
Watertight control boxes



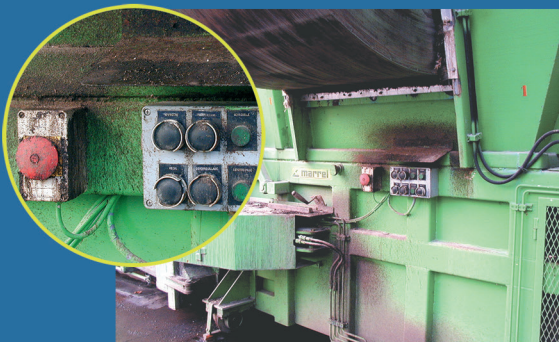
Creating control and signalling solutions for harsh environments.



Visit MAFELEC at our website: www.mafelec.fr



MAFELEC is a specialist in the design of control and signalling components intended to operate in the cold, heat, projections of liquids, dust, shock, vibration, ...



Examples of applications :
External controls for a compactor.



Railway control station.

THE QUALITY APPROACH

In a context where markets are ever more competitive, MAFELEC stands out for its voluntarist quality approach, aimed at customer satisfaction.

Very active involvement at all levels in the Company has enabled MAFELEC to obtain certification to :

- ISO 9001 V2000
- OTIS Q+ (Otis lifts)
- AQAP 110 (Defence)
- RQPF (Paris Underground/Subway)

Strengthened by our success in Quality, the Company is continuing its efforts towards a certified environmental approach :

ISO 14001

Contents

Plastic bases and covers

22 BE. 1 DP 52 <i>1 control components, Ø 22</i> <i>IP 55</i>	4
BTH (Fixed or mobile control boxes) <i>from 1 to 4 control components, Ø 22 or specific</i> <i>IP 65</i>	5
22 BFP. 22 BFPB <i>from 1 to 6 control components, Ø 22</i> <i>or holes to order</i> <i>IP 66</i>	14
BBE (Units with flush pushbuttons) <i>from 4 to 12 control components, Ø 22</i> <i>IP 667</i>	16
7 DP 70 <i>holes to order</i> <i>IP 55</i>	19

Bases and covers in light alloy

22 BF <i>from 1 to 7 control components, Ø 22</i> <i>or holes to order</i> <i>IP 55</i>	20
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Bases and covers in sheet steel

I 6 D 145 CHPC / CHGC, I 12 D 145 CHPC / CHGC <i>holes to order</i> <i>IP 55</i>	21
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Watertight control boxes

Adaptability
Modularity
Safety
Reliability



④



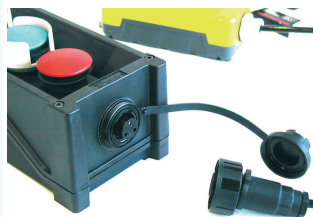
⑤



①



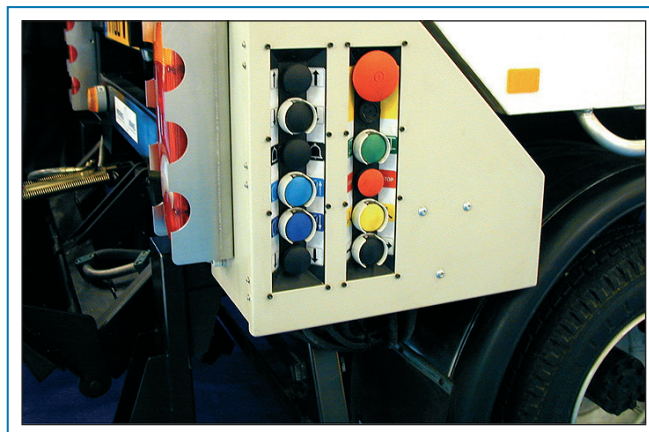
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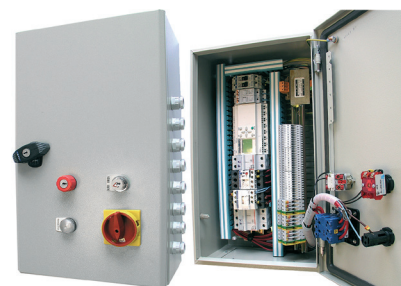
The range of possibilities :

- ① **A wide choice**
 - Select your box from the numerous ranges developed by MAFELEC. Metal or plastic cases.
- ② **Cable outlets and connection**
 - Mafelec offers a wide selection of standard, metal or plastic sealing glands, for all types of cables. But a number of other solutions can be envisaged on request, such as specific connectors.
- ③ **Choice of colour**
 - In principle the box colours are standardised according to the model selected, however, special manufacture is possible depending on the quantities requested.
- ④ **Silk-screen printing**
 - All our control boxes can be fitted on request with labels, silk-screened front panels, logotypes, either proposed by the customer or designed by us.
- ⑤ **Mounting and wiring**
 - Our control boxes are delivered empty or fitted with control components selected from our ranges or fully equipped and wired to the customer specification.
- ⑥ **Sealing and robustness**
 - The water-tightness of the control boxes varies from IP55 to IP66, depending on the model selected. They withstand operating temperatures ranging from -30 to +70°C (depending on the model). Some versions have particularly high shock-resistance.

The modular design of MAFELEC's control boxes provides for a multitude of combinations and adaptations

The examples illustrated in this catalogue only represent a fraction of the designs produced by our Design Office every day for our customers.

MAFELEC's service extends to the design of complete solutions using standard commercial elements or items designed specially for the Customer's application.



Our equipment complies with the European RoHS directive, restricting the use of certain dangerous substances in electrical equipment.

