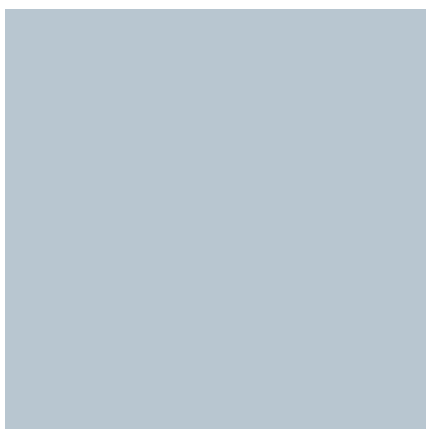


**ENSTO**

# ENCLOSURE SOLUTIONS

Ensto Cubo



# Enclosure Solutions

## Ensto Cubo

Ensto is a source of expertise in enclosure technology and a reliable systems supplier. Our products are designed and tested to meet a wide range of applications and to operate under even the most extreme conditions. Our selection of enclosures is one of the largest on the market. We also create customised solutions to meet specific requirements.

Our enclosure solutions are complemented by components specially developed to meet the needs of panel builders: terminals, switches and fuse bases. Components are products which typically require an enclosure for protection.

Please tell us about your application – we will then recommend the best available enclosure solution. Although our clientele consists mainly of OEM industries: electrical and electronics industries and panel builders, we also offer solutions for contractors, installation technicians and industrial maintenance and service providers.

We aim to solve our customers' problems through expertise and co-operation. We work in the field, together with our customers. In addition to active field salesmen, our team of competent customer service personnel is also at your disposal. We are a reliable partner to both our customers and partners, and our deliveries are correct and prompt.

We believe that our new catalogue of enclosure solutions will help you to choose the right solution for your particular product application.



Ensto Cubo polycarbonate enclosures were selected for a particularly demanding application in Prague, where the metro is on the move 20 hours a day in conditions that change continually from hot to cold – from hot sunshine to cold tunnels: movement and vibration are continuous.



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# Choosing Enclosures

## Ensto Cubo

### Get the tightness right

The first digit in the IP classification of our enclosures indicates its degree of protection against solid objects; the second digit indicates how watertight the enclosure is. Ensto Cubo enclosures range between IP 55 and IP 66/67, meaning that they are suitable for use in demanding conditions. The IP class is defined for an empty unassembled enclosure. The protection class should be maintained during installation and assembly – for example, the IP class of the cable glands used for cable entries should be higher or the same as that of the enclosure.



Please remember that the mounting plate and the mounting space available are smaller than the actual enclosure.

### Choose the right dimensions

Enclosures should be selected on the basis of their proposed contents and location. When selecting the size, please consider whether further components are likely to be added at a later stage and, if so, whether the dimensions of the enclosure will still be adequate. The enclosure dimensions quoted by Ensto are always external dimensions, so it is important to remember that the internal mounting space available is always smaller than the actual enclosure.



Ensto Cubo enclosures, both steel and thermoplastic, are certified in accordance with EN 50298. Many models have also been tested to meet the North American Nema-classification.

### Maintenance of enclosures

Annual servicing is normally recommended for indoor enclosures, and more frequent servicing for outdoor installations. Maintenance involves checking the condition of equipment installed in the enclosure and ensuring that neither dust nor moisture is present. It is also necessary to check the paintwork and outer casing. For a thermoplastic enclosure, cleaning with mild detergent is sufficient.

### Certificates

Ensto Cubo enclosures are certified in accordance with EN 50298 (SGS Fimko). Most of our polycarbonate enclosures are also UL and cUL listed (Underwriters Laboratories, File # E 189312). For marketing in Russia, the enclosures require a GOST-approval.

Many of our enclosures also have Germanischer Lloyd and RINA (Italy) certificates for marine applications.

## Certificates

	OEM Enclosures Ensto Cubo	General Purpose Enclosures Ensto Cubo		Wall mounted Cabinets Ensto Cubo		Terminal Enclosures Ensto Cubo	Modular Enclosures Ensto Cubo
	D	S, C, O	P	W	E	F	R
SGS Fimko EN 50298	X	X	X	X	X	X	X
SGS Fimko EN 60439			X				
UL	X*	X*		X			
cUL	X*	X*		X			
GOST	X	X	X	X	X	X	X
Germanischer Lloyd	X	X			X	X	

\* only polycarbonate enclosures

# Safety Classification

## Ensto Cubo

### IP-classes, EN 60529

1st NUMERAL	IP	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Protection against intrusion			
	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>
0: No protection			
	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1: Protection against objects max. 50 mm			
	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2: Protection against objects max. 12 mm			
	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3: Protection against objects max. 2.5 mm			
	4	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4: Protection against solid objects max. 1 mm			
	5	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5: Protection against dust, limited intrusion acceptable all directions			
	6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6: Total protection against dust			

2st NUMERAL	IP	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Protection against liquids			
	0	<input type="checkbox"/>	<input checked="" type="checkbox"/>
0: No protection			
	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1: Protection against vertically falling water drops			
	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2: Protection against rain drops falling in max. 15° angle			
	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3: Protection against rain drops falling in max. 60° angle			
	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4: Protection against water drops falling from all directions			
	5	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5: Protection against low pressure sprue water from *			
	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6: Protection against jet water under pressure *			
	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7: Protection against water intrusion under submersion at 15 cm to 1 m depth			
	8	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8: Protection against water intrusion under long term submersion under pressure			

\* Minor intrusion acceptable

### IK-classes, EN 50102

Blow energy/J	IK-kode
<	IK 01 - 05
1	IK 06
2	IK 07
5	IK 08
10	IK 09
20	IK 10

### NEMA Safety Classification

NEMA (National Electrical Manufacturers' Association) is a cooperative organization for the American electrical industry. The NEMA specifications and testing methods are used by Underwriters Laboratories (UL) for testing and classification of enclosures. The table below gives a comparison of the NEMA classification and the nearest corresponding IP rates.

NEMA-class:	IP-class:	Indoor:	Outdoor:	In- and Outdoor:	Protection against following factors:
NEMA 1	IP 23	X			Falling soil
NEMA 2	IP 30	X			Water splashes and soil
NEMA 3	IP 64		X		Wind carried dust, rain and hail
NEMA 3R	IP 32		X		Rain and hail
NEMA 3S	IP 64		X		As 3, outdoor equipment under ice load
NEMA 4	IP 66			X	As 3, protection against sprue water, ice growth
NEMA 4X	IP 66			X	As 4, corrosion resistant
NEMA 6	IP 67-68			X	As 6P, ice growth acceptable corrosion resistant
NEMA 6P	IP 67-68			X	Immersed in water, specified time and depth
NEMA 12, 12K	IP 65	X			Soil/non-corroding drops of liquids
NEMA 13	IP 65	X			As 12, oils and non-corroding cooling agents

# Thermoplastic Enclosures

## Ensto Cubo

Ensto Cubo thermoplastic enclosures are manufactured in high quality polycarbonate or ABS plastics. Although plastic is much lighter than steel, its impact resistance is very high. In addition, any dents or bumps are not as noticeable in plastic as they would be in steel. The degree of protection of all Ensto Cubo thermoplastic enclosures is at least IP 65.

Polycarbonate is suitable for demanding conditions and also for outdoor use. The temperature resistance of polycarbonate ranges from  $-50^{\circ}\text{C}$  to  $+120^{\circ}\text{C}$ . For enclosure production, we use only UL-listed polycarbonate raw materials, which have the so-called Yellow Card.

The bases of polycarbonate enclosures with knock-outs have been reinforced with fibreglass in order to add rigidity to the enclosure walls and to make it easier to knock out flanges and cable entries. Fibreglass raises the flammability to 5 V (UL 94).



Thermoplastic enclosures are manufactured at our modern Porvoo plant.



The bases of polycarbonate enclosures with knock-outs have been reinforced with fibreglass in order to add rigidity to the enclosure walls and to make it easier to knock out the cable entries.

### Polycarbonate (PC)



- high impact resistance
- high degree of protection
- light
- good resistance to chemicals
- wide temperature resistance range
- self-extinguishing
- easily machined using standard tools
- excellent insulation properties
- also suitable for outdoor use
- also available as transparent



- because of the fibreglass used, achieving the correct colour shade maybe difficult

### Acryl-butadiene-styrene (ABS)



- cost-effective
- light
- good chemical resistance
- easy to machine using standard tools



- lower impact resistance than that of polycarbonate
- narrower temperature-resistance range than polycarbonate
- low UV radiation resistance
- not suitable for outdoor use
- not available as transparent
- not self-extinguishing

The other thermoplastic material we use is ABS, acryl-butadiene-styrene. Enclosures manufactured in ABS are only available with plain sides. The heat resistance of ABS is not as good as that of polycarbonate, and because its resistance to UV radiation is low, it is only suitable for indoor use. In addition, the impact resistance of ABS is not comparable to that of polycarbonate. However, there are applications for which ABS is more suitable than polycarbonate, due to its good resistance to certain chemicals, e.g. strong detergents used in dairies.

ABS plastic is not available as clear: transparent covers and windows on enclosures are always made of polycarbonate.

The advantage of thermoplastics, both polycarbonate and ABS, is that they are easily machined using standard tools.

For maintenance of thermoplastic enclosures, cleaning with mild detergent is usually enough.



The standard colour of thermoplastic enclosures is grey RAL 7035. However, if required, enclosures can be painted in any desired colour; alternatively, coloured plastic raw material can be used, or the raw material can be tinted to the desired colour.



Polycarbonate enclosures are suitable for very demanding conditions.



ABS plastic is not available as clear: transparent covers and windows on enclosures are always made of polycarbonate.

# Steel Enclosures

## Ensto Cubo

The range of Ensto Cubo steel enclosures includes terminal enclosures and wall-mounted cabinets. Both the terminal enclosures and wall-mounted cabinets are available in polyester-painted mild steel and stainless steel AISI 304. On request, they can also be supplied in acid-proof steel AISI 316.

For polyester-painted Ensto Cubo enclosures, the following processes are carried out:

- cleaning (alkaline de-greasing)
- zinc phosphating
- rinsing
- drying
- polyester-powder painting, standard colour grey RAL 7032, layer thickness 80 – 120 µ, does not contain TGIC
- oven drying.



Steel enclosures are made at our Mikkeli plant.

### Polyester-painted mild steel



- high impact resistance
- high degree of protection
- easy to customise; tailor-made 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; canopy for rain is recommended
- suitable for industrial environments
- excellent suitability to e.g. the food industry



- more expensive than painted mild steel
- customising more difficult than with painted steel

### Acid-proof steel (AISI 316)



- as AISI 304, also
- extremely high resistance to corrosion
- excellent suitability to off-shore industry
- excellent suitability to paper industry



- more expensive than stainless steel
- customising more difficult than with painted steel

The surface roughness of enclosures made of stainless steel, AISI 304, is Ra 0,45...0,60 µm.

Stainless steel is, of course, suitable for outdoor use, and for demanding industrial environments – for example, the food industry. Its advantages are high resistance to corrosion and UV radiation. Additionally, stainless steel is very practical as it needs scarcely any maintenance. It is, however, more expensive than painted mild steel.

Acid-proof steel is used for environments requiring extreme resistance to corrosion, or those where ordinary stainless steel is not recommended: for example, in the offshore industry. It is a specially manufactured material and, as such, more expensive than AISI 304.

The surface roughness of acid-proof enclosures is Ra 0,45...0,60 µm.

The good qualities of steel include the potential it offers for customer-specific solutions: if a suitable size cannot be found from our selection of standard enclosures, a smaller production series can easily be customised.



Stainless steel is suitable for outdoor use and for demanding industrial environments.



We customise steel enclosures. Because any customer-specific cut-outs are made before surface treatment and painting, the corrosion resistance remains good even in the cut-out areas.



The range of Ensto Cubo steel enclosures includes terminal enclosures and wall-mounted cabinets.

# Customising

## Ensto Cubo

### What is customising?

Customising means modifying a standard product:

- a standard product is changed,
- standard parts are replaced by new ones, or
- special features are added to a standard product to provide a more complete solution to a customer's specific production process.

A customised product is always a unique, customer-specific solution.

### Customising enclosures

At its most basic, the customising of enclosures means making additional cut-outs, openings, threaded holes or knock-outs in a standard enclosure.

Our customising service frequently supplies ready-assembled enclosures e.g. with DIN-rails, terminals or cable glands, and, if required, the cover can be equipped with hinges.

If a suitable size cannot be found from our selection of standard enclosures, a steel enclosure can be tailor-made to your specific dimensions.

The company logo, instructions for use or wiring diagrams can be silk-screen printed on the surface of the enclosure.

If, for example, an army green or any other particular colour is required, the enclosure can be painted in accordance with the RAL colour chart. The raw material for the plastic enclosure can also be a specially pre-coloured plastic raw material.

In some places it may be important that the enclosure matches perfectly with its surroundings. In such cases, the enclosures can be



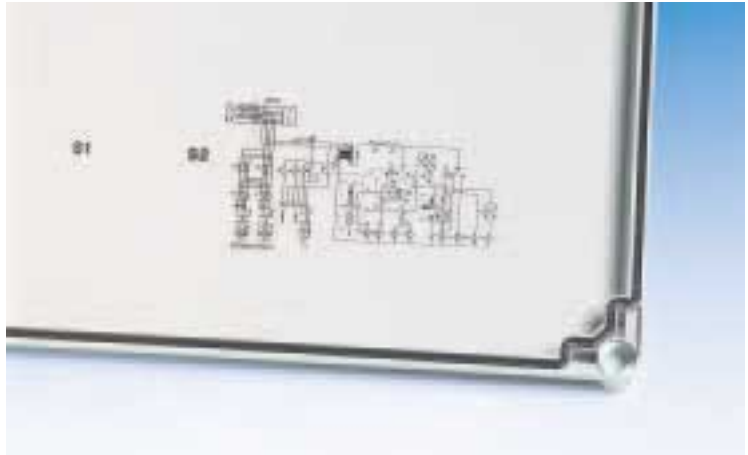
The customising of enclosures means making additional openings or cut-outs in a standard enclosure. The enclosures can also be equipped, for example, with cable glands and the cover can be fitted with hinges.

treated by the so-called Wet Painting method to create a wood effect, for example.

Ensto Cubo enclosure solutions also include customer-specific total solutions which we deliver on a turnkey basis.



A standard enclosure can also incorporate customer-specific knock-outs.



The inner surface of the cover can be used as a print surface, for instance, for wiring diagrams.



The enclosure matches perfectly with its surroundings when using the Wet Painting method to create a wood or marble effect, for example.



If a signal-coloured or army-green enclosure is required, the enclosure can be painted in accordance with the RAL colour chart.



Company logos can be printed on the surface of the enclosure. The plastic raw material can also be pre-coloured to the desired shade.

# An Introduction to our Product Groups

## Ensto Cubo

OEM enclosures, Ensto Cubo D, are manufactured in a high quality polycarbonate or ABS plastic. The protection class is IP 66/67. We also offer OEM enclosures made of aluminium, Ensto Cubo H, and of glass-reinforced polyester, Ensto Cubo M. The protection class of aluminium and polyester enclosures is IP 65, impact strength 7 Nm. OEM enclosures always have plain sides and captive cover screws in stainless steel.



The protection class of general purpose thermoplastic enclosures is IP 66/67. Our series of small to medium-size general-purpose enclosures is known as Ensto Cubo S. The dimensions follow 25 mm modules. The enclosures have plain sides or alternatively pre-pressed Pg or metric knock-outs. In our medium to large series of general-purpose enclosures, Ensto Cubo O and C, we offer either plain sides or flange knock-outs according to the SFS



standard for flanges: three sizes are also available with pre-pressed metric knock-outs.

Our range also includes wall-mounted cabinets. The series of polycarbonate enclosures with hinged door and quick release latches is known as Ensto Cubo W, IP 66/67; and the series of steel cabinets as Ensto Cubo E, IP 66, in a choice of polyester-painted mild steel, stainless steel or on request acid-proof steel.



Our sheet steel terminal enclosures include, as standard, a support for DIN-rails or mounting plates. This series is called Ensto Cubo F and its degree of protection is IP 66. Alternatives are available polyester-painted mild steel or unpainted stainless steel; on request, they can also be supplied in acid-proof steel.



Our range also includes IP 65 modular enclosures, EMC shielded enclosures for applications requiring protection against electromagnetic interference, all-in-one enclosures, enclosed terminals and 19" cabinets as well as a wide range of accessories for panel building and for making cable entries.

Width (mm)	Height (mm)	Depth (mm)	Inner depth (mm)	Polycarbonate grey cover	Polycarbonate transparent cover	ABS grey cover	ABS transparent cover
32	50	36	27.5	DPCF080240 641867719000	DPF080247 641867719012	DABF080240 641867719029	DABF080247 641867719031
32	75	36	25.0	DPCF080740 641867719063	DPF080747 641867719093	DABF080740 641867719087	DABF080747 641867719099
48	60	54	42.0	DPCF080640 641867719088	DPF080647 641867719098	DABF080640 641867719076	DABF080647 641867719088
48	75	66	72.0	DPCF080940 6418677190126	DPF080947 6418677190138	DABF080940 641867719014	DABF080947 641867719026
48	100	54	42.0	DPCF081240 6418677190136	DPF081247 6418677190148	DABF081240 641867719016	DABF081247 641867719028
48	125	66	72.0	DPCF081540 6418677190237	DPF081547 6418677190249	DABF081540 641867719021	DABF081547 641867719033
48	140	54	42.0	DPCF081840 6418677190247	DPF081847 6418677190259	DABF081840 641867719023	DABF081847 641867719035

All our enclosures are presented in this catalogue in table format based on the outer dimensions of the enclosure: width (mm) x height (mm) x depth (mm). In the same tables you will also find the product number for the correct mounting plate and DIN rail for each enclosure. In the first line of the table there is always the product number, below which you will find the EAN code of the product. Detailed product information with package sizes and net weights are to be found in our Buyer's Guide and on our website, [www.ensto.com](http://www.ensto.com), from which you can also download dimensional drawings for enclosures and mounting plates.

# Key to the Codes

## Ensto Cubo

The product numbers containing ten or eleven symbols give much information on the enclosure. Below instructions how to read the product numbers:

Symbol            1 2 3 4 5 6 7 8 9 10 11

Enclosure        S P C M 0 8 1 3 0 8 T  
 E F E F 3 0 2 0 1 5  
 F S U P 3 0 1 5 0 8

1<sup>st</sup> symbol        informs about the family of the enclosure.  
 The enclosures in the examples above are a small general purpose enclosure of the S-series, a wall mounted cabinet of the E-series and a terminal enclosure of the F-series.

2<sup>nd</sup> and 3<sup>rd</sup> symbol    inform about the material.  
 The first enclosure is a polycarbonate (PC) enclosure of the S-series, the second a painted steel enclosure (FE) of the E-series and the third an enclosure of stainless steel (S) of the F-series.

PC = **p**olycarbonate  
 FE = painted steel (**f**errum)  
 F = painted steel (**f**errum)  
 SS = **s**tainless **s**teel  
 S = **s**tainless steel  
 AU = **a**cid-proof steel  
 AB = ABS plastic  
 GR = **g**lass-**r**einforced polyester  
 AL = **a**luminium

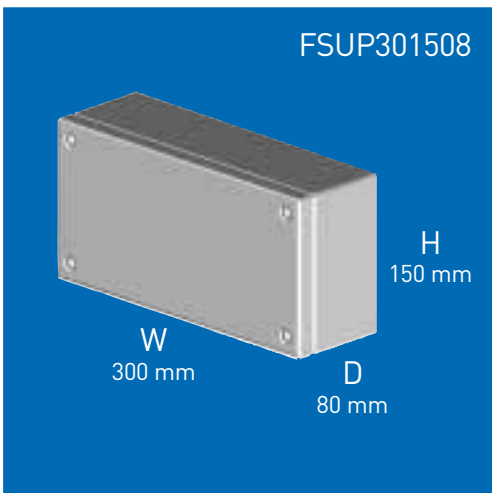
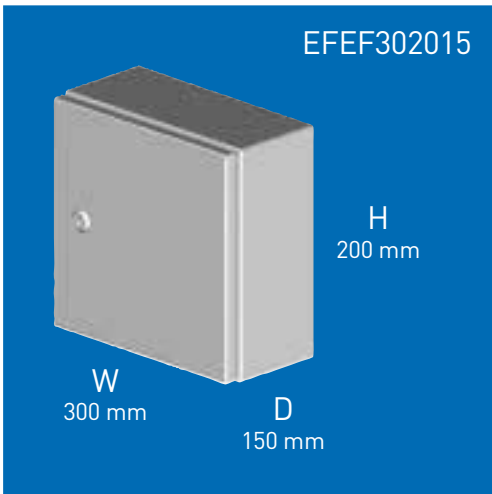
4<sup>th</sup> symbol        gives more information about the enclosures,  
 M = the enclosure has **m**etric knock outs in the base  
 K = the enclosure has **Pg** knock outs  
 P = the enclosure has **p**lain sides  
 F = the enclosure has **f**lange knock outs  
 W = the steel enclosure has a **w**indow made of polycarbonate

5<sup>th</sup> and 6<sup>th</sup> symbol    inform about the width of the enclosure, in centimetres.  
 The first enclosure of the examples above is 75 mm in width (08), the second and third 300 mm (30).  
 The width is always mentioned first of the dimensions.  
 Regarding plastic enclosures vertical mounting is assumed, that is why we first mention the dimensions of the shorter side. The width of the cabinets is for a non-hinged side.  
 Regarding terminal enclosures of the F-series it is assumed that the DIN-rails are mounted horizontally.

