

BECK

ELECTRIC ACTUATORS

MULTI-TURN ACTUATOR (88-109)

ENGINEERED FOR RELIABILITY
TRUSTED FOR PERFORMANCE

✓ 100% continuous duty

✓ No burn-out motor

✓ 3-year warranty



AN ISO 9001 COMPANY



MADE IN THE USA
SINCE 1936

HAROLDBECK.COM

DURABLE & DEPENDABLE

The Beck 88-109 is a continuous duty, multi-turn actuator designed to provide reliable control of rising stem and non-rising stem gate valves. Additionally, when coupled with a 1/4-turn gearbox, it is an ideal solution for large butterfly and other quarter-turn valves with high torque requirements.

Like all Beck actuators, the 88-109 is simple to use and virtually maintenance free.

The Beck 88-109 is ideal for any applications that require reliable, consistent control without the need for periodic maintenance.

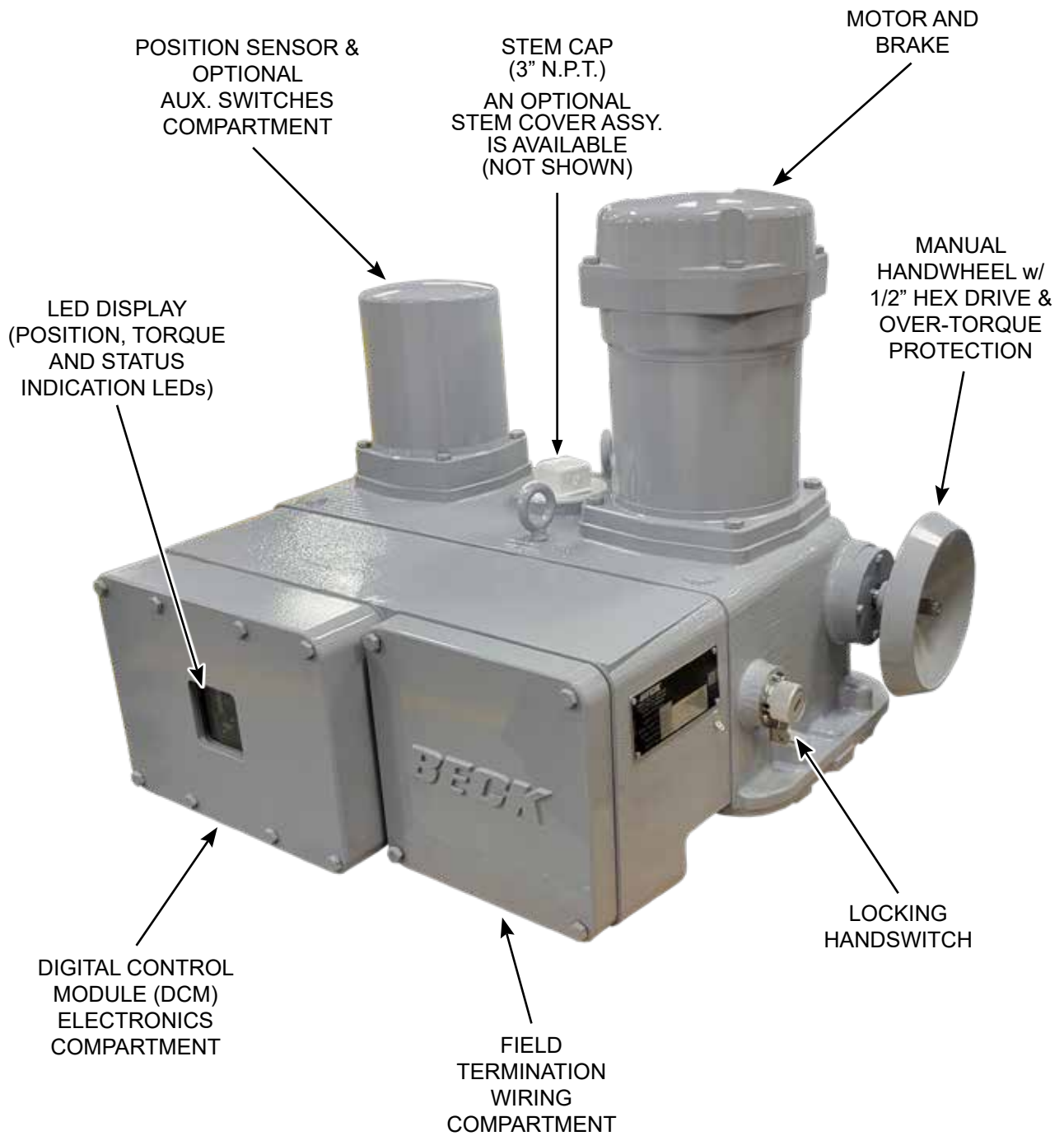


Following are some unique features that make the 88-109 superior to typical multi-turn electric actuators:

- Non-intrusive Wi-Fi configuration eliminates the need for custom apps, software and proprietary handheld devices.
- Beck's unique, permanent magnet motor ...
 - ... will never overheat or burn-out and has no duty limitations.
 - ... does not coast or overshoot, ensuring extremely accurate and repeatable positioning.
 - ... uses double-lipped, grease-sealed bearings, allowing for maintenance-free operation that meets IP68 standards.
 - ... starts at full torque so “hammer blow” is never needed.
- Internal, programmable torque sensing eliminates the need for problematic torque switches.
- A 90% efficient spur gear train eliminates the inefficiencies and wear inherent in typical worm gear designs.
- Permanent grease lubrication eliminates oil leaks and maintenance, allowing the actuator to be mounted in any position.
- Optional cam-driven hard switches provide position indication or interlocks, even without actuator power.

