

# TOSHIBA

Leading Innovation >>>

# GX9

***Adjustable Speed  
Drive  
Built to Last***



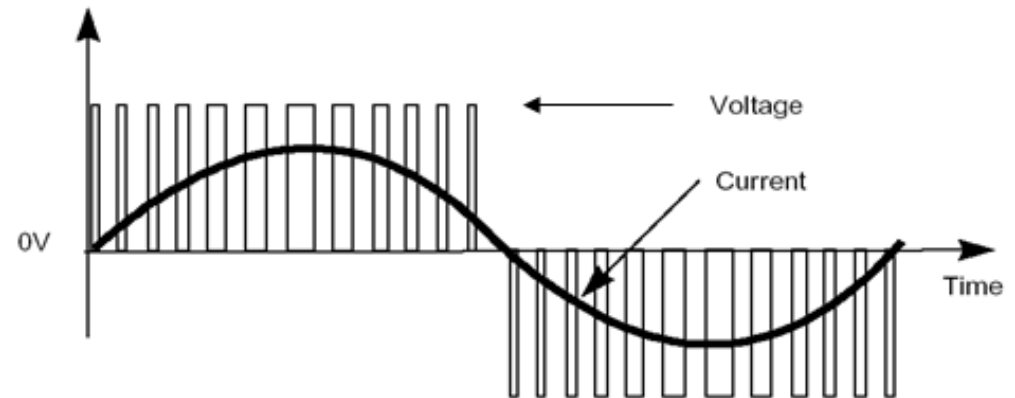
# Overview

- ⊕ Wide Horsepower range
- ⊕ IGBT Inverter
- ⊕ NEMA 1 Standard
- ⊕ 6 Pulse Diode Standard
- ⊕ Fused Inputs
- ⊕ VLP Technology



