

Large, globally certified product range

Our explosion protection enclosing solutions are comprehensive and widely configurable. Reliable in use and convenient to install, their overall quality provides cost efficiency, and most of all, increased safety of your employees and equipment every day.

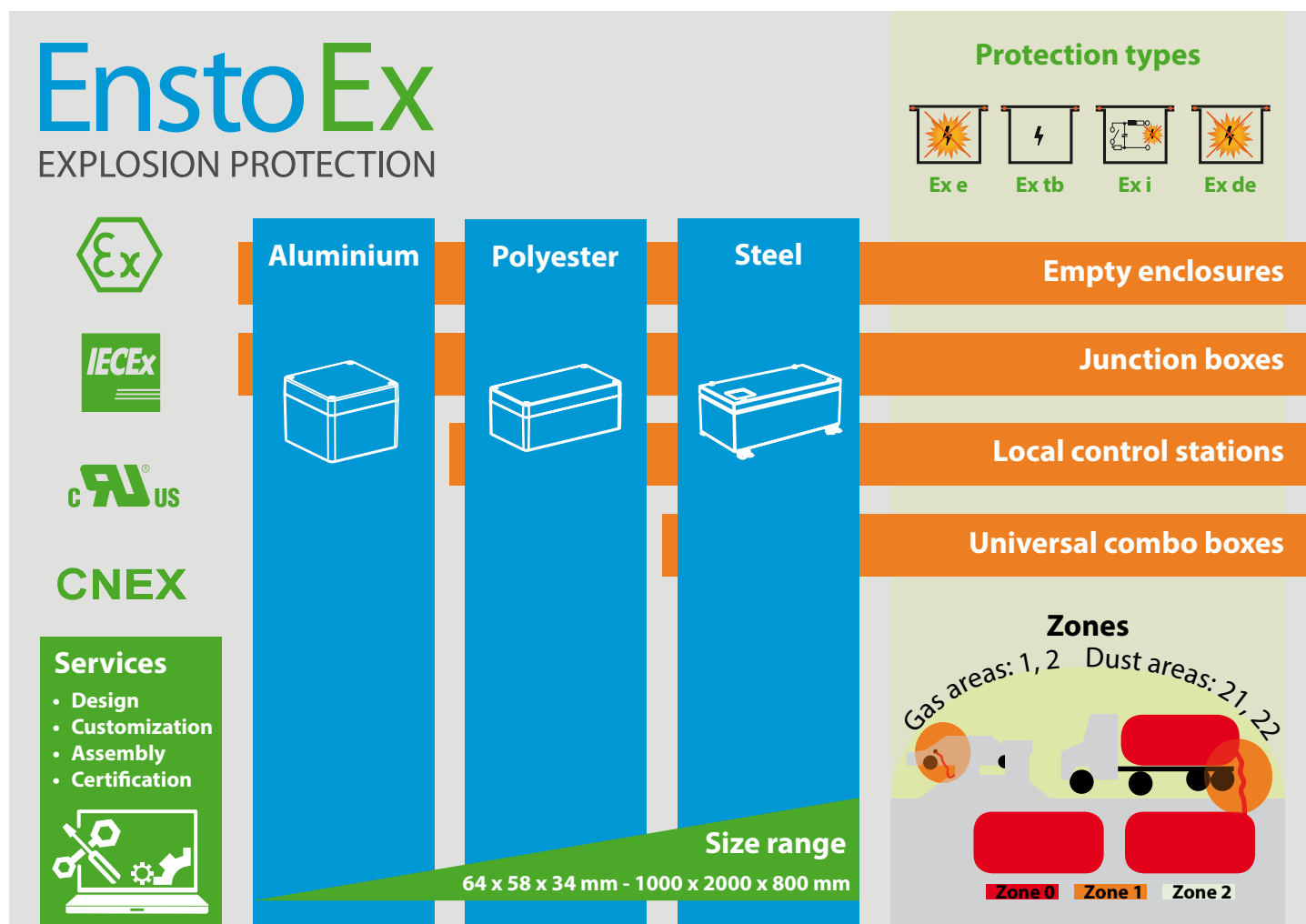
Our explosion protection offering now comprises Ex enclosing solutions and various related industrial components. They are designed and tested to meet the requirements of industries and applications where explosive atmospheres may be present.

