

KEMBLA PEX

Flow Simplicity Synergy **PRESS**



Flow Simplicity Synergy

KEMBLA PEX PRESS

- PE-Xa is a robust and reliable piping system rated for normal operation at 1000kPa and 70°C, resulting in a service life of 50+ years, however the maximum operating temperature is 95°C.
- Solid DZR Brass fittings with robust copper rings with inspection windows and the longest joining barb on the market ensures a water tight join every time.
- Kembla Pex Press has no O'Rings which results in increased bore size and better flow and removes the risk of installer error because of dirty, damaged or dislodged O'Rings.
- Simple Press jointing system results in quick and simple installation.
- The Kembla Pex Press system complies with Australian Standards AS2537 and AS2492 and is backed by Kembla's ISO9001 quality system and approved by SAI Global.
- Kembla Pex Press DZR fittings are forged brass resulting in superior mechanical properties with greater fatigue resistance.
- Kembla Eco-Flow provides a simple and effective water delivery system that saves water and energy and delivers balanced pressure and excellent flow.
- Kembla Pex carries a 25 year warranty and is covered by Kembla's comprehensive insurance cover.



Quality Piping Systems Since 1916

tel: 0800 KEMBLA | fax: 0064 9 274 0347 | www.kembla.co.nz
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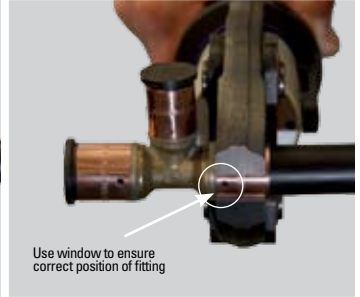
SIMPLE INSTALLATION



1. Cut pipe at right angle



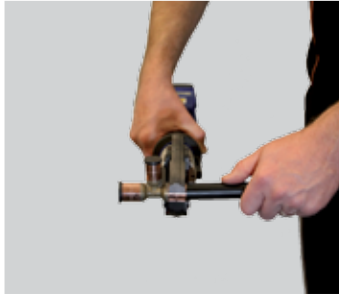
2. Insert fitting



3. Observe window for correct position of fitting



4. Position crimping tool



5. Crimp fitting



6. Test with Kembla Press gauge



Romax Battery Crimping Tool



Manual Crimping Tool



REMS Crimping Tool

Tooling • Kembla Pex Press requires a crimp type tool to press the joints. Kembla Pex Press has available 3 types of tooling including a battery tool. Other brands of press tooling may be suitable for Kembla Pex Press, please consult your Kembla representative.



MM Kembla NZ Ltd warrants Kembla Gas pipes and fittings for a period of 25 years against faulty materials or workmanship.

*Please refer to the Kembla Pex technical manual for conditions.

PIPE TECHNICAL DATA

| | Potable Water Pex - Black | Under Floor Pex EVOH - Pink | Recycled Water Pex - Lilac | Rain Water Pex - Green |
|---|---------------------------|-----------------------------|----------------------------|------------------------|
| Operating Pressure (Max) | 1000kPa | 1000kPa | 600kPa | 1000kPa |
| Operating Temperature (Max) | 95°C | 95°C | 95°C | 95°C |
| Material | PE-Xa | PE-Xa Coated with EVOH | PE-Xa | PE-Xa |
| Linear Thermal Expansion Co-Efficient | 0.15 | 0.15 | 0.15 | 0.15 |
| Thermal Conductivity | .35 W/mk | .35 W/mk | .35 W/mk | .35 W/mk |
| Pipe Roughness | .007mm | .007mm | .007mm | .007mm |
| Maximum Bending Radius with preformed bend | 4 x d | 4 x d | 4 x d | 4 x d |
| Maximum Bending Radius without preformed bend | 8x d | 8 x d | 8 x d | 8 x d |
| Oxygen Diffusion | | Impervious | | |

Handling and Storage

- UV radiation can damage PE-Xa pipes, so always protect Kembla Pex pipe from direct sunlight.
- Avoid damage to the pipe surface from dragging pipes across rough surfaces.
- Protect uninstalled pipes from ingress of harmful liquids.
- Protect DZR fittings from corrosion.