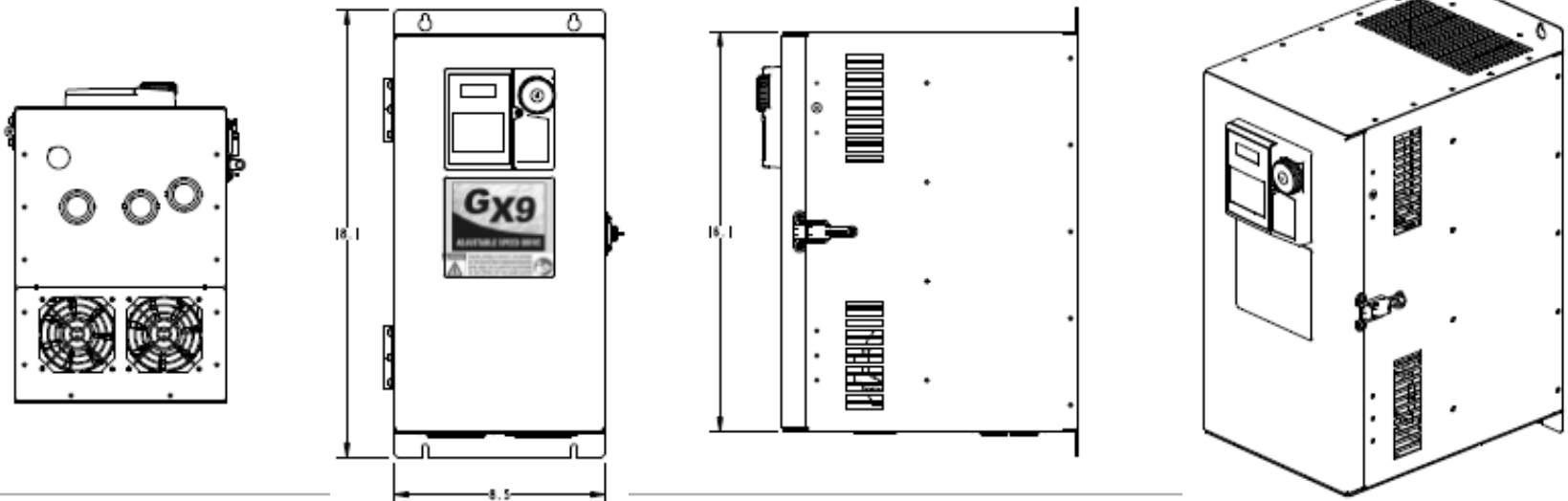
# Built to Last

- ⊕ **110% Continuous Output**
  - ⊕ **150% for 60 sec for 5~125HP**
  - ⊕ **130% for 120 sec for 150~1200HP**
- ⊕ **65kAIC Rating**
- ⊕ **Proven Toshiba ASD Technology**
- ⊕ **Components are oversized for cooler operation and longer lifespan**
- ⊕ **690V (1700V PIV rated) Transistors**
- ⊕ **Conformal coating on most PCBs**



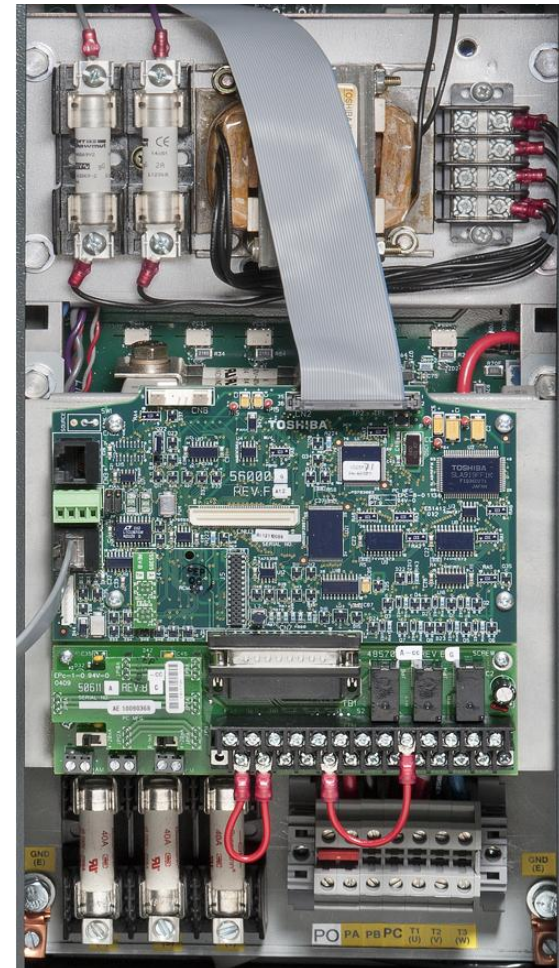
# Specification Highlights

- # 525 ~ 690V Input Voltage
- # 5 – 1200 Horsepower Ratings
- # NEMA 1 Enclosure Standard, Fan Cooled
- # Temperature Rating: -10 to 40° C
- # 1000m Maximum Altitude without Derate
- # 9-Series LCD Full English Keypad
- # Includes VLP Software



