



CONNECT AND PROTECT

Hazardous Location


nVent

HOFFMAN

Protection When Safety Matters Most

nVent HOFFMAN enclosures protect critical process controls and the people who operate them in the most hazardous locations worldwide. Our products are built tough and meet third-party certifications to help safeguard even the most complex automation systems and electrical equipment. HOFFMAN is the most specified enclosure brand for harsh environments, with more than 3 million enclosures produced for industrial applications worldwide. Our extensive supply network allows us to provide standard, modified and custom enclosures. Our experienced engineers can provide program management consulting services at every stage of your project, from concept to delivery.



Hazardous Location

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ZONEX Non-Metallic Terminal Enclosure



INDUSTRY STANDARDS

ATEX DIRECTIVE 94/9/EC ATEX

TUV 13 ATEX120808U

Ex e IIC Gb

Ex ta IIIC Da IP66

EN60079-0

EN60079-7

EN60079-31

Service temperature -50°C to +100°C

IECEX

IECEX TUV 13.0001U

Ex e IIC Gb

Ex ta IIIC Da IP66

IEC 60079-0

IEC 60079-7

IEC 60079-31

Service temperature -50°C to +100°C

Type 4, 4X, 12; File No. E61997

UL508A Listed

cUL Listed per CSA C22.2 No. 94; Type 4, 4X, 12;
File No. E61997

NEMA / EEMAC Type 4, 4X, 12

IEC 60529, IP66



NEMA 4X enclosure (as a compNEMA 4X enclosure (as a component) is suitable and complies with NEC Class I, Division 2, Groups A, B, C, D assemblies*onent) is suitable and complies with NEC Class I, Division 2, Groups A, B, C, D assemblies*

APPLICATION

ZONEX Non-Metallic Terminal Enclosure is ideal for field terminations in hazardous locations. The enclosure meets national and international standards and certifications. It can be used to protect equipment and terminations from corrosive contaminants while meeting rigorous demands. The cabinet is ideal for either panel- or din-mounted components.

* with properly evaluated assemblies using terminal blocks and/or approved Class I, Division 1 or 2 (no arcs, sparks or hot surfaces) devices installed within the enclosure in accordance with NEC/CEC requirements (reference NEC 2011 Article 501.10(B)(4) and NEC 2011 Handbook). Note: this is not an Explosion Proof enclosure.

Product specific accessories, please find at the end of subsection.
For other general accessories, please refer to the chapter "Accessories"

The enclosures meets ATEX Directives 94/9/EC and IECEx standards for increased safety in housing electrical components in Zone 1 and Zone 2 applications.

SCOPE OF DELIVERY

- Enclosure
- Cover
- Assembly kit
- Installation instruction

FEATURES

- Compression-molded, high-impact strength, fiberglass body and cover
- Cover includes recessed, retained, combination head (Straight blade, Phillips and Torx drive) M4 or M6 stainless steel Type 316 screws
- Retained, continuous, high-temperature silicon gasket within a labyrinth seal between cover and body
- Durable and reusable, internal M4 or M6 stainless steel inserts for DIN- and Panel-mounting
- Covered mounting screw provisions outside of gasketed area, sized M4 (#8) or M6 (¼-in.)
- Mounting location dimensions are molded into the back side of the enclosure
- Panel mounting screws included, M4 or M6

SPECIFICATIONS

- Compression-molded fiberglass with added agents to address static charge build-up
- High-impact strength as well as high temperature-rated
- Increased Safety: Ex e applications
- Optional panels are pre-plated steel, 1,5 mm thick; or 2,0 mm composite

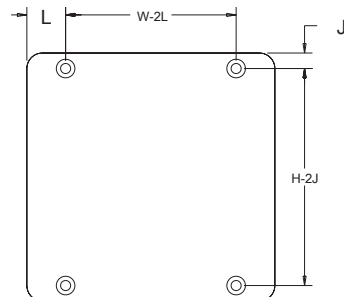
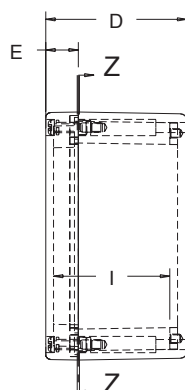
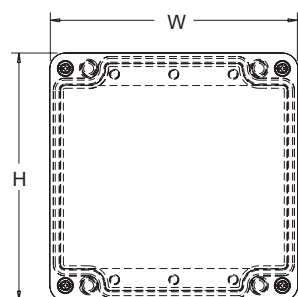
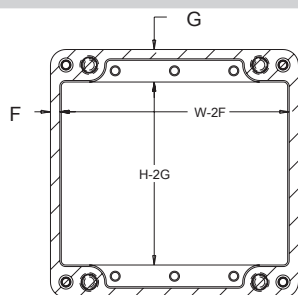
FINISH

- Molded material has a smooth, low-gloss, black finish
- Cover screws are matte stainless steel finish

ZONEX Non-Metallic Terminal Enclosure

STANDARD PRODUCT

Item number	HxWxD [.in./mm]	F [in./mm]	G [in./mm]	E [in./mm]	I [in./mm]	J [in./mm]	Mounting Screw Size [in./ mm]	Panel	Panel Material	Panel Size [in./mm]
EXE807555	3.15 x 2.95 x 2.17 80 x 75 x 55	.17 4	.57 15	.59 15	1.65 42	.23 6	#8 4	A8075P	Composite	2.72 x 2.52 x .08 69 x 64 x 2
EXE1107555	4.33 x 2.95 x 2.17 110 x 75 x 55	.17 4	.57 15	.59 15	1.65 42	.24 6	#8 4	A11075P	Composite	3.90 x 2.52 x .08 99 x 64 x 2
EXE1607555	6.30 x 2.95 x 2.17 160 x 75 x 55	.17 4	.57 15	.59 15	1.65 42	.24 6	#8 4	A16075P	Composite	5.87 x 2.52 x .08 149 x 64 x 2
EXE1907555	7.48 x 2.95 x 2.17 190 x 75 x 55	.17 4	.57 15	.59 15	1.65 42	.23 6	#8 4	A19075P	Composite	7.05 x 2.52 x .08 179 x 64 x 2
EXE807575	3.15 x 2.95 x 2.95 80 x 75 x 75	.16 4	.56 14	.59 15	2.44 62	.23 6	#8 4	A8075P	Composite	2.72 x 2.52 x .08 69 x 64 x 2
EXE1107575	4.33 x 2.95 x 2.95 110 x 75 x 75	.16 4	.56 14	.59 15	2.44 62	.24 6	#8 4	A11075P	Composite	3.90 x 2.52 x .08 99 x 64 x 2
EXE1607575	6.30 x 2.95 x 2.95 160 x 75 x 75	.16 4	.56 14	.59 15	2.44 62	.24 6	#8 4	A16075P	Composite	5.87 x 2.52 x .08 149 x 64 x 2
EXE1907575	7.48 x 2.95 x 2.95 190 x 75 x 75	.16 4	.56 14	.59 15	2.44 62	.24 6	#8 4	A19075P	Composite	7.05 x 2.52 x .08 179 x 64 x 2
EXE12212090	4.80 x 4.72 x 3.54 122 x 120 x 90	.17 4	.75 19	.98 25	2.91 74	.32 8	1/4 6	A122120P	Plated Steel	4.25 x 4.21 x .06 108 x 107 x 1.5
EXE22012090	8.66 x 4.72 x 3.54 220 x 120 x 90	.17 4	.75 19	.98 25	2.95 75	.32 8	1/4 6	A220120P	Plated Steel	8.11 x 4.21 x .06 206 x 107 x 1.5
EXE16016090	6.30 x 6.30 x 3.54 160 x 160 x 90	.23 5.9	.79 20	.83 21	2.95 75	.39 10	1/4 6	A160160P	Plated Steel	5.63 x 5.70 x .06 143 x 144 x 1.5
EXE26016090	10.24 x 6.30 x 3.54 260 x 160 x 90	.23 5.9	.79 20	.83 21	2.95 75	.39 10	1/4 6	A260160P	Plated Steel	9.61 x 5.70 x .06 244 x 144 x 1.5
EXE36016090	14.17 x 6.30 x 3.54 360 x 160 x 90	.23 5.9	.79 20	.83 21	2.95 75	.39 10	1/4 6	A360160P	Plated Steel	13.54 x 5.70 x .06 344 x 144 x 1.5
EXE56016090	22.05 x 6.30 x 3.54 560 x 160 x 90	.21 5	.77 20	.83 21	2.95 75	.39 10	1/4 6	A560160P	Plated Steel	21.38 x 5.70 x .06 543 x 144 x 2.5
EXE255250120	10.04 x 9.84 x 4.72 255 x 250 x 120	.22 6	.79 20	.98 25	4.09 104	.39 10	1/4 6	A255250P	Plated Steel	9.45 x 9.17 x .06 240 x 233 x 1.5
EXE400250120	15.75 x 9.84 x 4.72 400 x 250 x 120	.22 6	.79 20	.98 25	4.09 104	.39 10	1/4 6	A400250P	Plated Steel	15.12 x 9.17 x .06 384 x 233 x 1.5
EXE400405120	15.75 x 15.94 x 4.72 400 x 405 x 120	.23 6	.79 20	.98 25	4.09 104	.39 10	1/4 6	A400405P	Plated Steel	15.16 x 15.35 x .06 385 x 390 x 1.5
EXE400405165	15.75 x 15.94 x 6.50 400 x 405 x 165	.20 5	.76 19	.98 25	5.87 149	.39 10	1/4 6	A400405P	Plated Steel	15.16 x 15.35 x .06 385 x 390 x 1.5



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ZONEX ATEX- and IECEx- Certified, Type 4X, Hinged Cover



ZONEX enclosures are designed and certified to meet ATEX Directive 94/9/EC as well as IECEx standards for increased safety in housing electrical components in Zone 1 and Zone 2 applications.

HOFFMAN ATEX Ex e enclosures are not intended for use in Explosion Proof or flame-proof applications.

INDUSTRY STANDARDS

ATEX Directive 94/9/EC

Sira 09ATEX3224U
Ex e IIC Gb
Ex tb IIIC Db IP 66
EN60079-0:2009
EN60079-7:2007
EN61241-0:2006
EN61241-1:2004

IECEx

IECEx SIR 09.0099U
Ex e IIC Gb
Ex tb IIIC Db IP 66
IEC 60079-0:2007-2010
IEC 60079-7:2006-2007
IEC 61241-0:2004
IEC 61241-1:2004

Type 4, 4X, 12; File No. E61997
cUL C22.2 No. 94 Listed; Type 4, 4X, 12; File No. E61997

NEMA/EEMAC Type 4, 4X, 12
IEC 60529, IP66



NEMA 4X enclosure (as a component) is suitable and complies with NEC Class I, Division 2, Groups A, B, C, D assemblies*
NEMA 4X enclosure (as a component) is suitable and complies with NEC Class I, Division 2, Groups A, B, C, D assemblies*

APPLICATION

ZONEX enclosures deliver a robust solution for termination and junction enclosure applications in potentially hazardous locations, including:

- Petroleum and chemical processing
- Water treatment processing
- Pharmaceutical processing
- Grain processing

SCOPE OF DELIVERY

- Enclosure
- Gland plate (assembled)
- Mounting plate (assembled)
- Assembly kit
- Installation instruction
- ATEX declaration of conformity

* with properly evaluated assemblies using terminal blocks and/or approved Class I, Division 1 or 2 (no arcs, sparks or hot surfaces) devices installed within the enclosure in accordance with NEC/CEC requirements (reference NEC 2011 Article 501.10(B)(4) and NEC 2011 Handbook).
Note: this is not an Explosion Proof enclosure.

For product specific accessories, please go to the end of each subsection.
For other general accessories, please refer to the chapter "Accessories".

FEATURES

- 210 degree opening door that is easily removal by pulling clip style hinge pins
- Fabricated and formed M5 threads for gland plate screws provide quick and easy installation

SPECIFICATIONS

- 10 mm brass internal/external bonding provision
- Type 316L stainless steel quarter-turn latch with double bit 3 mm insert
- Large 2,5 mm thick, flat gasketed gland plate(s)
- Continuous seal gasket on door and gland plate(s)
- Mounting panel and hardware for bonding provisions included
- Operating temperature range: -40 °C to +70 °C standard polyurethane gasket; -55 °C to +180 °C optional silicone gasket
- 320 grain brushed finish
- Fabricated from Type 316L stainless steel
- 2,5 mm thick individual welded-on top and bottom wall-mounting brackets

OPTIONS FOR MODIFICATION

HOFFMAN excels at modifying and customizing products to your specifications. HOFFMAN offers a ZONEX-specific modification program with ATEX certification. Contact your local sales office or distributor for complete information.

- Material changes: Type 304 stainless steel, painted mild steel or aluminum
- Gasket changes: high-temperature silicone gasket; operating temperature range: -55 °C to +180 °C
- Side-mount brackets available
- Holes and cutouts
- Paint
- Ground bars
- Terminal block installation and marking
- Tagging (terminals, nameplates)
- Accessory installations: drain/breathers and stopping plugs

ZONEX ATEX- and IECEx- Certified, Type 4X, Hinged Cover

NOTES

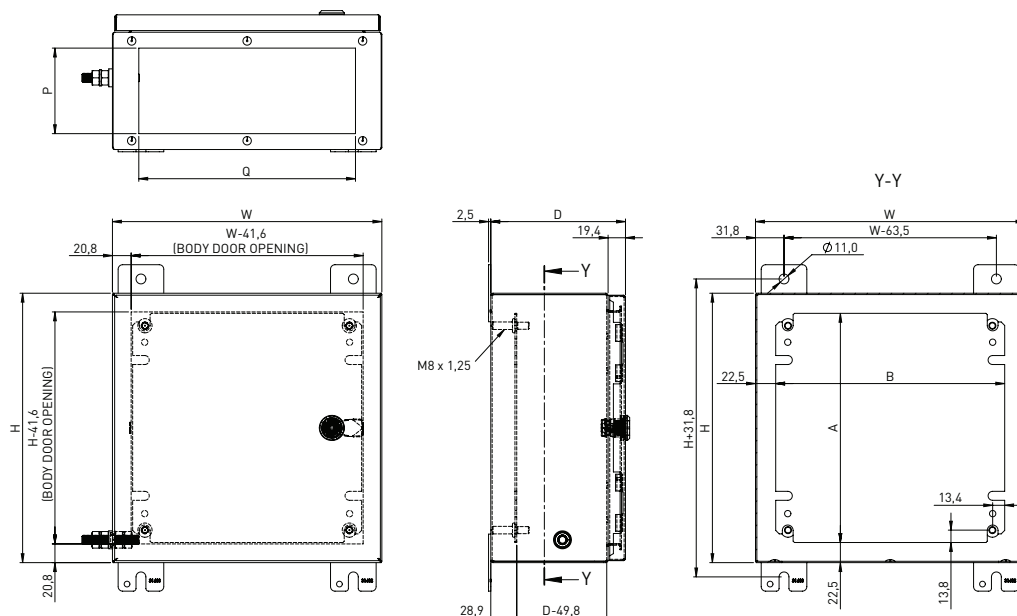
Intrinsically safe terminal blocks can be installed in populated non-standard enclosures.

IECEx populated enclosures require IECEx-certified components specifically listed in certification

(See IECEx SIR 09.0100 for more details).

Item number	Description	H [mm]	W [mm]	D [mm]	Q [mm]	P [mm]	No. of Latches
15411282	EXE300300150SS61E Zonex EX e StSt316L IP66 door	300	300	150	236.5	73.5	1
15411283	EXE300300210SS61E Zonex EX e StSt316L IP66 door	300	300	210	236.5	133.5	1
15411284	EXE400300150SS61E Zonex EX e StSt316L IP66 door	400	300	150	236.5	73.5	1
15411285	EXE400300210SS61E Zonex EX e StSt316L IP66 door	400	300	210	236.5	133.5	1
15411286	EXE400400150SS61E Zonex EX e StSt316L IP66 door	400	400	150	336.5	73.5	1
15411287	EXE400400210SS61E Zonex EX e StSt316L IP66 door	400	400	210	336.5	133.5	1
15411288	EXE500400150SS61E Zonex EX e StSt316L IP66 door	500	400	150	336.5	73.5	1
15411289	EXE500400210SS61E Zonex EX e StSt316L IP66 door	500	400	210	336.5	133.5	1
15411290	EXE500500210SS61E Zonex EX e StSt316L IP66 door	500	500	210	436.5	133.5	1
15411291	EXE600500210SS61E Zonex EX e StSt316L IP66 door	600	500	210	436.5	133.5	2
15411292	EXE600600210SS61E Zonex EX e StSt316L IP66 door	600	600	210	536.5	133.5	2
15411293	EXE600600300SS61E Zonex EX e StSt316L IP66 door	600	600	300	536.5	223.5	2
15411294	EXE750500210SS61E Zonex EX e StSt316L IP66 door	750	500	210	436.5	133.5	2
15411295	EXE750600210SS61E Zonex EX e StSt316L IP66 door	750	600	210	536.5	133.5	2
15411296	EXE750750300SS61E Zonex EX e StSt316L IP66 door	750	750	300	686.5	223.5	2
15411297	EXE900600210SS61E Zonex EX e StSt316L IP66 door	900	600	210	536.5	133.5	2
15411262	EXE300300150SS61HE Zonex EX e StSt316L IP66 door	300	300	150	236.5	73.5	1
15411263	EXE300300210SS61HE Zonex EX e StSt316L IP66 door	300	300	210	236.5	133.5	1
15411264	EXE400300150SS61HE Zonex EX e StSt316L IP66 door	400	300	150	236.5	73.5	1
15411265	EXE400300210SS61HE Zonex EX e StSt316L IP66 door	400	300	210	236.5	133.5	1
15411266	EXE400400150SS61HE Zonex EX e StSt316L IP66 door	400	400	150	336.5	73.5	1
15411267	EXE400400210SS61HE Zonex EX e StSt316L IP66 door	400	400	210	336.5	133.5	1
15411268	EXE500400150SS61HE Zonex EX e StSt316L IP66 door	500	400	150	336.5	73.5	1
15411269	EXE500400210SS61HE Zonex EX e StSt316L IP66 door	500	400	210	336.5	133.5	1
15411270	EXE500500210SS61HE Zonex EX e StSt316L IP66 door	500	500	210	436.5	133.5	1
15411271	EXE600500210SS61HE Zonex EX e StSt316L IP66 door	600	500	210	436.5	133.5	2
15411272	EXE600600210SS61HE Zonex EX e StSt316L IP66 door	600	600	210	536.5	133.5	2
15411273	EXE600600300SS61HE Zonex EX e StSt316L IP66 door	600	600	300	536.5	223.5	2
15411274	EXE750500210SS61HE Zonex EX e StSt316L IP66 door	750	500	210	436.5	133.5	2
15411275	EXE750600210SS61HE Zonex EX e StSt316L IP66 door	750	600	210	536.5	133.5	2
15411276	EXE750750300SS61HE Zonex EX e StSt316L IP66 door	750	750	300	686.5	223.5	2
15411277	EXE900600210SS61HE Zonex EX e StSt316L IP66 door	900	600	210	536.5	133.5	2

* HE - enclosure with horizontal mounting brackets



ZONEX ATEX- and IECEx- Certified, Type 4X, Screw Cover

ZONEX ATEX- AND IECEX- CERTIFIED, TYPE 4X, SCREW COVER



ZONEX enclosures are designed and certified to meet ATEX directive 94/9/EC as well as IECEx standards for increased safety in housing electrical components in Zone 1 and Zone 2 applications.

HOFFMAN's ATEX Ex e enclosures are not intended for use in Explosion Proof or flame-proof applications.

INDUSTRY STANDARDS

ATEX Directive 94/9/EC

Sira 09ATEX3224U
Ex e IIC Gb
Ex tb IIIC Db IP 66
EN60079-0:2009
EN60079-7:2007
EN61241-0:2006
EN61241-1:2004

IECEx

IECEx SIR 09.0099U
Ex e IIC Gb
Ex tb IIIC Db IP 66
IEC 60079-0:2007-2010
IEC 60079-7:2006-2007
IEC 61241-0:2004
IEC 61241-1:2004

Type 4, 4X, 12; File No. E61997
cUL C22.2 No. 94 Listed; Type 4, 4X, 12; File No. E61997

NEMA/EEMAC Type 4, 4X, 12
IEC 60529, IP66



NEMA 4X enclosure (as a component) is suitable and complies with NEC Class I, Division 2, Groups A, B, C, D assemblies*

APPLICATION

ZONEX enclosures deliver a robust solution for termination and junction enclosure applications in potentially hazardous locations, including:

- Petroleum and chemical processing
- Water treatment processing
- Pharmaceutical processing
- Grain processing

SCOPE OF DELIVERY

- Enclosure
- Cover
- Mounting plate (assembled)

* with properly evaluated assemblies using terminal blocks and/or approved Class I, Division 1 or 2 (no arcs, sparks or hot surfaces) devices installed within the enclosure in accordance with NEC/CEC requirements (reference NEC 2011 Article 501.10(B)(4) and NEC 2011 Handbook). Note: this is not an Explosion Proof enclosure.

For product specific accessories, please go to the end of each subsection.
For other general accessories, please refer to the chapter "Accessories".

- Assembly kit
- Installation instruction
- ATEX declaration of conformity

FEATURES

- Full width welded on top and bottom wall mounting brackets for easy installation

SPECIFICATIONS

- 6 mm brass internal/external bonding provision
- One piece continuous gasket on door
- Type 316L stainless steel cover screws
- Mounting panel and hardware for bonding provisions included
- Operating temperature range: -40 °C to +70 °C standard polyurethane gasket; -55 °C to +180 °C optional silicone gasket
- Internal weldstuds for panel or DIN rail mounting brackets
- 320 grain brushed finish
- Fabricated from Type 316L stainless steel

OPTIONS FOR MODIFICATION

HOFFMAN excels at modifying and customizing products to your specifications. HOFFMAN offers a ZONEX-specific modification program with ATEX certification. Contact your local HOFFMAN sales office or distributor for complete information.

- Material changes: type 304 stainless steel, painted mild steel or aluminum
- Gasket changes: high-temperature silicone gasket; operating temperature range: -55 °C to +180 °C
- Holes and cutouts
- Paint
- Terminal block installation and marking
- Tagging (terminals, nameplates)
- Accessory installations: drain/breathers and stopping plugs

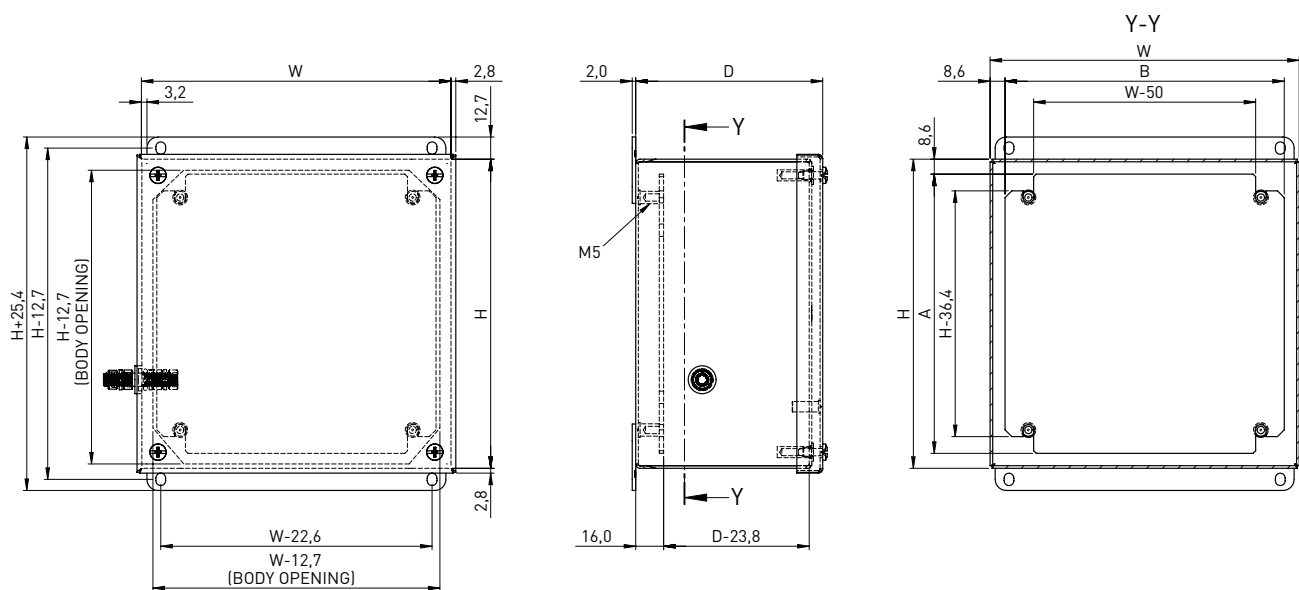
ZONEX ATEX- and IECEx- Certified, Type 4X, Screw Cover

NOTES

Intrinsically safe terminal blocks can be installed in populated non-standard enclosures.

IECEx populated enclosures require IECEx-certified components specifically listed in certification (See IECEx SIR 09.0100 for more details).

