

## WEATHERFLO® Type 3R Vented Enclosures

### WEATHERFLO® with Fan, Type 3R



#### Industry Standards

UL 508A Listed; Type 3R; File Number E61997  
cUL Listed per CSA C22.2 No 94; Type 3R; File Number E61997

NEMA/EEMAC Type 3R  
IEC 60529, IP32

#### Application

WEATHERFLO® Enclosures feature a forced-air ventilation system for cooling drives or other high-heat producing equipment in outdoor applications.

#### Features

- White polyester powder finish with low solar absorption
- Integrated solar shield top and intake cover
- Gasket and filter
- Adjustable thermostat (70-140 F)
- Active cooling ventilation system with factory-installed fan and filter (115 VAC)
- Terminal power connection for fan
- Easily accessible and washable metal filter
- Top front hood exhaust and door
- Lift-off hinged door
- Quarter-turn latch
- External mounting brackets
- Collar studs provided to mount the optional panel
- Grounding provision on door and body
- Gasketed door

#### Specifications

- 16 and 14 gauge galvanized steel
- Largest two sizes constructed of aluminum

#### Finish

RAL 9003 white polyester powder texturized finish inside and out.

#### Accessories

See also Accessories.

Compact Cooling Fans

Electric Heater

Panels for Type 3R, 4, 4X, 12 and 13 Enclosures

Junction Box and Wall-Mount Enclosure Swing Out Panel Kit

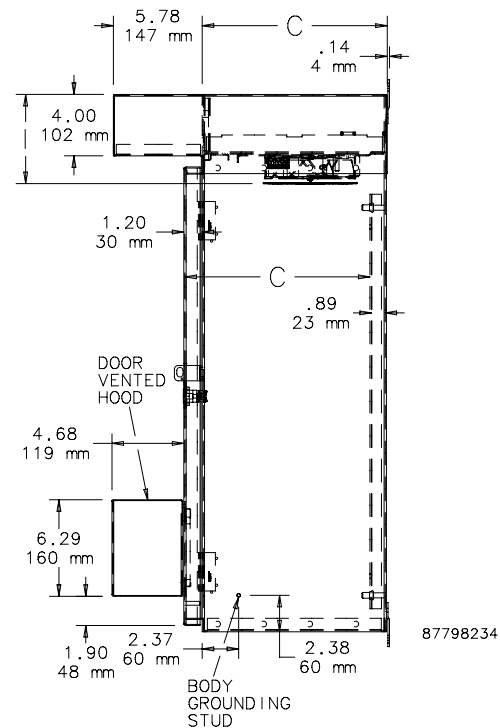
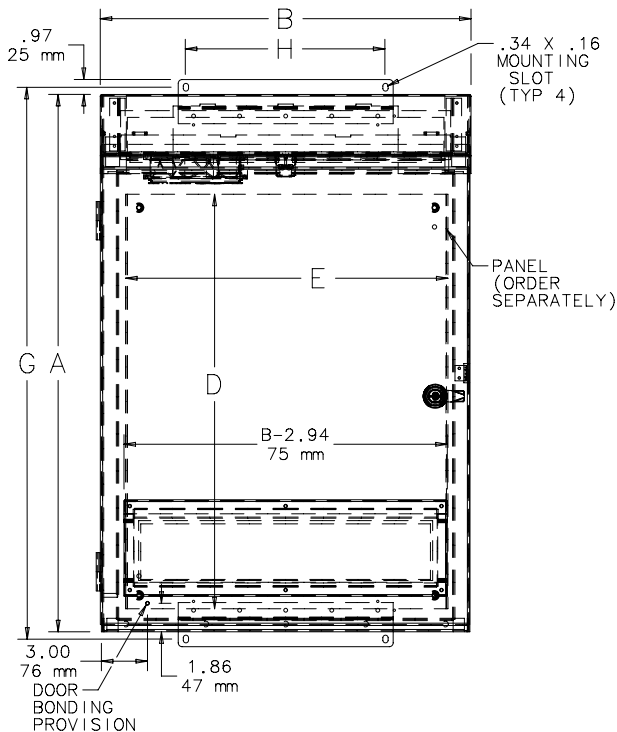
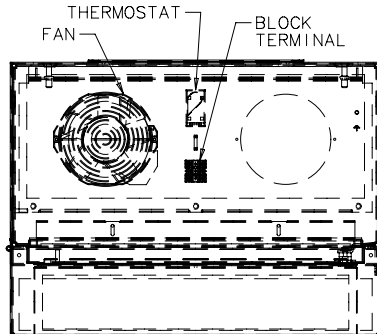
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### Standard Product

