To Meet Today’s Standards

Safety Meets Economy
Increase safety, while minimizing risk to the environment, plant personnel and neighbors, by specifying TEIKOKU Canned Motor Pumps. TEIKOKU’s unique pumping solutions operate emission-free and are 100% leakproof by design, with secondary containment offered as standard to enhance corporate goals for safety and long term sustainability.

TEIKOKU Canned Motor Pumps feature a minimal number of components that need to be monitored and serviced. Costly, time consuming alignment procedures and external lubrication are completely eliminated. And, because TEIKOKU Canned Motor Pumps are sealless, complicated seal support systems and seal maintenance are eliminated.

TEIKOKU Canned Motor Pumps: true secondary containment safety, highly reliable operation, cost-economy...and ZERO environmental impact.

Teikoku Canned Motor Pumps

NO LEAKAGE OR EMISSIONS
Handles toxic, explosive, expensive, hazardous, carcinogenic and corrosive fluids without leaking during operation, shutdown or process upset conditions.

AIRTIGHT
Ideal for vacuum services or for fluids with high reactivity to atmosphere.

NO SHAFT SEAL
No dynamic mechanical seal. No gland packing.

NO EXTERNAL LUBRICATION
Pumped fluid provides cooling and thin fluid lubrication of motor and bearings. No lubrication levels to check or maintain.

VACUUM TO HIGH SYSTEM PRESSURE
Designs can be rated like pressure vessels to handle conditions from full vacuum to 5,000 psi / 35 MPa.

COMPACT DESIGN
Motor and pump are a combined, single unit. No alignment is necessary. Grouting and/or elaborate foundation design is eliminated.

QUIET OPERATION
Low noise levels are achieved since the motor is cooled without a fan. All rotating parts operate within the thick motor shell.

EXPLOSION PROOF
Certified by several underwriting agencies around the globe for use in electrical hazardous area locations.

API 610 / 685 NOZZLE LOADS
FIELD REPAIRABLE
Minimal number and simplicity of wear parts makes field service quick and safe.

ELECTRONIC BEARING MONITORS
All TEIKOKU Canned Motor Pumps are supplied with bearing wear monitors.

ANSI B73.3 & ISO2858 SIZES AVAILABLE
ALL PUMPS PERFORMANCE TESTED
Every component of a TEIKOKU Canned Motor Pump, including the motor and hydraulics parts, are manufactured by TEIKOKU to the strict statistical quality control tolerances important to canned motor pump performance, where hermetic motor and hydraulic performance are linked by design. Every pump manufactured by TEIKOKU is tested and documented for performance and Net Positive Suction Head Required (NPSH) before shipment.

COMPARISON

Compare TEIKOKU to:

CENTRIFUGAL PUMPS with double mechanical seals

MECHANICAL SEALS
Seal failure usually results in total shutdown and pumps offer no secondary containment.

SEPARATE MOTOR AND PUMP
Requires scheduled and proper alignment to maximize unit reliability and the life of bearings and couplings. Motors are exposed and require fan cooling. Foundation pads must be poured and are necessary to support the increased weight and reduce the danger of misalignment. More than 60% longer than similar sized canned motor pumps.

COMPLEX MAINTENANCE
Motor and bearing lubrication and vibration levels must be continually monitored to extend operating life.

ELEVATED NOISE LEVEL
Separate motor cooling fan and other rotating parts greatly increase operating noise levels.

MAGNETIC DRIVE PUMPS

THIN CONTAINMENT SHELL
Required for efficiency and subject to damage by driven magnet sets and subsequent leakage to atmosphere. No secondary containment.

MULTIPLE BEARING TECHNOLOGY EMPLOYED
Combination of oil and grease lubricated ball bearings and fluid lubricated sleeve bearings requires frequent monitoring for proper lubrication. Rotating sleeve bearings cannot be externally monitored.

DECOUPLING DUE TO PROCESS UPSET
Decoupling may lead to sudden catastrophic failure and rapid heat rise.

SEPARATE MOTOR AND PUMP
Requires scheduled and proper alignment to maximize unit reliability and the life of bearings and couplings. Motors are exposed and require fan cooling. Foundation pads must be poured and are necessary to support the increased weight and reduce the danger of misalignment. More than 60% longer than similar sized canned motor pumps.

