

Watt-Knot®

Voltage-Surge Arrestor – “The Motor Saver”

From 500 volts to 5,600 volts, the widest protection range in the industry.

Fits in pressure switches, providing protection to 2-wire equipment.

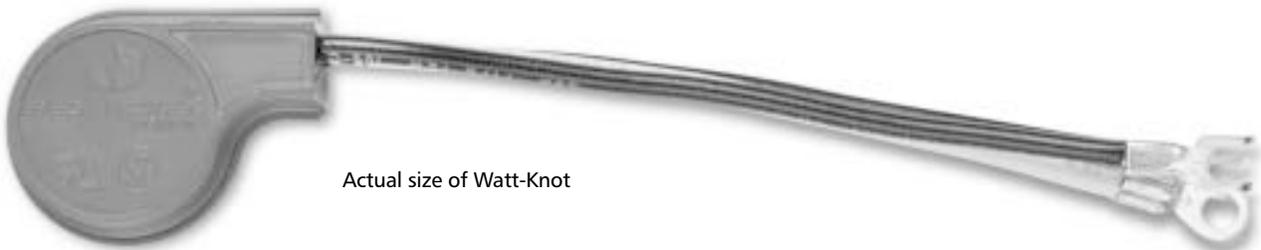
Installs along incoming power line protecting pump controls, cables and the motor.

Compatible with 2 and 3-wire submersibles, jets and centrifugals.

External placement allows easy testing with an ohmmeter and replacement without removing pump.

Can be installed on existing, unprotected systems.

Available in single phase and three phase models.



Actual size of Watt-Knot

Because Red Jacket Water Products' Watt-Knot is located ahead of the motor, along the incoming power line, the Watt-Knot stops voltage surges before they reach the motor. This means that surges are bled-off before they get to the pump. This provides ultimate protection for the entire system; pump controls, cables, as well as the pump and motor.

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Watt-Knot is a registered trademark.

The ITT Engineered Blocks symbol is a registered trademark and tradename of ITT Industries.

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Watt-Knot

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How the Watt-Knot Works

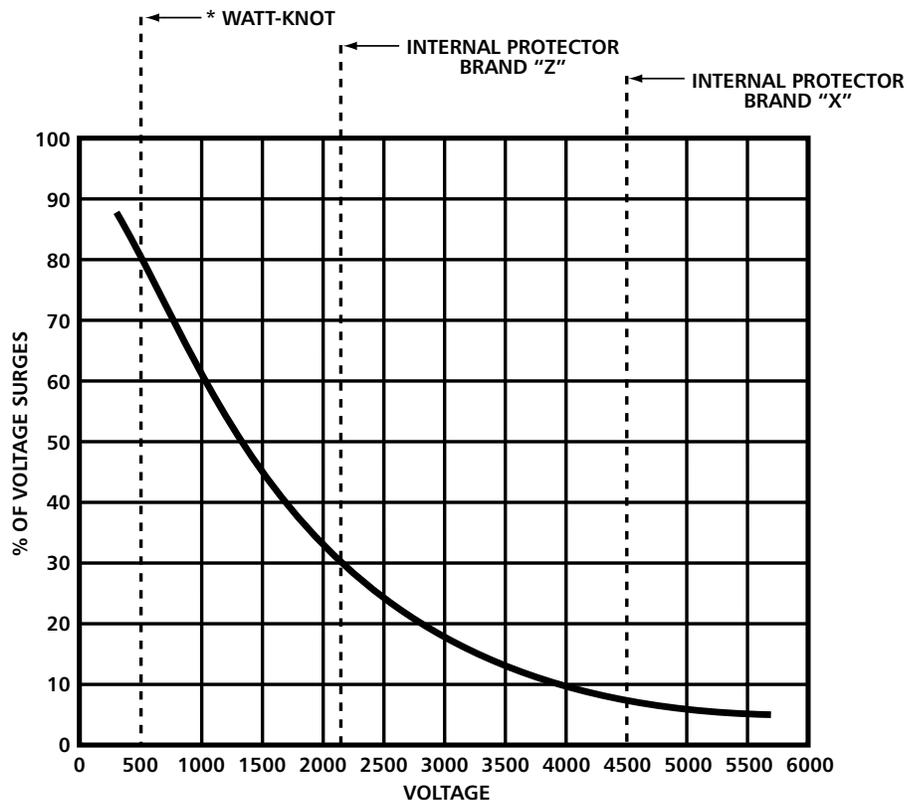
When a lightning or voltage surge of 500 volts or more reaches the Watt-Knot, the metal oxide within the plastic casing begins conducting the surge to ground, relieving the electrical pressure to the motor. Regular operation is resumed as soon as the surge is passed to ground.

About Voltage Surges

Research shows that only a small percentage of surges in domestic water systems are the result of near lightning strikes. Power outages, interference and voltage surges, frequently less than 3,000 volts account for a majority of power related motor burnouts.

Damaging voltage surges can be caused by the opening and closing of switches (switching loads) and by lightning. Voltage surges created by switching loads may be 5.5 times the line voltage (1,265 volts on a 230 volt system and 2,420 volts on a 440 volt system). Brownouts, blackouts, and line interference also create similar surges.

Generally, lightning-surge arrestors built into pump-motors do not offer adequate protection from switching loads. Their “spark-over” or “bleed-off” values range from 2,200 volts to 4,500 volts. At these high voltage ratings built-in arrestors allow surges to reach the sensitive insulation of motor windings.



* INDICATES 1Ø PROTECTION
3Ø PROTECTION BEGINS AT 1,000 VOLTS.

Since the average range of a voltage surge is 500 volts to 2,000 volts, internal lightning arrestors would not begin to work until voltages extend above 2,000 volts.

The chart above shows the Watt-Knot has the widest protection range in the industry, from 500 to 5,600 volts.