

IT Infrastructure

Custom Solutions
for Sustainable Data Centres



NEW:

- Modernisation of Existing Data Centres
- New-Build of Data Centres
- Choosing The Most Profitable Cooling System
- Power Distribution & Security

Rethinking the data centre: flexible solutions . . .

Data centre solutions made to

Individually upgradeable components . . .



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For over four decades Schroff has been one of the world's leading developers and manufacturers of electronics packaging components and systems. Whatever challenges you have to overcome, together we can find the right solution. Our products are the result of the know-how of our experts in integrating mechanics, electronics and climate control, and our many years of experience with the widest range of application requirements. Through fast and efficient processes and with all resources under a single roof, we are a complete provider that can deliver fully equipped and tested systems from a single source – just as you would expect from us. Tailored exactly to your particular requirements.

Preface

... and a competent and reliable partner

measure

... or complete solutions from a single source

■ **Data centres. Always in motion.**

Data centres live and change. The explosive growth of data loads, as traffic increases and applications become more complex, means that existing server capacity quickly reaches its limits and expansion becomes necessary. Demands on energy supply, cooling and safety increase accordingly. No problem, provided that your infrastructure is flexible enough to keep pace with this changing demand.



■ **Modular, compatible and scaleable: upgrades made systematic.**

From our experience as partner to data centres we expect and anticipate growth. Our solutions are designed from the ground up in ways that allow you to respond flexibly to needs at all times. From server or datacom cabinets, climate control systems and power supply systems to cable management, monitoring and accessories, the modularity, compatibility and scaleability of all necessary components enable you to increase your capacity fast and with ease as your requirements grow.

■ **As individual as your needs.**

Whether you are upgrading a data centre or building a new one it is the same: with our multifunctional product platform we offer what you have come to expect from Schroff - a total solution, tailored to suit your needs exactly and in which all the components work perfectly together. Why can we do this? Because we adapt our solutions individually to your needs. And not your needs to our solutions.



Designed for demanding applications . . .

VARISTAR Server and

Impressively equipped . . .



Genuinely future-proof.

VARISTAR server and networking cabinets are the future-proof solution for the dynamic IT sector. Their many different versions and the comprehensive range of accessories equip them for tomorrow's challenges today. The full compatibility of their components and their continual development by a strong and innovative partner means that you can adapt to increasing demand at any time. This makes expanding your data centre as simple for you as possible. And your investment is truly future-proof.

Networking cabinet



Networking cabinet with two 19" planes and plinth

Server cabinet



Server cabinet with perforated front and rear door, up to 1200 mm deep

Colocation cabinet



Colocation cabinets with individually accessible compartments and separate cable ducting

THE ADVANTAGES AT A GLANCE:

- **Top performers:** Very large loads up to 1000 kg
Frame profile with fixing options at three separate levels
- **Security:** Colocation cabinet with multiple compartments, separate cabling and various locking options
- **Multi-talented:** Over 100 cabinet frame sizes and over 1000 accessory parts
- **The product you want:** Simply build your own solution from the catalogue,
contact your Schroff expert or configure it online: www.schroff.co.uk/conf
- **ServicePLUS:** Assembly and delivery of configured cabinets in only 10 working days, even with custom colours!

Schroff cabinet solutions – simply impressive.

. . . and extremely adaptable

Networking Cabinet

. . . and a champion in every discipline

Powerful and economic at the same time.

Heavy servers and high heat dissipation levels - the more complex and demanding the conditions of your IT infrastructure are, the more you have to expect from a server and networking cabinet. With its outstanding characteristics, VARISTAR will satisfy even the trickiest requirements for loading capacity, energy efficiency, safety and climatic loading limits with ease. Its technical parameters are evidence of this:

Frame: Loads up to 1000 kg; also available in seismic version if required.

Dimensions: Standard models
Height: 24 to 47 U
Width: 600 and 800 mm
Depth: 600 to 1200 mm

Profile: Grid holes and meander-type profile with mounting options on all three levels.

Cooling: Individual scaleable heat dissipation up to 40 kW per cabinet.

Accessories: More than 1000 parts and components. Clear division into cabling zones.



Robust pull-out tilt protection



Heavy load shelves and slide rails



Professional cable management



Top cover with cut-out zones

The right components for every need

Versatile design with

As individual as your needs . . .



Configure as you wish.

Since every computer room is different, VARISTAR lets you build up exactly the solution that suits you best, individually and flexibly, from the range of components and covers available. The VARISTAR range includes more than 1000 different parts and components, which ServicePLUS assembly allows you to simply combine, using the configuration tables in the catalogue or, even more conveniently, online. Ready for delivery in 10 working days. Or choose a standard cabinet from the catalogue or web shop – ready for delivery in 48 hours!

Also individual in appearance.

VARISTAR proves itself the most adaptable of all cabinet platforms in the flexibility of its finish too. The two standard colours - black grey and light grey – offer a contemporary look that impresses in every way. The ServicePLUS modification option adapts VARISTAR to your own design ideas. Choose your favourite from 21 different RAL shades. Ready for delivery within 10 working days!

No.	Cabinet dimensions			Frame		Side-by-side mounting kit IP 20	Adjustable feet	Castors	
	Height U	Width mm	Depth mm	RAL 7021 1 piece assembled	RAL 7021 1 piece assembled	PU 1 kit supplied loose	PU 4 pieces assembled	PU 4 pieces assembled	PU 4 pieces assembled
1	24	1200	600	20130-001	20130-051				
2	24	1200	600	20130-002	20130-052				
3	24	1200	600	20130-035	20130-085	23130-061	23130-079	23130-077	23130-075
4	24	1200	600	20130-036	20130-086				
5	24	1200	600	20130-578	20130-588				
6	24	1200	600	20130-579	20130-589				
7	24	1200	800	20130-003	20130-053				
8	24	1200	800	20130-004	20130-054	23130-061	23130-079	23130-077	23130-075
9	24	1200	800	20130-037	20130-087				
10	24	1200	800	20130-038	20130-088				
11	29	1400	600	20130-005	20130-055	23130-165	23130-079	23130-077	23130-075
12	29	1400	600	20130-006	20130-056				
13	29	1400	800	20130-007	20130-057	23130-061	23130-079	23130-077	23130-075
14	29	1400	800	20130-008	20130-058				
15	38	1800	600	20130-013	20130-063	23130-061	23130-079	23130-077	23130-075
16	38	1800	600	20130-014	20130-064				
17	38	1800	800	20130-015	20130-065	23130-061	23130-079	23130-077	23130-075
18	38	1800	800	20130-016	20130-066				
19	42	2000	600	20130-018	20130-068				
20	42	2000	600	20130-019	20130-069				
21	42	2000	600	20130-020	20130-070	23130-061	23130-079	23130-077	23130-075
22	42	2000	600	20130-021	20130-071				
23	42	2000	600	20130-580	20130-590				
24	42	2000	600	20130-581	20130-591				
25	42	2000	800	20130-022	20130-072				
26	42	2000	800	20130-023	20130-073				
27	42	2000	800	20130-024	20130-074	23130-061	23130-079	23130-077	23130-075
28	42	2000	800	20130-025	20130-075				
29	42	2000	800	20130-582	20130-592				
30	42	2000	800	20130-583	20130-593				
31	47	2200	600	20130-027	20130-077				
32	47	2200	600	23130-165	20130-078				
33	47	2200	600	20130-029	20130-079	23130-061	23130-079		23130-075
34	47	2200	600	20130-030	20130-080				
35	47	2200	600	20130-584	20130-594				
36	47	2200	600	20130-585	20130-595				
37	47	2200	800	20130-031	20130-081				
38	47	2200	800	20130-032	20130-082				
39	47	2200	800	20130-033	20130-083	23130-061	23130-079	23130-077	23130-075
40	47	2200	800	20130-034	20130-084				
41	47	2200	800	20130-586	20130-596				
42	47	2200	800	20130-587	20130-597				