Watertight control boxes

Plastic bases and covers



22 BE - 1 DP52

Environmental characteristics

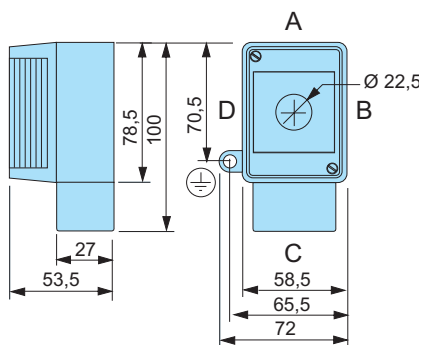
Temperature resistance	100° C
Degree of protection	IP 55 per IEC and NF EN 60529

Mechanical characteristics

Material	Polycarbonate
Colour	Grey
Useful depth	22 BE : 41 mm, 1 DP 52 : 52 mm
For control and signalling components from cat. C22 (see our catalogue "Auxiliaries")	<ul style="list-style-type: none"> - Pilot lights with direct supply or via a resistance - 2-contact pushbuttons - 2-contact selector switches
Cover attachment	2 cylindrical-head screws

Part numbers

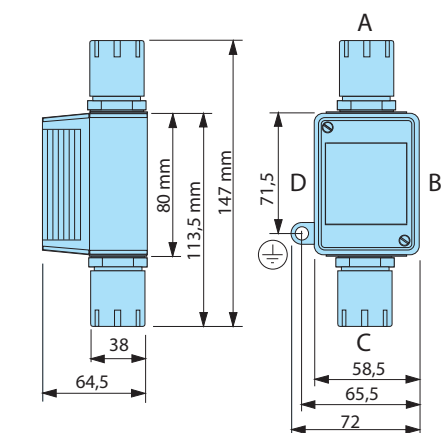
Dimensions	Part number	Weight Kg
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22 BE 0.125

One \varnothing 22.5 hole
2 integrated sealing glands
for cables from \varnothing 6 to \varnothing 12
mm (at C)

Useful depth: 41 mm



1 DP 52 0.110

Possibility of sealing gland
(at A and C)

Useful depth: 52 mm



Watertight control boxes

Plastic bases and covers



Environmental characteristics

Storage temperature	-30°C to +60°C
Operating temperature	-25°C to +60°C
Degree of protection	IP 65 per IEC & NF EN 60 529
Fire-resistance	HB per UL94
Protection against mechanical shock	IK08 per IEC & NF EN 62 262



Mechanical characteristics

Housings	Polypropylene Standards colours : yellow base, grey cover (contact us for other colours) Available in 3 versions With integrated flanges : 1, 2, 3 or 4 holes. Without flanges : 1, 2, 3 or 4 holes, \varnothing 22 mm. Combination : 1, 2 or 3 holes with flanges + 1 hole, \varnothing 22 mm, without a flange at one end.
Gasket	Foam, cord, \varnothing 2 mm
Cable entry	4 knockouts (2 on the base, 2 on the cover) Sealing gland (optional)
Attachment to support	2 M4 screws
Base / cover attachment	4 captive M3 screws. Standard : stainless steel. Optionnal : steel
Colours	Yellow, grey (contact us for other colours, depending on the quantity)

Characteristics of the electrical stack

Nominal thermal current	Ith 10 A
Rated insulation voltage	Ui = 500 V
Rated surge voltage	6 kV
Dielectric strength	2.5 kV
Insulation category	C per IEC & NF EN 60 664
Mechanical life expectancy	Pushbuttons : 1 x 10 ⁶ operations Rotary switches : 0.3 x 10 ⁶ operations
Connection	Screw and clamp plate : min. 1 x 0.5 mm ² / max. : 2 x 2.5 mm ²
Contact operating mode	One or two-speed contact block with dependent-action; positive breaking type. Self-cleaning contacts.
Operating power	AC 15: 230 / 400V - 8 / 4A DC 13: 24 V / 10 A

Watertight control boxes

Plastic bases and covers



Boxes with integrated control components

ON / OFF function

Description	Contact et Schematic	Label	Colour of pushbuttons	Part number	Weight (Kg)	
1 momentary pushbutton	$1NO \begin{matrix} 13 \\ E \\ 14 \end{matrix}$	ON	green white	YSI 2166 YSI 2167	0.076	
		I	green white	YSI 1127 YSI 1128		
1 momentary pushbutton	$1NC \begin{matrix} 21 \\ E \\ 22 \end{matrix}$	OFF	red black	YSI 2168 YSI 2169		
		Stop	red black	YSI 1131 YSI 1132		
		O	red black	YSI 1133 YSI 1134		
1 rotary switch with black paddle, 2 fixed positions	$1NO \begin{matrix} 0 & 1 \\ \vee & E \\ & 2 \end{matrix}$	ON / OFF	black	YSI 2170	0.08	
		I / O	black	YSI 1854		
2 momentary pushbuttons	$1NC \begin{matrix} 21 \\ E \\ 22 \end{matrix}$ $1NO \begin{matrix} 13 \\ E \\ 14 \end{matrix}$	OFF / ON	red / green black / white	YSI 2171 YSI 2172	0.12	
		I / O	red / green black / white	YSI 1138 YSI 1139		

Movement controls

2 momentary pushbuttons	$1NO \begin{matrix} 13 \\ E \\ 14 \end{matrix}$ $1NO \begin{matrix} 13 \\ E \\ 14 \end{matrix}$	UP / DOWN	black / white	YSI 2173	0.12	
				YSI 1141		
				YSI 1142		
3 momentary pushbuttons	$1NO \begin{matrix} 13 \\ E \\ 14 \end{matrix}$ $1NC \begin{matrix} 21 \\ E \\ 22 \end{matrix}$ $1NO \begin{matrix} 13 \\ E \\ 14 \end{matrix}$	UP / Stop / DOWN	green / red / green	YSI 2174	0.16	
		/ O /		YSI 1144		
		/ O /		YSI 1145		
3 momentary pushbuttons	$1NO \begin{matrix} 13 \\ E \\ 14 \end{matrix}$ $1NC \begin{matrix} 21 \\ E \\ 22 \end{matrix}$ $1NO \begin{matrix} 13 \\ E \\ 14 \end{matrix}$	/ O /	white / red / green	YSI 1146		






Watertight control boxes

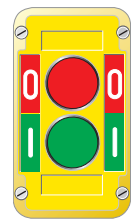
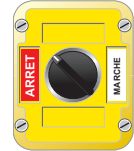
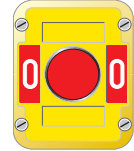
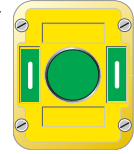
Plastic bases and covers



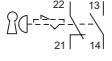
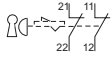



Boxes fitted with Ø 22 control components

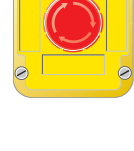
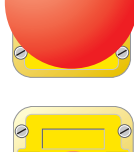
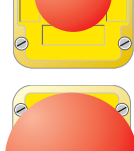
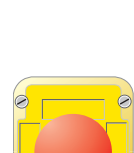
ON / OFF function

