

# elson

## BUSH PEX

### THE BRAND PLUMBERS TRUST



# elson **BUSH** PEX

## PULL-ON

### PEX PLUMBING SYSTEM

Product information  
and installation manual

Version 2.0



**Elson Australasia Pty Ltd** proudly presents the elson BUSHPEX range of PEX Plumbing Systems including, Pull-On, Crimp-On and Push-On for water and elson BUSHPEX Crimp Gas.

This brochure provides specification and installation information relevant to the elson BUSHPEX Pull-On PEX Plumbing System for water reticulation, 16mm to 32mm outside diameter.

The elson BUSHPEX Pull-On PEX Plumbing System comprises two main components, a flexible cross-linked high density polyethylene pipe and solid DR Brass Pull-On fittings combined with hi-tensile strength brass sleeves.

elson BUSHPEX Pull-On Plumbing Systems are a cost effective alternative to other plumbing systems. The elson BUSHPEX Pull-On PEX system is fast and easy to install, usually with fewer fittings. The flexible pipe is light weight and resists corrosion and incrustation. Water flow noise is low in PE-X pipe and water hammer is significantly reduced.

**elson BUSHPEX Pipe** is a high strength PN20 PE-Xa pipe manufactured by Elson under strict quality controls at our ISO9001 accredited manufacturing facility to **Australian and New Zealand Standards AS/NZS 2492 with WaterMark certificate WKMA 21274.**

elson BUSHPEX pipe is suitable for use in hot and cold water services for both domestic and commercial applications. elson BUSHPEX pipe options include black pipe for either hot or cold water, red for hot water, green for rainwater harvesting and lilac for recycled water.

**elson BUSHPEX Pull-On fittings** are a solid DR brass compression fitting manufactured using hi-tensile strength brass sleeves. The fittings are manufactured by Elson under strict quality controls at our ISO9001 accredited manufacturing facility to **Australian and New Zealand Standards AS/NZS 2537 with watermark certificate WKMA 21276.**

**elson BUSHPEX Pull-On tooling** comprises of both manual and battery hydraulic options to make installation fast and secure. All tooling used must be verified before use to ensure suitability to the elson BUSHPEX Pull-On system. elson BUSHPEX Pull-On tools are essential requirements for the installation procedure as detailed in this manual.

All elson BUSHPEX products are fully warranted for a period of **25 years** against manufacturing defects when installed in accordance with **AS/NZS 3500** and the **elson BUSHPEX Pull-On PEX Plumbing System Manual** by a licenced Plumber.

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## Features and Benefits

### Elson BUSHPEX Pull-On PEX Plumbing System:

- Manufactured, distributed and supported by Elson.
- 25 year product warranty against manufacturing defect when installed according to detailed requirements.
- Elson BUSHPEX pipe manufactured to AS/NZS 2492 and fittings to AS/NZS 2537 standard within our ISO9001 accredited manufacturing facility with all Watermark Certification by SAI Global.
- Cost effective alternative to other systems.
- Fast and easy to install providing a safe + secure piping system.
- Elson BUSHPEX Pull-On tools are available in either manual or battery hydraulic versions.
- Elson BUSHPEX pipe properties:
  - Low water flow noise.
  - High impact resistance.
  - Corrosion and incrustation resistant.
  - Light weight and easy to install.
  - Significantly reduces water hammer.
  - High pressure rating 2000kPa @ 20°C.
  - Smooth inner core to reduce pressure loss.
  - Low levels of thermal conductivity and expansion.
  - Coils provide fast installation, less joints, save time, save costs.

- Available in Black for hot and cold water, Red for hot water, Green for rainwater harvesting and Lilac for recycled water in sizes 16mm, 20mm, 25mm and 32mm.
- Same pipe is compatible with three elson BUSHPEX jointing systems - Crimp-On, Pull-On, Push-On.
- elson BUSHPEX Pull-On fitting properties:
  - All fittings are tested DR BRASS manufactured by Elson - ISO9001 accredited through SAI Global.
  - All elson BUSHPEX Pull-On sleeves are manufactured from hi-tensile brass.
  - German manufactured Battery Tools and Jaws developed, tested and approved for elson BUSHPEX Pull-On.
- National support network for training, technical information and tool service.