7<sup>th</sup> and 8<sup>th</sup> symbol    inform about the height of the enclosure, in centimetres.  
 The first enclosure of the examples above is 125 mm in height (13), the second 200 mm (20) and the third 150 mm (15).

9<sup>th</sup> and 10<sup>th</sup> symbol    inform about the depth of the enclosure, in centimetres.  
 The first enclosure of the examples above is 75 mm in depth (08), the second 150 mm (15) and the third 75 mm (08).

11<sup>th</sup> symbol and symbols that may follow are reserved for additional characteristics.  
 The S-enclosure in the example above is fitted with a transparent cover.  
 T = the plastic enclosure has a **t**ransparent cover  
 G = the plastic enclosure has a **g**rey cover  
 D = the steel enclosure has two **d**oors



# OEM Enclosures, Thermoplastic

## Ensto Cubo D

IP 66/67

Ensto Cubo D is a series of small OEM enclosures, manufactured of high quality thermoplastics: polycarbonate and ABS. Standard colour of the enclosures is grey, RAL 7035, cover grey or transparent. The enclosures always have plain sides and captive cover screws of slightly magnetic stainless steel.

Ensto Cubo D enclosures are available in 11 sizes, from a size slightly bigger than a matchbox (53 x 55 mm) to an A4-size (230 x 300 mm) – most sizes are also available in two different depth alternatives.

Ensto Cubo D enclosures are designed for demanding OEM use, e.g. for protecting sensitive electronic, electric and pneumatic components and as terminal box.

Ensto Cubo D enclosures of polycarbonate are also UL listed components.



Most Ensto Cubo D enclosures are available in two depth alternatives. Material alternatives are polycarbonate and ABS, cover alternatively grey or transparent. The transparent cover is of polycarbonate also in an ABS enclosure.



The order number of a standard Ensto Cubo D enclosure includes enclosure base, cover, cover screws of stainless steel, mounting screws and cover plugs.



Special features are fastening pods inside the cover. In all Ensto Cubo enclosures the PUR gasket is integrated in the enclosure cover.



Ensto Cubo D has unique slots for printed circuit boards in the base.

<b>OEM Enclosures Thermoplastic, Ensto Cubo D</b>		
<b>Technical features</b>	<b>Polycarbonate</b>	<b>ABS</b>
Degree of protection EN 60529	IP 66/67	IP 66/67
Impact resistance EN 50102 (+35 °C / -25 °C)	IK 08/IK 08	IK 07/IK 06
Operating temperature	-50 °C...+100 °C	-40 °C...+60 °C
Flammability UL 94	V-2	HB
Standard colour	grey RAL 7035	grey RAL 7035
Transparent cover	polycarbonate	polycarbonate
Cover gasket	PUR (polyurethane)	PUR (polyurethane)
Cover screws	stainless steel DIN X6Cr17	stainless steel DIN X6Cr17
Certificates	FI, GL, UL, cUL, GOST	FI, GL, GOST

# OEM Enclosures, Thermoplastic

## Ensto Cubo D

Width mm	Height mm	Depth mm	Inner depth* mm	Polycarbonate grey cover	Polycarbonate transparent cover	ABS grey cover	ABS transparent cover**
53	55	36	27.5	DPCP050504G 6418677150005	DPCP050504T 6418677150012	DABP050504G 6418677150029	DABP050504T 6418677150036
53	63	36	25.0	DPCP050704G 6418677150043	DPCP050704T 6418677150050	DABP050704G 6418677150067	DABP050704T 6418677150074
80	82	56	42.0	DPCP080806G 6418677150081	DPCP080806T 6418677150098	DABP080806G 6418677150104	DABP080806T 6418677150111
		86	72.0	DPCP080809G 6418677150128	DPCP080809T 6418677150135	DABP080809G 6418677150142	DABP080809T 6418677150159
80	120	56	42.0	DPCP081206G 6418677150166	DPCP081206T 6418677150173	DABP081206G 6418677150180	DABP081206T 6418677150197
		86	72.0	DPCP081209G 6418677150203	DPCP081209T 6418677150210	DABP081209G 6418677150227	DABP081209T 6418677150234
80	160	56	42.0	DPCP081606G 6418677150241	DPCP081606T 6418677150258	DABP081606G 6418677150265	DABP081606T 6418677150272
		86	72.0	DPCP081609G 6418677150289	DPCP081609T 6418677150296	DABP081609G 6418677150302	DABP081609T 6418677150319
120	122	56	42.0	DPCP121206G 6418677150326	DPCP121206T 6418677150333	DABP121206G 6418677150340	DABP121206T 6418677150357
		86	72.0	DPCP121209G 6418677150364	DPCP121209T 6418677150371	DABP121209G 6418677150388	DABP121209T 6418677150395
120	160	91	77.5	DPCP121609G 6418677150401	DPCP121609T 6418677150418	DABP121609G 6418677150425	DABP121609T 6418677150432
120	200	86	72.0	DPCP122009G 6418677150487	DPCP122009T 6418677150494	DABP122009G 6418677150500	DABP122009T 6418677150517
150	200	76	62.0	DPCP152008G 6418677150562	DPCP152008T 6418677150579	DABP152008G 6418677150586	DABP152008T 6418677150593
160	240	91	77.5	DPCP162409G 6418677150609	DPCP162409T 6418677150616	DABP162409G 6418677150623	DABP162409T 6418677150630
		121	107.5	DPCP162412G 6418677150647	DPCP162412T 6418677150654	DABP162412G 6418677150661	DABP162412T 6418677150678
230	300	86	72.5	DPCP233009G 6418677150722	DPCP233009T 6418677150739	DABP233009G 6418677150746	DABP233009T 6418677150753
		111	97.5	DPCP233011G 6418677150760	DPCP233011T 6418677150777	DABP233011G 6418677150784	DABP233011T 6418677150791

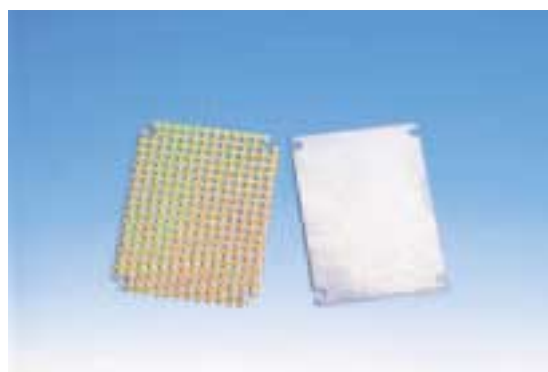
\* From fastening points to the inner surface of the cover

\*\* Transparent cover always polycarbonate

Mounting plate 1.5 mm thick galvanized steel	Mounting plate* 3 mm perforation yellow passivated steel	DIN rail DIN 15	DIN rail DIN 35
		DR15016.4 6418677150937	
		DR15038.4 6418677150944	
DMP0808 6418677150821	DLP0808 6418677152399	DR15058.4 6418677150951	DR35058.4 6418677150968
DMP0812 6418677150838	DLP0812 6418677152405	DR15096.4 6418677150975	DR35096.4 6418677150982
DMP0816 6418677150845	DLP0816 6418677152412	DR15136.4 6418677150999	DR35136.4 6418677151002
DMP1212 6418677150852	DLP1212 6418677152429	DR15096.4 6418677150975	DR35096.4 6418677150982
DMP1216 6418677150869	DLP1216 6418677152436	DR15136.4 6418677150999	DR35136.4 6418677151002
DMP1220 6418677150876	DLP1220 6418677152443		DR35176.4 6418677151057
DMP1520 6418677150890	DLP1520 6418677152467		DR35160.4 6418677151071
DMP1624 6418677150906	DLP1624 6418677152474		DR35215.4 6418677156120
DMP2330 6418677150920	DLP2330 6418677152498		DR35275.4 6418677151101



The components are mounted on a DIN 15 or DIN 35 rail or on a mounting plate.



Perforated mounting plates are also available.

\* Perforated mounting plate 2 mm

**OEM Enclosures  
Ensto Cubo D  
Accessories**

Ordering no.	Description	Dimensions mm	EAN 13 code
DSH11	Hinge, pair, polycarbonate	27 x 28 x 10	6418677156144
DFL1	Fastening lug, set, polycarbonate	33 x 21 x 9.5	6418677151125
DCP1	Cover plug, polycarbonate		6418677151149
DLS1	Cover screw, short	3 x 18	6418677151163
DLSA1.04	Set, incl. 4 cover screws DLS1 and 4 mounting screws DMS1	3 x 18	6418677151293
DLSA1.06	Set, incl. 6 cover screws DLS1 and 4 mounting screws DMS1	3 x 18	6418677151309
DLS2	Cover screw, long, for over 100 mm deep models (D__P162412 and D__P233011)	3 x 50	6418677151279
DLS3	Cover screw TORX TX20	3 x 18	6418677151286
DMS1	Mounting screw	3 x 7	6418677151156

When required, special cover screws with TORX TX20 head, unscrewed with a special tool, are available for Ensto Cubo D enclosures (not for models with depth over 100 mm, D\_\_P162412 and D\_\_P233011).

TORX TX20 screw head.



Fastening lugs for Ensto Cubo D enclosures are in sets of 4 pcs, ordering number DFL1.



Ensto Cubo D enclosures can also be hinged. Hinges come in pairs, ordering number DSH11. The enclosures can also be furnished with fastening lugs. Cover screws can be covered with cover plugs delivered with the enclosure.



The degree of protection of Ensto Cubo D enclosures is IP 66/67. In this application the Ensto Cubo D enclosure is used for a water heating system of a swimming pool.



An Ensto Cubo D enclosure protects sensitive electronic components in a gas distribution system.



Our customising service makes openings and cut-outs in a standard enclosure, and furnishes the enclosure with cable glands.

# OEM Enclosures, Aluminium

## Ensto Cubo H

### IP 65, Impact Resistance 7 Nm

The OEM enclosures of Ensto Cubo H series are made of aluminium. As other OEM enclosures, also Ensto Cubo H has always plain sides. Captive cover screws are of stainless steel. Ensto Cubo H is available in 26 alternatives, from a size of a match-box to a size of 310 mm x 600 mm. The Ensto Cubo H range meets the requirements of the machine industry as regards resistance against solvents, petrol and oil. Special features for Ensto Cubo H are excellent temperature and impact resistance.

The standard colour of the enclosures is grey RAL 7001.

The relative weight of aluminium is only about a quarter that of steel. Aluminium is, however, much more expensive than steel, so it must be used sparingly. Aluminium is a recyclable material.

The disadvantages of aluminium include machining problems. Ensto, however, manages also the customising of aluminium enclosures – therefore, it is recommended to order Ensto Cubo H enclosures with ready-made cut-outs.

#### Aluminium (Al)



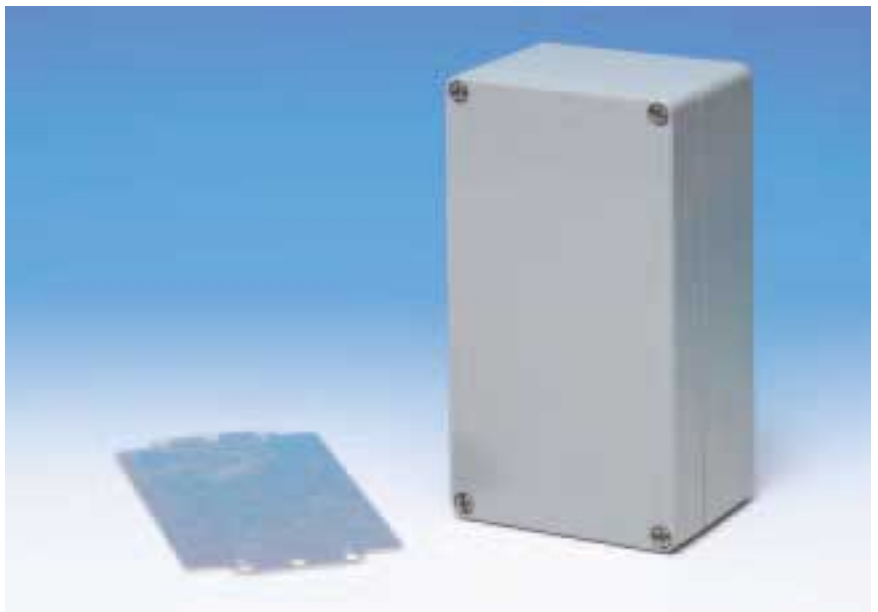
- lighter than steel
- high impact resistance
- good resistance against solvents
- wide temperature resistance range
- excellent corrosion resistance



- machining may be problematic
- expensive



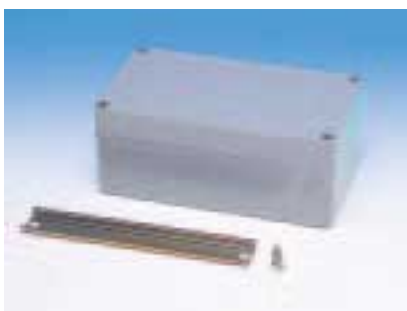
Captive cover screws of stainless steel are included in the delivery of Ensto Cubo H enclosures. Mounting screws are integrated in the enclosure base.



The mounting plate of Ensto Cubo H enclosures is made of galvanized steel.



Machining of aluminium enclosures may be problematic. When using Ensto Cubo H enclosures in serial production, ordering customised enclosures is recommended.



DIN 15, DIN 35 or DIN 32 rails suitable for Ensto Cubo H enclosures are also available from us.

<b>OEM Enclosures Aluminium, Ensto Cubo H</b>	
<b>Technical features</b>	
	<b>Aluminium</b>
Degree of protection EN 60529	IP 65
Impact strength	7 Nm
Operating temperature	-40 °C...+80 °C
Standard colour	grey RAL 7001
Cover gasket	neoprene
Cover screws	stainless steel AISI 304
Certificates	GOST

# OEM Enclosures, Aluminium

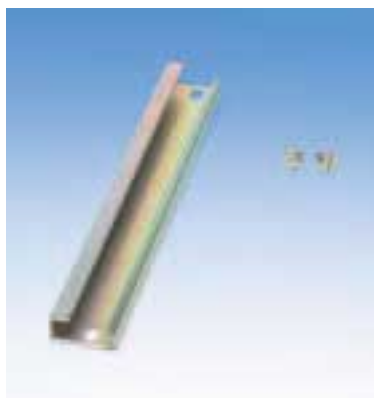
## Ensto Cubo H

Width mm	Height mm	Depth mm	Inner depth mm	Aluminium grey RAL 7001	Mounting plate galvanized steel	Hinge pair	Wall mounting lugs AISI304
50	45	30	25.0	HALP050503			
64	58	36	29.5	HALP060604	HMP0606B		
	98	36	29.5	HALP061004	HMP0610B		
	150	36	29.0	HALP061504	HMP0615B		
80	75	57	51.0	HALP080806	HMP0808B	HHI11*	
	125	57	51.0	HALP081306	HMP0813B	HHI12**	
	175	57	51.0	HALP081806	HMP0818B		
	250	57	51.0	HALP082506	HMP0825B		
122	122	90	82.0	HALP121209	HMP1212B	HHI13	HFL1
	220	90	82.0	HALP122009	HMP1222B		
	360	80	72.0	HALP123608	HMP1236B		
160	160	90	82.0	HALP161609	HMP1616B	HHI13	HFL1
	260	90	82.0	HALP162609	HMP1626B		
	360	90	82.0	HALP163609	HMP1636B		
	560	90	82.0	HALP165609	HMP1656B		
200	230	110	102.0	HALP202311	HMP2023B	HHI13	HFL2
	230	180	172.0	HALP202318	HMP2023B		
230	280	110	102.0	HALP232811	HMP2328B	HHI13	HFL2
	330	110	102.0	HALP233311	HMP2333B		
	330	180	172.0	HALP233318	HMP2333B		
	400	110	102.0	HALP234011	HMP2340B		
	600	110	102.0	HALP236011	HMP2360B		
310	402	110	101.0	HALP314011	HMP3140B	HHI13	HFL2
	402	180	172.0	HALP314018	HMP3140B		
	600	110	102.0	HALP316011	HMP3160B		
	600	180	172.0	HALP316018	HMP3160B		

\* HHI11 width sides

\*\* HHI12 height sides, not size 0808!

DIN rail DIN 15	DIN rail DIN 32	DIN rail DIN 35
DR15.0606 DR15.0610 DR15.0615		
DR15.0808H DR15.0813 DR15.0818 DR15.0825		
	DR32.1212 DR32.1220 DR32.12/1636	DR35.1212 DR35.1220 DR35.12/1636
	DR32.1616 DR32.1626 DR32.12/1636 DR32.1656	DR35.1616 DR35.1626 DR35.12/1636 DR35.1656
	DR32.2023 DR32.2023	DR35.2023 DR35.2023
	DR32.2328 DR32.2333 DR32.2333 DR32.23/3140 DR32.23/3160	DR35.2328 DR35.2333 DR35.2333 DR35.23/3140 DR35.23/3160
	DR32.23/3140 DR32.23/3140 DR32.23/3160 DR32.23/3160	DR35.23/3140 DR35.23/3140 DR35.23/3160 DR35.23/3160



DIN 32 rails are available for Ensto Cubo H enclosures.



Wall mounting lugs are fastened with screws to the base of Ensto Cubo H enclosure.



Ensto Cubo H aluminium enclosures can also be equipped with hinges. The first three letters of the ordering number for a hinge pair are always HHI.

# OEM Enclosures, Polyester

## Ensto Cubo M

### IP 65, Impact Resistance 7 Nm

The OEM enclosures of Ensto Cubo M series are manufactured of glass-reinforced polyester. The enclosures always have plain sides and captive cover screws of stainless steel. Ensto Cubo M enclosures are available in 13 sizes, smallest 75 x 80 x 55 mm – largest 400 x 405 x 120 mm. Ensto Cubo M GRP enclosures are suitable for highly demanding conditions because of their good resistance to corrosion and solvents and high degree of protection.

The standard colour of the enclosures is grey RAL 7000.

The temperature resistance of glass-reinforced polyester is superb, from -50 °C to +150 °C.\* It is therefore suitable for highly demanding industrial environments like oil refineries and petrochemical and chemical industries.

The disadvantages of polyester include machining problems. When working on polyester enclosure, it is important to use a dust respirator filter.

\*special gasket



Ensto Cubo M enclosures are delivered with cover screws included.

