Rittal – The System.
Faster – better – everywhere.

Hygienic Design –
Extra cleanliness guaranteed
Rittal – The System.
Faster – better – everywhere.

Climate control outside the hygiene zone
It supplies the air/water heat exchangers in the hygiene zone and the LCP in the data centre with the required cooling water.

Open processes in the hygiene zone
Practical housings designed for ease of cleaning to ensure optimum hygiene in the production area.
One-stop solution for optimum processes

All areas of the food industry require different hygiene standards. Rittal has the right solution for everything, from the housing and the power distribution to the climate control – everything is a perfect match. Naturally, the IT infrastructure is no exception.

Edge Data Center
IT infrastructure for maximum computing power with short latencies, located close to the production

Logistics/technology
Ideal housing solutions for areas with lower hygiene requirements
Hygiene standards for high productivity and reliability

“Rittal – The System.” stands for cleverly thought-out system solutions for hygienic production in the food industry. Particularly in open processes, where the resistance of the seal to detergents and disinfectants is crucial, it is vital for production plant to be equipped with optimised enclosures, terminal boxes and command panels.
The Rittal Hygienic Design for food safety is based on:

**European standards and directives**
- EN 1672-2:2005 Food machinery/General design principles/Part 2: Hygiene requirements
- EN ISO 14 159 2004 Safety of machinery – Hygiene requirements for the design of machinery
- EN 16 001 Energy management to improve energy efficiency
- Machinery directive 2006/42/EC binding
- Document 13 EHEDG guideline on the hygienic design of apparatus for open processes, prepared in collaboration with 3-A and NSF International

**EU regulations**
- 852/2004 on the hygiene of foodstuffs
- 853/2004 specific hygiene rules for food of animal origin
- 854/2004 specific rules for the organisation of official controls on products of animal origin intended for human consumption
- 1935/2004 on materials and articles intended to come into contact with food

Decide for yourself what is important.

**Rittal Hygienic Design boosts operational hygiene**
- Reduces the use of C&D agents
- Optimises cleaning results
- Ensures higher productivity
- Minimises risks
- Increases energy efficiency (CO₂ footprint)

All terminal boxes and compact enclosures are cULus listed.
Extra cleanliness guaranteed!

Terminal boxes and compact enclosures in Hygienic Design (HD) are key elements in the design of open processes in the food industry and clean rooms due to their ease of cleaning. Compatible accessories such as wall spacer brackets and HD-compatible cable glands complete the range. If you have specific requirements, “Rittal – The System.” is sure to have the right solution.
Silicone seal
- All-round external, joint-free silicone seal
- Easy to replace
- Guides and fixes the lid to the screw fasteners
- All-round tilt for terminal boxes
  - Enclosure: 3°
  - Lid: 10°

Interior configuration
- Hole pitch of 6.25 mm for greater flexibility
- KL support rails and mounting plates can be fitted directly

Hinges and seal
- Hinges that are inside the sealing zone create an exceptionally easy-clean design on the outside
- The durable all-round, external silicone seal effectively prevents all gaps
- Installed sealing frames are easily replaced
- No external cavity between enclosure and door
- Seal dyed blue to clearly distinguish it from foodstuffs

Screw fastener
- Captive
- With external seal
- Hexagon shape for perfect cleanliness

Lock and lock insert
- External parts made of stainless steel
- Material and shape allow easy and reliable cleaning

Roof angled forwards
- The roof angled forwards by 30° on compact enclosures prevents objects from being deposited on it
- Is easily inspected
- Allows fluids to drain off rapidly
Hygienic Design

Design:
- Enclosure angled forwards by 3°

Material:
- Enclosure and cover: Stainless steel 1.4301 (AISI 304) 1.5 mm
- Mounting bracket: Sheet steel, zinc-plated, passivated, 2.0 mm
- Screw plug: Stainless steel
- Seal: Silicone, compliant with FDA Guideline 21 CFR 177.2600

Surface finish:
- Enclosure and cover: Brushed, grain 400, peak-to-valley height < 0.8 μm
- Seal: Blue, dyed (RAL 5010)

Protection category IP to IEC 60 529:
- IP 66

Protection category IP to DIN 40 050-9:
- IP 69K

Protection category NEMA:
- NEMA 13
- NEMA 3R
- NEMA 4X

Supply includes:
- Enclosure of all-round solid construction
- Cover
- Mounting bracket (pre-assembled)
- Seal and screw plug (supplied loose)

Approvals:
- UL
- cUL

Terminal boxes HD

<table>
<thead>
<tr>
<th>Width (front) (B1) mm</th>
<th>Packs of</th>
<th>150</th>
<th>150</th>
<th>200</th>
<th>300</th>
<th>400</th>
<th>400</th>
<th>Page</th>
</tr>
</thead>
<tbody>
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<td>Width (rear) (B2) mm</td>
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<td>177</td>
<td>227</td>
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<td>427</td>
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<tr>
<td>Height (rear) (H2) mm</td>
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<td>227</td>
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<td>120</td>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model No.</td>
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<td>1671.600</td>
<td>1672.600</td>
<td>1674.600</td>
<td>1675.600</td>
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<td>5.0</td>
<td>5.9</td>
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Accessories

<table>
<thead>
<tr>
<th>HD wall spacer bracket</th>
<th>1 pc(s)</th>
<th>4000.100</th>
<th>4000.100</th>
<th>4000.100</th>
<th>4000.100</th>
<th>4000.100</th>
<th>4000.100</th>
<th>24</th>
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</thead>
<tbody>
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<td>Mounting plates</td>
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<td>1560.700</td>
<td>1562.700</td>
<td>1563.700</td>
<td>1564.700</td>
<td>1568.700</td>
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<td>Support rails TS 35/7.5</td>
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<td>2314.000</td>
<td>2315.000</td>
<td>2316.000</td>
<td>2317.000</td>
<td>2317.000</td>
<td>Cat. 35, 725</td>
</tr>
<tr>
<td>HD cable gland</td>
<td>see page</td>
<td>see page</td>
<td>see page</td>
<td>see page</td>
<td>see page</td>
<td>see page</td>
<td>see page</td>
<td>28</td>
</tr>
</tbody>
</table>