RAL 5002		RAL 9005		RAL 7035	
RAL 5009		RAL 9002		RAL 7021	
RAL 5015		RAL 1013			
RAL 5012		RAL 7047		RAL 1016	
RAL 5018		RAL 7032		RAL 2000	
RAL 6021		RAL 7001		RAL 3020	
RAL 6028		RAL 7012		RAL 9010	
RAL 7030					

sophisticated features

... simply clever

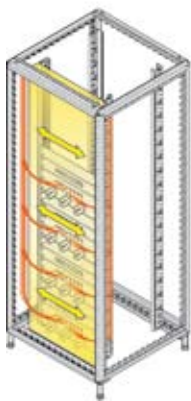
New approaches to cable management.

VARISTAR also demonstrates its advantages when it comes to cable management. Four defined zones ensure tidy cabling and simple, secure fixing of all cable types.

What is more, the cleverly-designed cable zones keep data and power cables securely separate.

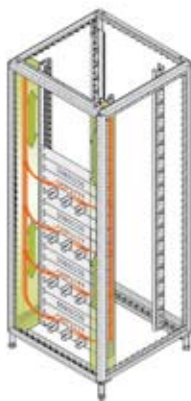
Simply tidy.

For each zone a specially-adapted accessory has been designed that simplifies cable management for you. And with its multiplicity of mounting options, the VARISTAR frame is a stroke of good design – perfectly suited to data and networking systems.



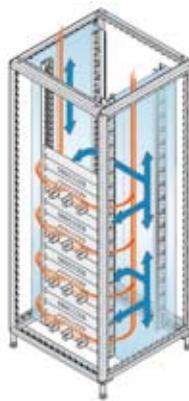
Zone 1

- In front of the 19" plane



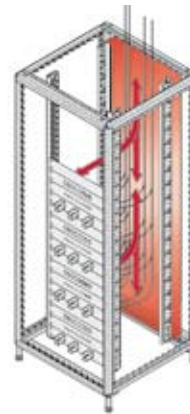
Zone 2

- To right and left beside the 19" plane



Zone 3

- Runs laterally behind the 19" plane throughout the cabinet width



Zone 4

- Runs across the cabinet width at the rear

Developed for forward-looking data centres

The perfect cooling system:

Intelligent cooling solutions . . .



Climate control: a key function and a major challenge.

Energy consumption by server rooms and data centres has more than doubled in Europe since 2000, while electricity costs have tripled. From a global perspective, commercial IT is the cause of some 2 % of CO₂ emissions worldwide, equivalent to those caused by aviation. A quarter of this energy consumption goes on cooling alone. Accordingly, energy efficiency in data centres is becoming increasingly significant for both environmental and economic reasons.

Energy efficiency: intelligent infrastructures that grow with you.

Where maximum efficiency is of the essence, our climate control solutions deliver, requiring a minimum of energy and growing to match your future needs. How? They simply extend cooling capacity in increments, exactly according to need. Power consumption and operating costs can thus always be kept at the exact level currently required. And the investment costs likewise.

Warm and cold air zones

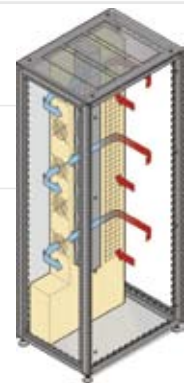
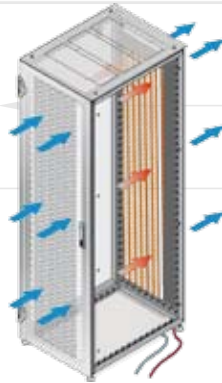
Perforated VARISTAR doors allow energy-efficient cooling by the fans of the active components. Cooling efficiency can be increased by up to some 7 kW per cabinet by arranging the cabinets to create hot and cold aisles, thus separating the warm and cold air zones.

Rear door cooler

A rear door cooler, which is easy to retrofit, gives you up to 15 kW at a stroke; the built-in water circuit efficiently removes the heat without raising the ambient temperature. Very good for data centre hot-spots.

Air/water heat exchangers

The VARISTAR LHX cabinets offer you a closed, space-independent cooling system capable of removing up to 20 kW or 40 kW of heat per cabinet – energy-efficiently and quietly, in the office and the data centre.



Modular and scaleable for every need

adaptable and energy-efficient

... that adapt to their surroundings



WHICH TYPE OF COOLING IS MOST SUITABLE?

Both for upgrades to existing data centres and for new-build facilities, the choice of cooling depends on a number of factors, and in particular on the energy loading of individual server cabinets and their configuration – that is, on the prevailing environmental parameters of the data centre. The following basic rule applies: the higher the power density, the more serious and costly are the consequences of poorly designed climate control systems.

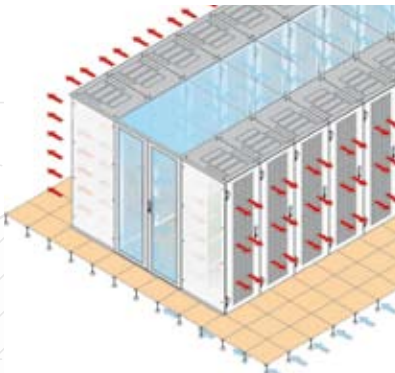
Specialist know-how and the most technically advanced products – always combined with thorough assessment and consultancy – add up to what you expect from Schrott: energy-efficient, future-ready solutions. With economic viability built in.

