

BOOSTER SYSTEMS WITH TORRIUM®
Models: BT14-30, BT20-30, BT14-45 & BT20-40

DEPEND ON
DAVEY

WATER PRODUCTS

BT STAINLESS STEEL BOOSTER SYSTEMS

PRODUCT DESCRIPTION

Economical, compact, booster systems driven by quiet, efficient, stainless steel pumps.

The Torrium® control module replaces the conventional pressure switch and provides constant pressure without cycling. This feature also provides loss of prime protection and over-temperature cut out. The Torrium® includes an built-in accumulator.

APPLICATIONS

Ideal for boosting water pressure in :-

- Homes where the incoming municipal water supply pressure is inadequate
- From underground or surface water supplies
- Automatic water transfer
- Applications where pressure "cycling" must be avoided or where the pump may have interrupted water supply
- Domestic & light industrial irrigation



DESIGN FEATURES

PUMP

Single impeller or multistage centrifugal.

Closed vane impellers.

Unique floating impeller neckrings.

High grade stainless steel pump shaft, impeller/s, diffuser/s & casing.

Rotatable discharge through 360°.

Mechanical shaft seal.

O-ring casing seals.

Torrium® control with adaptive cut-in pressure.

MOTOR

Davey designed.

2 pole, 3420rpm, 60Hz.

TEFC with IP55 enclosure.

Class F insulation.

Permanently split capacitor design.

Heavy duty cast aluminum lantern bracket and drive end endshield.

Protected against both high operating temperatures and high current by a built-in automatically resetting thermal overload.

BENEFITS

- Manufactured from highest quality corrosion resistant materials - meets ANSI/NSF61 and CSA-C/US.
- Torrium® offers even pressure without cycling
- Adaptive cut-in pressure on Torrium® allows for installation on higher static head installations
- Pump protected from damage caused by dry running
- TEFC motor is corrosion resistant and excludes dust and dirt
- Motor and pump designed for frequent starts
- Discharge may be rotated through 360°, plus 12", high quality, 304 stainless steel braided discharge hose included - reduces noise transmission through household plumbing and makes plumbing easier
- Quick and easy installation
- Low maintenance
- Easy to service if required
- Compact design
- Unique floating neckrings provide outstanding efficiency without compromising grit handling
- Low pressure loss through removable in-built check valve in Torrium®

OPERATING LIMITS

Capacities to	30 gpm
Max. total head to	76 psi
Cut-in pressure	Adapts to 80% of last shut-off head pressure
Min. setting	15 psi
Max. setting	80 psi
Cut-out flow rate	1/2 GPM
Max. liquid temperature	150° F
Max. ambient temperature	120° F
Max. suction lift	25'
Inlet size	1 1/4" F
Outlet size	1" F
Max. pump casing pressure	116 psi
Max. system pressure	100 psi



TECHNICAL SPECIFICATIONS

MATERIALS OF CONSTRUCTION

PART	MATERIAL
Impellers	304 stainless steel
Lock nut	304 stainless steel
Pump casing	304 stainless steel
Pump backplate	304 stainless steel
Pump shaft	316 stainless steel
Neckrings	Teflon
Seal ring (stationary)	Ceramic
Seal ring (rotating)	Carbon (synthetic)
Seal spring	304 stainless steel
Orings	Nitrile rubber
Stage body	304 stainless steel
Torrium® check valve	Nylon
Stem assembly	304 stainless steel
Spring	Nitrile
Seal	
Torrium® body	Glass filled nylon
Priming plug	304 stainless steel
Motor shell	Marine grade aluminum
Lantern / DE endshield	Marine grade aluminum
Shell & lantern bracket finish	Baked polyester

ELECTRICAL DATA

	BT14-30	BT20-30	BT14-45	BT20-40
Supply voltage/phase	120/1			240/1
Supply frequency	60Hz			
Input power (P ₁)	0.92 kW	0.98 kW	0.86 kW	1.1 kW
Output power (P ₂)	0.73 kW	0.78 kW	0.68 kW	0.92 kW
Full load current	7.8 A	8.2 A	7.3 A	4.7 A
Locked rotor current	38.0 A	38.0 A	38.0 A	23.0 A
Starting	PSC			
Insulation class	Class F			
IP rating	IP55			

INSTALLATION & PRIMING

- On installations with suction lifts a good quality foot valve should be fitted.
- The system is primed by filling the pump and suction line with water through the priming port, and replacing priming plug prior to switching on.
- The yellow push button on the Torrium® unit should be held in while the pump is establishing prime.

