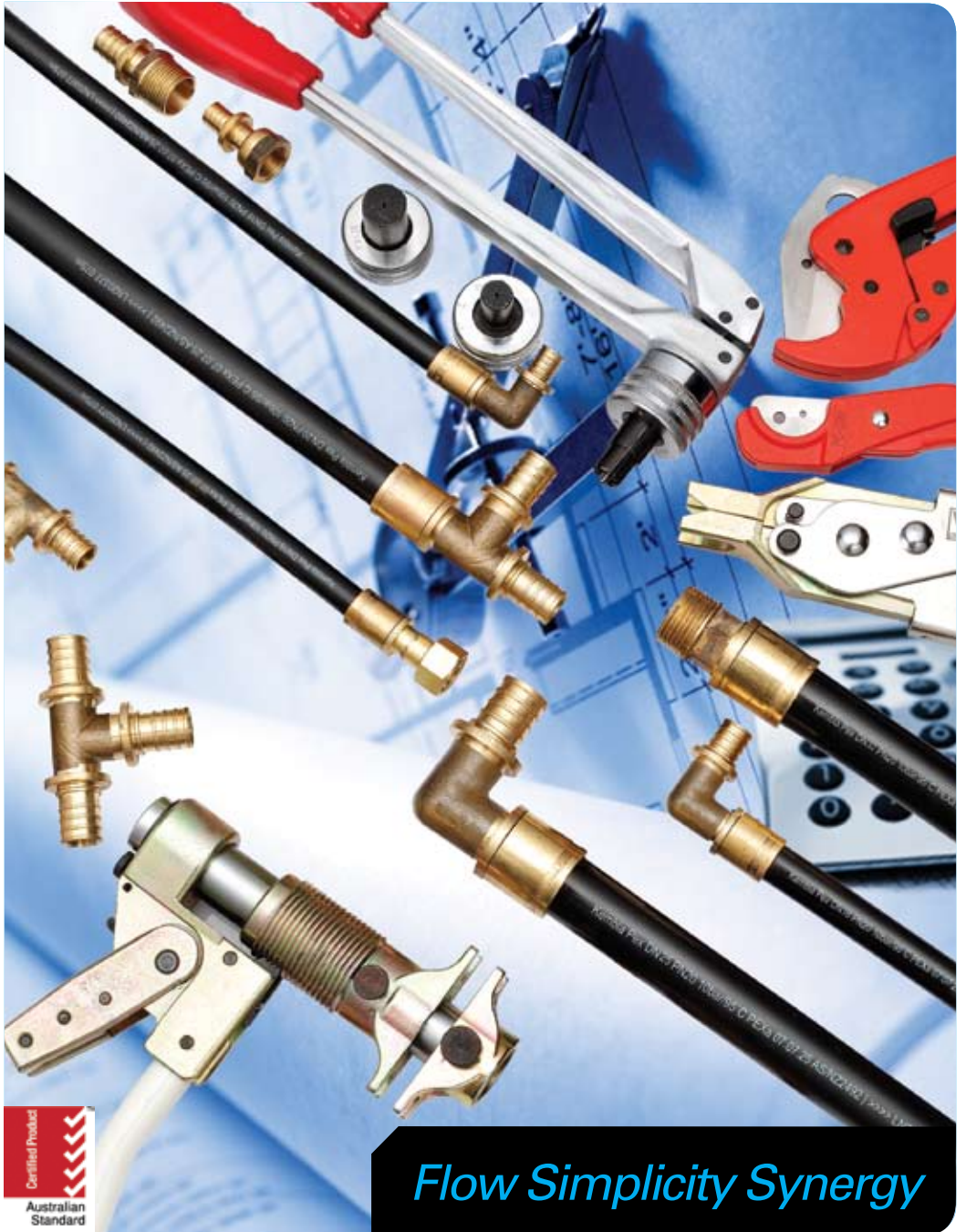


# KEMBLA PEX

Flow Simplicity Synergy **SLIDE**



*Flow Simplicity Synergy*

## **KEMBLA PEX SLIDE**

- **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.**
- **The expanded pipe ends provide full bore flow with no fitting restrictions.**
- **Simple and secure sliding sleeve jointing system means total peace of mind and a simple visual inspection confirms water tightness.**
- **O'Rings are not required with Kembla Pex Slide, reducing the chance of installer error.**
- **Solid DZR brass fittings and PE-Xa tube comply with Australian Standards AS2537 and AS2492, backed with Kembla's ISO 9001 quality system.**
- **Kembla Pex Slide DZR fittings are forged brass, resulting in superior mechanical properties with greater fatigue resistance. The machined fitting shoulder allows maximum contact with the compression tool for easy connection.**
- **Kembla Eco-Flow provides a simple and effective pipe out 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](http://www.kembla.co.nz)  
email: [sales@kembla.co.nz](mailto:sales@kembla.co.nz)