Read more on the following pages or visit www.schrott.co.uk/datacom!

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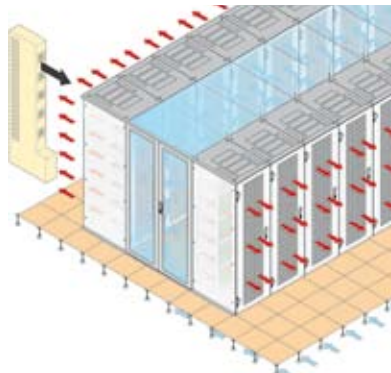
Cold-aisle containment

Top elements and doors prevent leakage of cold air. This air is used entirely for cooling the servers. Energy consumption is thus reduced and you gain reserves for future processing capacity.



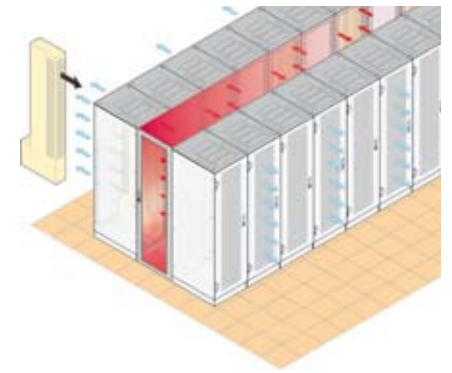
Cold-aisle with additional cooling

LHX air/water heat exchanger modules provide additional cold air precisely as it is required: either a modular addition or as a redundant system to the space air conditioning.



Hot-aisle containment

With a Schrott hot-aisle containment system, false floors and space air conditioning are surplus to requirements. At the same time the narrower, more compact layout further increases the cooling efficiency of your data centre. Should the need arise, you can further increase cooling capacity by simply adding further LHX heat exchangers.



The right solution for every upgrade . . .

Retrofit: Data centre

Flexible cooling solutions from Schroff . . .



Upgrading made systematic.

As server capacity increases, so also the demands on data centre cooling systems increase. Higher-performance processors and densely packaged systems consume more energy and generate more heat within the smallest prescribed space. Schroff cooling solutions help you achieve the goal of energy efficiency, in both economic and environmental terms. Our cooling solutions are indeed so flexible that you can adapt them to any capacity requirement. Step by step, simply, incrementally. And thermally-related problems such as overheating and wasteful overdimensioning can then be consigned to the past.

Optimising the cold-air and warm-air zones.

Well ventilated.

For data centres that are equipped with Schroff server cabinets, only simple measures need to be taken to increase cooling capacity. Even our perforated doors, thanks to their 78 % air flow, offer up to 7 kW cooling per cabinet.

Consistently separated.

Should the requirements grow further, part of the next step consists of arranging the cabinets for improved cooling. What is important here is that the cold and warm air zones are kept separated from one another.

Well compartmentalised.

To optimise the resultant hot and cold aisles, covers can be used to seal off the 19" plane. Lateral baffle plates further prevent the circulation of air to the side of the 19" plane. Here again VARISTAR shows its advantages to good effect; its unique frame profile offers a wide variety of universal fixing options. The effect: you can use the existing space climate control system more efficiently.

The Schroff containment concept.

Increase efficiency and cut energy costs.

The containment of hot and cold aisles lets you increase the cooling effectiveness of your data centre further. Consistently separating cold supply air and warm exhaust air produces a high degree of efficiency. Schroff's containment components are simple to fit or retrofit. Top elements and doors prevent leakage of cold air. This can then be used completely for server cooling. Energy consumption is thus reduced and you gain reserves for future processing capacity.

Clever containment solutions for existing infrastructures.

It is rare for data centres that have grown over time to contain homogenous equipment - more likely, the cabinets come from different manufacturers and with a mixture of dimensions. With Schroff retrofit containment, however, you can still upgrade your data centre with ease. Best of all, thanks to its cleverly designed universal profile, it can roof over even a variety of server cabinets from different manufacturers with complete accuracy and security to offer greater energy efficiency.

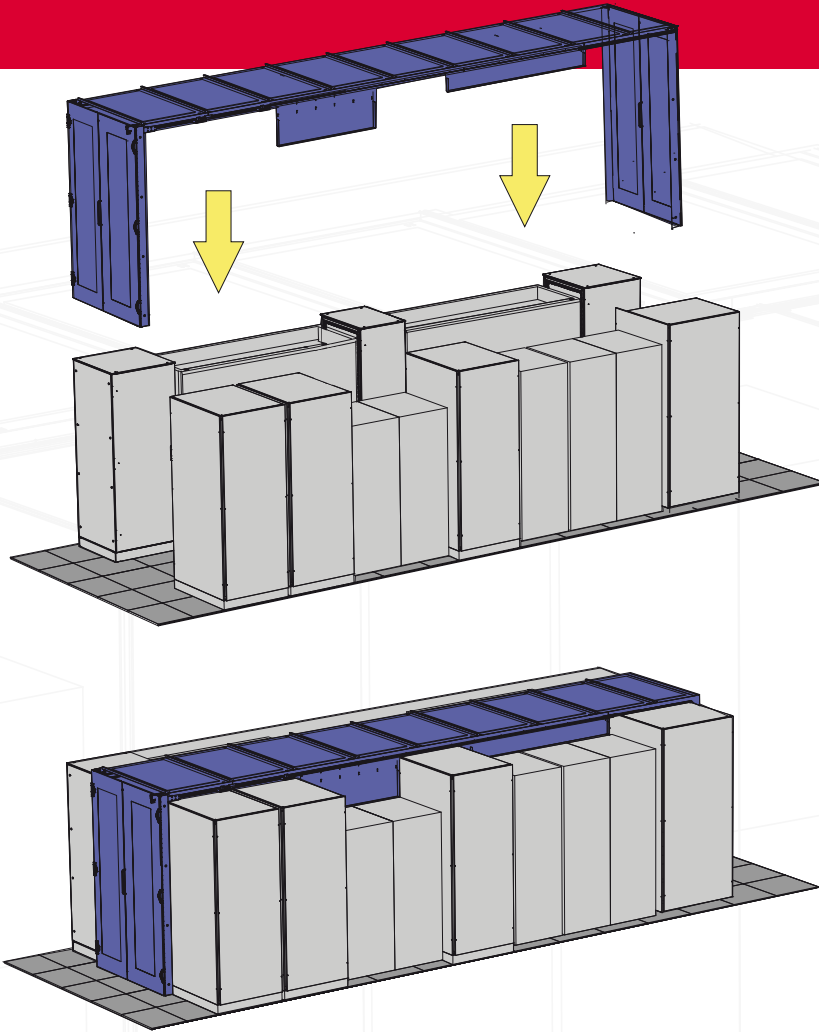


Cooling solutions from Schroff – simply more flexible.

