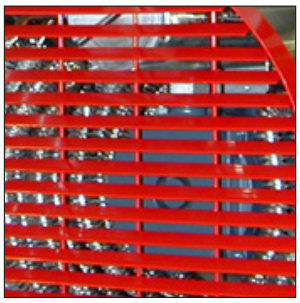
THERMON Norseman™



Product Catalog

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WORLD LEADER IN INDUSTRIAL PROCESS HEATING SOLUTIONS

Contents

Locations

As a leader in heating and filtration solutions, Thermon is committed to ongoing research, product development and above all, excellence in customer service.

With facilities across North America, Thermon manufactures five of the top brands in industrial heating in addition to a comprehensive line of engineered industrial filtration products including:

Cata-Dyne™
Explosion-Proof Gas Catalytic Heaters
Ruffneck™
Heaters for the Harshest Environments
Caloritech™
Engineered Electric Heat

3L Filters™
Engineered Filtration Systems
Norseman™
Electric Explosion-Proof Heaters
Fastrax™
Track and Switch Heaters

Norseman™ explosion-proof electric air heaters and thermostats are low maintenance solutions for a wide range of applications. From panel heaters to unit heaters, the Norseman™ line provides innovative forced air or natural convection solutions to your hazardous area heating requirements across a wide kilowatt range.

We invite you to visit www.thermon.com to view the broad range of innovative industrial heating products manufactured by Thermon.

Norseman™ Electric Explosion-Proof Heaters & Thermostats

Thermon manufactures the complete line of Norseman™ explosion-proof electric air heaters and thermostats. Norseman™ heaters and thermostats provide innovative, low maintenance solutions for a wide range of applications. The complete line of Norseman™ explosion-proof heaters includes:

- XGB Unit Heater
- XB Convection Heater
- XPA Explosion-Proof Panel Heater
- XT Thermostats

Standard Features

Flexibility in application and design. From panel heaters to unit heaters, the Norseman™ line provides innovative forced air or natural convection solutions to your hazardous area heating requirements, custom engineered units are available across a wide range of wattages for specialized applications. Our qualified sales staff are ready to provide the solution that's right for your needs.

Durable Construction

With anodized, copper-free aluminum housings and heat sinks, and nickel plated, low watt-density elements the Norseman™ line of electric explosion-proof heaters is designed to provide years of reliable, low maintenance service.

Simplified Wiring

To facilitate installation, Norseman™ heaters employ the patented **x-Max®** housing with screw on covers and slide out terminal block trolley.

Explosion-Proof *x-Max®* Terminal Housing

Thermon's explosion-proof terminal housing features the unique **x-Max®** "Track and Trolley" system. Typical uses include: as a terminal enclosure, a control station, a junction box, or it can be adapted for use in custom engineered applications. Five standard diameters, offered in lengths up to 38" (965 mm), can cover most of your explosion-proof housing requirements. No longer is it necessary to remove dozens of bolts to gain access to housing components for installation, adjustment or servicing. With longer type XH housings, components are mounted to the trolley. To service, simply unscrew the end cover and slide the trolley out of the enclosure.

The "Track and Trolley" wiring system allows the user to mount all electrical components to an aluminum "Trolley", make all wiring connections outside of the enclosure, and simply slide the "Trolley" along the extruded "Track". Series 1 and 2 housings use extruded aluminum trolleys and Series 3, 4, and 5 housings use trolleys made from 14-gauge sheet metal.

Technical Data

Applications

Norseman™ explosion-proof heaters are available for almost all hazardous location requirements. Typical applications for Norseman™ explosion-proof heaters include:

- Oil platforms and refineries
- Control cabinets and small enclosures
- Storage rooms for paints and cleaners
- Grain elevators
- Flour mills
- Spray booths
- Gas plants
- Pump houses
- Marine and offshore
- Cleaning and dyeing plants
- Water and sewage treatment plants
- Compressor stations
- Pulp and paper mills
- Cement plants

Atmospheric Conditions & Temperature Codes

The information listed is to be used only as a general guide. Please contact us to check the suitability of the Norseman™ heater for your needs.

For detailed information concerning the installation of electrical equipment in hazardous locations, refer to either the Canadian Electrical Code Part 1 Section 18, available from CSA International, or the National Electrical Code Chapter 5 Articles 500 through 503, available from the National Fire Protection Association.

Where electrical equipment is required by Section 18 or Chapter 5 to be approved for the class of location, it shall also be approved for the specific gas, vapor, or dust that will be present. Such approval may be indicated by one or more atmospheric group designations which have been established for the purposes of testing and approval.

Note that the maximum external temperature of the equipment shall not exceed the minimum ignition temperature of the atmosphere as listed in Table 2, page 6.

For example: Assume the maximum heater temperature is listed as T2C or 446°F (230°C). This heater would not be suitable for use in atmospheres containing octanes but would be suitable for use in atmospheres containing gasoline.

For octanes, select a heater having a temperature code that does not exceed 403°F (206°C).

Table 1 – Equipment Maximum Temperature

T-Code USA	Maximum Surface Temperature	T-Code Europe
T1	842°F (450°C)	T1
T2	572°F (300°C)	T2
T2A	536°F (280°C)	–
T2B	500°F (260°C)	–
T2C	446°F (230°C)	–
T2D	419°F (215°C)	–
T3	392°F (200°C)	T3
T3A	356°F (180°C)	–
T3B	329°F (165°C)	–
T3C	320°F (160°C)	–
T4	275°F (135°C)	T4
T4A	248°F (120°C)	–
T5	212°F (100°C)	T5
T6	185°F (85°C)	T6

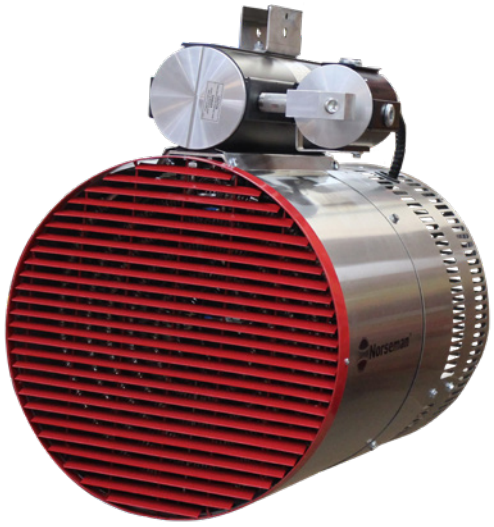
Table 2 – Atmospheric Conditions

Atmosphere	Minimum Ignition Temperature Limit
Group A Containing Group IIC	
Acetylene	581°F (305°C)
Group B Containing Group IIC	
Butadiene	788°F (420°C)
Ethylene oxide	804°F (429°C)
Hydrogen manufactured	
Gases containing more than 30%	932°F (500°C)
Hydrogen (by volume)	932°F (500°C)
Propylene oxide	930°F (499°C)
Group C Containing Group IIB	
Acetaldehyde	347°F (175°C)
Cyclopropane	928°F (498°C)
Diethyl ether	320°F (160°C)
Ethylene	842°F (450°C)
Unsymmetrical dimethyl hydrazine (UDMH 1, 1-dimethyl hydrazine)	480°F (249°C)
Group D Containing Group IIA	
Acetone	869°F (465°C)
Acrylonitrile	898°F (481°C)
Alcohol (see ethyl alcohol)	
Ammonia	1204°F (651°C)
Benzene	928°F (498°C)
Benzine (see petroleum naphtha)	
Benzol (see benzene)	
Butane	549°F (287°C)
1-butanol (butyl alcohol)	649°F (343°C)
2-butanol (secondary butyl alcohol)	761°F (405°C)
Butyl acetate	797°F (425°C)
Isobutyl acetate	790°F (421°C)
Ethane	882°F (472°C)
Ethanol (ethyl alcohol)	685°F (363°C)
Ethyl acetate	799°F (426°C)
Ethylene dichloride	775°F (413°C)
Gasoline	536°F (280°C)
Heptanes	399°F (204°C)
Hexanes	433°F (223°C)
Isoprene	743°F (395°C)
Methane	999°F (537°C)
Methanol (methyl alcohol)	725°F (385°C)
3-methyl-1-butanol (isomyl alcohol)	662°F (350°C)
Methyl ethyl ketone	759°F (404°C)
Methyl isobutyl ketone	838°F (448°C)
2-methyl-1-propanol (isobutyl alcohol)	779°F (415°C)
2-methyl-2-propanol (tertiary butyl alcohol)	892°F (478°C)
Naphtha (see petroleum naphtha)	
Natural gas	900°F (482°C)
Octanes	403°F (206°C)
Pentanes	500°F (260°C)
1-pentanol (amyl alcohol)	572°F (300°C)
Petroleum naphtha	550°F (288°C)
Propane	810°F (432°C)
1-propanol (propyl alcohol)	774°F (412°C)
2-propanol (isopropyl alcohol)	750°F (399°C)
Propylene	851°F (455°C)
Styrene	914°F (490°C)
Toluene	896°F (480°C)
Vinyl acetate	756°F (402°C)
Vinyl chloride	882°F (472°C)
Xylenes	865°F (463°C)
Group E Comprising	
Atmospheres containing metal dust, including aluminum, magnesium, and their commercial alloys, and other metals of similarly hazardous characteristics.	
Group F Comprising	
Atmospheres containing carbon black, coal, or coke dust.	
Group G Comprising	
Atmospheres containing flour, starch, or grain dust, and other dusts of similarly hazardous characteristics.	

