



SPREPOWER MV

MEDIUM VOLTAGE SWITCHGEARS



SWITCHGEAR ENGINEERING

The name “Sprecher” stands for high-quality and reliable medium voltage solutions.

Originating as a subsidiary of the Swiss company Sprecher & Schuh, Sprecher Automation 2004 brought the manufacturing of medium voltage switchgears – using the brand name “SPREPOWER” – back to the traditional premises in Linz.

Together with its modern and reliable SPRECON control and protection systems (SPREcher CONtrol), Sprecher is a turn-key system provider including factory-assembled MV switchgears which are designed to meet our customers’ needs.

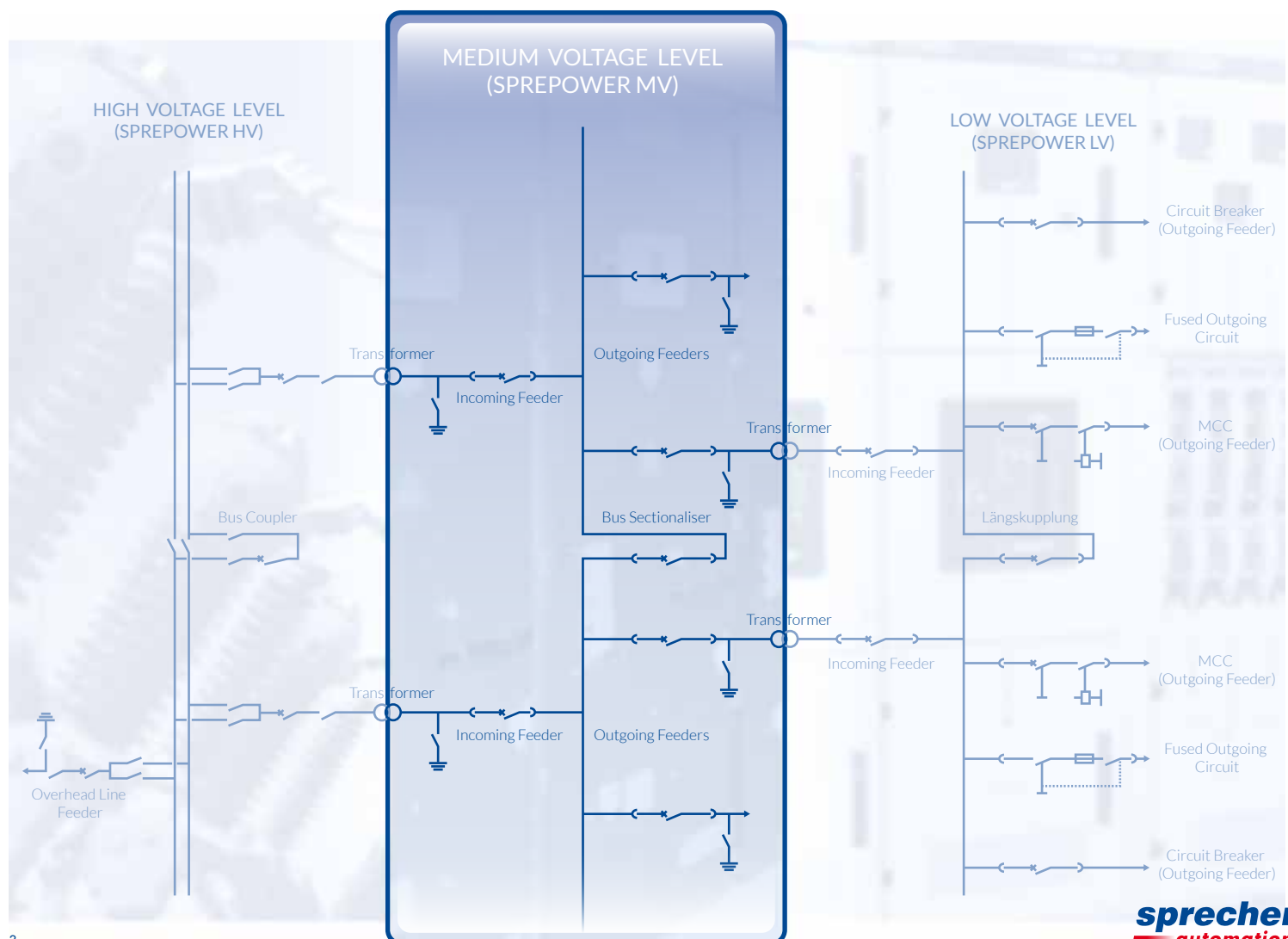
All switchgear types are based on a flexible and modular system. Sprecher Automation offers project management, overall and detailed planning, assembly, final assembly and final inspection as well as testing. Beside ready-made delivery, Sprecher also provides on-site installation, commissioning as well as service and maintenance.

SPREPOWER PRIMARY TECHNOLOGY

- Metal-enclosed, compartmented and factory-built MV switchgears as standard or customer-specific solutions
- Transformer stations
- Furnace switchgears
- Upgrading of existing switchgears in accordance with respective standards
- Extensions of existing switchgears of other manufacturers
- Substitution of switching devices

SPRECON SECONDARY SYSTEMS

- Conventional and digital secondary systems
- Station control systems
- Remote control systems
- Protection systems
- One-box solutions for combined control and protection
- Customer-specific user interfaces and modes
- Arc monitoring systems
- Temperature monitoring





THE SPREPOWER BRAND

SPREPOWER medium voltage switchgears are developed and type-tested according to the following standards:

- EN 62 271-200
Metal-enclosed switchgear > 1 < 52 kV
- EN 62 271-100 / IEEE C37.013
Circuit breakers
- EN 62 271-102/-103
Disconnectors and earthing switches/
load-break switches
- EN 61 869-2
Current transformer
- EN 61 869-3
Voltage transformer
- EN 62 271-1
Common specifications
- EN 60 529
Degrees of protection provided by enclosures
- EN 50 110-1
Operation of electrical installations

DESIGN CHARACTERISTICS

SPREPOWER cubicles consist of high-quality zinc-plated steel sheets with bolts or rivets. The cubicle doors and the side covers are powder-coated. Folded edges lead to a distortion-resistant, self-supporting and pressure-proof construction.

Adjacent cubicles are separated by the two side walls and by air gaps.