... thanks to know-how from climate specialists

modernisation

... for a clever and efficient "green" data centre



Water-cooled rear door

Passive water cooling.

By using a rear door cooler instead of a perforated door on the air exhaust side you can further increase cooling efficiency: the built-in water circuit can achieve up to 15 kW cooling per cabinet, completely separated from the room air. This reduces the load on your air-conditioning system and lets you install additional servers in the room, even if the existing air conditioning has reached its physical limits.

Active water cooling.

Adding extra fan modules will guide the warm air actively through the water circuit of the rear door cooler. An alternative is the use of additional VARISTAR LHX server cabinets with air/water heat exchangers. As a general principle, active water cooling is a good solution for targeting specific hot-spots in a data centre.



THE ADVANTAGES AT A GLANCE:

- **Peak performance:** Containment elements and rear door cooler suitable for server cabinets of various manufacturers
- **Secure investment:** Easy to upgrade thanks to modular components
- **Partnership built in:** For any upgrade, we are there for you with our know-how and service and if you wish can take care of the disposal of your old equipment

Forward-looking solutions must be efficient . . .

New-build data centres with

VARISTAR and the Schroff containment concept . . .

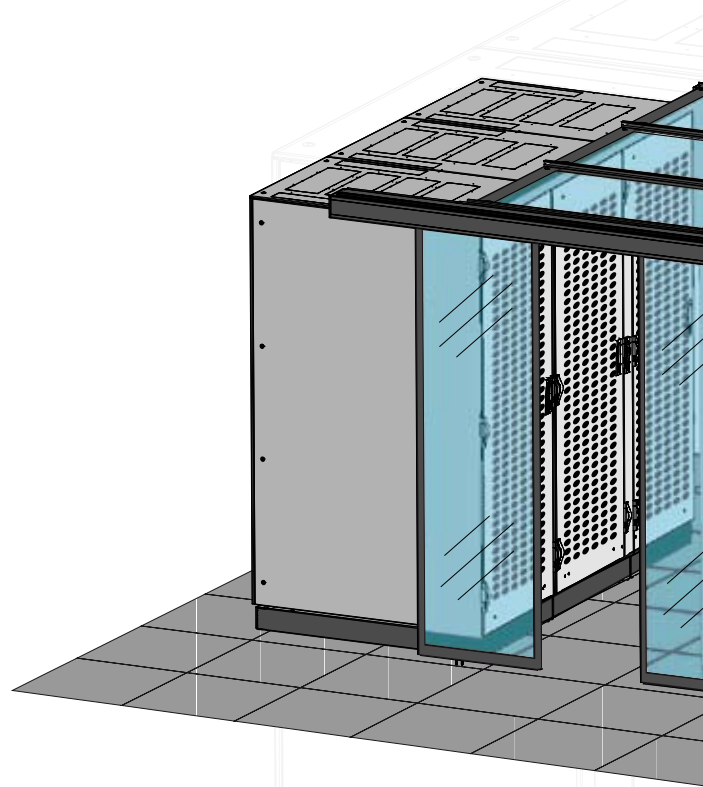


The climate-control challenge.

Networking systems, power and backup power supplies, climate control and the choice of IT applications are only some of the challenges. In building or extending a data centre, the efficient realisation of the primary requirements such as functionality, security and availability poses many additional issues and questions. It is therefore all the more important to work with competent and experienced partners at the planning and implementation stages. Only by doing so can you be sure of solutions that meet your needs and are also a secure investment and ready for the future.

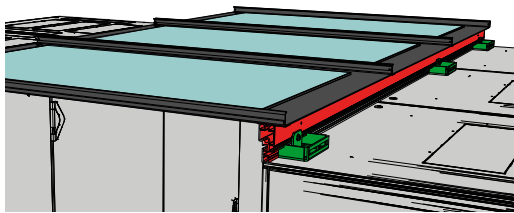
An adaptable total concept – rigorous and future-proof.

VARISTAR server cabinets and the Schroff containment concept give your data centre both benefits – cooling efficiency and energy efficiency. Our climate-control solutions are indeed so flexible that they can be adapted to the room characteristics and cooling needs of each individual site. A comprehensive standard range plus components that are easily retrofitted add up to a sophisticated total concept in which energy consumption and operating costs can always be matched to the exact current requirements. Clever!



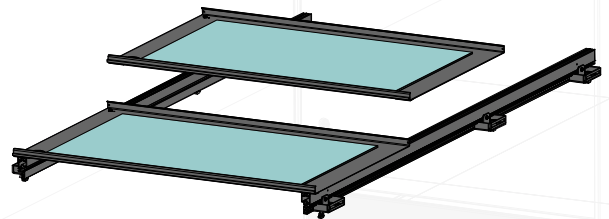
Universal profile: perfectly adapted.

- The universal T-slot lets you mount accessories such as lamps or cameras easily, and they occupy a minimum of space
- Extra height gives increased standing headroom



Containment cover: translucent, sealed.

- Easy to dismantle from within at any time
- Laminated safety glass: admits light while offering increased protection
- Individual roof panels form a seal with one another

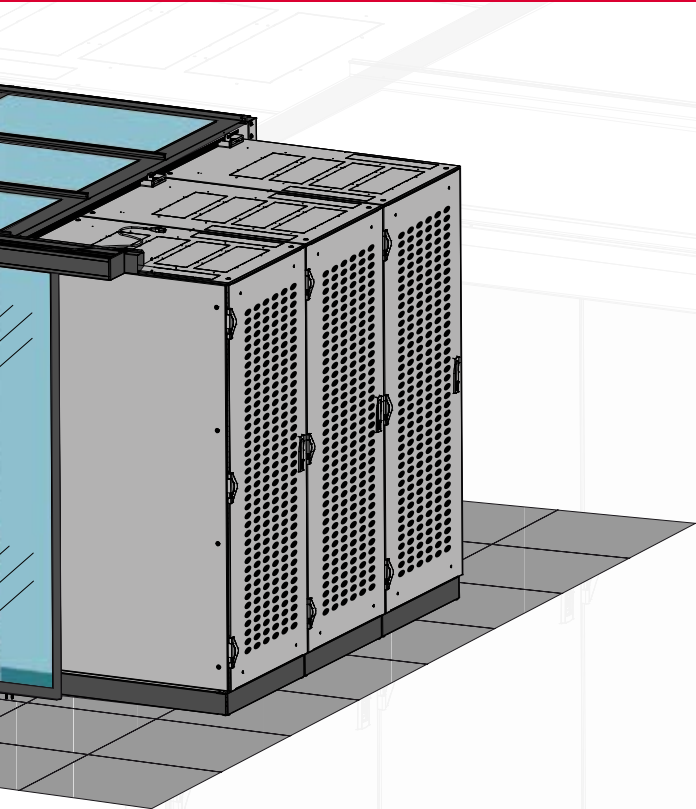


Cooling solutions from Schroff – simply a step ahead.