Description	Contact & Schematic	Label	Colour of pushbuttons	Part number	Weight (Kg)
1 momentary pushbutton Chrome metal flange	1NO 	ON	green white	YSI 2175 YSI 2176	0.14
		I	green white	YSI 1149 YSI 1150	
1 momentary pushbutton Chrome metal flange	1NC 	OFF	red black	YSI 2177 YSI 2178	
		Stop	red black	YSI 1153 YSI 1154	
		O	red black	YSI 1155 YSI 1156	
1 rotary switch with black paddle, 2 fixed positions Chrome metal flange	1NO 	ON / OFF	black	YSI 2179	0.16
		I / O	black	YSI 1847	
2 momentary pushbuttons Chrome metal flange	1NC  1NO 	ON / OFF	red / green black / white	YSI 2180 YSI 2181	0.25
		I / O	red / green black / white	YSI 1845 YSI 1846	



Stop function

1 latch mushroom pushbutton, ø40 Released using No.620 key Chrome metal flange	1NC 1NO 	None	red	YSI 1162	
	2NC 	None	red	YSI 1163	
1 push-pull mushroom pushbutton, ø40	1NC 	None	red	YSI 1158	0.16
1 push-pull mushroom pushbutton, ø70	1NC 	None	red	YSI 1159	0.23
1 latch mushroom pushbutton, ø30 Rotate 1/4 turn to release	1NC 	None	red	YSI 1346	



Watertight control boxes


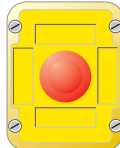

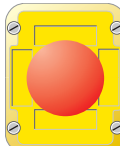


Plastic bases and covers



Boxes fitted with Ø 22 control components

Emergency stop function (EN 418)

New

Description	Contact & Schematic	Label	Colour of pushbuttons	Part number	Weight (Kg)	
1 push-pull mushroom pushbutton, Ø 30	1NC 	None	red	YSI 1943	0.14	
1 push-pull mushroom	1NC 	None	red	YSI 1944	0.18	
1 push-pull mushroom pushbutton, Ø 70	1NC 	None	red	YSI 1945	0.25	

Watertight control boxes

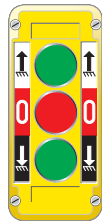
Plastic bases and covers



Boxes fitted with Ø 22 control components

Movement control

Description	Contact & Schematic	Label	Colour of pushbuttons	Part number	Weight (Kg)
2 momentary pushbuttons Chrome metal flange	1NO	UP / DOWN	black / white	YSI 2182	0.25
	1NO			YSI 1165	
				YSI 1166	
3 momentary pushbuttons Chrome metal flange	1NO	UP / Stop / DOWN	green / red / green	YSI 2183	0.36
	1NC	/ O /		YSI 1168	
	1NO				
3 momentary pushbuttons Chrome metal flange	1NO	/ O /	white / red / green	YSI 1169	
	1NC				
	1NO				



Control boxes fitted with 2 integrated control components + 1 Ø 22 control component

ON / OFF function and signalling

1 red pilot light 10X28 Ba9S bulb, max. 3W power supply : 130V/50Hz. Chrome metal flange	x1	ON / OFF	red / green black / white	YSI 2184 YSI 2185	0.21
	x2	I / O	red / green black / white	YSI 1841 YSI 1842	
2 momentary pushbuttons	1NO				



Stop / OFF / ON function

1 red latch mushroom pushbutton, ø40, Released by No. 620 key	1NC 1NO	ON / OFF	red / green black / white	YSI 2186 YSI 2187	0.33
2 momentary pushbuttons	1NC	I / O	red / green black / white	YSI 1843 YSI 1844	
	1NO				
1 red latch mushroom pushbutton, ø30, Released by turning 1/4 turn Overlapping contacts	1NC	Stop / /	white / black	YSI 1249	0.25
2 interlocked pushbuttons	1NC 1NO				
	1NC 1NO				



Watertight control boxes

Plastic bases and covers



Empty boxes

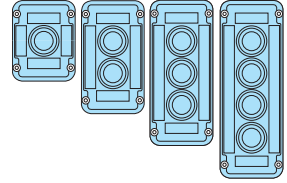
Description

Part number

Weight kg

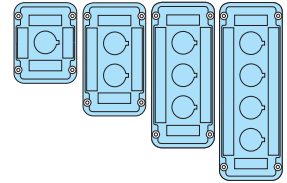
BTH CI (with integrated flanges)
for 1 to 4 integrated control components

BTH 1 CI	0.05
BTH 2 CI	0.07
BTH 3 CI	0.09
BTH 4 CI	0.11



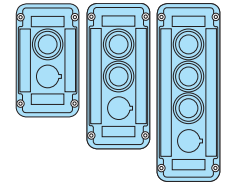
BTH SC (without flanges)
for 1 to 4 control components, $\varnothing 22$

BTH 1 SC	0.05
BTH 2 SC	0.07
BTH 3 SC	0.09
BTH 4 SC	0.11



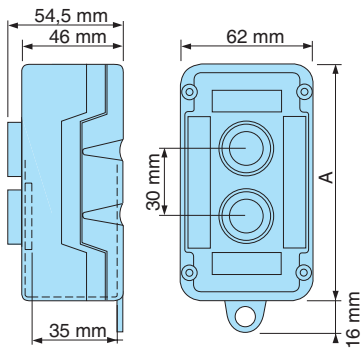
Combination BTH
for 1 to 3 integrated components
+ 1 control component, $\varnothing 22$ at one end

BTH 2 mixte	0.07
BTH 3 mixte	0.09
BTH 4 mixte	0.11



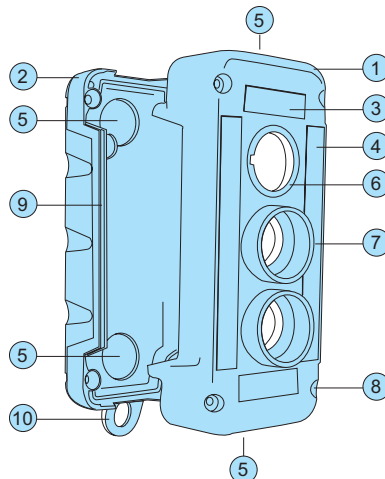
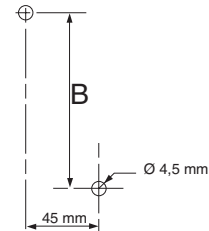
Dimensions