Water Quality

Kembla Pex fittings are made from high quality DZR brass which provides good resistance to corrosive water conditions. However, if water conditions are outside the NZ drinking water guidelines of pH 6.5 - 8.5, Kembla Pex DZR fittings should not be used without consulting Kembla.

Minimum Bending Radius

A profile bend holds Kembla Pex in a secure 4 x diameter bend, profile bends are recommended especially on hot lines to ensure that the tube does not kink. The maximum bend radius when not using a profile bend is 8 x diameter.

O - Diameter = 20mm
R - Radius = 80mm



PRESSURE LOSS - PN20 RATED PIPE

Cold Water at 25°C

| Peak Flow Rate Qs (l/s) (1.01 to 0.50) | ø16mm 2.2mm wall Head Loss (kPa/m) | ø20mm 2.8mm wall Head Loss (kPa/m) | ø25mm 3.5mm wall Head Loss (kPa/m) | ø32mm 4.4mm wall Head Loss (kPa/m) |
|--|---|---|---|---|
| 0.05 | 0.3467 | 0.1244 | - | - |
| 0.10 | 1.1655 | 0.4140 | 0.1431 | 0.0428 |
| 0.15 | 2.3941 | 0.8458 | 0.2904 | 0.0866 |
| 0.20 | 4.0088 | 1.4092 | 0.4821 | 0.1432 |
| 0.25 | 5.9970 | 2.1002 | 0.7165 | 0.2123 |
| 0.30 | 8.3508 | 2.9147 | 0.9910 | 0.2929 |
| 0.35 | 11.0641 | 3.8503 | 1.3059 | 0.3847 |
| 0.40 | 14.1323 | 4.9049 | 1.6594 | 0.4877 |
| 0.45 | - | 6.0771 | 2.0518 | 0.6021 |
| 0.50 | - | 7.3655 | 2.4814 | 0.7267 |

Hot Water at 60 °C

| Peak Flow Rate Qs (l/s) (0.01 to 0.50) | ø16mm 2.2mm wall Head Loss (kPa/m) | ø20mm 2.8mm wall Head Loss (kPa/m) | ø25mm 3.5mm wall Head Loss (kPa/m) | ø32mm 4.4mm wall Head Loss (kPa/m) |
|--|---|---|---|---|
| 0.05 | 0.2913 | 0.1034 | 0.0357 | 0.0106 |
| 0.10 | 1.0003 | 0.3522 | 0.1205 | 0.0357 |
| 0.15 | 2.0807 | 0.7272 | 0.2476 | 0.0731 |
| 0.20 | 3.5178 | 1.2224 | 0.4143 | 0.1218 |
| 0.25 | 5.3035 | 1.8346 | 0.6187 | 0.1815 |
| 0.30 | 7.4333 | 2.5608 | 0.8606 | 0.2516 |
| 0.35 | 9.9032 | 3.4002 | 1.1395 | 0.3317 |
| 0.40 | 12.713 | 4.3513 | 1.4538 | 0.4223 |
| 0.45 | - | 5.4129 | 1.8041 | 0.5229 |
| 0.50 | - | 6.5847 | 2.1894 | 0.6330 |

Pipe Supports

- Fixing of Kembla Pex must comply with AS/NZS3500.
- Hot water lines must be fixed as to allow for thermal linear expansion.
- Never fix a clip directly onto DZR brass fittings.

