HEAVY INDUSTRY DRIVES

INOMAX

# MAX-MV SERIES

## Power for demanding industries.

Medium voltage variable frequency drives

**3-13.8 kV | 160 kW-40 MW**

**VECTOR CONTROL | MODULAR DESIGN**




**PRODUCT CATALOG**

www.inomaxtechnology.com

# Power. Control. Confidence.

Technology, system options, 209 model ratings and industry applications.


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# MAX-MV at a glance.

A modular medium voltage drive platform for energy saving and process control.

Cascaded power cells produce direct medium voltage output with a near-sinusoidal waveform. High-performance vector control supports variable-torque and constant-torque loads, with two-quadrant and four-quadrant configurations selected for the application.




Representative cabinet arrangement; construction depends on rating and configuration.

**3-13.8 kV**
SERIES VOLTAGE RANGE

**160 kW-40 MW**
SERIES POWER RANGE

**98.5%**
INVERTER EFFICIENCY

- Motor technologies: induction, synchronous and permanent magnet synchronous motors.
- Air-cooled and water-cooled configurations; standard IP31, optional IP42 and custom IP54.
- Automatic restart, flying start, synchronized switching and master-slave load sharing.

# Integrated around the process.

An integrated arrangement reduces installation space while preserving service access.




Power / control side




Transformer / bypass side

## Power cabinet

Larger air-inlet area, reinforced doors and a semi-sealed design improve environmental adaptability and reliability.

## Control cabinet

Consistent main-control architecture supports common spare parts. Internal layout improves operating access and interference immunity.

## Bypass integration

Manual bypass, automatic bypass, no bypass, isolation or manual bypass with current limiting can be configured within the integrated design.

## Front-to-back layout

Transformer and power sections use a front-to-back arrangement with coordinated thermal design to reduce installation space.

# Cooling follows the load.

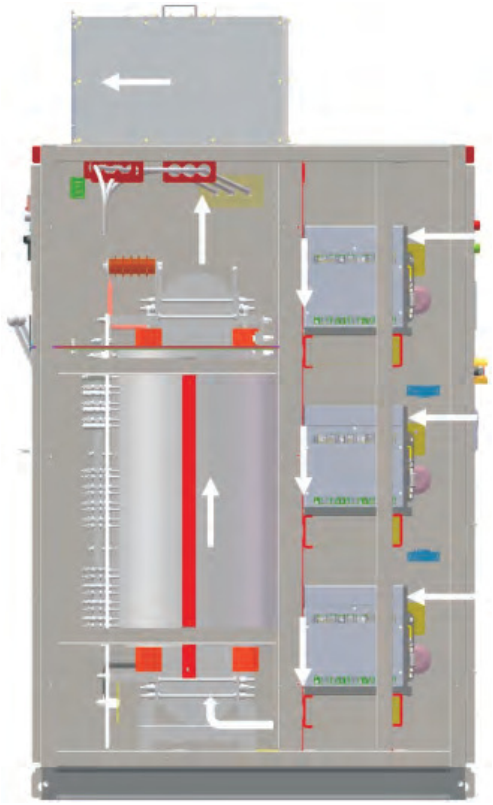
Coordinated air paths and fan supervision support continuous operation.

## Series-connected air duct

Incoming cold air first passes through the power-unit heat sinks, then through the enclosed transformer duct. Top-mounted fans discharge the heated air.

## Air or water cooling

The platform offers forced-air and water-cooled configurations. Cooling method and site heat rejection are selected for the project.



## Integrated fan supervision

| MONITORING | PROTECTION / CONTROL |
|---|---|
| Fan loading | Fan overload and three-stage overload supervision |
| Temperature | Fan overtemperature protection and closed-loop temperature control |
| Electrical condition | Fan contactor malfunction and phase-loss detection |
| Availability | Service-life warning and fan redundancy control |

# Modular cells. Redundant bypass.

Compact power modules combine insulation, serviceability and fault response.

## Compact insulated construction

A lighter plastic-shell power unit provides electrical insulation and improved environmental adaptability. An integrated PCBA and all-in-one module simplify internal construction.

## Electronic + mechanical bypass

An electronic bypass acts first when a power-unit fault occurs. If that path fails, the mechanical bypass provides a second route to support continued operation.



**85%**

FEWER INTERNAL CABLE CONNECTIONS

**Up to 100%**

LONGER CORE-COMPONENT LIFE

The updated design describes a capacitor design margin more than 1.5 times the conventional 30 µF/A reference, supporting resistance to grid disturbances. Fewer internal cable connections reduce potential failure points.

Design-comparison improvements are those stated in the supplied catalogue. Actual component life depends on loading, temperature, cooling and operating conditions.

# Tested through the complete system.

Component screening and full-load verification support product reliability.




**Whole-machine full-load test**



**Motor test platform**



**Power-unit intelligent testing**

## From components to the complete drive

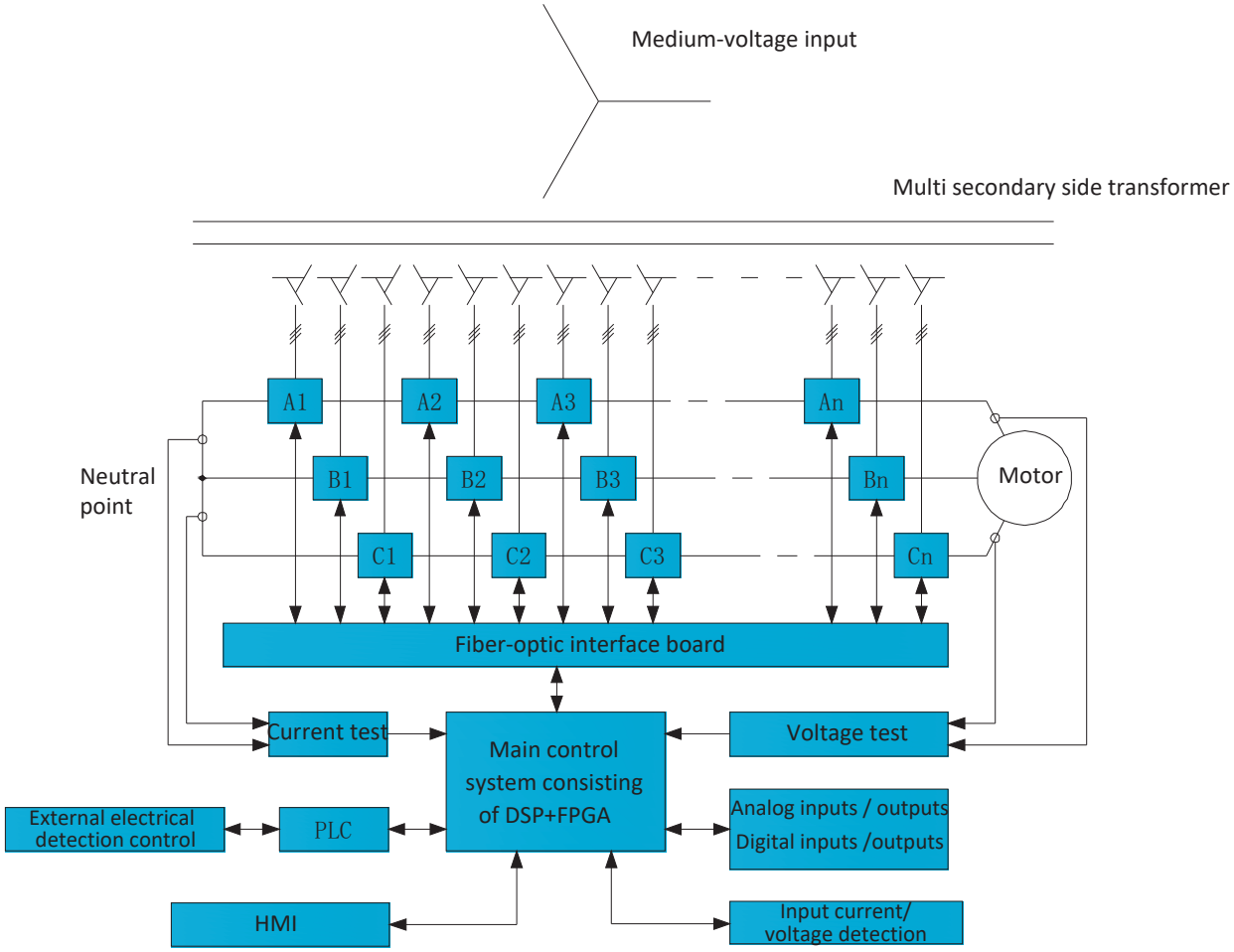
Core components undergo testing and selection. The manufacturing process uses long-life components together with verification of the assembled system.

| VERIFICATION | PURPOSE |
|---|---|
| Withstand-voltage testing | Verify insulation performance |
| Functional testing | Check control, protection and operating functions |
| Aging tests | Screen faults under sustained operation |
| Motor-to-motor testing | Exercise the drive and motor under coupled-load conditions |
| Full-load circulation | Verify complete-drive performance at full voltage and load |

# One coordinated control system.

DSP + FPGA control with isolated high-speed optical-fibre communication.

A 32-bit floating-point digital signal processor executes motor-control algorithms, while the FPGA supports multilevel PWM. The HMI provides multilingual graphical operation and the PLC processes drive logic and external system signals.




- Coordinates the control and protection of the motor, drive and all power units.
- Interfaces with external digital and analog signals, PLC / DCS and local HMI.
- Optical-fibre links isolate the control system from the medium voltage power stage.

# Match control to the motor.

One platform for induction, synchronous and permanent magnet synchronous machines.

| MOTOR / DUTY | APPLICATION |
|---|---|
| Asynchronous induction | Standard motors; no motor-type suffix |
| Synchronous | Synchronous motor configuration, suffix T |
| Permanent magnet synchronous | PMSM configuration, suffix PM |
| Heavy duty | Duty selection indicated by suffix S |

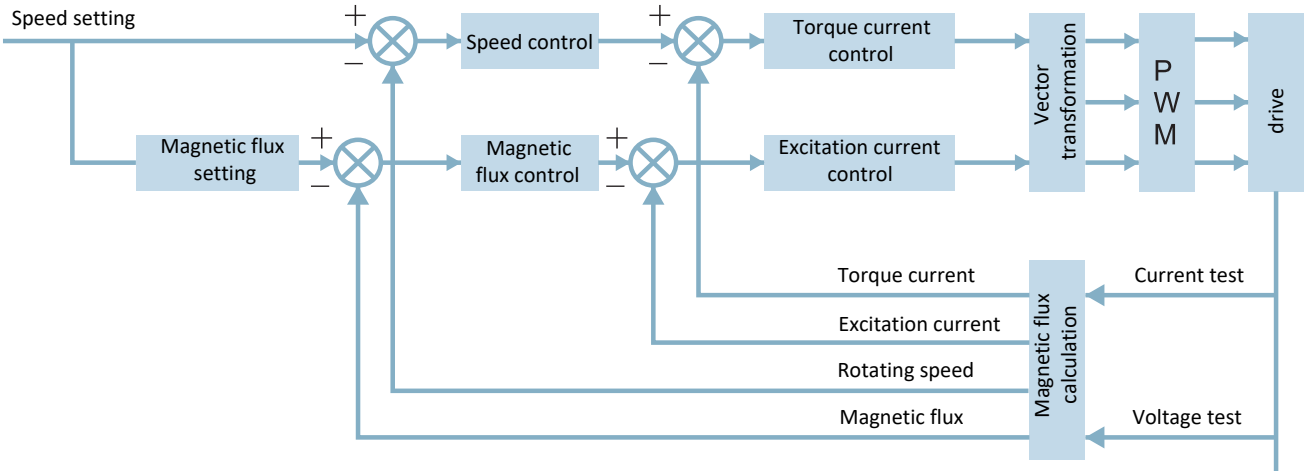
## Four motor-control modes

| CONTROL | FEEDBACK | DESCRIPTION |
|---|---|---|
| V/F | Without PG | Voltage / frequency control |
| V/F + PG | Encoder | V/F control with speed feedback |
| SVC | Sensorless | Sensorless vector control |
| Vector + PG | Encoder | Closed-loop vector control |

Flux-linkage closed-loop vector control is designed for medium voltage, high-power motors. It supports square-torque fan and pump loads as well as constant-torque process duties, helping maintain stable control over extended operation.

# Control speed, flux and torque.

Coordinated control loops support high-performance process applications.




## Closed-loop flux calculation

The control structure combines speed control, magnetic-flux control and independent torque / excitation-current regulation. Current and voltage measurements feed the magnetic-flux and speed calculation.

