### EWN-R Series Electromagnetic Metering Pumps

The EWN-R Series electronic metering pumps offer superior high speed dosing capability with more standard features. The flexibility of the EWN-R pump enable it to be integrated into virtually any chemical feed application using a universal-voltage, digital controller with an expanded set of control features. Superb valve performance and advanced solenoid engineering combine to make a highly precise pump for the most demanding applications.

EWN pumps have outputs to 6.7 GPH (25.2 L/h) and a maximum pressure of 250 PSI (17 bar). The high speed of operation results in high resolution chemical feed and long service life. Quiet and compact, the EWN pump prime in seconds and hold prime reliably.

#### High Speed Performance

E-Series pumps operate up to 360 strokes-per-minute with adjustments in 1spm increments, providing high resolution chemical feed. Adjustable stroke length further increases the ability to refine output, making the E-Series one of the most versatile solenoid metering pumps on the market.

#### Multi-function Digital Controller

The controller in the EWN-R pump provides for flexible pump control including scalable Analog control, Digital Input with both Multiply and Divide capability, external stop control, or simple speed and stroke length control. Display of can be adjusted between flow rate units or %speed for easy-to-read output and enables quick adjustment. The controller is universal voltage so it can be used anywhere in the world.

#### Engineered Longevity

All E-Series pumps feature dual bearing support. The armature and shaft are supported with a bearing on each end, which ensures proper axial movement, enabling the E-Series to operate at 360 SPM while extending the life of the diaphragm.

#### Superior Check Valve Performance

Dual Check Valve Assemblies in both suction and discharge fittings feature precision ball guides and tapered seats. Precise machining and molding of parts limit valve ball travel, ensuring that balls fully seat and seal with every stroke. This superior check valve design guarantees fast priming and reliable performance.

#### Flexible Connections

A removable tubing insert provides flexibility of tubing sizes and eliminates twisting of the tubing during connection. A threaded insert can be used in place of the tubing adapter to easily convert any connection to NPT.

#### High Compression Ratio

The compression ratio of a metering pump is important because it affects the pump’s ability to prime and vent. The compression ratio is raised when you reduce the dead volume of the pump head during operation. All E-Series pumps feature a very high compression ratio that ensures proper feed especially with off-gassing products (i.e. Sodium Hypochlorite).

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**Specifications**

<table>
<thead>
<tr>
<th>Construction</th>
<th>High Pressure Model</th>
<th>High Viscosity Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material code</td>
<td>VC</td>
<td>VE</td>
</tr>
<tr>
<td>Wet-end material</td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Wet-end material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wet-end material</td>
<td></td>
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</tr>
</tbody>
</table>

**Wet-end material**

- **material code:** VC/VE
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**Flexible Connections**

- A threaded insert can be used in place of the tubing adapter to easily convert any connection to NPT.

---

**Auto Degassing Valve Model**

- Chemicals that output gases, such as Sodium Hypochlorite or Hydrogen Peroxide, can generate enough gas to gas lock metering pumps. Using a dual check valve system, the Auto Degassing Valve vents any gas to atmosphere to eliminate gas lock conditions and keep the pump primed.

**High Pressure Model**

- The high pressure model is capable of operating at flow rates of 0.4 or 0.8 GPH (15 or 40 mL/min) at a maximum discharge pressure up to 250PSI. This makes it suitable for applications such as chemical injection into boiler makeup water.

**High Viscosity Model**

- The high viscosity model has uniquely designed liquid end with oversized flow paths and spring loaded valve checks. Coupled with a reduced max speed, the RV pumps are designed for polymer/solvent injection in water treatment applications.

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**Engineered Longevity**

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**EWN-R Series Electromagnetic Metering Pumps**

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**Engineered Longevity**

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**High Compression Ratio**

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**Wet End Materials**

<table>
<thead>
<tr>
<th>Model</th>
<th>Pump Head</th>
<th>Diaphragm</th>
<th>Valve</th>
<th>Valve Balls</th>
<th>valve seat</th>
<th>O-ring Seal</th>
<th>Gasket</th>
</tr>
</thead>
<tbody>
<tr>
<td>VC</td>
<td>PVC</td>
<td>PTFE</td>
<td>FKM</td>
<td>FKM</td>
<td>FKM</td>
<td>FKM</td>
<td>PTFE</td>
</tr>
<tr>
<td>PE</td>
<td>PTFE</td>
<td>EPDM</td>
<td>EPDM</td>
<td>EPDM</td>
<td>EPDM</td>
<td>EPDM</td>
<td>EPDM</td>
</tr>
<tr>
<td>VC/VE</td>
<td>PVC/PE</td>
<td>EPDM</td>
<td>EPDM</td>
<td>EPDM</td>
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</tr>
<tr>
<td>SH</td>
<td>SUS316</td>
<td>HC</td>
<td>SUS316</td>
<td>SUS316</td>
<td>SUS316</td>
<td>SUS316</td>
<td>SUS316</td>
</tr>
</tbody>
</table>