Horizontal Pipes

Clip Spacing

| Pipe ø | (metres) |
|--------|----------|
| 16mm | 0.60 |
| 20mm | 0.70 |
| 25mm | 0.75 |
| 32mm | 0.85 |

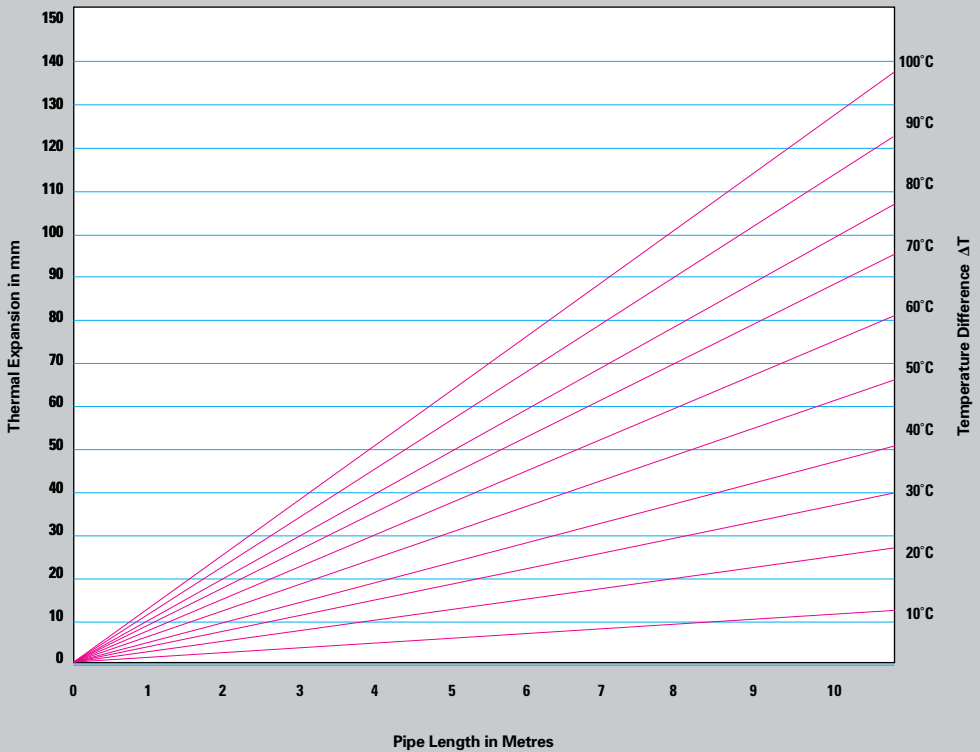
Vertical Pipes

Clip Spacing

| Pipe ø | (metres) |
|--------|----------|
| 16mm | 1.20 |
| 20mm | 1.40 |
| 25mm | 1.50 |
| 32mm | 1.70 |

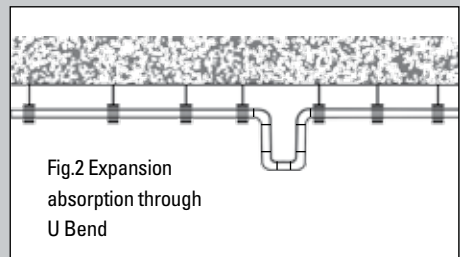
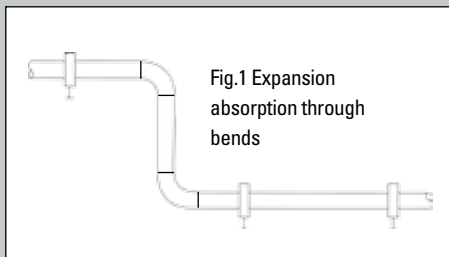
Horizontal hot water lines may require closer clip spacing to maintain straight lines and avoid sagging.

EXPANSION AND CONTRACTION



Expansion

Kembla Pex will expand with heat so allowance must be made for expansion in the system. The use of anchor points can ensure the expansion occurs in the desired direction. By securely clipping to one side of a fitting, expansion will occur in the opposite direction. All other clips and holes through which Kembla Pex passes should allow the pipe to slide longitudinally. For long runs on the hot water service an offset bend Fig.1 or U bend Fig.2 may be required.