### Variable-torque loads

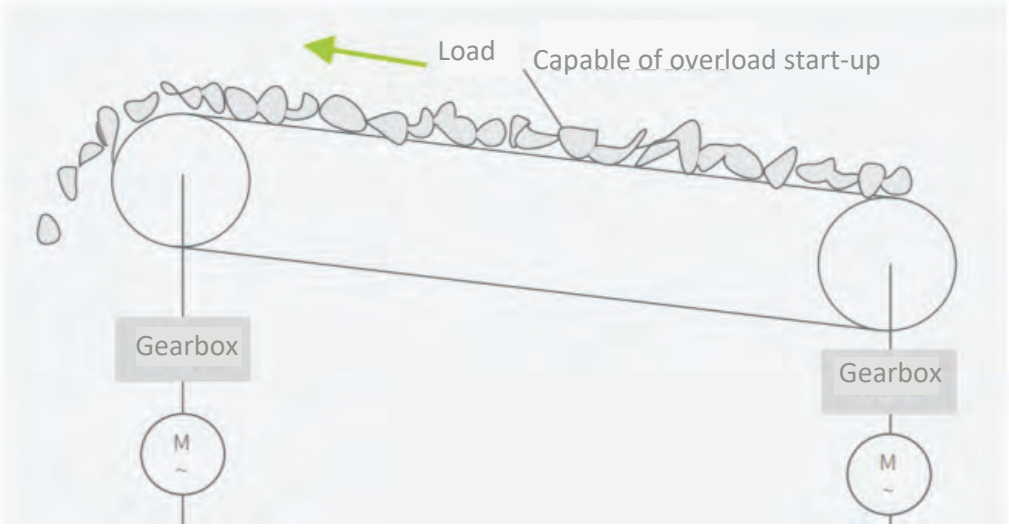
Fans, centrifugal pumps and utilities use speed control to follow process demand.

### Constant-torque duties

Conveyors, hoists, mills, compressors and other process loads require coordinated speed and torque control.

# Share the load precisely.

Master-slave synchronization coordinates the speed and torque of multiple motors.




## Independent drives. Coordinated motion.

Multiple motors can drive the same mechanical load. Any motor can act as the master, with the other drives operating as slaves through synchronized communication.

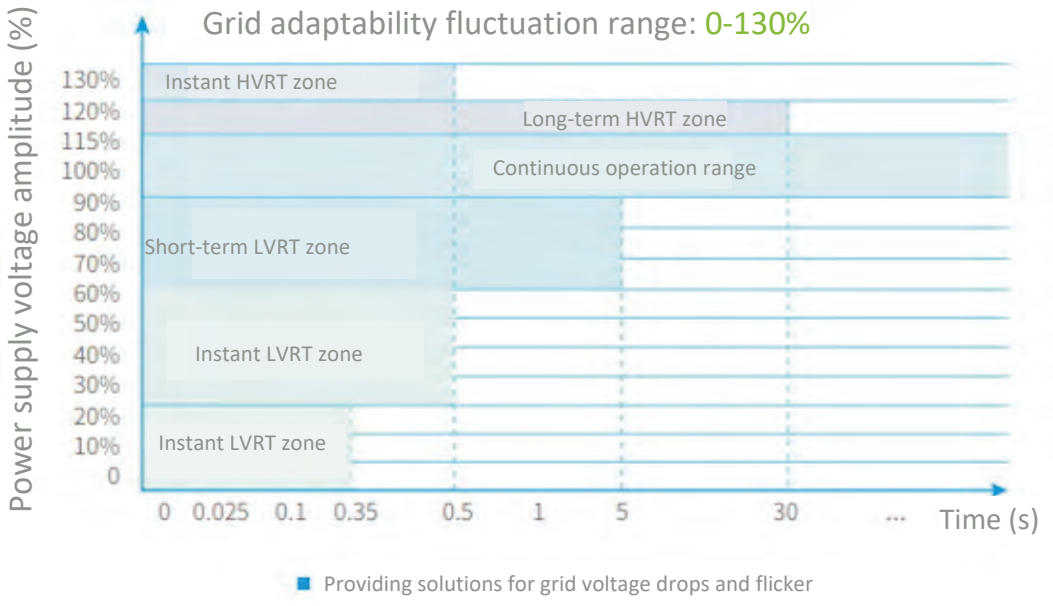
## High-speed optical-fibre communication

Fibre links provide fast communication with strong interference immunity. The control scheme establishes the required load-sharing relationship and independently regulates each motor torque.

Master and slave drives automatically adjust their respective output speed and torque, using the available torque capability of each motor. This supports synchronized conveying and overload starting where required by the process.

# Keep control through disturbances.

Low- and high-voltage ride-through functions support demanding industrial grids.




## LVRT / HVRT

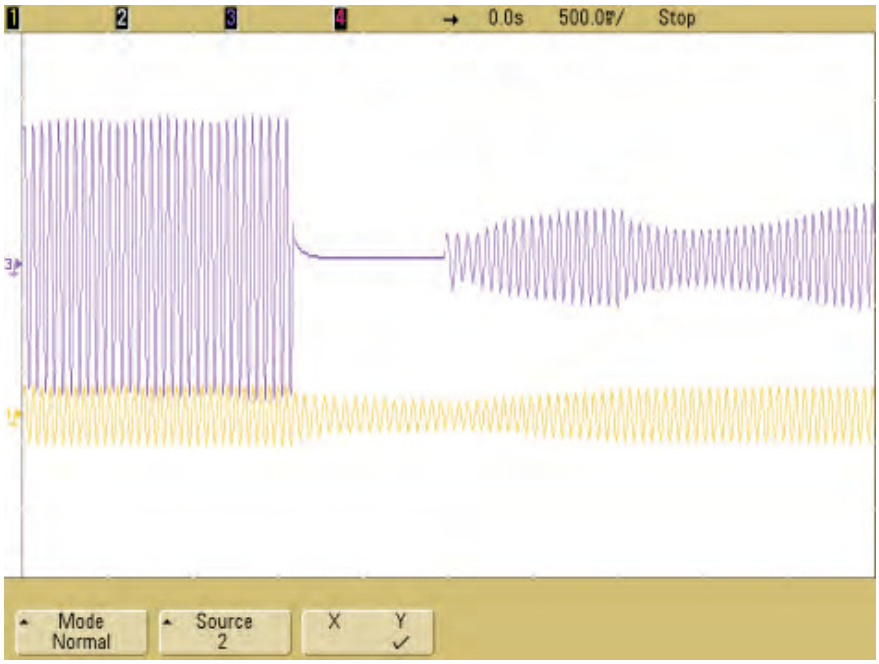
The platform supports low-voltage and high-voltage ride-through functions. For fan loads, instantaneous power-loss protection helps avoid an undervoltage shutdown during a momentary supply interruption.

For short interruptions of 0-30 seconds, the drive supports restart after supply recovery. The published grid-adaptability diagram covers 0-130% of nominal voltage with different time zones; this is a ride-through envelope, not a continuous full-load voltage range.

Continuous full-load voltage tolerance: -20% to +15%. Lower voltage requires derating. Applicable ride-through times, load conditions and recovery settings follow the project agreement.

# Restart a rotating motor.

Speed tracking supports continuity for high-inertia fans and other large rotating loads.




## Identify rotation before applying torque

The drive injects a search voltage and evaluates the resulting stator current to identify motor speed. It can restart a motor rotating forward, rotating in reverse or standing still, then bring it to the target frequency.

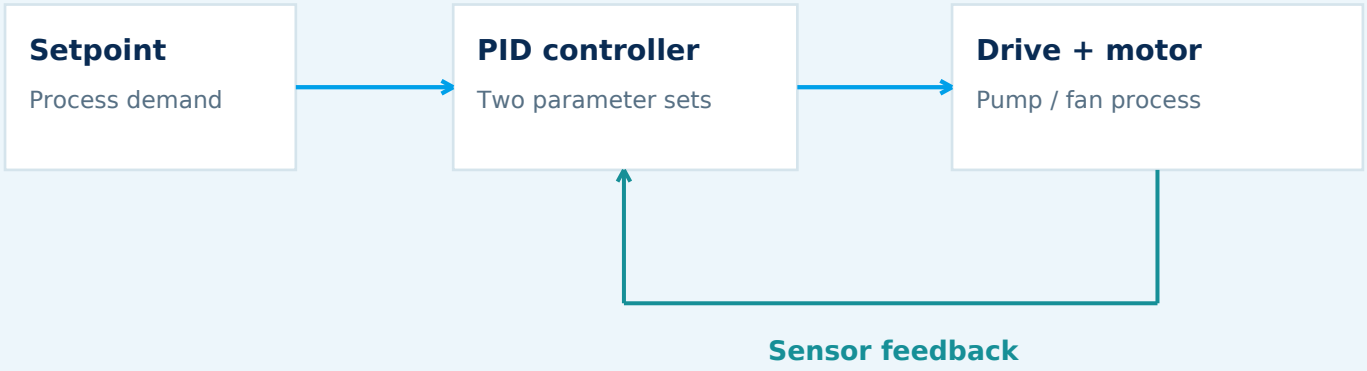
## Reduce waiting for a complete stop

High-inertia equipment can coast for a long period. Speed tracking allows a controlled restart after an interruption without first waiting for the rotor to come to rest.

# Control the process directly.

Built-in PID and programmable sequences reduce external control requirements.

## Closed-loop pressure, flow or level control




PID can regulate the speed reference directly or apply correction before / after the acceleration ramp.

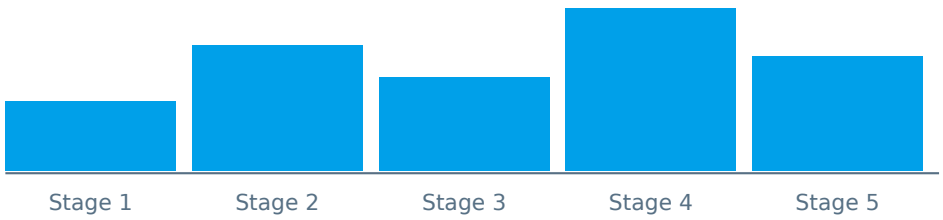
### Process PID

Pressure, flow, liquid level, temperature and tension control. Feedback monitoring and adjustable limits support process supervision.

### Reference flexibility

Digital setting, communication, UP/DOWN, AI1-AI3 and pulse input. Auxiliary reference and fine adjustment are available.

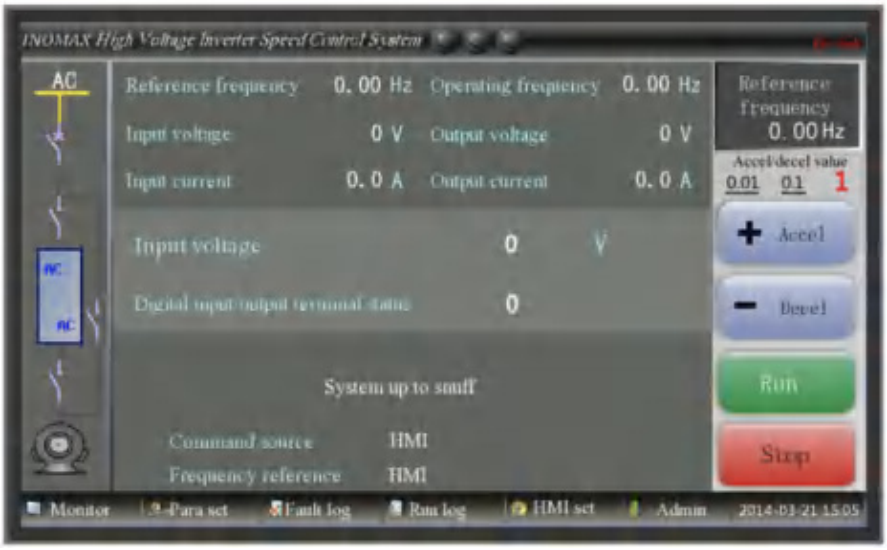
## Simple PLC: 1 × 32 or 2 × 16 stages




Programmable stage frequency, run time and ramp selection. Cycle / stop / final-speed modes, restart strategy and power-loss memory.

# Clear status. Faster diagnosis.

Monitor the drive, power cells and process from the local HMI.




Monitoring screen from the supplied manual.

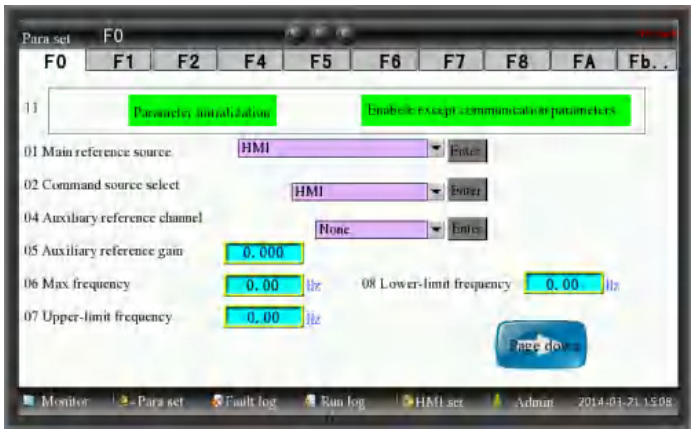
## Operator visibility

View frequency, voltage, current and power. Check cell status and control terminals, switch monitor values and access parameter settings.




## Fault history

Records faults with operating data and cell / terminal status to support troubleshooting.




## Parameter access & run history

Parameter menus support configuration; run logs record event timing. User, Admin and Master levels separate operating and parameter privileges.

