JT Series

Model Numbers:
JT350, JT450, JT750
(50Hz models)
JT350/P, JT450/P, JT750/P
(60Hz models)

HOME & GARDEN

ROBUST, COMPACT - SINGLE STAGE JET ASSISTED CENTRIFUGAL PUMP

APPLICATION

Ideal for pumping clean, non-volatile liquids without fibres or solids in such applications as domestic water, small scale irrigation, water transfer, washing systems and pressure boosting.

FEATURES & BENEFITS

- **This water pressure system is designed for small to medium size single storey homes**

WATER PRESSURE SYSTEM
The JT pressure system consists of the intelligent Davey Torrium2 water pressure controller fitted on a centrifugal pump to deliver pressurised water into your home or other applications. Consumers can enjoy strong and seemingly constant water pressure due to Torrium2's constant flow operation.

Torrium2 CONTROLLER
Constant Flow & Even Water Pressure
To prevent annoying fluctuations in water pressure during showers, Torrium2 uses its intelligence to supply users with constant flow to provide even water pressure. It does this with its innovative pressure and flow sensors to start the pump on a pressure drop and to stop it on low flow (~1 lpm), which avoids pump cycling when there is continuing user demand for water.

Quick Cut-in for Even Pressure
To avoid large pressure changes when the pump is switched on, Torrium2 is designed to cut in quickly when it senses demand for water. It cuts in when the pressure has dropped to 80% of the previous top (shut-off) pressure. It uses its intelligence to automatically set this cut-in pressure each time the pump stops. In doing so, it allows the system to automatically accommodate for variations in pump performance or site conditions.

Adaptive Starting
Torrium2 is smart enough to detect the difference between normal water demand and a small leak in the system, such as a dripping tap or a leaking cistern. For very low flows, Torrium2 automatically adapts to reduce the cut-in pressure, which can be as low as 50% of its last shut off pressure. This significantly reduces pump cycling to improve consumer satisfaction with the system. If normal flow is required in the house (>0.5 lpm), Torrium2 will sense this and revert to normal mode and initiate an immediate pump start.

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Home Pressure Systems

Easy Status Check
To easily check the system status, Torrium2 has three simple LED indicators.

- Red LED - the system is in standby
- Green LED - the pump is running
- Yellow LED – fault condition

Greater Hydraulic Performance
For better hydraulic performance to supply more pressure with less wasted energy, Torrium2 has been designed with larger water pathways and no moving parts in the pathways. This performance versus loss equation is especially evident at higher flow rates.

Greater Reliability
To diminish the likelihood of blockages, Torrium2 is designed with no moving control parts within the water pathways giving greater reliability and performance with varying water quality.

Dry Run Protection and Auto Restart
To protect the pump from damage due to dry running, Torrium2 stops the pump when it detects a loss of prime (no water supply) situation. To reduce system downtime, the Torrium2 waits 5 minutes then goes into auto retry mode, whereby it will restart the pump to see if prime can be re-established automatically. An auto restart occurs at 5 minutes, 30 minutes, 1 hour, 2, 4, 8, 16 and 32 hours. Torrium2 will also restart if it detects flow through the system (e.g. from mains water pressure returning with pressure boosting applications).

Pump Protection – High Water Temperature Cut-out
For added security and longer life, a water over-temperature cut-out provides a second level of protection against closed head operation and repetitive cycling. For water temperatures above 70°C Torrium2 will shut the pump down and the amber LED will be lit. When the water temperature drops to below 60°C, the Torrium2 will allow the pump to restart.

Pump Protection – Excessive Electrical Current
To protect the pump motor, Torrium2 will shut the pump down and indicate a fault if it detects excessive electrical current being drawn. This occurs if the pump motor is subjected to locked rotor or if someone tries to manually override the Torrium2 by continually holding in the prime button.

Corrosion and Scale Resistance
To allow Torrium2 to be used with water of varying quality, its flow sensors are mounted on a high grade stainless steel plate with special anti-scaling electronic action, which only turns the flow sensors on during pump operation.

Extra Draw off Capacity
To accommodate small leaks and to reduce cycling, Torrium2 has an in-built spring loaded accumulator for extra draw off capacity. A spring loaded accumulator means low maintenance as there is no need for a pressure vessel with its regular air charging and checking.

Power Surge Protection for Torrium2
To protect the Torrium2 controller from electrical surges and spikes, thus extending its life, it has an in-built metal oxide varistor (MOV). The status of the MOV can be checked in the viewing window on the back of the Torrium2. The MOV is a sacrificial component and should it be consumed due to repeated power surges or spikes, it will almost always blacken the viewing port. This will indicate a non-warrantable Torrium2 failure.

Ease of Installation
For ease of installation, the plumbing can be connected to either the vertical or the right angle discharge outlet, which can rotate a full 360°. A spanner, sized to fit the coupling, is included in the box. Also, for increased draw off, an optional pressure tank, up to 18 litres, can be mounted on the vertical outlet.

Electrical connection
For easy installation Torrium2 comes electrically connected to the pump and comes complete with a 2 metre long power lead fitted with an Australian three pin plug.

