



Flameproof enclosures



Flameproof Enclosures

TNCD/TNBCD



The TNCD / TNBCD range comprises of many standard sizes of enclosures manufactured in stainless steel 316L/CF-3M, for maximum environmental protection.

The enclosures allow for standard electrical components inside. Thus subsequent replacement and maintenance of the installed components is easy, and may be performed by skilled electricians. If required, several enclosures may be assembled on a framework, with separate or common Ex e/i connection boxes. The enclosures can be delivered empty with U-component certificate, or supplied fully assembled according to client's demands.

- Flexible product range with many standard sizes
- Ingress protection, IP66 as standard, to meet harsh environment.
- Wide temperature range
- Many cable entry possibilities
- Several earthing options

- May be used with an Ex e/i connection box
- Window may be fitted in cover and all sides
- Motor starters
- Alarm panels for offshore containers
- Zenerbarriers
- Transformers
- Charging units
- PLCs
- Control panels
- Terminal boxes
- High operational reliability and reduced lifetime maintenance costs
- ATEX, IEC and GOST approved

Applications

The TNCD / TNBCD range of enclosures are designed to meet the harsh environments of the North Sea and are also ideal for Petrochemical and Marine applications as well for all kind of industry where an explosive atmosphere may be present. Thousands of BARTEC TECHNOR enclosures are installed on- and offshore. If you should have a particular need, our sales staff will be happy to advise on this.

General Specifications

Material	Stainless steel 316L/CF-3M
IP rating TNCD	IP66 (IP67 upon request)
IP Rating TNBCD	IP66 (IP67 and IP68 upon request)
Temperature TNCD	-20°C - +40°C, option -40°C - +60°C
Temperature TNBCD	-20°C - +50°C, option -50°C - +60°C
Approvals TNCD	
- ATEX	
* Component	NEMKO 03ATEX263U
* Complete	DNV-2003-OSL-ATEX-0135
* IEC	IECEX NEM 10.0001U
Approvals TNBCD	
- ATEX	
* Component	NEMKO 03ATEX264U
* Complete	DNV-2003-OSL-ATEX-0136
* IEC	IECEX NEM 10.0003U
Standards	EN/IEC: 60079-0, 60079-1
Ex-Code	⊕ II 2 G/D or II 2(1/2)G/D
- TNCD	Ex d IIC T6 – T4
- TNBCD	Ex d IIB T6 – T4
Surface treatment	Shot blasted
Earthing between Ex d and Ex e/i enclosures	Through the flange assembly
Lid	With or without hinges, depending on size





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Viewing window TNCD

The window is placed in centre of the lid. Windows ($\varnothing 65$) can also be placed on the sides or back wall. Viewing windows are available with the following diameters: 65mm, 100mm and 154mm.

Enclosure type	Maximum window diameter
TNCD 1919XX	65mm
TNCD 2828XX	100mm
TNCD 3838XX	100mm
TNCD 5757XX	154mm

