



**BENSHAW®**  
ADVANCED CONTROLS & DRIVES

*A member of UNICO Technologies Group*



# Medium Voltage Product Capabilities

# MVB Series

## Medium Voltage Draw-Out Circuit Breaker

### Standard Breaker Features:

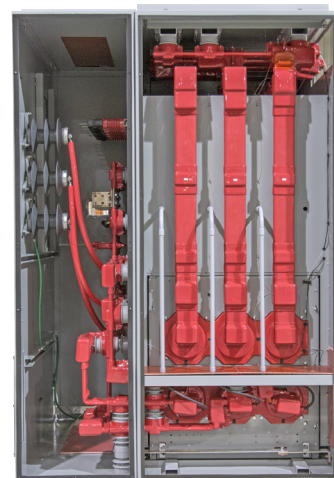
- 1200, 2000, 3000 Amps, 3 phase, 60 Hz, up to 15KV, Metal Enclosed
- Main Bus, Tin-Plated Copper, Insulated
- Withstand Ratings to 50kA
- Voltage Transformer
- Current Transformers
- Safety Barriers, Front Access
- Draw-Out Breaker
- Protection Relay
- Switch / Control Options
- 86 Lockout Relay, Breaker Control Switch
- Current / Voltage Test Switch, Shorting Block
- 3 LED Indicating Lights, Green = Open, Red = Closed, Amber = Fault
- Auxiliary Control for Breaker Position
- Capacitor Trip Device
- Ultra Safe Fuse Blocks
- Safe Control Test
- Arrestors

### Additional Features:

- Ultrasound Ports
- Thermal Viewing Windows
- Live Line Indication
- Mimic Bus
- Optional Incoming Section
- Remote Breaker Operator
- Lifting Truck, Lifting Yoke
- Arc Mitigation Relays

### Key Features:

- Customizable incoming section to meet customer cable entry requirements
- No transition section required to meet Benshaw® Medium Voltage equipment
- Compact and Flexible Design
- Manufactured by Benshaw and Supported by Benshaw
- 2-High Breaker Configuration
- 2 Year Manufacturer Warranty



### Remote Operators



# MVRMX Series

## Medium Voltage Solid State Softstart

### Standard Softstart Features:

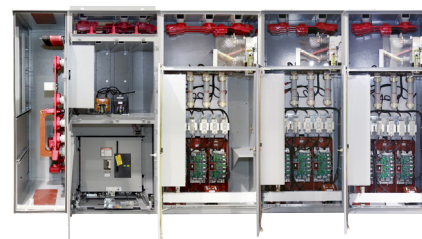
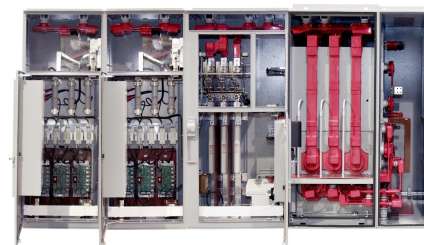
- UP to 30000HP 3 phase, 60 Hz, up to 15KV, Metal Enclosed
- Withstand ratings to 50kA
- 45 / 60 KV BIL
- Metal Enclosed Nema1, 12, 3R enclosures
- Benshaw® MX³ controller
- Thermal Capacity 500% for 30 seconds
- Load matched load break and fuses
- Inline and Bypass contactors
- Programmable acceleration and deceleration ramp profiles
- Programmable starting and stopping modes
- Integrated electronic motor protection
- Real-time metering and diagnostics
- Fiber Optic Gate firing
- Motor heater control
- Anti-windmilling
- Slow speed cyclo converter
- Door-mounted LCD keypad
- Built-In Self Test (BIST) for component integrity
- 8 digital programmable inputs
- 6 programmable relay outputs
- 1 programmable analog 0/4-20mA / 0-10VDC input
- 1 programmable analog 0/4-20mA / 0-10VDC output
- Motor PTC input
- Modbus Communication

### Additional Features:

- Thermal viewing windows
- Live line indication
- Mimic bus
- Optional incoming section
- Communication protocols, Ethernet, DeviceNet, Profibus
- Arc mitigation relays
- Full voltage bypass
- Zero sequence ground protection
- Ground balls
- RTD protection

