

# CCAI , CCAIF , CCAIF..H

- Zone 1, 2, 21, 22
- Group IIC
- Stainless steel junction boxes
- Choice of 4 sizes
- IP66

*AISI 316L  
stainless steel*

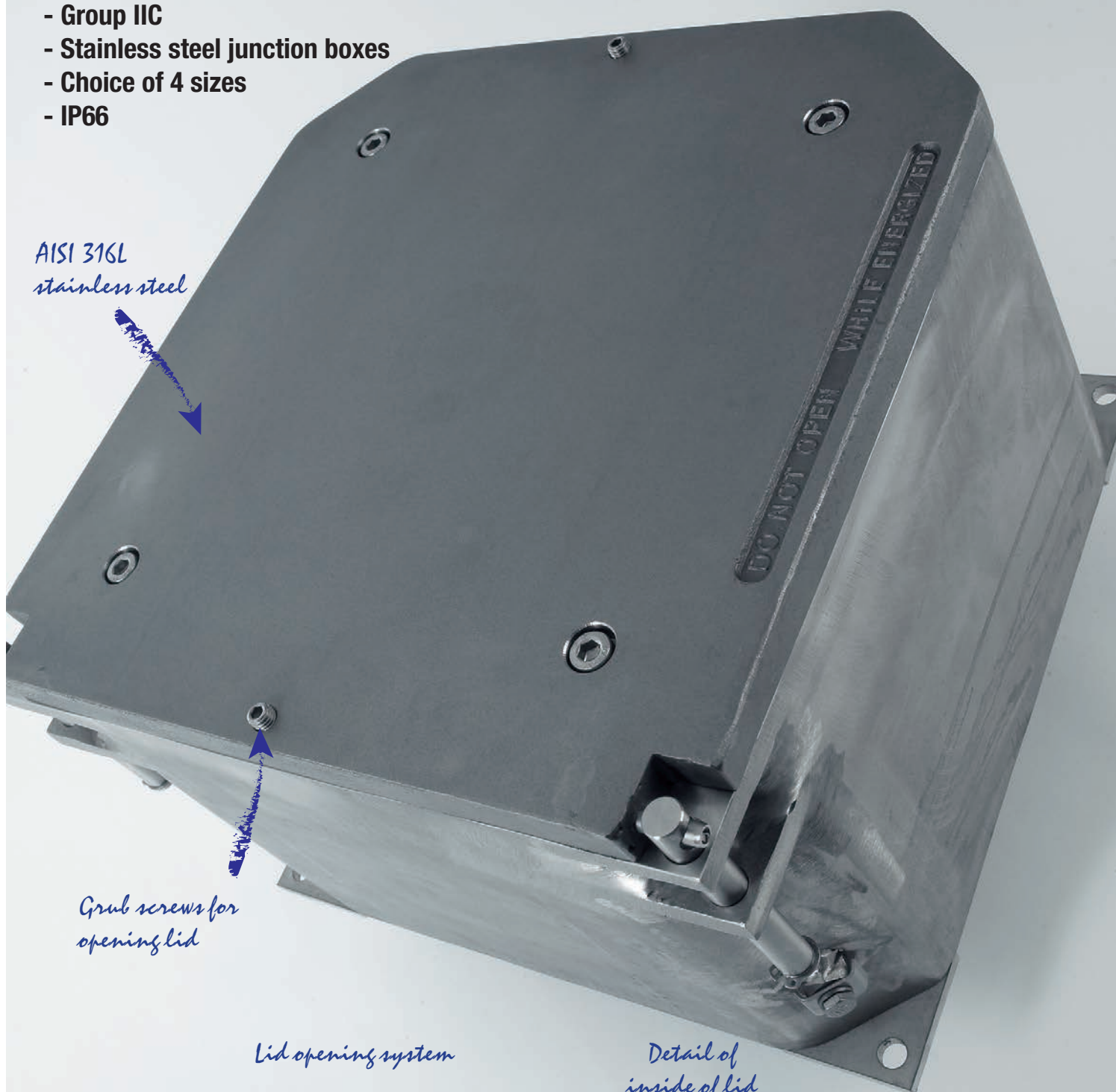


*Grub screws for  
opening lid*



*Lid opening system*

*Detail of  
inside of lid*



## CCAI-... series Stainless steel junction boxes gas group IIC

CCAI series junction boxes are installed in industrial plants where there is a risk of explosion and fire, where combustible dust and group IIC gases are present, classified as Zone 1, 2, 21, 22. These enclosures are made from welded 316L sheet stainless steel and come complete with stainless steel screws and a silicone gasket running around the perimeter between the body and lid to provide the IP66 protection degree. The CCAI units are mostly used as junction boxes with relevant connection terminals, as enclosures for fuses, transformers and reactors, as monitoring and signalling boards, light and power boards or motor starter boxes with various configurations, which are custom made to the requirements of our customers worldwide.

Cortem Group labels its products with a non-removable adhesive label featuring a hologram and an alphanumeric univocal code, as a safety measure against the illegal sale of fakes so that all the products are guaranteed as original. Non-compliance with the International standards entails serious risks for the environment, especially for those working daily on the plants.



### Application sectors:



Mining



Offshore plants



Onshore plants



Oil refineries



Oil loading/  
offloading  
wharfs



Presence of  
hydrogen



Low  
temperatures



100%  
Cortem  
product

### CERTIFICATION DATA FOR EMPTY ENCLOSURES

#### Classification:

Group I/II

Category 2GD

#### Installation: EN 60079-14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

#### Marking:

CE 0722 Ex II 2 GD - Ex db IIC Gb - Ex tb IIIC Db - IP66

CE 0722 Ex I M2 - Ex db I Mb

#### Certification:

ATEX CESI 01 ATEX 034U

IEC Ex CES 14.0012U

UKEX AVAILABLE

ECASEx AVAILABLE

TR CU AVAILABLE

All IEC Ex, UKEX, TR CU certification data can be downloaded from [www.cortemgroup.com](http://www.cortemgroup.com)

#### Standards:

CENELEC EN 60079-0: 2009, EN 60079-1: 2007, EN 60439-1, EN 60079-31: 2009, EN 60529: 1991 and EUROPEAN DIRECTIVE 2014/34/UE

#### Ambient Temp.:



Standard temperature on all CCAI boxes.