Measurement table for Ex d IIC Explosion proof enclosures

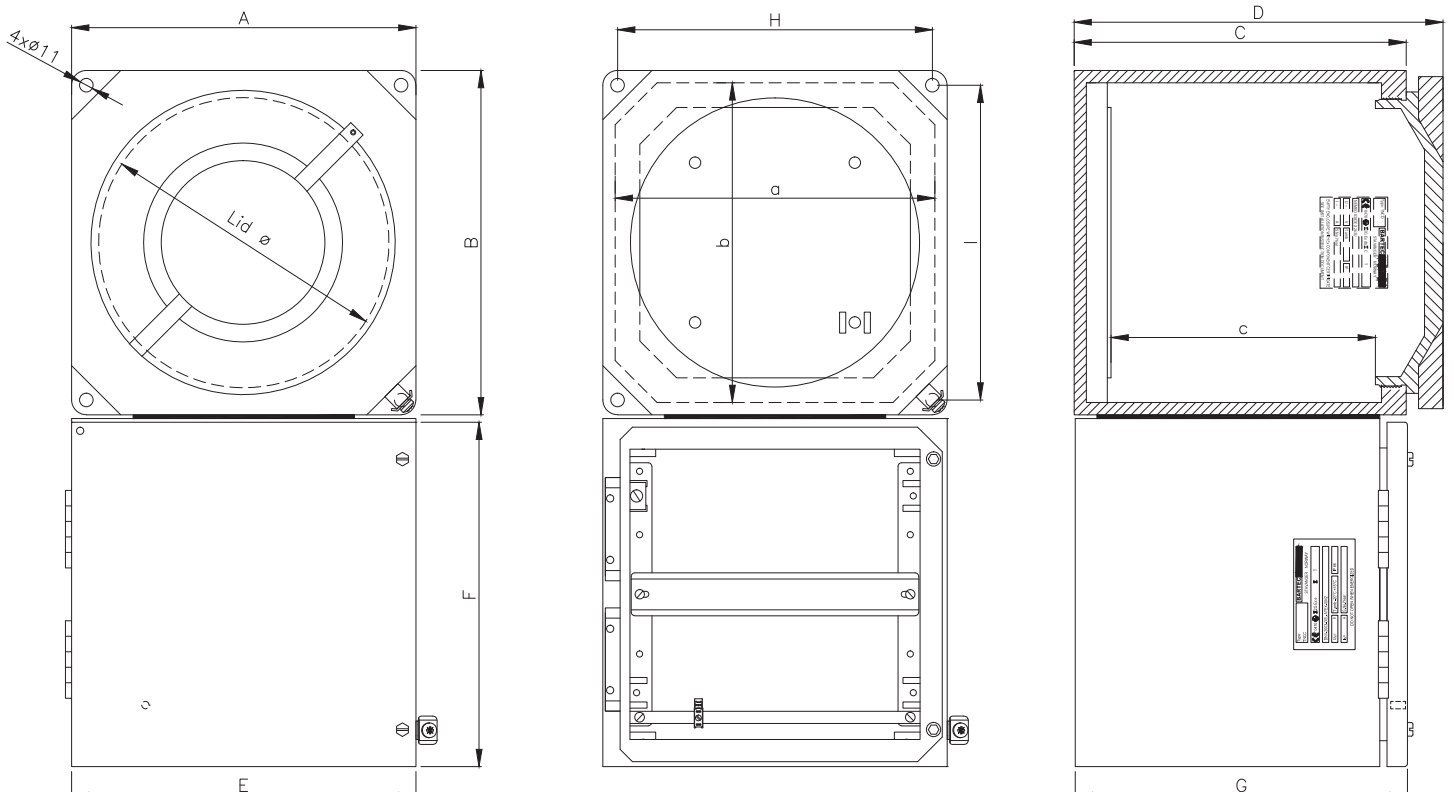
TNCD	External dimensions					Lid aperture	Internal dimensions				Fixing dimensions	
	Wide A	Height B	Depth C	Total Depth D	Wide a		Height b	Depth c	Kg	H	I	
191918	190	190	180	213	150	170	170	131	16	166	166	
282827	280	280	270	300	235	260	260	217	37	256	256	
383827	380	380	270	300	335	360	360	217	60	356	356	
575727	570	570	270	300	500	550	550	213	125	546	546	

Measures in mm. Other sizes upon request.

Measurement table for Ex e connection boxes

TNCC	E (Wide)	F (Height)	G (Depth)	Kg	TNCC	E (Wide)	F (Height)	G (Depth)	Kg
191918	190	190	180	3,0	383827	380	380	270	10,5
281927	280	190	270	4,4	571927	570	190	270	9,6
282827	280	280	270	6,6	573827	570	380	270	13,4
381927	380	190	270	4,6	575727	570	570	270	19,7

Measures in mm. Other sizes upon request.





Measurement table for Ex d IIB Explosion proof enclosures

External dimensions						Internal dimensions				Fixing dimensions		Mounting plate	
TNBCD	Wide A	Height B	Depth C	Total Depth D	Window	Wide a	Height b	Depth c	Kg	L1	H1	L	H
262531	300	290	280	315	65/100	226	216	265	16	230	290	210	196
323321	360	370	180	215	65/100	286	296	165	37	360	300	266	280
453535	490	390	320	355	65/100/154	416	316	305	60	420	390	400	296
573835	615	420	320	355	65/100/154	541	346	305	125	545	420	525	326

Measures in mm. Other sizes upon request.

Measurement table for Ex e connection boxes

TNCC			
	E	F	G
202025	200	200	255
252015	250	200	155
383825	380	380	255
453825	450	380	255

Measures in mm.



Control and indication equipment can be fitted directly into the cover of an Ex d enclosure, or in the Ex e connection box.

