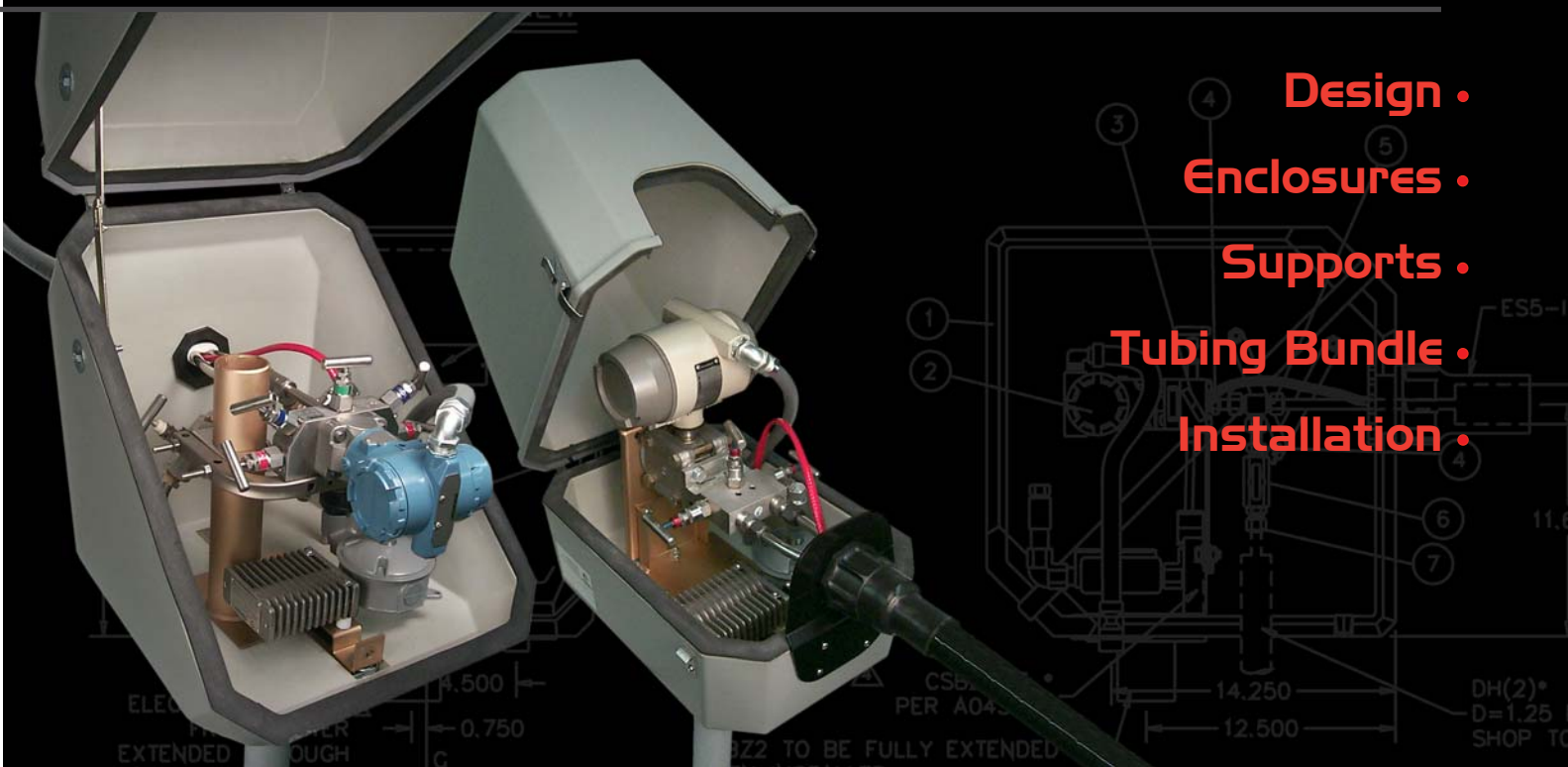




- Complete Freeze Protection for Process Instrumentation
- Totaal pakket voor de vorstbeveiliging van uw proces instrumentatie
- Protection-basse température complète pour l'instrumentation
- Kompletter Frostschutz für Prozess-Instrumentierung
- Completa protezione antigelo per strumentazione di processo
- Komplette frostsikring av prosess instrumenter
- Комплексная морозная защита приборов и процессных линии КИПиА
- Completa Proteccion Contra Congelacion Para Instrumentacion de Proceso

O'BRIEN



O'BRIEN PROVIDES COMPLETE FREEZE PROTECTION FOR PROCESS INSTRUMENTATION

Protecting instrumentation and tubing from freezing or maintaining process fluids at elevated temperatures involves many components, designs and engineering skills. Instead of specifying and purchasing individual components have O'Brien provide an integrated solution with one source responsibility.

The typical way.



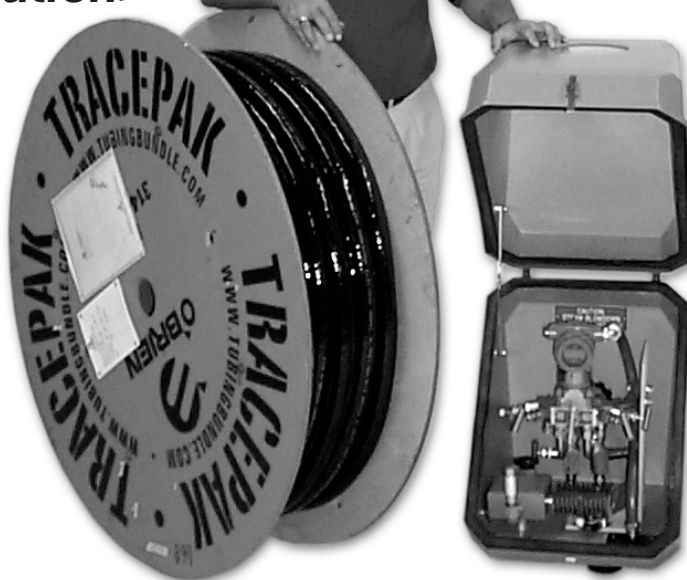
The O'Brien solution.

DESIGN and SUPPORT

One source responsibility for design, impulse lines, and instrument freeze protection combined with field support services sets the O'Brien solution apart from all others.

TRACEPAK®

Engineered, pre-traced and insulated tubing bundle for instrument impulse, sample transport, and small diameter process lines.



VIPAK®

Engineered enclosure system designed for process instrumentation. TRAKMOUNT® and factory installation of instrumentation makes field work easy.

O'BRIEN

Design · Enclosures · Supports · Tubing Bundle · Installation

THE TOTAL ENCLOSURE

A complete system

The VIPAK enclosure system winterizes- process instruments and protects them from corrosion and mechanical abuse. A full range of enclosures sizes are available to accommodate single and multiple instrument requirements. Enclosures can be combined with a wide selection of heavy-duty mounts, brackets and heaters to create customized packages that suit each application.

Easy to install

Process instrumentation fastens directly to O'Brien mounting kits and process connections line up with factory mounted parting plates for quick, easy installation.

Easy to order

- 1 Select an enclosure style and size. Choose standard construction or anti-static option.
- 2 Add a mounting kit or individual mount and bracket.
- 3 Add an electric or steam heater.
- 4 Add entry fittings, plates, connections and other options to complete the package.
- 5 Select Tracepak® pre-insulated tubing bundle configuration.



- Refer to the easy-order grid on pages 15 & 16 for Enclosure sizes, components and options.

PROTECTS INSTRUMENTS FROM:

- Corrosion
- Chemical attack
- Mechanical abuse
- Freezing and Weather



ENCLOSURE FEATURES

**Factory installed accessories -
heaters, windows, mounts, bracketry**

Impact resistant

To EN50014 / BS5501

VIPAK's rigid ABS shell forms a structural bond with medium density urethane foam insulation to provide a durable enclosure that remains impact resistant for years, even at low ambient temperatures.

Fire retardant Per

IEC707 / ISO1210 / BS476

Insulation

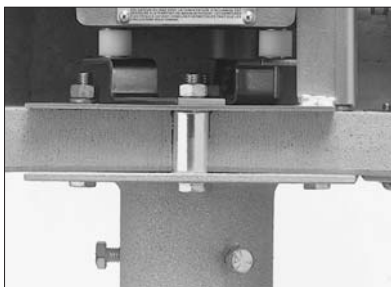
**25mm thick
ABS/Urethane
composite**

Corrosion &

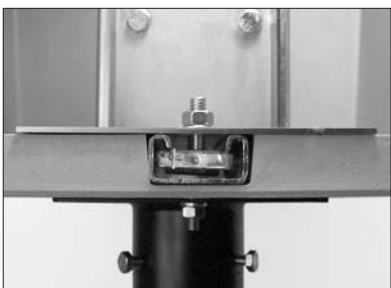
**UV resistant
ABS shell**

Metal-to-Metal Support

VIPAK's unique thru-bolt construction provides metal-to-metal support between the enclosure mount and the instrument support bracket.