Further technical information available on the Internet.
Design:
– Roof angled forwards by 30°

Material:
– Enclosure and door: Stainless steel 1.4301 (AISI 304)
– Mounting plate: Sheet steel
– Lock inserts HD: Stainless steel 1.4404 (AISI 316L)
– Seal: Silicone, compliant with FDA Guideline 21 CFR 177.2600

Surface finish:
– Enclosure and door: Brushed, grain 400, peak-to-valley height ≤ 0.8 μm
– Mounting plate: Zinc-plated
– Seal: Blue, dyed (RAL 5010)

Protection category NEMA:
– NEMA 13
– NEMA 4X

Supply includes:
– Enclosure of all-round solid construction
– Door with inserted seal
– Door hinged on the right, may be swapped to the left
– Mounting plate

Approvals:
– UL
– cUL

Compact enclosure HD

<table>
<thead>
<tr>
<th>Width (B) mm</th>
<th>Packs of</th>
<th>220</th>
<th>390</th>
<th>390</th>
<th>510</th>
<th>610</th>
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<tbody>
<tr>
<td>Height (front) (H1) mm</td>
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<td>430</td>
<td>650</td>
<td>550</td>
<td>430</td>
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<tr>
<td>Height (rear) (H2) mm</td>
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<td>Depth (T) mm</td>
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<td>Mounting plate width (F) mm</td>
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<td>334</td>
<td>449</td>
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<td></td>
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<td>14.7</td>
<td>17.9</td>
<td>19.7</td>
<td>21.7</td>
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</tbody>
</table>

Accessories

| HD wall spacer bracket | 1 pc(s). | 4000.100 | 4000.100 | 4000.100 | 4000.100 | 4000.100 | 24 |
| HD wall spacer bracket | 1 pc(s). | 4000.110 | 4000.110 | 4000.110 | 4000.110 | 4000.110 | 24 |
| HD cable gland | see page | see page | see page | see page | see page |
| HD hinge | 2 pc(s). | 4000.130 | 4000.130 | 4000.130 | 4000.130 | 4000.130 | 23 |
| Rails for interior installation | 4 pc(s). | – | – | 5001.050 | – | – | 27 |
| HD T-handle | 1 pc(s). | 4000.065 | 4000.065 | 4000.065 | 4000.065 | 4000.065 | 22 |
## Hygienic Design

### Compact enclosure HD

<table>
<thead>
<tr>
<th>Width (B) mm</th>
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<th>810</th>
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<td>Height (rear) (H2) mm</td>
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<td>821</td>
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<td>Depth (T) mm</td>
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<td>Mounting plate width (F) mm</td>
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### Accessories

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<tbody>
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<td>4000.110</td>
<td>4000.110</td>
<td>4000.110</td>
<td>4000.110</td>
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</tr>
<tr>
<td>HD wall spacer bracket</td>
<td>1 pc(s).</td>
<td>see page</td>
<td>see page</td>
<td>see page</td>
<td>see page</td>
<td>see page</td>
<td>28</td>
</tr>
<tr>
<td>HD hinge</td>
<td>2 pc(s).</td>
<td>4000.130</td>
<td>4000.130</td>
<td>4000.130</td>
<td>4000.130</td>
<td>4000.130</td>
<td>23</td>
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<tr>
<td>Rails for interior installation</td>
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<td>–</td>
<td>5001.050</td>
<td>see page</td>
<td>see page</td>
<td>27</td>
</tr>
<tr>
<td>HD T-handle</td>
<td>1 pc(s).</td>
<td>4000.065</td>
<td>4000.065</td>
<td>4000.065</td>
<td>4000.065</td>
<td>4000.065</td>
<td>22</td>
</tr>
</tbody>
</table>

**Fire extinguisher enclosure HD**

see page 11
Design:
- Roof angled forwards by 30°

Benefits:
- Hygienic, hose-proof storage of fire extinguishers
- Time and cost savings thanks to simple, effective cleaning options
- Fire extinguisher is easily removed with one hand thanks to the T-handle
- Quick inventory check with the integral viewing door

Material:
- Enclosure and door: Stainless steel 1.4301 (AISI 304)
- Handle and lock: Stainless steel 1.4301 (AISI 304)
- Viewing window: Polycarbonate
- Seal: Silicone, compliant with FDA Guideline 21 CFR 177.2600

Surface finish:
- Enclosure and door: Brushed, grain 400, peak-to-valley height < 0.8 μm
- Seal: Blue, dyed (RAL 5010)

Protection category IP to IEC 60 529:
- IP 66

Protection category IP to DIN 40 050-9:
- IP 59K

Supply includes:
- Enclosure of all-round solid construction
- Door with viewing window and inserted seal
- Interchangeable door hinge
- T-handle with 3-point lock system

Fire extinguisher enclosure HD

<table>
<thead>
<tr>
<th>Width (B) mm</th>
<th>Packs of</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (front) (H1) mm</td>
<td>390</td>
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</tr>
<tr>
<td>Height (rear) (H2) mm</td>
<td>840</td>
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</tr>
<tr>
<td>Depth (T) mm</td>
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<tr>
<td>Viewing window width mm</td>
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<td>Viewing window height mm</td>
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<tr>
<td>Weight kg</td>
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<td>22.0</td>
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</table>

