

# TOSHIBA

TOSHIBA INTERNATIONAL CORPORATION

SOLID STATE STARTERS

## TE-H Series (HEAVY DUTY)



# NO NEED TO COMPROMISE ON PERFORMANCE OR FEATURES

The TE-H Series incorporates Toshiba's TE2 Series SSS into a heavy-duty enclosure that is ready to work right out-of-the-box. Expect the full benefits of reliable soft starting, unsurpassed motor/load protection, and control flexibility – all in one complete package that is readily stocked in many ratings. The standard TE-H packaged unit includes:

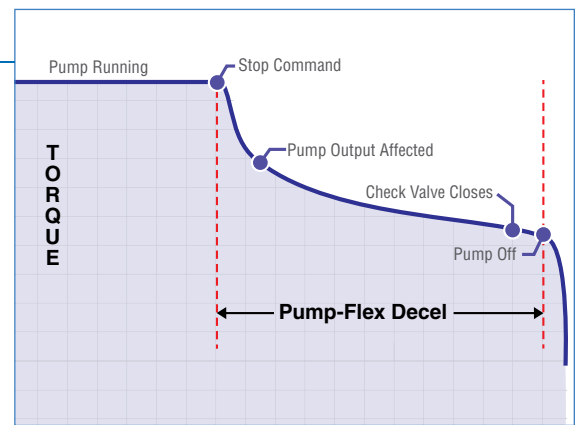
- NEMA Type 4/12 Enclosure
- Circuit Breaker with Door Operator (Models 45 to 1080)
- Fusible Disconnect Switch with Fuses (Models 21 to 40)
- Built-In Full HP Rated Bypass Contactor
- 120 V Control Voltage (CPT Included)
- Smart Door
- Communications: RS485 Modbus RTU
- Surge Arrestors
- Neutral Grounding Bus Bar
- Door Mounted Keypad
- 65 kAIC Rating Option



## PUMP-FLEX™ APPLICATION FEATURES

The Pump-Flex Deceleration Control helps protect equipment used in applications, such as centrifugal pumps, conveyors, and material handlers, from damages caused by abrupt stopping conditions. When a stop command is given, the deceleration feature gradually extends the stopping time by decreasing the voltage applied to the motor. The check valve then safely and gently closes and the Pump-Flex circuit automatically turns off. Additional features include:

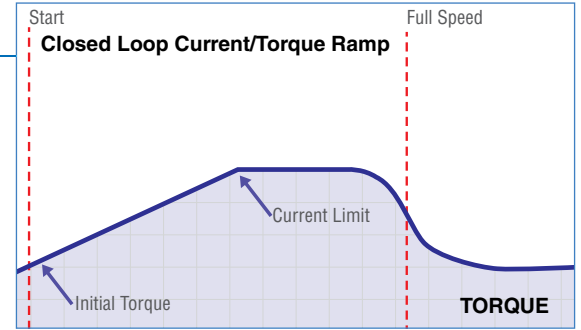
- Pump-Flex Deceleration Control Eliminates Damaging Effects of “Water Hammer”
- Ideal for Irrigation Pumps when Specific Amount of Water Needs to be Pumped if Power Failure or Fault Trip Occurs During Operation
- Elapsed Time Meter, Run-Cycle Counter, Remaining Lock Out Time, & Fault History for Maximum Monitoring & Control of Pumps or Processes



Pump-Flex Decel Feature

## PUMPS, FANS, BLOWERS, & CONVEYORS

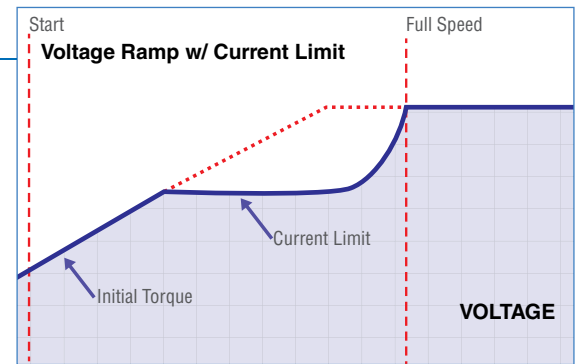
Closed loop torque/current ramping provides a linear increase in output torque during acceleration. It maximizes the available torque using an internal PID feedback loop, ensuring a smooth and linear ramp-up to full speed. It is ideal for low pressure pumps where slight surges at the end of the ramp may pose mechanical problems or on fans and mixers where blade warping can be an issue.



Closed Loop Current/Torque Ramp

## COMPRESSORS & CHILLERS

The TE-H offers voltage ramping with current limiting for applications that need the smoothness of voltage ramping while maintaining the ability to start in limited power environments. For maximum motor power where the available power supply is severely limited, a current limit/current step start can be used.



