

# Weather-resistant Ex-radome

The Ex-Radome is a system designed primarily for X-band radar, both with respect to physical dimensions and frequency but may be used for all kinds of surveillance equipment needing an Ex(p)-protected enclosure for harsh weather conditions. The Ex-Radome complies with the ATEX standards.

## General

Gas and dust-proof fiberglass enclosure on aluminium frame. May be equipped with Air Conditioning, internal heaters and/or Ex-rated Overpressure system.

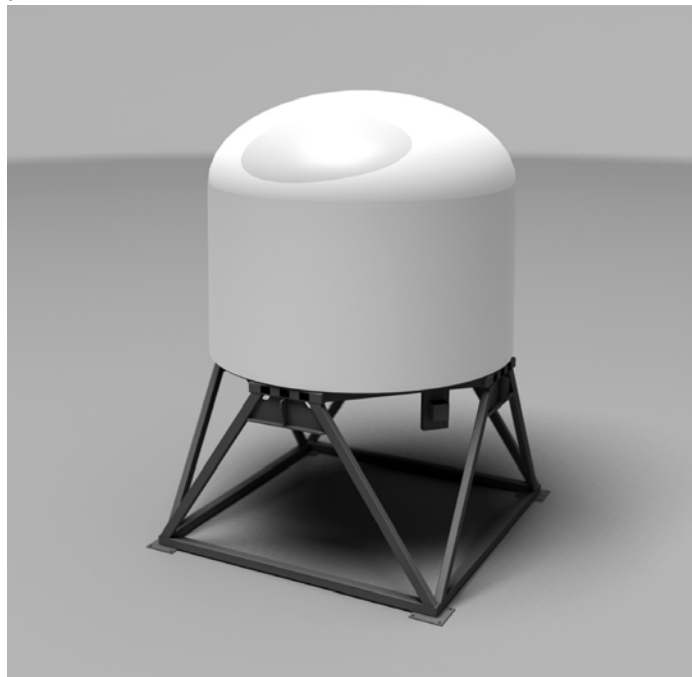
Remote monitoring of pressure and temperature using NMEA. Ideally suited for housing sensitive equipment like surveillance radar, radio, GPS / AIS, etc.

## About ATEX

ATEX (French ATmosphères EXplosibles) also known as the European Commission Directive 94/9/EC is a set of standards regulating production and operation of equipment and protective systems intended for use in potentially explosive atmospheres. The directive has been mandatory for EC member states since 1st July 2003.

Among others, ATEX provides requirements for production of radars intended to work in a potentially explosive area with a presence of gases, vapors or mists. ATEX stipulates 3 environmental zones:

**Zone 0** - an atmosphere where a mixture of air and flammable substances in the form of gas, vapor or mist is present frequently, continuously or for long periods.



**Zone 1** - an atmosphere where a mixture of air and flammable substances in the form of gas, vapor or mist is likely to occur in normal operation occasionally.

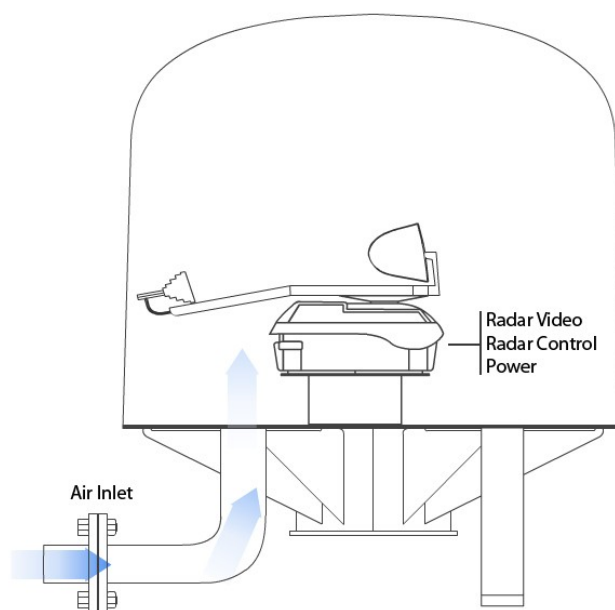
**Zone 2** - an atmosphere where a mixture of air and flammable substances in the form of gas, vapor or mist is not likely to occur in normal operation but, if it does occur, will persist for only a short period.