Standard Configuration



Trakmount

Anti-static
Optional per
EN50014 / BS5501



Weather protection

Up to IP66

Parting lines are protected by a molded flange and sealed with closedcell neoprene gasket. Windows are sealed with silicone adhesive to guarantee a weather-tight enclosure.



Protection to -50°C

Adding an O'Brien heater provides freeze protection at temperatures as low as -50°C with a 40kph wind



Heavy duty SS hinges & latches

Custom designed hinges and latches eliminate binding and allow the door or lid to be removed easily.

A Series

Accessible from every angle

- Ideal for pressure, differential pressure and case type instruments in combination with manifolds, air sets, and purge meters.
- Top-hinged for easy access to process instruments from the front, top, or either side.
- Available in three sizes.
- Standard lid-support bracket keeps the lid open.
- Common options include mounting kits, heaters and factory-installed tempered glass windows.



B Series

Front-door access

- Ideal for case type recorders, indicators, controllers and sample handling or conditioning systems.
- Front door allows easy access to equipment.
- Available in 22 different sizes.
- Common options include mounting kits, rear access panels, surface plates, heaters and factory-installed tempered glass windows.



C Series

Maximum access

- Ideal for pressure, differential pressure and other transmitters in combination with manifolds, air sets, purge meters and output gages.
- Easy-open, tilt-back lid allows access from all sides.
- Available in 25 different sizes.
- Common options include lift access package, parting plates, mounting kits, heater and (W3) windows.



TRAKMOUNT®

Instrument Mounting Made Simple

- Unique track design.
- Instrument brackets can be positioned anywhere in the enclosure by the user.
- Convenience of factory installed brackets.
- Reduced installation time.



The new Trakmount is recessed in the A1 and C31 Series enclosures so the bottom surface is flat. It can be used with any instrument mount and allows the transmitter and manifold to be positioned virtually anywhere in the enclosure.



MOUNTING KITS

Select a mounting kit by referring to the easy-order reference guide on pages 15 & 16 for compatibility with enclosure styles and sizes. Mounting kits are used with Enclosure styles shown in parenthesis behind model numbers.

If you do not find a combination that fits your application, select individual components from the technical specification section on pages 17 & 18. X designations in the model number are completed by O'Brien at time of order to reflect the exact size needed for the enclosure selected.



MK1 (A,C)

For back mounting a single transmitter.

- **Universal instrument support bracket**
- **2" NB pipe pedestal**



MK2 (A,C)

For manifold mounting a single transmitter.

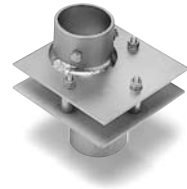
- **Universal manifold support bracket**
- **2" NB pipe pedestal**



MK3 (A,C)

For pipe mounting equipment.

- **300mm tall offset 2" NB pipe bracket**
- **2" NB pipe pedestal**



MK4 (B)

For pipe mounting equipment.

- **Offset socket bracket for 2" NB pipe**
- **2" NB pipe pedestal**



MK5X (B)

Adjustable rails for mounting equipment with a 2" NB pipe mounting bracket for the enclosure.

- **Adjustable rack bracket**
- **Vertical 2" NB pipe mount**



MK6X (B)

Adjustable rails for mounting equipment with wall mounting supports for the enclosure.

- **Adjustable rack bracket**
- **Wall mounting feet**



MK7 (A,C)

Provides a vertical surface for custom mounting equipment.

- **150mm wide x 355mm tall vertical bracket**
- **2" NB pipe pedestal**



MK8 (B)

Adjustable rails on a vertical bracket for mounting equipment.

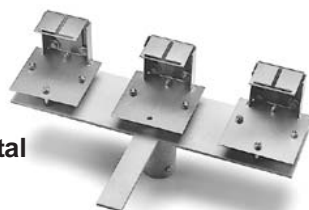
- **530mm tall slotted vertical bracket with adjustable rails**
- **2" NB pipe pedestal**



MK9 (A,C)

For manifold mounting two transmitters on 255mm centers.

- **2 manifold support brackets**
- **Extra deep 2" NB pipe pedestal**



MK10 (A,C)

For manifold mounting three transmitters on 240mm centers.

- **3 manifold support brackets**
- **Extra deep metallized 2" NB pipe pedestal**

ELECTRIC HEATERS

O'Brien industrial heaters deliver repeatable, dependable service.

- **Wide selection of thermostat settings and wattage**
- **5 Year Full Replacement Guarantee For all EEX, E, LE, and CW models**

Proven quality

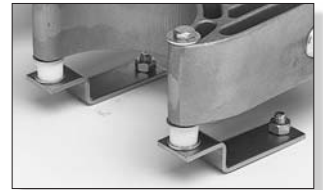
O'Brien electric heaters have undergone more than 10,000 hours of testing and twenty five years of field service.

Precision engineered for long life

The unique casting design combines maximum surface area and optimum spacing between the fins to amplify the natural convection currents. This results in lower power requirements, even heat distribution, lower surface temperatures and longer heater life.

Designed specifically for enclosures

Insulating spacers and mounting feet position the heater to make the most of natural convection currents and minimize heat sinks. The thermostat can be positioned at the level of the instrument to more accurately reflect the instrument body temperature. Refer to the electric heater sizing chart on page 23 to select the correct heater for your installation.



Hazardous area approvals to CENELEC, CSA, and FM standards

EEX series heaters are:

- CENELEC Standards EEx d IIC T3.

CW Series heaters are:

- CENELEC EEx d IIC T3.

E series heaters are:

- CSA certified for Cl. I Div. 1 Gp. B,C,D T2D 215°C.
- FM approved for Cl. I Div. 1 Gp. B,C,D T2D 215°C and Cl. I Zone 1 Aex d IIC 215°C.

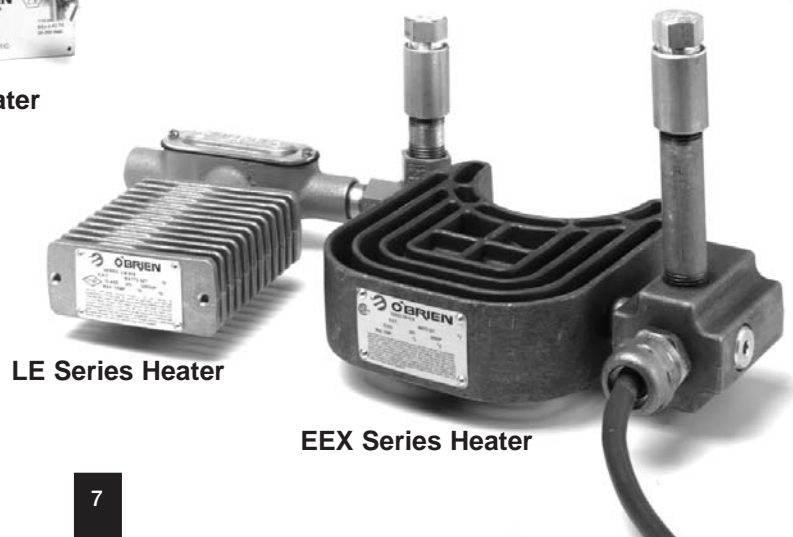
LE series heaters are:

- CSA certified FM approved for Cl. I Div. 1 & Div. 2 Gp. A,B,C,D T2D 215°C.



E Series Heater

CW Heater



LE Series Heater

EEX Series Heater

STEAM HEATERS



Six sizes

With a choice of six sizes, a steam heater may be selected that provides freeze protection in the winter without overheating the instrument in the summer. Refer to the heater sizing guide on page 21 to select the correct heater for your application.

Freeze protection or temperature maintenance

O'Brien steam heaters have been thoroughly tested in our environmental chamber to verify design calculations for both low and high ambient conditions. For precise temperature maintenance, heater control valves are available with 10°C & 40°C setpoints to control the enclosure temperatures.

Corrosion resistant and efficient

Steam heaters are protected from corrosion by a nickel-chrome alloy coating.





Surface and parting plates

Parting plates (PP, SPP, DPPT, DSPPT) are used with “C” style enclosures to bring process connections through the wall of the enclosure 50mm above the parting line of the enclosure.

Surface plates and Grommets(4SP-NOT SHOWN) are used to bring connection lines through the wall of the box.

Parting plates and surface plates can be supplied pre-drilled to specification or split in half.



Tubing and signal lines can be installed by drilling holes directly through the wall of the enclosure.

Enclosure walls are strong enough to directly support bulkhead fittings. When mounting fittings for steam supply or return lines, plate options must be used.