Voltage Ramp with Current Limit



Remote-Mounted Keypad Option



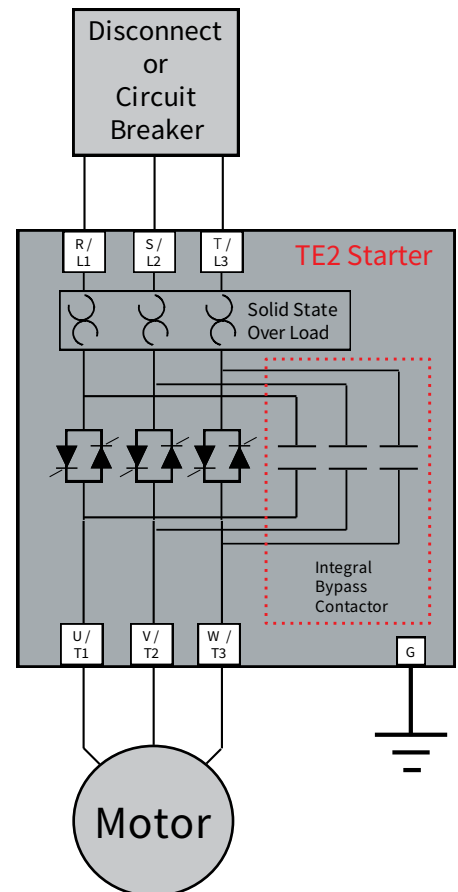
Tsmart 7" Touchscreen Option

### INDUSTRIES SERVED

- Oil & Gas
- Aggregate
- Bottling & Canning
- HVAC
- Irrigation

### APPLICATIONS

- Blowers
- Bow Thrusters
- Compressors
- Conveyors
- Fans
- Mixers
- Chippers
- Pumps
- Crushers



## SMART DOOR FEATURES

- Door Mounted Keypad
- Emergency Stop Button
- Local/Off/Remote Switch
- Start/Stop Button
- Pilot Lights
  - Motor Run (Green)
  - Power On (White)
  - X-Line Enabled (Green)
  - Starter Fault (Red)
  - E-Stop Fault (Red)
  - External Interlock (Red)

## DIMENSIONS

Frame Size	Enclosure	Dimensions (HxWxD) in. (mm)	Rating
1	Wall Mount	37 (940) x 15 (381) x 17 (432)	4/12
2	Wall Mount	48 (1219) x 33 (838) x 16 (406)	4/12
2.5	Floor Standing	87 (2210) x 32 (813) x 24 (610)	4/12
3	Floor Standing	92 (2337) x 36 (914) x 30 (762)	4/12



## RATINGS

Model Number	Nominal Motor HP Rating				Maximum kW Rating			Frame Size
	200 V/HP	230 V/HP	460 V/HP	575 V/HP	220 V/kW	380 V/kW	415 V/kW	
TE-H-21-CB-*	7.5	7.5	10 to 15	15 to 20	5.5	11	11	1
TE-H-27-CB-*	10	10	20 to 25	25 to 30	7.5	15	15	1
TE-H-40-CB-*	10	15	30	30	11	18.5	18.5	1
TE-H-45-CB-*	15	20	40	40 to 50	15	30	30	1
TE-H-55-CB-*	20	25	50	60	18.5	37	30	1
TE-H-68-CB-*	25	30	60	-	22	45	37	1
TE-H-96-CB-*	30	30	75	75	30	55	60	1
TE-H-125-CB-*	40	40 to 50	100	-	45	75	75	1
TE-H-156-CB-*	50 to 60	60	125 to 150	100 to 150	55	90	90	2
TE-H-220-CB-*	60	75	150	150	55	110	132	2
TE-H-248-CB-*	75 to 100	100 to 125	200 to 250	200 to 300	75	132	132	2
TE-H-312-CB-*	125	150	300	300	110	160	160	2
TE-H-400-CB-*	125	150	300	300	-	200	250	2
TE-H-480-CB-*	150	200	400	350 to 500	-	-	-	2
TE-H-600-CB-#	150	250	500	600	-	-	-	2
TE-H-690-CB-*	250	250	500	600	-	355	400	3
TE-H-800-CB-*	250	300	600	600	-	450	500	3
TE-H-960-CB-*	300	350 to 400	700 to 800	700 to 900	-	475	500	3
TE-H-1080-CB-*	350	450	900	1000	-	565	600	3

\*Line & Control Voltage (50/60 Hz)

- 1 = 208 V, 120 V Ctrl
- 2 = 230 V, 120 V Ctrl
- 3 = 380 V, 220 V Ctrl
- 4 = 460 V, 120 V Ctrl
- 5 = 575 V, 120 V Ctrl
- 6 = 415 V, 220 V Ctrl
- 7 = 220 V, 220 V Ctrl

NOTE: # – TE-H-600 is 1.0 S.F. rated. Use 690 model if 1.15 S.F. is required.

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Toshiba International Corporation  
Motors & Drives Division  
13131 West Little York Road  
Houston, Texas 77041 USA  
Tel +713-466-0277  
US 1-800-231-1412  
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TOSHIBA MOTORS & DRIVES DIVISION  
Adjustable Speed Drives • Motors • Motor Controls