Item Number	Description	H [mm]	W [mm]	D [mm]
15411298	EXE10210276SS6E Zonex EX e StSt316L IP66 screw cover	102	102	76
15411278	EXE152152102SS6E Zonex EX e StSt316L IP66 screw cover	152	152	102
15411279	EXE178178102SS6E Zonex EX e StSt316L IP66 screw cover	178	178	102
15411280	EXE216146127SS6E Zonex EX e StSt316L IP66 screw cover	216	146	127
15411281	EXE254254127SS6E Zonex EX e StSt316L IP66 screw cover	254	254	127



Selection of ZONEX Enclosures by Terminal Block Count and Power

DETERMINE THE CORRECT SIZE ZONEX ENCLOSURE FOR POPULATED TERMINAL BLOCK:

N by MAXIMUM TERMINAL BLOCK COUNT

(known wire size/match terminal block size)

1. Refer to **Power and Terminal Block Matrix** appropriate for selected model (screw-/hinge-cover)
2. Find a terminal block quantity less than or equal to required in the shaded areas associated with your chosen terminal block manufacturer
3. Select enclosure size
4. Use calculating power and amperage formula to verify conformance to standard
5. If maximum power is exceeded by terminal block count and amperage, select an enclosure with higher power and re-calculate

SPECIFYING ENCLOSURES WITH TERMINAL BLOCK POPULATION

- ATEX- and IECEx-certified terminal blocks from Phoenix and Weidmuller are referenced in tables
- Any ATEX or IECEx hazardous location certified terminal block may be selected and installed in ATEX- certified applications
- Only the table referenced terminal blocks may be specified for IECEx populations and certification
- Combinations of different terminal block sizes and quantities may be selected for population
- All terminal block installation applications need to use the CALCULATING POWER and AMPERAGE formula and associated tables on page 10 to verify compliance with final intended amperage of application and power rating of selected enclosure

P by MAXIMUM POWER (watts)

1. Refer to **Power and Terminal Block Matrix** appropriate for selected model (screw-/hinge-cover)
2. Find maximum power required in shaded areas associated with your chosen terminal block manufacturer
3. If terminal block quantity for maximum power is insufficient, continue down and across rows until requirement is met; this provides the smallest enclosure to meet maximum power and amperage needs
4. Use calculating power and amperage formula to verify conformance to standard
5. If maximum power is exceeded by terminal block count and amperage, select an enclosure with higher power and re-calculate

R CALCULATING POWER AND AMPERAGE

using combined terminal resistance factor (see page 10)

Calculation of power/amperage/number of terminal blocks in accordance with EN 600079-7:2007, ANEX E, E.2

$$P = N \times R \times I^2 \quad \text{or} \quad I = \sqrt{P/(N \times R)} \quad \text{or} \quad N = P/(R \times I^2)$$

Where: **P** is the total dissipated power (watts)

N is the total number of terminals

I is the current (amps)

R is the sum of terminal resistance (Rt) and wire resistance (Rw)

TERMINAL WIRE SIZE, VOLTAGE AND RESISTANCE (RT) DATA

Manufacturer Model	Phoenix				Weidmuller (SAK/WDU)			
	UK1.5	UK3	UK5	UK10	2.5	4	6	10
Terminal Wire Size Range (mm ²)	0.14 to 1.5	0.2 to 2.5	0.2 to 4.0	0.5 to 10.0	0.5 to 2.5	0.5 to 4.0	0.5 to 6.0	1.5 to 10.0
Terminal Voltage (Volts)	550	550	690	600	550	550	550	550
Terminal Resistance Rt (Ohm)	4.17 x10 ⁻⁰⁴	5.00 x10 ⁻⁰⁴	3.75 x10 ⁻⁰⁴	1.23 x10 ⁻⁰⁴	3.89 x10 ⁻⁰⁴	4.23 x10 ⁻⁰⁴	3.93 x10 ⁻⁰⁴	1.34 x10 ⁻⁰⁴

POWER & TERMINAL BLOCK QUANTITY MATRIX

SCREW-COVER ZONEX (STANDARD SIZES)

N MAXIMUM TERMINAL BLOCKS Quantity Offerings per Enclosure									P MAXIMUM POWER Dissipation (Watts)					
Phoenix				Weidmuller (SAK/WDU)				DIN Rail Qty	T6 at Tamp = +40 C	T5 at Tamp = +55 C	Actual Dimensions (mm)			Catalog Number
UK1.5	UK3	UK5	UK10	2.5	4	6	10				Height	Width	Depth	
9	7	6	4	6	6	5	4	1	3.8 W	3.8 W	102	102	76	EXE10210276SS6E
21	17	14	9	15	14	11	9	1	6.9 W	6.9 W	152	152	102	EXE152152102SS6E
27	22	18	11	19	17	14	11	1	6.9 W	6.9 W	178	178	102	EXE178178102SS6E
36	29	25	15	25	23	19	15	1	9.6 W	9.6 W	216	146	127	EXE216146127SS6E
45	37	32	19	32	29	24	19	1						
90	74	64	38	64	58	48	38	2	9.6 W	9.6 W	254	254	127	EXE254254127SS6E

Selection of ZONEX Enclosures by Terminal Block Count and Power

POWER & TERMINAL BLOCK QUANTITY MATRIX

HINGE-COVER ZONEX (STANDARD SIZES)

N MAXIMUM TERMINAL BLOCKS Quantity Offerings per Enclosure									P MAXIMUM POWER Dissipation (Watts)						Catalog Number
Phoenix				Weidmuller (SAK/WDU)				DIN Rail Qty	T6 at Tamp = +40 C	T5 at Tamp = +55 C	Actual Dimensions (mm)				
UK1.5	UK3	UK5	UK10	2.5	4	6	10				Height	Width	Depth		
41	33	28	17	29	26	21	17	1	16.5 W	16.5 W	300	300	150	EXE300300150SS61E	
82	66	56	34	57	52	43	34	2					EXE300300150SS61HE		
123	99	84	51	86	78	64	51	3					EXE300300210SS61E		
65	53	44	27	46	42	34	27	1	18.5 W	18.5 W	400	300	150	EXE400300150SS61E	
130	106	88	54	92	84	68	54	2					EXE400300150SS61HE		
195	159	132	81	138	126	102	82	3					EXE400300210SS61E		
65	53	44	27	46	42	34	27	1	18.5 W	18.5 W	400	400	150	EXE400400150SS61E	
130	106	88	60	92	84	68	54	2					EXE400400150SS61HE		
195	158	133	81	138	126	102	81	3					EXE400400210SS61E		
90	72	61	37	63	58	47	38	1	23.5 W	23.5 W	500	400	150	EXE500400150SS61E	
180	144	122	74	126	116	94	76	2					EXE500400150SS61HE		
270	216	183	111	189	174	141	114	3					EXE500400210SS61E		
90	72	61	37	63	58	47	38	1	25.5 W	25.5 W	500	500	210	EXE500500210SS61E	
180	144	122	74	126	116	94	76	2					EXE500500210SS61HE		
270	216	183	111	189	174	141	114	3							
360	288	244	148	252	232	188	152	4	28 W	28 W	600	500	210	EXE600500210SS61E	
111	90	75	46	78	72	58	47	1					EXE600500210SS61HE		
222	180	150	92	156	144	116	94	2							
333	270	225	138	234	216	174	141	3	28 W	28 W	600	600	210	EXE600600210SS61E	
444	360	300	184	312	288	232	188	4					EXE600600210SS61HE		
111	90	75	46	78	72	58	47	1							
222	180	150	92	156	144	116	94	2	28 W	28 W	600	600	210	EXE600600210SS61E	
333	270	225	138	234	216	174	141	3					EXE600600210SS61HE		
444	360	300	184	312	288	232	188	4							
555	450	375	230	390	360	290	235	5	28 W	28 W	750	500	300	EXE600600300SS61E	
150	121	102	62	105	97	79	63	1					EXE600600300SS61HE		
300	242	204	124	210	194	158	126	2							
450	363	306	186	315	291	237	189	3	28 W	28 W	750	500	210	EXE750500210SS61E	
600	484	408	248	420	388	316	252	4					EXE750500210SS61HE		
750	605	510	310	525	485	395	315	5							
150	121	102	62	105	97	79	63	1	33 W	33 W	750	600	210	EXE750600210SS61E	
300	242	204	124	210	194	158	126	2					EXE750600210SS61HE		
450	363	306	186	315	291	237	189	3							
600	484	408	248	420	388	316	252	4	33 W	33 W	750	750	300	EXE750750300SS61E	
750	605	510	310	525	485	395	315	5					EXE750750300SS61HE		
186	150	126	77	130	120	98	78	1							
372	300	252	154	260	240	196	156	2	33 W	33 W	900	600	210	EXE900600210SS61E	
558	450	378	231	390	360	294	234	3					EXE900600210SS61HE		
744	600	504	308	520	480	392	312	4							
930	750	630	385	650	600	490	390	5							

Color shaded areas are maximum physical quantity of terminal blocks that will fit enclosure, not necessarily the allowable quantity. Actual allowable quantity is determined by amperage and power allowed through provided mathematical formula.

* Maximum dissipated power based on screw type terminal blocks. Weidmuller 2.5 and smaller wire size limited to 15 amperes.

Selection of ZONEX Enclosures by Terminal Block Count and Power

N COMBINED TERMINAL RESISTANCE FACTOR

This factor is used to determine the number of terminals that can be accommodated within the enclosure without exceeding the enclosure maximum wattage rating. The combined terminal resistance factor (R) is the sum of the individual terminal resistances (Rt) and the resistance of the cable core equal in length to the enclosure maximum diagonal (Rw). The core resistance has been defined in the standard BS EN 60228.

- Wattage to be Dissipated (**P**) = $N \times R \times I^2$
- Total Number of Terminals (**N**)
- Combined Terminal Resistance Factor (**R**) = (Rt + Rw) the sum of terminal resistance [Rt] and wire resistance [Rw]
- Maximum Current (amps) used in the application = (**I**)

EXAMPLE:

A customer wants to determine the number of WDU 2.5 terminals that could be used in an EXE300300150SS61E enclosure rated at 17.5 watts (P) and at 10 amps (I).

Solving for N in the above formula $N = P / (R \times I^2)$:

$$N = 16.5 / (0.00345 \times 10^2)$$

$$N = 47$$

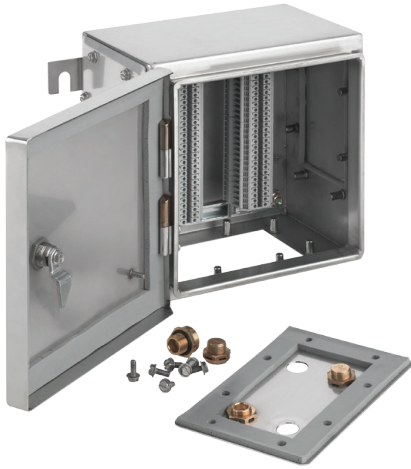
The maximum physical number of WDU 2.5 terminals that can be installed on a single rail is 29 and a total of 3 rails can be installed in the enclosure, therefore two rows of 23 terminal blocks could be accommodated in the enclosure.

COMBINED TERMINAL RESISTANCE FACTOR MATRIX

ZONEX ENCLOSURES (Standard Sizes)

	Power ratings (Watts)	COMBINED TERMINAL RESISTANCE FACTOR							
		Phoenix				Weidmuller (SAK/WDU)			
		UK1.5	UK3	UK5	UK10	2.5	4	6	10
EXE10210276SS6E	3.8 W	0.00238	0.00171	0.00112	0.00042	0.00159	0.00117	0.00089	0.00043
EXE152152102SS6E	6.9 W	0.00330	0.00227	0.00147	0.00056	0.00215	0.00152	0.00113	0.00057
EXE178178102SS6E	6.9 W	0.00370	0.00251	0.00163	0.00062	0.00240	0.00167	0.00123	0.00063
EXE216146127SS6E	9.6 W	0.00393	0.00265	0.00171	0.00065	0.00254	0.00176	0.00129	0.00066
EXE254254127SS6E	9.6 W	0.00503	0.00332	0.00213	0.00082	0.00321	0.00218	0.00157	0.00083
EXE300300150SS61E EXE300300150SS61HE	16.5 W	0.00559	0.00360	0.00231	0.00090	0.00345	0.00217	0.00156	0.00096
EXE300300210SS61E EXE300300210SS61HE	16.5 W	0.00586	0.00376	0.00242	0.00094	0.00361	0.00227	0.00163	0.00100
EXE400300150SS61E EXE400300150SS61HE	18.5 W	0.00642	0.00410	0.00262	0.00102	0.00395	0.00248	0.00177	0.00108
EXE400300210SS61E EXE400300210SS61HE	18.5 W	0.00665	0.00424	0.00271	0.00106	0.00409	0.00257	0.00183	0.00111
EXE400400150SS61E EXE400400150SS61HE	18.5 W	0.00714	0.00454	0.00290	0.00113	0.00439	0.00275	0.00195	0.00119
EXE400400210SS61E EXE400400210SS61HE	18.5 W	0.00735	0.00466	0.00298	0.00116	0.00451	0.00283	0.00200	0.00122
EXE500400150SS61E EXE500400150SS61HE	23.5 W	0.00798	0.00504	0.00321	0.00126	0.00489	0.00306	0.00216	0.00131
EXE500400210SS61E EXE500400210SS61HE	23.5 W	0.00816	0.00515	0.00328	0.00128	0.00500	0.00313	0.00221	0.00134
EXE500500210SS61E EXE500500210SS61HE	25.5 W	0.00889	0.00559	0.00355	0.00139	0.00544	0.00341	0.00239	0.00145
EXE600500210SS61E EXE600500210SS61HE	28 W	0.00971	0.00608	0.00386	0.00152	0.00593	0.00372	0.00259	0.00157
EXE600600210SS61E EXE600600210SS61HE	28 W	0.01046	0.00653	0.00414	0.00163	0.00638	0.00400	0.00278	0.00169
EXE600600300SS61E EXE600600300SS61HE	28 W	0.01076	0.00671	0.00425	0.00167	0.00656	0.00411	0.00286	0.00173
EXE750500210SS61E EXE750500210SS61HE	28 W	0.01105	0.00688	0.00436	0.00172	0.00673	0.00422	0.00293	0.00178
EXE750600210SS61E EXE750600210SS61HE	33 W	0.01172	0.00728	0.00461	0.00182	0.00713	0.00447	0.00309	0.00187
EXE750750300SS61E EXE750750300SS61HE	33 W	0.01309	0.00810	0.00513	0.00202	0.00795	0.00498	0.00344	0.00208
EXE900600210SS61E EXE900600210SS61HE	33 W	0.01308	0.00810	0.00512	0.00202	0.00795	0.00498	0.00344	0.00208

Selection of ZONEX Enclosures by Terminal Block Count and Power



INTEGRATOR PARTNER PROGRAM

In response to the increasing demand for integration of increased safety ATEX/IECEX approved enclosures, HOFFMAN has developed a certified integrator program that allows approved integration companies to provide value-added enclosure solutions on behalf of the HOFFMAN brand.

The Integrator Partner Program will:

- Allow enclosures to be populated with terminal blocks
- Modify enclosures with holes, cutouts and customer tags
- Provides ATEX/IECEX certificate for the assembly

The Integrator Partner Program makes full use of HOFFMAN's industry-leading network of authorized distributors and their broad stock of enclosures to provide fast and efficient delivery.

Hazardous Location Accessories



HAZARDOUS LOCATION WINDOW KITS

INDUSTRY STANDARDS

IECEEx and ATEX Approvals
 Suitable for use on increased safety enclosures for ZONE 1
 or ZONE 2 assemblies
 ATEX Directive 94/9/EC
 ATEX
 Sira 13ATEX3315U
 Ex e IIC Gb
 Ex tb IIIC Db IP 66
 IECEEx
 IECEEx SIR 13.0123U
 Ex e IIC Gb
 Ex tb IIIC Db IP 66

UL 508A Component Recognized; Type 4, 4X, 12, 3R;
 File No. E61997

cUR Component Recognized per CSA C22.2 No. 94; Type 4, 4X, 12,
 3R; File No. E61997
 NEMA/EEMAC 4, 4X, 12, 13
 IEC 60529, IP66



APPLICATION

Hazardous Location Window Kits are designed to be used on Increased Safety (Ex e) enclosures in ATEX or IECEEx Zone 1 or 2 hazardous areas. These window kits are made with a robust heavy-gauge Type 316 stainless steel frame and a silicone

gasket to ensure a dust-, oil-, and water-tight seal. Designed for use as viewing windows, these window kits are ideal for visibility of internal enclosure components. The windows are easily installed by making a cutout in the enclosure and attaching the window and frame with included mounting hardware.

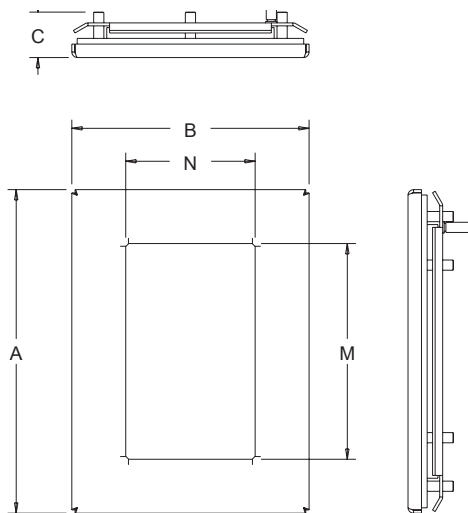
FEATURES

- Robust window frames are made from heavy-gauge Type 316 stainless steel with a brushed finish
- Secure sealing with silicon gasket to protect against water and dust ingress in extreme-temperature applications ranging from -55°C (-67°F) to 180°C (356°F)
- Maintain visual on components through .25-in. (6,0 mm) tempered safety glass
- Easy installation in enclosure cutouts with window frame hardware

STANDARD PRODUCT

Item number	AxBxC [in./mm]	M [in./mm]	N [in./mm]	Required Cutout size [in./mm]
EXWK53SS6	7.50 x 5.50 x 1.43 191 x 140 x 36	5.00 127	3.00 76	6.69 x 4.69 170 x 119
EXWK95SS6	11.50 x 8.00 x 1.43 292 x 203 x 36	9.00 229	5.50 140	10.69 x 7.19 272 x 183
EXWK711SS6	9.50 x 13.05 x 1.43 241 x 343 x 36	7.00 178	11.00 279	8.69 x 12.69 211 x 392
EXWK138SS6	15.50 x 10.50 x 1.43 394 x 267 x 36	13.00 330	8.00 203	14.69 x 9.69 373 x 246
EXWK715SS6	9.50 x 17.50 x 1.43 241 x 445 x 36	7.00 178	15.00 381	8.69 x 16.69 211 x 424
EXWK1711SS6	19.50 x 13.50 x 1.43 495 x 343 x 36	17.00 432	11.00 279	18.69 x 12.69 475 x 322
EXWK720SS6	9.50 x 22.50 x 1.43 241 x 572 x 36	7.00 178	20.00 508	8.69 x 21.69 221 x 551
EXWK2315SS6	25.50 x 17.50 x 1.43 648 x 445 x 36	23.00 584	15.00 381	24.69 x 16.69 627 x 424
EXWK724SS6	9.50 x 26.50 x 1.43 241 x 673 x 36	7.00 178	24.00 610	8.69 x 25.69 653 x 221
EXWK729SS6	9.50 x 31.50 x 1.43 241 x 800 x 36	7.00 178	29.00 737	8.69 x 30.69 221 x 780
EXWK2919SS6	31.50 x 21.50 x 1.43 800 x 546 x 36	29.00 737	19.00 483	30.69 x 20.69 780 x 526

M x N = Window size



89106854

NOTES :

Hazardous Location Accessories



HAZARDOUS LOCATION LED LIGHTS

INDUSTRY STANDARDS

ETL Listed
Class I Division 2, Groups A, B, C and D, T3
Conforms To CSA.22.2 No. 137, 213, 250 Standards
Conforms To UL 844 & 1598 Standards
Conforms to ISA-12.12-01
Maintains enclosure Type 4, 4X rating when properly installed

APPLICATION

Hazardous Location LED Lights provide enclosure illumination in hazardous environments. These lights are ideal for remote and darkened enclosure applications in Class 1, Division 2 hazardous areas. With a robust design, these lights have a lifespan of 100,000 hours and superior lighting performance with minimal power consumption. These versatile, slim-profile LED lights provide mounting flexibility and are easy to install in an enclosure.

FEATURES

- LED technology provides a life span of up to 100,000 operating hours
- Operating temperature of -40°F (-40°C) to 185°F (85°C)
- Provide superior cool white lighting with color temperature range of 6500K

- Easy installation with included mechanical assembly kit while maintaining enclosure rating up to UL Type 4X
- Includes 6-ft connect cable with flying leads
- Provides superior cool white lighting with color temperature range of 6500K

STANDARD LED LIGHT

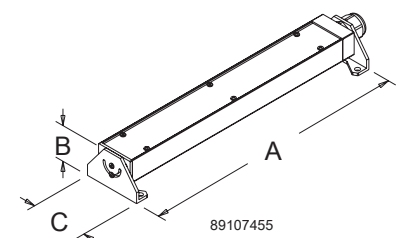
- Maximum lighting for control panels with 558 to 2,256 lumens light output and ingress protection of IP54
- Minimum power consumption and superior lighting with 24 VDC power input
- Versatile mounting allows the light to be positioned horizontally or vertically with 160 degree rotation
- 100 degree angle of illumination
- Available in 12, 24, 36, and 48-inch lengths

INDOOR/OUTDOOR LED LIGHT

- Robust construction design for suitable outdoor applications; IP66
- Minimum power consumption and superior lighting with 12-24 VDC power input
- Maximum lighting with 459 lumens output
- 360 degree rotation allows flexible and versatile mounting
- 100 degree angle of illumination

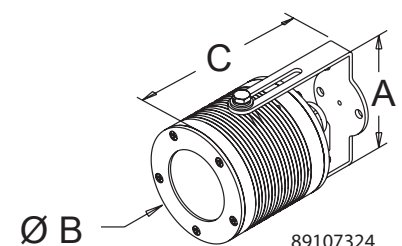
STANDARD PRODUCT STANDARD LED LIGHT

Item number	AxBxC [in./mm]	Description	Weight (lbs.)	Weight (kg)	VDC	Amps	Estimated light output LMS
LEDHL24V12	13.56 x 1.69 x 2.69 344 x 43 x 68	LED Light, 12-in.	0.7	0.3	24	0.33	558
LEDHL24V24	25.06 x 1.69 x 2.69 636 x 43 x 68	LED Light, 24-in.	1.4	0.6	24	0.66	1116
LEDHL24V36	36.04 x 1.69 x 2.69 916 x 43 x 68	LED Light, 36-in.	2.1	0.9	24	0.99	1674
LEDHL24V48	47.06 x 1.69 x 2.69 1195 x 43 x 68	LED Light, 48-in.	2.8	1.2	24	1.32	2256



STANDARD PRODUCT STANDARD LED LIGHT

Item number	AxBxC [in./mm]	Description	Weight (lbs.)	Weight (kg)	VDC	Amps
LEDHL24VCAN	3.74 x 3.48 x 5.62 95 x 88 x 143	LED Light, Indoor/Outdoor	2.3	1.0	12-24	0.66 - 0.35



Hazardous Location Accessories

HAZARDOUS LOCATION DOOR SWITCH



INDUSTRY STANDARDS

Switch Rating

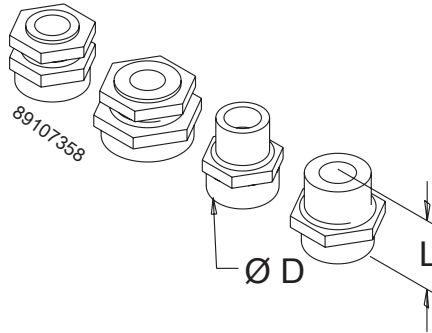
Explosion Proof for Class 1, Division 2, Groups A, B, C, and D
FM Approved to Standard Class 3600, 3615-1989

APPLICATION

The Hazardous Location Door Switch is designed to be used with HOFFMAN Hazardous Location LED Lights in Class 1, Division 2 hazardous areas. The included hardware kit allows the door switch to easily be mounted and maintain the enclosure rating up to UL Type 4X. This versatile switch activates the LED light when the enclosure door is opened and can be mounted on any flange of the enclosure. The included five-foot connect cable allows ease of wiring to the enclosure back panel.

Item number	Description	Max. Voltage	Operating Temperature	Max. load
LEDHLSWITCH	Door Switch, C1D2	30 VDC / 5 Amps	-40°F (-40°C) to 194°F (90°C)	5 Amps at 30 VDC

Hazardous Location Accessories



HAZARDOUS LOCATION BREATHER DRAINS

INDUSTRY STANDARDS

Ex e Breather Drains

Certified for Zone 1 or 2 areas

ATEX

Sira 13ATEX3354U

Ex e IIC Gb

Ex tb IIIC Db IP66

IECEX

IECEX SIR 13.0138U

Ex e IIC Gb

Ex tb IIIC Db IP66

cCSAus Certified Class 1 Zone 1, Ex e II, IP66, Type 4X

NEMA/EEMAC Type 4, 4X

IEC 60529, IP66

Maintain enclosure Type 4, 4X rating when properly installed

Ex d Breather Drains

Certified for Zone 1 or 2 areas

ATEX

ITS13ATEX17900X

Ex d IIC Gb

Ex e IIC Gb

Ex tb IIIC Db IP66

IECEX

IECEX ITS 13.0049X

Ex d IIC Gb

Ex e IIC Gb

Ex tb IIIC Db IP66

NEMA/EEMAC Type 4, 4X

IEC 60529, IP66

Maintain enclosure Type 4, 4X rating when properly installed



APPLICATION

Hazardous Location Breather Drains prevent moisture build-up within hazardous approved enclosures while maintaining

enclosure UL Type rating. Drains are to be used when an enclosure is subject to fluctuations in temperature which can lead to the formation of condensation and a subsequent moisture build-up. These drains allow air within an enclosure to breathe with the surrounding atmosphere, preventing condensation and any potential damage to electrical equipment.