DOCUMENTATION

Circuit diagrams are designed with ELCAD®, EPLAN® or RUPLAN® in their current/updated releases. As an option, documentation can also be provided with different CAE systems. All layouts and drawings are designed with AutoCAD®.



MAIN FEATURES OF SPREPOWER

- Air-insulated, minimised use of plastic material
- Air-insulated or SF6 circuit-breakers and power contactors
- Fixed mounting and withdrawable-unit design
- Motorised and remote-controlled switching device drives
- Standardised metering transformers
- Integrated, type-tested pressure release ducts
- Easy operation when front doors are closed
- Internal arc tested compartments for highest personnel safety
- Usage of freely available components and devices
- Customer-specific switchgears
- IEC/DIN current and voltage transformer
- Customer-specific secondary systems
- High cable compartment
- Metal-clad circuit breaker compartment and cable compartment

OPTIONS

- Motor drives for all switching devices
- Type-tested pressure release duct with release flaps for discharging gas from internal faults to atmosphere
- Capacitive voltage indication
- Additional mechanical and electromagnetic interlocking for device drives, front doors, etc.
- Partial insulation of busbars and nodal point covers
- Control wire identification
- Specific dimensions (i. e. bay width)
- Arc monitoring systems (optical or pressure sensors)
- Temperature monitoring
- Special accessories such as lifting trucks for withdrawable circuit breakers



GENERATOR SWITCHGEARS

SPREPOWER MV-M6 G

SPREPOWER MV-M12

SPREPOWER MV-M17

SWITCHGEARS FOR DISTRIBUTION SUBSTATIONS UP TO 40.5 KV

SPREPOWER MV-M11

SPREPOWER MV-M16

SWITCHGEARS FOR DISTRIBUTION SUBSTATIONS UP TO 24 KV

SPREPOWER MV-M6

SPREPOWER MV-M9

SPREPOWER MV-M13

SPREPOWER MV-M18

COMPACT SWITCHGEARS UP TO 24 KV

SPREPOWER MV-M19

SPREPOWER MV-ECOS-C

TRACTION POWER SWITCHGEARS

SPREPOWER MV-M7



RATED CURRENT

12 kV

15 kV

17.5 kV

24 kV

36 kV

40.5 kV

○	○	○				
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○	○	○				
					○	○
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GENERATOR SWITCHGEARS

UP TO 17.5 kV



GENERAL FEATURES

- Metal-enclosed
- Partition class PM
- Compartmentalisation:
 - Busbar compartment
 - Circuit breaker compartment
 - Cable compartment
 - Low voltage compartment
- Degree of protection:
 - Enclosure and LV compartment IP 4x
 - Partitioning IP 2x
- Pressure release conduct

SPREPOWER MV-M6-G

Air-insulated, single busbar or duplex:

- Loss of service continuity category
 - Withdrawable switching devices LSC 2B
- Internal arc classification IAC AFLR up to 72 kA/0.1 s or 63 kA/0.5 s
- Compact design for high currents

SPREPOWER MV-M12

Air-insulated, single busbar:

- Withdrawable design
- Loss of service continuity category
 - Withdrawable switching devices LSC 2B
- Internal arc classification IAC AFLR up to 72 kA/0.3 s

SPREPOWER MV-M17

Air-insulated, single busbar:

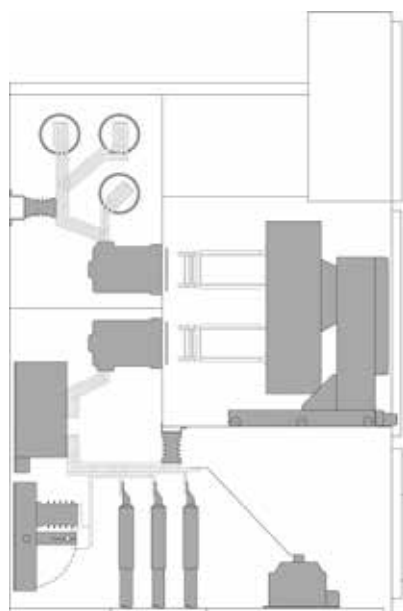
- Withdrawable design with motor drive
- Loss of service continuity category
 - Withdrawable switching devices LSC 2B
- Compact design for high currents
- Good accessibility for all components



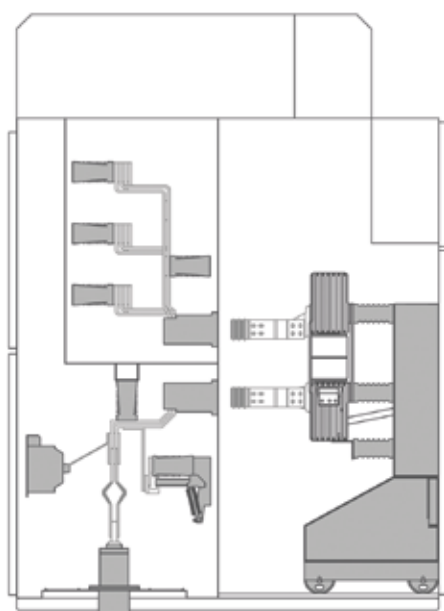
RATED VALUES & DIMENSIONS

Type / Voltage	Current / Busbar	Current / Feeders	Short-time Current	Peak Withstand Current	Power-Frequency Withstand Voltage	Lightning Impulse Voltage	Height (mm)	Width (mm)	Depth (mm)
M6-G / 12 kV	...4000 A	...4000 A	...72 kA	...193 kA	28 kV	75 kV	2550	1000	1600
M6-G / 15 kV					36 kV	95 kV			
M6-G / 17.5 kV					38 kV				
M12 / 12 kV	...7000 A	...7000 A	...63 kA	...160 kA	28 kV	75 kV	2500	1500	2200
M12 / 15 kV					36 kV	95 kV			
M12 / 17.5 kV					38 kV				
M17 / 12 kV	...5100 A	...5100 A	...72 kA	...197 kA	28 kV	75 kV	2900	1200	2300
M17 / 15 kV					36 kV	95 kV			
M17 / 17.5 kV					38 kV				

