

This introductory section should be very helpful and we suggest you read it carefully. It contains the explanation of the EUR-1 series, the legend of the catalogue, and technical information regarding the aluminium profiles and the accessories. The representative drawing of the EUR-1 system, on page 03, illustrates how to use the corner post profiles and the relative nylon or aluminium corner joint to build the main structure. The corners are inserted by pressure, or tapped with rubber hammer. The connection between profiles and corners is very tight and without gaps.

However, for some applications, rivets or screws can also be used to tighten the corners. The profile used to subdivide the structure is called an omega, and is available throughout the profiles range.

When an omega is used, a simple milling to both ends is needed in order to remove the part of the flanges that would otherwise overlap the flanges of the corner post profile.

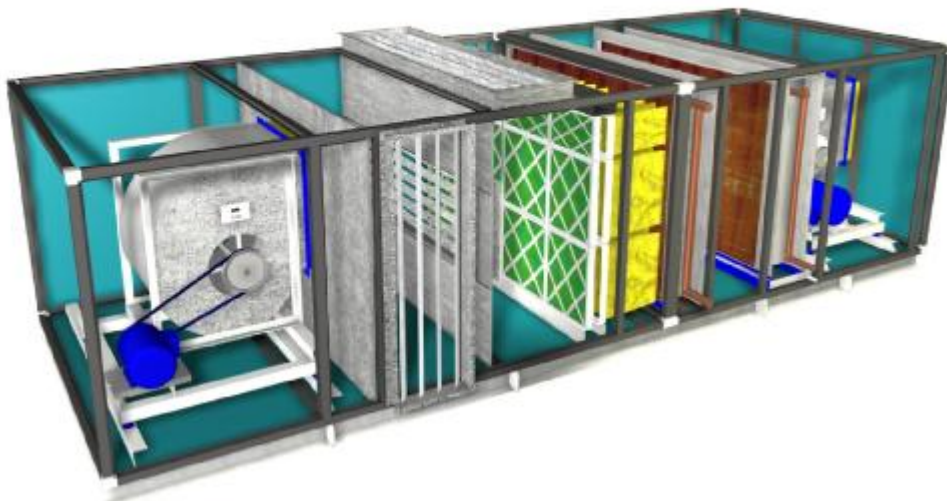
This simple operation is carried out with our milling machine TK 610Z, a very low cost machine tool (see page 4).

The main structure can be constructed with profiles of various dimensions and shapes; both square and blunted section profiles are available. The standard profiles are raw aluminium; anodised and painted finishes are also available.

The aluminium corners are sanded or painted black. All the aluminium corners are produced by the die casting method. The alloys used have all the international certifications and it is also possible to make the production with particular alloys to the specification of the customer. (Certificates of the alloys are available, including the chemical analyses.)

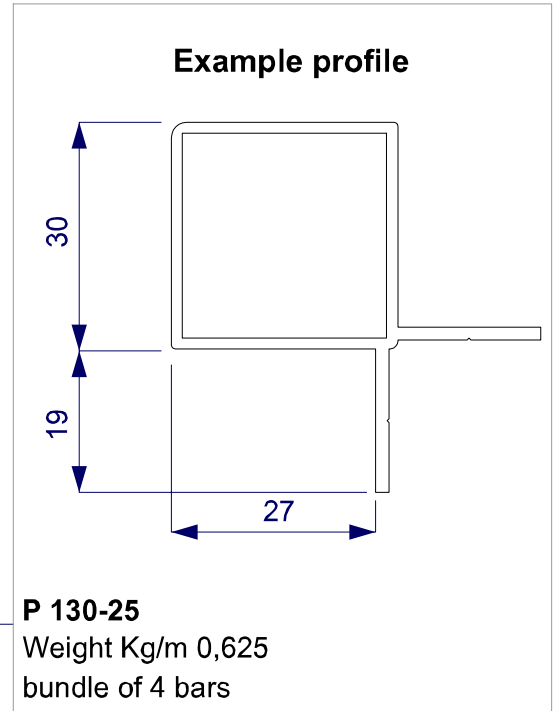
The standard colour of the nylon accessories is black; however, other colours are also available. All the nylon accessories are produced through moulding. The material used is primarily polyamide reinforced with fiberglass (nylon). They can withstand maximum temperatures between 100 and 150 °C; for short periods of time they can even endure up to 200 °C.

