

# Defem CombiRack™ 19”

07



## There will always be a next time

Defem is a part of AB Wibe in Sweden. Defem consists of two product areas: Defem Wire Tray system for cable channelling and Defem CombiRack for Tele- and Datacom technical room interiors. Tele- and Datacom network operators in more than 40 countries use Defem. One of their most critical demands is flexibility; any installation shall be simple to be moved, changed or extended. They know that there will always be a next time. New extensions must fit to old installations. As a hand fits in a glove.

AB Wibe was founded in 1929 and has ever since been the market leader in Scandinavia. It created the first cable ladder some 75 years ago and it now presents a complete programme of cable ladders, cable trays, lighting supports, mounting rails, industrial and office sub-ceilings. Wibe is also an important manufacturer of Masts and Towers for communication and lighting. The mobile masts are delivered all over the world for advanced applications in Telecom and in defence industry.

Wibe is a part of Schneider Electric SA, the international electrical group with more than 85 000 employees in more than 135 countries.



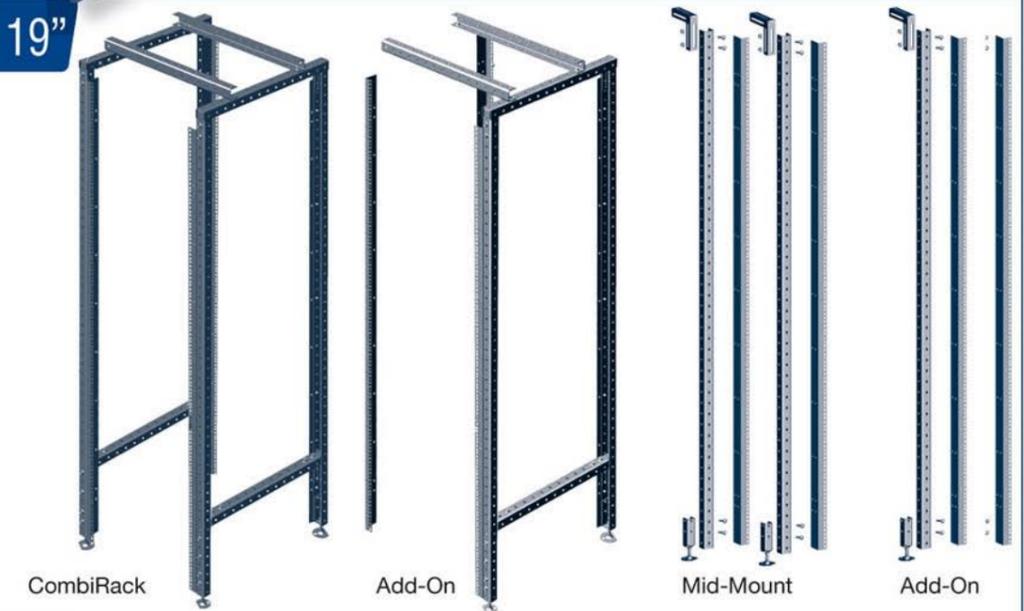
AB Wibe, Defem System, Box 228, SE-334 24 Anderstorp  
Tel +46 371 58 87 10, Fax +46 371 58 87 11, www.defem.se

Made in Sweden

## Product Overview

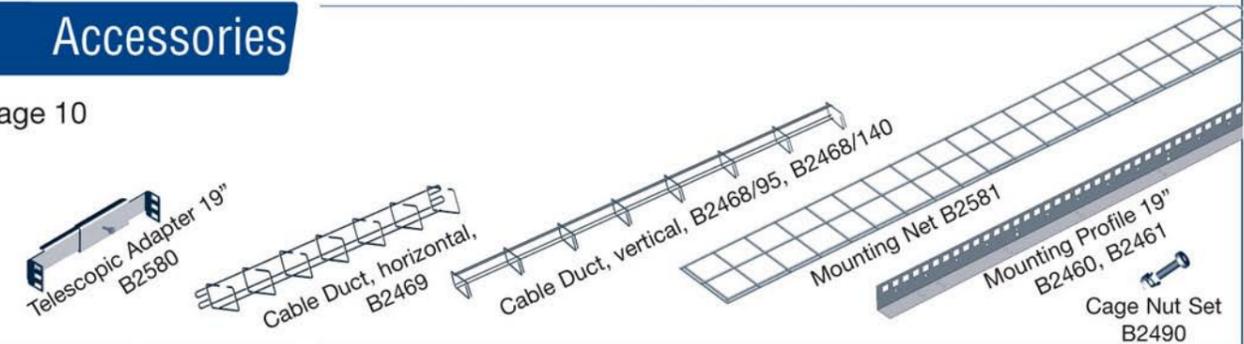
### CombiRack™ 19"

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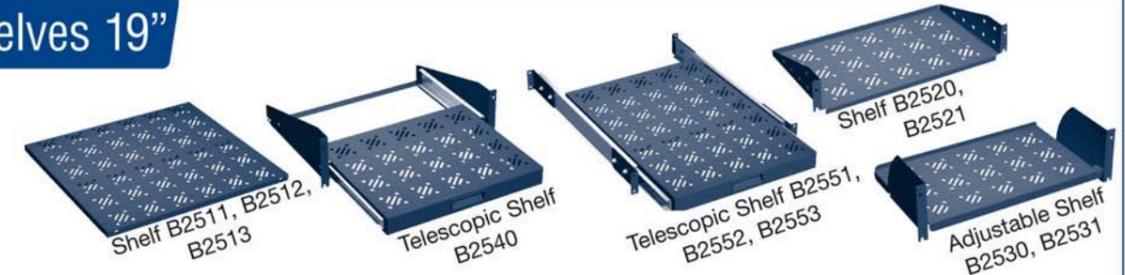
### Accessories

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### Shelves 19"

