



Smart solutions.
Strong relationships.

Emotron High Power Drives

Emotron FDU/VFX 2.1, 160-4000 kW, 230-690V



Modular drive cabinets

with increased power efficiency

Discover the modern range of Emotron FDU/VFX 2.1 Variable Frequency Drives (VFD) with improved power density and modular build for flexibility and redundancy. Emotron cabinet drives are easily built to preferred power with a new design of modular Power Electronic Building Blocks (PEBBs). Each PEBB is interchangeable and self-monitored.

Emotron cabinets builds are now available with:

- Average 30% reduced cabinet width (compared to previous 400V models)
- Smart temp/speed control of DC-powered cabinet fans for optimized fan life time and efficiency
- Cabinet configurator tool for simplified generation of quote and layout

Cabinet designs are based on:

- Standard cabinets with a width of 600mm and 1000mm
- Depth of 600mm
- Height of 2200mm (including 100mm base/plinth and air-outlet)

Take advantage of advanced Emotron technology for a superior drive efficiency at 98%. Secure an efficient operation with state-of-the-art air cooled heatsinks with heat pipe technology, communication with all main fieldbuses, remote access and integrated shaft power monitoring.



Type A 600 mm drive cabinet:

*Emotron FDU/VFX 2.1
160-400 kW, 400/690 V, IP54*



Type B 1000 mm drive cabinet:

*Emotron FDU/VFX 2.1
450-630 kW, 400/690 V, IP54*

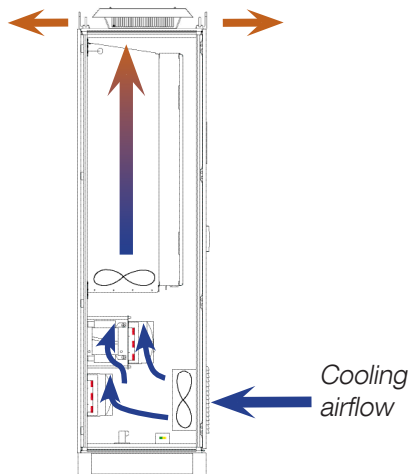
MAIN FEATURES EMOTRON VARIABLE FREQUENCY DRIVES VFX/FDU

- Control panel with Real Time Clock. Optional Bluetooth/Wi-Fi communication.
- Available as robust and certified IP54 cabinet or IP20 module.
- All drive sizes are delivered with built-in Category C3 EMC-filter as standard. C3 requirements are fulfilled with 80 m motor cable.
- Temperature/Speed controlled fans assures less noise, a more even drive temperature and higher efficiency.
- Load monitor function included as standard.
- Detachable multi-language control panel included as standard. Following languages are supported in the control panel: English, Swedish, Dutch, German, French, Spanish, Russian, Italian, Czech, Turkish and Polish.
- UL/cUL (UL 840) approved version available.
- Marine (DNV-GL & BV) approved version available.
- Liquid cooled version available for sizes above 90 A.
- Includes DC-powered door fan, no need for AC supply.

Cost-efficient cabinet design

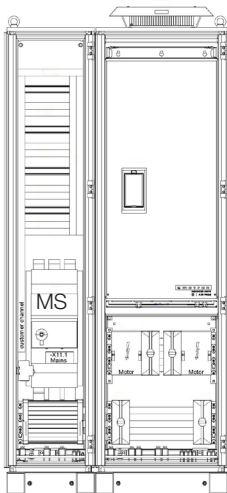
The robust high quality Emotron FDU/VFX 2.1 Variable Frequency Drives are available with cost-efficient cabinet systems.

- Cost-efficient standard design, based on proven industrial cabinets
- Optimized IP54 cooling systems
- Modular concept for flexible configuration with two cabinet sizes, 600 and 1000 mm wide
- Cabinet height 2200 mm, including 100 mm base and roof air-out vents
- Cabinet depth 600 mm in all powers
- Temperature controlled cooling with or without door fans and filters
- Bottom entry/exit busbars as standard
- Tin-plated busbars with covers provided for both



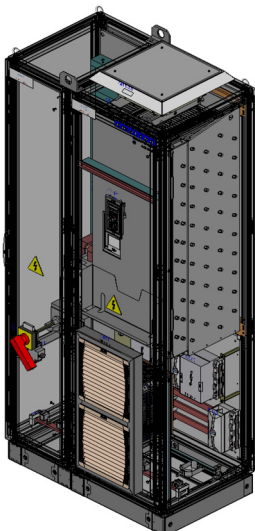
Full flexibility with options

- Designed for 6- and 12-pulse solutions
- Optional main switch cabinet (one at each end for 12-pulse drives)
- Standard cabinet options:
 - Main switch
 - Circuit breaker
 - Motorized circuit breaker for 12-pulse solution
 - Main contactor (all powers)
 - Output choke (space reserved in standard size cabinet)
 - Overshoot clamp
 - Common mode filter
 - Module built-in brake chopper
- All standard Emotron FDU/VFX VFD options
- Liquid cooling