In Section 4 of this catalogue you will find all the technical information and drawings of the EUR-1 modular frame system.



MEANING OF CODES IN THE CATALOGUE

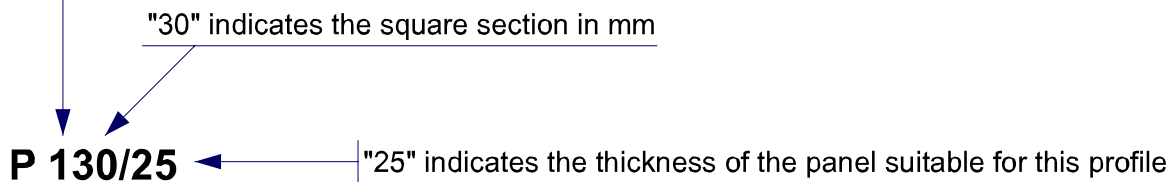
P	aluminium profile
S	blunted aluminium profile
BAS	aluminium profile for base
A	aluminium
N	nylon reinforced with glass fibre
SN	nylon reinforced with glass fibre (blunted shape)
DS	painted steel or treated
DN	steel + nylon
AN	aluminium + nylon
G	gasket
GTT	PVC profile
PTM	panel



IMPORTANT NOTE

Example 1: Profile code description

"1" indicates the corner post shape.
"2" it is used for omega profile

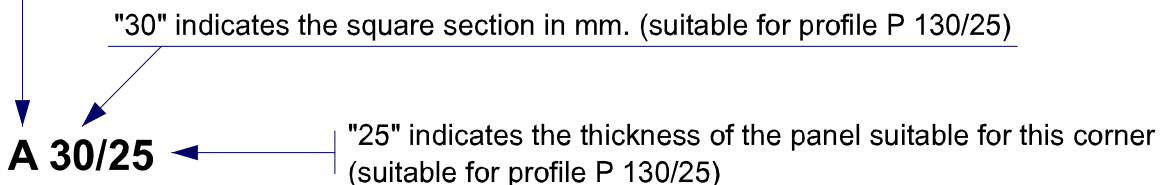


weight kg/m = 0,625 ← The theory weight is really important to calculate the price per metre inasmuch the quotation we make is in €/kg.
bundle of 4 bars ←