Special temperature.

#### Degree of protection:

IP66

## CCAI-... series Stainless steel junction boxes gas group IIC

### CERTIFICATION DATA FOR ENCLOSURES WITH TERMINALS

|                                                                                                  |                                                                                                                                                                                         |                          |                                                                                                                                |  |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------|--|
| Classification:                                                                                  | Group I/II                                                                                                                                                                              | Category 2GD             |                                                                                                                                |  |
| Installation: EN 60079.14                                                                        | zone 1 - zone 2 (Gas)                                                                                                                                                                   | zone 21 - zone 22 (Dust) |                                                                                                                                |  |
| Marking:                                                                                         | CE 0722 Ex II 2 GD - Ex d IIC T6, T5 Gb - Ex tb IIIC T85, T100°C Db - IP66                                                                                                              |                          |                                                                                                                                |  |
|                                                                                                  | CE 0722 Ex I M2 - Ex d I Mb                                                                                                                                                             |                          |                                                                                                                                |  |
| Certification:                                                                                   | ATEX                                                                                                                                                                                    | CESI 01 ATEX 036X        |                                                                                                                                |  |
|                                                                                                  | IEC Ex                                                                                                                                                                                  | CES 16.0013X             | All IEC Ex, TR CU, CCoE certification data can be downloaded from <a href="http://www.cortemgroup.com">www.cortemgroup.com</a> |  |
|                                                                                                  | TR CU                                                                                                                                                                                   | AVAILABLE                |                                                                                                                                |  |
|                                                                                                  | CCoE                                                                                                                                                                                    | AVAILABLE                |                                                                                                                                |  |
| Standards:                                                                                       | CENELEC EN 60079-0: 2018 + A11: 2013, EN 60079-1: 2014, EN 60079-31: 2014, EN 60529: 1991 and EUROPEAN DIRECTIVE 2014/34/UE                                                             |                          |                                                                                                                                |  |
|  Ambient Temp.: |  -50°C (-60°C) +40°C  |                          | With temperature class T6 and maximum surface temperature T85°C.                                                               |  |
|                                                                                                  |  -50°C (-60°C) +55°C  |                          | With temperature class T5 and maximum surface temperature T100°C.                                                              |  |
| Degree of protection:                                                                            | IP66                                                                                                                                                                                    |                          |                                                                                                                                |  |

### CERTIFICATION DATA OF ENCLOSURES FOR CONTROL, MONITORING AND SIGNALLING UNITS

|                                                                                                    |                                                                                                                                                                                     |                                                                                                                                   |                                                                   |  |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--|
| Classification:                                                                                    | Group I/II                                                                                                                                                                          | Category 2GD                                                                                                                      |                                                                   |  |
| Installation: EN 60079-14                                                                          | zone 1 - zone 2 (Gas)                                                                                                                                                               | zone 21 - zone 22 (Dust)                                                                                                          |                                                                   |  |
| Marking:                                                                                           | CE 0722 Ex II2GD - Ex db IIC T6, T5 Gb - Ex tb IIIC T85°C, T100°C Db - IP66                                                                                                         |                                                                                                                                   |                                                                   |  |
|                                                                                                    | CE 0722 Ex I M2 - Ex db I Mb                                                                                                                                                        |                                                                                                                                   |                                                                   |  |
| Certification:                                                                                     | ATEX CESI 01 ATEX 036X                                                                                                                                                              |                                                                                                                                   |                                                                   |  |
|                                                                                                    | IEC Ex CES 16.0013X                                                                                                                                                                 | All IEC Ex, TR CU, INMETRO certification data can be downloaded from <a href="http://www.cortemgroup.com">www.cortemgroup.com</a> |                                                                   |  |
|                                                                                                    | ECASEx AVAILABLE                                                                                                                                                                    |                                                                                                                                   |                                                                   |  |
|                                                                                                    | BRAZILIAN TÜV 11.0161                                                                                                                                                               |                                                                                                                                   |                                                                   |  |
| Standards:                                                                                         | CENELEC EN 60079-0: 2018, EN 60079-1: 2014, EN 60439-1, EN 60079-31: 2014, EN 60529: 1991 and EUROPEAN DIRECTIVE 2014/34/UE                                                         |                                                                                                                                   |                                                                   |  |
|  Ambient Temp.: |  -20°C +40°C  |                                                                                                                                   | With temperature class T6 and maximum surface temperature T85°C.  |  |
|                                                                                                    |  -20°C +55°C  |                                                                                                                                   | With temperature class T5 and maximum surface temperature T100°C. |  |
|                                                                                                    |  -60°C on request. (Use indicator light series M-0457AL, M-0457AL/3, M-0457IN or M-0457IN/3)     |                                                                                                                                   |                                                                   |  |
| Degree of protection:                                                                              | IP66                                                                                                                                                                                |                                                                                                                                   |                                                                   |  |