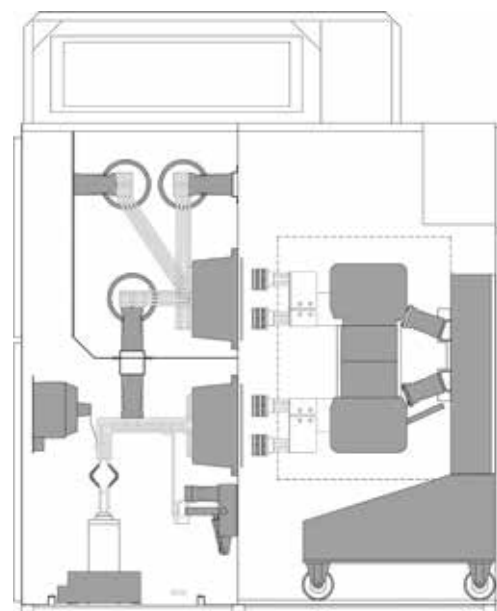
Other values and dimensions on request



SPREPOWER MV-M6-G – Feeder



SPREPOWER MV-M12 – Feeder



SPREPOWER MV-M17 – Feeder

SWITCHGEARS FOR DISTRIBUTION SUBSTATIONS UP TO 40.5 kV



GENERAL FEATURES

- Metal-enclosed
- Withdrawable, vacuum-insulated power contactors
- Compartmentalisation:
 - Busbar compartment
 - Circuit breaker compartment
 - Cable compartment
 - Low voltage compartment
- Loss of service continuity category LSC 2B
- Internal arc classification IAC AFLR up to 31.5 kA/1 s
- Degree of protection:
 - Enclosure and LV compartment IP 4x
 - Partitioning IP 2x
- Cable basement/double basement metal-clad
- Easy dismantling between circuit breaker and cable compartment for cable installation
- Circuit breaker and earthing switches with optional electromotive withdrawable design

SPREPOWER MV-M11

Air-insulated, single busbar or Duplex:

- Partition class PM

SPREPOWER MV-M16

Air-insulated, single busbar:

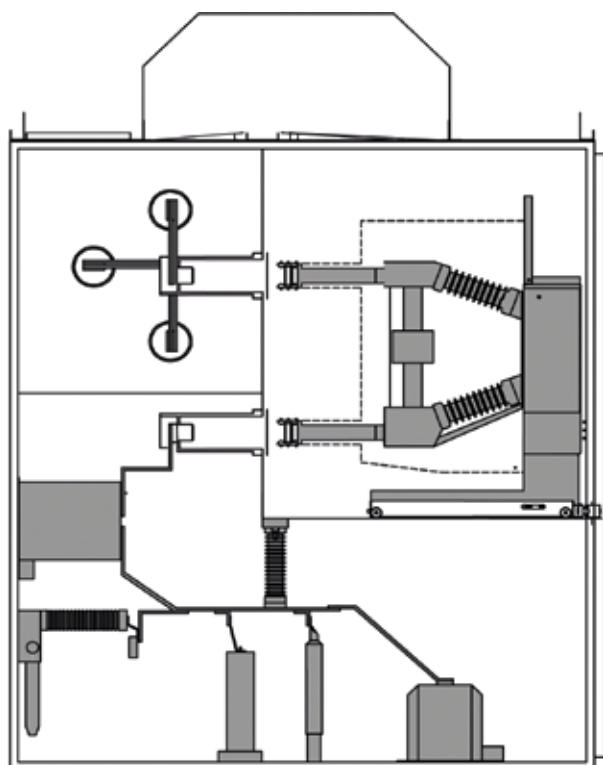
- Very compact construction for 36 kV
- Partition class PI
- Access to cable from backside
- High cable compartment
- Optional withdrawable voltage transformer



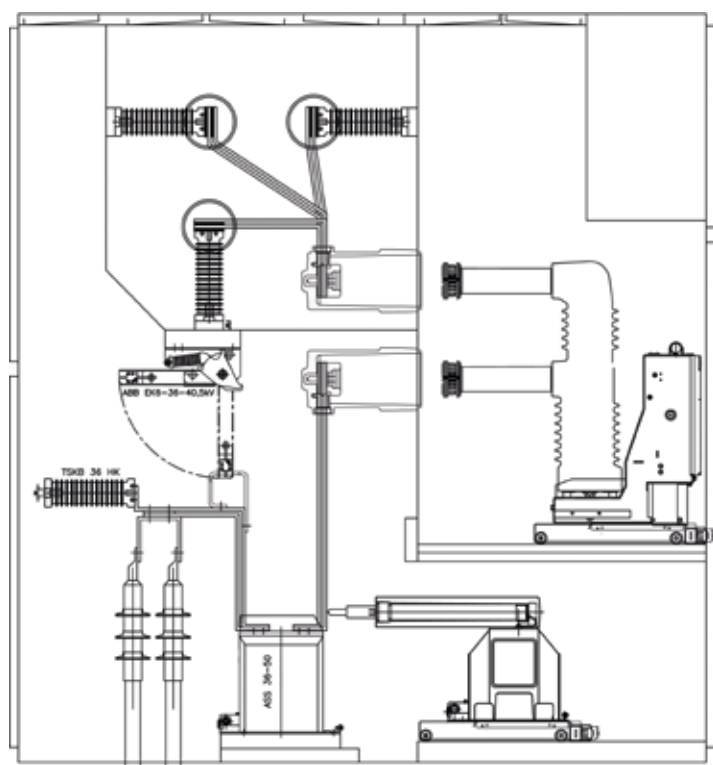
RATED VALUES & DIMENSIONS

Type / Voltage	Current / Busbar	Current / Feeders	Short-time Current	Peak Withstand Current	Power-Frequency Withstand Voltage	Lightning Impulse Voltage	Height (mm)	Width (mm)	Depth (mm)
M11 / 36 kV	...3150 A	...2500 A	...31.5 kA	...80 kA	70 kV	170 kV	2500	1500	2200
M11 / 40.5 kV	...2500 A				80 kV	185 kV			
M16 / 36 kV	...2500 A	...2500 A	...31.5 kA	...80 kA	70 kV	170 kV	2500	1000	2300

