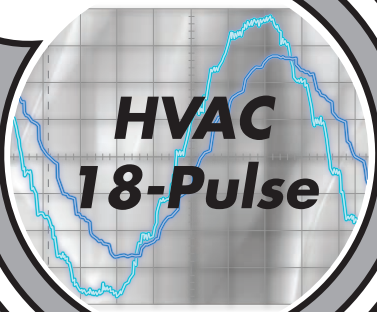
TOSHIBA
Leading Innovation

ADJUSTABLE SPEED DRIVES

QX7 Series

Reliability *in motion*®

CT



ARRA COMPLIANT
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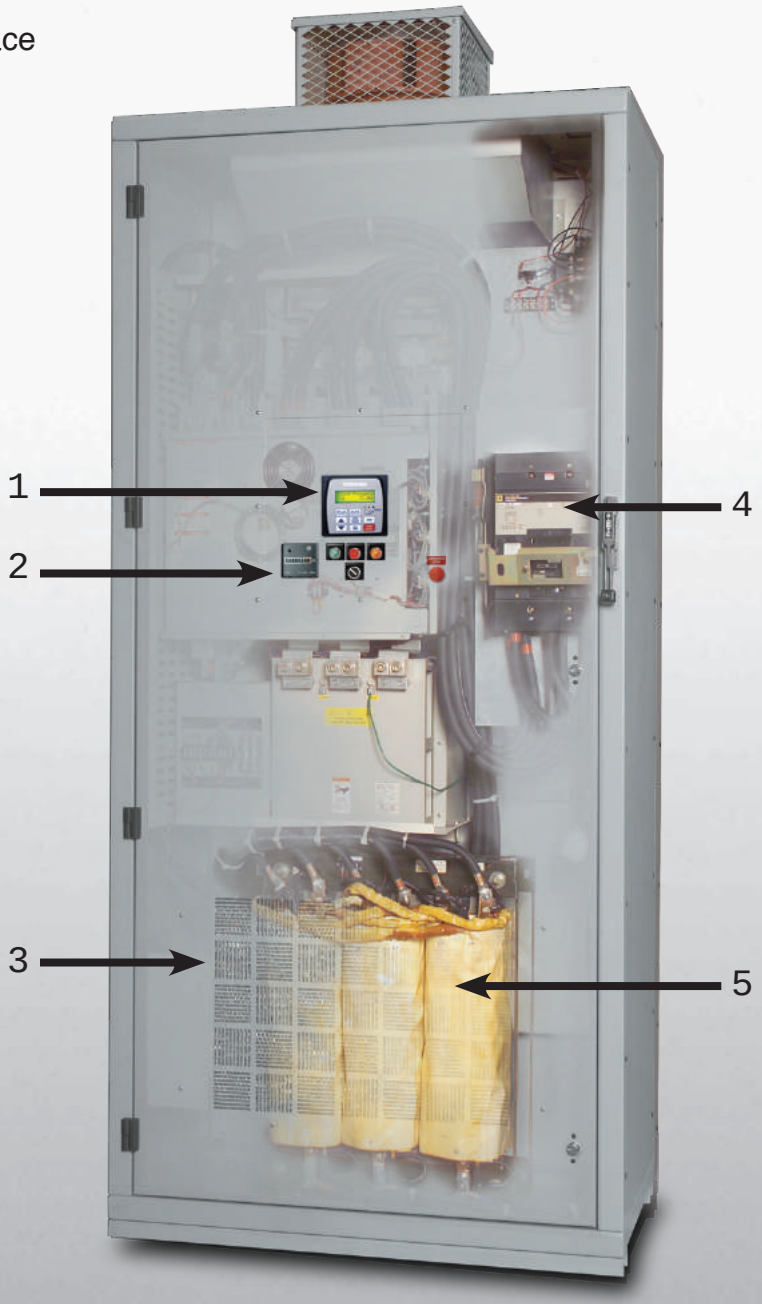
Toshiba QX7

The Toshiba QX7 adjustable speed drive is designed for HVAC applications where harmonic content is critical to the power grid. The QX7's patented 18-pulse design is the most sensible solution for the high demands of the HVAC industry. The QX7 eliminates the need to add other filters and costly isolation transformers.