Dimensions in mm



	A	B
	79	67
	110	98
	141	129
	172	160

Distances between attachment
holes for mounting on the support



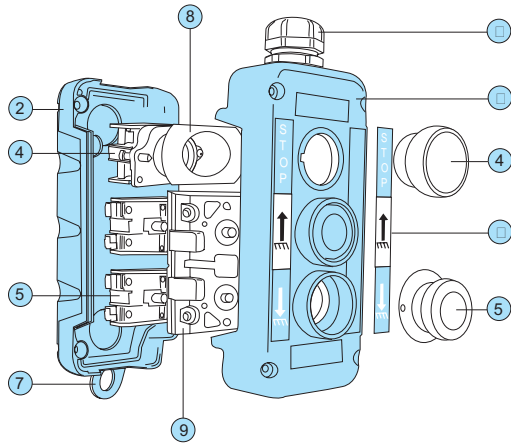
- 1 - Base**
- 2 - Cover**
- 3 - Recess for customer's logo**
- 4 - Recess for function labels**
- 5 - Knockouts**
for sealing gland (PG13)
- 6 - Holes, $\varnothing 22$**
SC versions (without flanges) or
Combination versions
- 7 - Flanges**
CI versions (with integrated flanges) or
Combination versions
- 8 - 4 M3 screws**
- 9 - Gasket**
- 10- Hook**
(optional)

Watertight control boxes

Plastic bases and covers



Complete control boxes



- 1 - Base
- 2 - Cover
- 3 - Sealing gland (P.E)
Standard
- PG 13 with support clamps (pendant boxes)
- PG 13 without support clamps (fixed boxes)
On request
- PG 13 spiral cable-guide, with support
Material : POLYAMIDE
Standards : NFC 63 021
and NFC 68 311
- 4 - Control components,
ø 22 mm
- 5 - Integrated control components
- 6 - Polycarbonate, adhesive labels on either side
of the base.
Standard or customised pictograms (contact us)
- 7 - Hook (optional)

Tightening
capacity

8- 13mm IP66
10-12mm IP66
6- 12mm IP66

ø 22 control components for BTH SC and Combination BTH

Max. 1 tier, with 1 or 2 contacts

Refer to control components in catalogue A6 and E1

(A6: non-illuminated pushbuttons - Latch mushroom pushbuttons - selector switches - E1: Pilot lights)

Specific control components for BTH CI and Combination BTH

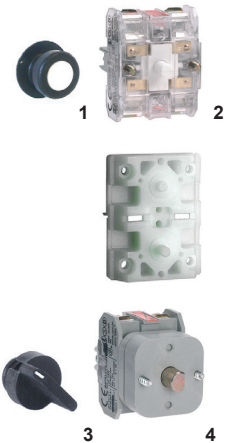
Soft-touch pushbuttons

- 1- Head for soft-touch pushbuttons
- 2- Electrical stack and screws (max. 1 tier)
1 speed : 1 - 2 or 3 contacts
2 speeds : 2 or 3 contacts

Interlock and screws (for 1-speed tier)
Prevent two adjacent pushbuttons
from being activated simultaneously.

Rotary selector ON/OFF switches and inverters

- 3- Head
- 4- Electrical stack (max. 1 tier)
with stable positions or automatic return



Assembly items for soft-touch pushbuttons - Heads

Description	Insert colour	Part number
Soft-touch pushbutton head (special for very low temperatures, contact us)	black	MAI 869 A00
	red	MAI 869 A20
	yellow	MAI 869 A40
	light blue	MAI 869 A60
	green	MAI 869 A50
	grey	MAI 869 A80
	white	MAI 869 A90



Standard labels

Description	Part number
BTH labels (3 components)	PAI 210 A 005 PAI 210 A 008 PAI 210 A 016
BTH labels (2 components)	PAI 209 A 001 PAI 209 A 003
BTH labels (1 component)	PAI 208 A 002 PAI 208 A 003 PAI 208 A 004 PAI 208 A 005 PAI 208 A 009











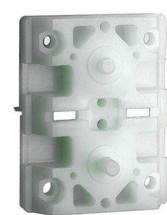
Watertight control boxes

Plastic bases and covers



Assembly items for soft-touch pushbuttons

Description	Contact	Part number
Electrical stack Constituent parts : -Contact block -attachment parts (screw and clamp plate)	1 speed	
	1NO	 YSI 1114
	1NC	 YSI 1115
	1NO 1NC	 YSI 1116
	2NO	 YSI 1117
	2NC	 YSI 1118
	2NO EB (single push with early-break contact)	 YSI 1119
	2 speeds	
	1NO + 1NO (double push)	 YSI 1120
	1NO + 1NO EB (double push with early-break contact)	 YSI 1121
Interlock for two pushbuttons with 1 electrical tier and 1 speed Can be used on : BTH 2,3 and 4 CI (integrated flanges) BTH 3 and 4 mixte Constituent parts : -Mechanism -Attachment parts		YSI 1122





Accessory for BTH

Description	Colour	Part number
Holster for box	Black	MAI1083A8



Assembly items for rotary selectors

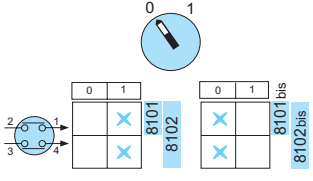
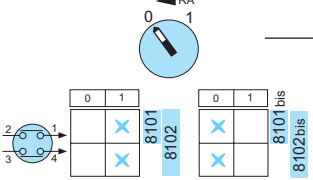
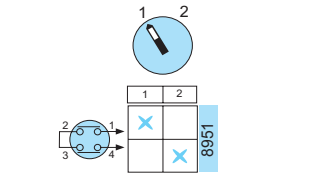
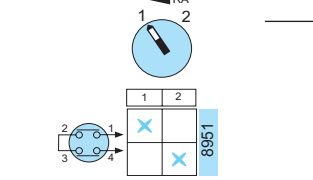
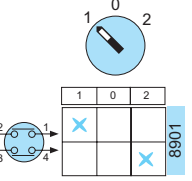
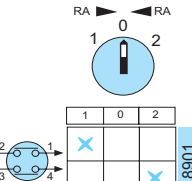
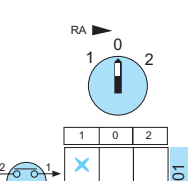
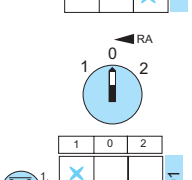
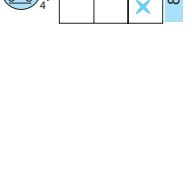
Description	Positions	Colour	Part number
For BTH CI (with integrated flanges): Rotary switche head Composition : -Paddle -Adapter -Gasket -Screw		black (Contact us for other colours)	YSI 1123
For BTH SC (without flanges): Rotary switche head Composition : - Paddle - Chrome metal flange - Adapter - Screw		black (Contact us for other colours)	LSND BTH