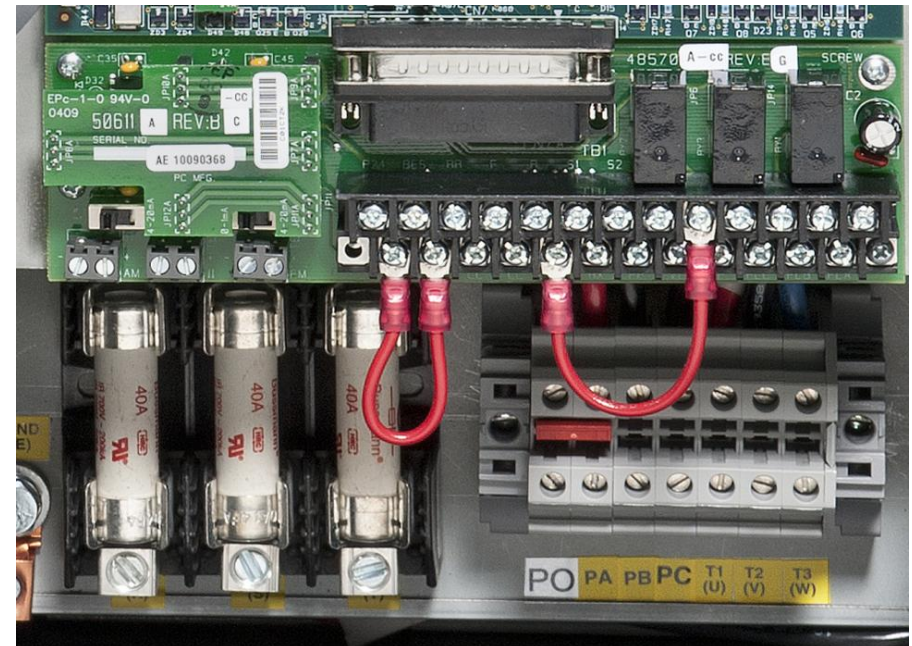
# Specification Highlights

- ⊕ MOVs
- ⊕ Input Fuses
- ⊕ Control Power Fuses
- ⊕ DC Bus Fuse
- ⊕ Control Power Transformer
- ⊕ NEMA 1 Cabinet  
Enclosure above 75HP



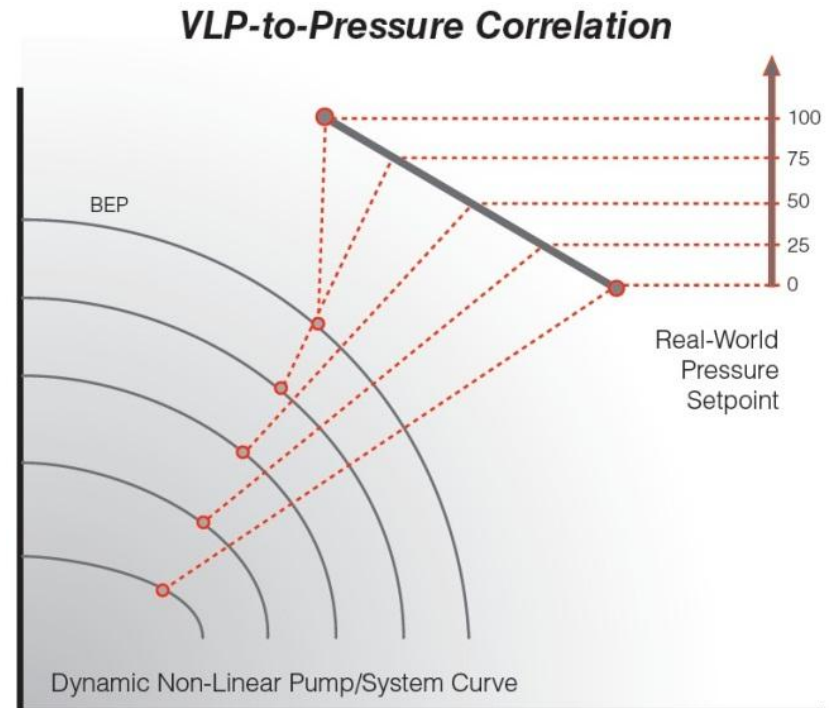
# Specification Highlights

- ⊕ 8 digital inputs, 3 analog inputs (0-20mA, 4-20mA, 0-10V, -10 to +10V)
- ⊕ 3 dry contact programmable relays (1 form C and 2 form A)
- ⊕ 2 programmable analog outputs (0-20mA, 0-10V)
- ⊕ Monitoring functions
- ⊕ Bi-directional speed search
- ⊕ My Function for customizable PLC style programming



# VLP Overview

- ⊕ Linearizes traditional non-linear pump curve
- ⊕ 5 simple steps to setup the drive
- ⊕ Additional VLP features:
  - ⊕ Start & Stop Points
  - ⊕ Sleep Timer
  - ⊕ Run External Devices
  - ⊕ No-Flow/Low NPSH Cut Off
  - ⊕ Time Based Alternation