## CCAI-... series Stainless steel junction boxes gas group IIC

### CERTIFICATION DATA FOR ENCLOSURES SERVING SURGE ARRESTER FUNCTION

|                                                                                                  |                                                                                                                                                                                 |                                                                                                                   |  |  |
|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--|--|
| Classification:                                                                                  | Group I/II                                                                                                                                                                      | Category 2GD                                                                                                      |  |  |
| Installation: EN 60079.14                                                                        | zone 1 - zone 2 (Gas)                                                                                                                                                           | zone 21 - zone 22 (Dust)                                                                                          |  |  |
| Marking:                                                                                         | CE 0722  II2GD - Ex db IIC T6, T5 Gb - Ex tb IIIC T85°C, T100°C Db - IP66                      |                                                                                                                   |  |  |
|                                                                                                  | CE 0722  I M2 - Ex db I Mb                                                                     |                                                                                                                   |  |  |
| Certification:                                                                                   | ATEX CESI 01 ATEX 036X                                                                                                                                                          |                                                                                                                   |  |  |
|                                                                                                  | IEC Ex CES 16.0013X                                                                                                                                                             | All IEC Ex certification data can be downloaded from <a href="http://www.cortemgroup.com">www.cortemgroup.com</a> |  |  |
|                                                                                                  | TR CU AVAILABLE                                                                                                                                                                 | All TR CU certification data can be downloaded from <a href="http://www.cortemgroup.com">www.cortemgroup.com</a>  |  |  |
| Standards:                                                                                       | CENELEC EN 60079-0: 2018, EN 60079-1: 2014, EN 60439-1, EN 60079-31: 2014, EN 60529: 1991 and EUROPEAN DIRECTIVE 2014/34/UE                                                     |                                                                                                                   |  |  |
|  Ambient Temp.: |  -20°C +40°C  | With temperature class T6 and maximum surface temperature T85°C.                                                  |  |  |
|                                                                                                  |  -20°C +55°C  | With temperature class T5 and maximum surface temperature T100°C.                                                 |  |  |
|                                                                                                  |  -60°C on request.                                                                             |                                                                                                                   |  |  |
| Degree of protection:                                                                            | IP66                                                                                                                                                                            |                                                                                                                   |  |  |

### CERTIFICATION DATA OF ENCLOSURES SERVING INTERFACE UNIT CONTROL AND MONITORING FUNCTION

|                                                                                                    |                                                                                                                                                                                     |                                                                                                                                |  |  |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--|--|
| Classification:                                                                                    | Group I/II                                                                                                                                                                          | Category 2GD                                                                                                                   |  |  |
| Installation: EN 60079.14                                                                          | zone 1 - zone 2 (Gas)                                                                                                                                                               | zone 21 - zone 22 (Dust)                                                                                                       |  |  |
| Marking:                                                                                           | CE 0722 Ex II2(1)GD - Ex db [ia Ga] IIC T... Gb - Ex tb [ia Da] IIIC T...°C Db - IP66                                                                                               |                                                                                                                                |  |  |
|                                                                                                    | CE 0722 Ex I M2 Ex db [ia Ma] I Mb                                                                                                                                                  |                                                                                                                                |  |  |
| Certification:                                                                                     | ATEX CESI 03 ATEX 174X                                                                                                                                                              |                                                                                                                                |  |  |
|                                                                                                    | IEC Ex CES 16.0015X                                                                                                                                                                 | All IEC Ex, TR CU, UKEX certification data can be downloaded from <a href="http://www.cortemgroup.com">www.cortemgroup.com</a> |  |  |
|                                                                                                    | ECASEx AVAILABLE                                                                                                                                                                    |                                                                                                                                |  |  |
|                                                                                                    | UKEX AVAILABLE                                                                                                                                                                      |                                                                                                                                |  |  |
| Standards:                                                                                         | CENELEC EN 60079-0: 2018, EN 60079-1: 2007, EN 60079-11: 2007, EN 60079-26: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE                                               |                                                                                                                                |  |  |
|  Ambient Temp.: |  -20°C +40°C  | With temperature class T6 and maximum surface temperature T85°C.                                                               |  |  |
|                                                                                                    |  -20°C +55°C  | With temperature class T5 and maximum surface temperature T100°C.                                                              |  |  |
|                                                                                                    |  -60°C on request. (Use indicator light series M-0457AL, M-0457AL/3, M-0457IN or M-0457IN/3)     |                                                                                                                                |  |  |
| Degree of protection:                                                                              | IP66                                                                                                                                                                                |                                                                                                                                |  |  |



### MECHANICAL FEATURES

|                             |                                                                                                              |
|-----------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Body and lid:</b>        | AISI 316L stainless steel. Lid fitted with hinges for body coupling system incorporating cylindrical joint.  |
| <b>Hinges:</b>              | Stainless steel                                                                                              |
| <b>Gasket:</b>              | Silicone, located between body and lid                                                                       |
| <b>Certification label:</b> | Adhesive label located inside on empty enclosures; stainless steel label riveted onto body on other versions |
| <b>Bolts and screws:</b>    | Stainless steel                                                                                              |
| <b>Earth screws:</b>        | Stainless steel. On inside and outside of body complete with anti-rotation brackets.                         |
| <b>Mounting:</b>            | Stainless steel lugs.                                                                                        |

### ACCESSORIES AVAILABLE ON REQUEST/ SPECIAL REQUESTS

1.5mm-thick stainless steel internal mounting plate (code K...-265). See accessories section  
Possible drilling of the enclosure bottom  
Breather valve Code ECD-210S  
Drain valve Code ECD-210S  
Enclosures with windows on lid  
Thread options:

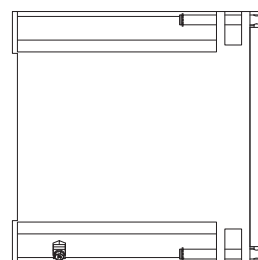
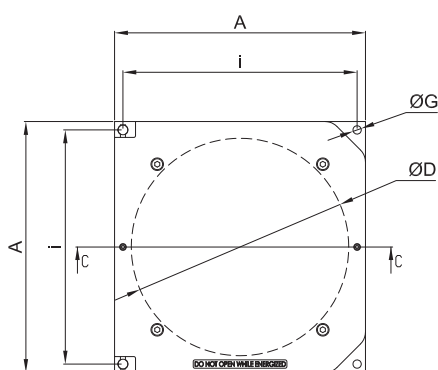
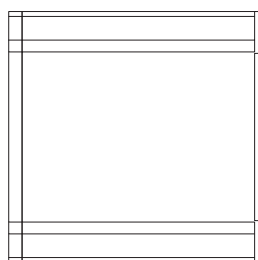
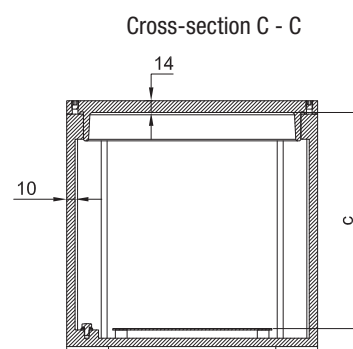
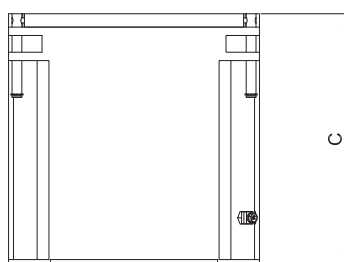
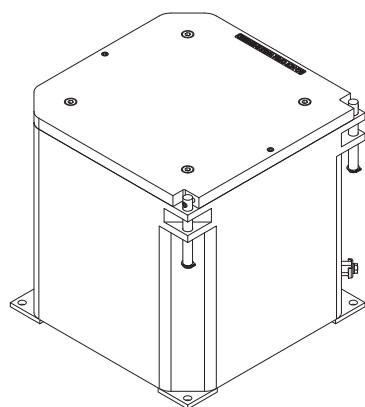
- NPT threads ANSI B1.20.1
- GAS UNI ISO 7-1 thread
- Metric threads ISO 261/965

Cortem manufactures any type of custom-made products according to customer specifications and in compliance with the certification data.