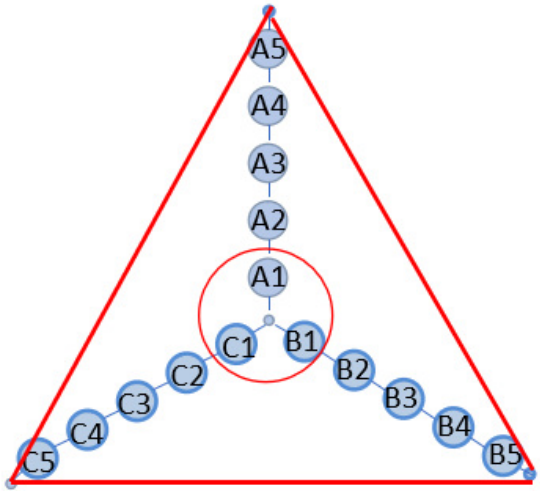
Local panel functions include status indicators, reset, local / remote selection and emergency stop. Emergency stop blocks inverter output and the motor coasts.

# Protection throughout the system.

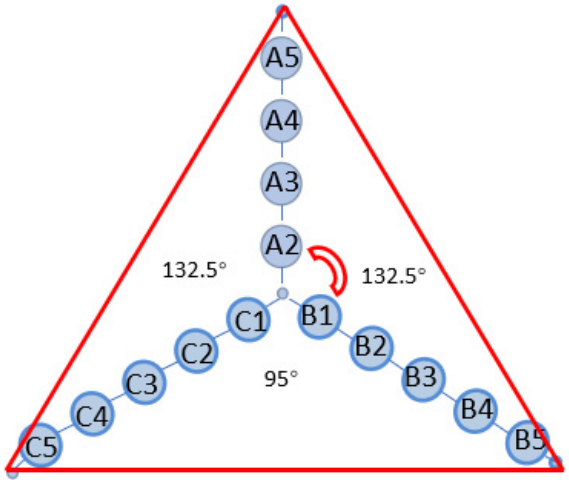
Electrical, thermal and operating protection with cell-level fault response.

| ELECTRICAL | THERMAL / SYSTEM |
|---|---|
| Overcurrent, overload and short circuit | Converter overheating |
| Three-phase current imbalance | External fault shutdown: NO / NC |
| Input / output phase loss | System self-diagnosis |
| Overvoltage and undervoltage | Automatic power-unit bypass |
| Instantaneous power loss | Fan overload, temperature and contactor supervision |

## Cell bypass options




**Same-level bypass**

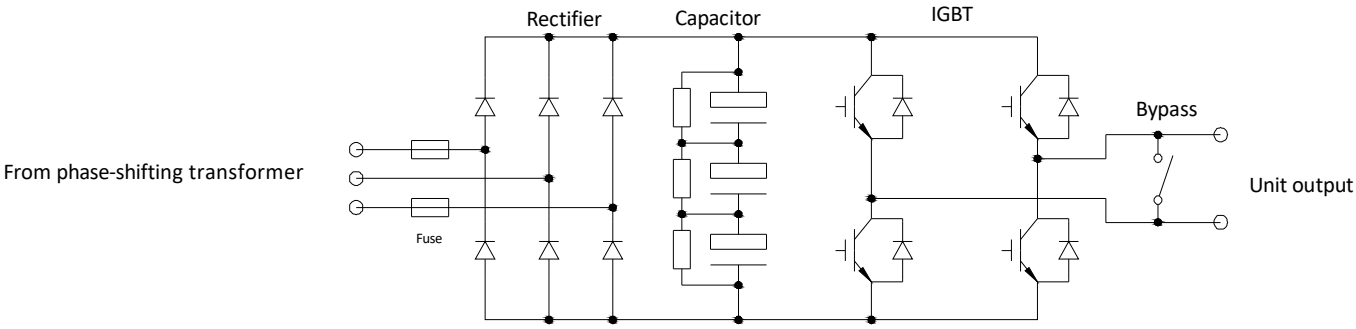



**Neutral-point offset bypass**

Electronic and mechanical cell-bypass paths support continued operation after a unit fault. Remaining output voltage / power and the allowed bypass state depend on the installed system and load.

# Inside the cascaded power stage.

A phase-shifting transformer supplies isolated low-voltage power cells.




Each cell combines a rectifier, DC-link capacitors and an IGBT inverter. Series-connected cell outputs build the medium voltage waveform. The bypass path allows a failed unit to be isolated from the active cell chain.

### Multiple rectification

Phase-shifted transformer windings coordinate the cell inputs and help reduce supply harmonics.

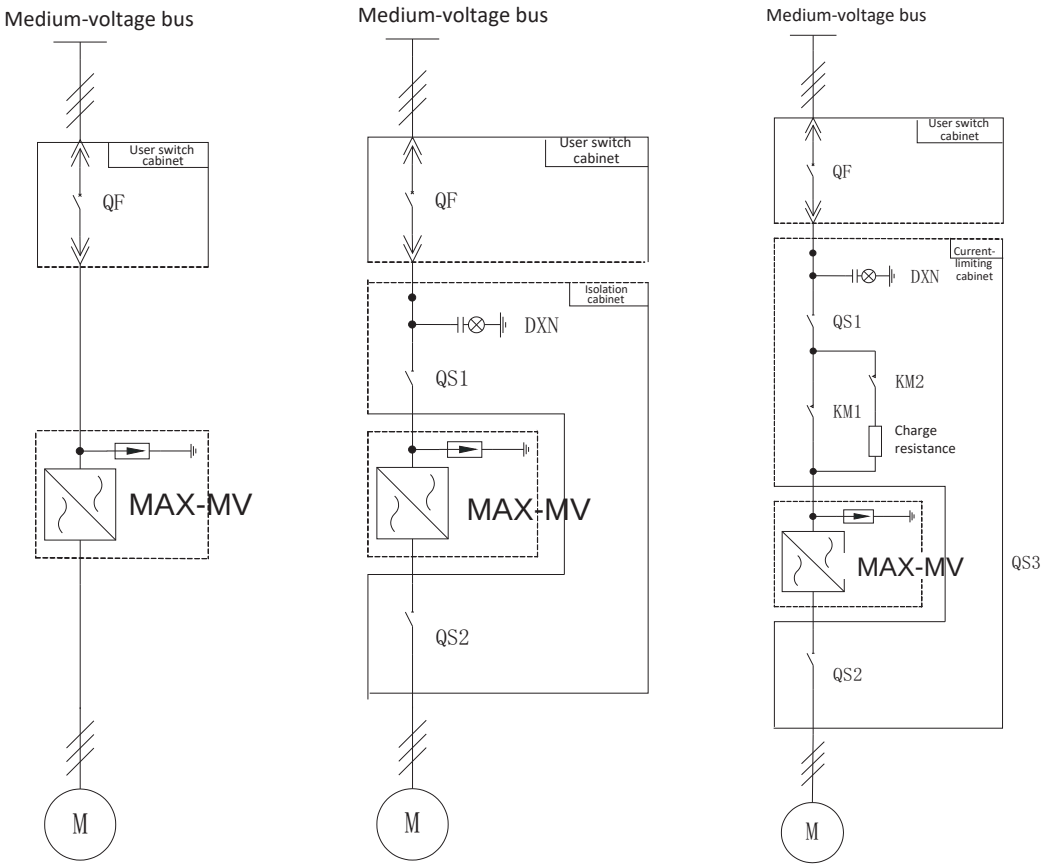
### Cascaded output

Multilevel voltage synthesis produces output close to a sine wave for medium voltage motors.

Published THD: ≤4% for 3-4.16 kV and ≤2% for 6-13.8 kV. Inverter efficiency: 98.5%. Power factor: ≥0.96. Confirm the specified operating conditions for the project.

# Three schemes without line bypass.

Select the incoming arrangement for the motor, grid and maintenance requirements.




## Standard connection

The customer supplies upstream medium voltage switchgear QF. Use where direct line-frequency operation and high continuity are not required.

## With isolation cabinet

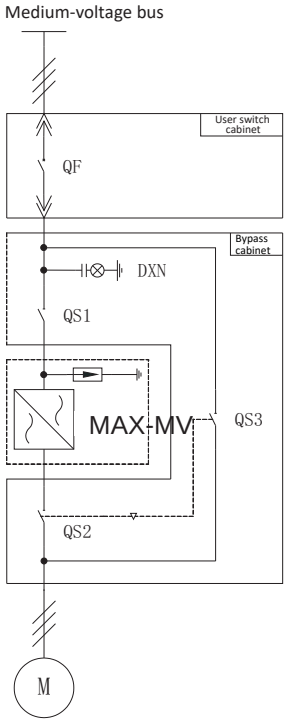
Adds isolation to facilitate maintenance while retaining a drive-only motor supply.

## With current-limiting cabinet

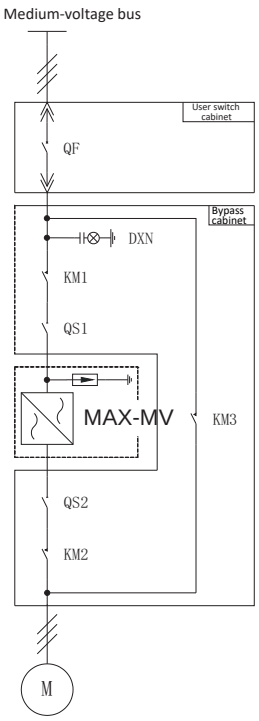
For higher motor power or a smaller grid capacity. The source gives above 4,000 kW as a typical application; rating-table notes define additional requirements for 6.6 / 11 kV.

# Manual, automatic or soft-start bypass.

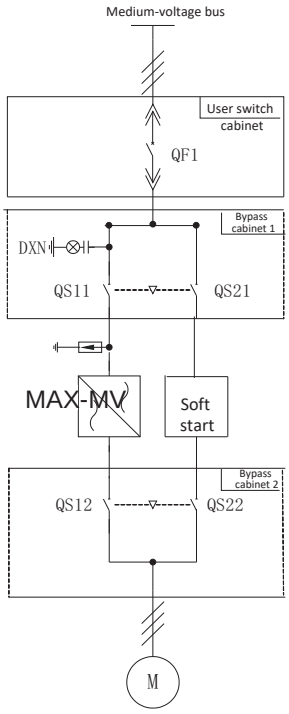
External switching is matched to the continuity requirement of the process.




Manual One-for-One Power Frequency Bypass Scheme




Automatic One-for-One Power Frequency Bypass Scheme




Manual One-for-One Power Frequency Soft Start Bypass Scheme

## Manual one-to-one bypass

QS1, QS2 and QS3 form the bypass cabinet; QS2 and QS3 are mechanically interlocked. Manual switching selects variable-frequency or line-frequency operation. The motor / load must permit direct-on-line operation.

## Automatic one-to-one bypass

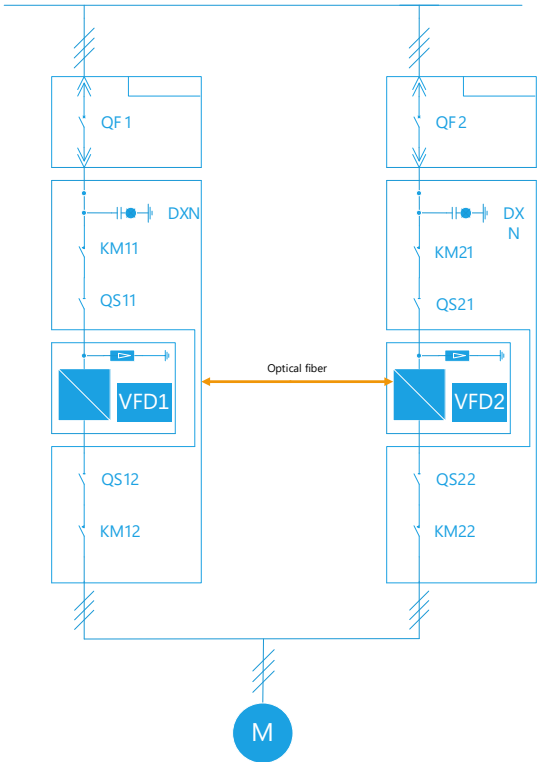
QS1 / QS2 disconnectors and KM1 / KM2 / KM3 vacuum contactors provide automatic or DCS-controlled transfer. KM2 and KM3 are electrically interlocked. The source identifies fan / blower duties as a typical application.

## Manual soft-start bypass

Coordinated MV soft starter and drive switching supports soft starting before transfer. Disconnector pairs are mechanically interlocked; the final project diagram governs.