. . . and flexible to meet growing demands

containment

. . . an infrastructure that grows with you



Functional: hinged door, manual sliding door.

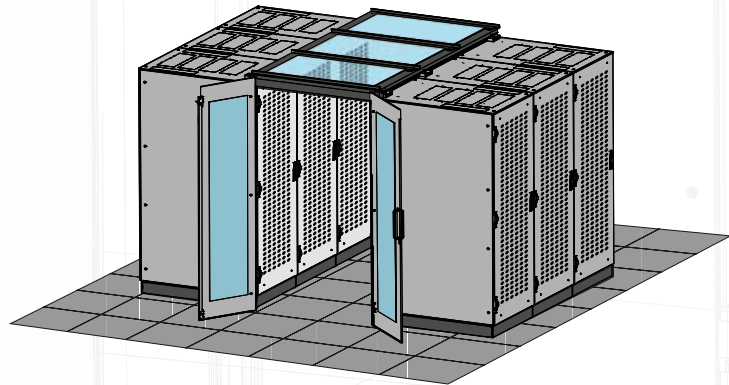
- Translucent safety glass, visible interior space
- Optionally lockable using a handle with DIN profile cylinder lock

Greater convenience: automatic sliding door.

- Translucent laminated safety glass
- Switches inside and outside, opens manually if power fails and opens automatically when fire extinguishing system is activated
- Conforms to DIN safety standards
- Optional upgrade with individual access controls
- Installed by experienced personnel

Suited to requirements: water-cooled cabinets.

- Target cooling to hot-spots within the containment
- Extra support for room air conditioning system



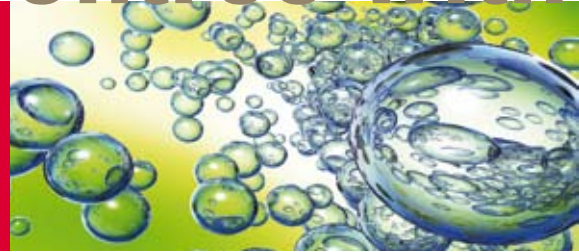
THE ADVANTAGES AT A GLANCE:

- **Customised:** Various door types that offer access to your wishes and requirements
- **Secure investment:** Modular total concept, rigorously designed and future-proof
- **Partnership built in:** You can count on us right from the planning stage, thus avoiding mistakes in planning and their expensive consequences

Technological and economic advantages . . .

New-build data centres with

Perfect cooling . . .



VARISTAR LHX: The perfect solution to climate control.

Low power consumption, reduced CO₂ emissions, an environmentally friendly cooling medium and an improved indoor environment through reduced noise – the water-cooled VARISTAR LHX 20 and LHX 40 server cabinets put you on the winning side in both environmental and economic terms. Whether your cooling capacity needs are less than 20 kW or up to the maximum available capacity of 40 kW, the higher acquisition cost will be more than balanced out by the lower running costs over a period of 10 years. The result: lower costs and higher efficiency at the same time.



Highest efficiency. Maximum effect.

The VARISTAR LHX product range scores with its high energy efficiency and cooling capacity. With a fan speed of 80 %, total power consumption is only some 530 W. Control is primarily via the water circuit; only in an emergency or at maximum load are the fans set to 100 % speed.

Persuasive in its use of space.

Since the heat exchanger is inserted to one side as a complete module, in a cabinet only 800 mm wide, the 19" plane can be used over its full height, with 42 U (max. even 47 U) useable. This saves up to 20 % of valuable space in the data centre. Thanks to its 1200 mm depth, not only can you install all current server types in the VARISTAR server cabinet; there is also additional space for the cabling.

More reasons for the right choice.

Either in the server room or in the office, fan noise is a troublesome issue for your employees. Yet the VARISTAR LHX runs quietly behind firmly closed doors and generates a lower noise level than 55 dB (A), the upper permitted limit for office workspaces.

Read more in our white paper at

www.schroff.co.uk/datacom

WHEN IS AN AIR/WATER HEAT EXCHANGER WORTHWHILE?

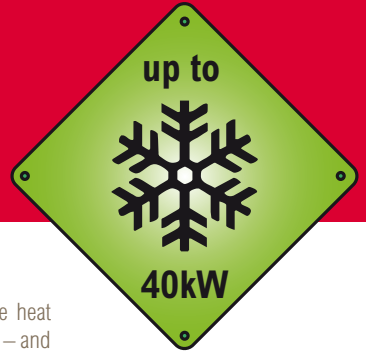
- Where cabinets with high thermal loads are not sufficiently cooled by existing space air conditioning. In such cases hot-spots can be efficiently relieved with water cooling.
- Where the computer centre has no air conditioning and retrofitting is expensive. LHX air/water heat exchangers cool independently of their environment, irrespective of whether in individual cabinets or in containment groups.
- Where servers are situated in an office environment, in which noise levels can be detrimental. Heat exchangers are closed, low-noise systems.
- A variety of redundant cooling concepts can be implemented with LHX air/water heat exchangers. This may be either in a side-to-side configuration of individual cabinets or in a containment system.

Cooling solutions from Schroff – simply energy-efficient.

... from water-cooled server cabinets

water cooling

... quiet, environmentally friendly and energy-efficient



Save space when upgrading

Upgrading from 20 kW to 40 kW is simple - just swap one heat exchanger module for another with the higher cooling capacity – and all this in a cabinet width of only 800 mm.

Cabinet monitoring

The Ethernet gateway allows important data to be sent to superordinated data systems.

Mains redundancy

Features switchover from AC mains to a redundant power supply; switchover is automatic and occurs within 20 ms.