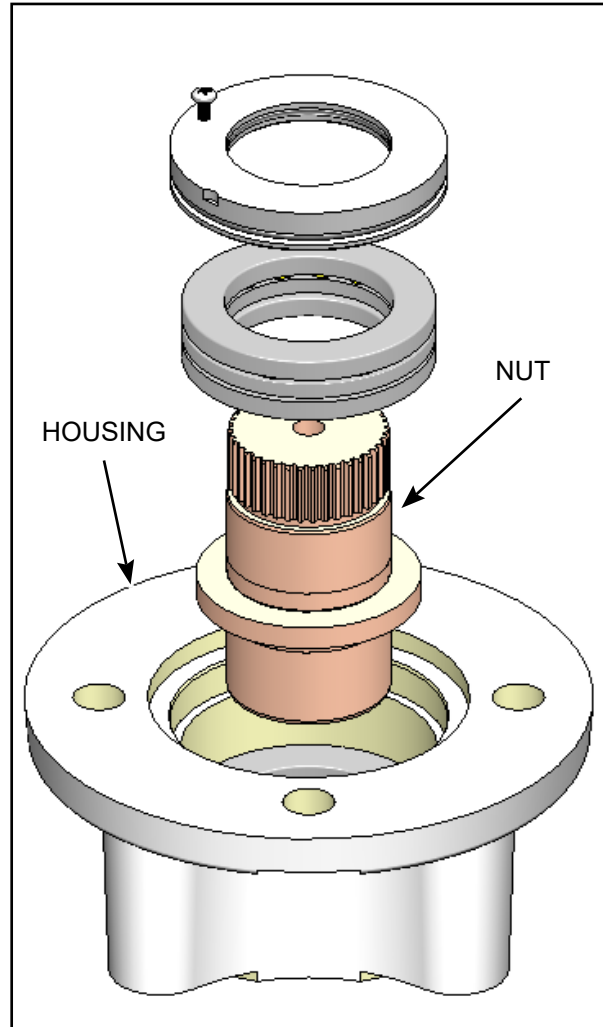


EXTERNAL FEATURES

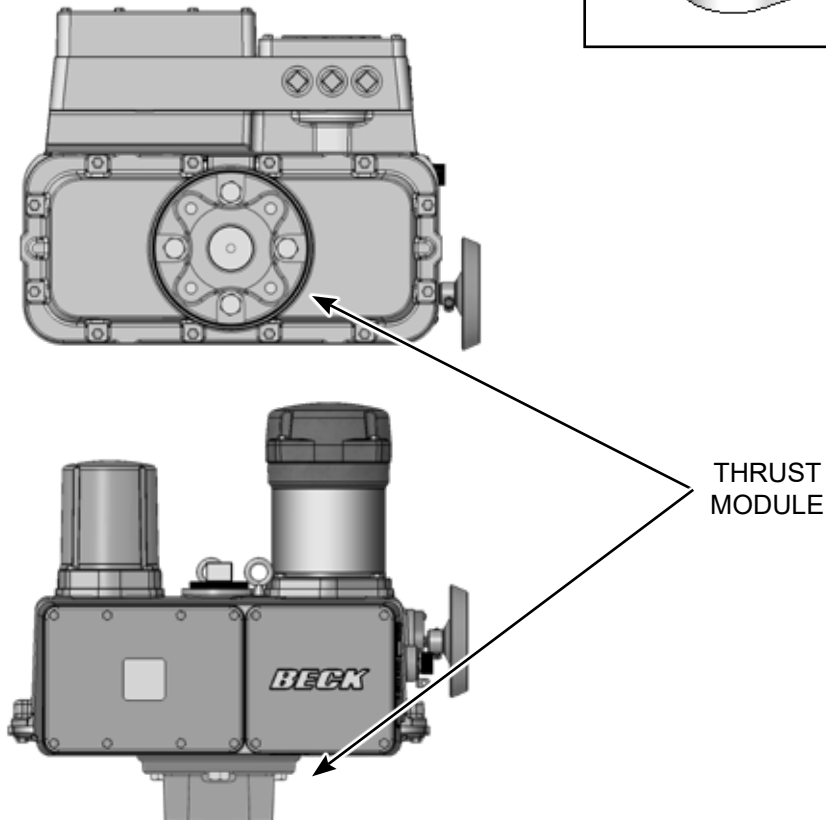


Beck's Unique Thrust Module & Nut has a number of notable features

- ▶ Standard FA14 or FA16 interface is available
- ▶ Spline interface minimizes wear and lost motion
- ▶ Extra long thread engagement to extend life
- ▶ 1,200 lb. thrust rating
- ▶ High quality, high strength bronze alloy nut
- ▶ Designed for easy serviceability
- ▶ Lubricated for life—maintenance free