Accessories

| HD wall spacer bracket | 1 pc(s.) | 4000.100 |
| HD leveling feet | see page | 21 |
| HD hinge | 2 pc(s.) | 4000.130 |

Rittal Hygienic Design

Further technical information available on the Internet.
Hygienic control and monitoring

Command panels and printer enclosures play a key role in the decentralised control and monitoring of open processes in the food and luxury goods industry. Their functional design means that standard commercially available PC components such as printers, monitors and label printers, for example, are easily and securely integrated into the production process.
Silicone seal
- All-round external, joint-free silicone seal
- Easy to replace
- All-round tilt
  - Command panel: 3°
  - Printer enclosure: 10°

Easy monitoring
- Large visible area with inset and sealed polycarbonate window in the door
- Screwed-fastened mounting plate with holes for VESA 75 and 100 connection
- Attachment of monitors of up to 24”

User-friendly design
- Enclosure tilted forwards by 3°
  - to allow liquids to drain off reliably whilst cleaning
  - for the support of keyboards during production
- Component shelves with telescopic slides for easy integration of computers or e.g. label printers
- Interior installation rails allow the installation of additional component shelves

Modular combination
- Connection component for combining a command panel and a printer enclosure into a complete PC enclosure
- Integral drilled holes with a diameter of 40 mm for easy cable entry with connectors
Hygienic Design

Design:
- Roof angled forwards by 30°

Benefits:
- For hygienic, secure siting of monitors and PCs in the production hall
- Combinable with HD printer enclosure to assemble a complete PC enclosure
- Holder for desktop TFT, height-adjustable for screens up to 24"

Material:
- Enclosure and door: Stainless steel 1.4301 (AISI 304)
- Lock inserts HD: Stainless steel 1.4404 (AISI 316L)
- Viewing window: Polycarbonate
- Seal: Silicone, compliant with FDA Guideline 21 CFR 177.2600
- Surface finish: Enclosure and door: Brushed, grain 400, peak-to-valley height < 0.8 μm
- Seal: Blue, dyed (RAL 5010)

Protection category IP to IEC 60 529:
- IP 66

Protection category IP to DIN 40 050-9:
- IP 59K

Supply includes:
- Enclosure of all-round solid construction
- Door with viewing window and inserted seal
- R/H door hinge
- Holder for desktop TFT with VESA 75/100 locator

Command panel HD

<table>
<thead>
<tr>
<th>Width (B) mm</th>
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<tr>
<td>Viewing window width mm</td>
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<tr>
<td>Viewing window height mm</td>
<td>325</td>
<td>see page</td>
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</table>

Accessories

| HD keyboard support | 1 pc(s). | 4000.066 |
| HD wall spacer bracket | 1 pc(s). | 4000.072 |
| HD wall spacer bracket | 1 pc(s). | 4000.100 |
| HD hinge | 2 pc(s). | 4000.110 |
| HD cable gland | see page |
| HD connection components | 1 pc(s). | 4000.130 |
| HD T-handle | 1 pc(s). | 4000.066 |

Further technical information available on the Internet.
Hygienic Design

Design:
- Enclosure angled forwards by 3°

Benefits:
- For hygienic, secure siting of printers in the production hall
- Combinalbe with HD command panel to assemble a complete PC enclosure
- Pull-out, height-adjustable component shelf for fast access to printer, e.g. for changing the labels

Material:
- Enclosure and door: Stainless steel 1.4301 (AISI 304)
- Lock inserts HD: Stainless steel 1.4404 (AISI 316L)
- Seal: Silicone, compliant with FDA Guideline 21 CFR 177.2600
- Component shelf: Sheet steel, spray-finished

Surface finish:
- Enclosure and door: Brushed, grain 400, peak-to-valley height < 0.8 μm
- Seal: Blue, dyed (RAL 5010)

Protection category IP to IEC 60 529:
- IP 66

Protection category IP to DIN 40 050-9:
- IP 69K

Supply includes:
- Enclosure of all-round solid construction
- Door with inserted seal
- Door hinged on the right, may be swapped to the left
- Component shelf

Optional:
- HD supporting structure with levelling

Printer enclosure HD

<table>
<thead>
<tr>
<th>Width (B) mm</th>
<th>Packs of</th>
<th>810</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Height (rear) (H2) mm</td>
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<td>Depth (T) mm</td>
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<td>Model No.</td>
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<tr>
<td>Weight kg</td>
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</tbody>
</table>

Accessories

| | 1 pc(s). | Page |
| HD flap | 4000.068 |
| HD hinge | 2 pc(s). | 23 |
| HD cable gland | see page |
| HD connection components | 4000.066 |
| HD T-handle | 1 pc(s). | 24 |
| HD levelling feet | see page |

Further technical information available on the Internet.
System partner for the food industry

Create the optimum conditions for successful audits by IFS 6 and trading firms with the Rittal System for Hygienic Design. The baying system and production data enclosures can be integrated perfectly into your production clean rooms. Thanks to the infinite possibilities for baying, even complex control systems for open processes are no longer a problem.
Seal
- Silicone profile seal between door, side panels and enclosure
- Joint-free, all-round external seal – simple to replace
- Seal dyed blue to clearly distinguish it from foodstuffs
- Silicone seal for the angled roof and baying frame comprising self-adhesive, jointed profile lengths and rectangular profiles

Door
- Hinges that are inside the sealing zone create an exceptionally easy-clean design on the outside
- Two locking rods, external parts in stainless steel, for secure and sealed closing
- Easy-to-clean lock insert – can be exchanged for a T-handle