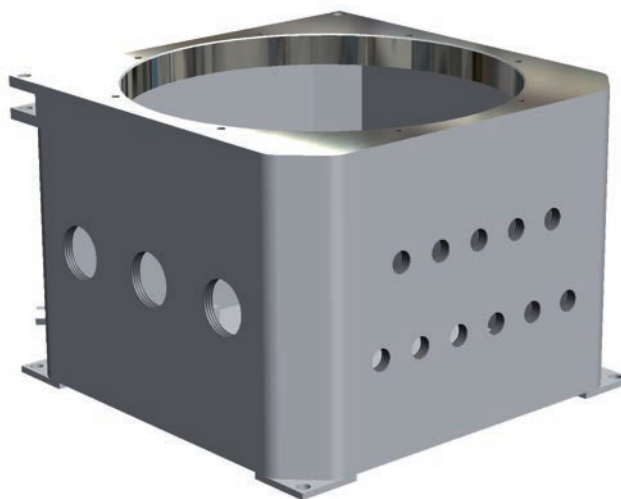
## ENCLOSURE SELECTION CHART

| Code      | Outside dimensions |     | Inside dimensions |     | Mounting |    | Weight<br>Kg |
|-----------|--------------------|-----|-------------------|-----|----------|----|--------------|
|           | A                  | C   | ØD                | c   | i        | ØG |              |
| CCAI-2020 | 200                | 200 | 160               | 155 | 180      | 10 |              |
| CCAI-3020 | 300                | 200 | 260               | 155 | 280      | 10 |              |
| CCAI-3030 | 300                | 300 | 260               | 255 | 280      | 10 |              |
| CCAI-4030 | 400                | 300 | 360               | 255 | 380      | 12 |              |

## DIMENSIONAL DRAWING



Dimensions in mm



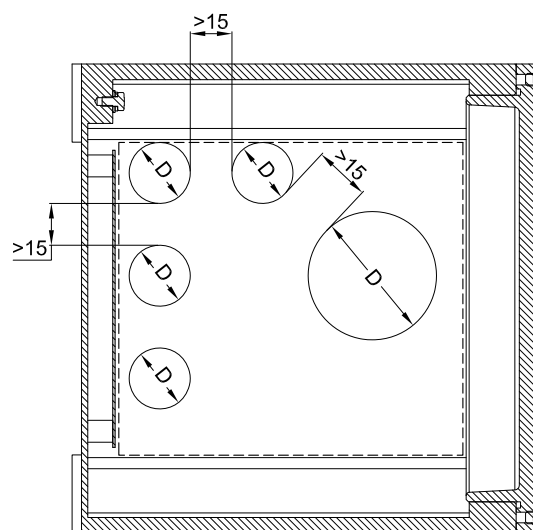
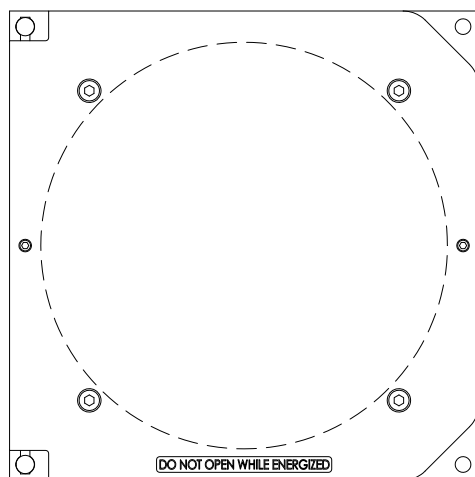
THREAD COMPARISON CHART

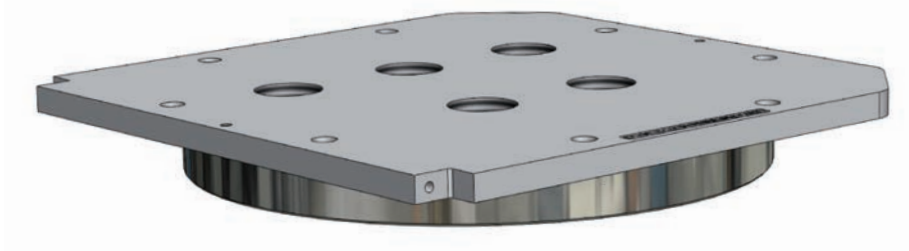
| ISO 7-1              | 1/2"   | 3/4"   |        |        |        |        |        |        |         |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| ANSI B.20.1 NPT      | 1/2"   | 3/4"   |        |        |        |        |        |        |         |
| ISO 261/965          | 20x1.5 | 25x1.5 | 32x1.5 | 40x1.5 | 50x1.5 | 63x1.5 | 75x1.5 | 90x1.5 | 100x1.5 |
| D<br>Thread diameter | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 10      |

As required by the current standard, holes can be drilled by Cortem or by authorized partners who hold a production notification in accordance with ATEX Directive .

