

TOSHIBA

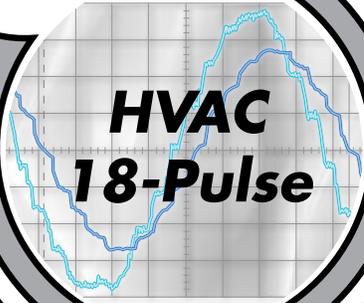
ADJUSTABLE SPEED DRIVES



QX7 Series

Reliability in motion[®]

CT



**HVAC
18-Pulse**

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

1. Small Footprint with Uniform 24" Depth

2. User-Friendly Electronic Operator Interface (EOI)

3. Variety of User-Configurable Options

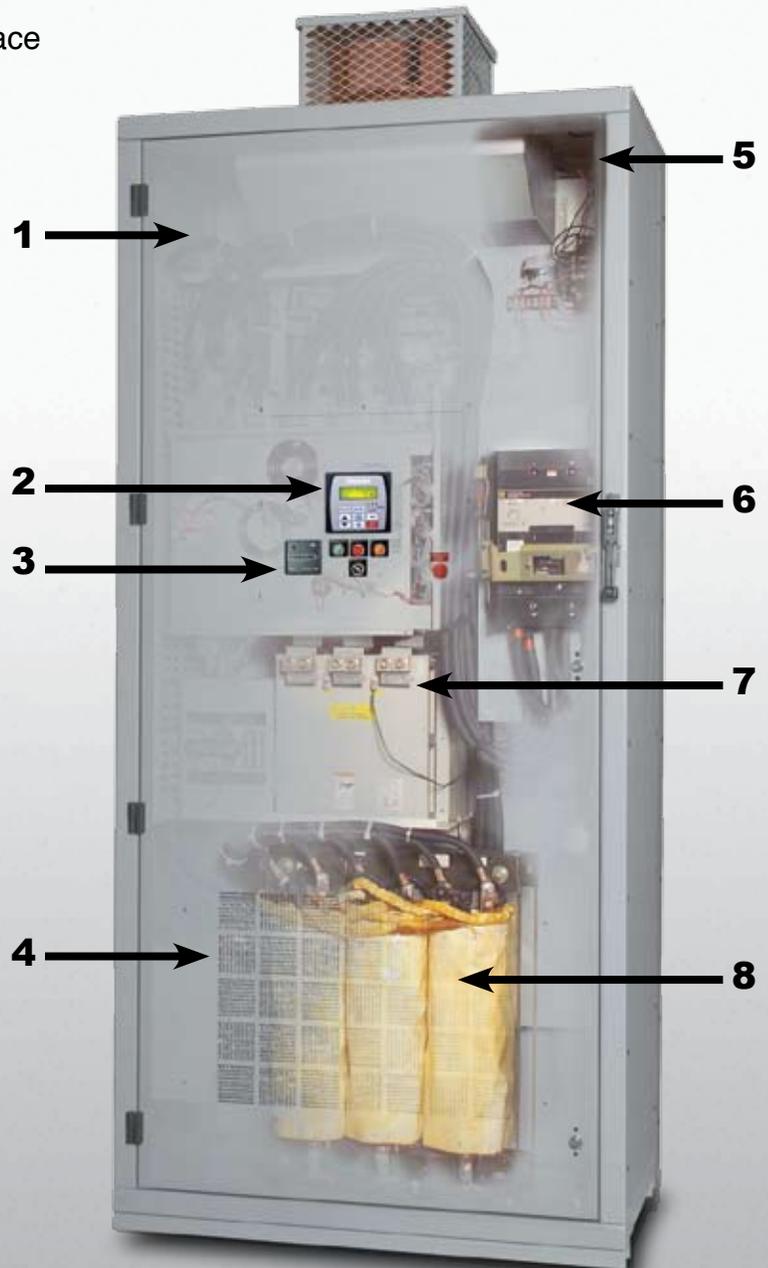
4. Gasketed and Filtered Enclosure Force Ventilated