The enclosures are available in painted mild steel, stainless steel (AISI 304 and AISI 316L), die-cast aluminium and polyester and they

are widely certified to meet the requirements of global markets. They hold ATEX, China Ex, IECEx, Russian and UL certifications.

Our Ex enclosures are suitable for installations in:

- Zones 1 and 2 in gas areas
- Zones 21 and 22 in dust areas.



Material comparison



Our product range comprises Ex enclosures made of steel, aluminium and polyester. Below are some advantages and disadvantages of the different materials.

Steel

Polyester painted mild steel

- + High impact resistance
- + High degree of protection
- + Easy to customize; customer-specific dimensions possible
- Corrosion risk

Stainless steel AISI 304

- + High impact resistance
- + High degree of protection
- + Excellent corrosion resistance
- + Excellent resistance to UV radiation
- + Suitable for outdoor use; a rain shelter is recommended
- + Suitable for industrial environments
- + Excellent suitability e.g. to the food industry
- + Customer-specific dimensions possible
- More expensive than painted mild steel

Stainless steel AISI 316L

- In addition to the advantages of AISI 304
- + Excellent corrosion resistance
 - + Excellent suitability e.g. to offshore industry
 - More expensive than stainless steel AISI 304



Polyester (GRP)

Carbon loaded glass-reinforced polyester (black)

- + Excellent temperature resistance
- + Good corrosion resistance
- + Good resistance against solvents
- + Excellent suitability e.g. to chemical industries
- Unrecyclable material



Die-cast aluminium

Die-cast powder-coated aluminium

- + Lighter than steel
- + High impact resistance
- + Good resistance against solvents
- + Good corrosion resistance
- + Wide temperature resistance range
- Machining may be problematic



