

# tecnassteel®

IT endless solutions



ISO 9001:2015



MADE IN  
ITALY  
Since 1998



**Racks for networking  
and cabling solutions**



**BLADESHELTER**

**Technologies  
and projects for  
Data Centers**

2021 GENERAL CATALOGUE

# tecnosteel®

IT endless solutions



ISO 9001:2015

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# OUR PLUS

The only way to do a very good job is to love what you are doing.

Steve Jobs



## Made in Italy according to international standards

Tecnosteel products are designed and manufactured in Italy in compliance with the **UNI EN ISO 9001** standard and with international production standards. CE conformity is achieved according to the **EN 62208** standard.

Production is performed in compliance with the health and safety management system according to **45001:2018** standard.

## Towards industry model 4.0

From 2016 to 2022 the machinery fleet has been renewed with last generation resources. The ambitious goal of becoming a factory 4.0 lead us to adopt management programs and devices for the dynamic integration among workflows. The configurator of our "Progress" rack is already active on the network and that allows registered users to get detailed technical data sheet with technical drawings, weights and dimensions of both the product and the package. This function allows you to immediately produce the necessary documentation for price quotations, contracts, projects and logistics.





### **Crafts and Robotics**

Many prototyping still need the manual and craft skill from which Tecnosteel was born. Automations ensure the product high quality standards.

### **R&D**

To observe, to listen and to design: these are the principles that kick off creativity which aims at the innovation and at the offer of new products and services.



### **Training, updating and workshops**

The sales team periodically organizes training courses to update customers and their technicians on the new products and the new technologies in the datacenter area. The teaching area is also available to customers for their meetings.





*The new version of Progress 3.0 was released in spring 2020. The update inherits the uprights with the unit count numbering, the capacity of 1000 kg, the opening of the doors at 270 ° and the handle with the release button. Integrating the new racks with the previous ones is not a problem, the dimensions are the same and the aesthetic finishes follow the classic ones.*

### **The most striking news is all for you**

The possibility of placing the coloured L profile as desired on the four sides of the roof is completely new; you can customize the colour and logo or choose not to use it when you need an anonymous installation.



### **More fluid from the first handshake**

A special PVC insert gives the new doors soft closing movements avoiding friction between the metal parts.

The new solution solves any problems of alignment of the doors on uneven floors.



### **Half the time and half the effort for moving and adding the uprights in the 800 and 600 mm deep models**

The necessary nuts and screws have been reduced by 50%; on the base the uprights meet the interlocking fixing points resulting immediately in register with the upper fixing points.



### **Faster vertical wiring and more possibilities for mounting accessories**

On the roof of the 800 mm wide models, two horizontal uprights allow the mounting of devices such as environmental sensors and power supply bars; to fix the vertical cable descent channel. The two horizontal uprights make the positioning of the upper crosspiece superfluous.



### **Versatile down to the ground**

With this version it is possible to mount both the wheels with increased capacity and the standard ones, together with the leveling feet.

The anti-tip device has been redesigned to allow quick assembly with all types of support on the ground.



### **Available in the FlatPack version too**

The package contains partially assembled components; the complete assembly is simple and affordable for everyone: with standard tools one single person assembles the rack in about 10 minutes.

- The packed rack space is reduced up to 50%.
- Cost reduction for transport and storage.
- Easier handling.

**NB:** to order the **FlatPack** version add "FP" at the end of the code.





Exclusive bi-color design: the doors opening at 270 °, push-button handle, unit-counter uprights and on 1000 version 19" uprights are guided and numbered.

## Fittings

All Tecnosteel racks are offered in many standard configurations, but you will have a rack that fully meets your needs (on our online catalogue, logged in customers can make any adjustment with the immediate download of the quote and the detailed list of components).

### Surface colours

-  Grey
-  Black - add "N" at the code end

### Lifting Rings

Optional predisposition for eyebolts .

### The frame

The configuration starts from the frame with a pair of uprights for 600mm depth, and two pairs of uprights for 800mm and 1000mm depth cabinets.

With glass doors  IK09

With metal doors  IK10

 IP20

 1000 kg



### Side and rear panels

Available in blind steel sheet or 40% perforated <sup>(1)</sup>.

### Couple of vertical cable management

With cover and snap-lock system. Only for 800mm width racks of the series

### The supports

100 mm plinths;  
200 mm plinths;  
leveling feet;  
wheels.

### Front and rear doors

Types:

- single door
- double door

### Lock types

- standard lock
- available with three-point lock (only for 42 and 47 units)

### Versions

- safety tempered glass in compliance with standard UNI EN 12150-1;
- 75% perforated <sup>(2)</sup>;
- blind surface.



- Supplied with two pairs of uprights with unit counter;
- numbered uprights guides for the progressive and precise horizontal excursion;
- 1000 Kg load capacity;
- colours: black and grey



**1000 kg**  
LOAD  
CAPACITY



1000 mm depth Rack for the server housing



U	H <sup>(1)</sup>	W	D	Code *	Description
27	1390	600	1000	P6127	With front glass door, side and rear blind panels, 100mm h. plinth, front&rear 19" uprights
42	2057	600	1000	P6142	
47	2279	600	1000	P6147	
27	1390	800	1000	P8127	
42	2057	800	1000	P8142	
47	2279	800	1000	P8147	With front&rear 75% perforated door, side blind panels, 100mm h. plinth, front&rear 19" uprights
42	2057	600	1000	P6142AP75	
47	2279	600	1000	P6147AP75	
42	2057	800	1000	P8142AP75	
47	2279	800	1000	P8147AP75	
42	2057	600	1000	P6142A2P75	With front single & rear double, 75% perforated doors, side blind panels, 100mm h. plinth, front&rear 19" uprights
47	2279	600	1000	P6147A2P75	
42	2057	800	1000	P8142A2P75	
47	2279	800	1000	P8147A2P75	

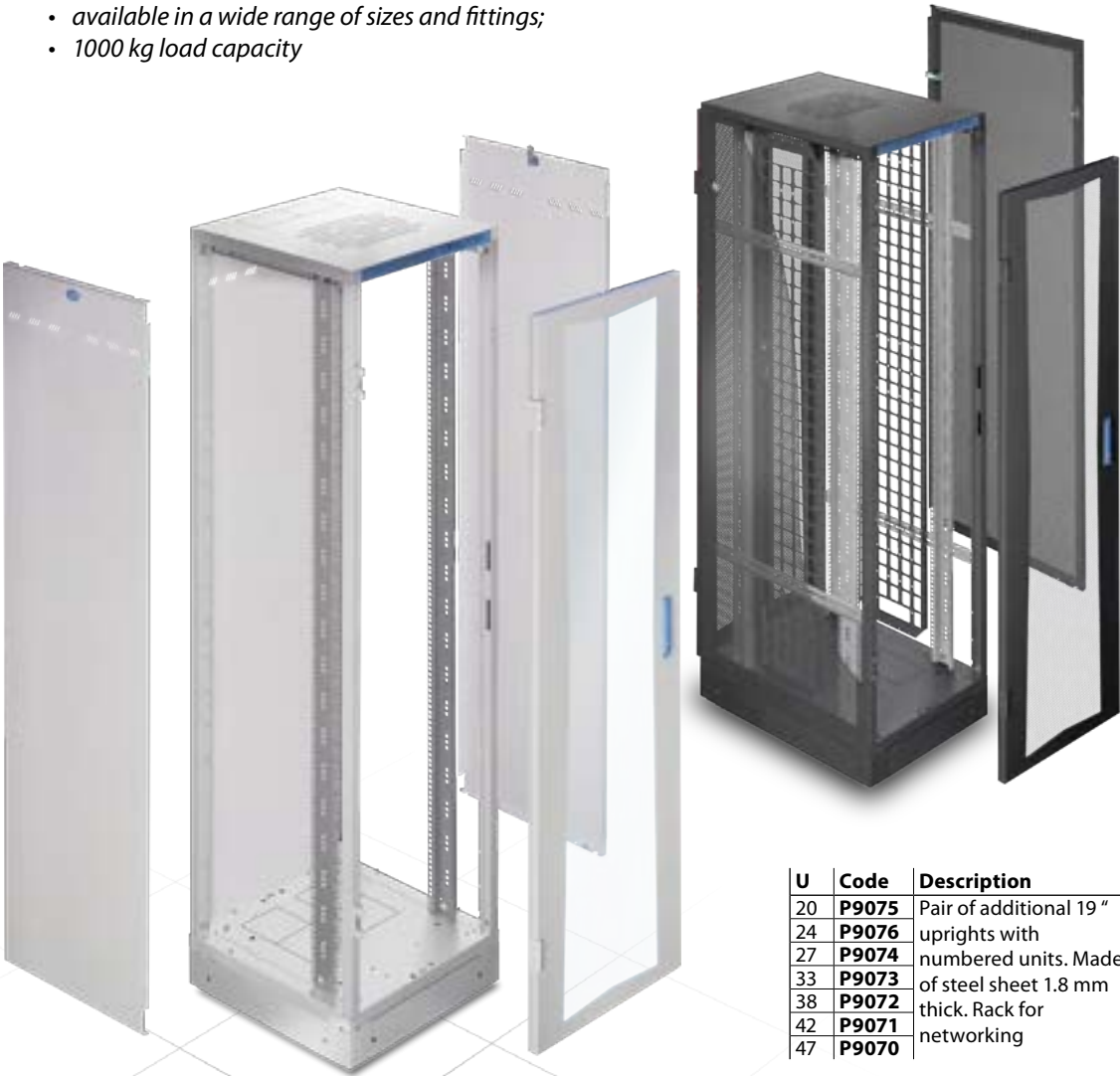
U = Units  
H = Includes 100 mm height of the plinth  
(!) = for feet only subtract 83 mm from value in column H;  
W = Width;  
D = Depth;  
\* For black colour add "N" at the end of the code

- Supplied with unit counter uprights;
- available in a wide range of sizes and fittings;
- 1000 kg load capacity

U	H <sup>1</sup>	W	D	Code*	19" uprights	Description
27	1390	800	600	<b>P8627</b>	Front pair	800mm width Rack; with front glass door; blind side and back panels; 19" numbered uprights, plinths;
33	1656	800	600	<b>P8633</b>		
38	1879	800	600	<b>P8638</b>		
42	2057	800	600	<b>P8642</b>		
47	2279	800	600	<b>P8647</b>	Front and rear	<b>U</b> = Units <b>H</b> = Includes 100 mm height of the plinth - minus 83 mm with feet; <b>W</b> = Width; <b>D</b> = Depth; * For black colour add " <b>N</b> " at the end of the code
24	1257	800	800	<b>P8824</b>		
27	1390	800	800	<b>P8827</b>		
33	1656	800	800	<b>P8833</b>		
38	1879	800	800	<b>P8838</b>		
42	2057	800	800	<b>P8842</b>		
47	2279	800	800	<b>P8847</b>		



- Supplied with unit counter uprights;
- available in a wide range of sizes and fittings;
- 1000 kg load capacity



U	Code	Description
20	P9075	Pair of additional 19 "uprights with numbered units. Made of steel sheet 1.8 mm thick. Rack for networking
24	P9076	
27	P9074	
33	P9073	
38	P9072	
42	P9071	
47	P9070	



U	H	W	D	Code	19 " uprights	Description	
27	1390	600	400	P6427	A front pair	600mm width Rack, with glass front door, blind side and back panels, 100mm h plinth, numbered 19 " uprights, colour grey	
42	2057	600	400	P6442			
20	1079	600	600	P6620			
24	1257	600	600	P6624			
27	1390	600	600	P6627			
33	1656	600	600	P6633			
38	1879	600	600	P6638			
42	1957	600	600	P6642			
47	2279	600	600	P6647			
20	1079	600	800	P6820	Rear and front		600mm width Rack, with glass front door, blind side and back panels, 100mm h plinth, numbered 19 " uprights, colour grey
24	1257	600	800	P6824			
27	1390	600	800	P6827			
33	1656	600	800	P6833			
38	1879	600	800	P6838			
42	2057	600	800	P6842			
47	2279	600	800	P6847			

U = Units  
H = Includes 100 mm height of the plinth - minus 83 mm with feet;  
W = Width;  
D = Depth;  
\* For black colour add "N" at the end of the code



Kit of 4 leveling feet M10



**F9044** 40 mm height  
**P9099** 100 mm height  
for Progress 1000



**Wheels** (to be assembled on the base in alternative to the feet)  
Static load capacity 360kg  
Dynamic load capacity 225kg.

**F9043** Kit of 4 wheels, 2 of which with brake



**Wheels** to be assembled on the base with the feet.  
Static load capacity 360kg  
Dynamic load capacity 225kg.

**P9043KIT** Kit of 4 wheels, 2 of which with brake

**F9038** 4 wheels kit - load capacity 700 kg

Only for 1000 cabinets - they can be mounted together with the feet

**F9038KIT** 4 wheels kit - load capacity 700 kg

They can be mounted together with the feet

Plinths kit consisting of 4 corners and 4 panels



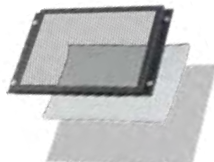
Code	For rack	
<b>P9621</b>	600 x 600	With blind panels
<b>P9622</b>	600 x 800	
<b>P9623</b>	800 x 800	
<b>P9624</b>	600 x 1000	
<b>P9625</b>	800 x 1000	With perforated panels
<b>P9626</b>	600 x 600	
<b>P9627</b>	600 x 800	
<b>P9628</b>	800 x 800	
<b>P9629</b>	600 x 1000	
<b>P9630</b>	800 x 1000	

Assembly kit for feet on plinth



**F9295** Complete with 4 feet M10, adapters and screw

Dust filters



**F9215** For rack 600 mm depth  
**F9216** For rack 800 mm depth  
**F9217** For rack 1000 mm depth

Joining kit



**P9042** To join two racks. Mounting on plinth; supplied with screws.



Joining kit for Progress 2021

**P9042UNI** To quickly join two racks 2021 and later side by side from the outside. 4 Plates and screws

Anti-topple device



**P9095** For 600mm width cabinets  
**P9240** For 800mm width cabinets



Blind panels*	U	for rack depth (mm)
<b>P2427</b>	27	400
<b>P2442</b>	42	
<b>P2620</b>	20	
<b>P2624</b>	24	
<b>P2627</b>	27	600
<b>P2633</b>	33	
<b>P2638</b>	38	
<b>P2642</b>	42	
<b>P2647</b>	47	
<b>P2820</b>	20	800
<b>P2827</b>	27	
<b>P2833</b>	33	
<b>P2838</b>	38	
<b>P2842</b>	42	1000
<b>P2847</b>	47	
<b>P2127</b>	27	
<b>P2142</b>	42	
<b>P2147</b>	47	



40% perforated panels*	U	for rack depth (mm)
<b>P2627G</b>	27	600
<b>P2638G</b>	38	
<b>P2642G</b>	42	
<b>P2647G</b>	47	
<b>P2827G</b>	27	800
<b>P2838G</b>	38	
<b>P2842G</b>	42	
<b>P2847G</b>	47	
<b>P2127G</b>	27	1000
<b>P2142G</b>	42	
<b>P2147G</b>	47	