FEATURES

- Reduce corrosion that can limit the life of internal electrical and electronic components
- Prevent condensation when installations are subject to fluctuations in temperature in hazardous locations
- Effectively drain any water present within the enclosure
- Minimize moisture build-up within the enclosure by allowing air in the enclosure to breathe with surrounding atmosphere
- Position at the lowest point of an enclosure to ensure optimal draining of any moisture
- Maintain enclosure's UL Type rating when properly installed
- Available for Increased Safety (Ex e) and Flameproof (Ex d) applications

SPECIFICATIONS

Ex e Breather Drains:

- Type 316 stainless steel with castellated nut and nitrile O-ring
- 10 mm thread length
- Install in a clearance hole 0,5 to 1,0 mm larger than major diameter, or in a tapped hole
- Operating temperature of -58°F (-50°C) to 185°F (85°C)

Ex d Breather Drains:

Type 316 stainless steel with silicone O-ring

16mm thread length

Install in a tapped hole

Operating temperature of -22°F (-30°C) to 302°F (150°C)

Item number	AxBxC [in./mm]	Description	Thread Type	D [in./mm]	L [in./mm]	Weight (lbs.)	Weight (kg)
EXEBDM20SS6	1.57 x 1.57 x 0.98 40 x 40 x 25	Ex e M20 Breather Drain	M20	1.13 28.7	.99 25.1	0.16	0.1
EXEBDM25SS6	1.57 x 1.57 x 0.98 40 x 40 x 25	Ex e M25 Breather Drain	M25	1.41 35.8	1.30 33.0	0.27	0.1
EXDBDM20SS6	1.57 x 1.57 x 0.98 40 x 40 x 25	Ex d M20 Breather Drain	M20	1.06 26.9	.99 25.1	0.18	0.1
EXDBDM25SS6	1.57 x 1.57 x 0.98 40 x 40 x 25	Ex d M25 Breather Drain	M25	1.2 31.8	1.30 33.0	0.25	0.1

NOTES :

Hazardous Location Accessories



HAZARDOUS LOCATION HOLE SEALS

INDUSTRY STANDARDS

IECEx and ATEX Approvals
Suitable for use on increased safety enclosures for ZONE 1 or ZONE 2 assemblies
ATEX Directive 94/9/EC

ATEX

Ex e IIC Gb
Ex tb IIIC Db IP 66
Sira 14ATEX3233U

IECEx

Ex e IIC Gb
Ex tb IIIC Db IP 66
IECEx SIR 14.0073U

UL 508A Component Recognized; Type 4, 4X, 12, 3R;
File No. E61997
cUR Component Recognized per CSA C22.2 No. 94; Type 4,
4X, 12, 3R; File No. 42186

NEMA/EEMAC Type 3R, 4, 4X, 12
IEC 60529, IP66



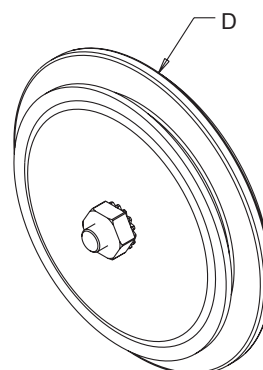
APPLICATION

Hazardous Location Hole Seals are designed to be used on Increased Safety (Ex e) enclosures in ATEX or IECEx Zone 1 or 2

hazardous areas. Certified to be used on metallic, non-painted enclosures, these hole seals are made with a robust Type 316 stainless steel formed outer plate and a silicone rubber gasket to ensure a dust-, oil- and water-tight seal. Designed to seal extra pushbutton holes, conduit openings and knockout openings, these self-centering hole seals are easy to install.

FEATURES

- Robust formed outer plates are made from Type 316 stainless steel with a brushed finish
- Secure sealing with silicon rubber gasket to protect against water and dust ingress in extreme temperature applications ranging from -55°C (-67°F) to 180°C (356°F)
- Seal pushbutton holes, conduit openings and knockout openings against dust, dirt, oil and water
- Easy installation in enclosure cutouts with self-centering hole seals
- Hole seals are available in metric and english standard hole sizes



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STANDARD PRODUCT

Item number	Fits	Hole Dia. (in.)	Hole Dia. +.2.5/- .00 (mm)	Assembly Dia. D (in.)	Assembly Dia. D (mm)
EXAS050SS6	1/2-in. Conduit or M20	.787 - .885	20	1.36	35
EXAS075SS6	3/4-in. Conduit or M25	.984 - 1.082	25	1.71	43
EXAS100SS6	1-in. Conduit or M32	1.259 - 1.358	32	1.89	48
EXAS125SS6	1 1/4-in. Conduit or M40	1.574 - 1.673	40	2.33	59
EXAS150SS6	1 1/2-in. Conduit or M50	1.968 - 2.066	50	2.64	67
EXAS200SS6	2-in. Conduit or M63	2.480 - 2.578	63	3.14	80
EXAS250SS6	2 1/2-in. Conduit or M75	2.952 - 3.051	75	3.64	93

NOTES :

Purging/Pressurization Systems



SMALL-VOLUME TYPE Y AND Z PURGING/PRESSURIZATION SYSTEM

INDUSTRY STANDARDS

For A1001YZUMC1 (Volume up to 2 cubic feet)

NEC **Type Y** Class I, Division 1, Groups A, B, C and D to Division 2

NEC **Type Z** Class I, Division 2, Groups A, B, C and D to Unclassified

Classified by Underwriters Laboratories, cUL and Factory Mutual

For A1001YZUMC2 (Volume up to 10 cubic feet)

NEC **Type Y** Class II, Division 1, Groups F and G to Division 2

NEC **Type Z** Class II, Division 2, Groups F and G to Unclassified

Classified by Underwriters Laboratories, cUL and Factory Mutual

APPLICATION

Small-Volume Purging/Pressurization Systems are an alternative to NEMA Type 7 or 9 enclosures. The C1 model allows general-purpose enclosures, up to two cubic feet, to be used in certain Class 1 hazardous locations. The C2 model allows general purpose enclosures, up to 10 cubic feet, to be used in certain Class 2 hazardous locations.

FEATURES

- Universal mount
- Available in two models for enclosures with a maximum enclosure volume of up to 2 or 10 cubic feet
- Mounting plate: Type 316 brushed stainless steel
- Regulator body: zinc with enamel finish
- Enclosure pressure gauge: aluminum with enamel finish
- Polycarbonate regulator handle
- Fastener hardware available in aluminum and stainless steel
- Includes tamper-proof regulator with gauge (TR-10G) to comply with NFPA standard requiring protection against overpressurization

Note: Pressure Vent not required when inlet pressure limited to 5PSI using standard TR-10G. For inlet pressure over 5PSI order EPV-1-SA-00 or EPV-1-SA-90 separately. Contact HOFFMAN for pricing.

PROTECTED ENCLOSURES

Enclosures should be constructed from materials such as metal, fiberglass or polycarbonate material to meet or exceed NEMA Type 4, Type 4X or Type 12 performance requirements.

CLASS RATINGS

Classes define the explosive or ignitable substances that are present in the atmosphere.

Class I Flammable gases or liquid vapors

Class II Ignitable metal, carbon or organic dusts

Class III Ignitable fibrous materials

GROUP RATINGS

Groups define substances by rating their explosive or ignitable nature in relation to other known substances.

DIVISION RATINGS

Divisions define the degree of hazard by determining an explosive or ignitable substance's expected concentration in the atmosphere.

Division 1 Contains substances under normal conditions

Division 2 Contains substances under abnormal conditions

TYPICAL CLASS I SUBSTANCES

Group A Acetylene

Group B Hydrogen or >30% hydrogen by volume

Group C Ethyl, ether and ethylene

Group D Propane

TYPICAL CLASS II SUBSTANCES

Group E Aluminum, magnesium and alloys

Group F Carbon, coke and coal

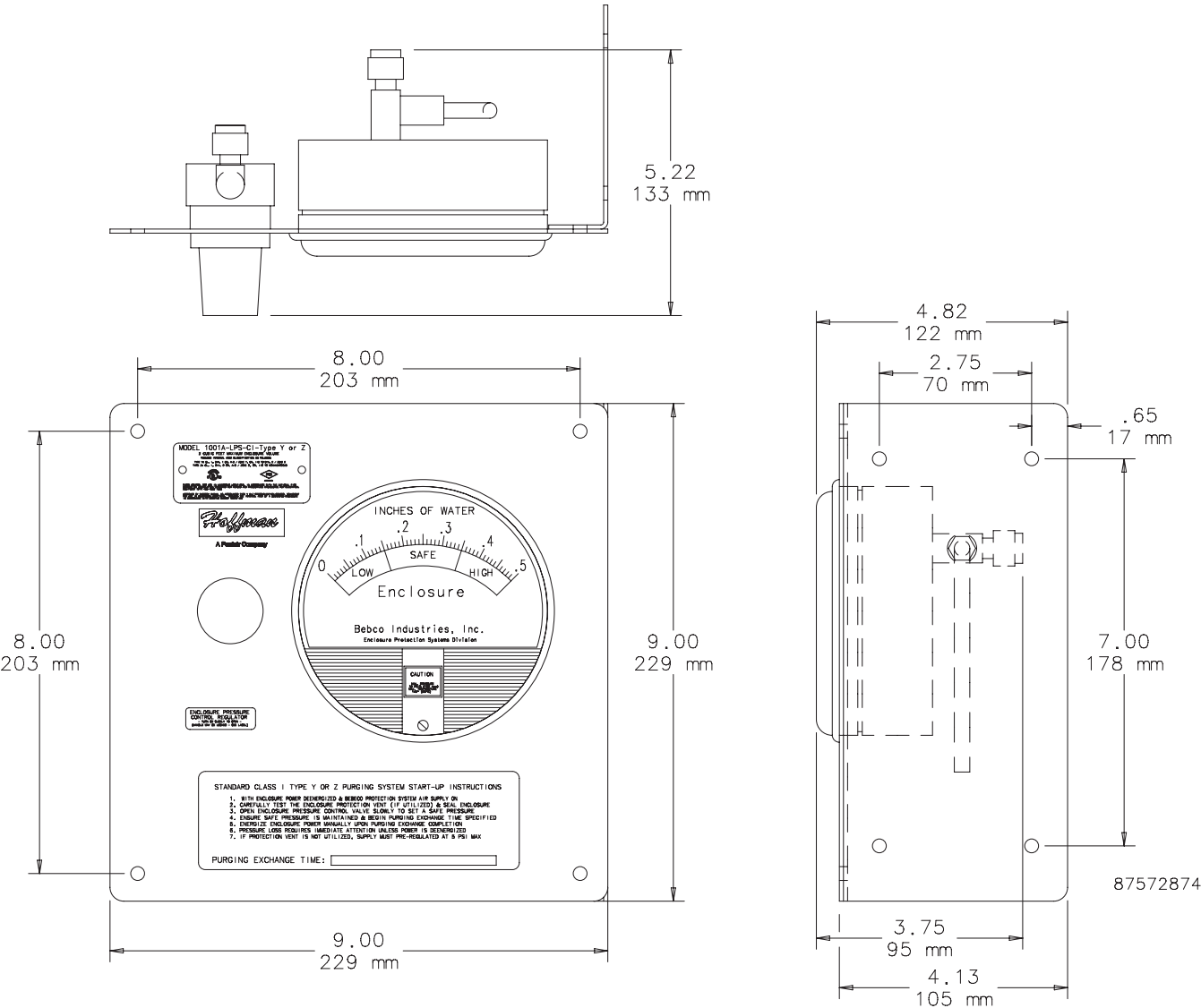
Group G Flour, grain, wood, plastic and chemicals

Purging/Pressurization Systems

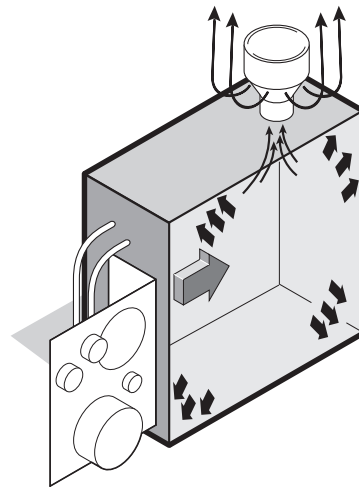
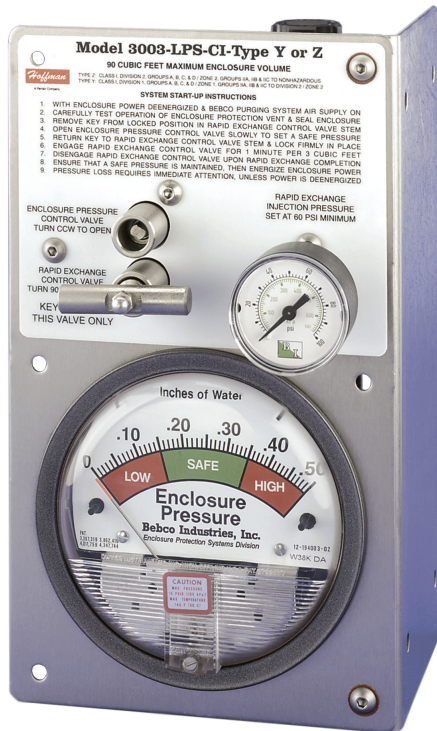
STANDARD PRODUCT

Item number	Model	Height [in./mm]	Width [in./mm]	Depth [in./mm]	Voluvme (ft. ³)	Volume (m³)	Weight (lb.)	Weight (kg)
A1001YZUMC1	1001, Class 1	9.00 229	9.00 229	5.00 127	2	.06	8.25	3.74
A1001YZUMC2	1001, Class 2	9.00 229	9.00 229	5.00 127	10	.28	8.50	3.86

Model 1001 Configuration System and Flange Dimensions



Purging/Pressurization Systems



LARGE-VOLUME TYPE Y AND Z PURGING/PRESSURIZATION SYSTEM

INDUSTRY STANDARDS

(Volume up to 90 cubic feet)

3003 LPS

NEC **Type Y** Class 1, Division 1, Groups A, B, C and D / Zone 1
Groups IIA, IIB and IIC to Division 2 / Zone 2

NEC **Type Z** Class I, Division 2, Groups A, B, C and D / Zone 2
Groups IIA, IIB and IIC to Non-hazardous

Classified by Underwriters Laboratories, NFPA 496-1993



APPLICATION

Large-Volume Purging/Pressurization System supplies one or more enclosures, up to 90 cubic feet total volume, with a protective gas supply, thus allowing the use of general-purpose enclosures in certain Class 1, Division 1 and 2 hazardous locations.

FEATURES

- Vertical mount (VM) or horizontal mount (HM)
- 90 cubic feet maximum enclosure volume
- System face plate and mounting plate: Type 316 stainless steel with tumble finish
- Regulator body: zinc with enamel finish
- Manifold body: anodized aluminum with Type 316 stainless steel valves
- Enclosure pressure gauge: aluminum with enamel finish
- Gas supply gauge: poly case and nickel-plated tube
- Enclosure protection vent—90 degree
- Rapid exchange control valve
- Enclosure supply and enclosure reference bulkhead fittings: Type 316 stainless steel
- Fastener hardware

PROTECTED ENCLOSURES

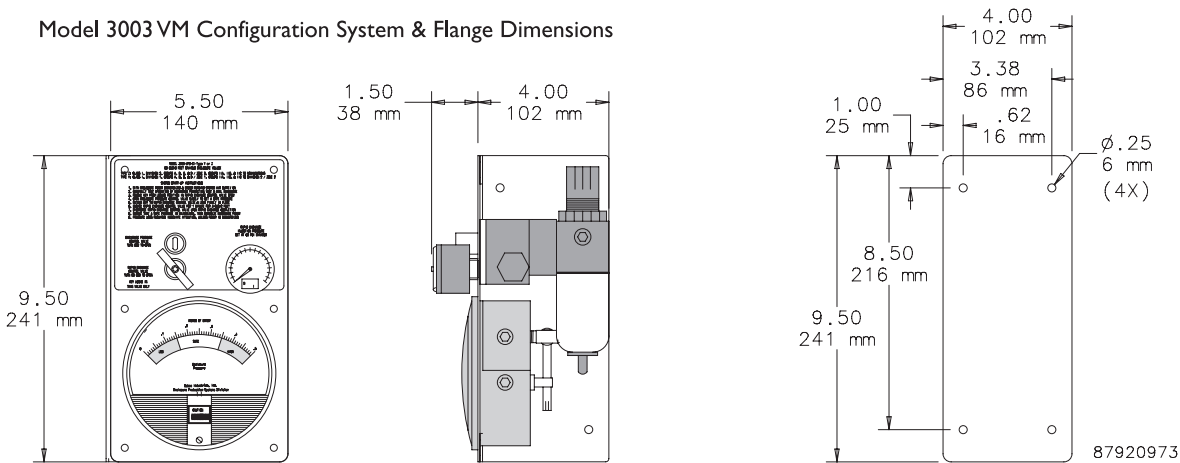
Enclosures should be constructed from materials such as metal, fiberglass or polycarbonate material. Enclosure seal should meet or exceed NEMA Type 4 or Type 12 performance requirements.

Purging/Pressurization Systems

STANDARD PRODUCT

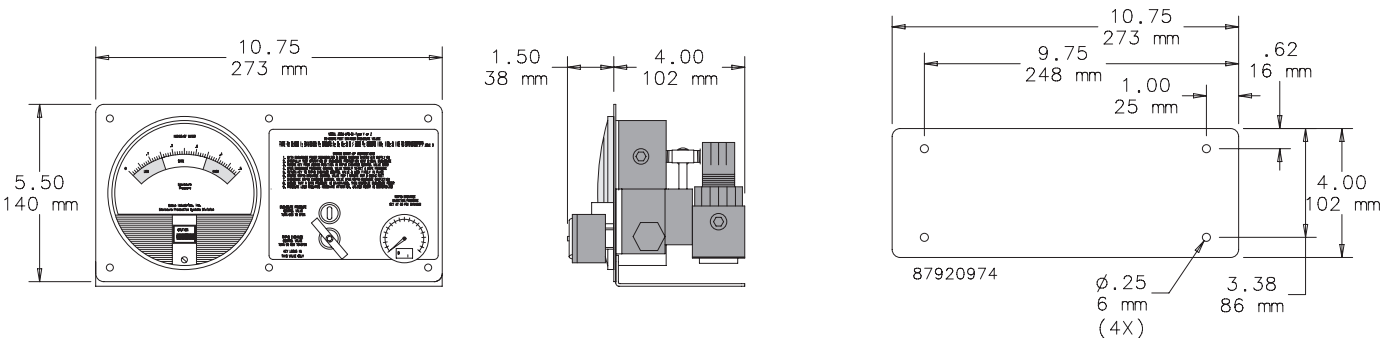
Item number	Height [in./mm]	Width [in./mm]	Depth [in./mm]	Volume (ft.3)	Volume (m3)	Weight (lb.)	Weight (kg)
A3003YZVM	9.50 241	5.50 140	5.50 140	90	2.55	10	4.54
A3003YZHM	5.50 140	10.75 273	5.50 140	90	2.55	10	4.54

Model 3003 VM Configuration System & Flange Dimensions



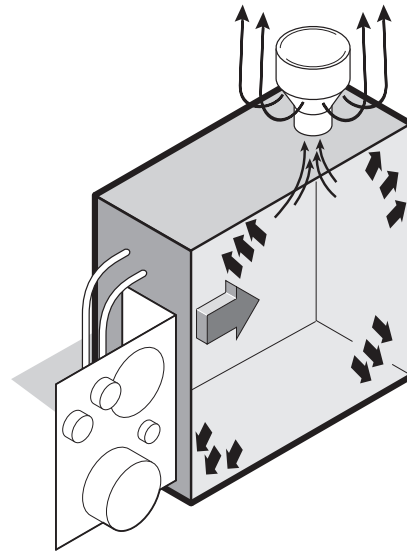
Vertical Mount Flange

Model 3003 HM Configuration System & Flange Dimensions



Horizontal Mount Flange

Purging/Pressurization Systems



LARGE-VOLUME ATEX PURGE SYSTEM TYPE Y, Z AND EX [PZ]

INDUSTRY STANDARDS

(Volume up to 90 cubic feet)

3003 WPSA

Type Y System, UL and FM Certified: Class I, Division I Group A,B,C, and D/Zone 1, Groups IIB and H₂ to Division 2/Zone 2

Type Z system, UL and FM Certified: Class 1, Division 2 Group A,B,C, and D/Zone 2, Groups IIB and H₂ to Non-hazardous

ATEX Certified

II 3 (3) G Ex [pz] II, -29°C ≤ Tamb. ≤ 49°C



APPLICATION

HOFFMAN's **Ex [pz]** purge system is designed and certified according to European requirements of **ATEX Directive 94/9/EC** and **EN60079-2 for Type Ex [pz] applications**. ATEX certified **Ex [pz]** purge systems reduce the classification in the protected enclosure from Zone 2 to non-hazardous, thereby allowing the use and operation of general purpose equipment in the protected enclosure. Used as a Type Y purge reduces classification from Div. 1 to Div. 2. Type Z purge reduces classification from Div. 2 to Non-Hazardous.

These products are designed to supply one or more enclosures with a protective gas supply. Purge/pressurization systems can be used for electronics, electrical equipment, motors and switch gear in wall-mount to large enclosures. Purge/pressurization systems also meet the demands of rack-mounted

instrumentation, video displays, programmable controllers, computers, printers, recorders and measurement and calibration equipment.

FEATURES

- Vertical mount (VM) or horizontal mount (HM)
- Available in 90 cubic feet maximum enclosure volume model
- System face plate and mounting plate: Type 316 stainless steel tumble finish
- Regulator body: zinc with enamel finish
- Manifold body: anodized aluminum with Type 316 stainless steel valves
- Enclosure pressure gauge: aluminum with enamel finish
- Gas supply gauge: poly case and nickel-plated tube
- Enclosure protection vent (90 degree)
- Enclosure supply and enclosure reference bulkhead fittings: Type 316 stainless steel
- Fastener hardware available in aluminum and stainless steel
- Rapid-exchange control valve
- Explosion Proof differential pressure switch with "C" contacts for alarm

PROTECTED ENCLOSURES

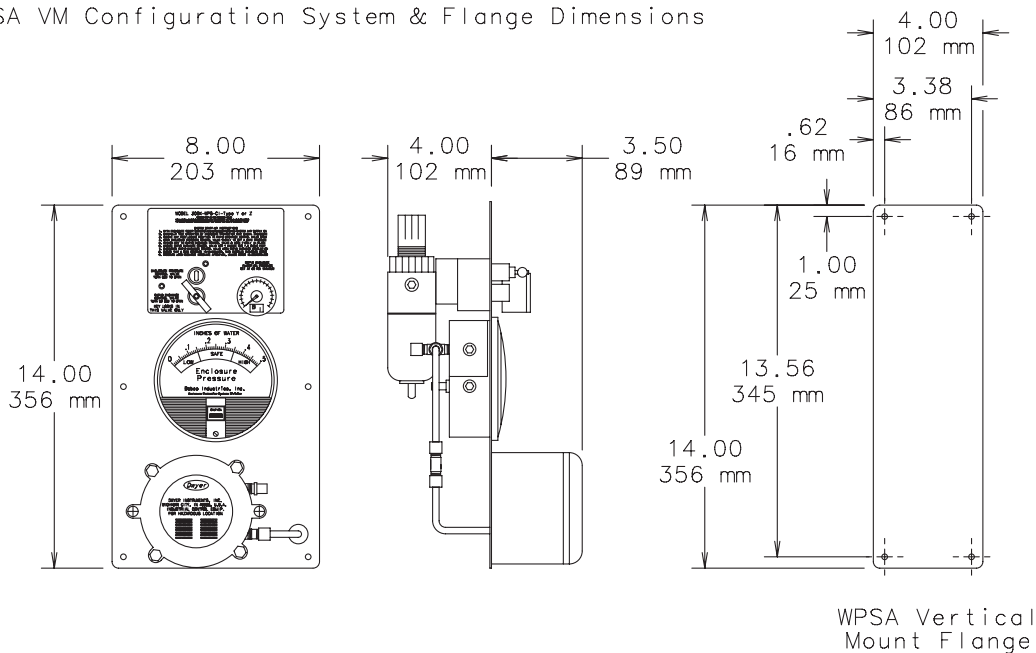
Enclosures should be constructed from materials such as metal or polycarbonate material to meet or exceed NEMA Type 4 or Type 12 performance requirements.

