Protected operating conditions

INTERTEC

Protecting field instrumentation
-no requirement too challenging!

There's no such thing as a ready-made field equipment shelter at INTERTEC. Because every application is different, almost every configuration we make is customised. And we've developed some highly innovative shelters along the way...

INTERTEC is known for its environmental protection and temperature-regulation solutions for sensitive field equipment. However, during 45+ years of activity, we have produced hundreds of solutions for uncommon protection requirements. This leaflet summarizes a few of the more exotic protection technologies we offer.

Better materials make better shelters INTERTEC fabricates enclosures using high grade GRP (glass reinforced polyester), a material that is known for its outstanding performance in extreme situations. For instance, it has intrinsic fire-retardant properties, utilises a non-toxic and low smoke producing resin, and remains durable and stable in extreme cold (even down to - 100° C). When combined with Rockwool or other materials using our patented 'sandwich' construction technique - GRP even provides outstanding performance in high-temperature oil-based fires.

Challenge us - we won't disappoint! If you have an unusual field equipment protection requirement, call us to discuss your application. Whatever your equipment requires, INTERTEC will almost certainly already have a solution, or proven technology to help us create one.

INTERTEC's 'standard' range
Turnkey solutions/components for:
- frost/condensation protection
- temperature regulation
- explosion proof areas (IEC,ATEX, CSA, GOST, Nepsi, KOSHA ...)
- impact resistance
- UV protection
- immunity to harsh/corrosive media

Special-purpose protection
Proven expertise in designing for:
- fire resistance
- non-toxic fumes/smoke during a fire
- passive cooling, energy efficiency
- Arctic-grade climates
- high wind/blast/seismic forces
- plant-wide standardization of field protection
- analyzer sample conditioning

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From pole to equator, desert to jungle, surviving fire, blast earthquake, deep-freeze.....

Our highly experienced designers thrive on challenges, and with five production sites and support offices worldwide, this know-how is available close to you. Here are few of the special requirements that INTERTEC has supplied:

Fire-resistant cabinets
Application-specific enclosures to protect valves/actuators (etc) against oil fires - for 30 minutes or longer (F120 is possible). The rigid GRP structures are non-hygroscopic (no maintenance required) and can be designed to suit particular plant conditions, including access panels. Test reports available.

ARCTIC grade shelters
Thick sandwich-construction panels provide superb thermal insulation properties to combat extremely cold climates (down to - 60° C and below) combined with high structural strength and durability. Maximum size is almost limitless (single piece walls and roofs up to 6x3 m - for anti-leak integrity).

Wind/blast/seismic force
GRP has a tensile strength almost matching stainless steel, with intrinsic flexibility and at a quarter of the weight. Enclosures can be constructed to withstand very high pressures such as offshore winds (240 km/h), explosion blast pressures, or seismic loads (Zone 5). Standard enclosures all pass Ex impact tests.

Adapting for extreme climates
'Normal' Ex certified equipment has an ambient temperature range of -20 to + 40° C. If temperatures are not mentioned on the type certificate, INTERTEC can produce protective enclosures to allow it to be used anywhere - from – 60° to + 80° C ambient temperatures.

Passively-cooled shelters
Conventional cooling techniques need a reliable power supply, which poses difficulties in remote applications. The swing between day and night temperatures in arid/desert climates can be used to reduce temperature fluctuation by means of water or other fluids. INTERTEC has extensive experience in solutions for equipment shelters, and smaller-scale applications (pipeline instruments, analyzers, RTUs…).

Ex certificates for worldwide use
All INTERTEC Ex heaters and controllers are approved to IEC (and ATEX, CSA, GOST-R/K/U, Nepsi, KOSHA..). This makes it possible for one heater, or enclosure configuration, to be used anywhere in the world - greatly reducing design, system building and maintenance costs.

Safety, even in harsh locations
INTERTEC makes many novel protection products that allow safety related equipment to be used in unusual locations. For example, cabinets for safety showers that provide temperature-regulated water even in harsh outdoor climates, or protective canopies for vital shut-down switches or alarms, to guard against accidental activation or impact from falling debris..

Site-wide standardization
INTERTEC's database of designs covers all common field instrumentation applications. Systems are fabricated using modular components and layout principles that reduce the variability of instrument installation. With planning at the outset of projects, we can create a site-wide standard for clients - greatly simplifying maintenance, training, spares holdings, etc to reduce total cost of ownership (TCO). References available.

Solutions for online analyzers
INTERTEC has numerous products to help system integrators make field-based analyzers reliable:
- heat exchange coolers - ensuring volatile media is below spontaneous combustion temperature when in contact with air
- highly insulated, temperature regulated boxes to condition media, prevent condensation or crystallization - even in Ex areas
- NeSSI systems using modular substrates.