Ensto Ex aluminium enclosures

In short

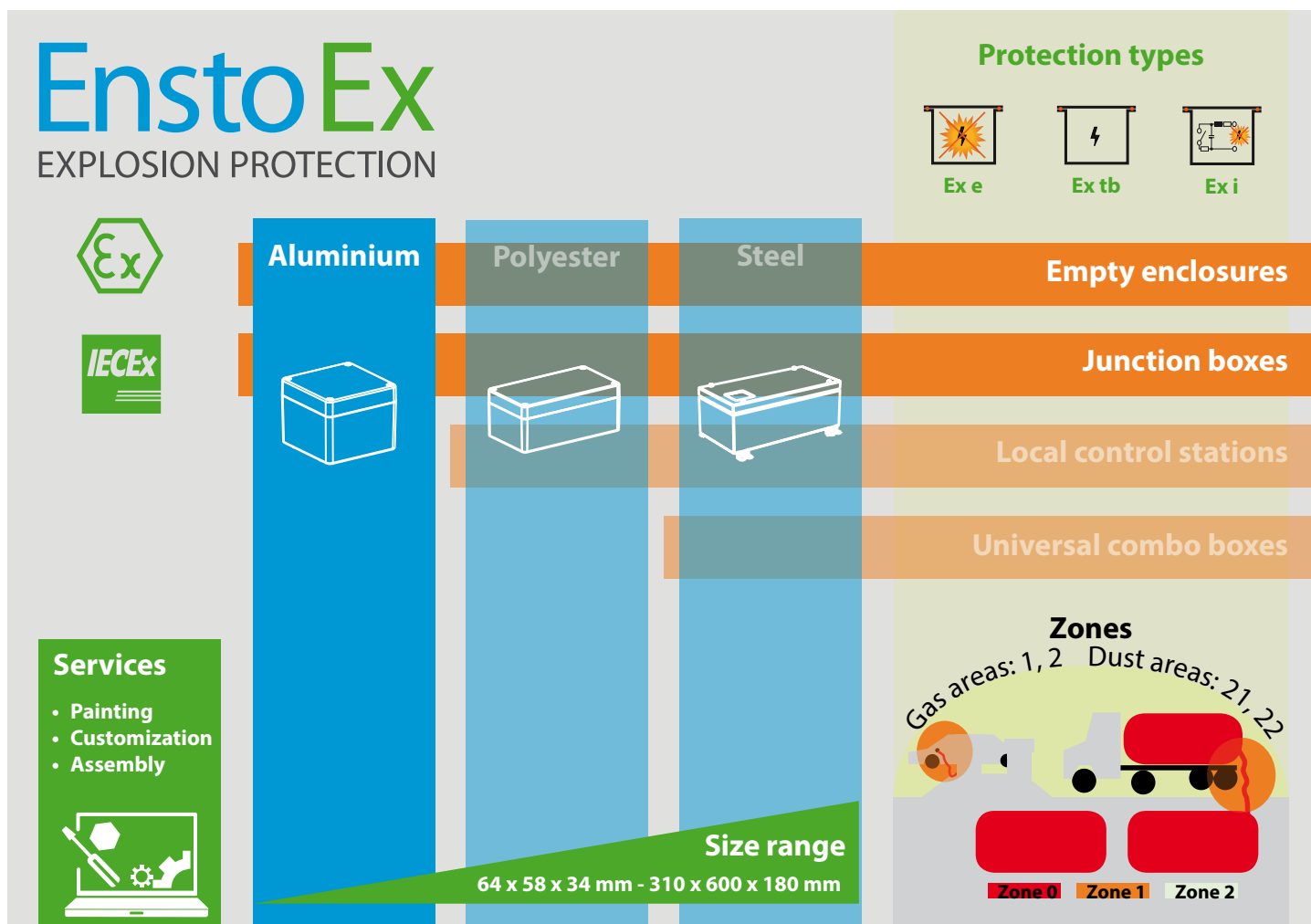


Our aluminium explosion protection enclosures offering includes a particularly wide range of standard enclosure sizes. This enables quick deliveries and enhanced cost-efficiency. Our solutions are built for the toughest environments and versatile applications and they are widely certified for use in hazardous environments.

The series includes empty enclosures and equipped junction boxes. All the solutions are suitable for installations in fields where explosive concentrations of gases, steam and dust can appear (i.e. in Zones 1 and 2 in gas areas and 21 and 22 in dust areas).

The enclosures are made of die-cast aluminium with a powder-coating similar to RAL 7001.

Material	Description
Aluminium:	Die-cast powder-coated aluminium, similar to RAL 7001
Product alternatives	Description
Empty enclosures:	Gas and dust area components
Junction boxes:	Gas and dust area equipment



Empty enclosures, aluminium

Ex e and Ex tb components



We have an exceptionally large size range of Ex aluminium enclosures in our offering. The enclosures are suitable for installations in areas where explosive concentrations of gases, steam and dust can appear (i.e. in Zones 1 and 2 in gas areas and 21 and 22 in dust areas).

Our empty Ex enclosures are component certified. This simplifies your approval process as the enclosure does not have to be retested and reaproved when registering a new Ex end product.

Our empty enclosures in brief:

- Certified to meet the demanding ATEX and IECEx requirements
- Suitable for Zones 1 and 2 in gas group IIC
- Suitable for Zones 21 and 22 in dust group IIIC
- Large size range of standard models
- Lightweight.

Content of a standard enclosure package:

- Enclosure base
- Cover
- Captive stainless steel AISI 316 captive cover screws
- Special gasket
- Exterior earthing connection from 2.5 mm² up to 120 mm²
- Earthing connection points in the interior.