Purging/Pressurization Systems

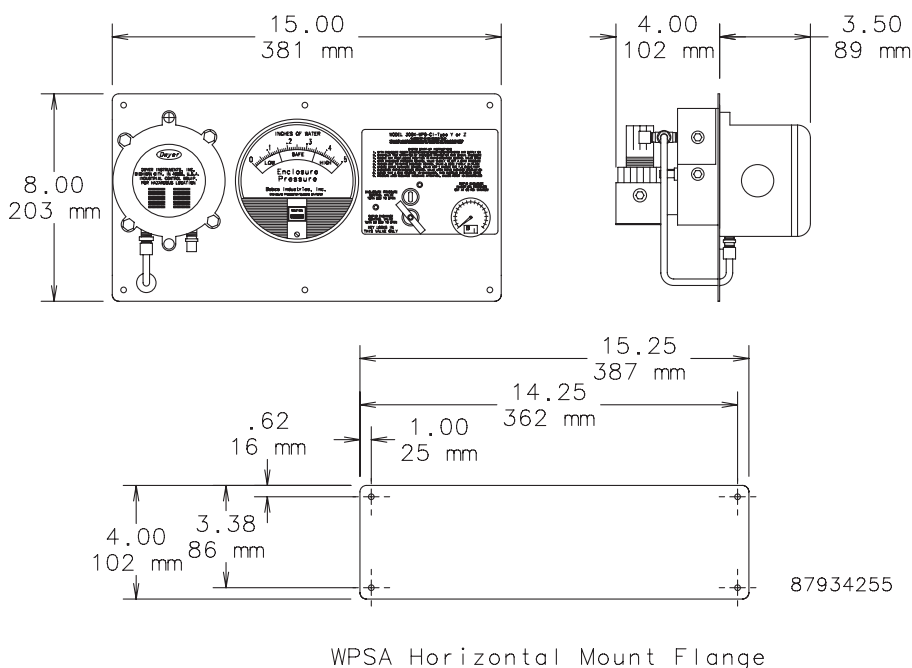
STANDARD PRODUCT

Item number	Height [in./mm]	Width [in./mm]	Depth [in./mm]	Volume (ft.3)	Volume (m3)	Weight (lb.)	Weight (kg)
ATEX3003YZVM	14.00	8.00	7.50	90	2.55	18	8.2
	356	203	189				
ATEX3003YZHM	8.00	15	7.50	90	2.55	18	8.2
	203	361	189				

WPSA VM Configuration System & Flange Dimensions



WPSA HM Configuration System & Flange Dimensions



Purging/Pressurization Systems

PURGE AND PRESSURIZATION SYSTEMS

INDUSTRY STANDARDS

Type X

Ex [px] Ex [p]

IECEX SIR.0019X [Gb, Db]

Europe, ATEX Category 2 GD

Cert no Sira 14ATEX1045X

USA/Canada NFPA496 CI I Div 1 Groups A, B, C & D

UL E466718

Type Y

Ex [py] Ex [p]

IECEX SIR.0019X [Gb, Db]

Europe, ATEX Category 2 GD

Cert no Sira 14ATEX1045X

North America CI I Div 1 Groups A, B, C & D

For protecting CI I Div 2 equipment

UL E466718

Type Z

Ex [pz] Ex [p]

IECEX SIR.0019X [Gc, Dc]

Europe, ATEX Category 3 GD

Cert no Sira 14ATEX1045X

North America CI I Div 2 Groups A, B, C & D

UL E466718



APPLICATION

Purge and Pressurization is a protection method used with Type 4, 4X and 12 (IP54 recommended minimum) enclosures. The enclosure is initially purged to remove any internal explosive gases or dust. Once this is accomplished, the enclosure is pressurized with a protective air or inert gas supply. This provides a positive internal enclosure pressure which keeps any external explosive gases or dust from entering the enclosure.

The two methods of purge and pressurization offered are Leak Compensation and Continuous Flow.

Leak Compensation

Maintains positive pressure by compensating for losses. System consists of Control Unit and Relief Valve.

Certification Type Y and Z models

- Flush (internal) or external mount models
- Local visual alarm indicator and dry contact output for remote alarm
- Typically recommended for enclosures with volume of 60 Ft3 or less

PURGE AND PRESSURIZATION SYSTEMS AND CERTIFICATIONS

Protection Type	Division (North American, NFPA 496)	Zones (IEC / ATEX)
Y	Enclosures placed in Division 1 classification area may contain Division 2 internal components	Enclosures placed in Zone 1 classification area may have Zone 2 internal components
Z	Enclosures placed in Division 2 classification area may contain general purpose internal components	Enclosures placed in Zone 2 classification area may have general purpose internal components
X	Enclosures placed in Division 1 classification area may contain general purpose internal components	Enclosures placed in Zone 1 classification area may have general purpose internal components



Certification Type X Model

- Provides power disconnect when pressurization is lost or not attained
- Provides automatic purge process
- External mount
- Local visual alarm indicator and dry contact output for remote alarm
- Typically recommended for enclosures with volume of 60 Ft3 or less

Continuous Flow

Provides positive pressure via continuous protective air flow through the enclosure. System consists of Control Unit, Calibrated Outlet Orifice and Relief Valve.

Certification Type Y and Z Models

- Flush (internal) or external mount models
- Local visual alarm indicator and dry contact output for remote alarm
- Typically recommended for enclosures with volume of 17 Ft3 or less. Larger enclosures can use Continuous Flow models but will require longer purging times.

FEATURES

- All exterior components are 316 stainless steel or corrosion-resistant composite
- Space-saving flush or exterior mounted models available
- Local visual indicators provide system status
- Leak compensation models are equipped with rapid purge valve and visual purge status indicator
- All models utilize dry, clean inert gas supply of 60 PSI (4 bar) to 115 PSI (8 bar)
- Ambient operating temperature -4°F (-20°C) to 131°F (55°C)
- Type X models provide automatic purge cycle and 4PNO/20A/440VAC power contactor with 115 VAC or 230 VAC coil

FINISH

Brushed 316 Stainless Steel

Purging/Pressurization Systems

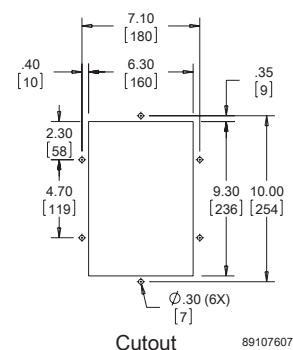
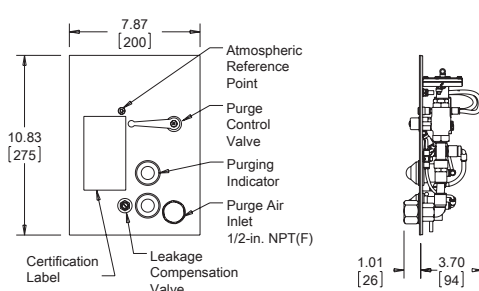
STANDARD PRODUCT PURGE AND PRESSURIZATION

Item number	Operation Type	Mounting Type	Certification
PLCF1YZ	Leak Compensation	Flush Mount	Y and Z
PLCB1YZ	Leak Compensation	Exterior Mount	Y and Z
PCFF1YZ	Continuous Flow	Flush Mount	Y and Z
PCFB1YZ	Continuous Flow	Exterior Mount	Y and Z
PLCS1X1	Leak Compensation	Exterior Mount	X (120 VAC)
PLCS1X2	Leak Compensation	Exterior Mount	X (230 VAC)

SERVICE KITS

Item number	Description
PLCSKIT	Purge and Pressurization Leakage Compensation Service Kit
PCFSKIT	Purge and Pressurization Continuous Flow Service Kit

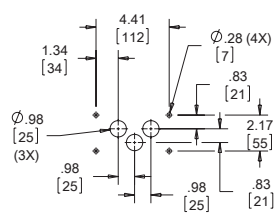
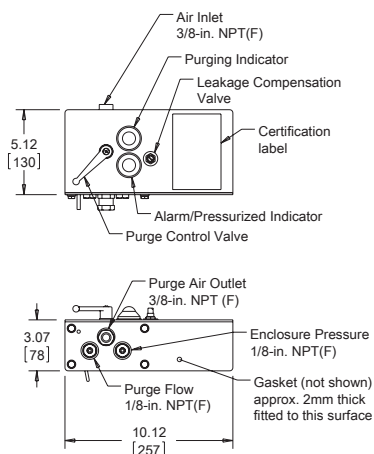
PLCF1YZ



Cutout

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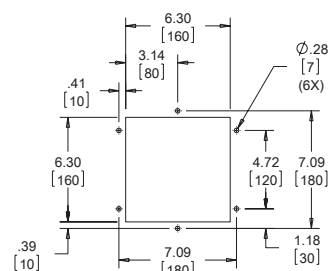
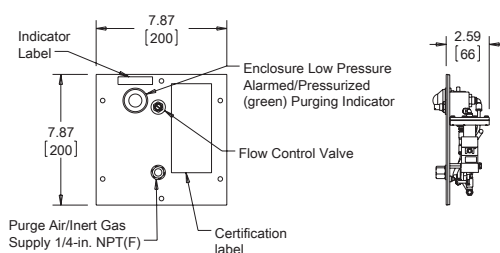
PLCB1YZ



Cutout

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PCFF1YZ

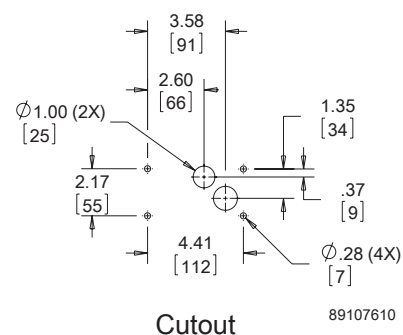
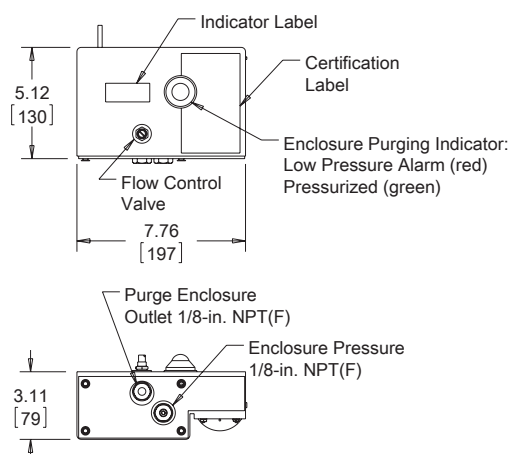


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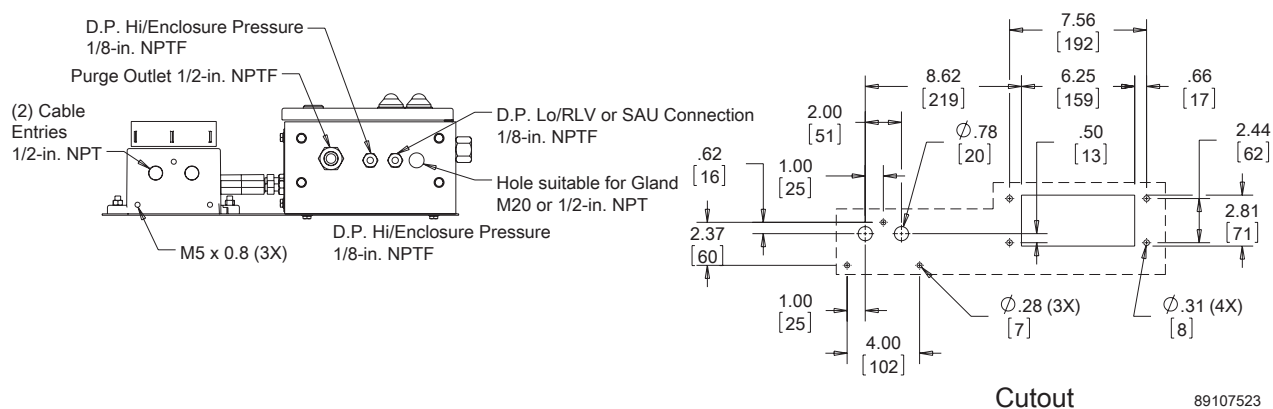
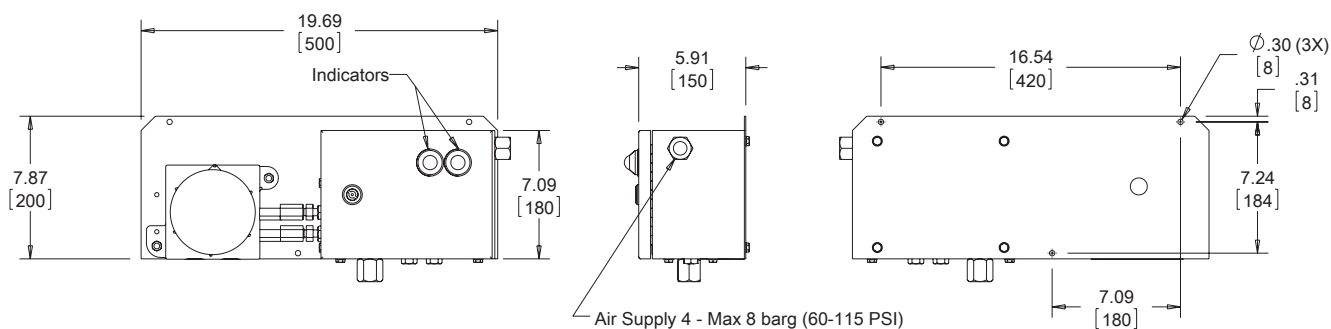
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Purging/Pressurization Systems

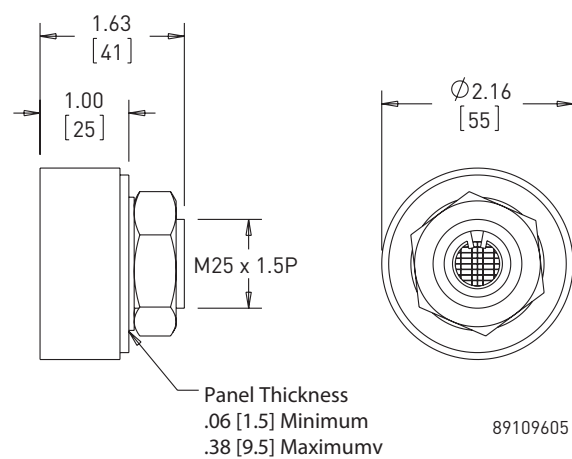
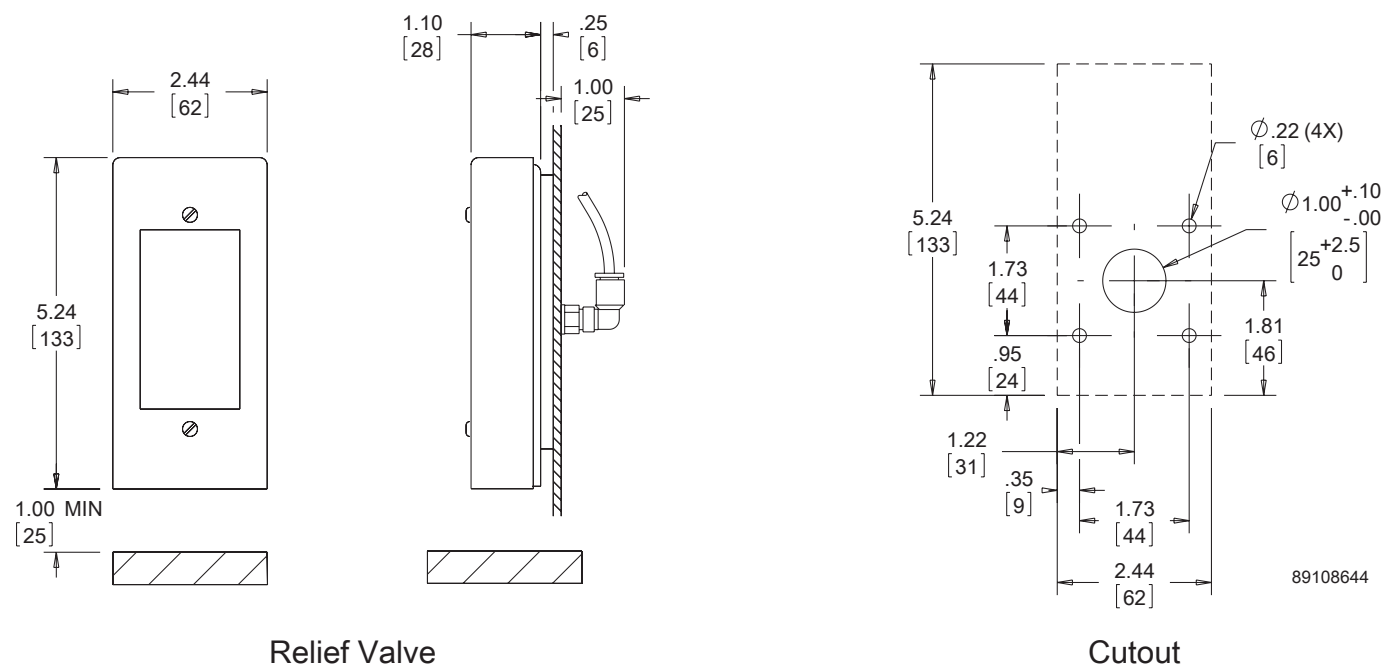
PCFB1YZ



PLCS1X1, PLCS1X2



Purging/Pressurization Systems



Hazardous Location Heaters and Thermostats



HAZARDOUS LOCATION HEATERS

INDUSTRY STANDARDS

ATEX, IECEx

II2G Ex d IIC T3 / II2 D Ex Td A21 IP65 T200 C

NEC CSA us

Class I, Div 1 Groups A, B, C, D / Class II Div 1 Groups E, F, G



APPLICATION

Designed for use in hazardous locations where electronic components require protection from cold freezing temperatures, condensation and corrosion.

FEATURES

- 50W, 80W, 200W, 300W, 400W and 600W models available
- Provides freeze protection down to -76°F/-60°C
- Conductive and Convection heating types available
- 50W and 80W models can be mounted directly to manifolds, measuring or analyzing instruments, control valves, and similar equipment
- 200W, 300W, 400W, 600W models are finned heaters that heat the area by transferring the heat from the heater to surrounding air, creating a convection current.
- Two thermostat options available with a 50°F /10°C or 68°F /20°C set point

FINISH

- Black Anodized Aluminum

PERFORMANCE DATA 50W AND 80W HAZARDOUS LOCATION HEATERS

Item number		
	DAHHL501AC	DAHHL801AC
HEATING PERFORMANCE		
Watts	50	80
Heating Type	Conductive	Conductive
Power Regulation	Self Limiting	Self Limiting
HAZARDOUS LOCATION CERTIFICATION		
Temperature Classification (T Code)	T4	T3
Agency Approvals	ATEX, IECEx, CSA us	
ATEX / IECEx Certification	II2G Ex d IIC T3 / II2 D Ex Td A21 IP65 T200 C	
NEC CSA us Certification	Class I, Div 1 Groups A, B, C, D / Class II Div 1 Groups E, F, G	
ELECTRICAL DATA		
Rated Voltage (VAC or VDC)	110 - 265	110 - 265
Operating Range		
Maximum (°F/°C)	302/150	302/150
Minimum (°F/°C)	-76/-60	-76/-60
UNIT CONSTRUCTION		
Material	Black anodized sea water proof aluminium	
ACCESSORIES		
Thermostat*	HLTSTAT10C, HLTSTAT20C	
UNIT DIMENSIONS		
Height (in./mm)	3.5/190	3.5/190
Width (in./mm)	1.6/40	1.6/40
Depth (in./mm)	1.2/30	1.2/30
Weight (lb./kg)	1.1/50	1.1/50

Thermostats sold separately as an accessory.

Hazardous Location Heaters and Thermostats

PERFORMANCE DATA 200W, 300W, 400W, 600W HAZARDOUS LOCATION HEATERS

Item number	DAHHL200AC	DAHHL300AC	DAHHL4001A	DAHHL4002A	DAHHL6001A	DAHHL6002A
HEATING PERFORMANCE						
Watts	200	300	400	400	600	600
Heating Type	Convection	Convection	Convection	Convection	Convection	Convection
Power Regulation	Self Limiting	Self Limiting	Constant Power	Constant Power	Constant Power	Constant Power
HAZARDOUS LOCATION CERTIFICATION						
Temperature Classification (T Code)	T3	T3	T3	T3	T3	T3
Agency Approvals	ATEX, IECEx, CSA us					
ATEX / IECEx Certification	II2G Ex d IIC T3 / II2 D Ex Td A21 IP65 T200 C					
NEC CSA us Certification	Class I, Div 1 Groups A, B, C, D / Class II Div 1 Groups E, F, G					
ELECTRICAL DATA						
Rated Voltage (VAC or VDC)	110 - 265	110 - 265	108 - 132	207 -253	108 - 132	207 -253
Operating Range						
Maximum (°F/°C)	302/150	302/150	302/150	302/150	302/150	302/150
Minimum (°F/°C)	-76/-60	-76/-60	-76/-60	-76/-60	-76/-60	-76/-60
UNIT CONSTRUCTION						
Material	Black anodized sea water proof aluminium					
ACCESSORIES						
Thermostat*	HLTSTAT10C, HLTSTAT20C					
UNIT DIMENSIONS						
Height (in./mm)	8.9/225	12.8/325	8.9/225	8.9/225	12.8/325	12.8/325
Width (in./mm)	9.0/229	9.0/229	9.0/229	9.0/229	9.0/229	9.0/229
Depth (in./mm)	2.4/60	2.4/60	2.4/60	2.4/60	2.4/60	2.4/60
Weight (lb./kg)	8.7/3.95	12.5/5.65	8.7/3.95	8.7/3.95	12.5/5.65	12.5/5.65

* A thermostat is required for 400W and 600W models. It is sold separately as an accessory.

Hazardous Location Heaters and Thermostats

HAZARDOUS LOCATION HEATER (100 WATT)



INDUSTRY STANDARDS

CE
Conformity Certificate LCIE (Laboratoire Central des Industries
Electriques) LCIE 01 ATEX 6073
EEx d IIC T4/II 2 GD, IP6x T135°C
IEC 60529, IP65/I (grounded)



APPLICATION

Designed for use in hazardous locations where electronic
components require protection from condensation and
corrosion, sudden temperature drops and low temperatures.

STANDARD PRODUCT

Catalog Number	AxBxC [in./mm]	Heating Power	Surface Temperature T4 (°F) ^a	Surface Temperature T4 (°C) ^a
HLHEAT100	7.10 x 4.65 x 2.70 180 x 118 x 69	100 W	275	135

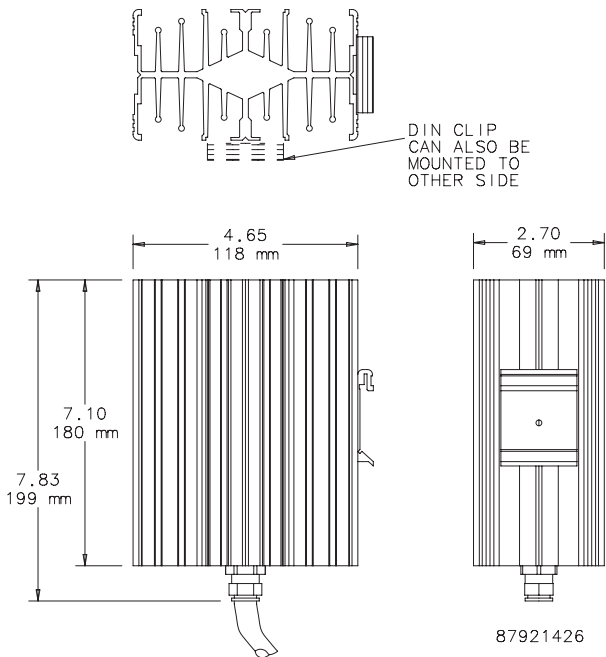
^a Surface temperature when mounted vertically.

FEATURES

- Maintenance-free
- High-performance heating cartridge (element)
- Large convection surface
- Extruded aluminum heat sink
- DIN clip for mounting
- Connection cable: Si HF-JZ 3 x AWG 18 x 3.3 ft.
(0.75 mm² x 1 m)
- Operating voltage 110-120 VAC

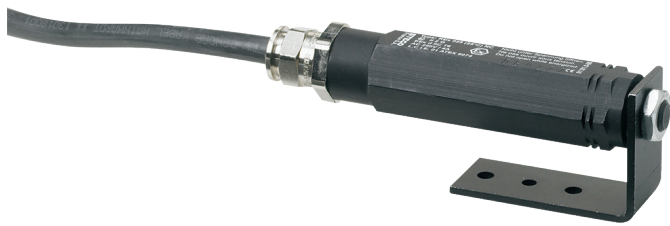
FINISH

- Black anodized



Hazardous Location Heaters and Thermostats

HAZARDOUS LOCATION THERMOSTAT



INDUSTRY STANDARDS

CE
Conformity Certificate LCIE (Laboratoire Central des Industries
Electriques) LCIE 01 ATEX 6074
EEx d IIC T6/II 2 GD, IP6x T85 °C
IEC 60529, IP65/1 (grounded)



APPLICATION

Compact mechanical thermostat for temperature control of
heaters or low-temperature alarms in enclosures that are used
in explosion-hazardous areas.

