

YASKAWA

iQ PUMP[®] AC DRIVES

INTELLIGENT PUMP CONTROL
FOR AGRICULTURAL WATER PUMPING

IT'S PERSONAL



INTELLIGENT PUMP DESIGN

Yaskawa's family of iQpump® drives offers a wide variety of package options and the most advanced comprehensive pump and motor protection in the industry, while still maintaining ease of setup and diagnostics designed for pump operators and service technicians. Our integrated pump specific software allows for a wide range of pumping applications from constant

pressure, flow, geothermal, multiple pump booster systems to wet well lift stations and many others. Designed with the user in mind, iQpump drives use intuitive pump related terminology, with simple process control selection of engineering units such as psi, gpm, feet, meters, degrees, inches of mercury, and many other units.



USER-IN-MIND DESIGN

iQpump drives are designed with the user in mind. Our goal is to ensure that the pump is operating at the best efficiency point (BEP), saving energy and decreasing life-cycle costs.

iQPUMP® 605



IP20/UL Type 1

200-240 VAC: 3-150 HP
380-480 VAC: 3-600 HP

IP55/UL Type 12

200-240 VAC: 3-60 HP
380-480 VAC: 3-125 HP



IP55/UL Type 12 Integrated Switch

200-240 VAC: 3-60 HP
380-480 VAC: 3-125 HP

iQPUMP® Micro



IP20/NEMA Type 1 or IP66/NEMA Type 4X

200-230 VAC Single-Phase: 1-5 HP
200-240 VAC Three-Phase: 1-25 HP
380-480 VAC Three-Phase: 1-25 HP

iQpump®605 is your total pumping solution for whatever your system demands, while maintaining the simple pump terminology and programming customers have come to expect.

Yaskawa understands that many light commercial, industrial, agricultural and ground water well systems are looking for a more cost effective simplex and multiplex constant pressure pump control solution without sacrificing what they have come to enjoy from Yaskawa.

iQpump Micro offers many of the same comprehensive software features and control along with the same programming interface as iQpump1000, but in a package that saves cost.

For improved power quality and reduced harmonic distortion, we've combined our award-winning Matrix low harmonic power structure with the industry leading iQpump control for intelligent, efficient and compact water pumping.

U1000 iQpump provides extremely low harmonic distortion in an innovative, space-saving design. .

U1000 iQPUMP®



Low Harmonic Matrix Technology

200-240 VAC Three-Phase: 10-100 HP
380-500 VAC Three-Phase: 7.5-800 HP

BENEFITS

Proven Process Control and System Reliability

By matching pump output flow or pressure directly to the process requirements, applications can be fine tuned more rapidly by iQpump drives than by other control forms. Speed reduction results in reduced pump wear, particularly in bearings and seals.

Reduce Total System Cost

iQpump drives lower system cost by eliminating sensors, jockey pumps, and restriction valves, as well as reducing pressure tank sizing.

Energy Savings

iQpump drives reduce energy demand 20% to 50% by adjusting pump speed to match a lower flow/pressure.

Ease of Installation and Setup

iQpump drives use pump terminology on all setup parameters and monitors. Application presets apply most of the parameters for you. Also included is a "Pump Quick Setup" and "Modified Constants" menu.

Eliminate Complex Control Panels

iQpump drive installation eliminates many electro-mechanical controls. This reduces maintenance requirements.

Cooler Running Pump Motor

Soft starts eliminate high inrush current, dramatically increasing winding insulation life.

PC SOFTWARE TOOLS

DriveWizard® iQpump

Provides users a startup wizard, parameter management tools, drive status monitoring and trending. iQpump605 allows access to a DriveWizard Mobile app.

Utility Harmonics Estimator

Estimation of harmonics contribution back to main power source.

Energy Savings Predictor

Analysis of energy savings with carbon footprint calculation.

Application Simulator Software

Allows for the user to program multiple pump applications and then simulate operation without the need for a drive.

YASKAWA ADVANTAGE

THE DIFFERENCE THAT MATTERS

Yaskawa continually trains its people, partners and end-users. We design products to specifically prevent defects and qualify products through arduous testing procedures. This is all part of the way we differentiate ourselves from our competition.

TECHNICAL TRAINING

Both standard and customized courses are available with hands-on activities and demonstrations. Instruction is offered at Yaskawa locations, as well as during traveling road shows. This is supplemented by live web classes and e-Learning modules / videos to provide the right level of training to fit your needs. Trainers are degreed engineers with extensive industry experience.



DEFECT PREVENTION

Yaskawa manufacturing processes are designed to prevent defects. Production associates have paperless on-line resources at their workstations, providing highly detailed and up-to-date work instructions for every process step. Practice mechanisms are available in the Kaizen center for them to improve their assembly skills. Complex assemblies are made simple with the use of animations and video. These processes enable us to approach our ultimate goal of zero-defect manufacturing.



PRODUCT QUALIFICATION AND TESTING

No other manufacturer puts its products through as many tests, or as arduous a testing process, as Yaskawa. All printed circuit boards are functionally tested while under power. All Yaskawa products are 100% tested under full current. Yaskawa conducts its own product qualification testing in its ISO certified test lab. Products are tested not only under normal spec conditions, but also for the following:

- Extreme Temperature/Humidity
- Vibration
- Package Drop
- Input Voltage Tolerance
- Noise Immunity
- Electrical Insulation Stress
- Under/Over Voltage Protection
- Momentary Power Loss
- Output Short Circuit Protection
- Overload Protection
- Ground Fault Protection
- Washdown Test
- Input/Output Phase Loss Test
- Power ON/OFF and Start-Up Iterations



ENVIRONMENTAL CONSIDERATIONS

Yaskawa maintains a corporate commitment to sustainability goals with an emphasis on the following environmental guidelines:

RoHS Restriction of Hazardous Substances



Leadership in Energy and Environmental Design



EPA Program to Promote Superior Energy Efficiency



Energy Efficiency with Reduction of Carbon Footprint

iQPUMP® 605

Our latest offering has all the features you need, at your fingertips. Its simplicity is what makes it easy to commission.

CHOICE OF PROTECTION RATINGS

iQpump605 comes standard from the factory with a choice of IP20/UL Type 1, IP55/UL Type 12, and IP20/Protected Chassis. Up to 60°C ambient temperature operation with derating for IP20/UL Type 1 and IP20/Protected Chassis. Up to 50°C ambient temperature operation with derating for IP55/UL Type 12.

SIDE-BY-SIDE

iQpump605 is designed with a narrow footprint and most models can be mounted side-by-side with bottom entry wiring to maximize space.

PANEL MOUNTING

When mounted in a separate enclosure, heat management can be accomplished by removing detachable top and bottom covers on the drive or by “back side” mounting the standard drive with the heatsink external to a UL Type 1 or UL Type 12 enclosure.

FLEXIBLE MOTOR CONTROL

- Induction and permanent magnet motors
- Synchronous reluctance (SynRM) motors
- 400 Hz output frequency

ENHANCED PUMP CONTROL

iQpump605 includes easy to set up intelligent pump control capable of advanced self-guided operation.

Feature include:

- Easy sleep / wakeup PID setup
- No flow / deadhead protection
- Submersible motor thrust bearing control
- Automatic system restart
- Sleep boost
- Low and high pressure feedback detection
- Power loss utility start delay timer
- Loss of prime (LOP) / pump dry-run protection
- Pre-charge control (controlled pipe fill)
- Optional dual transducer feedback for redundancy
- Impeller de-scaling / de-ragging control

Pump Status:

- System pressure setpoint
- Control operation status
- Pump motor output frequency
- Transducer feedback
- Drive status monitors
- Drive lifetime monitors



FASTEST

TO COMMISSION



BLUETOOTH® Option

Use the DriveWizard Mobile App to manage iQpump605 drives and packages with optional Bluetooth keypad connectivity.

Copy Function

Multiple sets of parameters can be stored and easily copied to additional VFDs.

High-Contrast Display

Contrast control offers clear and readable full-text descriptions.

Automatic Backup Function

Saves the current parameter settings after a user-defined period of inactivity. After an incident, settings can be easily retrieved from the keypad.



Micro SD Slot
Micro SD storage for data logging.

Real-Time Clock
Real-time clock for time and date stamp of fault information.

Advanced Keypad Navigation
Shortcuts, scrolling and function keys offer faster navigation.

Bluetooth® and the Bluetooth logo are registered trademarks of Bluetooth SIG, Inc. USA.



NO POWER? NO PROBLEM!

iQpump605 can be programmed without any power supply connected, even while the drive is still in the box. Simply plug into one of your PC's USB ports or any USB On-the-Go device (Android smartphone or tablet), start programming and enjoy the ease of commissioning.

DESIGN CONTROLS

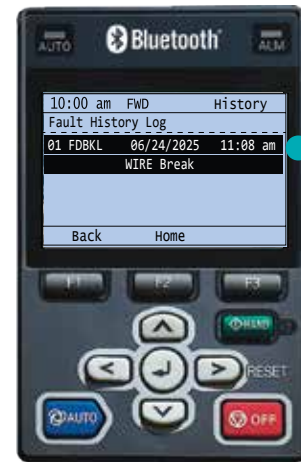
DESIGNED WITH THE USER IN MIND

iQpump drives use intuitive pump-related terminology with simple process control selection of engineering units such as PSI, GPM, feet, meters, degrees, inches of mercury and many other units.