# Technical Information

## elso BUSH PEX Pipe

elso BUSHPEX pipe is manufactured from PEX-a raw material to exceed the performance requirements of AS/NZS2492. The flexible elso BUSHPEX pipe is the perfect choice for hot and cold potable water and recycled water applications.

PEX-a crosslinked polyethylene is polyethylene (PE) which has undergone a change in molecular structure whereby the polymer chains are chemically linked, crosslinked (X), with each other to form a three-dimensional network making it more durable within a wide range of temperatures and pressures typically where metals were used. PEX-a pipe provides flexibility with improved mechanical, thermal and chemical properties. elso BUSH PEX-a pipe is typically between 80% to 85% crosslinked.

elso BUSHPEX pipe benefits:

- PEX-a pipe will expand with excessive pressure and then return to its original shape when the pressure is removed.
- Temperature and pressure ratings on PEX pipe include 700C at 1300kPa.
- Resistant to freezing and high impact strength.
- Better resistance to surge pressures over copper.
- Reduced water hammer compared to metal pipes.
- High burst strength and long-term pressure ratings
- Smooth wall and excellent flow characteristics reduce pumping costs

- Chemical resistance to glycols, latex paints, silicone and most acids and bases
- Reduced heat loss and condensation through pipes when compared to copper
- Corrosion Resistance from soil or water
- Ease of installation with no flame, solder or glue
- Lightweight and flexible for ease of handling and transport.
- Reduced heat loss and condensation through pipes when compared to copper
- Smooth wall and excellent flow characteristics reduce pumping costs
- Proven long life and durability

**elson BUSHPEX Pull-On is a complete plumbing system comprising of PE-Xa pipe in sizes 16, 20, 25 and 32mm plus a comprehensive range of DR Brass fittings with hightensile brass sleeves. Manual and battery tooling options for jointing the pipe and fittings completes the system.**

elson BUSHPEX PE-Xa PN20 pipe is specifically designed for the elson BUSHPEX Pull-On jointing system in conformance with AS/NZS 2492 with watermark certificate WMKA21274. elson BUSHPEX PE-Xa PN20 is compatible with all three elson BUSHPEX jointing systems for water including:

- elson BUSHPEX Pull-On
- elson BUSHPEX Crimp-On
- elson BUSHPEX Push-On

elson BUSHPEX Pipe is available in four colours to identify the specific application.

**Black** – Suitable for potable hot and cold water plumbing in domestic and commercial applications.

**Red** – Specifically for hot water lines in domestic and commercial applications.

**Lilac** – Specifically for recycled, non-potable water.

**Green** – Specifically for Rainwater.

NOTE: PE-X pipe exposed to sunlight must be protected.

## **elson BUSHPEX Pull-On Fittings**

The elson axial compression sleeve fittings and sleeve system are Watermark approved (Certificate number: 21276) and certified to AS/NZS 2537. The elson fitting is proven and tested with over 10 years of successful service history in Australia.

The jointing concept relies on the distinctive elastic features of the elson BUSHPEX pipe to achieve a joint that is stronger than the pipe itself. elson BUSHPEX Pull-On Fittings provide for a solid, permanent, manufactured connection without the need for flame, glues, solder or flux. The proven memory performance of elson BUSHPEX PEX-a piping forms a tight seal around the fitting resulting in a strong reliable water tight connection.

elson BUSHPEX Pull-On Fittings are available in a high tensile strength DZ (Dezincification Resistant) brass for pipe dimensions including DN16, DN20, DN25 and DN32.



