



**Process automation perfectly** packaged with Rittal.  
Cost-effective solutions for the **automobile industry**.



**Enclosure, housings, terminals –  
Complete systems including climate control**





**Make use of Rittal competence.  
Make use of the Rittal added-value package for your success.**

**Solution diversity through system platforms**

**Pre-configuration saves time**

**Complete, thanks to system integration**

**Global proximity with a local presence**

**Secure your competitive lead with a quality advantage**

**Perfect solutions through planning expertise**

**Eliminate the risks with a security advantage**

**Benefit from our product portfolio**



Rittal process automation for the automobile industry

# Greater security, improved profitability

## Rittal – worldwide partner of the automobile industry

We accompany the whole process chain of automobile manufacture with integral packaging solutions for process automation. For **production control**, for **low-voltage distribution** or for **industrial IT networks** – Rittal competence is placed in the service of your success. For every application we supply the perfect combination of enclosure system, equipment, system climate control and security monitoring.

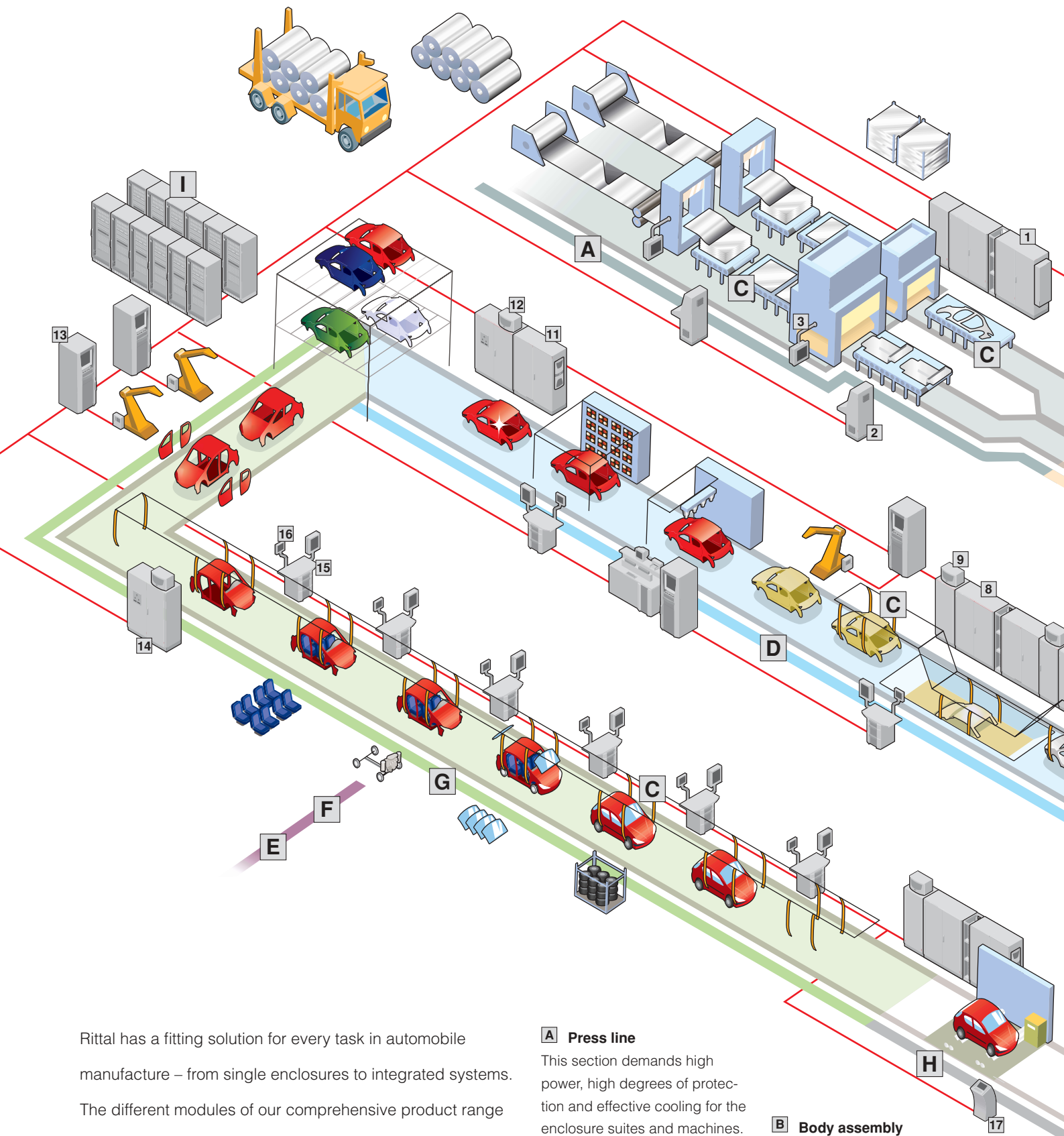
All systems are naturally in full compliance with OEM **specifications.**