#### **Polyester (GRP, glass-reinforced-polyester)**



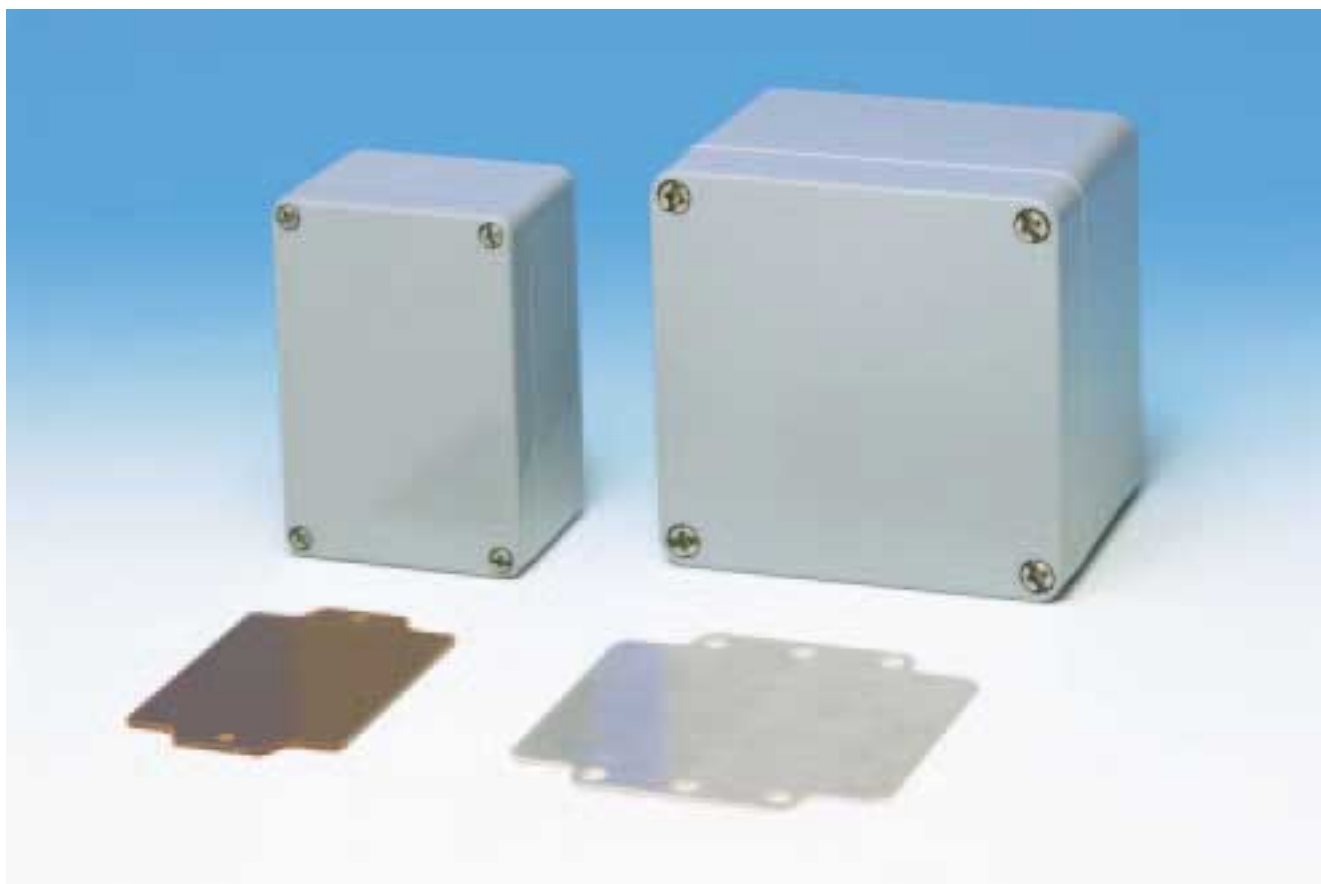
- excellent temperature resistance
- excellent impact resistance
- good corrosion resistance
- good resistance against solvents
- suitability for highly demanding industrial environments



- more expensive than thermoplastic materials
- machining problematic
- un-recyclable material



The wall mounting lugs are fastened in the base of a Ensto Cubo M enclosure. The package of wall mounting lugs includes screws and washers.



The mounting plate material of four smallest Ensto Cubo M enclosures is Pertinax. All other Ensto Cubo M enclosures have mounting plates of galvanized steel.

<b>OEM Enclosures Polyester, Ensto Cubo M</b>	
<b>Technical features</b>	
	<b>Polyester</b>
Degree of protection EN 60529	IP 65
Impact strength	7 Nm
Operating temperature	-40 °C...+80 °C
Standard colour	grey RAL 7000
Cover gasket	neoprene
Cover screws	stainless steel AISI 304
Certificates	GOST

# OEM Enclosures, Polyester

## Ensto Cubo M

Width mm	Height mm	Depth mm	Inner depth mm	Polyester grey RAL 7000	Mounting plate	Hinge pair	Wall mounting lugs AISI304
75	80	55	47.5	MGRP080806	MMP0808B	MHI1	MFL1
	110	55	47.5	MGRP081106	MMP0811B		
	160	55	47.5	MGRP081606	MMP0816B		
	190	55	47.5	MGRP081906	MMP0819B		
120	122	90	81.0	MGRP121209	MMP1212B	MHI1	MFL2
	220	90	82.0	MGRP122209	MMP1222B		
160	160	90	80.0	MGRP161609	MMP1616B	MHI1	MFL3
	260	91	80.0	MGRP162609	MMP1626B		
	360	91	80.0	MGRP163609	MMP1636B		
	560	91	80.0	MGRP165609	MMP1656B		
250	255	120	109.0	MGRP252612	MMP2526B	MHI1	MFL4
	400	120	109.0	MGRP254012	MMP2540B		
400	405	120	109.0	MGRP404112	MMP4041B	MHI1	MFL5

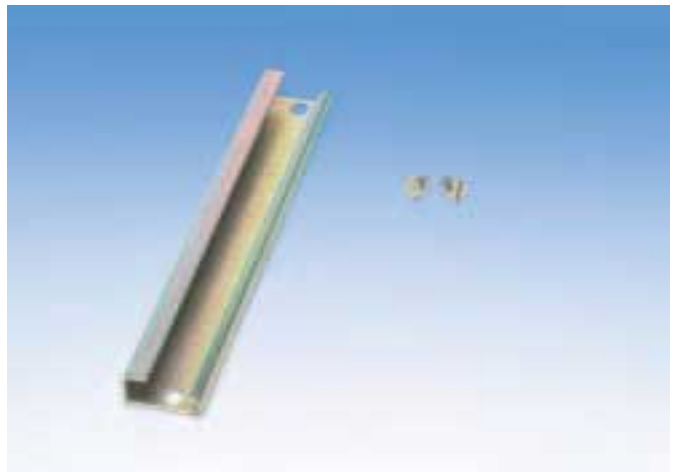


The mounting plate is of galvanized steel. Four smallest Cubo M enclosures have mounting plate of Pertinax.

DIN rail DIN 15	DIN rail DIN 32	DIN rail DIN 35
DR15.0808M DR15.0811 DR15.0816 DR15.0819		
	DR32.1212 DR32.1220	DR35.1212 DR35.1220
	DR32.1616 DR32.1626 DR32.1636 DR32.1656	DR35.1616 DR35.1626 DR35.1636 DR35.1656
	DR32.2526 DR32.2540.41	DR35.2526 DR35.2540.41
	DR32.2540.41	DR35.2540.41



DIN 15, DIN 35 and DIN 32 rails can be used for mounting: they are available in suitable lengths for each enclosure size.



DIN 32 rails are available for Ensto Cubo M enclosures.



Ensto Cubo M enclosures can also be equipped with hinges. The ordering number for the hinge package is MH11.



The wall mounting lugs are fastened with screws to the base of the enclosure. The package of wall mounting lugs includes screws and washers.

# Small to Medium Size General Purpose Enclosures

## Ensto Cubo S

### IP 66/67

Ensto Cubo S is a series of small to medium size general purpose enclosures made of thermoplastic. The polycarbonate Ensto Cubo S enclosures are with pre-pressed knock-outs, Pg or metric – the material of the base is reinforced with fibreglass to add rigidity to the walls and to make it easier to knock out cable entries. The enclosures are also available with plain sides for individual machining of holes; alternative material for plain-sided enclosures is ABS. The standard colour of the enclosures is grey RAL 7035, cover grey or transparent. The transparent cover is always polycarbonate.

Ensto Cubo S enclosures are available in 136 alternatives in 17 sizes. All dimensions follow 25 mm modules: the size of the smallest enclosure is 75 x 125 x 75 mm – the largest is 175 x 250 x 150 mm.



The dimensions of Ensto Cubo S enclosures follow 25 mm modules. There are 17 size alternatives. The 125 x 175 mm enclosure in the picture is available in four alternatives for depth. The depth of the base part of the enclosure is always 50 mm. The cover is alternatively grey or transparent; enclosure sides plain or with knock-outs.



The ordering number of a standard enclosure includes also cover screws and mounting screws.



The standard colour of the enclosures is grey RAL 7035, other colours available to special order.



The material of Ensto Cubo S enclosures is high quality polycarbonate or ABS.



This Ensto Cubo S enclosure is used in a temperature control system.

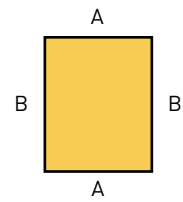


The base of Ensto Cubo S enclosures is equipped with unique slots for printed circuit boards.

<b>General Purpose Enclosures Thermoplastic, Ensto Cubo S</b>		
<b>Technical features</b>	<b>Polycarbonate</b>	<b>ABS</b>
Degree of protection EN 60529	IP 66/67	IP 66/67
Impact resistance EN 50102 (+35 °C / -25 °C)	IK 08/IK 08	IK 07/IK 06
Operating temperature	-50 °C...+100 °C	-40 °C...+60 °C
Flammability UL 94	V-2...5VA	HB
Standard colour	grey RAL 7035	grey RAL 7035
Transparent cover	polycarbonate	polycarbonate
Cover gasket	PUR (polyurethane)	PUR (polyurethane)
Cover screws	polyamide	polyamide
Certificates	FI, GL, UL, cUL, GOST	FI, GL, GOST

# Small to Medium Size General Purpose Enclosures

## Ensto Cubo S



Width mm	Height mm	Depth mm	Inner depth mm	Polycarbonate grey cover metric knock outs	Polycarbonate transparent cover metric knock outs	Polycarbonate grey cover Pg knock outs	Polycarbonate transparent cover Pg knock outs
75	125	75	60.5	SPCM081308G 6418677166358	SPCM081308T 6418677166525	SPCK081308G 6418677155000	SPCK081308T 6418677155017
		100	85.5	SPCM081310G 6418677166365	SPCM081310T 6418677166532	SPCK081310G 6418677155062	SPCK081310T 6418677155079
		125	110.5	SPCM081313G 6418677166372 M: A sides 1 x M16/25, B sides 3 x M12/20	SPCM081313T 6418677166549	SPCK081313G 6418677155123 Pg: A sides 1 x Pg9/13.5, B sides 3 x Pg9/13.5	SPCK081313T 6418677155130
125	125	75	60.5	SPCM131308G 6418677166389	SPCM131308T 6418677166556	SPCK131308G 6418677155185	SPCK131308T 6418677155192
		100	85.5	SPCM131310G 6418677166396	SPCM131310T 6418677166563	SPCK131310G 6418677155246	SPCK131310T 6418677155253
		125	110.5	SPCM131313G 6418677166402 M: A sides 3 x M12/20, B sides 2 x M16/25	SPCM131313T 6418677166570	SPCK131313G 6418677155307 Pg: A sides 2 x Pg16/21, B sides 3 x Pg9/13.5	SPCK131313T 6418677155314
125	175	75	60.5	SPCM131808G 6418677166419	SPCM131808T 6418677166587	SPCK131808G 6418677155369	SPCK131808T 6418677155376
		100	85.5	SPCM131810G 6418677166426	SPCM131810T 6418677166594	SPCK131810G 6418677155420	SPCK131810T 6418677155437
		125	110.5	SPCM131813G 6418677166433	SPCM131813T 6418677166600	SPCK131813G 6418677155482	SPCK131813T 6418677155499
		150	135.5	SPCM131815G 6418677166440 M: A sides 2 x M16/25, B sides 4 x M12/20	SPCM131815T 6418677166617	SPCK131815G 6418677155543 Pg: A sides 2 x Pg16/21, B sides 4 x Pg9/13.5	SPCK131815T 6418677155550
175	175	75	60.5	SPCM181808G 6418677166457	SPCM181808T 6418677166624	SPCK181808G 6418677155604	SPCK181808T 6418677155611
		100	85.5	SPCM181810G 6418677166464	SPCM181810T 6418677166631	SPCK181810G 6418677155666	SPCK181810T 6418677155673
		125	110.5	SPCM181813G 6418677166471	SPCM181813T 6418677166648	SPCK181813G 6418677155727	SPCK181813T 6418677155734
		150	135.5	SPCM181815G 6418677166488 M: A sides 2 x M12/20 + 2 x M16/25, B sides 5 x M12/20	SPCM181815T 6418677166655	SPCK181815G 6418677155789 Pg: A sides 2 x Pg16/21 + 2 x Pg9/16, B sides 5 x Pg9/13.5	SPCK181815T 6418677155796
175	250	75	60.5	SPCM182508G 6418677166495	SPCM182508T 6418677166662	SPCK182508G 6418677155840	SPCK182508T 6418677155857
		100	85.5	SPCM182510G 6418677166501	SPCM182510T 6418677166679	SPCK182510G 6418677155901	SPCK182510T 6418677155918
		150	135.5	SPCM182515G 6418677166518 M: A sides 2 x M12/20 + 2 x M16/25, B sides 6 x M12/20	SPCM182515T 6418677166686	SPCK182515G 6418677155963 Pg: A sides 2 x Pg16/21 + 2 x Pg9/16, B sides 6 x Pg9/13.5	SPCK182515T 6418677155970

\* Transparent cover always polycarbonate

\*\* Perforated mounting plate 2 mm thick

Polycarbonate grey cover plain sides	Polycarbonate transparent cover plain sides	ABS grey cover plain sides	ABS transparent cover* plain sides	Mounting plate 1.5 mm thick galvanized steel	Mounting plate** 3 mm perforation yellow passivated steel	DIN rail DIN 35
SPCP081308G 6418677155031	SPCP081308T 6418677155024	SABP081308G 6418677155048	SABP081308T 6418677155055	SMP0813 6418677156038	SLP0813 6418677152511	DR35040.4 <sup>A</sup> 6418677156090
SPCP081310G 6418677155086	SPCP081310T 6418677155093	SABP081310G 6418677155109	SABP081310T 6418677155116			DR35090.4 <sup>B</sup> 6418677156106
SPCP081313G 6418677155147	SPCP081313T 6418677155154	SABP081313G 6418677155161	SABP081313T 6418677155178			
SPCP131308G 6418677155208	SPCP131308T 6418677155215	SABP131308G 6418677155222	SABP131308T 6418677155239	SMP1313 6418677156045	SLP1313 6418677152528	DR35090.4 6418677156106
SPCP131310G 6418677155260	SPCP131310T 6418677155277	SABP131310G 6418677155284	SABP131310T 6418677155291			
SPCP131313G 6418677155321	SPCP131313T 6418677155338	SABP131313G 6418677155345	SABP131313T 6418677155352			
SPCP131808G 6418677155383	SPCP131808T 6418677155390	SABP131808G 6418677155406	SABP131808T 6418677155413	SMP1318 6418677156052	SLP1318 6418677152535	DR35090.4 <sup>A</sup> 6418677156106
SPCP131810G 6418677155444	SPCP131810T 6418677155451	SABP131810G 6418677155468	SABP131810T 6418677155475			DR35140.4 <sup>B</sup> 6418677156113
SPCP131813G 6418677155505	SPCP131813T 6418677155512	SABP131813G 6418677155529	SABP131813T 6418677155536			
SPCP131815G 6418677155567	SPCP131815T 6418677155574	SABP131815G 6418677155581	SABP131815T 6418677155598			
SPCP181808G 6418677155628	SPCP181808T 6418677155635	SABP181808G 6418677155642	SABP181808T 6418677155659	SMP1818 6418677156069	SLP1818 6418677152542	DR35140.4 6418677156113
SPCP181810G 6418677155680	SPCP181810T 6418677155697	SABP181810G 6418677155703	SABP181810T 6418677155710			
SPCP181813G 6418677155741	SPCP181813T 6418677155758	SABP181813G 6418677155765	SABP181813T 6418677155772			
SPCP181815G 6418677155802	SPCP181815T 6418677155819	SABP181815G 6418677155826	SABP181815T 6418677155833			
SPCP182508G 6418677155864	SPCP182508T 6418677155871	SABP182508G 6418677155888	SABP182508T 6418677155895	SMP1825 6418677156076	SLP1825 6418677152559	DR35140.4 <sup>A</sup> 6418677156113
SPCP182510G 6418677155925	SPCP182510T 6418677155932	SABP182510G 6418677155949	SABP182510T 6418677155956			DR35215.4 <sup>B</sup> 6418677156120
SPCP182515G 6418677155987	SPCP182515T 6418677155994	SABP182515G 6418677156007	SABP182515T 6418677156014			

<sup>A</sup> A side (short side)

<sup>B</sup> B side (long side)

**Thermoplastic General Purpose Enclosures  
Ensto Cubo S  
Accessories**

Ordering no.	Description	Dimensions mm	EAN 13 code
DSH1	Hinge, pair, polycarbonate	28 x 28	6418677156144
SFL1	Fastening lug, set, polycarbonate	15 x 30	6418677156151
SBI1	Insert for pods, brass	M2	6418677156168
SBIA1.04	Insert, set of 4 pcs	M2	6418677156830
SMS1	Mounting screw for plates and rails, steel	4 x 8	6418677156175
SCP08	Cover plug, short, for 25 mm cover, polyethylene	Ø11 x 12 mm	6418677156847
SCP10	Cover plug, long, for 50 mm cover, polyethylene	Ø12 x 36.5 mm	6418677156854
SCP1315	Cover plug, short, for 75 and 100 mm covers, polyethylene	Ø11,5 x 12 mm	6418677156861
SLS35	Cover screw, short, steel	11 x 35	6418677156182
SLS60	Cover screw, long, for 50 mm covers, steel	11 x 60	6418677156199
SLSA35.04	Set, incl. 4 short cover screws and 4 mounting screws	11 x 35	6418677154980
SLSA60.04	Set, incl. 4 long cover screws for 50 mm cover and 4 mounting screws	11 x 60	6418677154997
SLW1	Cover screw's wing head part	11 x 17	6418677154867



If components in the enclosure are likely to be often unassembled and reassembled again, using a brass insert in the mounting pod is recommended, to prevent damaging the pod. The ordering number of the insert is SBI1 – a practical set of four comes with number SBIA1.04. Thread M2.



The material of the cover plugs is polyethene, the short ones SCP08 are for 25 mm covers and SCP1315 for cover depths 75 and 100 mm; the long cover plug SCP10 is for 50 mm deep covers. The cover plugs are only used in connection with hinged enclosures. The standard cover screws are then left away on the hinged side of the enclosure.



A wing head part SLW1 is available for cover screws of 25 mm and 50 mm covers (enclosure depths 75 mm and 100 mm). The cover screws – SLS35 the short one, SLS60 the long one for 50 mm covers only – are always included in the delivery of a standard enclosure.



Our customising service supplies a Cubo S enclosure with hinges, cut-outs and openings and prints instructions for use on the cover of the enclosure...



Enclosure can be painted to desired colour. The raw material of the enclosure can also be pre-coloured. Our customising service typically also assembles the enclosures ready with for instance DIN rails, terminals and cable glands.



The fastening lugs for Ensto Cubo S are in sets of four. Ordering number SFL1. The lugs can be mounted vertically or horizontally.



This enclosure is equipped with hinges; ordering number for a pair of hinges is DSH1. Cover plugs are on the cover, the cover screws on the other side are equipped with wing head parts, SLW1. The wing head part is quick-locked on a standard cover screw. Best suitability with 25 mm and 50 mm covers (with enclosures of 75 mm and 100 mm in depth).

# Medium Size to Large General Purpose Enclosures

## Ensto Cubo O and C

### IP 66/67

Medium size to large general purpose enclosures of thermoplastic are of Ensto Cubo C and O series. The enclosures of Ensto Cubo C series are with flange knock-outs according to the SFS standard for flanges. The enclosures of Ensto Cubo O series are with plain sides; three sizes are also available with pre-pressed metric knock-outs. They are manufactured of high quality polycarbonate; material alternative for models with plain sides is ABS. Standard colour is grey RAL 7035, cover grey or transparent. The transparent cover always comes in polycarbonate.

All dimensions of the medium size to large general purpose enclosures follow 100 mm modules; the smallest 200 x 200 mm, the largest 400 x 600 mm, depth 130 mm. The 185 mm deep enclosure is equipped with a 55 mm deep extension frame.