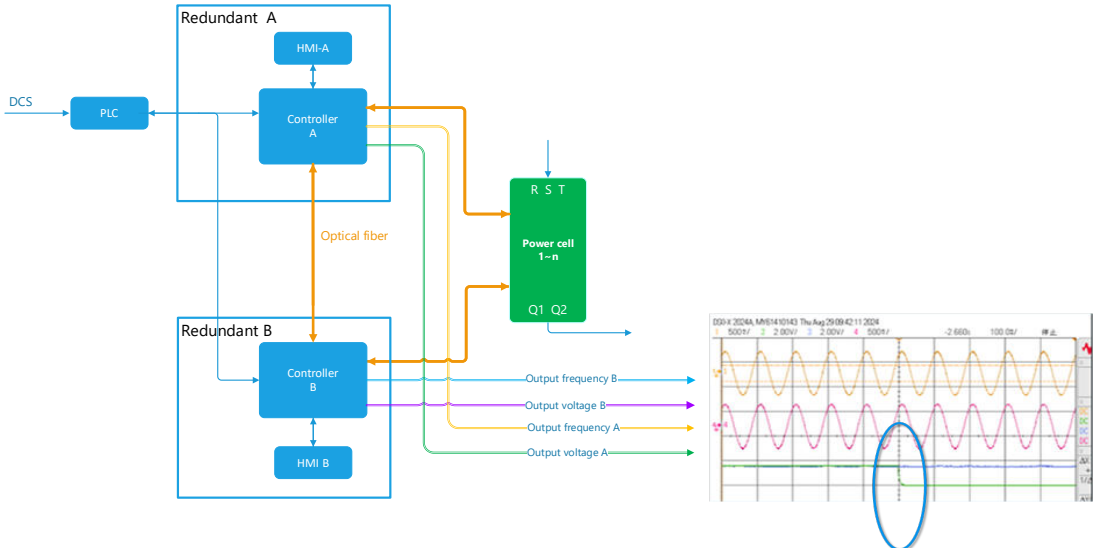
# Continuity for critical loads.

Drive redundancy and controller redundancy address different failure points.




## Dual MVD hot redundancy

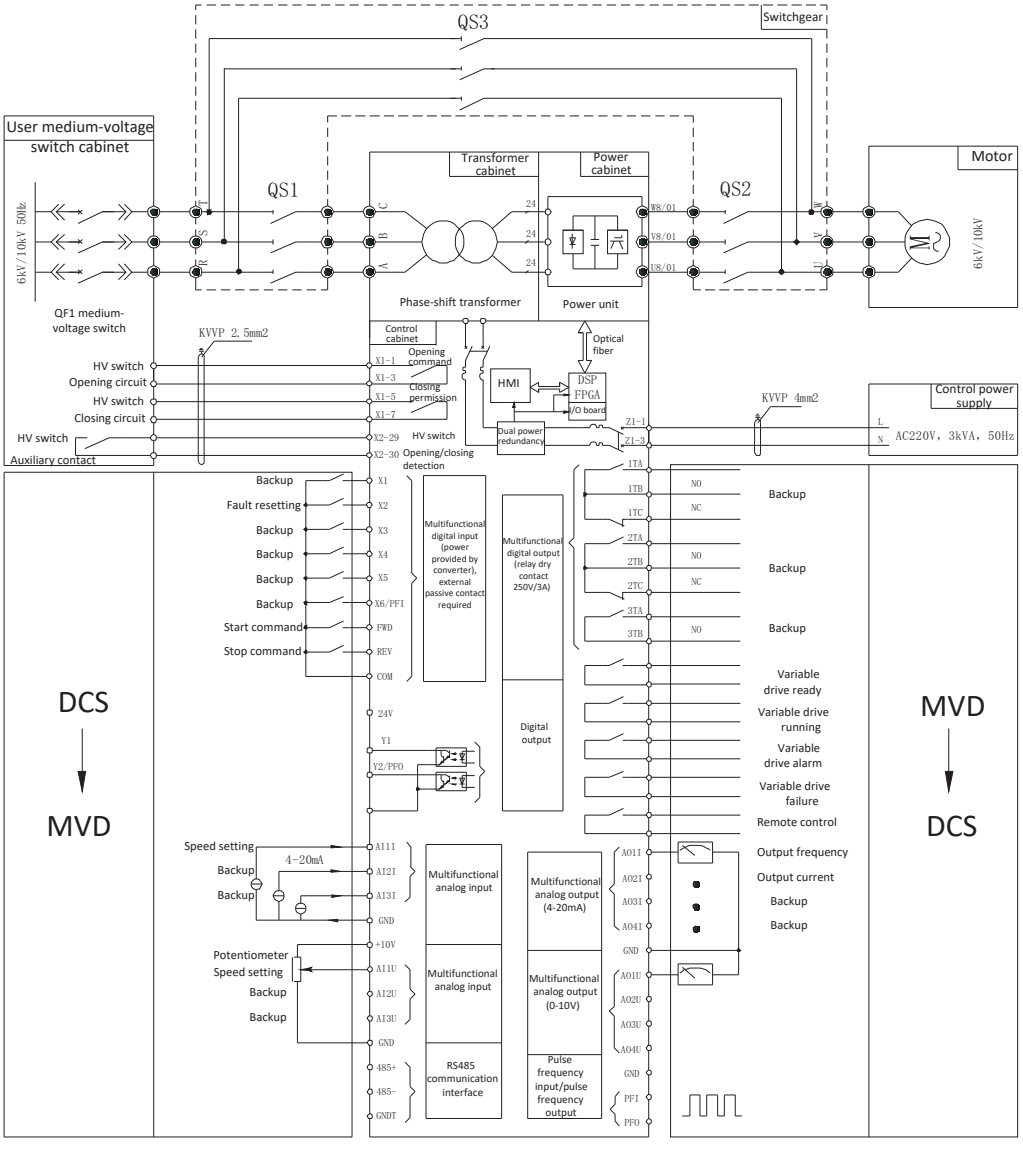
Two drives exchange data in real time. If one drive faults, the system can transfer to the other drive. The source describes switching in the millisecond class, making this an option for critical-load applications.

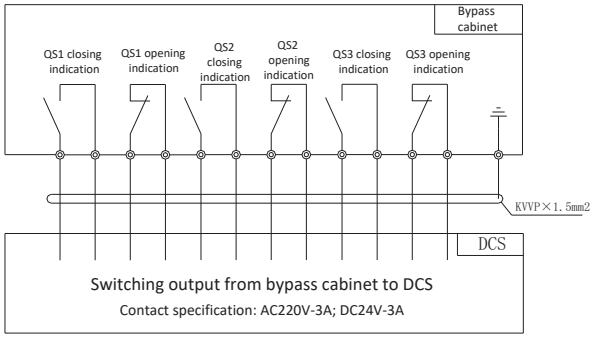



Dual-controller hot redundancy: both controllers operate simultaneously. If one fails, the other takes over. The source describes controller switching in the nanosecond range; complete motor-system transfer performance follows the technical agreement.

# Manual one-to-one bypass.

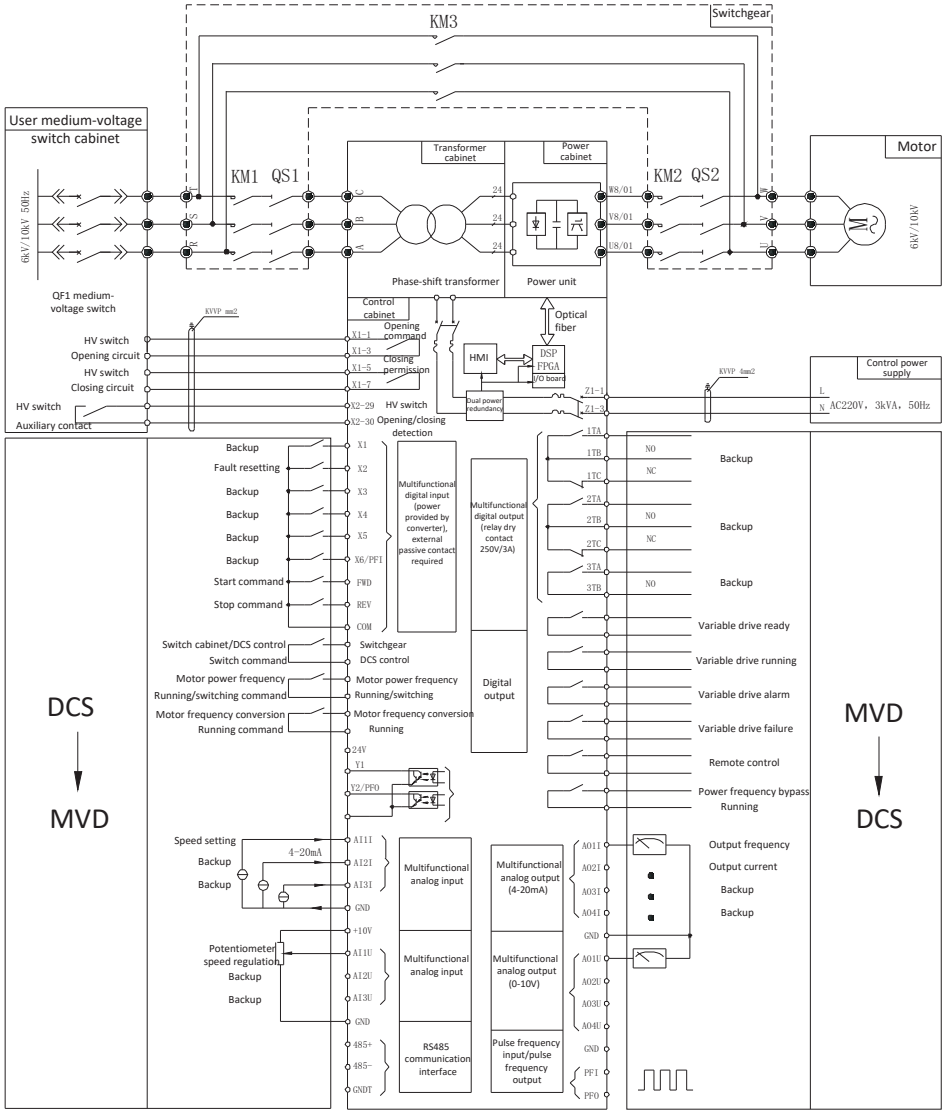
Standard interface drawing with PLC / DCS, drive, motor and bypass cabinet signals.



# Automatic one-to-one bypass.

Standard interface drawing with PLC / DCS, drive, motor and bypass cabinet signals.



# Connect the field signals.

Analog, digital and pulse interfaces for the plant control system.

| INTERFACE | REFERENCE TERMINALS | CAPABILITY |
|---|---|---|
| Digital inputs | X1-X6/PFI, FWD, REV | 8 inputs; 38 assignable input functions |
| Digital outputs | Y1, Y2/PFO; relay outputs | 5 outputs in total; 52 assignable output functions |
| Analog inputs | AI1I-AI3I / AI1U-AI3U | 3 channels; voltage or current selection |
| Analog outputs | AO1I-AO4I / AO1U-AO4U | 4 channels; programmable signal mapping |
| Signal selection | Current / voltage | Seven selections include 0/4-20 mA and 0/2-10 V |
| Pulse interface | PFI / PFO | Pulse-frequency input and output |
| RS485 | 485+, 485-, GNDT | Isolated communication interface |
| Auxiliary control | +10 V, 24 V, COM, GND | Sensor / control references as configured |

Digital I/O is expandable. X6/PFI and Y2/PFO are shared functions. Current and voltage terminals of the same analog channel are alternatives, not additional independent channels.

# Integrate with the plant control system.

Local operation, DCS control and optional networking on one platform.

| CONNECTION | CONFIGURATION |
|---|---|
| RS485 / Modbus-RTU | Standard |
| PROFIBUS-DP | Optional |
| TCP/IP | Optional |
| IoT connection | Optional |
| Operating channels | HMI, DCS, communication or on-site operating box |
| Control supply | Single-phase 220 V AC / 3 kVA, 50 / 60 Hz; optional DC supply |

### Multilingual HMI

Displays input / output voltage, current, power and power factor, together with real-time operating state, alarm / fault records and event records.

### Flexible parameters

Multifunction settings adapt the drive to the process. I/O mapping, communication, control source and operating functions are configured for the installed system.

# Electrical performance.

Current specifications from the updated MAX-MV catalogue.

| ITEM | SPECIFICATION |
|---|---|
| Rated input voltage | 3-13.8 kV, ±10% |
| Rated input frequency | 50 / 60 Hz, ±5% |
| Full-load voltage variation | -20% to +15% |
| Reduced-voltage operation | Derating required below -20%; source range extends to -35% |
| Power factor | ≥0.96 |
| Rated output voltage | 3-13.8 kV class, matched to the motor / project |
| Output power range | 160-40,000 kW |
| General output-current range | 25-2,400 A; voltage-specific ratings are listed separately |
| Overload capacity | 120% for 120 s; 150% for 5 s;<br>200%: immediate protection |
| Protection curve | Adjustable according to the project |
| Inverter efficiency | 98.5% |
| Frequency resolution | 0.01 Hz |
| Total harmonic distortion | 3-4.16 kV: THD ≤4%; 6-13.8 kV: THD ≤2% |

The updated source cites GB14549-93 and IEEE519-1992 for harmonic performance. Higher voltage and power configurations require project-specific confirmation.