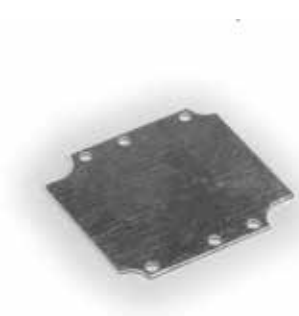
Available services:

- Painting
- Drilling
- Printing.

Further information:

- Standard sizes, page 34
- Accessories, page 34 and 42–44.




Examples of available accessories:



Mounting plates

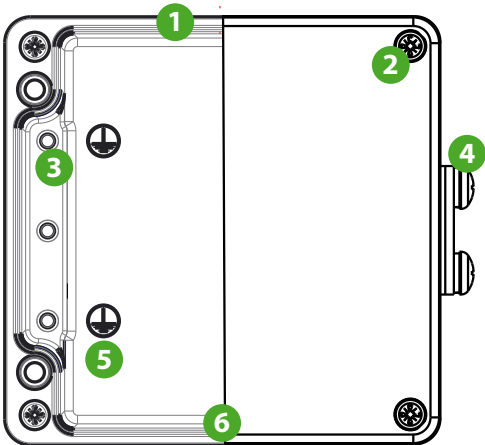


Fastening lug sets

Variations	
Cover fastening:	Captive stainless steel AISI 316 cover screws
Material:	Die-cast powder-coated aluminium, similar to RAL 7001
Dimensions:	Width: 64–310 mm Height: 58–600 mm Depth: 34–180 mm
Earthing:	Internal connection points External earthing connection
Technical information	
Degree of protection:	IP66
Service temperature:	-55 °C to +100 °C
Conformity	
Approvals/certificates:	 IBExU 14 ATEX 1127U IECEx IBE14.0040U
Standards:	EN/IEC 60079-0, -7, -31
Marking, gas:	 II 2G Ex e IIC Gb
Marking, dust:	 II 2D Ex tb IIIC Db

Special features guaranteeing the maximum strength and durability of our solutions:

1. Thick wall structure
2. Cover screws in stainless steel
3. Stainless steel inserts for DIN rails
4. Exterior earthing connection from 2.5 mm² up to 120 mm²
5. Earthing connection points in the interior
6. Special gasket.



Junction boxes, aluminium

Ex e, Ex tb and Ex i equipment



Our aluminium Ex junction boxes are ideally suited for chemical agents environments and other hazardous areas environments where for instance resistance to seawater corrosion and extremely versatile temperatures is needed. Our junction boxes are suitable for installations in areas where explosive concentrations of gases, steam and dust can appear (i.e. in Zones 1 and 2 in gas areas and 21 and 22 in dust areas).

These junction boxes are designed to enclose Ex e, Ex tb and Ex i terminals. The maximum number of terminals used in each solution is determined by the terminals section, enclosure operating temperature and required temperature class. Our boxes are suitable for temperature classes T6 up to T3.

Our junction boxes in brief:

- Certified to meet the demanding ATEX and IECEx requirements
- Suitable for Zones 1 and 2 in gas group IIC
- Suitable for Zones 21 and 22 in dust group IIIC
- Large size range of standard models
- Lightweight.

Content of a junction box package:

- Empty enclosure
- DIN rail or mounting plate
- Terminals
- Optional:
 - Cable glands
 - Breather.

Available services:

- Description plates made of plastic or stainless steel
- Painting
- Drilling
- Printing.

Further information:

- Standard sizes, page 35
- Accessories, page 34 and 42–44.







Variations

Cover fastening:	Captive stainless steel AISI 316 cover screws
Material:	Die-cast powder-coated aluminium, similar to RAL 7001
Dimensions:	Width: 64–310 mm Height: 58–600 mm Depth: 34–180 mm
Earthing:	Internal connection points External earthing connection