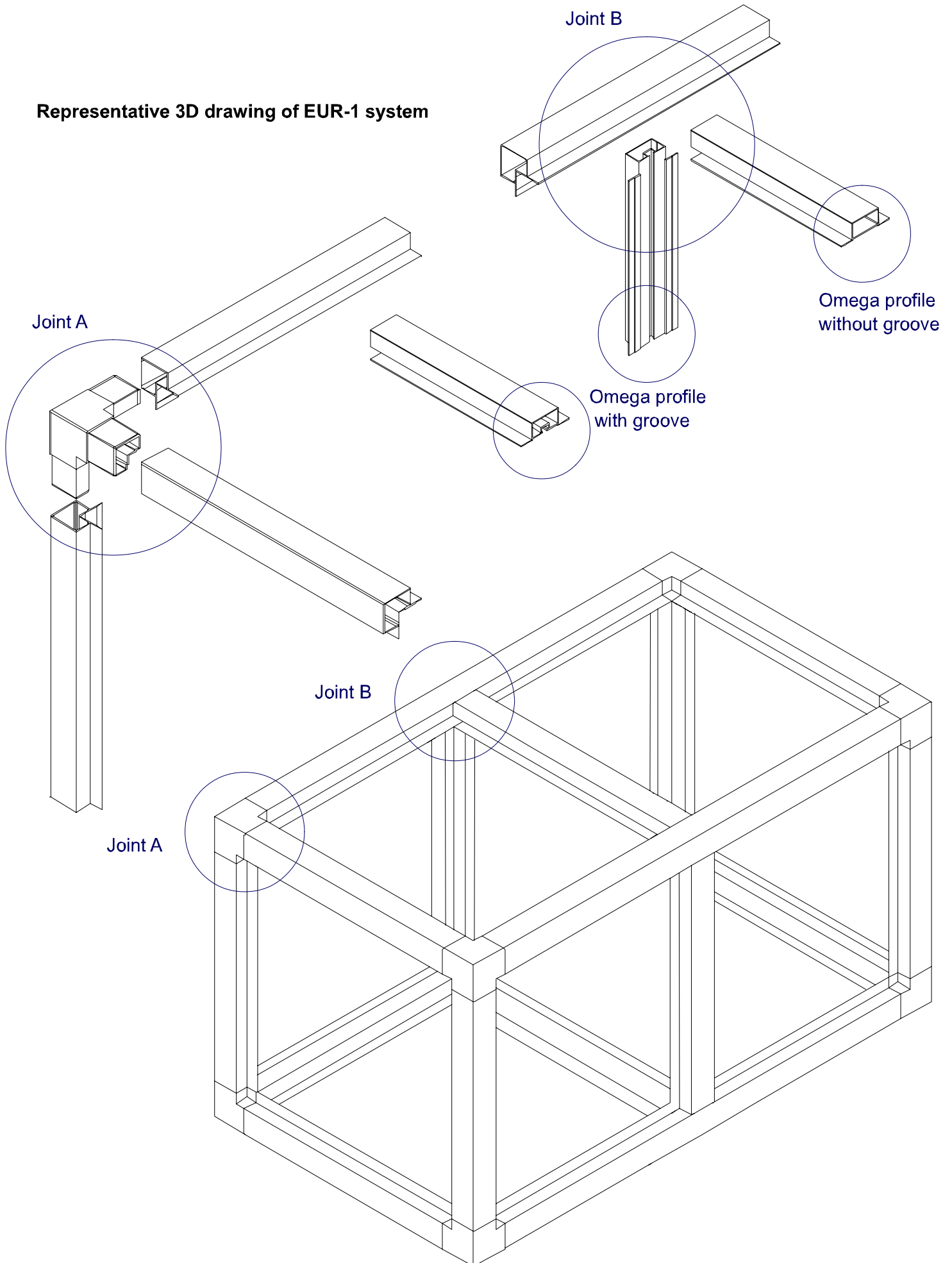
Here we indicate the minimum quantity.
The lenght of the profile in stock is 6 mt.

Example 2: Accessories code description

The first letter indicates the material
(aluminium)

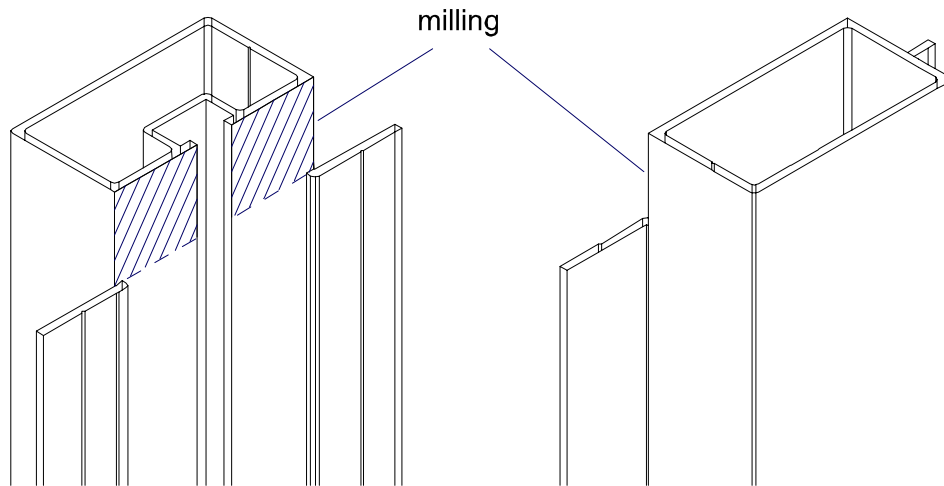


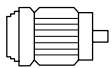

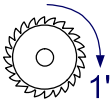
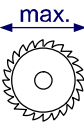
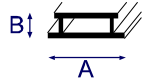
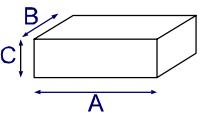

Representative 3D drawing of EUR-1 system



The omega profile should be milled at both ends in order to fit perfectly to a corner post profile or another omega.