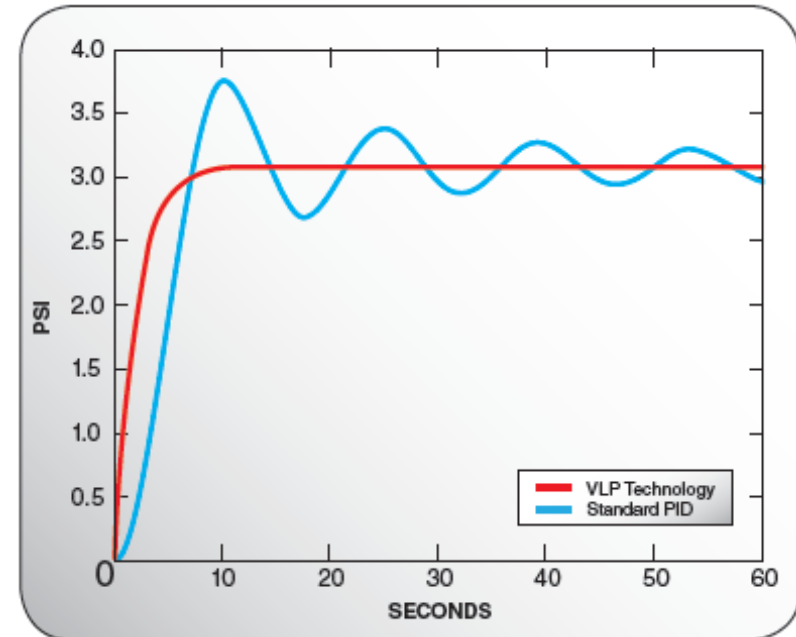
# Make PID A Process Of The Past 📢

## Obsolete PID Tuning

- ⊕ VLP takes minutes to calibrate
- ⊕ Ready to maintain application defined setpoint with no overshoot or oscillation

## Adaptability

- ⊕ Monitors multiple systems for system variables and self-calibrates (impeller losses, friction losses)
- ⊕ Adjust system (ensure only necessary pumps/fans are operating to maintain BEP)
- ⊕ Balance flow rates
- ⊕ Maintain same load across all operating devices





# 5-Step Approach

## ✦ 5 simple steps to setup the drive out-of-the-box



**STEP 1:**  
Input  
Motor's Electrical  
Specifications



**STEP 2:**  
Input  
Transducer  
Specifications



**STEP 3:**  
Input  
VLP Maximum



**STEP 4:**  
Input  
VLP Minimum

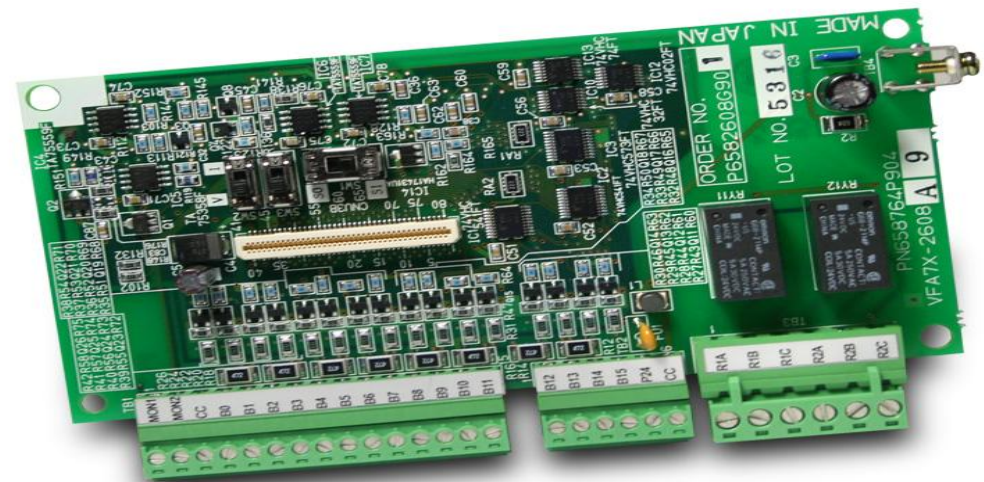


**STEP 5:**  
Complete  
VLP Setup

# Options

- ✦ Supports standard 7-Series options
- ✦ Dynamic braking IGBT (on some ratings)
- ✦ 18 pulse option (above 100 HP or consult Factory)
- ✦ DC choke and line reactor available
- ✦ Extended terminal strips
- ✦ Many communications options
- ✦ Remote keypad