HOLE DRILLING IN BODY

| TYPE OF ENCLOSURE | HOLE DRILLING IN BODY |                                |    |    |    |    |   |   |   |    |
|-------------------|-----------------------|--------------------------------|----|----|----|----|---|---|---|----|
|                   | One side              |                                |    |    |    |    |   |   |   |    |
|                   | Drilling area<br>mm   | MAXIMUM QUANTITY PER HOLE TYPE |    |    |    |    |   |   |   |    |
|                   |                       | 1                              | 2  | 3  | 4  | 5  | 6 | 7 | 8 | 10 |
| CCAI-2020         | 115x125               | 6                              | 6  | 4  | 4  | 2  | 1 | 1 | 1 | 1  |
| CCAI-3020         | 205x120               | 12                             | 8  | 6  | 6  | 5  | 3 | 2 | 1 | 1  |
| CCAI-3030         | 200x220               | 20                             | 16 | 12 | 9  | 6  | 6 | 4 | 3 | 1  |
| CCAI-4030         | 290x225               | 28                             | 25 | 20 | 12 | 12 | 6 | 6 | 4 | 2  |



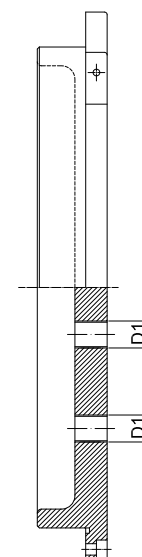
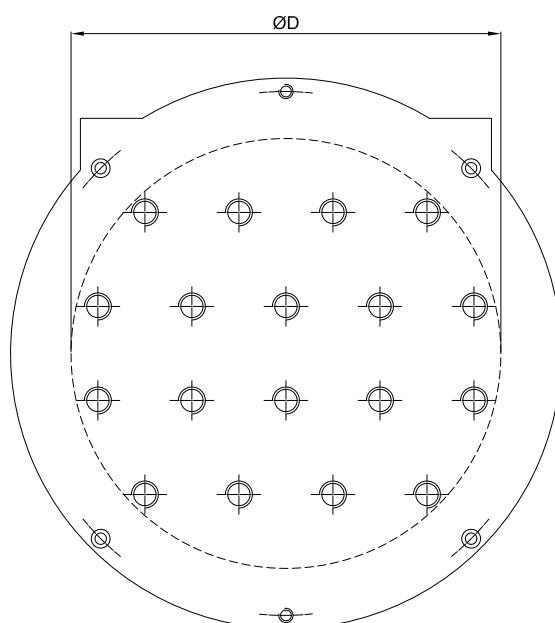


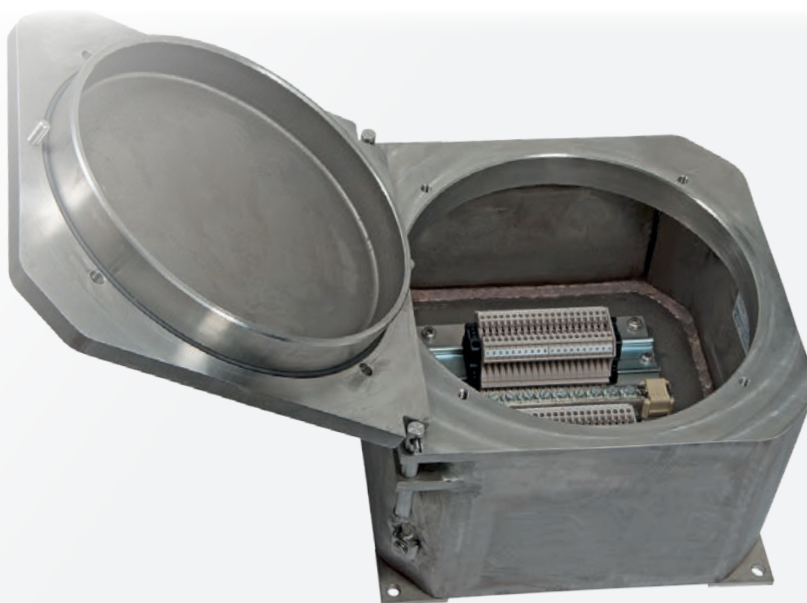
| THREAD COMPARISON CHART |             |         |         |         |         |         |         |         |
|-------------------------|-------------|---------|---------|---------|---------|---------|---------|---------|
| D1                      | ISO 228     | G 3/8"  | G 1/2"  | G 3/4"  | -       | -       | -       | -       |
|                         | ISO 261/965 | M16x1.5 | M20x1.5 | M25x1.5 | M32x1.5 | M35x1.5 | M40x1.5 | M42x1.5 |

| TYPE OF ENCLOSURE      | HOLE DRILLING IN LID |                                |      |      |     |
|------------------------|----------------------|--------------------------------|------|------|-----|
|                        | ØD                   | MAXIMUM QUANTITY PER HOLE TYPE |      |      |     |
|                        |                      | 3/8"                           | 1/2" | 3/4" | M32 |
| CCAI-2020              | 135                  | 4                              | 6    | 6    | 6   |
| CCAI-3020<br>CCAI-3030 | 230                  | 7                              | 9    | 9    | 9   |
| CCAI-4030              | 330                  | 18                             | 18   | 18   | 18  |

## Notes:

- Standard holes refer to mounting of Cortem control and signalling devices.
- 3/8" Ø holes for Cortem std. side-mounted handles centre-to-centre distance >70mm.
- 1/2" Ø holes for Cortem std. heavy-duty series side-mounted handles centre-to-centre distance >120mm.





These enclosures are customized based on size, on the number of terminals or cables they are due to accommodate, or taking into account the number of cable entries and cabling requirements inside a system. Hence we can produce tailor-made solutions as long as you provide us with the appropriate parameters required at the quote request stage, such as the number of cable glands, unions or sealing fittings to be installed, so that we can determine the most suitable size of enclosure. All terminals can be fitted with your requested accessories and mounted on special rails that are fastened to the enclosure's internal mounting frames. Terminal strips can be arranged in various ways, as specified by the customer and always within the limits allowed by the certificate. The options are vertical, horizontal, in a number of rows, or on different levels using suitable spacers.

