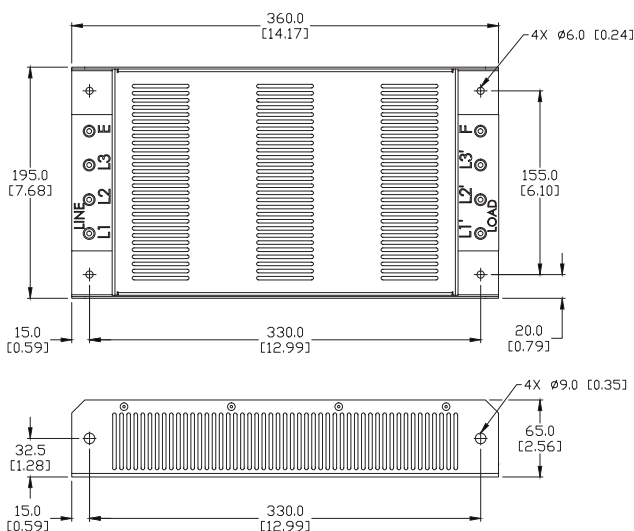
mm [inches]

MIF310  
MIF316  
MIF323



| PART NUMBER | A               | B               | C              | D               | E               | F              | G              | H              | ØI            | ØJ            | K             |
|-------------|-----------------|-----------------|----------------|-----------------|-----------------|----------------|----------------|----------------|---------------|---------------|---------------|
| MIF310      | 214.0<br>[8.42] | 144.0<br>[5.67] | 43.5<br>[1.71] | 192.0<br>[7.56] | 104.0<br>[4.09] | 20.0<br>[0.79] | 11.0<br>[0.43] | 26.0<br>[1.02] | 7.0<br>[0.28] | 5.0<br>[0.20] | 9.0<br>[0.35] |
| MIF316      | 214.0<br>[8.42] | 204.0<br>[8.03] | 50.0<br>[1.97] | 192.0<br>[7.56] | 164.0<br>[6.45] | 20.0<br>[0.79] | 11.0<br>[0.43] | 27.5<br>[1.08] | 7.0<br>[0.28] | 5.0<br>[0.20] | N/A           |
| MIF323      | 214.0<br>[8.42] | 204.0<br>[8.03] | 50.0<br>[1.97] | 192.0<br>[7.56] | 164.0<br>[6.45] | 20.0<br>[0.79] | 11.0<br>[0.43] | 27.5<br>[1.08] | 7.0<br>[0.28] | 5.0<br>[0.20] | N/A           |

MIF330B

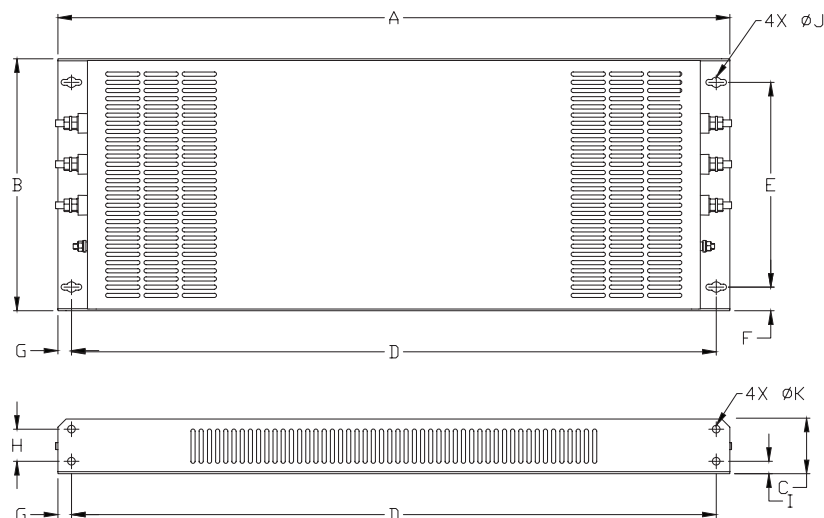


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## Dimensions

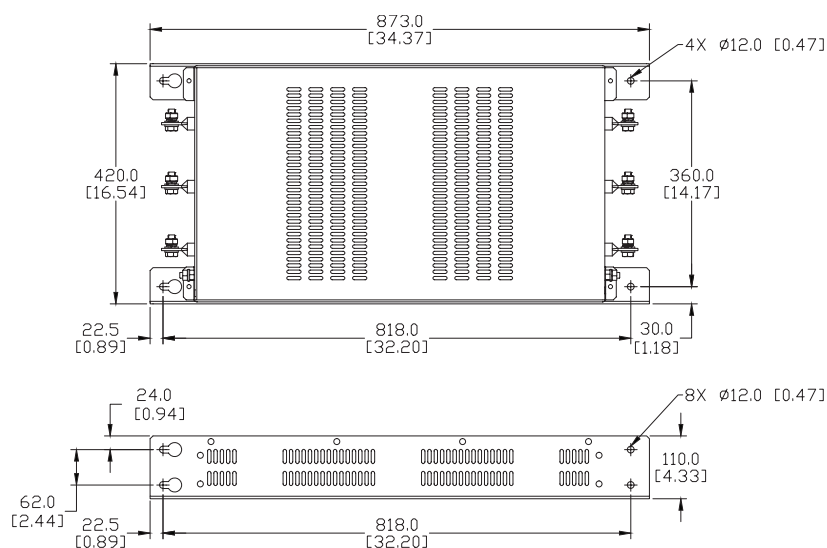
mm [inches]

