Obaveštenje o novom proizvodu!

Od sada dostupni…A1000 samostojeći regulatori frekvencije.

Pregled proizvoda

A1000 samostojeći regulatri frekvencije su napravljeni da zadovolje potrebe kupca. Naručeni ormani su sačinjeni tako da se lako mogu prilagoditi željama kupca, različitim opcijama, poput mrežnih osigurača, mrežnih prekidača, EMC filtera za IT mreže, opcije kočenja i druge. Regulatori dolaze u vidu sklopljenih ormana, potpuno spremni za rad, čime se štedi vreme i novac ne samo pri instalaciji i puštanju u rad, već i za inženjering i nabavke.

Fleksibilan
Prilagodljiv po potrebi kupaca, otvoren za nove opcije

Jednostavan
Jedan dobavljač = jedan partner za prodaju, podršku i servis

Ušteda vremena
Laka nabavka, brza montaža i puštanje u rad

Pouzdan
Kompletno istestiran (termički, mehanički i električno) i spreman za dugotrajan rad.

Specifikacije

- 400V, trifazni, 208 do 675 A, 90 do 315 kW (Heavy Duty)
- Ormani dostupni u IP23 ili IP54
- Pregledan LCD displej sa 12 integrisanih jezika
- Opcije: EMC filteri, glavni prekidač, osigurači, sklopka, opcije kočenja, izlazni AC reaktor; druge opcije u najavi.
- Opcija proširenje ležišta
- 10 godina bez održavanja
- Već dokazane performanse A1000 regulatora

Aplikacije

HVAC **Ventilacija** **Pumpe** **Kompresori** **Transporteri** **Kranovi** **Ekstruderi**

Safety Standards

Safe Torque OFF

RoHS Directive

DeviceNet™ EtherCAT® CANopen® PROFIBUS

EtherNet/IP™ Modbus CC-Link PROFINET® /TCP

ETHERNET POWERLINK MECHATROLINK

Dimenzije

Kod modela	Fig.	Motor Snaga(kW)		Dimenzije (cm)		
		ND	HD	W	H	D
A140208□0A000	1	90	110	620	2350	600
A140250□0A000		110	132			
A140296□0A000		132	160			
A140362□0A000		160	185			
A140414□0A000		185	220	800		
A140515□0A000	2	220	315	1200		
A140675□0A000		315	355			