FEATURES

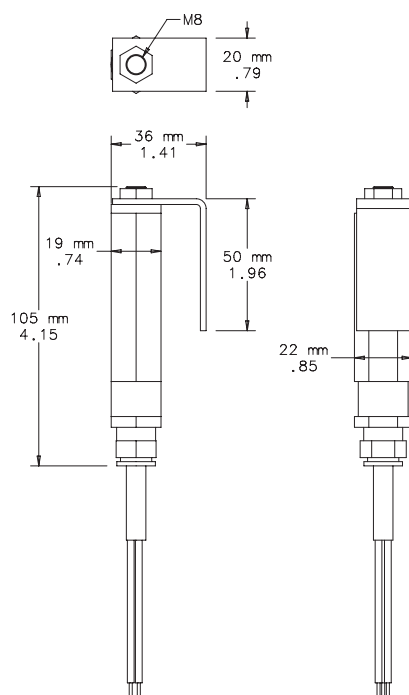
- Compact design
- Set temperature
- High switching capacity
- Small hysteresis (switching difference)
- Long service life (greater than 100,000 cycles)
- Can usually be connected directly and switched without the need for additional relays
- Thermostatic bimetallic sensor element
- One-pole contact opens with rising temperature
- Mounting bracket and DIN clip for mounting
- Connection cable: Si HF - JZ 3 x AWG 18 x 3.3 ft. (0.75 mm² x 1 m)

FINISH

- Black anodized aluminum

STANDARD PRODUCT

Item number	Maximum Operating Voltage (AC)	Maximum Operating Voltage (DC)	Switching Capacity @ 250 VAC	Switch Off (Open) Temperature (°F)	Switch Off (Open) Temperature (°C)	Switch On (Closed) Temperature below Switch Off Temperature (°F)	Switch On (Closed) Temperature below Switch Off Temperature (°C)
HLTHERMNC	250 V	100 V	4A resistive; 1A ind. (cos f = 0.6)	77 +/- 6	25 +/- 3K	7.2 +/- 2	4 +/- 1K



87921425

SPECTRACOOL Hazardous Location Indoor/Outdoor



NHZ43
11000 BTU/Hr.
3223 Watt

NHZ36
6000/8000 BTU/Hr.
1758/2344 Watt

NHZ28
4000 BTU/Hr.
1172 Watt

INDUSTRY STANDARDS

UL/cUL Listed; Type 4; 4X; File No. E469720

CE
IP56 Internal Loop
IP34 External Loop
Class 1 Div 2 Groups A, B, C, D T4A



APPLICATION

- Onshore and Offshore Oil and Gas
- Chemical and petrochemical
- Mining
- Pharmaceutical
- Any location with potentially hazardous atmospheres created by vapor

SCOPE OF DELIVERY

Standard Type 4/4X models include:

- Active condensate management with heater strip
- Compressor Heater
- Head Pressure Control
- Power-off relay for door switch and other system requirements
- Malfunction switch

FEATURES

- Engineered specifically for hazardous location cooling. Not re-built from light industrial air conditioners
- Attractive design with no heavy cast enclosure and minimal use of visible fasteners

- Does not require purge and pressurized system
- Corrosion resistant coating on ambient side components for Type 4X models
- Corrosion resistant coating on ambient and enclosure side components for Type 4X Offshore models
- Cleanable, reusable aluminium mesh filter protects coils for extremely dusty and dirty atmospheres
- Dust resistant coils for filterless operation in most environments
- Digital temperature control
- Narrow design to accommodate 12-in. (300 mm) deep cabinets
- R134a earth-friendly refrigerants
- Models for 115, 230 and 400/460 3-phase VAC power input
- Easy-Mount flanges for simple installation
- Every unit functionally tested before shipping

SPECIFICATIONS

- Nominal cooling capacities:
 - NHZ28 4000 BTU/hr. (1172 W)
 - NHZ36 6000 & 8000 BTU/hr. (1758 and 2344 W)
 - NHZ43 11000 BTU/hr. (3223 W)
- Outdoor model operating temperature range from -40°F /-40°C to 131°F /55°C (125°F /52°C) on NHZ28 Series and NHZ43 Series 115V)

FINISH

- Type 4 models RAL 7035 light-gray, semi-textured powder-coat paint
- Type 4X and Offshore models Stainless Steel 316L

For product general accessories, please refer to the chapter "Accessories".

SPECTRACOOOL Hazardous Location Indoor/Outdoor

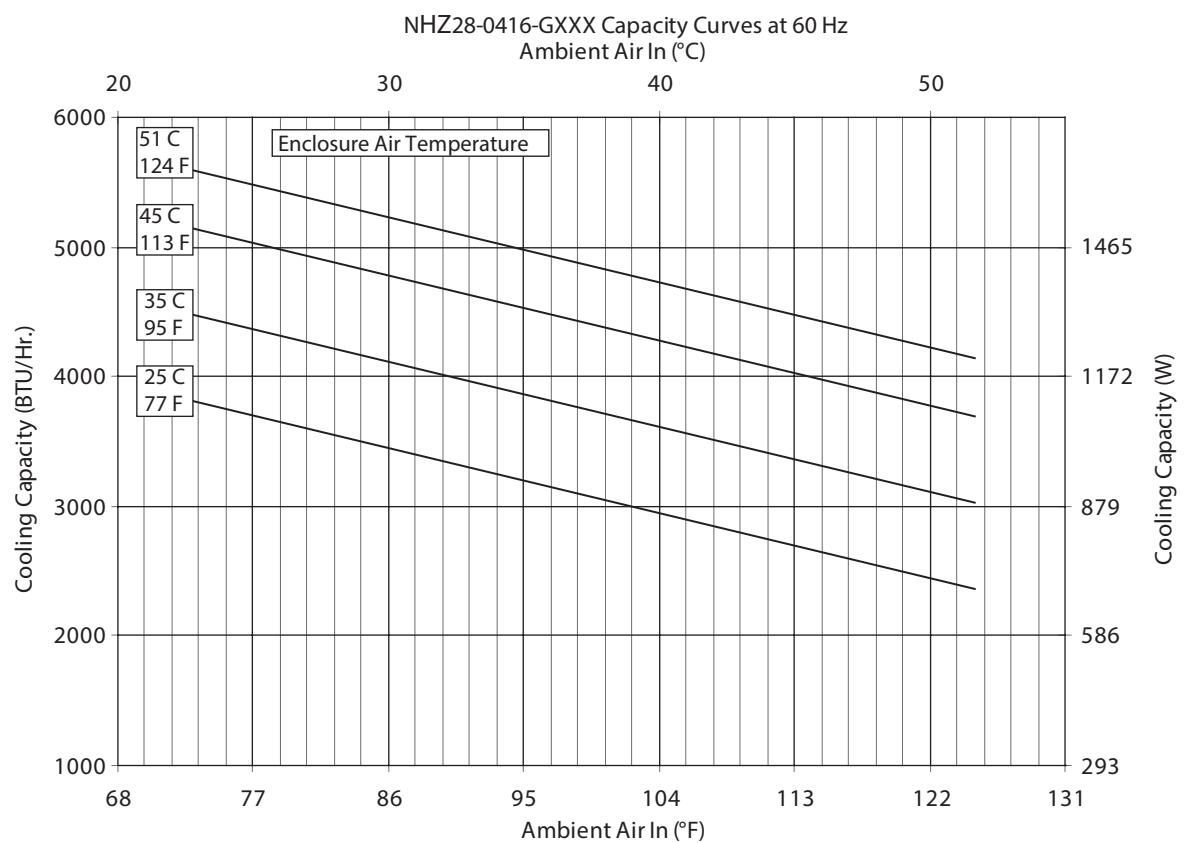
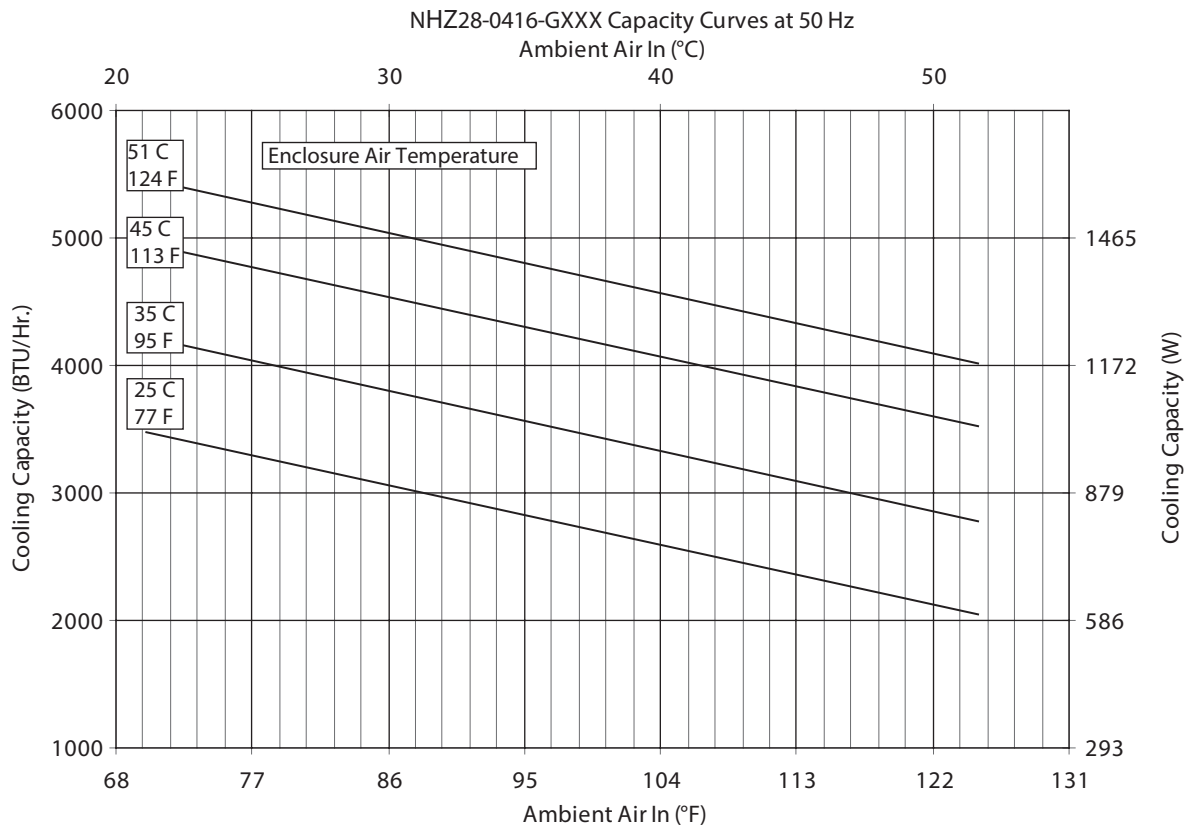
PERFORMANCE DATA NHZ28 4000 BTU/HR. (1172 WATT)

Item number			
Painted Galvanized Steel Type 4	NHZ280416G300	NHZ280426G300	NHZ280446G300
Painted Galvanized Steel Type 4 with Remote Access Control*	NHZ280416G360	NHZ280426G360	NHZ280446G360
Stainless Steel Type 4X	NHZ280416G400	NHZ280426G400	NHZ280446G400
Stainless Steel Type 4X with Remote Access Control*	NHZ280416G460	NHZ280426G460	NHZ280446G460
Stainless Steel Type 4X Offshore	NHZ280416G500	NHZ280426G500	NHZ280446G500
COOLING PERFORMANCE			
Nominal:			
BTUs/Hr.	3800 / 4000	3800 / 4000	4000
Watts	1114 / 1172	1114 / 1172	1172
At 125°F/125°F (52°C/52°C)			
BTU/Hr. (50 / 60 Hz)	3940 / 4104	4269 / 4703	4703
Watts (50 / 60 Hz)	1150 / 1000	1250 / 1378	1378
At 95°F/95°F (35°C/35°C)			
BTU/Hr. (50 /60 Hz)	3754 / 4011	3700 / 4291	4291
Watts (50 / 60 Hz)	1100 / 1175	1086 / 1257	1257
Refrigerant	R134a	R134a	R134a
Refrigerant Charge (ounces/grams)	10 / 283	11 / 312	11 / 312
Operating Temperature Range:			
Maximum (°F / °C)	125/52	125/52	125/52
Minimum (°F / °C)	-40 / -40	-40 / -40	-40 / -40
Air Flow at 0 Static Pressure:			
Internal loop 50 Hz (CFM / M3/Hr)	138 / 234	N/A	N/A
External loop 50 Hz (CFM / M3/Hr)	268 / 455	N/A	N/A
Internal loop 60 Hz (CFM / M3/Hr)	143 / 362	143 / 243	143 / 243
External loop 60 Hz (CFM / M3/Hr)	288 / 728	288 / 489	288 / 489
ELECTRICAL DATA			
Rated Voltage	110 / 115	230	460
Frequency (Hz)	50 / 60	50 / 60	50 / 60
Operating Range	+/-10%	+/-10%	+/-10%
Max. Power Consumption (Watts at 50 / 60 Hz)	930 / 1001	972 / 1106	972 / 1106
Max. Nominal Current (Amps at 50 / 60 Hz)	10.2 / 9.4	4.9 / 5.0	2.4 / 2.5
Starting Current (Amps)	40	24.5	12.5
Agency Approvals		cUL Listed CE Others available upon request	
Power Input Description		Terminal Block	
ENCLOSURE PROTECTION			
UL Type		Type 4, 4X Standard	
CONTROLLER			
Description		Digital Controller	
Controller Location		Enclosure Side	
Factory Controller Setting (°F / °C)		80 / 27	
SOUND LEVEL			
At 1.5 Meters	66.1 dBA	65.5 dBA	65.5 dBA
UNIT CONSTRUCTION			
Material	Galvanized Sheet Metal Type 4 Models Stainless steel 316L Type 4X and Offshore Models		
Finish	RAL 7035 light-gray, semi-textured powder-coat paint standard Other colors available		
UNIT DIMENSIONS			
Height (in / mm)	28 / 711.2		
Width (in / mm)	11.50 / 292.1		
Depth (in / mm)	14.00 / 355.6		
Weight (lb / kg)	84/38	84/38	98/44

*Units with Remote Access Control utilize a digital controller and communicate via EtherNet/IP, Profinet, Modbus TCP/IP and SNMP over ethernet or modbus RTU over USB.

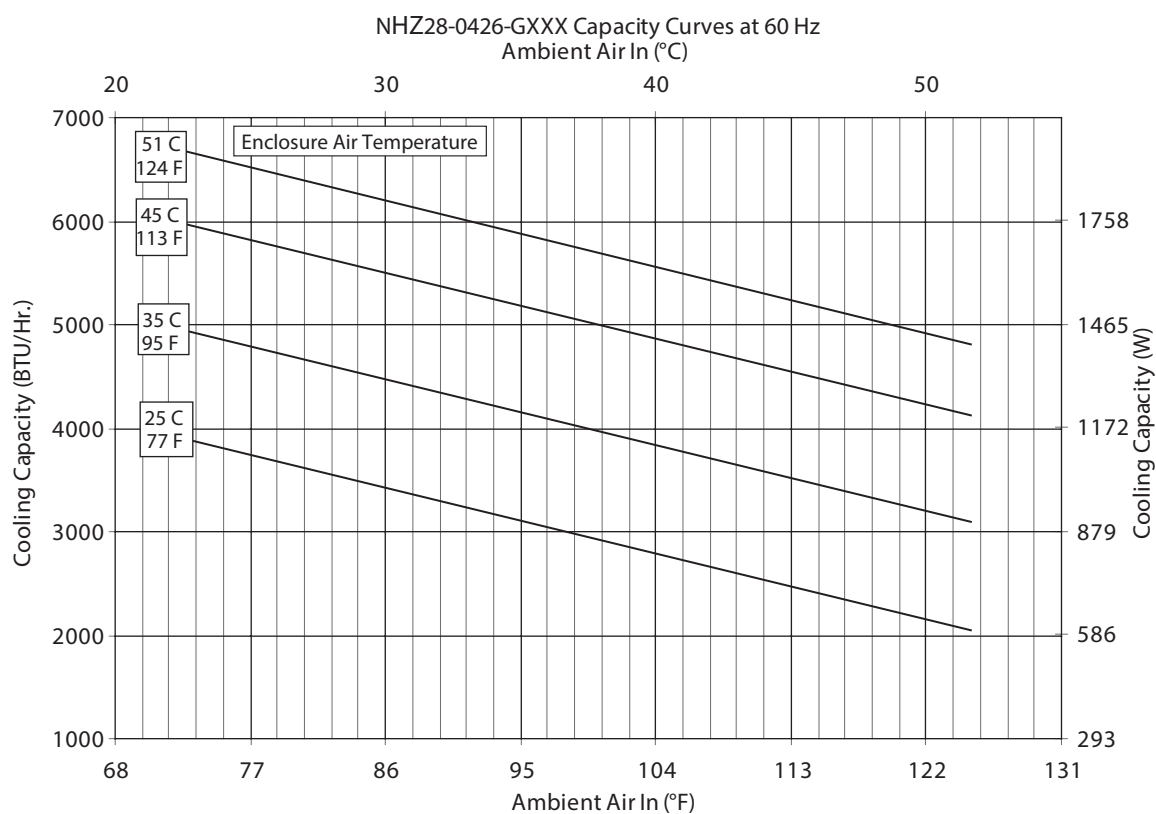
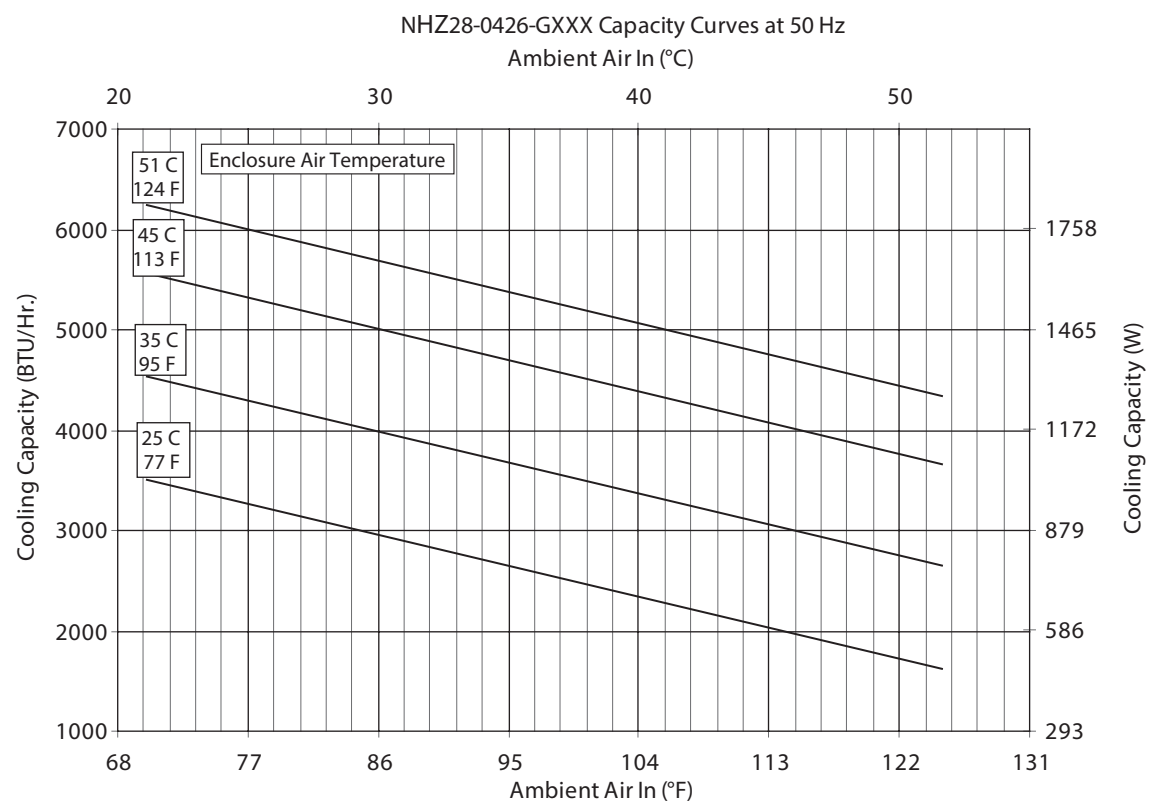
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ28 Models 4000 BTU/Hr. (1172 Watt)



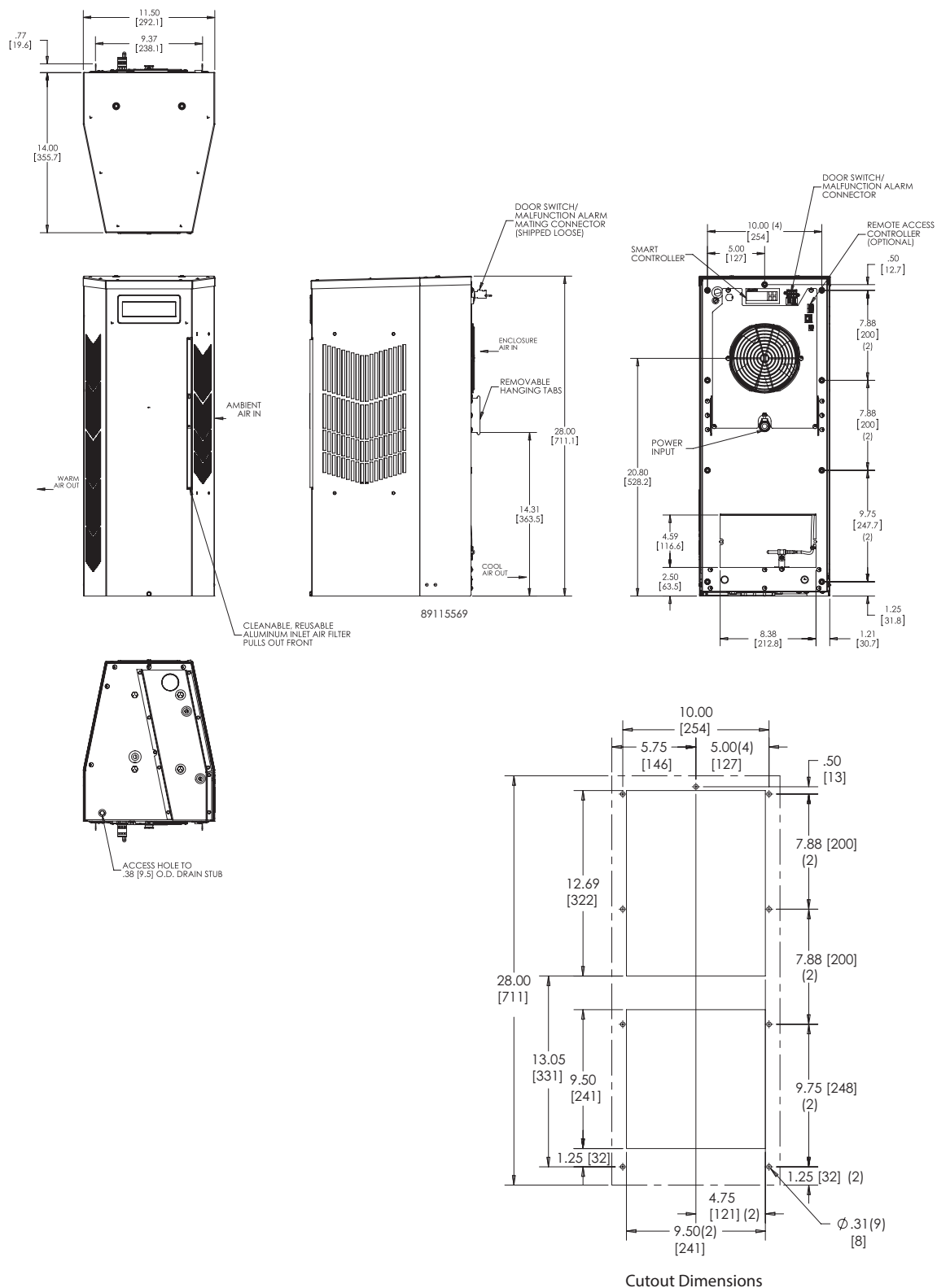
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ28 Models 4000 BTU/Hr. (1172 Watt)



SPECTRACOOL Hazardous Location Indoor/Outdoor

NHZ28 Models 4000 BTU/Hr. (1172 Watt)