# Control and operating environment.

Environmental limits and configuration options for project selection.

| ITEM | SPECIFICATION |
|---|---|
| Control modes | V/F, V/F + PG, SVC, vector control + PG |
| Acceleration / deceleration | 0.1-3,600.0 s |
| Main functions | Power-loss restart, torque boost, skip frequency, cell bypass, flying start, self-diagnosis, line bypass |
| Analog I/O | 3 inputs / 4 outputs; voltage and current selections |
| Digital I/O | 8 inputs / 5 outputs; expandable |
| Operating temperature | -10 to +40°C |
| Ambient humidity | 20-95% RH, non-condensing |
| Storage temperature | -40 to +70°C |
| Installation altitude | Below 2,000 m; derating above 2,000 m |
| Cooling | Forced air cooling or water cooling |
| Enclosure protection | IP31 standard; IP42 optional; custom IP54 available |
| Standard installation | Indoors; no explosive / corrosive gases, conductive dust or oil mist |
| Cabinet colour | Grey white RAL 7035; custom colours available |

# IP54 protection available.

Customized enclosure solutions for project-specific installation requirements.








**IP54 is available as a customized option.** Enclosure construction, cooling, dimensions, access and cable entry are defined for the project. The photographs show supplied examples of customized enclosures.

IP54 arrangements are custom-engineered. No standard IP54 model code is assigned in this catalogue.

# Speed follows demand.

Variable-speed operation for fans, pumps and continuous process utilities.



## Water & wastewater

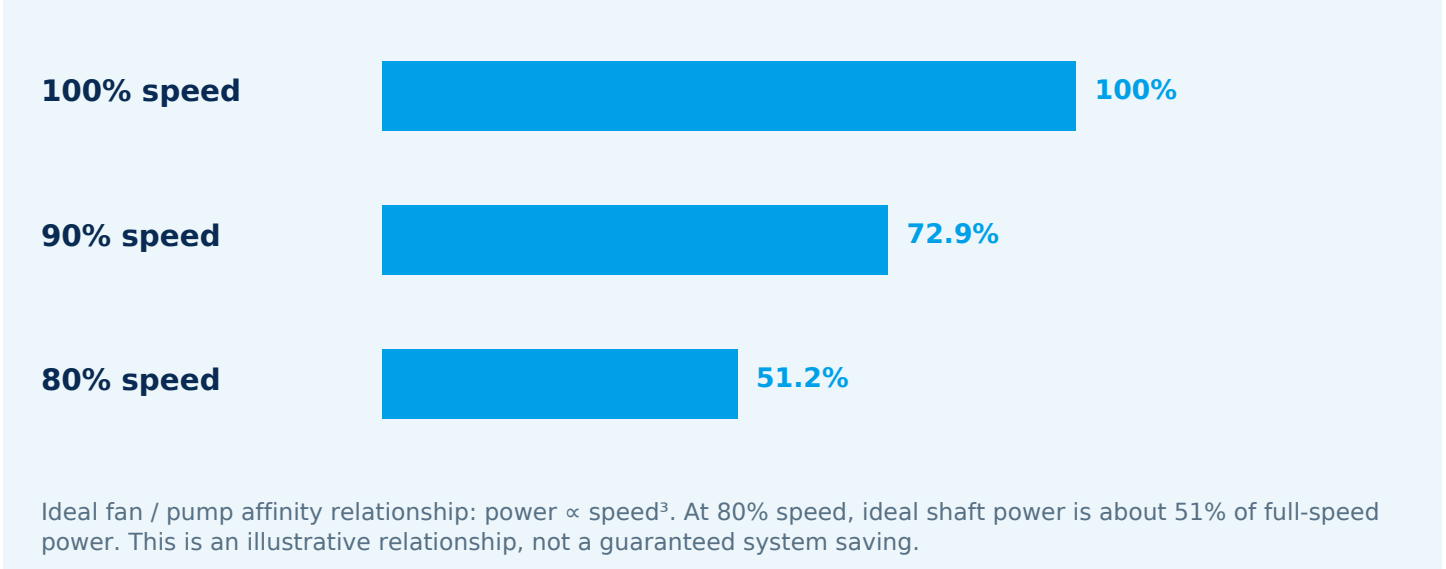
Intake, transfer, clean-water and sewage pumping. PID adjusts motor speed to the required flow, pressure or level.



## Power generation

Induced-draft and primary-air fans, boiler feedwater, condensate and circulation pumps. Controlled ramps support smooth process changes.

## Understand the energy opportunity




Ideal fan / pump affinity relationship: power ∝ speed³. At 80% speed, ideal shaft power is about 51% of full-speed power. This is an illustrative relationship, not a guaranteed system saving.

# Built around your process.

A broad fit for heavy industry, utilities and production infrastructure.



## Steel & metals

Dust extraction, blowers, descaling and process-water pumps.



## Cement & building materials

Kiln, raw-mill, preheater, cooler and dust-collection fans.



## Oil, gas & chemical

Pipeline, injection, circulating-water and brine pumps; process fans.



## Mining

Mine ventilation, drainage and water-pumping duties.



## Pulp & paper

Water and pulp pumps, beaters, fans and exhausters.



## Sugar processing

Pumps, induced-draft and forced-draft fans for process utilities.

# Identify the voltage and motor rating.

Model suffix power is the rated motor power in kW: 160 means 160 kW, 200 means 200 kW.

## MAX-MV - 060 - 1000

| SERIES | VOLTAGE | MOTOR POWER |
|---|---|---|
| MAX-MV | 060 = 6 kV | 1000 = 1,000 kW |

| VOLTAGE | CODE | CATALOGUED MOTOR POWER |
|---|---|---|
| 3 kV | 030 | 160-3,150 kW |
| 3.3 kV | 033 | 160-3,150 kW |
| 4.16 kV | 040 | 160-4,000 kW |
| 6 kV | 060 | 160-6,300 kW |
| 6.6 kV | 066 | 160-6,300 kW |
| 10 kV | 100 | 200-10,000 kW |
| 11 kV | 110 | 200-10,000 kW |

**Motor / duty suffixes:** no suffix = asynchronous motor; T = synchronous motor; PM = permanent magnet motor; S = heavy-duty selection. Confirm the final suffix combination and configuration with INOMAX.

Broader series capability is 3-13.8 kV / 160 kW-40 MW. The following seven tables reproduce the published model list, not every possible customized combination.

# 3 kV selection table.

Motor power, capacity, current and cabinet dimensions in a consistent format.

| MODEL | POWER kW | CAPACITY kVA | CURRENT A | LENGTH mm | WIDTH mm | HEIGHT mm |
|---|---|---|---|---|---|---|
| MAX-MV-030-160 | 160 | 200 | 39 | 3200 | 1000 | 2200 |
| MAX-MV-030-200 | 200 | 250 | 49 | 3200 | 1000 | 2200 |
| MAX-MV-030-220 | 220 | 275 | 54 | 3200 | 1000 | 2200 |
| MAX-MV-030-250 | 250 | 315 | 61 | 3200 | 1000 | 2200 |
| MAX-MV-030-280 | 280 | 350 | 68 | 3200 | 1000 | 2200 |
| MAX-MV-030-315 | 315 | 400 | 77 | 3200 | 1000 | 2200 |
| MAX-MV-030-355 | 355 | 450 | 86 | 3500 | 1000 | 2200 |
| MAX-MV-030-400 | 400 | 500 | 96 | 3500 | 1000 | 2200 |
| MAX-MV-030-450 | 450 | 560 | 108 | 3500 | 1200 | 2200 |
| MAX-MV-030-500 | 500 | 630 | 120 | 3500 | 1200 | 2200 |
| MAX-MV-030-560 | 560 | 700 | 135 | 3500 | 1200 | 2200 |
| MAX-MV-030-630 | 630 | 800 | 154 | 3900 | 1200 | 2200 |
| MAX-MV-030-710 | 710 | 900 | 171 | 3900 | 1200 | 2300 |
| MAX-MV-030-800 | 800 | 1,000 | 192 | 4200 | 1300 | 2300 |
| MAX-MV-030-900 | 900 | 1,125 | 216 | 4200 | 1300 | 2300 |
| MAX-MV-030-1000 | 1,000 | 1,250 | 240 | 4200 | 1300 | 2300 |
| MAX-MV-030-1120 | 1,120 | 1,400 | 276 | 4200 | 1300 | 2300 |
| MAX-MV-030-1250 | 1,250 | 1,600 | 308 | 4600 | 1300 | 2300 |
| MAX-MV-030-1400 | 1,400 | 1,750 | 345 | 4600 | 1300 | 2300 |
| MAX-MV-030-1600 | 1,600 | 2,000 | 395 | 4600 | 1300 | 2300 |
| MAX-MV-030-1800 | 1,800 | 2,250 | 443 | 4600 | 1300 | 2300 |
| MAX-MV-030-2000 | 2,000 | 2,500 | 493 | 4900 | 1300 | 2300 |
| MAX-MV-030-2240 | 2,240 | 2,800 | 552 | 4900 | 1300 | 2300 |
| MAX-MV-030-2500 | 2,500 | 3,150 | 616 | 4900 | 1400 | 2300 |
| MAX-MV-030-2800 | 2,800 | 3,500 | 690 | 4900 | 1400 | 2300 |
| MAX-MV-030-3150 | 3,150 | 4,000 | 778 | 4900 | 1400 | 2300 |

Dimensions exclude bypass additions and top fans; add the selected bypass length. Drive capacity is project-dependent.

# 3.3 kV selection table.

Motor power, capacity, current and cabinet dimensions in a consistent format.

| MODEL | POWER kW | CAPACITY kVA | CURRENT A | LENGTH mm | WIDTH mm | HEIGHT mm |
|---|---|---|---|---|---|---|
| MAX-MV-033-160 | 160 | 200 | 34 | 3200 | 1000 | 2200 |
| MAX-MV-033-200 | 200 | 250 | 45 | 3200 | 1000 | 2200 |
| MAX-MV-033-220 | 220 | 275 | 49 | 3200 | 1000 | 2200 |
| MAX-MV-033-250 | 250 | 315 | 55 | 3200 | 1000 | 2200 |
| MAX-MV-033-280 | 280 | 350 | 62 | 3200 | 1000 | 2200 |
| MAX-MV-033-315 | 315 | 400 | 70 | 3200 | 1000 | 2200 |
| MAX-MV-033-355 | 355 | 450 | 79 | 3500 | 1000 | 2200 |
| MAX-MV-033-400 | 400 | 500 | 87 | 3500 | 1000 | 2200 |
| MAX-MV-033-450 | 450 | 560 | 98 | 3500 | 1200 | 2200 |
| MAX-MV-033-500 | 500 | 630 | 110 | 3500 | 1200 | 2200 |
| MAX-MV-033-560 | 560 | 700 | 124 | 3500 | 1200 | 2200 |
| MAX-MV-033-630 | 630 | 800 | 140 | 3900 | 1200 | 2200 |
| MAX-MV-033-710 | 710 | 900 | 157 | 3900 | 1200 | 2300 |
| MAX-MV-033-800 | 800 | 1,000 | 175 | 4200 | 1300 | 2300 |
| MAX-MV-033-900 | 900 | 1,125 | 196 | 4200 | 1300 | 2300 |
| MAX-MV-033-1000 | 1,000 | 1,250 | 219 | 4200 | 1300 | 2300 |
| MAX-MV-033-1120 | 1,120 | 1,400 | 245 | 4200 | 1300 | 2300 |
| MAX-MV-033-1250 | 1,250 | 1,600 | 280 | 4600 | 1300 | 2300 |
| MAX-MV-033-1400 | 1,400 | 1,750 | 315 | 4600 | 1300 | 2300 |
| MAX-MV-033-1600 | 1,600 | 2,000 | 350 | 4600 | 1300 | 2300 |
| MAX-MV-033-1800 | 1,800 | 2,250 | 392 | 4600 | 1300 | 2300 |
| MAX-MV-033-2000 | 2,000 | 2,500 | 437 | 4900 | 1300 | 2300 |
| MAX-MV-033-2240 | 2,240 | 2,800 | 490 | 4900 | 1300 | 2300 |
| MAX-MV-033-2500 | 2,500 | 3,150 | 551 | 4900 | 1400 | 2300 |
| MAX-MV-033-2800 | 2,800 | 3,500 | 620 | 4900 | 1400 | 2300 |
| MAX-MV-033-3150 | 3,150 | 4,000 | 722 | 4900 | 1400 | 2300 |

Dimensions exclude bypass additions and top fans; add the selected bypass length. Drive capacity is project-dependent.

