THE HIGHEST PERFORMING DRIPLINE IN THE INDUSTRY

TECHLINE COPPER™

THREE Levels of Protection Against Root Intrusion

1. NEW CUPRON® COPPER STRIPE
   Copper oxide is integrated into the dripline stripe providing the first level of protection.

2. CUPRON® COPPER EMITTER
   Copper oxide is embedded into the emitter providing the second level of protection.

3. PHYSICAL ROOT BARRIER
   Offset flow path, extra large bath area and raised outlets provide the third level of protection.
MAXIMUM DEFENSE AGAINST ROOT INTRUSION

Roots are one of the biggest threats against a high performing drip system, they can enter the outlet hole reducing or blocking flow. Cupron® copper oxide (Cu₂O) technology effectively deters roots from entering the dripline. During manufacturing, the copper oxide is infused into the emitter and stripe of the dripline through a patent-pending process which ensures that the copper will remain embedded for the life of the product. It will not wash off, wear off or leach out.

Netafim sets the bar for innovation in drip irrigation with Copper. Cupron® copper oxide-based technology allows for maximum performance. The integration of copper oxide in the external stripe and internal emitter, and the unique patented emitter design with physical root barrier provides three levels of protection, giving your system the best defense against root intrusion, inside and out.

WIDE COPPER STRIPE SHIELDS AGAINST ROOT INTRUSION

• Wide stripe design makes it easy to identify the dripline as Techline Copper
• Embedded Cupron® provides a layer of defense against root intrusion
• Cupron® copper oxide (Cu₂O) technology will not wash out, wear off or leach out. Remaining effective throughout the life of the product
• Cupron® copper oxide is approved for use by the EPA ensuring peace of mind

RELIABILITY WITH THE INDUSTRY’S LONGEST WARRANTY

Netafim stands behind Techline Copper with an unprecedented warranty to be free of emitter plugging due to root intrusion for a period of 15 years from the date of original delivery.

POWER OF CUPRON® COPPER OXIDE ANTIMICROBIAL TECHNOLOGY

Copper is used in many industries for its antimicrobial properties and is recognized by the United States Environmental Protection Agency (US EPA) as the first antimicrobial metal. It is an essential nutrient for humans and bacteria, but in specific concentrations, it can serve as an antimicrobial agent.

Cupron’s proprietary technology is impregnated at specific concentrations to our patent pending process ensuring it remains effective throughout the life of the product.
TECHLINE DRIPLINE
HIGHEST PERFORMING DRIPLINE IN THE INDUSTRY

Netfim Techline driplines provide a wide range of CV emitter options to address a variety of installation requirements from flat surfaces, slopes to subsurface.

CHECK VALVE
High check valve holds back 8.5’ of water for distribution uniformity

CONTINUOUS SELF FLUSHING EMITTER
Flushes debris as it’s detected

LASER ETCHING
Model number laser etched on dripline

ANTI-SIPHON
Prevents debris from entering the emitter outlet at system shut-down. Surface and subsurface installations don’t require air relief valves

ONE PIECE DRIPLINE CONSTRUCTION
Reliable, easy installation

PRESSURE COMPENSATING
Delivers precise, equal amounts of water over a broad pressure range

FLEXIBLE UV RESISTANT TUBING
Bending radius of 7” adapts to any planting area shape

15 YEAR WARRANTY
Free of emitter plugging due to root intrusion from the date of original delivery. Refer to the Landscape & Turf Catalog for details.

MORE PROTECTION AGAINST CLOGGING
The large surface area of the filter increases longevity and prevents dirt particles from settling in the dripper.

APPLICATIONS
- Subsurface or on-surface
  - Turf, shrubs, trees and flowers
  - Sports turf, tennis courts, golf courses
  - Slopes
  - Curved, angular or narrow planting areas
  - High traffic/high liability areas
  - Areas subject to vandalism
  - At-grade windows
  - Green walls, green roofs
  - Raised planters

SPECIFICATIONS
- Emitter flows: 0.33, 0.53, 0.77, 1.16 GPH
- Emitter spacings: 12”, 18”, 24” (24” spacing available on 1,000 coils only)
- Maximum system pressure: 58 psi
- Minimum pressure: 21.8 psi
- Tubing diameter: 0.66” OD; 0.56” ID, 0.05” wall
- Coil lengths: 100’, 250’, 500’, 1,000’
- Recommended filtration: 120 mesh
- Diaphragm: molded silicon

RECYCLED CONTENT
Techline Copper qualifies for LEED credit 4.2 as it contains a minimum of 20% polyethylene post-consumer recycled material.