Designing
- Integrated, non-detachable rear panel guarantees reliable hygiene and sealing in an area which is difficult to monitor
- Side panels screw-fastened from the inside
- Door and enclosure with all-round internal system punching for installation of accessories
- Door hinged on the right, may be swapped to the left
- Solid base
- Mounting plate from TS 8 baying system
- Rounded edge folds on the door and side panels as a significant contribution to easy cleaning
- Open top for mounting of angled roof
- A special angled roof can be manufactured upon request for combinations of two 600 or 800 mm wide enclosures
Hygienic Design

Material:
- Enclosure and door: Stainless steel 1.4301 (AISI 304)
- Lock inserts HD: Stainless steel 1.4404 (AISI 316L)
- Seal: Silicone, compliant with FDA Guideline 21 CFR 177.2600
- Mounting plate: Sheet steel

Surface finish:
- Enclosure and door: Brushed, grain 400, peak-to-valley height < 0.8 μm
- Mounting plate: Zinc-plated
- Seal: Blue, dyed (RAL 5010)

Protection category IP to IEC 60 529:
- IP 66

Protection category IP to DIN 40 050-9:
- IP 59K

Supply includes:
- Enclosure frame with welded rear panel gland plate
- Door with inserted seal
- R/h door hinge with single-door enclosures, may be swapped to opposite side
- Mounting plate

Please observe the product-specific scope of supply.

Optional:
- HD supporting structure with levelling

Note:
- To achieve a protection category of IP 66/IP 59K, the HD versions of the side panel, roof and (where applicable) baying frame must be selected.

HD system enclosure

<table>
<thead>
<tr>
<th>Width (B) mm</th>
<th>Packs of</th>
<th>400</th>
<th>600</th>
<th>800</th>
<th>1200</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (H) mm</td>
<td></td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td>1800</td>
<td></td>
</tr>
<tr>
<td>Depth (T) mm</td>
<td></td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Mounting plate width (F) mm</td>
<td>799</td>
<td>499</td>
<td>1696</td>
<td>1696</td>
<td>1696</td>
<td>1696</td>
</tr>
<tr>
<td>Mounting plate height (G) mm</td>
<td>1696</td>
<td>1696</td>
<td>1696</td>
<td>1696</td>
<td>1696</td>
<td>1696</td>
</tr>
<tr>
<td>Model No.</td>
<td>1 pc(s)</td>
<td>4000.485</td>
<td>4000.685</td>
<td>4000.885</td>
<td>4000.285</td>
<td></td>
</tr>
<tr>
<td>Weight kg</td>
<td></td>
<td>69.0</td>
<td>89.0</td>
<td>108.0</td>
<td>177.0</td>
<td></td>
</tr>
</tbody>
</table>

Product-specific scope of supply

- Screw-fastened centre bar
- Door(s)
  - 1
  - 1
  - 1
  - 2

Accessories

- HD side panels
  - 2 pc(s)
    - 4000.185
    - 4000.185
    - 4000.185
    - 4000.185
    - 21
- HD baying frame
  - 1 pc(s)
    - 4000.785
    - 4000.785
    - 4000.785
    - 4000.785
    - 21
- HD mounting plate infill
  - 1 pc(s)
    - 4000.508
    - 4000.508
    - 4000.508
    - 4000.508
    - 25
- HD attachment
  - 1 pc(s)
    - 4000.545
    - 4000.565
    - 4000.585
    - 4000.525
    - 23
- HD T-handle
  - 1 pc(s)
    - 4000.065
    - 4000.065
    - 4000.065
    - 4000.065
    - 22
- HD levelling feet
  - see page
  - see page
  - see page
  - see page
  - 21
- HD hinge
  - 2 pc(s)
    - 4000.130
    - 4000.130
    - 4000.130
    - 4000.130
    - 23
- HD viewing window
  - 1 pc(s)
    - 4000.080
    - 4000.080
    - 4000.080
    - 4000.080
    - 22
- LED system light
  - 1 pc(s)
    - 2500.110
    - 2500.110
    - 2500.110
    - 2500.110
    - Cat. 35, 750

Further technical information available on the Internet.
Air/water heat exchangers
Hygienic Design

An easy-to-clean enclosure climate control solution is now available for hygiene-critical production zones in the food and consumables industry.

- Hygienic design simplifies cleaning procedures and guarantees food safety
- Protection category IP 56/59 if correctly fitted – suitable for high-pressure and steam-jet cleaning
- Enclosure made from 1.4301 (AISI 304) stainless steel with the roof tilted forwards by 30°
- Water connections made from stainless steel 1.4301 (AISI 304)
- Suitable for use in the food industry to DIN EN 1672-2:2009
Air/water heat exchangers

Benefits:
- Easy-to-clean, hygienic design
- A roof tilt of 30° prevents objects from being deposited on it, and allows liquids to run off quickly.
- All-round external, replaceable silicone seal prevents the accumulation of dirt between the enclosure and the air/water heat exchanger.

Material:
- Enclosure: Stainless steel 1.4301 (AISI 304)

Surface finish:
- Enclosure: Brushed, grain 400, peak-to-valley height < 0.8 µm

Protection category IP to IEC 60 529:
- IP 56/59

Protection category NEMA:
- NEMA 4X

Cooling medium:
- Water (see Internet for specifications)

Supply includes:
- Fully wired ready for connection (plug-in terminal strip)
- Drilling template
- Sealing and assembly parts

Note:
- To achieve a protection category of IP 66/69 to IEC 60 529, the ingress of leakage air through the condensate discharge opening must be completely prevented.