Other values and dimensions on request



SPREPOWER MV-M11 –
Feeder with circuit breaker



SPREPOWER MV-M16 –
Feeder single busbar

SWITCHGEARS FOR DISTRIBUTION SUBSTATIONS UP TO 24 kV

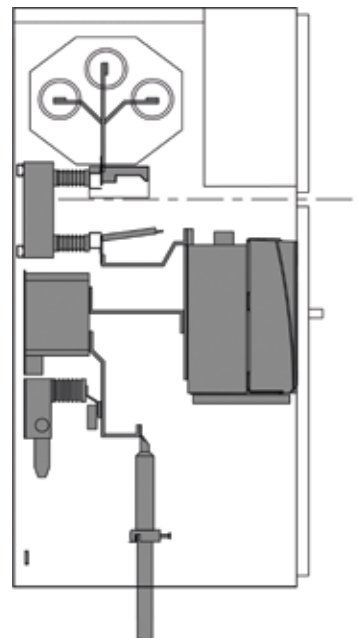
GENERAL FEATURES

- Metal-enclosed
- Partition class PM
- Degree of protection:
 - Enclosure and LV compartment IP 4x

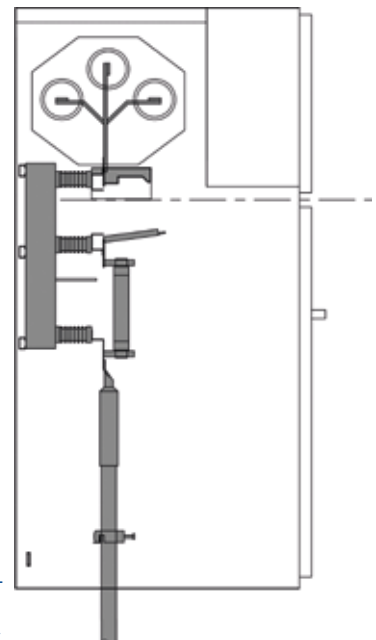
SPREPOWER MV-M9

Air-insulated, single busbar or Duplex:

- Fixed-mounted switching devices
- Compartmentalisation:
 - Busbar compartment
 - Tee-off compartment
 - Low voltage compartment
- Loss of service continuity category
 - Fixed-mounted devices LSC 2A
- Internal arc classification IAC AFLR up to 31.5 kA/1 s
- Degree of protection:
 - Partitioning IP 3x



SPREPOWER MV-M9 –
Feeder



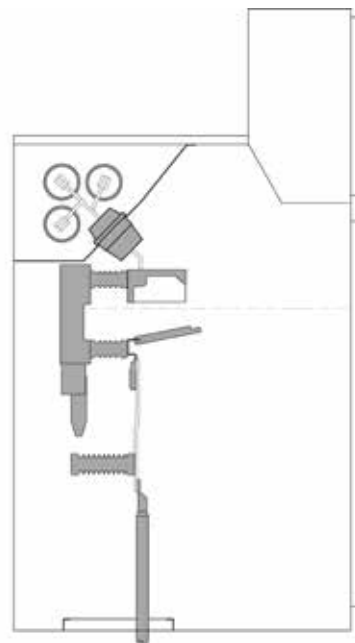
SPREPOWER MV-M9 –
Transformer feeder with
fuse switch-disconnector



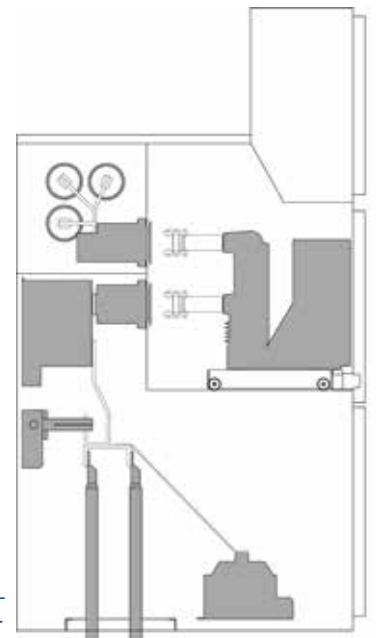
SPREPOWER MV-M13

Air-insulated, single busbar:

- Very compact construction
- Fixed-mounted or withdrawable switching devices
- Compartmentalisation:
 - Busbar compartment
 - Circuit breaker compartment
 - Cable compartment
 - Low voltage compartment
- Loss of service continuity category:
 - Fixed mounting LSC 2A
 - Withdrawable-unit design LSC 2B
- Internal arc classification: IAC AFLR up to 31.5 kA/1 s
- Partition class: PM (12 kV), PI (17.5 kV)
- Degree of protection:
 - Partitioning IP 2x
- Type-tested pressure release duct (optional)



SPREPOWER MV-M13 –
Feeder with switch-disconnector



SPREPOWER MV-M13 –
Feeder with circuit breaker

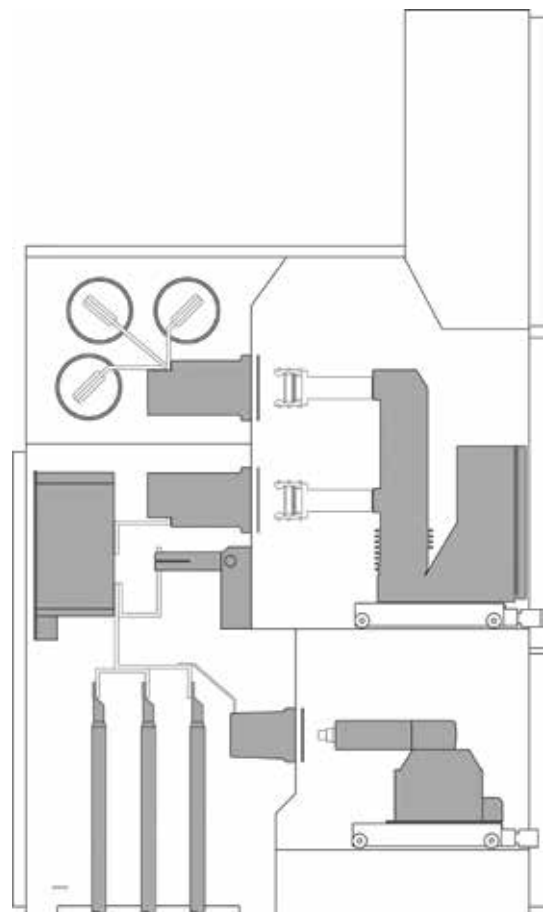
SWITCHGEARS FOR DISTRIBUTION SUBSTATIONS UP TO 24 kV