Technical information

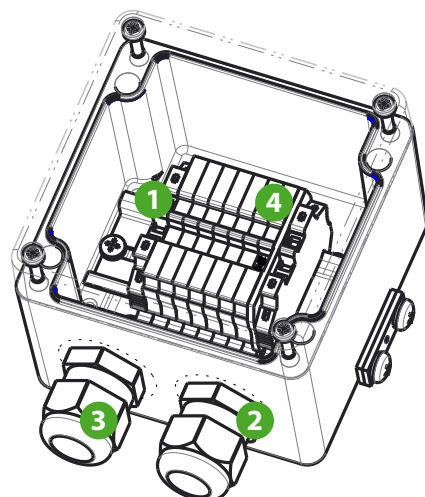
Degree of protection:	IP66
Temperature class:	T6 / T5
Ambient temperature:	-55 °C / -20 °C to +40 °C / +85 °C
Surface temperature (dust areas):	T85 °C / T100 °C

Conformity

Approvals/certificates:	 IBExU 14 ATEX 1129 IECEx IBE14.0041
Standards:	EN/IEC 60079-0, -7, -31
Marking, gas:	 II 2G Ex e IIC T6/T5 Gb  II 2G Ex ia IIC T6/T5 Gb
Marking, dust:	 II 2D Ex tb IIIC T85°C/T100°C Db

Special features guaranteeing the maximum strength and durability of our solutions:

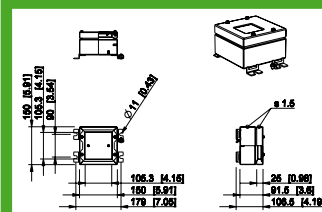
1. DIN rail installed terminals
2. Customized openings
3. Cable glands chosen to meet equipment specifications
4. Clearance and creepage distances taken into account in design.



Empty enclosures, aluminium

Standard sizes

We have created some standard sizes that are readily available in our stock for fast and efficient delivery.



Product cards with dimensional drawings can be found at www.ensto.com/products/ex.

Ensto Ex enclosures, stock products

Product code	Description	Service temperature	Dimensions (mm)			GTIN-13
			Width	Height	Depth	
HALPEX080806	Plain sides	-55 °C to +100 °C	80	75	57	6438100171117
HALPEX081306	Plain sides	-55 °C to +100 °C	80	125	57	6438100171124
HALPEX081806	Plain sides	-55 °C to +100 °C	80	175	57	6438100171131
HALPEX101008	Plain sides	-55 °C to +100 °C	100	100	80	6438100171155
HALPEX121209	Plain sides	-55 °C to +100 °C	120	122	90	6438100171209
HALPEX122209	Plain sides	-55 °C to +100 °C	120	220	90	6438100171230
HALPEX161609	Plain sides	-55 °C to +100 °C	160	160	90	6438100171285
HALPEX163609	Plain sides	-55 °C to +100 °C	160	360	90	6438100171315
HALPEX162609	Plain sides	-55 °C to +100 °C	160	260	90	6438100171308
HALPEX234011	Plain sides	-55 °C to +100 °C	230	400	110	6438100171377

Stocked items available with shorter delivery times!

Ensto Ex enclosures, non-stockable products

Product code	Dimensions (mm)			Service temperature	GTIN-13
	Width	Height	Depth		
HALPEX060603	64	58	34	-55 °C to +100 °C	6438100171087
HALPEX060903	64	98	35	-55 °C to +100 °C	6438100171094
HALPEX061503	64	150	34	-55 °C to +100 °C	6438100171100
HALPEX082505	80	250	54	-55 °C to +100 °C	6438100171148
HALPEX101608	100	160	80	-55 °C to +100 °C	6438100171162
HALPEX102008	100	200	80	-55 °C to +100 °C	6438100171179
HALPEX121207	120	122	65	-55 °C to +100 °C	6438100171186
HALPEX121208	120	122	80	-55 °C to +100 °C	6438100171193
HALPEX122207	120	220	65	-55 °C to +100 °C	6438100171216
HALPEX122208	120	220	80	-55 °C to +100 °C	6438100171223
HALPEX123608	122	360	80	-55 °C to +100 °C	6438100171247
HALPEX141409	140	140	90	-55 °C to +100 °C	6438100171254
HALPEX141809	140	180	90	-55 °C to +100 °C	6438100171261