# SIMPLE INSTALLATION



1. Cut pipe at right angle



2. Slide on brass sleeve with chamber facing toward fitting



3. Expand pipe.



4. Open expander & rotate 30°



5. Expand again in new position



6. Fully insert fitting into tube



7. Ensure fitting is inserted into shoulder stop.



8. Press sleeve fully closed to fitting shoulder



9. Cross section shows leak proof joint



KemblaPex chain tool kit 16 - 20mm



Kembla Pex battery tool complete with expander 16 - 32mm



Kembla Pex right angle tool kit 16 - 32mm

**Tooling** • Kembla Pex Slide requires an axial press tool to press the joints. Kembla Pex Slide has available 3 types of tooling including a battery tool. Other brands of axial pressing tools and expanders maybe suitable for Kembla Pex Slide, please consult your Kembla Pex stockist.

# 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.

## 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	(meters)
16mm	0.60
20mm	0.70
25mm	0.75
32mm	0.85

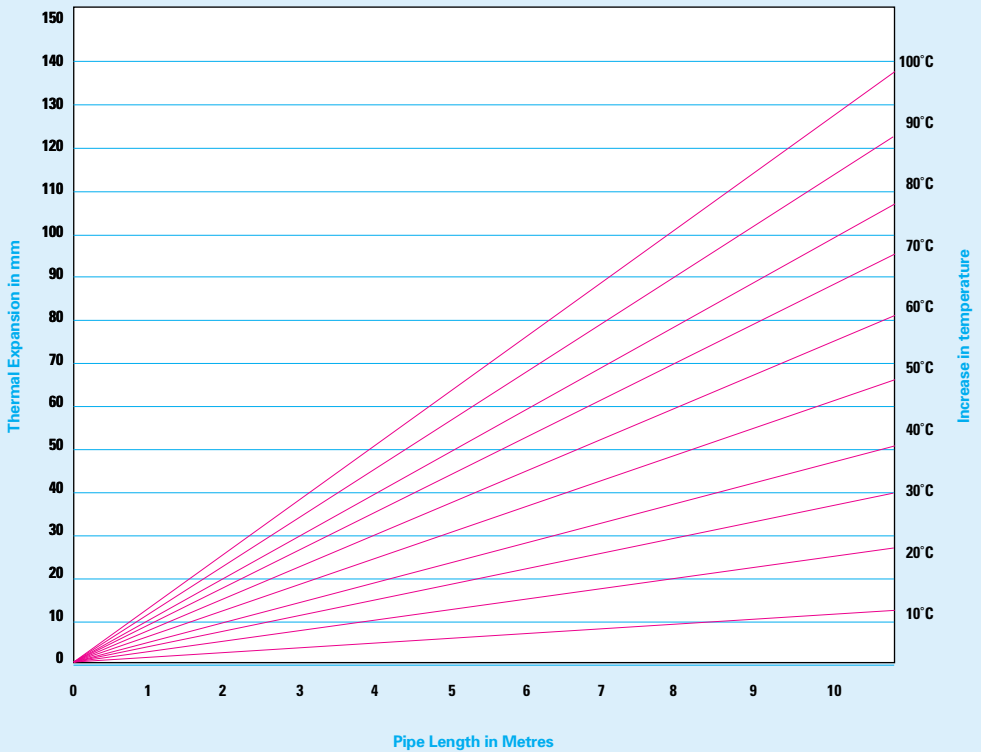
### Vertical Pipes

#### Clip Spacing

Pipe ø	(meters)
16mm	1.20
20mm	1.40
25mm	1.50
32mm	1.70

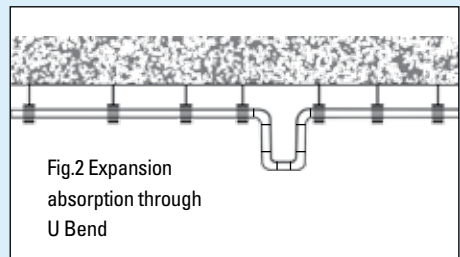
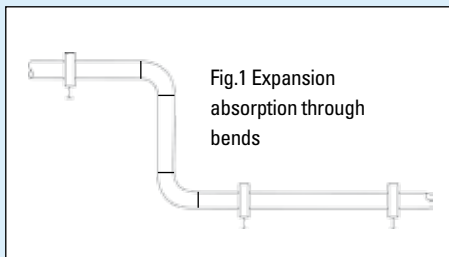
Horizontal hot water lines may require closer clip spacing to maintain straight lines and avoid sagging.

# 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

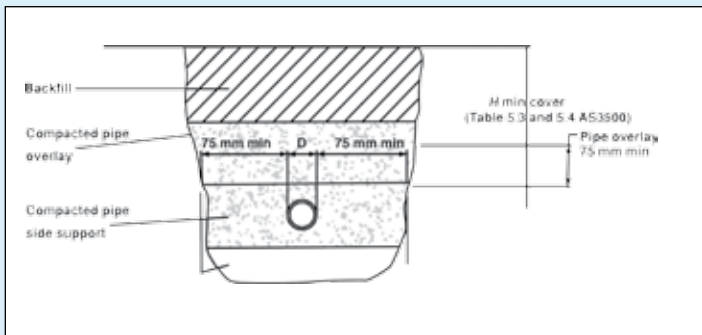
Although Kembla Pex has excellent insulating properties, local authorities may require further insulation to reduce heat loss. Kembla Pex should be insulated against freezing conditions to reduce the chances of damage to the pipe work. In extreme conditions it is not possible stop static water freezing, 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 60°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.