**ASD-MULTICOM-X**



# Communications



**ETH - 200**

**RS232 / RS485 (standard)**

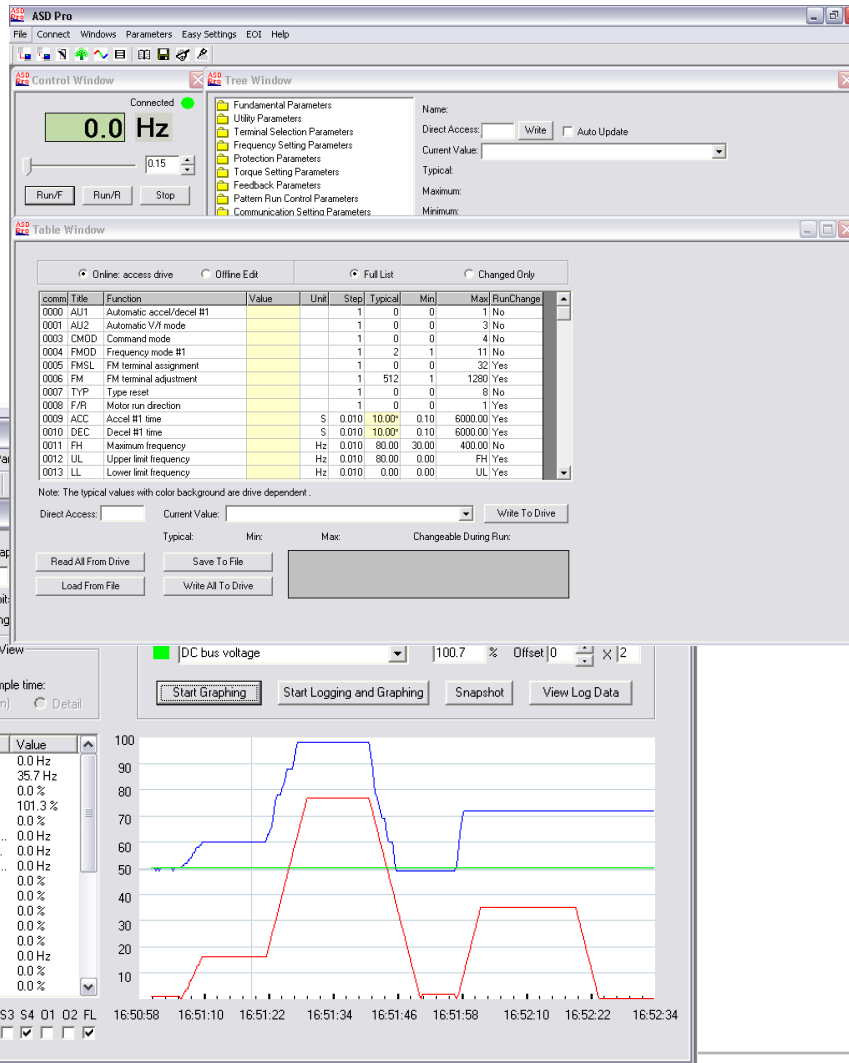
**Modbus RTU    Modbus TCP/IP    Modbus Plus**  
**DeviceNet    Ethernet IP    Profibus DP**  
**Metasys N2    Siemens FLN**