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### U-bar

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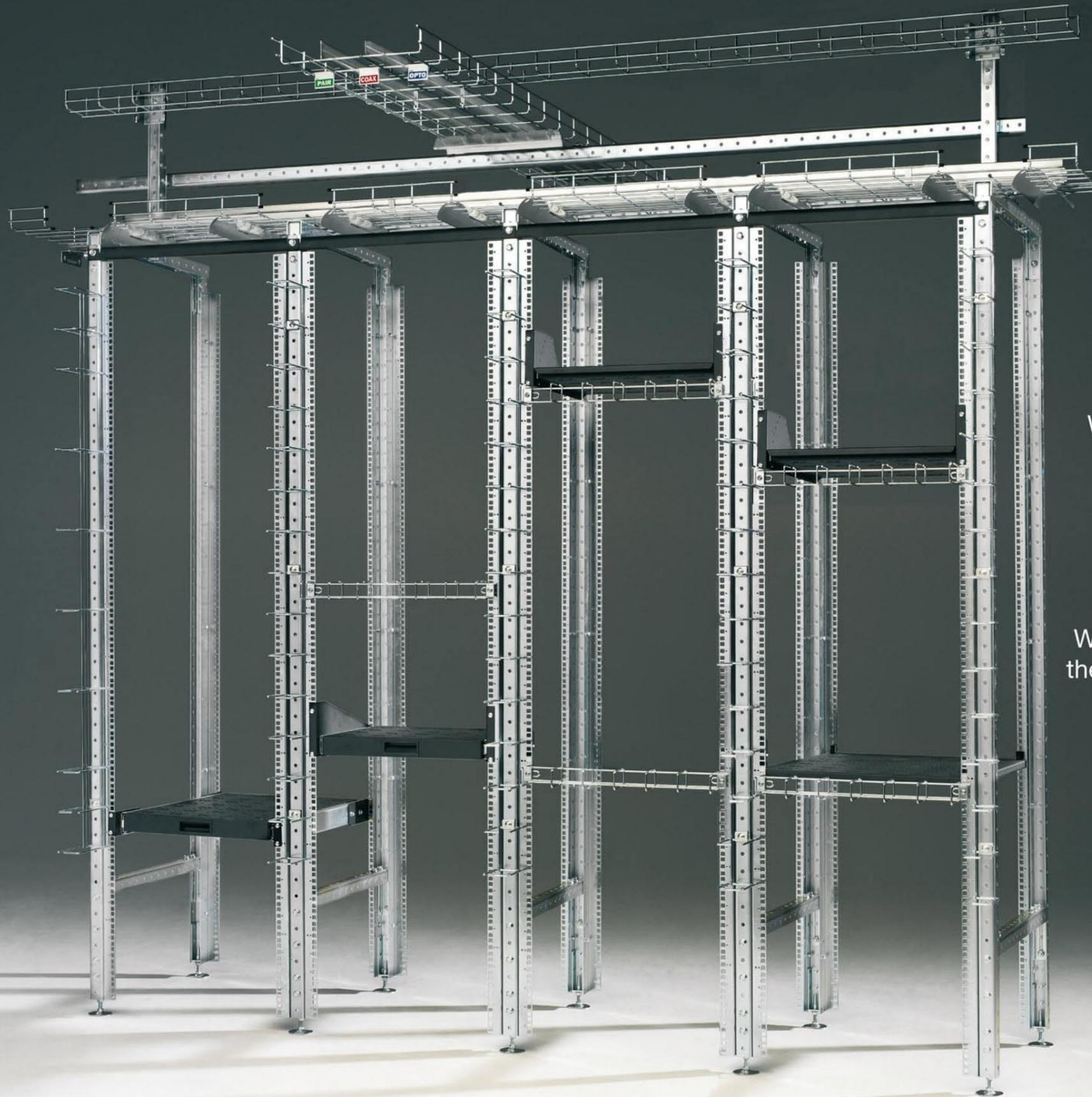


### Tools

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# The smart IT Room - Defem CombiRack™ 19”!



## Your new IT room

You have two basic requirements:  
Flexible racking.  
Flexible cable management.

With Defem CombiRack you get both.  
In One Complete System.

And you want it simple.  
For build-up, extension and  
maintenance.

With Defem CombiRack, you assemble  
the racks to suit the room and the cable  
channels to suit the racks.  
"A Triumph of Simplicity."

You know that the IT room  
is never static.

With Defem CombiRack you get the  
smart IT room.

# Safe Cable Channelling

## Equipotential Bonding

The complete structure of Defem CombiRack and Wire Trays is a conductor for equipotential bonding.

One example: The U-bar with joining fitting has the resistance 0,495 mΩ/m.

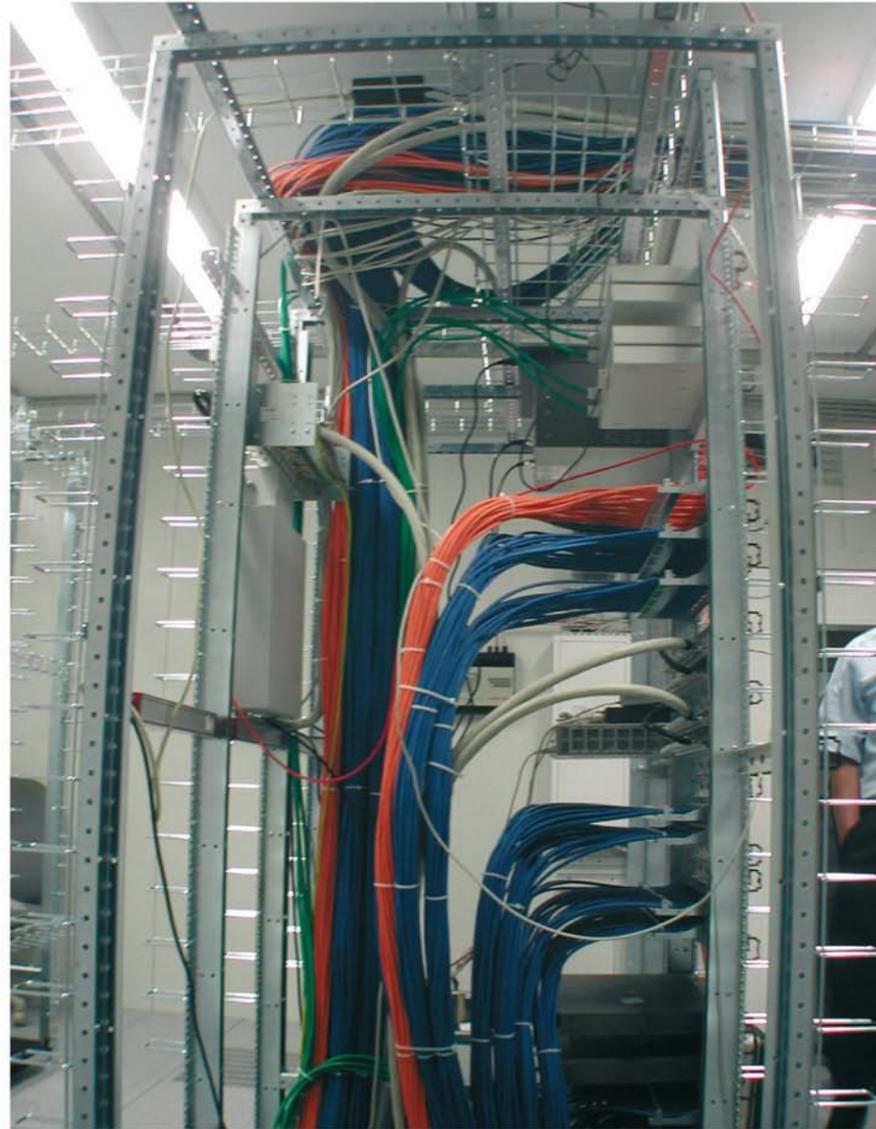
A Defem Wire Tray, 422 mm with joining has the resistance 0,580 mΩ/m.

A 40 mm<sup>2</sup> copper cable has 0,672 mΩ/m.

Safety distance between power and signal cables with power tray at separate level.

The complete structure can be used as an Equipotential Conductor with connection to ground.

More information at [www.defem.se](http://www.defem.se)



## The Total Concept for IT technical rooms

**Flat pack delivery** - the components are easy to transport and move. Especially in tight areas such as elevators, staircases and narrow doorways.