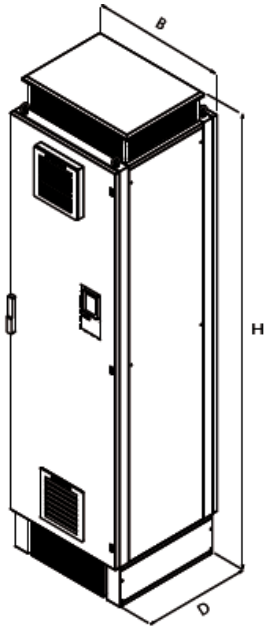

Fig. 1

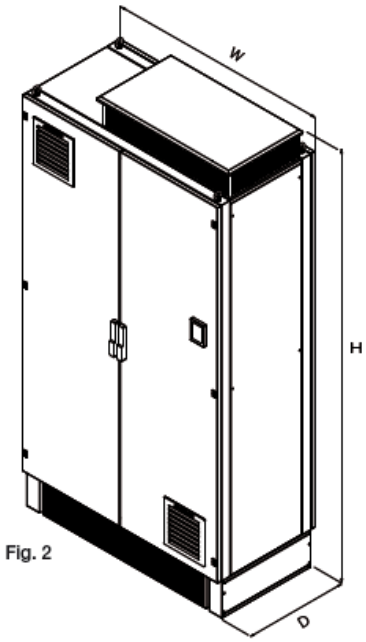

Fig. 2

Ulazi / Izlazi

- **8 multifunkcionalnih digitalnih ulaza**
  Sinking / Sourcing mod
  Poseduje eksterni 24 VDC izlaz
- **Multifunkcionalni puls train ulaz(do 32 kHz)**
  HIGH level: 3.5 do 24 VDC
  LOW level: 0.0 do 0.8 VDC
  Laka sinhronizacija sa drugim regulatorima
- **3 multifunkcionalna analogna ulaza**
  naponski / strujni / PTC ulaz po izboru
- **Fault izlaz**
  Relejni izlaz
  250 VAC 10 mA…1A
- **Funkcionalna bezbednost**
  2 Channel Safe Torque Off (EN ISO 13849-1, PLd)
- **3 multifunkcionalna digitalna izlaza**
  Relejni (N. O. ili N. C.)
- **Multifunkcionalni puls train izlaz (do 32 kHz)**
  Laka sinhronizacija sa drugim regulatorima
- **2 multifunkcionalna analogna izlaza**
  naponski / strujni po izboru
- **Eksterni Monitoring**
  Status za Safe Torque Off funkciju

Kako naručiti

Kodovi modela se menjaju u zavisnosti od konfiguracije. Lako se mogu generisati u konfiguracionom alatu zasnovanog na MS Excel platformi (potreban je minimum MS Excel 2010).

U slučaju bilo kakvih pitanja, kontaktirajte nas.

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YASKAWA

INVERTER SERIES
FLOOR STANDING CABINETS
A1000

EN
DE
ES
FR
IT

Content

Experience and Innovation

For almost 100 years YASKAWA has been manufacturing and supplying mechatronic products for machine building and industrial automation. Our standard products as well as tailor-made solutions are famous and have a high reputation for outstanding quality and reliability.

YASKAWA is the leading global manufacturer of inverter drives, servo drives, machine controllers, medium voltage inverters, and industrial robots. Founded in 1915, we have always been a pioneer in motion control and drive technology, launching product innovations, which optimise the productivity and efficiency of both machines and systems.

YASKAWA Eschborn, Germany

Today we produce more than 1.8 million inverters per year. Considering this, YASKAWA is probably the biggest inverter manufacturer in the world.

Furthermore, with a yearly production of more than 800,000 servo motors and


YASKAWA Robots

20,000 robots we offer a wide range of products for drive automation processes in many different industries such as mining, steel, machine tools, automotive, packaging, woodworking, textiles and semiconductors. YASKAWA technology is used in all fields of machine building and industrial automation.

Wherever You Are – Our Local Support is Near.

Employing more than 14,300 people worldwide

More than 1,350 employees in worldwide service network

More than 1,200 employees in Europe

Ready to Use A1000 Panel Drive

A1000 floor standing drive systems are configurable drives made to fit customer's needs. Made to your specification, fully preassembled and tested by us it is a ready to use solution that minimizes cost and effort for design and installation.

Benefits

- Customizable to customers needs
- Complete package from one supplier
  - No need for design, testing, assembly
  - Simple procurement – only one item number
  - One partner for Sales, Support, Service
- Selected components
- Thermally, mechanically and electrically tested for guaranteed long life reliable operation even in harsh environment
- Saves time during installation and commissioning

Features

- 380 to 480 V, 90 to 315 kW (355 kW ND)
- Proven A1000 drive performance
- Available in IP23 or IP54 for wet and dusty environment
- IP54 with separate air flow for electronics and power section cooling
- Full text LCD keypad as standard on door
- Configurable with EMC filters, fuses, circuit breaker, mains switch, …
- Optional extension bay for additional equipment like PLCs and other control circuits
- Compliant with CE and EMC requirements
- Designed for 10 years maintenance free operation*

Applications

HVAC | Fan | Pump | Compressor | Conveyor | Crane | Extruder

* Excluding filter mats for cooling intakes / outlets.

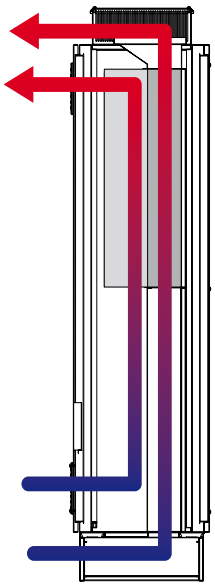
Built for Your Individual Demands

With an innovative cooling system, extendability for a broad range of options and a multi-language panel display the A1000 floor standing frequency inverter combines ease of use with an optimum of performance even in harsh environments.

