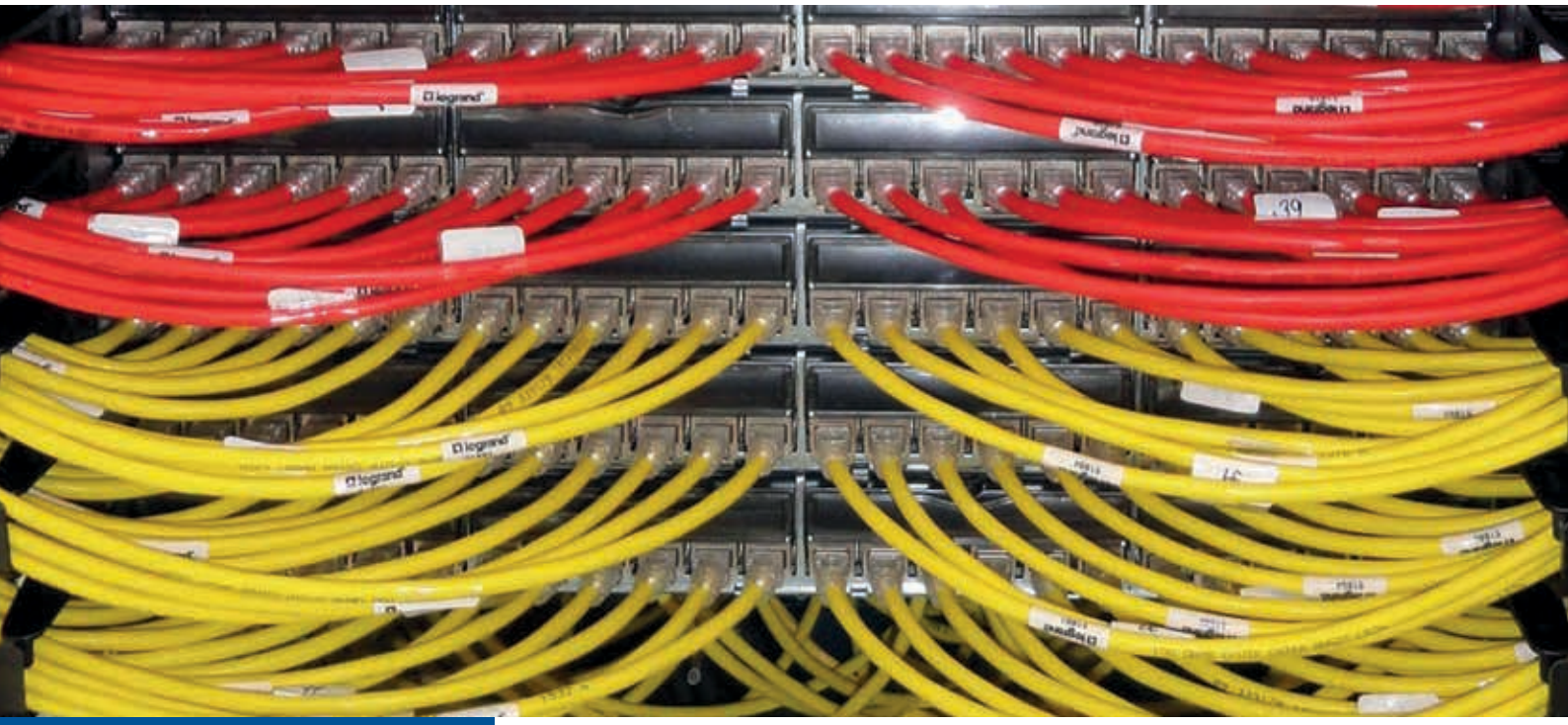
MINKELS
SOLUTIONS TO RELY ON

VARICON®
HOUSING SOLUTIONS



# Cable Management

MINKELS
SOLUTIONS TO RELY ON

Advances in technical innovation and performance for network cabling continue to be made. But it is only when network cabling for storage and network equipment is properly installed that full advantage can be taken of its capacities. In order to make this possible, cabling must be properly integrated with cabinets.

## THE CHALLENGE

When installing network cabling, the biggest challenges are keeping the tensile load on the cables to an absolute minimum and taking the minimum bend radius of the cables into account. Minkels supplies products that help meet these challenges.

*Copper*

*Glass fibre*

## THE BENEFITS OF GOOD CABLE MANAGEMENT:

A structured approach to cabling is important for the **reliability** and the **optimum performance** of your data centre. **Flexibility and accessibility** are also essential when it comes to troubleshooting or expanding a data centre.

*Reliability*

*Optimum performance*

*Flexibility and accessibility*

## GOOD CABLE MANAGEMENT BRINGS THE FOLLOWING BENEFITS:

**Reliability:** Good cable management ensures that equipment air inlets remain as unobstructed as possible so that sufficient air can reach the equipment, allowing it to be properly cooled. Proper cooling ensures that the equipment does not fail and extends its lifespan.