Explosion-Proof Forced Air Unit Heater - XGB

The Norseman™ XGB Series hazardous environment heater is designed to accommodate your requirements with flexibility and ease of maintenance, even under the toughest conditions.

Norseman™ XGB unit heaters are available in large cabinet units with ratings of 10 to 35 kW.



Applications

The Norseman™ XGB is designed specifically for heating industrial spaces where potentially explosive substances are or may be present.

Typical hazardous location environments include:

- Water and sewage treatment plants
- Oil refineries
- Compressor stations
- Pulp and paper mills
- Paint storage booths
- Cement plants
- Mines
- Marine and offshore

Certification

Certified by CSA to Canadian and US standards, with standard models approved for the following:

- Class I, Division 1 & 2, Groups C & D
- Class II, Division 1, Groups E, F & G
- Class II, Division 2, Groups F & G

NOTE: Group B and 50 Hz constructions available on large cabinet construction only on special request. Class II and some atmospheric groups are not available in every kW rating.

Flow Adjustment

In structures with high ceilings, other units may not have the range of motion needed to direct air flow to the floor. The XGB allows the unit to be tilted at a 30° angle below the horizontal. For lateral airflow, the entire louvre assembly can be rotated 90°.

No Conduit Seal Required

A factory installed conduit seal provides the necessary isolation between the supply and control housings. In Division 2, Zone 2 applications, a field installed conduit seal may not be required.

Model Coding

XGB	100	T3B	3	1	T
Model Series	Wattage	Temperature Code	Heater Voltage	Phase	Options
	100 - 10 kW 150 - 15 kW 200 - 20 kW 225 - 22.5 kW 250 - 25 kW 300 - 30 kW 350 - 35 kW	T3B - 329°F (165°C) T3A - 356°F (180°C) T2D - 215°C (419°F) T2C - 230°C (446°F)	2 - 208V 3 - 240V 7 - 480V 8 - 600V	1 - 1 Phase 3 - 3 Phase	T - Thermostat R - Moisture-Resistant Design EW - 50 Hz Construction H - Div. 2, Group B, C, D M - Special Mechanical Features E - Special Electrical Feature - Built-in Disconnect

*This nomenclature illustration is intended primarily to explain how a product part number is defined. Not all wattage, size and temperature code combinations are available.
Please consult Table 3 or Table 4, page 8 for availability.

Simplified Wiring

To facilitate installation, the Norseman™ explosion-proof unit heaters feature Thermon's patented **x-Max**® housing with slide out terminal block trolley for connection of the electrical supply.

Table 3 – Norseman™ XGB Unit Heaters - Large Cabinet Units

Part No.	kW Btu/hr	V	Approx. CFM (L/s)	Approx. Temp Rise		Temperature Code				Class I		Class II			Maximum Line Amps		Recommended Fuse Size (Amps)	
				°F	°C	T2C	T2D	T3A	T3B	C	D	E	F	G	1Ø	3Ø	1Ø	3Ø
XGB100T3B	10 (34120)	208	1850 (870)	16	9.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	30	–	40
		240					✓	✓	✓						47	26	60	35
		480					✓	✓	✓						–	13	–	20
		600					✓	✓	✓							11		15
XGB150T3B	15 (51180)	208		24	13.5		✓	✓	✓							44		60
		240					✓	✓	✓							38		50
		480					✓	✓	✓							19		25
		600					✓	✓	✓							15		20
XGB200T3B	20 (68250)	480		32	17.8		✓	✓	✓							25		35
		600					✓	✓	✓							20		25
XGB225T3B	22.5 (76770)	480		36	20.0		✓	✓	✓							28		35
		600					✓	✓	✓							23		30
XGB250T3A	25 (85300)	480		41	22.8		✓	✓	–			–	–	–		31		40
		600					✓	✓	–			–	–	–		25		35
XGB300T2D	30 (102360)	480		49	27.2		✓	–	–			–	–	–		37		50
		600					✓	–	–			–	–	–		30		40
XGB350T2C	35 (119420)	480		57	31.5		–	–	–			–	–	–		43		60
		600					–	–	–			–	–	–		34		45

Standard Features

Large Cabinet

- 1/2 HP explosion-proof motor
- Inlet guard
- Extra heavy wall tubular steel finned heating elements with nickel plated finish
- Patented x-Max® explosion-proof terminal housing
- 120V control circuit includes:
  - Derated magnetic contactor
  - Dual automatic reset high limits
  - Transformer
  - Fan delay relay
  - Control fuse
- Heavy duty 16-gauge stainless steel casing
- Outlet louvre assembly
- Swivel bracket
- Factory installed conduit seal
- Supply connection housing
- Terminal block for supply wiring and thermostat connection

Optional Features

- Built-in, externally adjustable thermostat
- Built-in disconnect switch
- Moisture-resistant construction
- “auto/off/fan only” switch
- Pilot light
- Manual reset high limit
- Arctic duty design
- Class I, Division 2, Groups B, C & D design available on request*
- Group E*
- 50 Hz construction*

Mounting Accessories

Ceiling mount kit; Wall mount kit; Post mount kit; Floor stand kit.

Thermostats

Thermon offers a wide variety of explosion-proof thermostats to suit most every need. Norseman™ unit heaters are available with optional built-in, externally adjustable, bulb-type thermostats. Thermostats for remote mounting can be provided upon request.

Motors

Fractional horsepower, 1725 RPM explosion-proof motor with double shielded ball bearings and built-in thermal overload. Large cabinet units use 1/2 HP motor approved for Class I, Groups C and D; Class II, Groups E, F and G, as standard.

NOTE: Not all options are available on all models or kW ratings. Check factory for options and construction availability prior to ordering.

Outlet Louvres

A louvred grille on the heater outlet end is supplied as standard. The louver assembly may be positioned either horizontally or vertically for maximum flexibility.

NOTE: Proper motor/fan rotation, viewed from the rear of the heater, is counter-clockwise for small cabinet heaters and clockwise for the large cabinet units, as indicated by the fan rotation label on the heater. Incorrect rotation of the fan will cause the heater to overheat and cycle on the high limits. Consult factory in case of incorrect rotation.

Heater Dimensions and Weight

Table 4 – Heater Dimensions

	in (mm)				
	A	B	C	D1	D2
Large Cabinet	20.125 (511)	8.875 (225)	29.25 (743)	–	31.25 (794)

Table 5 – Heater Weight

	kW Rating	Heater Weight	Shipping Weight
		lbs (kg)	lbs (kg)
Large Cabinet	10 to 15	154 (66)	182 (83)
	20 to 35	185 (84)	222 (101)

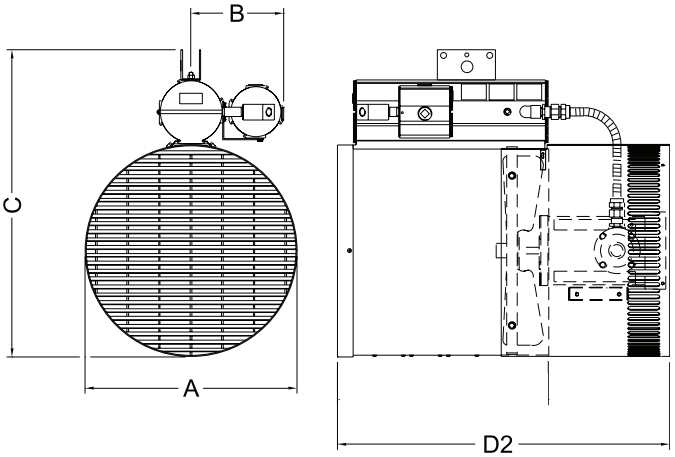


Figure 1 – XGB Dimensions

Temperature Control

Built-In Thermostat (Optional)

When specified, the unit comes equipped with a built-in thermostat prewired to all other standard controls. Set the temperature to the desired operating condition.

Remote Thermostat (Optional)

Install the XT thermostat in accordance with the instruction sheet provided. Terminals “T1” and “T2” in the heater supply housing are provided for connection to a remote thermostat and are prewired to the rest of the control circuit. Remove the jumper wire between “T1” and “T2” and connect the thermostat to these terminals. Set the temperature to the desired operating condition.

