

Rittal – The System.

Faster – better – everywhere.

Power Isolation Solution Arc Flash Prevention Starts Here



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



Arc flash prevention begins with Rittal



An arc flash is the explosive release of energy that occurs when there is a phase-to-phase or phase-to-ground arc fault. The many causes of an arc fault include: user error, accidental contact, corrosion, and insulation failure. Arc flash safety should be a major concern for any application that incorporates high current electrical equipment.

The real-life issues of an arc flash incident

- 5 to 10 arc flash incidents occur every day in the United States
- 2,000 workers are admitted to burn centers per year for treatment of severe arc flash burns
- Arc flash incidents cause multiple deaths per year
- Medical treatment may cost \$1.5 million or more per accident
- Average recovery time for an arc flash victim is 8 to 12 months
- Average litigation cost of \$10 to \$15 million dollars

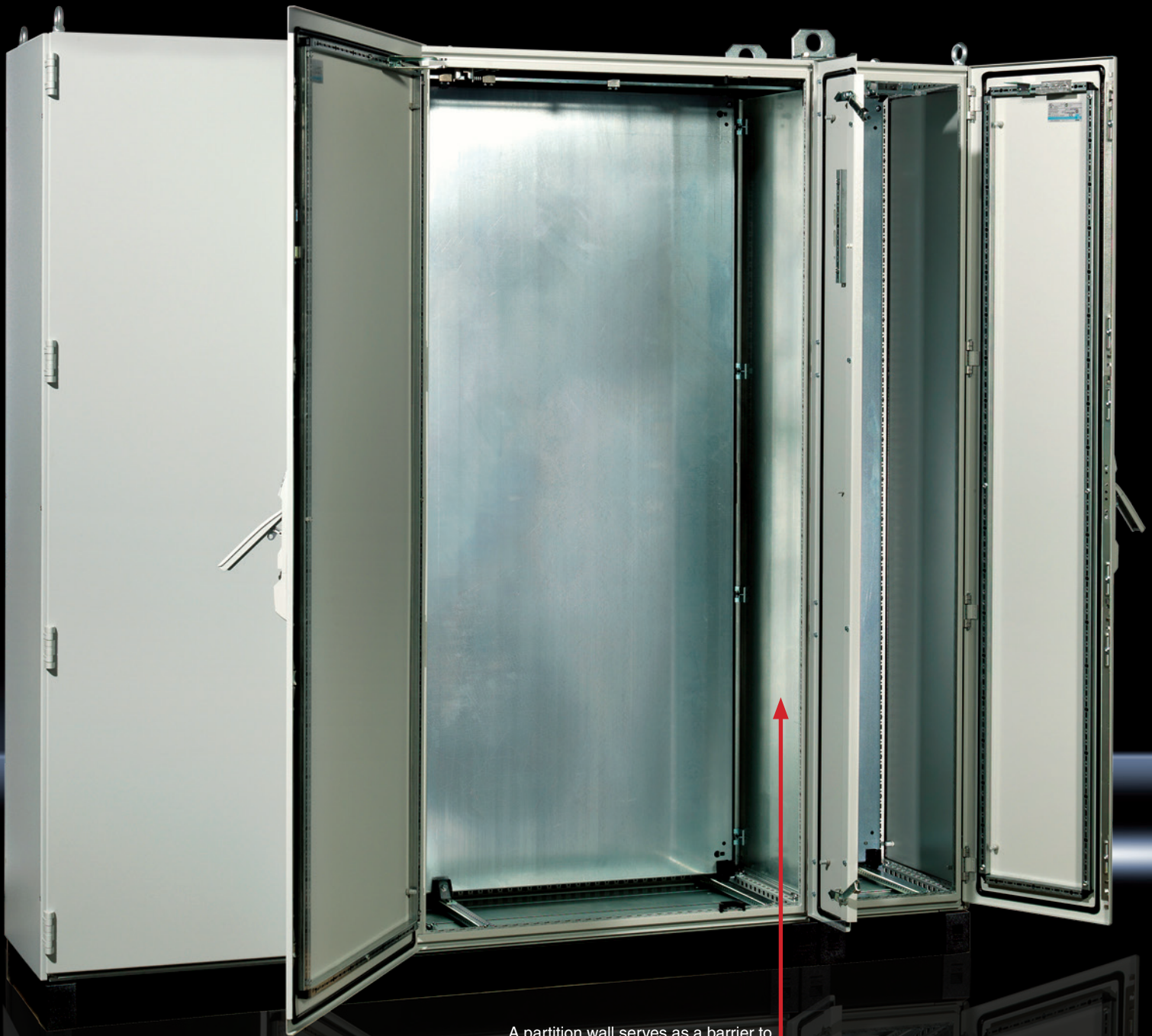
Arc flash prevention should be incorporated into any application from the beginning of the design process. Minimizing exposure to line side power helps to protect personnel from arc flash accidents. Rittal is proud to offer a solution that minimizes down time due to arc flash incidents and more importantly, protects the safety of your personnel.