Options

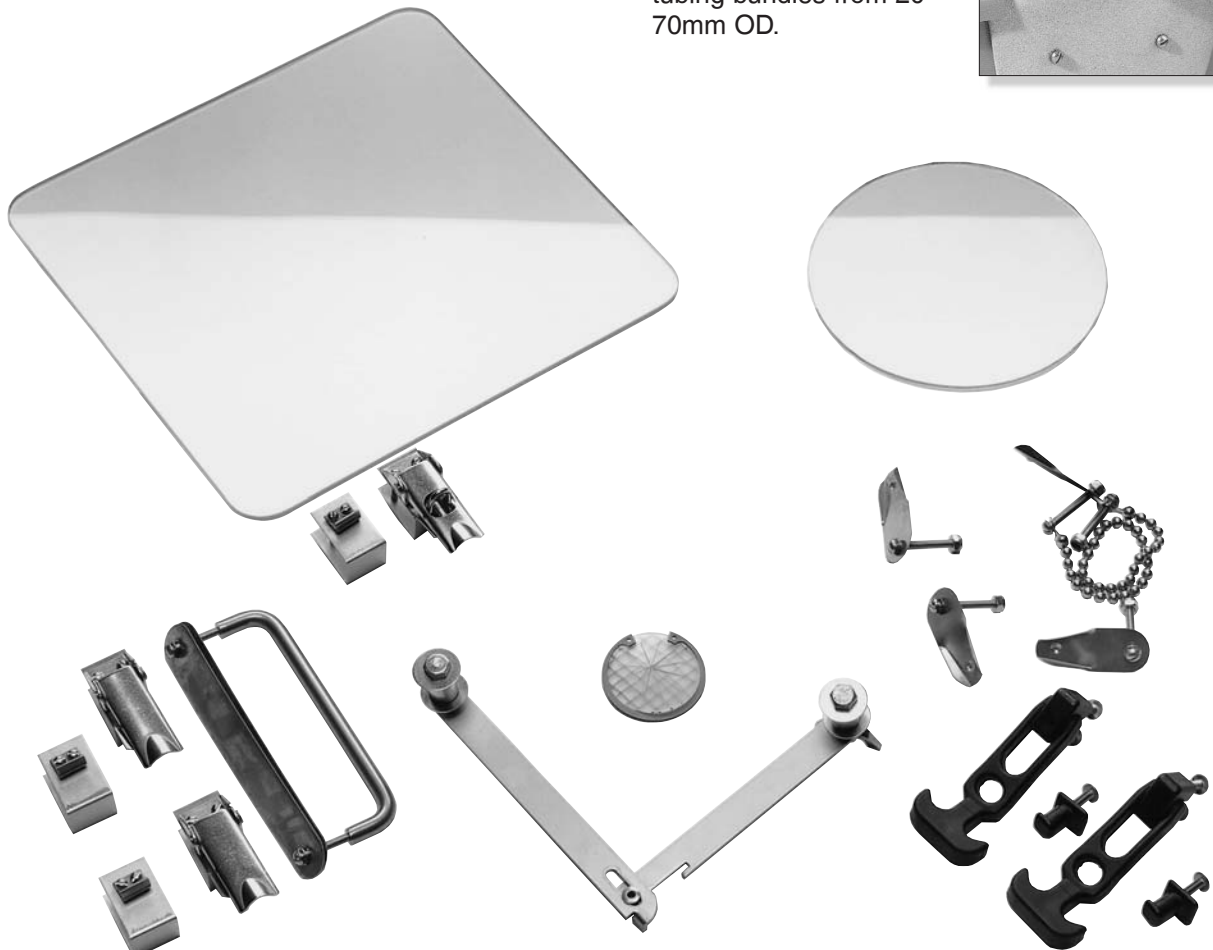
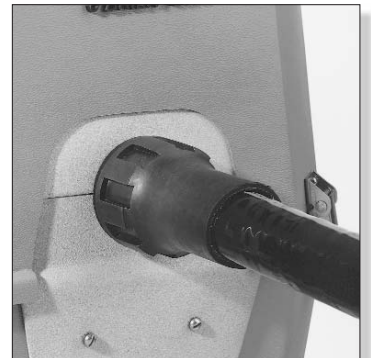
Enclosures can be customized for individual applications by adding options:

- Tempered glass windows
- Locking latches
- Drains
- Blow out discs
- Lid supports
- Access doors
- SS handles
- EDPM latches

For an expanded list of mounting hardware, brackets and optional components, refer to page 17.

Tubing bundle entry seals

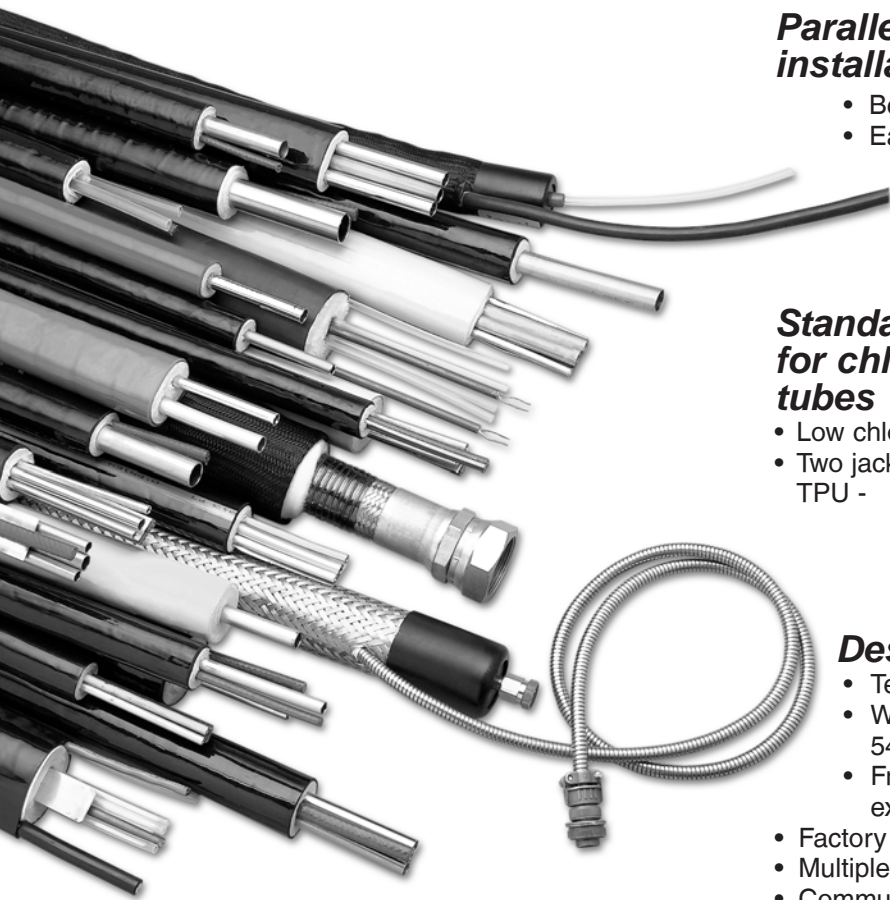
Heat shrink entry seals provide a waterproof transition for tubing bundles. The entry seal may be mounted directly to the wall of the enclosure or optional plates. ES fittings accommodate TRACEPAK tubing bundles from 20-70mm OD.



TRACEPAK

An engineered, pre-traced and pre-insulated tubing bundle system.

More information on preinsulated tubing bundles is available at www.tubingbundle.com and in the O'Brien Tracepak Brochure.



Parallel configuration makes field installation easy

- Bending radius as short as 200mm.
- Easy installation of process and instrument connections.
- Tubes will stay round and ready to be fitted in a compression type fitting.
- One pass, one craft installation.

Standard materials reduce sources for chloride stress corrosion of SS tubes

- Low chloride insulation.
- Two jacket materials:
 - TPU - contains no chlorides, eliminates possibility of jacket causing stress corrosion.
 - SV47 - low temperature polyvinyl chloride for economical weather barrier.

Designed for your application

- Temperature maintenance up to 350°C.
- Withstand a high temperature blowdown of 540°C.
- Freeze protection designs do not require expensive temperature controllers.
- Factory installed temperature sensors.
- Multiple tubes for process lines and calibration gas.
- Communication wires and power wiring, steam or electric tracing.

Tracepak is part of the O'Brien complete instrument winterizing and temperature maintenance solution.

Tracepak tubing bundle offers an effective solution to freezing, dew point, component drop out and viscosity control problems in instrument impulse lines, analyzer sample transport lines and small diameter process lines.

Typical Applications:

- **IMPULSE LINES** for flow, pressure, level transmitters, pressure switches, controllers.
- **SAMPLE LINES** for process and emissions analyzers, chromatographs.
- **PROCESS LINES**, steam supply, condensate return, water purge, chemical feed, instrument air lines.

Choose electric traced lines, steam traced lines with heavy or light tracing, or a single pre-insulated line for steam supply and condensate return.

The economical alternative to field fabrication

- Maintenance free.
- Save time during engineering and design.
- Ensures consistent, repeatable performance.
- FEA (finite element analysis) verified designs.

