

TORRIUM®

Model Numbers: T45, T70 - 220/240V 50Hz
T45Y, T70Y - 110V 60Hz

DEPEND ON
DAVEY

WATER PRODUCTS

TORRIUM® CONTROLLER

APPLICATIONS

Ideal for pumps with clean, non-volatile liquids without fibers or solids in such applications as :-

- Household water supply
- Irrigation
- Water transfer
- Washing systems
- Pressure boosting

OPERATING LIMITS

Maximum system pressure	100psi
Capacities to	45 gpm
Recommended pump shut-off head range	
T45	22 - 65 psi
T70	65 - 100 psi
Maximum ambient temperature	122°F
Maximum water temperature	158°F
Minimum water temperature	34°F

Torrium® cut-in pressure is normally 80% of the pumps last shut-off head.



FEATURES & BENEFITS

All parts of the Torrium® that are in contact with the water are manufactured from safe, corrosion resistant materials for:

- Consumer confidence that their water supply will be as good coming out as it was going into the system
- Ability to use the Torrium® on a variety of water qualities

Compliance with the strict requirements of ISO 9001:2000 quality standards ensures consistency of quality of the system.

Torrium® starts pump on pressure drop and stops pump on low flow (~0.5 gpm), thus reducing pump cycling for constant and even water pressure.

Torrium® measures the pump shut off head each time the pump stops, and sets the cut-in pressure at 80% of shut-off head, so that the consumer is unlikely to notice any pressure change when the pump is switched on. Torrium® adapts each time the pump stops, thus allowing the system to accommodate variations in pump performance or site conditions.

Torrium® has a simple indicator and fault LED system. Red constant means that the system is in standby. Green constant means the pump is running.

Cistern Fill mode is activated when the Torrium® detects frequent short cycling, such as may be encountered with a very slow filling toilet cistern. The Torrium® will then ensure the pump continues to operate for at least 2 minutes.

Torrium® stops the pump in loss of prime circumstances and activates the "loss of prime" LED indicator sequence (red LED single flash per sequence), thus:-

- Protecting the pump from dry run damage
- Helps identify installation faults

When the Torrium® detects loss of prime it waits 5 minutes then goes into auto retry mode, whereby it will restart the pump to see if prime can be re-established automatically. Auto retry occurs at 5 minutes, 30 minutes, 1 hour, 2, 4, 8, 16 and 32 hours. Torrium® will also retry if it detects flow through the system (eg from mains water pressure returning).

If Torrium® detects excessive electrical current, such as when a the pump motor is subjected to locked rotor or when someone tries to manually override the Torrium® by holding in the prime button, the Torrium® will shut the pump down and indicate 2 red flashes per sequence.

Should the Torrium® detect low incoming voltage (below 90 volts for 110-120 volt models and 180 volts for 220-230 volt models) it will allow the pump to continue to operate if possible, but it will flash two red flashes per sequence over the green run LED.

Water over-temperature cut-out fail safe protection provides a second level of protection against loss of prime and / or closed head operation and / or repetitive cycling for added security and longer life. In the event of the Torrium® detecting water over-temperature above 158°F it will shut the pump down and flash 3 red LED flashes per

sequence. Once the water temperature has dropped to below 140°F, the Torrium® will allow the pump to restart.

Torrium® also detects slow leaks and attempts to overcome the short run times such leaks can cause by dropping temporarily the cut-in pressure to 50% of the last shut-off head. Torrium® will return to 80% cut-in pressure after 100 cycles or if a manual reset is initiated.

Torrium® has no moving parts in the waterways:-

- No parts to jam means improved reliability
- Less reduction of pump performance
- Reliable usage with varying water quality

Corrosion and scale resistant flow and pressure sensors mounted on a high grade titanium plate. Special anti scaling electronic functions allow Torrium® to be used with water of varying quality.

Torrium® has an in-built spring loaded pressure tank, overcoming the need for regular pressure vessel air charging and checking.

Right angle discharge rotatable around full 360°, with optional pressure tank mounting position on top, facilitates:-

- Easier installation and connection to plumbing
- Use with a choice of optional pressure tank sizes

Incoming power lead fitted is 6 feet long with applicable NEMA three pin plug.