Assembly items for rotary switches

Electrical subassembly for BTH CI or Combination BTH

Constituent parts : - Contact block - 4 or 8 positions mechanism - Attachment parts (screw and clamp plate)

Standardised schematic	Function	Part number
	2 stable positions One-pole ON/OFF switch	BTH 8101 BTH 8101 bis
	Two-pole ON/OFF switch positions at 90°	BTH 8102 BTH 8102 bis BTH 8101/2
	2 positions , 1 with automatic return from right to left One-pole ON/OFF switch	BTH 8101 RA BTH 8101 RA bis
	Two-pole ON/OFF switch	BTH 8102 RA BTH 8102 RA bis
	2 stable positions One-pole inverter	BTH 8951
	positions at 90°	BTH 8951/2
	2 positions , 1 with automatic return from right to left One-pole inverter	BTH 8951 RA
	3 positions , OFF in the centre One-pole inverter	BTH 8901
	positions at 90°	BTH 8901/4
	3 positions , 2 with automatic return to centre One-pole inverter	BTH 8901 RA
	3 positions , 1 with automatic return from left to centre One-pole inverter	BTH 8901 RA 1-0
	3 positions , 1 with automatic return from right to centre One-pole inverter	BTH 8901 RA 2-0





Watertight control boxes

BTH spécifiques

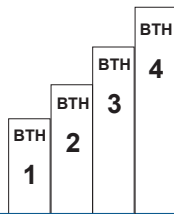


Definition chart

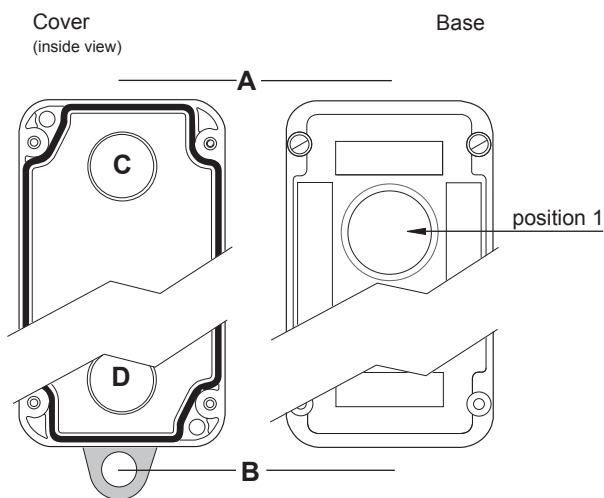
Compose your own product

Photocopy this page and complete the charts

Check the boxes corresponding to the options you want.



BTH with integrate flanges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BTH without flanges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Combination BTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



Cover	Base	Select sealing gland	Attachment parts				
Hook at A <input type="checkbox"/> or B <input type="checkbox"/> Leave blank if you do not want any hook	1 hole (Ø 21) for sealing gland (PG 13) <input type="checkbox"/> Leave blank if you do not want any hole	PG 13 with support clamp <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> without support clamp <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> with cable-guide (without support clamps) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> other (specify) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<table border="1"> <tr> <td>Standard</td> <td>Stainless steel</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>	Standard	Stainless steel	<input type="checkbox"/>	<input type="checkbox"/>
Standard	Stainless steel						
<input type="checkbox"/>	<input type="checkbox"/>						

Boxes with integrated flanges or Combination boxes

Choose de components				Interlock	Standard pictograms (see list for P/N)	
position	Electrical stack P/N	+	Head P/N		Left	Right
1				<input type="checkbox"/>		
2				<input type="checkbox"/>		
3				<input type="checkbox"/>		
4				<input type="checkbox"/>		

Boxes without flanges

Choose the ø 22 components (From our A6 and E1 catalogues)				Standard pictograms (see list for P/N)	
position	Body / Electrical stack P/N	+	Head P/N	Left	Right
1					
2					
3					
4					

Contact us for customised pictograms and company logos.

Watertight control boxes

Plastic bases and covers



22 BFP - 22 BFPB

Environmental characteristics

Temperature resistance	100°
Degree of protection	IP 66 per IEC and NF EN 60529

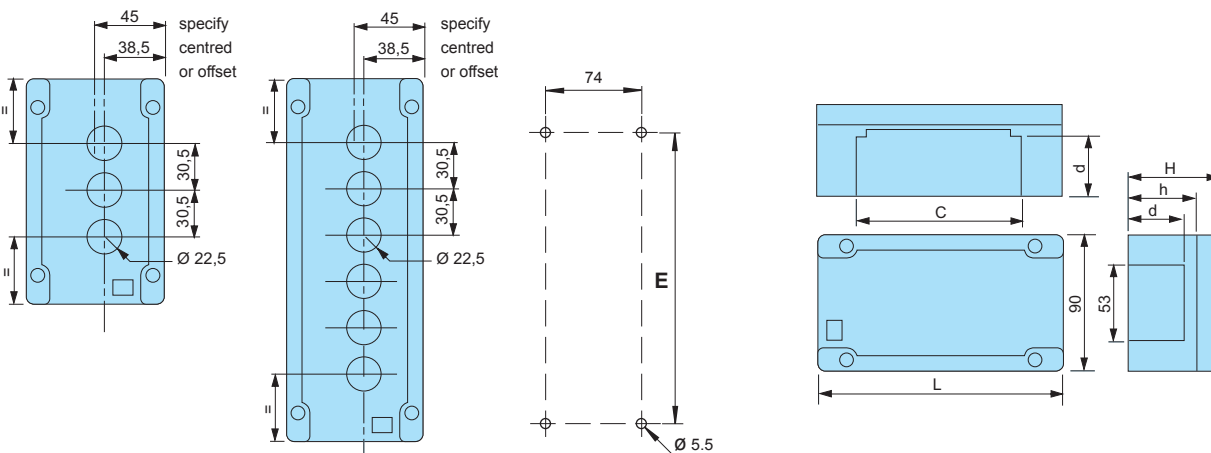


Mechanical characteristics

Material	Polyamide / fibre-glass compound
Colour	Grey or black (Contact us for other colours)
Useful depth	22 BFP - 80 mm 22 BFPB - 54 mm
Cover attachment	4 cylindrical-head screws, stainless steel.