NOISY FAN
Separate motor cooling fan and other rotating parts greatly increase operating noise levels.
TEIKOKU, the world’s largest supplier of canned motor pumps, offers a state-of-the-art, sealless pump. No newcomer to the field, TEIKOKU has provided customers with proven Canned Motor Pump solutions for more than 50 years. Over 500,000 units have been installed worldwide, covering every possible application.

TEIKOKU is unique in that it designs and manufactures both pumps and motors, thus, ensuring users total quality control and matched hydraulic/driver performance.

The TEIKOKU Canned Motor Pump replaces conventional sealed pumps providing safer, more economical operation through reduced long term cost of ownership. This is especially advantageous when pumping hazardous, volatile, toxic and hard to handle fluids.

TEIKOKU provides expertise in selecting the pump best suited to a user’s specific needs. TEIKOKU’s experience encompasses horizontal standard pumps, vertical designs with either pump up or motor up configurations, pumps and motors jacketed for cooling or heating, self-priming valves, submerged units, slurry design, non-cooled, high heat resistant motor pumps and more.

Vacuum dried, N₂ purged stator with Class C or F insulation
No couplings or ball bearings are required.
No mechanical shaft seal is required.

TEIKOKU THRUST BALANCE SYSTEM

Centered End Suction and Centerline Discharge for easier piping design and installation consistent with either ANSI or ISO standards. Standard flange connections are raised face or available in a variety of options to meet user piping standards.

Terminal plates and lead seals isolate higher pressures from inside containment, and a waterproof, wash down duty terminal box ensures safe outdoor operation. All canned motor pumps are manufactured with an explosion proof terminal box.

Non-contacting double orifice permits minimum leakage and improves volumetric efficiency. Enclosed impeller with optimized face gap tolerance keeps hydraulic losses to a minimum for increased hydraulic efficiency. Size and number of balance holes set balance pressure for fixed axial operating position.

Impeller
Face Gap
Double Orifice
Balance Chamber
Balance Holes
Non-contacting double orifice permits minimum leakage and improves volumetric efficiency. Enclosed impeller with optimized face gap tolerance keeps hydraulic losses to a minimum for increased hydraulic efficiency. Size and number of balance holes set balance pressure for fixed axial operating position.

External Power Connections
Internal Motor Connections
Instrument Connections
### MOTOR RATINGS for standard canned motors

<table>
<thead>
<tr>
<th>Motor Frame</th>
<th>Rate Output (KW)</th>
<th>Rate Output (HP)</th>
<th>Nominal Voltage</th>
<th>Frame</th>
<th>Output Rate (KW)</th>
<th>Output Rate (HP)</th>
<th>Nominal Voltage</th>
<th>Frame</th>
<th>Output Rate (KW)</th>
<th>Output Rate (HP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>119</td>
<td>1.5</td>
<td>1.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>215</td>
<td>3.7</td>
<td>2.7</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>216</td>
<td>2.2</td>
<td>2.2</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>217</td>
<td>3.7</td>
<td>2.7</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>316</td>
<td>5.5</td>
<td>4.9</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>317</td>
<td>3.7</td>
<td>3.0</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>416</td>
<td>7.5</td>
<td>6.0</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>417</td>
<td>11.0</td>
<td>8.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>516</td>
<td>10.5</td>
<td>8.0</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>518</td>
<td>22.5</td>
<td>17.0</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
</tbody>
</table>

### Notes:
1. Volts & Amps offered are nominal and not for actual sizing purposes.
2. Motors are Class 210 insulated and available with or without cooling jackets.