## elson BUSH PEX fitting benefits:

- safe and secure permanent compression sleeve connections can be done quickly
- High tensile strength brass fittings for greater resistance to cracking and chemical attack from solvents and glues.
- Self-sealing PEX-a material jointing connection without the use of an O-ring
- Increased hydraulic properties from the full flow fitting design
- Jointing requires no solder, flame, fluxes, glues or solvents.
- Corrosion free with no scale or corrosion build -up.
- Simple visual inspection following installation.
- Joint can be pressure tested immediately after installation

Pipe Specification Chart							
Installation Note	16mm Nom OD	20mm Nom OD	25mm Nom OD	32mm Nom OD			
<p>Timber Frame Plates &amp; Studs 75mm wide timber - maximum cut-out, notch, drill diameter of 19mm. 100mm wide timber - maximum cut-out, notch, drill diameter of 25mm.</p> <p>Timber Joists - Refer AS/NZS 3500</p>	elcon BUSHPEX Crimp-On Outside Diameter(OD)	2.2 - 2.6	2.8 - 3.2	3.5 - 4.0	4.4 - 5.0		
	Wall thickness Min / Max (mm) (AS/NZS 2492)	PE-Xa / PN20 @ 20C	PE-Xa / PN20 @ 20C	PE-Xa / PN20 @ 20C	PE-Xa / PN20 @ 20C		
	PE-X Type / Nominal Pressure	AS/NZS 2492 / AS/NZS 2537	AS/NZS 2492 / AS/NZS 2537	AS/NZS 2492 / AS/NZS 2537	AS/NZS 2492 / AS/NZS 2537	AS/NZS 2492 / AS/NZS 2537	
	Standard Pipe/Fittings	21274 / 21276	21274 / 21276	21274 / 21276	21274 / 21276	21274 / 21276	
	WaterMark Certificate number for Pipe/Fittings	600mm / 1200mm	700mm / 1400mm	750mm / 1500mm	850mm / 1700mm		
	Max Clip Distance Horiz/Vertical mm	160mm	200mm	250mm	320mm		
	Min Bend Radius (mm) Internal	Black, Red, Lilac, Green	Black, Red, Lilac, Green	Black, Red, Lilac, Green	Black		
	Colours available	25m Black / 50m All colours / 100m Black	25m Black / 50m All colours / 100m Black	25m Black & Red / 50m All colours	25m & 50m Black		
	Coil Sizes metres(Black, Red, Lilac, Green)	5m lengths available in all colours	5m lengths available in all colours	5m lengths available in all colours	5m Black		
	Straight Lengths metres(Black, Red, Lilac, Green)	0.3mm/metre/10C	0.3mm/metre/10C	0.3mm/metre/10C	0.3mm/metre/10C		
	Coefficient of Linear Expansion / Thermal Expansion	70°C / 1330kPa	70°C / 1330kPa	70°C / 1330kPa	70°C / 1330kPa		
	Max Temp / Operating Pressure	60°C / 1500kPa	60°C / 1500kPa	60°C / 1500kPa	60°C / 1500kPa		
	Temp / Operating Pressure	20°C / 2000kPa	20°C / 2000kPa	20°C / 2000kPa	20°C / 2000kPa		
	Temp / Operating Pressure						

## Pipe & Fitting Protection and Care during Handling and Installation

elso BUSHPEX pipe and Pull-On fittings must be protected from damage through all stages of the process from transport to storage and installation in accordance with AS/NZS 3500. Provision for pipe and fitting protection therefore includes but is not limited to the following:

- Care must be taken to keep the pipe and fittings free of grit, dirt, dust and any foreign matter.
- Pipe must be protected from physical damage including cuts, abrasions, dents, kinks, tears, holes, etc.
- Pipes, either black, red, green or lilac, are not to be installed in direct sunlight.
- Pipe must be protected from long term or permanent U.V. exposure, by way of lagging, encasing in a conduit etc.
- Pipe and fittings must be protected from excessive heat or burning, chemical / solvent attack, animal or rodent attack, machinery damage, other external threats, etc.
- Pipe must never be installed where it could be exposed to a naked flame. PE-X Pipe has the potential to ignite and continue to burn after the source of the flame is extinguished. In accordance with AS/NZS 3500, all plastic pipe for water supply must be protected from excessive ambient heat.
- Chemical or corrosive environments.
  - Pipe must be protected.
  - Fittings must be wrapped and protected. This includes all underground installations for all fittings.