Arc Flash Solution from Rittal-The System

The Rittal arc flash solution is designed to keep high and low voltage equipment within the confines of their own respective enclosures. Low voltage enclosures house equipment that is used for programming, data acquisition, and system adjustment. High voltage components are isolated within their own disconnect enclosure. Line side power is segregated within the power isolation enclosure.

When considering safety and design flexibility, Rittal's power isolation enclosure solution provides the capability to separate high and low voltage equipment, supporting compliance with NFPA 70E work place safety standards.

- Off-the-shelf power isolation solution decreases the risk of personnel being exposed to an arc flash incident
- Provides the capability to isolate low-voltage equipment and components from high voltage components
- High voltage, line side power is isolated within its own enclosure
- A partition wall serves as a barrier to high voltage line side power

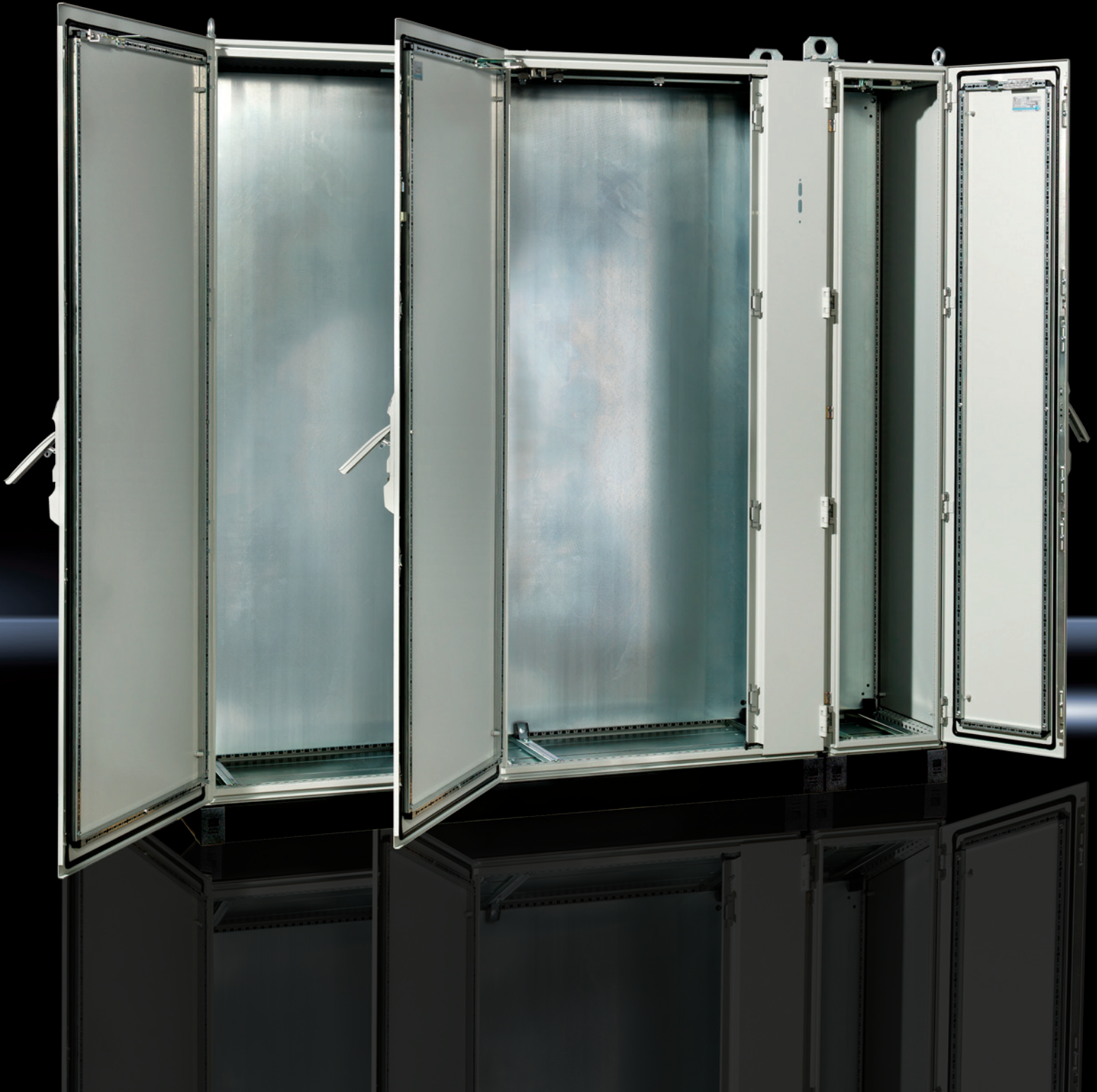


A partition wall serves as a barrier to high voltage line side power.

IT INFRASTRUCTURE

SOFTWARE & SERVICES

An unlimited choice of low-voltage
and high-voltage enclosure combinations.



ENCLOSURES

POWER DISTRIBUTION

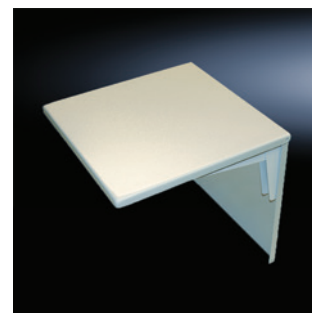
CLIMATE CONTROL