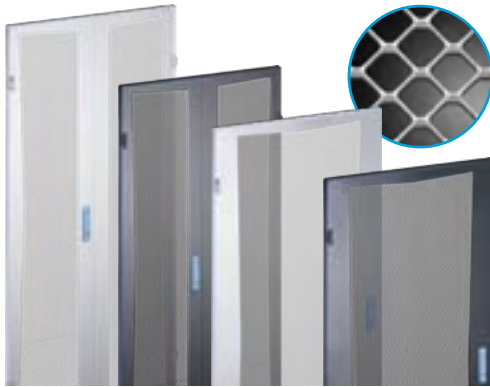


4mm thick safety glass door, 1.5mm thick steel frame *		U	for rack width (mm)
P9110	Single door	20	600
P9153		24	
P9111		27	
P9112		33	
P9113		38	
P9114		42	
P9127		47	
P9116		27	800
P9117		33	
P9118		38	
P9119		42	
P9120		47	
P9114CH3P	with 3 point lock	42	600
P9127CH3P		47	
P9119CH3P		42	800
P9120CH3P		47	



4mm thick safety glass door, 1.5mm thick steel frame		U	for rack width (mm)
P9300	Double door	42	600
P9319		47	
P9301		42	800
P9381	Double door with 3 point lock	47	
P9300CH3P		42	600
P9319CH3P		47	
P9301CH3P		42	800
P9381CH3P		47	

\* Codes refer to doors and panels ordered with the rack.  
For single orders take the suffix **RIC** eg: **P2427RIC**

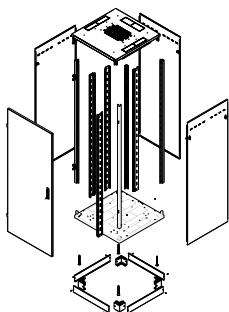


75% perforated door *		U	for rack width mm
P9610	Single door	20	600
P9611		24	
P9612		27	
P9613		33	
P9614		38	
P9615		42	
P9616		47	
P9632		27	800
P9633		33	
P9634		38	
P9635		42	
P9636		47	
P9615CH3P	Single door with 3 point lock	42	600
P9616CH3P		47	
P9635CH3P		42	800
P9636CH3P		47	
P9612B2	Double door	27	600
P9615B2		42	
P9616B2		47	
P9632B2		27	800
P9635B2		42	
P9636B2		47	
P9615B2CH3P	Double door with 3 point lock	42	600
P9616B2CH3P		47	
P9635B2CH3P		42	800
P9636B2CH3P		47	

Blind door*		U	for rack width mm
P2520	Single door	20	600
P2524		24	
P2527		27	
P2533		33	
P2538		38	
P2542		42	
P2547		47	
P2927		27	800
P2933		33	
P2938		38	
P2942		42	
P2947		47	
P2542CH3P	Single door with 3 point lock	42	600
P2547CH3P		47	
P2942CH3P		42	800
P2947CH3P		47	
P9320	Double door	42	600
P9321		47	
P9316		42	800
P9322		47	
P9320CH3P	Double door, with 3 point lock	42	600
P9321CH3P		47	
P9316CH3P		42	800
P9322CH3P		47	

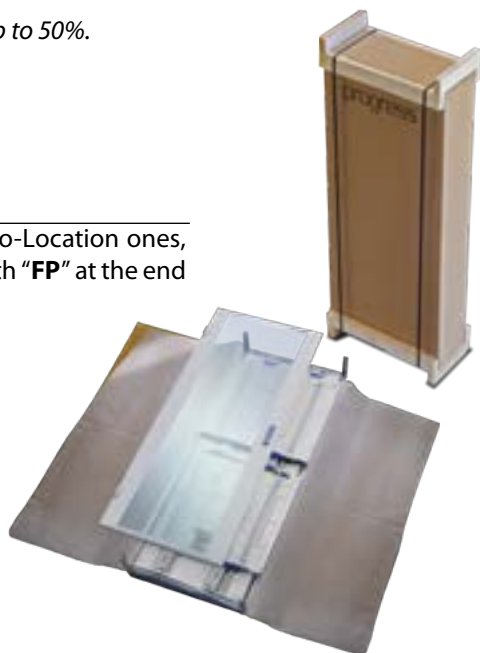


- The solution that reduces storage and transport volume by up to 50%.
- It is ideal for places with difficult access.
- It is essential when the use of ladders is necessary.
- It is assembled in 10 minutes with a few standard tools.



#### Models and codes

All models in any size, except for the Co-Location ones, can be purchased in FlatPack version with “FP” at the end of the code (ex. **P8842FP**).



## UPPER L PROFILES WITH PERSONAL COLORS AND LOGO



It is possible to place the coloured profile as desired on the four sides of the roof, personalize the colour and the logo.

When it is necessary to give anonymity to the installation, the profile is removable.

Code*	Width	Description
P9006	600 mm	Neutral profile for Progress 3.0 roof customizable in the following colours: Yellow RAL1018, Red RAL3002 and Electric blue RAL5003
P9008	800 mm	
P9010	1000 mm	
P9000	All	Starter kit to print customer logo





Complies with the ETSI EN 300 119-3 standard

### Standard equipment:

- glass front door
- blind rear door
- blind side panels with ventilation slots
- double pair of uprights



### Models

Code	SU *	U **	H mm	L mm	P mm	Description
D6624-21	42	24	1177,5	600	600	21" rack with glass front door and blind rear door, blind side panels, feet, two pairs of 21" uprights, Colours: <span style="display: inline-block; width: 10px; height: 10px; background-color: #d3d3d3; border: 1px solid black;"></span> Grey <span style="display: inline-block; width: 10px; height: 10px; background-color: #000000; border: 1px solid black;"></span> Black (* add "N" at the end of the code)
D6324-21	42	24	1177,5	600	300	
D6647-21	83	47	2200	600	600	
D6347-21	83	47	2200	600	300	

\* SU = number of steps according to the ETSI standard

\*\* U = number of units 19" usable with 19" uprights (optional)

### Accessories

Code	Description
F9292-21	Fix shelf, 200mm deep, 2 point fixing, 1U-21"ETSI, capacity load: 15kg
F9030-21	1U-21"ETSI cable management panel, with 4 short plastic rings
F9008-21	Extensible shelf, 427÷755mm deep, 4 point fixing, 1U-21"ETSI, capacity load: 30kg
F9001-21	Fix shelf, 400mm deep, 2 point fixing, 2U-21"ETSI, capacity load: 25kg
F9100-21	Fix shelf, 470mm deep, 4 point fixing, 2U-21"ETSI, capacity load: 80kg
F9012-21	1U-21"ETSI blank panel
F9102-21	2U-21"ETSI blank panel
F9013-21	3U-21"ETSI blank panel
F9331	Pair of inch reducers: 21" -> 19" -1U, with screws
F9332	Pair of inch reducers: 21" -> 19" -2U, with screws
F9333	Pair of inch reducers: 21" -> 19" -3U, with screws
F9070-21	Pair of 47U-19"uprights for ETSI cabinets
F9074-21	Pair of 24U-19"uprights for ETSI cabinets
F9977	Wall fixing bracket. It is necessary to fix cabinets with a depth of 300 mm, in particular those of 2000 mm in height in installations that do not provide other safety solutions.
F0978	Closing bottom and/or roof plate for ETSI cabinets 600mm deep
F0979	Closing bottom and/or roof plate for ETSI cabinets 300mm deep
F0996	Galvanized back plate for telephone and electric devices-21" - h.1000mm
F0997	Galvanized back plate for telephone and electric devices-21" - h.2000mm



- To store and recharge up to 36 devices
- Outlets protected against overloads
- On lockable wheels
- With ventilation slots and provision for forced ventilation

### Functionalities

The general safety switch is 16A magnetomic.

Inside there are three Schuko sockets and, in **F3099NPW** and **F3098NPW**, two vertical power bars with 12 Schuko sockets with 10vA magnetomic switch each.

On the 19" uprights they can be mounted horizontal PDUs, network and backup devices.

The roof has a large area of ventilation slots with provision for a fan assembly; on the door and on the rear panel there are ventilation slots; on the rear panel there is a connection for a cooling fan with dust filter.

### Design

The structure is made of steel sheet with a thickness of 1.5 mm. For convenient device management, TCS is closed on the front by a door with an opening angle of 220 ° and on the back by an easily removable panel with a key lock.



On the right side there is a cable wrap, the mains presence light and the main switch; on both sides there are handles for handling; it is mounted on 4 wheels, two of which are lockable.



F3099NPW - F3099N - F3098NPW - F3098N Specifications

Dimensions	Height: 1125mm; Width: 845mm (including the handles); Depth: 596mm
Ventilation	Four groups of slots on the door and on the rear panel;; Ventilated area and connections for fan group on the roof
General switch	16A Magnetermic
F3099N - F3099NPW	Blind front door - Blind rear panel
F3098N - F3098NPW	Blind front door - Perforated rear door
19 "uprights	Pair of 19 "standard uprights on the back
Load capacity	200 Kg
Colour	Standard TecnoSteel black
Weight	90 Kg
Cable lenght	5 m
Power distribution	1 Schuko-ita double standard +
F3099NPW - F3098NPW	2 vertical PDU with 12 Schuko-ita double standard each and 10A magnetermic breaker
Power distribution F3099N F3098N	3 internal Schuko sockets

Design:  
Marino Piotti



TecnoLIM

For storing and charging notebooks



- Wall mounted enclosure designed to hold notebooks, tablets and video surveillance devices
- Work station with cable passages for power and network connections

Models

Code	Model	Description
F4250	Protection	Notebook holder with two standard key locks
F4255	Security	Notebook holder with two tubular key locks

Accessories

Code	Description
F4265	Safety kit consisting of two locks with tubular key
F4260	PDU with 4 universal sockets

Design:  
Davide Piotti








Code	U	Total H (mm)	H (mm)	W (mm)	D (mm)
<b>F6624VB</b>	24U	1257	1157	600	600
<b>F6633VB</b>	33U	1656	1556	600	600
<b>F6642VB</b>	42U	2057	1957	600	600
<b>F6842VB</b>	42U	2057	1957	800	800

#### Colours:

Grey 

Black  (add "N" at the end of the code)

VB is the vibration-resistant cabinet that complies with the international standard-EN54-16 for cabinets intended for alarm sound systems, fire detection and video surveillance.

The protection degree is IP 30. The design is derived from TecnoSteel classic line "Tecno" whose sturdy supporting frame is made of 2 mm thickness steel stiffened by ribs; the base and the roof integrate four reinforcement angles 3mm thick, cold pressed and welded with robotic procedure. Although completely dismantable, VB guarantees exceptional torsional rigidity with approx-load capacity of more than 500kg. The standard colour is grey and the surface is scratchproof. Versions with 600 mm width and 600 mm or 800 mm depth ; the heights, from 24 U, 33 U and 42 U. Compatible with all TecnoSteel accessories and options.



# HIGH PROTECTION

Floor and wall racks that provide maximum protection in extreme conditions (outdoor, dusty environments and salty fog)

## IP CODE BREAKDOWN

### Code, International Protection Marking, IEC standard 60529

Sometimes interpreted as Ingress Protection Marking, it classifies and rates the degree of protection provided by mechanical casings and power boards against the intrusion of body parts such as hands and fingers, dust and water. It is published by the International Electrotechnical Commission (IEC).



First digit •  
Second digit •

### First digit: Solid particle protection

The first digit indicates the level of protection that the enclosure provides against access to hazardous parts (e.g., electrical conductors, moving parts) and the ingress of solid foreign objects.

Level sized	Effective against	Effective against
0	--	No protection
1	>50 mm	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part
2	>12.5 mm	Fingers or similar objects
3	>2.5 mm	Tools, thick wires, etc.
4	>1 mm	Most wires, slender screws, large ants etc.
5	Dust protected	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment
6	Dust tight	No ingress of dust; complete protection against contact (dust tight). A vacuum must be applied. Test duration of up to 8 hours based on air flow

### Second digit: Liquid ingress protection

IT indicates the level of protection that the enclosure provides against harmful ingress of water

Level	Protection against
0	None
1	Dripping water
2	Dripping water when tilted at 15°
3	Spraying water
4	Splashing water
5	Water jets
6	Powerful water jets

## IK CODE BREAKDOWN

It points out the degrees of protection provided by a casing for electrical equipment against external mechanical impacts.



IK code •

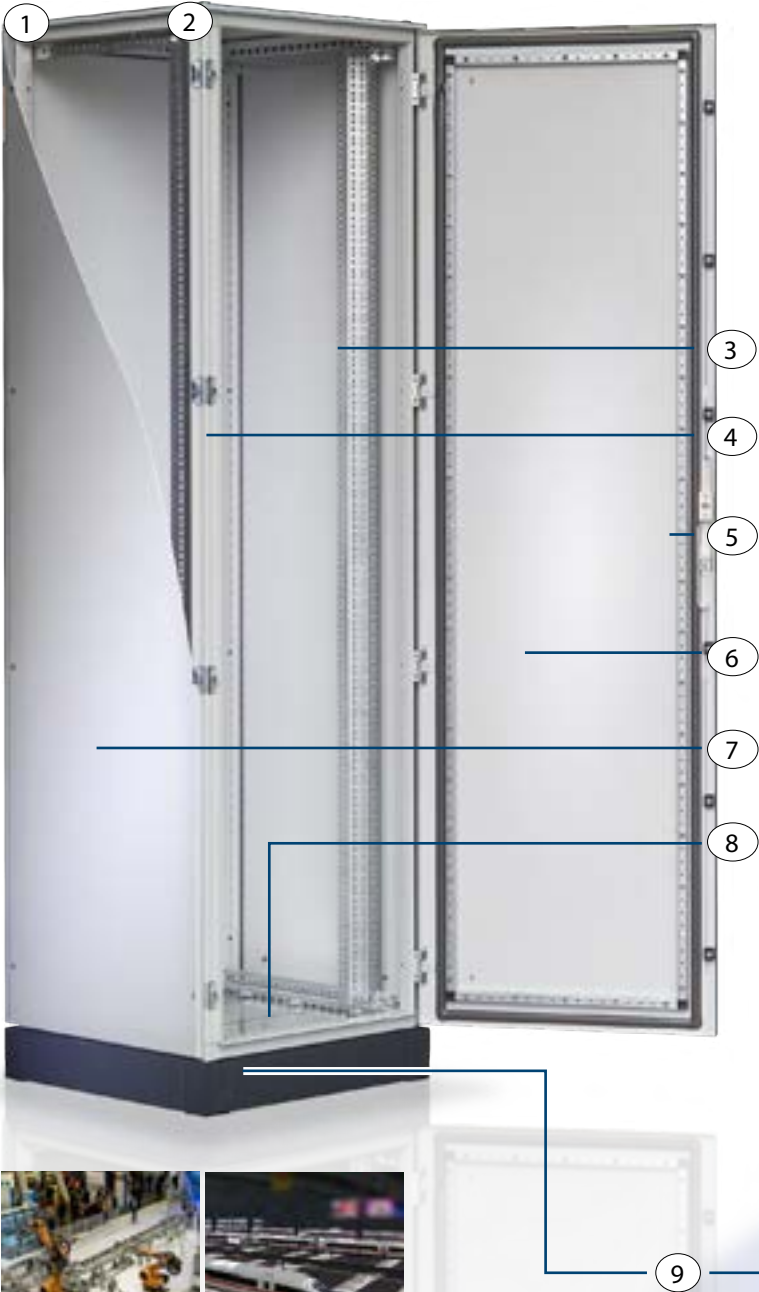
IK code	Impact energy	Impact test characteristics
00	No protection	-
01	0,15	Fall of a 200g body from 7,5cm in height.
02	0,2	Fall of a 200g body from 10cm in height.
03	0,35	Fall of a 200g body from 17,5cm in height.
04	0,5	Fall of a 200g body from 25cm in height.
05	0,7	Fall of a 200g body from 35cm in height.
06	1	Fall of a 500g body from 20cm in height.
07	2	Fall of a 500g body from 40cm in height.
08	5	Fall of a 1,7kg body from 29,5cm in height.
09	10	Fall of a 5kg body from 20cm in height.
10	20	Fall of a 5kg body from 40cm in height.

