



200 V Three-Phase
1.5 kW to 110 kW

400 V Three-Phase
1.5 kW to 110 kW

L1000A Inverter for Lift Applications

YASKAWA L1000 lift drives are the solution to technical requirements of today's elevators. The L1000A controls induction and permanent magnet motors. It is the first choice for new installation, machine room less lifts, but also for modernization. Experience the proven YASKAWA reliability combined with a new level of ride comfort.

Advantages

- ▶ Cost saving - L1000A can control PM motors with robust and relatively low cost incremental encoders
- ▶ State of the art motor control algorithms provide a smooth ride and an accurate landing
- ▶ EN81-1 compliant solution with one motor contactor saves costs and space while increasing reliability
- ▶ Easy set-up in lift language
- ▶ Auto-Tuning function saves installation time by allowing drive setup without removing ropes
- ▶ Compact shape for installation in narrow panels
- ▶ Low stand-by power consumption (e.g. 400 V, 15kW: < 15 W) for easy compliance with efficiency class A

NEW:

- ▶ Integrated brake monitoring according to EN 81-1+A3
- ▶ DCP3-Interface for easy serial connection with lift controller
- ▶ Clear text LCD operator now in 11 European languages. **Newly added:** Turkish, Polish, Russian, Czech and Greek.

Available soon:

- ▶ L1000A with SIL3 STO function (safe torque off) for operation without motor contactors

Characteristics and Specifications

- ▶ Incremental, EnDat and SinCos encoder support and Hiperface
- ▶ Brake monitoring according to EN 81-1+A3
- ▶ DCP3-Interface
- ▶ LCD text display in 11 European languages: German, English, French, Italian, Spanish, Portuguese, Greek, Turkish, Polish, Czech and Russian
- ▶ Smooth start of gearless motors without load sensor
- ▶ Parameter display with lift units (m/s, m/s² ...)
- ▶ Emergency operation with standard UPS or battery, light load direction search built in
- ▶ 4 relay outputs for direct switching of signals up to 250 VAC / 1 A
- ▶ Proven YASKAWA quality and reliability

Voltage Range	220 - 240 V, 380 - 480 V, 50/60 Hz
Overload (starting / current)	175 %
Overload	150 % / 60 s
Braking Transistor	Integrated up to 30 kW
Digital Inputs / Outputs	8 / 6 (4 relays)
Integrated Digital Operator	✓ (LCD)
Lift Terminology	✓
Selectable Units	% , Hz, rpm, m/s, m/s ² , m/s ² , ft/min, ft/s ² , ft/s ²
Maintenance Monitoring	IGBT, fan, capacitors, charge circuit
Screwless Terminal Board	✓
Ambient Temperature	-10 to +50°C
Protective Design	IP20

Standard Accessories

Well adapted to L1000 drives YASKAWA supplies various components for compliance with EMC guidelines and tools that simplify installation and handling.

Software



DriveWizard Plus – Setup, Monitoring Parameter Management via PC

User Interface



Parameter Copy Unit

Power Options



EMC Line filters (foot-/sidemount) for EN12015 compliance



AC chokes for harmonics reduction according to EN12015

Braking Resistors



GWS 337 (IP20)



RFBs 2-7 (IP20)



STG 120

International Standards



Safety Standards



200 V Three-phase
5 kW to 130 kW

400 V Three-phase
5 kW to 630 kW

D1000 Regenerative Converter Unit

YASKAWA's new D1000 regenerative converter unit saves energy and space. Suitable for both regenerative individual drives and systems of inverter drives, servo axes or robots, the D1000 feeds excess braking energy back into the grid instead of converting it into heat. This not only reduces energy consumption and cost but also contributes to the protection of our environment.