# 4.16 kV selection table.

Motor power, capacity, current and cabinet dimensions in a consistent format.

| MODEL | POWER kW | CAPACITY kVA * | CURRENT A | LENGTH mm | WIDTH mm | HEIGHT mm |
|---|---|---|---|---|---|---|
| MAX-MV-040-160 | 160 | 245 | 34 | 3200 | 1000 | 2200 |
| MAX-MV-040-220 | 220 | 288 | 40 | 3200 | 1000 | 2200 |
| MAX-MV-040-280 | 280 | 346 | 48 | 3200 | 1000 | 2200 |
| MAX-MV-040-315 | 315 | 389 | 54 | 3200 | 1000 | 2200 |
| MAX-MV-040-355 | 355 | 447 | 62 | 3200 | 1000 | 2200 |
| MAX-MV-040-400 | 400 | 504 | 70 | 3200 | 1000 | 2200 |
| MAX-MV-040-450 | 450 | 569 | 79 | 3200 | 1000 | 2200 |
| MAX-MV-040-500 | 500 | 627 | 87 | 3200 | 1000 | 2200 |
| MAX-MV-040-560 | 560 | 706 | 98 | 3500 | 1200 | 2200 |
| MAX-MV-040-600 | 600 | 757 | 105 | 3500 | 1200 | 2200 |
| MAX-MV-040-700 | 700 | 879 | 122 | 3500 | 1200 | 2200 |
| MAX-MV-040-800 | 800 | 1,002 | 139 | 3500 | 1200 | 2200 |
| MAX-MV-040-900 | 900 | 1,102 | 153 | 3900 | 1200 | 2200 |
| MAX-MV-040-1000 | 1,000 | 1,225 | 170 | 3900 | 1200 | 2200 |
| MAX-MV-040-1200 | 1,200 | 1,470 | 204 | 4200 | 1200 | 2200 |
| MAX-MV-040-1400 | 1,400 | 1,715 | 238 | 4200 | 1200 | 2200 |
| MAX-MV-040-1600 | 1,600 | 1,960 | 272 | 4200 | 1200 | 2200 |
| MAX-MV-040-1800 | 1,800 | 2,226 | 309 | 4200 | 1200 | 2200 |
| MAX-MV-040-2000 | 2,000 | 2,479 | 344 | 4600 | 1200 | 2200 |
| MAX-MV-040-2250 | 2,250 | 2,781 | 386 | 4600 | 1200 | 2200 |
| MAX-MV-040-2500 | 2,500 | 3,098 | 430 | 4600 | 1200 | 2200 |
| MAX-MV-040-2800 | 2,800 | 3,466 | 481 | 4900 | 1200 | 2200 |
| MAX-MV-040-3150 | 3,150 | 3,891 | 540 | 4900 | 1200 | 2200 |
| MAX-MV-040-3500 | 3,500 | 4,323 | 600 | 4900 | 1200 | 2200 |
| MAX-MV-040-4000 | 4,000 | 4,950 | 687 | 4900 | 1200 | 2200 |

* Calculated apparent power = √3 × 4.16 kV × the source motor current, rounded to the nearest kVA. These are reference calculations, not manufacturer-confirmed rated drive capacities. Source model codes, kW, current and dimensions are retained.

# 6 kV selection table.

Motor power, capacity, current and cabinet dimensions in a consistent format.

| MODEL | POWER kW | CAPACITY kVA | CURRENT A | LENGTH mm | WIDTH mm | HEIGHT mm |
|---|---|---|---|---|---|---|
| MAX-MV-060-160 | 160 | 200 | 20 | 2400 | 1300 | 2000 |
| MAX-MV-060-200 | 200 | 250 | 25 | 2400 | 1300 | 2000 |
| MAX-MV-060-220 | 220 | 275 | 28 | 2400 | 1300 | 2000 |
| MAX-MV-060-250 | 250 | 315 | 31 | 2400 | 1300 | 2000 |
| MAX-MV-060-280 | 280 | 350 | 35 | 2400 | 1300 | 2000 |
| MAX-MV-060-315 | 315 | 400 | 39 | 2400 | 1300 | 2000 |
| MAX-MV-060-355 | 355 | 450 | 44 | 2400 | 1300 | 2000 |
| MAX-MV-060-400 | 400 | 500 | 50 | 2400 | 1300 | 2000 |
| MAX-MV-060-450 | 450 | 560 | 56 | 2400 | 1300 | 2000 |
| MAX-MV-060-500 | 500 | 630 | 62 | 2400 | 1300 | 2000 |
| MAX-MV-060-560 | 560 | 700 | 69 | 2400 | 1300 | 2000 |
| MAX-MV-060-630 | 630 | 800 | 78 | 2900 | 1500 | 2000 |
| MAX-MV-060-710 | 710 | 900 | 88 | 2900 | 1500 | 2000 |
| MAX-MV-060-800 | 800 | 1,000 | 99 | 2900 | 1500 | 2000 |
| MAX-MV-060-900 | 900 | 1,125 | 111 | 2900 | 1500 | 2000 |
| MAX-MV-060-1000 | 1,000 | 1,250 | 123 | 2900 | 1500 | 2000 |
| MAX-MV-060-1120 | 1,120 | 1,400 | 138 | 2900 | 1500 | 2000 |
| MAX-MV-060-1250 | 1,250 | 1,600 | 154 | 2900 | 1500 | 2000 |
| MAX-MV-060-1400 | 1,400 | 1,750 | 173 | 3150 | 1500 | 2000 |
| MAX-MV-060-1600 | 1,600 | 2,000 | 198 | 3150 | 1500 | 2000 |
| MAX-MV-060-1800 | 1,800 | 2,250 | 222 | 3150 | 1500 | 2000 |
| MAX-MV-060-2000 | 2,000 | 2,500 | 247 | 4300 | 1300 | 2200 |
| MAX-MV-060-2240 | 2,240 | 2,800 | 277 | 4300 | 1300 | 2200 |
| MAX-MV-060-2500 | 2,500 | 3,150 | 309 | 4300 | 1300 | 2200 |
| MAX-MV-060-2800 | 2,800 | 3,500 | 346 | 5640 | 1500 | 2400 |
| MAX-MV-060-3150 | 3,150 | 4,000 | 384 | 5640 | 1500 | 2400 |
| MAX-MV-060-3550 | 3,550 | 4,500 | 439 | 5640 | 1500 | 2400 |
| MAX-MV-060-4000 | 4,000 | 5,000 | 495 | 5640 | 1500 | 2500 |
| MAX-MV-060-4500 | 4,500 | 5,600 | 557 | 5930 | 1800 | 2500 |
| MAX-MV-060-5000 | 5,000 | 6,300 | 619 | 5930 | 1800 | 2500 |
| MAX-MV-060-5600 | 5,600 | 7,000 | 693 | 5930 | 1800 | 2500 |
| MAX-MV-060-6300 | 6,300 | 7,900 | 780 | 5930 | 1800 | 2500 |

Dimensions exclude bypass additions and top fans; add the selected bypass length. Drive capacity is project-dependent.

# 6.6 kV selection table.

Motor power, capacity, current and cabinet dimensions in a consistent format.

| MODEL | POWER kW | CAPACITY kVA | CURRENT A | LENGTH mm | WIDTH mm | HEIGHT mm |
|---|---|---|---|---|---|---|
| MAX-MV-066-160 | 160 | 200 | 18 | 2400 | 1300 | 2000 |
| MAX-MV-066-200 | 200 | 250 | 23 | 2400 | 1300 | 2000 |
| MAX-MV-066-220 | 220 | 275 | 26 | 2400 | 1300 | 2000 |
| MAX-MV-066-250 | 250 | 315 | 28 | 2400 | 1300 | 2000 |
| MAX-MV-066-280 | 280 | 350 | 32 | 2400 | 1300 | 2000 |
| MAX-MV-066-315 | 315 | 400 | 35 | 2400 | 1300 | 2000 |
| MAX-MV-066-355 | 355 | 450 | 39 | 2400 | 1300 | 2000 |
| MAX-MV-066-400 | 400 | 500 | 44 | 2400 | 1300 | 2000 |
| MAX-MV-066-450 | 450 | 560 | 49 | 2400 | 1300 | 2000 |
| MAX-MV-066-500 | 500 | 630 | 55 | 2400 | 1300 | 2000 |
| MAX-MV-066-560 | 560 | 700 | 62 | 2400 | 1300 | 2000 |
| MAX-MV-066-630 | 630 | 800 | 70 | 2900 | 1500 | 2000 |
| MAX-MV-066-710 | 710 | 900 | 79 | 2900 | 1500 | 2000 |
| MAX-MV-066-800 | 800 | 1,000 | 87 | 2900 | 1500 | 2000 |
| MAX-MV-066-900 | 900 | 1,125 | 98 | 2900 | 1500 | 2000 |
| MAX-MV-066-1000 | 1,000 | 1,250 | 109 | 2900 | 1500 | 2000 |
| MAX-MV-066-1120 | 1,120 | 1,400 | 122 | 2900 | 1500 | 2000 |
| MAX-MV-066-1250 | 1,250 | 1,600 | 140 | 2900 | 1500 | 2000 |
| MAX-MV-066-1400 | 1,400 | 1,750 | 157 | 3150 | 1500 | 2200 |
| MAX-MV-066-1600 | 1,600 | 2,000 | 175 | 3150 | 1500 | 2200 |
| MAX-MV-066-1800 | 1,800 | 2,250 | 196 | 3150 | 1500 | 2200 |
| MAX-MV-066-2000 | 2,000 | 2,500 | 219 | 3200 | 1550 | 2200 |
| MAX-MV-066-2240 | 2,240 | 2,800 | 245 | 3200 | 1550 | 2200 |
| MAX-MV-066-2500 | 2,500 | 3,150 | 276 | 3200 | 1550 | 2400 |
| MAX-MV-066-2800 | 2,800 | 3,500 | 311 | 6850 | 1500 | 2400 |
| MAX-MV-066-3150 | 3,150 | 4,000 | 350 | 6850 | 1500 | 2400 |
| MAX-MV-066-3550 | 3,550 | 4,500 | 394 | 6850 | 1500 | 2400 |
| MAX-MV-066-4000 | 4,000 | 5,000 | 437 | 6850 | 1500 | 2400 |
| MAX-MV-066-4500 | 4,500 | 5,600 | 490 | 7150 | 1800 | 2500 |
| MAX-MV-066-5000 | 5,000 | 6,300 | 551 | 7150 | 1800 | 2500 |
| MAX-MV-066-5600 | 5,600 | 7,000 | 620 | 7150 | 1800 | 2500 |
| MAX-MV-066-6300 | 6,300 | 7,900 | 722 | 7150 | 1800 | 2500 |

Dimensions exclude bypass additions and top fans; add the selected bypass length. Drive capacity is project-dependent. From 2,800 kW inclusive, add an 800 mm wide current-limiting cabinet with matching depth and height.

# 10 kV selection table.

Motor power, capacity, current and cabinet dimensions in a consistent format.

| MODEL | POWER kW | CAPACITY kVA | CURRENT A | LENGTH mm | WIDTH mm | HEIGHT mm |
|---|---|---|---|---|---|---|
| MAX-MV-100-200 | 200 | 250 | 15 | 2400 | 1300 | 2000 |
| MAX-MV-100-250 | 250 | 315 | 19 | 2400 | 1300 | 2000 |
| MAX-MV-100-280 | 280 | 350 | 21 | 2400 | 1300 | 2000 |
| MAX-MV-100-315 | 315 | 400 | 24 | 2400 | 1300 | 2000 |
| MAX-MV-100-355 | 355 | 450 | 27 | 2400 | 1300 | 2000 |
| MAX-MV-100-400 | 400 | 500 | 30 | 2400 | 1300 | 2000 |
| MAX-MV-100-450 | 450 | 560 | 34 | 2400 | 1300 | 2000 |
| MAX-MV-100-500 | 500 | 630 | 38 | 2400 | 1300 | 2000 |
| MAX-MV-100-560 | 560 | 700 | 42 | 2400 | 1300 | 2000 |
| MAX-MV-100-630 | 630 | 800 | 47 | 2400 | 1300 | 2000 |
| MAX-MV-100-710 | 710 | 900 | 53 | 2400 | 1300 | 2000 |
| MAX-MV-100-800 | 800 | 1,000 | 60 | 2400 | 1300 | 2000 |
| MAX-MV-100-900 | 900 | 1,125 | 68 | 2400 | 1300 | 2000 |
| MAX-MV-100-1000 | 1,000 | 1,250 | 75 | 2400 | 1300 | 2000 |
| MAX-MV-100-1120 | 1,120 | 1,400 | 84 | 2900 | 1500 | 2000 |
| MAX-MV-100-1250 | 1,250 | 1,600 | 94 | 2900 | 1500 | 2000 |
| MAX-MV-100-1400 | 1,400 | 1,750 | 105 | 2900 | 1500 | 2000 |
| MAX-MV-100-1600 | 1,600 | 2,000 | 115 | 2900 | 1500 | 2000 |
| MAX-MV-100-1800 | 1,800 | 2,250 | 130 | 2900 | 1500 | 2000 |
| MAX-MV-100-2000 | 2,000 | 2,500 | 144 | 2900 | 1500 | 2000 |
| MAX-MV-100-2240 | 2,240 | 2,800 | 162 | 3150 | 1500 | 2000 |
| MAX-MV-100-2500 | 2,500 | 3,150 | 182 | 3150 | 1500 | 2000 |
| MAX-MV-100-2800 | 2,800 | 3,500 | 205 | 3150 | 1500 | 2200 |
| MAX-MV-100-3150 | 3,150 | 4,000 | 230 | 3150 | 1500 | 2200 |
| MAX-MV-100-3550 | 3,550 | 4,500 | 260 | 4700 | 1300 | 2200 |
| MAX-MV-100-4000 | 4,000 | 5,000 | 290 | 4700 | 1300 | 2200 |
| MAX-MV-100-4500 | 4,500 | 5,600 | 324 | 6910 | 1500 | 2500 |
| MAX-MV-100-5000 | 5,000 | 6,300 | 360 | 7610 | 1800 | 2500 |
| MAX-MV-100-5600 | 5,600 | 7,000 | 403 | 7610 | 1800 | 2500 |
| MAX-MV-100-6300 | 6,300 | 8,000 | 454 | 7610 | 1800 | 2500 |
| MAX-MV-100-7100 | 7,100 | 8,900 | 510 | 7610 | 1800 | 2500 |
| MAX-MV-100-8000 | 8,000 | 10,000 | 580 | 7780 | 1800 | 2500 |
| MAX-MV-100-9000 | 9,000 | 11,250 | 653 | 7780 | 1800 | 2500 |
| MAX-MV-100-10000 | 10,000 | 12,500 | 725 | 7780 | 1800 | 2500 |

Dimensions exclude bypass additions and top fans; add the selected bypass length. Drive capacity is project-dependent.