- Patented 18-Pulse Design
- Small Footprint
- Powerful, User-Friendly Operator Interface
- Variety of Communication Options
- Small Footprint with Uniform 24" Depth
- Top or Bottom Cable Entry/Exit
- Proven Toshiba ASD Technology

1. User-Friendly Electronic Operator Interface (EOI)
2. Variety of User-Configurable Options
3. Gasketed and Filtered Enclosure Force Ventilated
4. 65 KAIC Breaker
5. Integrated Phase-Shifting Transformer



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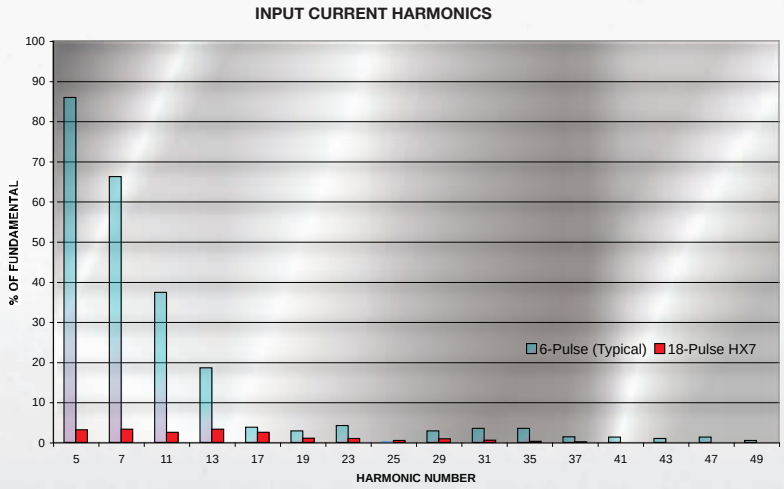
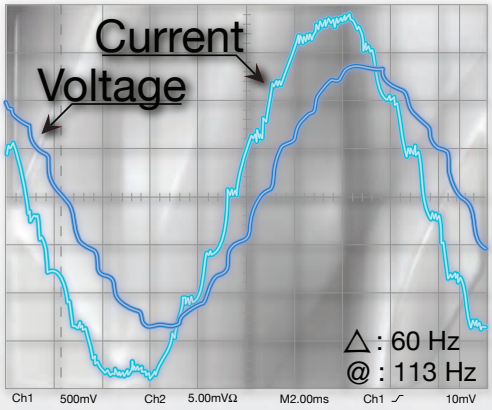
Truly Designed for

Total Harmonic Distortion (THD) can be caused by multiple factors including: computers, fluorescent lights, copiers, and six-pulse drives. With Toshiba's patented 18-Pulse Autotransformer design, the QX7 removes distortion that would normally be generated by a six-pulse drive.

- Meets IEEE-519 Guidelines without Adding Filters
- Produces a Ripple-Free Voltage on DC Bus
- Clean Sinusoidal Input Current Waveform
- Up to 60% Reduction in Transformer Losses



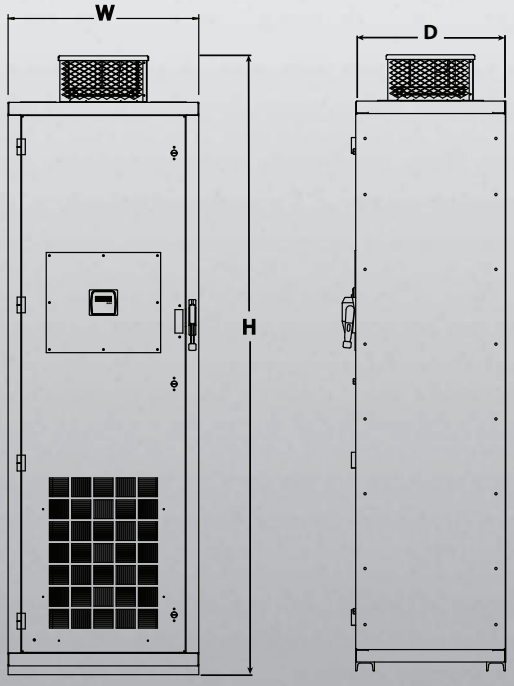


Small Footprint

The high cost of real estate and constraints of existing facilities make size an important consideration in drive selection.

- 100" Height and 24" Depth on All Sizes
- Integrated Phase-Shifting Autotransformer
- Saves Real Estate on New Designs
- Easy Replacement for Older Drives in Existing Facilities

(Addition of a bypass option will increase enclosure size.)



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Your HVAC System

User-Friendly

The QX7 keypad is rugged and reliable, but also easy to use. The LCD true-English display makes it easy to read and program. Menu-driven parameters and quick set-up keys allow the operator to program the drive with the smallest amount of keystrokes possible. On top of all these great keypad features, the QX7 also comes with Toshiba windows-based software.