While no EX-type equipment can be used in Zone 0, various types of EX and EX(p) equipment can be used in Zones 1 and 2. EX(p) type of protection has to be used for radars since they have moving parts and a large inner volume.

	Continuous Hazard	Intermittent Hazard	Hazard under abnormal conditions
North America (CEC/NEC)	Division 1		Division 2 or Zone 2
CENELEC/IEC	Zone 0	Zone 1	Zone 2

## Areas Of Use

- Oil platform surveillance radar systems — Ex(p)-certified for explosion- hazardous environments if required
- Ship surveillance radars
- Oil field surveillance vessels
- Harbour radar/radio surveillance
- Coastal zone radar surveillance
- Vessel Traffic Management System
- Local Area Equipment Room
- Cold environment



## Technical Specification

	<i>Model 10223-6 (6'7' Radar antenna)</i>	<i>Model 10223-6-A-EXP (MK5 Artemis)</i>	<i>Model 10223-8 (8' Radar antenna)</i>	<i>Model 10223-6-A-T (Winterized radome)</i>
Radome material	<i>Fiberglass, optimized for 9.4 GHz</i>	<i>Fiberglass, optimized for 9.4 GHz</i>	<i>Fiberglass, optimized for 9.4 GHz</i>	<i>Fiberglass, optimized for 9.4 GHz</i>
Support Frame Material	<i>Stainless steel</i>	<i>Stainless steel</i>	<i>Stainless steel</i>	<i>Stainless steel</i>
Mounting	<i>20 bolts M35, Standard 24" ANSI Flange</i>	<i>20 bolts M35, Standard 24" ANSI Flange</i>	<i>20 bolts M35, Standard 24" ANSI Flange</i>	<i>20 bolts M35, Standard 24" ANSI Flange</i>
Wind Tolerance	<i>Designed for 350 km/hr (225 mph)</i>	<i>Designed for 350 km/hr (225 mph)</i>	<i>Designed for 350 km/hr (225 mph)</i>	<i>Designed for 350 km/hr (225 mph)</i>
Seal tolerance (ATEX)	<i>Air tight, max. leakage 37 lit/min</i>	<i>Air tight, max. leakage 37 lit/min</i>	<i>Air tight, max. leakage 37 lit/min</i>	<i>Air tight, max. leakage 37 lit/min</i>
Radome diameter	<i>2,43 meters</i>	<i>2,43 meters</i>	<i>2,8 meters</i>	<i>2,43 meters</i>
Radome height	<i>2 meters</i>	<i>2 meters</i>	<i>1,65 meters</i>	<i>2 meters</i>
Pedestal height	<i>513 mm</i>	<i>513 mm</i>	<i>513 mm</i>	<i>513 mm</i>
Total height	<i>2593mm incl. lifting eye</i>	<i>2593mm incl. lifting eye</i>	<i>2244 mm incl. lifting eye</i>	<i>2593mm incl. lifting eye</i>
Volume	<i>7000 liters</i>	<i>7000 liters</i>	<i>10000 liters</i>	<i>7000 liters</i>
Weight	<i>830kg</i>	<i>830kg</i>	<i>1100kg</i>	<i>830kg</i>
Optional features	<i>Optional internal Ex-Heaters</i>	<i>Optional internal Ex-Heaters</i>	<i>Optional internal Ex-Heaters</i>	<i>4 x Internal Ex-Heaters included</i>

### Interfaces

- Radar Video: *75 ohm Coaxial cable*
- Radar Control: *8x2x0,75 mm<sup>2</sup> Control cable*
- Power: *230VAC/10A*
- Air: *Pressurized air at 1470 lit/min or 24,5 liters/second at the Radome for purging and to maintain overpressure. The interface is a ½" pipe.*

### Certificates

European standards which are used to manufacture a radar dome:

- European standard (Cenelec): EN 50016 high pressure execution (tests)
- EN 50014 general regulations
- EN 50018 explosion safety tests
- EN 50019 flame-proof tests