Holes for sealing gland on request

Dimensions and Attachment



22 BFP or BFPB 1.1 through 22 BFP OU BFPB 1.3

22 BFP 1.4 through 22 BFP 1.6

or 22 BFPB 1.1 through 22 BFPB 1.3

Nbr of Ø22 holes	Part numbers	c	d	h	H	L	E	Weight Kg
0	22 BFP 1.1 NP	96.5	74	69	93	147	131	0.416
1	22 BFP 1.1	96.5	74	69	93	147	131	0.408
2	22 BFP 1.2	96.5	74	69	93	147	131	0.400
3	22 BFP 1.3	96.5	74	69	93	147	131	0.392
0	22 BFP 1.4 NP	186.5	74	69	93	237	221	0.512
4	22 BFP 1.4	186.5	74	69	93	237	221	0.504
5	22 BFP 1.5	186.5	74	69	93	237	221	0.496
6	22 BFP 1.6	186.5	74	69	93	237	221	0.488

Nbr of Ø22 holes	Part numbers	c	d	h	H	L	E	Weight Kg
0	22 BFPB 1.1 NP	96.5	43	51	67	147	131	0.316
1	22 BFPB 1.1	96.5	43	51	67	147	131	0.308
2	22 BFPB 1.2	96.5	43	51	67	147	131	0.300
3	22 BFPB 1.	96.5	43	51	67	147	131	0.292

Black housings : add the letter **N** to the Part number, e.g.: 22 BFP"**N**" 1.1 NP



Watertight control boxes

Plastic bases and covers

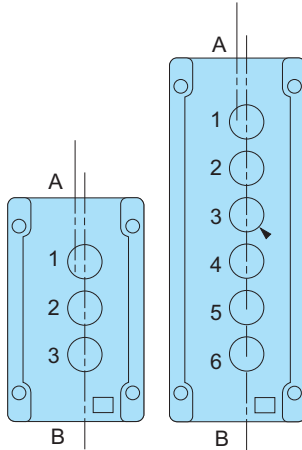


22 BFP - 22 BFPB

Composing your own control box

Photocopy this page and complete the charts

Check the boxes corresponding to the options you want.



Select sealing gland	Tightening capacity	Nbr of glands		Outputs	
		1	2	A	B
			BFP only		
PG 9	5 - 8 mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PG 11	6 - 10 mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PG 13	8 - 13 mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PG 16	10 - 15 mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Housing P/N	Holes		(refer to catalogue A6 and E1 for P/Ns)		Type of screws	
	Centred	Offset	Choose your Ø 22 items	Choose your labels	Std.	St. steel
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	position		<input type="checkbox"/>	<input type="checkbox"/>
			1			
			2			
			3			
			4			
			5			
			6			

Watertight control boxes

Plastic bases and covers



BBE

Environmental characteristics

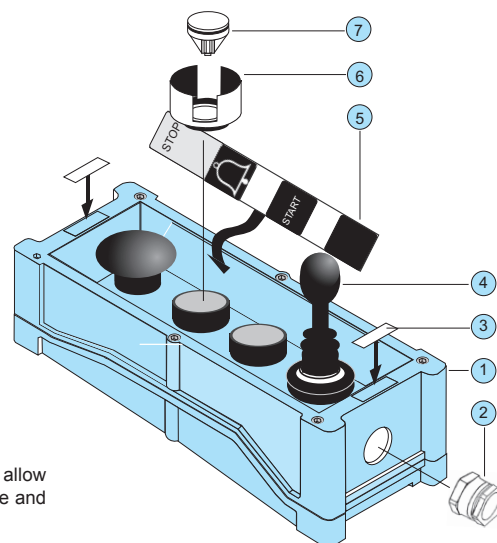
Storage temperature	- 40°C to +70°C
Operating temperature	- 25°C to +70°C
Degree of protection	IP66 per EN 60529 and IK08 per EN 62262
Resistance to chemicals	Highly resistance to acids, chemical bases and to petroleum products.
Fire resistance	HB per UL 94



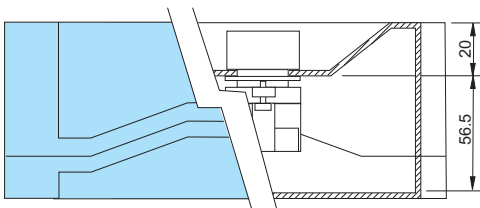
Mechanical characteristics

Material	Polyamide / fibre-glass compound, coloured in the moulding. Standard colour : black, contact us for other colours. 4, 5, 6, 8, 10, or 12 holes, \varnothing 22 mm
Gasket	Foam, cord, \varnothing 3 mm
Cable entry	Sealing gland
Attachment for support	2 possibilities : four H M5 screws and nuts or four C M5 screws and tapped hexagonal shims Tightening torque not more than 0.5 m. Kg
Base / cover attachment	Captive screws, hex. socket heads (CHC), ARCOR treated steel or cylindrical slotted head (CS). Standard : stainless steel Option: steel. Max. tightening torque : 2.5 Nm
Weight (kg)	See dimensions chart

Complete boxes



When selecting your components, allow for the useful depth between the base and caver (56.5 mm)



1- Housing

2 - Sealing gland

P/N	Tightening capacity
PG 11	7-10 mm
PG 13	10-12 mm
PG 16	12-14 mm
PG 21	14-19 mm

Material : nickel-plate brass
Sealing : IP 66
Standards : NFC 63021
and NFC 68312

Contact us for the other sealing gland type
e.g.: Plastic gland with cable guide

3 - Customer logo

4 - LC 22 control components

Refer to catalogue A6 and E1 for the P/Ns for \varnothing 22 components

5 - Polycarbonate labels,
adhesive, on the either side of the front panel.
Standard or customised pictograms
(contact us)