## Disassembly of Kembla Pex Slide

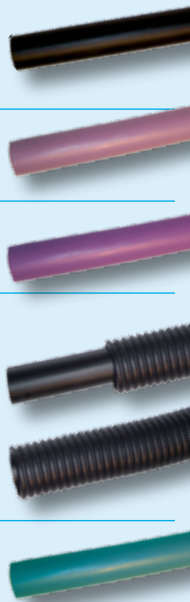
- Always cut the fitting to be disassembled completely from system.
- A hot air gun can be used to heat the sliding sleeve.
- At 140°C the sliding sleeve can be removed by using pliers.
- Always disassemble the total fitting and scrap the heated sliding sleeves.

## Pressure Testing Installations

- Testing of Kembla Pex installed systems must comply with AS3500 and local body requirements.
- Check all fittings visually to ensure all sleeves are fully engaged to fitting shoulders.
- 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.

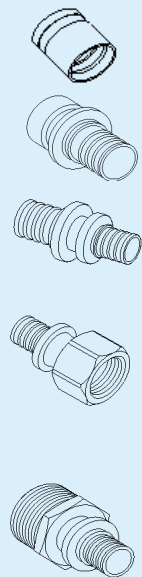
# KEMBLA PEX SLIDE RANGE

Plumbing	Diameter	Wall	Length & Code	
<b>Black Pex</b>	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
<b>Recycled Water</b>				
<b>Lilac Pex</b>	16mm	2.2mm	50m PEX016C50LILIC	
	20mm	2.8mm	50m PEX020C50LILIC	
<b>Underfloor EVOH</b>				
<b>Pink Pex</b>	16mm	2.2mm	200m PEVOH016C200	500m PEVOH016C500
	20mm	2.8mm	200m PEVOH020C200	
<b>Pex in conduit for under slab</b>				
<b>Black Pex in conduit</b>	16mm	2.2mm	50m PEX016C50COND	
	20mm	2.8mm	50m PEX020C50COND	
	25mm	3.5mm	50m PEX025C50COND	
	32mm	4.4mm	25m PEX032C25COND	
<b>Conduit for PEX</b>	fits 16mm PEX		50m PCOND016C50	
	fits 20mm PEX		50m PCOND020C50	
	fits 25mm PEX		50m PCOND025C50	
<b>Rainwater Pex</b>				
<b>Green Pex</b>	16mm	2.2mm	50m PEX016C50RAIN	
	20mm	2.8mm	50m PEX020C50RAIN	

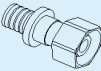
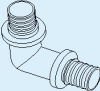
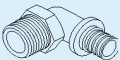
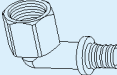
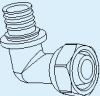