**Simple build-up** - with the mounting frame tool, it is possible for one person to make the complete installation.



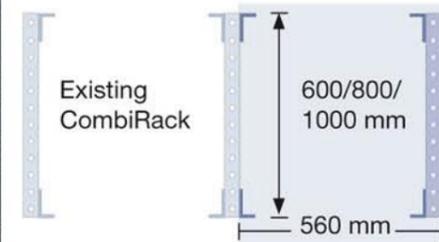
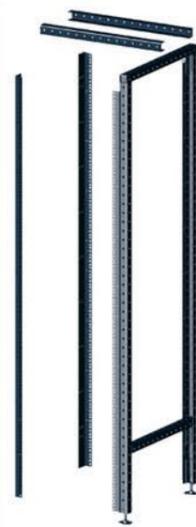
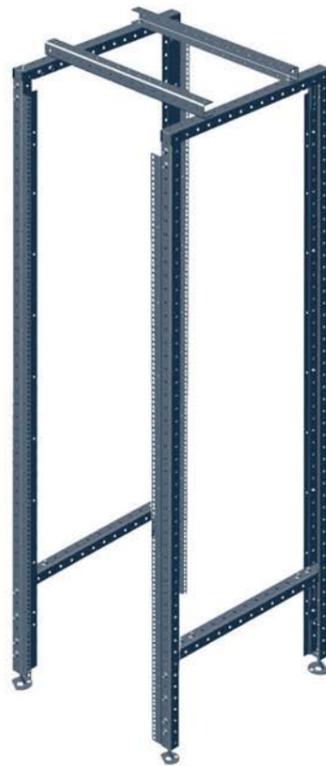
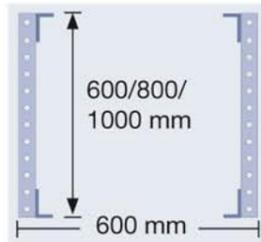
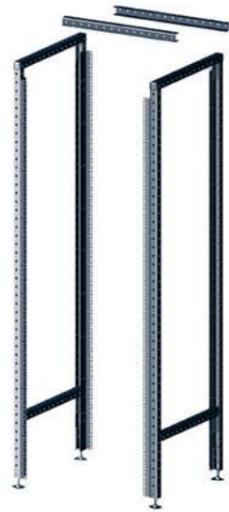
**Efficient cooling** - no risk of "heat pockets". It is easy to direct cooling air to equipment in any direction you choose.

**Full use of space** - with Defem CombiRack, you use the available space in an optimal way. Racks are integrated into each other, thereby saving one rack side installation and corresponding floor space. You create the precise width by freely choosing between 19-21-23 inch and ETSI. You use available height by extending the rack upwards. And you can increase flexibility of depth by using the Telescopic adapter, etc.

**Full overview/Full control** - with Defem CombiRack you are the master of the room. You get full access to all equipment, all connectors, all cabling. You will be able to move, add and change. Everything is within your reach. Nothing is hidden. You have created the IT room for full future flexibility.



# CombiRack™ 19"



## CombiRack™ 19"

	Depth	Art.No.	U
<b>Height 2000 mm</b>	600	50 026 02	42
	800	50 026 04	42
	1000	50 026 06	42

<b>Height 2200 mm</b>	600	50 026 12	46
	800	50 026 14	46
	1000	50 026 16	46

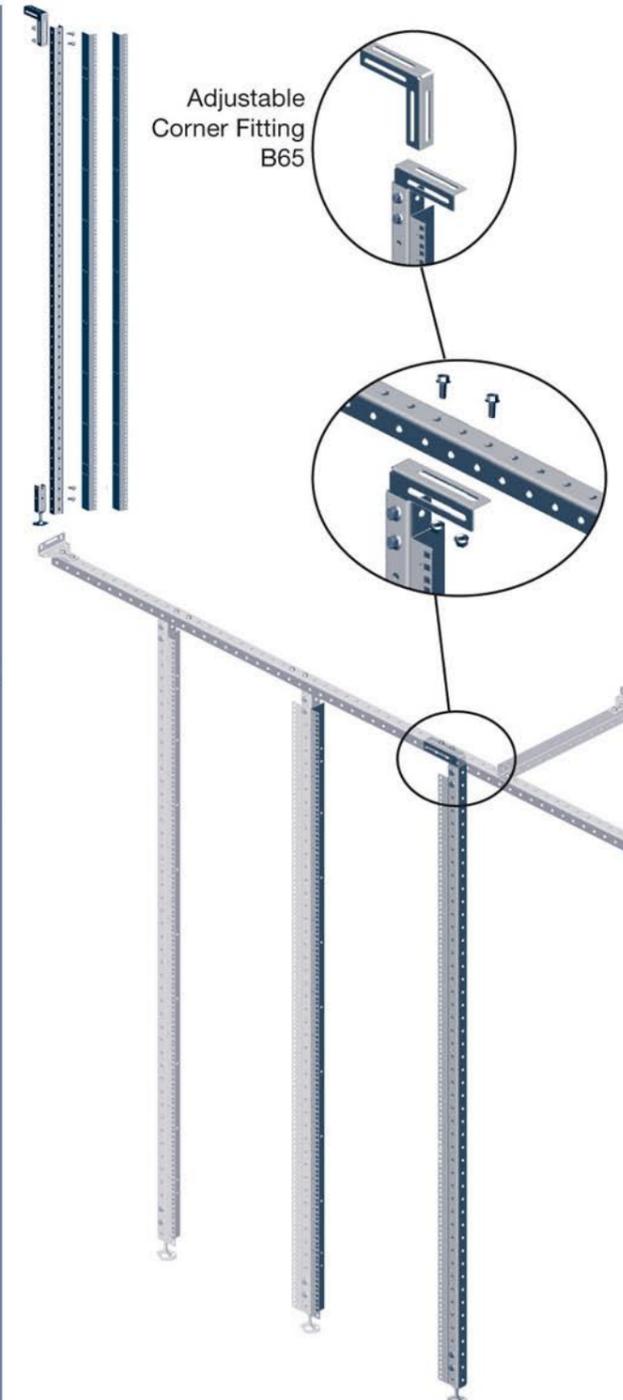
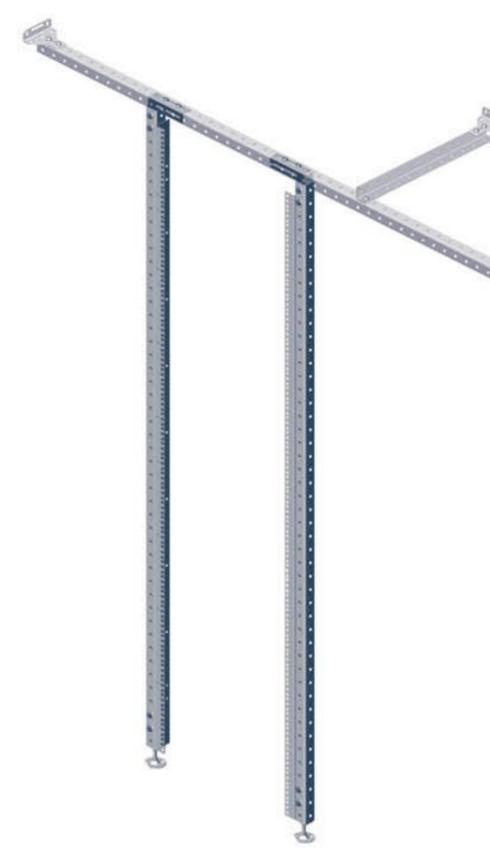
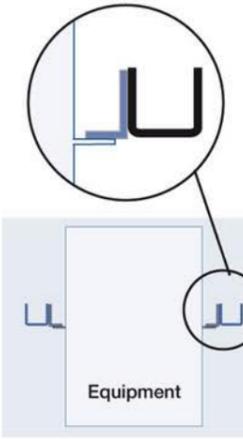
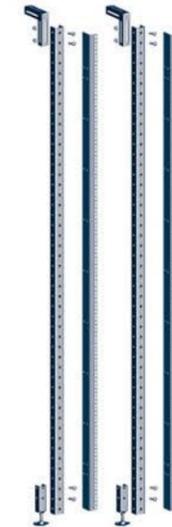
## Add-On CombiRack™ 19"