“AUTO/OFF/FAN-ONLY SWITCH” (Optional)

If ordered, a factory installed **“AUTO/OFF/FAN-ONLY”** switch may be included on the heater. The “fan-only” feature allows the heater to cycle in a “heat” mode dictated by the controlling thermostat, even though the fan is operating continuously.

Manual Reset High-Limit (Optional)

If it is required, the heater can be equipped with one manual reset high-limit. This manual reset high-limit is installed in lieu of one of the auto-reset high-limits. Normal operation of the heater remains the same unless the manual reset high-limit trips, in which case the limit must be reset manually.

Mounting

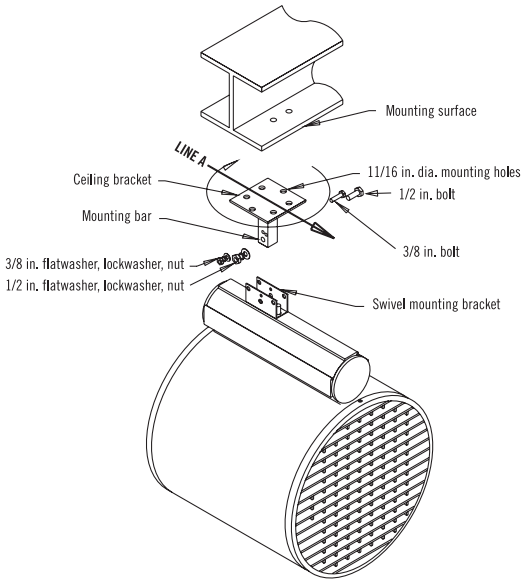


Figure 2 – Ceiling Mounting

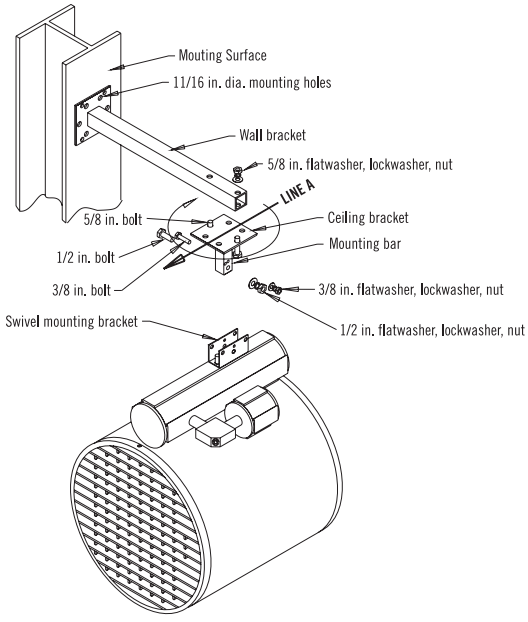


Figure 3 – Wall Mounting

Table 6 – Mounting Kit Part Numbers

Part No.	Description
AC-CM-01	Ceiling Mount Kit
AC-WM-01	Wall Mount Kit
AC-PM-01	Post Mount Kit
AC-FMS-01	Floor Stand Kit

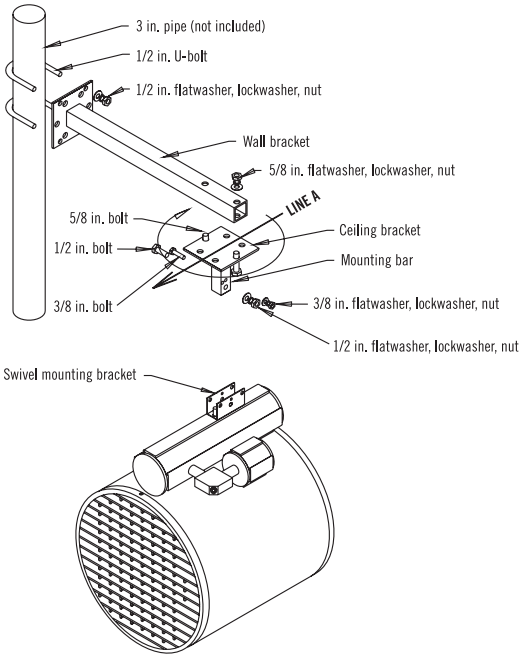


Figure 4 – Post Mounting

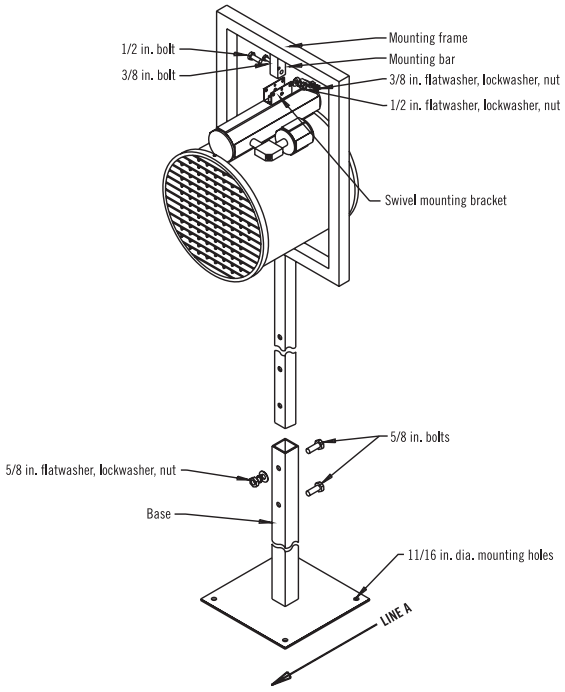


Figure 5 – Floor Stand Mounting

Explosion-Proof Natural Convection Heater - XB

The Norseman™ XB Series convection heater, with ratings up to 5000 watts, is designed for heating spaces where explosive substances are or may be present. The Norseman™ XB is available with either $_{C}CSA_{US}$ or CE ATEX approvals. All units can be fitted with an externally adjustable thermostat.

With the Norseman™ XB, you get a safe and reliable heater with a handsome appearance and state-of-the-art design.

Applications

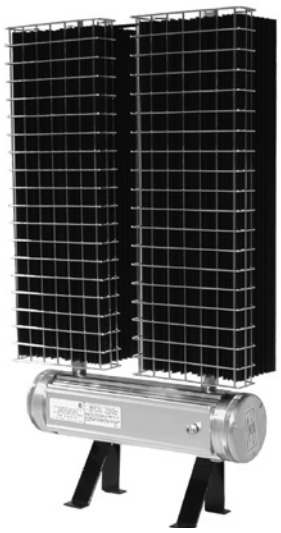
Typical applications for the Norseman™ XB include:

- Control cabinets and small enclosures
- Storage rooms for paints and cleaners
- Grain elevators
- Flour mills
- Spray booths
- Gas plants
- Pump houses
- Marine and offshore
- Oil platforms
- Cleaning and dyeing plants

Selection of Temperature Code

Refer to the atmospheric condition table (Table 2, page 6) at the beginning of this catalog for detailed selection data for the temperature code.

To minimize cost and physical size of the heater, select the heater with the highest temperature code that suits the environment. In Table 8 and Table 9, page 14 a check mark (✓) under the temperature code indicates that the surface temperature of the heater will not exceed the coded value listed in the atmospheric conditions table (Table 2 page 6) at the beginning of this catalog.



Construction & Installation

The Norseman™ XB explosion-proof convection heaters utilize Thermon's unique copper free aluminum extruded convector and patented **x-Max®** terminal housing. Large convector surface area and high mass fins ensure safe and efficient low temperature heat transfer to the environment. Convectors are black anodized to resist oxidation and maximize heat transfer.

The **x-Max®** housing can be equipped with multiple tapped conduit entries throughout its length to facilitate installation. A track and trolley system and threaded covers at each end allow easy access to internal components.

All units, except the single heat sink units, have a built-in terminal block for simplified electrical connection.

The Norseman™ XB units are intended for wall or floor mounting with the heater positioned vertically as shown. Dual purpose brackets for floor or wall mounting and wire guards are supplied as standard.

Model Coding* - $_{C}CSA_{US}$

XB	4	-	300	T3B	3	1	T
Model Series	Heat Sink Length in (mm) 1 - 5.2 (130) 3 - 11.8 (300) 4 - 18.5 (470) 6 - 25.2 (640)		Wattage Watts x 10	Temperature Code T3B - 329°F (165°C) T3A - 356°F (180°C) T2D - 215°C (419°F) T2C - 230°C (446°F)	Heater Voltage 1 - 120V 2 - 208V 3 - 240V 7 - 480V 8 - 600V	Phase 1 - 1 Phase 3 - 3 Phase	Options T - Thermostat R - Moisture-Resistant Desig M - Special Mechanical Feat E - Special Electrical Feature H - High Ambient (70°C)

*This nomenclature illustration is intended primarily to explain how a product part number is defined. Not all wattage, size and temperature code combinations are available. Please consult Table 9, page 14 for availability.