Thermal Insulation

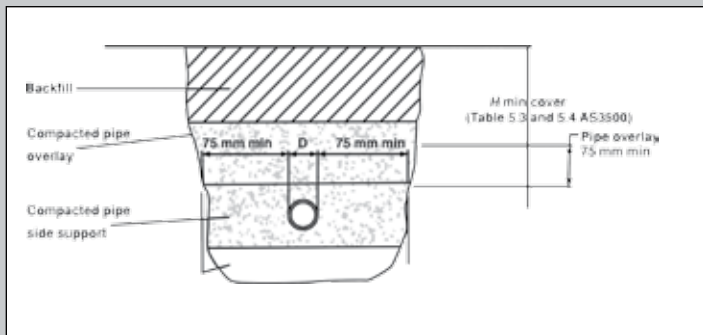
Although Kembla Pex has excellent insulating properties local authorities may require further insulation to reduce heat loss. Kembla Pex should be insulated against freezing conditions to reduce the chances of damage to the pipe work. In extreme conditions it is not possible to prevent static water freezing, so if not in use the complete system should be drained.

Water heaters and Uncontrolled Heating Sources.

Kembla Pex for potable water systems are designed to operate within a tempering valve controlled hot water system limited to max 70°C. Although Kembla Pex has a maximum operating temperature of 95°C and will survive a short period of 100°C, this situation is not recommended and would only occur in the event of a tempering valve failing. Connection of Kembla Pex to a water heater must comply with AS3500 and connect via a minimum 1 metre of copper pipe. Kembla Pex is not suitable for flow and return lines of solar panels as temperatures can reach 140°C.

In Ground Installation

Kembla Pex has an excellent notch resistance and can be laid underground instead of standard PE water mains. Installations must comply with AS3500 and Local Authority requirements. Kembla Pex must always be protected from UV radiation, frost, high temperatures and crushing. If Kembla Pex fittings are installed underground they should be adequately protected from corrosive soil conditions and be buried a minimum of 300mm if freezing is a risk as per AS3500.



Pressure Testing Installations

- Testing of Kembla Pex installed systems must comply with AS3500 and local body requirements.
- Check all fittings visually to ensure all rings are crimped, then test with Kembla Pex Go-Nogo gauge.
- Pressure test the water filled system (without air pockets) at 1500kPa for 30 minutes.
- Ensure no pressure leakage has occurred.
- Inspect joints again visually.
- Flush pipes again thoroughly.

KEMBLA PEX PRESS RANGE

Plumbing

| | Diameter | Wall | Length & Code | |
|------------------|----------|-------|-----------------|-------------|
| Black Pex | 16mm | 2.2mm | 100m PEX016C100 | 5m PEX016L5 |
| | 20mm | 2.8mm | 100m PEX020C100 | 5m PEX020L5 |
| | 25mm | 3.5mm | 50m PEX025C50 | 5m PEX025L5 |
| | 32mm | 4.4mm | 50m PEX032C50 | 5m PEX032L5 |

Recycled Water

| | | | |
|------------------|------|-------|--------------------|
| Lilac Pex | 16mm | 2.2mm | 50m PEX016C50LILIC |
| | 20mm | 2.8mm | 50m PEX020C50LILIC |

Underfloor EVOH

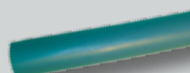
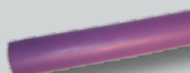
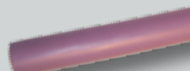
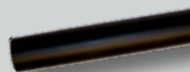
| | | | | |
|-----------------|------|-------|-------------------|-------------------|
| Pink Pex | 16mm | 2.2mm | 200m PEVOH016C200 | 500m PEVOH016C500 |
| | 20mm | 2.8mm | 200m PEVOH020C200 | |

Pex in conduit for under slab

| | | | |
|-----------------------------|------|-------|-------------------|
| Black Pex in conduit | 16mm | 2.2mm | 50m PEX016C50COND |
| | 20mm | 2.8mm | 50m PEX020C50COND |
| | 25mm | 3.5mm | 50m PEX025C50COND |
| | 32mm | 4.4mm | 25m PEX032C25COND |