Customizable configurations and solutions from standard components provide a virtually unlimited choice of low voltage (less than 50 volts) and high voltage cabinet combinations to suit your specific application. The Rittal solution minimizes the need for personnel to wear arc flash personal protective equipment (PPE) when working on low voltage equipment, easing safety concerns during lock out tag out. More important than saving down time caused by having to power down the whole system to service, the Rittal arc flash solution helps to decrease the risk of your personnel being exposed to arc flash-related injuries.

Accessories, such as external fold-down shelves, external data pockets, and interface flaps, allow for data retrieval, equipment monitoring, and routine maintenance to be performed externally to minimize exposure to arc flash hazards.

Fold-down shelf

Collapsible shelf designed to support programming and monitoring equipment. Locks in raised position and folds down when not in use.



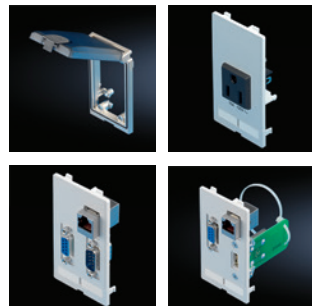
External data pocket

Based on the popular AE wallmount enclosure, this data pocket is designed to store wiring diagrams, operation manuals, and other documents.



Interface flaps, modular

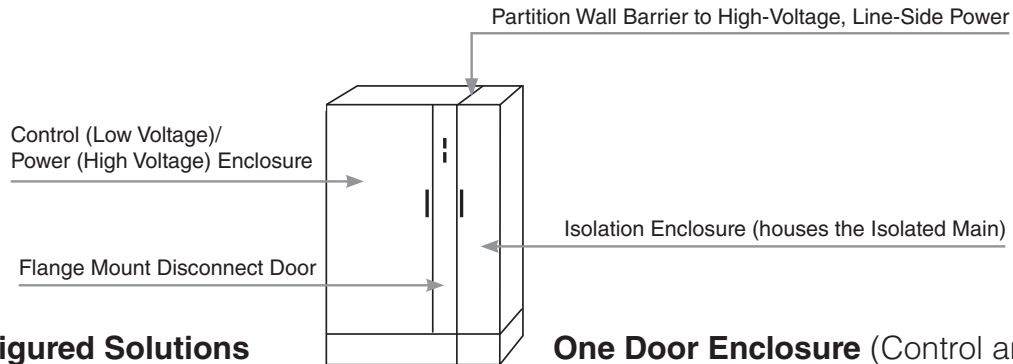
Allows easy access to interfaces and sockets while allowing enclosure door to remain closed, ensuring protection from ambient influences and unauthorized access.