Output class 600 – 1300 W, wall-mounted HD

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Packs of</th>
<th>3214.700</th>
<th>3215.700</th>
<th>Cat. 35, page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature control</td>
<td>Thermostat-controlled magnetic valve</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total cooling output L35 W10, 200 l/h kW</td>
<td></td>
<td>0.6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total cooling output L35 W10, 400 l/h kW</td>
<td></td>
<td>0.65</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>Power consumption Pk 50/60 Hz W</td>
<td>36 / 37</td>
<td>83 / 85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated operating voltage V, ~, Hz</td>
<td>230, 1–, 50/60</td>
<td>230, 1–, 50/60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width mm</td>
<td>220</td>
<td>215</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height mm</td>
<td>526</td>
<td>982</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth mm</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated current max. A</td>
<td>0.16 / 0.14</td>
<td>0.38 / 0.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-fuse A</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>+1°C...+70°C</td>
<td>+1°C...+70°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting range</td>
<td>+20°C...+60°C</td>
<td>+20°C...+60°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water inlet temperature</td>
<td>+1°C...+30°C</td>
<td>+1°C...+30°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water connection</td>
<td>G ¾&quot; external thread</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permissible operating pressure (p. max.) bar</td>
<td>1 - 10</td>
<td>1 - 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air throughput of fans (unimpeded air flow), Internal circuit 50/60 Hz m³/h</td>
<td>280 / 310</td>
<td>680 / 735</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight kg</td>
<td>6.0</td>
<td>14.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories:
- Toroidal transformer see page 471
- Cooling medium (ready-mixed) see page 465

Further technical information available on the Internet.

Rittal Hygienic Design
**HD levelling feet**

**Benefits:**
- Minimises cleaning time thanks to fully covered, permanently sealed threads
- Compensation of floor inclines up to an angle of 10° thanks to flexible base
- Baying can even be achieved on sloping floors, thanks to a large levelling range
- Design to EHEDG standards

**Material:**
- Stainless steel 1.4301 (AISI 304)

**Load capacity:**
- Max. 7000 N static per levelling foot

**Supply includes:**
- Assembly parts and seals

<table>
<thead>
<tr>
<th>Design</th>
<th>Thread</th>
<th>Adjustment range mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>without base mount</td>
<td>M12</td>
<td>122 - 175</td>
<td>4 pc(s.)</td>
<td>4000.240</td>
</tr>
<tr>
<td>with base attachment</td>
<td>M12</td>
<td>122 - 175</td>
<td>4 pc(s.)</td>
<td>4000.250</td>
</tr>
</tbody>
</table>

**HD side panels**

**for HD system enclosure**

**Material:**
- Stainless steel 1.4301 (AISI 304), 2.0 mm

**Supply includes:**
- With assembly parts for screw-fastening from the inside

**Note:**
- Depending on the fitted side panel, the overall width of the enclosure is increased by 25 mm

<table>
<thead>
<tr>
<th>For enclosure height mm</th>
<th>For enclosure depth mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800</td>
<td>500</td>
<td>2 pc(s.)</td>
<td>4000.185</td>
</tr>
</tbody>
</table>

**HD baying frame**

**for HD system enclosure**

**Material:**
- Stainless steel 1.4301 (AISI 304)

**Supply includes:**
- Seal for HD angled roof
- Assembly parts

**Note:**
- Depending on the fitted baying frame, the overall width of the enclosure is increased by 44 mm

<table>
<thead>
<tr>
<th>For enclosure height mm</th>
<th>For enclosure depth mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800</td>
<td>500</td>
<td>1 pc(s.)</td>
<td>4000.785</td>
</tr>
</tbody>
</table>
Hygienic Design

Accessories

Silicone seal for TS, AE
In exchange for a damaged PU seal. This makes it more resistant to cleaning agents and disinfectants.

Material:
- Silicone foam profile

Colour:
- White

<table>
<thead>
<tr>
<th>Length m</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>1 pc(s).</td>
<td>5001.380</td>
</tr>
</tbody>
</table>

Assembly
- The foamed-in PU seal can be removed without leaving a residue and the surface cleaned. The self-adhesive silicone seal must be pressed into the exact position, with the top horizontal sealing strip covering the vertical strip without any gaps.

HD viewing window
For the protection of switches or displays.

Benefits:
- Large viewing panel
- Gap-free transition between the viewing window and the frame
- External hinge
- With T-handle for easy opening without a key

Material:
- Frame: Stainless steel 1.4301 (AISI 304)
- Seal: Silicone, compliant with FDA Guideline 21 CFR 177.2600
- Viewing window: Polycarbonate

Supply includes:
- 2 hinges
- T-handle

<table>
<thead>
<tr>
<th>Width mm</th>
<th>Height mm</th>
<th>Depth mm</th>
<th>Viewing area mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>518</td>
<td>436</td>
<td>23</td>
<td>410 x 320</td>
<td>1 pc(s).</td>
<td>4000.080</td>
</tr>
</tbody>
</table>

HD T-handle
For easy opening without a key. May be exchanged in all enclosures with cam lock.

Material:
- Stainless steel 1.4301 (AISI 304)

<table>
<thead>
<tr>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pc(s).</td>
<td>4000.065</td>
</tr>
</tbody>
</table>

HD cam lock
Hygienic Design variant for easy, safe cleaning.

Applications:
- Compact enclosures AE stainless steel (except AE 1017.XXX and AE 1019.XXX).
- May be integrated into customised applications, e.g. covers of machine panels.

Material:
- Stainless steel 1.4404 (AISI 316L)

<table>
<thead>
<tr>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pc(s).</td>
<td>2304.010</td>
</tr>
</tbody>
</table>

Accessories:
- Enclosure key HD, see page 23

Further technical information available on the Internet.
HD enclosure key

For HD cam lock

Note:
- Enclosure, case and lock systems are supplied as standard with matching keys

<table>
<thead>
<tr>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pc(s).</td>
<td>2549.600</td>
</tr>
</tbody>
</table>

HD bit

for universal key 2549.500

<table>
<thead>
<tr>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pc(s).</td>
<td>2549.510</td>
</tr>
</tbody>
</table>

HD hinge

To be used in exchange in HD enclosures with internal hinges.