- ▶ Sinusoidal input current reduces the strain on the power supply system (lines, transformers)
- ▶ Low energy consumption due to common DC bus systems – the braking energy of one drive is consumed by other drives in the system
- ▶ Recovered energy can be used by other consumers in the same facility, lowering the total energy consumption of the facility
- ▶ Less installation space as braking transistors and resistors are not required
- ▶ Less waste heat reduces the workload of the ventilation system
- ▶ Requires less maintenance work than systems with braking resistors
- ▶ Lowers the total operating costs of the system
- ▶ Increased system reliability thanks to stable DC link voltage, even with different or fluctuating input voltages

Applications with energy recovery



Escalator



Lift



Crane



Winder

Applications for low harmonics



Fan



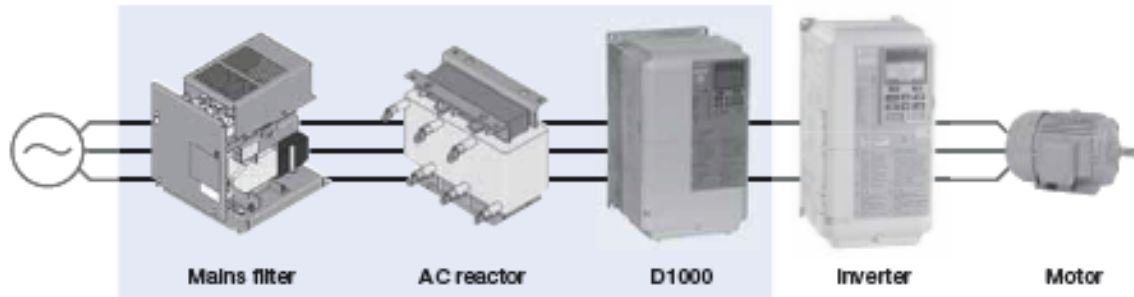
Compressor



Pump

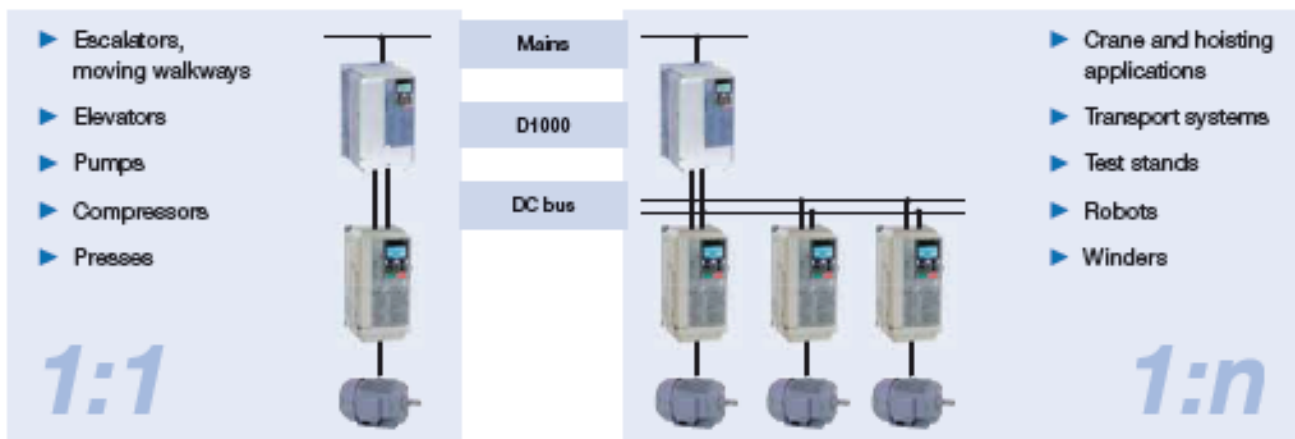
Components

The D1000 feeding and recovery system is installed upstream of inverter drives, servo drives or robots and consists of a mains filter, an AC reactor and the D1000.



System Architecture

The D1000 feeding and recovery system is ideal for both single-axis and multi-axis systems, and offers an energy-efficient solution for a wide variety of drive applications.



International Standards



RoHS Directive

RoHS Compliance for the D1000 system for installation in the use of certain hazardous substances (restricted and exempted substances)



200 V 3-phase
3.5 kW to 105 kW

400 V 3-phase
3.5 kW to 300 kW

R1000 Regenerative Unit

The new YASKAWA R1000 regenerative unit with block switching is an ecological, sustainable alternative for braking resistors. Moreover, compared with conventional solutions, it saves space and reduces maintenance. The braking energy fed back into the net additionally reduces costs and protects the environment!