This operation is best carried out with our milling machine, **MILLER O - 1**. The operation is quick and simple.



						
1 HP 0,7 Kw	220-380 V 50 Hz	2800	140	220x95	1000x760x1130	135

Milling machine semi-automatic (omega profiles)

Miller O - 1

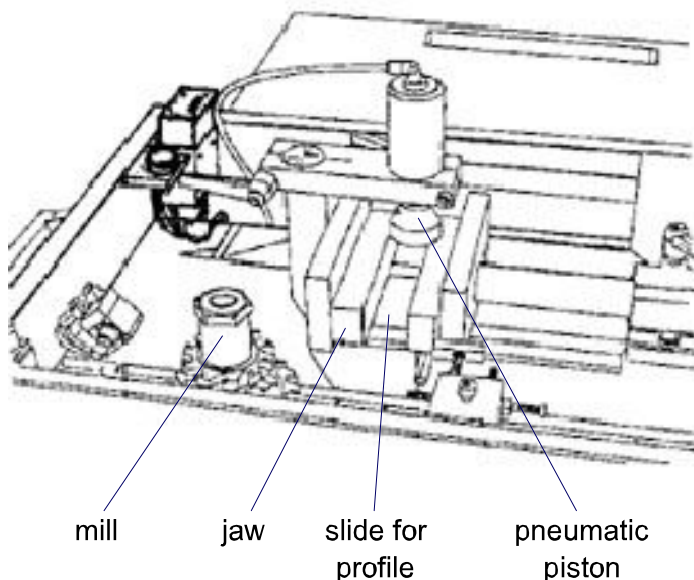
Box of 1 pc.



MILLING CUTTER

Mill 140x4

Box of 2 pc.





Single head cutting machine.

Cutting-off / 1

Box of 1 pc.

Blade advancement: oleo-pneumatic

Clamp pistons: pneumatic

Control device:
display showing the tilting of the head

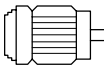

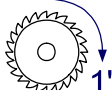
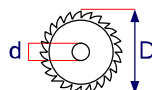
Tilting of the head: pneumatic

Safety and comfort:

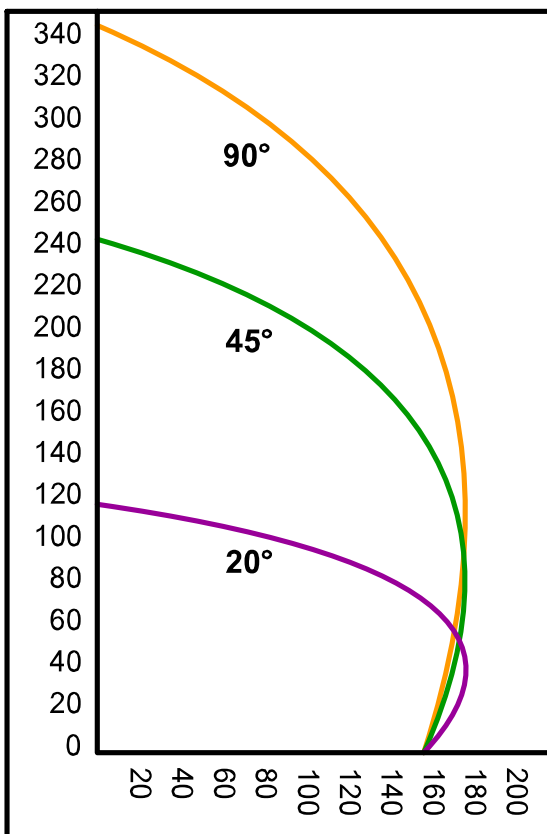
Full enclosure to provide noise reduction and complete accident protection.


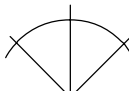
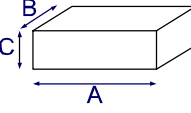

Chips collection drawer.

Technical table

	\sim 3 		
3 HP 2,2 Kw	220-380 V 50 Hz	2800	D=500 d=30

Capacity cutting graph



			
150	-45°, 90°, 45°, 22,5°	900x1430x1470	450

Side tables (loading and unloading)

Loading table from 3 to 4.6 metres length.