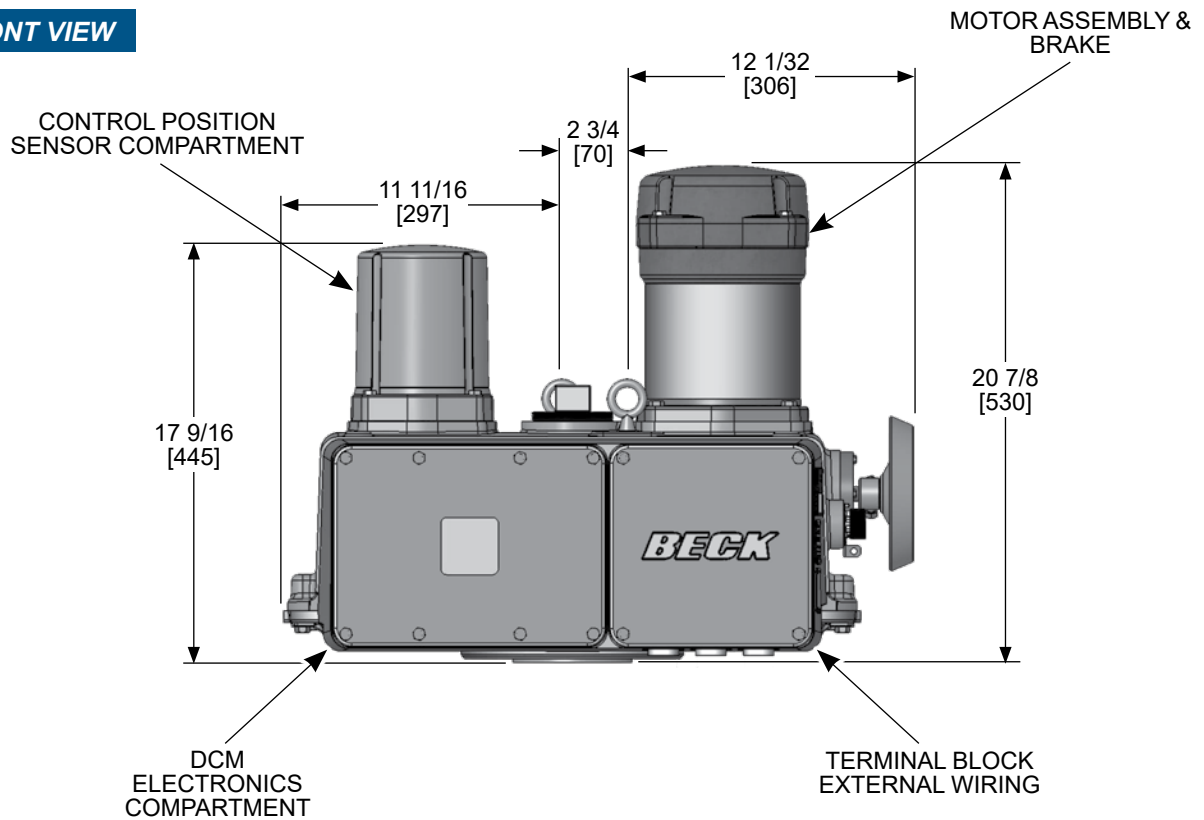


*BOTTOM & FRONT VIEW
with THRUST MODULE*

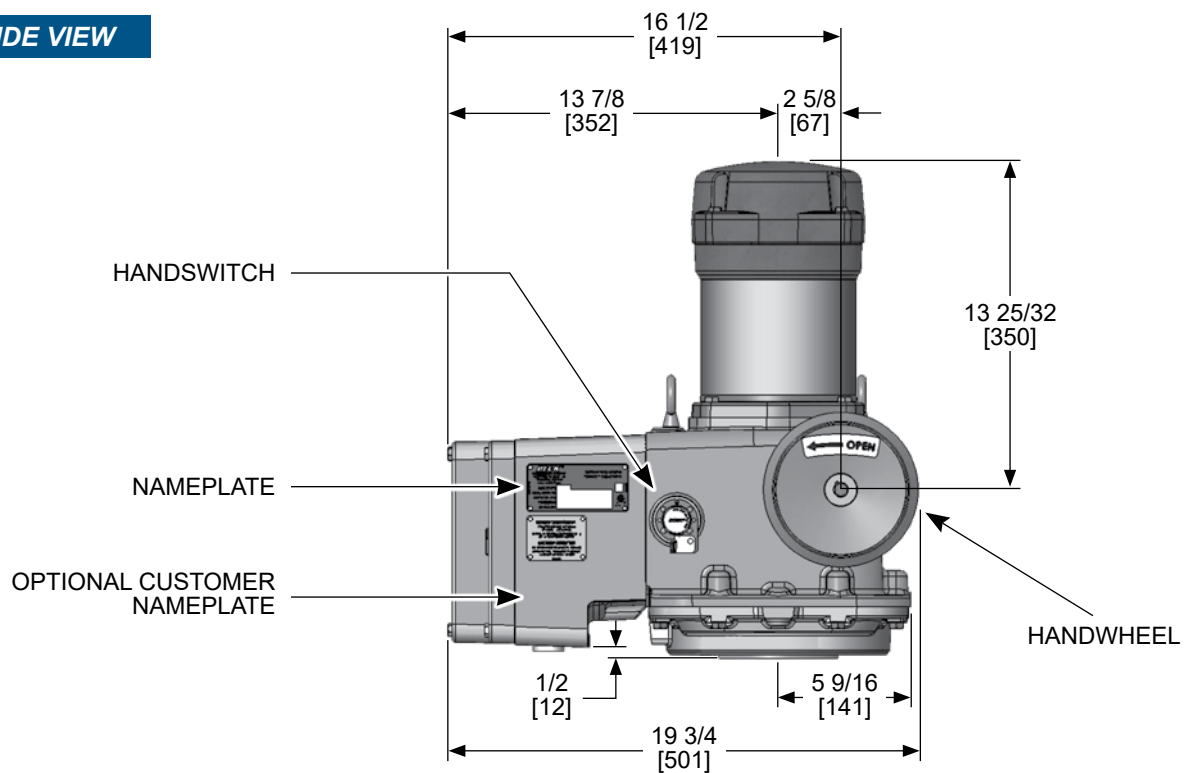


OUTLINE DIMENSIONS

FRONT VIEW



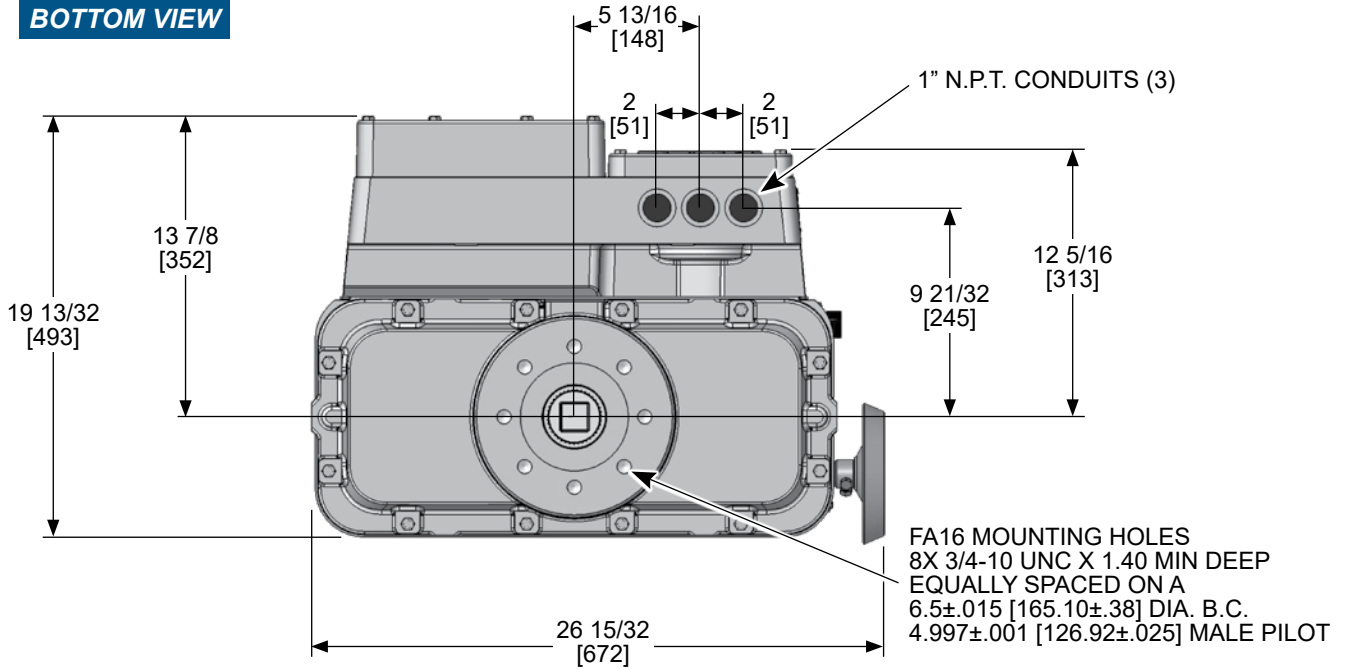
SIDE VIEW



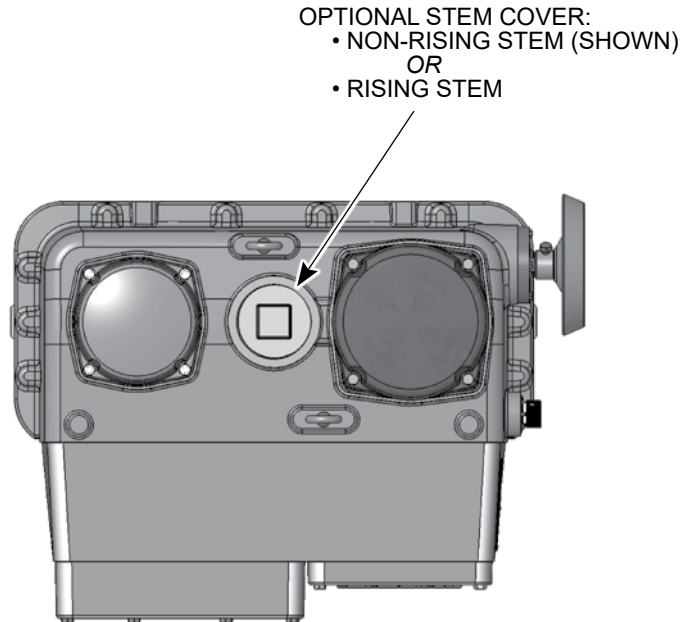
All Dimensions are in inches & [mm].
All information is subject to change.

Beck Model	Rated Torque	Approximate Weight	Max Stem Size Rising (Thrust Module)	Max Stem Size Non-Rising
88-109	125 lb-ft (169.5 N·m)	230 lbs (104 kgs)	2" Thread	1.75"

BOTTOM VIEW



TOP VIEW



RECOMMENDED SCREW TORQUE

Description	Size (in.)	Torque (lb-ft)	Torque (N·m)	
Body Screws	3/8-16	20	27.1	
Cover Screws	5/16-18	11	14.9	
Motor Screws	3/8-16	20	27.1	
Thrust Module Screws (not shown)	FA14	5/8-11	100	135.6
	FA16	3/4-10	175	237.3

SPECIFICATIONS & FEATURES

Actuator Power 480 Vac, 3-phase, 50/60 Hz (allowable tolerance +10%/-15%)
Power Draw 2500 VA