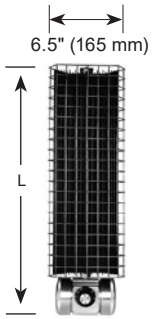


Figure 6 – XB Single Unit (XB1)

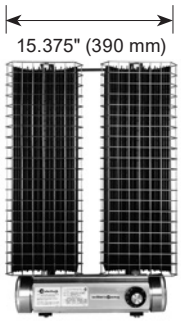


Figure 7 – XB Double Unit (XB2)

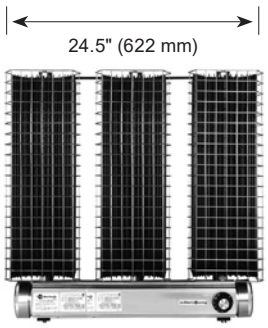


Figure 8 –XB Triple Unit (XB3)

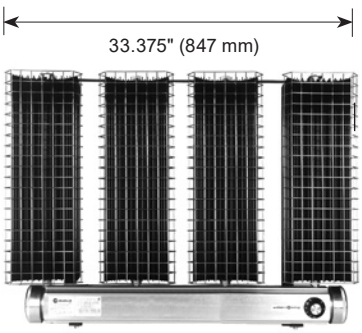


Figure 9 – XB Quadruple Unit (XB4)

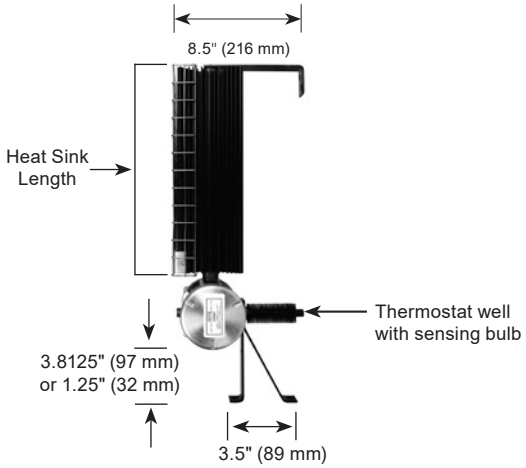


Figure 10 – XB Side View Floor Mounting

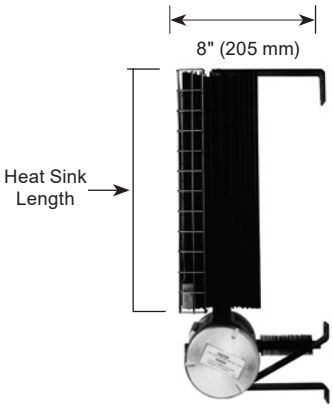


Figure 11 – XB Side View Wall Mounting

Special Wattage & Lengths

Table 10, page 14 lists the maximum design wattages for the four standard heat sink lengths and configurations.

If standard units listed in Table 8 and Table 9, page 14 do not suit your application, a special unit based on Table 10, page 14 can be supplied (check factory).

Table 7 – Norseman™ XB Explosion-Proof Natural Convection Heaters - Standard XB Heaters

W	Standard Voltages									'L' Dim.	Temperature Code				Weight	Part No.	
	120	208		240		480		600								Class I Div. 1, 2, Groups A, B, C & D Class II Div. 1, Groups E, F & G Class III Div. 1	Class I Div. 1, Groups A, B, C & D
	1Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	in (mm)	T2D	T3B	T4A	T6	lbs (kg)		
475			–		–	–	–	–	–	10.0 (254)					10 (4.5)		XB1-1047T2D
750			–		–	–	–	–	–	16.7 (424)					15 (6.8)		XB1-3075T2D
1000			–		–	✓	–	✓	–	23.4 (594)					20 (9.1)		XB1-4100T2D
1250	✓	✓	–	✓	–	✓	–	✓	–	30.1 (765)	✓	–			25 (11.3)	–	XB1-6125T2D
1500			✓		✓	✓	–	–	–	16.7 (424)					30 (13.6)		XB2-3150T2D
2000			✓		✓	✓	✓	✓	✓	23.4 (594)					40 (18.1)		XB2-4200T2D
3000			✓		✓	✓	✓	✓	✓	23.4 (594)					60 (27.2)		XB3-4300T2D
3750			✓		✓	✓	✓	✓	✓	30.1 (765)					75 (34.0)		XB3-6375T2D
4500	–		✓		✓	✓	✓	✓	✓	30.1 (765)					100 (45.4)		XB4-6450T2D

Table 8 – Norseman™ XB Explosion-Proof Natural Convection Heaters - Other Models Available

W	Standard Voltages									'L' Dim.	Temperature Code				Weight	Part No.	
	120	208		240		480		600								Class I Div 1, 2 Group A, B, C & D Class II Div 1 Group E, F & G Class III Div 1	Class I Div 1 Group A, B, C & D
	1Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	in (mm)	T2D	T3B	T4A	T6	lbs (kg)		
50		–	–	–	–	–	–	–	–	10.0 (254)		✓	✓	✓	10 (4.5)	XB1-1005T6	–
100		–	–	–	–	–	–	–	–	10.0 (254)		✓	✓	–	10 (4.5)	XB1-1010T4A	–
175		–	–	–	–	–	–	–	–	10.0 (254)		✓	✓	–	10 (4.5)	XB1-1017T4A	–
200		✓	–	✓	–	–	–	–	–	30.1 (765)		✓	✓	✓	25 (11.3)	XB1-6020T6	–
300		–	–	–	–	–	–	–	–	10.0 (254)		✓	–	–	10 (4.5)	XB1-1030T3B	–
400		✓	✓	✓	✓	–	–	–	–	30.1 (765)		✓	✓	✓	50 (22.7)	XB2-6040T6	–
450		✓	–	✓	–	✓	–	✓	–	30.1 (765)		✓	✓	–	25 (11.3)	XB1-6045T4A	–
475		✓	–	✓	–	–	–	–	–	16.7 (424)		✓	–	–	15 (6.8)	XB1-3047T3B	–
600		✓	✓	✓	✓	–	–	–	–	30.1 (765)		✓	✓	✓	75 (34.0)	XB3-6060T6	–
750		–	–	–	–	–	–	–	–	10.0 (254)		–	–	–	20 (9.1)	–	XB2-1075T2D
800		✓	✓	✓	✓	–	–	–	–	30.1 (765)		✓	✓	✓	100 (45.4)	XB4-6080T6	–
850		✓	–	✓	–	✓	–	✓	–	30.1 (765)		✓	✓	–	50 (22.7)	XB2-6085T4A	–
1000		–	–	–	–	–	–	–	–	10.0 (254)		–	–	–	30 (13.6)	–	XB3-1100T2D
1000		✓	✓	✓	✓	–	–	–	–	23.4 (594)		✓	–	–	40 (18.1)	XB2-4100T3B	–
1000	✓	✓	✓	✓	✓	–	✓	–	–	16.7 (424)	✓	✓	–	–	45 (20.4)	XB3-3100T3B	–
1250		✓	✓	✓	✓	✓	✓	✓	✓	30.1 (765)		✓	✓	–	75 (34.0)	XB3-6125T4A	–
1250		–	–	–	–	–	–	–	–	10.0 (254)		–	–	–	30 (13.6)	–	XB3-1125T2D
1350		✓	✓	✓	–	✓	–	✓	–	30.1 (765)		–	–	–	25 (11.3)	–	XB1-6135T2D
1500		–	–	–	–	–	–	–	–	10.0 (254)		–	–	–	40 (18.1)	–	XB4-1150T2D
1500		✓	✓	✓	✓	–	✓	✓	✓	23.4 (594)		✓	–	–	60 (27.2)	XB3-4150T3B	–
1500		✓	✓	✓	✓	✓	✓	✓	✓	30.1 (765)		✓	–	–	50 (22.7)	XB2-6150T3B	–
1600		✓	✓	✓	✓	✓	✓	✓	–	30.1 (765)		✓	✓	–	100 (45.4)	XB4-6160T4A	–
2000		✓	✓	✓	✓	–	–	–	–	16.7 (424)		–	–	–	45 (20.4)	–	XB3-3200T2D
2250		✓	✓	✓	✓	–	–	–	–	23.4 (594)		✓	–	–	80 (36.3)	XB4-4225T3B	–
2250		✓	✓	✓	✓	✓	✓	✓	✓	30.1 (765)		✓	–	–	75 (34.0)	XB3-6225T3B	–
2500		✓	✓	✓	✓	✓	✓	✓	–	16.7 (424)		–	–	–	60 (27.2)	–	XB4-3250T2D
2500		✓	✓	✓	✓	✓	✓	✓	✓	30.1 (765)		–	–	–	50 (22.7)	–	XB2-6250T2D
3000		✓	✓	✓	✓	✓	✓	✓	✓	30.1 (765)		✓	–	–	100 (45.4)	XB4-6300T3B	–
3750		✓	✓	✓	✓	✓	✓	✓	✓	23.4 (594)		–	–	–	80 (36.3)	–	XB4-4375T2D
5000	–	✓	✓	✓	✓	✓	✓	✓	✓	30.1 (765)	✓	–	–	–	100 (45.4)	–	XB4-6500T2D

Table 9 – Norseman™ Maximum Heater Wattages

Heat Sink Length	Type	Temperature Code			
		T2D	T3B	T4A	T6
5" (130 mm)	XB1	475	300	190	95
	XB2	938	–	–	–
	XB3	1314	–	–	–
	XB4	1524	–	–	–
12" (300 mm)	XB1	783	498	294	142
	XB2	1520	988	570	266
	XB3	2173	–	–	–
	XB4	2608	–	–	–
19" (470 mm)	XB1	1021	684	380	209
	XB2	2033	1282	722	342
	XB3	3049	1881	1026	456
	XB4	3780	–	–	–
25" (640 mm)	XB1	1353	831	451	237
	XB2	2688	1615	864	408
	XB3	4018	2308	1254	612
	XB4	5130	3230	1653	836

Thermostats

Thermon offers a wide variety of explosion-proof thermostats to suit most every need.

