SMARTEnds

Advanced Hygienic Plumbing: Serial and Loop Installations

ELIMINATE DEAD LEGS

MLC Press-Fit

Q&E® Shrink-Fit™ PLUMBING SYSTEM

www.uponor.co.uk
Designed for hygiene

Loop and serial installations are more hygienic than traditional T-piece systems because the risk of standing or stagnant water is significantly minimised. Serial installations have no dead legs, fewer fittings and connections, and the total pipe length is easier to calculate.

A loop installation has the similar advantage of no dead legs, fewer connections and fewer fittings. In addition, there is no variance with the pipe dimensions and it is independent from outlet positioning.

Designed for flexibility

Newly developed, fully revised and with many new features provided – with the new port components and a novel fastening technology installation is quicker, flexible and thus economically efficient.

A wall washer – several mounting options: both surface mount, as well as mounting plates, rails and sets installed. Flexible use: all mounting brackets and plates compatible. Facilitates site work: pre-assembled mounting kits are available in different versions.
• Less Fittings
• Easy Install
• More Mounting Possibilities
• Eliminate Dead Legs
• Improved Flow Rates
• Soundproof Pipe System
• Smart Finish
• Easily Maintained System
• Available for all Uponor Plumbing Systems

1. Fix bracket
2. Position and fix smart end
3. Fix pipe
4. Plug and test
5. Finish wall
6. Add extensions if required
7. Add tap connector
Serial Installation

The serial installation prevents the collection of stagnation water in the feed lines of consumers that are rarely in use, e.g. outdoor taps in a single-family home, or a washing machine connection in the shared laundry of a multi-family property.

In this system, the consumers are connected by means of Uponor U-end elbows that are routed directly to the next consumer, therefore excluding any stagnation of the water in the system if the plan is to install the consumer that is used most frequently, usually the toilet flushing or basin at the end of the serial installation. This means that the last consumer propagates the exchange of water at the upstream piping and taps.

The Uponor prefab press tap elbows and mounting panels, rails and sets support the flexible and rapid serial installation, while reducing piping material and making it relatively simple to route the piping.

The pressure loss is lower when consumers that demand the highest total flow rate are positioned at the start and not at the end of the piping segment.
Loop Installation

The Uponor U-end elbows are also used to connect the taps to the loop installation and to route the multi layer composite pipes directly to the next tap.

However, the piping is routed back from the last object to the riser pipe. The loop installation system is therefore hygienically impeccable, thanks to the optimized turnover of water in the piping.

In order to achieve a consistent hygienic flow in the loop installation, it is advisable to select a pipe with the same diameter as far as possible and less than that of the serial installation, as the objects are supplied from both sides.

Compared to the serial installation, the lower pressure losses allows you to significantly increase the number of tap outlets per installation system.

However, as this renders the planning and calculation processes slightly more complex, you may rely on the building technology software Uponor HSE that provides you with support when engineering the project.
SmartEnds Elbow Range
For Uponor Tap Water System

Your benefits:
- Easier handling
- Greater flexibility
- Better fixation
- Optimized portfolio

One hand installation
The NEW fixation design allows fixation of the new Smart End Elbows onto the new mounting plates, angles and tracks much easier using just “one hand.” Try it!

Seal cover on the screw tip will hold the screw in place. Preventing it from slipping out during the Smart End Elbow installation process.

More mounting possibilities
Use the NEW design Smart End Elbows for both: on wall direct mounting or mounting onto the new mounting plates, angles and tracks.

Easier positioning
The new guiding pins allow for simple quick positioning. Choose an installation angle and put the Smart End Elbow onto a mounting plate, angle or track.

Less items
Smart End Elbow Range is created to use less items and cover more installation options.

WHOLESALEERS:
- Less items in portfolio
- Less lead time

INSTALLERS:
- Less stock in the van
- Less items to carry

Less is more
- Compatible with all new mounting plates, angles and tracks
- Sound insulation
- Longer pins and screws

U-profile tap elbow
New U-profile tap elbow perfectly fits into hygiene oriented and water flow rate optimized installations using different loop installation methods.