Unloading tables:

- complete with manually operated sliding rollers and measure stop.
- complete with display to read the measure and hand-wheel to move the measure stop.
- complete with electronic display and automatic movement of the measure stop

LIST OF THE AVAILABLE SOFTWARE

Visual-Ahu. It is a complete 3D selection, costing and production system for Air Handling Unit manufacturers.

Inventor-Ahu. For Autodesk Inventor users we have Inventor-Ahu. A fully automated system utilising the power and flexibility of Autodesk Inventor.

CoilSelect-Online. Select a Cold water, Steam, Hot Water or DX Cooling Coil online. Generate a Technical Specification and Drawing in DWF and DWG. Download or email the tech spec and drawings at a touch of a button.

FanSelect-Online. Select a fan section online. View a technical specification, fan curve and drawing in DWF or DWG. Download the generated drawings or choose to email the tech spec and drawings at a touch of a button.

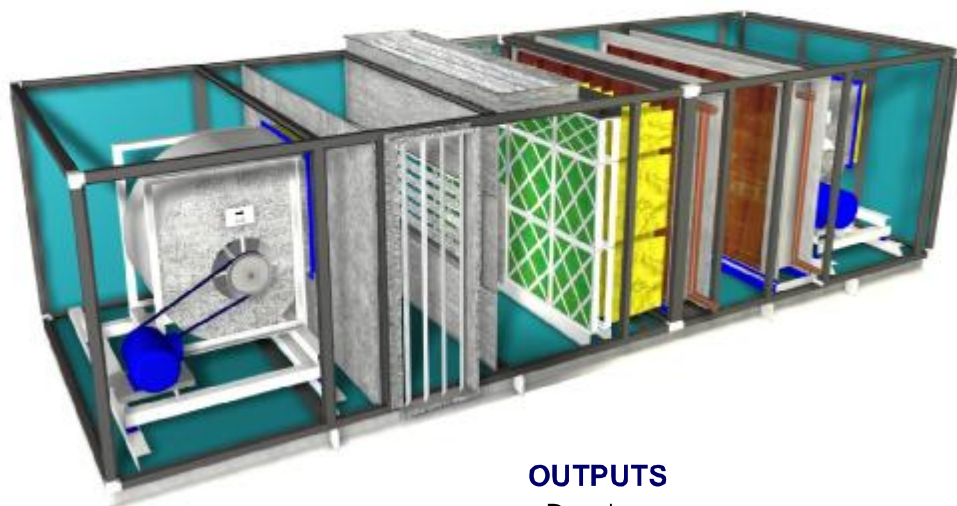
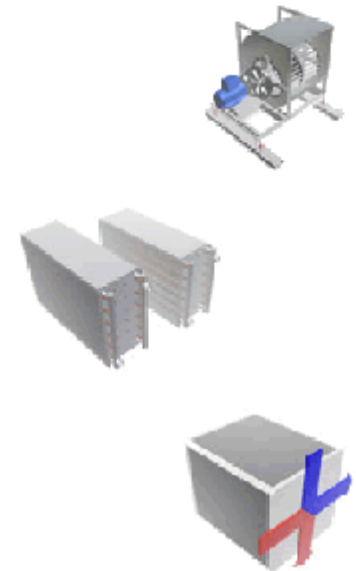
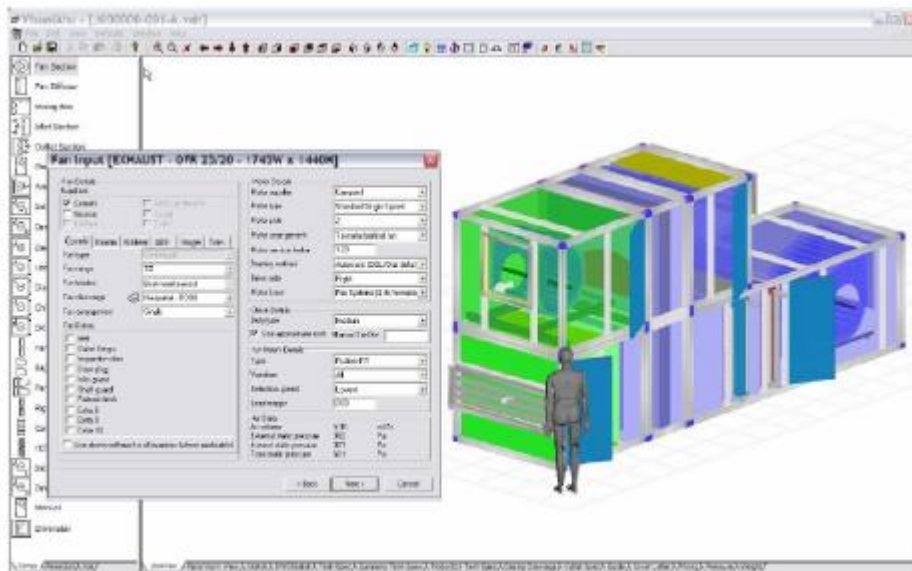
PhxSelect-Online. Select a Plate Heat Exchanger online. View a technical specification and drawing in DWF or DWG. Download the generated drawings or choose to email the tech spec and drawings ala touch of a button.