Special features of the series are the possibility to mount the cover onto the back of the base and adjustable elevators for the base corner slots allowing mounting of plates and panels at any height.



All O and C series enclosures are available with depth alternatives 130 mm and 185 mm. Cover alternatives grey and transparent, standard colour grey RAL 7035. By using two 55 mm deep extension frames can for instance a 240 mm deep enclosure be built.



A 130 mm deep standard enclosure includes enclosure base and cover, cover screws and mounting screws.



The unique corner elevator OEL1 allows mounting of mounting plate or panel at any height. The ordering number OEL1 includes the corner elevator and a M5 bolt; OELA1.04 is a set of four.



A 185 mm deep standard enclosure includes enclosure base, extension frame and a cover as well as cover screws, mounting screws and screws for the extension frame.



Mounting plates are also available with  $\varnothing$  3 mm perforation.



Medium-size to large Ensto Cubo general purpose enclosures are available with plain sides or with flange knock-outs; three sizes are also available with pre-pressed metric knock-outs on opposite sides.

### General Purpose Enclosures Thermoplastic, Ensto Cubo O and C

#### Technical features

	Polycarbonate	ABS
Degree of protection EN 60529	IP 66/67	IP 66/67
Impact resistance EN 50102 (+35 °C / -25 °C)	IK 08/IK 08	IK 07/IK 06
Operating temperature	-50 °C...+100 °C	-40 °C...+60 °C
Flammability UL 94	V-2...5VA	HB
Standard colour	grey RAL 7035	grey RAL 7035
Transparent cover	polycarbonate	polycarbonate
Cover gasket	PUR (polyurethane)	PUR (polyurethane)
Cover screws	polyamide	polyamide
Certificates	FI, GL, UL, cUL, GOST	FI, GL, GOST

# Medium Size to Large General Purpose Enclosures

## Ensto Cubo O and C

\* Transparent cover always polycarbonate

Width mm	Height mm	Depth mm	Inner depth mm	Polycarbonate grey cover plain sides	Polycarbonate transparent cover plain sides	ABS grey cover plain sides	ABS transparent cover* plain sides	Polycarbonate grey cover metric knock outs
200	200	132	115.0	OPCP202013G 6418677184413	OPCP202013T 6418677184345	OABP202013G 6418677184550	OABP202013T 6418677184482	
		185	170.0	OPCP202018G 6418677184628	OPCP202018T 6418677184697	OABP202018G 6418677184765	OABP202018T 6418677184833	
200	300	132	115.0	OPCP203013G 6418677184420	OPCP203013T 6418677184352	OABP203013G 6418677184567	OABP203013T 6418677184499	
		185	170.0	OPCP203018G 6418677184635	OPCP203018T 6418677184703	OABP203018G 6418677184772	OABP203018T 6418677184840	
200	400	132	115.0	OPCP204013G 6418677184437	OPCP204013T 6418677184369	OABP204013G 6418677184574	OABP204013T 6418677184505	
		185	170.0	OPCP204018G 6418677184642	OPCP204018T 6418677184710	OABP204018G 6418677184789	OABP204018T 6418677184857	
300	300	132	115.0	OPCP303013G 6418677184444	OPCP303013T 6418677184376	OABP303013G 6418677184581	OABP303013T 6418677184512	OPCM303013G 6418677157899
		185	170.0	OPCP303018G 6418677184659	OPCP303018T 6418677184727	OABP303018G 6418677184796	OABP303018T 6418677184864	OPCM303018G 6418677157950 Knock outs, picture 1
300	400	132	115.0	OPCP304013G 6418677184451	OPCP304013T 6418677184383	OABP304013G 6418677184598	OABP304013T 6418677184529	OPCM304013G 6418677157905
		185	170.0	OPCP304018G 6418677184666	OPCP304018T 6418677184734	OABP304018G 6418677184802	OABP304018T 6418677184871	OPCM304018G 6418677157967 Knock outs, picture 2
300	600	132	115.0	OPCP306013G 6418677184468	OPCP306013T 6418677184390	OABP306013G 6418677184604	OABP306013T 6418677184536	OPCM306013G 6418677157912
		185	170.0	OPCP306018G 6418677184673	OPCP306018T 6418677184741	OABP306018G 6418677184819	OABP306018T 6418677184888	OPCM306018G 6418677157974 Knock outs, picture 2
400	600	132	115.0	OPCP406013G 6418677184475	OPCP406013T 6418677184406	OABP406013G 6418677184611	OABP406013T 6418677184543	
		185	170.0	OPCP406018G 6418677184680	OPCP406018T 6418677184758	OABP406018G 6418677184826	OABP406018T 6418677184895	

### Bases, extension frames and covers separately

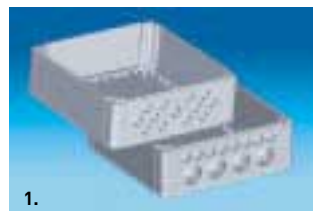
Width mm	Height mm	Bases polycarbonate plain sides	Bases ABS plain sides	Bases polycarbonate metric knock outs	Bases polycarbonate flange knock outs	Extension frame depth 55 mm polycarbonate
200	200	OPCP202010B 6418677164248	OABP202010B 6418677164316		CPCF202010B 6418677171697 4 x size F1 openings	OPCP202006E 6418677164606
200	300	OPCP203010B 6418677164255	OABP203010B 6418677164323		CPCF203010B 6418677171703 2 x F1 + 2 x F2 openings	OPCP203006E 6418677164613
200	400	OPCP204010B 6418677164262	OABP204010B 6418677164330		CPCF204010B 6418677171710 2 x F1 + 2 x F2 openings	OPCP204006E 6418677164620
300	300	OPCP303010B 6418677164279	OABP303010B 6418677164347	OPCM303010B 6418677182600 Knock outs, picture 1	CPCF303010B 6418677171727 4 x size F2 openings	OPCP303006E 6418677164637
300	400	OPCP304010B 6418677164286	OABP304010B 6418677164354	OPCM304010B 6418677182617 Knock outs, picture 2	CPCF304010B 6418677171734 4 x size F2 openings	OPCP304006E 6418677164644
300	600	OPCP306010B 6418677164293	OABP306010B 6418677164361	OPCM306010B 6418677182624 Knock outs, picture 2	CPCF306010B 6418677171741 6 x size F2 openings	OPCP306006E 6418677164651
400	600	OPCP406010B 6418677164309	OABP406010B 6418677164378		CPCF406010B 6418677171758 6 x size F2 openings	OPCP406006E 6418677164668

\*\* Perforated mounting plate 2 mm thick

Polycarbonate transparent cover metric knock outs	Polycarbonate grey cover flange knock outs	Polycarbonate transparent cover flange knock outs	Mounting plate 1.5 mm thick galvanized steel	Mounting plate for kWh meter galvanized steel	Mounting plate** 3 mm perforation yellow passivated steel	DIN rail DIN 35
	CPCF202013G 6418677172120	CPCF202013T 6418677172199	OMP2020 6418677164675		OLP2020 6418677152573	DR35150.5 6418677164743
	CPCF202018G 6418677182167 4 x size F1 openings	CPCF202018T 6418677182235 4 x size F1 openings				
	CPCF203013G 6418677172137	CPCF203013T 6418677172205	OMP2030 6418677164682		OLP2030 6418677152580	DR35150.5 <sup>1</sup> 6418677164743
	CPCF203018G 6418677182174 2 x F1 + 2 x size F2 openings	CPCF203018T 6418677182242	2 x F1 + 2 x size F2 openings			DR35250.5 <sup>2</sup> 6418677164750
	CPCF204013G 6418677172144	CPCF204013T 6418677172212	OMP2040 6418677164699		OLP2040 6418677152597	DR35150.5 <sup>1</sup> 6418677164743
	CPCF204018G 6418677182181 2 x F1 + 2 x size F2 openings	CPCF204018T 6418677182259	2 x F1 + 2 x size F2 openings			DR35350.5 <sup>2</sup> 6418677164767
OPCM303013T 6418677157929	CPCF303013G 6418677172151	CPCF303013T 6418677172229	OMP3030 6418677164705		OLP3030 6418677152603	DR35250.5 6418677164750
OPCM303018T 6418677157981	CPCF303018G 6418677182198 4 x size F2 openings	CPCF303018T 6418677182266 4 x size F2 openings				
OPCM304013T 6418677157936	CPCF304013G 6418677172168	CPCF304013T 6418677172236	OMP3040 6418677164712	KWHP3040 6418677173110	OLP3040 6418677152610	DR35250.5 <sup>1</sup> 6418677164750
OPCM304018T 6418677157998	CPCF304018G 6418677182204 4 x size F2 openings	CPCF304018T 6418677182273 4 x size F2 openings				DR35350.5 <sup>2</sup> 6418677164767
OPCM306013T 6418677157943	CPCF306013G 6418677172175	CPCF306013T 6418677172243	OMP3060 6418677164729	KWHP3060 6418677173097	OLP3060 6418677152627	DR35250.5 6418677164750
OPCM306018T 6418677158001	CPCF306018G 6418677182211 6 x size F2 openings	CPCF306018T 6418677182280 6 x size F2 openings				
	CPCF406013G 6418677172182	CPCF406013T 6418677172250	OMP4060 6418677164736	KWHP4060 6418677173127	OLP4060 6418677152634	DR35350.5 6418677164767
	CPCF406018G 6418677182228 6 x size F2 openings	CPCF406018T 6418677182297 6 x size F2 openings				

<sup>1</sup> Short side  
<sup>2</sup> Long side

Cover grey polycarbonate	Cover transparent polycarbonate	Cover grey ABS
OPCG202003L 6418677164453	OPCT202003L 6418677164385	OABG202003L 6418677164521
OPCG203003L 6418677164460	OPCT203003L 6418677164392	OABG203003L 6418677164538
OPCG204003L 6418677164477	OPCT204003L 6418677164408	OABG204003L 6418677164545
OPCG303003L 6418677164484	OPCT303003L 6418677164415	OABG303003L 6418677164552
OPCG304003L 6418677164491	OPCT304003L 6418677164422	OABG304003L 6418677164569
OPCG306003L 6418677164507	OPCT306003L 6418677164439	OABG306003L 6418677164576
OPCG406003L 6418677164514	OPCT406003L 6418677164446	OABG406003L 6418677164583



1.

300 x 300 mm enclosures with metric knock outs as follows:  
up: 12 x M20 + 1 x M16/25  
down: 8 x M20 + 4 x M25/40



2.

Large, 300 x 400 mm and 300 x 600 mm enclosures with metric knock outs as follows:  
up: 12 x M12/20 + 1 x M32/40  
down: 8 x M12/20 + 5 x M16/250

## Thermoplastic General Purpose Enclosures Ensto Cubo O and C Accessories

Ordering no.	Description	Dimensions mm	EAN 13 code
OFL1	Fastening lug, set	19 x 40 x 35.5	6418677164781
OEL1	Corner elevator incl. M5 bolt	19/19 x 14	6418677164798
OELA1.04	Corner elevator, set of 4 pcs	20/26 x 14	6418677181696
OTS1	Threaded bushing for cover screw when cover mounted on the back	18/30 Ø 16	6418677171789
OTSA1.04	Set, incl. 4 cover screws OLS42 and 4 threaded bushings OTS1	17 x 30/18	6418677181702
OMS1	Mounting screw for rails and plates	5 x 10	6418677164804
OBI1	Brass insert for mounting pod, brass	M3	6418677172328
OBIA1.04	Brass insert, set of 4 pcs	M3	6418677172335
OCP1	Cover plug, polyethylene	11 x Ø 15/17	6418677164811
OKL1	Cover lock incl. 2 keys and mounting instructions	Ø 15.7/ø 14.3	6418677172311
OKL442	Key separately for OKL1	49 x 20	6418677174827
OBS15	15 mm spacer incl. M5 screw, steel	15 x 8	6418677171802
OBS15.04	15 mm spacer, set of 4 pcs	15 x 8	6418677172342
OBS20	20 mm spacer incl. M5 screw, steel	20 x 8	6418677171819
OBS20.04	20 mm spacer, set of 4 pcs	20 x 8	6418677172359
OBS30	30 mm spacer incl. M5 screw, steel	30 x 8	6418677171826
OBS30.04	30 mm spacer, set of 4 pcs	30 x 8	6418677172366



Spacers for DIN rails are available in heights of 15 mm, 20 mm and 30 mm. Ordering numbers are OBS15, OBS20 and OBS30. The package includes also a M5 steel bolt.



Special features of Ensto Cubo O and C series are the possibility to mount the cover onto the back of the base: the back of the base is then be used as a front panel.

The ordering number for fastening lugs is OFL1. The ordering number is a set of four lugs with their mounting screws. The wall mounting lugs can be mounted in three different directions and they hold at least a weight of 60 kg's.



Up on the left spacers in different heights, OBS30, OBS20 and OBS15. On the right brass insert for the mounting pod, OBI1. This is worth using when the assembly in the enclosure is often unassembled and reassembled again, to avoid damaging the threads of the mounting pods.



When a cover is mounted onto the back of the enclosure, additional components needed are the cover, cover screws, for example slotted/cross head OLS42, and threaded bushings for cover screws, OTS1. A complete set OTSA1.04 includes 4 pcs slotted/cross head cover screws and 4 pcs threaded bushings.

**Thermoplastic General Purpose Enclosures  
Ensto Cubo O and C  
Accessories**

Ordering no.	Description	Dimensions mm	EAN 13 code
OLS42	Cover screw, slotted/cross head, sealable	14 x 42	6418677164590
OLS42N	Cover screw, slotted/cross head, dark grey Noryl	14 x 42	6418677174728
OLS32	Cover screw, slotted/cross head for 600 mm modular cover	14 x 32	6418677174360
PLS63	Cover screw, springloaded, cross head	14 x 62	6418677173073
OLSH1	Hinged cover screw, slot/cross head, blue, polyamide	14 x 96	6418677174247
OLWH1	Hinged cover screw, wing head, blue, polyamide	14 x 113	6418677174254
OLW55	Cover screw, wing head	14 x 55	6418677171765
OLT42	Cover screw, DIN 3 head	14 x 42	6418677171772
OLT42KEY	Key for DIN head screw OLT42	50 x 50	6418677172410
OES1	Extension frame screw	Ø17 x 67	6418677174803
OHI1	Hinge, pair incl. mounting instructions	40 x 50 x 16.5	6418677164774
OHICP1	Hinge, pair incl. 2 cover plugs	40 x 50 x 16.5	6418677172304



Hinged cover screws are colour coded blue. Alternatives slotted/cross head (ordering number OLSH1) or wing head (OLWH1). Material polyamide. The maximum load per cover is 5 kg.



Ensto Cubo O and C series accessories include hinges OHI1, cover plugs of polyetene OCP1 and wing head screws OLW55.



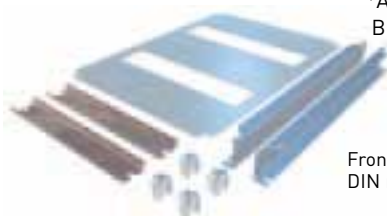
Cover screw alternative is a screw with DIN 3 head, ordering number OLT42. Key for DIN head screw is OLT42KEY.

# Medium Size to Large General Purpose Enclosures

## Ensto Cubo O and C

Enclosure width mm	Enclosure height mm	Front panel sets* PP, RAL 7035 14.5 mm profile	Front panel sets* PP, RAL 7035 32.5 mm profile	DIN openings and modules	Front panels separate PP, RAL 7025 closed
200	200	OFP22A114 6418677183294	OFP22A132 6418677183454	1 DIN opening for 6 modules	OFP22 6418677182754
200	300	OFP32A114 6418677183300	OFP32A132 6418677183461	1 DIN opening for 12 modules	OFP23 6418677182761
		OFP23A214 6418677183348	OFP23A232 6418677183508	2 DIN openings for 6 modules	
200	400	OFP42A114 6418677183317	OFP42A132 6418677183478	1 DIN opening for 17 modules	OFP24 6418677182778
		OFP24A214 6418677183355	OFP24A232 6418677183515	2 DIN openings for 6 modules	
		OFP24A314 6418677183393	OFP24A332 6418677183553	3 DIN openings for 6 modules	
300	300	OFP33A114 6418677183324	OFP33A132 6418677183485	1 DIN opening for 12 modules	OFP33 6418677182785
		OFP33A214 6418677183362	OFP33A232 6418677183522	2 DIN openings for 12 modules	
300	400	OFP43A114 6418677183331	OFP43A132 6418677183492	1 DIN opening for 17 modules	OFP34 6418677182792
		OFP34A214 6418677183379	OFP34A232 6418677183539	2 DIN openings for 12 modules	
		OFP43A214 6418677183386	OFP43A232 6418677183546	2 DIN openings for 17 modules	
		OFP34A314 6418677183409	OFP34A332 6418677183560	3 DIN openings for 12 modules	
300	600	OFP36A414 6418677183416	OFP36A432 6418677183577	4 DIN openings for 12 modules	OFP36 6418677182808
		OFP36B314 6418677183430	OFP36B332 6418677183591	3 DIN openings for 12 modules	
400	600	OFP46A414 6418677183423	OFP46A432 6418677183584	4 DIN openings for 17 modules	OFP46 6418677182815
		OFP46B314 6418677183447	OFP46B332 6418677183607	3 DIN openings for 17 modules	


\*A = DIN rail spacing 125 mm  
B = DIN rail spacing 150 mm



Front panel sets include two profiles for DIN rails, height 14.5 mm or 32.5 mm, a set of corner elevators, DIN rail/s, a front panel, a support construction for 600 mm panels, mounting screws and instructions.

Front panels aluminium closed	Hinged front panels* PP, RAL 7035	Hinged front panels* aluminium	Modular covers smoke grey window PC, IP 65 closed front	Modular covers smoke grey window PC, IP 65 DIN slits	Modular covers smoke grey window PC, IP 65 open front
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OFP22A 6418677182983	OHFP22 6418677183058	OHFP22A 6418677183171			
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OFP23A 6418677182990	OHFP23 6418677183065	OHFP23A 6418677183188			
	OHFP32 6418677183072	OHFP32A 6418677183195			

OFP24A 6418677183003	OHFP24 6418677183089	OHFP24A 6418677183201			
	OHFP42 6418677183096	OHFP42A 6418677183218			

OFP33A 6418677183010	OHFP33 6418677183102	OHFP33A 6418677183225	OPCG33CS 6418677172922	OPCG33.125.1DS 6418677172953	OPCG330S 6418677172984
				Front: 1 DIN slit 12 modules [12]	

OFP34A 6418677183027	OHFP34 6418677183119	OHFP34A 6418677183232	OPCG34CS 6418677172939	OPCG34.125.2DS 6418677172960	OPCG340S 6418677172991
	OHFP43 6418677183126	OHFP43A 6418677183249		Front: 2 DIN slits 12 modules [24]	

OFP36A 6418677183034	OHFP36 6418677183133	OHFP36A 6418677183256	OPCG36CS 6418677172946	OPCG36.150.3DS 6418677172977	OPCG360S 6418677173004
	OHFP63 6418677183140	OHFP63A 6418677183263		Front: 3 DIN slits 12 modules [36]	

OFP46A 6418677183041	OHFP46 6418677183157	OHFP46A 6418677183270			
	OHFP64 6418677183164	OHFP64A 6418677183287			

\* first digit defines the hinged side



Alternatives for modular covers include a smoke-grey polycarbonate door with alternatively closed front panel, front panel with DIN slit/s or with an open front.