That adds up to project-oriented, comprehensive **technology packaging.**

Rittal's one-stop system concepts promise planners, suppliers, maintenance contractors and service partners throughout the automobile industry clear-cut technical and economic benefits. And we are always at your side with our complex range of solutions and a genuinely global distribution and service network.







Rittal has a fitting solution for every task in automobile manufacture – from single enclosures to integrated systems. The different modules of our comprehensive product range are combined to develop individual solutions. Project-specific and fully integral.

For power distribution and control systems. For bus systems and Ethernet. For test stands and quality assurance. For complete building systems and IT networks. It could hardly be more evident: Choosing Rittal as your packaging system partner guarantees convincing technical, organisational and economic benefits.

#### **A Press line**

This section demands high power, high degrees of protection and effective cooling for the enclosure suites and machines. Top here is the TS 8 top enclosure system (1): universal interconnection, maximum reliability, perfect integration of power distribution and climate control components. Console solutions (2) and command panels suspended on support arm systems (3) form the interface between man and machine.

#### **B Body assembly**

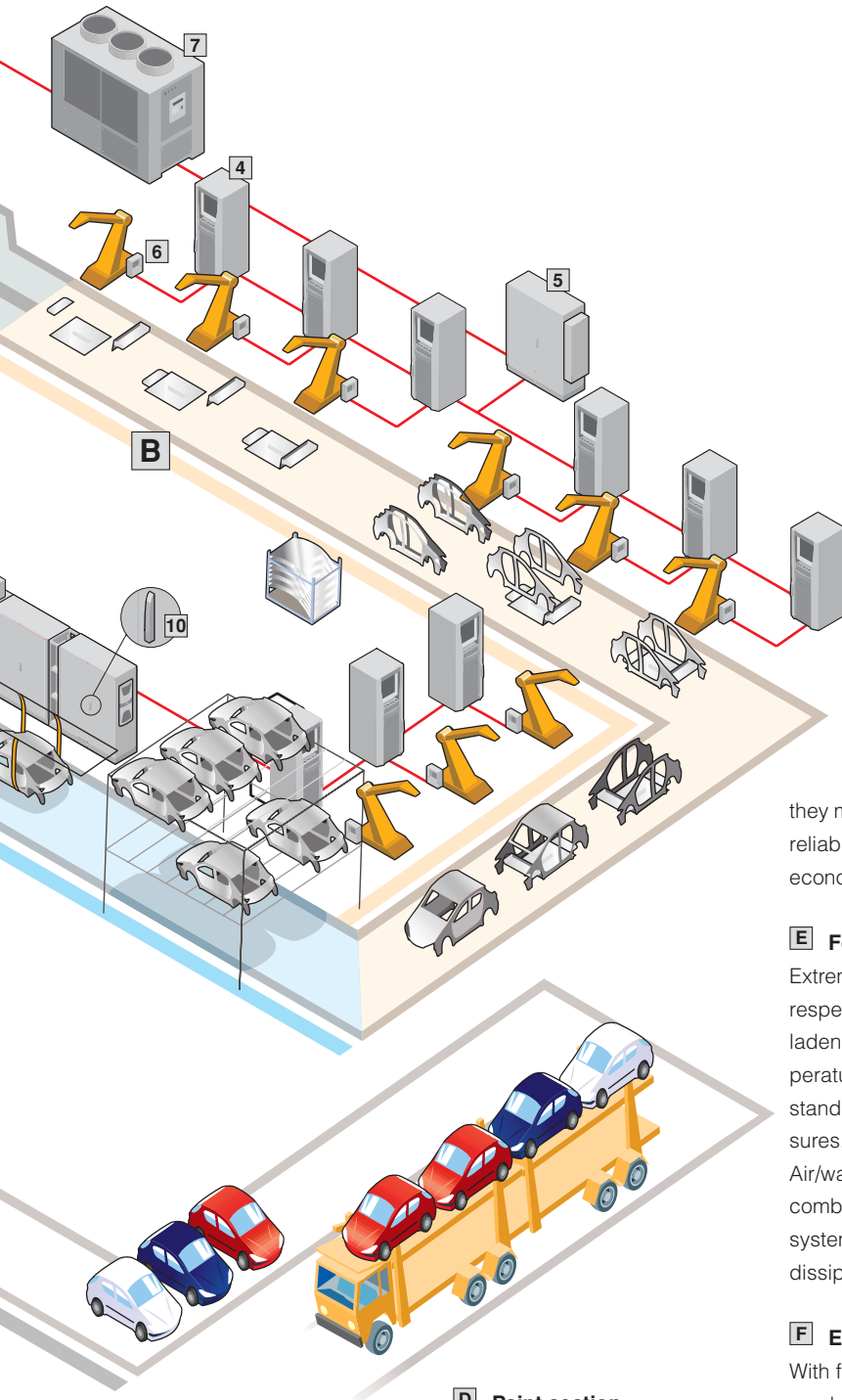
The robot control is managed with PC enclosures (4) and/or individual control enclosures (5), as well as via bus enclosures (6). Especially cost-efficient: A central recooling system (7) provides cooling for both the enclosures and the robots.