**Optimum performance:** Proper cable management ensures that cables do not get damaged or break and that they have the correct bend radius. Incorrect bend radius reduces cable performance. The bend radius must never be smaller than specified by the supplier.

**Flexibility and accessibility:** A structured, neat approach to cabling makes it easy to move and add cables at a later stage.

## BUILDING CABLING SYSTEM

### FROM BUILDING TO CABINET

Minkels cable trays can be used for the optimum routing of cables to cabinets. Cable trays are flexible, modular, easy to install and can be seamlessly integrated with cabinets. By attaching this cabling system directly to the cabinets, it becomes independent of the environment in which it is found. If the data centre is expanded, the cable management system can easily grow with it without any modifications, such as ceiling anchors, needing to be made to the building's structure.

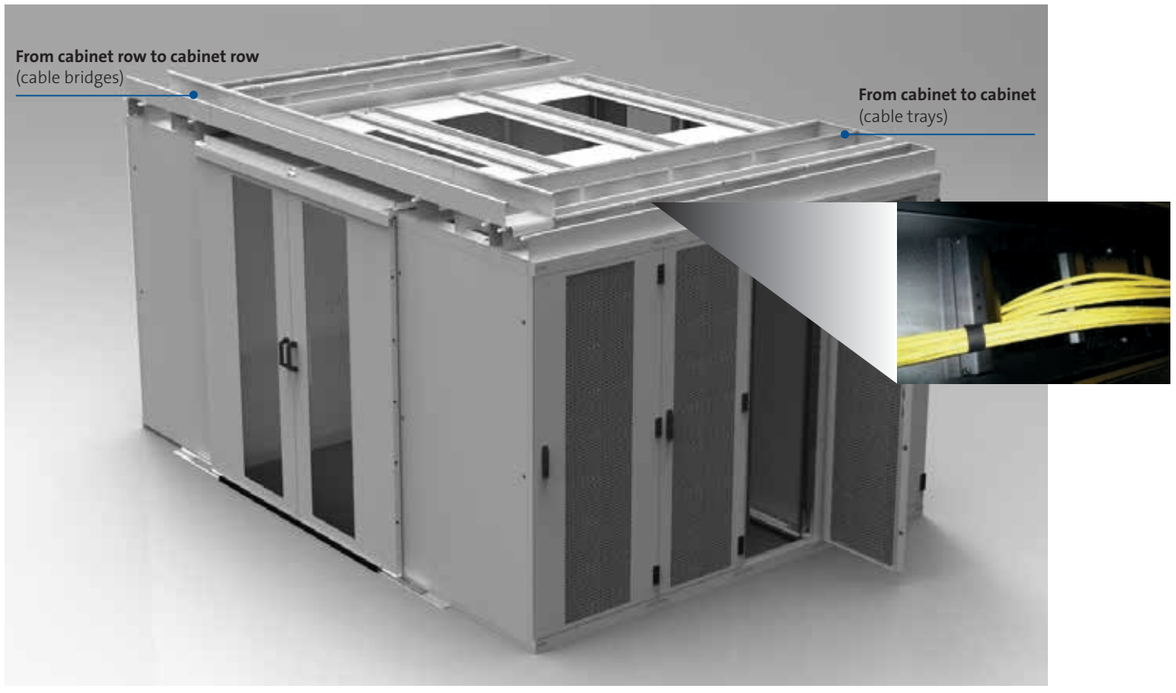
### FROM CABINET ROW TO CABINET ROW

Cable bridges can be used for traversing hot or cold aisles. Cable bridges can be used for both narrow and wide cable trays and can also be used in combination with a Cold Corridor. As the cable bridges are telescopically extendable, they no longer need to be sawn to size in the data centre. This prevents critical equipment malfunctions.

For more information, please refer to the "Varicon-M Cable Trays and Cable Bridges" brochure

### FROM CABINET TO CABINET

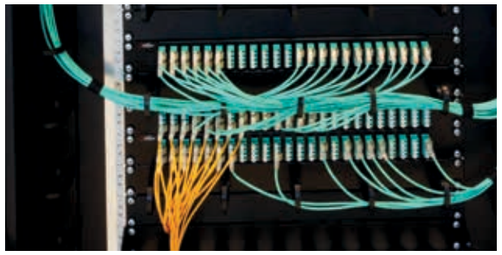
Cable trays can also be used for routing cables between different cabinets. In such cases cables are not routed horizontally through the cabinets, but instead are guided via the top of the cabinet, over its roof, to the adjacent cabinet(s).




PRODUCTS FOR CABLE GUIDANCE

## HORIZONTAL CABLE MANAGEMENT

Cables can be routed horizontally through the 19-inch section using shunting combs. Shunting combs are available in metal or plastic.