## Thermoplastic General Purpose Enclosures Ensto Cubo C Flanges

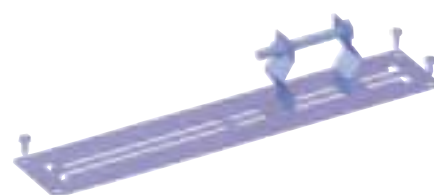
Ordering no.	Description	EAN 13 code
<b>Cover plates</b>		
F1151	F1 size excl. gasket, PC/ABS	6418677171833
F2251	F2 size incl. PUR gasket, PC	6418677171949
<b>Gland flanges</b>		
F1152	F1 size, excl. gasket, 3 x Pg16, PC/ABS	6418677171840
F1153	F1 size, excl. gasket, 3 x Pg21, PC/ABS	6418677171857
F1154	F1 size, excl. gasket, 1 x Pg29, PC/ABS	6418677171864
F1165	F1 size, excl. gasket, 3 x M20, PC/ABS	6418677152641
F1166	F1 size, excl. gasket, 3 x M25, PC/ABS	6418677152658
F1167	F1 size, excl. gasket, 1 x M32, PC/ABS	6418677152665
F2157	F2 size, incl. PUR gasket, 3 x pg21 + 4 x pg16, PC	6418677171956
F2158	F2 size, incl. PUR gasket, 2 x pg29 + 6 x pg16, PC	6418677171963
F2159	F2 size, incl. PUR gasket, 2 x pg36 + 4 x pg16, PC	6418677171970
F2160	F2 size, incl. PUR gasket, 8 x pg16, PC	6418677171987
F2161	F2 size, incl. PUR gasket, 10 x pg11, PC	6418677171994
F2168	F2 size, incl. PUR gasket, 4 x M20 + 1 x M25 + 2 x M32, PC	6418677152672
F2169	F2 size, incl. PUR gasket, 6 x M20 + 1 x M32 + 1 x M40, PC	6418677152689
F2170	F2 size, incl. PUR gasket, 4 x M20 + 2 x M40, PC	6418677152696
F2171	F2 size, incl. PUR gasket, 8 x M20, PC	6418677152702
F2172	F2 size, incl. PUR gasket, 10 x M16, PC	6418677152719
<b>Knock out flanges</b>		
F2252	F2 size, incl. PUR gasket, 7 x pg11 + 7 x pg9/16, PC	6418677172113
F2253	F2 size, incl. PUR gasket, 2 x pg21/29/36 + 2 x pg9/16 + 1 x pg11, PC	6418677172397
F2254	F2 size, incl. PUR gasket, 5 x pg 16/21 + 2 x pg11, PC	6418677172403
F2255	F2 size, incl. PUR gasket, 7 x M16 + 7 x M12/20	6418677172595
F2256	F2 size, incl. PUR gasket, 2 x M20/32/50 + 2 x M12/20 + 2 x M16	6418677172625
F2257	F2 size, incl. PUR gasket, 5 x M20/32 + 2 x M16 + 1 x M12/20	6418677172700
<b>Membran flanges</b>		
F1201	F1 size, for 5 x Ø 7-30 mm cables, EPDM	6418677171871
F2202	F2 size, for 25 x Ø 5-26 mm cables, EPDM	6418677172007
F2203	F2 size, for 35 x Ø 5-26 mm cables, EPDM	6418677172014
F2204	F2 size, for 3 x Ø 24-60 mm cables, EPDM	6418677172021
F1155	F1 size, excl. gasket, 3 x Ø 21 + 4 x Ø 15 mm, TPE	6418677171888
F1156	F1 size, excl. gasket, 4 x Ø 16 + 6 x Ø 13 mm, TPE	6418677171895
F2162	F2 size, excl. gasket, 3 x Ø 30 + 6 x Ø 18 + 16 x Ø 14 mm, TPE	6418677172038
F2163	F2 size, excl. gasket, 9 x Ø 18 + 24 x Ø 14 mm, TPE	6418677172045
<b>Cable spreader</b>		
F2CE.1	F2 size, incl. gasket, 1 x cable Ø 27-66 mm	6418677181672
<b>Other flange accessories, F1 and F2 sizes</b>		
F2C50E	50 mm extension frame for F2 flange, PC	6418677173448
F1G	Self-adhesive flange gasket, F1 size	6418677171925
F2G	Self-adhesive flange gasket, F2 size	6418677172076
F1SS20	Flange bolt set, F1 size, steel bolt with plastic head, M6 x 20	6418677173066
F2SS20	Flange bolt set, F2 size, steel bolt with plastic head, M8 x 20	6418677181689
F2SS20L	Flange bolt set, F2 size, steel bolt with plastic head + steel connector, M8 x 20	6418677173080
PMR1857	Flange/base support for size F2, PA	6418677172106
<b>Strain relief, galvanized steel</b>		
KJ8.13	300 mm side/for 1 cable	6418677172755
KJ8.23	300 mm side/for 2 cables	6418677173271
KJ8.14	400 mm side/for 1 cable	6418677173288
KJ8.24	400 mm side/for 2 cables	6418677173295



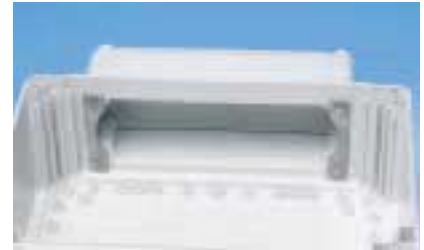
The selection of flanges includes cover plates, gland flanges, membrane flanges and knock-out flanges; both for F1 size (ordering number always beginning with F1) and for F2 size (ordering number always begins with F2).



We have a wide range of F2 flanges suitable for Ensto Cubo C series enclosures. Flange/base support, ordering number PMR1857, is only needed for the upper edge. Material of the support is polyamide.



Strain-reliefs are of galvanized steel.



With an extension frame for F2 flange you get more space for cable entries. Ordering number is F2C50E and it includes the extension frame with its bolts. The gasket is of polyurethane and it is integrated in the extension frame.



Accessories also include a cable spreader, size F2, for one cable of  $\varnothing 27 - 66$  mm. Ordering number F2CE.1.



When ordering F2 flanges please also remember to order the flange support, PMR1857 and the flange bolt set, F2SS20.



When ordering flanges please remember to order the flange bolt sets separately. For F2 size flanges steel bolts with polyamide head come with ordering number F2SS20 (with bolts) and F2SS20L (steel connectors).



A membrane flange of EPDM material, for 25 cables of  $\varnothing 5 - 26$  mm. Ordering number F2202. Flange support and flange bolt sets are ordered separately.



A typical application for Ensto Cubo C enclosure: control panel of a conveyor.



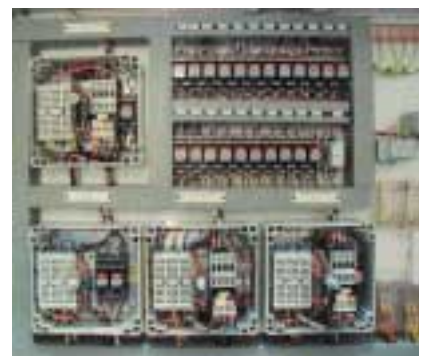
Hinged cover screws are used in the cover of the control panel: the cover is easily opened and it is no longer hanging by the conductors. The screw holds a weight of 5 kg's on the cover!



Hinged cover screws are of colour blue.



Ensto Cubo C enclosures are used as relay boxes of forest industry.



300 x 300 mm size Ensto Cubo general purpose enclosures in their typical application.



The enclosures of the largest Ensto enclosed switches are also of Ensto Cubo C and O series. In this picture an enclosed switch of 63A with a red/yellow handle.



In this application the special feature of cover mounted on the back of enclosure has been utilized: the meters and switches are mounted on the back of enclosure base.



A hinged Ensto Cubo O enclosure protecting circuit breakers.



Our customising service makes additional cut-outs and openings in a standard enclosure and supplies the enclosures ready assembled with e.g. DIN-rails, terminals or cable glands. In this application Ensto Clampo compact terminal blocks have been assembled in the enclosure.

# Panel Building System, Polycarbonate

Ensto Cubo P

IP 65



modified. In addition to its own accessories, most of the accessories for Ensto Cubo O and C series general purpose enclosures can also be used in Ensto Cubo P system.

## Flexible and easy-to-use busbar supports

The busbar support designed for the Ensto Cubo P series is suitable for 5 or 10 mm wide rails (Al/Cu).

Ensto Cubo P has been type tested and certified in accordance with the relevant standards. Assembled products are tested in accordance with the EN 60439 series standards and the required additional standards; unassembled enclosures in accordance with the EN 50298 standard.

Get acquainted with the Ensto Cubo P panel building system from its special brochure! Ensto Cubo P system also has its own design program, which can be ordered from us on a CD.

Ensto Cubo P is a panel building system, designed in response to our customers' wishes. Ensto Cubo P system includes many unique and innovative solutions.

## Open construction in the assembly stage

The base part is totally open in all four directions and enables fast and efficient mounting of the panel parts. All conductors, busbars etc. are installed without any threading sideways; all plates and locking devices are fitted at the final stage.

## Quick assembly and mounting

All parts of the panel building system

are assembled quickly and easily thanks to the locking pins.

## Tight construction

The Ensto Cubo P system is tested and approved (EN 60529) to IP 65. All plates and covers are provided with gaskets, which ensure a high degree of protection.

## Wide range of accessories

The panel building system is designed on one base part available in four sizes. For this basic base part there is a wide range of accessories available: cable entries and flanges etc. Ensto Cubo P is easily extended into larger assemblies and easily



The "key" to the system is the base part, available in four sizes: 300 x 300 mm, 300 x 400 mm, 300 x 600 mm and 400 x 600 mm.



The base part is totally open in all four directions and enables fast mounting of the panel parts.



This Cubo P of a sewage treatment plant is a wide system of 33 enclosures.



At the assembly stage the red locking pins are pushed only halfway to allow easy mounting of the connecting ribs.



Hinged cover screws are coloured blue. It is easy to open the cover even if it is in the middle of a panel, and the cover is no longer hanging by the conductors.

#### Ensto Cubo P is

- a system with open construction
- quick and efficient to assemble and mount
- very versatile
- IP65
- easy to extend into larger assemblies
- easy to modify
- a system with all parts reusable

#### Typical applications

- water utilities
- wastewater treatment plants
- pump stations
- greenhouses
- sawmills
- all applications that are likely to be later extended or modified

**Get acquainted with the system from its special brochure!**

# Wall-mounted Cabinets, Polycarbonate

## Ensto Cubo W

IP 66/67

Ensto Cubo W is a series of wall-mounted cabinets made of polycarbonate.

The enclosures of the series have pre-assembled hinges and quick release latches. Ensto Cubo W series is based on the medium size to large general purpose enclosure series Ensto Cubo O and C. Most of the accessories of Ensto Cubo O can also be used for Ensto Cubo W.

The enclosures are manufactured of polycarbonate, standard colour grey RAL 7035, cover grey or transparent. There are 14 size options and the dimensions follow modules of 100 mm; the smallest is 200 x 200 mm, the largest 400 x 600 mm, depth 130 mm. The 185 mm deep enclosure is built by using an extension frame.



Ensto Cubo W enclosure is always delivered mounting screws included.

Ensto Cubo W cabinets include pre-assembled hinges and quick release latches.



Ensto Cubo W cabinet is easily locked with a padlock – without any accessories!



In this typical Ensto Cubo W application a customised front panel of aluminium has been used.

<b>Wall-mounted Cabinets Thermoplastic, Ensto Cubo W</b>	
<b>Technical features</b>	
Degree of protection EN 60529	<b>Polycarbonate</b> IP 66/67
Impact resistance EN 50102 (+35 °C / -25 °C)	IK 08/IK 08
Operating temperature	-50 °C...+100 °C
Flammability UL 94	V-2...5VA
Standard colour	grey RAL 7035
Cover gasket	PUR (polyurethane)
Certificates	GL, UL, cUL, GOST

# Wall-mounted Cabinets, Polycarbonate

## Ensto Cubo W

Width mm	Height* mm	Depth mm	Inner depth mm	Polycarbonate grey cover plain sides	Polycarbonate transparent cover plain sides	Mounting plate 1.5 mm thick galvanized steel	Mounting plate** 3 mm perforation yellow passivated steel
200	200	132	115.0	WPCP202013G 6418677174308	WPCP202013T 6418677174384	OMP2020 6418677164675	OLP2020 6418677152573
		185	170.0	WPCP202018G 6418677174469	WPCP202018T 6418677174544		
200	300	132	115.0	WPCP203013G 6418677174315	WPCP203013T 6418677174391	OMP2030 6418677164682	OLP2030 6418677152580
		185	170.0	WPCP203018G 6418677174476	WPCP203018T 6418677174551		
200	400	132	115.0	WPCP204013G 6418677174322	WPCP204013T 6418677174407	OMP2040 6418677164699	OLP2040 6418677152597
		185	170.0	WPCP204018G 6418677174483	WPCP204018T 6418677174568		
300	300	132	115.0	WPCP303013G 6418677174339	WPCP303013T 6418677174414	OMP3030 6418677164705	OLP3030 6418677152603
		185	170.0	WPCP303018G 6418677174490	WPCP303018T 6418677174575		
300	400	132	115.0	WPCP304013G 6418677174346	WPCP304013T 6418677174421	OMP3040 6418677164712	OLP3040 6418677152610
		185	170.0	WPCP304018G 6418677174506	WPCP304018T 6418677174582		
300	600	132	115.0	WPCP306013G 6418677174353	WPCP306013T 6418677174438	OMP3060 6418677164729	OLP3060 6418677152627
		185	170.0	WPCP306018G 6418677174513	WPCP306018T 6418677174599		
400	600	132	115.0	WPCP406013G 6418677174377	WPCP406013T 6418677174452	OMP4060 6418677164736	OLP4060 6418677152634
		185	170.0	WPCP406018G 6418677174537	WPCP406018T 6418677174612		

\*Height informs the hinged side

\*\* Perforated mounting plate 2 mm thick

**DIN rail  
DIN 35**

DR35150.5  
6418677164743

DR35150.5<sup>1</sup>  
6418677164743

DR35250.5<sup>2</sup>  
6418677164750

DR35150.5<sup>1</sup>  
6418677164743

DR35350.5<sup>2</sup>  
6418677164767

DR35250.5  
6418677164750

DR35250.5<sup>1</sup>  
6418677164750

DR35350.5<sup>2</sup>  
6418677164767

DR35250.5  
6418677164750

DR35350.5  
6418677164767

<sup>1</sup> Short side  
<sup>2</sup> Long side



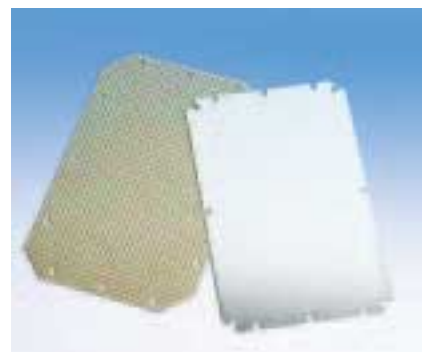
A typical application of Ensto Cubo W enclosure. Terminals are Ensto Clampo, used for tapping of neutral earth and live conductors.



Ensto Cubo W used for enclosing terminals.



The Ensto Cubo W cabinets of our All-in-One sales concept are with flanges. With one ordering number, in one package, you get all items needed for installation and cable entries. For further information please refer to page 79.



The mounting plate is also available with Ø 3 mm perforation.

# Wall-mounted Cabinets, Steel

## Ensto Cubo E

### IP 66, with two doors IP 55

The Ensto Cubo E wall-mounted cabinets are made of polyester painted mild steel, standard colour grey RAL 7032, or unpainted stainless steel AISI 304.

Ensto Cubo E wall-mounted cabinets are available in 31 standard sizes: the dimensions of the smallest one (width x height) being 200 x 300 mm, and the largest 1000 x 1200 mm.

The standard models of polyester painted enclosures have flanges; enclosures with plain sides are available on request.

Models made of stainless steel have plain sides. Wall-mounted cabinets made of acid-proof steel AISI 316 are available on request.

Mounting plates, cover plates for flange openings and a DIN 3 key are included in the package. The standard cabinets always feature a right-hand hinge. The door can easily be changed from right to left hand hinged even as the last operation at the installation site.



The standard models of wall-mounted cabinets are available in polyester painted mild steel or stainless steel. The door includes a 3 mm DIN lock.



The package of a stainless steel Cubo E cabinet includes mounting plate with M8 bolts, DIN 3 key, and earth marks and M6 nuts for earthing. For earthing of mounting plate there is M8 bolt with the required washers.



The standard model of a painted sheet steel cabinet is with a downward flange opening. The ordering number includes cover plate with its flange bolts, mounting plate with its nuts, earth marks and M6 nuts for earthing as well as a DIN 3 key. For earth connection of mounting plate a M8 bolt with the required washers is included.



The hinge mechanism is fastened to the cabinet's side with screws, and it is easy to change the mechanism from a right hand to left hand hinge, even on the final installation site. The door opens optimal 110°.

<b>Wall-mounted Cabinets Steel, Ensto Cubo E</b>		
<b>Technical features</b>		
	<b>Polyester painted steel</b>	<b>Unpainted stainless steel</b>
Degree of protection EN 60529	IP 66, with two doors IP 55	IP 66, with two doors IP 55
Impact resistance EN 50102 (+35 °C / -25 °C)	IK 09	IK 09
Standard colour	grey RAL 7032	AISI 304, unpainted
Cover gasket	PUR (polyurethane)	PUR (polyurethane)
Certificates	FI, GL, GOST	FI, GL, GOST

# Wall-mounted Cabinets, Steel

## Ensto Cubo E

Width mm	Height mm	Depth mm	Inner depth mm	Painted steel RAL 7032 flange openings	Stainless steel AISI 304 plain sides	Rain shelter (roof) painted RAL 7032
200	300	150	139	EFEF203015 6418677179167 1 x size F1 flange	ESSP203015 6418677179518	ERS2015G 6418677175817
		300	139	EFEF302015 6418677179174 1 x size F2 flange	ESSP302015 6418677179525	ERS3015G 6418677175824
300	300	150	139	EFEF303015 6418677179181	ESSP303015 6418677179532	ERS3015G 6418677175824
		200	189	EFEF303020 6418677179198 1 x size F2 flange	ESSP303020 6418677179549	ERS3021G 6418677175848
300	400	200	189	EFEF304020 6418677179204 1 x size F2 flange	ESSP304020 6418677179556	ERS3021G 6418677175848
400	300	150	139	EFEF403015 6418677179211	ESSP403015 6418677179563	ERS4015G 6418677175831
		200	189	EFEF403020  6418677179228 1 x size F2 flange	ESSP403020  6418677179570	ERS4021G  6418677175855
400	400	200	189	EFEF404020 6418677179235	ESSP404020 6418677179587	ERS4021G 6418677175855
		300	289	EFEF404030 6418677179242 1 x size F2 flange	ESSP404030 6418677179594	ERS4031G 6418677175893
400	500	200	189	EFEF405020 6418677179259 1 x size F2 flange	ESSP405020 6418677179600	ERS4021G 6418677175855
400	600	200	189	EFEF406020 6418677179266	ESSP406020 6418677179617	ERS4021G 6418677175855
		300	289	EFEF406030  6418677179273 1 x size F2 flange	ESSP406030  6418677179624	ERS4031G  6418677175893
500	500	200	189	EFEF505020 6418677179280	ESSP505020 6418677179631	ERS5021G 6418677175862
		300	289	EFEF505030 6418677179297 2 x size F2 flanges	ESSP505030 6418677179648	ERS5031G 6418677175909
500	600	300	289	EFEF506030 6418677179303 2 x size F2 flanges	ESSP506030 6418677179655	ERS5031G 6418677175909
600	400	200	189	EFEF604020 6418677179310	ESSP604020 6418677179662	ERS6021G 6418677175879
		300	289	EFEF604030 6418677179327 2 x size F2 flanges	ESSP604030 6418677179679	ERS6031G 6418677175916