REAL-TIME CLOCK

iQpump drives are supported with a real-time clock that will log the last 10 fault events with a date and time stamp to provide pump service technicians with real data for troubleshooting. This feature also enables the user to set calendar run and stop configurations, allowing the system to avoid high utility kW rates during peak operation hours.

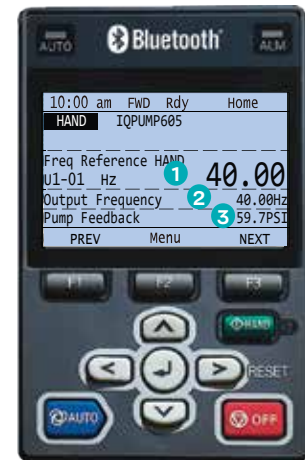


DATE AND TIME STAMP OF FAULT

PUMP SPECIFIC HAND-OFF-AUTO (H-O-A) OPERATOR

What makes iQpump drives the industry standard is the simplicity of the operator keypad messages that are formatted in pump terminology. This informs the user about the status of the system operation, along with alarms or specific pump algorithm functions that are being initiated.

KEYPAD SCREEN

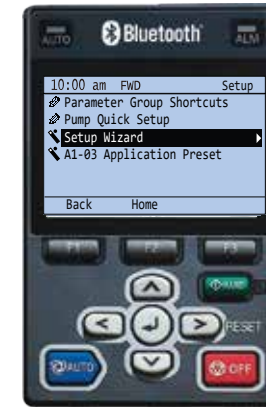


- 1 SYSTEM PRESSURE SETPOINT
- 2 PUMP MOTOR OUTPUT FREQUENCY
- 3 TRANSDUCER FEEDBACK

SETUP WIZARD AND APPLICATION MACROS

iQpump605 comes with built-in application presets and setup wizards for submersible and above ground pump applications to simplify start-up.

RUNNING THE SETUP WIZARD



SELECTING APPLICATION MACROS

- 1 10:00 am Fwd Rdy Home
OFF IQPUMP605
Setpoint 1 (YA-01) 0.0
U5-99 PSI 0.00Hz
Output Frequency 0.00PSI
Pump Feedback 0.00PSI
PREV Menu NEXT
- 2 10:00 am Fwd Rdy Menu
Monitors
Parameters
Pump Setup
Modified Param / Fault Log
Parameter Backup/Restore
Auto-Tuning
Home
- 3 10:00 am Fwd Rdy Menu
Monitors
Parameters
Pump Setup
Modified Param / Fault Log
Parameter Backup/Restore
Auto-Tuning
Home
- 4 10:00 am Fwd Setup
Parameter Group Shortcuts
Pump Quick Setup
Setup Wizard
A1-03 Application Preset
Back Home
- 5 10:00 am Fwd Setup
Parameter Group Shortcuts
Pump Quick Setup
Setup Wizard
A1-03 Application Preset
Back Home
- 6 10:00 am Fwd Parameters
Initialize Parameters
A1-03
No Initialization
Default : 0
Back Default



Parameters shown in the Pump Quick Setup vary depending on the application macro.

APPLICATION MACROS

- Pressure Control
- Pump Down Level Control
- Vertical Turbine Pressure Control *
- Pivot Panel Vertical Turbine Control *
- Advanced Pressure Control *
- Pivot Panel Submersible
- Pivot Panel Pump Command
- Pivot Panel Submersible Pump Command
- Serial Comms External HOA
- Serial Comms HOA Keys
- General Purpose
- Submersible Pump General Purpose

* Not Supported with iQpump Micro



SOFTWARE TOOLS

Whether you are monitoring, programming, estimating energy savings, or looking to meet harmonic standards, Yaskawa's iQpump605 has the tools to help get you going and stay going.

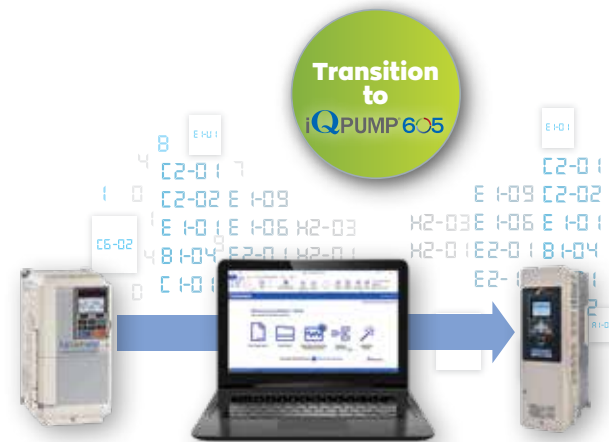
DRIVEWIZARD® IQPUMP

- Manage your parameters online or offline
- Create configurations offline, then later connect and download them to the iQpump605
- Connect via USB, and interface with the iQpump605 even without main power
- Monitor using a dashboard of dynamic variables
- Create reports for exporting and emailing



PARAMETER COMPATIBILITY

DriveWizard® makes it simple to transition from previous generation drives to the iQpump605.



DRIVEWIZARD® MOBILE WITH YASKAWA DRIVE CLOUD™



Start-up, adjust, and monitor Yaskawa's latest AC drives with your smartphone or tablet.

Use DriveWizard Mobile to backup, store, and retrieve your drive settings locally or to your personal Yaskawa Drive Cloud account. DriveWizard Mobile is the mobile app version of Yaskawa's DriveWizard PC tool.

Connect your mobile device with an optional Yaskawa Bluetooth keypad for a wireless experience. Alternatively, connect via USB, and interface with the latest generation of Yaskawa AC drives, even without main power! The drive is equipped with a female Type B Mini-USB port. Use a USB-OTG cable with a matching smartphone connector.

DriveWizard Mobile is available from the App Store and Google Play.



- DriveWizard® is a registered trademark of Yaskawa America, Inc.
- Bluetooth® is a registered trademark of Bluetooth SIG, Inc. USA.
- Google Play and the Google Play logo are trademarks of Google, LLC

- Apple and the Apple logo are trademarks of Apple, Inc. registered in multiple countries. The App Store is a service mark of Apple, Inc.
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ENERGY SAVINGS PREDICTOR

Predicts the amount of energy savings achievable when using Yaskawa drives instead of conventional control methods. The results can be viewed in graphical and text format with built-in functions to generate an energy prediction report, especially designed for consultants.

HARMONICS ESTIMATOR

Estimates total harmonic distortion when using Yaskawa drives and references IEEE 519 to determine if the defined system meets the required standard. The results can be viewed in graphical and text format with built-in functions to generate a harmonics estimation report especially designed for consultants.



PROGRAMMING SIMULATOR

Provides a realistic simulation of the programming and operation of an iQpump drive. All major functions of the drives are simulated by these PC tools with the addition of I/O, trending, diagnostic operations. The software has an integrated automatic update function that allows for updating the actual program - when connected to the internet.

INVESTING MADE EASY

SIMPLEX PUMP FEATURES

The most common applications are simplex (single pump) constant pressure and pump down level control. For these applications, iQpump drives are an easy investment choice with preset application macros, dedicated pump control features and pump system protection.

iQPUMP 605



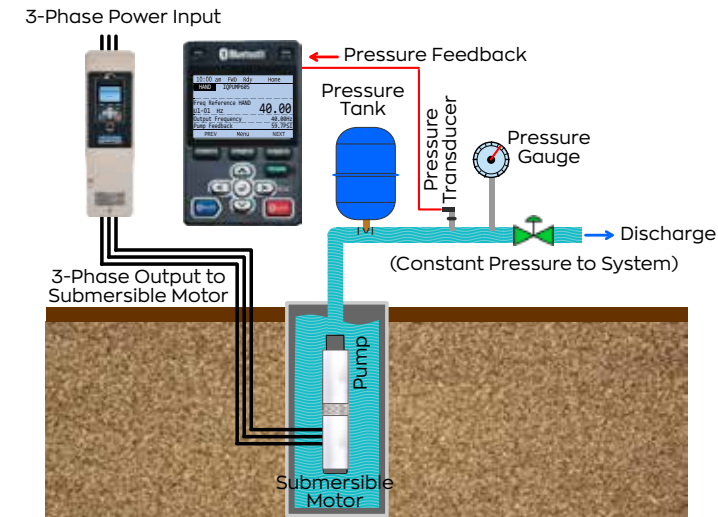
iQPUMP Micro



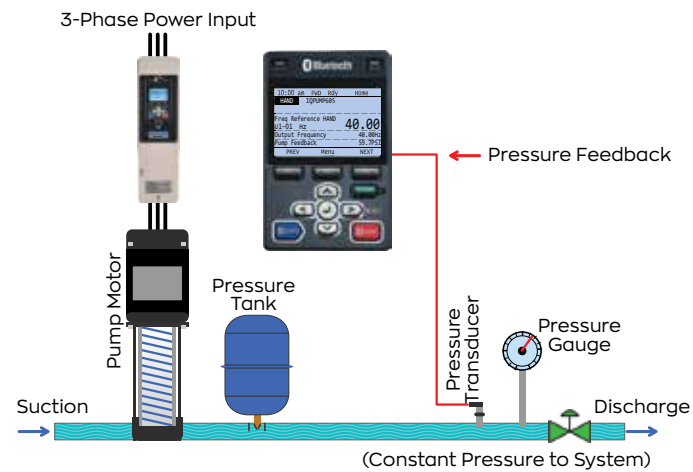
U1000 iQPUMP



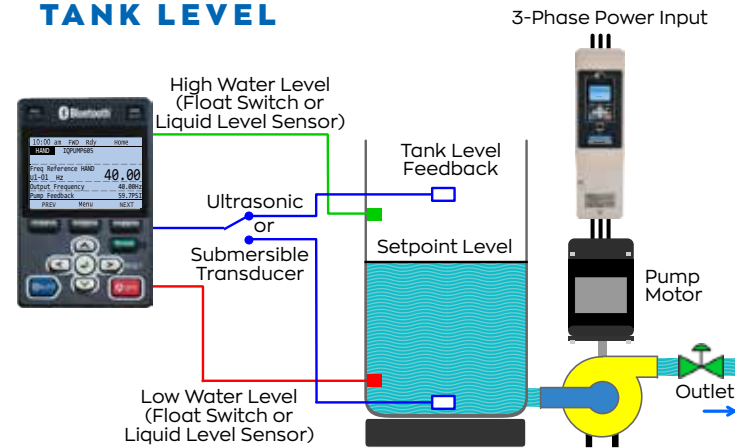
WELL PUMP



BOOSTER PUMP



TANK LEVEL



SLEEP MODE MINIMUM FLOW PROTECTION

Protects and shuts down the pump at low speeds or in low flow conditions.