5. Top or Bottom Cable Entry/Exit

6. 65 KAIC Breaker

7. Proven Toshiba ASD Technology

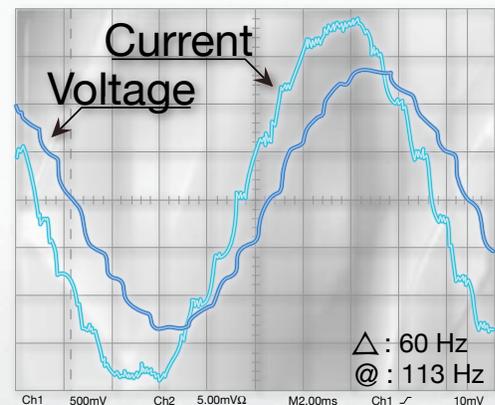
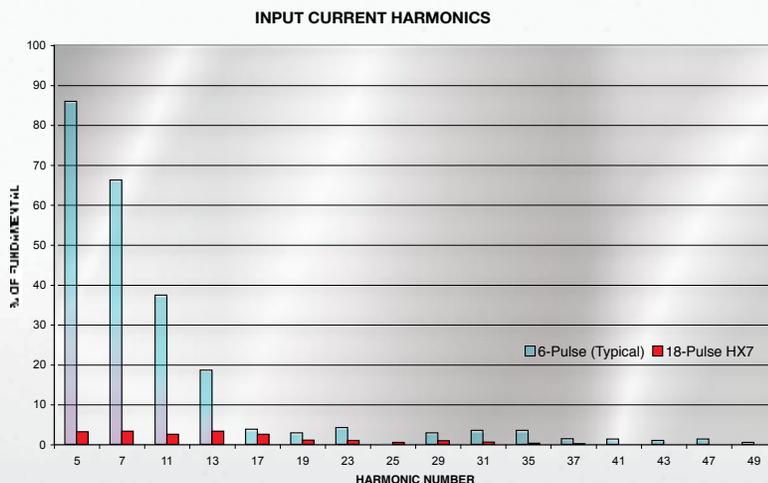
8. Integrated Phase-Shifting Transformer



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

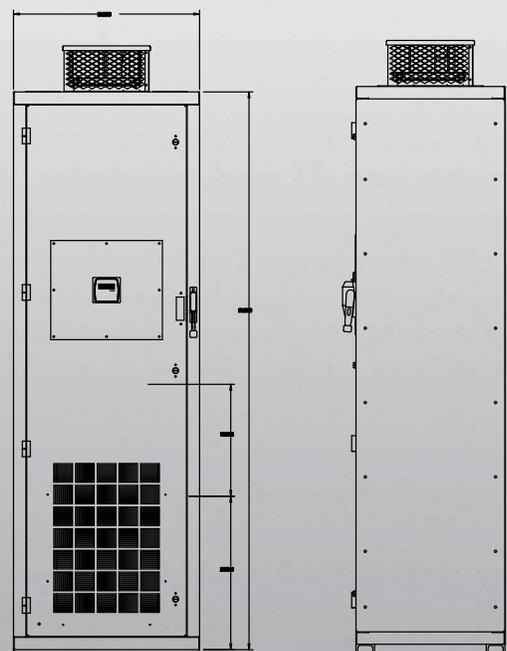


Small Footprint

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.)



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



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	100" x 30" x 24"						100" x 42" x 24"				105" x 76" x 24"				
AE Dimensions	100" X 54" X 24"						100" X 66" X 24"				Consult Factory				
AS Dimensions	100" X 54" X 24"		100" X 60" X 24"				100" X 84" X 24"				Consult Factory				
Power Requirements															
Output Frequency	0 to 299 Hz														
Main Circuit	Three-Phase, 460 V Input Auto-Transformer, 18-Pulse, IGBT Output														
Power Terminals	Input (L1,L2,L3); Output (T1,T2,T3); DCL (PA,PB);Dc Bus (PA,PC)														
Control Power	DC Bus Control Power														
Voltage Tolerance	±10%														
Frequency Tolerance	±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 to 10 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	Up to Ten Retries with Up to Ten 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														
Display 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														

TOSHIBA INTERNATIONAL CORPORATION



North American Headquarters and Manufacturing Facility (Houston, TX)

TOSHIBA – Quality by Design

Toshiba's culture and history are strongly rooted in quality. Our designs are technologically innovative, and our products are manufactured from start to end using only the highest quality domestic and foreign parts.

Product Warranty

Toshiba offers a comprehensive warranty program on its full line of industrial products. Consult your salesperson or the factory for specific information.

Need to Know More?

Be sure to visit our website located at www.toshiba.com/ind for the latest information on Toshiba products and services.

Customer Support Services

Toshiba offers 24-hour service nationwide. For assistance of any type call: 1-800-231-1412.



ADJUSTABLE SPEED DRIVES MOTORS CONTROLS UPS INSTRUMENTATION PLC

TOSHIBA

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