6 - Guard

7 - Blanking plug

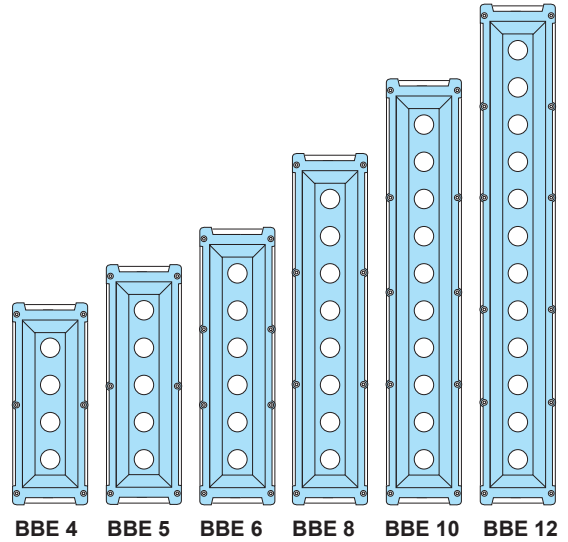
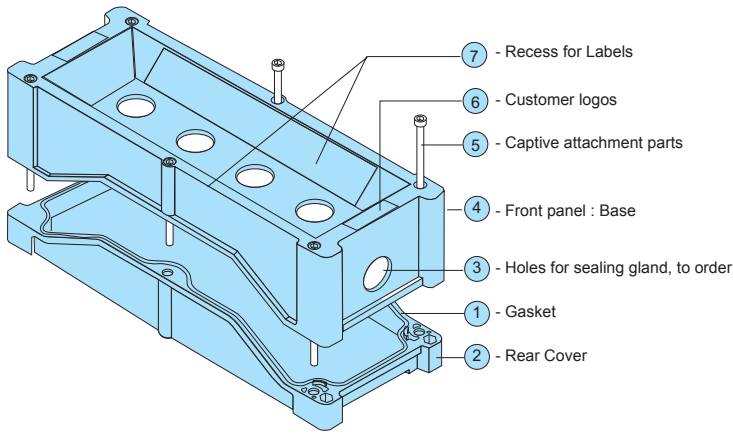
Watertight control boxes

Plastic bases and covers

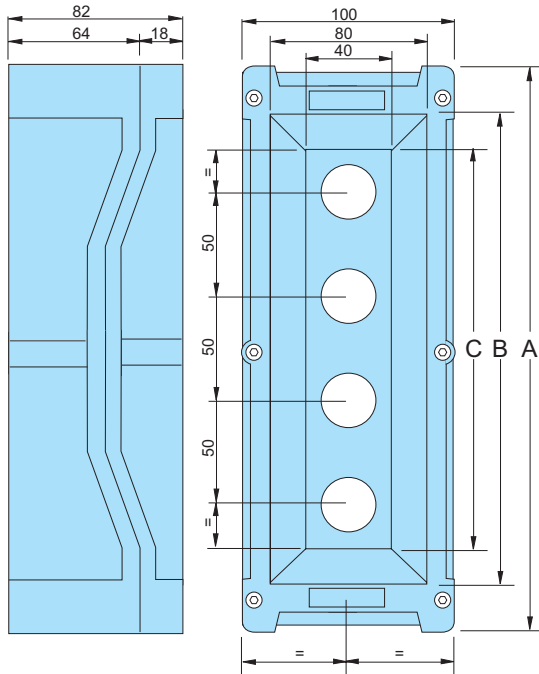


BBE

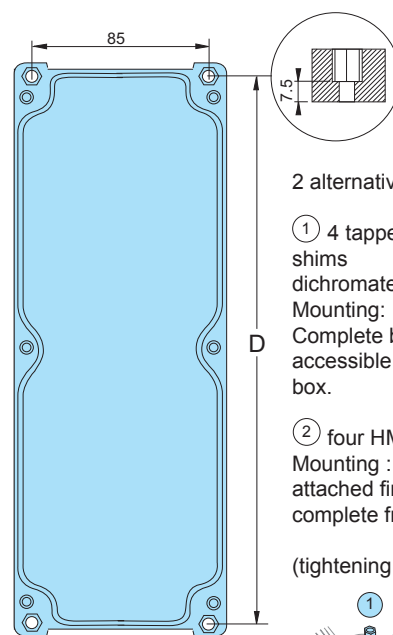
Empty boxes



Dimensions



Attachment

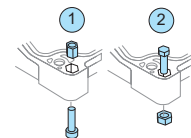


2 alternatives for attachment :

① 4 tapped M5 hexagonal shims
dichromate galvanised steel,
Mounting:
Complete box, mounting
accessible from outside the
box.

② four HM5 screws
Mounting : rear cover
attached first, then the
complete front panel (base)

(tightening torque: 0.5m. kg)



Housing	A	B	C	D	Weight (Kg)
BBE 4	270	230	190	257.5	0.465
BBE 5	320	280	240	307.5	0.535
BBE 6	370	330	290	358	0.615
BBE 8	470	430	390	459	0.740
BBE 10	570	530	490	560	0.810
BBE 12	670	630	590	661	0.960



Watertight control boxes

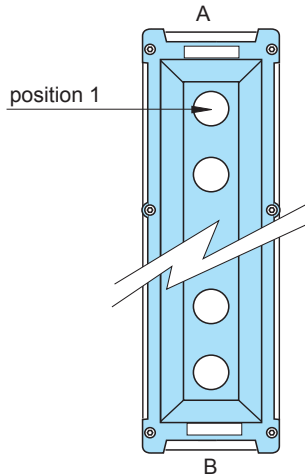
Plastic bases and covers



BBE

Composing your own Box with recessed controls

Photocopy this page and complete the charts (Check the boxes corresponding to the options you want)



Select sealing gland	Outputs	
	A	B
PG 11	<input type="checkbox"/>	<input type="checkbox"/>
PG 13	<input type="checkbox"/>	<input type="checkbox"/>
PG 16	<input type="checkbox"/>	<input type="checkbox"/>
PG 21	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify)	<input type="checkbox"/>	<input type="checkbox"/>

