## IX SERIES

### Controller Specifications

<table>
<thead>
<tr>
<th>MAX (Manual)</th>
<th>ANALOGU I/Os control</th>
<th>ANALOGU I/Os variable controlled</th>
<th>2-output programmable (0-25mA, proportional to flow rate)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operation Mode</strong></td>
<td><strong>EXT</strong></td>
<td><strong>INT</strong></td>
<td><strong>STOP</strong></td>
</tr>
<tr>
<td><strong>Pulse Control</strong></td>
<td>IX-B007: 0.00059mA, PLS</td>
<td>IX-B005: 0.00034mA, PLS</td>
<td>IX-B005: 0.00059mA, PLS</td>
</tr>
<tr>
<td><strong>Batch Control</strong></td>
<td>IX-B006: 0.00034mA, PLS</td>
<td>IX-B005: 0.00034mA, PLS</td>
<td>IX-B005: 0.00034mA, PLS</td>
</tr>
<tr>
<td><strong>Internal Batch Control</strong></td>
<td>IX-B006: 0.00034mA, PLS</td>
<td>IX-B005: 0.00034mA, PLS</td>
<td>IX-B005: 0.00034mA, PLS</td>
</tr>
</tbody>
</table>

### IX Series Pumps

- **New Class of Advanced Metering Pumps**
- **High Compression Pump Head Design**
- **70% Energy Savings**
- **High Resolution Motor Control**

### Ordering Information

- **Drive Unit/Pump Size**
  - B007: 1.98 GPH (7.5 LPH)
  - B015: 3.96 GPH (15 LPH)
  - B030: 7.90 GPH (30 LPH)
  - B045: 11.80 GPH (45 LPH)
  - C060: 15.6 GPH (60 LPH)
  - D150: 38.6 GPH (150 LPH)
  - D300: 79.2 GPH (300 LPH)

- **Extensions**
  - 4-20mA, 0-20mA, 20-4mA, 20-0mA (Proportional to the flow rate)
  - 12VDC 30mA maximum

- **Additional Features**
  - Enables memory or ignoring of incoming pulses during operation in Batch mode
  - Safety Certifications: Tested by Intertek to UL and CSA standards.

- **Standards**
  - IX - C150  TC  N - TB - U
  - Power Cord Options:
    - IX-B TC/TE ONLY
    - IX-C/D Only

### Safety Certifications

The IX series metering pumps are tested by Intertek to UL and CSA standards.

### About Us

For more information on the entire IWAKI America product line, visit iwakiamerica.com

### Controller Options

- **1.** DIN 5-Pin Field-wire Control Input connector (ANALOG/Driver)
- **2.** DIN 5-Pin Reverse key Field-wire connectors (Stop/Stop/AUX)
- **3.** DIN 5-Pin Field-wire interface connectors (OUT/DUTY)
- **4.** DIN 5-Pin Control input connector & 5m Cable (IX-B/IX-C)
- **5.** DIN 5-Pin Reverse key connector & 5m Cable (IX-D/IX-E)
- **6.** DIN 4-Pin mini square Output connectors & 5m Cable (OUT/DUTY)
- **7.** Profibus Converter Box for communication interface (0.1mA input current)

### IX Series Metering Pumps

The IX Series meets today's demand for automated chemical delivery in industries from water treatment to chemical processes. Highly precise control offers a solution for a variety of dosing applications.

### 1000:1 Turndown Ratio

IX Series pumps use efficient Brushless DC motors for speed control. High resolution motor control adjusts the discharge and suction speeds to meet a full and accurate turndown ratio up to 1000:1 and flows from 80 GPH (300 L/M) down to 0.002 GPH (7.5 mL/H).

### ±1% High Accuracy

Combined with precise motor control, an efficient valve design maintains accurate flow rates to allow a low-cost, mechanically-driven diaphragm pump to achieve a repeatability of ±1%.

### 70% Energy Savings

Helical gears and return spring reduce power consumption by up to 70% compared to conventional mechanical diaphragm metering pumps.

### High Compression Pump Head Design

A fixed stroke length and proprietary liquid end design maintains high compression during each stroke, resulting in fast priming and no gas-lock at any flow rate up to full rated pressures.
Features

Suction vs. Discharge speed
- Suction speed remains constant. Discharge speed reduces as pump is turned down, helping to reduce pulsation and inertial forces on piping.