net ip

IP55





1000 kg

Colour:  
Grey





1. Rack with high protection performance
  - IP55 degree of protection according to EN 60529 standard granted by a dual-component polyurethane foam seal
  - IK10 impact resistance rating according to EN 62208 standard ; EN 50102 for versions with blind door.
  - IK09 impact resistance rating according to EN 62208; EN 50102 for versions with glass door.
2. Removable roof for easy inspection.
3. Supplied with a pair of 19 "uprights with unit count numbering
4. Sturdy, high-strength structural posts with a symmetrical closed profile.
5. Rack opening system with lever operation and 4-point lock easy to fit different inserts.
6. Door with reinforcement frame.
7. Panels with considerable structural rigidity.
8. Modular cable entry floor, with tiles and sealing gasket, made in one piece welded with a boxed structure and high strength material.
9. Supplied with leveling feet; easy assembly of the modular plinth(optional).
10. Wide range of accessories available for customizing the equipment (see following pages)

U	Code	W	D	H	Description
25	<b>F8710IPV</b>	600	600	1200	Cabinet with glass front door, blind back panel
25	<b>F8711IPV</b>	600	800	1200	
25	<b>F8712IPV</b>	800	800	1200	
43	<b>F8713IPV</b>	600	600	2000	
43	<b>F8714IPV</b>	600	800	2000	
43	<b>F8715IPV</b>	800	600	2000	
43	<b>F8716IPV</b>	800	800	2000	
43	<b>F8717IPV</b>	800	1000	2000	
43	<b>F8718IPV</b>	600	1000	2000	
25	<b>F8710IP2M</b>	600	600	1200	Cabinet with front and rear blind door
25	<b>F8711IP2M</b>	600	800	1200	
25	<b>F8712IP2M</b>	800	800	1200	
43	<b>F8713IP2M</b>	600	600	2000	
43	<b>F8714IP2M</b>	600	800	2000	
43	<b>F8715IP2M</b>	800	600	2000	
43	<b>F8716IP2M</b>	800	800	2000	
43	<b>F8717IP2M</b>	800	1000	2000	
43	<b>F8718IP2M</b>	600	1000	2000	
25	<b>F8710IPM</b>	600	600	1200	Cabinet with blind front door, blind back panel
25	<b>F8711IPM</b>	600	800	1200	
25	<b>F8712IPM</b>	800	800	1200	
43	<b>F8713IPM</b>	600	600	2000	
43	<b>F8714IPM</b>	600	800	2000	
43	<b>F8715IPM</b>	800	600	2000	
43	<b>F8716IPM</b>	800	800	2000	
43	<b>F8717IPM</b>	800	1000	2000	
43	<b>F8718IPM</b>	600	1000	2000	
25	<b>F8710IPVM</b>	600	600	1200	Cabinet with glass front door and blind back door
25	<b>F8711IPVM</b>	600	800	1200	
25	<b>F8712IPVM</b>	800	800	1200	
43	<b>F8713IPVM</b>	600	600	2000	
43	<b>F8714IPVM</b>	600	800	2000	
43	<b>F8715IPVM</b>	800	600	2000	
43	<b>F8716IPVM</b>	800	800	2000	
43	<b>F8717IPVM</b>	800	1000	2000	
43	<b>F8718IPVM</b>	600	1000	2000	








## Lock systems

*The innovative cabinet opening system NET-IP is characterized by lever drive and cogwheel movement system, with 4 lock points, with reduced internal dimensions. The standard lock is with key standard; availability of different cylinders and keys. The locking technique combines with the handle particular ergonomic design and this gives functionality plus harmony to the solution, reduced thickness and rounded edges.*

### The Locks

On demand you can receive the rack complete with cylinders locks and standard keys with single encryption or special type. The handle modification kit is also available as a spare part replaceable with a simple operation to the series model.

Code	Description
 <b>F9495</b>	Lever with cylinder and key with random coding
 <b>F9497</b>	Lever with double tongue cylinder for chrome handle
 <b>F9496</b>	Lever with FIAT cylinder for chrome handle
 <b>F9499</b>	Lever with triangular pin cylinder for chrome handle
 <b>F9498</b>	Lever with square pin cylinder for chrome handle



### Additional pair of 19" uprights

For the assembly of 19" products and of modular electrical equipment with DIN rail mounting. They are mounted directly on the rack structure without need of other accessories. Made of galvanized press-folded steel sheet, thickness 20/10; with unit counter numbering.

#### Additional pair of 19 " uprights

<b>F8735</b>	25U
<b>F8736</b>	43U

## Modular plinth

Composed of 4 corners in 25/10 th steel sheet press-folded with PVC front covers. Front and side crosspieces in 20/10 th. press-folded steel sheet. Complete with assembly screws.

Colour

■ Grey anthracite

**Plinths' kit consisting of 4 corners and 4 panels**

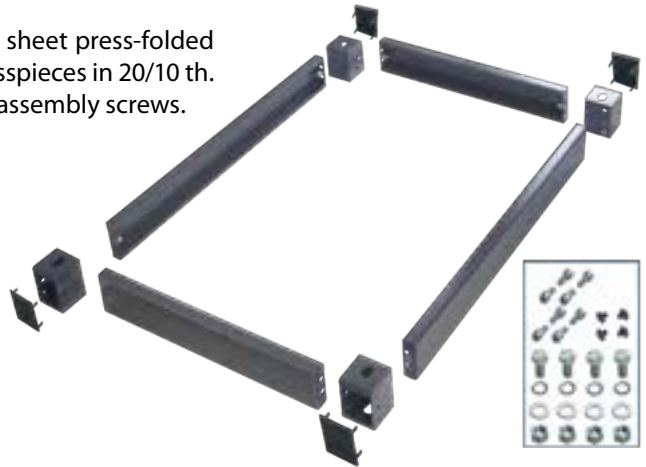
**F8740** 600x600

**F8741** 600x800

**F8743** 800x800

**F8745** 800x1000

**F8746** 600x1000



## Anti-vibration kit

Composed of 4 elements in printed aluminum alloy. Once mounted they do not protrude

### Kit of 4 anti-vibration feet

**F8729** In aluminum alloy with gum anti-vibration inserts.  
80 x 80 mm base  
60 mm height



## Cable membrane IP 65

These devices solve the cables passage problems thanks to the double membrane that blocks the cable by perfectly adhering at its circumference; the IP 65 seal is also guaranteed even if the cable is removed. Can be used with temperatures between 30 °C and + 70 °C.

They are supplied pre-mounted on a plate to replace the one present on the cabinet. They are homologated according to the fire class V0

They are made of polyamide 6.6 and comply with the ROHS standards as they do not have: halogens, phosphorus, cadmium, asbestos, lead and silicon.



### Round cable entry membranes

**F9461** 19 holes from ø 3 to 5 mm - for 600 mm wide cabinets

**F9462** 8 holes from ø 3 to 15.9 mm - for 600 mm wide cabinets

**F9462** 8 holes from ø 3 to 15.9 mm - for 600 mm wide cabinets

**F9527** 8 holes from ø 3 to 15.9 mm - for 800 mm wide cabinets

**F9526** 19 holes from ø 3 to 15.9 mm - for 800 mm wide cabinets

### Rectangular cable entry membranes

**F9460** 22 holes from ø 3 to 12.5 mm - for 600 mm wide cabinets

**F9525** 22 holes from ø 3 to 12.5 mm - for 800 mm wide cabinets





## Wall-mounted IP cabinets

Made of 15/10 steel sheet and painted with epoxy polyester thermosetting powders; cable entry plate with gasket and screws for grounding and assembly.

The IP 65 protection rating according to EN 60529 standard is granted by the polyurethane foam gasket ; impact resistance IK10 for models with blind door and IK09 for models with glass door according to IEC EN 62208 standard; EN 50102.

### Wall cabinets with blind and glass doors

Code	U	W	D	H	with glass door	with blind door
F1407	7	600	400	400	•	
F1407M	7	600	400	400		•
F1410	10	600	400	500	•	
F1410M	10	600	400	500		•
F1413	13	600	400	600	•	
F1413M	13	600	400	600		•
F1417	17	600	400	800	•	
F1417M	17	600	400	800		•
F1507	7	600	500	400	•	
F1507M	7	600	500	400		•
F1510	10	600	500	500	•	
F1510M	10	600	500	500		•
F1513	13	600	500	600	•	
F1513M	13	600	500	600		•
F1517	17	600	500	800	•	
F1517M	17	600	500	800		•
F1813	13	600	600	600	•	
F1813M	13	600	600	600		•
F1817	17	600	600	800	•	
F1817M	17	600	600	800		•
F1820	20	600	600	1000	•	
F1820M	20	600	600	1000		•





Colour:  
■ Grey

# HIGH PROTECTION INDEX WALL CABINETS



Wall cabinets for outdoor use with a pre-assembled roof IK10

Code	U	W	D	H
F1407MEST	7	600	400	400
F1410MEST	10	600	400	500
F1413MEST	13	600	400	600
F1417MEST	17	600	400	800
F1507MEST	7	600	500	400
F1510MEST	10	600	500	500
F1513MEST	13	600	500	600
F1517MEST	17	600	500	800
F1813MEST	13	600	600	600
F1817MEST	17	600	600	800
F1820MEST	20	600	600	1000



## SPECIFIC ACCESSORIES FOR WALL RACKS



**Clamps for wall mounting**  
made of 25/10th.galvanized steel sheet



F8750 Wall fixing kit (4 clamps)

**Canopy roof**

- F1550 400mm depth
- F1551 500mm depth
- F1552 600mm depth



**IP65 cable entry membranes**  
They solve the seal problem in the cables run. The double membrane blocks the cable by adhering at the circumference; the IP 65 standard is granted even if the cable is removed. Can be used with temperatures between 30 °C and + 70 °C. They are provided pre-mounted on a plate to replace that is originally present on the cabinet . Comply with fire class V0. Made of polyamide 6.6, and conform to the ROHS standard as they are free of halogens, phosphorus, cadmium, asbestos, lead and silicon.



**Pole fixing kit**  
Made of 25/10 th. zinc-coated steel sheet



F8751 Kit for pole fixing system

Round cable entry membranes		For IP cabinet
F9461	19 holes for cables ø 3 to 5 mm	600 mm.
F9462	8 holes for cables ø 3 to 15,9 m	600 mm.
F9527	8 holes for cables ø 3 to 15,9 mm	800 mm.
F9526	19 holes for cables ø 3 to 15,9 mm	800 mm.
F9466	19 holes for cables ø 3 to 5 mm	wall enclosures
F9467	8 holes for cables ø 3 to 15,9 mm	wall enclosures
Rectangular cable entry membranes		For IP cabinet
F9460	22 holes for cables ø 3 to 12,5 mm	600 mm cabinets
F9525	22 holes for cables ø 3 to 12,5mm	800 mm cabinets
F9465	22 holes for cables ø 3 to 12,5 mm	wall enclosures

## Floor rack air conditioners

On demand the racks are supplied with mounted air conditioner



Code	Cooling capacity (kW)	dBA	W (mm)	D (mm)	H (mm)	Description
<b>F9368</b>	0,36	52	324	206	443	Side or rear panel mounting Temperature adjustment: from 25° to 45°
<b>F9367</b>	0,85	64	313	223	642	
<b>F9207</b>	1,5	65	410	248	912	
<b>F9209</b>	2,1	66	409	263	1500	
<b>F2261</b>	3	67	511	347	1217	
<b>F2260</b>	4	67	511	347	1217	

Code	Cooling capacity (kW)	dBA	D (mm)	W (mm)	H (mm)	Description
<b>T4381</b>	5,2	77	800	600	550	Roof mounting Temperature adjustment : from 25 ° to 45°
<b>F9206</b>	3,8	77	800	450	480	
<b>F9208</b>	1,4	58	600	400	450	
<b>F9205</b>	2	62	600	400	450	
<b>F9204</b>	0,9	67	600	325	335	
<b>F9218</b>	0,6	63	600	325	335	





**F9272**  
analogue thermostat

**F9214**  
Double thermostat for  
fan and heater

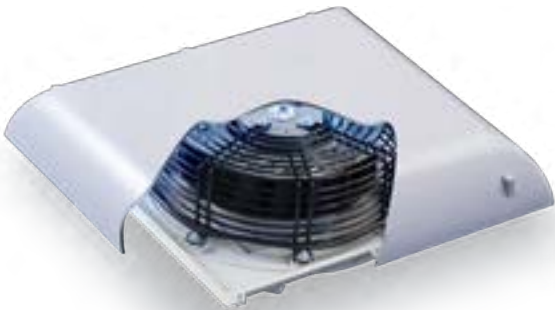


**F1546**  
50W anti-condenser  
heater



Ventilation tower

Axial 600 m³/h fan with IP44 rating protection complete with upper cap and lower fixing group with anti-pollution filter (if the rack IP rating were higher, it becomes IP44 with this device)



**F8728** 400 x 350 mm base  
Overall dimensions:  
external 85 mm H; internal 30 mm H



Fans

Ventilation kit consisting of fan, grid and anti pollution filter - vertical assembly with IP54 protection rating (if the rack IP rating were higher, with this device it becomes IP54)




  
IP54

Code	Capacity	Dimensions (mm)	Overall H
F1541	37/40 m³/h	150 x150	external 13,5 mm internal 63,0 mm
F5531	80/90 m³/h	204,0 x 204,0	external 13,5 mm internal 70,0 mm
F1545	348/386 m³/h	320,0 x 320,0	external 13,5 mm internal 86,0 mm

Grid and anti-pollution filter

IP54 vertical mounting (if the rack IP rating were higher, with this device it becomes IP54)




	Code	Dimensions	Overall H
 IP54	F1540	148,5 x 148,5 mm	external h 13,5 mm internal h 15,5 mm
	F5532	204,0 x 204,0 mm	
	F1544	320,0 x 320,0 mm	



Air/Air Heat Exchangers

For floor cabinets - rear or side panel mounting

  
IP55

**F9200** 35W  
**F9201** 70W

# CompactNet

by tecnosteel



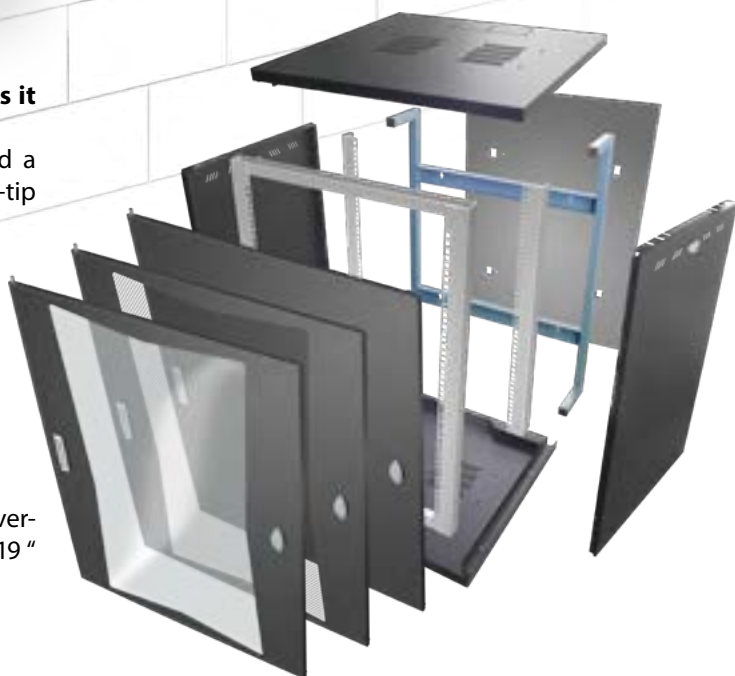
3 = 1

## Flat packaging solution

The economic space-saving version reduces up to 67% storage and transport volume

## One person carries and assembles it in 180 seconds!

To assemble CompactNet you need a few simple operations and a cross-tip screwdriver.