# 11 kV selection table.

Motor power, capacity, current and cabinet dimensions in a consistent format.

| MODEL | POWER kW | CAPACITY kVA | CURRENT A | LENGTH mm | WIDTH mm | HEIGHT mm |
|---|---|---|---|---|---|---|
| MAX-MV-110-200 | 200 | 250 | 14 | 2600 | 1300 | 2000 |
| MAX-MV-110-250 | 250 | 315 | 17 | 2600 | 1300 | 2000 |
| MAX-MV-110-280 | 280 | 350 | 19 | 2600 | 1300 | 2000 |
| MAX-MV-110-315 | 315 | 400 | 21 | 2600 | 1300 | 2000 |
| MAX-MV-110-355 | 355 | 450 | 24 | 2600 | 1300 | 2000 |
| MAX-MV-110-400 | 400 | 500 | 26 | 2600 | 1300 | 2000 |
| MAX-MV-110-450 | 450 | 560 | 29 | 2600 | 1300 | 2000 |
| MAX-MV-110-500 | 500 | 630 | 33 | 2600 | 1300 | 2000 |
| MAX-MV-110-560 | 560 | 700 | 37 | 2600 | 1300 | 2000 |
| MAX-MV-110-630 | 630 | 800 | 42 | 2600 | 1300 | 2000 |
| MAX-MV-110-710 | 710 | 900 | 47 | 2600 | 1300 | 2000 |
| MAX-MV-110-800 | 800 | 1,000 | 52 | 2600 | 1300 | 2000 |
| MAX-MV-110-900 | 900 | 1,125 | 59 | 2600 | 1300 | 2000 |
| MAX-MV-110-1000 | 1,000 | 1,250 | 66 | 2600 | 1300 | 2000 |
| MAX-MV-110-1120 | 1,120 | 1,400 | 73 | 3150 | 1500 | 2000 |
| MAX-MV-110-1250 | 1,250 | 1,600 | 84 | 3150 | 1500 | 2000 |
| MAX-MV-110-1400 | 1,400 | 1,750 | 94 | 3150 | 1500 | 2000 |
| MAX-MV-110-1600 | 1,600 | 2,000 | 105 | 3150 | 1500 | 2000 |
| MAX-MV-110-1800 | 1,800 | 2,250 | 118 | 3150 | 1500 | 2000 |
| MAX-MV-110-2000 | 2,000 | 2,500 | 131 | 3150 | 1500 | 2000 |
| MAX-MV-110-2240 | 2,240 | 2,800 | 147 | 3150 | 1500 | 2000 |
| MAX-MV-110-2500 | 2,500 | 3,150 | 165 | 3150 | 1500 | 2000 |
| MAX-MV-110-2800 | 2,800 | 3,500 | 186 | 3150 | 1500 | 2200 |
| MAX-MV-110-3150 | 3,150 | 4,000 | 210 | 3150 | 1500 | 2200 |
| MAX-MV-110-3550 | 3,550 | 4,500 | 236 | 5300 | 1500 | 2200 |
| MAX-MV-110-4000 | 4,000 | 5,000 | 262 | 5300 | 1500 | 2200 |
| MAX-MV-110-4500 | 4,500 | 5,600 | 294 | 8100 | 1500 | 2500 |
| MAX-MV-110-5000 | 5,000 | 6,300 | 331 | 8800 | 1800 | 2500 |
| MAX-MV-110-5600 | 5,600 | 7,000 | 367 | 8800 | 1800 | 2500 |
| MAX-MV-110-6300 | 6,300 | 8,000 | 420 | 8800 | 1800 | 2500 |
| MAX-MV-110-7100 | 7,100 | 8,900 | 472 | 8800 | 1800 | 2500 |
| MAX-MV-110-8000 | 8,000 | 10,000 | 525 | 9000 | 1800 | 2500 |
| MAX-MV-110-9000 | 9,000 | 11,250 | 587 | 9000 | 1800 | 2500 |
| MAX-MV-100-10000 * | 10,000 | 12,500 | 656 | 9000 | 1800 | 2500 |

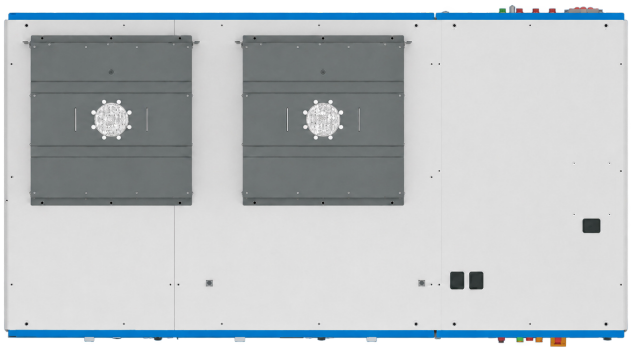
Dimensions exclude bypass additions and top fans; add the selected bypass length. Drive capacity is project-dependent. From 4,500 kW inclusive, add an 800 mm wide current-limiting cabinet with matching depth and height. * Source code MAX-MV-100-10000 is retained; confirm the 11 kV ordering code.

# Check the complete installation envelope.

Reference dimensions are only one part of the final drive-room arrangement.




Front view



Top / plan view

| DIMENSION ITEM | SELECTION NOTE |
|---|---|
| Table dimensions | Length × width × height; millimetres |
| Top-mounted fans | Excluded from the tabulated height;<br>source indicates an overhead fan height below 500 mm |
| Bypass equipment | Add the selected bypass cabinet to the base envelope |
| Current-limiting cabinet | 6.6 kV from 2,800 kW; 11 kV from 4,500 kW:<br>add 800 mm width, with matching depth and height |
| Cabinet colour | RAL 7035 grey white; custom finish available |

# Plan the room and cooling together.

Access, environment and power-system coordination are part of the complete package.

| SITE CONDITION | REQUIREMENT / REVIEW |
|---|---|
| Operating environment | -10 to +40°C; 20-95% RH; non-condensing |
| Altitude | Below 2,000 m; apply project-confirmed derating above this |
| Airflow | Keep inlets, internal ducts and top exhaust unobstructed |
| Water cooling | Confirm cooling-water quality, supply and heat rejection |
| Foundation | Support the complete installed cabinet arrangement |
| Cable routes | Separate MV power cables from low-voltage control signals |
| Environment | No explosive / corrosive gases, conductive dust or oil mist |
| Custom enclosure | Specify IP54 and the actual environmental / cooling conditions |

### Delivery access

Check transport sections, door openings, lifting and final positioning.

### Service access

Allow safe access for inspection, fan service and power-unit replacement.

# Keep the system ready.

Routine observation and planned maintenance support long-term operation.




## Modular power stage

Power units are replaceable modules. Match the installed electrical specification and follow the service procedure for the actual configuration.

| INTERVAL / ACTIVITY | WHAT TO CHECK |
|---|---|
| Routine observation | Environment, running parameters, unusual noise / vibration, odour, cooling-fan operation and supply phase balance. |
| Periodic inspection | Manual suggests 3- or 6-month intervals depending on site. Inspect terminals, busbars, cables, insulation and cooling paths. |
| Wear parts | Cooling fans and DC-link electrolytic capacitors. Assess condition, service hours and operating environment. |
| Service preparation | Record model / serial number, fault log, operating values, motor data and site conditions before contacting support. |

Maintenance and replacement must be performed by trained personnel. Isolate all supplies, verify a safe discharged state and follow the manual and site electrical-safety procedures before access.

# Power generation.

Fans, feed pumps, condensate pumps and circulation systems.





| | |
|---|---|
| **2015.03** | 12 sets of medium-voltage drive were equipped for the boiler primary air fan of the 10 × 350 MW unit medium-voltage frequency conversion transformation project of Xinjiang Xilu Power Plant. |
| **2015.07** | 13 sets of dedicated medium-voltage drives for belt conveyors were equipped for long-distance belt conveyors of Xinjiang East Hope. |
| **2015.08** | 10 sets of medium-voltage drive were equipped for the first phase of the Cangzhou Xuyang Chemicals Thermal Power Project, including for the primary and secondary air fans, induced draft fans and water pumps. |
| **2016.9** | 20 sets of medium-voltage drive were equipped for the boiler feed pump of the 10 × 350 MW unit of Xinjiang East Hope Nonferrous Metal Inhouse Power Plant. |
| **2016.9** | 7 sets of medium-voltage drive were equipped for the feed pumps, primary air fans and induced draft fans of the Jiangsu Datang International Rugao Cogeneration 2 × 12 MW Project. |
| **2019.12** | 42 sets of medium-voltage drive were equipped for 8 projects under Guangdong Changqing (Group), including Tancheng, Shengning, Songyuan, Funing, Binxian, Huaxian, Yanjin, and Xinye. |
| **2020.06** | 3 sets of medium-voltage drive were equipped for the frequency conversion transformation project of the feed pump motor A of Units #1, #3, and #4 of Shenhua Yili Energy Power Plant. |

# Power generation - continued.

Fans, feed pumps, condensate pumps and circulation systems.

| | |
|---|---|
| **2020.03** | 17 sets of medium-voltage drive were equipped for the boiler primary air fan, secondary air fan, induced draft fan, feed pump, and initial station circulating pump loads of the Linyi Hengli Thermal Power New Heat Source Project. |
| **2022.06** | 5 sets of medium-voltage drive were equipped for loads such as the induced draft fan, heat network circulation pump, primary air fan, and secondary air fan of the new 30MW biomass power generation project of SEPCO Electric Power Construction Corporation. |
| **2022.11** | 9 sets of medium-voltage drive were equipped for the water pumps of the power generation project of Yuxi Qianyida New Energy Capacity Replacement and Upgrading Renovation Project. |
| **2023.03** | 8 sets of medium-voltage drive were equipped for the primary air fan of the cogeneration project in Yangzhou Chemical Industrial Park of Jiangsu Huadian Yihua Thermoelectric Power Plant. |
| **2023.12** | 6 sets of medium-voltage drive were equipped for loads such as the primary and secondary air fans and induced draft fans of the cogeneration project in the Xiaozhaiba Area of the Industrial Agglomeration Zone in Xifeng County, Guiyang, undertaken by Guizhou Electric Power Design Institute of PowerChina Group. |

# Building materials.

Kiln fans, high-temperature fans, circulation systems and mills.





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| **2012.2** | 1 set of medium-voltage drive was equipped for the kiln head fan of the 5000t/d calcium carbide slag new dry process cement production line medium-voltage frequency conversion transformation project of Xinjiang Shengxiong Energy. |
| **2014.6** | 3 sets of medium-voltage drive were equipped for the denitrification exhaust fans and circulation fans of Shandong Shanlv Cement. |
| **2015.4** | 5 sets of medium-voltage drive were equipped for loads such as the high-temperature fans, tail exhaust fans, and kiln head exhaust fans of a 5,000t/d and a 3,200t/d clinker new dry process cement production line (at an altitude of 3,000 meters) of Qinghai Huzhu Jinyuan Cements. |
| **2016.11** | 8 sets of medium-voltage drive were equipped for loads such as the roller press circulation fan and cement mill fan of the first-phase off-site technical transformation project of Haiyan Qinshan South Cement's Haihe Intermodal Transport and Resource Comprehensive Utilization Processing. |
| **2017.1** | 3 sets of medium-voltage drive were equipped for fan loads such as coal mills, cement mills, and kiln heads of the 4,000t/d new dry process cement production line (at an altitude of 3380 meters) of Qinghai Hongyang Cements. |
| **2018.6** | 14 sets of medium-voltage drive were equipped for the 5,000-ton clinker per day new dry process cement production line project of Huaning Yuzhu Cement. |

# Building materials - continued.

Kiln fans, high-temperature fans, circulation systems and mills.

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| **2019.2** | 10 sets of medium-voltage drive were equipped for the 1.2 million tons per year clinker new dry process cement production line project (at an altitude of 3,820 meters) of Lhasa Urban Construction Qilian Mountain Cement. |
| **2020.7** | 6 sets of medium-voltage drive were equipped for the medium-voltage frequency conversion technical transformation project of 7 major fans of Zhejiang Jinyuan Cement. |
| **2021.10** | 4 sets of medium-voltage drive were equipped for loads such as circulation fans, head exhaust fans,raw material mill main motors, and coal mill ventilators of the permanent magnet synchronous motor renovation project for fans of Juxian Zhonglian Cements. |
| **2022.8** | 7 sets of medium-voltage drive were equipped for the fans of the 5 million tons per year fine aggregate project of China Resources Cement. |
| **2023.4** | 13 sets of medium-voltage drive were equipped for loads such as fans, kiln main drives, ball mills, and high- temperature fans of the Fengni Solid Waste Disposal Center Project of Dongfang Hope Chongqing Cement. |
| **2024.1** | 5 sets of medium-voltage drive were equipped for loads such as induced draft fans, main supply fans,and boiler feed pumps of the 100,000 tons per year nano-carbon material project for medium-voltage cable shielding materials of Shandong Lianke New Materials. |

# Metallurgy.

Dust extraction, furnace blowers, process pumps, mills and conveyors.