Advanced Cooling System for IP54

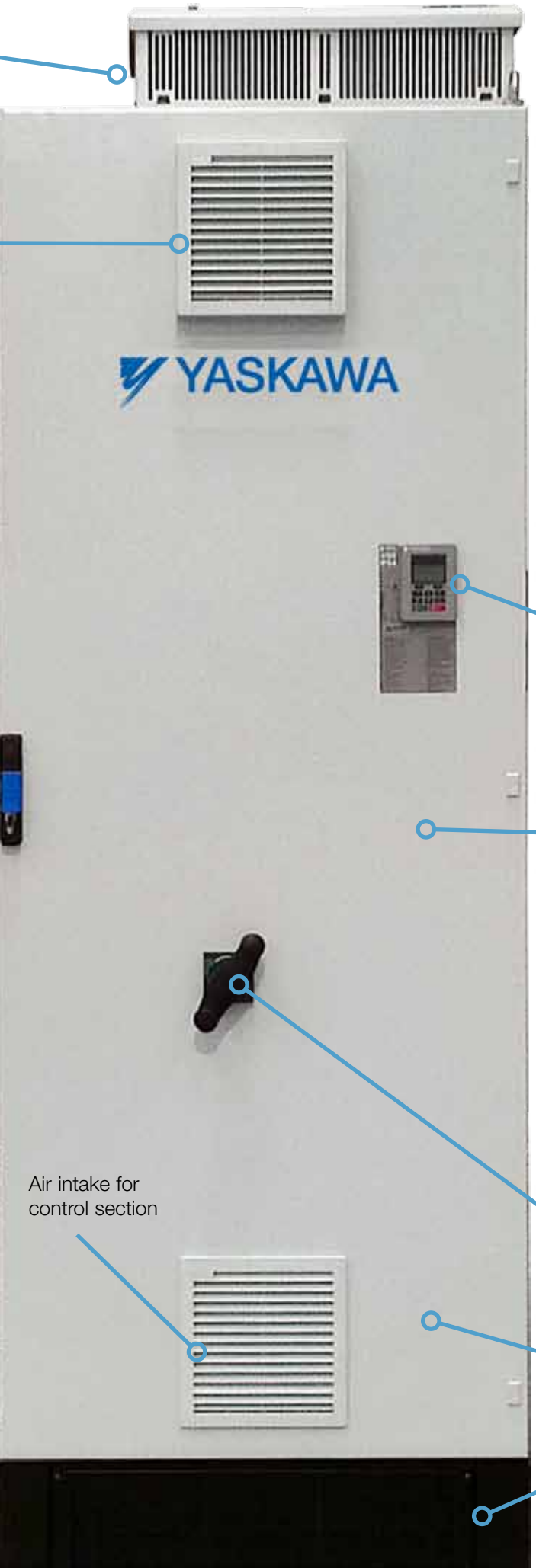
To ensure an optimum ventilation in humid or dusty environment the cooling is separated into two different airflow circuits.

- Power Section Airflow
  The air is pulled through the grills on the floor plinth into an air duct which directs the air through the inverter heatsink and out into the extraction hood out via the top air duct
- Control Section Airflow
  Air enters the control section via a bottom door mounted air filter passes through the control section and out of the cabinet via a top door mounted extraction fan



Extendable for More Options

- Standard units in three different cabinet sizes
- If significant additional hardware is required, an optional 400 mm wide bay is available providing a double door arrangement
- Configuration with extension bay mounted left or right



IP23 Enclosure

- Cooling via air inlet grills on the floor plinth and a roof mounted air outlet hood

IP54 Enclosure

- Separated air flow to limit the pollution on electronic parts
- Cooling of electronics section via thermo-statically controlled extraction fan

Multi-language Panel Display as Standard

- Clear Text LCD panel in 8 languages (soon 13)
- Change parameters, control or monitor the drive without opening the panel door