Standard Diaphragm Leak Sensor
- Behind the diaphragm, a sensor monitors for any sign of rupture or leakage.

Faulty Operation Detection
- Abnormal operation detection protects the pump and piping during discharge pressure spikes (valve closure) or increases (clogging). Note: In some instances, software may not be able to detect sudden increases in pressure due to a closed discharge. Installation of pressure relief/safety valve is always recommended.

Universal Design
- Multi-voltage operation (100-240VAC) and compliant to UL & CE standards
- Drive/control units each sealed to IP65 ratings

Cavitation Prevention
- The suction speed can be manually lowered for operation with highly viscous liquids or prevention of cavitation.

"Foolproof" Valve Cartridge Design*
- An orientation guide in the suction or discharge ports prevents valve cartridges from being incorrectly installed. * Except C060 and Stainless Steel versions

Automatic Control
- Fully programmable analog or digital proportional control of the pump with Batch and Internal timer control features.

Degassing Assist
- Keypad operation or a contact signal (AUX) runs the pump at the full speed (overriding any mode) assisting in air elimination and priming.

Operation History
- The controller logs total power connect time, operation time, the number of strokes and the number of power-on cycles.

Flexible, User-friendly Interface
IX-B Series
- Customer controller positioning enables adjustment and setting of location on-site.
- Flexible installation of the pump with built-in wall bracket. * Patent Pending (pump base turns into wall bracket)
- 2-line LCD Display with LED backlight
- Multiple display languages
- Larger LED status bar for pump status visibility at distances or in dark locations.

IX-C and IX-D Series
- The controller position can be ordered in 6 positions for operator convenience.
- LCD display with LED backlight
- Multiple display languages.
- Bright LED for indication of pump status.

Materials of Construction
IX-C/D
- Diaphragm: PTFE + EPDM
- Valve seat: TC, TE: EPDM
- Valve gasket: PTFE
- Valve: SUS316

IX-B
- Valve seat: TC, TE: EPDM
- Diaphragm: PTFE + PFA
- Valve guide: PVDF
- Valve: PTFE

NOTES:
- Maximum discharge capacity is rated with clean water at ambient temperature at maximum discharge pressure. Output may increase as pressure decreases.
- Accuracy is not guaranteed at flows below 0.5GPH (2 LPH) for IX-D300S6, 0.26GPH (1 LPH) for IX-C150S6 or 0.11GPH (0.4 LPH) for IX-C060S6.
- Maximum viscosity: (IX-B: 100-250 cP; IX-C/D: 1000 cP; IX-D: 300 cP) (standard pumps - consult factory for higher viscosities).
- Outputs may be reduced.
- Liquid temperature range: 0-50°C (Indoor use only)
- Operating temperature range: 0-55°C (Indoor use only)
- Operating humidity range: 30-90% RH (Non-condensing in the controller)
- Maximum dry suction lift rating is 6.5 ft. (2m).
- Pumps should always be shielded from direct exposure to the elements.

Specifications
<table>
<thead>
<tr>
<th>Model</th>
<th>Capacity Range (GPH)</th>
<th>Max Pressure (Psi)</th>
<th>Average power consumption</th>
<th>Current Amps</th>
<th>Connection Size</th>
<th>Weight lbs (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IX-B007</td>
<td>0.002 - 1.98</td>
<td>247&quot; (1.7)</td>
<td>145 (1.0)</td>
<td>17W</td>
<td>0.4A</td>
<td>TC/TE</td>
</tr>
<tr>
<td>IX-B015</td>
<td>0.004 - 3.98</td>
<td>145 (1.0)</td>
<td>17W</td>
<td>0.4A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX-B030</td>
<td>0.008 - 7.93</td>
<td>87&quot; (0.6)</td>
<td>19W</td>
<td>0.5A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX-B045</td>
<td>0.012 - 11.89</td>
<td>58&quot; (0.4)</td>
<td>17W</td>
<td>0.5A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX-C060</td>
<td>0.02 - 15.8</td>
<td>145 (1.0)</td>
<td>17W</td>
<td>0.8A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX-C150</td>
<td>0.05 - 39.6</td>
<td>58 (0.4)</td>
<td>17W</td>
<td>1.3A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX-D300</td>
<td>0.1 - 7.92</td>
<td>73 (0.5)</td>
<td>17W</td>
<td>4.0A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cavitation Prevention
- The suction speed can be manually lowered for operation with highly viscous liquids or prevention of cavitation.