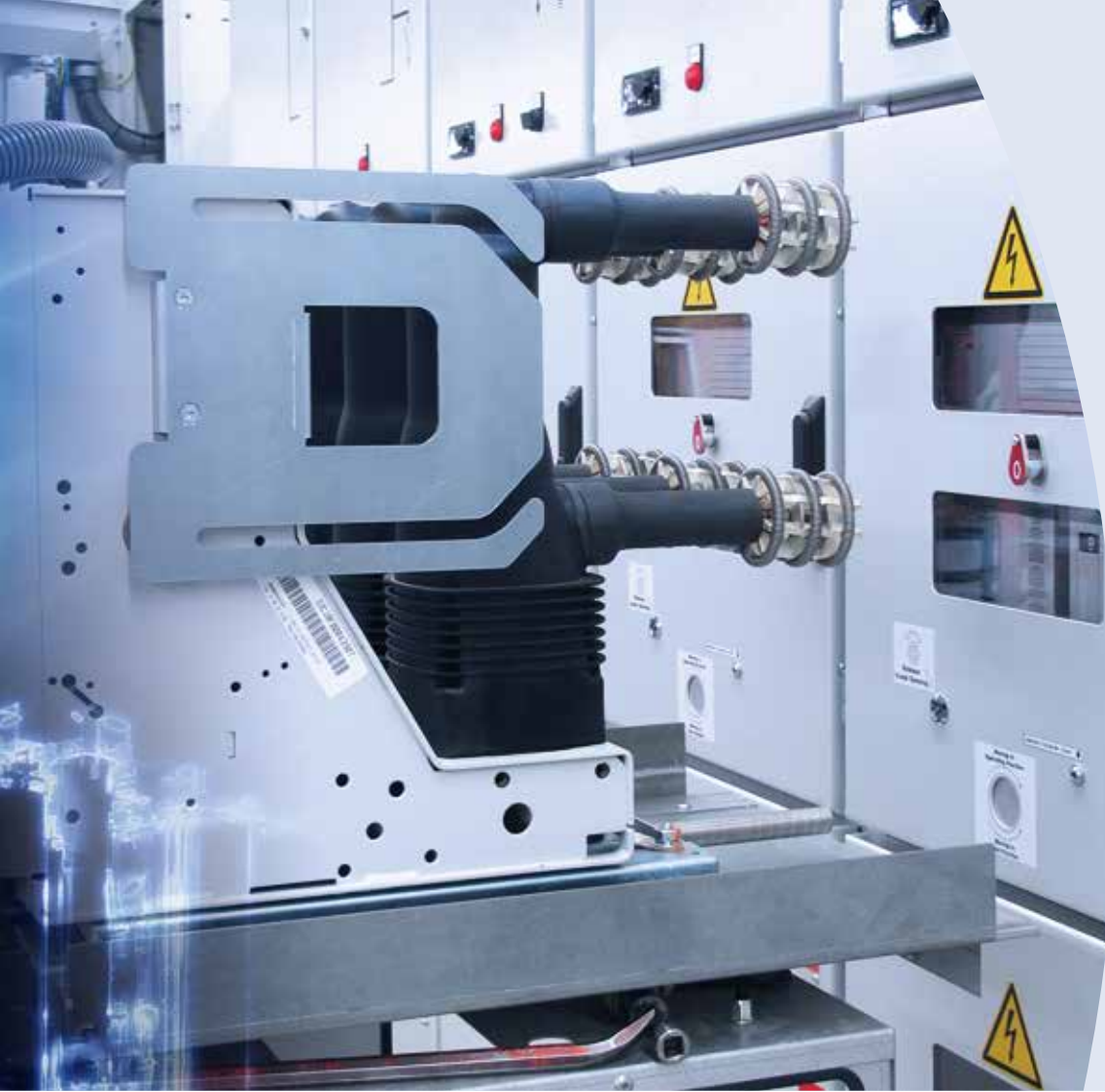
SPREPOWER MV-M18

Air-insulated, single busbar:

- Very compact construction
- Access to the cable compartment through a back door
- Metal-enclosed
- Fixed-mounted or withdrawable switching devices
- Compartmentalisation:
 - Busbar compartment
 - Circuit breaker compartment
 - Cable compartment
 - Low voltage compartment
- Loss of service continuity category:
 - Fixed mounting LSC 2A
 - Withdrawable-unit design LSC 2B
- Internal arc classification: IAC AFLR up to 40 kA/1 s
- Partition class: PM
- Degree of protection:
 - Partitioning IP 2x
- Type-tested pressure release duct (optional)



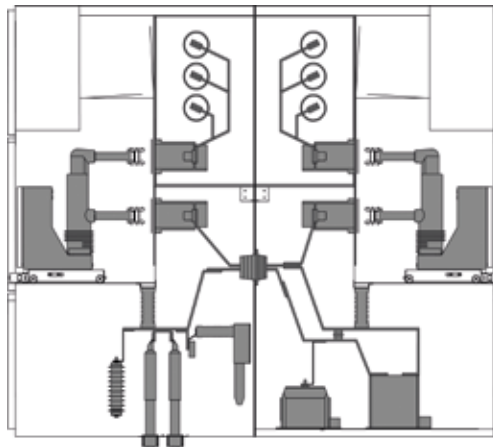
SPREPOWER MV-M18 – Basic field



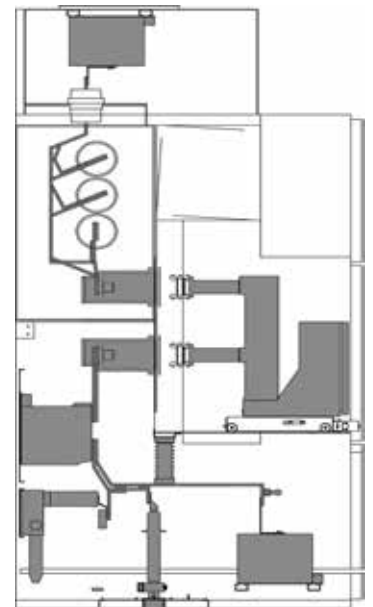
SPREPOWER MV-M6

Air-insulated, single busbar or Duplex:

- Metal-enclosed
- Withdrawable switching devices
- Compartmentalisation:
 - Busbar compartment
 - Circuit breaker compartment
 - Cable compartment
 - Transformer compartment (duplex)
 - Low voltage compartment
- Loss of service continuity category
 - Withdrawable design LSC 2B
- Internal arc classification: IAC AFLR up to 63 kA/1 s
- Degree of protection
 - Partitioning IP 2x



SPREPOWER MV-M6 single busbar –
Feeder duplex double busbar



SPREPOWER MV-M6 single busbar –
Feeder

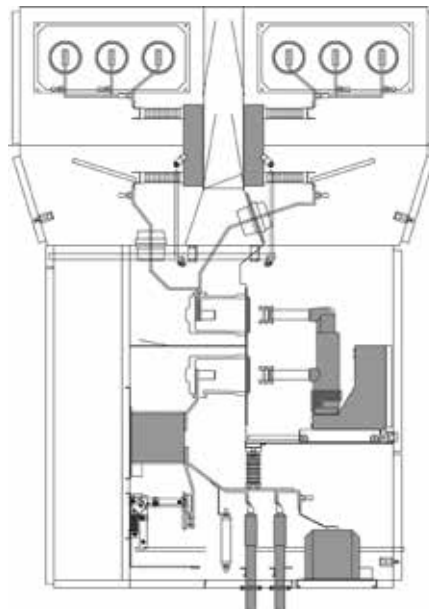
SWITCHGEARS FOR DISTRIBUTION SUBSTATIONS UP TO 24 kV



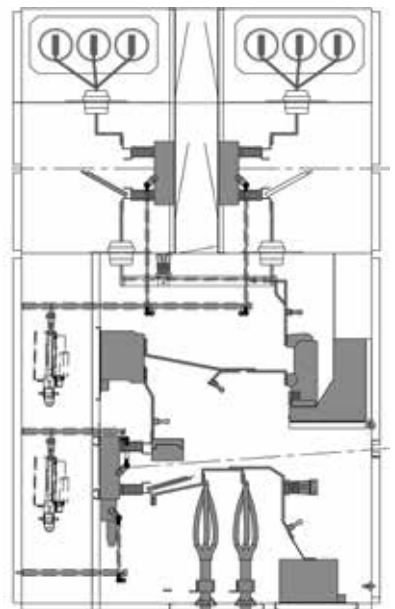
SPREPOWER MV-M6 DSS

Air-insulated, double busbar:

- Metal-enclosed
- Fixed-mounted or withdrawable switching devices
- Compartmentalisation fixed mounting:
 - 2 busbar compartments
 - 2 bus disconnector compartments (option)
 - 1 tee-off compartment
 - 1 low voltage compartment
- Compartmentalisation withdrawable-unit design:
 - 2 busbar compartments
 - 2 bus disconnector compartments (option)
 - 1 circuit breaker compartment
 - 1 cable compartment
 - 1 low voltage compartment
- Loss of service continuity category:
 - Fixed mounting LSC 2A
 - Withdrawable-unit design LSC 2B
- Internal arc classification IAC AFLR up to 40 kA/1 s
- Degree of protection:
 - Partitioning IP 2x



*SPREPOWER MV-M6 double busbar –
Feeder withdrawable-unit design*



*SPREPOWER MV-M6 double busbar –
Feeder fixed mounting*

RATED VALUES & DIMENSIONS

Type / Voltage	Current / Busbar	Current / Feeders	Short-time Current	Peak Withstand Current	Power-Frequency Withstand Voltage	Lightning Impulse Voltage	Height (mm)	Width (mm)	Depth (mm)
M6 / 7.2 kV	...4000 A	...4000 A	...63 kA	...160 kA	20 kV	60 kV	2250	650 / 800 / 1000	1300 / 2600
M6 / 12 kV					28 kV	75 kV			
M6 / 17.5 kV		...3150 A			38 kV	95 kV		800 / 1000	
M6 / 24 kV	...2500 A	...2500 A	...25 kA	...63 kA	50 kV	125 kV			
M6 DSS / 7.2 kV	...3150 A	...2500 A	...40 kA	...80 kA	20 kV	60 kV	3000 / 3150	650 / 800 / 1000	1750
M6 DSS/ 12 kV					28 kV	75 kV		800 / 1000	
M6 DSS / 17.5 kV	...2500 A		...25 kA	...63 kA	38 kV	95 kV			
M6 DSS / 24 kV					50 kV	125 kV			
M9 / 7.2 kV	...1250 A	...1250 A	...31,5 kA	...80 kA	20 kV	60 kV	2000	650 / 800 1000	950
M9 / 12 kV					28 kV	75 kV		800 / 1000	1200
M9 / 17.5 kV					38 kV	50 kV			
M9 / 24 kV				...25 kA	...63 kA	50 kV		125 kV	
M13 / 7.2 kV	...2000 A	...1250 A	...31,5 kA	...80 kA	20 kV	60 kV	2100	600	1150
M13 / 12 kV					28 kV	75 kV			
M13 / 17.5 kV					38 kV	95 kV			
M18 / 12 kV	...2500 A	...2500 A	...40 kA	...100 kA	28 kV	75 kV	2500	650 / 800	1385
M18 / 17.5 kV					38 kV	95 kV		650 / 800	
M18 / 24 kV	...1250 A	...1250 A	...25 kA	...63 kA	50 kV	125 kV		800	

Other values and dimensions on request

COMPACT SWITCHGEARS

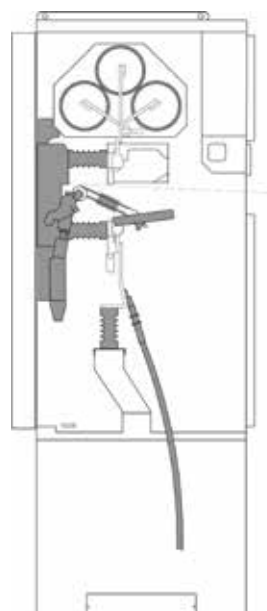
UP TO 24 kV, AIR-INSULATED



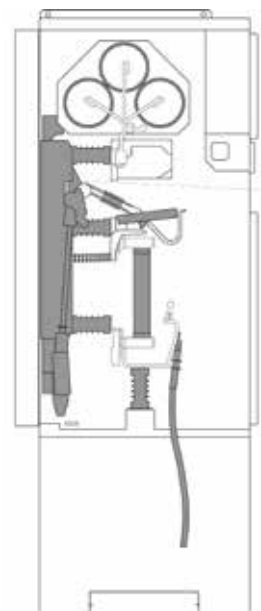
SPREPOWER MV-M19

Air-insulated, single busbar:

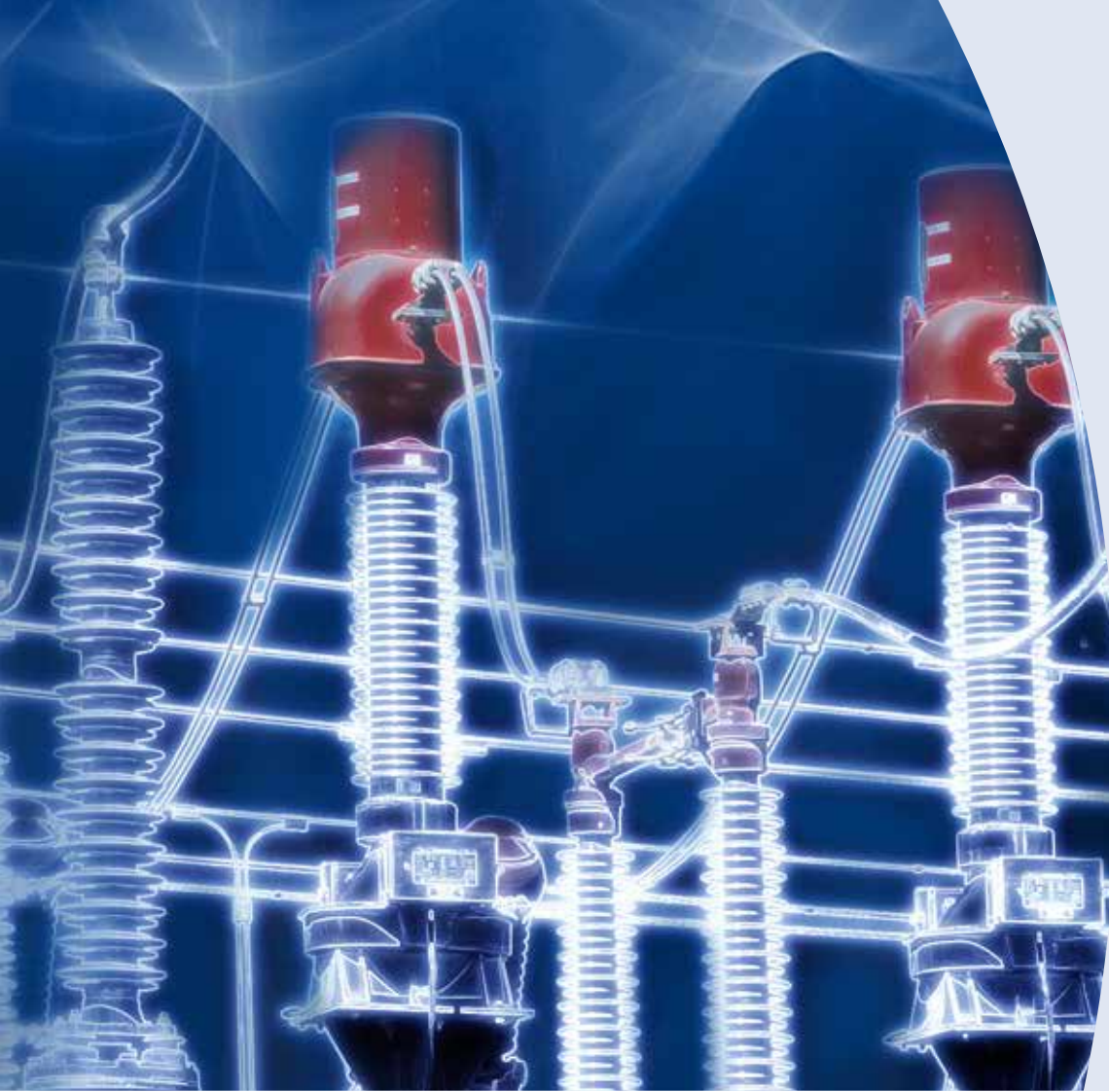
- Compact RMU-panel with 2 compartments
- Loss of service continuity category:
 - Fixed mounting LSC 2A
- Internal arc classification: IAC AFLR up to 20 kA/1 s
- Partition class: PM
- Disconnecter and fuse-load-break disconnectors in fix installed design
- Load-break disconnecter can be motor-operated
- For switchgear rooms with open cable routing
- Height-adjustable base frame
- Make proof earthing switches
- Internal arc absorber for personnel and building safety
- Discharge of gases up- or downwards
- Installation on the wall possible
- Access to all components from frontside



SPREPOWER MV-M19 – Transformer



SPREPOWER MV-M19 –
Ring-main panel



RATED VALUES & DIMENSIONS

Type / Voltage	Current / Busbar	Current / Feeders	Short-time Current	Peak Withstand Current	Power-Frequency Withstand Voltage	Lightning Impulse Voltage	Height (mm)	Depth (mm)	Width (mm)
M19 / 12 kV	...630 A	...630 A	...20 / 25 kA	...63 kA	28 kV	75 kV	1350 / 1930	540 / 640	780 / 860

Other values and dimensions on request



COMPACT SWITCHGEARS

UP TO 24 kV, FLUID-INSULATED

GENERAL FEATURES OF FLUID-INSULATED SWITCHGEARS

- Single busbar
- Most compact design
- Metal-enclosed
- Internal arc classification: IAC AFLR up to 20 kA/1 s (cable compartment)
- Loss of service continuity category LS 630 A, 20 kA-3s or 16 kA-1s
- Single pole metal encapsulated, no 3-phase fault
- High personnel safety – earthing via power switches
- Unlimited mounting height
- Staggered cones ensure as simple plug-in cable connection
- Circuit breaker for safe cable protection, overhead line protection & intelligent selective transformer protection
- Type-tested according to EN 62271-200