PUMP

- Single stage jet assisted centrifugal design for higher operating pressures and less moving parts for increased dependability
- Self priming for easier installation
- Corrosion resistant and stainless steel components for longer life when pumping a variety of water qualities and the ability to pump hot water up to 45°C

MOTOR

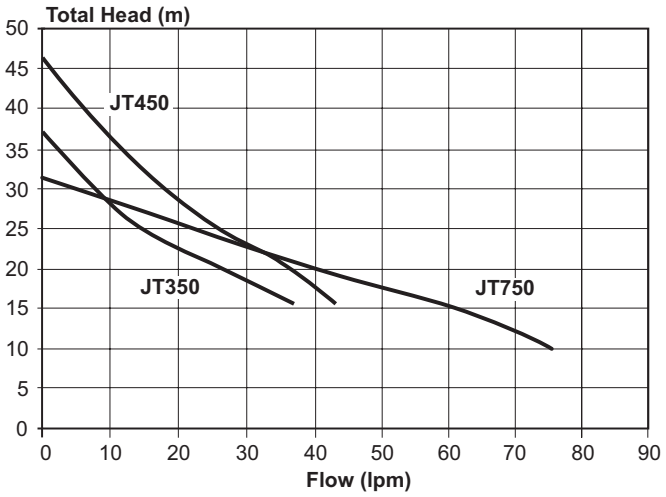
- TEFC motor constructed from corrosion resistant materials
- IP55 international protection rating for a high level of resistance to dust and liquid entry
- Voltage variants:
- 220-240V, 50Hz, 2 pole
- 220V, 60Hz, 2 pole (/P models)
- Class F insulation
- Higher than normal 55°C ambient temperature rating for longer life and improved tolerance to voltage variations for peace of mind, even on the hottest days.
- Protected against both high operating temperature and high current draw by a built-in, automatically re-setting, thermal overload
- Permanently split P2 'fail safe' capacitor design
- Motor and pump are designed for frequent starts

Home Pressure Systems

OPERATING LIMITS

Model	JT350(/P)	JT450(/P)	JT750(/P)
Flow capacities to (L/min)	37	43	67
Max total head (m)	37	46	31
Max liquid temperature (°C)	45		
Max ambient temperature (°C)	55		
Max suction lift (m)	7		
Max pump casing pressure (kPa)	600		
Max incoming suction pressure (kPa)	140		

HYDRAULIC PERFORMANCE



MATERIALS OF CONSTRUCTION

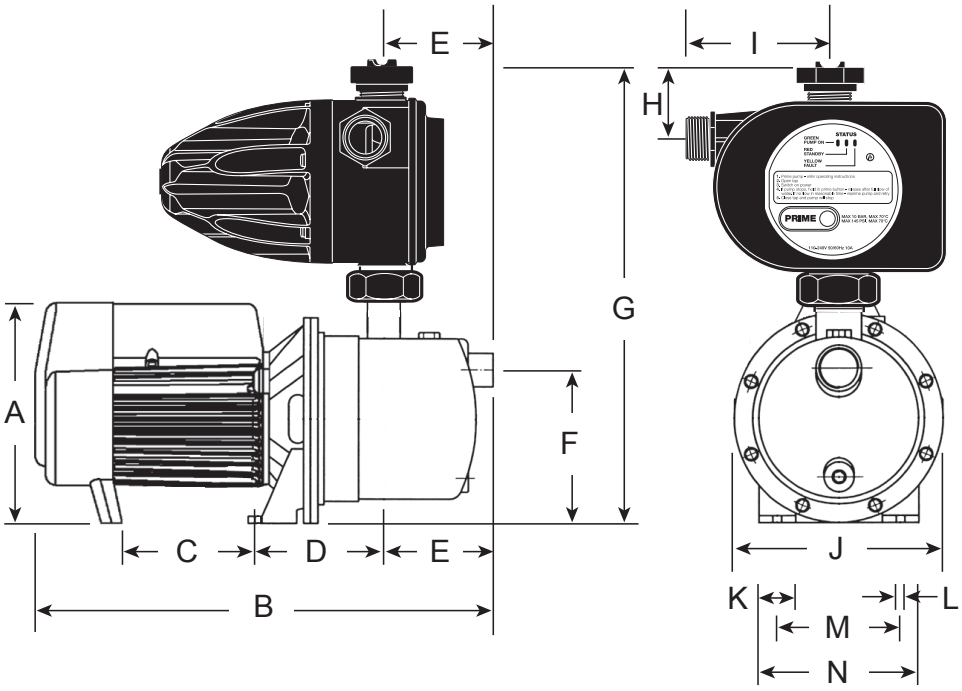
PART	MATERIAL
Impeller	304 stainless steel
Pump casing	304 stainless steel
Pump shaft	316 stainless steel
Seal ring (stationary)	Ceramic
Seal ring (rotating)	Carbon
Seal ring elastomer	Nitrile rubber
Seal spring	304 stainless steel
O-ring	Nitrile rubber
Jet / venturi / cover plate	Glass filled thermoplastic
Motor shell	Aluminium
Motor shell finish	Polyester

ELECTRICAL DATA

Model	JT350	JT450	JT750	JT350/P	JT450/P	JT750/P
Nominal speed (rpm)	2,900			3,500		
Voltage (V)	220-240 ~					
Frequency (Hz)	Single					
Phase	50			60		
IP rating	55					
Insulation	Class F					
Full load current	2.5	3.5		2.58	3.68	
Input power (kW/hp)	0.52 / 0.7	0.83 / 1	0.83 / 1	0.52 / 0.7	0.84 / 1	
Output power (kW/hp)	0.37 / 0.5	0.6 / 0.8	0.6 / 0.8	0.37 / 0.5	0.6 / 0.8	0.6 / 0.8

DIMENSIONS

Model	Weight (kg)	Inlet	Outlet	A	B	C	D	E	F	G	H	I	J	K	L	M	N
JT350(/P)	8	1"	1"	208	411	135	107	90	115	282	52	107	170	30	7	100	130
JT450(/P)	10																
JT750(/P)																	



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