GENERAL GUIDELINES

<table>
<thead>
<tr>
<th>SOIL</th>
<th>TURF</th>
<th>SHRUB &amp; GROUNDCOVER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CLAY</td>
<td>LOAM</td>
</tr>
<tr>
<td>Emitter Flow</td>
<td>0.33 GPH</td>
<td>0.53 GPH</td>
</tr>
<tr>
<td>Emitter Spacing</td>
<td>18”</td>
<td>12”</td>
</tr>
<tr>
<td>Lateral (Row) Spacing</td>
<td>18”</td>
<td>20”</td>
</tr>
<tr>
<td>Burial Depth</td>
<td>Buried evenly throughout the zone from 4” to 6”</td>
<td>On-surface or buried evenly throughout the zone to a maximum of 6”</td>
</tr>
<tr>
<td>Application Rate (Inches/Hour)</td>
<td>0.24</td>
<td>0.21</td>
</tr>
<tr>
<td>Time to Apply ¼” of Water (Minutes)</td>
<td>64</td>
<td>71</td>
</tr>
</tbody>
</table>

Following these maximum spacing guidelines, emitter flow selection can be increased if desired by the designer. 1.16 GPH flow rate available for areas requiring higher infiltration rates, such as coarse sandy soils.
### TECHNICAL INFORMATION

#### FLOW PER 100 FEET

<table>
<thead>
<tr>
<th>Emitter Spacing</th>
<th>0.33 Emitter</th>
<th>0.53 Emitter</th>
<th>0.77 Emitter</th>
<th>1.16 Emitter</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPH</td>
<td>GPM</td>
<td>GPH</td>
<td>GPM</td>
<td>GPH</td>
</tr>
<tr>
<td><strong>12”</strong></td>
<td>33.0</td>
<td>0.55</td>
<td>53.0</td>
<td>0.88</td>
</tr>
<tr>
<td><strong>18”</strong></td>
<td>22.0</td>
<td>0.37</td>
<td>35.3</td>
<td>0.59</td>
</tr>
<tr>
<td><strong>24”</strong></td>
<td>16.5</td>
<td>0.28</td>
<td>26.5</td>
<td>0.44</td>
</tr>
</tbody>
</table>

#### FLOW RATE VS. PRESSURE

- 1.16 GPH open at 21.8 psi and close at 3.64 psi.

#### MAXIMUM LENGTH OF A SINGLE LATERAL (FEET)

<table>
<thead>
<tr>
<th>Emitter Spacing</th>
<th>12”</th>
<th>18”</th>
<th>24”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EMITTER FLOW (GPH)</strong></td>
<td><strong>25 psi</strong></td>
<td><strong>30 psi</strong></td>
<td><strong>40 psi</strong></td>
</tr>
<tr>
<td>0.33</td>
<td>237</td>
<td>230</td>
<td>211</td>
</tr>
<tr>
<td>0.53</td>
<td>173</td>
<td>167</td>
<td>155</td>
</tr>
<tr>
<td>0.77</td>
<td>136</td>
<td>128</td>
<td>118</td>
</tr>
<tr>
<td>1.16</td>
<td>103</td>
<td>97</td>
<td>89</td>
</tr>
</tbody>
</table>

#### SPECIFYING & ORDERING INFORMATION

**TLHCVXR3-1210**

**SAMPLE MODEL NUMBER**

**1. Emitter Flow Rate**
- 0.33 GPH = 3
- 0.53 GPH = 5
- 0.77 GPH = 7
- 1.16 GPH = 11

**2. Emitter Spacing**
- 12” = 12
- 18” = 18
- 24” = 24

**3. Coil Length**
- 100’ = 01
- 250’ = 025
- 500’ = 05
- 1,000’ = 10

**4. Ordering Information**

<table>
<thead>
<tr>
<th>Flow Rate</th>
<th>Flow Code</th>
<th>Emitter Spacing</th>
<th>Coil Length</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.33 GPH</td>
<td>3</td>
<td>12”</td>
<td>100’</td>
<td>TLHCVXR-1201</td>
</tr>
<tr>
<td>0.53 GPH</td>
<td>5</td>
<td>18”</td>
<td>250’</td>
<td>TLHCVXR-1202</td>
</tr>
<tr>
<td>0.77 GPH</td>
<td>7</td>
<td>18”</td>
<td>1,000’</td>
<td>TLHCVXR-1810</td>
</tr>
<tr>
<td>1.16 GPH</td>
<td>11</td>
<td>24”</td>
<td>1,000’</td>
<td>TLHCVXR-2410</td>
</tr>
</tbody>
</table>

**5. Blank Tubing**

- 100’ TLHCVXR-001
- 250’ TLHCVXR-0025
- 500’ TLHCVXR-005
- 1,000’ TLHCVXR-010

*Substitute X in the Model Number with Flow Code.*