	Depth	Art.No.	U
<b>Height 2000 mm</b>	600	50 026 03	42
	800	50 026 05	42
	1000	50 026 07	42

<b>Height 2200 mm</b>	600	50 026 13	46
	800	50 026 15	46
	1000	50 026 17	46

Mounting material enclosed to every article

# Mid-Mount 19"



## CombiRack™ 19"

	Art.No.	U
<b>Height 2000 mm</b>	50 026 38	42

<b>Height 2200 mm</b>	50 026 48	46
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## Add-On CombiRack™ 19"

	Art.No.	U
<b>Height 2000 mm</b>	50 026 39	42

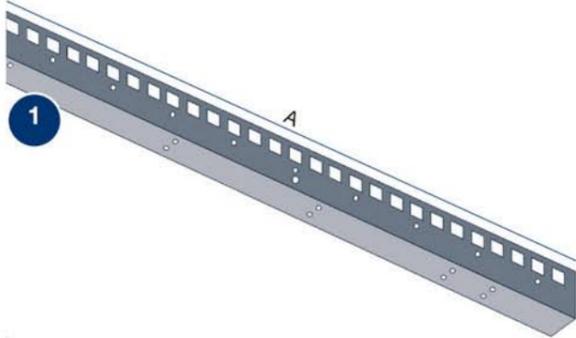
<b>Height 2200 mm</b>	50 026 49	46
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Mounting material enclosed to every article

# Accessories

**i** = for instruction, see page...

Article	Art.No.	A	Rack height	Kg	Pack
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**i** page 18-19

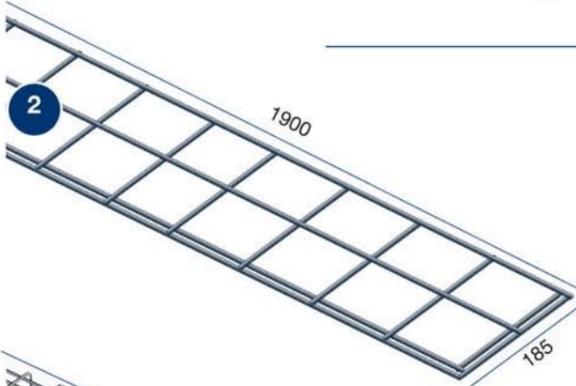
### Mounting Profile 19", B2460

Zinc plated	50 024 60	1876	2000	2,5	1
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### Mounting Profile 19", B2461

Zinc plated	50 024 61	2060	2200	2,7	1
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Mounting profile for 19" racks. Fittings included.

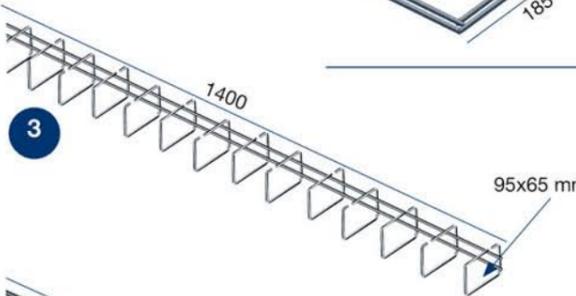


**i** page 18-19

### Mounting Net, B2581\*

Zinc plated	50 025 81	-	-	1,8	1
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To keep cables in order along rack-side.

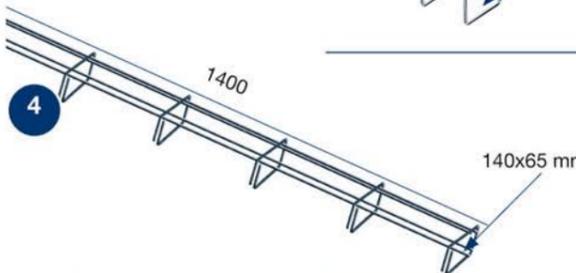


**i** page 18-19

### Cable Duct, Vertical, B2468/95

Zinc plated	50 024 68	-	-	1,15	4
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To collect vertical cables. Fittings included.

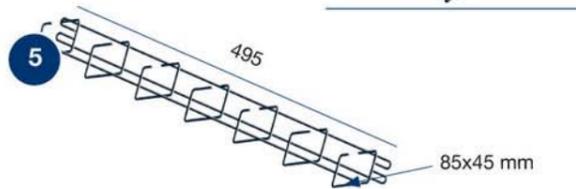


**i** page 18-19

### Cable Duct, Vertical, B2468/140

Zinc plated	50 024 67	-	-	1,43	4
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To collect vertical cables. Fittings included.

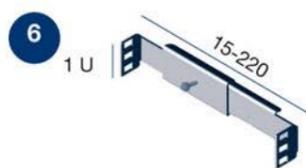


**i** page 18-19

### Cable Duct 19", Horizontal, B2469

Zinc plated	50 024 69	-	-	0,26	10
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To collect horizontal cables. Fittings included.



**i** page 18-19

### Telescopic Adapter 19", B2580

Zinc plated	50 025 80	-	-	0,3	1
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To make all equipment fit into CombiRack. Adjustable 15-220 mm. Registered patent applied lodged.



### Cage Nut Set, pack of 10, B2490

Zinc plated	50 024 90	-	-	0,1	1
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Torx-bolt and cage-nut.

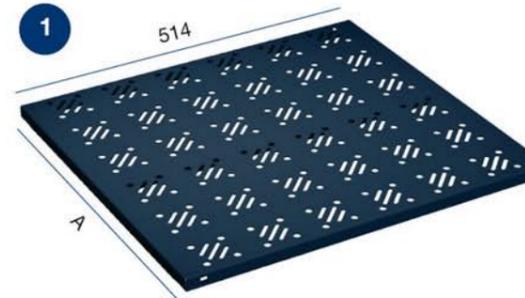
\*) Normally not in stock. Please contact us for actual time of delivery.

# Shelves 19"

**i** = for instruction, see page...

Article	Art.No.	Width	Height	A	Kg	Pack
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**i** page 18-19



### Shelf, 4-points, B2511

Black lacquered	50 025 11	514	1 U	600	4,2	1
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### Shelf, 4-points, B2512

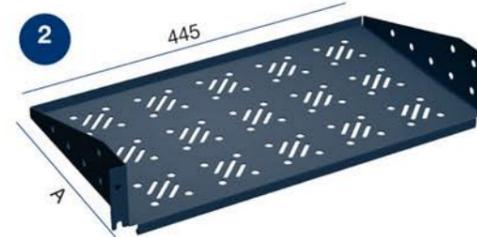
Black lacquered	50 025 12	514	1 U	800	5,4	1
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### Shelf, 4-points, B2513\*

Black lacquered	50 025 13	514	1 U	1000	6,6	1
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Fixed Shelf mounted with/at 4 points for 19" racks. Load capacity 100 kg. Delivered complete with mounting components. Application made for Registered Community Design – EU pattern.