### LARGE FRAME SIZE MEDIUM VOLTAGE MOTORS

<table>
<thead>
<tr>
<th>Motor Frame</th>
<th>Rate Output (KW)</th>
<th>Rate Output (HP)</th>
<th>Nominal Voltage</th>
<th>Frame</th>
<th>Output Rate (KW)</th>
<th>Output Rate (HP)</th>
<th>Nominal Voltage</th>
<th>Frame</th>
<th>Output Rate (KW)</th>
<th>Output Rate (HP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1123</td>
<td>15</td>
<td>20</td>
<td>6600</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>1125</td>
<td>20</td>
<td>27</td>
<td>6600</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
<tr>
<td>1227</td>
<td>30</td>
<td>40</td>
<td>6600</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
<td>440</td>
<td>526</td>
<td>17.5</td>
<td>23.5</td>
</tr>
</tbody>
</table>

### TYPE F WITH U OR X MOTOR (High Temperature Insulation)

<table>
<thead>
<tr>
<th>Motor Insulation System</th>
<th>Motor Speed (rpm)</th>
<th>Minimum Motor Size</th>
<th>Maximum Motor Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-Motors</td>
<td>2000</td>
<td>0.75 10 x 10-16</td>
<td>315 422</td>
</tr>
<tr>
<td>X-Motors</td>
<td>2000</td>
<td>1.5 8 x 10-19</td>
<td>120 161</td>
</tr>
</tbody>
</table>

### TEIKOKU U-Motor

- Fluid Temperatures to 500°F / 260°C
- Ceramic insulated motor windings for non-cooled continuous operation at full load
- Dynamically & hydraulically balanced single rotating element
- Free-floating in the hot liquid
- Thermal stress on shaft and bearings, hot alignment and coupling problems are eliminated
- ANSI RF flanges are standard
- Extended motor leads keep heat away from terminals & bearing monitor
- Sealed terminal plate assures true secondary containment

### TEIKOKU X-Motor

- Fluid Temperatures to 750°F / 400°C
- Ceramic Insulation
- Polyimide Overcoat
- Níquel Plating
- Organic inorganic hybrid insulation
- Hybrid insulation
- Nickel Plating
- Polyamide Insulation

---

**MOTOR RATINGS for standard canned motors**

**LARGE FRAME SIZE MEDIUM VOLTAGE MOTORS**

**TYPE F WITH U OR X MOTOR (High Temperature Insulation)**

**TEIKOKU U-Motor**

**TEIKOKU X-Motor**
TYPE BA WITH ON-BOARD COOLER AND MOTOR COOLING JACKET
PER API 685 ANNEX D PLAN 23-S

- Highest tolerance sealless pump design available for temperature changes and thermal upsets
- Broadspest range of sealless solutions on the market
- No mechanical seal, no ball bearings, no coupling and NO LEAKAGE
- Water & Air Cooled versions are available
- Wide variety of heat exchangers to meet plant requirements

<table>
<thead>
<tr>
<th>Thermal Class</th>
<th>Motor Speed (RPM)</th>
<th>Minimum Motor Pump Size</th>
<th>Maximum Motor Pump Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>220 Cooled</td>
<td>1800</td>
<td>1 x 1 - 5</td>
<td>10 x 10 - 16</td>
</tr>
<tr>
<td>3600</td>
<td></td>
<td>2.2 x 3</td>
<td>14 x 16 - 25</td>
</tr>
</tbody>
</table>

Maximum Liquid Temperature: 850°F / 455°C
Maximum Allowable Working Pressures to 5000 PSIG available

- Process liquids as high as 850°F / 455°C are pumped. Heat conduction to motor is minimized by adaptor which thermally isolates pump casing from motor, while maintaining hydraulic connectivity
- Heat exchanger maintains circulating liquid temperature well below the maximum temperature capacity of the motor insulation system while main flow is as high as 850°F / 455°C
- Minimized exchange between hot main flow and cooled circulation stream
- Liquid is pumped by auxiliary impeller located on the shaft to circulate through rotor cavity, bearings and heat exchanger
- ANSI RF flanges are standard. Other configurations available
- Centerline supported pump casing is not required. Alignment & leveling are eliminated. Easy installation with small footprint
- FREE-FLOATING single rotating element eliminates problems common with sealed and magnet drive pumps
- Long lasting & self-lubricating graphite bearing exhibit high resistance to heat & thermal impact

CUSTOM MADE TEIKOKU CANNED MOTOR PUMPS

For Diversified Customer Needs

API Plan 23-S
160 HP horizontal hot oil system booster pump

API Plan 11-S
Canned Motor Sealless Agitator provides leak-free, zero maintenance operation under full vacuum or high internal tank pressures.

