Compact Design

Low-Harmonic AC Drive System

Power Supply
Harmonic Filter
AC Line Reactor
Drive
Motor

U1000 Industrial Matrix Drive System

Power Supply
Harmonic Filter
Capacitor

Permanent Magnet Motor Control

Induction Motors
Surface Permanent Magnet (SPM) Motors
Interior Permanent Magnet (IPM) Motors

Cost Savings

See the Savings!
U1000 can monitor and provide power data.
Instant feedback (kW or $) on energy saved.

Eco-Mode

Automatically run line power directly to the motor

Conventional AC Drive

Power Supply
Contactor
Motor

U1000 Industrial Matrix

Power Supply
Motor

- No Hard Contactors Required
- Smooth Transitioning
- Output 100% Line Voltage to Motor
- Less Switching Losses
- Less Audible Noise
- Very Low Harmonics (<1% iTHD)

Entering Eco-Mode

While in Eco-Mode

Exiting Eco-Mode

Yaskawa is the leading global manufacturer of low and medium voltage variable frequency drives, servo systems, machine controllers and industrial robots. Our standard products, as well as tailor-made solutions, are well-known and have a high reputation for outstanding quality and reliability.
The Green Choice

U1000 Industrial Matrix Drive Applications

Text Stands

Winders

Motorsizing

Pumpjacks

Solid Bore Centrifuges

Descant Cylinders

Water/Wastewater Treatment

Industrial Fans/Pumps

Downhill Conveyors

Escalators/Moving Walkways

Retrofit

U1000's inherent automatic regenerative capability eliminates intermittent load changes that cause nuisance overvoltage trips due to unbalanced load conditions. Full continuous regeneration allows centrifuges to be repeatedly run at high speeds to separate solid material from liquids and generate very large load inertias. The U1000 is designed specifically for industrial centrifuges, with high current density and low overload protection. The U1000 seamlessly switches between regenerative and motoring conditions, providing high efficiency throughout the entire load range.

Centrifuges run at high speeds to separate solid material from liquids and generate very large load inertias. The U1000 is designed specifically for industrial centrifuges, with high current density and low overload protection. The U1000 seamlessly switches between regenerative and motoring conditions, providing high efficiency throughout the entire load range.

Conveyors are used in a broad range of industries and applications to move packaged goods, assemblies, or any material from one place to another. A process designer will typically look for opportunities to use the force of gravity to accomplish product movement. Electric motors are commonly used when gravity cannot be employed or when the speed of a gravitational fall needs to be controlled.

The slower scroll speed causes the materials entering the centrifuge to separate. However, the bowl puts resistance, which means a smaller transformer can be used to power the system.

The existing cabinet was reused and extra components were removed to save space. All of the existing controls were easily integrated into the U1000.

Efficiency improvement was so dramatic that additional cabinet fans were added to the U1000 to handle the high heat generated. The low harmonic and high true power factor provided by Matrix technology results in effective use of pre-existing power structures.

Metalworking is a process of working with metals to create individual parts, assemblies or large-scale structures. Conveyors are used in a broad range of industries and applications to move packaged goods, assemblies, or any material from one place to another. A process designer will typically look for opportunities to use the force of gravity to accomplish product movement. Electric motors are commonly used when gravity cannot be employed or when the speed of a gravitational fall needs to be controlled.

The U1000 Industrial Matrix Drive provides a compact all-in-one solution to continuously regenerate rated power conditions back onto the utility line. Remote installations can reduce transformer sizing by taking advantage of the U1000's four harmonic-capable and non-overvoltage systems.

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Conveyor width does not exceed the required output power. The U1000 efficiently uses the entire conveyor package, including the conveyor belt, motor, drive, control panel, and mounting hardware.

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