VisualColdRoom. The standalone CAD system for Modular tongue and groove cam-locking panel construction.

AcadColdRoom. The complete CAD solution for ColdRoom Manufacturers .Requires AutoCad Ri 4+.

CadRobes. Computer Aided Sliding Wardrobe Software to enhance sales presentation and production techniques.

Acad-Ahu. The fully Automated CAD design system for Air Handling Unit manufacturers Utilizing the latest versions of Autocad.



FEATURES

- Inique 3D visualisation
- Fully customisable
- Database driven
- Incorporates “blackbox” selection of all major component manufacturers (fan, coil, frame etc.) (additions suppliers can be easily be added)

MANUFACTURING LINKS

- Autocad - Solidedge
- Inventor - Most other leading mechanical design system

OUTPUTS

- Drawing (DWF / DWG)
- Full quotation (HTML, XML, WORD)
- Fan curves
- Psychrometric Charts
- Detail manufacturing drawings (DWF / DWG)
- CNC Output
- Full BOM

1° PART*

TECHNICAL DATES SHEET OF ALLOY 6060 AND ALUMINIUM PROFILE.

6060 T5 9006/1 EX UNI 3569

Corrispondenza fra normative

USA	Italy	Germany	-	France	Great Britain	Switzerland
A.A.	UNI	DIN	W.N.	Afnor	B.S.	S.N.
6060	9006/1 EX UNI 3569	AlMgSiO,5	3.3206	6060	6060	AlMgSi0.5

Chemical composition

Specification number	-										Impurity	
A.A.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Zr	Ti	Each	Total	
6060	0.3 0.6	0.1 0.3	0.10	0.10	0.35 0.6	0.05	0.15	-	0.10	0.05	0.15	

Mechanical properties

Specification number A.A.	Phisical condition according to UNI 3565	Phisical condition according to UNI 8278	Tensile strength at break Rm (N/mm)	Yeld point Rp 0.2 (N/mm ²)	Stertching to break point %	Hardness HB
6060	R	O	140 max	80 max	20	40 max
	TaN	T1	120	50	16	35
	TaA	T5	185	145	11	55
	TA	T6	205	165	10	60

PHYSICAL PROPERTIES:		
VOLUMIC MASS:		≈ 2,70 kg/dm ³
INFERIOR MELTING POINT:		≈ 605 °C
SPECIFIC HEAT:		≈ 0,92 J/(g · K)
THERMAL CONDUCTIVITY 20°C:	STATE Ω	≈ 2,09 W/(cm · K)
	STATE T6	≈ 1,75 W/(cm · K)
THERMICAL LINEAR EXPANSION COEFFICIENT:		from 20° to 100° 23 · 10 ⁻⁶ · K ⁻¹
		from 20° to 200° 24 · 10 ⁻⁶ · K ⁻¹
		from 20° to 300° 25 · 10 ⁻⁶ · K ⁻¹
RESISTIVITY AT 20°C	STATE Ω	≈ 3,14 μΩ · cm
	STATE T6	≈ 3,25 μΩ · cm
ELASTIC MODULUS:		≈ 66000 N/mm ²
HEAT TREATMENTS		
T5 (standard)	Temper at the press following to artificial ageing from 170 to 185°C for 6 - 10 h to regime.	
TECHNOLOGICAL PROPRIETIES		
PROCESSEING AND BEHAVIOUR	SPECIFICATION	APPRAISAL
cold plastic forming	forstates O,T1,T4	good
	forstates T5 ,T6,T8 T10	scarce
weldability	with arc in inert gas (MIG e TIG) and with added metal in alloy Al-Si o Al-Mg	good
	elettrical resistance	good
machinability	forstates O T1,T4	redoubt
	forstates T5 ,T6,T8 T10	from sufficient to good
polishibility	forstates O T1,T4	sufficient
	for states T5 ,T6,T8 T10	good
corrosion proofness in ambient	marine and industrial	good
	urban and rural	good
	internal and dry	optimal
aptitude at anodizing	as protection and decorative use	optimal