**ASD – NANOCOM**



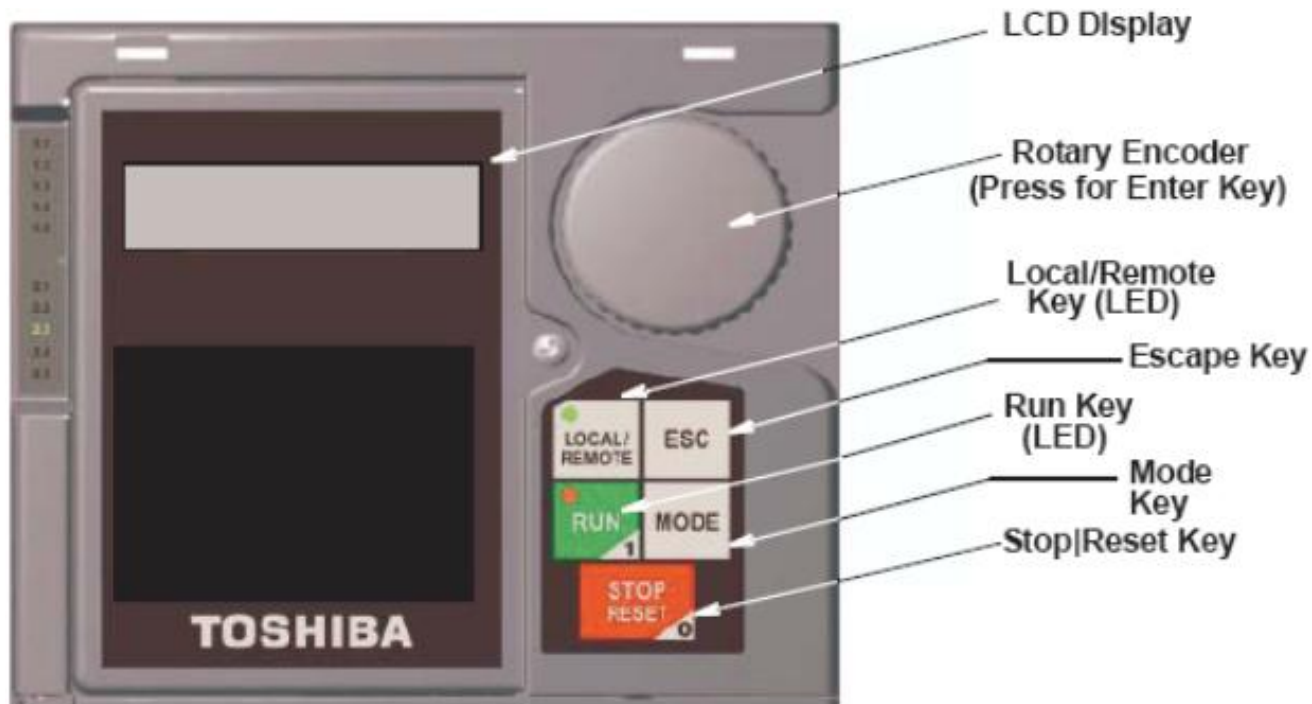
# ASD Pro Software

- ◆ Programming/setting
- ◆ Free Windows®-based software
- ◆ Monitoring/tracing
  - ◆ Save traced data in MS Excel format
- ◆ USB interface cable
- ◆ Wireless communication via NetPac



# Electronic Operator Interface

- ⊕ Remote mount capability
- ⊕ Real-Time-Clock
- ⊕ LCD full English display
- ⊕ Flash upgradeable EOI software



# Overview

---

## **GX9 Standard Features above AS1**

- ⊕ 100 HP and higher in NEMA 1 Enclosure
- ⊕ 75 HP and below NEMA 1 Power Unit
- ⊕ 65kAIC Rating
- ⊕ 110% Continuous Output
- ⊕ **VLP Software**
- ⊕ Fused Inputs
- ⊕ Wider Horsepower Range
- ⊕ Real-Time-Clock
- ⊕ 9-Series LCD full English Display
- ⊕ Conformal Coating on most PCBs
- ⊕ Isolated Analog Input