Type of screws

Std. | St. steel

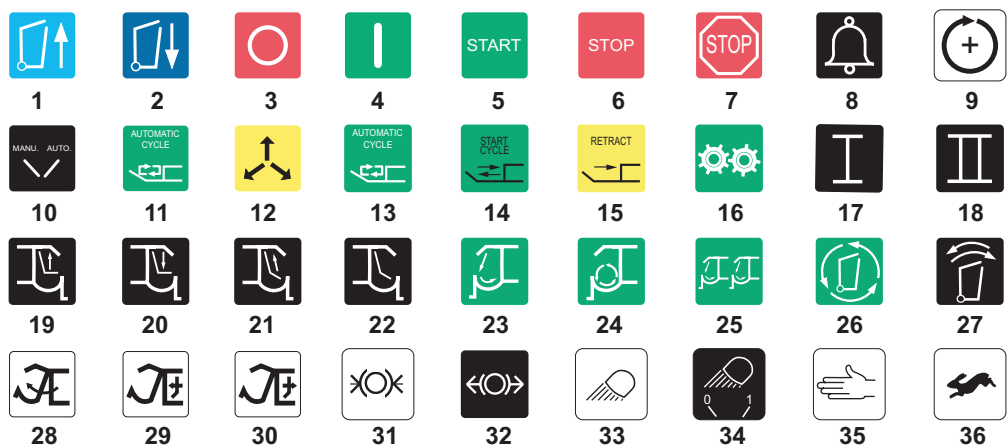
|

Housing type		Choose your Ø 22 items (refer to catalogue A6 and E1 for P/N)		Accessories		Standard pictograms (P/N: list on request)	
		position	P/N for body / electrical stack + Head P/N	Guard	Plug	Left	Right
		1		<input type="checkbox"/>	<input type="checkbox"/>		
		2		<input type="checkbox"/>	<input type="checkbox"/>		
		3		<input type="checkbox"/>	<input type="checkbox"/>		
BBE	4	4		<input type="checkbox"/>	<input type="checkbox"/>		
		5		<input type="checkbox"/>	<input type="checkbox"/>		
BBE	5	6		<input type="checkbox"/>	<input type="checkbox"/>		
		6		<input type="checkbox"/>	<input type="checkbox"/>		
BBE	6	7		<input type="checkbox"/>	<input type="checkbox"/>		
		8		<input type="checkbox"/>	<input type="checkbox"/>		
BBE	8	9		<input type="checkbox"/>	<input type="checkbox"/>		
		10		<input type="checkbox"/>	<input type="checkbox"/>		
BBE	10	11		<input type="checkbox"/>	<input type="checkbox"/>		
		12		<input type="checkbox"/>	<input type="checkbox"/>		

Guards are only available for Ø 40 pushbuttons

Standard labels

Contact us for Company logos and customised pictograms



Watertight control boxes

Plastic bases and covers



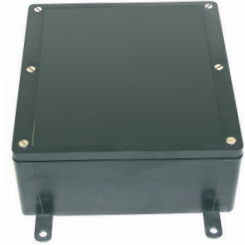
7 DP. 70

Environmental characteristics

Temperature resistance	100°
Degree of protection	IP 55 per IEC & NF EN 60 529
Fire resistance	UL 94 V0

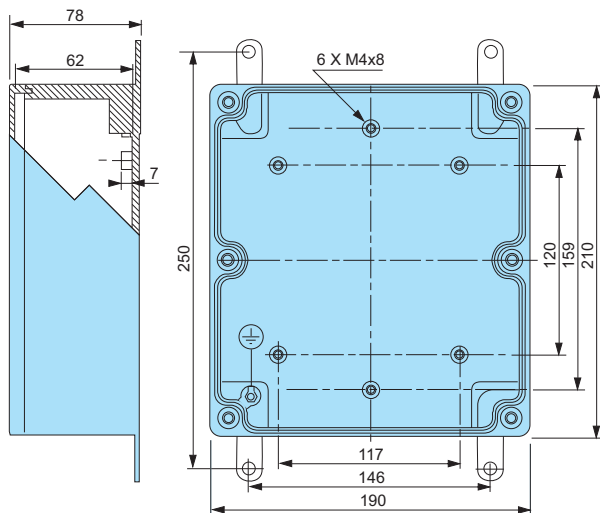
Mechanical characteristics

Material	Polycarbonate
Colour	Black, transparent, grey per RAL 7038
Useful depth	62 mm
Cover attachment	Stainless steel attachment tabs cover attachment: 6 captive stainless steel screws
Cable entry	Sealing glang (hole to order)



Colours	Part numbers	Weight Kg
Black	7DPN - 70	0.807
Grey	7DPG - 70	
Transparent	7DPC - 70	

Dimensions and attachment



Watertight control boxes

Light alloy bases and covers



I 6 D 145 - I 12 D 145

Environmental characteristics

Degree of protection IP 55 per IEC & NF EN 60529

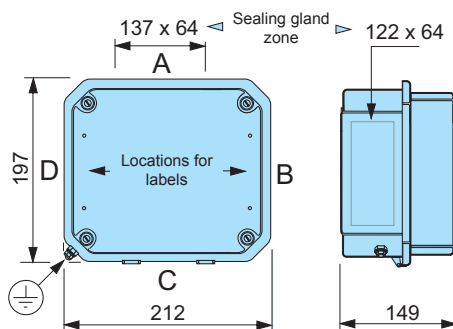


Mechanical characteristics

Material Sheet steel
Colour Bare steel (not painted)
Useful depth 145 mm
Cover attachment 2 hinges
 4 cylindrical-head screws

Dimensions and attachment

Part numbers



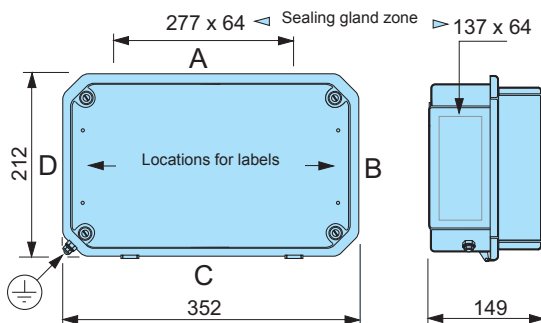
Part numbers

Weight Kg

I 6 D 145 CHPC (Hinge on short side)	1.750
I 6 D 145 CHGC (Hinge on long side)	1.750

Dimensions and attachment

Part numbers



Part numbers

Weight Kg

I 12 D 145 CHPC (Hinge on short side)	3.325
I 12 D 145 CHGC (Hinge on long side)	3.325

Watertight control boxes
Light alloy bases and covers



Mémo

Watertight control boxes
Light alloy bases and covers



Mémo

Discover all products

Consult our other catalogues

Catalogue **A6**
Control components



Catalogue **B2**
Standard 16 A switches and
Low level switches
with self-cleaning contact



Catalogue **B3**
16A to 400A AC/DC
Snap action switches



Catalogue **E1**
Standard and special
Indicator lights



Catalogue **E7**
LED Marker / Tail lights



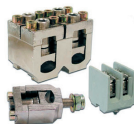
Catalogue **E8**
Display & Signalling



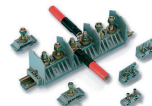
Catalogue **G1**
Low and medium voltage
Insulators and
Partitions bushings



Catalogue **F4** **Contact us**
BR500 junction terminals



Catalogue **F2**
Stud junction terminals



Catalogue **L1**
Watertight control boxes



Catalogue **D2**
Pendant control boxes



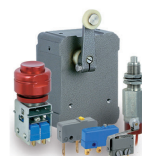
Catalogue **GB-L2**
ORCA Range



Catalogue **Dj**
Circuit breakers



Catalogue **MC**
Snap-action Micro-switches
& Limit-switches



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