**i** page 18-19



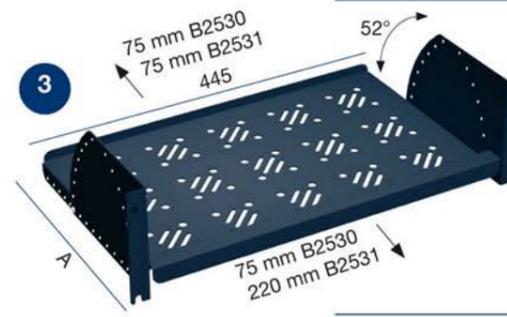
### Shelf, 2-points, B2520

Black lacquered	50 025 20	445	2 U	250	1,7	1
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### Shelf, 2-points, B2521

Black lacquered	50 025 21	445	3 U	400	2,8	1
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Fixed Shelf front-mounted with 2 points for 19" racks. Load capacity 30 kg. Delivered complete with mounting components. Application made for Registered Community Design – EU pattern.



**i** page 18-19

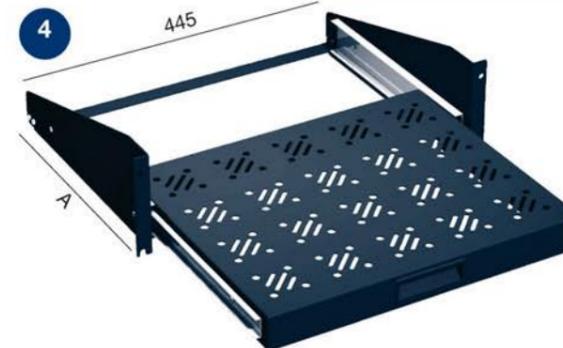
### Adjustable shelf, 2-points, B2530

Black lacquered	50 025 30	445	3 U	250	2,5	1
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### Adjustable shelf, 2-points, B2531

Black lacquered	50 025 31	445	3 U	400	3,2	1
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Shelf with adjustable inclination. Front-mounted for 19" racks. Load capacity 30 kg. Delivered complete with mounting components. Application made for Registered Community Design – EU pattern.



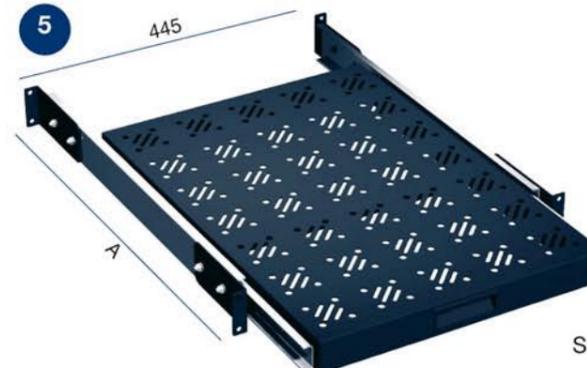
**i** page 18-19

### Telescopic shelf, 2-points, B2540

Black lacquered	50 025 40	445	3 U	350	5,4	1
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Sliding Shelf, front-mounted for 19" racks. Load capacity 30 kg. Delivered complete with mounting components. Application made for Registered Community Design – EU pattern.

**i** page 18-19



### Telescopic shelf, 4-points, B2551

Black lacquered	50 025 51	445	2 U	600	8,0	1
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### Telescopic shelf, 4-points, B2552

Black lacquered	50 025 52	445	2 U	800	10,3	1
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### Telescopic shelf, 4-points, B2553\*

Black lacquered	50 025 53	445	2 U	1000	12,9	1
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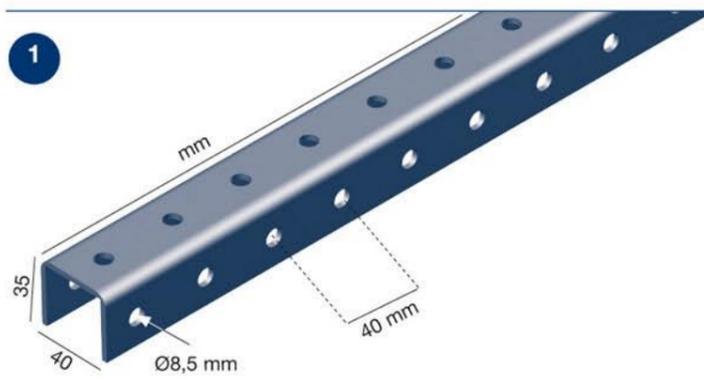
Sliding Shelf, mounted at 4 points, for 19" racks. Load capacity 100 kg. Delivered complete with mounting components.

\*) Normally not in stock. Please contact us for actual time of delivery.

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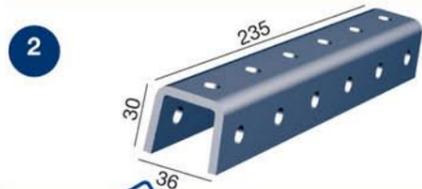
# U-bar

All dimensions in mm



Article	Art.No.	Kg	Pack
<b>U-bar B60/mm</b>			
2876 mm	11 494 00	6,2	1
2120 mm	50 024 59	4,8	1
1920 mm	50 024 53	4,2	1
1000 mm	50 024 58	2,2	1
920 mm	50 024 57	2,0	1
800 mm	50 024 56	1,8	1
720 mm	50 024 52	1,6	1
600 mm	50 024 55	1,4	1
520 mm	50 024 54	1,2	1
480 mm	50 024 51	1,1	1
400 mm	50 024 50	0,9	1

3 mm thick sheet. Hole diameter 8,5 mm. Distance between holes cc 40.  
For support of the Defem CombiRack and Wire Tray system.



Article	Art.No.	Kg	Pack
<b>Joining Fitting B61</b>			
Zinc plated	11 494 01	0,6	6

3 mm thick sheet. For mounting or joining of U-bars.

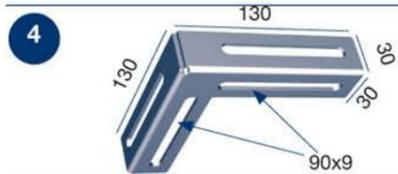
Made in Sweden

# Accessories U-bar



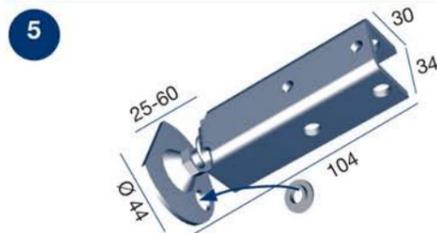
Article	Art.No.	Kg	Pack
<b>Angle Fitting B62</b>			
Zinc plated	11 494 02	0,2	6

3 mm thick sheet. For mounting or joining of U-bars.



Article	Art.No.	Kg	Pack
<b>Corner Fitting B65</b>			
Zinc plated	11 494 07	0,2	6

3 mm thick sheet. For mounting or joining of U-bars.



Article	Art.No.	Kg	Pack
<b>Adjustable Foot B63</b>			
Zinc plated	11 494 06	0,3	6

4 mm thick sheet. Hole diameter 8,5 mm. M8-thread in the back side.  
Distance between holes cc 40. Articulated foot that compensates for uneven floor.  
Adjustable height 70 mm depending on assembly (see page 19).