## Standard rear 19" uprights

The 520mm and 620 mm depth versions are equipped with rear 19" uprights.

## Bi-colour design with visible blue frame

Unique of its kind, the distinctive Tecnosteel blue frame is visible and outlines the back of the structure.



## Wall rack in two versions:

- semi-assembled in flat packaging
- completely assembled in standard packaging

Design:  
Davide Piotti



### CompactNet with glass door



* Code Flat-pack version	* Code Assembled version	U	H (mm)	W (mm)	D (mm)
FP4007	FPA4007	7	387	600	420
FP4010	FPA4010	10	520		
FP4013	FPA4012	13	655		
FP4016	FPA4016	16	787		
FP5007	FPA5007	7	387	600	520
FP5010	FPA5010	10	520		
FP5013	FPA5013	13	655		
FP5016	FPA5016	16	787		
FP5022	FPA5022	22	1054	600	620
FP6010	FPA6010	10	520		
FP6013	FPA6013	13	655		
FP6016	FPA6016	16	787		
FP6022	FPA6022	22	1054		



### CompactNet with blind door



FP4007M	FPA4007M	7	387	600	420
FP4010M	FPA4010M	10	520		
FP4013M	FPA4012M	13	655		
FP4016M	FPA4016M	16	787		
FP5007M	FPA5007M	7	387	600	520
FP5010M	FPA5010M	10	520		
FP5013M	FPA5013M	13	655		
FP5016M	FPA5016M	16	787		
FP5022M	FPA5022M	22	1054	600	620
FP6010M	FPA6010M	10	520		
FP6013M	FPA6013M	13	655		
FP6016M	FPA6016M	16	787		
FP6022M	FPA6022M	22	1054		



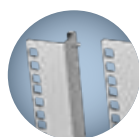
The 520 mm and 620 mm depth models are supplied as standard with 2 pairs of 19" uprights

### Colours

Grey

Black (\* add "N" at the end of the code)

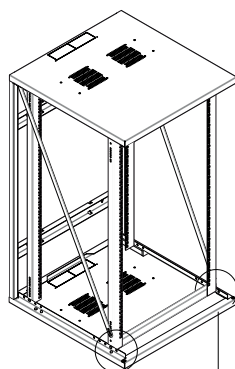
### CompactNet accessories



Code	U	Description
F9820	7	Additional pair of 19" uprights -
F9821	10	only for 420 mm depth models
F9822	13	
F9823	16	



F9825	7	Rear panel
F9826	10	
F9827	13	
F9828	16	
F9829	22	



### Reinforcement kit

Increase the capacity up to 60 kg

Code	For models	U	Description
FP9992	FP6013	13	For 620 mm
FP9991	FP6016	16	depth
FP9990	FP6022	22	cabinets
FP9999	FP5007	7	For 520 mm
FP9998	FP5010	10	depth
FP9994	FP5013	13	cabinets
FP9995	FP5016	16	
FP9996	FP5022	22	



Tecnooffice  
by tecnosteel



**10" wall cabinet for micro-networks**

*The creation of mini networks is smartly easier. All the equipment in a pleasant office furnishing component*

Code	U	W	D	H
F2507	7	358	270	387

**Standard colour**

Grey



**F2501NS**

2 universal sockets power strip  
with luminous switch - 1U



**10" fibre-optic box**

**F2515** 1U - 8ST

**F2516** 1U - 8SC

**F2509**

1U fixed shelf 200 mm depth



**F2510**

1U blind panel



**F2513**

1U Cable Management Panel



**F2508**

Cross-over panel 2 rings - 1U



**F2512KS**

Panel 8 ways- RJ45 1U



# SlimWall

by tecnosteel

**Wall cabinet with reduced depth**

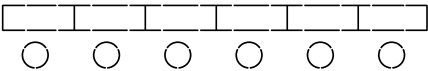
- Wall cabinet with tempered glass door with key lock.
- For the cables passage through the base and the roof there are 12 circular openings and 12 rectangular openings protected by plates with removable micro-connections<sup>1</sup>.

Code	U	W	D	H
F0615	6	600	150	387
F1215	12	600	150	610
F0630	6	600	300	387
F1230	12	600	300	610

**Colours**

Grey

Black (\* add "N" at the end of the code)



# Tecno300



by tecnosteel

## Wall cabinet with reduced depth

*Tecno300 series has been developed in order to fully satisfy the technical and aesthetic expectations even in less complex installations*

Code	U	W	D	H
F3033	3	600	320	185
F3006	6	600	320	387

### Colours

-  Grey
-  Black (\* add "N" at the end of the code)



# Tecno500



by tecnosteel

## Inspectionable cabinet in three sections

- *It is supplied completely assembled; with a simple movement you can open the intermediate section and access the wiring;*
- *the 19" uprights are retractable according to the depth of equipment that has to be installed;*
- *on the roof and on the base there are two cable entries;*
- *the tempered safety glass door is easily removable and opened further 180°;*
- *the ventilation slots allow the natural or forced air passage (by ventilation kit).*

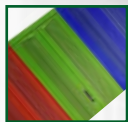
Code	U	W	D	H
F5009	10	600	520	520
F5012	13	600	520	655
F5015	16	600	520	787
F5021	22	600	520	1054

### Colours

-  Grey
-  Black (\* add "N" at the end of the code)



# AD HOC SOLUTIONS



## Colours

Lots of various colours can be produced in the international RAL standard table



## Out of standard dimensions

When the design needs require it, the TecnoSteel racks become “Extra” or “Mini” in each of the 3 dimensions.



## Custom aesthetics

Design customizations of doors, locks, handles, and hinges; furthermore it is possible to customize serigraphies, tablets and plates, as well as attention or positioning stickers.



## Integrations

On demand, we assemble in the rack any TecnoSteel accessory, electrical components, electronic home devices or ones supplied by the customer.



Customized solutions for IT  
applications, telecommunications,  
automation and video surveillance

# Custom

by tecnosteel



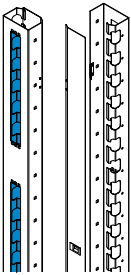
## Structures on project

Ad hoc devices for small wiring up to those for data centers (for the aisle containments with multi-brand or different sizes cabinets see the section of our **MultiBrand** line).



In this section, remember the “Progress” rack customization service offered by our site. With just a few clicks, the logged customers will be able to create quotes of cabinets set up as they like and the list of accessories or even the packaging options.

# CABLES MANAGEMENT



## Pair of vertical cable management with cover and snap lock system; only for progress

Equipped with cable entrances, on the bearing structure 19 " casings of one unit (blue graphics) are present in a variable quantity depending on the height. The closing cage door increases the efficiency of the air flows compartmentalisation and gives a compact and neat appearance to your wiring. On our website, the configurator allows logged users to receive their own rack with the channels mounted on the front uprights.

Code	U	Slots 19" - 1U quantity
P9093	24U	2
P9094	27U	2
P9095	33U	2
P9090	38U	3
P9091	42U	3
P9098	47U	3

## Cable holding bracket

Mounted on the two side external uprights



Colour: silver

**P9087** For Progress  
600 mm depth

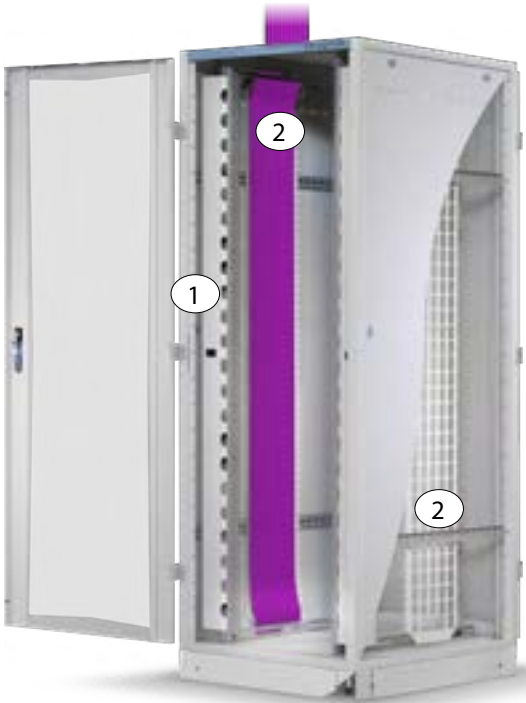
**P9088** For Progress  
800 mm depth

**P9417** For Progress 1000 mm depth



## Pair of vertical cable management with 6 (2 x 3) slot 19" only for progress

Code	For racks with depth	For racks with height
P9891P8	800 mm	42U
P9891	1000 mm	42U
P9890P8	800 mm	47U
P9890	1000 mm	47U



## Vertical Cable duct from 300x20 mm with 2 fixing brackets

**P9861** for 42U cabinets - 800 mm depth

**P9868** for 42U cabinets - 1000 mm depth

**P9860** for 47U cabinets - 800 mm depth

**P9867** for 47U cabinets - 1000 mm depth

## Everything necessary to organize the vertical and horizontal cables entrances

### Colours

Grey

Black (\* add "N" at the end of the code)



### Reversible side mounting rings

- F9832** Short single ring - 55 mm d. - 1U h.
- F9833** Long single ring - 98 mm d. - 1U h.
- F9834** Short double ring 55mm d. - 2U h.
- F9835** Long double ring 98mm d. - 2U h.
- F9836** Short triple ring - 55 mm d. - 3U h.
- F9837** Long triple ring - 98 mm d. - 3U h.
- F9838** Short quadruple ring - 55mm d. - 4U h.
- F9839** Long quadruple ring - 98mm d. - 4U h.

### Cable management 19" uprights



- F9009** large ring
- F9032** short ring

### Cable entry brush for the bottom plate



- F9366** for 1000 mm depth racks

### Cable entry brush for the base



- F9297** for 600 mm depth racks
- F9306** for 800 mm depth racks

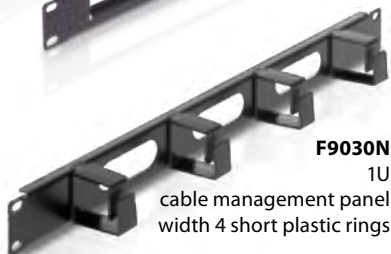
### Cable entry brush for the roof



- F9324** for any roof



- F9011**  
1U cable inlet panel  
with one slot



- F9030N**  
1U  
cable management panel  
width 4 short plastic rings



- F9031**  
1U cable management panel  
with 4 long plastic rings

### Cable management panel with 4 steel rings



- F9369** 1U
- F9298** 2U

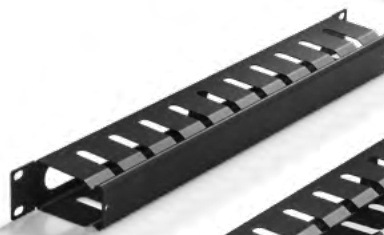


- F9133N**  
1U cable inlet panel  
with brush

### 19" cable management panel with hinged cover



- T9360N** 4U
- T9361N** 2U



- F9440**  
1U cable  
management  
panel with cap





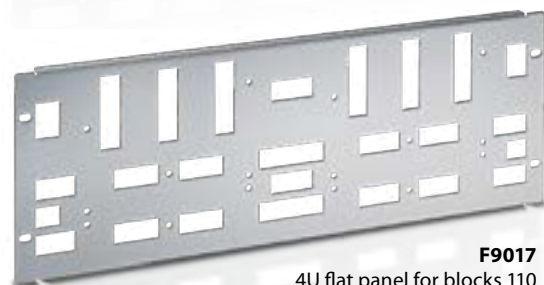
**F3027**  
19" 1U recessed rail DIN



**F3030**  
3U DIN rail enclosure



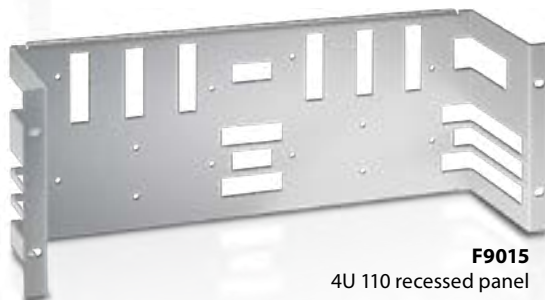
**F9016**  
2U flat panel for blocks 110



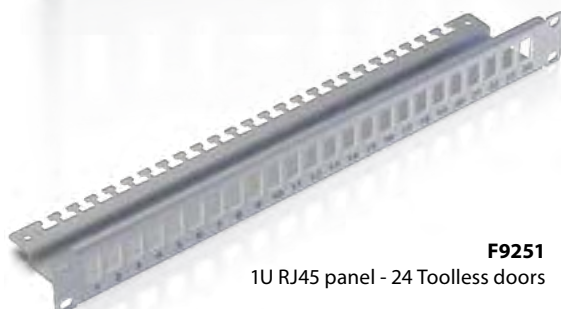
**F9017**  
4U flat panel for blocks 110