NO FLOW / DEADHEAD PROTECTION

Detects changes in pressure and flow when the system has been closed off via mechanical valves or restrictions. If a system is not protected from this condition, the water within the pump can vaporize, building up excessive heat that can damage the pump and the discharge piping.

SUBMERSIBLE MOTOR THRUST BEARING CONTROL

Protects the bearings of submersible pump motors by ensuring proper start-up speeds and times.

AUTOMATIC SYSTEM RESTART

Programmable timers allow iQpump drives to automatically restart the system in Auto Mode for faults relating to brown outs, loss of power and pump specific faults.

LOSS OF PRIME (LOP) / PUMP DRY-RUN PROTECTION

Loss of prime protection is a feature protecting the pump and motor from damage caused by running the pump without water. If a pump were to lose prime and continue to operate without water moving through the pump, the pump would develop heat which would eventually damage the pump seal, motor, pipe manifold and related components.

LOW- AND HIGH-PRESSURE FEEDBACK DETECTION

iQpump drives continuously monitor the system feedback device to provide a warning alarm or fault based on the programmed level.

IMPELLER ANTI-JAM AUTOMATIC CONTROL

Provides a method for the iQpump drive to detect high current and attempt to expel corrosion or solids which are impeding the pump impeller. The system will perform a quick reversal attempt to dislodge a jam.

POWER LOSS UTILITY START DELAY TIMER

Used in conjunction with "Automatic Restart", a programmable timer will delay starting to allow for multiple pumps to sequence start on loss of power. This function ensures that the power system is not stressed when utility power has returned and the pump system is automatically restarted.

SLEEP BOOST

Intended for use with a pressure tank, the iQpump drive boosts the set pressure prior to shutdown, extending the pump's sleep time, reducing cycling and saving energy.

PRE-CHARGE CONTROL (CONTROLLED PIPE FILL)

This programmable feature eliminates water hammer and extends system life by gradually filling a pipeline before normal full pressure and flow operation. Pump motor speed can be controlled with a system timer, level or pressure control device to indicate when normal operation may begin.

CONSTANT PRESSURE WITH WELL DRAW DOWN CONTROL*

This function allows the iQpump drive to control constant pressure when there is adequate water in the well, while monitoring a second down hole transducer for water level. If the water level drops below user settings, the iQpump drive reduces pump speed to maximize well output. The system will return automatically to normal operation when well water is recharged to an adequate level.

SECONDARY TRANSDUCER BACKUP*

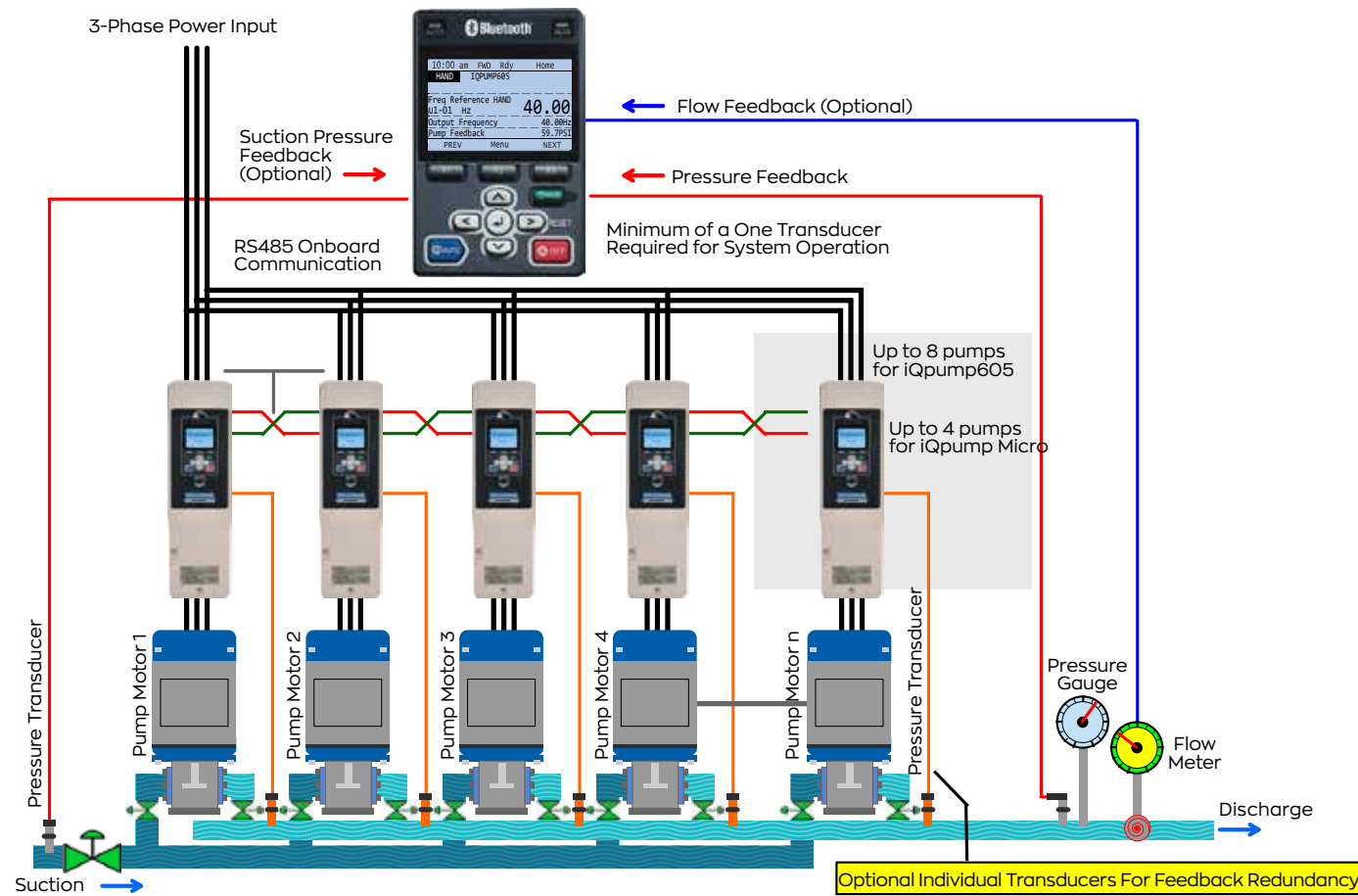
This option used for Simplex control allows for a secondary backup transducer to be automatically used if the main transducer has failed. The keypad text message will alert what feedback transducer is being used.

* Not Supported with iQpump Micro

WHEN ULTIMATE PUMP CONTROL FLEXIBILITY MATTERS

DRIVE-TO-DRIVE MULTIPLEXING FEATURES

iQpump drives have enhanced software not available in standard variable frequency drives, allowing for multiple drives to operate as a coordinated system. This allows pump system engineers the ability to add more modular pump systems together (duplex, triplex, etc.) to meet customer specifications and minimize cost by eliminating external control via PLCs and HMIs.



APPLICATION NOTES:

- Automatically alternates all pumps with a system programmable timer to provide even mechanical pump wear.
- Configurable transducer feedback settings to provide redundant backup, if failure occurs.
- With the use of an optional suction transducer, all iQpump drives will monitor inlet pressure with programmable PSI settings for faults, alarms and station controlled shutdown.
- Digital switch inputs for Low Suction / Low City Pressure / Low Water in Break Tank can be configured with a selectable keypad message to match application. With the use of an optional flow input, all iQpump drives can be configured to control staging and de-staging of lag pumps on GPM.

PUMP ALTERNATION

From duplex to quadplex systems, the pumps will be exercised evenly to ensure that they receive equal run times, thereby increasing the life cycle of the pumps and motors.

PUMP AND DRIVE REDUNDANCY

If a drive or pump fails during operation, or is taken out of service for maintenance, the remaining pumps continue to operate. The other drives on the network will automatically recognize when the drive and pump are restored to active healthy status and put them back into the pump rotation.

TRANSDUCER FEEDBACK REDUNDANCY

Systems can be configured using multiple transducers on the discharge, allowing for redundancy. A minimum of one transducer is required for system operation.