All Norseman™ XB series heaters can be fitted with integral line voltage thermostats which are available either externally adjustable or tamper-proof; factory installed or as field installed kit.

Remote thermostat mounting is also available.

Refer to Explosion-Proof Thermostats - XT, page 21 of this Norseman™ catalog when selecting the appropriate thermostat for the desired application.

Accessories

Wire Guards and Baffles: All units are equipped with wire guards.

'Gull wing' shaped bright aluminum rear baffles are standard with Norseman™ XB units rated for T2D temperature code (shipped separately).

Table 10 – High Ambient Norseman™ XB Explosion-Proof Natural Convection Heaters

W	Standard Voltages									'L' Dim.	Temperature Code			Weight	Part No.
	120	208		240		480		600							
	1Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	1Ø	3Ø	in (mm)	T3	T3C	T4A	lbs (kg)	Class I Div 1, 2, Group A, B, C & D Class II Div 1 Group E, F & G Class III Div 1
50		–	–	–	–	–	–	–	–	10.0 (254)	✓	✓	✓	10 (4.5)	XB1-1005T4A
100		–	–	–	–	–	–	–	–	10.0 (254)	✓	✓	–	10 (4.5)	XB1-1010T3C
175		–	–	–	–	–	–	–	–	10.0 (254)	✓	✓	–	10 (4.5)	XB1-1017T3C
200		✓	–	✓	–	–	–	–	–	30.1 (765)	✓	✓	✓	25 (11.3)	XB1-6020T4A
300		–	–	–	–	–	–	–	–	10.0 (254)	✓	–	–	10 (4.5)	XB1-1030T3
400		✓	✓	✓	✓	–	–	–	–	30.1 (765)	✓	✓	✓	50 (22.7)	XB2-6040T4A
450		✓	–	✓	–	✓	–	✓	–	30.1 (765)	✓	✓	–	25 (11.3)	XB1-6045T3C
475		✓	–	✓	–	–	–	–	–	16.7 (424)	✓	–	–	15 (6.8)	XB1-3047T3
600		✓	✓	✓	✓	–	–	–	–	30.1 (765)	✓	✓	✓	75 (34.0)	XB3-6060T4A
800	✓	✓	✓	✓	✓	–	–	–	–	30.1 (765)	✓	✓	✓	100 (45.4)	XB4-6080T4A
850		✓	–	✓	–	✓	–	✓	–	30.1 (765)	✓	✓	–	50 (22.7)	XB2-6085T3C
1000		✓	✓	✓	✓	–	–	–	–	23.4 (594)	✓	–	–	40 (18.1)	XB2-4100T3
1000		✓	✓	✓	✓	–	✓	–	–	16.7 (424)	✓	–	–	45 (20.4)	XB3-3100T3
1250		✓	✓	✓	✓	✓	✓	✓	✓	30.1 (765)	✓	✓	–	75 (34.0)	XB3-6125T3C
1500		✓	✓	✓	✓	–	✓	✓	✓	23.4 (594)	✓	–	–	60 (27.2)	XB3-4150T3
1500		✓	✓	✓	✓	✓	✓	✓	✓	30.1 (765)	✓	–	–	50 (22.7)	XB2-6150T3
1600		✓	✓	✓	✓	✓	✓	✓	–	30.1 (765)	✓	✓	–	100 (45.4)	XB4-6160T3C
2250		✓	✓	✓	✓	–	–	–	–	23.4 (594)	✓	–	–	80 (36.3)	XB4-4225T3
2250		✓	✓	✓	✓	✓	✓	✓	✓	30.1 (765)	✓	–	–	75 (34.0)	XB3-6225T3
3000		✓	✓	✓	✓	✓	✓	✓	✓	30.1 (765)	✓	–	–	100 (45.4)	XB4-6300T3

Table 11 – High Ambient Norseman™ Maximum Heater Wattages

Heat Sink Length	Type	Temperature Code		
		T3	T3C	T4A
5" (130 mm)	XB1	300	190	95
12" (300 mm)	XB1	498	294	142
	XB2	988	570	266
	XB3	1425	–	–
19" (470 mm)	XB1	684	380	209
	XB2	1282	722	342
	XB3	1881	1026	456
	XB4	2375	–	–
25" (640 mm)	XB1	831	451	237
	XB2	1615	864	408
	XB3	2308	1254	612
	XB4	3230	1653	836

High Ambient Option

The Norseman™ XB Series heater is now available with a high ambient hazardous location rating up to 70°C. This option is ideal for high ambient chemical storage facilities or gas sampling applications. Refer to Table 11, page 15 for Norsemen™ XB units available in high ambient.

Thermostats

Thermon offers a wide variety of explosion-proof thermostats to suit most every need.

All Norseman™ XB series heaters can be fitted with integral line voltage thermostats which are available either externally adjustable or tamper-proof; factory installed or as field installed kit.

Remote thermostat mounting is also available.

Refer to Explosion-Proof Thermostats - XT, page 21 of this Norseman™ catalog when selecting the appropriate thermostat for the desired application.

Accessories

Wire Guards: All units are equipped with wire guards.

Norseman™ XB Explosion-Proof Natural Convection Heater Standard Features (CE ATEX)

Suitable for the following hazardous location classification:

- EX II 2G Ex db IIC T3 or T4 Gb ITS 05ATEX13473 -60°C ≤ Ta ≤ +40°C (See Table 13, page 16)
- Universal support leg for wall or floor mounting
- High surface area black anodized heat emitter with integral tubular heating elements
- Patented x-Max® housing with slide out terminal block trolley simplifies installation and servicing
- Nickel plated wire guards on all models

Table 12 – Norseman™ XB Explosion-Proof Natural Convection Heater Specifications for T3 and T4 Units, Hazardous Location Rating (CE ATEX)

W	Reference Figure (p. 22)	V	Phase	'L' Dim. in (mm)	Approx. Weight lbs (kg)	Part No.	T-Code
399	6	110	1	16.7 (424)	15 (6.8)	XB1-3040T3B	T3
475	6	120				XB1-3047T3B	T3
399	6	220				XB1-3040T3B	T3
436	6	230				XB1-3043T3B	T3
475	6	240				XB1-3047T3B	T3
840	7	110		23.4 (594)	40 (18.1)	XB2-4084T3B	T3
1000	7	120				XB2-4100T3B	T3
840	7	220				XB2-4084T3B	T3
918	7	230				XB2-4092T3B	T3
1000	7	240				XB2-4100T3B	T3
1260	8	110		23.4 (594)	60 (27.2)	XB3-4126T3B	T3
1500	8	120				XB3-4150T3B	T3
1260	8	220				XB3-4126T3B	T3
1378	8	230				XB3-4138T3B	T3
1500	8	240				XB3-4150T3B	T3
714	7	220		30.1 (765)	50 (22.7)	XB2-6071T4A	T4
781	7	230				XB2-6078T4A	T4
850	7	240				XB2-6085T4A	T4
1891	8	220		30.1 (765)	75 (34.0)	XB3-6189T3B	T3
2066	8	230				XB3-6207T3B	T3
2250	8	240				XB3-6225T3B	T3
2101	8	220	1	23.4 (594)	60 (27.2)	XB3-4210T3	T3
2296		230	1			XB3-4230T3	
2500		240	1			XB3-4250T3	
2521		220	1	30.1 (765)	75 (34.0)	XB3-6252T3	
2755		230	1			XB3-6276T3	
3000		240	1			XB3-6300T3	
1260		380	3	23.4 (594)	60 (27.2)	XB3-4126T3B	
1378		400	3			XB3-4138T3B	
1500		415	3			XB3-4150T3B	
1891		380	3	30.1 (765)	75 (34.0)	XB3-6189T3B	
2066		400	3			XB3-6207T3B	
2250		415	3			XB3-6225T3B	
2101		380	3	23.4 (594)	60 (27.2)	XB3-4210T3	
2296		400	3			XB3-4230T3	
2500		415	3			XB3-4250T3	
2521		380	3	30.1 (765)	75 (34.0)	XB3-6252T3	
2755		400	3			XB3-6276T3	
3000		415	3			XB3-6300T3	

Explosion-Proof Panel Heater - XPA

The Norseman™ XPA Series explosion-proof panel heater is the latest innovation in the Norseman™ line of hazardous location heating products.