Product code	Dimensions (mm)			Service temperature	GTIN-13
	Width	Height	Depth		
HALPEX142090	140	200	90	-55 °C to +100 °C	6438100171278
HALPEX165609	160	560	90	-55 °C to +100 °C	6438100171322
HALPEX162607	160	260	65	-55 °C to +100 °C	6438100171292
HALPEX232811	230	280	110	-55 °C to +100 °C	6438100171346
HALPEX232011	230	200	110	-55 °C to +100 °C	6438100171339
HALPEX233311	230	330	110	-55 °C to +100 °C	6438100171353
HALPEX233318	230	330	180	-55 °C to +100 °C	6438100171360
HALPEX236011	230	600	110	-55 °C to +100 °C	6438100171384
HALPEX314011	310	400	110	-55 °C to +100 °C	6438100171391
HALPEX314018	310	400	180	-55 °C to +100 °C	6438100171407
HALPEX316011	310	600	110	-55 °C to +100 °C	6438100171414
HALPEX316018	310	600	180	-55 °C to +100 °C	6438100171421

Accessories

Enclosure	Mounting plate	DIN rails for base, DIN 15	DIN rails for base, DIN 35	PE connection on DIN rail	PE busbar	Fastening lug set
HALPEX060603	N/A	DR15.0606	N/A	*	*	HMFL4
HALPEX060903	N/A	DR15.0609	N/A	*	*	HMFL4
HALPEX061503	N/A	DR15.0615	N/A	*	*	HMFL4
HALPEX080806	HMP0808B	DR15.0808H	N/A	*	*	HMFL4
HALPEX081306	HMP0813B	DR15.0813	N/A	*	*	HMFL4
HALPEX081806	HMP0818B	DR15.0818	N/A	*	*	HMFL4
HALPEX082505	N/A	DR15.0825	N/A	*	*	HMFL4
HALPEX101008	N/A	DR15.0610	N/A	*	*	HMFL4
HALPEX101608	N/A	N/A	DR35.1616	*	*	HMFL4
HALPEX102008	N/A	N/A	DR35.2023	*	*	HMFL4
HALPEX121207	HMP1212B	N/A	DR35.1212	*	EGX02	HMFL4
HALPEX121208	HMP1212B	N/A	DR35.1212	*	EGX02	HMFL4
HALPEX121209	HMP1212B	N/A	DR35.1212	*	EGX02	HMFL4
HALPEX122207	HMP1222B	N/A	DR35.1220	*	*	HMFL4
HALPEX122208	HMP1222B	N/A	DR35.1220	*	*	HMFL4
HALPEX122209	HMP1222B	N/A	DR35.1220	*	*	HMFL4
HALPEX123608	HMP1236B	N/A	DR35.12/1636	*	*	HMFL4
HALPEX141409	HMP1414B	N/A	DR35.1414	*	*	HMFL4
HALPEX141809	HMP1814B	N/A	DR35.1814	*	*	HMFL4
HALPEX142090	HMP2014B	N/A	DR35.2014	*	*	HMFL4
HALPEX165609	HMP1656B	N/A	DR35.1656	*	*	HMFL4
HALPEX161609	HMP1616B	N/A	DR35.1616	*	*	HMFL4
HALPEX162607	HMP1626B	N/A	DR35.1656	*	*	HMFL4
HALPEX232811	HMP2328B	N/A	DR35.2328	*	*	HMFL4
HALPEX163609	HMP1636B	N/A	DR35.12/1636	*	*	HMFL4
HALPEX162609	HMP1626B	N/A	DR35.1626	*	*	HMFL4
HALPEX232011	HMP2023B	N/A	DR35.2023	*	*	HMFL4
HALPEX233311	HMP2333B	N/A	DR35.2333	*	*	HMFL4
HALPEX233318	HMP2333B	N/A	DR35.2333	*	*	HMFL4
HALPEX234011	HMP2340B	N/A	DR35.23/3140	*	*	HMFL4
HALPEX236011	HMP2360B	N/A	DR35.23/3160	*	*	HMFL4
HALPEX314011	HMP3140B	N/A	DR35.23/3140	*	*	HMFL4
HALPEX314018	HMP3140B	N/A	DR35.23/3140	*	*	HMFL4
HALPEX316011	HMP3160B	N/A	DR35.23/3160	*	*	HMFL4
HALPEX316018	HMP3160B	N/A	DR35.23/3160	*	*	HMFL4