SPECTRACOOOL Hazardous Location Indoor/Outdoor

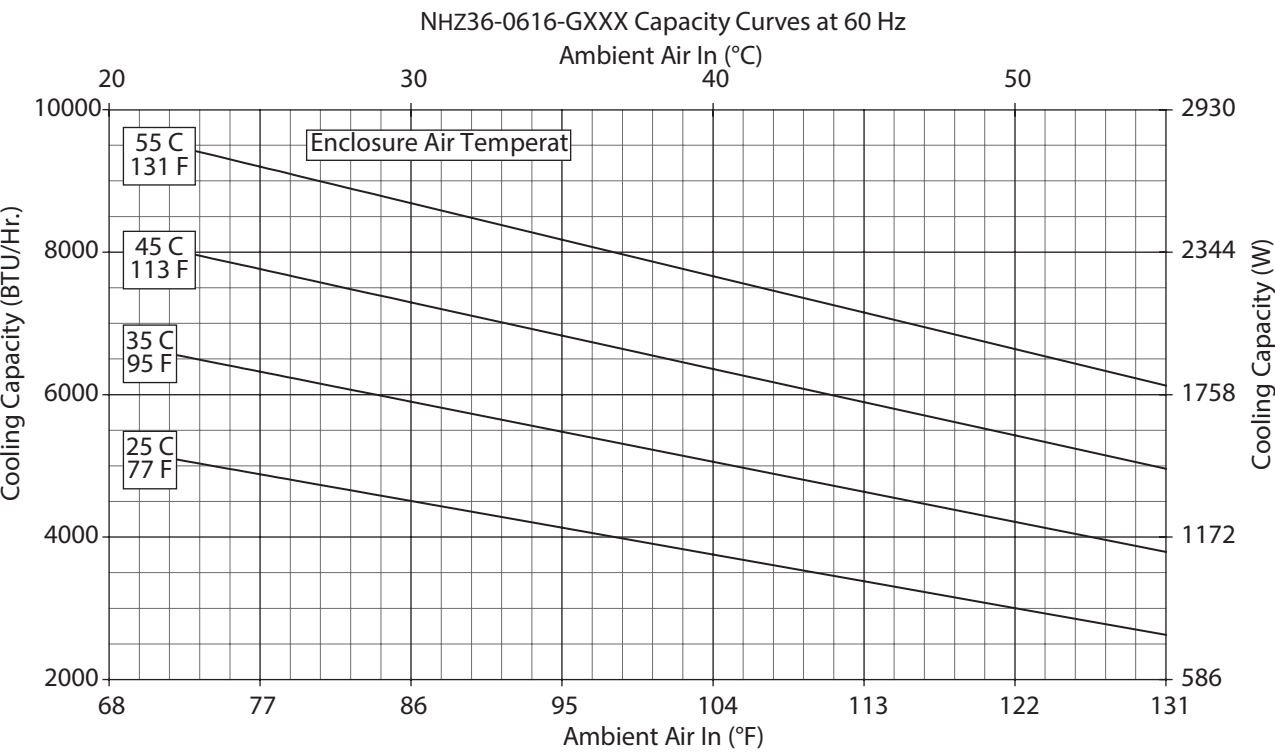
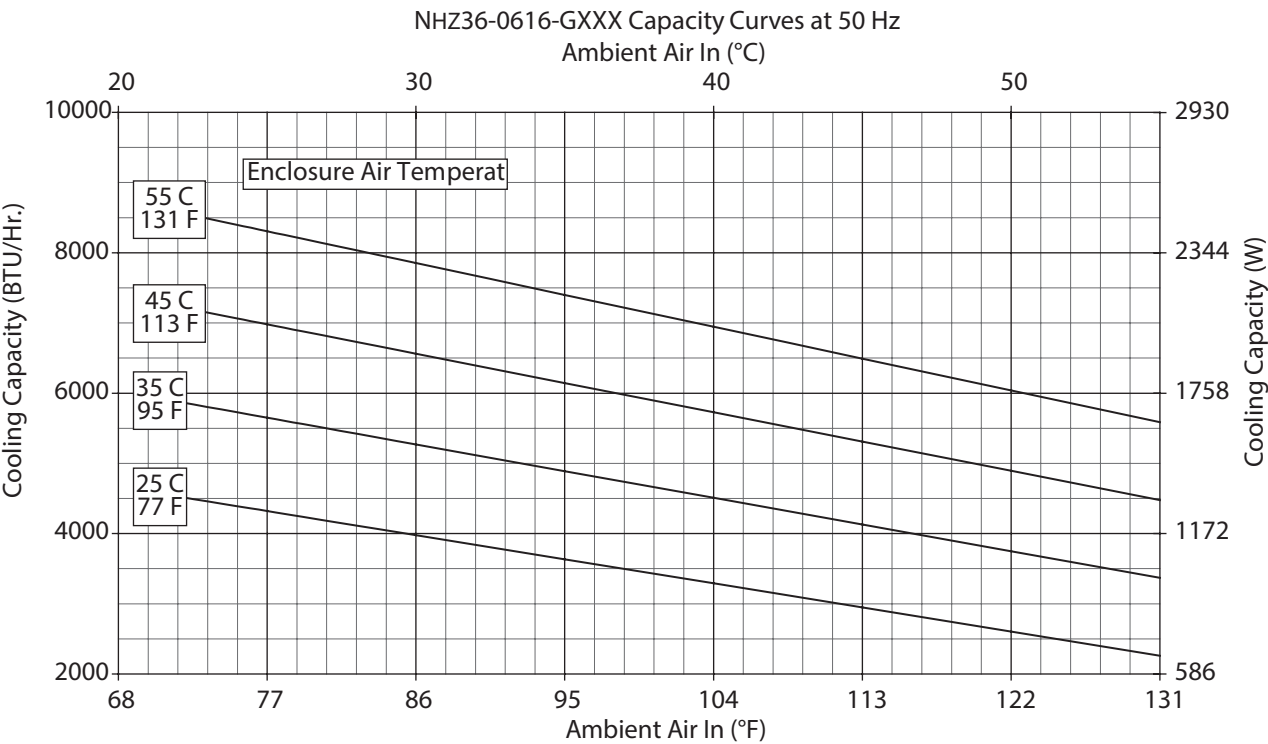
PERFORMANCE DATA NHZ36 6000/8000 BTU/HR. (1758/2344 WATT)

Item number						
Painted Galvanized Steel Type 4	NHZ360616G300	NHZ360626G300	NHZ360646G300	NHZ360816G300	NHZ360826G300	NHZ360846G300
Painted Galvanized Steel Type 4 with Remote Access Control*	NHZ360616G360	NHZ360626G360	NHZ360646G360	NHZ360816G360	NHZ360826G360	NHZ360846G360
Stainless Steel Type 4X	NHZ360616G400	NHZ360626G400	NHZ360646G400	NHZ360816G400	NHZ360826G400	NHZ360846G400
Stainless Steel Type 4X with Remote Access Control*	NHZ360616G460	NHZ360626G460	NHZ360646G460	NHZ360816G460	NHZ360826G460	NHZ360846G460
Stainless Steel Type 4X Offshore	NHZ360616G500	NHZ360626G500	NHZ360646G500	NHZ360816G500	NHZ360826G500	NHZ360846G500
COOLING PERFORMANCE						
Nominal:						
BTUs/Hr.	5400 / 6000	5400 / 6000	5400 / 6000	8250 / 8500	8250 / 8500	8250 / 8500
Watts	1581 / 1757	1581 / 1757	1581 / 1757	2416 / 2489	2416 / 2489	2416 / 2489
At 131°F/131°F (55°C/55°C)						
BTU/Hr. (50 / 60 Hz)	5585 / 6180	5469 / 5965	5300 / 6089	8213 / 8453	7874 / 8063	7777 / 8166
Watts (50 / 60 Hz)	1637 / 1811	1603 / 1748	1553 / 1785	2405 / 2475	2306 / 2361	2277 / 2391
At 95°F/95°F (35°C/35°C)						
BTU/Hr. (50 / 60 Hz)	4909 / 5485	5159 / 5621	5572 / 6026	7028 / 7626	6660 / 7411	6877 / 7525
Watts (50 / 60 Hz)	1439 / 1607	1512 / 1647	1633 / 1766	2058 / 2233	1950 / 2170	2014 / 2203
Refrigerant	R134a	R134a	R134a	R134a	R134a	R134a
Refrigerant Charge (ounces/grams)	20 / 567	22 / 624	16 / 454	36 / 1021	36 / 1021	36 / 1021
Operating Temperature Range:						
Maximum (°F / °C)	131 / 55	131 / 55	131 / 55	131 / 55	131 / 55	131 / 55
Minimum (°F / °C)	-40 / -40	-40 / -40	-40 / -40	-40 / -40	-40 / -40	-40 / -40
Air Flow at 0 Static Pressure:						
Internal loop 50 Hz (CFM / M3/Hr)	251 / 426	250 / 425	250 / 425	250 / 425	245 / 416	243 / 413
External loop 50 Hz (CFM / M3/Hr)	284 / 483	338 / 574	338 / 574	313 / 532	347 / 589	365 / 620
Internal loop 60 Hz (CFM / M3/Hr)	261 / 443	261 / 443	261 / 443	263 / 447	258 / 439	254 / 432
External loop 60 Hz (CFM / M3/Hr)	311 / 528	356 / 605	356 / 605	338 / 574	382 / 648	394 / 669
ELECTRICAL DATA						
Rated Voltage	115	230	400 / 460 3~	115	230	400 / 460 3~
Frequency (Hz)	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60
Operating Range	+/-10%	+/-10%	+/-10%	+/-10%	+/-10%	+/-10%
Max. Power Consumption (Watts at 50 / 60 Hz)	911 / 1108	908 / 1073	691 / 783	1206 / 1422	1265 / 1403	572 / 628
Max. Nominal Current (Amps at 50 / 60 Hz)	9.1 / 10.1	4.5 / 4.7	1.7 / 1.8	11.2 / 12.4	5.5/6.1	3.0 / 3.4
Starting Current (Amps)	39.2	23	8.1	48.3	27	16
Agency Approvals						
cUL Listed CE Others available upon request						
Power Input Description						
Terminal Block						
ENCLOSURE PROTECTION						
UL Type						
Type 4, 4X Standard						
CONTROLLER						
Description						
Digital Controller						
Controller Location						
Enclosure Side						
Factory Controller Setting (°F / °C)						
80 / 27						
SOUND LEVEL						
At 1.5 Meters	66.9 dBA	66.7 dBA	68.2 dBA	66.0 dBA	66.0 dBA	66.0 dBA
UNIT CONSTRUCTION						
Material						
Galvanized Sheet Metal Type 4 Models Stainless steel 316L Type 4X and Offshore Models						
Finish						
RAL 7035 light-gray, semi-textured powder-coat paint standard Other colors available						
UNIT DIMENSIONS						
Height (in / mm)						
36.00 / 914.4						
Width (in / mm)						
11.50 / 292.1						
Depth (in / mm)						
14.00 / 355.6						
Weight (lb / kg)	100 / 45	100 / 45	104 / 47	106 / 48	106 / 48	114 / 52

*Units with Remote Access Control utilize a digital controller and communicate via EtherNet/IP, Profinet, Modbus TCP/IP and SNMP over ethernet or modbus RTU over USB.

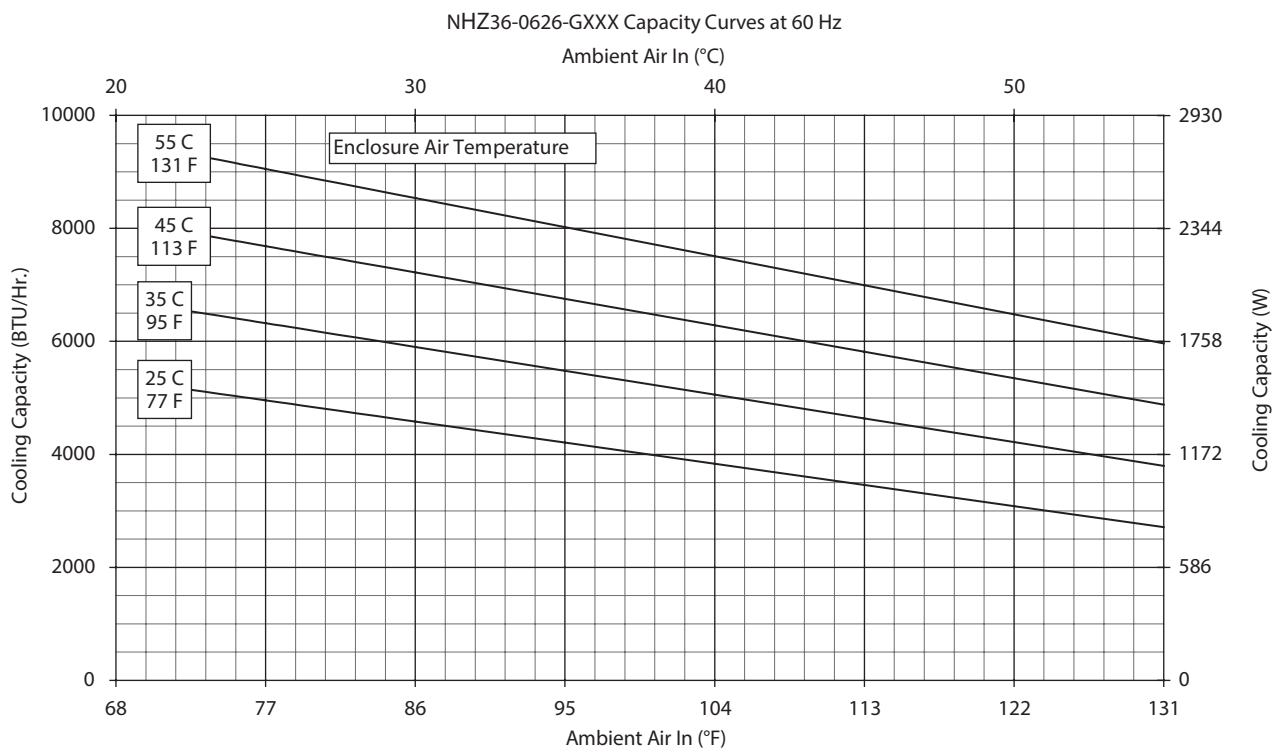
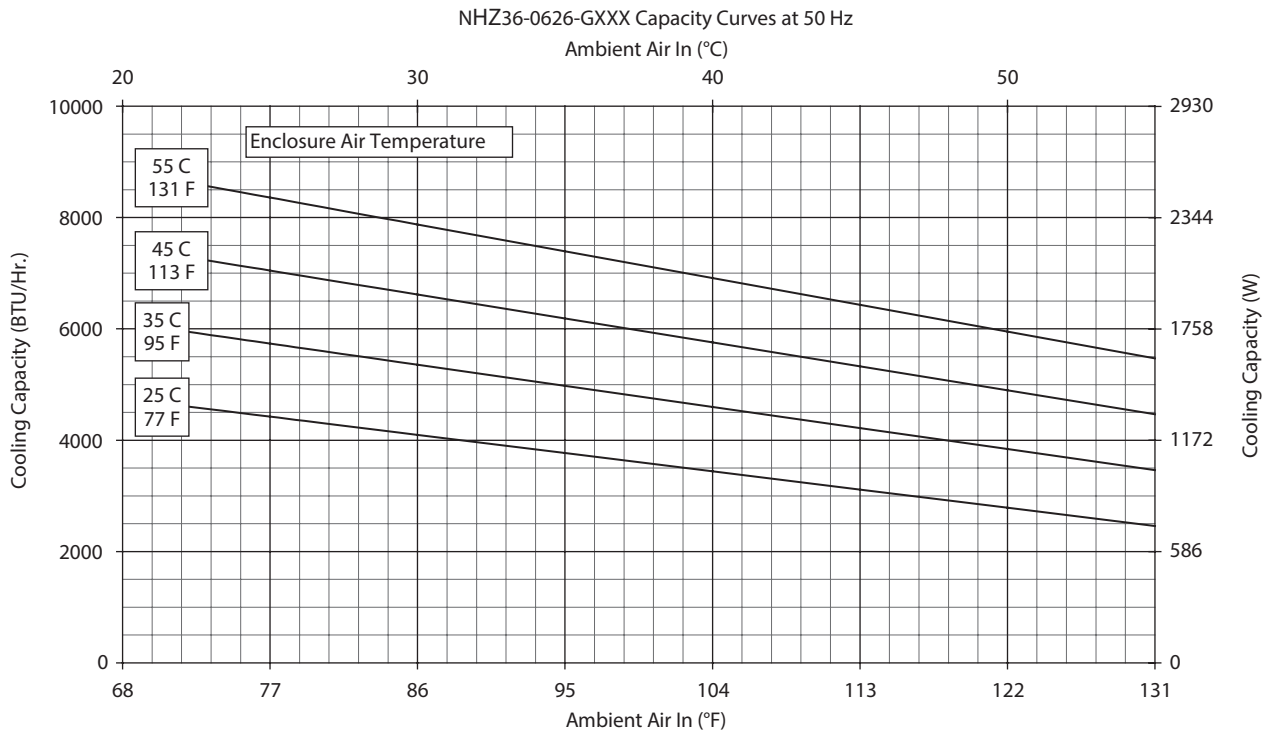
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ36 Models 6000 BTU/Hr. (1758 Watt)



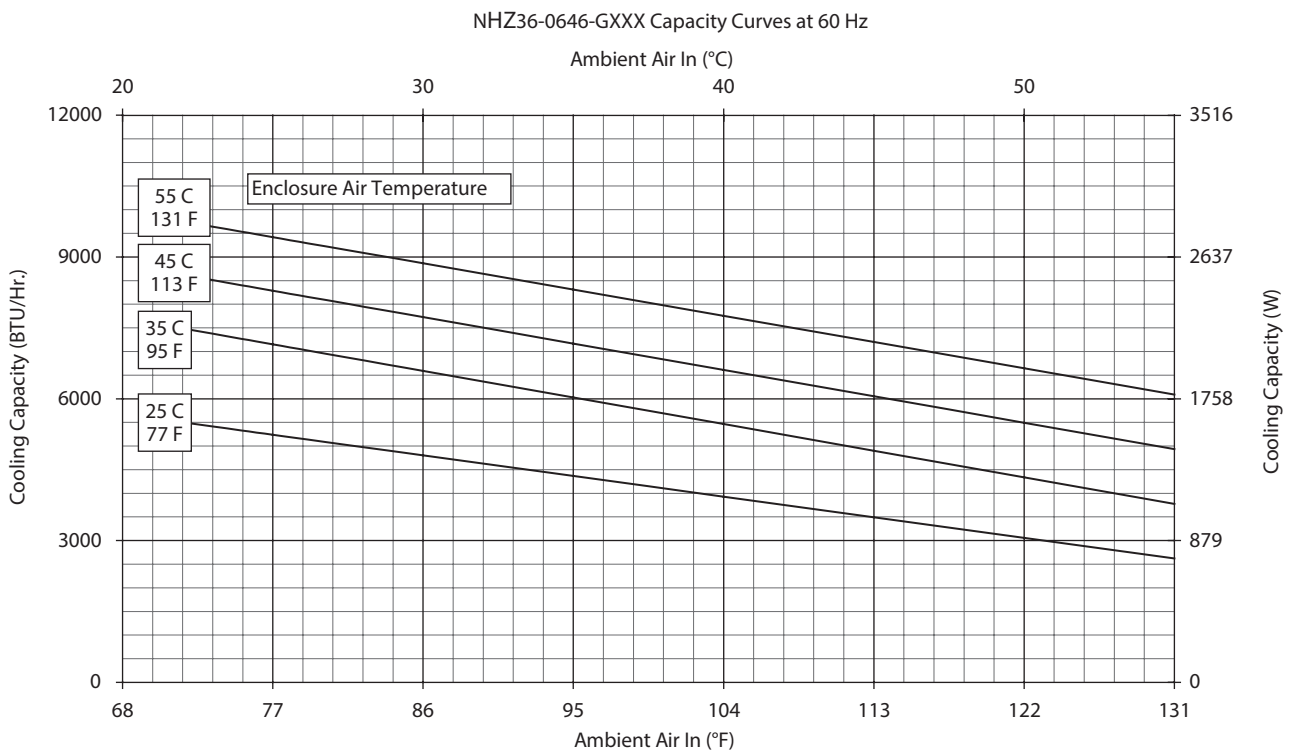
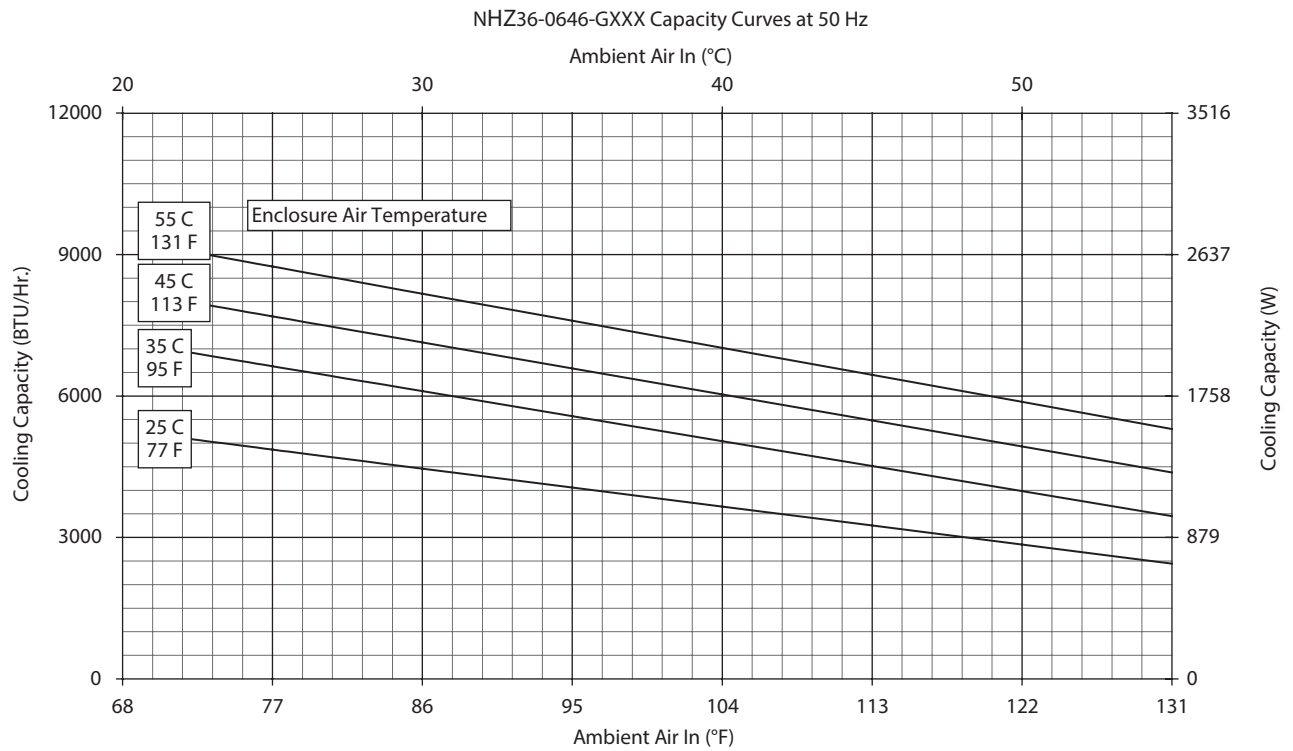
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ36 Models 6000 BTU/Hr. (1758 Watt)



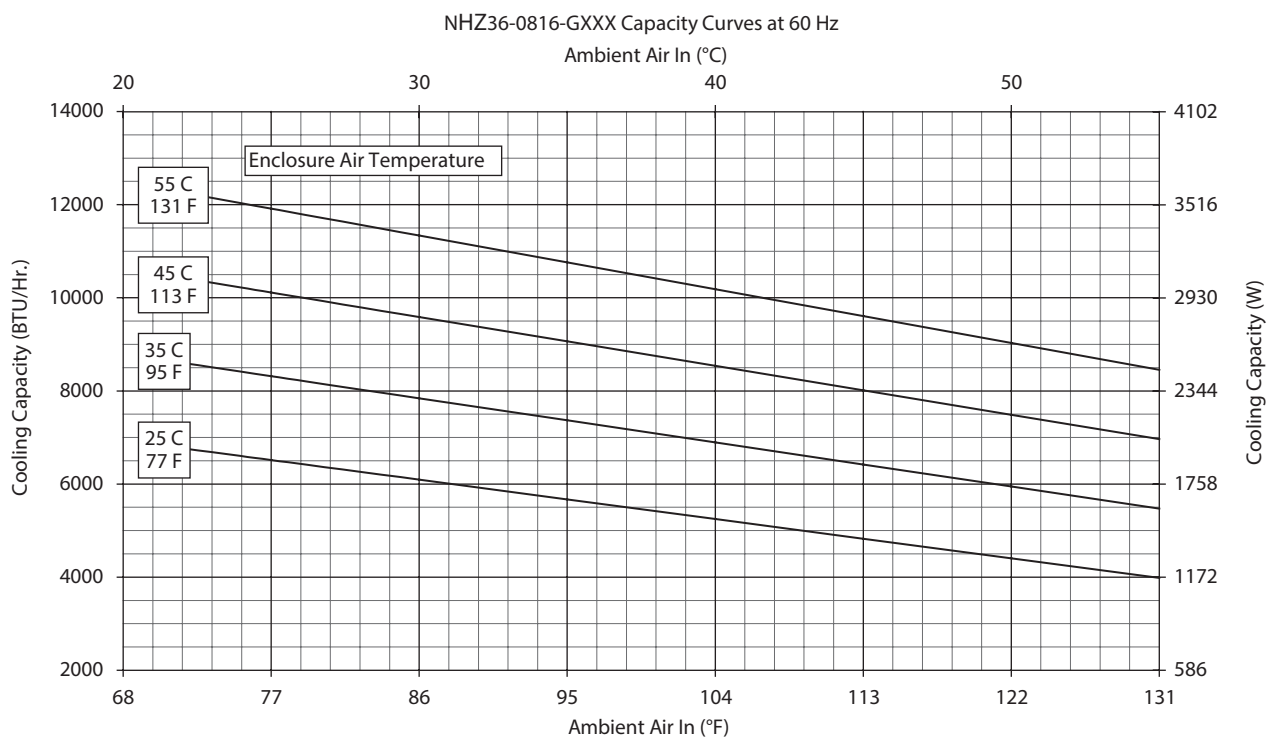
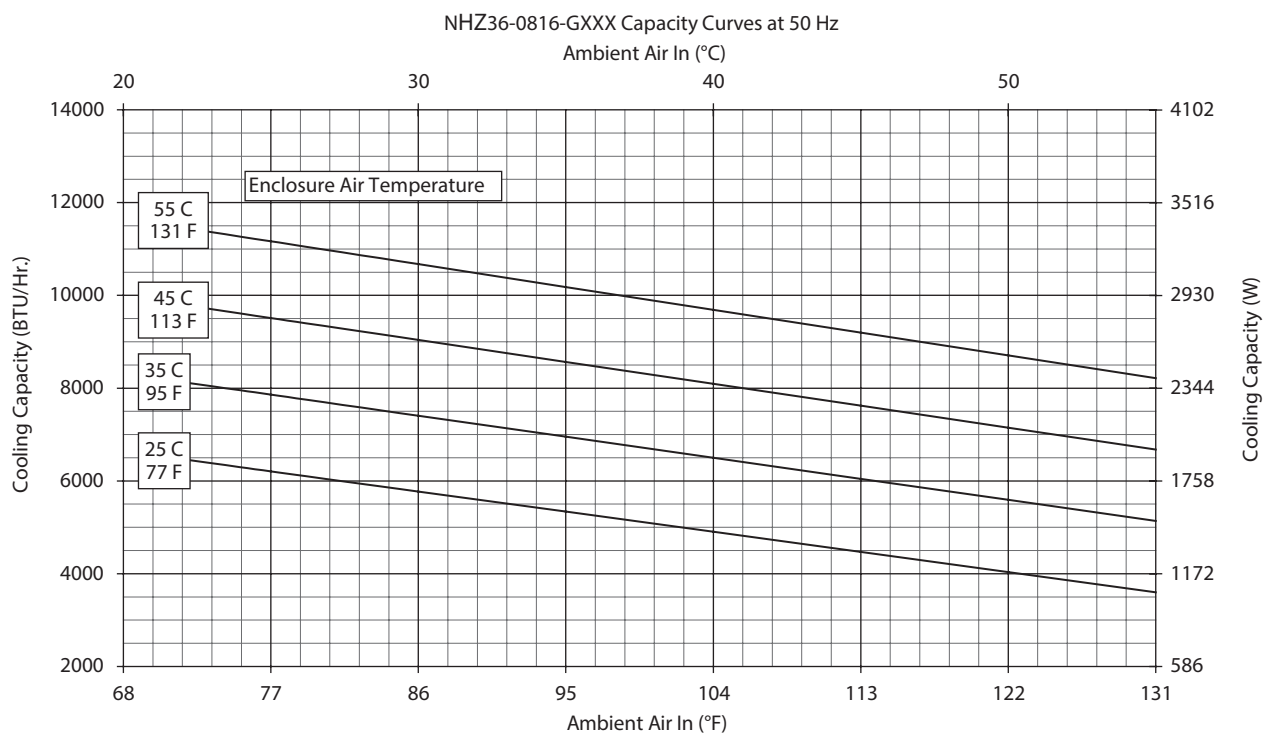
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ36 Models 6000 BTU/Hr. (1758 Watt)