Rainwater Pex

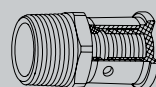
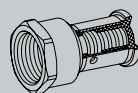
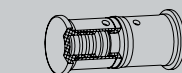
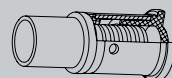
| | | | |
|------------------|------|-------|-------------------|
| Green Pex | 16mm | 2.2mm | 50m PEX016C50RAIN |
| | 20mm | 2.8mm | 50m PEX020C50RAIN |



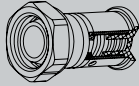
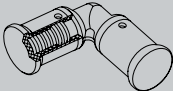
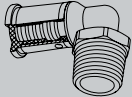
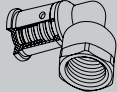
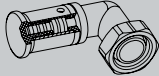
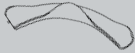
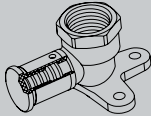
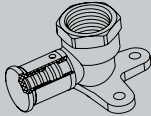
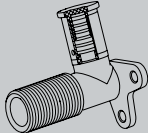
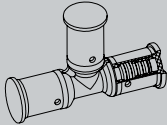
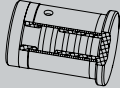

PRESS FITTINGS RANGE

Connectors

| | | |
|--|--|---------|
| PCB016H20 PCB020H20 | 16mm connecting barb | 10 pack |
| | 20mm connecting barb | 10 pack |
| PCC016H20 PCC020H20 PCC025H20 PCC032H20 | 16mm connector | 10 pack |
| | 20mm connector | 10 pack |
| | 25mm connector | 10 pack |
| | 32mm connector | 10 pack |
| PRR02016H20 PRR02516H20 PRR02520H20 PRR03225H20 | 20mm x 16mm reducing connector | 10 pack |
| | 25mm x 16mm reducing connector | 10 pack |
| | 25mm x 20mm reducing connector | 10 pack |
| | 32mm x 25mm reducing connector | 5 pack |
| PCC016FTH20 PCC020FTH20 | 16mm connector x 1/2" female thread | 10 pack |
| | 20mm connector x 3/4" female thread | 10 pack |
| PCC016MTH20 PCC016MT20H20 PCC020MT15H20 PCC020MTH20 PCC025MT20H20 PCC025MTH20 | 16mm straight connector x 1/2" male thread | 10 pack |
| | 16mm straight connector x 3/4" male thread | 10 pack |
| | 20mm straight connector x 1/2" male thread | 10 pack |
| | 20mm straight connector x 3/4" male thread | 10 pack |
| | 25mm straight connector x 3/4" male thread | 5 pack |
| | 25mm straight connector x 1" male thread | 5 pack |