Article	Art.No.	Kg	Pack
<b>End Cap B64</b>			
Polyeten/grey	11 494 03	0,1	10

Trycks fast på fria U-balksändar.



Article	Art.No.	Kg	Pack
<b>Flange Bolt B66 - pack of 50</b>			
Zinc plated M8x20	11 494 04	0,7	1

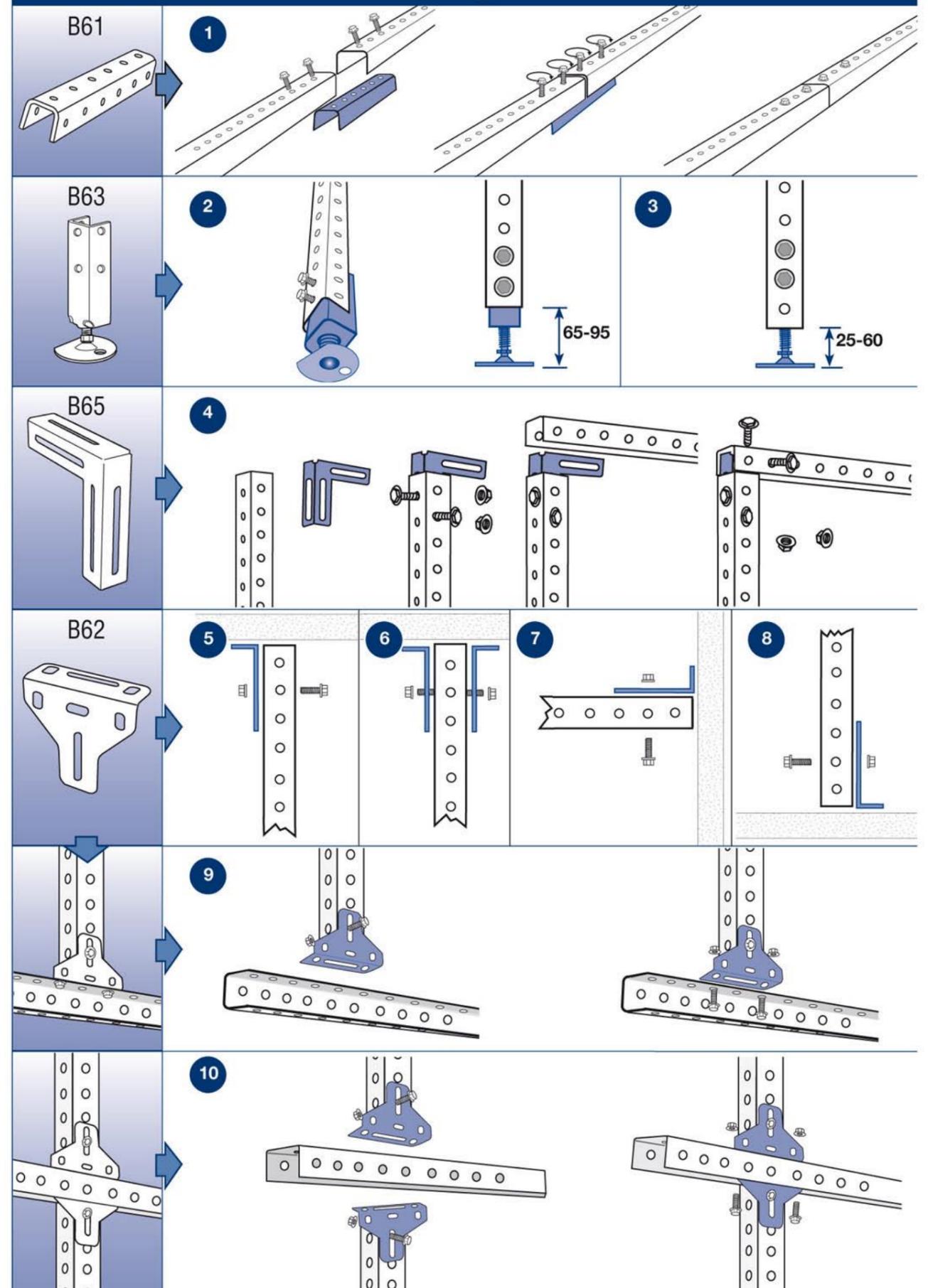
M8x20. Tensi-Lock for gas tight connections.



Article	Art.No.	Kg	Pack
<b>Flange Nut B43/M8 - pack of 50</b>			
Zinc plated M8	11 494 05	0,4	1

M8. Tensi-Lock for gas tight connections.

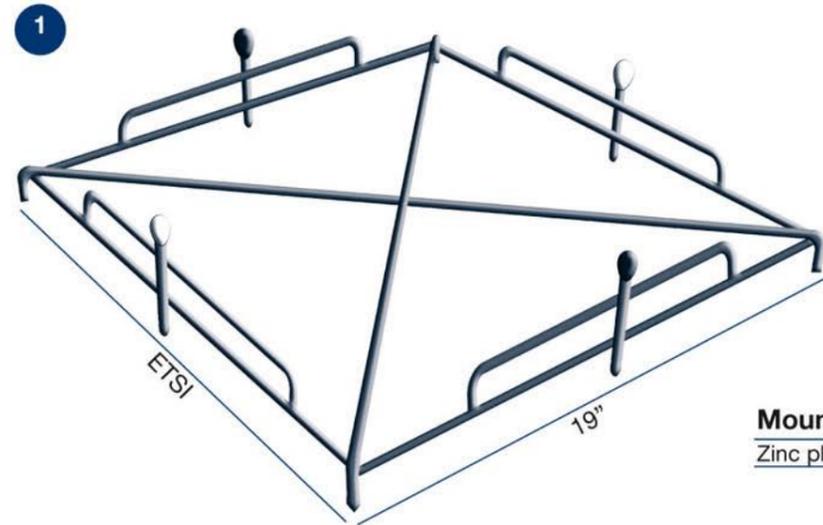
# Assembly U-bar



# Tools

**i** = for instruction, see page...

Article	Art.No.	Kg	Pack
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**i** page 18-19

**Mounting Frame B2590**

Zinc plated	50 025 90	2,0	1
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Simplifies temporary mounting of CombiRacks. 19" as well as ETSI (535 mm).



**10 mm Spanner, B45/10**

Chrome Vanadium	16 222 00	0,07	1
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**13 mm Spanner, B45/13**

Chrome Vanadium	16 222 21	0,08	1
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Spanners adapted for Defem CombiRack, Mesh Trays and U-bar system.