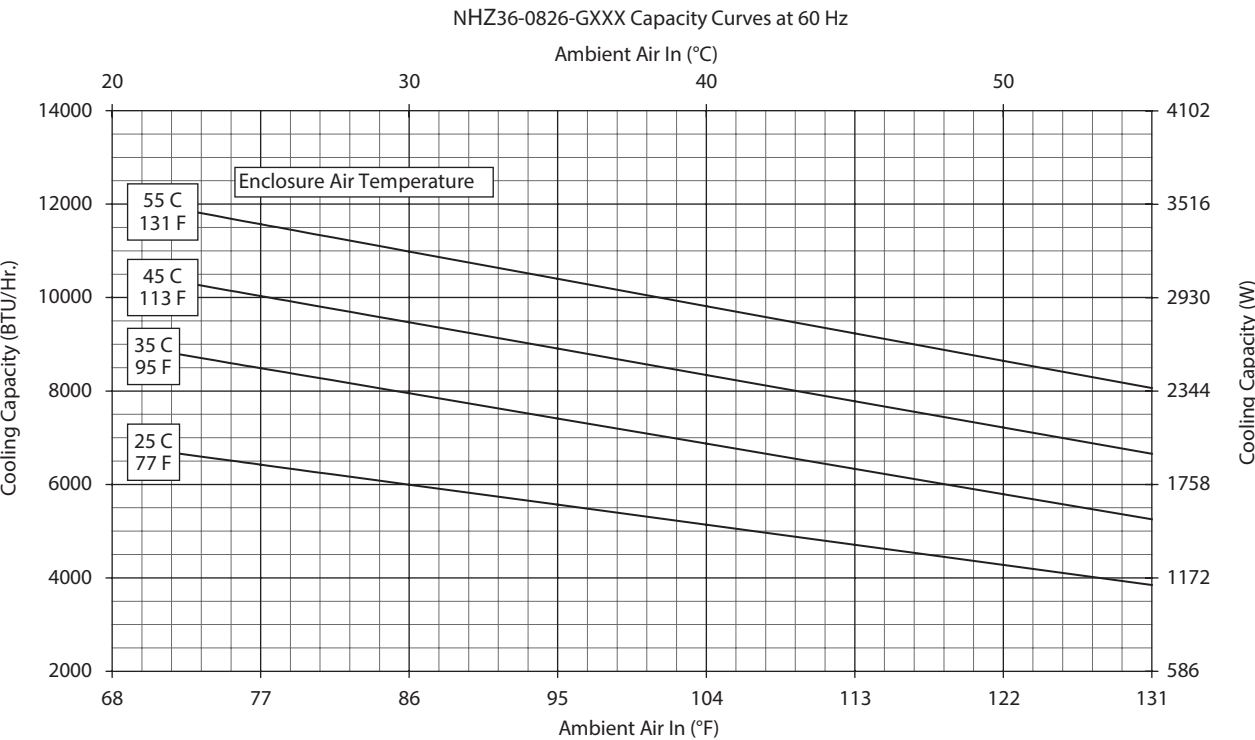
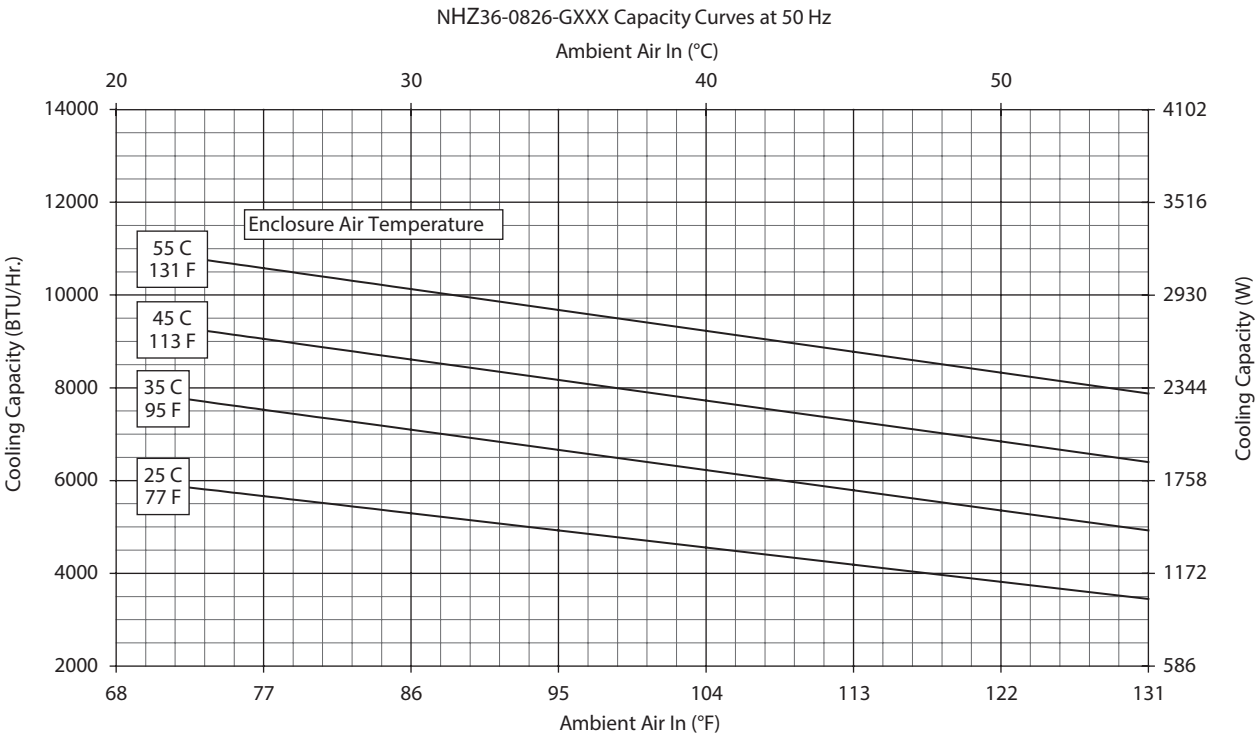
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ36 Models 8000 BTU/Hr. (2344 Watt)



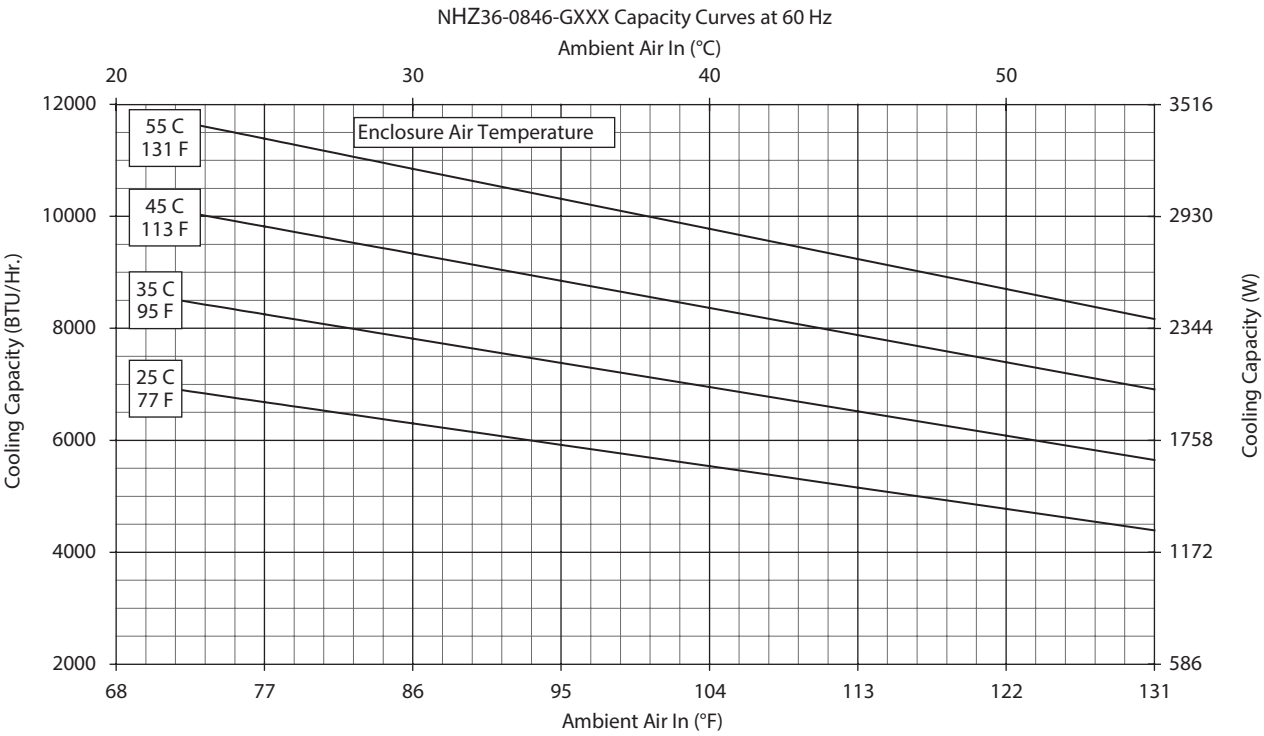
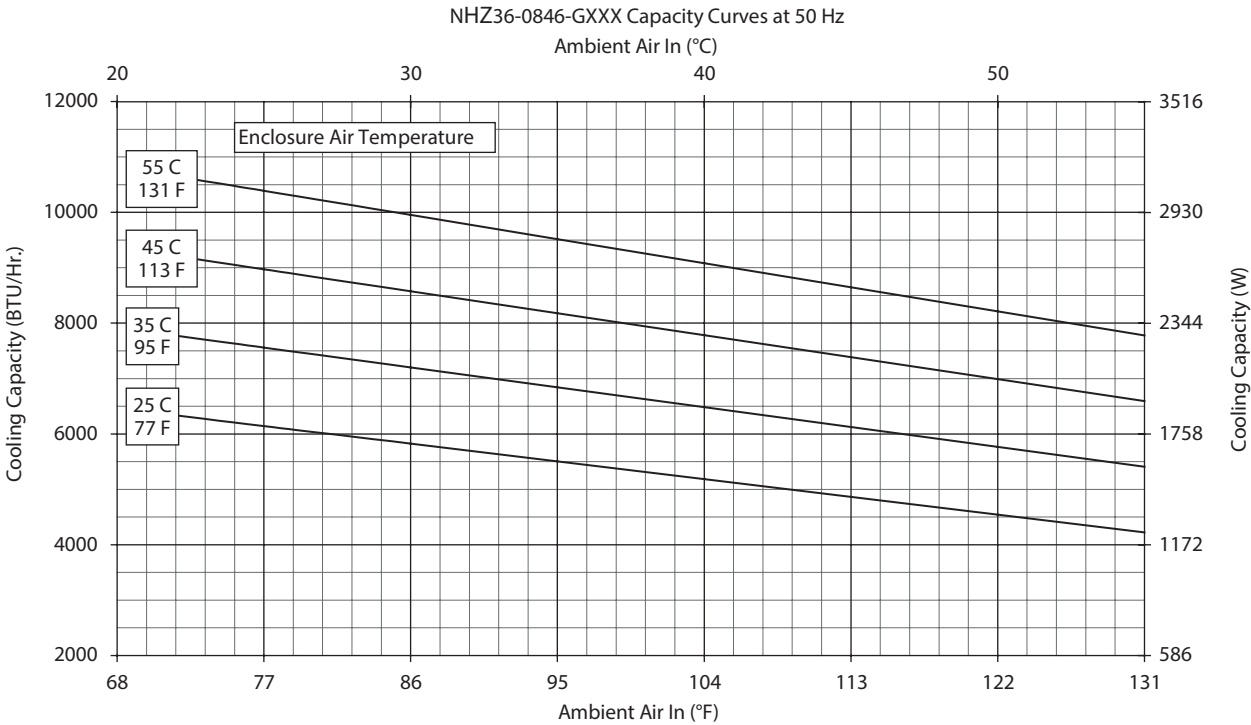
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ36 Models 8000 BTU/Hr. (2344 Watt)



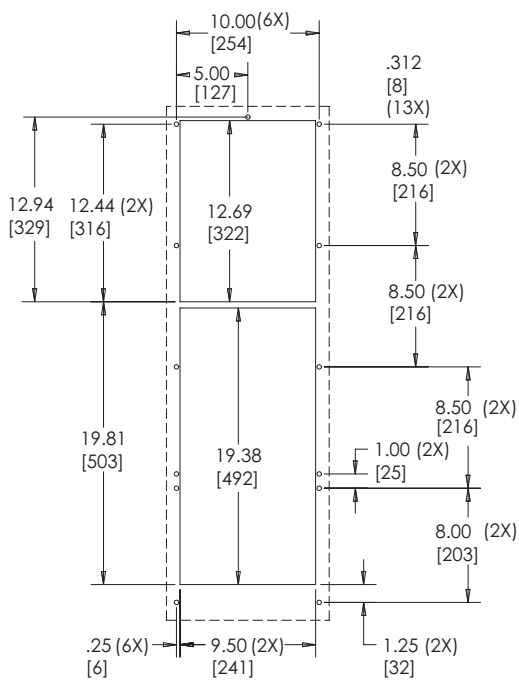
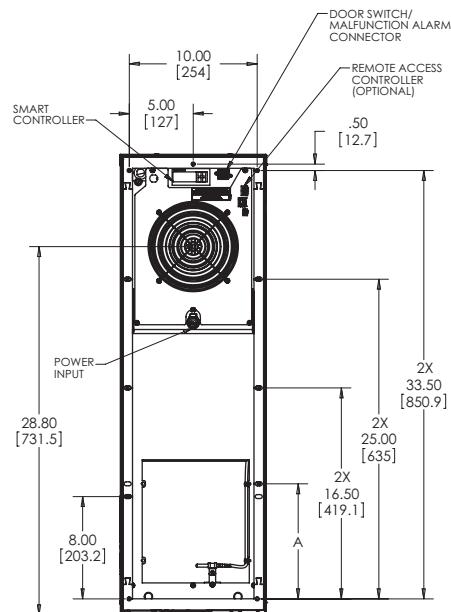
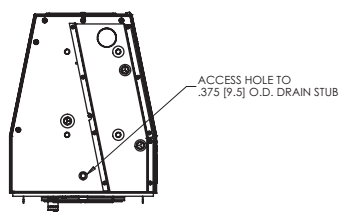
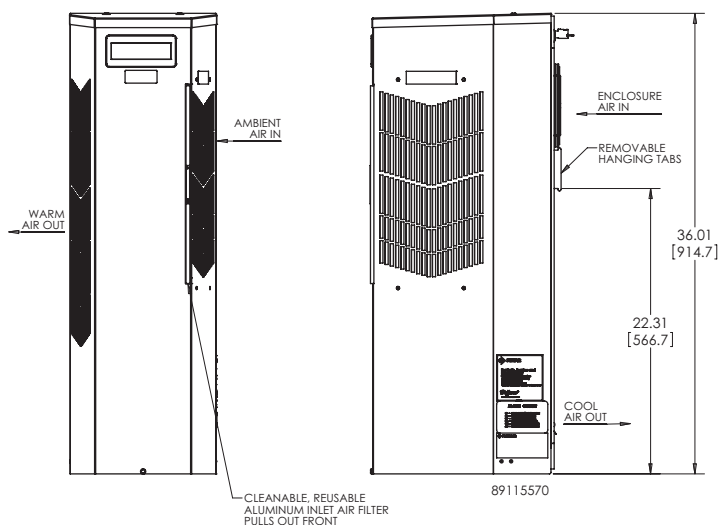
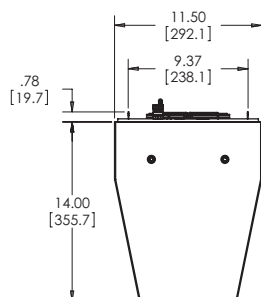
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ36 Models 8000 BTU/Hr. (2344 Watt)



SPECTRACOOL Hazardous Location Indoor/Outdoor

NHZ36 6000/8000 BTU/Hr. (1758/2344 Watt)



Cutout Dimensions

SPECTRACOOOL Hazardous Location Indoor/Outdoor

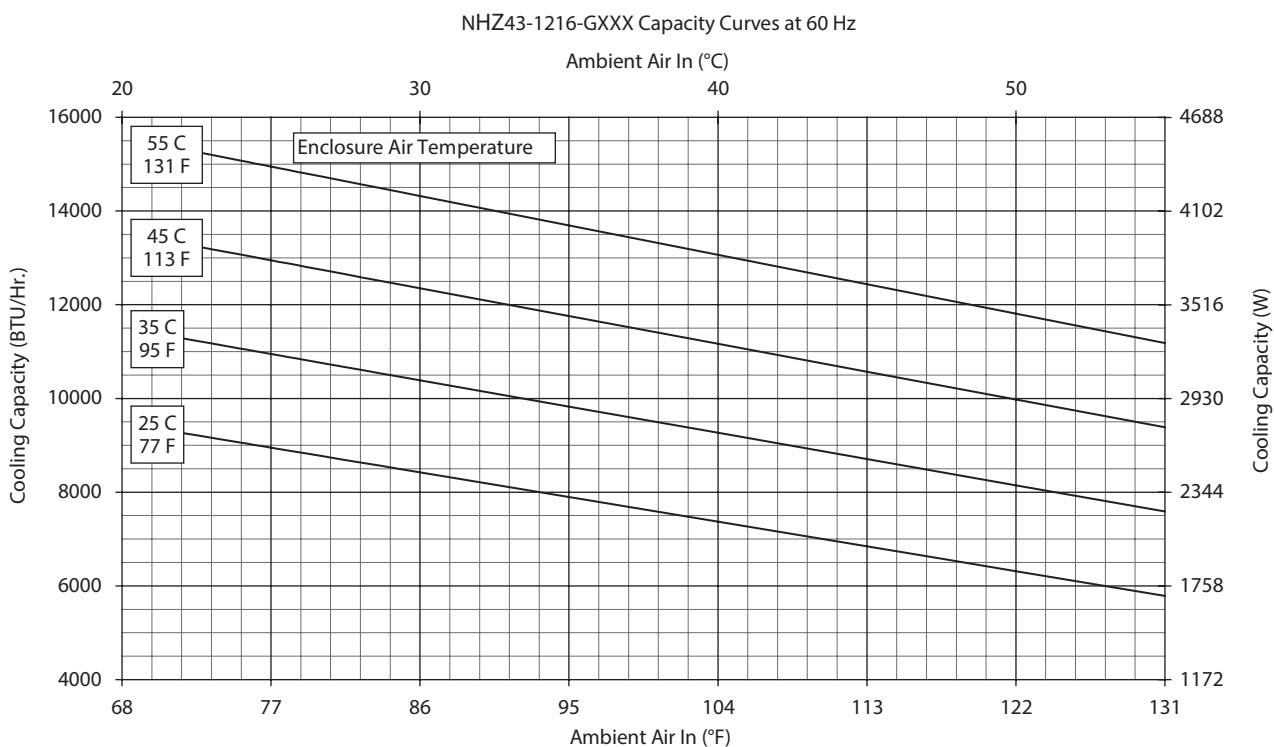
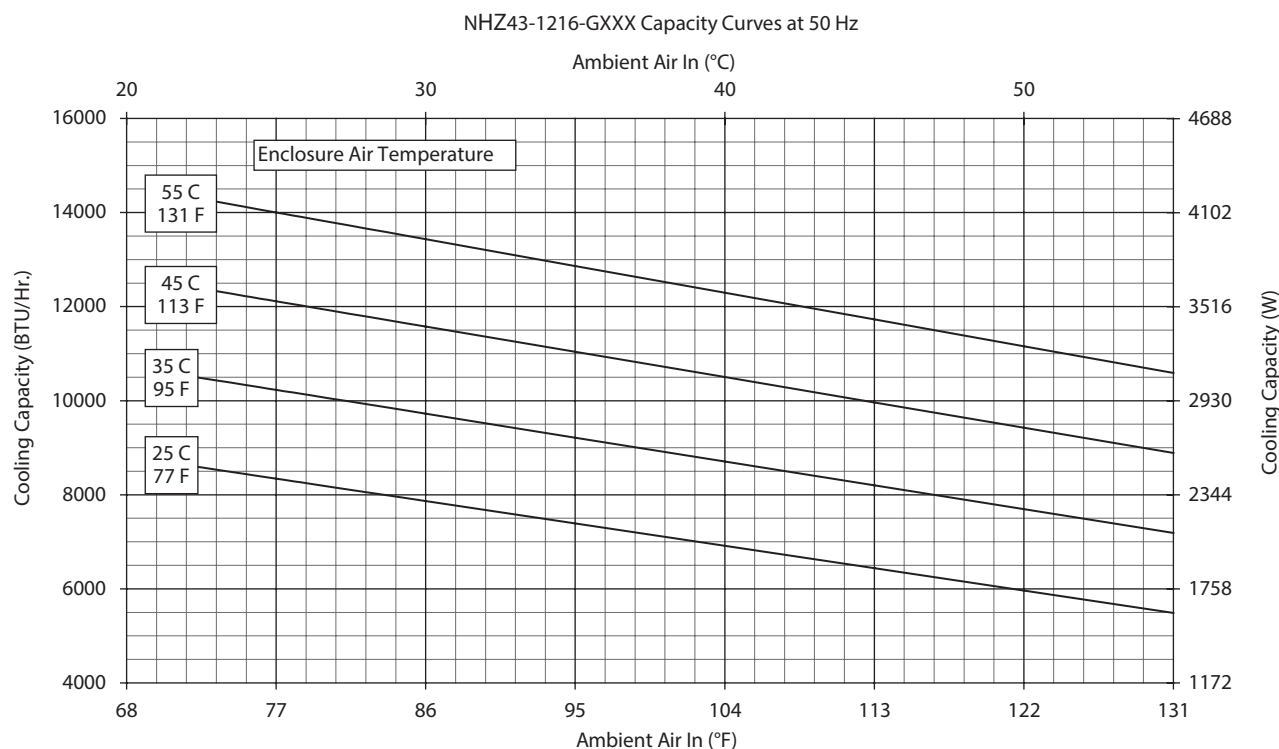
PERFORMANCE DATA NHZ43 11000 BTU/HR. (3223 WATT)

Item number			
Painted Galvanized Steel Type 4	NHZ431216G300	NHZ431226G300	NHZ431246G300
Painted Galvanized Steel Type 4 with Remote Access Control*	NHZ431216G360	NHZ431226G360	NHZ431246G360
Stainless Steel Type 4X	NHZ431216G400	NHZ431226G400	NHZ431246G400
Stainless Steel Type 4X with Remote Access Control*	NHZ431216G460	NHZ431226G460	NHZ431246G460
Stainless Steel Type 4X Offshore	NHZ431216G500	NHZ431226G500	NHZ431246G500
COOLING PERFORMANCE			
Nominal:			
BTUs/Hr.	10400 / 11000	10400 / 11000	10400 / 11000
Watts	3047 / 3223	2900 / 3223	2900 / 3223
At 131°F/131°F (55°C/55°C)			
BTU/Hr. (50 / 60 Hz)	10588 / 11180	9946 / 11052	10048 / 10797
Watts (50 / 60 Hz)	3103 / 3277	2915 / 3239	2945 / 3164
At 95°F/95°F (35°C/35°C)			
BTU/Hr. (50 /60 Hz)	9475 / 10023	8967 / 9644	8587 / 9559
Watts (50 / 60 Hz)	2777 / 2937	2628 / 2826	2517 / 2801
Refrigerant	R134a	R134a	R134a
Refrigerant Charge (ounces/grams)	36 / 1021	38 / 1077	41 / 1162
Operating Temperature Range:			
Maximum (°F / °C)	125 / 52	131 / 55	131 / 55
Minimum (°F / °C)	-40 / -40	-40 / -40	-40 / -40
Air Flow at 0 Static Pressure:			
Internal loop 50 Hz (CFM / M3/Hr)	239 / 406	259 / 440	254 / 432
External loop 50 Hz (CFM / M3/Hr)	494 / 839	489 / 831	341 / 579
Internal loop 60 Hz (CFM / M3/Hr)	250 / 425	267 / 454	260 / 442
External loop 60 Hz (CFM / M3/Hr)	528 / 897	525 / 892	564 / 958
ELECTRICAL DATA			
Rated Voltage	115	230	400 / 460 3~
Frequency (Hz)	50 / 60	50 / 60	50 / 60
Operating Range	+/-10%	+/-10%	+/-10%
Max. Power Consumption (Watts at 50 / 60 Hz)	1620 / 2061	1802 / 2446	1294 / 1421
Max. Nominal Current (Amps at 50 / 60 Hz)	15.1 / 18.2	8.7 / 9.1	3.4 / 3.5
Starting Current (Amps)	57	38	16
Agency Approvals	cUL Listed CE Others available upon request		
Power Input Description	Terminal Block		
ENCLOSURE PROTECTION			
UL Type	Type 4, 4X Standard		
CONTROLLER			
Description	Digital Controller		
Controller Location	Enclosure Side		
Factory Controller Setting (°F / °C)	80 / 27		
SOUND LEVEL			
At 1.5 Meters	68.4 dBA	68.4 dBA	69.6 dBA
UNIT CONSTRUCTION			
Material	Galvanized Sheet Metal Type 4 Models Stainless steel 316L Type 4X and Offshore Models		
Finish	RAL 7035 light-gray, semi-textured powder-coat paint standard Other colors available		
UNIT DIMENSIONS			
Height (in / mm)	43.00 / 1092.2		
Width (in / mm)	11.50 / 292.1		
Depth (in / mm)	14.00 / 355.6		
Weight (lb / kg)	127/57.6	127/57.6	138/62.6

*Units with Remote Access Control utilize a digital controller and communicate via EtherNet/IP, Profinet, Modbus TCP/IP and SNMP over ethernet or modbus RTU over USB.