PRESS FITTINGS RANGE

| | | | | |
|--------------------|--|--|--|--|
| | PCC032MT25H20 | 32mm straight connector x 1" male thread | 5 pack | |
| | PCC032MTH20 | 32mm straight connector x 1-1/4" male | 5 pack | |
| | PSC016H20 | 16mm x 1/2" swivel nut connector | 10 pack |  |
| | PSC020H20 | 20mm x 3/4" swivel nut connector | 10 pack | |
| | PSC025H20 | 25mm x 1" swivel nut connector | 5 pack | |
| | PSC032H20 | 32mm x 1 1/4" swivel nut connector | 5 pack | |
| Elbows 90° | PEN016H20 | 16mm 90° elbow | 10 pack |  |
| | PEN020H20 | 20mm 90° elbow | 10 pack | |
| | PEN025H20 | 25mm 90° elbow | 5 pack | |
| | PEN032H20 | 32mm 90° elbow | 5 pack | |
| | PEN016MTH20 | 16mm 90° elbow x 1/2" male thread | 10 pack |  |
| | PEN020MTH20 | 20mm 90° elbow x 3/4" male thread | 10 pack | |
| | PEN020MT15H20 | 20mm 90° elbow x 1/2" male thread | 10 pack | |
| | PEN025MTH20 | 25mm 90° elbow x 1" male thread | 5 pack | |
| | PEN016FTH20 | 16mm 90° elbow x 1/2" female thread | 10 pack |  |
| | PEN020FTH20 | 20mm 90° elbow x 3/4" female thread | 10 pack | |
| | PSE016H20 | 16mm x 1/2" swivel nut elbow | 10 pack |  |
| | PSE020H20 | 20mm x 3/4" swivel nut elbow | 10 pack | |
| | PPB016 | 16mm Profile Bend | 10 pack |  |
| | PPB020 | 20mm Profile Bend | 10 pack | |
| | PPB025 | 25mm Profile Bend | 10 pack | |
| | PWB016FTH20 | 16mm wingback x 1/2" female thread | 10 pack |  |
| PWB016FT20H20 | 16mm wingback x 3/4" female thread | 5 pack | | |
| PWB020FT15H20 | 20mm wingback x 1/2" female thread | 5 pack | | |
| PWB020FTH20 | 20mm wingback x 3/4" female thread | 5 pack | | |
| PWB016MT65H20 | 16mm wingback x 1/2" male thread x 65mm | 5 pack |  | |
| PWB016MT90H20 | 16mm wingback x 1/2" male thread x 90mm | 5 pack | | |
| PWB016MT150H20 | 16mm wingback x 1/2" male thread x 150mm | 5 pack | | |
| PHP016FTH20 | 16mm hose plate x 1/2" female thread | 10 pack | | |
| Tees | PTE016H20 | 16mm equal slide tee | 10 pack |  |
| | PTE020H20 | 20mm equal slide tee | 10 pack | |
| | PTE025H20 | 25mm equal slide tee | 5 pack | |
| | PTE032H20 | 32mm equal slide tee | 3 pack | |
| | PTR0201620H20 | 20 x 16 x 20 reducing tee | 10 pack |  |
| | PTR0252025H20 | 25 x 20 x 25 reducing tee | 5 pack | |
| | PTR0251625H20 | 25 x 16 x 25 reducing tee | 5 pack | |
| | PTR0322532H20 | 32 x 25 x 32 reducing tee | 5 pack | |
| | PTR0202016H20 | 20 x 20 x 16 reducing tee | 10 pack | |
| | PTR0252520H20 | 25 x 25 x 20 reducing tee | 5 pack | |
| | PTR0252516H20 | 25 x 25 x 16 reducing tee | 5 pack | |
| | PTR0201616H20 | 20 x 16 x 16 reducing tee | 10 pack | |
| | PTR0252020H20 | 25 x 20 x 20 reducing tee | 5 pack | |
| | PTR0322525H20 | 32 x 25 x 25 reducing tee | 5 pack | |
| Accessories | PEP016H20 | 16mm end plug | 20 pack |  |
| | PEP020H20 | 20mm end plug | 10 pack | |
| | PCLIP016 | 16mm black open clip | 100 pack |  |
| | PCLIP020 | 20mm black open clip | 100 pack | |
| | PCLIP025 | 25mm black open clip | 100 pack | |

KEMBLA PEX ECO-FLOW

- **Energy savings**
- **Water savings**
- **Balanced pressure**
- **Faster hot water to outlet**
- **Superior flow and pressure**
- **Fast installation time**

This technology has been used extensively in Europe for over 25 years to save both energy and water in domestic hot water systems. Kembla has developed this technology for New Zealand conditions with water and energy efficiency built in, so the system saves water automatically.

The heart of the Kembla Eco-Flow system is the Kembla Pex Eco Flow distribution manifold, which is located close to the water heater, distributing hot and cold water directly to each water outlet by individual 16mm Pex pipe.

Water savings:

A traditional branch type water system ensures good flow by using a larger diameter main line to deliver water from the water heater to multiple branch lines feeding water outlets. When a hot tap is opened, the system must flush the water held in the main line and branches before hot water flows at the outlet. The Kembla Eco-Flow individual lines hold a 1/3 less water than a 20mm ID main line and less than 1/2 the water of a 25mm ID line, therefore hot water arrives faster to the outlet and less water is wasted. A standard household can reduce water wastage by up to 50% by installing a Kembla Pex Eco-Flow system.

Energy savings:

Less hot water wasted and less hot water left to cool in the line means less water heated, equaling an energy saving.