**System Manual CombiRack/U-bar, B501**

English	29 71 41	0,04	1
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**System Manual Wire Trays, B500-SE**

English	29 71 02	0,05	1
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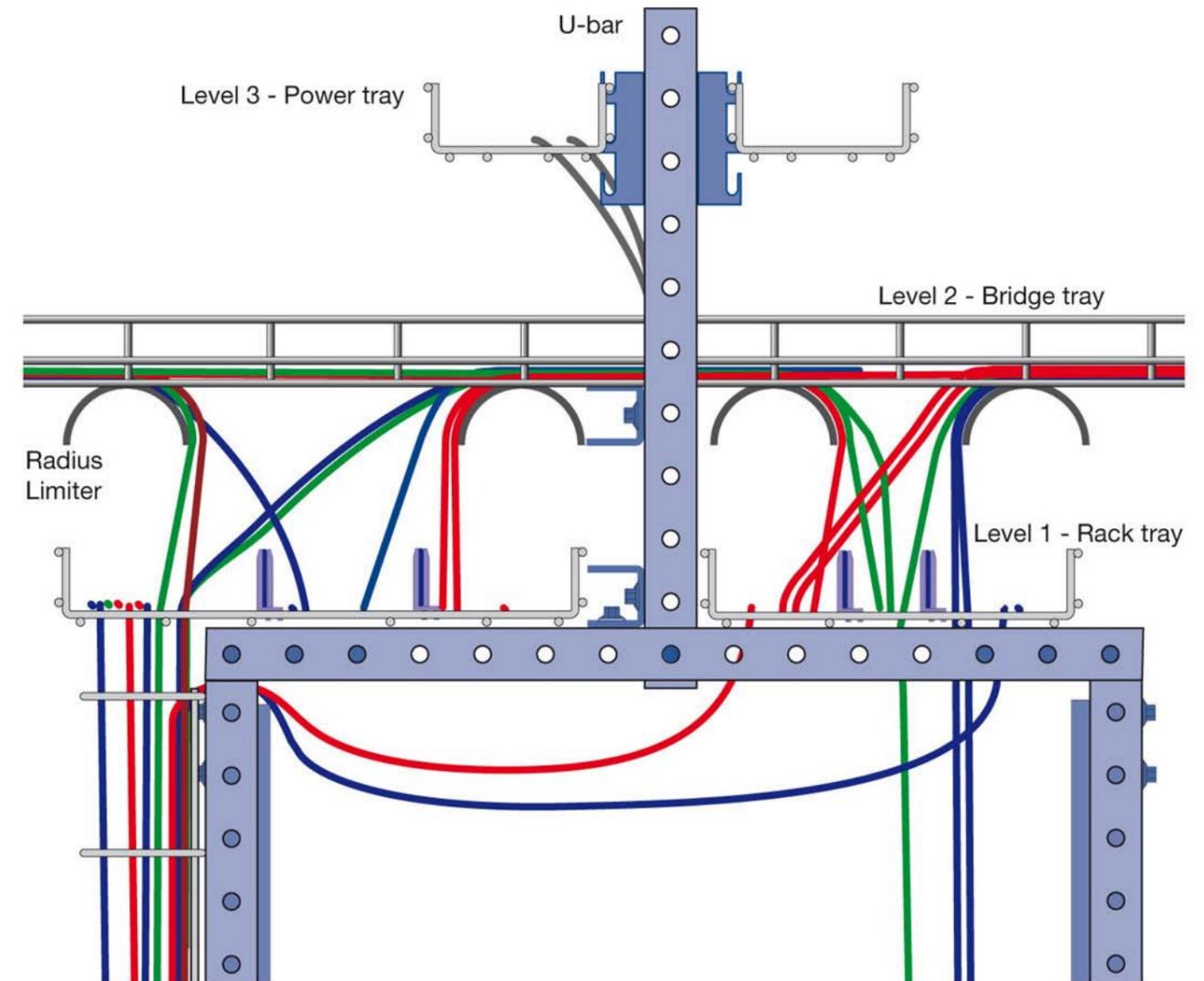
**Defem CD, B510**

CD-Rom	29 71 73	0,04	1
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Contains Calculation Program, Manuals and Instruction Movies.

# CombiRack-concept

## The Total concept for Tele-and Datacom Technical rooms



Defem CombiRack is designed as a mechanical system for both racking and cable channelling. By installing Defem U-bars and Defem Wire Trays onto the Defem CombiRack, you design a complete and integrated structure.

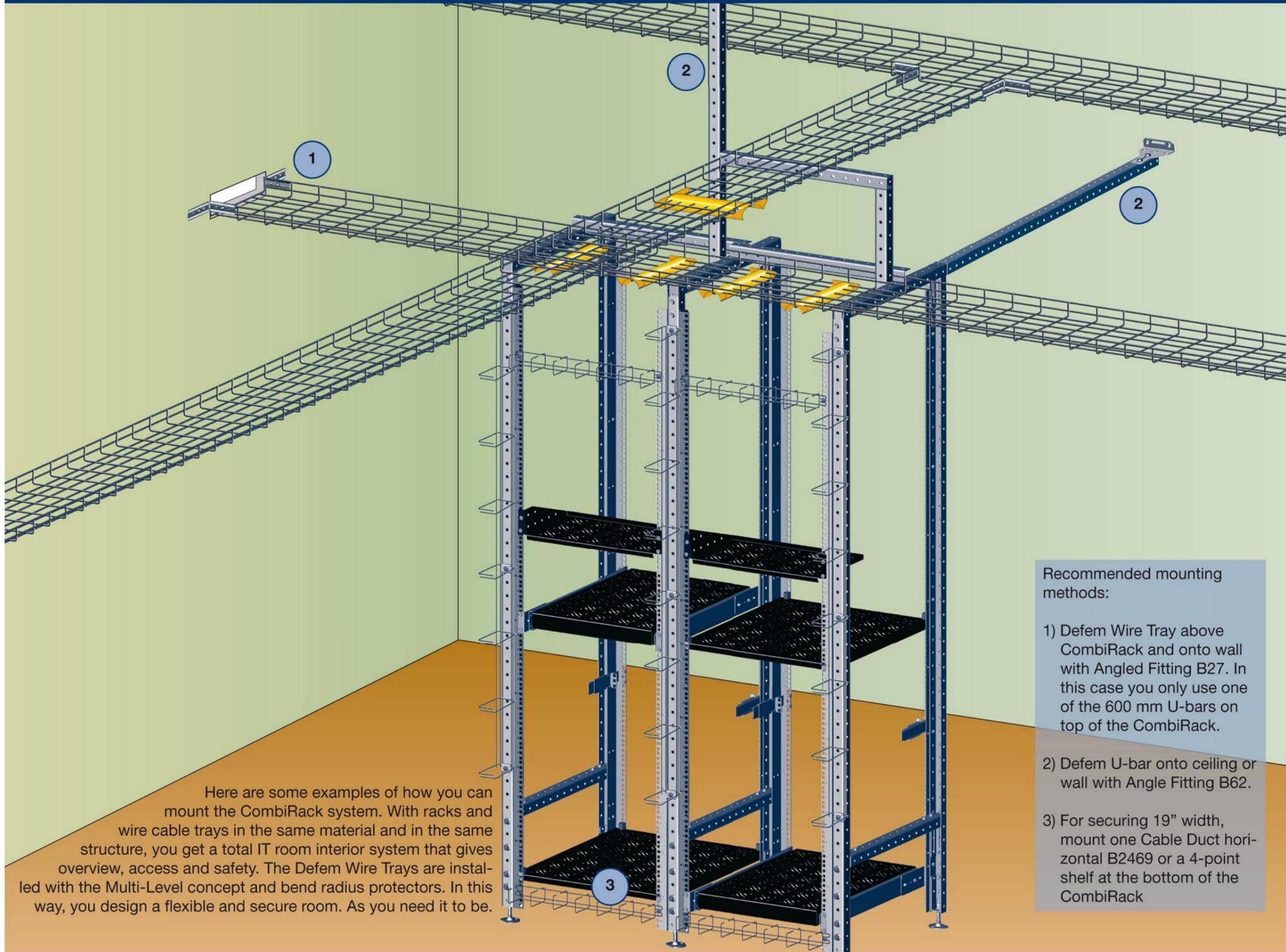
By constructing the CombiRack with the Defem Multi-level concept, you avoid future cable congestion and you secure future manageability and control of the room. The concept is based on separate tray levels for cable dropping down into racks in the same row (rack tray). Cables going from one rack row

to another (bridge tray) and a separate power tray level at safety distance.