- Use the same Smart End Elbow fixation solution
- Improved profile design allowing better flow rate
- Simpler and more flexible installation
Serial Installation
Product selector

Smart End Brackets
1057842 In wall
1057840 On wall
1057844 Universal

Smart End Shower nipple connectors
1036151 1/2 x 3/4 plain
1036150 1/2 Chrome Cover

Smart End Flexis
1072100 1/2 x 1/2

Smart End
Q&E
MLC Press
RTM

Smart End Angle Valve
1072098 10mm outlet
1072098 3/8 outlet
1072099 1/2 outlet
1072099 12mm outlet

Loop Installation
Product selector

Smart End Brackets
1057842 In wall
1057840 On wall
1057844 Universal

Smart End Shower nipple connectors
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1036150 1/2 Chrome Cover

Smart End Flexis
1072100 1/2 x 1/2

Smart End Angle Valve
1072098 10mm outlet
1072098 3/8 outlet
1072099 1/2 outlet
1072099 12mm outlet

20 X 16 X 16 Tee position
### Uponor MLC Smart End

#### Press tap elbow

Made of plated brass, with fixed press sleeve and smart end backplate. XL denotes extended length body. For use with MLC Smart End mounting brackets. See page 35.

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>16x½”</td>
<td>1015345</td>
<td>10</td>
</tr>
<tr>
<td>20x½”</td>
<td>1015512</td>
<td>10</td>
</tr>
<tr>
<td>20x¾”</td>
<td>1015515</td>
<td>5</td>
</tr>
<tr>
<td>25¾”</td>
<td>1048471</td>
<td>5</td>
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<tr>
<td>16x½” XL</td>
<td>1046332</td>
<td>5</td>
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<tr>
<td>20x½” XL</td>
<td>1046333</td>
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#### Press U-tap elbow

For use with MLC Smart End mounting brackets. See page 35.

<table>
<thead>
<tr>
<th>Description</th>
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<th>Qty</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>20x½” FT x16</td>
<td>1060097</td>
<td>5</td>
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<tr>
<td>20x½” FT x20</td>
<td>1060096</td>
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#### Press U-tap elbow mixer

For use with MLC Smart End mounting brackets. See page 35. Use with in wall mixers.

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
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<td>¾” MT x20x20</td>
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#### RTM U-Tap Female Elbow

For use with MLC Smart End mounting brackets. See page 35.

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
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<tbody>
<tr>
<td>16mmx½” FT</td>
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</tr>
<tr>
<td>20mmx½” FT</td>
<td>1061622</td>
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</table>

#### RTM U-Tap Male Elbow Mixer

For use with MLC Smart End mounting brackets. See page 35.

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>16mmx½” MT</td>
<td>1062221</td>
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</table>
Uponor MLC Smart End

**Q&E Tap elbow**  NEW

For use with MLC Smart End mounting brackets. See page 35.

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
<th>Qty</th>
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</thead>
<tbody>
<tr>
<td>16½&quot; FT</td>
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<td>5</td>
</tr>
<tr>
<td>20¹⁄₂&quot; FT</td>
<td>1059823</td>
<td>5</td>
</tr>
</tbody>
</table>

**Q&E U-tap elbow**  NEW

For use with MLC Smart End mounting brackets. See page 35.

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
<th>Qty</th>
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<tbody>
<tr>
<td>16½&quot; FTx16</td>
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<td>5</td>
</tr>
<tr>
<td>20¹⁄₂&quot; FTx20</td>
<td>1059821</td>
<td>5</td>
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</tbody>
</table>

**Q&E U-tap elbow mixer**  NEW

For use with MLC Smart End mounting brackets. See page 35.

<table>
<thead>
<tr>
<th>Description</th>
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<th>Qty</th>
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<tr>
<td>16½&quot; MTx16</td>
<td>1060344</td>
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**Mounting plate**

For use with Smart wall elbows. Designed for on-wall mounting. Allows tap connections with 75mm or 150mm spacings. Supplied with 2 insert pins and screws per plate.