### Key Features:

- Customizable to meet customer requirements, two speed, reversing, multiple motor, combination and non-combination, mining duty skid mounted, NEMA 1, 12, 3R, 4 and 4X
- Solid State technology for standard induction, synchronous and wound rotor motors
- No transition section required to meet Benshaw® medium voltage equipment
- Compact and flexible design
- Manufactured by Benshaw and supported by Benshaw
- 3 Year Manufacturer Warranty





# MVATL Series

## Medium Voltage Across the Line Starter

### Standard ATL Features:

- 3 phase, 50/60Hz, up to 15kV Metal Enclosed
- Withstand Ratings to 50kA
- 45 / 60 KV BIL
- Metal Enclosed Nema1, 12, 3R enclosures
- Load matched load break and fuses
- HP Rated Bypass contactors
- Integrated electronic motor protection
- Real-time metering and diagnostics
- Isolated 120V Control Section

### Motor Protection Option:

- Electronic or Digital Overload
- MX<sup>3</sup> Series Control
- Motor Protection Relay

### Additional Features:

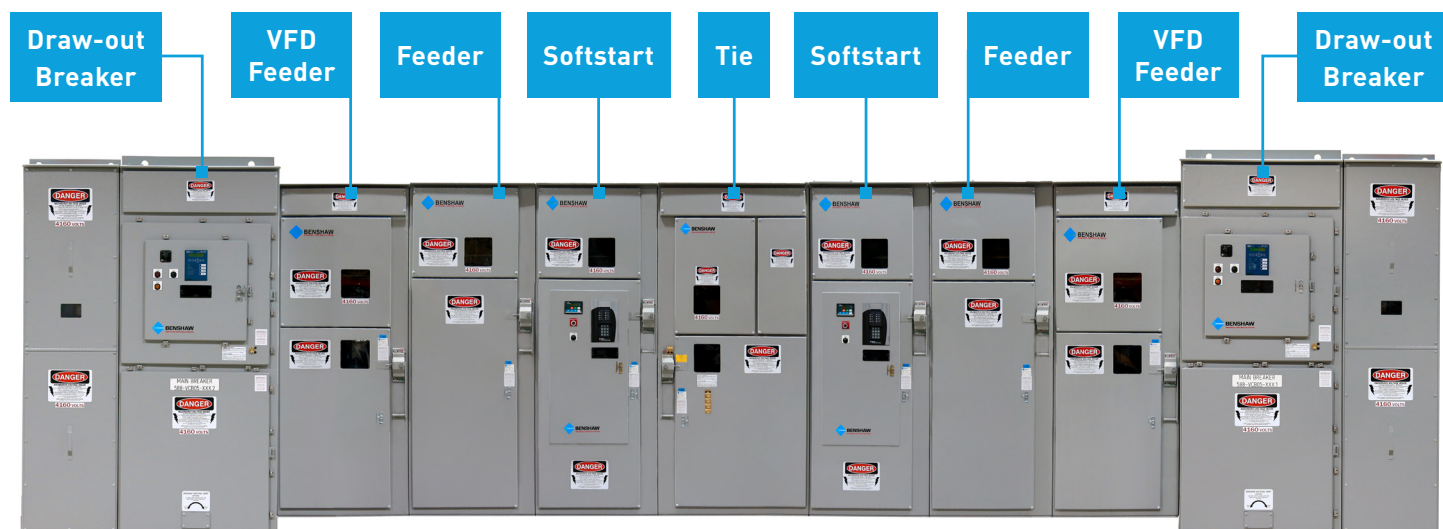
- Thermal viewing windows
- Live line indication
- Mimic bus
- Optional incoming section
- Communication protocols, Ethernet, DeviceNet, Profibus, Lon Works
- Arc Flash Mitigation Relays
- Zero sequence ground protection
- Ground balls
- RTD protection