DC Choke built-in

Air intake for control section

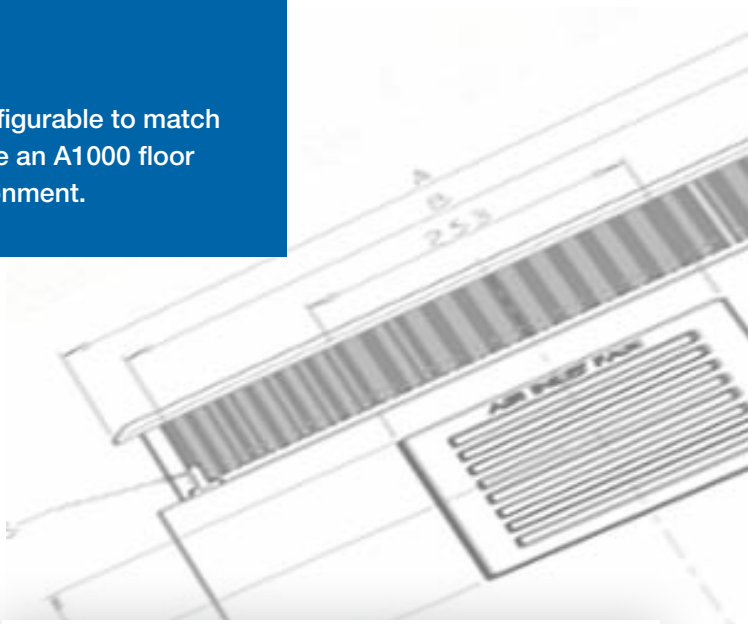
Optional Mains Switch with Through-door Handle

Steel Cabinet in Colour RAL 7035

Air Intake for Power Section

Combine What is Needed
You Choose – We Supply

The A1000 floor standing frequency inverter is highly configurable to match your needs. By combining the various options you receive an A1000 floor standing drive that fits perfectly in your production environment.



EMC Filter

- Choose EMC filters for TN or IT Networks

Power Options Input

- Choose between fuse protection or automatic line circuit breaker for protection in case of failures
- Mains switch for disconnecting from the power line optionally with through-door handle

Communication Options

- RS-422/485 (MEMOBUS/Modbus at 115.2 kbps) standard on all models
- Option cards available for all major fieldbuses

DeviceNet · EtherCAT · PROFIBUS · EtherNet/IP · Modbus /TCP · ETHERNET POWERLINK · MECHATROLINK · CANopen · CC-Link · PROFINET

Power Options Output (Output Reactor)

- Choose output reactors for gentle motor operation especially with long motor cables.

Braking Option

- For applications with dynamic braking A1000 floor standing drives can be ordered with braking choppers pre-installed.

Customised Option Bay

- Panel extension for individual components such as a PLC, a power supply or others
- Can be attached left or right to the main panel

I/O and Speed Feedback Options

- Line Driver and HTL encoder interfaces available for ultra high precision and dynamics
- Analogue or digital I/O interface cards for extended connectability of PLCs, sensors, and other equipment

Copy Unit

- Allows parameter settings to be easily copied from the drive or uploaded for quick setup using the operator.
- For fast back up of settings and instant programming.

Open for Your Applications

A1000 Inverters are developed to master almost every required situation. For a range of specific applications YASKAWA provides solution concepts which allows our premium inverters to go even a step further.

Electronic Line Shaft

- Angle-synchronous master-slave operation (1:n) without additional controls
- Simplified maintenance and enhanced reliability thanks to streamlined mechanics
- Increased productivity with on-the-fly adjustable gear ratio and without machine downtime

Positioning

- Precise positioning without an external position controller, rotary and linear
- Integrated brake controls
- Flexible control via digital I/Os or fieldbus communications
- Positioning by drive ensures accuracy and speed while allowing lower performane control PLC

Winder

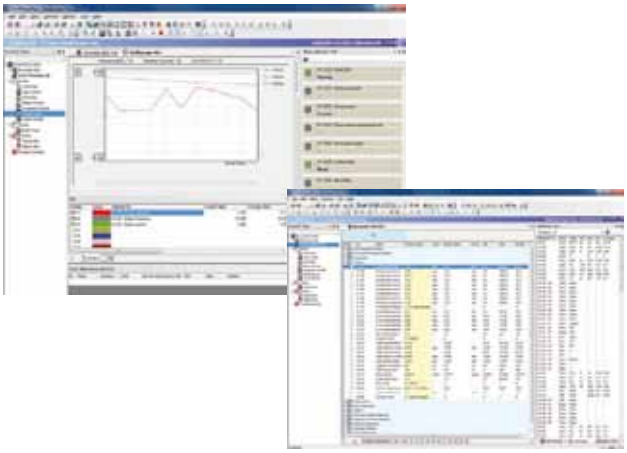
- Precise winding and unwinding of a wide variety of materials including wire, sheet metals, fabrics, packaging films, paper, and textiles.
- Integrated diameter calculator makes external diameter sensors unnecessary
- Web tension is controlled using direct torque control, dancer control or via load cell