**F9014**  
2U 110 recessed panel



**F9015**  
4U 110 recessed panel



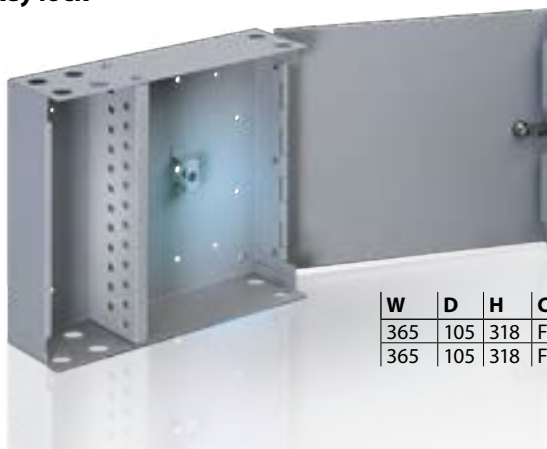
**F9251**  
1U RJ45 panel - 24 Toolless doors

## 19" 1U sliding drawers for fibre-optic

Code	Description
<b>F9290N</b>	24SC SMPLX/24LC DPLX
<b>F9291N</b>	24SC DPLX
<b>F9294N</b>	12SC DPLX
<b>F9315N</b>	12SC SMPLX/12LC DPLX
<b>F9378N</b>	12ST SMPLX



## Wall box for fibre-optic with key lock



W	D	H	Code	Description
365	105	318	F9055	24ST
365	105	318	F9056	24SC



# ACCESSORIES



**F9226**  
Documents holder



**F9271**  
Documents drawer



## Electrical grounding set

**F9136** Set of 10 g/y wires - 250 mm length - 4 mm<sup>2</sup>

**F9138** Set of 10 g/y wires - 250 mm length - 6 mm<sup>2</sup>

**F9139** The kit includes:

1 25x3mm copper bar; 2 35mm high insulators with M6 bores, 4 M6x14 screws and 4 washers

**F9140** The kit includes:

1 25x3mm copper bar; 2 35mm high insulators with M6 bores, 4 M6x14 screws and 4 washers



**F9132**  
Rack neon lamp with fixing set



## F9852

1/4 turn lock with key, eye shape for panels - RAL 5024



**F9270**  
combination lock

## Nuts and screw sets



**F9040** 50 pcs set of M6 cage nuts and M6x14 screws

**F9040N** 50 pcs set black of M6 cage nuts and M6x14 screws

**F9041** 50 pcs set of M6 cage nuts and M6x14 screws with plastic washers

**F9041N** 50 pcs set black of M6 cage nuts and M6x14 screws with plastic washers

**F9478** Set of 4 M6 cage nuts and 4 M6x14 screws

**F9478N** Set of 4 black M6 cage nuts and 4 M6x14 screws

**F9482** 4 M6 cage nuts 4 M6x14 screws, 4 plastic washers

**F9482N** Set of 4 black M6 cage nuts 4 M6x14 screws, 4 plastic washers

## F9131

Rack lamp with magnetic fixing

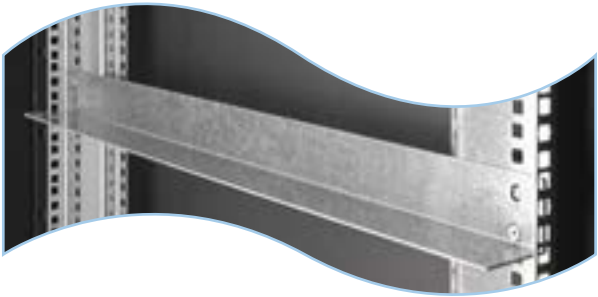


**F9432**  
30W rack neon lamp with fixing set



Couple of quick fixing brackets  
On 4 19" uprights fixing

Code	D	Description	Load capacity (Kg)
F9273	365	for 600mm deep cabinets	80
F9274	555	for 800mm deep cabinets	80
F9275	685	for 1000mm deep cabinets	80



To order the package in a single package, add the suffix "IS" at the end of the code eg. **F9292IS**

Fixed shelves - cantilever mounting

Code	Description	D (mm)	Load capacity (kg)
F9292	For all floor and wall cabinets	200	15 kg
F9000	For all floor and wall cabinets	250	25 kg
F9243	Fix shelf for both wall and floor standing cabinets with minimum depth 420mm	310	15 kg
F9107	Fix shelf for both wall and floor standing cabinets with minimum depth 520mm	350	15 kg
F9001	Fix shelf for both wall and floor standing cabinets with minimum depth 520mm	400	25 kg

F9000

F9107

F9001

Fix shelf for floor standing cabinets

D	U	Code	Description	Load capacity (Kg)
470	2	F9100	Cabinet mimum depth 600mm	80
600	2	F9002	Cabinet mimum depth 800mm	80
750	2	F9089	For server racks	80
	1	F9008	Extensible shelf for floor standing cabinets with minimum depth 600mm (shelf from 427 to 755mm)	30
650	1	F9335N	Adaptable shelf for floor standing cabinets with minimum depth 800mm (fixing in depth from 550 to 788mm) - black coulor only	150



F9100



F9008



F9335N



19" fixed shelves - mounting on 4 uprights

D	U	Code	Description	Load capacity (kg)
470	2	F9094	for floor standing cabinets with minimum depth 600mm.	50
600	2	F9105	for floor standing cabinets with minimum depth 800mm.	40
470	2	F9224	Keyboard and mouse sliding shelf for floor standing cabinets with minimum depth 600mm	25



D	U	Code	Description	Load capacity Kg
350	2	F9103	Sliding shelf for both wall and floor standing cabinets with minimum depth 520mm	25





## 19" devices for filling air flows



### Blind panels

<b>F9012</b>	1U
<b>F9102</b>	2U
<b>F9013</b>	3U
<b>F9253</b>	4U



### FlexiBlank - 27U fractionable panel for closing empty spaces

<b>T5027N</b>	27U panel
<b>T5028</b>	50 fixing rivets kit
<b>T5029</b>	Rivet remover

## Roof ventilation groups

The racks and wall cabinets roofs are designed to mount ventilation devices



**F9061**  
axial fan for wall  
cabinets



\* available only in metal  
silver colour



**P9062** \* 2 fan ventilation unit



**P9062T** \* 2 fan ventilation unit



**P9063** \* 3 fan ventilation unit

**P9064** \* 4 fan ventilation unit



**P9063T** \* 3 fan ventilation unit

**P9064T** \* 4 fan ventilation unit



### Air/Air Heat Exchangers

With aluminum fins  
crossed by upstream air  
flows in alternate chan-  
nels so to guarantee the  
perfect separation of  
flows.

**F9200** 35W

**F9201** 70W



### 19" ventilation drawer with light switch and thermostat\*

**P9092T** With 2 fans

**P9133T** With 3 fans

**P9130T** With 4 fans



### Dust proof filters

They are mounted on the floor cabinet bases.  
They are easy to open for cleaning

**F9215** for 600mm d. base

**F9216** for 800mm d. base

**F9217** for 1000mm d. base

# POWER BARS



## TecnoPower Compact



**F3052NS**

**F3053NS**



**F3022NS**

**F3021NS**

**F3020NS**

**F3043N**

**F3041NS**

**F2501NS**



**F3040N**



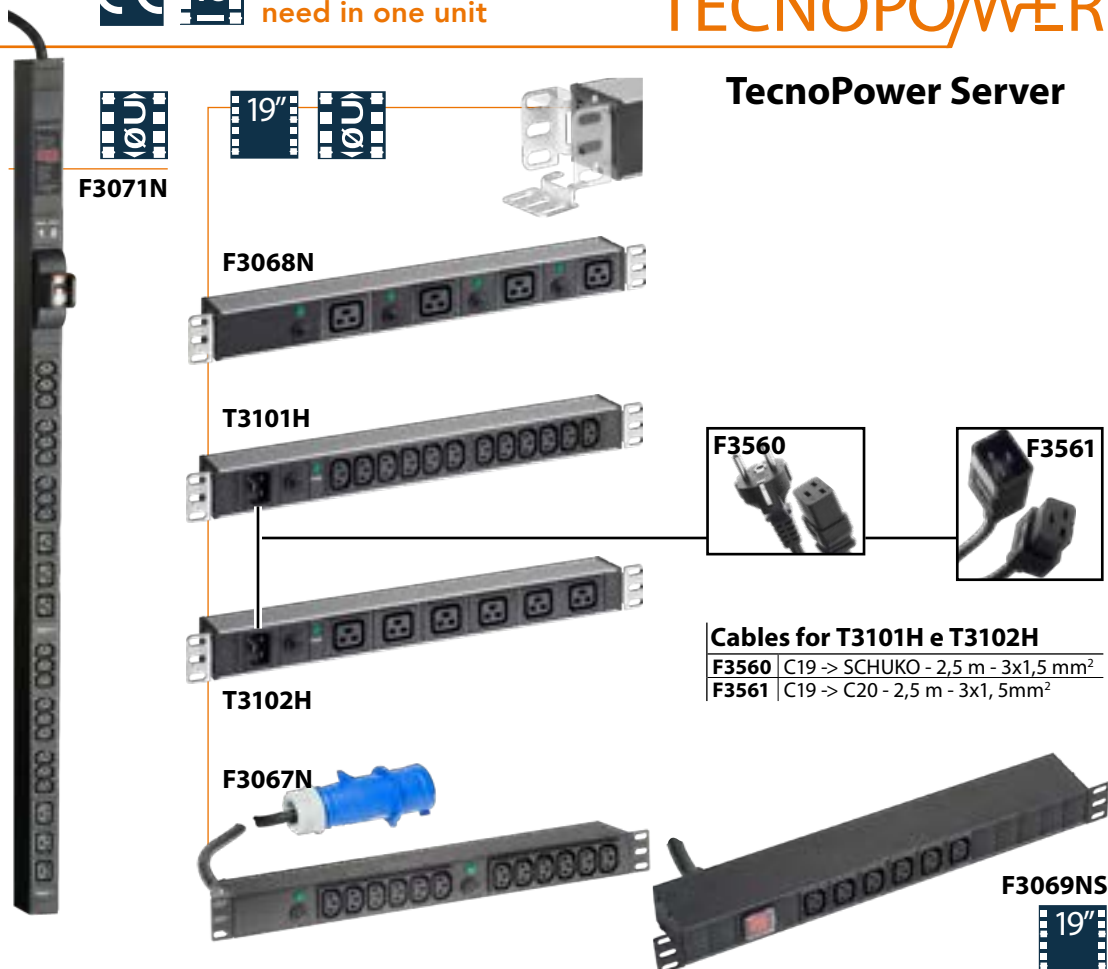
Code	Plug type + cable 3m	Output: 190-250VAC • single phase	Power capacity (kW)	Max output load (A)	16 A Magnettermic breaker	Mounting: Vertical: 0U Horizontal 19" Units
		Schuko • Ita plugs (tipo F/tipo L) 16A				
<b>F3052NS</b>	Schuko	12	3.5	16	yes	V
<b>F3022NS</b>	Schuko	6	3.5	16	yes	H - 1U
<b>F3021NS</b>	Schuko	5	3.5	16	yes	H - 1U
<b>F3040N</b>	Schuko	9	3.5	16	yes	V • H - 1U
<b>F3053NS</b> With light breaker	Schuko	12	3.5	16	/	V
<b>F3020NS</b> With light breaker	Schuko	6	3.5	16	/	H - 1U
<b>F3043N</b> With light breaker	Schuko	8	3.5	16	/	H - 1U
<b>F3041NS</b> With light breaker	Schuko	9	3.5	16	/	H - 1U
<b>F2501NS</b> With light breaker	-	2	3.5	16	/	V • H - 1U in 10"



All the power you  
need in one unit

# TECNOPOWER

## TecnoPower Server



### Cables for T3101H e T3102H

**F3560** | C19 -> SCHUKO - 2,5 m - 3x1,5 mm<sup>2</sup>

**F3561** | C19 -> C20 - 2,5 m - 3x1,5 mm<sup>2</sup>

Code	Plug type + cable 3m	Output: 190-250VAC • single phase			Power capacity (kW)	Max output load (A)	Overload protection technology	Mounting: Vertical: 0U Horizontal 19" Units
		Schuko • Ita plugs (type F/type L) 16A	IEC 60320 C13 • 10A	IEC 60320 C19 • 16A				
<b>F3071N</b> With 2 circuits • With digital meter	IEC 60309	/	2 x 9	2 x 3	7.3 (2 x 3.5)	32	2 x 16A magnetermic breaker	V
<b>F3068N</b> With 4 operating lights	IEC60309 2P+E 32A 250V	/	/	4 x 1	7.3 (4 x 1.8)	32	4 x 16A thermal breakers	V • H - 1U
<b>F3067N</b>	IEC60309 2P+E 32A 250V	/	2 x 6	/	7.3	32	2 x 10A Magnetic blow breaker 2P	V • H - 1U
<b>T3101H</b> With operating light	inlet C20 • without cable	/	12	/	3.5	16	16A thermal breaker	V • H - 1U
<b>T3102H</b> With operating light	inlet C20 • without cable	/	/	6	3.5	16	16A thermal breaker	V • H - 1U
<b>F3069NS</b> With light switch	Without plug	2	/	/	3.5	16	/	H



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[www.bladeshelter.info](http://www.bladeshelter.info)



**Tecnosteel France**

4 Avenue du Québec  
BP 653 • Bât Kerria Entrée N°2  
91140 VILLEBON SUR YVETTE  
tél. +33 1 6974 1735 • fax +33 1 6049 0286  
[www.bladeshelter.info](http://www.bladeshelter.info)  
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# TECHNOLOGIES AND PROJECTS FOR DATACENTER

BladeShelter is the brand that identifies Tecnosteel's line of products and services for data center with a low energy consumption even in the presence of high thermal loads. The high range specific products and the designers and technicians team ensure the most suited answer to the needs of a modern data center.

Line	Type	Page
	<i>The BladeShelter line top cabinets has been renewed and T7<sup>PLUS</sup> is born, a more functional version that maintains aesthetics, strenght and capacity of the original project.</i>	4
<b>BladeCooling</b>	<i>Technologies and products for data centers cooling and conditioning</i>	12
<b>BladeCube</b>	<i>The compartmentation system that separates the hot air flows from the cold ones ensuring the top of conditioning efficiency.</i>	16
	<i>Modular containment solution to increase the efficiency of the cooling system in structures composed by several sizes and types of racks.</i>	20
<b>BladeRunner</b>	<i>To wire complex structures and allow cables to pass among the racks of an aisle and among different aisles.</i>	22
	<i>Specific rack for high-density cabling in the data center, SAN and large local networks in general. It is an open modular structure for the best management of structured cabling in a minimum space.</i>	23
<b>BladePower</b>	<i>Built in the T7<sup>PLUS</sup> structure and set up on a project, it provides the power supply in layouts in which the power must be distributed locally with the highest precision.</i>	24
<b>ACTIPOWER</b>	<i>Advanced unit for power distribution and control in servers installed in the racks; it is the only one that allows the control of the electric and micro-environmental variables.</i>	26
	<i>Devices for environmental monitoring of the network, WEB, E-mail and SNMP support.</i>	28
	<i>KVM unit with 17" LCD monitor, keyboard and integrated "touch pad" mouse</i>	30
	<i>Infrastructure management software</i>	31
	<i>Automatic fire extinguishing system for racks, for aisles and surroundings</i>	32





Design:  
Marino Piotti



### Structural innovations

Our new hinge design allows the rear doors to open at 270 ° too, furthermore it makes the disassembly and reversal operations easier, faster and safer.