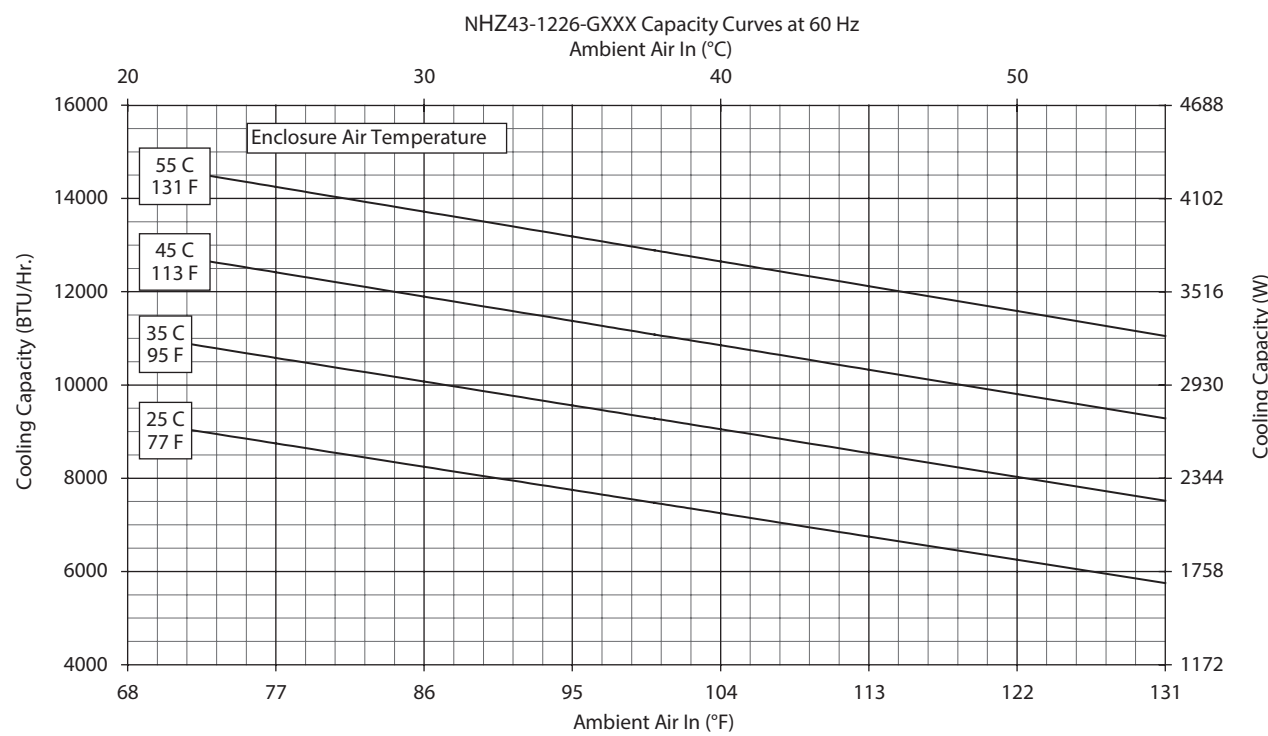
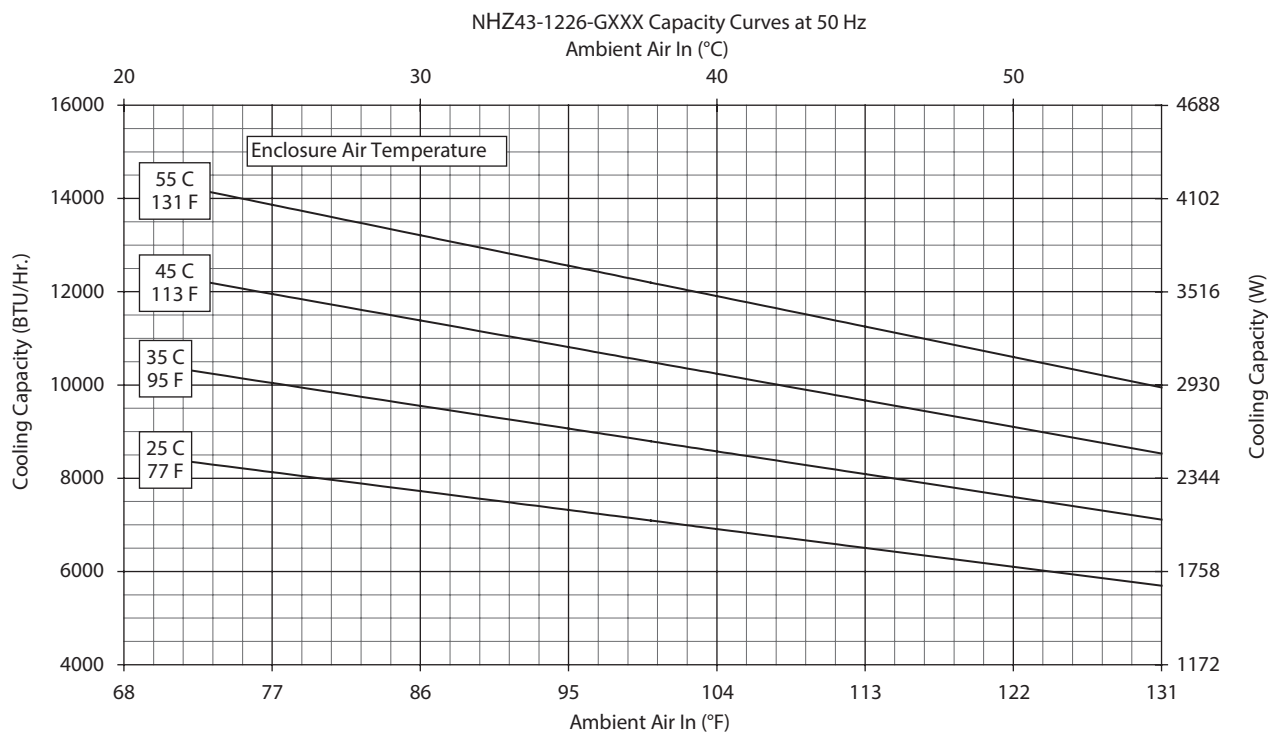
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ43 Models 11000 BTU/Hr. (3223 Watt)



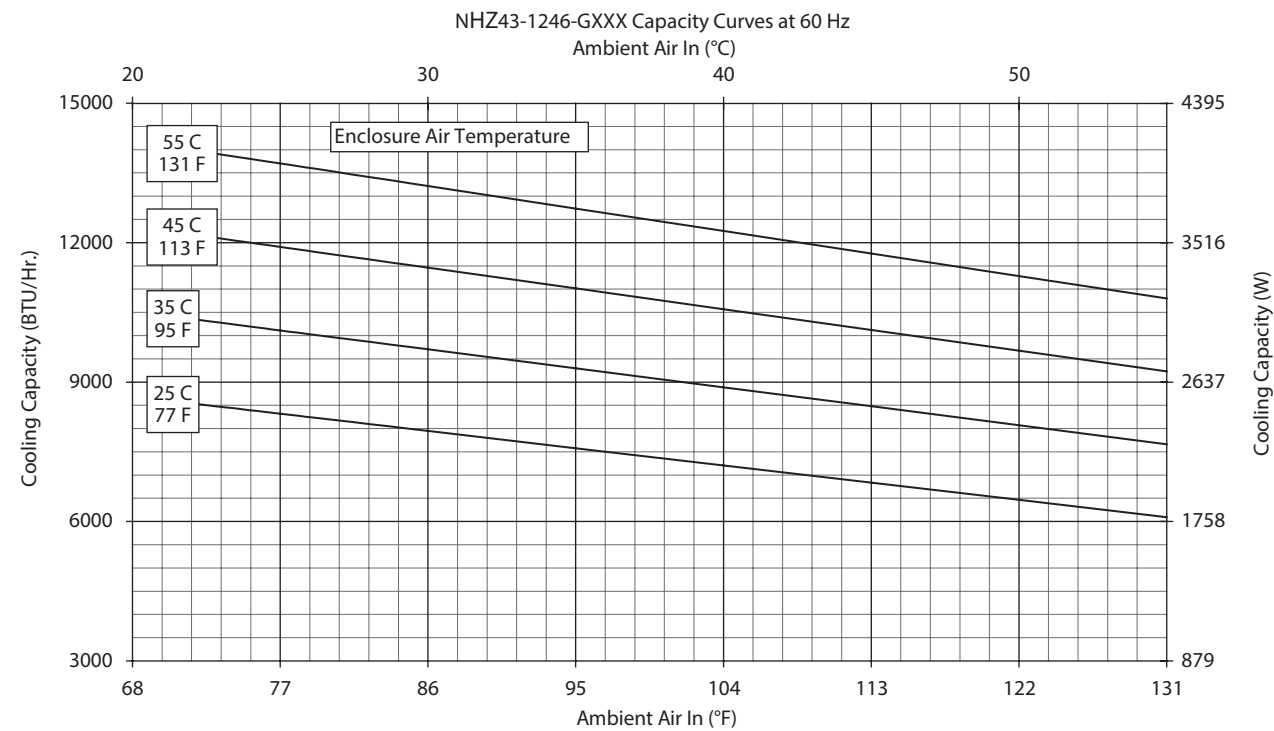
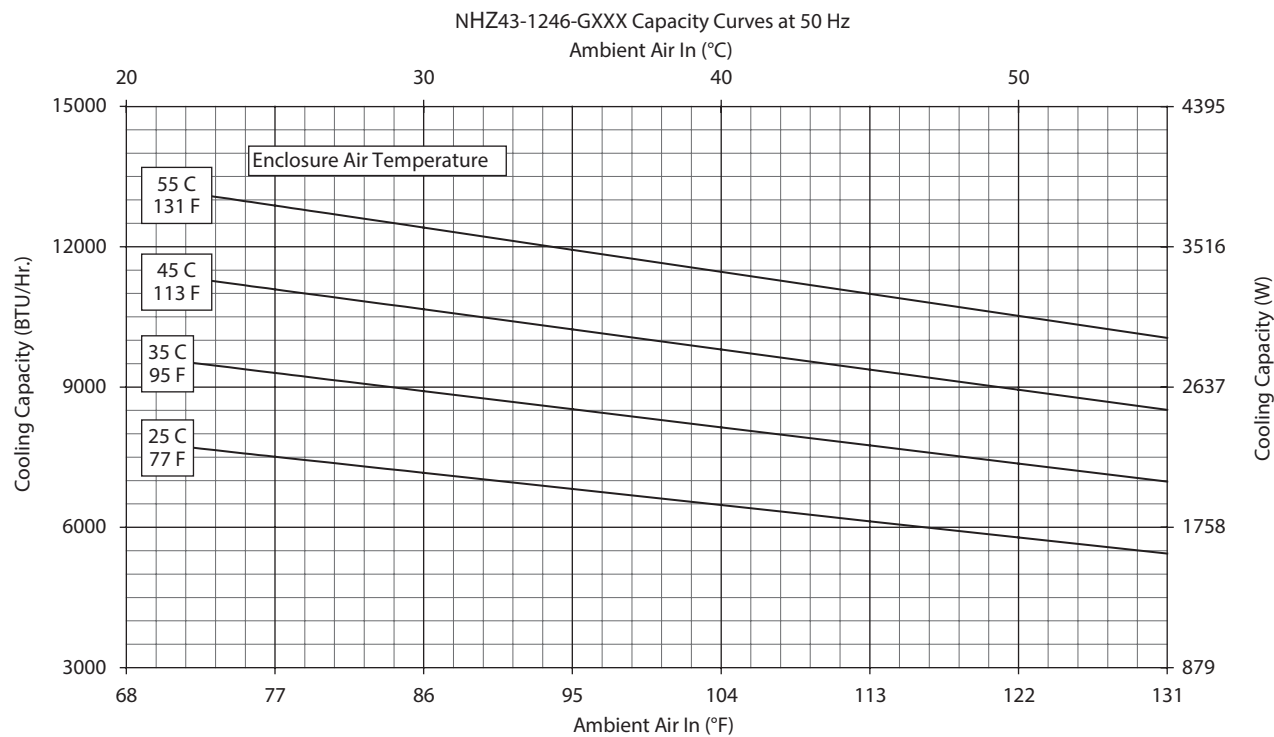
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ43 Models 11000 BTU/Hr. (3223 Watt)



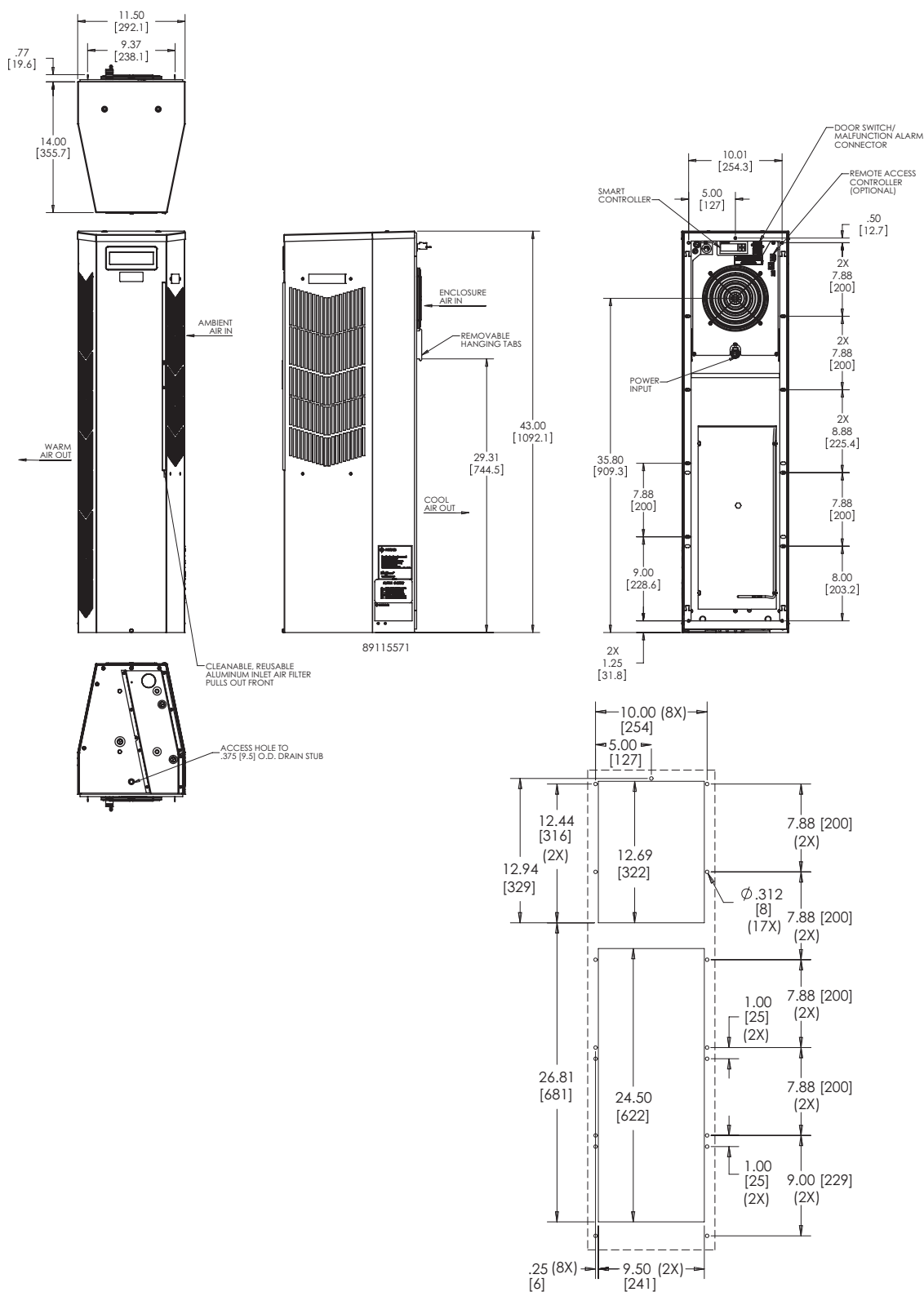
SPECTRACOOL Hazardous Location Indoor/Outdoor

Performance Curves for NHZ43 Models 11000 BTU/Hr. (3223 Watt)



SPECTRACOOL Hazardous Location Indoor/Outdoor

NHZ43 11000 BTU/Hr. (3223 Watt)



CUTOUT INSTRUCTIONS

Visit www.PentairProtect.com to download 2D and 3D CAD drawings into the overall design of your electronic system.

VORTEX Enclosure Cooler, Hazardous Location

VORTEX A/C ENCLOSURE COOLERS, HAZARDOUS LOCATION



INDUSTRY STANDARDS

Hazardous Location Models:

UL Classified for Class 1, Div. 2, Groups A through D; Class II, Div. 2, Groups F & G; and Class III locations (when used with an approved purge/pressurization system); File No. E364567. Maintains UL/cUL Type 4, 4X when properly installed on a UL/cUL Type 4, 4X enclosure.

APPLICATION

Hazardous Location Vortex A/C Enclosure Coolers keep enclosures cool, clean and protected even in hazardous environments. These systems are ideal for applications where compressed air is available in Hazardous Locations. With almost no moving parts, these systems are highly reliable and virtually maintenance free.

FEATURES

- Approved for a 75°F (80°C) maximum ambient temperature in Class I, Div. 2; Class II, Div. 2; and Class III areas
- Mechanical thermostat reduces energy consumption
- Top, side, and front mount allows for versatile installation in confined areas
- Quieter operation with noise level of 60-75 dB
- Supplied with five-micron, automatic drain compressed air filter, cold ducting kit, cold air muffler, and check valve
- Cooling capacities up to 5000 BTU/Hr. (1465 W)

FINISH

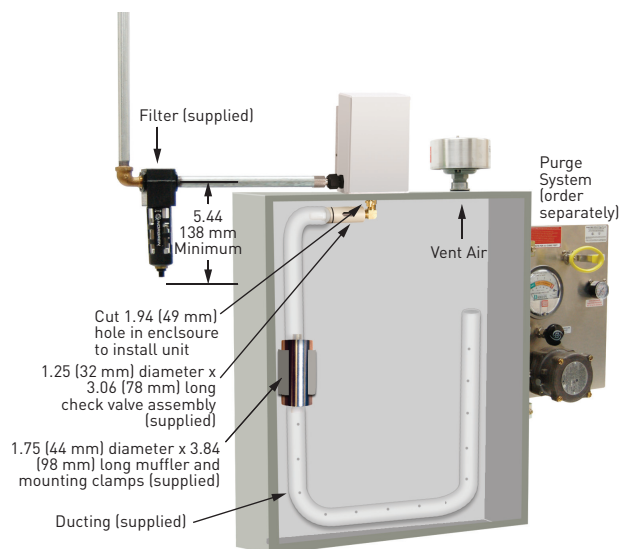
- Polycarbonate and stainless steel exterior with aluminum and brass internal components

PERFORMANCE DATA VHL SERIES FOR HAZARDOUS LOCATIONS

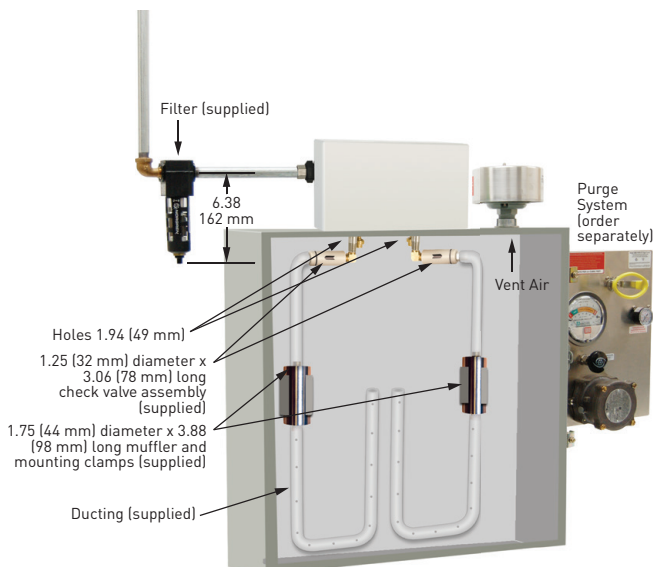
Item number				
	VHL09160	VHL15160	VHL25160	VHL50160
COOLING PERFORMANCE				
Cooling Capacity (BTU/Hr.)	900	1500	2500	5000
Cooling Capacity (Watts)	264	440	733	1465
Compressed Air Consumption (SCFM)	15	25	35	70
Compressed Air Consumption (SLPM)	425	708	991	1982
SOUND LEVEL				
Noise Level (dB)	60	66	72	75
ENCLOSURE PROTECTION				
UL Classified	Class 1, Div. 2, Groups A-D; Class II, Div. 2, Groups F & G, Class III			
UNIT DIMENSIONS				
Height (in./mm)	8.00/203	8.00/203	8.00/203	6.44/164
Width (in./mm)	4.75/121	4.75/121	4.75/121	9.44/240
Depth (in./mm)	5.38/137	5.38/137	5.38/137	5.56/141
Weight (lb./kg)	6.70/3.04	6.7/3.04	6.8/3.08	11.4/5.17

VORTEX Enclosure Cooler, Hazardous Location

VHL09, VHL15, VHL25 HAZLOC



VHL50 HAZLOC



VORTEX AC ACCESSORIES HAZARDOUS LOCATION

Item number	Description	Use with VHL Model Capacity
Air Filters		
VAAF15	5 micron, automatic drain compressed air filter	Up to 1500 BTU/Hr.
VAAF25	5 micron, automatic drain compressed air filter	Up to 2500 BTU/Hr.
VAAF50	5 micron, automatic drain compressed air filter	Up to 5000 BTU/Hr.
Oil Filters		
VCOF17	Oil Filter	Up to 1500 BTU/Hr.
VCOF25	Oil Filter	Up to 5000 BTU/Hr.
Generators		
VAGK09	Generator Kit	900 BTU/Hr. models
VAGK15	Generator Kit	1500 BTU/Hr. models
VAGK25	Generator Kit	2500 and 5000 BTU/Hr. models
Air Ducting		
VHLDK	Cold Air Ducting Kit	All Hazardous Location models

North America

Minneapolis, MN

Tel: +1.763.421.2240

Mexico, D.F.

Tel: +52.55.5280.1449

Toronto, Canada

Tel: +1.416.289.2770

South America

Sao Paulo, Brazil

Tel: +55.11.5184.2100

Boitura, Brazil

Tel: +55.15.3363.9148

Europe

Straubenhardt, Germany

Tel: +49.7082.794.0

Dzierzoniow, Poland

Tel: +48.74.64.63.900

Lainate, Italy

Tel: +39.02.932.7141

Aachen, Germany

Tel: +49.2405.40996.0

Middle East & India

Dubai, United Arab Emirates

Tel: +971.4.378.1700

Bangalore, India

Tel: +91.80.6715.2001

Asia

Shanghai, P.R. China

Tel: +86.21.2412.6943

Singapore

Tel: +65.6768.5800

Shin-Yokohama, Japan

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