Superior flow and pressure:

Eco-Flow does not utilise tees meaning less flow restrictions and better pressure balance throughout the system, this reduces pressure and temperature fluctuations when multiple outlets are used simultaneously. New Zealand tests have shown three showers can be run simultaneously, each delivering over 13 litres/min even when connected to restrictive slide shower hoses and hand held outlets. This impressive result was achieved with a mains pressure of only 400 kPa, 12 metres of 25mm Kembla Pex from the house entry to the Kembla Eco-Flow manifolds and 20 metres of 16mm Kembla Pex from the manifold to each shower.

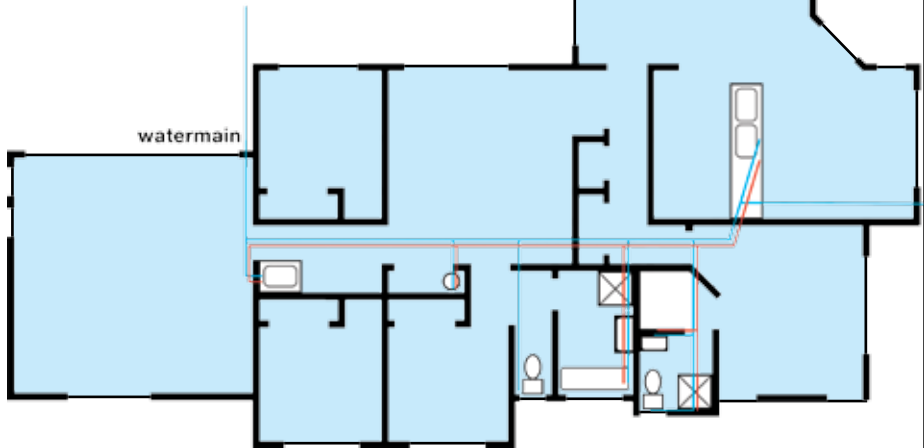
Fast installation time:

The Kembla Eco-Flow system uses fewer fittings than traditional systems which means installation time is reduced and the cost of components is kept to a minimum. Kembla Pex Eco-Flow pipe in conduit system also allows single pipes to be run in the concrete floor and still be fully accessible over their service life. A pipe in conduit under slab pipe out for a single story house can be completed in only a few hours and without a single hole being drilled.

**Kembla Eco-Flow
System
Coming Soon**

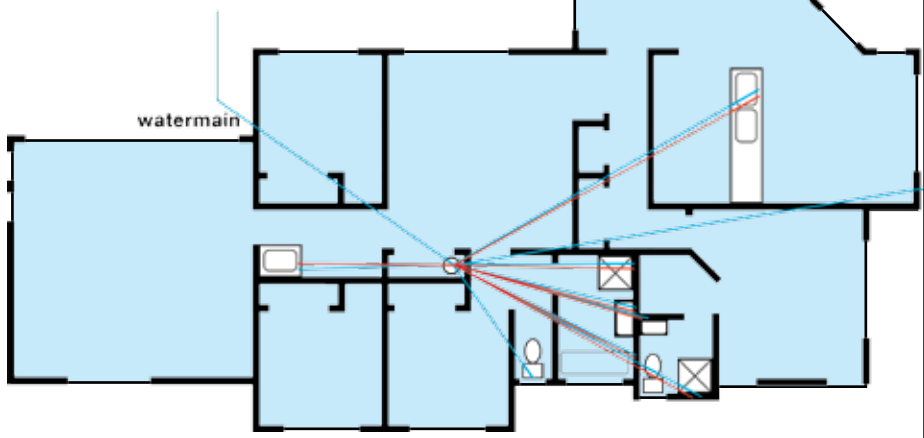
Traditional Branch design

more fittings = more restrictions



Kembla Eco Flow design

less fittings = better flow





Quality Piping Systems Since 1916

tel: 0800 KEMBLA | fax: 0064 9 274 0347 | www.kembla.co.nz | email: sales@kembla.co.nz

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