**MIF350**  
**MIF375**  
**MIF3100**  
**MIF3150**  
**MIF3180**



| PART NUMBER | A                | B                | C              | D                | E                | F              | G              | H              | I              | ØJ             | ØK             |
|-------------|------------------|------------------|----------------|------------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| MIF350      | 618.0<br>[24.32] | 229.0<br>[9.01]  | 68.2<br>[2.68] | 578.0<br>[22.75] | 160.0<br>[6.30]  | 34.5<br>[1.36] | 20.0<br>[0.79] | 35.0<br>[1.38] | 18.2<br>[0.72] | 11.0<br>[0.43] | 7.0<br>[0.28]  |
| MIF375      | 686.0<br>[27.00] | 260.9<br>[10.27] | 68.2<br>[2.68] | 646.0<br>[25.42] | 192.0<br>[7.56]  | 34.5<br>[1.36] | 20.0<br>[0.79] | 35.0<br>[1.38] | 18.2<br>[0.72] | 12.7<br>[0.50] | 9.0<br>[0.35]  |
| MIF3100     | 785.0<br>[30.89] | 274.8<br>[10.81] | 80.2<br>[3.16] | 741.0<br>[29.16] | 215.0<br>[8.46]  | 29.9<br>[1.18] | 22.0<br>[0.87] | 47.0<br>[1.85] | 18.2<br>[0.72] | 13.0<br>[0.51] | 9.0<br>[0.35]  |
| MIF3150     | 984.0<br>[38.72] | 369.0<br>[14.52] | 81.4<br>[3.20] | 944.0<br>[37.15] | 300.0<br>[11.81] | 34.5<br>[1.36] | 20.0<br>[0.79] | 47.0<br>[1.85] | 18.2<br>[0.72] | 15.0<br>[0.59] | 11.0<br>[0.43] |
| MIF3180     | 984.0<br>[38.72] | 369.0<br>[14.52] | 81.4<br>[3.20] | 944.0<br>[37.15] | 300.0<br>[11.81] | 34.5<br>[1.36] | 20.0<br>[0.79] | 47.0<br>[1.85] | 18.2<br>[0.72] | 15.0<br>[0.59] | 11.0<br>[0.43] |

### MIF3400B

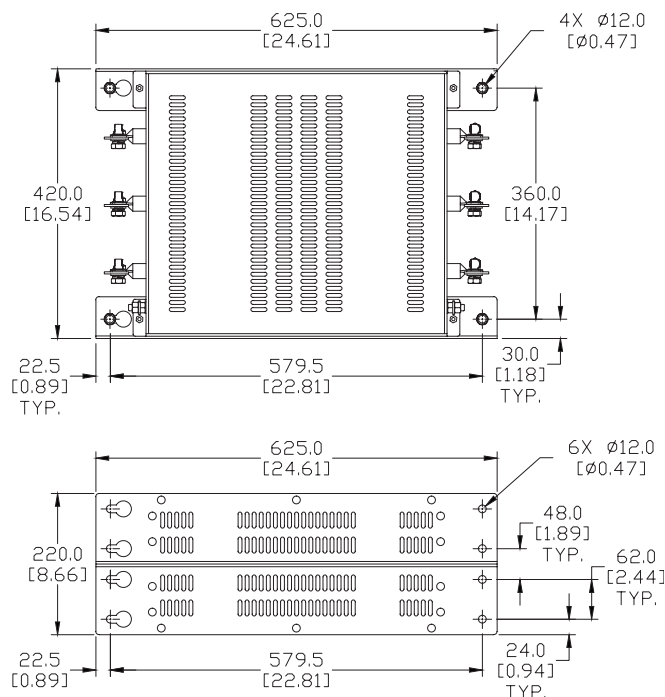


# Roxburgh MIF3 Series EMI Filters

## Dimensions

mm [inches]

**MIF3800**

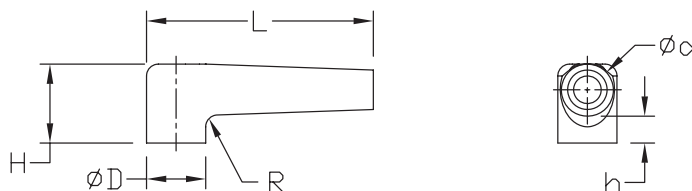


## Protective Boot for MIF3 Series

One set of protective boots is included with filter order where applicable. Table below contains replacement protective boot part numbers for the associated MIF3 Series Filters.

## Dimensions

mm [inches]



| For Use With                     | Sleeve Part Number | $\varnothing D$ | $H$         | $L$         | $h$         | $\varnothing d$ | $R$        |
|----------------------------------|--------------------|-----------------|-------------|-------------|-------------|-----------------|------------|
| <b>MIF330B</b>                   | <b>SLV37-3PK</b>   | 12.0 [0.47]     | 20.0 [0.79] | 50.0 [1.97] | 7.0 [0.28]  | 7.0 [0.28]      | 3.0 [0.12] |
| <b>MIF350</b>                    | <b>SLV38-3PK</b>   | 17.0 [0.67]     | 30.0 [1.18] | 60.0 [2.36] | 10.0 [0.39] | 10.0 [0.39]     | 5.0 [0.20] |
| <b>MIF375</b><br><b>MIF3100</b>  | <b>SLV39-3PK</b>   | 22.0 [0.87]     | 35.0 [1.38] | 70.0 [2.75] | 12.0 [0.47] | 15.0 [0.59]     | 6.0 [0.24] |
| <b>MIF3150</b><br><b>MIF3180</b> | <b>SLV40-3PK</b>   | 28.0 [1.10]     | 40.0 [1.57] | 70.0 [2.75] | 12.0 [0.47] | 15.0 [0.59]     | 8.0 [0.31] |