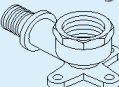
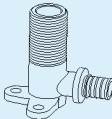
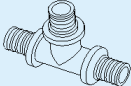
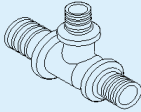




# SLIDE FITTINGS RANGE

<b>Sliding Sleeves</b>	PSS016	16mm Sliding Sleeve	100 Pack
	PSS020	20mm Sliding Sleeve	100 Pack
	PSS025	25mm Sliding Sleeve	50 Pack
	PSS032	32mm Sliding Sleeve	50 Pack
<b>Connectors</b>	PCB016	16mm Copper to Pex	10 Pack
	PCB020	20mm Copper to Pex	10 Pack
	PCC016	16mm Straight Connector	10 Pack
	PCC020	20mm Straight Connector	10 Pack
	PCC025	25mm Straight Connector	10 Pack
	PCC032	32mm Straight Connector	5 Pack
	PRR02016	20mm x 16mm Reducing Connector	10 Pack
	PRR02516	25mm x 16mm Reducing Connector	10 Pack
	PRR02520	25mm x 20mm Reducing Connector	10 Pack
	PRR03225	32mm x 25mm Reducing Connector	10 Pack
	PCC016FT	16mm Female Connector	10 Pack
	PCC020FT	20mm Female Connector	10 Pack
	PCC016MT	16mm Straight Connector Male x 1/2" BSP	10 Pack
	PCC020MT15	20mm Straight Connector Male x 1/2" BSP	10 Pack
PCC020MT	20mm Straight Connector Male x 3/4" BSP	10 Pack	
PCC025MT20	25mm Straight Connector Male x 3/4" BSP	10 Pack	



# SLIDE FITTINGS RANGE

	PCC025MT	25mm Straight Connector Male x 1" BSP	10 Pack		
	PCC032MT25	32mm Straight Connector Male x 1" BSP	10 Pack		
	PSC016	16mm x 1/2" Swivel Nut Connector	10 Pack		
	PSC020	20mm x 3/4" Swivel Nut Connector	10 Pack		
	PSC025	25mm x 1" Swivel Nut Connector	10 Pack		
	PSC032	32mm x 1 1/4" Swivel Nut Connector	5 Pack		
<b>Elbows 90 Deg</b>	PEN016	16mm Elbow	10 Pack		
	PEN020	20mm Elbow	10 Pack		
	PEN025	25mm Elbow	5 Pack		
	PEN032	32mm Elbow	5 Pack		
	PEN016MT	16mm x 1/2" Male Elbow	10 Pack		
	PEN020MT	20mm x 3/4" Male Elbow	10 Pack		
	PEN016FT	16mm x 1/2" Female Elbow	10 Pack		
	PEN020FT	20mm x 3/4" Female Elbow	10 Pack		
	PSE016	16mm x 1/2" Swivel Nut Elbow	10 Pack		
	PSE020	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		
<b>Wingback Elbows</b>	PWB016FT	16mm x 1/2" Wingback Female	10 Pack		
	PWB020FT	20mm x 3/4" Wingback Female	5 Pack		
	PWB016FT20	16mm x 1/2" Wingback Female 20mm	10 Pack		
	PWB016MT65	16mm x 1/2" Wingback Male 65mm	10 Pack		
	PWB016MT90	16mm x 1/2" Wingback Male 90mm	5 Pack		
	PWB016MT150	16mm x 1/2" Wingback Male 150mm	5 Pack		
	PHP016FT	16mm x 1/2" Hose Plate	10 Pack		
<b>Tees</b>	PTE016	16mm Equal Tee	10 Pack		
	PTE020	20mm Equal Tee	10 Pack		
	PTE025	25mm Equal Tee	5 Pack		
	PTE032	32mm Equal Tee	3 Pack		
	PTR0201620	20 x 16 x 20 Reducing Tee	10 Pack		
	PTR0201616	20 x 16 x 16 Reducing Tee	10 Pack		
	PTR0202016	20 x 20 x 16 Reducing Tee	10 Pack		
	PTR0252025	25 x 20 x 25 Reducing Tee	5 Pack		
	PTR0252020	25 x 20 x 20 Reducing Tee	10 Pack		
	PTR0251625	25 x 16 x 25 Reducing Tee	5 Pack		
	PTR0252516	25 x 25 x 16 Reducing Tee	5 Pack		
	PTR0252520	25 x 25 x 20 Reducing Tee	5 Pack		
	PTR0322532	32 x 25 x 32 Reducing Tee	5 Pack		
	PTR0322525	32 x 25 x 25 Reducing Tee	5 Pack		
	<b>Accessories</b>	PEP016	20mm End Plug	10 Pack	
		PEP020	16mm End Plug	10 Pack	
	PCLIP016	16mm Open Clip	100 Pack		
	PCLIP020	20mm Open Clip	100 Pack		
	PCLIP025	25mm Open Clip	100 Pack		
<b>Tool Kits</b>	PTOOLM1K	M1K Tool Kit Complete 16-20mm			
	PTOOLM2K	M2K Tool Kit Complete 16-32mm			
	PTOOLCHAIN	Chain Tool 16-20mm			
	PCUT1625	PEX Cutter 16-25mm			
	PCUT1640	PEX Cutter 16-40mm			