The front door is endowed with a cable route to connect electronic handles, alarms, detectors and lights supply. From now on, the four panels can be opened individually; their removal is also possible behind closed doors, unless the anti-break and security kit is mounted.

### T7<sup>plus</sup> standard version

T7<sup>plus</sup> is supplied with wheels and levelling feet. Typically it is used in battery, therefore the standard configuration is offered without panels. Standard colour is black

### Packaging

Two easily removable and reassemble steel brackets that allow handling by transpallet and stability in storage.

### MultiSection version

It is equipped with four unique standard up-rights. On demand, one or both pairs of 19" up-rights with two or three sections can be ordered.



Standard  
colours: black



More colours  
optional



Static load  
capacity: 1500 kg



Available in  
NEBS-3 version



**T7, the Bladeshelter cutting-edge cabinet gets a makeover to become the T7<sup>PLUS</sup>, an even more functional model that maintains the styling, robustness and capacity of the original model.**



### **General features**

Completely demountable, supplied assembled; high resistance steel structure, certified for 1500 kg of static load; Prepared for quick coupling to zero units of vertical PDUs; Availability of the conversion kit in an air-conditioned cabinet.

### **Dimensions:**

Width: 600 or 800 mm

Height: 42U o 48U

Depth: 800, 1030 e 1200 mm

### **Roof**

Easily removable roof, with double side cable entry with dust-proof brush; Additional cable entries through two sliding trapdoors.



### **Front door features**

- Ventilated version with 82% perforation with vertical anti-twist ribbing.
- Glass version for cooling in closed loop layout
- 4-point lock
- 180 ° opening angle in battery and 270 ° free-standing

### **Rear door features**

- Double door ventilated version with 82% perforation
- Double-door blind version
- 270 ° opening angle
- 3-point lock

### **Side panels (optional)**

- Independent bi-sectional version;
- Single panel version.

### **19" uprights**

- With unit counter
- Swift sliding system with an internal regulation
- Two sectional or three sectional rear uprights

### **Colours**

Black, white, red, silver, anthracite, amazon blue





Standard version with front 19" uprights single section and rear 19" upright two sections. Front and rear upright in two section on demand



Code	U	W mm	D mm	Description
TX6142N1G2G	42	600	1030	Rack with front single door and rear double door; 82% perforation; without side panels - black - with wheels and levelling feet
TX8142N1G2G	42	800	1030	
TX6148N1G2G	48	600	1030	
TX8148N1G2G	48	800	1030	
TX6242N1G2G	42	600	1200	
TX8242N1G2G	42	800	1200	
TX6248N1G2G	48	600	1200	
TX8248N1G2G	48	800	1200	
TX8842N1G2G	42	800	800	Rack with front glass single door and rear metal double door - without side panels - black - with wheels and levelling feet
TX8848N1G2G	48	800	800	
TX6142N1V2M	42	600	1030	
TX8142N1V2M	42	800	1030	
TX6148N1V2M	48	600	1030	
TX8148N1V2M	48	800	1030	
TX6242N1V2M	42	600	1200	
TX8242N1V2M	42	800	1200	
TX6248N1V2M	48	600	1200	Rack with front glass single door and rear metal double door - without side panels - black - with wheels and levelling feet. Fit only with TecnoCooling machines
TX8248N1V2M	48	800	1200	
TX8842N1V2M	42	800	800	
TX8848N1V2M	48	800	800	
TX6142N1V2MCL	42	600	1030	
TX8142N1V2MCL	42	800	1030	
TX6148N1V2MCL	48	600	1030	
TX8148N1V2MCL	48	800	1030	
TX6242N1V2MCL	42	600	1200	
TX8242N1V2MCL	42	800	1200	
TX6248N1V2MCL	48	600	1200	
TX8248N1V2MCL	48	800	1200	



MultiSection version on demand (with 3 - section uprights)



Special colours possibilities



Mounting of electrical components on demand

**T7<sup>PLUS</sup> Co-Location**

The Co-Location version is divided into independent and autonomous compartments for the sharing of the same rack. A kit is available to convert a standard rack in a co-location configuration with two sectors.



Code	Sections x units (U) useful	W (mm)	D (mm)	U equivalent
TX6142N2C1G1G	2 x 20U	600	1030	42
TX6148N2C1G1G	2 x 23U	600	1030	48
TX8142N2C1G1G	2 x 20U	800	1030	42
TX8142N3C1G1G	3 x 13U	800	1030	42
TX8148N2C1G1G	2 x 23U	800	1030	48
TX8148N3C1G1G	3 x 15U	800	1030	48
TX6242N2C1G1G	2 x 20U	600	1200	42
TX8242N2C1G1G	2 x 20U	800	1200	42
TX8242N3C1G1G	3 x 13U	800	1200	42
TX6248N2C1G1G	2 x 23U	600	1200	48
TX8248N2C1G1G	2 x 23U	800	1200	48
TX8248N3C1G1G	3 x 15U	800	1200	48



# Airflow optimization in the rack

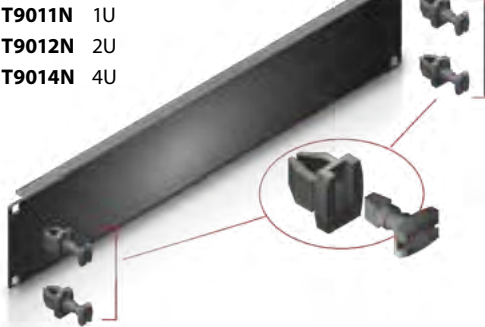


**FlexiBlank 27U divisible panel to close empty spaces**

<b>T5027N</b>	27U divisible panel
<b>T5028</b>	50 rivets kit
<b>T5029</b>	rivets remover



**19" blind panel with fixing clips, quick and without tools**



- T9011N** 1U
- T9012N** 2U
- T9014N** 4U



**Angled 1U-19" blanking panel**  
**T9015N** 1U

## Side panels for T7<sup>plus</sup> racks

Code	D mm	U	Description
<b>TX2142N</b>	42	1030	2 double T7 <sup>PLUS</sup> side panels
<b>TX2148N</b>	48	1030	
<b>TX2242N</b>	42	1200	
<b>TX2248N</b>	48	1200	
<b>TX2842N</b>	42	800	
<b>TX2848N</b>	48	800	Single T7 <sup>PLUS</sup> side panel
<b>TX2142N1</b>	42	1030	
<b>TX2148N1</b>	48	1030	
<b>TX2242N1</b>	42	1200	
<b>TX2248N1</b>	48	1200	
<b>T2142NIP</b>	42	1030	T7 <sup>PLUS</sup> side panel - IP Version
<b>T2148NIP</b>	48	1030	
<b>T2242NIP</b>	42	1200	
<b>T2248NIP</b>	48	1200	
<b>T2142NGU</b>	42	1030	
<b>T2242NGU</b>	42	1200	Dividing panel for in-row cabinets
<b>T2148NGU</b>	48	1030	
<b>T2248NGU</b>	48	1200	







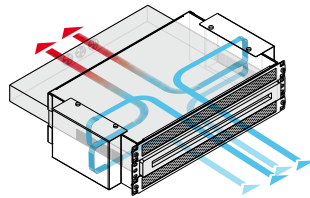
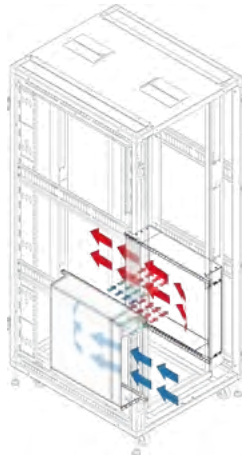
### Airflow closing kit

Code	for cabinets with the following dimensions	
	L mm	U
TX9132N	600	42
TX9133N	600	48
TX9135N	800	42
TX9136N	800	48

### AirDuct

### Airflow plugging kit for specific equipment

When you need to adopt a device whose cooling air flow does not match the common "front to back" path, AirDuct allows you to integrate devices using "side to side" cooling into the same rack or obliquing an assembly type unfavourable to heat exchange.



### Ventilation roof kit with 4 fans and thermostat

Code	for cabinets with the following dimensions	
	L mm	P mm
TX9064TN6X1030	600	1030
TX9064TN6X1200	600	1200
TX9064TN8X1030	800	1030
TX9064TN8X1200	800	1200
TX9064TN8X800	800	800



### Closing bottom plate with central sleeves and side brushes for cable entry

Code	for cabinets with the following dimensions	
	W mm	D mm
TX9145N	600	1030
TX9146N	800	1030
TX9147N	600	1200
TX9148N	800	1200

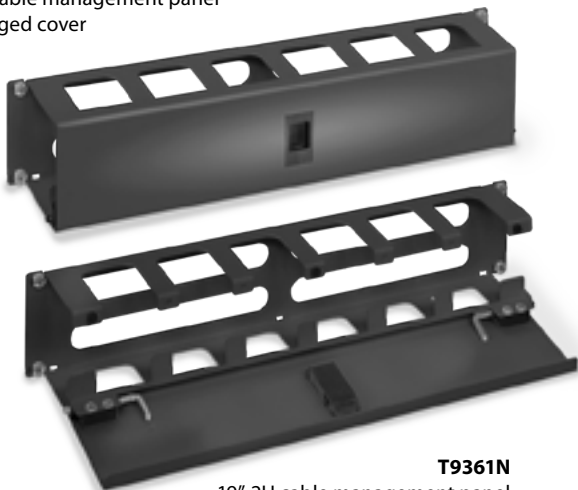
## Cable management



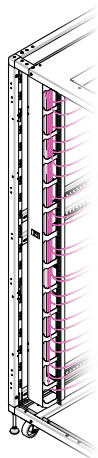
**T9360N**  
19"-4U cable management panel  
with hinged cover



**T9364N**  
19"-2U cable inlet panel with 2 brushes



**T9361N**  
19"-2U cable management panel  
with hinged cover



**Pair of vertical cable management with cover and snap lock system**

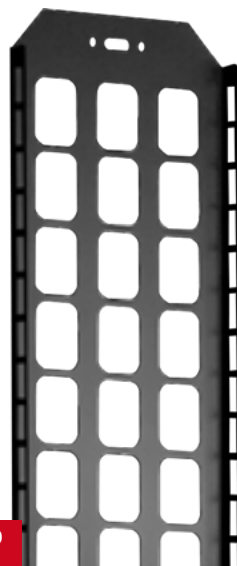
<b>TX9888</b>	42U section 125 x 70 mm
<b>TX9889</b>	48U section 125 x 70 mm
<b>TX9888HDN</b>	42U section 125 x 120 mm
<b>TX9889HDN</b>	48U section 125 x 120 mm



**Kit of 9 triangular cable guides with support panel**  
**19" - 1U**  
(They are assembled vertically in the uprights slots)



**T9365N** for right side  
**T9366N** for left side



**Kit vertical cable duct for T7<sup>Plus</sup>**

<b>TX9868N</b>	mm 300 x 20 x 42U
<b>TX9867N</b>	mm 300 x 20 x 48U
<b>TX9870N</b>	mm 200 x 20 x 42U
<b>XT9869N</b>	mm 200 x 20 x 48U
<b>TX9872N</b>	mm 120 x 20 x 42U
<b>TX9873N</b>	mm 120 x 20 x 48U

**T9009N8**  
8 cable inlet rings for  
T7 uprights, complete  
with screws

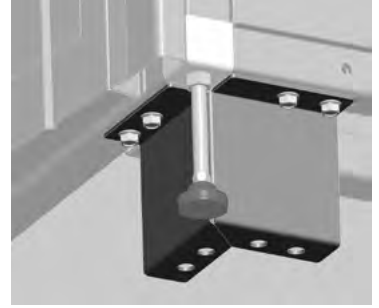


## Stability and safety devices



**T9042N**  
Joining Kit for T7plus

**T9042TN**  
Joining kit - BladeCooling



**T9160N**  
Kit of 4 brackets floor fixing for T7<sup>plus</sup>



### Antitopple pedestal

**T9049N** For T7<sup>PLUS</sup> 600 mm width

**T9050N** For T7<sup>PLUS</sup> 800 mm width

### T9139

Grounding kit with a 400 mm long copper bar - 19 bores



### Combination lock

**T1770** for single doors

**T17702B** for double doors



### Electronic lock

**T3404** for single doors

**T34042B** for double doors







**BladeCooling is the modular refrigerating unit with high energy efficiency**

*BladeCooling brings together the two basic parameters: low power consumption and high cooling capacity even in the presence of extremely high loads. The system dissipates from 4.7 to 42 kW thermal load. The supporting structure is made with T7<sup>PLUS</sup> components. Cooling is achieved by using a water chiller or a direct expansion (DX) gas system combined with a Class A condensing unit.*



## Cooling Configurations

### Closed architecture

BladeCooling is mounted alongside the server rack. Both the structures are insulated from the external environment. The air circulates in a loop; the heat exchange occurs through water or gas batteries cooled by chillers or external condensing units.

### Open architecture

Devices in the racks are cooled by the intake air from the environment. BladeCooling provides to cool the air before putting it back into the room at the set temperature.



## Cooling Types



### Gas Cooling

An external condensing unit pushes the refrigerant gas into the insulated circuit; the air is sucked in and forced through the lamellar batteries and then pushed towards the machines in the rack.



### Water Cooling

A chiller positioned outside the room regulates the water flow within a circuit that is connected to a refrigerant batteries system. The air is drawn in by the BladeCooling fan system and forced to cross the lamellar batteries. Cold air is conveyed to the equipment in the rack.