An easy route to cooling redundancy

Since the module can be fitted to either left or right of the 19" plane, redundant cooling systems can easily be built up from multiple cabinets.

Condensation management

The drop collector prevents any drops of condensation from entering the air inlet area of the servers.

Flexible water access point

Water supply can be connected from either front or rear as suits the installation.

Hot-swap capable

Fans are easy to change during operation.

Service and maintenance

Comprehensive ServicePLUS scheme, see page 20.



THE ADVANTAGES AT A GLANCE:

- **Green solution:** Modular cooling system with energy-efficient cooling up to 40 kW
- **Peak performance:** An integrated total solution with minimal energy consumption and minimal noise, on the smallest floor area
- **Secure investment:** Start small today and modify or upgrade tomorrow without problems thanks to perfect scalability
- **Partnership built in:** We are with you from the start with know-how and service with our ServicePLUS lifecycle package

Versatile product ranges from Schroff . . .

Power Distribution

Versatile, modular and economic . . .



Power supply made systematic.

Power supply and distribution systems are among the most important elements in any server cabinet. From modules for single or three-phase power feed through low-cost socket strips (PDUs) solely for distribution within the cabinet to switchable and perhaps telemonitored devices for more than power distribution alone, our range is full of possibilities. In the Schroff concept the individual components can be combined to outstanding effect. What is more, with our custom manufacturing service you can add custom-developed components in a very short time.

Socket strips.

As many-sided as your applications . . .

Variable numbers of plugs, different socket inserts, 1- and 3-phase versions and many functional elements for individual configuration – Schroff's socket strips give you the choices. For the ideal mains connection, choose between the Wieland® GST18 system and connectors specific to your country. And the mounting options are flexible too – horizontal on the 19" plane or vertical on the cabinet frame.

Distribution box. High performance and easy to use.

Our distribution-box delivers high power levels to one cabinet or alternatively supplies a number of cabinets safely with the correct amount of power. Pre-configured, it forms the basis of a modular power distribution system offering plug-and-play simplicity. Maximum safety included. And up to a total capacity of 63 A per distribution box.



We can find the right solution even for unusual requirements. Visit www.schroff.co.uk/conf for help with our custom manufacturing service. Simply describe the PDU you require and you will receive a quote promptly.



Power management from Schroff – simply brilliant!

... for clever and efficient use of resources

... measurable, switchable and controllable

Power consumption: measurement and management for greater efficiency.

Over the operating lifetime of a data centre, the running costs for power and cooling exceed the original purchase costs of the hardware many times over. It follows that measuring and recording the power consumption of individual devices forms a part of efficient resource use. But how do you actually measure the efficiency of the power consumption? How do you track down power-guzzling applications, where are the devices with large thermal loads hidden in your cabinets, and do you have anything in reserve for increasing capacity? Our product range supports you with these tasks and provides you with all relevant information. Your advantage: more transparency for energy-optimised investment decisions!

Phase-level measurement, telemonitored.

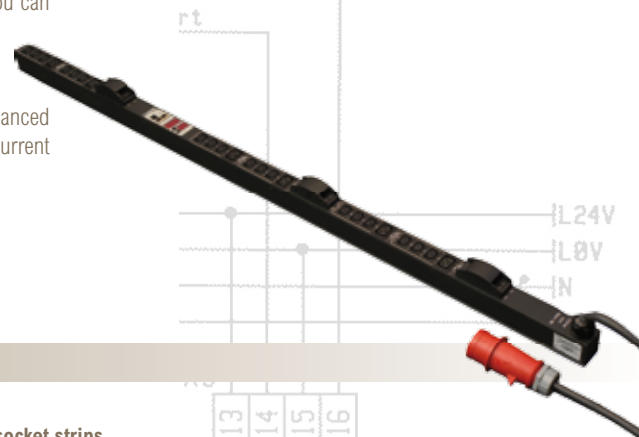
Our Inline-Meter, to which you can connect distribution boxes or up to four simple socket strips, lets you measure current, voltage, apparent power, true power, power factor and energy consumption at phase level – with the greatest precision. Retrofitting the Inline-Meter in an existing data centre is child's play too.

Measurement at the outlet, telemonitored and controlled.

Schroff power control strips measure power right at the socket - directly before the consumer. And so they provide you with the most specific data for energy optimisation. There are other advantages too, however: each individual outlet can be switched on or off by remote control. Thus you can, for example, power fewer important applications down during a critical situation, or quickly restart applications after a crash, independent of location. Sequential switch-on of each outlet means high start-up currents are no longer a problem. You can programme the time interval and sequence.

User-friendly and doubly secure.

Today's transfer protocols and the HTML-format user interface make for ease of operation. Security is enhanced by a built-in firewall and the allocation of access rights per user and per connection. And where power, current or voltage exceed programmed threshold values, warnings are issued or alarms triggered.



THE ADVANTAGES AT A GLANCE:

- **Versatile:** Large range of options in tested, reliable standard socket strips
- **Individual:** Tailored combinations of socket inserts, cable lengths, connector plugs, safety features, etc.
- **Feature-rich:** PDUs with special functions - measuring, switching and monitoring
- **Modular:** Plug-and-play, for classic distribution boxes or the intelligent Inline-Meter, combined with popular standard strips
- **Accurate:** Can measure current, voltage, apparent power, true power, power factor and energy consumption

Simple and cost-effective to integrate . . .

Monitoring & Security:

From specific monitoring of critical parameters . . .



Everything simply under control.

Whether you need to monitor operating parameters such as temperature or humidity, control fans or heat exchangers, detect smoke, respond to a power failure or manage the locking system, our components offer the best monitoring options for the persons responsible for the security and availability of your data centre.

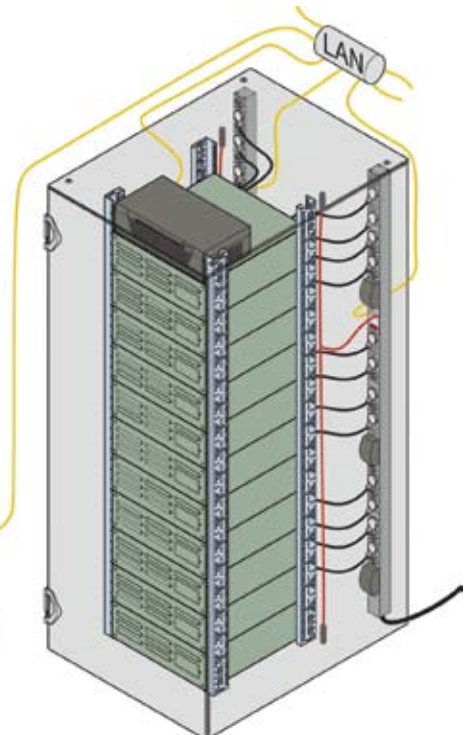
Power management and monitoring combined.

