

INTRODUCING THE PUMP MOTOR THAT WILL REVOLUTIONIZE SPA DESIGN



imPulse™

The industry's new programmable spa motor.

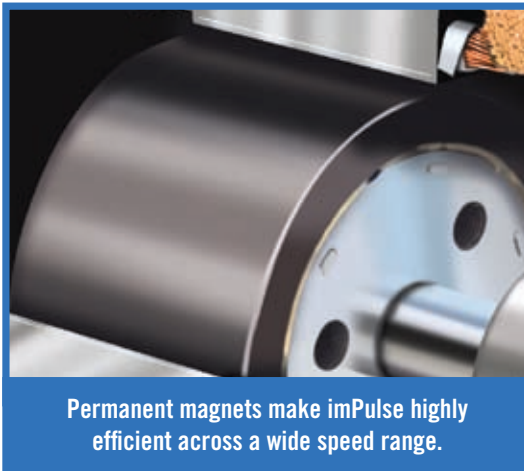
CREATE THE NEXT GENERATION OF CU

Imagine the possibilities. In zone one, the soothing water flow provides quiet relaxation. Zone two is delivering an invigorating hydrotherapy massage. Meanwhile, in zone three the jets pulse in sequence providing a unique total body massage. This higher level of custom comfort is what we call the MyZone™ spa control system, which consists of the imPulse motor, the OEM-supplied control panel and the user interface. This system affords unparalleled control over water flow which means manufacturers can create features that simply don't exist in today's products.

imPulse,™ the new programmable spa motor.

The new imPulse electronically commutated motor (ECM) combines the rugged efficiency of a permanent-magnet, brushless-DC motor with the sophisticated capabilities of an onboard control processor that interfaces with a spa's control panel. When coupled with our proprietary software,

designers can program new and better functionality into the pump motor. The result is a variable-speed pump motor, whose nearly unlimited range of operating speeds, give it the unprecedented ability to execute programmed commands.



Permanent magnets make imPulse highly efficient across a wide speed range.

Create unique water flow with a programmable motor.

The imPulse ECM's full programmability means that manufacturers can add depth to the spa's massage features by continuously modifying motor speed and water flow. For example, imPulse is capable of fluctuating between pre-programmed slow and fast speeds to create a pulsing massage. Our Windows-based ECM toolbox development kit gives systems designers a clear and simple interface to create, store, read and execute massage profiles. The interface graphically illustrates motor performance in real time.

Because pump speed has a direct effect on water flow, the imPulse ECM's range of speeds varies the massage delivered by the spa's jets. For the first time, users have full control over the strength of their massages.

Quieter Operation.