- Pipe support and clipping, both vertically and horizontally is required to ensure conformance for vibration, excessive tension, torsion or compressive stresses on fittings and pipe. Refer to Pipe Specification Chart for spacing.
- Pipe penetrations through timber and steel frames and concrete sections must conform and may require protection using grommets, fire collars, sleeving or wrapping. Holes, notches and cut-outs must be accurately drilled “in-line” to allow movement for expansion and contraction of the pipe and fittings so joints are not exposed to excessive stress. Refer to Pipe Specification Chart for timber frame cut-out limitations.
- Pipe expansion and contraction needs to be accommodated during installation to allow for movement due to thermal Linear Expansion. Failure to do so may exceed the torsional pull-out allowances on fittings resulting in leakage. Refer to the Pipe Specification Chart for the Thermal Expansion Co-efficient.
- elson BUSHPEX pipe is flexible but requires care when bending to avoid kinks or other permanent deformation that may restrict flow or put undue pressure on joints. If the pipe is kinked or damaged in any way it must be cut-out and replaced. elson BUSHPEX Pull-On elbows are recommended for tight bends.  
Refer to the Pipe Specification Chart for minimum bending radius and tools for bending.

- Connecting Barb soldered connection require special attention. Solder the brass connection barb first then allow to cool before jointing.
- In accordance with AS/NZS 3500 regions with extreme hot or cold temperatures require appropriate product selection and/or insulation for protection and compliance. Consideration should also be given to insulating the pipe for energy efficiency as well as the prevention of condensation which can occur in hot and cold lines.

## Underground Installation

**NOTE:** It is a requirement to pressure test the pipe and fittings in accordance with AS/NZS3500 prior to burying or concealing the elson BUSHPEX Plumbing System.

Underground installation of elson BUSHPEX Pull-On pipe and fittings must be in accordance with AS/NZS 3500 including but not limited to the following :

- Minimum buried depth required by standards.
- Minimum pipe separation distance.
- Wrapping and protection.
- Conduit sleeving through slab penetration.
- Underground Piping installation recommended with no joints.
- Concrete slab piping must be continuous with no joints.

## Fire Certification for elson BUSHPEX Water Pipe (Technical Information Section)

Elson BUSHPEX Water PEX pipe is certified for wall and floor penetrations in accordance with Australian Standard 1530: Part4 :2005. The elson BUSHPEX water pipe was tested in connection with the Promat Passive Fire Protection collars.

**For collars retrofitted to the underside of the concrete slab using a Promaseal® CFC32**

Size	DN16	DN20	DN32
FRL	-/180/90	-/180/120	-/240/120

**For collars cast into the concrete slab using Promaseal® CFC32 and Green 40**

Cast-In Collar Promaseal® CFC32				
Size	DN16	DN20	DN25	DN32
FRL	-/180/180	-/180/180	-/180/180	-/180/120

Cast-In Collar Promaseal® Green 40				
Size	DN16	DN20	DN25	DN32
FRL	-/180/180	-/180/180	-/180/180	-/180/120

**For Promaseal® CFC32 collars retrofitted to either side of the wall for lightweight partition clad fire rated plasterboard 128mm thick**

Size	DN16	DN20	DN25	DN32
FRL	-/180/180	-/180/180	-/180/180	-/180/120

**For Promaseal<sup>®</sup> CFC32 collars screwed together and inserted centrally within the Hebel wall 75mm thick**

<b>Size</b>	DN20	DN25
<b>FRL</b>	-/180/120	-/180/90

**Speed Panel wall 77mm thick with Promaseal<sup>®</sup> CFC32 collars retrofitted on a layer of 25mm Promatect<sup>®</sup> 100 on each face**

<b>Size</b>	DN20	DN25
<b>FRL</b>	-/120/30	-/120/120

**Solid Fire Rated Plasterboard 48mm thick with single Promaseal<sup>®</sup> CFC32 collar central within the wall**

<b>Size</b>	DN32
<b>FRL</b>	-/90/90

## elson BUSHPEX Pull-On Tools

elson BUSHPEX Pull-On Tools are specifically designed to be used with the elson BUSHPEX Pull-On PEX Pipe and fitting System and may not be compatible with other systems. elson BUSHPEX Pull-On Tools are manufactured to precise specifications and require care, regular maintenance and regular inspection to ensure accurate and consistent operation. The cleaning of tools, and expander jaws is recommended after each use. Always keep your tools and expander jaws free of dirt, dust, moisture and corrosion. Lubricate expanders and expander jaws regularly.