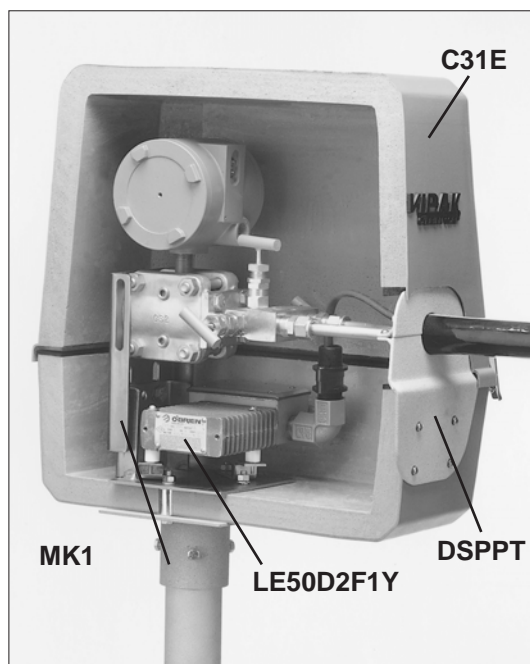
Sample transport bundles for analyzer applications

- Factory installed sensors for precise temperature control.
- Wide range of common and specialty tube materials and sizes:
 - welded and seamless SS
 - Hastelloy®
 - Super-Duplex
 - Teflon®
 - Incoloy®
 - silica lined
- True-Tube™ 15 and electropolished tubing: Two improved sample transport tubes from O'Brien that reduce or eliminate the problems of long dry-down times and adsorption / desorption.

Anywhere small diameter tubing is used and you need to provide insulation, freeze protection or temperature maintenance, a manufactured tubing bundle will save time and money as well as reducing maintenance costs and improving performance.

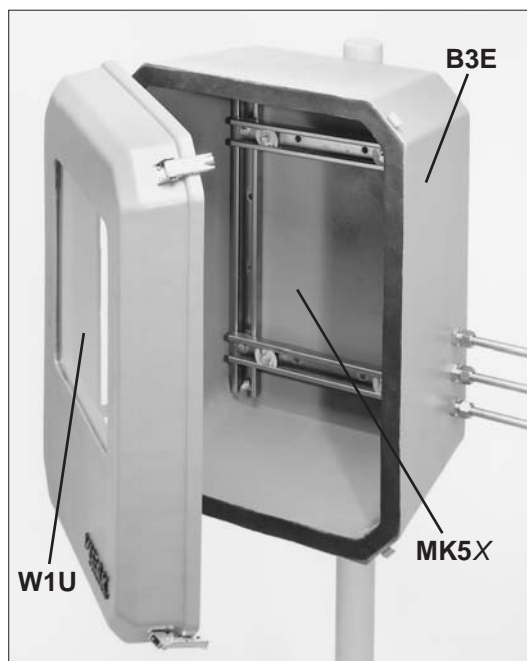


Hastelloy® is a registered trademark of Haynes International.
Incoloy® is a registered trademark of INCO Alloys International, INC.
Teflon® is a registered trademark of IE DuPont DeNemours Corporation.

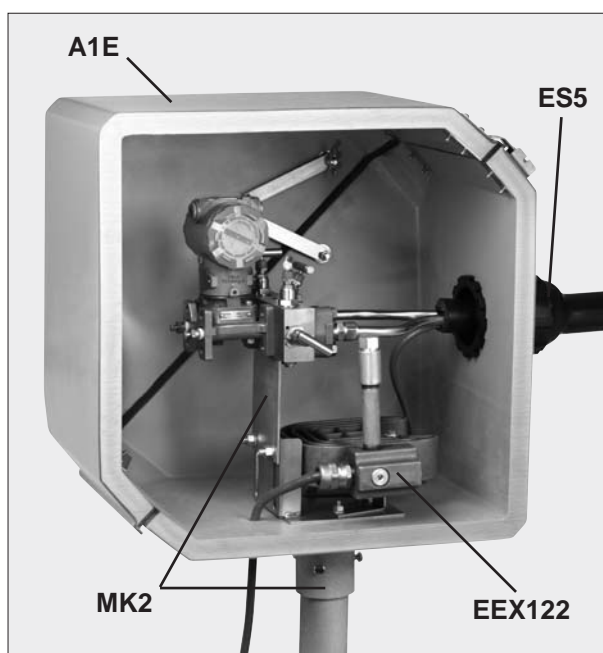


C31E is designed for a single instrument. With the lid open it allows 360° access to the instrument and manifold.

Model A3E enclosures easily accommodate three instruments.



A B3E enclosure fitted with adjustable mounting rails will accommodate most case style instruments. Bulkhead fittings can be mounted directly to the enclosure wall.



The A1E enclosure is ideal for a single instrument installation. Process piping can exit the back wall or bottom of the enclosure.

SUNSHADE

Maintains process accuracy by shielding instrumentation from solar heat gain

Four sizes - SUNSHADE provides protection for single or multiple instruments, preventing instrument calibration drift due to temperature changes caused by solar radiation.

Mechanical protection - SUNSHADE will shield instruments from the sun and provide partial protection from falling objects, rain, snow, and wind blown sand.

UV and corrosion resistant - The blended ABS material has excellent UV and corrosion resistance.

Easy access to instruments - SUNSHADE mounts to a standard 2" NB pipe stand and can be removed easily for full instrument access.

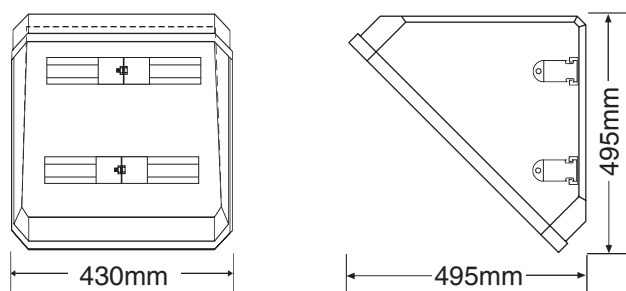


E4 SUNSHADE

The E4 SUNSHADE features a design that is stackable to minimize shipping costs, lightweight, impact resistant, and UV resistant.

SUNSHADE HOW TO ORDER

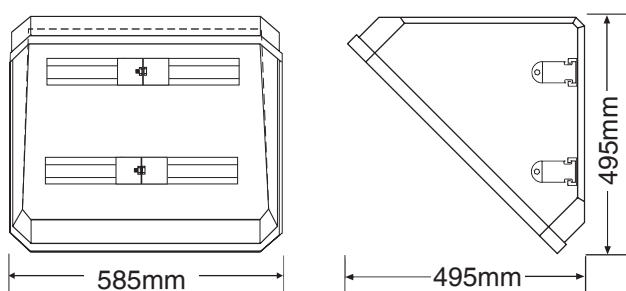
E1B SUNSHADE



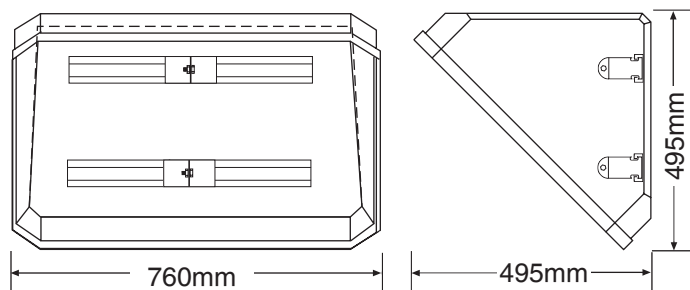
Select the SUNSHADE size required: E1B, E2B, E3B, or E4B.

Select the SADDLEPAK support required, refer to SADDLEPAK brochure for complete details.