\* mounting plate is included in all standard enclosure deliveries

Rain shelter (roof) stainless steel AISI 304	Mounting plate* galvanized steel	DIN rail DIN 35 for door	DIN rail DIN 35 for base	DIN rail profile for door (pair)	DIN rail profile for base (pair)
ERS2015B 6418677176005	EMP23 <sup>1</sup> 6418677199240	DR3520D 6418677176456	DR3520B 6418677176371	EDP30 6418677176197	EBP30 6418677176296
ERS3015B 6418677176012	EMP32 <sup>1</sup> 6418677199257	DR3530D 6418677176463	DR3530B 6418677176388	EDP20 6418677176180	EBP20 6418677176289
ERS3015B 6418677176012	EMP33 <sup>1</sup> 6418677199264	DR3530D 6418677176463	DR3530B 6418677176388	EDP30 6418677176197	EBP30 6418677176296
ERS3021B 6418677176036					
ERS3021B 6418677176036	EMP34 <sup>1</sup> 6418677199271	DR3530D 6418677176463	DR3530B 6418677176388	EDP40 6418677176203	EBP40 6418677176302
ERS4015B 6418677176029 ERS3021B 6418677176036	EMP43 <sup>1</sup> 6418677199288	DR3540D 6418677176470	DR3540B 6418677176395	EDP30 6418677176197	EBP30 6418677176296
ERS3021B 6418677176036 ERS4031B 6418677176081	EMP44 <sup>1</sup> 6418677199295	DR3540D 6418677176470	DR3540B 6418677176395	EDP40 6418677176203	EBP40 6418677176302
ERS4021B 6418677176043	EMP45 <sup>2</sup> 6418677199301	DR3540D 6418677176470	DR3540B 6418677176395	EDP50 6418677176210	EBP50 6418677176319
ERS4021B 6418677176043 ERS4031B 6418677176081	EMP46 <sup>2</sup> 6418677199318	DR3540D 6418677176470	DR3540B 6418677176395	EDP60 6418677176227	EBP60 6418677176326
ERS5021B 6418677176050 ERS5031B 6418677176098	EMP55 <sup>2</sup> 6418677199325	DR3550D 6418677176487	DR3550B 6418677176401	EDP50 6418677176210	EBP50 6418677176319
ERS5031B 6418677176098	EMP56 <sup>2</sup> 6418677199332	DR3550D 6418677176487	DR3550B 6418677176401	EDP60 6418677176227	EBP60 6418677176326
ERS6021B 6418677176067 ERS6031B 6418677176104	EMP64 <sup>2</sup> 6418677199349	DR3560D 6418677176494	DR3560B 6418677176418	EDP40 6418677176203	EBP40 6418677176302

<sup>1</sup> mounting plate 2.0 mm thick

<sup>2</sup> mounting plate 2.5 mm thick

# Wall-mounted Cabinets, Steel

## Ensto Cubo E

Width mm	Height mm	Depth mm	Inner depth mm	Painted steel RAL 7032 flange openings	Painted steel RAL 7032 flange openings 2 doors	Stainless steel AISI 304 plain sides	Stainless steel AISI 304 plain sides 2 doors
600	600	200	189	EFEF606020 6418677179333		ESSP606020 6418677179686	
		300	289	EFEF606030 6418677179341 2 x size F2 flanges		ESSP606030 6418677179693	
600	800	200	189	EFEF608020 6418677179358		ESSP608020 6418677179709	
		300	289	EFEF608030 6418677179365 2 x size F2 flanges		ESSP608030 6418677179716	
600	1000	300	289	EFEF6010030 6418677179372 2 x size F2 flanges		ESSP6010030 6418677179723	
600	1200	300	289	EFEF6012030 6418677179389 2 x size F2 flanges		ESSP6012030 6418677179730	
800	600	300	289	EFEF806030 6418677179396 3 x size F2 flanges		ESSP806030 6418677179747	
800	800	200	189	EFEF808020 6418677179402		ESSP808020 6418677179754	
		300	289	EFEF808030 6418677179419 3 x size F2 flanges	EFEF808030D 6418677179471 3 x size F2 flanges	ESSP808030 6418677179761	ESSP808030D 6418677179822
800	1000	300	289	EFEF8010030 6418677179426 3 x size F2 flanges	EFEF8010030D 6418677179488 3 x size F2 flanges	ESSP8010030 6418677179778	ESSP8010030D 6418677179839
800	1200	300	289	EFEF8012030 6418677179433 3 x size F2 flanges		ESSP8012030 6418677179785	
1000	800	300	289	EFEF1008030 6418677179440 4 x size F2 flanges		ESSP1008030 6418677179792	
1000	1000	300	289	EFEF10010030 6418677179457 4 x size F2 flanges	EFEF10010030D 6418677179495 4 x size F2 flanges	ESSP10010030 6418677179808	ESSP10010030D 6418677179846
1000	1200	300	289	EFEF10012030 6418677179464 4 x size F2 flanges	EFEF10012030D 6418677179501 4 x size F2 flanges	ESSP10012030 6418677179815	ESSP10012030D 6418677179853

\* mounting plate is included in all standard enclosure deliveries

Rain shelter (roof) painted RAL 7032	Rain shelter (roof) stainless steel AISI 304	Mounting plate* galvanized steel	DIN rail DIN 35 for door	DIN rail DIN 35 for base	DIN rail profile for door (pair)	DIN rail profile for base (pair)
ERS6021G 6418677175879	ERS6021B 6418677176067	EMP66 <sup>2</sup> 6418677199356	DR3560D 6418677176494	DR3560B 6418677176418	EDP60 6418677176227	EBP60 6418677176326
ERS6031G 6418677175916	ERS6031B 6418677176104					
ERS6021G 6418677175879	ERS6021B 6418677176067	EMP68 <sup>3</sup> 6418677199363	DR3560D 6418677176494	DR3560B 6418677176418	EDP80 6418677176234	EBP80 6418677176333
ERS6031G 6418677175916	ERS6031B 6418677176104					
ERS6031G 6418677175916	ERS6031B 6418677176104	EMP610 <sup>3</sup> 6418677199370	DR3560D 6418677176494	DR3560B 6418677176418	EDP100 6418677176241	EBP100 6418677176340
ERS6031G 6418677175916	ERS6031B 6418677176104	EMP612 <sup>3</sup> 6418677199387	DR3560D 6418677176494	DR3560B 6418677176418	EDP120 6418677176258	EBP120 6418677176357
ERS8031G 6418677175923	ERS8031B 6418677176111	EMP86 <sup>3</sup> 6418677199394	DR3580D 6418677176500	DR3580B 6418677176425	EDP60 6418677176227	EBP60 6418677176326
ERS8021G 6418677175886	ERS8021B 6418677176074	EMP88 <sup>3</sup> 6418677199400	DR3580D 6418677176500	DR3580B 6418677176425	EDP80 6418677176234	EBP80 6418677176333
ERS8031G 6418677175923	ERS8031B 6418677176111					
ERS8031G 6418677175923	ERS8031B 6418677176111	EMP810 <sup>3</sup> 6418677199417	DR3580D 6418677176500	DR3580B 6418677176425	EDP100 6418677176241	EBP100 6418677176340
ERS8031G 6418677175923	ERS8031B 6418677176111	EMP812 <sup>3</sup> 6418677199424	DR3580D 6418677176500	DR3580B 6418677176425	EDP120 6418677176258	EBP120 6418677176357
ERS10031G 6418677175930	ERS10031B 6418677176128	EMP108 <sup>3</sup> 6418677199431	DR35100D 6418677176517	DR35100B 6418677176432	EDP80 6418677176234	EBP80 6418677176333
ERS10031G 6418677175930	ERS10031B 6418677176128	EMP1010 <sup>3</sup> 6418677199448	DR35100D 6418677176517	DR35100B 6418677176432	EDP100 6418677176241	EBP100 6418677176340
ERS10031G 6418677175930	ERS10031B 6418677176128	EMP1012 <sup>3</sup> 6418677199455	DR35100D 6418677176517	DR35100B 6418677176432	EDP120 6418677176258	EBP120 6418677176357

<sup>2</sup> mounting plate 2.5 mm thick

<sup>3</sup> mounting plate 3.0 mm thick

**Wall-mounted Cabinets  
Ensto Cubo E  
Accessories**

Ordering no.	Description	EAN 13 code
ED10	Triangular lock with $\Delta$ 11 mm key	6418677176531
ED10M6	Lock with wing handle, W = 50 mm	6418677176548
EKL1	Lock, incl. 2 keys	6418677176555
OLT42KEY	DIN-3 key for standard lock	6418677172410
EH1	Black swing handle for three point locking	6418677176579



Accessories include triangular lock with a 11 mm key, ordering number ED10.



Ordering number EKL1 is a lock including two keys.



Accessories include a handle for three point locking. It is delivered lock excluded.



Lock with grip, ordering number ED10M6.



DIN 3 key is included in the delivery of a standard cabinet. As an accessory it can be ordered with ordering number OLT42KEY.

**Wall-mounted Cabinets  
Ensto Cubo E  
Accessories**

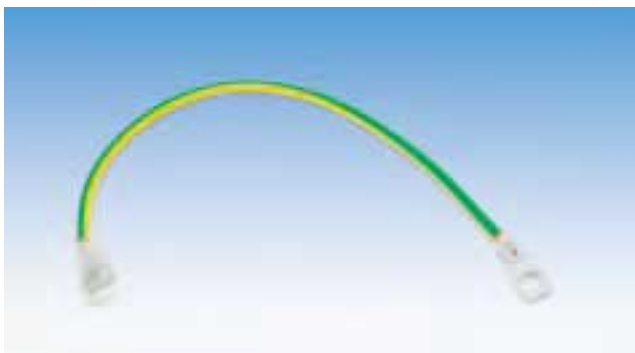
Ordering no.	Description	EAN 13 code
EDS1	Door stopper (FeZn)	6418677176616
EG200	Door grounding, Ø 5 mm x 200 mm	6418677199615
<b>Steel plates, painted RAL7032</b>		
EVF2	Ventilation flange size F2	6418677176586
ECF1	Cover flange size F1	6418677176593
ECF2	Cover flange size F2	6418677176609
<b>Membrane flange</b>		
F1201	For 5 x Ø 7-30 mm cables, EPDM, size F1	6418677171871
F2202	For 25 x Ø 5-26 mm cables, EPDM, size F2	6418677172007
F2203	For 35 x Ø 5-26 mm cables, EPDM, size F2	6418677172014
F2204	For 3 x Ø 24-60 mm cables, EPDM, size F2	6418677172021



Door stopper, ordering number EDS1, is manufactured of galvanized steel. It is suitable for all wall-mounted cabinets.



The contents of ordering number EVF2 ventilation flange, size F2. Degree of protection IP44.



Accessories include door grounding cord, length 200 mm.



Cover plates of steel, F1-size ECF1 and F2-size ECF2 are delivered with gaskets, fixing screws and nuts.

**Wall-mounted Cabinets  
Ensto Cubo E  
Accessories**

Ordering no.	Description	EAN 13 code
EFFL2.20	Fastening lugs, set, 20 mm high, AISI304	6418677199622
EFFL2.50	Fastening lugs, set, 50 mm high, AISI304	6418677199639
EFLM4	Counter part for fastening lugs, set of 4 pcs	6418677199608



Fastening lugs are available in depth alternatives of 20 mm (ordering number EFFL2.20) and 50 mm (EFFL2.50), material 2 mm stainless steel. Mounted either vertically or horizontally.



Fastening lugs are delivered in complete sets of four pieces. Depth alternatively 20 mm or 50 mm. Wall-mounting lugs can be fastened from outside the cabinet and, if desired, not until the cabinet is ready for installation on the spot – this way they do not cause problems in transit.



Installation of Ensto Cubo E cabinets is easy: a counter plate for fastening lugs (EFLM4) is placed on the bolt of the mounting plate, enabling mounting of the wall-mounting lug from outside the cabinet.



To enable mounting of the wall-mounting lugs from outside the cabinet – even on the final installation site – you require counter plates for fastening lugs. A set of four comes with ordering number EFLM4.



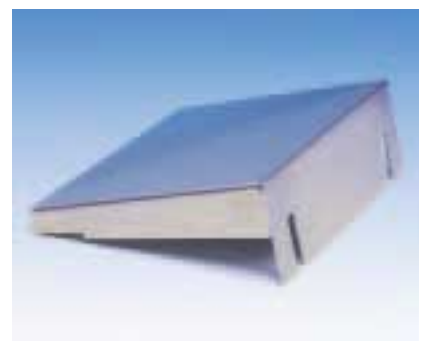
A Cubo E cabinet of stainless steel used as a pneumatic enclosure.



A rain shelter made of stainless steel, ERS2015B, protecting a wall-mounted cabinet ESSP203015.



Both the base part and the door include welded M8 bolts for DIN rail profiles or mounting plates.



A rain shelter is available to all cabinets. Material 1,5 mm steel, polyester painted or stainless.

# Terminal Enclosures, Steel

## Ensto Cubo F

### IP 66, with window IP 65

The Ensto Cubo F series terminal enclosures are made of sheet steel. Alternatives are polyester painted steel, colour grey RAL 7032, or unpainted stainless steel AISI 304.

Ensto Cubo F is available in acid-proof steel AISI 316 on special request.

There are 15 different sizes of Ensto Cubo F terminal enclosures to choose from: the dimensions of the smallest one (width x height) are 150 x 150 mm, 800 x 400 mm being the largest. All models are available in depth alternatives of 80 mm and 120 mm.

The enclosures have supports for DIN-rails/mounting plate as standard. The optimised mounting supports enable a maximum use of all sides of the enclosure for cable entries. All Cubo F enclosures can be equipped with hinges.

The standard model has plain sides. 120 mm deep polyester painted Ensto Cubo F terminal enclosures are also available with flanges or polycarbonate window as standard types.



Ensto Cubo F enclosures are available in polyester painted mild steel or in stainless steel, AISI 304.



All standard models with plain sides – including models with polycarbonate window – are delivered with mounting screws and cover plugs. For earthing, two M6 nuts and earth marks are included.



120 mm deep polyester painted enclosures are also available with flange openings. In addition to cover screws and mounting screws, earth marks and earth nuts, the ordering number includes cover plates of steel with their bolts.



The brilliant solution of DIN rail supports enables a maximum use of all sides of the enclosure for cable entries.

<b>Terminals Enclosures Steel, Ensto Cubo F</b>		
<b>Technical features</b>		
	<b>Polyester painted steel</b>	<b>Unpainted stainless steel</b>
Degree of protection EN 60529	IP 66	IP 67
Impact resistance EN 50102 (+35 °C / -25 °C)	IK 09 (with PC window IK 07 -5 °C / +80 °C)	IK 09
Standard colour	grey RAL 7032	AISI 304, unpainted
Cover gasket	PUR (polyurethane)	PUR (polyurethane)
Cover screws AISI 304	stainless steel AISI 304	stainless steel
Certificates	FI, GL, GOST	FI, GL, GOST

# Terminal Enclosures, Steel

## Ensto Cubo F

Width mm	Height mm	Depth mm	Inner depth mm	Painted steel RAL 7032 plain sides	Painted steel RAL 7032 flanges	Painted steel RAL 7032 with polycarbonate window	Stainless steel AISI 304 plain sides
150	150	80	63.5	FFUP151508 6418677179860			FSUP151508 6418677189548
		120	103.5	FFUP151512 6418677189203			FSUP151512 6418677189692
200	200	80	63.5	FFUP202008 6418677179877			FSUP202008 6418677189555
		120	101.5			FFUW202012 6418677189487	
		120	103.5	FFUP202012 6418677189210			FSUP202012 6418677189708
Window size: 120x120 mm							
300	150	80	63.5	FFUP301508 6418677179884			FSUP301508 6418677189562
		120	103.5	FFUP301512 6418677189227	FFUF301512 6418677189357 Flanges/side: 1+1+0+0		FSUP301512 6418677189715
300	200	80	63.5	FFUP302008 6418677179891			FSUP302008 6418677189579
		120	101.5			FFUW302012 6418677189494	
		120	103.5	FFUP302012 6418677189234	FFUF302012 6418677189364 Flanges/side: 1+1+0+0		FSUP302012 6418677189722
Window size: 220x120 mm							
300	300	80	63.5	FFUP303008 6418677179907			FSUP303008 6418677189586
		120	103.5	FFUP303012 6418677189241	FFUF303012 6418677189371 Flanges/side: 1+1+1+1		FSUP303012 6418677189739
400	200	80	63.5	FFUP402008 6418677179914			FSUP402008 6418677189593
		120	101.5			FFUW402012 6418677189500	
		120	103.5	FFUP402012 6418677189258	FFUF402012 6418677189388 Flanges/side: 1+1+0+0		FSUP402012 6418677189746
Window size: 320x120 mm							
400	300	80	63.5	FFUP403008 6418677179921			FSUP403008 6418677189609
		120	103.5	FFUP403012 6418677189265	FFUF403012 6418677189395 Flanges/side: 1+1+1+1		FSUP403012 6418677189753
400	400	80	63.5	FFUP404008 6418677179938			FSUP404008 6418677189616
		120	103.5	FFUP404012 6418677189272	FFUF404012 6418677189401 Flanges/side: 1+1+1+1		FSUP404012 6418677189760

**Mounting plate  
2 mm thick  
galvanized steel**

**DIN rail  
DIN 35**

FMP1515  
6418677157394

DR3515  
6418677156878

FMP2020  
6418677157417

DR3520  
6418677156885

FMP3015  
6418677199462

DR3530  
6418677156892

FMP3020  
6418677199479

DR3530  
6418677156892

FMP3030  
6418677157479

DR3530  
6418677156892

FMP4020  
6418677199486

DR3540  
6418677156908

FMP4030  
6418677199493

DR3540  
6418677156908

FMP4040  
6418677157516

DR3540  
6418677156908

**Terminal Enclosures  
Ensto Cubo F  
Accessories**

Ordering no.	Description	Dimensions mm	EAN 13 code
<b>Cover plate separately for FFUF version</b>			
FFUF1	Set, RAL7032	84 x 214 x 2	6418677186349
<b>Hinge</b>			
FHI2 Stainless steel, pair - factory assembly is recommended		30 x 15 x 11	6418677199592
<b>Fastening lugs, set</b>			
EFFL2.20	20 mm high, AISI304		6419677199622
EFFL2.50	50 mm high, AISI304		6419677199639



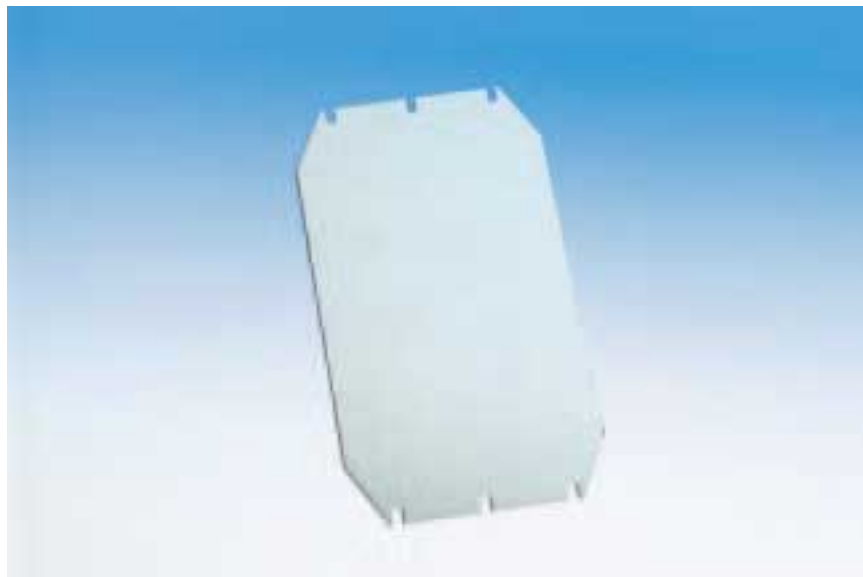
Fastening lugs are delivered in sets of four. Depth alternatively 20 mm or 50 mm.