The Multi-level concept allows you to move, add and change cables without problem. As no cables will cross and lock each other, the future flexibility is assured.

The Defem Radius Limiters and the Defem separation system protects and separates cables in a very simple and flexible way. These products and the Defem Wire Trays are shown in the Defem Wire Tray Manual.

# Mounting examples



Here are some examples of how you can mount the CombiRack system. With racks and wire cable trays in the same material and in the same structure, you get a total IT room interior system that gives overview, access and safety. The Defem Wire Trays are installed with the Multi-Level concept and bend radius protectors. In this way, you design a flexible and secure room. As you need it to be.

- Recommended mounting methods:
- 1) Defem Wire Tray above CombiRack and onto wall with Angled Fitting B27. In this case you only use one of the 600 mm U-bars on top of the CombiRack.
  - 2) Defem U-bar onto ceiling or wall with Angle Fitting B62.
  - 3) For securing 19" width, mount one Cable Duct horizontal B2469 or a 4-point shelf at the bottom of the CombiRack

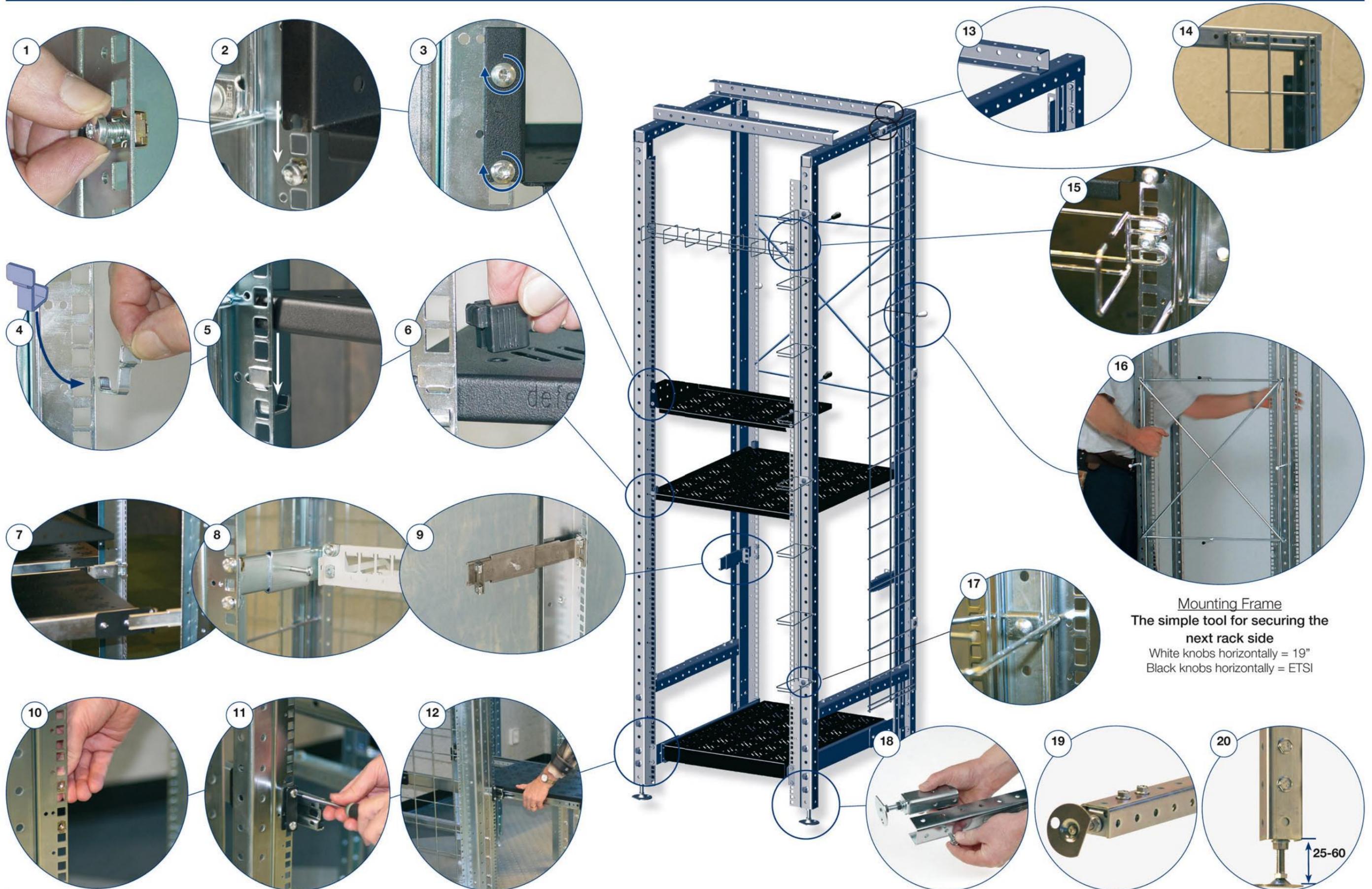
CombiRack



Add-On-Rack

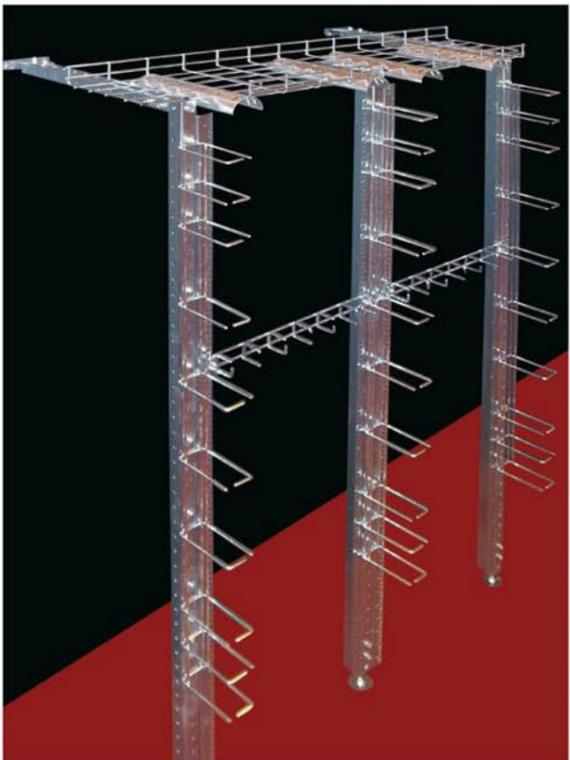


# Mounting Accessories



**Mounting Frame**  
**The simple tool for securing the next rack side**  
 White knobs horizontally = 19"  
 Black knobs horizontally = ETSI

# One system - many applications - Defem CombiRack™



# One system - many applications - Defem CombiRack™



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**Management system - Quality and Environment**  
Wibe has a third-party certified management system for quality and environment in accordance with ISO 9001:2000 och ISO 14001:2004.



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