### ELECTRICAL FEATURES

**Rated voltage:** 24 / 800 V  
**Rated frequency:** 50 / 60 Hz

#### Modular terminals

**Terminal cross-sectional area:** 2.5; 4; 6; 10; 16; 25; 35; 70; 95; 120; 185; 240 [mm<sup>2</sup>]  
**Rated current:** 12.5 - 400 [A]  
**Max. current density:** 1.65 - 7 [A/mm<sup>2</sup>]

#### Multi-pole terminals

**Terminal cross-sectional area:** 3x16; 4x16; 3x25; 4x25; 3x40; 3x40; 4x40; 3x70; 4x70; 3x125; 3x200; 4x200; 3x315 [mm<sup>2</sup>]  
**Rated current:** 48 - 252 [A]  
**Max. current density:** 0.8 - 3 [A/mm<sup>2</sup>]

#### ATEX - IECEx label for terminal enclosures

The label contains the following information:

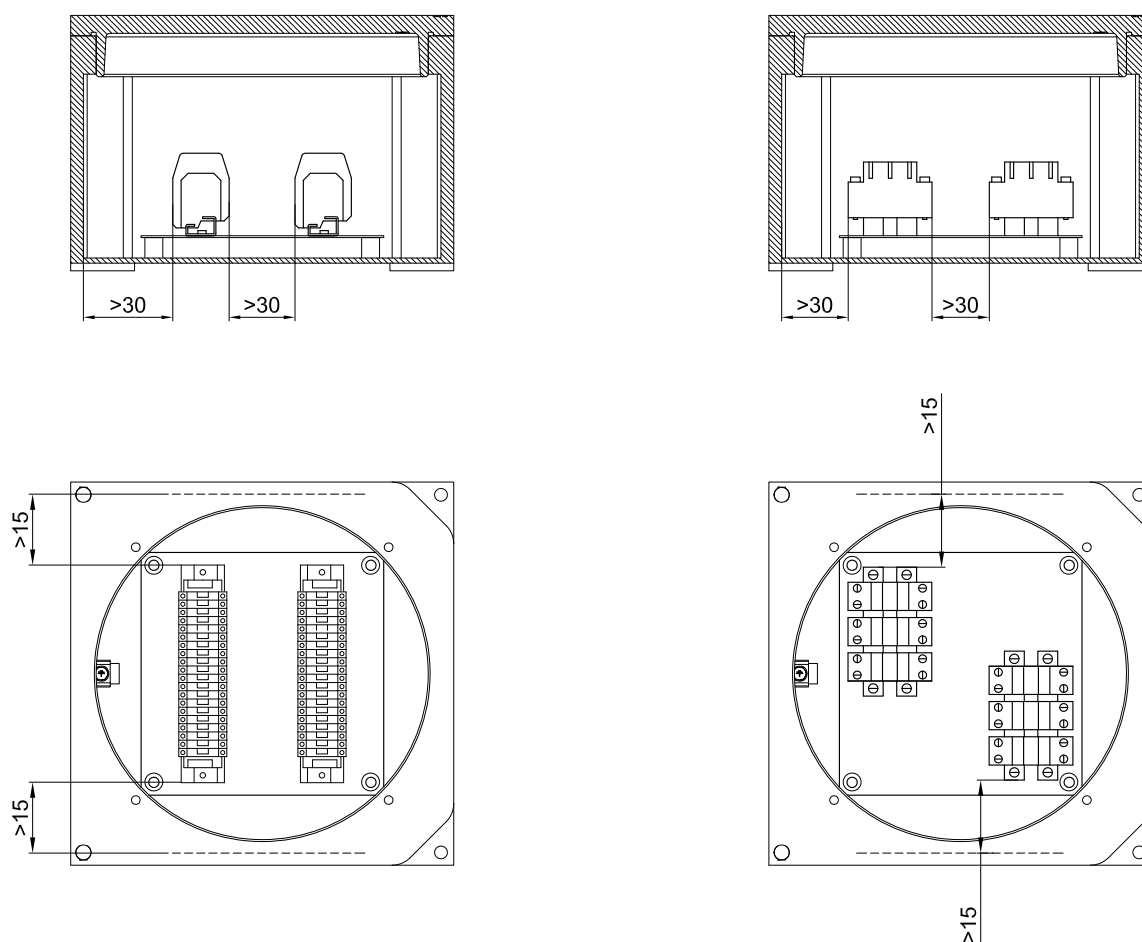
- 1:** Year of manufacture (field with '20' and a box for the last digit)
- 2:** Serial number (s.n.)
- 3:** Product code (field with '1' and a box for the last digit)
- 4:** Ambient temperature (Ta) and maximum surface temperature (Tb) fields
- 5:** Electrical specifications (max voltage, max current, n° terminals, max wire size)
- 6:** Maximum surface temperature (Tb)
- 7:** Temperature class (field with 'T' and a box for the last digit)

Other text on the label includes: CORTEM SpA, VIA AQUILEIA, 10 34070 VILLESSE - GO ITALY, CORTEM GROUP, Endlosures with terminals, CESI 01 ATEX 035, CE 0722, II 2GD, Ex d IIC T, Gb, Ex tb IIIC T, °C Db, IP66, IECEx TSA 06.0012, Ex d IIC T, Gb, Ex tb IIIC T, °C Db, IP66, Ta, °C, Tb, °C, V, max voltage, A, max current, n° terminals, max wire size [mm<sup>2</sup>], Made in ITALY, USE SCREWS QUALITY A2-70 UNI 7323 R 700 N/mm<sup>2</sup>.