Material:
- Stainless steel 1.4301 (AISI 304)

Supply includes:
- Assembly parts

<table>
<thead>
<tr>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 pc(s).</td>
<td>4000.130</td>
</tr>
</tbody>
</table>

HD attachment

for HD system enclosure

Design:
- Roof angled forwards by 30°

Material:
- Stainless steel 1.4301 (AISI 304)

Supply includes:
- Assembly parts

<table>
<thead>
<tr>
<th>For enclosure width mm</th>
<th>For enclosure depth mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>500</td>
<td>1 pc(s).</td>
<td>4000.545</td>
</tr>
<tr>
<td>600</td>
<td>500</td>
<td>1 pc(s).</td>
<td>4000.565</td>
</tr>
<tr>
<td>800</td>
<td>500</td>
<td>1 pc(s).</td>
<td>4000.585</td>
</tr>
<tr>
<td>1200</td>
<td>500</td>
<td>1 pc(s).</td>
<td>4000.525</td>
</tr>
</tbody>
</table>

Also required:
- Side parts HD, see page 23

HD side parts

for HD attachment

Material:
- Stainless steel 1.4301 (AISI 304)

Supply includes:
- Assembly parts

<table>
<thead>
<tr>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 pc(s).</td>
<td>4000.505</td>
</tr>
</tbody>
</table>
Hygienic Design

Accessories

**HD wall spacer bracket**

**Benefits:**
- Creates space for cleaning behind the enclosure.
- Shorter assembly times by eliminating the need for an all-round seal.
- Greater hygiene safety by avoiding an uncontrolled dead space or gap between the enclosure and wall.
- Mounting on the wall optionally from the enclosure interior via a through-hole (max. M8) or from the rear via an integral M10 thread.

**Material:**
- Stainless steel 1.4301 (AISI 304)

**Supply includes:**
- Assembly parts and seals

**Note:**
- Depending on the size of the enclosure, up to 4 wall spacer brackets are required to ensure sufficiently stable wall mounting.

<table>
<thead>
<tr>
<th>Wall distance mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>1 pc(s).</td>
<td>4000.100</td>
</tr>
</tbody>
</table>

**Attachment from inside**

<table>
<thead>
<tr>
<th>Wall distance mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>1 pc(s).</td>
<td>4000.110</td>
</tr>
</tbody>
</table>

**Attachment from outside**

**HD connection components**

**for command panels HD, printer enclosures HD**

For combining HD command panels and HD printer enclosures into one PC enclosure.

**Material:**
- Stainless steel 1.4301 (AISI 304)

**Supply includes:**
- 2 reinforcement plates for enclosure, top
- 4 reinforcement plates for enclosure, bottom (2 for the roof, 2 for the attachment of levelling feet or supporting structure)
- 2 spacer supports with drilled hole Ø 40 mm for cable entry, height 50/45.8 mm
- Assembly parts and seals

<table>
<thead>
<tr>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pc(s).</td>
<td>4000.066</td>
</tr>
</tbody>
</table>
**HD mounting plate infill**
for HD system enclosure
For a continuous mounting surface in bayed suites where the mounting plate is set forward.

**Material:**
- Sheet steel, 2 mm

**Surface finish:**
- Zinc-plated

**Supply includes:**
- Assembly parts

<table>
<thead>
<tr>
<th>For enclosure height mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800</td>
<td>1 pc(s).</td>
<td>4000.508</td>
</tr>
</tbody>
</table>

**HD keyboard support**
To support standard keyboards, including water drain hole.

**Material:**
- Stainless steel 1.4301 (AISI 304)

**Supply includes:**
- Spacer support to the enclosure

<table>
<thead>
<tr>
<th>Width mm</th>
<th>Depth mm</th>
<th>Contact surface, width mm</th>
<th>Contact surface, depth mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>573</td>
<td>250</td>
<td>570</td>
<td>190</td>
<td>1 pc(s).</td>
<td>4000.072</td>
</tr>
</tbody>
</table>

**HD flap**
For rapid access e.g. in order to change the labels.

**Material:**
- Stainless steel 1.4301 (AISI 304)

**Supply includes:**
- T-handle
- Seal included
- Hinges and cam lock

<table>
<thead>
<tr>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pc(s).</td>
<td>4000.068</td>
</tr>
</tbody>
</table>
Hygienic Design

Accessories

**Connector gland, small**

For pre-assembled cables with connectors.
- For use with material thickness of up to 4 mm
- Strain relief of the pre-assembled cables can be achieved with cable ties.

**Material:**
- Plastic

**Colour:**
- RAL 9005

**Protection category IP to IEC 60 529:**
- IP 65 if installed correctly

**Supply includes:**
- Assembly parts

**To fit**

<table>
<thead>
<tr>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 cables Ø 6 – 8 mm</td>
<td>1 pc(s).</td>
</tr>
<tr>
<td>3 cables Ø 4 – 6 mm</td>
<td>5 pc(s).</td>
</tr>
</tbody>
</table>

**HD supporting structure**

**with levelling**

**Material:**
- Stainless steel tube 1.4301 (AISI 304)

**Size:**
- Height: 300 mm

**Supply includes:**
- Assembly parts

**Hose-proof hood**

**To increase the protection category**

For fan-and-filter units/outlet filters. Easy cleaning thanks to exterior silicone coating approved for use with foodstuffs.