Automatic Control
- Fully programmable analog or digital proportional control of the pump with Batch and Internal timer control features.

Degassing Assist
- Keypad operation or a contact signal (AUX) runs the pump at the full speed (overriding any mode) assisting in air elimination and priming.

Operation History
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Flexible, User-friendly Interface
IX-B Series
- Customer controller positioning enables adjustment and setting of location on-site.
- Flexible installation of the pump with built-in wall bracket. * Patent Pending (pump base turns into wall bracket)
- 2-line LCD Display with LED backlight
- Multiple display languages
- Larger LED status bar for pump status visibility at distances or in dark locations.

IX-C and IX-D Series
- The controller position can be ordered in 6 positions for operator convenience.
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- Multiple display languages.
- Bright LED for indication of pump status.
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- Behind the diaphragm, a sensor monitors for any sign of rupture or leakage.

Faulty Operation Detection
- Abnormal operation detection protects the pump and piping during discharge pressure spikes (valve closure) or increases (clogging).
  Note: In some instances, software may not be able to detect sudden increases in pressure due to a closed discharge. Installation of pressure relief/safety valve is always recommended.

Universal Design
- Multi-voltage operation (100-240VAC) and compliant to UL & CE standards
- Drive/control units each sealed to IP65 ratings

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- The suction speed can be manually lowered for operation with highly viscous liquids or prevention of cavitation.

"Footpool" Valve Cartridge Design*
- An orientation guide in the suction or discharge ports prevents valve cartridges from being incorrectly installed. *Except C060 and Stainless Steel versions.

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- Customer controller positioning enables adjustment and setting of location on-site.
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- The controller position can be ordered in 6 positions for operator convenience.
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<th>Model</th>
<th>Capacity Range GPH (LPh)</th>
<th>Max Pressure PSI (Mpa)</th>
<th>Average power consumption</th>
<th>Current Amps</th>
<th>Connection Size</th>
<th>Weight lbs (Kg)</th>
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<tbody>
<tr>
<td>IX-B007</td>
<td>0.002-1.98 (0.0075 - 7.5)</td>
<td>247 (1.7)</td>
<td>145 (1.0)</td>
<td>17W</td>
<td>0.4A</td>
<td>9.2 (4.5)</td>
</tr>
<tr>
<td>IX-B015</td>
<td>0.004 - 3.96 (0.015 - 15)</td>
<td>145 (1.0)</td>
<td>127 (0.9)</td>
<td>15W</td>
<td>0.5A</td>
<td>11.0 (5.0)</td>
</tr>
<tr>
<td>IX-B030</td>
<td>0.008 - 7.93 (0.03 - 30)</td>
<td>87 (0.6)</td>
<td>60 (0.4)</td>
<td>12W</td>
<td>0.6A</td>
<td>14.3 (6.5)</td>
</tr>
<tr>
<td>IX-B045</td>
<td>0.012 - 11.89 (0.045 - 45)</td>
<td>115 (0.8)</td>
<td>60 (0.4)</td>
<td>15W</td>
<td>0.7A</td>
<td>16.0 (7.2)</td>
</tr>
<tr>
<td>IX-C060</td>
<td>0.02 - 15.8 (0.08 - 60)</td>
<td>145 (1.0)</td>
<td>127 (0.9)</td>
<td>15W</td>
<td>0.8 A</td>
<td>17.6 (8.0)</td>
</tr>
<tr>
<td>IX-C150</td>
<td>0.05 - 39.6 (0.2 - 150)</td>
<td>58 (0.4)</td>
<td>30 (0.2)</td>
<td>12W</td>
<td>0.8 A</td>
<td>23.1 (10.5)</td>
</tr>
<tr>
<td>IX-D150</td>
<td>0.05 - 39.6 (0.2 - 150)</td>
<td>145 (1.0)</td>
<td>127 (0.9)</td>
<td>15W</td>
<td>1.0 A</td>
<td>23.1 (10.5)</td>
</tr>
<tr>
<td>IX-D300</td>
<td>0.1 - 79.2 (0.4 - 300)</td>
<td>73 (0.5)</td>
<td>60 (0.4)</td>
<td>12W</td>
<td>1.3A</td>
<td>34.2 (15.5)</td>
</tr>
</tbody>
</table>

*CAUTION: Pump may be capable of higher pressure than tubing. Operate pumps at pressures lower than tubing specifications.