#### **C Conveyor systems**

Suspension monorails, conveyor belts and skid conveyor

# The sum of the details determines the quality of the whole

## Packaging, equipment, cooling and security – solutions by Rittal



systems – the individual steps are combined into a process chain. Precise, stable handling calls for complex control, for which TS 8 enclosure suites (8) with climate control (9) and access security (10) represent the core.

### D Paint section

Again high power, high degrees of protection and effective cooling – and once more, the TS 8 top enclosure system (11) offers the prerequisites. Complemented by a ready-prepared assembly interface to TopTherm climate control units (12). With their microprocessor control,

they meet all the requirements of reliable, centrally monitored and economical climate control.

### E Foundry

Extreme conditions in every respect: contaminated, dust-laden air and high ambient temperatures. Here, too, Rittal offers standard solutions for enclosures, housings and cooling. Air/water heat exchangers in combination with recooling systems ensure effective heat dissipation from the enclosures.

### F Engine machining

With functionally autonomous machining centres, the enclosure and cooling technology (recooling system) is often integrated into the machine housing. The control electronics are cooled via air/water heat exchangers. Command panels and PC enclosures accommodate the systems for programming.

### G Assembly

Human operator and robot in perfect unison. PC enclosures (13) protect the valuable data and serve as input and monitoring interfaces. The control system housed in the enclosure suite (14) takes care of central coordination. Industrial workstations (15) with command panels (16) are ideal for control purposes for smaller systems and manual assembly stages.

### H Final inspection

Stainless steel enclosures are used at the fuel filling station and vehicle washing. A final check. The buffer stores and transport logistics are controlled via kiosks (17).