**Pump Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>B11</th>
<th>B16</th>
<th>B21</th>
<th>B31</th>
<th>C16</th>
<th>C21</th>
<th>C31</th>
<th>C36</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Output Capacity</td>
<td>GPH</td>
<td>mL/min</td>
<td>38</td>
<td>65</td>
<td>100</td>
<td>200</td>
<td>80</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>mL/shot</td>
<td>0.018-0.1</td>
<td>0.006-0.28</td>
<td>0.014-0.22</td>
<td>0.007-0.36</td>
<td>0.015-0.75</td>
<td>0.231-1.17</td>
<td>0.231-1.44</td>
</tr>
<tr>
<td>Rated discharge pressure</td>
<td>PSI</td>
<td>145</td>
<td>102</td>
<td>58</td>
<td>29</td>
<td>1.0</td>
<td>0.7</td>
<td>0.35</td>
</tr>
<tr>
<td>Max pressure</td>
<td>PSI</td>
<td>203</td>
<td>116</td>
<td>73</td>
<td>33</td>
<td>1.2</td>
<td>0.8</td>
<td>---</td>
</tr>
<tr>
<td>Stroke rate % (rpm)</td>
<td>0.1 to 100 (2 to 1200)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke length % (mm)</td>
<td>20 to 100 (0.2 to 1.25)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Controller Specifications**

- **WN**
  - 0.1 to 100% stroke rate
  - GPH (Gallons)
  - 1 to 0.000
  - STANDARD MULT (Multipurpose)
  - 1 to 9999
  - [AUX](#)
  - [AUX](#)
  - [AUX](#)
  - Display
  - 4 segment 5 digits
  - %, %/L, %/H, GPH, STOP, FRM, AUX etc.
  - [AUX](#)
  - STOP
  - Change the setting, the pump can run when the contact signal comes in.
  - Stop/Pre-stop
  - No voltage contact or open collector

- **EWN**
  - Pump can run when the contact signal comes in.
  - Stop/Pre-stop
  - No voltage contact or open collector

**Dimensions (in inches)**

<table>
<thead>
<tr>
<th>PC/PR/PA/VC/VE/SH 11,16,21 Models</th>
<th>Material for Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>WC</td>
<td>EWN-16, 21</td>
</tr>
<tr>
<td>FC</td>
<td>EWN-36</td>
</tr>
<tr>
<td>SH</td>
<td>EWN-36</td>
</tr>
</tbody>
</table>

**Electrical Specifications**

- 120/240VAC ±10% 0.8 Amp max 1.2 Amp max.
- 60 Hz 1 phase 20 Watt avg 24 Watt avg.

**Safety Certifications**

The EWN series metering pumps are WQA tested and certified to NSF/ANSI Standard 50 and Standard 61.

*See www.wqa.org for specific chemicals and certification parameters.*

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

**Pump Identification**

- **EWN**
  - [EWN-11,16,21](#)
  - [EWN-B](#)
  - [EWN-C](#)
  - [EWN-B](#)
  - [EWN-C](#)

**Controller Identification**

- **WN**
  - [WN](#)
  - [WN](#)
  - [WN](#)
  - [WN](#)
  - [WN](#)
  - [WN](#)

**Controller Specifications**

- Output
  - Photo-MOS relay
  - AC/DC 24V
  - 0.1 A

**Electrical Specifications**

- EWN-11, 16, 21: 8.0 lbs (3.6 kg)
- EWN-31: 7.9 lbs (3.6 kg)
- EWN-36: 6.5 lbs (2.9 kg)
- EWN-B: 10 lbs (4.5 kg)
- EWN-C: 12 lbs (5.5 kg)

**Dimensions (in inches)**

<table>
<thead>
<tr>
<th>Material</th>
<th>H</th>
<th>L</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>EWN-11, 16, 21</td>
<td>8.0</td>
<td>15.4</td>
<td>0.94</td>
<td>0.64</td>
<td>0.92</td>
<td>0.89</td>
</tr>
<tr>
<td>EWN-31</td>
<td>8.0</td>
<td>15.1</td>
<td>0.23</td>
<td>0.67</td>
<td>0.98</td>
<td>0.89</td>
</tr>
<tr>
<td>EWN-36</td>
<td>8.0</td>
<td>15.1</td>
<td>0.27</td>
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<td>0.89</td>
</tr>
<tr>
<td>EWN-31</td>
<td>7.9</td>
<td>15.1</td>
<td>0.94</td>
<td>0.30</td>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>EWN-36</td>
<td>7.9</td>
<td>15.1</td>
<td>0.94</td>
<td>0.30</td>
<td>0.50</td>
<td>0.50</td>
</tr>
</tbody>
</table>

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**Wet End Materials**

- **Pump Head**
  - PVC
  - EPDM
  - EPDM

- **Diaphragm**
  - PVDF
  - PTFE
  - EPDM

- **Valve Balls**
  - FKM
  - EPDM
  - EPDM

- **Valve Seat**
  - C
  - H

- **O-ring Seal**
  - C
  - H

- **Gasket**
  - CE
  - HC

**Valve Specifications**

- **Model**
  - B11
  - B16
  - B21
  - B31
  - C16
  - C21
  - C31

- **Max. Output Capacity**
  - GPH
  - mL/min
  - mL/shot

- **Rated discharge pressure**
  - PSI

- **Max pressure**
  - PSI

- **Stroke rate**
  - % (rpm)

- **Stroke length rate %**
  - % (mm)

**Controller Specifications**

- **Operational Modes**
  - PRIME
  - PC/PE
  - PC/PE

- **Display**
  - LED

- **Power code**
  - B11/16/21/26

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- **EWN**
  - 120-240VAC ±10% 0.8 Amp max. 1.2 Amp max.

- **EWN-B**
  - 180-265VAC ±10% 0.8 Amp max. 1.2 Amp max.

- **EWN-C**
  - 12 lbs (5.5 kg)

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