Crane

- High starting torque with or without a speed sensor
- Ultra Lift function for increased cost-effectiveness and shorter cycles times
- Intelligent brake controls for increased safety
- High starting torque

DriveWizard Plus

Manage the unique settings for all your drives right on your PC. An indispensable tool for drive setup and maintenance Edit parameters, access all monitors, create customized operation sequences, and observe drive performance with the oscilloscope function.



- Convenient PC-based drive-setup, monitoring and diagnostic functions
- Built-in scope function
- Online and offline parameter editing
- Parameter backups

DriveWorksEZ® – Customise Your Drive

DriveWorksEZ® adds programmable functions that can tailor the A1000 Series drive to the machine without the help of external controllers such as a PLC. This provides the user with easy access to the power of the inverters through an icon-based, graphical programming environment.

Easy to Use

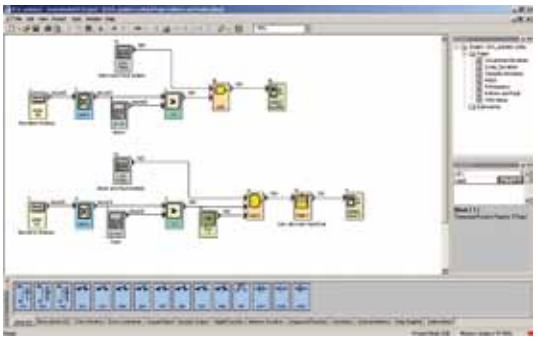
- DriveWorksEZ® has an intuitive, easy to use programming interface. Application programs can be created in a matter of minutes. Compiling and downloading takes seconds resulting in less development time.

Fast Execution Time

- Regardless of size or complexity DriveWorksEZ® programs are executed in a 1 ms cycle. This allows more precise machine operation, guaranteeing maximum performance across a wide range of applications.

Flexible

- With a wide variety of function blocks to choose from DriveWorksEZ® offers nearly unlimited control schemes due to direct access to all input/output registers and a multitude of logical, numeric and other functions. Machine design and control is more flexible than with a central controller.



On-Line Monitoring

- DriveWorksEZ® makes it easy to debug and troubleshoot an application program. The status of each function block is continuously updated which takes the guesswork out of troubleshooting the program.

Process Control

- DriveWorksEZ® includes a comprehensive PID control function block for machine processes. The PID control loop is extremely configurable and can be used to control almost any process variable.

Specifications

Operating Environment

▶ **Ambient Temperature**	0 to +40 °C
▶ **Humidity**	95% RH or less (non condensating)
▶ **Storage Temperature**	–20 to +60 °C (short-term temperature during transportation)
▶ **Altitude**	Up to 1000 meters (output derating of 1% per 100 m above 1000 m, max. 3000 m)
▶ **Shock**	10 to 20 Hz: 9.8 m/s²; 20 to 55 Hz: 2.0 m/s²
▶ **Standards**	CE, RoHS
▶ **Protection Design**	IP23/IP54 for indoor use

Power Ratings

A14□□□□		0208	0250	0296	0362	0414	0515	0675
Maximum Applicable Motor Capacity (kW)	Heavy Duty	90	110	132	160	185	220	315
	Normal Duty	110	132	160	185	220	250	355
Rated Voltage / Rated Frequency		Three-phase 380 to 480 VAC, 50/60 Hz						
Allowable Voltage Fluctuation		-15 to +10%						
Allowable Frequency Fluctuation		± 5%						
Rated Output Current (A)	Heavy Duty	180	216	260	304	370	450	605
	Normal Duty	208	250	296	362	414	515	675
Overload Tolerance		Heavy Duty Rating: 150% of rated output current for 60 s Normal Duty Rating: 120% of rated output current for 60 s						
Carrier Frequency		User-adjustable between 2 and 10 kHz				User-adjustable between 2 and 5 kHz		
Maximum Output Voltage (V)		Three-phase 380 to 480 V (proportional to input voltage)						
Maximum Output Frequency (Hz)		400 Hz				150 Hz		