## BLADECOOLING<sup>PLUS</sup>

### OPEN LOOP ARCHITECTURES MODULES



#### Gas systems

**Side module - by Gas - with external motorcondensing unit - without side panels, with filters - WEB interface**

Code	Cooling capacity	W mm	D mm	U
TC3142NOLG4	4,7 kW	300	1030	42
TC3142NOLG8	8 kW	300	1030	42
TC3142NOLG12	12 kW	300	1030	42
TC3142NOLG20	20 kW	300	1030	42
TC3148NOLG4	4,7 kW	300	1030	48
TC3148NOLG8	8 kW	300	1030	48
TC3148NOLG12	12 kW	300	1030	48
TC3148NOLG20	20 kW	300	1030	48
TC3242NOLG4	4,7 kW	300	1200	42
TC3242NOLG8	8 kW	300	1200	42
TC3242NOLG12	12 kW	300	1200	42
TC3242NOLG20	20 kW	300	1200	42
TC3248NOLG4	4,7 kW	300	1200	48
TC3248NOLG8	8 kW	300	1200	48
TC3248NOLG12	12 kW	300	1200	48
TC3248NOLG20	20 kW	300	1200	48

#### Water systems

**Side module - without side panels**

Code	Cooling capacity	W mm	D mm	U
TC3142NOLW12	12 kW	300	1030	42
TC3142NOLW22	22 kW	300	1030	42
TC3142NOLW30	30 kW	300	1030	42
TC6142NOLW42	42 kW	600	1030	42
TC3148NOLW12	12 kW	300	1030	48
TC3148NOLW22	22 kW	300	1030	48
TC3148NOLW30	30 kW	300	1030	48
TC6148NOLW42	42 kW	600	1030	48
TC3242NOLW12	12 kW	300	1200	42
TC3242NOLW22	22 kW	300	1200	42
TC3242NOLW30	30 kW	300	1200	42
TC6242NOLW42	42 kW	600	1200	42
TC3248NOLW22	22 kW	300	1200	48
TC3248NOLW30	30 kW	300	1200	48
TC6248NOLW42	42 kW	600	1200	48

**Gas systems**

**Side module - by Gas - with external motorcondensing unit - without side panels, with filters - WEB interface**

Code	Cooling capacity	W mm	D mm	U
TC3242NCLG4	4,7 kW	300	1200	42
TC3242NCLG8	8 kW	300	1200	42
TC3242NCLG12	12 kW	300	1200	42
TC3242NCLG20	20 kW	300	1200	42
TC3248NCLG4	4,7 kW	300	1200	48
TC3248NCLG8	8 kW	300	1200	48
TC3248NCLG12	12 kW	300	1200	48
TC3248NCLG20	20 kW	300	1200	48

**Water systems**

**Side module - without side panels**

Code	Cooling capacity	W mm	D mm	U
TC3242NCLW22	22 kW	300	1200	42
TC3242NCLW30	30 kW	300	1200	42
TC3242NCLW36	36 kW	300	1200	42
TC6242NCLW60	60 kW	600	1200	42
TC3248NCLW22	22 kW	300	1200	48
TC3248NCLW30	30 kW	300	1200	48
TC3248NCLW36	36 kW	300	1200	48
TC6248NCLW60	60 kW	600	1200	48

**Closing panels for Bladecooling<sup>PLUS</sup> systems**

Code	Description	W mm	U	Suitable for
T2142TNTCOL	Side panel	1030	42	Open Loop Gas and Open Loop Water For 42U - 1030 mm depth cabinets only
T2148TNTCOL		1030	48	Open Loop Gas and Open Loop Water For 48U - 1030 mm depth cabinets only
T2242TNTCOL		1200	42	Open Loop Gas and Open Loop Water For 42U - 1200 mm depth cabinets only
T2248TNTCOL		1200	48	Open Loop Gas and Open Loop Water For 48U - 1200 mm depth cabinets only
T2242TNTCCL	Intermediate panel with air flow ways	1200	42	Closed Loop Gas and Closed Loop Water For 42U - 1200 mm depth cabinets only
T2248TNTCCL		1200	48	Closed Loop Gas and Closed Loop Water For 48U - 1200 mm depth cabinets only





**The containment system that separates hot and cold air flows; it ensures maximum efficiency in air conditioning.**



It is a modular and scalable structure that applies to two T7<sup>PLUS</sup> cabinets opposite batteries to which juxtaposition of opposite rows of T7 cabinets modules is possible; the system is equipped with all the devices to guarantee the perfect insulation of the aisle interior and maintains maximum separation between the hot and cold air flows.

The special vertical profiles that apply to the base of the cabinets, the corridor covering panels with polycarbonate elements and the special BladeRunner cable cover guarantees the achievement of the maximum power efficiency.

BladeCube is available with 100, 120 and 150 cm width aisles.

The opening of the sliding doors is automatic with presence detector or semi-automatic. Locking is possible either by remote control electronic handle or with badge.

The installation of the Bladeshelter aisle does not require particular changes of the existing infrastructure in the hall.

The subdivision system that separates hot air flows from the cold ones ensures the maximum efficiency in conditioning.



Aisle containment configurations



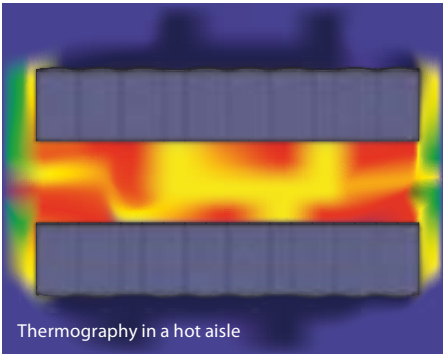
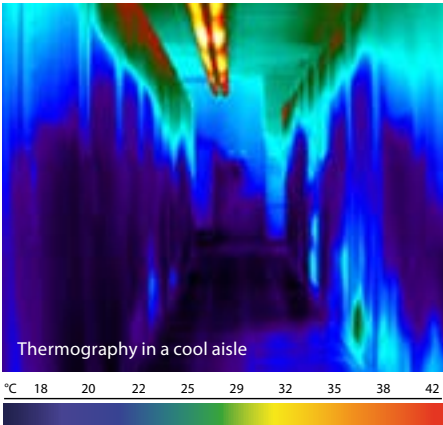
Cool aisle

The cold air confined in the closed structure guarantees the desired temperature to be constant at all the heights on the front of the racks. Hot air, extracted from the server fans, is released into the external environment whence it is cooled down to get back into the aisle.

Although the cold aisle configuration is traditionally matched with under- floor air conditioning, the BladeCooling solution (shown below) allows you to use a row conditioning system, more focused and therefore more efficient. The principle of thermal efficiency and energy saving is the observance of a sufficient  $\Delta T$  between inside and outside of the containment volume. Typically, a temperature difference of 12 to 15° C allows you to make the most of the containment structure. The temperature of the room where the aisle will be positioned can be managed with existing or new conditioning systems adapted to the actual thermal demand.

The temperature on the rack front inside a cold aisle will be constant at any height, since the containment eliminates the normally existing thermal gradient. The chart shows the elaboration of a thermography illustrating this. The thermal gradient in a rack cooled with traditional systems goes from 18°C up to 32°C in the cabinet upper part. In an aisle the temperature remains constant at every height in line with the settings made by the user.

The peculiar characteristic of a cold aisle is the constancy, within acceptable tolerances, of the temperature and humidity set by the user.



Hot aisle

Should the data center be covered in a non- conditioned room, with insufficient conditioning system or lacking insulating devices, it may be appropriate to choose a layout that confines the hot air issuing from the racks in a containment aisle in which the temperature of the air will be much higher than that of the environment. In this case the  $\Delta T$  between the hot air contained in the aisle and the air cooled through the BladeCooling system is high enough to guarantee maximum system efficiency. BladeCooling modules draw warm air from inside the aisle and push it cooled to the outside environment from where is taken by the server fans and pushed back into the hot aisle. Should the preference be not not to mix the air outside the aisle with that of the environment it is possible to opt for the closed architecture system..

### Closing panel for aisles made up of T7<sup>plus</sup> cabinets



Code	W	U
<b>T1730N</b>	1000	42
<b>T1731N</b>	1200	42
<b>T1732N</b>	1200	48
<b>T1733N</b>	1500	42

### Couple of sliding doors for aisles with T7<sup>plus</sup> cabinet



Code	to build aisles of the following widths	W mm	U mm
<b>T1042N</b>	1030mm	1000	42
<b>T1052N</b>	1200mm	1000	42
<b>T1053N</b>	1200mm	1000	48
<b>T1142N</b>	1030mm	1000	48
<b>T1242N</b>	1030mm	1200	42
<b>T1248N</b>	1030mm	1200	48
<b>T1342N</b>	1200mm	1200	42
<b>T1442N</b>	1200mm	1200	48
<b>T1542N</b>	1030mm	1500	42
<b>T1562N</b>	1030mm	1500	48
<b>T1563N</b>	1200mm	1500	42
<b>T1564N</b>	1200mm	1500	48

### Refraction led lighting panel



Code	Description
<b>T9190N</b>	600x300mm panel
<b>T9191</b>	Power supplier for LED light panels
<b>T9192</b>	Presence sensor for light switch on/off in the corridor



### Under rack closing panel

Code	Description	W	D
<b>T9053N</b>	For BladeCooling	300	100
<b>T9051N</b>	and/or electric board	600	100
<b>T9052N</b>		800	100
<b>T9052NLAT</b>		800	100
<b>T9054N</b>		1030	100
<b>T9055N</b>		1200	100

### RFID keypad

**T3407** Device for opening doors with entering access code or with a microchip

**T3406** Electric lock for sliding door

Combined with sliding doors for aisles they add **RFID** suffix to the door code. E.g.. **T2242NRFID**



### Roof modules for Blade cube aisles made up of T7<sup>plus</sup> cabinets, blade cooling and blade power electric boards



Code	Type of elements connected	Span width	Other specifications
<b>T1701N</b>	600 mm width T7 <sup>plus</sup>	1000 mm	
<b>T1722N</b>	800 mm width T7 <sup>plus</sup>	1000 mm	
<b>T1709TN</b>	BladeCooling 300 mm	1000 mm	
<b>T1709N</b>	Electric boards 300 mm	1000 mm	
<b>T1700N</b>	600 mm width T7 <sup>plus</sup>	1200 mm	
<b>T1700NP</b>	600 mm width T7 <sup>plus</sup>	1200 mm	in polycarbonate
<b>T1720N</b>	800 mm width T7 <sup>plus</sup>	1200 mm	
<b>T1725N</b>	800 mm width T7 <sup>plus</sup>	1200 mm	inspectable
<b>T1720NF</b>	800 mm width T7 <sup>plus</sup>	1200 mm	for anti-fire devices
<b>T1720NP</b>	800 mm width T7 <sup>plus</sup>	1200 mm	in polycarbonate
<b>T1710TN</b>	BladeCooling 300 mm	1200 mm	
<b>T1710NP</b>	BladeCooling 300 mm	1200 mm	in polycarbonate
<b>T1710N</b>	Electric boards 300 mm	1200 mm	
<b>T1721N</b>	800 mm width T7 <sup>plus</sup>	1500 mm	

The MultiBrand aisle is a modular containment solution designed to increase the efficiency of the cooling system in systems made with different types and sizes of racks





*Suitable for racks of varying heights, widths and depths, enhancing any type of cabinet already present in the datacenter. The scaling-up solution is customized and al-*

*lows integration between racks and Tecnosteel Bladeshelter wiring devices, ensuring thermal containment and a safe and efficient environment for all IT equipment. The Multibrand structure is free-standing and modular and allows the possibility of installing new racks in the future.*



## **Integration**

The MultiBrand wiring solution make access to cables available at critical points; the aisle constitutes a safe and efficient environment for the staff and the IT equipment.

It can be completed by:  
BladeLighting LED lighting products;  
systems for monitoring electrical parameters supplied by intelligent PDUs;  
BladePower;  
BladeCooling conditioning systems.

The structure consists of a hinged free-standing frame for entry with aluminum alloy panels and of curtain cladding.

According to requirements, the roof consists of plexiglas, polycarbonate or glass panels. If necessary, curtain walling in expanded polyurethane foam can be used to make up the different heights of the racks so to create a containment environment.



To wire complex structures and allow cables to pass through racks and through different aisles has led to the development of the BladeRunner cable-guide cladding.

- It protects the integrity of cables avoiding fouling and snagging;
- it facilitates the passage of multiple cables and makes it easier to replace and maintain;
- it keeps the containment of cabinets and aisles.

### Cable passage bridge

Code	Description	W
T1581N	for aisle depth from 940 a 1200mm	800
T1582N	for aisle 1500mm depth	800
T1584N	for aisle depth from 940 a 1200mm	600



### Roof modules Products

Code	Description	W	D
TQE31N	Middle cable management module for Electric boards	300	1030
TQE31NEST	Outer cable management module for PowerBoard roofs	300	1030
TQE32N	Middle cable management module for Electric boards	300	1200
TQE32NEST	Outer cable management module for Electric boards	300	1200
TTC31N	Middle cable management module for BladeCooling	300	1030
TTC31NEST	Outer cable management module for BladeCooling	300	1030
TTC32N	Middle cable management module for BladeCooling	300	1200
TTC32NEST	Outer cable management module for BladeCooling	300	1200
TTX61N	Middle cable management module for T7 "PLUS"	600	1030
TTX61NEST	Outer cable management module for T7 "PLUS"	600	1030
TTX62N	Middle cable management module for T7 "PLUS"	600	1200
TTX62NEST	Outer cable management module for T7 "PLUS"	600	1200
TTX81N	Middle cable management module for T7 "PLUS"	800	1030
TTX81NEST	Outer cable management module for T7 "PLUS"	800	1030
TTX82N	Middle cable management module for roofs T7 "PLUS"	800	1200
TTX82NEST	Outer cable management module for T7 "PLUS"	800	1200

TPatch is the dedicated rack for high-density cabling in the datacenter, SAN and large local area networks in general. It is an open modular structure for the optimized management of structured wiring in minimum space.



Code	Description	W	D	U
T1550N	TPatch - Open Frame 19"	529	351	45
T1551N	TPatch - Cable management module	200	351	45
T1552N	TPatch - Battery closing panel			45

## The wiring evolution

Cable management is ever more critical and the cable performance has an ever larger impact on the network band width. The wiring has always been perceived as the passive part of the network, but with the increase in transmission speed, any deformation of the cable may have serious impacts on the overall efficiency of the network; TPatch solves the problems of management, distribution and control of data centers cabling. Its modular and open structure allows the use of 19" patch panels supports and vertical channels from every direction; it is optimized for Cat 5E, Cat 6, Cat 7, 10Gb and EIA 310-D standards. The roof is equipped with containment guides; the floor, the sides and the roof are provided with entries and outputs from and towards the 19" uprights and vertical canals.



# BladePower





In the T7plus structure it, is set up on on project basis and it is the safest device to provide power in applications and layouts where localising energy is preferred. It reduces the management and the amount of cables required.

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BladePower has varying numbers and types of switches, (single-phase or three-phase, with or without circuit breakers) and of varying capacity. In the simplest configurations the power board can accommodate up to 30 single-phase circuit switches without 16 A circuit breaker. The switches can be replaced on the spot (**N.B.: only by qualified personnel**).

A display applied to the front door allows to control the main electrical magnitudes (V, A, kW) on the phases.

The electrical distribution panels are intended to power the PDUs (Power Supply Unit), see ActiPower) of the cabinet racks and redundantly of other conditioning devices; the power supplies, depending on the needs and utilizers installed, are both single-phase (1P + N + T) and three-phase (3P + N + T). Their use is exclusively intended for this purpose and their working is expected only within a protected environment.

The structure of the power board (with regard to distribution and accessories) is made of ABB material from the SmissLine series, which allows versatility and extremely easy maintenance.

The power supply of the board is brought, from the main switch, to the center of the two rods in in order to exploit at best the flows distribution abiding the busbars maximum flow.

To facilitate the intervention maneuvers, each switch has the corresponding ground terminal so that the output power cables are absolutely independent.