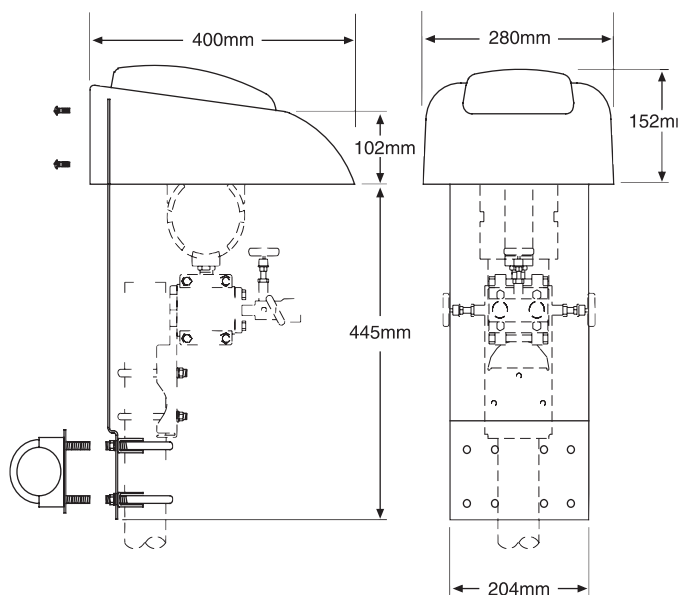
E2B SUNSHADE



E3B SUNSHADE



E4B SUNSHADE



VIPAK HOW TO ORDER

1 Select an enclosure style and size. Choose standard construction or anti-static option(pgs. 15-16)

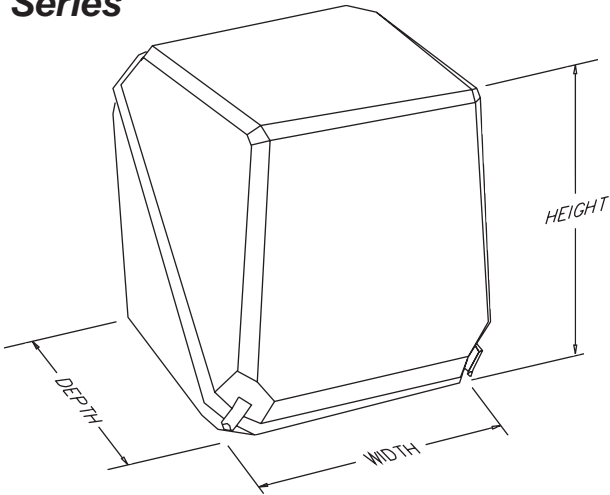
2 Add a mounting kit or combine a mount and bracket(pgs. 17-19)

3 Add an electric or steam heater(pgs. 21-23)

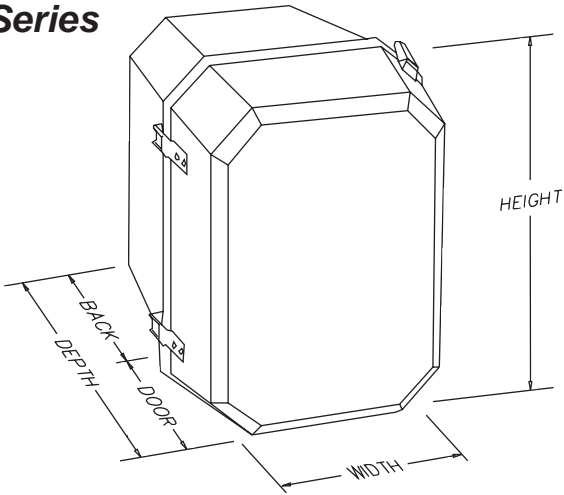
4 Add entry fittings, plates, connections and other options to complete the package(pgs. 19-20)

5 Select Tracepak® pre-insulated tubing bundle configuration.

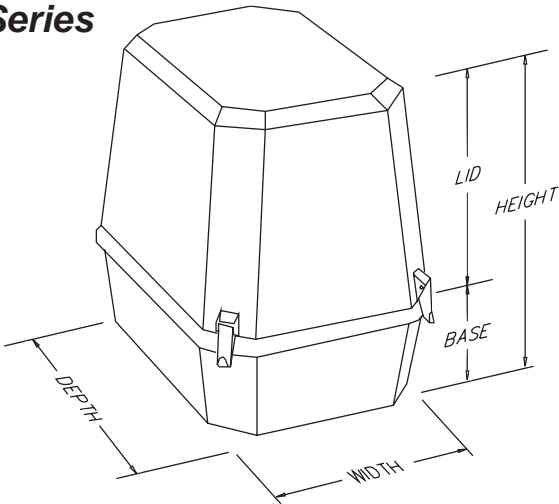
A Series



B Series



C Series



	DESCRIPTION	MODEL #
1	A Style VIPAK enclosure for a single flow transmitter and manifold 380mm W x 470mm D x 470mm H	A1E
2	Manifold mounted instrument and enclosure mounted on 2 NB pipe stand	MK2
3	Electric heat to maintain 10°C on a -30°C day (wattage selected from sizing chart on page 23) heater approved to CENELEC standards EEx d IIC T3	EEX102
4	Heat-shrink entry seal for TRACEPAK tubing bundle 43mm x 36mm	ES5
	Completed VIPAK model #: A1E-MK2-EEX102-ES5	

This selection chart indicates common choices.

Some choices may require nonstandard configurations and should be confirmed by the factory.
Not all possible combinations are listed.

Consult the factory if the combination you need is not listed.

All values are inside dimensions at the parting line of the enclosure.
Add for 25mm wall thickness.

				Width (mm)	Height (mm)	Depth (mm)	Door/Back (mm)	Enclosure Model To specify anti-static option replace 'E' with 'A' in enclosure number.
				Width	Depth	Height	Base/Lid	
	380	470	470					*A1E
	530	470	470					*A2E
	710	470	470					*A3E
	280	405	250	125/125				B32E
	280	405	430	125/305				B31E
	280	405	610	305/305				B33E
	405	280	250	125/125				B232E
	405	280	430	125/305				B231E
	405	280	610	305/305				B233E
	405	405	250	125/125				B6E
	405	405	480	125/355				B5E
	405	405	710	355/355				B7E
	405	570	250	125/125				B15E
	405	570	355	50/305				B3E
	405	570	430	125/355				B14E
	405	570	610	305/305				B4E
	405	570	180	50/125				B22E
	570	405	250	125/125				B215E
	570	405	355	50/305				B203E
	570	405	430	125/305				B214E
	570	405	610	305/305				B204E
	570	405	180	50/125				B222E
	610	810	430	125/305				B48E
	610	810	250	125/125				B49E
	610	810	610	305/305				B50E
	280	405	250	125/125				C32E
	280	405	430	125/305				C31E
	280	405	610	305/305				C33E
	405	280	250	125/125				C232E
	405	280	430	125/305				C231E
	405	280	610	305/305				C233E
	405	405	250	125/125				C6E
	405	405	480	125/355				C5E
	405	405	710	355/355				C7E
	405	570	250	125/125				C15E
	405	570	355	50/305				C3E
	405	570	430	125/305				C14E
	405	570	610	305/305				C4E
	405	570	180	50/125				C22E
	570	405	250	125/125				C215E
	570	405	355	50/305				C203E
	570	405	430	125/305				C214E
	570	405	610	305/305				C204E
	570	405	180	50/125				C222E
	610	810	430	125/305				*C48E
	610	810	250	125/125				*C49E
	610	810	610	305/305				*C50E
	810	610	430	125/305				*C248E
	810	610	250	125/125				*C249E
	810	610	610	305/305				*C250E

-- Common choice. "XXX" will be completed at time of order entry. * - Includes lid support (LS) as standard.
Specifications and available options are subject to change without notice.

MOUNTING KITS

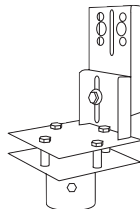
Mounting kits are easy-to-order combinations of standard mount/bracket components. Model numbers for individual components are shown below. To select individual components, please refer to pages 17 & 18 for compatibility with enclosure size.

Finish: All mounting kits have a durable industrial grade finish backed by O'Brien's 10 year guarantee.

Factory Installation: Mounting kits are not factory installed unless specifically noted. To select optional factory installation, add "-F" to the end of the model number (e.g., MK1-F) and note instrumentation being enclosed.

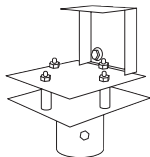
MK1

For back mounting a single transmitter in an A or C style enclosure.
Includes: 1-**UB** and 1-**FM**.



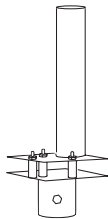
MK2

For manifold mounting a single transmitter in an A or C style enclosure.
Includes: 1-**MSB** and 1-**FM**.



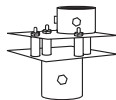
MK3

For pipe mounted equipment in an A or C style enclosure.
Includes: 1-**IPBOF12** and 1-**FM**.



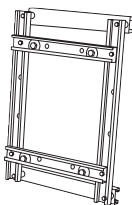
MK4

For pipe mounted equipment in a B style enclosure.
Includes: 1-**RPBOS** and 1-**SM**.



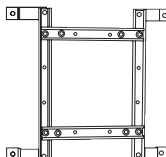
MK5X

For mounting equipment to an adjustable rack inside a 2" NB pipe mounted B style enclosure.
Includes: 1-**RBX** and 1-**2VPMXX** factory installed on the back of the enclosure.



MK6X

For mounting equipment to an adjustable rack inside a wall mounted B style enclosure.
Includes: 1-**RBX** and 1-**PMB** factory installed on the back of the enclosure.



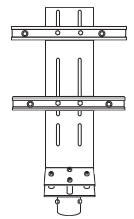
MK7

For custom mounting equipment in an A or C style enclosure.
Includes: 1-**14VBF** and 1-**FM**.



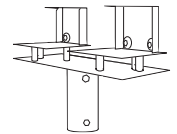
MK8

Adjustable rails for mounting equipment in a B style enclosure.
Includes: 1-**21VBS** and 1-**SM**.