**Material:**
- Stainless steel
- Silicone

**Protection category IP to IEC 60 529:**
- IP 56 when fitted over fan-and-filter unit/outlet filter with filter mat

<table>
<thead>
<tr>
<th>To fit</th>
<th>Model No.</th>
<th>W x H x D mm</th>
<th>Protection category</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3237....</td>
<td>3237.080</td>
<td>150 x 230 x 40</td>
<td>NEMA 12</td>
<td>1 pc(s).</td>
<td></td>
</tr>
<tr>
<td>3238....</td>
<td>3238.080</td>
<td>176 x 245 x 55</td>
<td>NEMA 1, NEMA 12, NEMA 3, NEMA 4, NEMA 4X</td>
<td>1 pc(s).</td>
<td></td>
</tr>
<tr>
<td>3239....</td>
<td>3239.080</td>
<td>233 x 330 x 55</td>
<td>NEMA 1, NEMA 12, NEMA 3, NEMA 4, NEMA 4X</td>
<td>1 pc(s).</td>
<td></td>
</tr>
<tr>
<td>3240..../3241....</td>
<td>3240.080</td>
<td>282 x 390 x 85</td>
<td>NEMA 1, NEMA 12, NEMA 3, NEMA 4, NEMA 4X</td>
<td>1 pc(s).</td>
<td></td>
</tr>
<tr>
<td>3243..../3244....</td>
<td>3243.080</td>
<td>350 x 480 x 110</td>
<td>NEMA 1, NEMA 12, NEMA 3, NEMA 4, NEMA 4X</td>
<td>1 pc(s).</td>
<td></td>
</tr>
<tr>
<td>3245....</td>
<td>3245.080</td>
<td>350 x 480 x 160</td>
<td>NEMA 1, NEMA 12, NEMA 3R</td>
<td>1 pc(s).</td>
<td></td>
</tr>
</tbody>
</table>

Further technical information available on the Internet.

Rittal Hygienic Design
Hygienic Design

Accessories

Rails for interior installation for HD compact enclosures
For mounting on the existing threaded bolts. With TS system punchings on three sides.

Material:
- Sheet steel, zinc-plated

Supply includes:
- Assembly parts

Supply includes:
- Assembly parts

<table>
<thead>
<tr>
<th>Length (mm)</th>
<th>Packs of</th>
<th>Model No.</th>
<th>Cat. 35, page</th>
</tr>
</thead>
<tbody>
<tr>
<td>510</td>
<td>4 pc(s).</td>
<td>5001.050</td>
<td>716</td>
</tr>
<tr>
<td>710</td>
<td>4 pc(s).</td>
<td>5001.051</td>
<td>716</td>
</tr>
<tr>
<td>910</td>
<td>4 pc(s).</td>
<td>5001.052</td>
<td>716</td>
</tr>
<tr>
<td>1110</td>
<td>4 pc(s).</td>
<td>5001.053</td>
<td>716</td>
</tr>
</tbody>
</table>

Interior installation, door

<table>
<thead>
<tr>
<th>Enclosure</th>
<th>Model No.</th>
<th>Model No.</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1316.600</td>
<td>5001.052</td>
<td>5001.050</td>
<td>5001.050</td>
</tr>
<tr>
<td>1317.600</td>
<td>5001.053</td>
<td>5001.051</td>
<td>5001.050</td>
</tr>
</tbody>
</table>

Interior installation, enclosure

<table>
<thead>
<tr>
<th>Enclosure</th>
<th>Rails for interior installation</th>
<th>TS punched section with mounting flange 17 x 73 mm</th>
<th>Mounting plates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1308.600</td>
<td>5001.050</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1310.600</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1315.600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1316.600</td>
<td>5001.052</td>
<td>8612.130 (only on lock side)</td>
<td>8612.200</td>
</tr>
<tr>
<td>1317.600</td>
<td>5001.053</td>
<td>8612.130 (only on lock side)</td>
<td>8612.410</td>
</tr>
</tbody>
</table>
Hygienic Design

Accessories

**HD cable gland**

**Applications:**
- Manufacturing and packaging of foodstuffs etc.
- Clean room technology (e.g. pharmaceuticals)
- Biotechnology
- Chemical industry

**Benefits:**
- Smooth, solid exterior surfaces effectively prevent the depositing of harmful micro-organisms
- Much easier, and therefore cheaper, to clean compared with conventional cable glands

**Material:**
- Cap nut: Stainless steel 1.4305 (AISI 303)
- Seal: Conforms to FDA 21 CFR 177.2600

**Protection category IP to IEC 60 529:**
- IP 68 (5 bar, 30 min.)

**Protection category IP to DIN 40 050-9:**
- IP 69K

**Why use hygienic cable glands?**

**Critical points with conventional solutions**

1. Cable entry in front of seal
2. No minimum radii on the hexagon
3. External threads
4. Gap caused by O-ring on the enclosure surface

**Hygienic design features**

1. Seal directly at the cable entry
2. Compliance with minimum radii on the hexagon
3. No external threads
4. Flush termination between the cap nut and the enclosure

**Standard version**

<table>
<thead>
<tr>
<th>Size</th>
<th>Cable diameter mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12 x 1.5</td>
<td>3 – 6.5</td>
<td>5 pc(s).</td>
<td>2410.000</td>
</tr>
<tr>
<td>M16 x 1.5</td>
<td>5 – 10</td>
<td>5 pc(s).</td>
<td>2410.010</td>
</tr>
<tr>
<td>M20 x 1.5</td>
<td>6 – 12</td>
<td>5 pc(s).</td>
<td>2410.020</td>
</tr>
<tr>
<td>M25 x 1.5</td>
<td>12 – 17</td>
<td>5 pc(s).</td>
<td>2410.030</td>
</tr>
</tbody>
</table>

**EMC version**

<table>
<thead>
<tr>
<th>Size</th>
<th>Cable diameter mm</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>M16 x 1.5</td>
<td>5 – 10</td>
<td>5 pc(s).</td>
<td>2410.110</td>
</tr>
<tr>
<td>M20 x 1.5</td>
<td>6 – 12</td>
<td>5 pc(s).</td>
<td>2410.120</td>
</tr>
<tr>
<td>M25 x 1.5</td>
<td>12 – 17</td>
<td>5 pc(s).</td>
<td>2410.130</td>
</tr>
</tbody>
</table>

**Stainless steel lock nut**

To match HD cable glands.