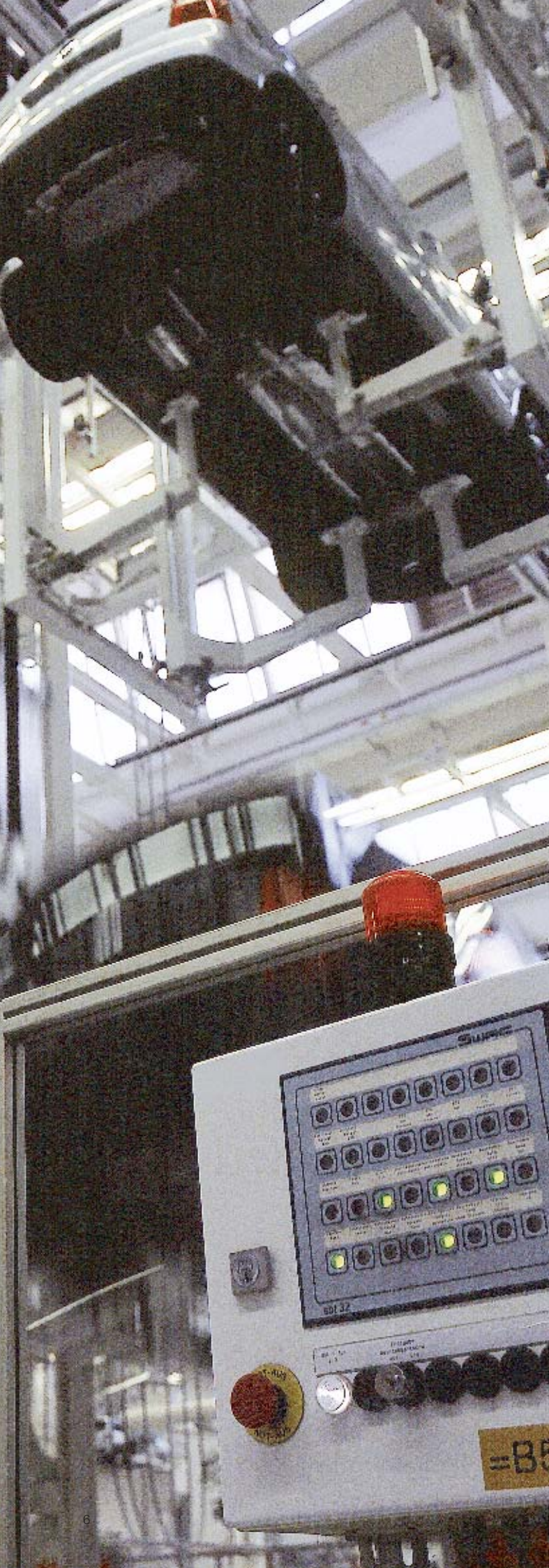
### I Networking

For control of the central production and transfer lines, for administration and communication, for employee information, for safety and security (fire alarms, access control, etc.). Rittal offers the ideal product range to meet both general and specific packaging requirements.

Solutions for the automobile industry are routine for Rittal:

**Packaging, equipment, cooling, security – one-stop competence!**





## System platforms and modular technologies offer diversity and flexibility.

### One for all – the top enclosure system TS 8.

An all-rounder, a system platform, offering an unbelievable range of fast and simple solutions.  
For every form of process control.  
For reliable power supplies up to 3200 A.  
With 482.6 mm (19") levels for the electronics and networking.  
In stainless steel for extreme environments, and, and, and . . .  
The synergies in planning, assembly and system reliability cannot be overlooked.

### No limits to the solutions – compact, small and bus enclosures.

All formats, various materials, comprehensive system accessories. For every conceivable demand, in perfect quality.

### Ergonomic and versatile – command panels in combination with pedestal and support-arm systems.

### Effective shield for computers – PC enclosures.

Ideal protection in production environments, without compromising convenient use of the keyboard, mouse, monitor and printer.

### Individual and practical – Industrial Workstations.

Ergonomic perfection in workplace design.



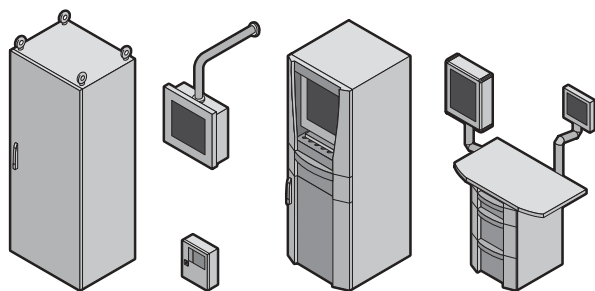
Rittal process automation for the automobile industry



# Valuable technologies need safe packaging

## Enclosures and housings you can rely on

The diverse technologies which make up an automobile plant must function perfectly together – presses, robots, conveyor and painting systems. Only then can vehicles be manufactured to the highest possible levels of quality, efficiency and productivity.



Secure technologies for supplies, process control, communication and monitoring are no less important.