Options

	Item	Description	Model Code
Input / Output	▶ Analogue Input	**3 channel high resolution analogue input option** -10 to +10 VDC (20 kΩ, Res. 1/8192) 4 to 20 mA (500 Ω, Res. 1/6554)	AI-A3
	▶ Digital Input	**Digital input for 16-bit speed reference setting**	DI-A3
	▶ Analogue Monitor	**2 channel analogue output option** –10 to +10 VDC (Res. 1/2048)	AO-A3
	▶ Digital Output	**8 channel digital output option** 6 photo couplers (48 V, 50 mA or less), 2 relay contact outputs max 250 VAC/30 VDC, 1 A	D0-A3
Communication	▶ Communication Interface Unit	**CANopen**	SI-S3
		CC-Link	SI-C3
		DeviceNet	SI-N3
		EtherCAT	SI-ES3
		EtherNet/IP	SI-EN3
		MECHATROLINK-2	SI-T3
		Modbus/TCP	SI-EM3
		POWERLINK	SI-EL3
		PROFIBUS-DP	SI-P3
		PROFINET	SI-EP3
Speed Feedback	▶ Open Collector Type	**Phase A, B, and Z pulse (complementary type), max. 50 kHz**	PG-B3
	▶ Line Driver Type	**Phase A, B, and Z pulse (differential pulse) (RS-422), max. 300 kHz, pulse monitor output**	PG-X3
Others	▶ 24 V Power Supply	**Provides power supply for the control circuit and option boards when main circuit power is off**	PS-A10H
	▶ USB Copy Unit	**USB converter for PC Tool usage and copy unit for easy parameter setup duplication and backup in one**	JVOP-181

Standard Units

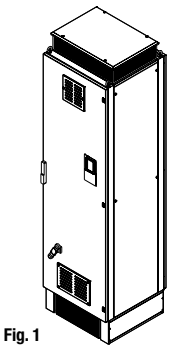


Fig. 1

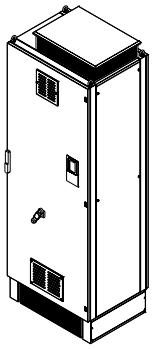


Fig. 2

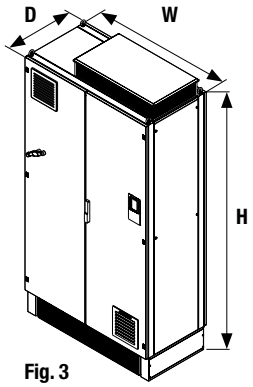


Fig. 3

Model A14 □□□□□	Protection Class	Max. Applicable Motor Capacity [kW]		Figure	Dimensions in mm			FS Drive Net Weight* (kg)
		Normal Duty	Heavy Duty		W	H	D	
0208 A	IP23	110	90	1	620	2350	600	212
0250 A	IP23	132	110					229
0296 A	IP23	160	132					233
0362 A	IP23	185	160					238
0414 A	IP23	220	185	2	800			266
0515 A	IP23	250	220	3	1200			357
0675 A	IP23	355	315					360
0208 K	IP54	110	90	1	620	2350	600	217
0250 K	IP54	132	110					234
0296 K	IP54	160	132					238
0362 K	IP54	185	160					243
0414 K	IP54	220	185	2	800			271
0515 K	IP54	250	220	3	1200			362
0675 K	IP54	355	315					365