# Terminal Enclosures, Steel

## Ensto Cubo F

Width mm	Height mm	Depth mm	Inner depth mm	Painted steel RAL 7032 plain sides	Painted steel RAL 7032 flanges	Painted steel RAL 7032 with polycarbonate window	Stainless steel AISI 304 plain sides
500	200	80	63.5	FFUP502008 6418677179945			FSUP502008 6418677189623
		120	101.5			FFUW502012 6418677189517	
		120	103.5	FFUP502012 6418677189289	FFUF502012 6418677189418 Flanges/side: 2+2+0+0	Window size: 420x120 mm	FSUP502012 6418677189779
500	300	80	63.5	FFUP503008 6418677179952			FSUP503008 6418677189630
		120	103.5	FFUP503012 6418677189296	FFUF503012 6418677189425 Flanges/side: 2+2+1+1		FSUP503012 6418677189784
600	200	80	63.5	FFUP602008 6418677179969			FSUP602008 6418677189647
		120	101.5			FFUW602012 6418677189524	
		120	103.5	FFUP602012 6418677189302	FFUF602012 6418677189432 Flanges/side: 2+2+0+0	Window size: 520x120 mm	FSUP602012 6418677189791
600	300	80	63.5	FFUP603008 6418677179976			FSUP603008 6418677189654
		120	103.5	FFUP603012 6418677189319	FFUF603012 6418677189449 Flanges/side: 2+2+1+1		FSUP603012 6418677189807
600	400	80	63.5	FFUP604008 6418677179983			FSUP604008 6418677189661
		120	103.5	FFUP604012 6418677189326	FFUF604012 6418677189456 Flanges/side: 2+2+1+1		FSUP604012 6418677189814
800	200	80	63.5	FFUP802008 6418677179990			FSUP802008 6418677189678
		120	101.5			FFUW802012 6418677189531	
		120	103.5	FFUP802012 6418677189333	FFUF802012 6418677189463 Flanges/side: 3+3+0+0	Window size: 720x120 mm	FSUP802012 6418677189821
800	400	80	63.5	FFUP804008 6418677180002			FSUP804008 6418677189685
		120	103.5	FFUP804012 6418677189340	FFUF804012 6418677189470 Flanges/side: 3+3+1+1		FSUP804012 6418677189838

<b>Mounting plate 2 mm thick galvanized steel</b>	<b>DIN rail DIN 35</b>
FMP5020 6418677199509	DR3550 6418677156915
FMP5030 6418677199516	DR3550 6418677156915
FMP6020 6418677199523	DR3560 6418677156922
FMP6030 6418677199530	DR3560 6418677156922
FMP6040 6418677199547	DR3560 6418677156922
FMP8020 6418677199554	DR3580 6418677156939
FMP8040 6418677199561	DR3580 6418677156939



A mounting plate of 2 mm galvanized steel is available for all enclosure models.



The standard model of Ensto Cubo F enclosure is with plain sides. Cover screws are of stainless steel. 120 mm deep painted enclosures are also available with flange openings and with polycarbonate window.

# EMC Enclosures, Polycarbonate

## Ensto Cubo EMC

### IP 66

The Ensto Cubo EMC enclosure series is designed for use in applications requiring protection against interference. EMC stands for **e**lectro-**m**agnetic **c**ompatibility. Within the electronics industry in particular, enclosures need to be protected against either external electromagnetic disturbances, or those caused by the equipment inside the enclosure must be prevented from affecting external equipment. The inner surface of the enclosure is treated with a special alloy; the conductive gasket is of silver/silicone. An enclosure with this kind of protection acts as a kind of Faraday cage.

The enclosures are of high quality polycarbonate. The Ensto Cubo EMC series enclosures are based on Ensto Cubo D, S and O series enclosures. Ensto Cubo EMC enclosures are available in 12 sizes: size options (width x height x depth) from 80 x 82 x 56 mm to 300 x 600 x 130 mm.

Test reports for Ensto Cubo EMC enclosures are available on request.



Ensto Cubo EMC series enclosure solutions are based on Ensto Cubo D, S and O series. The enclosures are available in 12 sizes: width x height from 80 x 82 mm to 300 x 600 mm.

Width mm	Height mm	Depth mm	Inner depth mm	Polycarbonate grey cover	
80	82	56	42.0	EMCPC080806G	Ensto Cubo D
80	120	56	42.0	EMCPC081206G	Ensto Cubo D
75	125	75	60.5	EMCPC081308G	Ensto Cubo S
120	122	56	42.0	EMCPC121206G	Ensto Cubo D
125	125	75	60.5	EMCPC131308G	Ensto Cubo S
125	175	75	60.5	EMCPC131808G	Ensto Cubo S
175	175	75	60.5	EMCPC181808G	Ensto Cubo S
200	200	130	115.0	EMCPC202013G	Ensto Cubo O
200	300	130	115.0	EMCPC203013G	Ensto Cubo O
300	300	130	116.0	EMCPC303013G	Ensto Cubo O
300	400	130	117.0	EMCPC304013G	Ensto Cubo O
300	600	130	118.0	EMCPC306013G	Ensto Cubo O



The inner surface of Ensto Cubo EMC enclosures is treated with a special alloy. The conductive gaskets are of silver/silicone.

<b>EMC Enclosures</b> <b>Polycarbonate, Ensto Cubo EMC</b>	
<b>Technical features</b>	
Degree of protection EN 60529	<b>Polycarbonate</b> IP 66
Impact resistance EN 50102 (+35 °C / -25 °C)	IK 08/IK 08
Operating temperature	-50 °C...+100 °C
Flammability UL 94	V-2...5VA
Standard colour	grey RAL 7035
Cover gasket	silver/silicone
Certificates	GOST

# Modular Enclosures, Thermoplastic

## Ensto Cubo R

### IP 65

Modular enclosures of the Ensto Cubo R series are with a hatch/door in front, facilitating control and service of the devices in the enclosure. In addition, the Ensto Cubo R series modular enclosures have stylish design. Thanks to the high degree of protection, IP 65, they are especially suitable for humid conditions.

Ensto Cubo R modular enclosures are manufactured of thermoplastic: polycarbonate or ABS. The series include seven size options. The outer dimensions of the smallest one are 75 x 125 x 75 mm, it is for 1 x 2 modules; the largest is 300 x 600 x 130 mm in size and for 3 x 12 modules.

The standard colour of the enclosures is grey, RAL 7035; the hatch/door smoke-grey or, as an alternative, transparent.

ABS enclosures are always with plain sides, polycarbonate enclosures are alternatively with plain sides or with knock-outs. Small modular enclosures have Pg knock-outs and the large, 12 – 36 modules enclosures are alternatively with metric or with flange knock-outs.

The large Ensto Cubo R enclosures come with pre-mounted DIN-rails, DIN-rail profiles and N/PE busbars. The ordering number also includes cover plates and markers.



The Ensto Cubo R series modular enclosures include seven size options.



The large Ensto Cubo R enclosures come with pre-mounted DIN-rails, DIN-rail profiles and N/PE busbars. The ordering number also includes cover plates, markers and, of course, also the modular cover.



Small modular enclosures are available in four sizes, for 2, 4, 6 or 10 modules. The polycarbonate enclosures are with pre-pressed Pg knock-outs whereas ABS enclosures are with plain sides. A pre-mounted DIN-rail is included. The hatch is always transparent.



300 x 300 mm modular enclosures have DIN-rail, DIN-rail profiles and N-/PE busbar pre-mounted. A cover plate and a marker are also included.

<b>Modular enclosures Thermoplastic, Ensto Cubo R</b>		
<b>Technical features</b>		
	<b>Polycarbonate</b>	<b>ABS</b>
Degree of protection EN 60529	IP 65	IP 65
Impact resistance EN 50102 (+35 °C / -25 °C)	IK 08/IK 08	IK 07/IK 06
Operating temperature	-50 °C...+100 °C	-40 °C...+60 °C
Flammability UL 94	V-2...5VA	HB
Standard colour	grey RAL 7035	grey RAL 7035
Hatch colour	smoke grey or transparent	smoke grey or transparent
Cover gasket	PUR (polyurethane)	PUR (polyurethane)
Cover screws	polyamide	polyamide
Certificates	FI, GOST	FI, GOST

# Modular Enclosures, Thermoplastic

## Ensto Cubo R

Width mm	Height mm	Depth mm	Inner depth mm	Polycarbonate Pg knock outs in the base	ABS plain sides in the base
75	125	100	60.5/86	RPCK081308G/2M 6418677173455 For 2 modules	RABP081308G/2M 6418677173493 For 2 modules
125	125	100	60.5/86	RPCK131308G/4M 6418677173462 For 4 modules	RABP131308G/4M 6418677173509 For 4 modules
125	175	100	60.5/86	RPCK131808G/6M 6418677173479 For 6 modules	RABP131808G/6M 6418677173516 For 6 modules
175	250	100	60,5/86	RPCK182508G/10M 6418677173486 For 10 modules	RABP182508G/10M 6418677173523 For 10 modules

Width mm	Height mm	Depth mm	Inner depth mm	Polycarbonate metric knock outs in the base	Polycarbonate plain sides in the base	Polycarbonate plate knock outs in the base	ABS plain sides in the base
300	300	132	67.5/116	RPCM33DS.12MT 6418677182426 For 1 x 12 modules	RPCP33DS.12MT 6418677182457 For 1 x 12 modules	RPCF33DS.12MT 6418677182488 For 1 x 12 modules	RABP33DS.12MT 6418677182518 For 1 x 12 modules
300	400	132	67.5/116	RPCM34DS.24MT 6418677182433 For 2 x 12 modules	RPCP34DS.24MT 6418677182464 For 2 x 12 modules	RPCF34DS.24MT 6418677182495 For 2 x 12 modules	RABP34DS.24MT 6418677182525 For 2 x 12 modules
300	600	132	67.5/116	RPCM36DS.36MT 6418677182440 For 3 x 12 modules	RPCP36DS.36MT 6418677182471 For 3 x 12 modules	RPCF36DS.36MT 6418677182501 For 3 x 12 modules	RABP36DS.36MT 6418677182532 For 3 x 12 modules

### Modular Enclosures Ensto Cubo R Accessories for enclosures with 12 - 36 modules

Ordering no.	Description	Dimensions mm	EAN 13 code
KN15.315	N+PE rail, Cu 2 x (2 x 16 / 13 x 16 mm <sup>2</sup> ), incl. in the enclosure	L = 250	6418677153020
KN16.330	N rail, Cu 4 x 16 / 26 x 6 mm <sup>2</sup> , incl. in the enclosure	L = 250	6418677153037
KN17.332	PE rail, Cu 4 x 16 / 28 x 6 mm <sup>2</sup> , incl. in the enclosure	L = 250	6418677153044
CP220	Cover plate for DS version's slits, incl. in the enclosure	220 x 50 x 7	6418677176661
PEM222	Marker for DS version, incl. in the enclosure	216 x 34 x 0,1	6418677176678
KY6	Lock for all versions		6418677173431



1.

300 x 300 mm enclosures with metric knock outs as follows:  
up: 12 x M20 + 1 x M16/25  
down: 8 x M20 + 4 x M25/40



2.

Large, 300 x 400 mm and 300 x 600 mm enclosures with metric knock outs as follows:  
up: 12 x M12/20 + 1 x M32/40  
down: 8 x M12/20 + 5 x M16/250



The large Cubo R enclosures, for 12 – 36 modules, have smoke-grey door as standard. As an alternative, the enclosures are available with transparent door.



The large modular enclosures are available with metric knock-outs, flange knock-outs or with plain sides. Alternative material for plain-sided enclosures is ABS.



Thanks to their high IP classification, Ensto Cubo R modular enclosures are also suitable to be used in humid conditions.



A typical application for Ensto Cubo modular enclosure. Both the door and the enclosure cover are lockable.

# Accessories for Enclosures and Panels

## Accessories for enclosures and panels

Ordering no.	Description	EAN 13 code
<b>Inspection window IP65</b>		
VMA2	For 2 modules, PC, 67 mm x 59 mm	6418677151170
VMA4	For 4 modules, PC, 67 mm x 94 mm	6418677151187
VMA6	For 6 modules, PC, 67 mm x 130 mm	6418677151194
VMA8	For 8 modules, PC, 67 mm x 163 mm	6418677151200
VMA10	For 10 modules, PC, 67 mm x 200 mm	6418677151217
VMA12	For 12 modules, PC, 67 mm x 233 mm	6418677151224
VMA1519	Opening: 113 x 153 mm, incl. screws, PC	6418677174193
<b>Ventilation device</b>		
VDRI18	IP 34, PA, 25 mm x 28 mm	6418677151231
VDRI29	IP 44, PA, 30.5 mm x 69 mm	6418677151248
<b>Drain water plug</b>		
DWP1	IP 44, rubber, Ø 33 mm	6418677172731
<b>Flanges, for steel enclosures</b>		
PMR331	Membrane flange, size F2	6418677163555
<b>Socket joint, for steel enclosures</b>		
PMR54.20	For 9-13 mm cable, grey, Ø 26 mm x 17mm	6418677163579
<b>Connection muffles, for steel enclosures</b>		
PMR904	For 16 mm plastic conduit, blue, external Ø 20 mm, L = 32 mm	6418677163586
PMR900.1	For 20 mm plastic conduit, white, external Ø 23 mm, L = 32 mm	6418677163593
PMR901.1	For 24 mm plastic conduit, green, external Ø 28 mm, L = 32 mm	6418677163609
PMR902.1	For 32 mm plastic conduit, blue, external Ø 33 mm, L = 32 mm	6418677163616
PMR743	For 40 mm plastic conduit, blue, external Ø 46 mm, L = 32 mm	6418677170478
PMR744	For 50 mm plastic conduit, green, external Ø 60 mm, L = 34 mm	6418677170485
PMR16	For 16 mm plastic conduit, blue, external Ø 24 mm, L = 41 mm	6418677163647
PMR20	For 20 mm plastic conduit, white, external Ø 23 mm, L = 42 mm	6418677163654
KP5.36	For Ø 40 mm Al conduit	6418677163661
KP6.36	For Ø 50 mm Al conduit	6418677163678
<b>Wiring plugs, for steel enclosures</b>		
PMR70.1612	Cable lead-through 16 mm, 12 ea./set, external Ø 20 mm	6418677163784
PMR70.2012	Cable lead-through 20 mm, 12 ea./set, external Ø 22 mm	6418677183791
PMR70.25	Cable lead-through 25 mm, external Ø 30 mm	6418677163708
PMR70.32	Cable lead-through 32 mm, external Ø 37 mm	6418677163715
<b>Panel accessories</b>		
PMR30	Cover for kWh opening, 39 mm x 110 mm x 4 mm	6418677166723
PMR1387	Plug for cover panel, Ø 6 mm hole	6418677166730
PME1	Cover plate for 45 mm DIN slit, L = 2 m	6418677166747



Inspection windows, IP65, for 2 - 12 modules.



Drain water plug DWP1.



The range of accessories includes a F2-sized membrane flange, ordering number PMR331.



Socket joint PMR 54.20.



A wide range of connection muffles for plastic conduits.

Ordering no.	Description	EAN 13 code
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**Locking device**

KY2.15	Plastic latch, 15 mm closing space, Ø 23 mm x 26 mm	6418677166754
KY3	Delta wrench	6418677166761
KY3.10	Triangular wrench, lockable, Δ 11 mm	6418677166778
ST80/U	Triangular key, Δ 11 mm	6418677170430
KY4	Metal latch, 18 mm closing space, Ø 28 mm x 31 mm	6418677166785

**Fixing screws**

KY1.20	Fixing screw for kWh meter, M5 x 22 mm	6418677166792
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**Sealing screws, Ms**

PTK14	M4 x 16 mm	6418677166808
PTK13	M4 x 22 mm	6418677166815
PTK11	M4 x 25 mm	6418677166822
PLE152	F4,2 x 21 mm	6418677166839

**Distance bushings, aluminium, external diameter 10 mm**

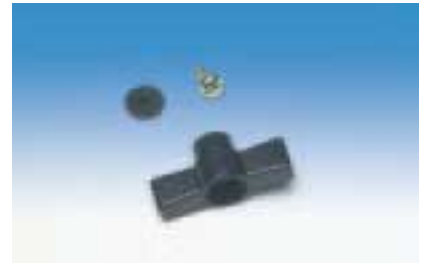
PSK36.025	L = 2.5 mm	6418677166891
PSK36.050	L = 5.0 mm	6418677166907
PSK36.085	L = 8.5 mm	6418677166914
PSK36.100	L = 10.0 mm	6418677166921
PSK36.120	L = 12.0 mm	6418677166938
PSK36.150	L = 15.0 mm	6418677166945
PSK36.200	L = 20.0 mm	6418677166952
PSK36.250	L = 25.0 mm	6418677166969
PSK36.300	L = 30.0 mm	6418677166976
PSK36.350	L = 35.0 mm	6418677166983
PSK36.400	L = 40.0 mm	6418677166990
PSK36.450	L = 45.0 mm	6418677166003
PSK36.500	L = 50.0 mm	6418677166010



Plastic latch, KY 2.15.



Metal latch, KY 4.



Triangular wrench KY 3.



Triangular wrench, lockable, KY 3.10.



16 mm and 20 mm wiring plugs come in sets of 12 pcs; 24 mm and 32 mm plugs come separately.



A cover for kWh opening, PMR 30, and plug for front panel, PMR 1387.



Distance bushings of aluminium, the lowest 2,5 mm, PSK 36.025 and the highest, 50,0 mm, PSK 36.500.



11 mm triangular key ST80/U.

# Cable Glands

## Metric thread

Dimensions	Cable gland grey polyamide with strain relief IP 68	Counter nut grey polyamide	Blind plug grey polyamide	Cable gland brass with strain relief incl. O ring, IP 68	Counter nut brass	Blind plug brass
M12	KTM24.12 6416031851124 Cable Ø 2-5 mm	PMR1218.12 6416031859120	PMR1217.12 6416031853128	KTM12.12 6416031812125 Cable Ø 3-6.5 mm	PTK16.12 6416031813122	PTK17.12 6416031814129
M16	KTM24.16 6416031851162 Cable Ø 3-7 mm	PMR1218.16 6416031859168	PMR1217.16 6416031853166	KTM12.16 6416031812163 Cable Ø 4-8 mm	PTK16.16 6416031813160	PTK17.16 6416031814167
M20	KTM24.20 6416031851209 Cable Ø 5-9 mm	PMR1218.20 6416031859205	PMR1217.20 6416031853203	KTM12.20 6416031812200 Cable Ø 6-12 mm	PTK16.20 6416031813207	PTK17.20 6416031814204
M25	KTM24.25 6416031851254 Cable Ø 9-14 mm	PMR1218.25 6416031859250	PMR1217.25 6416031853258	KTM12.25 6416031812255 Cable Ø 10-14 mm	PTK16.25 6416031813252	PTK17.25 6416031814259
M32	KTM24.32 6416031851322 Cable Ø 12-20 mm	PMR1218.32 6416031859328	PMR1217.32 6416031853326	KTM12.32 6416031812323 Cable Ø 13-18 mm	PTK16.32 6416031813320	PTK17.32 6416031814327
M40	KTM24.40 6416031851407 Cable Ø 20-26 mm	PMR1218.40 6416031859403	PMR1217.40 6416031853401	KTM12.40 6416031812408 Cable Ø 18-25 mm	PTK16.40 6416031813405	PTK17.40 6416031814402
M50	KTM24.50 6416031851506 Cable Ø 25-31 mm	PMR1218.50 6416031859502	PMR1217.50 6416031853500	KTM12.50 6416031812507 Cable Ø 22-32 mm	PTK16.50 6416031813504	PTK17.50 6416031814501
M63	KTM24.63 6418677171031 Cable Ø 29-35 mm	PMR1218.63 6418677171048	PMR1217.63 6418677171055	KTM12.6332 6416031812637 Cable Ø 34-44 mm	PTK16.63 6416031813634	PTK17.63 6416031814631