JOCKEY PUMP CONTROL

Pressure booster systems that use a jockey pump to maintain minimum water flow with larger secondary booster pumps for peak demand require the jockey pump to always be defined as the lead pump. The larger booster pumps will alternate based on time or run cycle for even pump wear.

LAG PUMP LEAD SPEED FOLLOWER MODE

When enabled, all lag iQpump drives will follow the main output speed (Hz or RPM) of the lead iQpump drives, thereby allowing all lead and lag pumps to run at the same speed for better system efficiency.

PUMP STAGE AND DE-STAGE

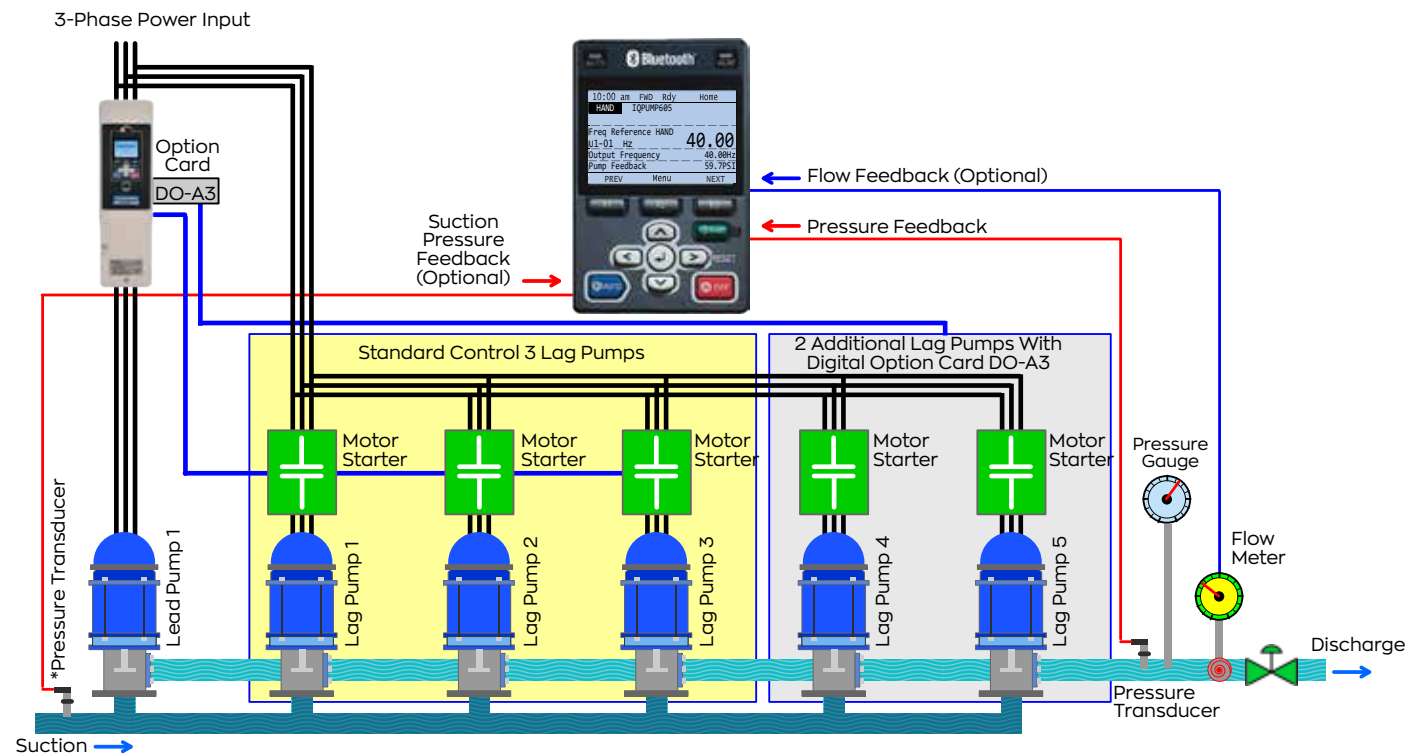
System dynamics and pump curves will determine the best method of pump staging and de-staging. The user can select a variety of methods such as: pump output speed, pressure differential to setpoint, combination of output speed and differential pressure and flow rate using an in-line flow meter.



ENABLING MULTIPLE LARGE VERTICAL TURBINE PUMPS

CONSTANT SPEED LAG PUMP MULTIPLEXING

Many agricultural farms use multiple large vertical turbine pumps to provide pressurized water to large pivot irrigation systems. Applying a VFD to each of the booster pumps on these systems may not be practical. However, an iQpump drive, using its on-board digital outputs, can control up to 5 lag pump starters from a single VFD to maintain pressure by staging and de-staging the lag pumps..



APPLICATION NOTES:

- Automatically starts and stops up to 5 Lag pumps based on the system demand, and will automatically stage and de-stage the booster pumps.
- Alternation of lag pumps to provide even wear.
- Allows a single lag pump to be selected during Pre-Charge (Pipe Fill) to reduce fill rate time.
- For large water consumers, acre-feet can be selected for water accumulation units.
- When the discharge pressure exceeds a high level setting, all running lag pumps will be quickly de-staged to prevent unsafe high pressure conditions.
- When using Pre-Charge, Lag Pump Staging and De-Staging functions, the drive's keypad will provide a message of time remaining before pre-charge is finished and/or time remaining before lag pumps are to stage and de-stage.

INLET SUCTION CONTROL

When installed with an inlet suction transducer, the iQpump drive monitors suction pressure drop to a programmed pressure setpoint. It seamlessly switches over to control suction pressure, so the system runs efficiently. If the inlet pressure returns to the suction pressure setpoint, the iQpump drive will switch back to controlling outlet pressure. A suction pressure alarm/fault detection is available if the suction pressure drops below the Low Suction Pressure Detection Level for more than the Low Suction Pressure Detection Time.

SPEED REDUCTION "GO TO SPEED" AFTER LAG PUMP STAGING

Forces the lead iQpump drive, when in VTC mode, to operate at a lower fixed speed for a specified amount of time whenever a lag pump is staged on. This dampens the shock loading of a lag pump starting across the line to the system.

SETPOINT BOOST AFTER DE-STAGING

Automatically boosts the auto setpoint pressure to a new specified incremental amount for a programmable time whenever a pump is de-staged. This allows the lead iQpump drive, when in VTC mode, to accelerate more quickly to lessen the pressure drop on the system of a lag pump that is being de-staged.

LOW FLOW AND HIGH FLOW (GPM) PROTECTION

iQpump drives continuously monitor the system flow signal feedback to provide a warning alarm or fault based on the programmed level.

FLOW METER DATA LOGGING

Through a secondary analog or pulse train input, a flow sensor can be connected inline with the pump system back to the iQpump drive to read and accumulate total system flow to report to authorities. The system can be configured to detect "No Flow" and switch to "Sleep" on low demand.

HARD CURRENT LIMIT

As the pump impeller wears over time, it changes the efficiency of the pump. In order to maintain a constant pressure or flow, the pump speed will increase, resulting in greater motor current. This can cause the drive to trip on nuisance motor overload (OL).

BACK SPIN TIMER

After "Stop" or "Hand" command, the iQpump drive will not restart until the timer expires, allowing the water column to flow back down the well.



IQPUMP DRIVE PACKAGES

PACKAGES FOR ANY ENVIRONMENT

Yaskawa offers quick lead time on cost-effective iQpump drive standard packages. You can also get standard packages configured to meet your custom requirements.

UL TYPE 1 PACKAGES

Yaskawa offers a standard UL Type 1 package for iQpump drives and configured units. All units are UL rated, with the configured packages built to UL 508A (Industrial Control Panel) standards. Installation, setup, service and quick delivery have all been considered in these package designs.

UL TYPE 12 PACKAGES

iQpump605 configured packages are available with a UL Type 12 enclosure option. Fans, when required, are provided with Type 12 rated filters to maintain a Type 12 rating on the enclosure.

Standard construction features include:

- 12-Gauge Steel
- Padlock Hasp
- Whole Door Gasket
- Integral ¼ Turn Door Latches
- Lifting Eyes
- Removable Air Filter from Outside of Cabinet



UL TYPE 3R PACKAGES

iQpump configured packages are also offered with a UL Type 3R enclosure option. This enclosure can be installed in direct sunlight without the need for additional cooling or sunshade protection.

Standard Features

- Door mounted keypad
- Disconnect
- 104°F/40°C maximum ambient temperature
- UL Listed

Power Options

- Output reactor
- Circuit breaker (Service Entrance Rated)
- RayCap brand sure arrester
- Space heater
- 122°F/50°C maximum ambient temperature
- Motor power terminal block

Control Options

- Ethernet option card
- 200VA control transformer
- Keypad viewing window
- Door Mounted Hand-Off-Auto Switch
- Door Mounted Speed Pot



FULLY-ENGINEERED PACKAGES

Both end users and OEM customers have come to rely on our custom product engineering capabilities. These products are based off of our standard configurations, but can evolve into a totally customized package.



Engineered packages include:

- Redundant Drive Packages
- 12- or 18-Pulse Configurations
- Soft Start Bypass Packages
- Integrated Trap Filter Packages
- Multiple Motor Configurations

Engineered packages can be provided as UL Type 1, 12 or 3R. They are supported with custom engineered drawings and documentation.