Power lead to pump motor is 2.2 feet long with connection for standard Davey motor up to 10amps.

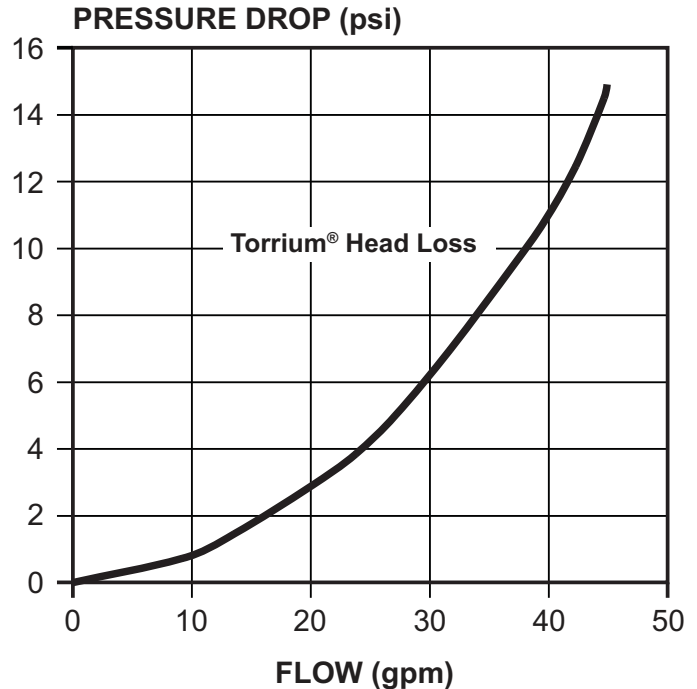


TORRIUM® CONTROL

MATERIALS OF CONSTRUCTION

PART	MATERIAL
Housing	Glass fiber reinforced nylon
Pressure tank diaphragm	Santoprene 87
Pressure tank springs	Molybond coated tempered steel
Sensor plate	High grade TITANIUM
Flange adaptor	Glass fiber reinforced nylon
Locking nut	Glass fiber reinforced nylon
O-rings	Nitrile
Check valve poppet	Acetal
Check valve spring	304 stainless steel

HYDRAULIC HEAD LOSS THROUGH TORRIUM®

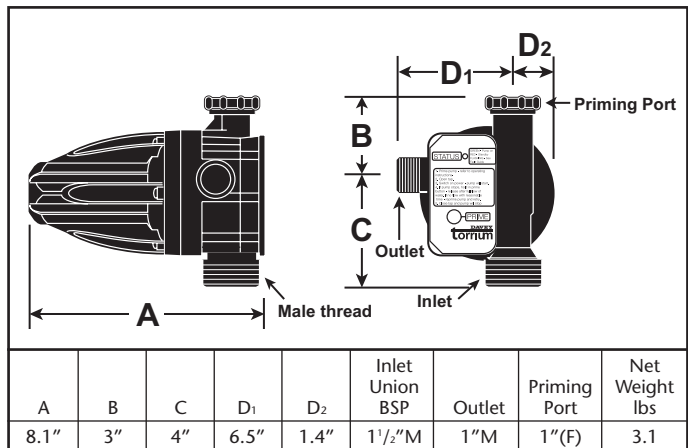


ELECTRICAL DATA

	T45P & T70P	T45Y & T70Y
Voltage	220-240V ±10%	110V ±10%
Phase	Single	
Hz	50 / 60	60
IP rating	56	
Maximum load current	10A	
Maximum motor size (P ₂)	1.8kW	0.9kW
Surge protection	Varistor	
NEMA plug type	6 - 15	5 - 15

Note: Union adaptors are available to connect Torrium® to pumps with 1" NPT discharges or Torrium® will connect using Davey Hydrascan® adaptor unions.

DIMENSIONS



All dimensions in inches unless otherwise stated.

This literature is not a complete guide to product usage. Further information is available from your Davey dealer, Davey Customer Service Centre and from the relevant product Installation and Operating Instructions. This data sheet must be read in conjunction with the relevant product Installation and Operating Instructions and all applicable statutory requirements. Product specifications may change without notice.

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DEPEND ON
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WATER PRODUCTS

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