- ▶ Regenerative unit with a wide power range
200 .. 240 V AC 3.5 to 110 kW
380 .. 480 V AC 3.5 to 300 kW
- ▶ Allows 4-quadrant-operation without braking resistors
- ▶ Replacing braking resistors saves space and facilitates installation
- ▶ Proven YASKAWA quality
- ▶ Since the resistors do not generate heat, less cooling is required for the switch cabinet; this saves energy and reduces costs
- ▶ Provides regenerative energy for other consumers in the plant and, thus, reduces the total power consumption of buildings or factories
- ▶ Quick amortisation of investments

Applications with energy feedback



Escalators



Lifts



Cranes



Winders



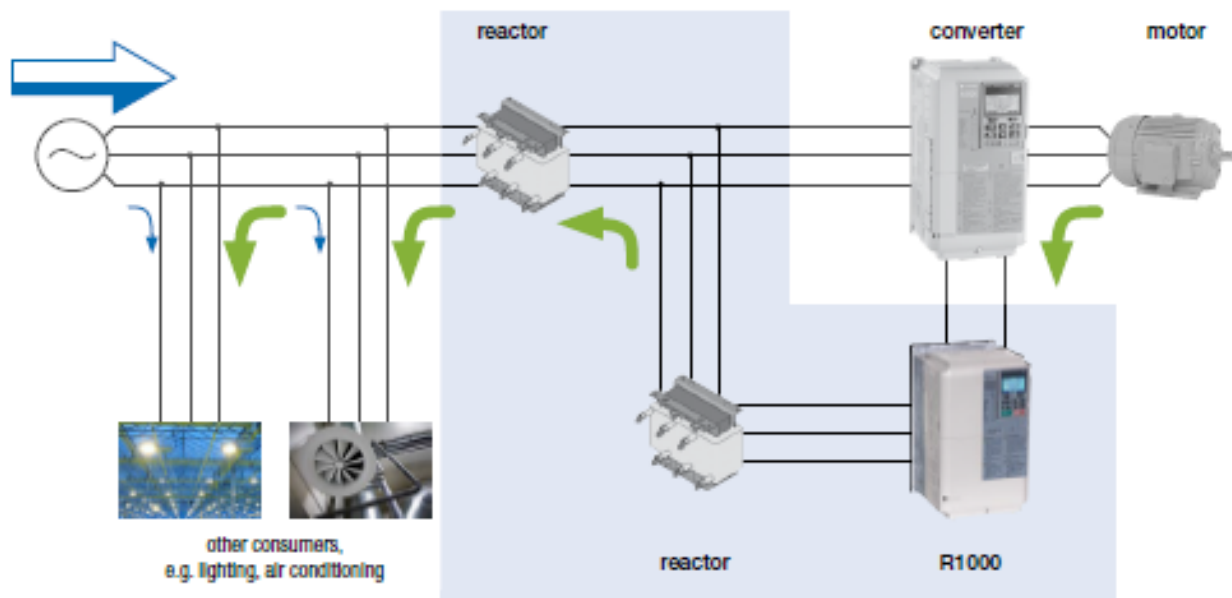
Presses



Machine Tools

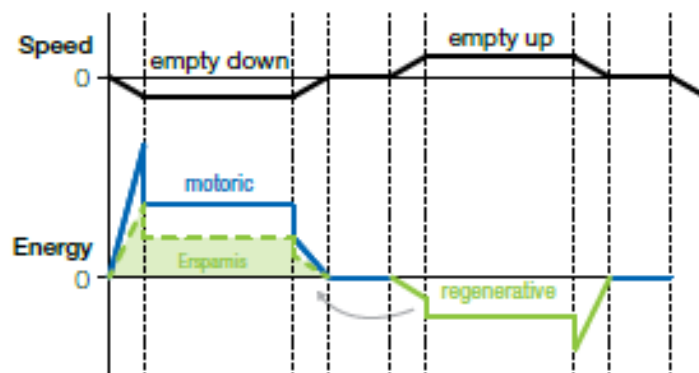
Components

The R1000 regenerative system, consisting of the components R1000, fuses, mains choke, and power-coordinating reactor, is mounted directly before the frequency converters.



Example "Lift"

Depending on the application, the R1000 regenerative system saves considerable energy costs. The diagram on the right shows that the energy consumption can be reduced by up to 50%. Extra costs for the system can thus be saved partly within less than two years.



International Standards



RoHS Directive

RoHS Directive is a mark for the CE marking on the completion of the use of certain hazardous substances in electrical and electronic equipment.