Regular power measurement combined with temperature and humidity readings saves the need for an expensive cabinet monitoring system. Up to eight sensors can be connected to our Inline-Meter or to the Power Control socket strip, flexibly and easily. The data is displayed via the interface and supplied to the network as measured values.



Power and environmental management software: analysis down to the details.

As well as measuring current energy consumption, efficient energy and environment management also requires analyses conducted over longer periods. Now you can easily create energy and active-current reports for individual sockets, IT devices or the entire data centre. Monitoring of parameters such as temperature and humidity also presents no problem. The centralized administration simplifies the measurement of parameters, such as: configuration, firmware management, denomination of intelligent PDU outlets as well as cumulative reports at various levels, including data from other manufacturers. Data is created using common transfer protocols or also in graphical form. An ODBC interface facilitates linking into superordinated monitoring systems and databases.



Security concepts from Schrott – simply impressive.

... customised in detail to your requirements

systematised surveillance

... to the leading solution for complete protection

Cabinet monitoring systems: perfect protection, customised.

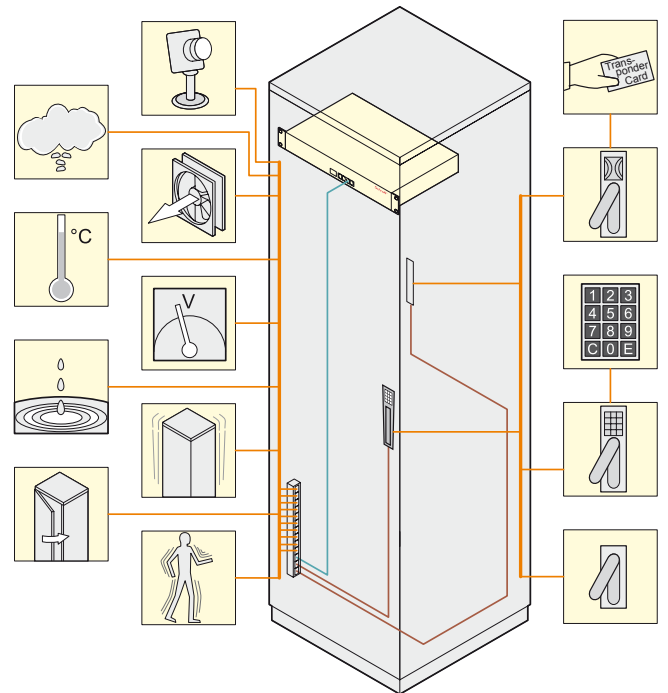
Leading cabinet monitoring systems can be combined with Schroff server cabinets. Here again our aim is flexibility, to your benefit. We will work with you to plan the system appropriate to your monitoring task.

Security Master: modular and high-performing.

For many monitoring tasks, a system such as the May 'Security Master' is suitable. Its modular cabinet control system is powerful, reliable and optimised for the VARISTAR cabinet family, particularly for LHX air/water heat exchangers. With this system, demanding monitoring tasks can be solved reliably. Moreover the Security Master is so flexible that it can be easily adapted to individual requirements, even to the point of developing customised sensors.

Early fire detection and fire extinguishing systems.

We can install Wagner fire-fighting equipment, which includes products specifically adapted for the VARISTAR LHX cabinet. Even an entire data centre can be supported.



THE ADVANTAGES AT A GLANCE:

- Immensely variable: Specially tailored solutions for individual monitoring tasks
- Simply versatile: Multiple options for data transfer to the network management
- Extremely easy to use: Simple administration; fewer IP addresses
- Peak performance: Modules from leading manufacturers, combined to create a mature system solution

Control

Know-how and individually tailored services

Project management for

More than just service . . .



Analysis services for your data centre.

Working with major partners, Schroff can offer the appropriate analysis and consultancy programme for your projects, whether you are optimising an existing data centre or planning a conversion or a move.

- Physical safety analysis
- Energy efficiency analysis
- Thermal analyses and simulations

www.schroff.co.uk/datacom

Solution concepts from Schroff – the best advice, getting you faster to your goal.

In collaboration with our partners – or with yours – we will devise a complete tailored solution.

- Simply define the required scope of service online
- Find your personal consultant online
- Configure your server cabinet to best suit your environment - down to the cold-aisle containment
- All information is available direct via www.schroff.co.uk/datacom

Our service is flexible too.

Our services are as flexible as our products. Select the features you require and create your own services package. For all the flexibility, however, one thing remains the same: with Schroff you have comprehensive support and advice on hand throughout the entire life of your products and solutions. We are there when you need us - for the product's entire life.



Customised service – for the entire life of the product.

From the right partner

forward-looking data centres

... ServicePLUS!



Efficiently implemented and executed, customised to your needs.

Schrock service does not end at the design stage. It continues with professional assembly and integration through to delivery and the commissioning of your system.

- Complete assembly of components and accessories, professionally and on time
- Integration of all electrical, electronic and thermal components
- Delivery to your premises or point of use, including disposal of packaging - on an agreed date for a set price
- Professional installation, positioning and adjustment of the cabinets
- Connection, commissioning and test-run of LHX air/water heat exchangers

Your service partner for the smooth running of your data centre.

Data centre requirements change – but our service remains available to you for as long as you continue to operate your data centre.

- Knowledge transfer with tailored educational and in-service training options
- Extend the warranty period with GarantiePLUS
- Upgrading and retrofitting
- Recycling

THE ADVANTAGES AT A GLANCE::

- **Time savings:** We carry out the entire project implementation, according to your wishes, from planning to the commissioning of your data centre.
- **Everything from a single source:** You have just one contact partner throughout the entire project cycle.
- **Technical expertise:** The many years' experience of our personnel protects you against "nasty surprises".
- **Economic viability:** Working with you, we will find the solution that is best for you. The scalability and modular design of our services spectrum make this possible.



The right solution to every challenge

Our know-how, our products,

Location, climate control, security, energy . . .