Option Bayed Units

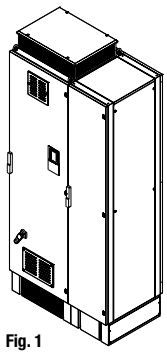


Fig. 1

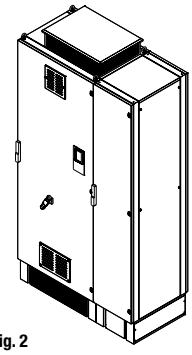


Fig. 2

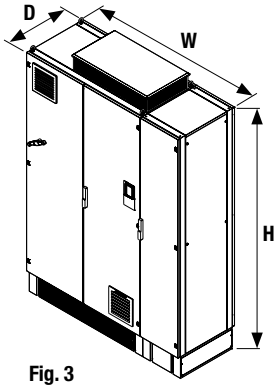
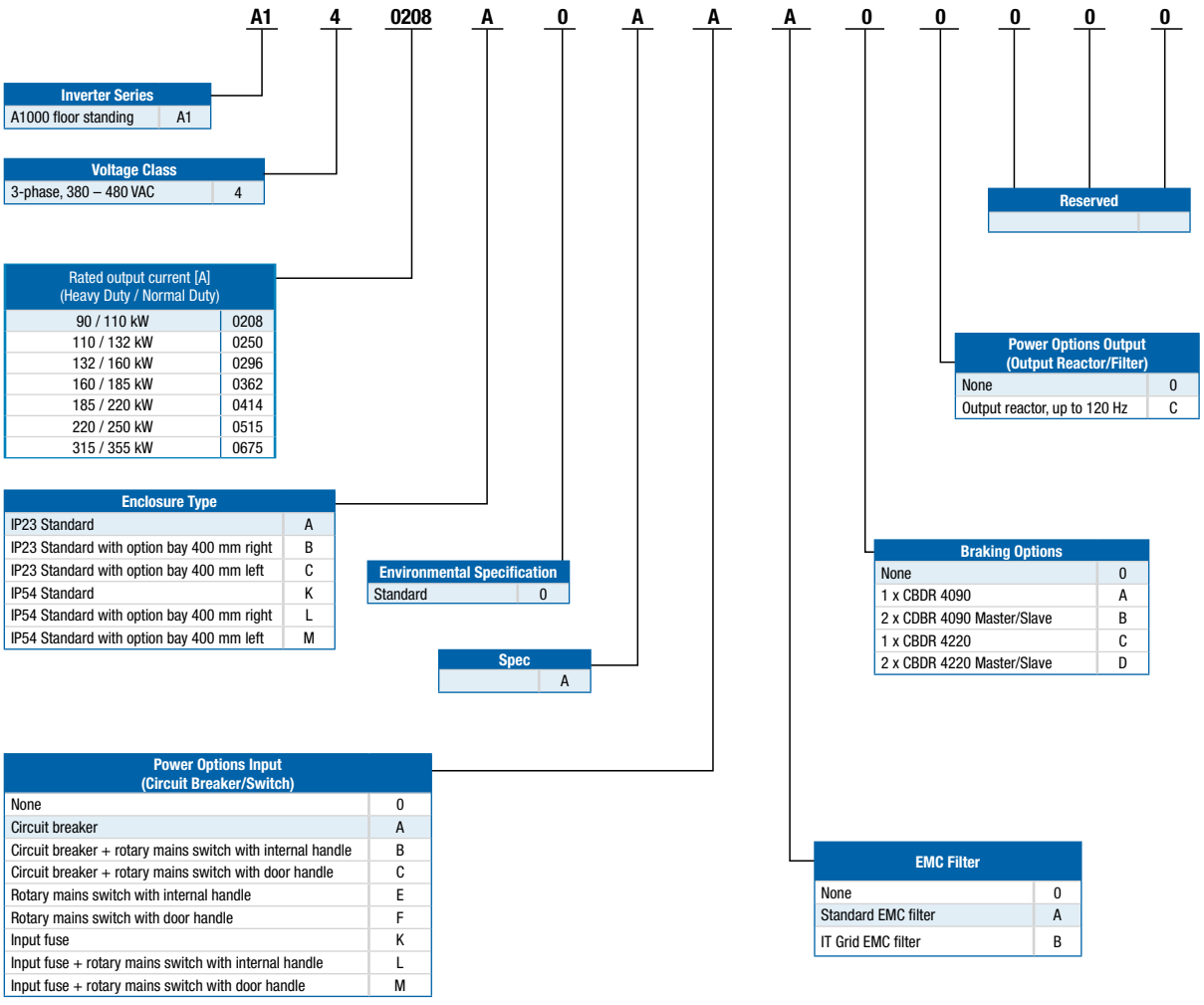