| Catalog Number | AxBxC in./mm                              | Drive<br>Horsepower | Panel  | Panel Size D x E<br>in./mm  | Mounting Holes G x H<br>in./mm | I<br>in./mm |
|----------------|-------------------------------------------|---------------------|--------|-----------------------------|--------------------------------|-------------|
| WF3LP          | 29.00 x 24.00 x 12.00<br>737 x 610 x 305  | 3                   | A24P24 | 21.00 x 21.00<br>533 x 533  | 29.94 x 13.00<br>760 x 330     | 5.59<br>142 |
| WF10LP         | 35.00 x 24.00 x 12.00<br>889 x 610 x 305  | 10                  | A30P24 | 27.00 x 21.00<br>686 x 533  | 35.94 x 13.00<br>913 x 330     | 5.81<br>148 |
| WF25LP         | 41.00 x 24.00 x 12.00<br>1041 x 610 x 305 | 25                  | A36P24 | 33.00 x 21.00<br>838 x 533  | 41.94 x 13.00<br>1065 x 330    | 5.81<br>148 |
| WF40LP         | 47.00 x 24.00 x 14.00<br>1194 x 610 x 356 | 40                  | A42P24 | 39.00 x 21.00<br>991 x 533  | 47.94 x 13.00<br>1218 x 330    | 5.81<br>148 |
| WF75LP         | 56.00 x 36.00 x 16.00<br>1422 x 914 x 406 | 75                  | A48P36 | 45.00 x 33.00<br>1143 x 838 | 55.94 x 27.00<br>1421 x 686    | 7.43<br>189 |
| WF100LP        | 67.00 x 36.00 x 16.00<br>1702 x 914 x 406 | 100                 | A60P36 | 57.00 x 33.00<br>1448 x 838 | 67.94 x 27.00<br>1726 x 686    | 7.43<br>189 |

Purchase panels separately.



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### Technical Information

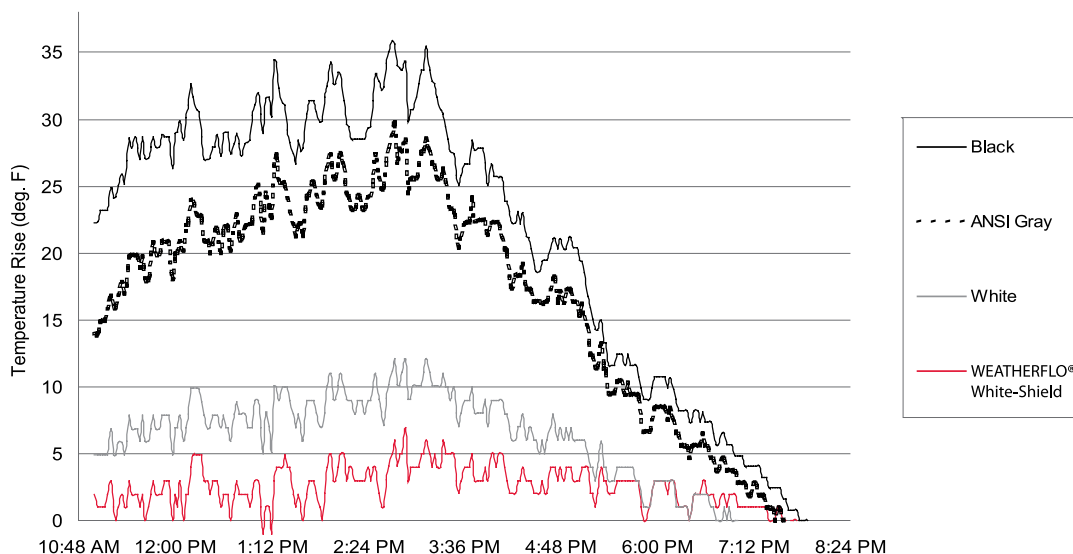
This information is for guidance only; user is responsible for load values to evaluate the system.

| Catalog Number | Drive Horsepower | Fan    | Fan Size in./mm | Fan VAC | Fan Amps (50/60 Hz) | System CFM | Replacement Filter |
|----------------|------------------|--------|-----------------|---------|---------------------|------------|--------------------|
| WF3LP          | 3                | A4AXFN | 4               | 115     | .26/.21             | 75         | WFF1               |
| WF10LP         | 10               | A6AXFN | 6               | 115     | .45/.36             | 160        | WFF1               |
| WF25LP         | 25               | A6AXFN | 6               | 115     | .45/.36             | 160        | WFF1               |
| WF40LP         | 40               | A6AXFN | 6 (2x)          | 115     | .90/.72             | 200        | WFF1               |
| WF75LP         | 75               | A10EFN | 10              | 115     | .58/.70             | 400        | WFF2               |
| WF100LP        | 100              | A10EFN | 10 (2x)         | 115     | 1.16/1.40           | 500        | WFF2               |

### Solar Consideration

The WEATHERFLO® Enclosure's glossy white finish and solar shield top shroud minimize the heat load caused by the sun. If the allowable temperature rise is greater than 5 F, the solar load can be neglected because the transmitted load of the illuminated sides would be equal to the energy dissipated on the sides not exposed to the sun.