*Shunting comb plastic*

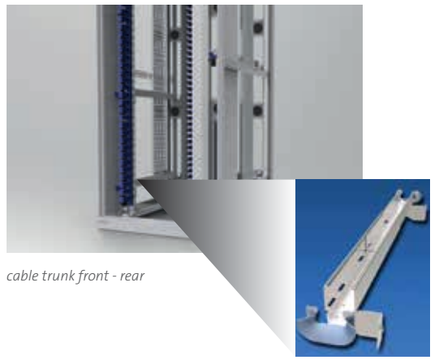
*Shunting comb metal*

Cable guides and shunting eyes can be used for routing cables towards the 19-inch section.

*shunting eye*

*Cable guides*

It is possible for cables to be routed from the front to the back of the cabinet, for example when using a switch on the cold side. A cable trunk can be used for guiding cables from front to rear. Cable bushing brushes and cable bushing foam can also be used in such cases, possibly in combination with a cable trunk.



*cable trunk front - rear*

*Cable bushing brushes*

*Cable bushing foam*

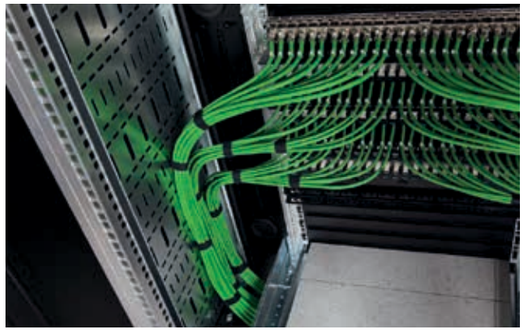
## VERTICAL CABLE MANAGEMENT

Vertical cable management involves routing cables to the equipment from top to bottom (or in the opposite direction). Products that can be used for doing this are cable trays, shunting eyes and glass fibre cable guides. Shunting combs can also be used if positioned in the side air closure plate.

*Shunting eyes on 19-inch profile*

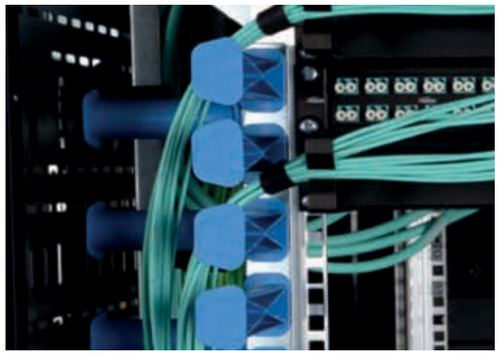
*Shunting eyes on height post*

*Shunting eye on height post*



*Cable tray - bottom cable entry*

*Cable tray - top cable entry*



*Cable guides*

*Shunting comb*

PRODUCTS FOR CABLE GUIDANCE

## STORAGE OF EXCESS CABLE

Excess lengths of cable can be stored using a cable storage box and cable cleats. The cable cleats can be mounted in the 19-inch section and alongside it. They can also be mounted in the side air closure plate.

*Cable cleat on mounting plate*

*Cable overlength cassette installed - closed*

*Cable overlength cassette installed - open*

Minkels will be happy to provide advice about the right cabling solutions for your specific circumstances.

## MOUNTING MATERIALS

Velcro is ideal for mounting cables as no pinching of the cables is involved. The product can also be quickly detached and used again.

*Velcro application*

MINKELS
SOLUTIONS TO RELY ON


**MINKELS NETHERLANDS**
Eisenhowerweg 12
P.O. Box 28
5460 AA Veghel
t. +31 (0)413 311 100
info@minkels.com

**MINKELS BELGIUM**
Vaartdijk 59
3018 Wijgmaal (Louvain)
t. +32 (0)16 44 2010
info-be@minkels.com

**MINKELS SWITZERLAND**
Riedstrasse 3-5
CH -6330 Cham
t. +41 (0)41 748 4060
info-ch@minkels.com

**MINKELS UK**
Unit 4
M40 Industrial Centre
Blenheim Road
Cressex Business Park
High Wycombe
Bucks, HP12 3RS
t. +44 (0)1494 451706
info-uk@minkels.com

**MINKELS FRANCE**
Bâtiment D2
19 Bd. Georges Bidault
77183 Croissy Beaubourg
t. +33 (0)164 61 61 91
info-fr@minkels.com

**MINKELS INTERNATIONAL**
Eisenhowerweg 12
P.O. Box 28
5460 AA Veghel
t. +31 (0)413 311 100
info@minkels.com

**USA**
Uptime Technology Solutions
1630 North Main St. #333
Walnut Creek, CA 94596
t. +1 925-783 4668

**GERMANY**
In der Mühlweide 20
61130 Nidderau
t. +49 (0) 173 6634 862

**WWW.MINKELS.COM**


VC-KABELMANAGEMENT-BRV01-NL