**Material:**
- Stainless steel 1.4305 (AISI 303)

<table>
<thead>
<tr>
<th>Size</th>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12 x 1.5</td>
<td>10 pc(s).</td>
<td>2410.200</td>
</tr>
<tr>
<td>M16 x 1.5</td>
<td>10 pc(s).</td>
<td>2410.210</td>
</tr>
<tr>
<td>M20 x 1.5</td>
<td>10 pc(s).</td>
<td>2410.220</td>
</tr>
<tr>
<td>M25 x 1.5</td>
<td>10 pc(s).</td>
<td>2410.230</td>
</tr>
</tbody>
</table>

**Assembly tool**

For attaching HD cable glands in an internal thread or using lock nuts. This can be achieved either from the inside or from the outside using an Allen key.

**Supply includes:**
- 1 pc(s). = Adaptor for sizes from M12 – M25

<table>
<thead>
<tr>
<th>Packs of</th>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pc(s).</td>
<td>2410.290</td>
</tr>
</tbody>
</table>
### Rail systems

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Cat. 35, page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PS punched rail 23 x 23 mm with mounting bracket</td>
<td>721/730</td>
</tr>
<tr>
<td>2</td>
<td>PS punched rail 23 x 23 mm with support bracket PS (with one or two mounting rails 23 x 23 as an option)</td>
<td>721/731</td>
</tr>
<tr>
<td>3</td>
<td>PS punched section without mounting flange 23 x 73 mm with support bracket PS</td>
<td>722/731</td>
</tr>
<tr>
<td>4</td>
<td>PS punched section with mounting flange 23 x 73 mm</td>
<td>723</td>
</tr>
<tr>
<td>5</td>
<td>C rail for TS</td>
<td>724</td>
</tr>
<tr>
<td>6</td>
<td>TS punched section without mounting flange 45 x 88 mm</td>
<td>719</td>
</tr>
<tr>
<td>7</td>
<td>PS punched rail 23 x 23 mm with angle bracket PS</td>
<td>721/731</td>
</tr>
<tr>
<td>8</td>
<td>C rail 30/15 with bracket/spacer</td>
<td>723</td>
</tr>
<tr>
<td>9</td>
<td>Support rail, unslotted</td>
<td>724</td>
</tr>
<tr>
<td>10</td>
<td>Support rail, slotted</td>
<td>724</td>
</tr>
<tr>
<td>11</td>
<td>System support rail</td>
<td>724</td>
</tr>
<tr>
<td>12</td>
<td>Cable clamp rail – right-angle section</td>
<td>783</td>
</tr>
</tbody>
</table>

Note:
- Images 1 – 12 show details of applications in the TS 8 baying system
### Swing frame, component shelf, mounting angles

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Cat. 35, page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Swing frame, small, with installation kit</td>
<td>726</td>
</tr>
<tr>
<td>2</td>
<td>Installation kit for swing frames, large, for TS/SE enclosures</td>
<td>797</td>
</tr>
<tr>
<td>3</td>
<td>Swing frame, large, without trim panel, for 600 mm wide enclosures</td>
<td>797</td>
</tr>
<tr>
<td>4</td>
<td>Component shelf for frame attachment 50 kg</td>
<td>739</td>
</tr>
<tr>
<td>5</td>
<td>Component shelf for frame attachment 100 kg</td>
<td>739</td>
</tr>
<tr>
<td>6</td>
<td>PS punched section with mounting flange 23 x 73 mm</td>
<td>723</td>
</tr>
<tr>
<td>7</td>
<td>Mounting angles – 482.6 mm (19)</td>
<td>804</td>
</tr>
</tbody>
</table>

**Note:**
- Images 1 – 7 show details of applications in the TS 8 baying system.

Further technical information available on the Internet.

Rittal Hygienic Design
Hygienic Design enclosures at the Landgeflügel chicken processing plant

The state-of-the-art poultry plants Emsland Frischgeflügel in Haren and Celler Land Frischgeflügel in Wietze, Lower Saxony, produce poultry portions – from chicken wings, to legs, to fillets – for the food retail sector and for industrial processing. Each day, more than 500,000 packets of fresh poultry leave the two slaughterhouses and butchery plants belonging to North-German company Landgeflügel. Sophisticated technology, the highest possible hygiene standards and a continuous cooling chain are vital for safe poultry production. Special Hygienic Design enclosures HD provide additional process and operational reliability, by protecting the sensitive control electronics in the automated production plants.

The special protection offered by HD enclosures is also invaluable in peripheral areas. The horizontally hinged viewing window ensures additional protection for the display set into the HD enclosure whilst cleaning.

They are installed at the rear of the production plant, where all system parts are thoroughly cleaned and disinfected each night. Despite being exposed to large quantities of water, the HD enclosures remain completely water-tight during the daily washdown. The blue silicone seal, which is resistant to all types of disinfectant, guarantees a permanent tight seal. Located externally, it provides a gap-free, secure seal for the door and enclosure.
Rittal – The System.

Faster – better – everywhere.

- Enclosures
- Power Distribution
- Climate Control
- IT Infrastructure
- Software & Services

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