### **WARNING:**

**NEVER USE an expander head that is worn damaged or has missing parts. Isolate and dispose immediately. Damaged or worn expander heads cause joint leaks.**

It is essential for all installers to read and recognise the operational requirements of the tools along with the Jointing Procedures and safety recommendations included in this manual and the Tool Instruction Manual.

It is always recommended to incorporate a checking procedure to ensure that each joint has been correctly and completely jointed.

**IMPORTANT** – Please consult the Jointing Procedure included in this manual. This Guide procedure is a product installation requirement.

### **ELECTROCUTION WARNING!**

**The potential threat of electrocution and death must be recognised if an earth line is disconnected by cutting metal pipes. ALWAYS check with a licenced electrician prior to proceeding.**



# System Testing

Pipe and joint system testing must be carried out in accordance with AS/NZS 3500 and any other applicable local authority requirements prior to burying or concealing the elson BUSHPEX Pull-On Plumbing System. It is the responsibility of the Licenced Installer to ensure that all joints and fittings are inspected, tested and checked for leaks to ensure safety and compliance.

It is recommended to incorporate a checking procedure to ensure that each joint has been correctly and completely jointed.

## Warranty

The elson BUSHPEX Pull-On Plumbing System carries a 25 year product warranty which covers product manufacturing faults and defects. This warranty only applies under the following requirements

- The system must have been installed by a licenced Plumber.
- Proof of installation by a licenced Plumber is required.
- Proof of purchase is required.
- Installation must be in accordance with AS/NZS3500.
- Installation must be in accordance with any other relevant and applicable local authority codes which may take precedence.
- Installation must be in accordance with established installation practices.
- Installation must be in accordance with the jointing procedures included in this manual.
- Installation must only ever involve the use of the same approved elson BUSHPEX Pipe (watermark certificate WMKA21274), elson BUSHPEX Pull-On fittings (watermark certificate WMKA21276) and elson BUSHPEX approved tooling.

Elson Australasia Pty Ltd undertakes to repair or replace product which is found to be faulty or defective in workmanship or manufacture according to the warranty conditions. The benefits provided to the consumer by this warranty are in addition to other rights and remedies available to the consumer under the law.

To make a warranty claim please contact Elson Australasia Pty Ltd with your contact details, proof of purchase and Licenced Installers documentation details. If the product has not been installed please contact the place of purchase and return. If there is a problem returning the product please contact Elson Australasia Pty Ltd. To make a claim under warranty you must abide by the warranty conditions.

Elson Australasia Pty Ltd

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Our products come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

To the extent of the Law, Elson shall not be liable for any consequential loss or damage of any kind caused by any product faulty or defective in workmanship or manufacture.





Warranty



## **FAQ**

### ***Can elson BUSHPEX pipe be installed under a slab?***

**YES** – with the following requirements

- Installation in accordance with AS/NZS 3500.
- Installed within elson BUSHPEX corrugated sleeve conduit.
- Must be sleeved when penetrating through a slab.
- Installed in a single continuous length without fittings.

### ***Can elson BUSHPEX pipe be used for underground cold water service applications?***

**YES** – when installed in accordance with AS/NZS 3500 requirements.

### ***Can elson BUSHPEX pipe and fittings be used to connect solar panels to the storage tank?***

**NO** – Australian Standards do NOT allow PE-X Pipe to be used on the flow or return lines between solar panels and solar storage vessels.

### ***Can braze-on adaptors be installed after crimping elson BUSHPEX Pipe?***

**NO** – Brazing must only ever be done prior to the jointing of the elson BUSHPEX pipe to the fitting. Alternatively use elson PRESS Pull-On fittings from copper to elson BUSHPEX Pull-On.