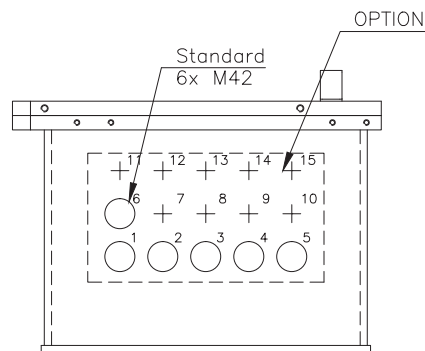
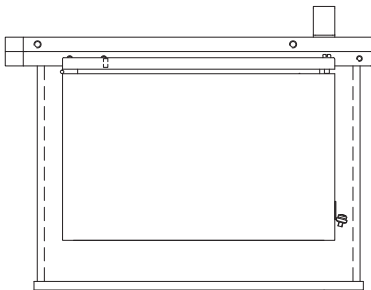
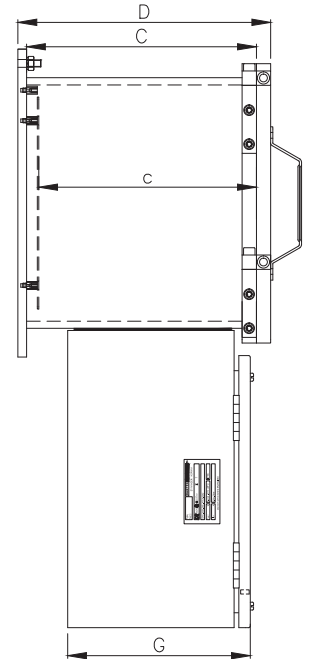
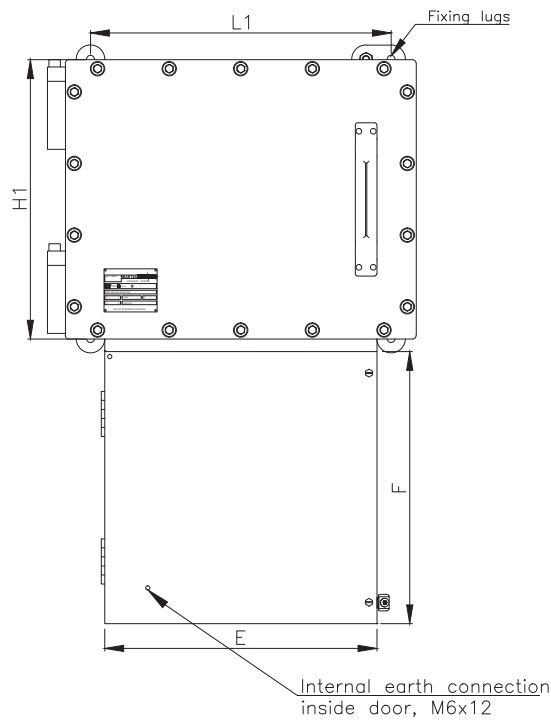
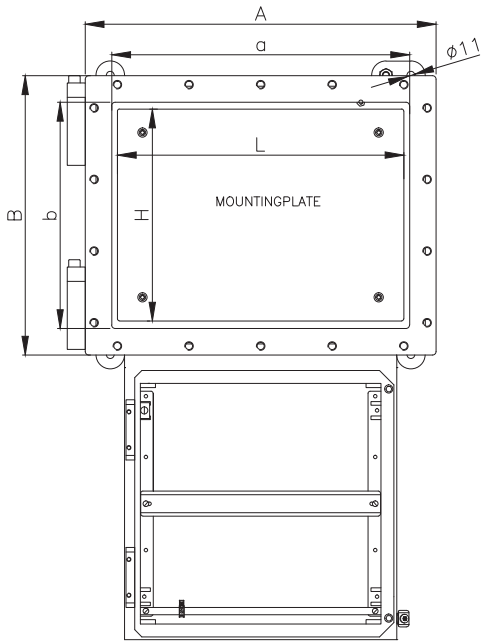




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Options:

Ex d enclosure with windows in lid ($\phi 65$ or $\phi 100$) or base ($\phi 65$).

Lamps or switches in lid or base, for Ex d enclosure, as well as Ex e enclosure.

* Option: Without hinges but with a support below the lid. (Holding the lid in correct position while fitting)

Material Stainless steel 316L.



Hazardous area information & terminology

ATEX Directive

The ATEX Directive, derived from the French “AT mosphères EXplosibles” and formally known as 94/9/EC, contains the ESR (Essential Safety Requirements) to which electrical equipment and protective systems used within potentially explosive atmospheres must conform.

The new ATEX Directive currently in place within the European Union was made mandatory on 1st July 2003. Primarily intended for manufacturers of hazardous area equipment for use in the presence of flammable gases, vapours, fumes or dusts, the new directive requires a quality management system to be implemented.

Procedures for the design, manufacture and verification of products are to be approved by a notified body (i.e. DNV, NEMKO, etc.) and all equipment conforming to the new directive will feature CE and Ex Marking.

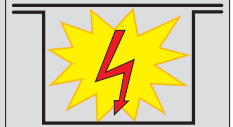
Zone Classification with the presence of GAS

Zone 1 (Category 2)	An area in which explosive gas is likely to be present during normal operation of the plant.
Zone 2 (Category 3)	An area in which explosive gas is not continuously present, but may exist for a short period of time.

Applicable EX protection

Ex d Protection

Parts, which can ignite a potentially explosive atmosphere, are surrounded by an enclosure, which are designed to withstand the pressure of an internal explosion and to prevent the propagation of the explosion to the atmosphere surrounding the enclosure.



Ex e Protection

for electrical components that do not spark under normal working conditions but where measures are applied to prevent high temperatures and the occurrence of arcs and sparks internally.