2° PART*

TECHNICAL DATA SHEET OF DIE-CASTING ALUMINIUM AB 46100 (accessories).						
CHEMICAL TEST (% of elements)						
Cu	Mg	Si	Fe	Mn	Ni	Zn
1,869	0.133	11,445	0,794	0,207	0,084	1,164
Pb	Sn	Ti	Cr	Sb	P	Na
0,141	0,022	0,061	0,048	0,003	>0,0020	0,0005
MECHANICAL AND BEHAVIOUR PROPERTIES OF ALLOY AB 46100						
CHARACTERISTICS	SENTENCE		FAMILY			
Fluidity	Excellent		Aptitude, obtaining or as cast			
Resistance at shrinkage cracking	Good					
Pressure tightness	Correct					
As cast	Correct		Other properties, workability			
After heat treatment	-					
Corrosion proofness	Ordinary					
Decorative anodizind	Not recommended					
Aptitude at smoothness	Correct					
Linear thermal expansion 10/K 293-373K	20					
Elettrical conduttivity MS/m	From 14 to 18					
Heat conduction W/(mk)	From 120 to 130					
Weldability	Uncompatible					
Resistance to room temperature	Good		Mechanical properties			
Resistance at temperature up to 200° C	Good					
Ductility (resistance to shock)	Ordinary					
Fatigue resistance Mpa	From 60 to 90					
MINIMUM MECHANICAL PROPERITES OF ALLOY FOR CAST OBTAIN BY DIE-CASTING						
Alloy	Specification metallurgical state	Resistance to tensile strength Rm MPa min.	Unit load of shifting from proportality Rp 0.2 MPa min.	Extension A50 mm% min.	Hardness Brinell HBS	
EN AB 46100	F	240	140	<1	80	

3° PART*

TECHNICAL DATES SHEET OF NYLON FOR MOULDING OF ACCESSORIES

Nomenclature: DURETHAN BKV (polyamide 6 reinforced with fibre glass at 30%)

PRODUCT DESCRIPTION

Structural formula: $[\text{NH}-(\text{CH}_2)_5-\text{CO}]_n$ - da E - caprolattame

Physical construction partially crystalline: isotope structure finely crystalline

Seeming specific weight: aprox. 700 kg/m³

Density: aprox. 1,21-1,60 g/cm³

Working temperature: 80-150° C

MECHANICAL PROPERTIES

	Testing condition	Units	Standard	Tester	Dry value
Yeld point	50 mm/min	N/mm ²	ISO/R 527 DIN 53455	Bar n°3 (4 mm. thickn.)	-
Break point	50 mm/min	N/mm ²	ISO/R 527 DIN 53455	Bar n°3 (4 mm. thickn.)	-
Sterching at break point	50 mm/min	N/mm ²	ISO/R 527 DIN 53455	Bar n°3 (4 mm. thickn.)	-
Hardness sphere H 30	Method B	N/mm ²	ISO 2039 DIN 53455	50x6x4 / 80x10x4	210/140

THERMAL PROPERTIES

	Testing condition	Units	Standard	Tester	Dry value
Fusion temperatur	-	C°	According to Kofler	Cooled mass	217-221
Softening temperature VST/B 50	49,05 N	C°	ISO 306, DIN 53460	10x10x4	>200
HDT Thermal stability	A (1,80N/mm ²)	C°	ISO 75, DIN 534611	10x10x4	200
HDT Thermal stability	B (0,45N/mm ²)	C°	ISO 75, DIN 534611	10x10x4	215
Termostabilità HDT	C (5,00N/mm ²)	C°	ISO 75, DIN 534611	10x10x4	-

TECHNICAL DATES SHEET OF LEXAN R121 FOR MOULDING OF PORTHOLE:

The lexan polycarbonate is a tecnopolimero with very high mechanical, optical, thermal and electrical properties. Among its properties is very important to underline the excellent impact proofness in this range of temperature from -40°C to 145°C.