# 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 third less water than a 20mm ID main line and less than half 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 meters 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.

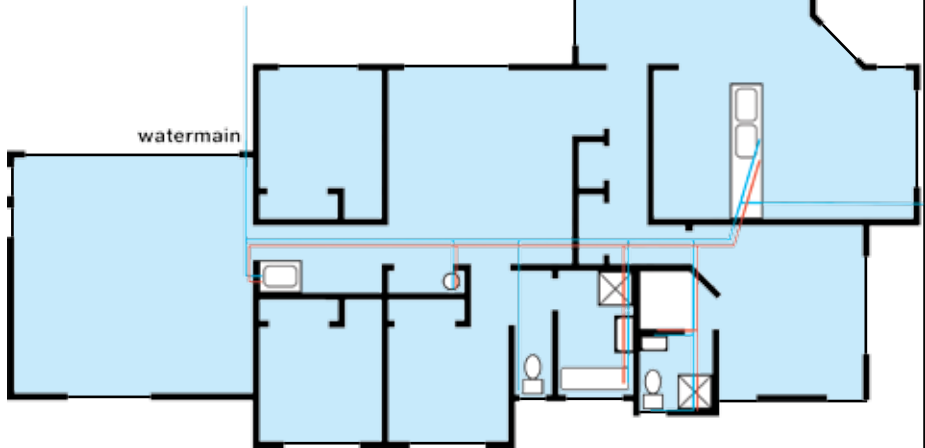
## **Fast installation time:**

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**

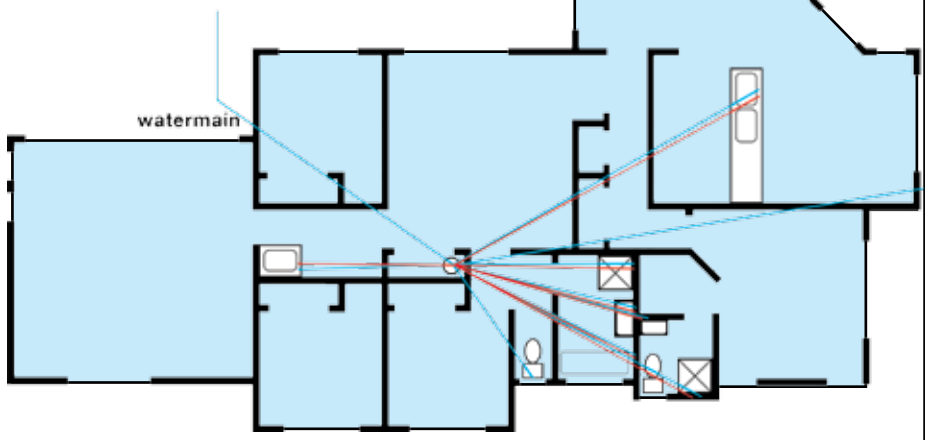
### Traditional Branch design

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](http://www.kembla.co.nz) | email: [sales@kembla.co.nz](mailto:sales@kembla.co.nz)

MM Kembla NZ Ltd can accept no responsibility for possible errors in catalogues, brochures and other printed material, MM Kembla NZ Ltd reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without notification. All trademarks in this material are property of MM Kembla NZ. All rights reserved. April 2009.

**KEMBLA PEX**   
*Flow Simplicity Synergy* **SLIDE**