The Norseman™ XPA heater is available in 120V, 208V, 240V and 277V, 50 Hz and 60 Hz configurations. The Norseman™ XPA heater is $_{C}CSA_{US}$ certified for Class I, Divisions 1 & 2, Groups A, B, C & D and ATEX/IECEx/UKCA certified for Ex d IIC or IIB, T2 (215°C), T3 or T4, Gb IP66. Sizes, wattages and applicable temperature codes are shown in Table 15 & 16, page 19 & 20.

Applications

The Norseman™ XPA Explosion-Proof Panel Heater is ideal for freeze protection of control enclosures in locations where explosive atmospheres may exist and other confined or enclosed areas with moderate heating requirements.

Typical applications include:

- Control cabinets
- Instrument enclosures
- Small storage rooms
- Cabinets for volatile products

Construction

The Norseman™ XPA Explosion-Proof Panel Heater's custom extruded aluminum convector assembly features a high density fin array to maximize surface area and ensure safe and efficient convective heat transfer. The Norseman™ XPA heater is anodized black for maximum heat transfer and corrosion resistance.

The standard heater is configured with an explosion-proof junction box and includes a mounting bracket and hardware. As a precaution against excessive convector temperatures, the unit comes standard with two levels of safe temperature control. The primary control is a nonadjustable thermostat set to control the space temperature between 50°F and 64°F (10°C and 18°C). The secondary control is a thermal fuse with a nonadjustable limit set to the maximum temperature allowed for the temperature code classification. Optional junction boxes, optional pre-set thermostats, adjustable thermostats and protection grilles are available.

Selection of Temperature Code

Refer to the atmospheric condition table (Table 2, page 6) at the beginning of this catalog for detailed selection data for the temperature code.

To minimize heater cost and physical size, select the model with the highest temperature code suiting the environment.

In Table 15 & 16, page 19 & 20 a check mark (✓) under the temperature code indicates the heater surface temperature will not exceed the coded value listed in the atmospheric condition table (Table 2, page 6).

Refer to the Hazardous Locations Resources on Norseman's website (www.norsemanheaters.com) for information on temperature code selection.

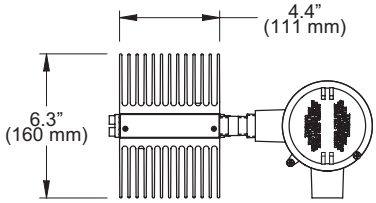
Model Coding*

XPA	S	H	-	100	T3B	120	-	4	10	G
Model Series	Heater Type	High Ambient		Wattage	Temperature Code	Heater Voltage		Junction Box	Thermostat	Options
	S - Short L - Long R - Round X - Extra Long	H		050 - 50 W 075 - 75 W 080 - 80 W 100 - 100 W 125 - 125 W 150 - 150 W 200 - 200 W 250 - 250 W 300 - 300 W 400 - 400 W 500 - 500 W 600 - 600 W 700 - 700 W 800 - 800 W	T2/T2D T3 T3A T3B T3C T4	120 - 120V 208 - 208V 240 - 240V 277 - 277V		1 - XTWA 2 - XT-311 3 - XT-411 4 - XJB-4	0 - 32°F (0°C) on / 46°F (8°C) off 10 - 50°F (10°C) on / 64°F (18°C) off 20 - 68°F (20°C) on / 82°F (28°C) off 30 - 86°F (30°C) on / 100°F (38°C) off 40 - 104°F (40°C) on / 118°F (48°C) off 50 - 122°F (50°C) on / 136°F (58°C) off XX - Special Range N - Adjustable Thermostat	G - Wire Guard

*This nomenclature illustration is intended primarily to explain how a product part number is defined. Not all wattage, size and temperature code combinations are available.

Other set points available upon request.

Please consult Table 15, page 20 for availability.



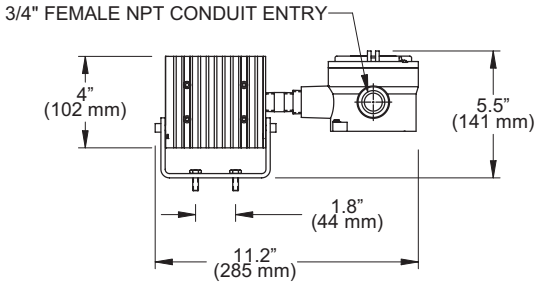
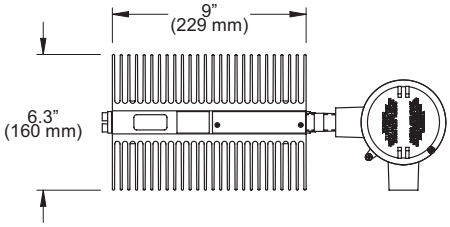


Figure 12 – XPAS / XPASH with XJB-4 Junction Box



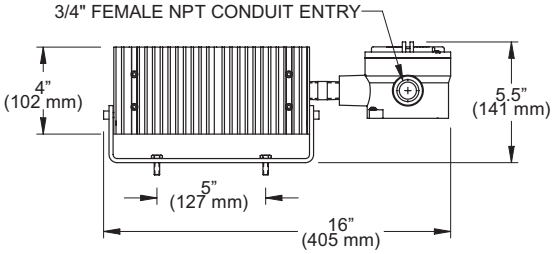
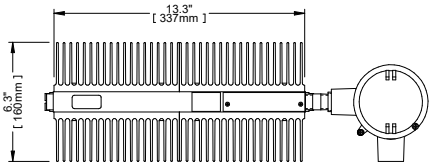


Figure 13 –XPAL / XPALH with XJB-4 Junction Box



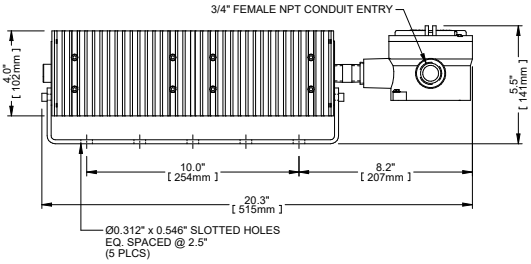
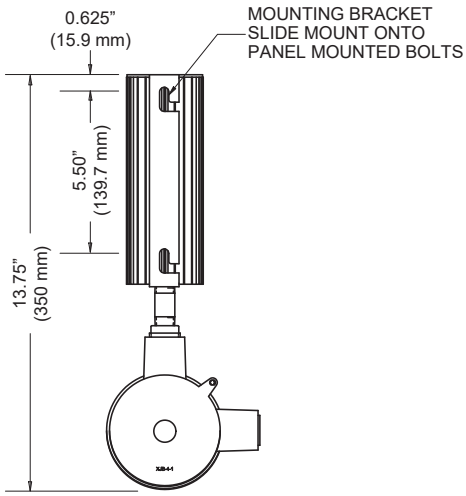


Figure 14 –XPAX with XJB-4 Junction Box



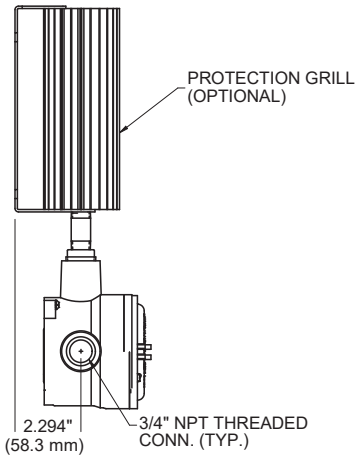


Figure 15 – XPAR / XPARH with XJB-4 Junction Box

Junction Box & Thermostat Selection

The Norseman™ XPA heaters come standard with an XJB-4 junction box and a 50°F (10°C) pre-set thermostat. Other junction boxes and thermostat options are available as shown in Table 14, page 20.