Maximum Rated Output Torque 125 lb-ft (169 N•m)
Maximum Output Shaft Speed 60 RPM (configurable from 6–60 RPM)
Operating Temperature Rating –40° to 70°C (–40° to 158°F)
Travel Range 4–4,000 turns (configurable)
Duty Rating 100% without limitation -- 60 starts/minute or continuously running at rated torque load
Maximum Valve Stem Pass-through Up to 2" (larger shafts require an external gearbox)
Standard Control Interfaces Discrete pulse control via 24 Vdc dry contacts or 120 Vac inputs // 4-20 mA Demand signal // Modbus RTU (TCP optional)
Communication & Configuration Interfaces Wi-Fi // Local Pushbutton/LED panel // DB9 Serial Commands // HART protocol
Available Position Feedback Signal 4–20 mA
Position & Status Indication Alphanumeric LCD (Position %, Torque %); configurable LEDs (red, yellow & green)
Over-torque Protection The DCM shuts off power to the motor if the measured output torque of the actuator exceeds 115% of the actuator rating (can be enabled/disabled). Configurable from 25% to 115% of rating.
Relays Three field-programmable relays for system status and/or position indication
Mechanical Position Switches (Optional) Two SPST cam-operated over-travel limit switches (CW, CCW) and four auxiliary switches (S1-S4)
Handswitch - Local Electrical Control Five-position, lockable Handswitch with auxiliary status contact (closed-in-AUTO)
Handwheel - Local Manual Control Handwheel includes 1/2" hex drive with mechanical over-torque protection
Motor Continuous duty (no burnout) with self-locking mechanism
Thrust Module FA14 or FA16 mounting pattern
Environmental Rating NEMA 4X; IP66, IP68 (3 meters/48 hours)
Agency Approvals CSA Labeled (US & Canada)

BECK[®] **HAROLD BECK & SONS, INC.**

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