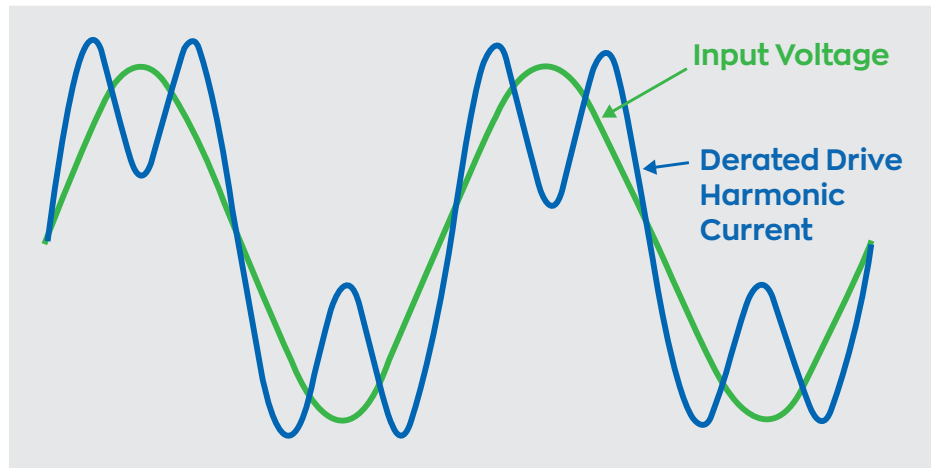
SINGLE PHASE

MAKING THE MOST OF SINGLE-PHASE

Single-phase motor control is limited and challenging. Yaskawa makes the complicated simple, combining the latest in power conversion technology with our straightforward iQpump drives.

Yaskawa's industry leading Single Phase Converter (SPC) cleanly converts single-phase AC power to DC power for Yaskawa variable frequency drives. The SPC marries Yaskawa reliability and drive technology with motor control solutions for businesses in remote areas.

The SPC eliminates the need to oversize variable frequency drives for single-phase applications while reducing distortion to less than 10% iTHD. With lower input harmonics and near unity power factor, the SPC also eliminates the need to significantly oversize transformers in single-phase applications, reducing overall installation costs.



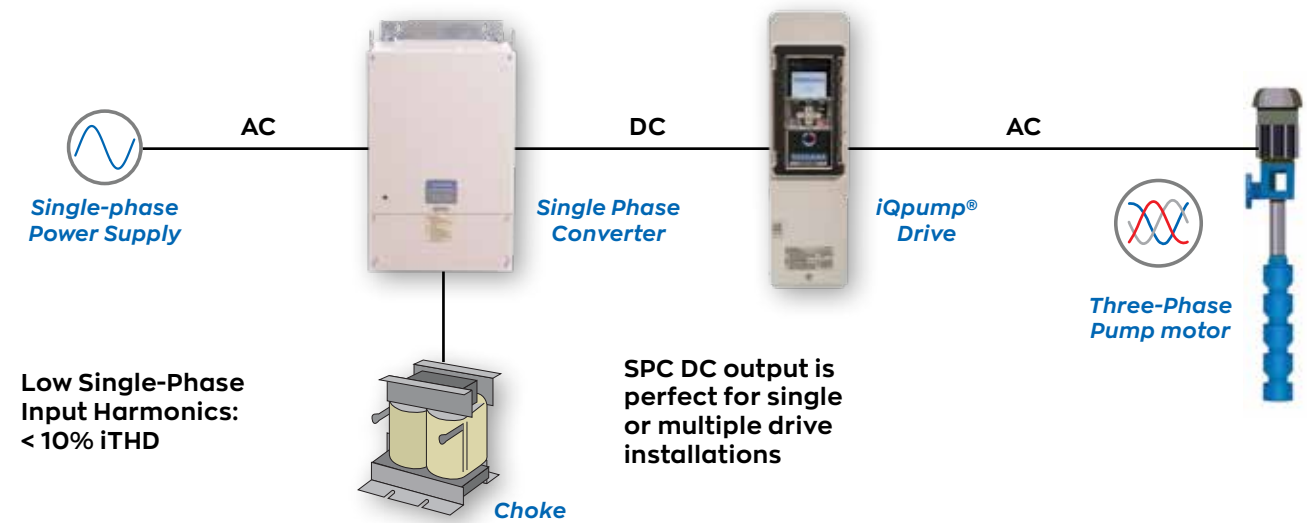
SPC provides power for three phase systems and eliminates the drive's low harmonic currents

SYSTEM ADVANTAGES

- Less than 10% iTHD reduces installation costs
- Eliminates the need for drive oversizing
- Three-phase motors are more efficient and less expensive than single-phase motors
- No rotating parts needed for phase conversion
- UL listed.



SYSTEM DIAGRAM



SPECIFICATIONS

Item	Specification
Power Range	230 VAC: 20-60 HP 460 VAC: 30-125 HP
Input Voltage Tolerance	230-240 VAC, Single-Phase 460-480 VAC, Single-Phase Tolerance -5/+10% ¹
Power Factor	0.99
Ambient Operating Temperature	-10° to 50°C (14° to 122°F) Open Chassis -10° to 40° (14° to 104°F) UL Type 1
Global Certifications	UL, RoHS 2
User Interface	4 LED indicators: Power, Ready, Run, Fault

1: -10% minimum input voltage for 60 seconds at rated power

MODELS AND RATINGS

Power Supply	System Kit Number ¹	Rated Power ² HP	Input Current Amps (rms)	Output Current Amps (DC)	Height inches (cm)	Width inches (cm)	Depth inches (cm)
230 to 240 VAC	SPBC-240-20HP	20	79	57	15 (38.1)	10 (25.4)	10 (25.4)
	SPBC-240-30HP	30	116	84	15 (38.1)	10 (25.4)	10 (25.4)
	SPBC-240-40HP	40	154	112	17 (43.2)	12 (30.5)	10.5 (26.7)
	SPBC-240-50HP	50	191	139	24 (61.0)	12.4 (31.5)	11.4 (29.0)
460 to 480 VAC	SPBC-240-60HP	60	228	166	24 (61.0)	12.4 (31.5)	11.4 (29.0)
	SPBC-480-30HP	30	58	42	15 (38.1)	10 (25.4)	10 (25.4)
	SPBC-480-40HP	40	77	56	15 (38.1)	10 (25.4)	10 (25.4)
	SPBC-480-50HP	50	96	69	17 (43.2)	12 (30.5)	10.5 (26.7)
	SPBC-480-60HP	60	114	83	17 (43.2)	12 (30.5)	10.5 (26.7)
	SPBC-480-75HP	75	142	103	24 (61.0)	12.4 (31.5)	11.4 (29.0)
	SPBC-480-125HP	125	234	170	24 (61.0)	12.4 (31.5)	11.4 (29.0)

1: Kit includes open type/protected chassis Single Phase Converter and DC link choke
2: Larger power Single Phase Converter unit may be used on lower power motors



LOW HARMONIC iQPUMP®

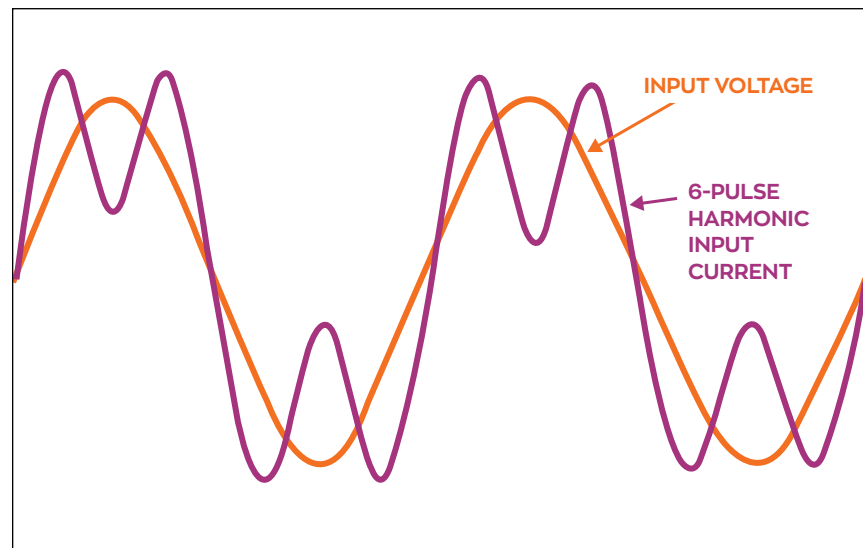
We've combined our award-winning Matrix low harmonic power structure with the industry leading iQpump control for intelligent, efficient and compact water pumping.

U1000 iQPUMP®

The U1000 iQpump provides extremely low harmonic distortion in an innovative, space-saving design.

Yaskawa's Matrix power structure allows for best-in-class efficiency by eliminating passive power filters and multi-pulse transformers, while exceeding IEEE 519 requirements for power quality.

U1000 iQpump can easily be configured for pressure, water level and flow control. Also, one drive can control multiple pumps, creating the most cost-effective low-harmonic pumping solutions on the market.



WHY ARE HARMONICS IMPORTANT?

Harmonics distort the power on power lines. These distortions can affect the electrical system in various ways.

For example, harmonics can overheat power wires and transformers or cause erratic operation of other electrical loads that aren't isolated from the harmonics.

When these situations occur, it opens the door for downtime and expensive repairs.