Table 13 – Available Junction Box & Thermostat Options

Junction Box	Standard (S) or Optional (O)	Hazardous Classification	Hazardous Groups	NEMA 4	Adjustable Thermostat (Range °C)	Provided with Preset Thermostat	Special Features	
XJB-4	S	Cl I, Div 1 Zone 1, 2	A, B, C, D IIC	Y	N	Y*	Side Conduit Entry	
XTWA	O	Cl I, Div 1 Zone 1, 2	A, B, C, D IIC	Y	Y (-18 to 40)	N	x-Max® Housing	
XT-311	O	Cl I, Div 1 Zone 1, 2	C,D IIB	N	Y (2 to 28)	N	Small Bandwidth for Adjustment	
XT-411	O	Cl I, Div 1 Zone 1, 2	C, D IIB	N	Y (5 to 30)	N	Suitable for Robust Applications	

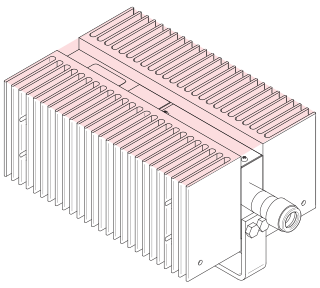
Note: 1. Pre-set thermostats are available in the following ranges:
0= 32°F (O°C)on / 46°F (8°C) off
10 = 50°F (10°C) on / 64°F (18°C) off
20 = 68°F (20°C) on / 82°F (28°C) off
30 = 86°F (30°C) on / IOO°F (38°C) off
40 = 104°F (40°C) on / 118°F (48°C) off
50 = 122°F (50°C) on / 136°F (58°C) off
XX = Special range
Other set points available upon request

2. Units operating above +40'C need"-H" added to model coding.
Refer to High Ambient XPA model chart for available units.

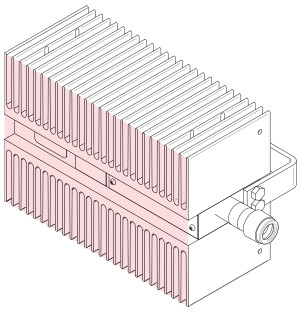
Installation

All Norseman™ XPA heaters must be installed with junction boxes and/or conduit, as required by applicable local and national codes.

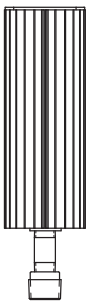
The Norseman™ XPAL & XPAS heater may be mounted in the side or horizontal orientations shown below. "Horizontal Only" XPAL Models are available to allow maximum wattage application at given temperature codes. See Table 15, page 20 for "Horizontal Only" applications. The Norseman™ XPAR may only be mounted in the vertical orientation as shown on figure 15.



XPASH/XPALH Horizontal Mount



XPASH/XPALH Side Mount



XPAR/XPARH Vertical Mount

Table 14 – Norseman™ XPA Heater Selection

Length	W	Class I, Div 1 & 2, see notes for Groups				Weight	Part No.
		T2/T2D	T3	T3B/T3C	T4	lbs (kg)	
4.375" (111 mm)	75	✓	✓	✓	✓	7.4 (3.4)	XPAS-075
	100	✓	✓	✓	–		XPAS-100
	125	✓	✓	✓	–		XPAS-125
	150	✓	✓	–	–		XPAS-150
	200	✓	✓	–	–		XPAS-200
	250	✓	–	–	–		XPAS-250
9" (229 mm)	100	✓	✓	✓	✓	12.8 (5.9)	XPAL-100
	150	✓	✓	✓	✓		XPAL-150
	200	✓	✓	✓	✓		XPAL-200
	250	✓	✓	✓	Horizontal Only		XPAL-250
	300	✓	✓	✓	–		XPAL-300
	400	✓	✓	Horizontal Only	–		XPAL-400
	500	✓	✓	–	–		XPAL-500
	600	✓	Horizontal Only	–	–		XPAL-600
	700	Horizontal Only	–	–	–		XPAL-700
7" (178 mm)	50	Vertical Only	Vertical Only	Vertical Only	Vertical Only	3.8 (1.7)	XPAR-050
	80	Vertical Only	Vertical Only	Vertical Only	–		XPAR-080
	125	Vertical Only	Vertical Only	–	–		XPAR-125
	150	Vertical Only	–	–	–		XPAR-150
13.5" (343 mm)	600	✓	✓	–	–	22 (10)	XPAX-600
	700	✓	✓	–	–		XPAX-700
	800	Horizontal Only	✓	–	–		XPAX-800

Note: Groups A, B, C & D, IIC apply when using XJB-4 and XTWA junction boxes.
Groups C & D, IIB apply when using XT-311 and XT-411 junction boxes with adjustable thermostats.

Table 15 – Norseman™ High Ambient XPA Models

Length	Wattage	Temperature Code				Part No.
		T2D[1]	T3	T3A	T3C	
4.375" (111 mm)	75	✓	✓	✓	✓	XPASH-075
	100	✓	✓	✓	n/a	XPASH-100
	125	✓	✓	✓	n/a	XPASH-125
	150	✓	n/a	n/a	n/a	XPASH-150
	200	✓	n/a	n/a	n/a	XPASH-200
9" (221 mm)	100	✓	✓	✓	✓	XPALH-100
	150	✓	✓	✓	✓	XPALH-150
	200	✓	✓	✓	✓	XPALH-200
	250	✓	✓	✓	Horizontal Only	XPALH-250
	300	✓	✓	✓	n/a	XPALH-300
	400	✓	Horizontal Only	Horizontal Only	n/a	XPALH-400
	500	✓	n/a	n/a	n/a	XPALH-500
	600	Horizontal Only	n/a	n/a	n/a	XPALH-600
7" (178 mm)	50	Vertical Only	Vertical Only	Vertical Only	Vertical Only	XPARH-050
	80	Vertical Only	Vertical Only	Vertical Only	n/a	XPARH-080
	125	Vertical Only	n/a	n/a	n/a	XPARH-125

Note: 1. T2D models are rated for 55°C maximum ambient temperature.
2. All other heaters are rated for 60°C maximum ambient temperature.
3. High ambient units only available with XJB-4 junction box.
4. No High Ambient version available in XPAX models.

Explosion-Proof Thermostats - XT

The Norseman™ XT Series explosion-proof thermostat utilizes the unique **x-Max**® system to provide maximum durability, safety and ease of use. Three basic units are available to suit most hazardous location temperature control applications.

Norseman™ XT thermostats are suitable for air, duct, pipe or tank temperature control.

- Approvals for all area classifications
- Value engineered
- Remote or local temperature sensing
- Rating to 600V, S.P.S.T. and D.P.S.T.
- Multiple conduit entries
- O-rings for moisture protection

Norseman™ XTB

The type XTB is normally used for remote sensing. A CSA certified packing gland is provided to allow the 57" (1448 mm) capillary to exit the **x-Max**® housing.

Certification

All Norseman™ XTB's are certified for Class I, Groups C & D, Class II, Groups E, F & G, and Class III hazardous locations, Divisions 1 and 2.

Norseman™ XTW

The type XTW is suitable for air or liquid temperature sensing and control in all hazardous locations. For air sensing applications, a finned stainless steel thermostat well assembly is provided to enclose the thermostat bulb. For liquid sensing applications, the Norseman™ XTW has an external 1/2" (13 mm) NPT thread on the well assembly to permit easy installation into the tank wall.

Certification

All XTWs are certified for Class I, Groups A, B, C & D, Class II, Groups E, F & G and Class III hazardous locations, Divisions 1 and 2.

Thermostat Kit - XTK

The type XTK is a thermostat kit suitable for field installation into other **x-Max**® products, such as the Norseman™ XB explosion-proof convection heater, the Norseman™ CXC explosion-proof screwplug heater or the Norseman™ XGB explosion-proof unit heater. This allows these products to be stocked without thermostat and have a kit supplied when required.

The Norseman™ XTK is available either with a thermostat well assembly or with a packing gland and 60" (1524 mm) capillary for remote bulb sensing.