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| **2013.5** | 1 set of medium-voltage drive was equipped for the fans of the medium-voltage frequency conversion renovation project of Alxa League Desheng Metallurgical Materials. |
| **2015.9** | 4 sets of medium-voltage drive were equipped for the smoke exhaust fans of Dongfang Hope Baotou Rare Earth Aluminum. |
| **2015-2016** | 8 sets of medium-voltage drive were equipped for the pellet plant and refinery of Guangxi Shenglong Metallurgy. |
| **2016.10** | 3 medium-voltage drives for an energy-saving renovation. The source does not identify the project site. |
| **2017.1** | 7 sets of medium-voltage drive were equipped for the fan dust removal project of Shandong Rizhao Steel Plant. |
| **2018.4** | 3 sets of medium-voltage drive were equipped for the cold extraction fans and main extraction fans of the first-phase main extraction and cold extraction fan renovation project of Jilin Xinda Steel. |
| **2019.3** | 1 set of medium-voltage drive was equipped for the sintering main extraction fan of the new project of Rizhao Zhufu Industry. |

# Metallurgy - continued.

Dust extraction, furnace blowers, process pumps, mills and conveyors.

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| **2020.6** | 2 sets of medium-voltage drive were equipped for the ferromanganese slag furnace blowers of the ferromanganese slag production line and comprehensive utilization project of Ningxia Shengyan Industrial Group. |
| **2021.2** | nearly 200 sets of medium-voltage drive were equipped for Chongqing Bosai Mining (Group) Co., Ltd. |
| **2022.6** | 3 sets of medium-voltage drive were equipped for Qian'an Iron and Steel of Shougang Corporation. |
| **2022.7** | 4 sets of medium-voltage drive were equipped for the fans of the ultra-low emission renovation project of Wuyang Iron and Steel's steelmaking plant. |
| **2022.10** | 5 sets of medium-voltage drive were equipped for loads such as lean liquid pumps, humidifier water pumps, and compressors of the 2nd bid section of Baosteel Zhanjiang Iron and Steel's 1 million-ton hydrogen-based shaft furnace project. |
| **2022.12** | 6 sets of medium-voltage drive were equipped for the dust removal fans of the steel slag primary treatment production line project in the steelmaking engineering of the 1,250m3 blast furnace capacity replacement and supporting technical transformation project of Beijing Shougang International Engineering Technology. |
| **2023.5** | 4 sets of medium-voltage drive were equipped for the dust removal fans of the 110t continuous charging electric arc furnace and refining furnace dust removal system project of Tangshan Zhongshou Special Steel. |
| **2023.6** | 38 sets of medium-voltage drive were equipped for the fans of Lanzhou Dongjin Silicon's 400,000- ton industrial silicon project. |
| **2023.7** | 5 sets of medium-voltage drive were equipped for the dust removal fans of the medium- voltage drive procurement project of Jiangsu Xugang Iron and Steel Group. |

# Metallurgy - continued.

Dust extraction, furnace blowers, process pumps, mills and conveyors.

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| **2023.10** | 11 sets of medium-voltage drive were equipped for loads such as sodium sulfate potassium steam compressors,clinker vertical mill motors, and induced draft fans of the Xianghuangqi Lithium Resource Comprehensive Utilization Project of Inner Mongolia Ganfeng Lithium Industry. |
| **2024.2** | 16 sets of medium-voltage drive were equipped for the belt conveyors of the belt corridor project in the power workshop of Qian'an Jiujiang Wire and Cable Power Plant. |

# Petrochemical industry.

Compressors, injection pumps, circulation pumps and process fans.





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|---|---|
| **2011.12** | 2 sets of medium-voltage drive were equipped for the water injection pumps of the medium-voltage frequency conversion renovation project of CNPC Liaohe Oilfield (Drilling and Production Technology Research Institute). |
| **2014.5** | 1 set of medium-voltage drive was equipped for the dehydrogenation unit compressor of Jiangsu Jurong Group. |
| **2016.7** | 1 set of medium-voltage drive was equipped for the MVR steam compressor of Yili Chuanning Biotechnology. |
| **2016.11** | 1 set of outdoor medium-voltage drive was equipped for the high-pressure plunger pump of the Weicheng Water Injection Station of Zhongyuan Oilfield Oil Production Plant 3. |
| **2016.12** | 1 set of medium-voltage drive was equipped for one-for-two gas reciprocating compressor of Beihai Gas Pipeline. |
| **2016.12** | 5 sets of dual redundant medium-voltage drive were equipped for the gas blower of the coking plant of Shandong Shengyang Group. |
| **2016.12** | 1 set of medium-voltage drive was equipped for the steam compressor of Heilongjiang Quanlin Ecological Agriculture. |

# Petrochemical industry - continued.

Compressors, injection pumps, circulation pumps and process fans.

| | |
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| **2017.3** | 3 sets of medium-voltage drive were equipped for the primary and secondary air fans and induced draft fans of the aromatics extraction unit of Sinopec. |
| **2018.4** | 5 sets of dual redundant medium-voltage drive were equipped for Hebei Xinhai Chemical Group. |
| **2019.4** | high-power medium-voltage frequency conversion soft starter was installed for the 7,750 kW refrigerant compressor of the 500,000 $Nm^3$/day LNG project of Ningxia Yanchi Xinkeyuan Energy Utilization Co., Ltd. to achieve smooth and stable startup of the high-power motor with the SVG function configured. After the motor startup and switching were completed, the frequency conversion soft starter dynamically compensated reactive power to the power grid. |
| **2022.4** | 1 set of medium-voltage drive was equipped for the 16,000 kW refrigerant compressor and 1 set of medium-voltage drive was equipped for the 8,900 kW synthetic gas compressor of Xinpengnan Coking. |
| **2023.3** | 7 sets of medium-voltage drive were equipped for the compressors of the medium-voltage drive procurement project of Offshore Oil Engineering Co., Ltd. |
| **2023.3** | 8 sets of medium-voltage drive were equipped for the water injection pumps of the medium-voltage frequency conversion device bidding project of Sinopec. |
| **2023.4** | 11 sets of medium-voltage drive were equipped for loads such as fans and water pumps of the 3 million tons/ year coking integration and upgrading supporting project of Inner Mongolia Junzheng Energy & Chemical. |
| **2023.6** | 15 sets of medium-voltage drive were equipped for the feed pumps of the new project of Hulunbeier Northeast Fufeng Biotechnologies. |
| **2023.10** | 9 sets of medium-voltage drive (including dual thermal redundancy) were equipped for the oil pumps of the 1.6 million tons hydrogenated white oil refining project of Shandong Shengxing Chemical. |

# Equipment manufacturing.

Variable-frequency test power supplies and motor / pump / compressor test benches.





| | |
|---|---|
| **2012.2** | 1 set of medium-voltage variable frequency test power supply was equipped for the water pump test bench of the medium-voltage variable frequency test power supply project of Jiangsu Zhenjiang Zhenghan Industrial. |
| **2012.10** | 8 sets of medium-voltage drive were equipped for the 100MW hydraulic press pump station of the nuclear power equipment manufacturing and testing system of Yantai Taihai Manuer Nuclear Power Equipment. |
| **2013.5** | one set of medium-voltage variable frequency test power supply with maximum output current of 600A was provided for the compressor test bench of Johnson Controls Central Air Conditioning Compressor Test Power Supply Project. |
| **2014.4** | 1 set of medium-voltage frequency conversion test power supply was equipped for the drive cigarette lighting equipment test bench of the National Water Pump and System Engineering Research Center Test Power Supply Project of Jiangsu University. |
| **2016.4** | 1 set of medium-voltage drive was equipped for Hangzhou NAC Co., Ltd. |
| **2016.12** | 1 set of medium-voltage variable frequency test power supply was equipped for the testing platform of Changzhou Pacific Electric Power. |
| **2016.12** | one set of (input 380V, output 10000V) medium-voltage variable frequency test power supply was equipped for the laboratory medium-voltage test power supply project of Regal Electric Appliances (Yueyang). |

# Equipment manufacturing - continued.

Variable-frequency test power supplies and motor / pump / compressor test benches.

| | |
|---|---|
| **2017.3** | 1 set of medium-voltage variable frequency test power supply was equipped for the compressor test bench of Johnson Controls Central Air Conditioning Compressor Test Power Supply Project. |
| **2018.4** | 1 set of medium-voltage variable frequency test power supply was equipped for the test power supply project of Hefei Huasheng Pumps & Valves. |
| **2020.3** | 2 sets of medium-voltage variable frequency test power supplies were equipped for the testing platform of the test center of Ping'an Electric. |
| **2021.7** | 1 set of medium-voltage variable frequency test power supply was equipped for the motor comprehensive intelligent experimental system project of Tianjin Shenhua Weiye. |
| **2023.7** | 1 set of medium-voltage frequency conversion soft starter was equipped for the test water pump of the medium-voltage water pump test platform project of Shenyang Industrial Pump Manufacturing. |
| **2023.12** | 1 set of medium-voltage drive was equipped for the compressor test power supply of the MVR turbo compressor test platform drive project of Hunan Lixing Power Technology. |

# Municipal infrastructure.

Water supply, industrial pumping, heating and shore-power applications.





| | |
|---|---|
| **2013.12** | 2 sets of medium-voltage drive were equipped for the lifting pumps of the transformation project of Yantai Menlou Reservoir Lifting Pump Station. |
| **2015.11** | 4 sets of medium-voltage drive were equipped for the water supply pump in the east of the city of Wu'an Water Plant West District Water Source Replacement Project in Handan, Hebei. |
| **2015.10** | 6 sets of medium-voltage drive were equipped for the water supply pump of the Water Supply Project of Textile Industrial Park in Aksu South Industrial Park, Xinjiang. |
| **2016.11** | 4 sets of medium-voltage drive were equipped for the water transmission project of Golmud Industrial Park (at an altitude of 2,800 meters). |
| **2016.11** | 17 sets of medium-voltage drive were equipped for loads such as heat network drain pumps, heat network circulation pumps, and heating circulation pumps of the Xibaipo Heat Utilization Project in Shijiazhuang Xiling Heating. |
| **2019.10** | 5 sets of medium-voltage drive were provided for the water pumps of the concentric new district central heating expansion project of the Housing and Urban-Rural Development Bureau of Tongxin County. |
| **2020.4** | 6 sets of medium-voltage drive were equipped for the third-stage booster pump station project of the water pipeline project for ecological restoration and comprehensive environmental management in the key coal mining subsidence areas of Yiqi. |

# Municipal infrastructure - continued.

Water supply, industrial pumping, heating and shore-power applications.

| | |
|---|---|
| **2021.10** | 8 sets of medium-voltage drive were equipped for the quality improvement project of the strategic water source in the Jiaodong Peninsula of Weifang Xiashan Reservoir Management Service Center. |
| **2022.5** | 9 sets of medium-voltage drive were equipped for the secondary pressure pumps of the Sangani Reservoir Project in Zimbabwe, Africa. |
| **2022.11** | 6 sets of medium-voltage drive were equipped for the water pumps of the charcoal ink factory pressure separation station project in Kongcun Town, Pingyin County, Shandong Province, by Shandong Luqiao Group. |
| **2023.07** | 4 sets of medium-voltage drive were equipped for loads such as circulation fans, primary and secondary air fans of the 116MW hot water boiler new construction project of Zhaodong Housing and Urban-Rural Development Bureau. |
| **2023.08** | 8 sets of medium-voltage drive were equipped for the water pumps of the new relay pump station project of Changli West-to-East Heat Transmission Project. |
| **2024.01** | 1 set of medium-voltage drive was equipped for the water pumps of the second-phase water treatment equipment of the Metelevsky Water Treatment Facility in Russia. |

# From specification to operation.

Confirm the complete system before final engineering and manufacture.

## 1 Motor & process

Motor technology, voltage, current, kW, speed and load characteristic. Required speed range, torque, acceleration, overload and continuity.

## 2 Grid & switching

Supply voltage, frequency, fault level, grounding and switchgear. No bypass, manual / automatic bypass, soft-start bypass or current limiting.

## 3 Control & availability

HMI / DCS commands, I/O, standard Modbus-RTU or optional PROFIBUS-DP / TCP/IP / IoT. Encoder, master-slave control and redundancy options.

## 4 Site & enclosure

Ambient temperature, altitude, cooling and available room. IP31 / IP42 / custom IP54, cabinet arrangement, transport sections and maintenance access.

Final model, capacity, dimensions, cooling, protection and switching performance are confirmed in the project technical agreement. IP54 is a customized option without a standard catalogue model code.

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