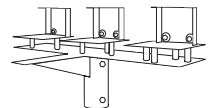
MK9

For manifold mounting two transmitters on 255mm centers in an A or C style enclosure.
Includes: 2-**MSB** and 1-**D10FM**.



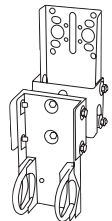
MK10

For manifold mounting three transmitters on 240mm centers in an A or C style enclosure.
Includes: 3-**MSB** and 1-**T95FM**



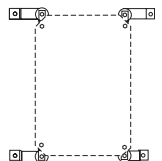
UMBX (Universal Mounting Bracket)

For back mounting a transmitter in smaller C style enclosures. Combines the instrument mounting hole pattern from the UB with a universal 2" NB pipe mounting bracket for vertical or horizontal pipe. Factory installed centered on back of enclosure.



PMB (Panel Mounting Bracket)

For wall mounting B style enclosures, it provides mounting studs inside the enclosure for optional or customer supplied panels.



MOUNTS

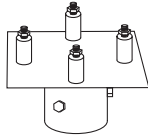
Mounts should be combined with a bracket to complete thru-bolt support for the instrument.

Finish: All mounts have a durable industrial grade finish backed by O'Brien's 10 year guarantee.

X designations in the model number are completed by O'Brien at time of order.

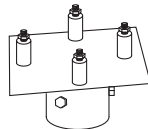
FM (Flat Mount)

2" NB pipe pedestal for A and C style enclosures. Includes three set screws to securely fasten the enclosure to the pipe stand.



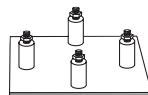
SM (Slant Mount)

2" NB pipe pedestal for B style enclosures. Includes three set screws to securely fasten the enclosure to the pipe stand.



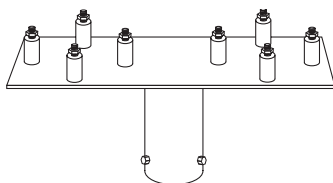
FPM (Flat Plate Mount)

Flat plate used to complete the mounting of an instrument bracket when no other external mount is specified.



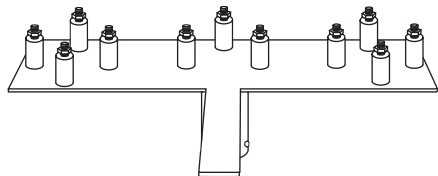
D10FM (Dual Flat Mount)

A 150mm deep 2" NB pipe pedestal designed to support two interior brackets on 255mm centers. (A & C styles only)



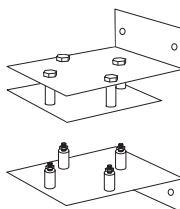
T95FM (Triple Flat Mount)

A 150mm deep 2" NB pipe pedestal designed to support three interior brackets on 240mm centers. It also features an added support arm. (A & C styles only)



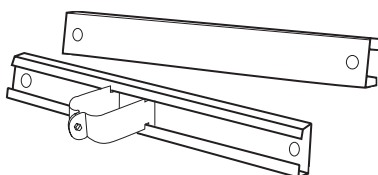
WM (Wall Mount)

Two angled plates bolt a B style enclosure against a wall or to a 2" NB vertical pipe with customer supplied U-Bolts.



2VPMXX (Vertical Pipe Mount)

This allows B style enclosures to be mounted to a 2" NB vertical pipe. Use with "RBX".



BRACKETS

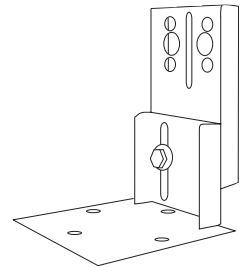
Finish: All brackets have a durable industrial grade finish backed by O'Brien's 10 year guarantee.

Factory Installation: Brackets, mounts and heaters are not factory installed unless specifically noted. To select optional factory installation, add "-F" to the end of the bracket model number (e.g., MSB-F) and note instrumentation being enclosed. The mount and heater included with the enclosure will also be installed.

X designations in the model number are completed by O'Brien at time of order.

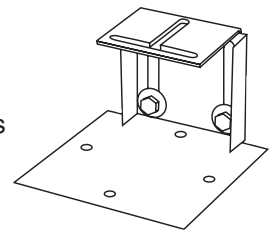
UB (Universal Bracket)

The universal bracket includes mounting holes for most transmitters replacing the bracket supplied with the instrument. It positions the process connections to line up with Parting Plates when used in C style enclosures with a 125mm deep base. The instrument mounting height is adjustable to maintain the proper impulse line slope for gas or liquid service. Used in A or C style enclosures.



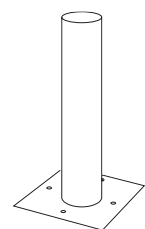
MSB (Manifold Support Bracket)

The universal manifold mount bracket will directly replace most optional mounting brackets from the manifold manufacturer. It positions the process connections to line up with Parting Plates when used in C style enclosures with a 125mm deep base. The instrument height is adjustable to maintain the proper impulse line slope for gas or liquid service. Used in A or C enclosures.



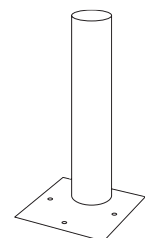
IPBXXX (Internal Pipe Bracket)

2" NB instrument mounting pipe. Available for A, B, or C style enclosures.



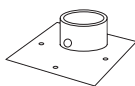
IPBOXXX (Internal Pipe Bracket Offset)

2" NB instrument mounting pipe offset on the base so that the pipe can be positioned closer to the wall of the enclosure. Available for A, B, or C style enclosures.



BRACKETS (cont.)

XRPO (Removable Pipe Bracket Offset)
Used to support customer supplied pipe. The 2" NB deep socket is offset to the edge of the base for more flexibility in positioning the instrument. Available for A, B, or C style enclosures.



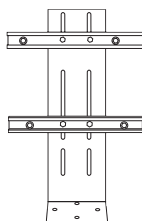
FPB (Flat Plate Bracket)
Flat plate used to complete installation of an external mount when no other instrument bracket is ordered.



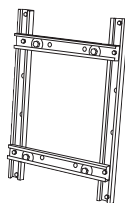
14XVB (Vertical Bracket)
A 150mm wide by 355mm tall 6mm thick vertical bracket. Available for A, B, or C style enclosures.



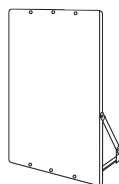
21SVB (Vertical Bracket)
A 530mm tall 6mm thick vertical bracket with 355mm wide adjustable rail cross arms. Used in B style enclosures.



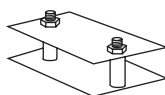
RBX (Rail Bracket)
Two vertical rails are mounted to the back of B style enclosures. Two adjustable horizontal rails can be positioned to mount almost any instrument. Must use with "2VPMXX" or "PMB" mounts to support the enclosure.



22PB (Panel Bracket)
A 360mm wide by 560mm tall plate bracket with supports. Factory installed in B style enclosures.



HB (Heater Bracket)
A 360mm by 150mm heater bracket provides a mounting surface for electric or steam heaters when no other bracket is used.



ENTRY PLATES

Finish: All plates have a durable industrial grade finish backed by O'Brien's 10 year guarantee.

Factory Installation: Parting plates are factory installed centered on the front of C style enclosures. Surface plates are not installed. To designate factory installation, add "-F" to the end of the model number and indicate desired location (e.g. **4SP-F**).

Adding Holes to Plates: Plates can be customized with factory drilled holes. Add "D" to beginning of component model number (e.g. **DSPP**). Specify size and location. If holes are to accommodate TRACEPAK tubing bundles, add "T" to the end of the component model number, and specify TRACEPAK model number instead of hole size (e.g. **DSPTT**).

ES (Entry Seal)

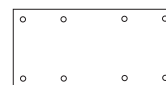
This heat-shrinkable entry seal provides a waterproof fitting where TRACEPAK enters an enclosure. Available in two sizes, it has an O-ring and threaded jam nut for a superior seal.



Model Number	Max. Panel Thickness	Maximum I.D. Nose	Minimum I.D. Nose	Mounting Hole Diameter
ES4	13mm	40mm	20mm	50mm
ES4S	25mm	53mm	20mm	60mm
ES5	25mm	70mm	36mm	85mm

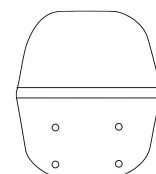
4SP (Surface Plate)

This 100mm x 150mm surface plate is designed to be mounted on the stationary portion of the enclosure.



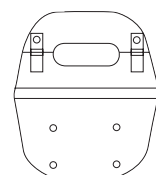
PP (Parting Plate)

The parting plate is a one-piece plate factory mounted at the parting line on the front center of C style enclosures.



SPP (Split Parting Plate)

This factory mounted plate is the same as the PP except it is split and has a preformed opening to accept 1/2" NB pipe on 54mm centers.