N/A Not available

* Available on request

More accessories on page 42–44.

Junction boxes, aluminium

Standard sizes

We have created some standard sizes that are readily available in our stock for fast and efficient delivery.

Instructions for ordering junction boxes

1.

Select the suitable empty enclosure

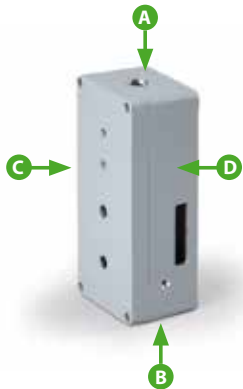


Empty enclosures

Enclosure type	Description	Dimensions (mm)			GTIN-13
		Width	Height	Depth	
HALPEX080806JB	Empty HALPEX080806JB enclosure	75	80	75	-
HALPEX081306JB	Empty HALPEX081306JB enclosure	75	110	75	-
HALPEX081806JB	Empty HALPEX081806JB enclosure	120	122	90	-
HALPEX101008JB	Empty HALPEX101008JB enclosure	120	220	90	-
HALPEX121209JB	Empty HALPEX121209JB enclosure	160	160	90	-
HALPEX122209JB	Empty HALPEX122209JB enclosure	160	260	90	-
HALPEX161609JB	Empty HALPEX161609JB enclosure	250	255	120	-
HALPEX163609JB	Empty HALPEX163609JB enclosure	250	400	120	-
HALPEX162609JB	Empty HALPEX162609JB enclosure	250	600	120	-
HALPEX234011JB	Empty HALPEX234011JB enclosure	400	400	120	-

2.

Define number/type of required cable glands per side



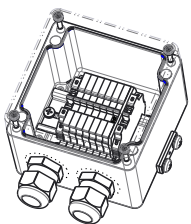
Maximum number of cable glands allowed

Product code	Cable glands per side (A and B, C and D), see picture on the right									
	Size: M16		Size: M20		Size: M25		Size: M32		Size: M40	
	A and B	C and D	A and B	C and D	A and B	C and D	A and B	C and D	A and B	C and D
HALPEX080806JB	2	1	2	1	1	1	N/A	N/A	N/A	N/A
HALPEX081306JB	2	4	2	3	1	2	N/A	N/A	N/A	N/A
HALPEX081806JB	2	6	2	5	1	3	N/A	N/A	N/A	N/A
HALPEX101008JB	4	6	3	5	1	2	1	1	N/A	N/A
HALPEX121209JB	5	5	4	4	2	2	1	1	N/A	N/A
HALPEX122209JB	6	15	4	14	2	6	1	4	N/A	N/A
HALPEX161609JB	8	12	6	9	3	5	2	3	2	1
HALPEX163609JB	8	36	6	24	3	15	2	7	5	1
HALPEX162609JB	8	24	6	17	3	10	2	5	3	1
HALPEX234011JB	18	50	17	39	8	20	5	14	6	3

N/A Not available

3.

Define the required terminals



Maximum amount of terminals allowed

Define the required terminals by using the tables related to the relevant product card located on our web pages. To find the information do as follows:

1. Go to our website and select Products and Explosion protection (website: ensto.com/products/ex)
2. Select the relevant enclosure material
3. Select *Junction boxes*
4. Select relevant product type
5. On the product card open the product data sheet document.

4.

Inform our sales personnel of your needs



Contact information

Local contact information can be found on our web pages (www.ensto.com/contacts)