## Pg thread

Dimensions	Cable gland grey polyamide with strain relief IP 68	Cable gland black polyamide with strain relief IP 68	Counter nut grey polyamide	Blind plug grey polyamide	Cable gland brass with strain relief incl. O ring, IP 68	Counter nut brass	Blind plug brass
Pg7	KT24.07 6418677170836 Cable Ø 2-5 mm	KT24.07/BLACK 6418677158803 Cable Ø 2-5 mm	PMR444.07 6418677170935	PMR442.07 6418677169960	KT3.07 6418677168000 Cable Ø 3-6.5 mm	PT29.07 6418677158698	PT34.07 6418677168697
Pg9	KT24.09 6418677170843 Cable Ø 2-6 mm	KT24.09/BLACK 6418677158810 Cable Ø 2-6 mm	PMR444.09 6418677170942	PMR442.09 6418677169403	KT3.09 6418677168017 Cable Ø 4-8 mm	PT29.09 6418677158704	PT34.09 6418677168628
Pg11	KT24.11 6418677170850 Cable Ø 3-7 mm	KT24.11/BLACK 6418677158827 Cable Ø 3-7 mm	PMR444.11 6418677170959	PMR442.11 6418677169410	KT3.11 6418677168239 Cable Ø 5-10 mm	PT29.11 6418677158711	PT34.11 6418677168635
Pg13.5	KT24.13 6418677170867 Cable Ø 5-9 mm	KT24.13/BLACK 6418677158834 Cable Ø 5-9 mm	PMR444.13 6418677170966	PMR442.13 6418677169427	KT3.13 6418677168246 Cable Ø 6-12 mm	PT29.13 6418677158728	PT34.13 6418677168642
Pg16	KT24.16 6418677170874 Cable Ø 7-12 mm	KT24.16/BLACK 6418677158841 Cable Ø 7-12 mm	PMR444.16 6418677170973	PMR442.16 6418677169434	KT3.16 6418677168253 Cable Ø 10-14 mm	PT29.16 6418677158735	PT34.16 6418677168659
Pg21	KT24.21 6418677170881 Cable Ø 9-16 mm	KT24.21/BLACK 6418677158858 Cable Ø 9-16 mm	PMR444.21 6418677170980	PMR442.21 6418677169441	KT3.21 6418677168260 Cable Ø 13-18 mm	PT29.21 6418677158742	PT34.21 6418677168666
Pg29	KT24.29 6418677170898 Cable Ø 12-20 mm	KT24.29/BLACK 6418677158865 Cable Ø 12-20 mm	PMR444.29 6418677170997	PMR442.29 6418677169458	KT3.29 6418677168277 Cable Ø 18-25 mm	PT29.29 6418677158759	PT34.29 6418677168673
Pg36	KT24.36 6418677170904 Cable Ø 20-26 mm	KT24.36/BLACK 6418677158872 Cable Ø 20-26 mm	PMR444.36 6418677171000	PMR442.36 6418677169465	KT3.36 6418677168086 Cable Ø 22-32 mm	PT29.36 6418677158766	PT34.36 6418677168680
Pg42	KT24.42 6418677170911 Cable Ø 25-31 mm	KT24.42/BLACK 6418677158889 Cable Ø 25-31 mm	PMR444.42 6418677171017	PMR442.42 6418677169478	KT3.42 6418677168093 Cable Ø 30-38 mm	PT29.42 6418677158773	PT34.42 6418677168703
Pg48	KT24.48 6418677170928 Cable Ø 29-35 mm	KT24.48/BLACK 6418677158896 Cable Ø 29-35 mm	PMR444.48 6418677171024	PMR442.48 6418677169491	KT3.48 6418677168109 Cable Ø 34-44 mm	PT29.48 6418677158780	PT34.48 6418677168710

## Expansion and reduction nipples

### Metric thread

Dimensions	Expansion nipple grey polyamide	Expansion nipple brass	Expansion nipple grey polyamide M → Pg	Expansion nipple brass M → Pg	Reduction nipple grey polyamide	Reduction nipple brass	Reduction nipple brass M → Pg	Change-over nipple brass
M12	PMR1220.1216 6416031856129 M12 → M16	PTK19.1216 6416031816123 M12 → M16	PMR1221.1209 6416031855122 M12 → Pg9	PTK21.1209 6416031822124 M12 → Pg9				
M16	PMR1220.1620 6416031856167 M16 → M20	PTK19.1620 6416031816161 M16 → M20	PMR1221.1609 6416031855160 M16 → Pg9	PTK21.1611 6416031822162 M16 → Pg11	PMR1219.1612 6416031854163 M16 → M12	PTK18.1612 6416031815164 M16 → M12	PTK20.1607 6416031821165 M16 → Pg7	
M20	PMR1220.2025 6416031856204 M20 → M25	PTK19.2025 6416031816208 M20 → M25	PMR1221.2011 6416031855207 M20 → Pg11	PTK21.2016 6416031822209 M20 → Pg16	PMR1219.2012 6416031854200 M20 → M12	PTK18.2012 6416031815201 M20 → M12	PTK20.2009 6416031821202 M20 → Pg9	
M25	PMR1220.2532 6416031856259 M25 → M32	PTK19.2532 6416031816253 M25 → M32	PMR1221.2516 6416031855252 M25 → Pg16	PTK21.2521 6416031822254 M25 → Pg21	PMR1219.2512 6416031854255 M25 → M12	PTK18.2516 6416031815256 M25 → M16	PTK20.2511 6416031821264 M25 → Pg11	PT50.2516 6418677158840 M25 → Pg16
M32	PMR1220.3240 6416031856327 M32 → M40	PTK19.3240 6416031816321 M32 → M40	PMR1221.3229 6416031855320 M32 → Pg29	PTK21.3229 6416031822322 M32 → Pg29	PMR1219.3216 6416031854330 M32 → M16	PTK18.3220 6416031815324 M32 → M20	PTK20.3216 6416031821332 M32 → Pg16	PT50.3221 6418677168857 M32 → Pg21
M40		PTK19.4050 6416031816406 M40 → M50	PMR1221.4029 6416031855405 M40 → Pg29	PTK21.4036 6416031822407 M40 → Pg36	PMR1219.4020 6416031854415 M40 → M20	PTK18.4025 6416031815409 M40 → M25	PTK20.4021 6416031821417 M40 → Pg21	PT50.4029 6418677168864 M40 → Pg29
M50		PTK19.5063 6416031816505 M50 → M63	PMR1221.5036 6416031855504 M50 → Pg36	PTK21.5042 6416031822506 M50 → Pg42	PMR1219.5025 6416031854514 M50 → M25	PTK18.5032 6416031815508 M50 → M32	PTK20.5029 6416031821516 M50 → Pg29	PT50.5036 6418677168871 M50 → Pg36
M63			PMR1221.5042 6416031855511 M50 → Pg42	PTK21.5048 6416031822513 M50 → Pg48	PMR1219.5032 6416031854521 M50 → M32	PTK18.5040 6416031815515 M50 → M40	PTK20.5036 6416031821523 M50 → Pg36	
			PMR1221.6348 6416031855634 M63 → Pg48		PMR1219.6332 6416031854644 M63 → M32	PTK18.6340 6416031815638 M63 → M40	PTK20.6336 6416031821646 M63 → Pg36	
					PMR1219.6340 6416031854651 M63 → M40	PTK18.6350 6416031815645 M63 → M50	PTK20.6342 6416031821653 M63 → Pg42	
					PMR1219.6350 6416031854668 M63 → M50			

**Expansion and reduction nipples and conduit fittings**
**Pg thread**

Dimensions	Expansion nipple grey polyamide	Reduction nipple grey polyamide	General conduit fitting for pipes brass	Conduit fitting for stuffing brass
Pg9	PMR440.094 6418677169564 Pg9 → Pg11		KP1.090 6418677158888 Pg9 → Ø 16 mm	KP4.1509 6418677168987 Pg9 → Ø 16 mm
Pg11	PMR440.114 6418677169571 Pg11 → Pg16	PMR439.111 6418677169472 Pg11 → Pg9	KP1.110 6418677168895 Pg11 → Ø 16 mm	
Pg13.5	PMR440.134 6418677169588 Pg13.5 → Pg16	PMR439.131 6418677169489 Pg13.5 → Pg11	KP1.120 6418677168901 Pg11 → Ø 20 mm	KP4.1811 6418677169007 Pg11 → Ø 19 mm
Pg16	PMR440.164 6418677169595 Pg16 → Pg21	PMR439.161 6418677169496 Pg16 → Pg9	KP1.130 6418677168918 Pg13.5 → Ø 20 mm	KP4.1813 6418677169014 Pg13.5 → Ø 19 mm
Pg21	PMR440.214 6418677169601 Pg21 → Pg29	PMR439.162 6418677169502 Pg16 → Pg11	KP1.160 6418677158925 Pg16 → Ø 22 mm	KP4.2216 6418677169021 Pg16 → Ø 23 mm
Pg29	PMR440.294 6418677169618 Pg29 → Pg36	PMR439.211 6418677169519 Pg21 → Pg11	KP1.170 6418677168932 Pg16 → Ø 25 mm	KP1.210 6418677168949 Pg21 → Ø 29 mm
Pg36		PMR439.212 6418677169526 Pg21 → Pg16	KP1.220 6418677168956 Pg21 → Ø 32 mm	KP4.2821 6418677169038 Pg21 → Ø 29 mm
		PMR439.291 6418677169533 Pg29 → Pg16	KP1.290 6418677168963 Pg29 → Ø 40 mm	KP4.3729 6418677169045 Pg29 → Ø 38 mm
		PMR439.292 6418677169540 Pg29 → Pg21		
		PMR439.361 6418677169557 Pg36 → Pg29	KP1.360 6418677168970 Pg36 → Ø 50 mm	KP4.4736 6418677169052 Pg36 → Ø 48 mm

**Rubber grommets  
IP67**

Ordering no.	Description	EAN 13 code
SET5-7H	Cable Ø 5-7 mm, hole Ø 16 mm	6416031055072
SET7-10H	Cable Ø 7-10 mm, hole Ø 19 mm	6416031055102
SET10-14H	Cable Ø 10-14 mm, hole Ø 23 mm	6416031055140
SET14-20H	Cable Ø 14-20 mm, hole Ø 29 mm	6416031055201
SET20-26H	Cable Ø 20-26 mm, hole Ø 38 mm	6416031055263
SET26-32H	Cable Ø 26-32 mm, hole Ø 48 mm	6416031055324

# All-in-One Enclosures

## Ensto Cubo

### The Ensto Cubo selection also includes fully installation-ready enclosures

To our All-in-One sales concept we have selected enclosures that meet the most common needs. The enclosure includes everything needed for installation and cable entries: everything included, in a single, handy package with one ordering number.

Ensto's all-in-one enclosure concept is designed for small contractors. The concept is also suitable for industrial maintenance and small OEM's. For the distribution channel, e.g. electrical wholesalers, all-in-one enclosures equal fewer items to be stocked and consequent savings in both time and money.

The all-in-one enclosures include three small general purpose enclosures of polycarbonate, four medium-size to large general purpose enclosures, two modular enclosures and the enclosed terminals.

Get acquainted with our All-in-One Enclosures at [www.ensto.com](http://www.ensto.com). A special leaflet for All-in-One sales concept is also available.



Our packages for the large enclosures are fitted with a handle, making it easy to carry all the way to the installation site. And you can be sure that everything is included!

### Enclosed Terminals

We have combined our expertise in enclosure and terminal manufacture and solved the needs for connecting, extending or branching cables and enclosing the terminals with a single finished product.

The concept includes five different enclosure sizes ranging from 125 x 125 mm to 300 x 600 mm; the terminals range from 6 mm<sup>2</sup> Cu terminals to Al/Cu branching terminals up to 150 mm<sup>2</sup>.

The terminals are of the Ensto Clampo series. The nominal cross-section areas fit the most commonly used Cu and Cu/Al installations. The cable diameters of different installations are also considered in the dimensions of the openings in the enclosure. The enclosures are Ensto Cubo general purpose enclosures of polycarbonate.



Enclosed terminal Ensto Cubo T1 comprises 14 different items, each of which had to be purchased separately in the past.



The ordering number of Ensto Cubo T4 enclosed terminal includes pre-mounted Al/Cu branching terminals 5 x 16-70 mm<sup>2</sup> in a 300 x 400 mm polycarbonate Ensto Cubo C enclosure.



The package of Ensto Cubo C2 general purpose enclosure includes the enclosure with its mounting plate and mounting screws, a set of wall-mounting lugs, a membrane flange with a flange/base support and a set of flange bolts.

# All-in-One Enclosures

## Ensto Cubo

Width mm	Height mm	Depth mm	General purpose enclosure	Hinged wall-mounted cabinet	Modular enclosure	Enclosed terminal	Terminals for Ensto Cubo T
125	125	75	Ensto Cubo S1 SPCM131308G001 6418677182303			Ensto Cubo T1 TPM131308G001 6418677182372	Cu 12 x 6 mm <sup>2</sup>
125	175	75	Ensto Cubo S2 SPCM131808G002 6418677182310				
175	250	150	Ensto Cubo S3 SPCM182515G003 6418677182327				
200	300	132				Ensto Cubo T2 TPCF203013G002 6418677182389	Al/Cu 5 x 6-35 mm <sup>2</sup>
300	300	132	Ensto Cubo C1 CPCF303013G001 6418677182549	Ensto Cubo W1 WPCJ303013G001 6418677182358	Ensto Cubo R1 RPCF3313DS001 6418677182334		
300	400	132	Ensto Cubo C2 CPCF304013G002 6418677182570	Ensto Cubo W2 WPCF304013G002 6418677182365	Ensto Cubo R2 RPCF3413DS002 6418677182341	Ensto Cubo T3 TPCF304013G003 6418677182396	Al/Cu 5 x 16-95 mm <sup>2</sup>
						Ensto Cubo T4 TPCF304013G004 6418677182402	Al/Cu 2 x (5 x 16-70 mm <sup>2</sup> )
300	600	132				Ensto Cubo T5 TPCF306013G005 6418677182419	Al/Cu 2 x (5 x 35-150 mm <sup>2</sup> )

### Accessories for All-in-One enclosures

Ordering no.	Description	EAN 13 code
<b>Cable glands, sets</b>		
KTM1.1	2 pcs M12, 3 pcs M16, 2 pcs M20	6418677173233
KTM2.1	3 pcs M16, 2 pcs M20, 2 pcs M25	6418677173240
KTM3.1	4 pcs M20, 2 pcs M25, 1 pc M32	6418677173257
<b>Flange set</b>		
F2202KIT	Includes one membrane flange, a flange support and a flange bolt set	6418677182556
<b>Mounting kit for C bases, F2 size</b>		
F2GSS20T	Includes one flange gasket, two flange supports and a flange bolt set	6418677181504
<b>Hinged cover screws</b>		
OLSH1.2	Pair, blue	6418677181511



The set of cable glands includes seven cable glands with strain-relief, counter nuts and one blind plug.

# 19" Data and Telecommunication Cabinets

## Ensto Cubo OD

Our range of enclosure solutions now also comprises products for network applications: a series of 19" for data and telecommunications. As all other enclosures, this series is also a member in the Ensto Cubo line of products.

In the design of 19" cabinets, top priority was given to functionality of the accessories and easiness of installation, not compromising a bit on the exterior features of the cabinet. The ordering numbers are short and logical: OD in the beginning of the ordering number indicates the product is of Office Data series.

The product range covers 19" floor standing cabinets, 19" wall mounting cabinets and a 10" data cabinet for small offices and domestic use. The cabinets are with solid door; an option for the floor standing cabinets is a door with a smoked grey window. Standard colour is pearl grey, RAL 7035; other colours to order.

For further information please refer to our web-pages at [www.ensto.com](http://www.ensto.com) or our special leaflet on 19" cabinets.



The standard model of a 19" floor standing cabinet, OD6206A. It is also available 821 mm wide and 841 mm deep, when more space is needed for the cabling.



Our 19" cabinets have a new, smart design. Standard colour pearl grey RAL 7035, plinth graphite grey RAL 7024. An option for the floor cabinets is a door with a smoke-grey window.

Functionality of accessories make installation easy: sliding shelves, cable management panels, LSA+ mounting panels and socket outlets.



# 19" Data and Telecommunication Cabinets

## Ensto Cubo OD

Height U	Width mm	Height mm	Depth mm	19" floor standing cabinet solid door	19" floor standing cabinet window door	19" wall mounting cabinet solid door	10" wall mounting cabinet solid door
10	400	600	125				OD461A 6418677194986
12	603	635	491			OD664A 6418677194948	
15	603	755	491			OD674A 6418677194955	
21	603	995	491			OD6104A 6418677194962	
	603	995	641			OD6106A 6418677194979	
42	603	2056	641	OD6206B* 6418677194702			
42	661	2056	641	OD6206A 6418677194719 OD6206AV** 6418677194726	OD6206AW 6418677194733 OD6206AVW** 6418677194740		
42	821	2056	641	OD8206A 6418677194757	OD8206AW 6418677194764		
42	821	2056	841	OD8208A 6418677194771	OD8208AW 6418677194788		

\* Solid and integrated side panels, stand alone cabinet  
 \*\*Includes a ventilator



10" data cabinet for domestic use. A neat and simple data cabinet with well-designed accessories: as a standard two 12-slot patch panels with unique adapter panels, suitable for all types of connectors!



19" small wall mounting cabinets (ordering numbers OD664, OD674 and OD6104) come with two size F2 flange openings on both bottom and top of the cabinet. Plastic membrane flanges PMR 331, 4 pcs, are included.



19" large wall mounting cabinets (ordering number OD6101, 21 U) have a sliding roof plate and a perforation on the floor for cable entries. All models have a possibility to mount one fan. There are ventilation slots on both top and bottom of the cabinet door

**19" Cabinets  
Ensto Cubo OD  
Accessories**

Ordering no.	Description	EAN 13 code
<b>Open frame rack, 19"</b>		
ODMR3.9	Depth: 300 mm, 9U	6418677195068
ODMR4.9	Depth: 400 mm, 9U	6418677195075
ODMR4.15	Depth: 400 mm, 15U	6418677195082
ODMR4.21	Depth: 400 mm, 21U	6418677195099
ODMR4.27.3	Depth: 400 mm, with three wall fixing pieces, 27U	6418677195105
ODMR4.42.3	Depth: 400 mm, with three wall fixing pieces, 42U	6418677195112
<b>Cable management panel 19", incl. cage nuts and mounting screws</b>		
ODWH.1U	Cable management panel, 1U	6418677194795
<b>Optical fibre panel 19" incl. cage nuts and mounting screws</b>		
ODSC1.24	SC-single, 24 openings, adjustable mounting depth, 2U	6418677194801
ODSC2.25	SC-duplex, 25 openings, adjustable mounting depth, 2U	6418677194818
ODSC2.12	SC-duplex, 12 openings, adjustable mounting depth, 2U	6418677194825
ODFOH.1	Optical fibre connection holder	6418677194931
<b>Patch panel RJ-45, 16 openings, incl. cage nuts and mounting screws, excl. connectors</b>		
ODP16.1	RJ-45, 16 openings, for AMP/BrandRex connectors, 1U	6418677194832
ODP16.2	RJ-45, 16 openings, for LEXCOM connectors, 1U	6418677194849
ODP16.3	RJ-45, 16 openings, for KRONE adapt, connectors, 1U	6418677194856
ODP16.4	RJ-45, 16 openings, for ECS, KRONE, Hellerman Tyton connectors, 1U	6418677194863
<b>Patch panel RJ-45, 32 openings, incl. cage nuts and mounting screws, excl. connectors</b>		
ODP32.1	RJ-45, 32 openings, for AMP/BrandRex connectors, 2U	6418677194870
ODP32.2	RJ-45, 32 openings, for LEXCOM connectors, 2U	6418677194887
ODP32.3	RJ-45, 32 openings, for KRONE adapt, connectors, 2U	6418677194894
ODP32.4	RJ-45, 32 openings, for ECS, KRONE, Hellerman Tyton connectors, 2U	6418677194900
<b>LSA+ Mounting Panel 19", incl. cage nuts and mounting screws</b>		
ODLSA.2	LSA+, 10 to 60 connectors, 2U	6418677194917
ODLSA.4	LSA+, 50 to 150 connectors, 4U	6418677194924
<b>Other accessories</b>		
ODWP.4	Castors for floor standing cabinets, 4 wheels/set, 2 are locking	6418677195129
ODAFP.4	Levelling feet set for floor standing cabinets	6418677195136
ODVP.1	Fan set	6418677195143
ODVP.3	Fan set, flank mounting, 3 fans/set	6418677195167
ODSS.1	Shelf with a telescopic slide	6418677195174
ODES3.1	Static shelf, depth 300 mm, 3U	6418677195181
ODES4.1	Static shelf, depth 400 mm, 3U	6418677195198
ODSP6.2	6 sockets; schuko, cable length 3 m, 2U	6418677195204
ODSP6.2S	6 sockets; schuko, incl. switch, cable length 3 m, 2U	6418677195211
ODBP1	Blanking panel, 1U	6418677195242
ODBP2	Blanking panel, 2U	6418677195259
ODBP3	Blanking panel, 3U	6418677195266
ODBP4	Blanking panel, 4U	6418677195273
<b>Accessories for 10" wall mounting cabinets</b>		
ODP12.3	Patch panel, RJ-45 + D17, 12 openings, 2U	6418677195020
ODPSC.1	Optical fibre panel for patch panel, DC22 SC duplex with 2 openings, 1U	6418677195044
ODLSAMB.1	Mounting panel for patch panel, LSA+, for 20 connectors	6418677195051
OD46A	Insert frame for flush mounting	6418677194993



**ENCLOSURES AND  
COMPONENTS**

ENSTO CONTROL OY  
ENSIO MIETTISEN KATU 2, P.O.BOX 77  
06101 PORVOO, FINLAND  
TEL. +358 (0)20 476 21  
FAX +358 (0)20 476 2516  
ENSTO@ENSTO.COM  
WWW.ENSTO.COM