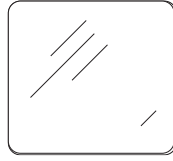
(X designations in the model number are completed by O'Brien at time of order.)

WINDOWS

Mounting Locations: Windows are factory installed, note instrument to enclose. On B style enclosures windows can be located in the upper 1/3, center, or lower 1/3 of the door by adding “U”, “C”, or “L” to the end of the window model number. (e.g. **W1C**)

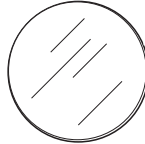
W1 (Window)

The “**W1**” is a 6mm thick, 305mm x 305mm tempered glass window to provide a large viewing area.



W3 (Window)

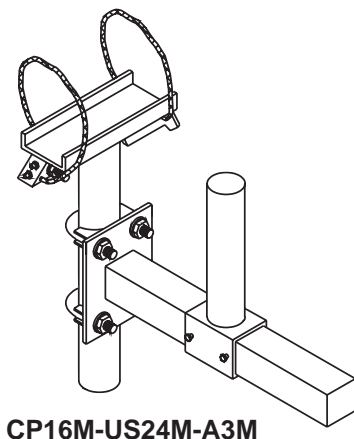
The “**W3**” is a 6mm thick, 180mm round tempered glass window allows select viewing of instrumentation.



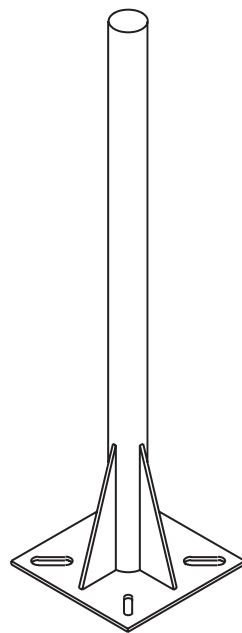
Polycarbonate windows available - consult factory.

SADDLEPAK INSTRUMENT STANDS

To complete the enclosure mounting, select an O'Brien SADDLEPAK support. The 1M tall floor stand is ideal for mounting enclosures. The cable mount is recommended to mount enclosures on the process line. Refer to SADDLEPAK brochure for a complete list of options.



CP16M-US24M-A3M



FP40

OTHER OPTIONS

LA (Lift Access)

Replaces hinges with latches so lid or door is lifted off instead of hinged. Also adds a stainless steel handle to the center of the lid or door. (On size 48, 49, 50, 248, 249, and 250 enclosures two handles are provided.) To specify, add to enclosure model # e.g. “**C31EMLA**”.

PH (Plastic Hardware)

EDPM latches replace standard stainless steel latches and hinges. Provided as lift access only, do not also specify “**LA**” option.

DA (Door Access)

Provides a removable access panel in the back of larger B style enclosures designed to make installation of back connected instruments easier. It is attached to the enclosure and includes a stainless steel handle.

R (Retainer)

Door or lid retainer. Permanently attaches the lid or door to the base of the enclosure to keep them from being misplaced when they are removed.

LS (Lid Support)

Lid support. Keeps the lid or door in an open position during instrument service or installation. (Standard on A style and C48, 49, 50, 248, 249, and 250 enclosures.)

H (Handle)

Stainless steel handle. Makes opening the door or lid of large enclosures easier.

BO (Blow Out)

Blow out disk provides pressure relief for the enclosure. The one way urethane flapper valve is installed in the bottom right rear corner of A and C style enclosures and the lower right corner of the back of B style enclosures.

D (Drain)

A removable drain plug can be installed in the bottom left front corner of A or C style enclosures and attached with a stainless steel ball chain. (B style enclosures are self draining when the door is opened.)

SK (Seal Kit)

Silicone RTV sealant used to seal around holes drilled in the enclosure for process, signal, or power connections.

LL (Locking Latch)

A stainless steel locking latch with hasp replaces one of the standard latches. (Not available with **PH** option.)

PT (Engraved Laminated Plastic Nameplate)

A 50mm x 150mm white phenolic nameplate with black lettering. Specify letter size and text.

STEAM HEATER SELECTION GUIDE

Enclosure			Steam Heater Selection Chart																	
			-20°C ambient						-30°C ambient						-40°C ambient					
			Steam Pressure (BAR)						Steam Pressure (BAR)						Steam Pressure (BAR)					
			4		6		10		4		6		10		4		6		10	
A	1	S60	460mm	S30	460mm	S30	460mm	S60	460mm	S60	460mm	S30	610mm	S80	460mm	S60	510mm	S60	460mm	
		63°C		59°C		62°C		63°C		68°C		64°C		72°C		67°C		71°C		
	2	S60	460mm	S60	460mm	S60	460mm	S80	460mm	S80	460mm	S60	460mm	S140	460mm	S140	460mm	S80	460mm	
		59°C		62°C		66°C		63°C		66°C		66°C		71°C		76°C		71°C		
C	3	S140	460mm	S80	460mm	S60	460mm	S140	460mm	S140	460mm	S140	460mm	S140	460mm	S140	920mm	S140	460mm	
		63°C		59°C		59°C		63°C		67°C		71°C		69°C		70°C		71°C		
	3, 203	S60	460mm	S30	460mm	S30	460mm	S60	460mm	S60	660mm	S30	510mm	S60	610mm	S60	460mm	S60	460mm	
		64°C		60°C		63°C		64°C		68°C		64°C		67°C		68°C		73°C		
D	4	S60	460mm	S60	460mm	S30	460mm	S80	460mm	S80	460mm	S60	460mm	S140	460mm	S80	610mm	S60	610mm	
		60°C		63°C		60°C		63°C		67°C		67°C		72°C		68°C		68°C		
	5	S60	460mm	S30	460mm	S30	460mm	S60	460mm	S60	660mm	S30	510mm	S60	610mm	S60	460mm	S60	460mm	
		64°C		60°C		63°C		64°C		68°C		64°C		67°C		68°C		73°C		
E	6	S30	460mm	S30	460mm	S30	460mm	S30	510mm	S30	460mm	S30	460mm	S30	710mm	S60	560mm	S30	460mm	
		62°C		65°C		69°C		62°C		65°C		69°C		66°C		76°C		69°C		
	7	S60	460mm	S60	460mm	S30	460mm	S80	460mm	S60	460mm	S60	460mm	S140	230mm	S80	460mm	S80	460mm	
		60°C		63°C		60°C		64°C		63°C		67°C		71°C		67°C		72°C		
F	14	S60	460mm	S60	460mm	S60	460mm	S80	460mm	S80	460mm	S60	610mm	S140	610mm	S80	610mm	S80	460mm	
		59°C		62°C		66°C		63°C		66°C		68°C		72°C		68°C		71°C		
	15	S30	460mm	S30	460mm	S30	460mm	S60	460mm	S60	460mm	S30	460mm	S60	610mm	S60	460mm	S60	610mm	
		58°C		61°C		64°C		66°C		70°C		65°C		68°C		70°C		78°C		
22	S30	460mm	S30	460mm	S30	230mm	S60	460mm	S30	460mm	S30	460mm	S60	460mm	S60	610mm	S60	460mm		
	60°C		63°C		63°C		69°C		63°C		67°C		69°C		74°C		79°C			
G	31	S30	460mm	S30	460mm	S30	460mm	S30	510mm	S30	460mm	S30	460mm	S30	710mm	S60	560mm	S30	460mm	
		62°C		65°C		69°C		62°C		65°C		69°C		66°C		76°C		69°C		
	32	S30	460mm	S30	230mm	S30	230mm	S30	460mm	S30	230mm	S30	230mm	S30	460mm	S30	460mm	S30	230mm	
		67°C		65°C		69°C		67°C		65°C		69°C		67°C		71°C		69°C		
33	S30	460mm	S30	460mm	S30	460mm	S30	710mm	S60	510mm	S30	460mm	S60	460mm	S60	460mm	S30	760mm		
	59°C		61°C		64°C		62°C		72°C		66°C		68°C		72°C		70°C			
48	S140	560mm	S80	710mm	S60	610mm	S140	460mm	S140	610mm	S140	460mm	S190	460mm	S190	460mm	S140	910mm		
	62°C		59°C		59°C		69°C		70°C		70°C		68°C		72°C		72°C			
49	S80	460mm	S60	460mm	S60	460mm	S80	460mm	S80	460mm	S80	460mm	S140	460mm	S140	910m	S140	460mm		
	59°C		59°C		62°C		66°C		66°C		66°C		68°C		74°C		78°C			
50	S140	460mm	S140	460mm	S140	460mm	S140	460mm	S140	460mm	S140	610mm	S190	610mm	S190	460mm	S190	460mm		
	60°C		63°C		69°C		67°C		67°C		68°C		67°C		69°C		74°C			

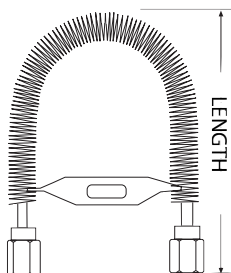
Consult factory to size heaters for recirculated heat transfer fluids.