Table 16 – Norseman™ XT Explosion-Proof Thermostats

Part No.		Description	Temperature Range	Hazardous Area Rating		Approximate Weight
S.P.S.T. - 15 A/600V 1Ø 25 A/277V	D.P.S.T. - 15 A/600V 3Ø			Class I Div. 1, 2 Group A, B, C & D Class II Div. 1, 2 Group E, F & G Class III Div. 1, 2	Class I Div. 1, Group C, D Class II Div. 1, 2 Group E, F & G Class III Div. 1, 2	lbs (kg)
XTB04481	XTB04483	Remote sensing bulb with 57" (1448 mm) capillary length	0°F to 100°F (-18°C to 40°C)	–		3.8 (1.7)
XTB12481	XTB12483		50°F to 250°F (10°C to 120°C)	–		3.8 (1.7)
XTWL04481	XTWL04483	Bulb in well with 1/2" (13 mm) NPT fitting for liquid sensing	0°F to 100°F (-18°C to 40°C)	✓		4.0 (1.8)
XTWL12481	XTWL12483		50°F to 250°F (10°C to 120°C)	✓		4.0 (1.8)
XTWA04481	XTWA04483	Bulb in finned well for air sensing	0°F to 100°F (-18°C to 40°C)	✓		4.0 (1.8)
XTWA12481	XTWA12483		50°F to 250°F (10°C to 120°C)	✓	✓	4.0 (1.8)
XTKW04481	XTKW04483	For XB heaters use as add-on kit. Well assembly provided	0°F to 100°F (-18°C to 40°C)	✓		0.7 (0.3)
XTKW12481	XTKW12483		50°F to 250°F (10°C to 120°C)	✓		0.7 (0.3)
XTKB04481	XTKB04483	For CXC and XGB heaters use as add-on kit with 8" (203 mm) capillary	0°F to 100°F (-18°C to 40°C)	–		0.5 (0.2)
XTKB12481	XTKB12483		50°F to 250°F (10°C to 120°C)	–		0.5 (0.2)

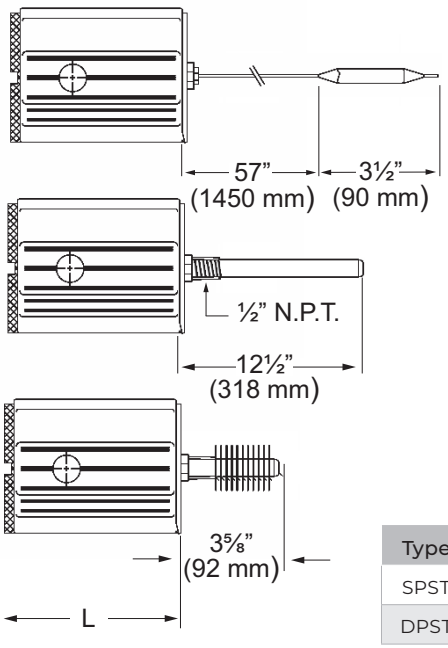
Construction

- Housings and covers are made from copper-free extruded aluminum
- Standard models XTW and XTB have an attractive black finish. Enclosures are provided with 3/4" NPT conduit entries on two sides
- All units are shipped with a universal bracket suitable for horizontal or vertical mounting
- All Norseman™ XT explosion-proof thermostats use the unique “Track and Trolley” wiring system for ease of connection. The Norseman™ XTW and Norseman™ XTB are provided with a 14-gauge wire lead for grounding purposes

Selection of Temperature Codes

Refer to Table 16, page 22 to select the Norseman™ XT best suited to your application.

All thermostats feature a convenient terminal block mounted to a slide-out trolley.



Type	L
SPST	6.5" (165 mm)
DPST	7.25" (185 mm)

Figure 16 – Norseman™ Explosion-Proof Thermostat Dimensions

General Maintenance of Norseman™ Explosion-Proof Electric Heaters

Options

- 150°F to 550°F (70°C to 280°C) and 300°F to 700°F (148°C to 371°C) temperature ranges
- Other cover styles
- Series 2 housing construction (4-3/8"/111 mm I.D.)
- Various housing lengths up to 38" (965 mm) with contactor and transformer
- Multiple thermostats in one housing
- Custom conduit entry size and location
- Other finish options
- Capillary protected with flexible armored cable
- Nickel plated or stainless steel bulb and capillary

NOTE: Always disconnect the electrical supply at the mains prior to performing any maintenance. Ensure that all plugs, covers, etc. are installed and tight prior to re-energizing the power supply.

Suggested Maintenance Schedule

Heater Serial Number: _____

Date of Maintenance: _____

Maintenance Done By: _____

Periodic Maintenance

(Before and as Required During Heating Season)

- ☐ Wipe down the heater cabinet using water or a mild detergent.
- ☐ Inspect element fins for dust build-up and debris, especially after seasonal shutdowns. Clean with an air blast or vacuum.
- ☐ Ensure that nothing is restricting the air flow into or out of the unit and that the blower wheel is free to rotate (where applicable).
- ☐ Wipe down the motor using a mild detergent and ensure that it is clear of any dust build-up or debris (where applicable).

Annual Maintenance (Before Heating Season)

- ☐ Inspect the heater to ensure that all connections, fittings, plugs, screws, covers, etc. are tight and free of corrosion.
- ☐ Ensure the blower wheel or fan blade is free to rotate and accidental damage has not occurred (where applicable).
- ☐ Inspect the thermostat shaft to ensure proper operation (where applicable).
- ☐ Inspect the disconnect shaft to ensure proper operation (where applicable).
- ☐ Inspect the **"AUTO/OFF/FAN-ONLY"** switch to ensure proper operation (where applicable).
- ☐ Inspect all terminal connections and conductors for loose connections or damaged insulation.
- ☐ Inspect the Control Trolley to ensure that all components are in proper working order.
- ☐ Inspect all fusing.
- ☐ Inspect the explosion-proof conduits and conduit seals for signs of damage or malfunction.
- ☐ With the power supply disconnected, manually rotate the blower wheel while listening for signs of worn or damaged bearings (where applicable).
- ☐ Inspect high-limit capillaries and connection at the elements for contact and tightness (do not over tighten).

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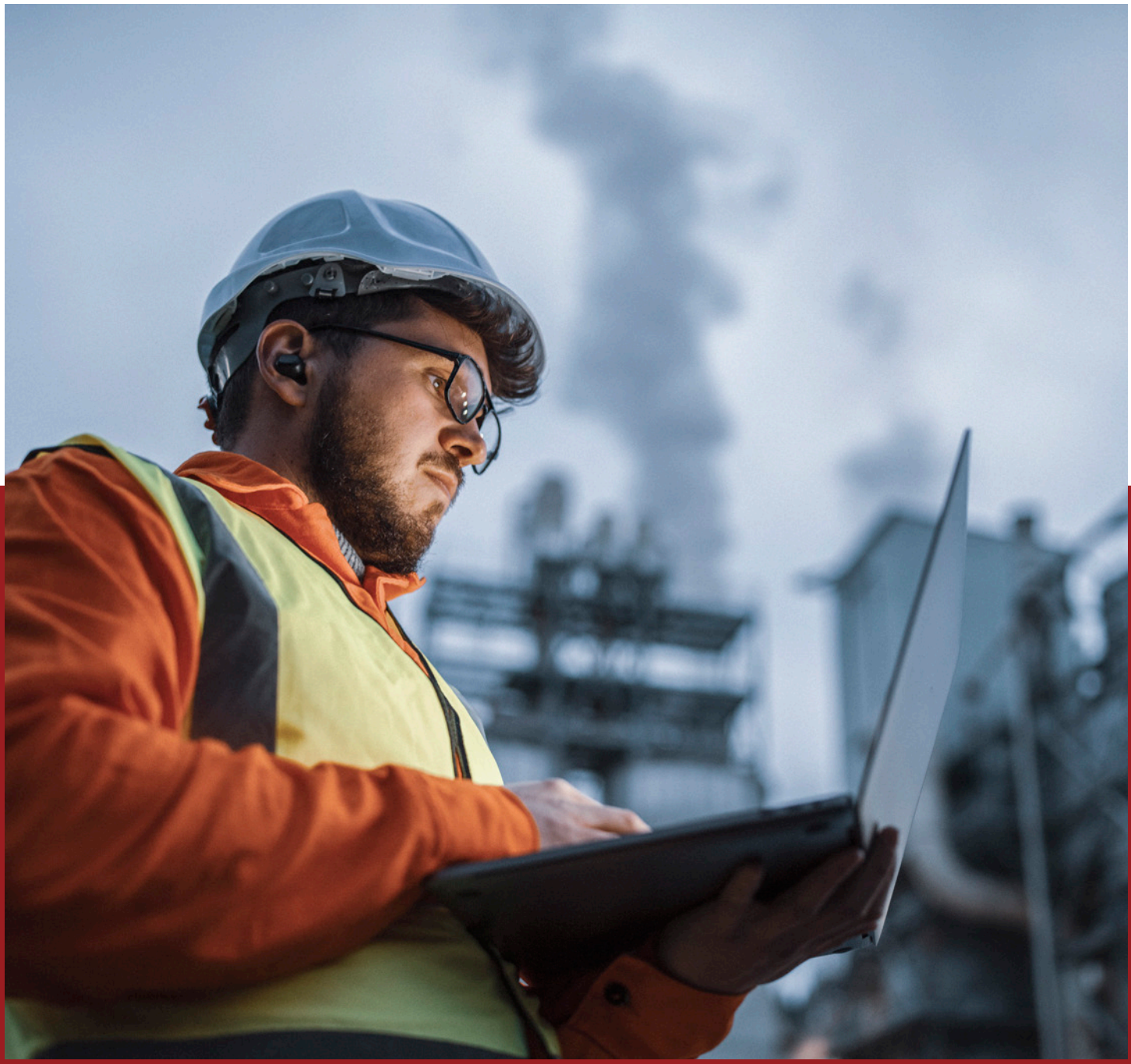

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