Monitor Over 30 Parameters
15 Alarms and 41 Faults Displayed

Inputs:
YOU Control
- Eight Digital Inputs
- Three Analog Inputs
- All Fully Programmable

Outputs:
What YOU Want to Know
- Three Digital Relay Outputs
- Two 4 to 20 mA Analog Outputs
- All Fully Programmable

The Fire Speed Circuit allows you to run at a preset speed during a smoke purge. The Damper Permissive Function can be utilized to protect your ductwork from over pressuring. In addition, the PID settings will keep your system balanced.

Communication Options

The QX7 is easily integrated into your control system, giving you powerful information access and control capabilities while reducing installation costs.

Drive Information: Integrating the drive into your control system allows you access to monitor, control, and diagnostic data.

QX7 External

Networks Include:
- RS485/RS232
- Modbus RTU
- Modbus Plus
- Profibus DP
- DeviceNet
- Ethernet TCP/IP
- Ethernet IP
- Johnson Controls
- Metasys N2

Internally Mounted Nanocom Card

Networks Include:
- Modbus RTU
- Johnson Controls
- Metasys N2
- Siemens FLN

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Meets or Exceeds Your Specifications

QX7 Standard Specifications

Voltage Class	460 V													
Maximum HP	60	75	100	125	150	200	250	300	350	400	500	600	700	800
Drive Rating	77	96	124	156	190	240	302	370	450	492	600	740	900	960
AA Dimensions	100H X 30W X 24D						100H X 42W X 24D				105H X 76W X 24D			
AE Dimensions	100H X 54W X 24D						100H X 66W X 24D				Consult Factory			
AS Dimensions	100H X 54W X 24D		100H X 60W X 24D				100H X 84W X 24D				Consult Factory			
Power Requirements														
Output Frequency	0 to 299 Hz													
Main Circuit	Three-Phase, 460 V Input Auto-Transformer, 18-Pulse, IGBT Output													
Power Terminlas	Input (L1,L2,L3); Output (T1,T2,T3); DCL (PA,PB);Dc Bus (PA,PC)													
Control Power	DC Bus Control Power													
Voltage Tolerence	±10%													
Frequency Tolerence	±2%													
Control Specifications														
Control Method	Sine Wave PWM System													
V/Hz Control	Variable Torque, Constant Torque													
Overload Rating	120% for 60 Seconds, 100% Continuous													
Frequency Setting	EOI Interface, 0 to10 VDC, -10 to +10 VDC, 4 to 20 mA, Binary and Motorized Potentiometer Input													
Frequency Precision	Analog Input is 2% of Maximum Output; Digital Input is 0.01 Maximum Output													
Frequency Resolution	0.01 Hz Operation Panel, 0.1 Hz Analog Input; 0 to 12-Bit A to D Converter													
Accel./Decel. Time	0.1 to 6000 Seconds													
Set Point Control	PID Loop Control													
Analog Inputs	Four Programmable													
Analog Outputs	Two Programmable to 66 Functions													
Inputs Terminals	Eight Programmable to 33 Functions													
Output Contacts	Three Output Terminals Programmable to 66 Functions; One Form-C, Two 250 VAC Form-A													
Communications Port	RS232/485 and TTL Ports Standard													
Protocol	Optional Profibus, Devicenet, Modbus RTU, Metysys, TCP/IP Ethernet													
Soft Stall	Auto Load-Reduction Control Durring Overload Conditions													
Retry	Can Automatically Clear Fault upon Trip; Programmable to 10 Retries with up to 10 Seconds Between Each Retry													
Restart	Able to Restart to Catch a Spinning Motor													
Interface														
EOI Display	4 Line X 20 Character LCD, Backlit Screen, Flash-Upgradeable Software													
Keypad	Local/Remote, Manual/Auto, Speed Control, Setup/Program/Monitor, Run, Stop/Reset													
Monitoring	Monitors Over 30 Parameters													
Dispay Units	Display in Voltage, Amps, or Percent with Scaling Factor Multiplier													
EOI Ports	RS232/485 and TTL Ports Standard													
Remote Mounting	Up to 1000 Feet													
Construction														
Enclosure	NEMA 1 Gasketed and Filtered													
Panel Construction	Free Standing, Front-Access Maintenance, Top/Bottom Cable Access													
Ambient Conditions														
Temperature	10 to 40°C or 14 to 104°F													
Humidity	Maximum 95% (Non-Condensing) Without Derating													
Altitude	Up to 1000 Meters or 3300 Feet Above Sea Level Without Derating													

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