Interlocking door system ensures that the high voltage enclosure cannot be opened while disconnect switch is in "ON" position. For additional safety, all interlocked doors and master door must be closed in order to re-energize the enclosure.

Part Number Explanation

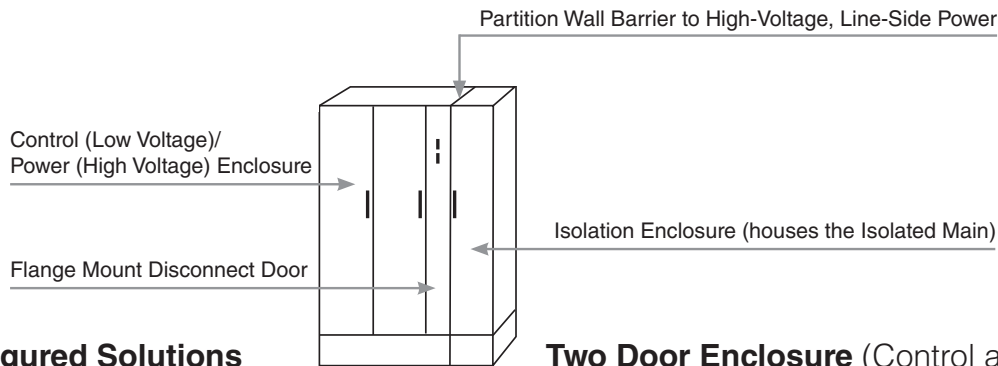
| | Height | | Width (add numbers) | | | Depth |
|----------------|--|---------------|--|-----|---|---------------------------------------|
| TS | 83 | R | 32C | 40P | 16R | 20 |
| Product Family | Overall Height in Inches (Approximate) | Rittal System | Enclosure Width in Inches (Approximate) followed by Control (Low Voltage) and Power (High Voltage) Suffix P=Power=High Voltage C=Control=Low Voltage (<50 volts) PC=Power and Control (High and Low Voltage) combined | | Isolation Enclosure Width in Inches (Approximate) | Overall Depth in Inches (Approximate) |



Preconfigured Solutions

One Door Enclosure (Control and Power Combined)

| Part Number | Description | Overall HxWxD (mm) | Panel Dimension High/Control Voltage Enclosure HxW (mm) | Panel Dimension Isolation Enclosure HxW (mm) |
|----------------|---|--------------------|---|--|
| TS83R32PC16R20 | 1 Door Enclosure (1 Door for High Voltage and Control Voltage Combined) | 2100x1200x500 | 1900x700 | 1900x300 |
| TS83R40PC16R20 | | 2100x1400x500 | 1900x900 | 1900x300 |
| TS83R32PC16R24 | | 2100x1200x600 | 1900x700 | 1900x300 |
| TS83R40PC16R24 | | 2100x1400x600 | 1900x900 | 1900x300 |
| TS90R32PC16R24 | | 2300x1200x600 | 2100x700 | 2100x300 |



Preconfigured Solutions

Two Door Enclosure (Control and Power Combined)

| Part Number | Description | Overall HxWxD (mm) | Panel Dimension High/Control Voltage Enclosure HxW (mm) | Panel Dimension Isolation Enclosure HxW (mm) |
|--|---|-----------------------|---|--|
| TS83R71PC16R20 | 2 Door Enclosure (2 Doors for High Voltage and Control Voltage Combined) | 2100x2200x500 | 1900x1700 | 1900x300 |
| TS83R71PC16R24 | | 2100x2200x600 | 1900x1700 | 1900x300 |
| TS90R71PC16R24* | | 2300x2200x600 | (1) 2100x900; (1) 2100x700* | 2100x300 |
| *(2) bayed enclosures for low/high voltage cabinet | | | | |

Partition Wall Barrier Between High-Voltage
and Control Enclosure

Partition Wall Barrier to High-Voltage, Line-Side Power

Control (Low Voltage) Enclosure

Power (High Voltage) Enclosure

Isolation Enclosure (houses the Isolated Main)