NEW DATA CENTRE AT SCANDINAVIA'S LARGEST MEDIA HUB

Requirements:

- Continuous, homogeneous cooling air for all servers with low energy consumption
- Side-to-side cooling required
- Monitoring of power consumption, temperature and humidity at cabinet level
- To be user-friendly for facility management and IT

The solution:

- Cold aisle containment to reduce energy consumption
- Turnkey solution including installation and power cabling
- Automated double sliding doors to each containment area
- Special air baffles and side panels on each cabinet for optimised side-to-side airflow
- Combination of solid and perforated doors
- Inline-Meters to monitor power, temperature and humidity
- On-site installation and training given in the power management software to consolidate the monitoring of the parameters



Market competence from Schroff – performance that inspires.

our services

... all in the green zone!

COLOCATION DATA CENTRE FOR A LEADING GERMAN TELECOMMUNICATIONS PROVIDER

Requirements:

- Physical separation of the partitions of different customers, access control
- Cabinets with different numbers of compartments
- Flexible cooling concept with modular upgrade options

The solution:

- Schroff VARISTAR colocation cabinets with 2 and 4 compartments
- Uncomplicated containment options for cabinets when cooling needs increase
- Cabinets prepared for subsequent installation of air/water heat exchangers to support the false-floor cooling as cooling needs increase
- Delivery, installation and commissioning of cabinet infrastructure



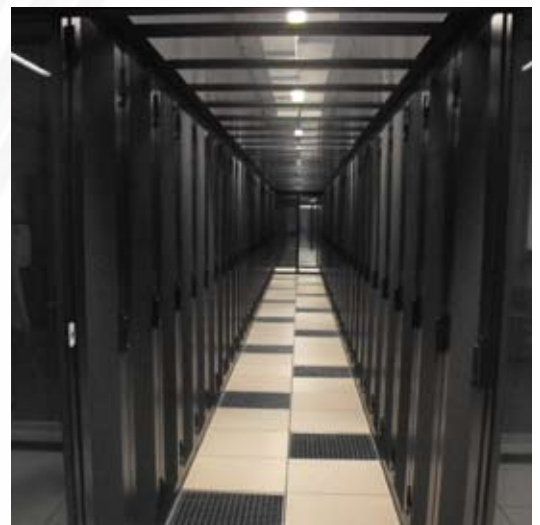
HOSTING SERVICES PROVIDER, FRANCE

Requirements:

- Construction of a new data centre for hosting services
- Constantly homogeneous cold air for all servers with low energy consumption
- Future-proof cooling, power and cable management
- User-friendly for facility management and IT

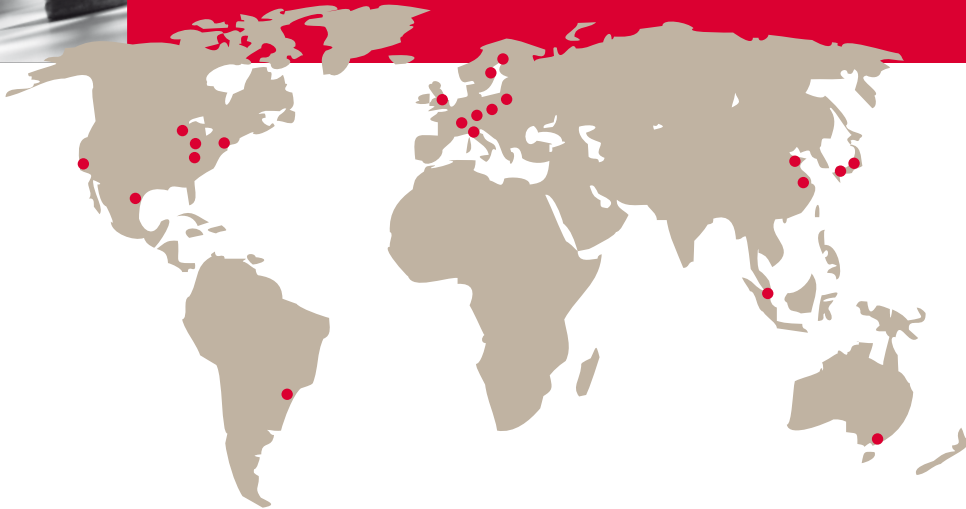
The solution:

- Standard Schroff containment system to reduce energy consumption
- Rapid delivery times and minimum engineering outlay
- Automatic standard sliding door with inside and outside switches, plus automatic closing after a defined time interval to minimise loss of cold air
- Transparent cover panels - translucent, sealed
- On-site installation and parametrisation



Established as one of the best

Worldwide market competence. Local to you.



As a partner for the global electronics industry we are established as one of the best.

As an international company, Schroff takes advantage of the opportunities offered by globalisation. Manufacturing and development locations in Europe, America and Asia make worldwide market competence possible in the first place. Decentralised marketing and distribution networks with over 50 representations worldwide guarantee both closeness to our customers and optimal satisfaction of local market demands.

Up-to-date, detailed contact information for all our branches and representations can be found on our web site:

www.schroff.biz

Pentair Technical Products Group and Representations

Schroff GmbH

Langenalber Straße 96-100
75334 Straubenhardt
Deutschland
Tel. +49 (0)7082 794-0
www.schroff.de

Schroff Scandinavia AB

Flygfältsgatan 11
P.O. Box 2003
12821 Skarpnäck
Sweden
Tel. +46 (0) 8 683 61 00
www.schroff.se

Pentair Poland Sp.zo.o.

ul. Marynarska 21
PL-02-674 Warszawa
Poland
Tel. +48 22 607 06 16
www.schroff.pl

Pentair Technical Products

170 Commerce Drive
Warwick, RI 02886
USA
Tel. +1 (401) 732-3770
www.schroff.us

Schroff UK Ltd.

Maylands Avenue
Hemel Hempstead
Herts, HP2 7DE
Great Britain
Tel. +44 (0)1442 240 471
www.schroff.co.uk

Schroff Scandinavia AB

Peräsimentie 8
FIN-03100 Nummela
Finland
Tel. +358 9 222 68 00
www.schroff.fi

Schroff K.K.

Nisso No.13 Bldg. 4F
2-5-1 Shinyokohama, Kohoku-ku
Yokohama-shi
Kanagawa 222-0033
Japan
Tel. +81 (0)45 476 02 81
www.schroff.co.jp

Pentair Technical Products China

Airport Ind. Zone
Shuangyuan Rd.
Liuting, Chengyang District
Qingdao, PC 266108
PR China
Tel. +86 (0) 532-6584 207

Schroff SAS

Z.I. 4, rue du Marais
Boîte Postale 16
67660 Betschdorf
France
Tel. +33 (0)3 88 90 64 90
www.schroff.fr

Schroff S.r.l.

Via Brughiera 1
20010 Pregnana Milanese (MI)
Italy
Tel. +39 02 932 714-1
www.schroff-italia.it