Simple installation and maintenance

- Easy to change 3-phase power modules (PEBB) used in drive sizes from 220 kW
- Spacious and easy to access power connections to simplify installation work
- Passive roof with dust filters for IP54 protection
- Front access to control board and control connections
- Door mounted control panel
- Flexible support for cabinet shipping splits with "plug-and-play" connections
- Same system design for 400 V and 690 V drives
- Complete set of drawings and manuals delivered with each drive



Technical data

| FDU/VFX Model | Normal duty (120%, 1 min. every 10 min.) | | | Dimensions HXWxD (mm) | Frame size ** |
|------------------|---|-------------------------|-------------------------|-----------------------------|---------------------|
| | Power @ 400V [kW] | Power @ 460V [hp] | Rated current [A] | | |
| 48-293 | 160 | 250 | 293 | 2200x600x600 | F2 |
| 48-365 | 200 | 300 | 365 | 2200x600x600 | FA2 |
| 48-430 | 220 | 350 | 430 | 2200x600x600 | H |
| 48-500 | 250 | 400 | 500 | | |
| 48-590 | 315 | 500 | 590 | 2200x600x600 | G2 |
| 48-660 | 355 | 550 | 660 | 2200x600x600 | H2 |
| 48-730 | 400 | 600 | 730 | | |
| 48-810 | 450 | 700 | 810 | 2200x1000x600 | G3 |
| 48-885 | 500 | 750 | 885 | | |
| 48-1010 | 560 | 800 | 1010 | 2200x1000x600 | H3 |
| 48-1100 | 630 | 900 | 1100 | | |
| 48-1300 | 710 | 1100 | 1300 | 2200x1200x600 | H4 |
| 48-1460 | 800 | 1250 | 1460 | | |
| 48-1710 | 900 | 1500 | 1710 | 2200x1600x600 | H5 |
| 48-1820 | 1000 | 1600 | 1820 | 2200x2000x600 | H6 |
| 48-2190 | 1200 | 1900 | 2190 | | |
| 48-2550 | 1400 | 2100 | 2550 | 2200x2200x600 | H7 |
| 48-2920 | 1600 | 2500 | 2920 | 2200x2600x600 | H8 |

**Larger sizes on request.

| FDU/VFX Model | Normal duty (120%, 1 min. every 10 min.) | | | Dimensions HXWxD (mm) | Frame size ** |
|------------------|---|-------------------------|-------------------------|-----------------------------|---------------------|
| | Power @ 575V [hp] | Power @ 690V [kW] | Rated current [A] | | |
| 69-250 | 250 | 250 | 250 | 2200x600x600 | H69 |
| 69-300 | 300 | 315 | 300 | | |
| 69-375 | 350 | 355 | 375 | | |
| 69-400 | 400 | 400 | 400 | | |
| 69-430 | 400 | 450 | 430 | 2200x1000x600 | I69 |
| 69-500 | 500 | 500 | 500 | | |
| 69-595 | 600 | 600 | 600 | | |
| 9-650 | 650 | 630 | 650 | 2200x1200x600 | J69 |
| 69-720 | 750 | 710 | 720 | | |
| 69-800 | 850 | 800 | 800 | | |
| 69-905 | 950 | 900 | 900 | 2200x1600x600 | KA69 |
| 69-995 | 1000 | 1000 | 1000 | | |
| 69-1K2 | 1200 | 1200 | 1200 | 2200x2000x600 | K69 |
| 69-1K4 | 1500 | 1400 | 1400 | 2200x2200x600 | L69 |
| 69-1K6 | 1700 | 1600 | 1600 | 2200x2600x600 | M69 |
| 69-1K8 | 1900 | 1800 | 1800 | 2200x3000x600 | N69 |
| 69-2K0 | 2100 | 2000 | 2000 | 2200x3200x600 | O69 |
| 69-2K2 | 2300 | 2200 | 2200 | 2200x3600x600 | P69 |
| 69-2K4 | 2500 | 2400 | 2400 | 2200x4000x600 | Q69 |
| 69-2K6 | 2700 | 2600 | 2600 | 2200x4200x600 | R69 |
| 69-2K8 | 3000 | 2800 | 2800 | 2200x4600x600 | S69 |
| 69-3K0 | 3200 | 3000 | 3000 | 2200x5000x600 | T69 |

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