### Key Features :

- Customizable to meet customer requirements, reversing, multiple motor, combination and non-combination, mining duty skid mounted, NEMA 1, 12, 3R and 4
- Single or Two-high Design
- Solid State technology for, standard induction, synchronous and wound rotor motors
- No transition section required to meet Benshaw® medium voltage equipment
- Compact and flexible design
- Manufactured by Benshaw and supported by Benshaw
- 3 Year Manufacturer Warranty



# Medium Voltage Motor Control Center

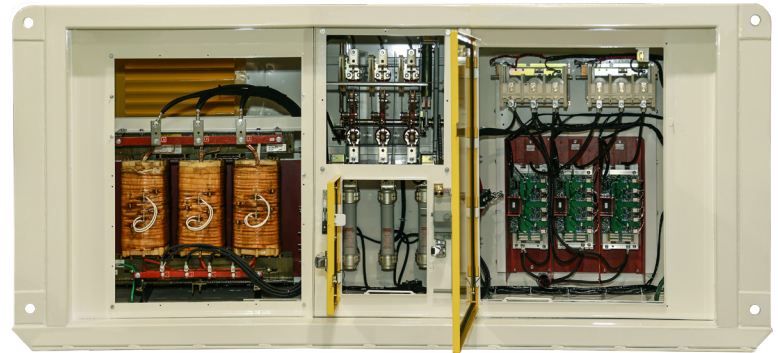


# MVMS Series

## *Customizable Underground Mine Skid*

### Standard Mine Skid Features:

- 1200 or 2000Amps, 3 phase, 60 Hz, up to 15KV, Metal Enclosed
- Fault Make, Load Brake Disconnect Switch
- Vertical Hoist Rated Frame
- High Durability Rails
- Withstand Ratings up to 40kA
- Customizable Line and Load Connections
- Voltage Specified Paneling
- Voltage Transformer
- Current Transformers
- Protection Relay
- Switch / Control Options
- Current:
  - Voltage Test Switch
  - Shorting Block
- 3 LED Indicating Lights:
  - Green = Open,
  - Red = Closed
  - Amber = Fault
- Ultra Safe Fuse Blocks



### Key Customizable Features :

- Portable Compact Design
- Mine Power Centers
- Power Distribution Centers
- Starter Control Centers





# Additional Medium Voltage Capabilities

## 15kV Soft Starter with Circuit Breaker Bypass



## Load Break Switch



## MV Junction Boxes



## Advanced Controls and Drives

Full Voltage Controls

Variable Frequency Drives

Low Voltage Solid State Starters

Medium Voltage Drives

Medium Voltage Controls

Medium Voltage Switchgear

## UNICO Technologies Group

### Power and Precision in Motion

Taking care of our customers' power needs has been our single focus for 88 years. Our two leading brands bring innovative control and electrical solutions to solve your challenges. Through thousands of systems in a broad array of applications, we've learned what it takes to make your system live up to its potential.

**At a glance:** With facilities in 12 countries, we combine the convenience of local service with the economies-of-scale and efficiency of a large global organization.

#### Innovative solutions via technology:

We bring you mission-critical motor control and protection products, designed and built with expertise and precision to maximize your output and minimize downtime.

**Engaged and knowledgeable:** We like to think of ourselves as "Application Smart," which always includes critical dependencies such as standards, compliance and regulatory issues.



Visit us online at [unicotg.com](http://unicotg.com), or contact:

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## 24/7 Technical Support

- 24/7 hotline support from Pittsburgh (USA) and Listowel (Canada)
- Overnight parts shipment
- Coordination of all service capabilities — repair, spare parts, field engineering, retrofit and training

## Repairs

- Trained, experienced, field personnel
- Equipped with the latest diagnostic and test equipment
- Start-up commissioning, field repairs, field analysis/data collection and preventative maintenance

## Benshaw Product Line

- Solid state starters fractional to 30,000 HP at 15 kV
- LV AC drives to 700 HP
- MV AC drives to 12,000 HP
- Electromechanical controls to 800 A

## Benshaw Express

- 24/7 online inventory and order system for authorized Benshaw distributors
- 24/7 shipment
- Air or truck delivery

Visit us online at [benshaw.com](http://benshaw.com) and [benshawexpress.com](http://benshawexpress.com), or contact:

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Specifications are subject to change without notice.

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