#### Data filled in:

1. year of manufacture
2. serial number
3. product code
4. ambient temperature
5. electrical specs
6. maximum surface temperature
7. temperature class

## Examples of terminal strips with minimum installation distances



| TYPE OF ENCLOSURE | MAXIMUM NUMBER OF TERMINALS HOUSED |      |      |      |      |    |    |     |     |
|-------------------|------------------------------------|------|------|------|------|----|----|-----|-----|
|                   | TERMINAL CROSS-SECTIONAL AREA      |      |      |      |      |    |    |     |     |
|                   | 2.5                                | 4    | 6    | 10   | 16   | 35 | 70 | 120 | 185 |
| CCAI-2020         | 19                                 | 16   | 13   | 10   | 9    | 4  | -  | -   | -   |
| CCAI-3020         | 2x30                               | 2x25 | 2x22 | 2x18 | 2x15 | 6  | -  | -   | -   |
| CCAI-3030         | 2x35                               | 2x28 | 2x25 | 2x20 | 2x15 | 8  | -  | -   | -   |
| CCAI-4030         | 3x40                               | 3x30 | 2x28 | 2x23 | 2x18 | 12 | 10 | 6   | 4   |

Eg. 3x40= 3 rows of 40 terminals (total 120 terminals). The maximum number of standard terminals refers to CABUR terminals

## Features of junction boxes for control, monitoring and signalling units



Control, monitoring and signalling units are used to produce control boards that, when positioned near the electrical equipment being controlled, enable the electrical system to operate correctly and guarantee the safety of personnel when maintenance is being performed on the system. Because they are fitted with a Manual/Automatic selector, they allow operators to select the appropriate conditions to enable work to be performed entirely safely. They offer protection and control for electrical equipment and control circuits located in explosion hazard areas and in particularly aggressive environments. They are used to hold electrical equipment, such as switches, indicators, contactors, transformers, analogue and digital components, etc.... with the option of external control by using lid-mounted Cortem control and signalling devices, such as control levers, pushbuttons, indicator lights, etc.... Cortem designs, develops and supplies full cabling for one or more enclosures tailored to your specific requirements, producing panel boards - including even extremely complex solutions - and providing a full inspection and testing service on request.

### ELECTRICAL FEATURES

|                                  |                   |              |
|----------------------------------|-------------------|--------------|
| <b>Rated voltage:</b>            | 24 / 1000 Vac     | 12 / 250 Vdc |
| <b>Max. current on contacts:</b> | 650 A             |              |
| <b>Rated frequency:</b>          | 50 / 60Hz         |              |
| <b>Max. wattage for lamps:</b>   | 5W (for Ta +40°C) |              |
|                                  | 3W (for Ta +55°C) |              |

### Features of equipment that can be installed inside enclosures to produce control and monitoring units.

Table of standard electrical features of components that can be installed in enclosures to produce control, monitoring and signalling units.

(The values refer to the catalogues of the leading manufacturers of electrical/electronic components available on the market)

| COMPONENT TYPE                   | Max. V (Volts) | Max. I (Amperes) | Max. power (Watts) |
|----------------------------------|----------------|------------------|--------------------|
| Analogue and digital instruments | 660            | 5                | 10                 |
| Electronic inverters/reactors    | 400            | -                | 10                 |
| PLCs Multiplexers and amplifiers | 240            | -                | 80                 |
| Testing and measuring devices    | 240            | -                | 100                |
| Circuit breakers                 | 660            | 650              | -                  |
| Fuses                            | 660            | 400              | -                  |
| Relays                           | 500            | 10               | 12                 |
| Electronic control devices       | 660            | -                | 100                |
| Contactors                       | 660            | 650              | 30                 |
| Timers                           | 240            | 10               | 5                  |
| Twilight relays                  | 240            | -                | 2                  |
| Capacitors                       | 660            | -                | -                  |
| Transformers                     | 660            | -                | 200                |
| Resistors                        | 240            | -                | 300                |
| Terminals                        | 660            | -                | -                  |
| Reactors                         | 277            | 7.5              | 40                 |

Minimum air gap between components

| Component voltage (V ac) | Min. air gap (mm) |
|--------------------------|-------------------|
| 60 - 250                 | 6                 |
| 250 - 380                | 8                 |
| 380 - 500                | 10                |
| 500 - 660                | 12                |
| 660 - 1000               | 20                |
| Component voltage (V dc) | Min. air gap (mm) |
| 12 - 250                 | 6                 |

## Features of junction boxes for control, monitoring and signalling units

### Table with maximum power dissipation values for CCAI-...series enclosures.

The temperature classes and maximum surface temperatures of control and monitoring unit enclosures depend on the size of the enclosure, ambient temperature and power dissipation inside the enclosure.

| Enclosure type | Maximum power dissipation (Watts) with ambient temperature of <b>+40°C</b> |                                            |                                                                    |
|----------------|----------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|
|                | T6 class without indicator lights. Only indicator LEDs are allowed         | T5 class with indicator lights and/or LEDs | T5 class without indicator lights. Only indicator LEDs are allowed |
| CCAI-2020      | 30                                                                         | 35                                         | 42                                                                 |
| CCAI-3020      | 50                                                                         | 54                                         | 68                                                                 |
| CCAI-3030      | 80                                                                         | 85                                         | 120                                                                |
| CCAI-4030      | 105                                                                        | 112                                        | 170                                                                |

| Enclosure type | Maximum power dissipation (Watts) with ambient temperature of <b>+55°C</b> |                                            |                                                                    |
|----------------|----------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|
|                | T6 class without indicator lights. Only indicator LEDs are allowed         | T5 class with indicator lights and/or LEDs | T5 class without indicator lights. Only indicator LEDs are allowed |
| CCAI-2020      | 25                                                                         | 27                                         | 34                                                                 |
| CCAI-3020      | 39                                                                         | 42                                         | 53                                                                 |
| CCAI-3030      | 60                                                                         | 65                                         | 100                                                                |
| CCAI-4030      | 90                                                                         | 100                                        | 140                                                                |

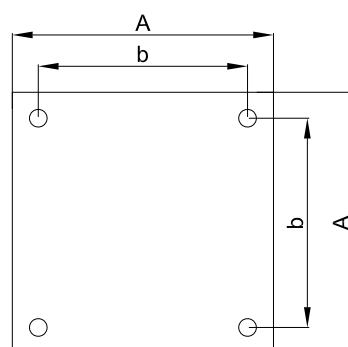
### DON'T FORGET TO ORDER THE ACCESSORIES