MODEL IDENTIFICATION

B = Booster series stainless steel pressure booster pump

T = Torrium® equipped

14-30 = Flow (gpm) at nominal pressure
 14gpm @ 30psi 14-45 = 14gpm @ 45psi
 20-30 = 20gpm @ 30psi
 20-40 = 20gpm @ 40psi

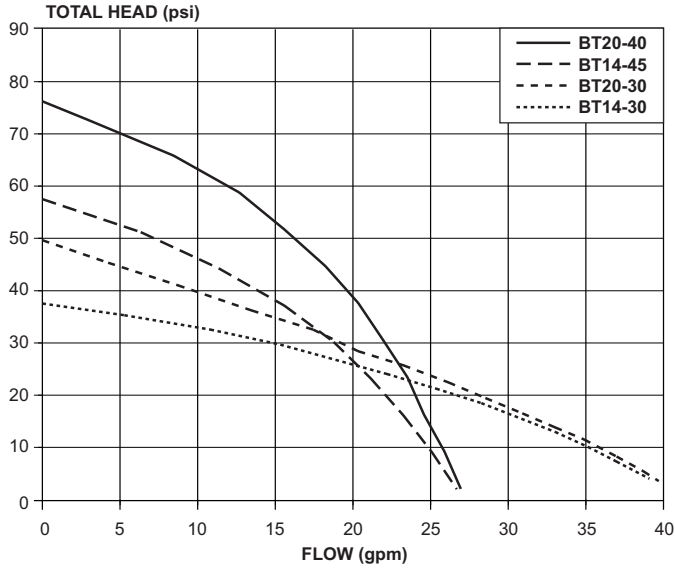
MODEL

IMPELLERS

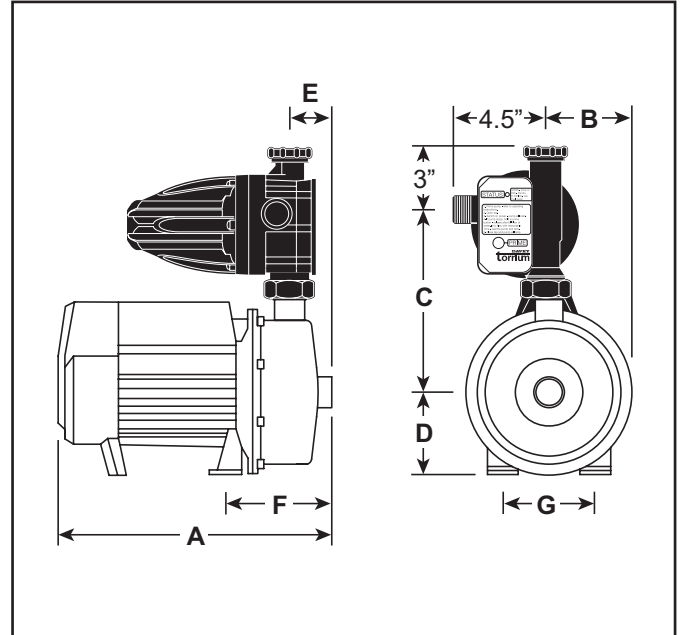
BT14-30	1
BT20-30	3
BT14-45	3
BT20-40	4

TECHNICAL SPECIFICATIONS

HYDRAULIC PERFORMANCE







DIMENSIONS




Model	A	B	C	D	E	F	Inlet	Outlet	Net Weight (lbs)	G Hole Diameter@ Centres	
BT14-30	13.8"	4.33"	12.2"	4.33"	2.4"	5.7"	1 1/4" F	1" M	26.5	0.35"	4.72"
BT20-30	17.4"	3.35"	8"	3.54"	5.31"	8.85"	1 1/4" F	1" M	27.3	0.27"	3.93"
BT14-45	15.35"	3.35"	8"	3.54"	2.95"	6.81"	1" F	1" M	25.4	0.27"	3.93"
BT20-40	17.4"	3.35"	8"	3.54"	5.31"	8.85"	1" F	1" M	27.3	0.27"	3.93"

All dimensions in inches unless otherwise stated.