MECHANICAL PROPERTIES

	ASTM	DIN	Units	Value
Yield strenght	ASTM D 638	DIN 53455	MPa	60
Ultimate tensile strenght	ASTM D 638	DIN 53455	MPa	70
Yield elongation	ASTM D 638	DIN 53455	%	7
Breaking elongation	ASTM D 638	DIN 53455	%	120
Hardness H358/30	-	DIN 53452	MPa	95
Rockwell hardness	ASTM D 785	-	-	M70

THERMAL PROPERTIES

	ASTM	DIN	Units	Value
Softening temperature Vicat VST/B/120	ASTM D 1525	-	°C	153
Temperature of deformation underload 1,82MPa	ASTM D 648	DIN 53461	°C	138

OTHER PROPERTIES

	ASTM	DIN	Units	Value
Specific weight	ASTM D 792	DIN 53479	-	1,20
Water absorption, 24 hours	ASTM D 570	-	%	0,10
Transmission of light	ASTM D 1003	-	%	88-89

4° PART*

TECHNICAL DATES SHEET OF GASKETS:G63, G65, G59

TECNOPRO 235 MATERIAL: MECHANICAL AND PHYSICAL PROPERTIES

	Testing method	Units	Value
Specific weight	ISO R 1183	gr/cm ³	1,42
Hardness	ISO 868		79,5
Coefficient of elasticity	ISO 178	N/mm ²	2700
Ultimate tensile stress	ISO 527	kg/cm ²	360
Breaking elongation	ISO 527	%	110
Temperature Vicat 5 Kg	ISO 306	°C	76
Yield point	ISO 527	kg/cm ²	390

SIGIPLAST 101 MATERIAL: MECHANICAL AND PHYSICAL PROPERTIES

	Testing method	Units	Value
Specific weight	ASTM D 792	gr/cm ³	1,35
Hardness	ASTM D 224	Shore A	62
Ultimate tensile stress	ASTM D 638	kg/cm ²	130
Breaking elongation	ASTM D 638	%	400
Working maximum temperature	-	°C	70
Stiffening temperature	ASTM D 1043	°C	-48

TECNOPRO 208 MATERIAL: MECHANICAL AND PHYSICAL PROPERTIES

	Testing method	Units	Value
Specific weight	ASTM D 792	gr/cm ³	0,88
Hardness	ASTM D 224	Shore D	35
Yield point	ASTM D 638	MPa	9
Yield elongation	ASTM D 638	%	55
Ultimate tensile stress	ASTM D 1525	MPa	11
Breaking elongation	ASTM D 256	%	460
Coefficient of flexion elasticity	ASTM D 790	MPa	350

Material composition (Gaskets): G 63 TECNOPRO 235 MATERIAL , SIGIPLAST 101,
G65 TECNOPRO 208 MATERIAL, **G 59** TECNOPRO 235 MATERIAL, SIGIPLAST 101

5° PART***TECHNICAL DATES SHEET OF EXTRUDED PVC BARS FOR THERMAL BREAK (GTT, GTT1)****MECHANICAL AND PHYSICAL PROPERTIES**

	Testing method	Units	Medium value	Limit value
Specific weight	ASTM D 792	g/cm	1.49	From 1.38 to 1.58
Coefficient of linear thermal expansion	ASTM D 696	cm/cm °C	4.8-10/5	-
Vicat point	ISO	°C	83.7	>80
Yield point	ASTM D 638	MPa	42	>44
Ultimate tensile stresses	ASTM D 638	MPa	39	-
Breaking elongation	ASTM D 638	%	110	>120
Flexion proofness	ASTM D 790	MPa	84	-
Rockwell hardness	ASTM D 785	-	104	-
Impact proofness	UNI 8772	J	3	>3

*The technical data sheets in this chapter have an illustrative object and they do not substitute the official certificates of the products. The official certificate will issue on request for single order. We declare in fact, than some value could change in relation with different lot of good earlier worked.