To satisfy the rigorous demands placed on individual technology packaging solutions, Rittal offers **a range of over 8,000 standard products.**

Numerous products, furthermore, are carefully matched to the technical specifications of the individual automobile manufacturers.

Whichever solution is chosen, system platforms and modular technologies guarantee **diversity, flexibility and convincing value for money.** And this while at the same time simplifying planning and assembly.



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**Cooling guarantees productivity.**  
Because overheating means failure, and temperature fluctuations reduce the service life of microelectronics.

**If cooling to below ambient temperature is a must** – Rittal TopTherm cooling units deliver the goods. Interesting with regard to costs and design: KTS. The cooling units are integrated into the doors of the TS 8 top enclosure system. Especially effective – also in contaminated environments – are recooling systems in combination with air/water heat exchangers.

**Cool enough, but subject to dust** – air/air heat exchangers incorporate separate air circuits to make effective use of the ambient air for enclosure cooling. There is no way in for dust.

**Both cool and clean** – in this case, fan-and-filter units, preferably with speed control, are sufficient to prevent hot spots and to achieve even, low temperatures throughout the enclosure.

**Perfect monitoring and control** – with a comfort controller and direct links to a central control station. You can then be sure never to lose sight of the most important parameters.



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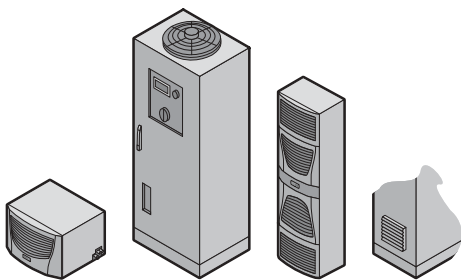
# Ideal climate, comprehensive service

## Maximum reliability for sensitive processes

System climate control, as a decisive factor for integral process reliability, is one of Rittal's classic key competences.

This includes the cooling of sensitive electronics in enclosures and cases for industrial process control, as well as server and network technology.

Especially topical is the TopTherm concept: Cooling units, air/air and air/water heat exchangers possess **standardised interfaces** to the TS 8 top enclosure system.

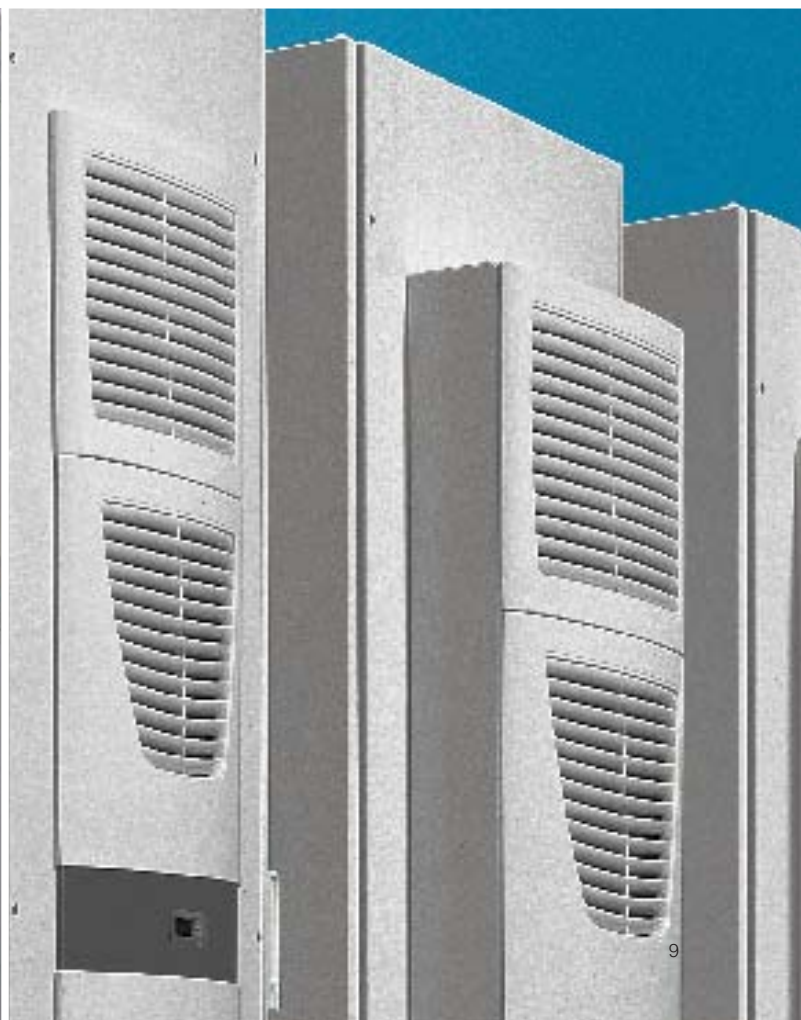


Assembly, output specification and exchange are as simple and cost-effective as could possibly be.