**Example:** Enclosure type CCAI-3020 + Internal mounting plate K2-265 + Cable glands, unions + other...see key



| ILLUSTRATION | DESCRIPTION                                | MODEL                    | FEATURES                                                                                       | CODE     | KEY |
|--------------|--------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------|----------|-----|
|              | Internal mounting plates                   | CCAI-2020                | Material:<br>AISI 316L stainless steel                                                         | K1-265   |     |
|              |                                            | CCAI-3020                |                                                                                                | K2-265   |     |
|              |                                            | CCAI-3030                |                                                                                                | K2-265   |     |
|              |                                            | CCAI-4030                |                                                                                                | K3-265   |     |
|              | Breather and drain valve                   | thread Ø<br>ISO 7-R 3/8" | Material:<br>stainless steel                                                                   | ECD-210S |     |
|              | Cable glands and unions                    |                          | For models and codes,<br>visit<br><a href="http://www.cortemgroup.com">www.cortemgroup.com</a> |          |     |
|              | Lid-mounted control and signalling devices |                          | For control and signalling device models and codes, see control and monitoring device chapter  |          |     |

| Enclosures | Internal mounting plates |     |        |
|------------|--------------------------|-----|--------|
|            | A                        | b   | Code   |
| CCAI-2020  | 119                      | 99  | K1-265 |
| CCAI-3020  | 190                      | 170 | K2-265 |
| CCAI-3030  | 190                      | 170 | K2-265 |
| CCAI-4030  | 260                      | 240 | K3-265 |





CCAIF and CCAIF...H series junction boxes in stainless steel have a **screw cover** with or without round window. They are used either as junction boxes with/without terminals and the body and cover can be drilled and threaded according to customers' specification. In accordance with rules, Cortem only can perform the drilling.

## CARATTERISTICHE MECCANICHE

|                             |                                                                                                               |
|-----------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Body and lid:</b>        | AISI 316L stainless steel.                                                                                    |
| <b>Gasket:</b>              | Resistant to acids, hydrocarbons and high temperatures, located between body and lid                          |
| <b>Certification label:</b> | Adhesive label located inside on empty enclosures; stainless steel label riveted onto body on other versions. |
| <b>Bolts and screws:</b>    | Stainless steel.                                                                                              |
| <b>Earth screws:</b>        | Stainless steel. On inside and outside of body complete with anti-rotation brackets.                          |
| <b>Mounting:</b>            | Stainless steel lugs.                                                                                         |

## ACCESSORI A RICHIESTA / ESECUZIONI SPECIALI

Breather valve Code ECD-210S

Drain valve Code ECD-210S

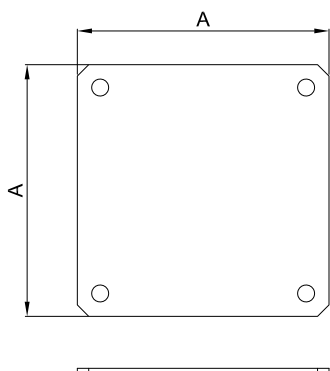
Enclosures with windows on lid

Thread options:

- NPT threads ANSI B1.20.1
- GAS UNI ISO 7-1 thread
- Metric threads ISO 261/965

Cortem manufactures any type of custom-made products according to customer specifications and in compliance with the certification data.

1.5mm-thick stainless steel internal mounting plate

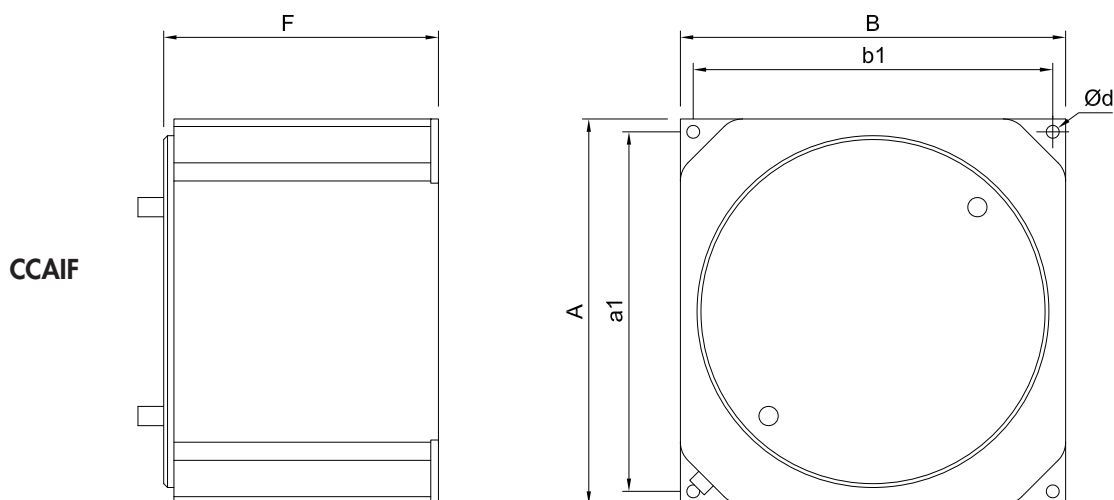


| Code   | Dimensions<br>A | Box type     |
|--------|-----------------|--------------|
| K2-349 | 110             | CCAIF-2020.. |
| K3-349 | 180             | CCAIF-3020.. |
| K4-349 | 260             | CCAIF-4030.. |

## ENCLOSURE SELECTION CHART

| Code       | Outside dimensions |     |     | Mounting |     | $\varnothing d$ | Weight<br>Kg |
|------------|--------------------|-----|-----|----------|-----|-----------------|--------------|
|            | A                  | B   | F   | a1       | b1  |                 |              |
| CCAIF-2020 | 200                | 200 | 200 | 180      | 180 | 10              |              |
| CCAIF-3020 | 300                | 300 | 200 | 280      | 280 | 10              |              |
| CCAIF-4030 | 400                | 400 | 300 | 380      | 380 | 12              |              |

### DIMENSIONAL DRAWING



| Code        | Outside dimensions |     |     |     | Mounting |     | $\varnothing d$ | Weight<br>Kg |
|-------------|--------------------|-----|-----|-----|----------|-----|-----------------|--------------|
|             | A                  | B   | F   | D1  | a1       | b1  |                 |              |
| CCAIF-2020H | 200                | 200 | 200 | 90  | 180      | 180 | 10              |              |
| CCAIF-3020H | 300                | 300 | 200 | 140 | 280      | 280 | 10              |              |
| CCAIF-4030H | 400                | 400 | 300 | 180 | 380      | 380 | 12              |              |

### DIMENSIONAL DRAWING