API Plan 1-5
5000 PSIG MAWP Vertical In-Line Loop Circulation Pump

API Plan 23-S
Air cooled high temperature pump

API Plan 54-S
475 HP Vertical Suction-Top pump for 2000 PSIG MAWP, 750°F / 400°C Hydrotreater service with entrained H₂ Gas

API Plan 11-S
Fully jacketed externally circulated pump for high melt point fluid service

Teikoku Standard Class C Insulated Motor
Poly-amine-imide insulation

ANSI RF flanges are standard. Other configurations available
**Principle of Operation**

Sensors embedded in the stator cavity of a leakproof TEIKOKU Canned Motor Pump produce signals that enable the on-board THG monitor to both display and provide instrument outputs indicating the real-time axial and radial positions of the entire pump rotating assembly. Position signals are converted into low voltage outputs that power the THG monitor display band featuring LED indication of actual rotor position. Rotor position changes over time are indicative of bearing wear in both axial and radial directions and the process conditions causing the changes.

**LED Display**

THG Hybrid monitor provides accurate, real-time monitoring of both the direction and range of hydraulic axial thrust. This display information indicates both the direction and amount of axial bearing wear, while simultaneously displaying the amount of radial bearing wear.

**Features:**

- Real-time indication of the rotor position in both axial and radial directions during operation.
- Detection accuracy is as high as 0.2mm (0.0078 inches) in the axial direction.
- Axial display indicates the direction of pump hydraulic thrust: either forward or toward the rear of the pump.
- After normal replacement of worn parts, the THG is easily recalibrated to the null position in the field utilizing Teikoku’s Industry First Zero Aid remote hand held instrument.
- THG features two 4-20mA analog instrument output signal capabilities: one each for axial and radial position indication. Connections are provided on the THG to wire signals directly from the monitor.
- If full functionality is required with a Variable Frequency Drive, ask TEIKOKU about the THG II.

**ZERO-AID Initial Calibration & Field Re-Calibration Device for THG**

- Battery powered portable instrument that enables field zero (null point) adjustment of TEIKOKU’s THG after field or pump shop preventative maintenance.
- The industry’s first-ever recalibration device suitable for operator use.
- SAFE! All field re-calibrations are made before plant power is applied to the pump.

**TRG Indication Zone Diagnosis User Action**

<table>
<thead>
<tr>
<th>Light</th>
<th>Condition</th>
<th>User Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Good</td>
<td>Continued Operation - regularly check wear rate</td>
</tr>
<tr>
<td>Yellow</td>
<td>Caution</td>
<td>Plan Routine Maintenance - more frequent wear rate checks</td>
</tr>
<tr>
<td>Red</td>
<td>Alert</td>
<td>Shutdown &amp; Replace Worn Parts</td>
</tr>
</tbody>
</table>

**TRG with Phase Sequence Sensor in Operation**

TRG initial indication varies from pump to pump. Users can record the initial value to establish a baseline. This determines a point from which to monitor the wear rate of the bearings and establishes preventative maintenance schedules.

**Optional TRG Converter**

Converts signal into either analog 4-20mA or 1-5 VDC for various I&E control

---

*US Patent No. 4211973 & 4334189*
BASIC CANNED MOTOR PUMP APPLICATION SOLUTIONS

with API 685 Annex D Circulation Plan References

**F-V Type** – Plan 1-S (Internal Circulation)
Most basic and commonly used design of TEIKOKU Canned Motor Pumps with a hollow shaft for a wide variety of applications.

**F Type** – Plan 11-S (External Circulation)
Basic design of TEIKOKU Canned Motor Pumps with a solid shaft for a wide variety of applications and the ability to condition circulated fluid.

**G Type** – Plan 11-S (Self Priming)
Adaptation of basic design with self-priming pump casing suitable for external circulation. Application suitability for pumping fluids from underground tank or rail/tank car unloading.

**F-M or R-M or B-M Types** – Plan 11-S (Multi-Stage)
High head, high hydraulic efficiency pumps with reverse circulation to pump suction or suction vessel. Externally cooled, high temperature designs are also available.

**K-S Type** – Plan 11-S (Internal Circulation) with Fully Jacketed Components
Suitability for handling fluids with high melting points.

**K Type** – Plan 1-S (Internal Circulation) with Fully Jacketed Components
Suitability for handling fluids with high melting points.