NOTES:
- Maximum discharge capacity is rated with clean water at ambient temperature at maximum discharge pressure. Output may increase as pressure decreases.
- Accuracy is not guaranteed at flows below 0.5GPH (2 LPH) for IX-C060S6, 0.260GPH (1 LPH) for IX-C150S6 or 0.110GPH (0.4 LPH) for IX-C60S6.
- Maximum viscosity: IX-B: 100/500 cps  IX-C: 1000 cps  IX-D: 300 cps (standard pumps - consult factory for higher viscosities).
- Output may be reduced.
- Liquid temperature range: 0 - 50°C (TC, TE type), 0-80°C (S6 type). No viscosity change. Non freezing. No slurry.
- Pump may be capable of higher pressure than tubing. Operate pumps at pressures lower than tubing specifications.

Materials of Construction

IX-C/D
- Diaphragm: PTFE + EPDM
- Valve head: SUS316
- Valve seat: SUS316
- Valve guide: PVDF
- Valve: SUS316

IX-B
- Diaphragm: PVDF
- Valve head: SUS316
- Valve seat: SUS316
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- Valve: SUS316

TC, TE Materials

S6 Materials
IX SERIES

1 DRIVE UNIT/PUMP SIZE
BO07: 1.98 GPH (7.5 LPH)
B010: 3.96 GPH (15 LPH)
B030: 7.90 GPH (30 LPH)
B045: 11.80 GPH (45 LPH)
C060: 15.8 GPH (60 LPH)
C150: 28.6 GPH (100 LPH)
D150: 39.9 GPH (150 LPH)
D300: 79.2 GPH (300 LPH)

2 WET END MATERIALS
TG = PVD/FKM/CE
TE = PVD/EPR/CE
S6 = 316SS/PTFE

3 CONNECTIONS
T = Tubing
* N = MNPT (3/8” FNPT on IX-B6)
FA = Flange (ANSI 150 lb)

4 CONTROLLER LOCATION
IX-C Only: Leave Blank for IX-B
TB = Top Back
TP = Top Front
TR = Top Right
TL = Top Left
RF = Right Face*
LF = Left Face*
* No display cover on IX-C

5 POWER CORD
U = USA (115V)
2 = USA (230V)
E = Europe (220V DIN)

6 OPTIONS
- [ ] 4-20mA, 0-20mA, 20-4mA, 20-0mA (Proportional to the flow rate)
- [ ] LCD (backlight, character LCD)
- [ ] Keypad operation
- [ ] Profibus control
- [ ] Interval batch control
- [ ] Batch control
- [ ] Pulse control
- [ ] ANALOG fixed control
- [ ] ANALOG variable control
- [ ] Internal buffer memory
- [ ] Timer
- [ ] Interlock
- [ ] Stop
- [ ] Power supply
- [ ] Extension 3/6 pins: Interface (OUT1/OUT2)

A NEW CLASS OF ADVANCED METERING PUMPS

IX SeriesMetering Pumps

Iwaki’s IX Series Metering Pumps are digitally controlled direct-drive diaphragm pumps. Years of experience in high-end motor technology result in extremely accurate and energy efficient metering pumps with high resolution.

The IX Series meets today’s demand for automated chemical delivery in industries from water treatment to chemical process. Highly precise control offers a solution for a variety of dosing applications.

100:1 Turndown Ratio

IX Series pumps use efficient Brushless DC motors for speed control. High resolution motor control adjusts the discharge and suction speeds to meet a full and accurate turndown ratio up to 100:1 and flows from 80 GPH (300 L/M) down to 0.002 GPH (7.5 mL/H).

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