Fig. 3

Model A14 □□□□□	Protection Class	Max. Applicable Motor Capacity [kW]		Figure	Dimensions in mm			FS Drive Net Weight* (kg)
		Normal Duty	Heavy Duty		W	H	D	
0208 B/C	IP23	110	90	1	1020	2350	600	307
0250 B/C	IP23	132	110					324
0296 B/C	IP23	160	132					328
0362 B/C	IP23	185	160					333
0414 B/C	IP23	220	185	2	1200			361
0515 B/C	IP23	250	220	3	1600			452
0675 B/C	IP23	355	315					455
0208 L/M	IP54	110	90	1	1020	2350	600	312
0250 L/M	IP54	132	110					327
0296 L/M	IP54	160	132					333
0362 L/M	IP54	185	160					338
0414 L/M	IP54	220	185	2	1200			366
0515 L/M	IP54	250	220	3	1600			457
0675 L/M	IP54	355	315					460

* Depending on configuration weights may vary.

Model Number Key



A1000 - Simplifying Equipment

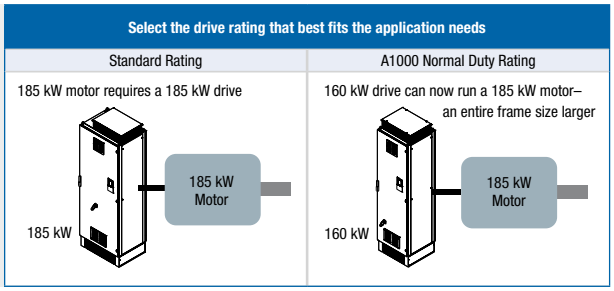
With the A1000 equipment life becomes easier. Just one drive for any motor let's you reduce the variety of drives and reduce maintenance efforts. A drive with dual rating saves cost and space by using a drive a size smaller than normally required. And the A1000 combines Functional Safety with energy efficiency.

One Drive - Any Motor

- Induction or permanent magnet motors, with or without encoder, A1000 drives precisely control any motor. Motor data auto tuning in stand still condition simplifies commissioning, saves time and assures maximum motor control performance

Dual Rating

- Besides Heavy Duty rating A1000 offers Normal Duty rating for applications with variable torque. Normal Duty Rating allows A1000 to drive a motor that normally requires a larger drive, thus saving not only space but also cost

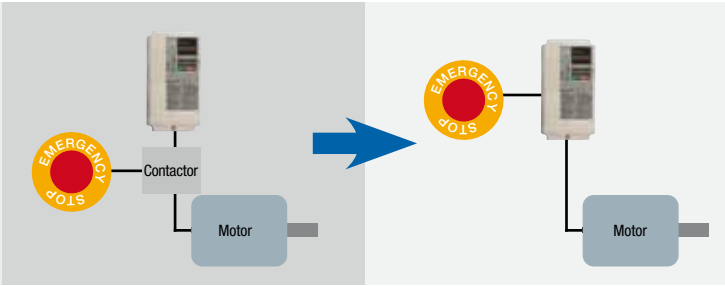


Energy Efficiency

- Built in PID block for efficient control of pressure, flow, or other process variables can replace energy wasters like damper or bypass control
- Energy Saving algorithm continuously operates the motor at its point of maximum efficiency, thus reducing energy consumption to the minimum

Functional Safety built in

- The build in STO function replaces emergency relays – less parts, electronics instead of mechanics improve reliability while reducing cost



Reliable Operation

- A1000's Kinetic Energy Buffering function allows a controlled ramp down and restart during short power loss periods. It assures continued production, especially in areas with weak power supply grids
- Life time monitoring of major components allows preventive maintenance. Spare parts can be available in time, drives can be serviced during normal machine down time.

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International Standards

Safety Standards

Safe Torque OFF

RoHS Directive

RoHS Directive stands for the EU directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment

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