**X and U Type** – Plan 1-S (High Temperature Insulated Motor)
Suitability for handling high temperature fluids such as heat transfer oils with no need for external coolers through the use of Class 300 and Class 400 proprietary motor insulation systems.

**D Type** – Plan 53-S and 54-S (Sealed Slurry Type)
Suitability for handling fluids containing small amounts of fine solids or fluids with entrained gas. Motor isolation is provided by a mechanical seal or throttle bushing and requires flush provided by a seal pot (Plan 53-S) or external flush (Plan 54-S).

**F Type** – Plan 11-S (External Circulation)
Basic design of TEIKOKU Canned Motor Pumps with a solid shaft for a wide variety of applications and the ability to condition circulated fluid.

**F-M or R-M or B-M Types** – Plan 11-S (Multi-Stage)
High head, high hydraulic efficiency pumps with reverse circulation to pump suction or suction vessel. Externally cooled, high temperature designs are also available.

**X and U Type** – Plan 1-S (High Temperature Insulated Motor)
Suitability for handling high temperature fluids such as heat transfer oils with no need for external coolers through the use of Class 300 and Class 400 proprietary motor insulation systems.

**D Type** – Plan 53-S and 54-S (Sealed Slurry Type)
Suitability for handling fluids containing small amounts of fine solids or fluids with entrained gas. Motor isolation is provided by a mechanical seal or throttle bushing and requires flush provided by a seal pot (Plan 53-S) or external flush (Plan 54-S).

**F Type** – Plan 11-S (External Circulation)
Basic design of TEIKOKU Canned Motor Pumps with a solid shaft for a wide variety of applications and the ability to condition circulated fluid.

**F-M or R-M or B-M Types** – Plan 11-S (Multi-Stage)
High head, high hydraulic efficiency pumps with reverse circulation to pump suction or suction vessel. Externally cooled, high temperature designs are also available.

**X and U Type** – Plan 1-S (High Temperature Insulated Motor)
Suitability for handling high temperature fluids such as heat transfer oils with no need for external coolers through the use of Class 300 and Class 400 proprietary motor insulation systems.

**D Type** – Plan 53-S and 54-S (Sealed Slurry Type)
Suitability for handling fluids containing small amounts of fine solids or fluids with entrained gas. Motor isolation is provided by a mechanical seal or throttle bushing and requires flush provided by a seal pot (Plan 53-S) or external flush (Plan 54-S).

**F Type** – Plan 11-S (External Circulation)
Basic design of TEIKOKU Canned Motor Pumps with a solid shaft for a wide variety of applications and the ability to condition circulated fluid.

**F-M or R-M or B-M Types** – Plan 11-S (Multi-Stage)
High head, high hydraulic efficiency pumps with reverse circulation to pump suction or suction vessel. Externally cooled, high temperature designs are also available.

**X and U Type** – Plan 1-S (High Temperature Insulated Motor)
Suitability for handling high temperature fluids such as heat transfer oils with no need for external coolers through the use of Class 300 and Class 400 proprietary motor insulation systems.

**D Type** – Plan 53-S and 54-S (Sealed Slurry Type)
Suitability for handling fluids containing small amounts of fine solids or fluids with entrained gas. Motor isolation is provided by a mechanical seal or throttle bushing and requires flush provided by a seal pot (Plan 53-S) or external flush (Plan 54-S).
**PRODUCT RANGE and third party compliance**

<table>
<thead>
<tr>
<th>Standard Range</th>
<th>Extended Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPACITY (max)</td>
<td>4,403 GPM 1000 m/hr</td>
</tr>
<tr>
<td>TDH (max)</td>
<td>2,000 ft 609 m</td>
</tr>
<tr>
<td>TEMPERATURE*</td>
<td>-112 to 716°F -80 to 380°C</td>
</tr>
<tr>
<td>VISCOSITY (max)</td>
<td>100 cst</td>
</tr>
<tr>
<td>DESIGN PRESSURE (max)</td>
<td>430 psi 3 MPa</td>
</tr>
<tr>
<td>MOTOR HORSEPOWER (max)</td>
<td>267 HP 200 KW</td>
</tr>
<tr>
<td>MATERIALS OF WETTED PART</td>
<td>304SS, 316SS</td>
</tr>
</tbody>
</table>

*temperature of pumped liquid

**INSTRUMENTATION & SAFETY OPTIONS**

Quality Assurance
All motors and pumps are designed and manufactured by TEIKOKU under its full quality control program. Every canned unit is inspected and tested before shipment. The QC program consists of the following tests and inspections.

- Applied to all pumps, data furnished to customer if required.
- Applied to all pumps, no data available to customer.
- Applied to all pumps, data submitted by customer.
- Test done only upon customer request, data submitted to customer.

I. MOTOR
1-1 Measurement of resistance between terminals (main power coils)
1-2 No load test
1-3 Locked rotor test
1-4 Surge test
1-5 Insulation test
1-6 Dielectric strength test
1-7 Temperature rise test
1-8 Measurement of resistance between terminals (TRG coils)

II. PUMP PERFORMANCE
2-1 Capacity vs. head, current, input
2-2 NPSH test
2-3 Capacity vs. TRG output measurement
2-4 Thrust force and circulation flow measurement
2-5 TRG output check for reverse rotation

III. OTHERS
3-1 Vibration test
3-2 Noise test
3-3 Dimensional check
3-4 Hydrostatic test
3-5 Pneumatic test
3-6 Vacuum test
3-7 Halogen leak test
3-8 Mechanical seal leak test (slurry design)
3-9 Priming test (for type G only)
3-10 Mill certificate on metallic materials
3-11 ND tests on metals and welding

**THERMOWELL**

Certain applications demand extra attention to thermal conditions. TEIKOKU can provide thermowells on their pumps to detect extreme temperature operations. Heavy-duty thermowells are designed to accommodate a wide variety of temperature indicating devices.

Contact TEIKOKU for other available options.
TEIKOKU Group Global Network

TEIKOKU Electric Mfg. Co., Ltd. (Japan)
Plant & Business Headquarters
Postcode 679-4395
60 Hirano, Shingū-Cho, Tatsuno-Shi, Hyogo-Ken, Japan
Phone : +81-791-75-0411
Fax : +81-791-75-4190

International Business Headquarters
Postcode 110-0015
6F Shitaya Bldg. 2-5, 5-Chome, Higashi-Ueno, Taito-Ku, Tokyo, Japan
Phone : +81-3-3841-9311
Fax : +81-3-3841-7334

TEIKOKU USA INC (North & South America)
959 Mearns Road
Warminster, Pennsylvania 18974
Phone: +1-215-343-6000
Fax: +1-267-486-1037

TEIKOKU USA INC (US Gulf Coast Sales and Service Center)
5880 Bingle Road
Houston, Texas 77092
Phone: +1-713-983-9901
Fax: +1-713-983-9919

Dalian TEIKOKU Canned Motor Pump Co., Ltd. (China)
Sanjianpu Science & Technology Industry Area, Dailan, China
Phone: +86-411-8626-9657
Fax: +86-411-8626-9292

TAIWAN TEIKOKU PUMP CO., LTD.
9F-1, No.5, Jinhou St., Zhongshan District, Taipei City 104, Taiwan, R.O.C.
Phone: +886-2-2567-9800
Fax: +886-2-2568-2670

OTHER INTERNATIONAL SUBSIDIARIES

TEIKOKU Electric GmbH (Europe)
Nizemberger Straße 24, D-40599 Düsseldorf
Germany
Phone: +49-211-700-6778
Fax: +49-211-749-0011

TEIKOKU South Asia Pte. Ltd.
No.15 Joo Koon Crescent, Singapore 629015
Phone: +65-6861-4121
Fax: +65-6861-4521

TEIKOKU Korea Co., Ltd.
5F HB Tower, 25 Nonhyun-ro 87 Gil
Gangnam-gu, Seoul, 06236, Korea
Phone: +82-2-790-7012
Fax: +82-2-790-7014

TEIKOKU Electric Mfg. Co., Ltd. (Middle East – India)
Al Moayyed Tower, 22nd Floor, Room 2225
Bldg. 2504 Road 2832, Blk. 428
Al Seef District, PO Box 18259
Manama, Kingdom of Bahrain
Phone: +973-17-568-191

Visit us online at www.TeikokuPumps.com.