Our intelligent PDUs measure: Energy (kWh), Voltage (V), Current (A), Active Power (kW), Apparent Power (kVA) and Power Factor (PF). They also support automated alerts via SNMP, control via ethernet. Data are integrable with 3rd party.

The new Actipower 3.0s are exceptionally reliable and user friendly; they are compliant with the most stringent electrical standards such as

UL, CE, TÜV, RoHS and IEC60950-1.

Our major objective is to allow to design any solutions of power distribution in the datacenter.

Our new PDUs have functionalities of display of power input and output, controlling of power usage through remote monitoring, control equipment in remote sites and to alert any abnormal behaviors of power consumption.

PDU models having high amperage plugs can provide multiple low amperage outlets.

Technology	Code	Metering per input line Branch Circuit and Total Current	Remote Outlet Switching	Metering per Outlet	Max load (A)	Total power capacity kW	Circuit x lines x phases	Ph.	Output 190-250V Single phase		Protection Single Pole Magnetic Hydraulic CB
									C13 10A	C19 16A	
METERED Per inlet Monitoring	TM1613606	•			16	3.5	1 x 1 x 1	1	36	6	1 x 16A
	TM1633606	•			16	11	1 x 1 x 3	3	3 x 12	3 x 2	3 x 16A
	TM3213606	•			32	7.2	2 x 1 x 1	1	2 x 18	2 x 3	2 x 16A
	TM3233012	•			32	22.1	2 x 1 x 3	3	3 x 10	3 x 4	6 x 16A
	TM3233606	•			32	22.1	2 x 1 x 3	3	3 x 12	3 x 2	6 x 16A
CONTROLLED Per outlet Switching	TK1612406	•	•		16	3.5	1 x 1 x 1	1	24	6	1 x 16A
	TK1632406	•	•		16	11	1 x 1 x 3	3	3 x 8	3 x 2	3 x 16A
	TK3212406	•	•		32	7.3	2 x 1 x 1	1	2 x 12	2 x 3	2 x 16A
	TK3232406	•	•		32	22.1	2 x 1 x 3	3	24	3 x 2	3 x 2 x 16A
FULL Per outlet Metering & Switching	TF1610800	•	•	•	16	3.5	1 x 1 x 1	1	8	0	1 x 16A + 8 (10A fuse)
	TF3210800	•	•	•	32	3.5	2 x 1 x 1	1	2 x 4	0	2 x 16A + 8 (10A fuse)
	TF1612406	•	•	•	16	3.5	1 x 1 x 1	1	24	6	1 x 16A
	TF1632406	•	•	•	16	11	1 x 1 x 3	3	3 x 8	3 x 2	3 x 16A
	TF3212406	•	•	•	32	7.3	2 x 1 x 1	1	2 x 12	2 x 3	2 x 16A
	TF3232406	•	•	•	32	22.1	2 x 1 x 3	3	3 x 8	3 x 2	6 x 16A

T3100HS ActiPower PanGenAlim

Designed for redundancy. 32A single-phase double power supply for connection of 1xSchuko, 3xC19 and 1xIEC309 each line. Input for 5 optional room sensors, with digital ammeter, it controls the total current, integrated remote monitoring.

“Hot-swap” display



T3100HS	Metering Per input line: Branch Circuit and Total Current	Input 2 x (IEC 60309 1 P+N+E 32A 250V) with 5 m cable	Max load 32 A	Power capacity 7,3 kW	Ph. 1	Circuits 2	Sockets 2x3 IEC19 (16Amps) 2x3 Schuko (16Amps) 2x1 IEC309 (32Amps) with 1m cable	Protection Circuit breaker single pole magnetic hydraulic 2 x 32A
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Energy Metering:

- Voltage (V)
- Current (A)
- Active Power (kW)
- Real Power (kVA),
- Power Factor

Environmental port for Sensors

- Programmable buzzer
- Overload
- Employing T355,1 all in one temperature and humidity sensor, it is possible to connect
- 2 digital inputs for sensors: air flow, door open / closed, water leak, smoke detector, vibration (see the accessories)

Notifications

- Programmable sending of e-mail
- Sending of alarms via standard SNMP protocol

Networking

- HTTP(s); SSH;
- RS-485 (Serial);
- Power IQ;
- SNMP v1/v2/v3;
- SMTP, MODBUS

Controls (depending on the version)

- Turn on / off all sockets
- Programmable sequential restart of the
- sockets
- Switching on / off each individual socket

Display

- LCD
- Parameter selection

Networking

- HTTP(s);
- SSH;
- RS-485 (Serial);
- Power IQ;
- SNMP v1/v2/v3
- SMTP, MODBUS

Daisy Chain

- All the models

Chassis

- Black powder coat
- Mounting mode: Vertical Mounting 0U
- Mounting Options: Metal Bracket; 2 Bottom Mounting

Environmental operating

- Temperature Range: 0° to 60° C (32° to 140° F)
- Relative humidity: 0 - 95%
- Elevation: 0 - 4000 m

Sensors

Code	Description
T3551	Temperature/Humidity sensor with connectors for 2 further dry contact sensors
T3550	Doors open/closed detector



Code	Description
T3552	Smoke detector
T3553	Flood sensitive-cable 2,2 m long
T3554	Flood sensitive-cable 3,5 m long



Code	Descrizione
T9159N	Kit of 2 toolless holder bar for 2 standard PDUs or 3 slim PDUs - for 42U and 48U T7 racks



**F9172**  
It supports HTML, Modbus & SNMP, it sends e-mails alarms and SNMP traps. Up to 8 detectors and 4 digital inputs.

**F9269** It sends alarms by e-mail & sms(optional modem),SNMP protocol. It controls up to 18 connectors/detectors & electronic swing handle



## SH4 - access management device

**T3401**

It manages the opening and closing of 2 electronic handles (with a optional module you can control other 16). It can be interfaced with any chip or keypad reader, memorizes up to 20 users

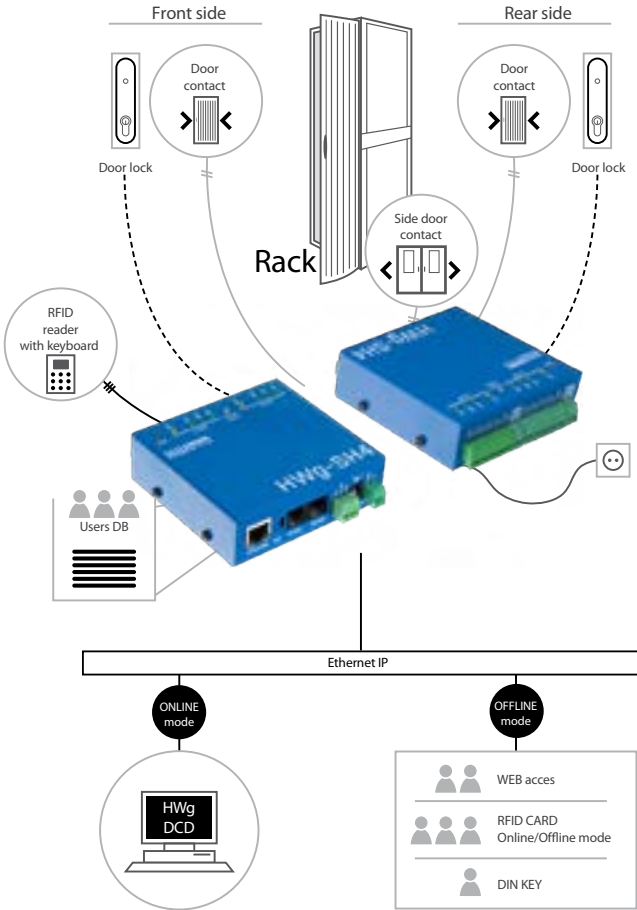


### Electronic handle

- T3404** for single door
- T34042B** for double swing door
- T3406** electric lock for sliding doors

### RFID keypad

**T3407** Device for opening doors by digiting access code or by microchip



It can be provided combined with sliding doors for aisles. in this case you add the suffix **RFID** at the door code. E.g. **T2242NRfid**

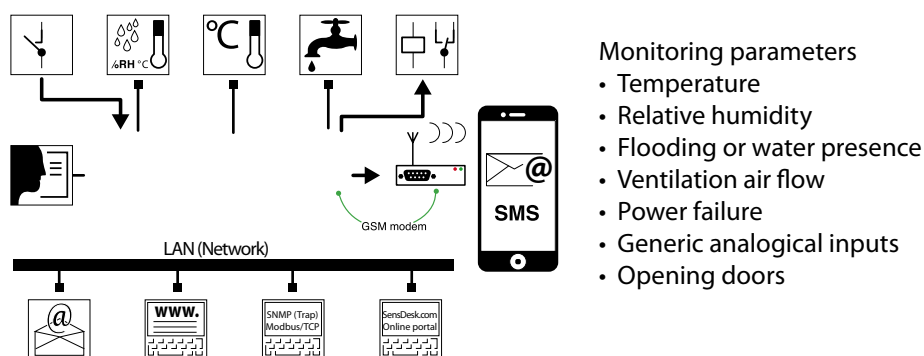


*Poseidon2 performs remote environmental monitoring through the network by measuring and sending physical parameters. Connected to the LAN it reads the values from the detectors and records them on the internal memory (data logger).*

*Up to 16 detectors and 12 digital inputs (clean contacts) can be connected. The devices are accessible via the web with the integrated server and, in case of alarm, can send e-mails, SNMP trap, and / or SMS.*

*Poseidon devices can be connected to all 1-wire and 1-wire UNI detectors produced by HW group and be easily integrated into a monitoring system of hundreds of detectors thanks to the HWg PDMS software, which can be used for all HW group monitoring products.*

*It is also possible to access the collected data through the free web portal SensDesk and thus have the ability to monitor one's detectors from anywhere in the world and with any device (PC, Tablet, Smartphone etc.) regardless of the operating system.*



**F1270** Ultracompact GSM modem, quad-band, connectivity TCP/IP, plug&play



### Poseidon detectors

**F2286** Doors opening detector MK4 with cable 3m long

**F9142** Temperature and humidity sensor - RJ11 cable - length 3 meters

**F9143** Smoke detector

**F9149** Flooding detector with RJ11 entry and 3m long cable

**F9515** Water detector

**F9166** Power Egg to check the presence of the outer power supply (230V)



**KVM unity, 1U, mounted on 19" rack,  
made up of:**

- LCD monitor TFT 17"
- Italian keyboard with 105 thin and "soft touch" keys
- Integrated mouse "touch pad" type KVM switches with combo cables, allow connection to 8 up to 16 servers by USB connection or PS/2 for keyboard and mouse
- International languages keyboards available on demand
- Colour black



Code	Description
F9857N	KVM station-17"monitor, international QWERTY keyboard and touch pad mouse with interchangeable switch
F9808N	8 port switch module with USB&PS/2 combi cables, w/out power supplier
F9816N	16 port switch module with USB&PS/2 combi cables, w/out power supplier
F9858	5 meters long cable for KVM switch - Black
(K)	International languages keyboards available on demand

*It displays and sends alerts for  
 failures and anomalies*

- Census of devices and systems
- Collection of dynamic data by device, grouped on a logical level
- Collection and representation of the parameters in graphic form
- Graphical interface of the detected data with publication via WEB
- Remote monitoring (fault reporting, out-of-range values, operation errors, etc.)
- Definition of active operating logics by sending specific commands via SNMP or via Modbus over IP to devices (eg Disaster Recovery configurations)
- You can interact with the monitored device:
- Alarms generation threshold
- Switching on and off

### Trends & Reports

In all layouts the user can click on any numerical value of one variable on which data collection is active to open the predefined report; the trend of the variable values of the current year will be displayed

### Customization of the historical report

The system collects data at the highest resolution for a maximum of 12 months; however it is possible to configure one or more secondary databases for collecting historical data at a resolution lower than the maximum.

To obtain a historical data report, the user can select the database he wants from the menu "Data source"; the aggregation options make it possible to eliminate the time axis and obtain a pie chart that relates the minimum, average or maximum values of one or more variables.

### Selecting the variables of a report

The user can select the desired variables using the search functions. Each variable, depending on the type, allows you to specify some options for extracting values



### Events

Finally, it is possible to define which events must correspond to a specific notification to be sent to the users of the Blade Monitoring list or to the users entered in the configuration window.

### Notifications

- Sending SMS
- Send mail
- Notifications on web browsers

### Calculation of PUE (Power Usage Effectiveness)

The data provided by the Digital Multimeters inputs connected to the Ethernet interface and the Modbus over IP protocol are used to monitor energy consumption. It is possible to process the data on the electrical absorptions of each analyzer; the informations combined by the system allow to calculate the energy efficiency value generally defined PUE (Power Usage Effectiveness). The integrated reporting tools can process the graphs of the PUE trend instantaneous or over time. You can also view reports of aggregate values.





**Automatic fire detection and  
extinguishing unit harmless  
for persons and racks**

## **Automatic fire detection and extinguishing unit in an environment**

### **Basic requirements for the development of the fire detection system**

- Fire detection panels totally compatible for systems of all sizes
- Maximum reliability and total redundancy for maximum security
- Decentralized modular structure
- Suitable for small system networks up to large plants networks
- Intuitive alerts and commands in the language of the installation country
- Simple configuration using PC software
- Approved and certified under all current rules and standards, such as EN 54, VdS, etc.

### **Fluid Performance**

- Very rapid extinction of the fire before the equipment contained in the room can be damaged
- It is chemically inert and therefore has no influence on the functioning of any electronic equipment present in the room
- It is clean and therefore there is no residue after the emission
- It is harmless to personnel who may have remained in the protected room during and after the discharge
- No electrical conductivity
- Low extinguishing concentration
- It is liquid and is kept under pressure and therefore in a few bottles and small equipment
- No thermal shock to the installed equipment; the temperature of the Novec™ 1230 fluid at the nozzle it is greater than zero degrees Celsius.



### **Main control panel**

For safety reasons, the panel is mounted on the outside of the cabinets and corridors.

All system states are displayed in plain text on the 5.7 "TFT color display.

The use is simple thanks to the "SecuriWhee" command and to the intuitive symbology.



## Automatic fire detection and extinguishing unit in the racks

### Extinguishing effect

The action of Novec™ 1230 Fluid is that of inhibit the oxidation reactions that are generated between the fuel and the oxygen. Furthermore the flame is cooled thanks to the absorption of heat by the fluid Novec™ 1230.





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IT endless solutions

HQ



**Tecnosteel S.r.l.**

Via Pret, 12 - 21020 Brunello (VA)

tel. +39 0332 462 604

fax +39 0332 462 609

[www.tecnosteel.it](http://www.tecnosteel.it)

[www.bladeshelter.info](http://www.bladeshelter.info)



**Tecnosteel France**

4 Avenue du Québec

BP 653 • Bât Kerria Entrée N°2

91140 VILLEBON SUR YVETTE

tél. +33 1 6974 1735 • fax +33 1 6049 0286

[www.bladeshelter.info](http://www.bladeshelter.info)

[www.tecnosteel.fr](http://www.tecnosteel.fr)



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TECHNOLOGIES AND PROJECTS FOR GREEN DATA CENTERS