COMPARING THE BENEFITS



Comparing the many low harmonic solutions on the market today can be a daunting task for the most seasoned experts. Performance and offerings vary depending on manufacturer, power requirements and voltage imbalance.

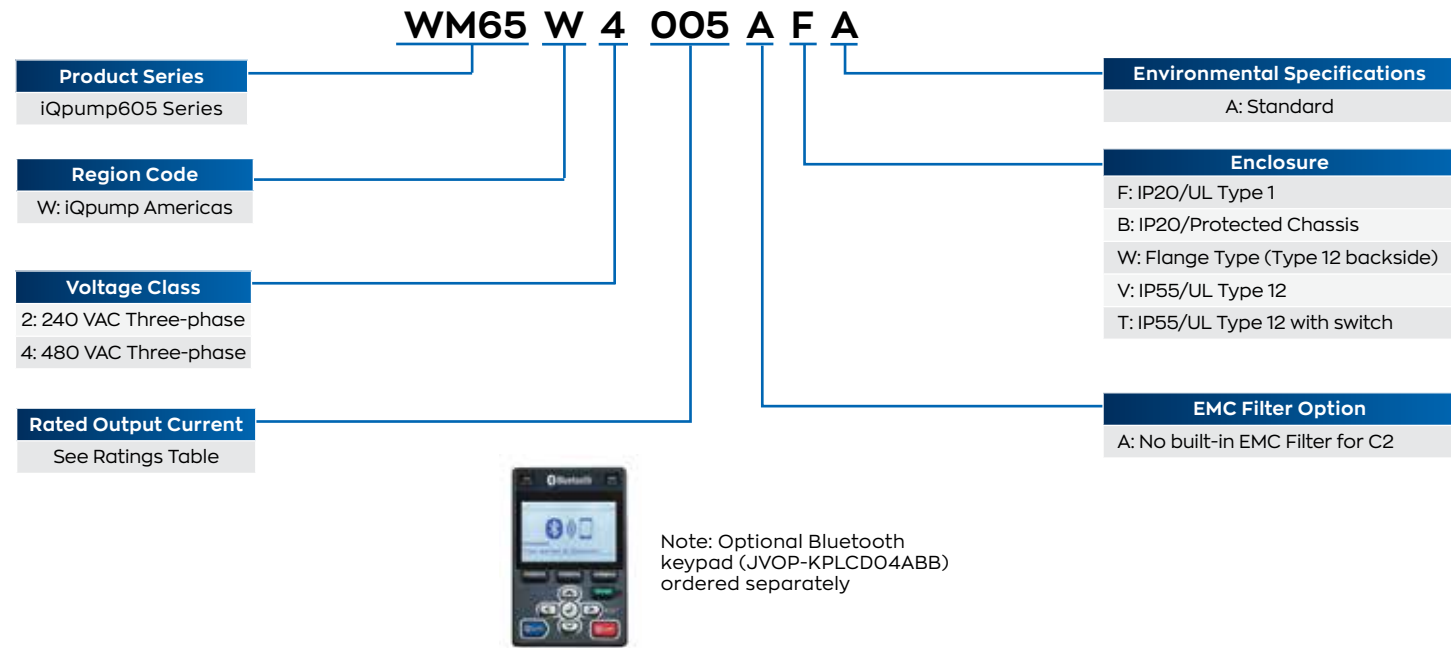
The award winning Matrix power structure, employed by the U1000 iQpump, makes your decision simple. The U1000 iQpump offers best-in-class current distortion, true power factor, simple wiring, energy efficiency and minimal footprint.

	6-Pulse	6-Pulse with Reactor	12-Pulse	Harmonic Filter	U1000 iQpump
Current Distortion	40-100%	33-45%	6-12%	5-12%	3-5%
True Power Factor	.75	.90	.95	.95	.98
Three-In, Three-Out	Yes	Some	Some	Some	Yes
Size	1x	1.5x	3x	2x	1.5x

Note: harmonic solution specifications are typically expected values. results may vary based on application and product design. consult with the equipment manufacturer for expected results.

iQ PUMP[®] 605 AC DRIVE

Catalog Code Designation



IP20/UL TYPE 1 RATINGS

240 V Models					480 V Models				
Catalog Code	Three-Phase Ratings		Single-Phase De-rate	Dim.	Catalog Code	Three-Phase Ratings		Single-Phase De-rate	Dim.
WM65W □□□□□□	HP	Amps (A)	Maximum Motor HP	Frame	WM65W □□□□□□	HP	Amps (A)	Maximum Motor HP	Frame
2011AFA	3	10.6	1.0	1	4005AFA	3	4.8	1.0	1
2017AFA	5	16.7	2.0	1	4008AFA	5	7.6	1.5	1
2024AFA	7.5	24.2	3.0	2	4011AFA	7.5	11	2.0	1
2031AFA	10	30.8	-	2	4014AFA	10	14	3.0	1
2046AFA	15	46.2	5.0	3	4021AFA	15	21	-	2
2059AFA	20	59.4	7.5	3	4027AFA	20	27	5.0	2
2075AFA	25	74.8	-	4	4034AFA	25	34	-	2
2088AFA	30	88	10	4	4040AFA	30	40	7.5	3
2114AFA	40	114	-	4	4052AFA	40	52	10	3
2143AFA	50	143	-	6	4065AFA	50	65	-	3
2169AFA	60	169	15	6	4077AFA	60	77	15	4
-	-	-	-	-	4096AFA	75	96	-	4
-	-	-	-	-	4124AFA	100	124	25	4
-	-	-	-	-	4156AFA	125	156	30	6

Larger horsepower models available in a IP20/Protected chassis enclosure.

APPROXIMATE DIMENSIONS

Frame Size	H	W	D
1	14.1	4.9	8.6
2	17.6	4.9	9.2
3	20.1	7.9	9.3
4	21.3	10.0	10.4
6	30.5	12.3	15.7

Dimensions shown in inches.
Information in these tables represents IP20/UL Type 1 enclosures. For other enclosure types and enclosure adaptors, please visit yaskawa.com.

IP20/PROTECTED CHASSIS

240 V Models					480 V Models				
Catalog Code	Three-Phase Ratings		Single-Phase De-rate	Dim.	Catalog Code	Three-Phase Ratings		Single-Phase De-rate	Dim.
WM65W □□□□□□	HP	Amps (A)	Maximum Motor HP	Frame	WM65W □□□□□□	HP	Amps (A)	Maximum Motor HP	Frame
2211ABA	75	211	25	9	-	-	-	-	-
2273ABA	100	273	30	9	-	-	-	-	-
2343ABA	125	343	40	10	-	-	-	-	-
2396ABA	150	396	50	10	4180ABA	150	180	40	9
-	-	-	-	-	4240ABA	200	240	50	9
-	-	-	-	-	4302ABA	250	302	-	9
-	-	-	-	-	4361ABA	300	361	60	10
-	-	-	-	-	4414ABA	350	414	75	10
-	-	-	-	-	4477ABA	400	477	100	11
-	-	-	-	-	4515ABA	450	515	-	11
-	-	-	-	-	4590ABA	500	590	150	11
-	-	-	-	-	4720ABA	600	720	-	11

APPROXIMATE DIMENSIONS

Frame Size	H	W	D
9	27.6	12.3	16.5
10	31.5	17.3	18.6
11	44.9	20.1	18.9

Dimensions shown in inches
Information in these tables represents IP20/Protected Chassis enclosures. For other enclosure types and enclosure adaptors, please visit yaskawa.com.

IP55/UL TYPE 12 RATINGS

240 V Models					480 V Models				
* Catalog Code	Three-Phase Ratings		Single-Phase De-rate	**Dim.	* Catalog Code	Three-Phase Ratings		Single-Phase De-rate	**Dim.
WM65W □□□□□□	HP	Amps (A)	Maximum Motor HP	Frame	WM65W □□□□□□	HP	Amps (A)	Maximum Motor HP	Frame
2011A□A	3	10.6	1.0	1	4005A□A	3	4.8	1.0	1
2017A□A	5	16.7	2.0	1	-	-	-	-	-
2024A□A	7.5	24.2	3.0	2	4011A□A	7.5	11	3.0	1
2031A□A	10	30.8	-	2	4014A□A	10	14	-	1
2046A□A	15	46.2	5.0	3	4021A□A	15	21	-	2
2059A□A	20	59.4	7.5	3	4027A□A	20	27	5.0	2
2075A□A	25	74.8	-	4/4A	4034A□A	25	34	-	2
2088A□A	30	88	10	4/4A	4040A□A	30	40	7.5	3
2114A□A	40	114	-	4/4A	4052A□A	40	52	10	3
2143A□A	50	143	-	6	4065A□A	50	65	-	3
2169A□A	60	169	15	6	4077A□A	60	77	15	4/4A
-	-	-	-	-	4096A□A	75	96	-	4/4A
-	-	-	-	-	4124A□A	100	124	25	4/4B
-	-	-	-	-	4156A□A	125	156	30	6

* The catalog code for IP55/UL Type 12 drives ends in AVA, while the catalog code for IP55/UL Type 12 with switch drives ends in ATA.