Flange Mount Disconnect Door

Preconfigured Solutions

Two Door Enclosure (Control and Power Separate)

| Part Number | Description | Overall HxWxD (mm) | Panel Dimension Control Voltage Enclosure HxW (mm) | Panel Dimension High Voltage Enclosure HxW (mm) | Panel Dimension Isolation Enclosure HxW (mm) |
|------------------|--|--------------------|--|---|--|
| TS83R24C32P16R20 | 2 Door Enclosure (1 Door Control Voltage; 1 Door High Voltage) | 2100x1800x500 | 1900x500 | 1900x700 | 1900x300 |
| TS83R24C40P16R20 | | 2100x2000x500 | 1900x500 | 1900x900 | 1900x300 |
| TS83R24C32P16R24 | | 2100x1800x600 | 1900x500 | 1900x700 | 1900x300 |
| TS83R24C40P16R24 | | 2100x2000x600 | 1900x500 | 1900x900 | 1900x300 |
| TS90R24C32P16R24 | | 2300x1800x600 | 2100x500 | 2100x700 | 2100x300 |

Partition Wall Barrier Between High-Voltage
and Control Enclosure

Partition Wall Barrier to High-Voltage, Line-Side Power

Control (Low Voltage) Enclosure

Power (High Voltage) Enclosure

Isolation Enclosure (houses the Isolated Main)

Flange Mount Disconnect Door

Preconfigured Solutions

Three Door Enclosure (Control and Power Separate)

| Part Number | Description | Overall HxWxD (mm) | Panel Dimension Control Voltage Enclosure HxW (mm) | Panel Dimension High Voltage Enclosure HxW (mm) | Panel Dimension Isolation Enclosure HxW (mm) |
|--|--|--------------------------|--|---|--|
| TS83R24C71P16R20 | 3 Door Enclosure (1 Door Control Voltage; 2 Doors High Voltage) | 2100x2800x500 | 1900x500 | 1900x1700 | 1900x300 |
| TS83R24C71P16R24 | | 2100x2800x600 | 1900x500 | 1900x1700 | 1900x300 |
| TS90R24C71P16R24* | | 2300x2800x600 | 2100x500 | (1) 2100x700 (1) 2100x900 | 2100x300 |
| *(2) bayed enclosures for high voltage cabinet | | | | | |

Customizable Solutions Your customizable solution can be expanded to include the widths listed below. Contact your Rittal Distributor or local representative for a solution that meets your precise needs.

| Digit Description | Product Family | Overall Height in Inches | Rittal System | Low Voltage Enclosure Width in Inches | High Voltage Enclosure Width in Inches | Isolation Enclosure Width in Inches | Overall Depth in Inches |
|--|----------------|--------------------------|---------------|---------------------------------------|--|-------------------------------------|-------------------------|
| Available Options for 83" (2100 mm) Height Enclosure | TS | 83" | R | 24C=24" | 32P=32" | 16R=16" | 20" |
| | | | | 32C=32" | | | |
| | | | | 40C=40" | 40P=40" | | 24" |
| | | | | 48C=48" | | | |
| | | | | 63C=63" | 63P=63" | | |
| | | | | 71C=71" | 71P=71" | | |
| | | | | | | | |
| Available Options for 90" (2300 mm) Height Enclosure | TS | 90" | R | 24C=24" | 32P=32"* | 16R=16" | 24" |
| | | | | 32C=32" | | | |
| | | | | 40C=40" | | | |
| | | | | 48C=48" | | | |
| *32" wide enclosure required; additional 32", 40", or 48" wide enclosures can be bayed to expand overall width | | | | | | | |

Rittal – The System.

Faster – better – everywhere.

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

Rittal North America LLC

Woodfield Corporate Center

425 North Martingale Road, Suite 400 • Schaumburg, Illinois 60173 • USA

Phone: 937-399-0500 • Toll-free: 800-477-4000

Email: rittal@rittal.us • Online: www.rittal.com

Rittal Systems Ltd.

6485 Ordan Drive • Mississauga, Ontario L5T 1X2 • Canada

Phone: 905-795-0777 • Toll-free: 800-399-0748

E-Mail: marketing@rittal.ca • Online: www.rittal.ca

Rittal Mexico

Dr. Roberto Gayol 1219-1B • Col. Del Valle Sur, 03100 • Mexico, D.F.

Phone: (+52) (55) 5559-5369 • Toll-free: 01 800 8 Rittal (748.825)

E-Mail: info@rittal.com.mx • Website: www.rittal.com.mx

07/18 ■ US288

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP

