WEATHERFLO WITH FAN, TYPE 3R

Fan with Finger Guard

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

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

SPECIFICATIONS

- R 16 and 14 gauge galvanized steel
- R 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

BULLETIN: A3RD

CRITICAL PARAMETERS (UPPER TEMPERATURE LIMITS)

Enclosure Heat Load Calculations

Drive heat:
W_D = [(HP x 745.7 Watts/HP) / E_M] x (1-E_D) [Watts]

Total heat:
Estimate an additional 25%[a] for wire connections and other components.
$W_T = W_D$ x 1.25[a] [Watts]

Required airflow:
CFM = (W_T x 3.16) / (T_{int} - T_{amb}) [ft.^{3} / min.]

[a]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[b]	E_M	.80-.96
Drive efficiency[b]	E_D	.96-.98
Drive heat loss	W_D	
Total heat loss	W_T	
Required airflow	CFM	

[b]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(W)	Additional Heat Loss[a](W)	Total Heat Loss W_T(W)	Airflow when t_{int} - T_{amb} = 15 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

[a]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-W 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 (W)	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	DAH4001B	DAH4002B	400	41
WF100LP	DAH4001B	DAH4002B	400	37