In addition, a broad range of recooling systems not only supplies the central cooling of the control enclosures via air/water heat exchangers, but also provides the necessary circulation for process and machine cooling.

All components and systems are tailored precisely to your needs. After all, we take care of configuration, manufacturing, packaging and testing. And we deliver directly to the place of installation.

An **international climate control service team** assists you in finding the ideal solution to your problem. One of over 120 service centres is sure to be in your neighbourhood.





**Complete IT solutions for production and administration, including security concepts and attractive workplaces.**

**Simply everything – from server racks to distributor boxes.**  
Rittal IT Solutions offers a truly complete product range. For example, the TS 8 system platform as LAN or server enclosures, or as fire-alarm or telecommunications distributors. Not to mention racks and enclosures with enhanced degrees of protection for applications in production environments. And system accessories to round off solutions for your every need.

**Security is imperative – managed by the Rittal CMC-Top Concept.**  
Monitor access authorisation, climate components, power supplies and countless other security-relevant parameters for your IT systems, production facilities and buildings.

**Always in the picture – tailor-made workplace solutions.**  
Ideal in R&D and as inspection desks:  
**RiLab** equipment trolleys and **IW** industrial workstations.  
For the servers and system administration:  
Perfect IT workplaces.  
For employee information and for the most varied service and control tasks: **ITS** Interactive terminal systems (kiosks).



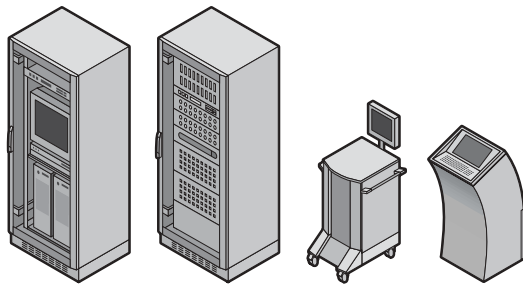
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# Industrial networking

## Greater efficiency through communication and information

Office-style networking is also becoming increasingly prevalent in production environments. This infrastructure standardisation simplifies plant re-organisation and introduces plug & play capabilities to suitably adapted production processes.



The comprehensive Rittal IT and enclosure competence forms a basis for intelligent solutions, and is reflected in the most varied fields – from server enclosures in IT rooms, to power supplies, climate control, control enclosures, operator panels and even customer-specific information terminals. Everything fits, everything is perfectly matched and geared to the future.

The concept success: **Improved efficiency and improved reliability** through information exchange, process coordination and safety monitoring.



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## Interested in more information about solutions for the automobile industry?

Individual customer advice is one of our core philosophies. We will advise you at every stage of your project, and work with you to formulate optimum solutions. Take advantage of our customer service.

Simply fax this form to us, or send us an e-mail.

Name \_\_\_\_\_

Company \_\_\_\_\_

Department \_\_\_\_\_

Address \_\_\_\_\_

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Tel./fax \_\_\_\_\_

E-mail \_\_\_\_\_




I have some specific questions:




- ☐ Please arrange for a specialist advisor to visit me
- ☐ Please call me back

Rittal has one of the largest ranges of enclosures available for immediate delivery. However, Rittal also supplies integrated solutions at a high level – up to Level 4. Fully assembled and functional, according to your specific requirements. Wherever your location.

The global alliance between production, distribution and service guarantees customer proximity. World-wide! Wherever in the world you develop and implement solutions for yourself and your customers, we are close at hand.

## Rely on the all-round competence of a strong partner:

-  Industrial enclosures
-  Electronic Systems
-  System climate control

-  Power distribution
-  IT solutions
-  Communication systems

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