SPREPOWER MV-ECOS-C

ENVIRONMENTALLY FRIENDLY, SECURE & MORE COMPACT THAN AIR-INSULATED SWITCHGEARS

- SF6-free via environmentally friendly fluid-isolation MDEL 7131
- Advantages compared to mineral oil, SF6 and solids:
 - Biodegradable
 - Self-extinguishing
 - Low smoke generation
 - Non-toxic
 - High fire point
 - High humidity tolerance
 - High thermal stability
- Suitable for increased environmental safety requirements
 - In tunnels (SF6 behaviour in case of fire)
 - In water protection zones
 - In fire protection zones
 - In flood-prone zones



TECHNICAL DATA

RATED VALUES SPREPOWER MV-ECOS-C

Voltage	Current / Busbar	Current / Feeders	Short-time Current	Peak Withstand Current	Power-Frequency Withstand Voltage	Lightning Impulse Voltage
24 kV	...630 A	...630 A	...20 kA	...50 kA	50 kV	125 kV

DIMENSIONS SPREPOWER MV-ECOS-C

Bays	Width (mm)	Height (mm)	Depth (mm)	Control Box Height (mm)	Control Box Depth (mm)	Total Height (mm)
2	650	1400	1040	500	398	1900
3	890					
4	1130					
5	1370					
6	1610					
7	1850					

Other values and dimensions on request

EXAMPLE – USE IN TRANSFORMER STATION

- Factory-built transformer stations according to EN 62271-202, in concrete execution, incombustible according to REI 90
- Compact design perfectly suitable for accessible and non-accessible transformer stations
- Easy transport and handling
- Versions for slope integration, extension to in-situ concrete and outwardly cable entry “backpack” available





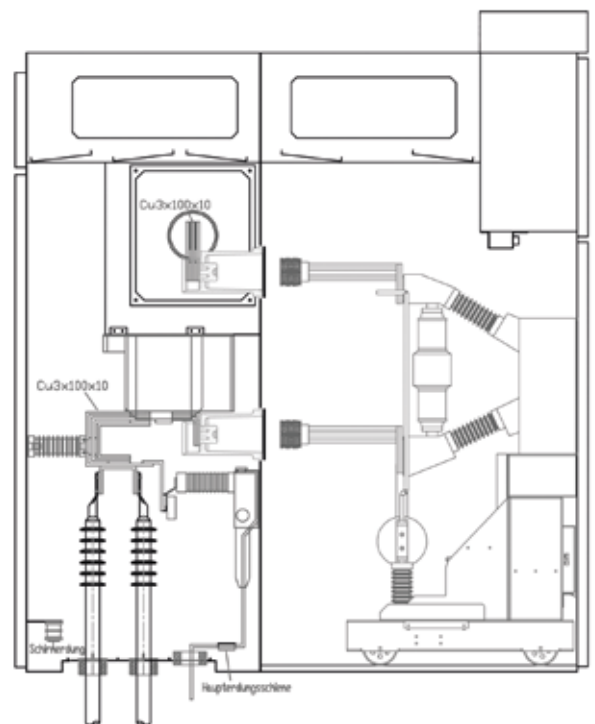
TRACTION POWER SWITCHGEARS

16,7 Hz

SPREPOWER MV-M7

Air-insulated, single busbar:

- Metal-enclosed
- Withdrawable switching device
- Bay-related testing (AGP)
- Compartmentalisation:
 - Busbar compartment
 - Circuit breaker compartment
 - Cable compartment
 - Low voltage compartment
- Internal arc classification: IAC AFLR 40 kA/0.5s
- Partition class PM
- Loss of service continuity category LSC 2B / PM
- Degree of protection:
 - Enclosure and LV compartment IP 4x
 - Partitioning IP 2x



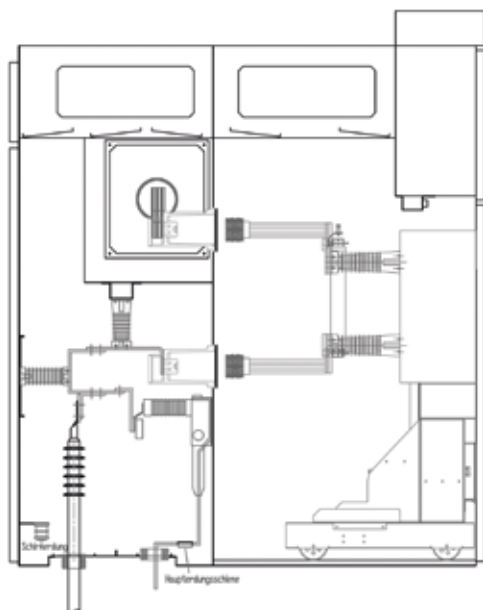
SPREPOWER MV-M7 –
Cable bay with bay-related testing (AGP)



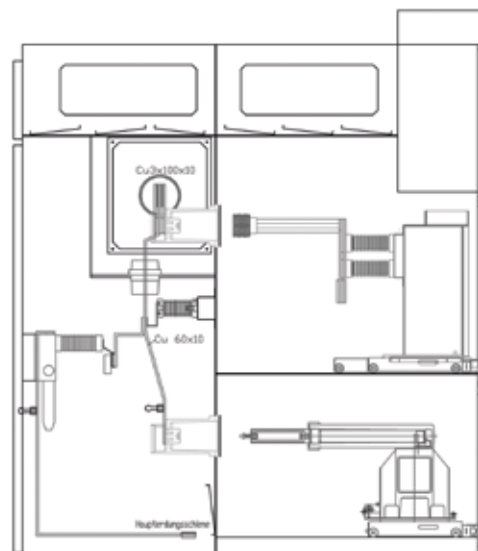
RATED VALUES & DIMENSIONS

Type / Voltage	Current / Busbar	Current / Feeders	Short-time Current	Peak Withstand Current	Power-Frequency Withstand Voltage	Lightning Impulse Voltage	Height (mm)	Width (mm)	Depth (mm)
M7 / 17.5 kV	...2552 A	...2419 A	40 kA	100 kA	50 kV	125 kV	2250	800 / 1000	2000

Other values and dimensions on request



SPREPOWER MV-M7 –
On-site power bay



SPREPOWER MV-M7 –
Division field with measurement



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(Oud Gastel)

POLAND

Sprecher Automation Polska Sp z o.o.
(Łódź, Świdnica)

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Sprecher Automation spol. s r.o.
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SWITZERLAND

Sprecher Automation Schweiz AG
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