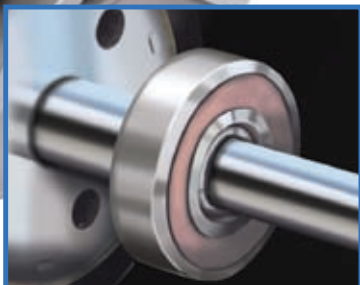
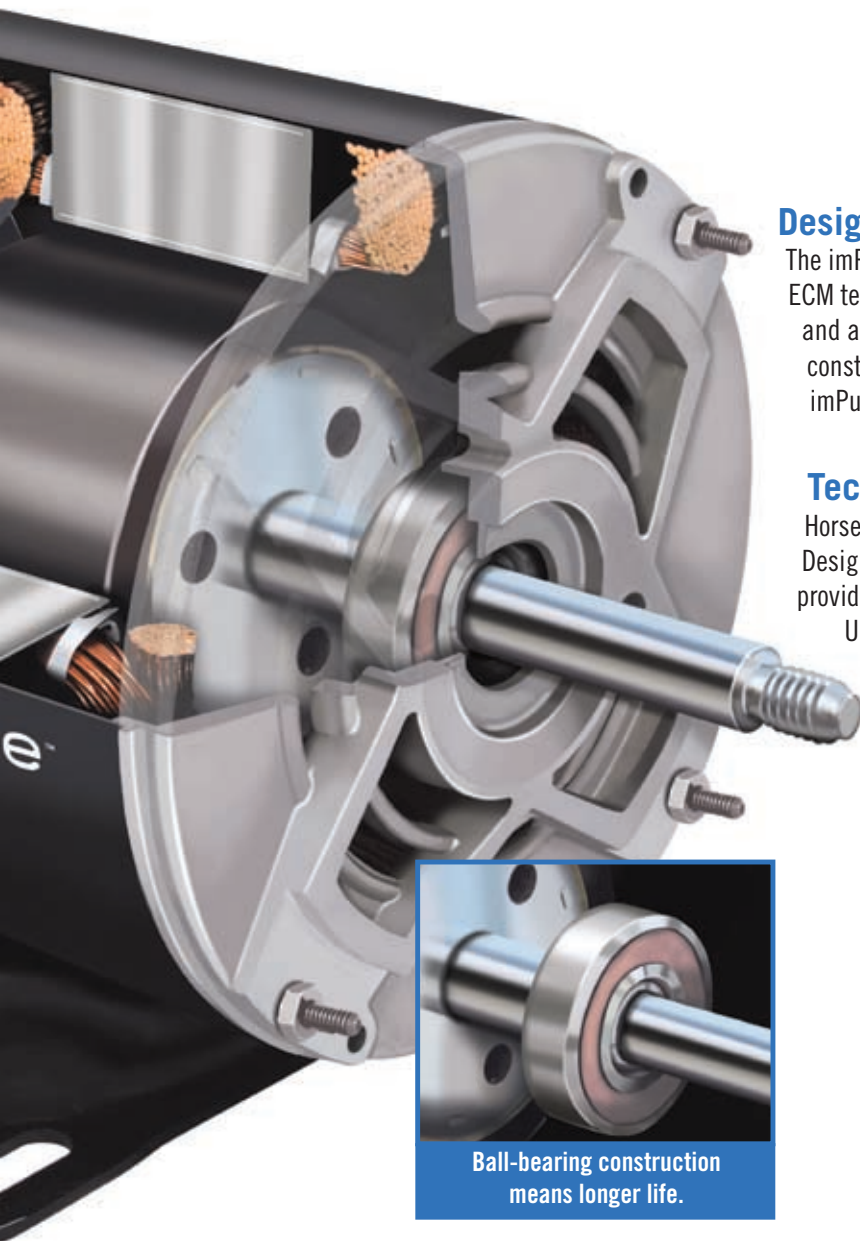
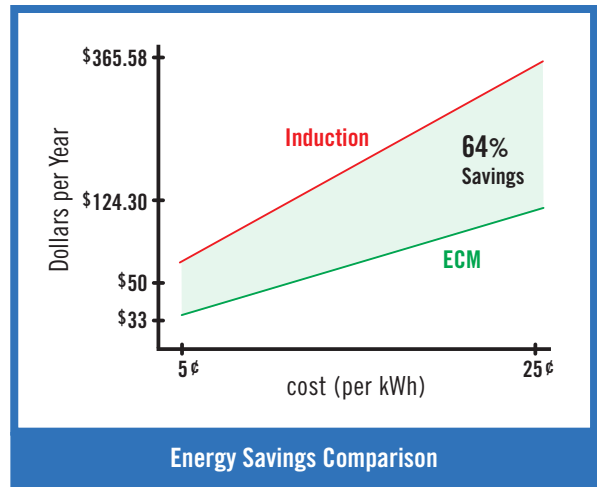
imPulse ECM's wide speed range also means that the spa can run more quietly by reducing water turbulence. In its lowest settings, the motor is very quiet. Imagine a setting that allows for conversation *and* relaxation.



STOM-COMFORT SPAS WITH imPulse.™

Go green with imPulse.

Because of its brushless-DC, permanent-magnet design, the imPulse pump motor is inherently more efficient than a conventional PSC motor. The programmability of the imPulse pump motor also offers manufacturers the opportunity to eliminate the circulation pump and reduce power consumption by up to 64%.



Ball-bearing construction means longer life.

Design with field-proven reliability.

The imPulse motor is built on a foundation of time-tested variable-speed ECM technology, the same motor technology used in millions of heating and air-conditioning systems over the past 20 years. Its ball-bearing construction and potted electronics in the control compartment make imPulse extremely reliable in the field.

Technical specifications.

Horsepower: 1.8 HP • Speed: 400-4000 RPM • Voltage: 230V • Design: NEMA 56-frame Interface: Digital Serial Interface (DSI) provided by Spa OEM • Bearing System: Ball Bearings • UL-approved • Permanent Magnet Brushless DC



Potted electronics make imPulse highly reliable, even in damp locations.



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