PERFORMANCE TABLE

	Discharge Pressure in psi	Capacity in US Gallons per Minute Suction Lift in Feet						Maximum Pressure in psi
		0	5	10	15	20	25	
BT14-30 Small homes to weekenders 	25	21.0	18.0	15.0	12.0	8.0	3.0	38
	30	15.0	11.5	7.0	2.0	-	-	
BT20-30 Large homes 	30	19.0	18.0	16.0	13.0	11.0	10.0	50
	40	10.0	9.0	6.0	2.0	1.0	-	
BT14-45 Small homes with double storeys or long runs of plumbing 	30	18.0	18.0	16.5	16.0	14.0	13.0	58
	40	13.0	12.5	11.5	9.5	8.0	7.0	
	50	7.0	5.5	3.0	1.0	-	-	
BT20-40 Average to large homes with double storeys or long runs of plumbing 	40	19.5	18.5	17.5	17.0	16.5	16.0	76
	50	16.0	15.5	14.5	13.5	12.5	11.5	
	60	12.0	10.5	9.5	8.0	6.0	4.0	

 To make selecting your Davey pressure booster system easier, Davey provide a guide to the number of taps that can be operated at the same time without substantially reducing performance, assuming an average delivery of three gallons per minute per tap and a 5ft suction lift.

TORRIUM® CONTROL

THE TORRIUM® DELIVERS FLOW-ON BENEFITS

It's not easy living with water pressure problems. Poor or inconsistent water pressure can result in a broad range of problems like poor showers or slow filling dishwashers etc. That's why Davey invented the extremely clever, Torrium® Pressure System Controller. Five years in the making and thousands of hours of world wide, in-the-field testing have culminated in a Pressure System Controller that can actually think for itself.

The Torrium® can automatically adapt to changing conditions...because it has an in-built 'brain' that can out-smart every-day problems. It also means there's far less installation and maintenance issues. This unique ability to respond to changing circumstances ensures a steady, reliable flow of water is virtually guaranteed day after day, year after year.

CONSTANT FLOW

With a Torrium® system you'll hardly notice the pump start. Better still while you are using water, like in the shower, the pump doesn't cycle, overcoming those annoying temperature and pressure changes.

ADAPTIVE PRESSURE SWITCH

Torrium® measures the system pressure and adapts the system cut-in pressure according to circumstances, thus providing a more reliable system with improved comfort and convenience.

LOSS OF PRIME PROTECTION

If you run out of water, the last thing you need is a pump that continues to run without water. The Torrium® detects a loss of water supply (prime) and shuts the systems down. What's more it will Auto retry to re-establish prime if possible and Auto-restart on water flow return.

AUTO RETRY

Auto retry in Torrium® allows the system to reset itself after a loss of prime, thus helping reduce system downtime.

SIMPLIFIED FAULT FINDING

Torrium® is equipped with a status indicator to make system fault finding quicker and more accurate. Torrium® can tell you if you have a slow filling toilet cistern, a loss of prime, a slow leak, low supply voltage, water over-temperature, even if someone has tried to bypass the Torrium®!

LOW PRESSURE DROP

Torrium® has been designed to get the most from your pump, including pressure. The Torrium® has a very low water pressure loss through it, so that you can get the best performance at your outlets.



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.

© Davey and Torrium are registered trademarks of Davey Water Products Pty Ltd. © Davey Water Products Pty Ltd 2007.

DEPEND ON
DAVEY

WATER PRODUCTS

Davey Water Products Pty Ltd

Member of the GUD Group
ABN 18 066 327 517

Davey Pumps Inc. USA Distribution Center

1005 N. Commons Drive
Aurora, Illinois 60504
Ph: +1 630 898 6976
Toll Free: +1 866 328 7867
Fax: +1 630 851 7744
Website: daveyusa.com
E-mail: sales@daveyusa.com

Head Office

6 Lakeview Drive,
Scoresby, Australia 3179
Ph: +61 3 9730 9222
Fax: +61 3 9753 4100
Website: davey.com.au



Offices also in Germany and New Zealand

USA022/3K/0607/SC