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
<th>Qty</th>
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</thead>
<tbody>
<tr>
<td>75/150mm</td>
<td>1057840</td>
<td>5</td>
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</tbody>
</table>

**Mounting angle**

For use with Smart wall elbows. Designed for in-wall mounting and flush finish. Allows tap connections with 75mm or 150mm spacing. Supplied with 2 inserts pins and screws per angle.

<table>
<thead>
<tr>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>75/150mm</td>
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</tbody>
</table>

**Mounting track**

For use with Smart wall elbows, on-wall or in-wall construction, with mounting steps every 75mm.

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>2000mm</td>
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</table>
### Uponor MLC Smart End Accessories

#### Flexible hose

- **Description**: Used with isolation angle valve.

<table>
<thead>
<tr>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>½” FT x ½” FT</td>
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</table>

#### Isolation angle valve

- **Description**: Uponor Smart End angled isolation valves complete with isolation. With threaded adaptation on the outlet. Made of chrome.

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>½” MT x ½” MT</td>
<td>1072098</td>
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</tr>
<tr>
<td>½” MT x 1/2” MT</td>
<td>1072099</td>
<td>2</td>
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</tbody>
</table>

#### Insert pins and screws for mounting track

- **Description**: For attachment of Smart End wall elbows to mounting plate/angle/track. Set contains 10 insert pins and 10 screws.

<table>
<thead>
<tr>
<th>Description</th>
<th>Code</th>
<th>Qty</th>
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</thead>
<tbody>
<tr>
<td>Set contains 10 insert pins and 10 screws</td>
<td>1057847</td>
<td>1</td>
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</table>

#### Sound protection set

- **Description**: For sound insulation of a pair of Smart End elbows. Contains shroud, baffle, insert pin and screw.

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Set contains shroud, baffle, insert pin and screw</td>
<td>1057846</td>
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</table>

#### U-tap elbow sound protection set **NEW**

- **Description**: For sound insulation of a pair of Smart End elbows. Contains shroud, baffle, insert pin and screw.

<table>
<thead>
<tr>
<th>Description</th>
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<tr>
<td>U-tap elbow sound protection</td>
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</tr>
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</table>

#### Inlet piece **NEW**

- **Description**: Use with Smart End in wall mixer connecting nipple.

<table>
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<td>½” x ¾ x 75mm</td>
<td>1036151</td>
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Q&E Shrink-Fit™
PLUMBING SYSTEM

- Pushfit alternative
- Fast and simple to install
- More watertight and durable
- Superior water flow
- Universal and comprehensive
- 3,000 million metres installed worldwide

MLC Press Fit

- Copper replacement
- Fewer connections
- Inherent flexibility
- Formstable
- No hot works
- Designed to deliver fast and clean installations
Codes of Practice

The following Standards apply in the design and installation of plastic pipes for heating and hot/cold water applications:

**BS EN 12828:2003**
Heating systems in buildings. Design for water-based heating systems.

**BS EN 12831:2003**
Heating systems in buildings. Method of calculation of the design heat load.

**BS 6700:2006**
Specification for design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages - specification.

**Note:** BS 6700 is to be withdrawn and replaced by a new British Standard BS EN 806 parts 1-5, which is currently under development, as is BS 8558, which will be a supplement and guide to BS EN 806.

**BS 5449:1990**
(Withdrawn & replaced by BS EN 12828, but included for reference) Specification for forced circulation hot water central heating systems for domestic premises.

**BS 5955-8:2001**

**BS 8000-15:1990**
Workmanship on building sites. Code of practice for hot and cold water services (domestic scale).

**PAS 33:1999**
Specification for the design, installation and commissioning of gas fired central heating systems in domestic premises.

**Water Industry Act 1991**

**The Building Regulations 2010**
(Including approved documents G and L).

For more information, please visit www.uponor.co.uk