** Dimension frame sizes with 2 values indicate AVA models/ATA models

APPROXIMATE DIMENSIONS

Enclosure Option V (w/o switch)			
Frame Size	H	W	D
1	14.1	4.9	9.0
2	17.6	4.9	9.6
3	20.1	7.9	9.7
4	21.3	10.0	10.7
6	30.14	14.26	16.14

Enclosure Option T (w/ switch)			
Frame Size	H	W	D
1	20.4	4.9	9.0
2	24.5	4.9	9.6
3	28.9	7.9	9.7
4A	37.4	10.0	10.7
4B	37.85	13.95	13.82
6	39.89	14.26	16.14

Dimensions shown in inches (mm).
Information in these tables represents IP55/UL Type 12 enclosures. For other enclosure types and enclosure adaptors, please visit yaskawa.com.

iQPUMP Micro MODELS AND RATINGS

CIMR-PW 2 V 0006 F A A

AC Drive		iQpump Series		Design Revision	
No.	Voltage Class	No.	Output Current Code (A)	No.	Environmental Specification
BV	1-phase, 240V iQpump Micro		See charts below	A	Standard
2V	3-phase, 240V iQpump Micro		Current codes are equivalent to the current rating.	No.	Enclosure Type
4V	3-phase, 480V iQpump Micro			F	IP20/NEMA 1 Type
				G	NEMA Type 4X (IP66)



240V - DEDICATED SINGLE-PHASE MODELS

Model Number	Dedicated Single-Phase, 240 V		Dimensions (in.)					
			NEMA 1 (CIMR-PWBV-XXXX-FAA)			NEMA-4X (CIMR-PWBV-XXXX-GAA)		
	Max Capacity (HP)	Rated Current (A)	Height	Width	Depth	Height	Width	Depth
CIMR-PWBV0006	1	6.0	5.89	4.25	6.47	10.04	7.36	9.25
CIMR-PWBV0010	3	9.6	5.89	4.25	7.12	10.04	7.36	9.25
CIMR-PWBV0012	3	12.0	6.02	5.51	7.48	10.04	7.36	9.25
CIMR-PWBV0018	5	17.5	6.02	6.69	8.15	Not Available		

240V - THREE-PHASE MODELS

Model Number	3-Phase, 240V Ratings		Single-Phase, 240 V De-Rate (NEMA 1, 4X) - (Continuous Full Power)		Dimensions (in.)					
			Without Additional Input Reactor	With Additional Input Reactor	NEMA 1 (CIMR-PWBV-XXXX-FAA)			NEMA-4X (CIMR-PWBV-XXXX-GAA)		
	Max Capacity (HP)	Rated Current (A)	Max Capacity (HP)	Max Capacity (HP)	Height	Width	Depth	Height	Width	Depth
CIMR-PW2V0006	1.5	6.0	1	1	5.89	2.68	6.10	8.74	6.38	7.28
CIMR-PW2V0010	2 / 3	9.6	1.5	1.5	5.89	4.25	6.14	10.04	7.36	9.25
CIMR-PW2V0012	3	12.0	2	2	5.89	4.25	6.47	10.04	7.36	9.25
CIMR-PW2V0020	5	19.6	-	3	6.02	5.51	6.69	10.04	7.36	9.25
CIMR-PW2V0030	7.5 / 10	30	-	-	10.0	5.51	6.57	16.54	11.42	12.01
CIMR-PW2V0040	10	40	5	5	10.0	5.51	6.57	16.54	11.42	12.01
CIMR-PW2V0056	15 / 20	56	-	7.5	11.42	7.09	7.48	16.54	11.42	12.01
CIMR-PW2V0069	25	69	7.5	10	14.09	8.66	8.42	18.31	11.42	12.01

480V- THREE-PHASE MODELS

Model Number	3-Phase, 480 V Ratings		Single-Phase, 480 V De-Rate (NEMA 1, 4X) - (Continuous Full Power)		Dimensions (in.)					
			Without Additional Input Reactor	With Additional Input Reactor	NEMA 1			NEMA-4X		
	Max Capacity (HP)	Rated Current (A)	Max Capacity (HP)	Max Capacity (HP)	Height	Width	Depth	Height	Width	Depth
CIMR-PW4V0002	1	2.1	0.5	0.5	5.89	4.25	4.96	8.74	6.38	7.28
CIMR-PW4V0004	2	4.1	1	1	5.89	4.25	6.47	8.74	6.38	7.28
CIMR-PW4V0005	3	5.4	1.5	2	5.89	4.25	7.12	10.04	7.36	9.25
CIMR-PW4V0007	3	6.9	-	-	5.89	4.25	7.12	10.04	7.36	9.25
CIMR-PW4V0009	5	8.8	2	3	5.89	4.25	7.12	10.04	7.36	9.25
CIMR-PW4V0011	7.5	11.1	3	-	6.02	5.51	6.69	10.04	7.36	9.25
CIMR-PW4V0018	10	17.5	-	5	10.0	5.51	6.57	16.54	11.42	12.01
CIMR-PW4V0023	15	23	-	-	10.0	5.51	6.57	16.54	11.42	12.01
CIMR-PW4V0031	20	31	-	7.5	11.42	7.09	6.69	16.54	11.42	12.01
CIMR-PW4V0038	25	38	5	10	11.42	7.09	7.48	16.54	11.42	12.01

Reference User Manual for proper drive sizing when using service factors larger than 1.15
When two or more drives in the same voltage class have the same power rating any drive with that rating can be selected

U1000 iQPUMP MODELS AND RATINGS

CIMR-UW 2 A 0028 A U A

AC Drive		U1000 iQpump Series		Design Revision	
No.	Voltage Class	No.	Output Current Code (A)	No.	Environmental Specification
2A	3-phase, 240V		See charts below	U	Humidity and dust resistant
4A	3-phase, 480V		Current codes are equivalent to the current rating.	No.	Enclosure Type
				A	IP00/Open Chassis



240 V Class			Dimensions (inches)				Weight (lb) ¹
Model: CIMR-UW2A□	Amps	HP	Fig. No.	H	W	D	
0028AUA	28	10	1	18.89	9.84	14.17	44
0042AUA	42	15		25.60	10.39	16.53	71
0054AUA	54	20		25.60	10.39	16.53	77
0068AUA	68	25	2	32.12	10.39	17.71	132
0081AUA	81	30		32.12	10.39	17.71	132
0104AUA	104	40		32.12	10.39	17.71	132
0130AUA	130	50	3	38.97	16.33	15.86	245
0154AUA	154	60		38.97	16.33	15.86	245
0192AUA	192	75		38.97	16.33	15.86	245
0248AUA	248	100		44.56	19.29	17.71	388

480 V Class			Dimensions (inches)				Weight (lb) ¹
Model: CIMR-UW4A□	Amps	HP	Fig. No.	H	W	D	
0011AUA	11	7.5	1	18.89	9.84	14.17	44
0014AUA	14	10		18.89	9.84	14.17	44
0021AUA	21	15		18.89	9.84	14.17	44
0027AUA	27	20	2	25.60	10.39	16.53	71
0034AUA	34	25		25.60	10.39	16.53	77
0040AUA	40	30		25.60	10.39	16.53	77
0052AUA	52	40	3	32.12	10.39	17.71	132
0065AUA	65	50		32.12	10.39	17.71	132
0077AUA	77	60		32.12	10.39	17.71	132
0096AUA	96	75	3	38.97	16.33	15.86	245
0124AUA	124	100		38.97	16.33	15.86	245
0156AUA	156	125		38.97	16.33	15.86	245
0180AUA	180	150	3	44.56	19.29	17.71	388
0216AUA	216	175		44.56	19.29	17.71	388
0240AUA	240	200		44.56	19.29	17.71	388
0302AUA	302	250	Contact Yaskawa	44.56	27.36	17.71	571
0361AUA	361	300		62.8	42.13	17.52	1235
0414AUA	414	350		72.24	47.64	17.52	1389
0477AUB	477	400	Contact Yaskawa	62.8	42.13	17.52	1235
0590AUB	590	500		72.24	47.64	17.52	1389
0720AUB ²	720	600		72.24	47.64	17.52	1389
0930AUB ³	930	800		72.24	47.64	17.52	1389

PWM Filter Model No.	Applicable Drive Models	Dimensions (inches)			Weight (lb) ¹
		H	W	D	
EUJ711800M ²	CIMR-UU4A0720AUB	53.2	27.6	17.3	761
EUJ711820M ³	CIMR-UU4A0930AUB	53.2	27.6	17.3	761

*1. This data represents the drive weight only, not shipping weight.
*2. Input PWM filter EUJ711800M is required when using CIMR-UU4A0720AUB.
*3. Input PWM filter EUJ711820M is required when using CIMR-UU4A0930AUB.