Instructions

All heating systems are designed to maintain 10°C under the given conditions.

- Check physical size limitations within enclosure.
(Refer to the easy-order grid on pages 15 & 16.)

Heater Model Number	S80	660mm	Length of 10mm connecting tubes
	67		
Enclosure temp. at 40°C ambient			

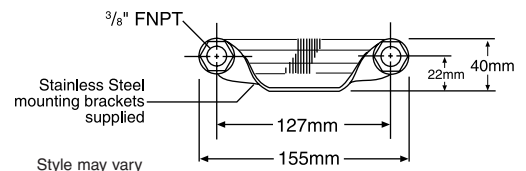
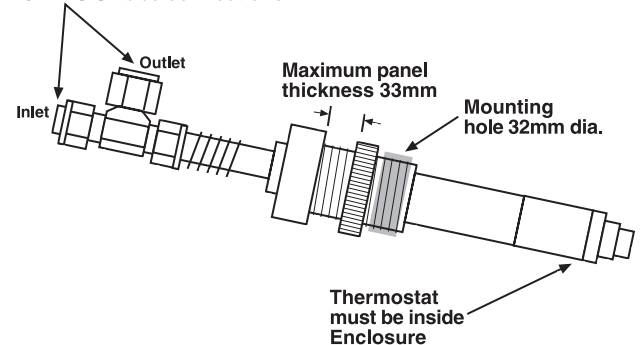


Model	Length
S30	120mm
S60	120mm
S80	120mm
S140	197mm
S190	273mm
S240	350mm

HCV50M/100M

Heater control valves for 10°C (HCV50M) and 40°C (HCV100M) set points.

10mm S.S. tube connections



ELECTRIC HEATERS HOW TO ORDER

LE Series Heater Model Number

LE Series Heater

Thermostat Set Point

0	No Switch
5	10°C
7	25°C
10	40°C
12	50°C
15	65°C

Power

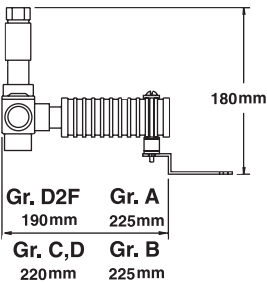
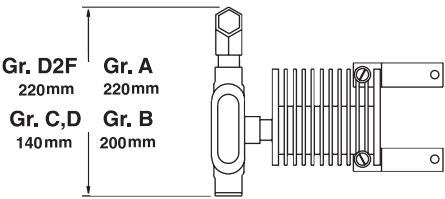
0	100 Watts
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Electric Classification

A	Group A	CL. I, Div. 1(FM/CSA)
B	Group B	CL. I, Div. 1(FM/CSA)
CD	Groups C,D	CL. I, Div. 1(FM/CSA)
D2F	Gp. A,B,C,DCL. I, Div. 2(FM)	

Operating Voltage

1	115 VAC
2	230 VAC
3	277 VAC



Example:
LE Series heater, 50°C setpoint, 100 watts, Gp. A CL. I, Div. 1, 230 VACLE120A2

E Series Heater Model Number

E Series Heater

Thermostat Set Point

5	10°C
7	25°C
10	40°C
12	50°C
15	65°C

Power

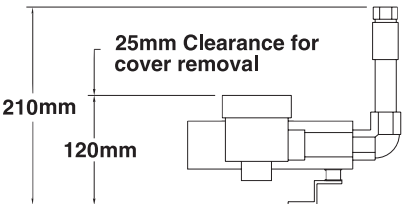
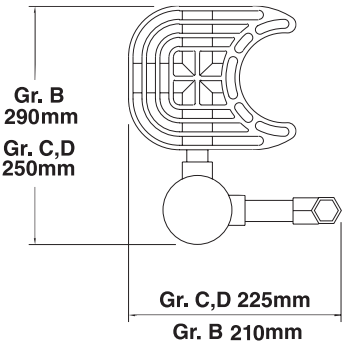
0	100 Watts
1	150 Watts
2	200 Watts

Electric Classification

B	Group B	CL. I, Div. 1(FM/CSA)
CD	Groups C,D	CL. I, Div. 1(FM/CSA)

Operating Voltage

1	115 VAC
2	230 VAC
3	277 VAC



Example:
E Series heater, 40°C setpoint, 200 watts, CL. I Gp. C,D Div. 1, 230 VACE102CD2

ELECTRIC HEATER SELECTION GUIDE

		Heater Size in Watts														
		Thermostat Set Point														
		10°C			25°C			40°C			50°C			65°C		
		Ambient Temperature			Ambient Temperature			Ambient Temperature			Ambient Temperature			Ambient Temperature		
Enclosure		-20°C	-30°C	-40°C	-20°C	-30°C	-40°C	-20°C	-30°C	-40°C	-20°C	-30°C	-40°C	-20°C	-30°C	-40°C
A	A1	100	100	150	150	150	200	150	200	200	200	300	300	300	300	300
	A2	100	150	200	150	200	200	200	200	300	300	300	300	300	300	400
	A3	150	150	200	200	200	300	300	300	300	300	400	400	400	400	400
B	3, 203	100	100	150	100	150	200	150	200	200	200	200	300	200	300	300
	4, 204	100	150	200	150	200	300	200	300	300	300	300	400	300	400	400
	5	100	100	150	100	150	200	150	200	200	200	200	CF	200	CF	CF
C	6	100	100	100	100	100	150	100	150	150	150	150	200	200	200	200
	7	100	150	200	150	200	200	200	CF	CF	CF	CF	CF	CF	CF	CF
	14, 214	100	150	150	150	150	200	200	200	300	200	300	300	300	300	300
D	15, 215	100	100	150	100	150	150	150	200	200	200	200	300	200	300	300
	22, 222	100	100	100	100	150	150	150	150	200	150	200	200	200	200	300
	31, 231	100	100	100	100	100	150	100	150	150	150	150	200	200	200	200
E	32, 232	100	100	100	100	100	100	100	100	150	100	150	150	150	150	150
	33, 233	100	100	150	100	150	150	150	150	150	200	200	200	200	200	CF
	48, 248	150	200	300	200	300	400	300	400	400	400	400	CF	400	CF	CF
F	49, 249	150	150	200	200	200	300	300	300	300	300	400	400	400	400	400
	50, 250	150	300	300	300	400	400	300	400	CF	400	CF	CF	CF	CF	CF

INSTRUCTIONS

CF = Consult Factory

Find the set of columns for the thermostat set point and the row containing the enclosure model number.

Use the closest ambient temperature to determine the wattage required.

EEX and E series heaters must be mounted horizontally for proper operation

EEX Heater Model Number

EEX Heater - EEX d IIC T3

Thermostat Set Point

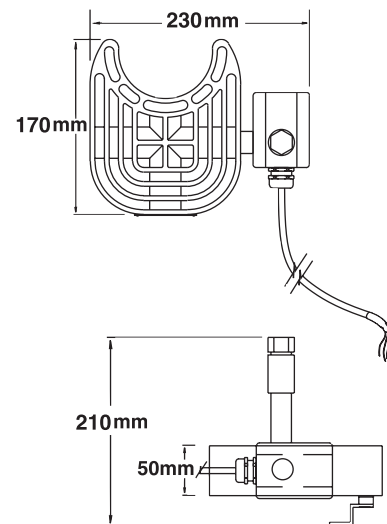
- 1 10°C
- 2 25°C
- 4 40°C

Power

- 0 100 Watts
- 1 150 Watts
- 2 200 Watts

Operating Voltage

- 1 115 VAC
- 2 230 VAC
- 7 277 VAC



Example:

230 volt 200 watt EEX Heater with 10°C set point.....**EEX122**

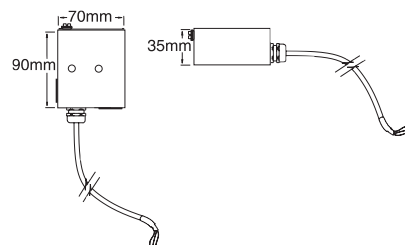
CW Heater Model Number

CW Heater

Approved

CENELEC EEX d IIC T3

Order model #: **CW11 - 100W - 115V**
CW12 - 100W - 230V



All dimensions shown are approximate.



Customer Service

O'Brien's reputation as a customer oriented problem solver has been long recognized.

Our customer-oriented approach offers:

- responsive, knowledgeable personnel
- unparalleled delivery service
- dependable, tested results of all product lines
- on-line order status and shipment tracking.

ISO 9001 Unparalleled Quality

Certified to current ISO 9001 standards.

O'Brien's adherence to recognized international standards is your strongest assurance of our quality.

Total Solution

O'Brien products and solutions improve instrument accuracy. Our total engineering package will reduce field installation costs and provide a dependable solution for your needs.



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