Solar Load Based on Color  
Average Internal Temperature Rise  
Non-vented Enclosure



## WEATHERFLO® Type 3R Vented Enclosures

### Critical Parameters (upper temperature limits)

#### Enclosure Heat Load Calculations

##### Drive heat:

$$W_D = [(HP \times 745.7 \text{ Watts/HP}) / E_M] \times (1 - E_D) \text{ [Watts]}$$

##### Total heat:

Estimate an additional 25% <sup>a</sup> for wire connections and other components.

$$W_T = W_D \times 1.25^a \text{ [Watts]}$$

##### Required airflow:

$$CFM = (W_T \times 3.16) / (T_{int} - T_{amb}) \text{ [ft.}^3 \text{ / min.]}$$

<sup>a</sup> This is an estimated factor. Further investigation is necessary to obtain actual total heat dissipated in enclosure.

#### Variables

| Variable Descriptions         | Variables             | Typical Values |
|-------------------------------|-----------------------|----------------|
| Maximum ambient temperature   | $T_{amb}$             | 104 F          |
| Maximum internal temperature  | $T_{int}$             | 122 F          |
| Typical temperature rise      | $(T_{int} - T_{amb})$ | 15 F           |
| Full-load drive power         | HP                    | —              |
| Motor efficiency <sup>b</sup> | $E_M$                 | .80-.96        |
| Drive efficiency <sup>b</sup> | $E_D$                 | .96-.98        |
| Drive heat loss               | $W_D$                 | —              |
| Total heat loss               | $W_T$                 | —              |
| Required airflow              | CFM                   | —              |

<sup>b</sup> Use full-load efficiency. Motor and drive efficiency will vary based on HP and voltage.

#### Sample Values

| Drive HorsePower (hp) | Typical Full Load Rating - Motor Efficiency | Typical Full Load Rating - Drive Efficiency | Drive Heat Loss $W_D$ (Watts) | Additional Heat Loss <sup>a</sup> (Watts) | Total Heat Loss $W_T$ (Watts) | Airflow when $t_{int} - T_{amb} = 15 \text{ F}$ (CFM) |
|-----------------------|---------------------------------------------|---------------------------------------------|-------------------------------|-------------------------------------------|-------------------------------|-------------------------------------------------------|
| 3                     | .86                                         | .97                                         | 78                            | 20                                        | 98                            | 21                                                    |
| 10                    | .90                                         | .97                                         | 249                           | 62                                        | 311                           | 65                                                    |
| 25                    | .91                                         | .97                                         | 615                           | 154                                       | 768                           | 162                                                   |
| 40                    | .92                                         | .98                                         | 648                           | 162                                       | 811                           | 171                                                   |
| 75                    | .93                                         | .98                                         | 1203                          | 301                                       | 1503                          | 317                                                   |
| 100                   | .94                                         | .98                                         | 1587                          | 397                                       | 1983                          | 418                                                   |

<sup>a</sup> Additional Heat Loss - This is an estimated factor. Further investigation is necessary to obtain actual total heat dissipated in enclosure.

### Critical Parameters (lower temperature limits)



Determine the ambient operating temperature range of the drive. A typical operating range is from 14 to 122 F (-10 to 50 C). For outdoor assemblies in northern climates, the lower operating temperature may be below the lower temperature limit. To ensure that cold starts are not below the low limit temperature, the addition of a heater is recommended.

Hoffman has 100-, 200-, 400-, and 800-Watt heaters available with adjustable thermostats from 0-100 F. For additional information, see the Thermal Management chapter.

| WeatherFlo Catalog Number | Recommended Heater (115 VAC) | Recommended Heater (230 VAC) | Heater Size (Watts) | Estimated Temperature Rise Above Ambient (°F) |
|---------------------------|------------------------------|------------------------------|---------------------|-----------------------------------------------|
| WF3LP                     | DAH2001A                     | DAH2002A                     | 200                 | 55                                            |
| WF10LP                    | DAH2001A                     | DAH2002A                     | 200                 | 46                                            |
| WF25LP                    | DAH2001A                     | DAH2002A                     | 200                 | 40                                            |
| WF40LP                    | DAH2001A                     | DAH2002A                     | 200                 | 33                                            |
| WF75LP                    | DAH4001A                     | DAH4002A                     | 400                 | 41                                            |
| WF100LP                   | DAH4001A                     | DAH4002A                     | 400                 | 37                                            |