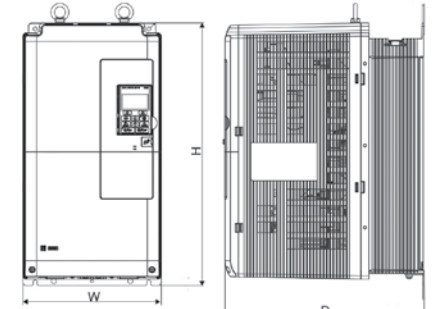


Figure 1

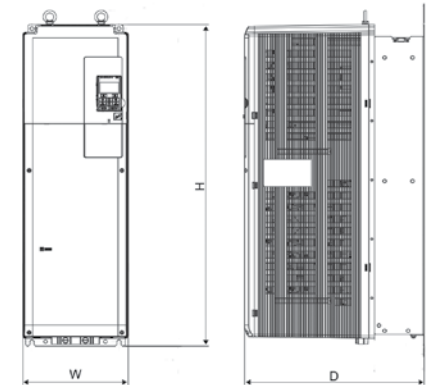


Figure 2

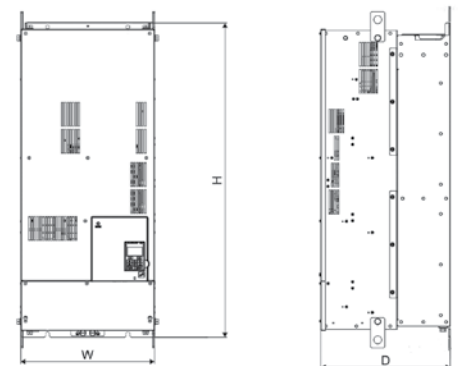


Figure 3

HARDWARE COMPARISON

Features	iQpump605	iQpump Micro	U1000 iQpump
Voltage / HP Range		1 - 5 HP 200-240 V 1-Phase	
	3 - 150 HP 200-240 V 3-Phase	1 - 25 HP 200-240 V 3-Phase	10-100 HP 200-240 V 3-Phase
	3 - 600 HP 380-480 V 3-Phase	1 - 25 HP 380-480 V 3-Phase	7.5-800 HP 380-480 V 3-Phase
Real Time Clock	Standard (Mounted on Drive)	With Optional Remote H-O-A Operator Installed	Standard (Mounted on Drive)
H-O-A Operator	Standard (Mounted on Drive)	Option (Externally Mounted)	Standard (Mounted on Drive)
Transducer Power Supply	24 V @ 150 mA	24 V @ 30 mA	24 V @ 150 mA
Analog Inputs	Qty 3 - Programmable 0-10 VDC or 4-20 mA	Qty 1 - Non-Programmable 0-10 VDC Qty 1 - Programmable 0-10 VDC or 4-20 mA	Qty 3 - Programmable 0-10 VDC or 4-20 mA
Analog Outputs	Qty 2 - Programmable 0-10 VDC or 4-20 mA	Qty 1 - Programmable 0-10 VDC	Qty 2 - Programmable 0-10 VDC
Digital Inputs	8 Programmable	7 Programmable	8 Programmable
Digital Outputs	Qty 1 - Form C Fault Relay (Non-Programmable)	Qty 1 - Form C Fault Relay Programmable Qty 2 - Programmable Photo-Couplers	Qty 1 - Form C Fault Relay (Non-Programmable)
	Qty 1 - Form C Programmable Relay		Qty 1 - Form C Programmable Relay
	Qty 2 - Form A Programmable Relay		Qty 2 - Form A Programmable Relay
Pulse Input	Standard	Not Used	Standard
Expansion I/O Adapters	2 Additional Programmable Analog Outputs 2 Additional Programmable Digital Outputs	Not Available	2 Additional Programmable Analog Outputs 2 Additional Programmable Digital Outputs
Standard Communications	RS-485	RS-485/422	RS-485/422
Communications Network Options	EtherNet/IP	Not Available	Modbus RTU (Standard)
	Modbus TCP/IP		EtherNet/IP
	PROFIBUS-DP		Modbus TCP/IP
	PROFINET		DeviceNet PROFIBUS-DP PROFINET

SOFTWARE COMPARISON

Features	iQpump605	iQpump Micro	U1000 iQpump
Pump Control Configurations (P1-01 Group):			
Simplex	✓	✓	✓
Drive to Drive Multiplexing	Up to 8 Pumps	Up to 4 Pumps	Up to 8 Pumps
Simplex with Constant Speed Lag Multiplexing (VTC Mode)	✓	✗	✗
Pre-Programmed Application Macros (A1-03 Group):			
Constant Pressure	✓	✓	✓
Pump Down Constant Level	✓	✓	✓
General Purpose Mode - External Run and Speed Reference	✓	✓	✓
Submersible Motor General Purpose Mode Using Digital Operator	✓	✗	✓
VTC (Vertical Turbine) Pressure Control with Lag Pump Multiplexing	✓	✗	✓
Advanced Pressure Control	✓	✗	✗
Pivot Panel Run VTC (Vertical Turbine) Pressure Control	✓	✗	✗
Pump Specific Software Features:			
Selectable Engineering System Units	✓	✓	✓
Sleep Mode / Minimum Flow	✓	✓	✓
Start Level / Drawdown	✓	✓	✓
Hand Mode Control Operations	✓	✓	✓
Minimum Pump Speed	✓	✓	✓
Transducer feedback Scaling	✓	✓	✓
No Flow / Deadhead Protection	✓	✓	✓
Submersible Thrust Bearing Control	✓	✓	✓
Automatic Fault Restarts for Drive and Pump Protection	✓	✓	✓
Sleep Boost	✓	✓	✓
Low and High Feedback Detection	✓	✓	✓
Low and High Water Float Inputs	✓	✓	✓
Pump Over Cycle Protection	✓	✓	✓
Impeller Anti-jam Protection	✓	✓	✓
Loss of Prime (LOP) / Well Dry Run	✓	✓	✓
Automatic Power Loss Utility Start Delay	✓	✓	✓
Broken Pipe Protection	✓	✓	✓
Transducer Feedback Loss	✓	✓	✓
Transducer Feedback Loss with Programmable GOTO speeds	✓	✓	✓
Pre-Charge / Controlled Pipe Fill	✓	✓	✓
Hard Current Limit	✓	✓	✓
Over Torque Detection	✓	✓	✓
Pump Back Spin Timer	✓	✓	✓
Single Phase Loss Speed Foldback Protection	✓	✓	✗
Multiplex Drive to Drive Pump Setup and Adjustments	✓	✓	✓
Pulse Input for Flow Meter Control and Water Usage Data Logging	✓	✗	✓
Pump De-Scale / De-Ragging	✓	✗	✓
Measuring Water Well Drawdown via transducer with Constant Discharge Pressure	✓	✗	✓
Inlet Suction Pressure Control via Transducer Feedback	✓	✗	✓
Real Time Clock Sequence Drive On/Off Run Timers	✓	✗	✓
Secondary Transducer Input for Redundancy in Simplex and Multiplex Mode	✓	✗	✓
Multiplex Drive to Drive Pump Setup and Adjustments	✓	✗	✗

✓ = Supported ✗ = Not Supported

TECHNICAL SUPPORT

89%

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Our people are trained on products and applications just like yours. They provide intelligent solutions to particular challenges. So, you can feel comfortable that when you call, you will get the response you need.

And we don't stop there. We follow up on every case to:

- Be sure your issue is resolved.
- Ask if you need more help.
- Schedule a call back, should you desire one.
- Request your feedback.

When you call us, you are greeted as a friend, not just a customer. Your history automatically comes up in our system. We'll know it's you before we even pick up the phone. And, likely, we will know what you're calling about.

Normally, the first person to take your call will be able to address your needs. In the rare instance an engineer cannot help, they will put you in touch with the right person. But, it won't be one of those deals where you have to retell your whole story again to another associate.

We do what's called a "warm transfer." The first associate will brief the person you're being transferred to, so they'll have a clear understanding of the challenge before you speak with them. It's just one more way we make your interaction with us personal.

YASKAWA SOLUTION CENTER

The Yaskawa Solution Center is a web portal for learning about all things Yaskawa. More specifically, it is designed to help customers get specific support for their product questions and needs.

We recognize that our customers may not want to get help only by phone. That's why we created the Yaskawa Solution Center, an online tool to readily find resources for things like:

- Step-by-step instructions, including video tutorials
- Help configuring a product for a new application
- Starting up a product for the first time
- Transitioning from an older legacy product to a current one

This information is delivered via technical documents and manuals, video, and authored content based on real case scenarios in real time.

The Solutions Center also includes a crowd-sourcing feature. By allowing all visitors to provide feedback on anything they find on the site, we can improve, correct and add content. Even Yaskawa sales associates continuously submit feedback to content based on what they see and learn in the field. The site is literally updated in real time!

All of this collaboration between Yaskawa associates, distributors, OEMs and end-users makes the Solution Center more and more valuable to our customers every day.



*Crowd-Sourcing Feature
Content is continuously added
and updated in real time.*



WORLDWIDE CUSTOMER SUPPORT

Yaskawa offers worldwide support with application assistance, start up, maintenance, troubleshooting and repair, as well as internet tools and telephone support. Sales and service offices are located around the world.

**SUPPORT
AVAILABLE**

24/7/365

In the Americas, telephone assistance is available 24/7/365 at 1-800-YASKAWA (927-5292). Our phone support group is product certified to assist you with current and legacy drive requirements.



The Customer Relationship Management Institute has honored Yaskawa with the NorthFace ScoreBoard Award nine years running for excellence in technical support.

Yaskawa's Field Service personnel and local Authorized Service Providers can provide on-site start-up assistance, troubleshooting, and repair. Same day exchange units or fast turnaround repairs are available.

VISIT [HTTPS://SOLUTIONCENTER.YASKAWA.COM/](https://solutioncenter.yaskawa.com/)

Bridging the gap between what you are trying to do and the technical information you need to accomplish it.

Videos
Easy-to-use and follow instructional videos.

User Manuals
Online access to instructions on how to install, operate and troubleshoot.

Technical Documents
Complete library of parts and specs for our products.



YASKAWA.COM



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.

YASKAWA

Yaskawa America, Inc. | Drives & Motion Division

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