### ***Is there anything I need to do before using Pull-On Tools?***

**YES** – follow all of these important steps below:

- Ensure that the all tools are clean, free of dirt, grit, corrosion and fully functional.
- Ensure the expander head screws entirely onto the expandertool. Incompatible expander tool and heads must never be used!
- Inspect the expander head for damage, worn or missing parts. If detected isolate, dispose and replace immediately.
- Refer to the Jointing Procedure in this manual for the correct installation method.

***Is there anything I need to do before using the approved battery Pull-On Tool?***

**YES** – follow all of these important steps below:

- Read and recognise the instructions contained in the manual
- Inspect the tool to ensure if functions properly
- Only use the retract slide button release if the battery goes flat or the tool jams. Regular use of this button release puts excessive load on the hydraulics that may affect your warranty.
- Always keep the tool and jaws clean and dry.

***Do I need to inspect the pipe prior to jointing?***

**YES** , always inspect the pipe to ensure it is elson BUSHPEX PEXa DN20 Pipe, licence WMKA21274. Always ensure the pipe is clean, free of debris and damage free. Any Kinks, cuts or imperfections must be cut out from the installation and disposed of.

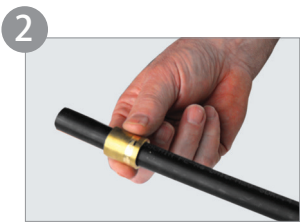
***Do I need to check every joint has been completed ?***

**YES** , it is recomended to incorporate a check system to confirm every sleeve joint has been completed.

# elson BUSHPEX PULL-ON Jointing Instruction



1 Cut the pipe clean and square using elson BUSHPEX pipe cutters, Any kinks, damage, imperfections must be cut out and disposed.



2 Slide the jointing sleeve over the pipe end with the internal tapered end of the sleeve facing the joint. Keep the sleeve at least 50mm from the pipe end.



3 Inspect the expander tool and expander heads prior to use for damage or dirt build up on the heads. Do not use if damaged or missing parts. Ensure the expander head screws completely onto the expander.

Never use incompatible heads. Insert the expander head into the pipe end and expand the pipe once, then rotate the expander tool approximately 30 degrees and expand the pipe again. This process ensures even and complete pipe expansion.

Note: Any damage to the pipe and from the use of a defective expander tool shall be discarded and cut off.

4



Immediately insert the expanded pipe end into the fitting until it reaches the last and largest ridge. Note the pipe contracts over time due to the PEX memory effect.

5

## Manual Tool and Battery Tool Installation

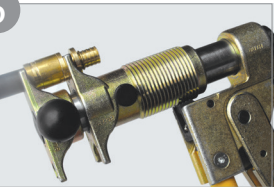


Slide the joining sleeve to the fitting. Position the tool jaws squarely on and in line with the outer face of the sleeve and the fitting collar.



( This step is for either manual ratchet tool or for hydraulic battery tool. )

6



Activate the compression process with either the manual ratchet tool or the hydraulic battery tool until the sleeve reaches the fitting collar.

7



Inspect every joint to ensure the process is correct and complete. The sleeve must be square with the fitting. The joint must be fully compressed.

8

Pressure test the installation in accordance with AS/NZS 3500.

# Product Listing

## NO.1 STRAIGHT COUPLING



Code	Description
23000	No.1 Straight Coupling 16mm
23002	No.1 Straight Coupling 20mm
23004	No.1 Straight Coupling 25mm
23006	No.1 Straight Coupling 32mm

## NO.1R REDUCING COUPLING



Code	Description
23020	No.1R Reducing Coupling 20 x 16mm
23022	No.1R Reducing Coupling 25 x 16mm
23024	No.1R Reducing Coupling 25 x 20mm
23025	No.1R Reducing Coupling 32 x 20mm
23026	No.1R Reducing Coupling 32 x 25mm

## NO.2 STRAIGHT FEMALE CONNECTOR



Code	Description
23060	No.2 Straight Connector 16mm x 15mm FI
23062	No.2 Straight Connector 20mm x 15mm FI
23064	No.2 Straight Connector 20mm x 20mm FI
23068	No.2 Straight Connector 20mm x 25mm FI



## NO.3 STRAIGHT MALE CONNECTOR



Code	Description
23040	No.3 Straight Connector 16mm x 15mm MI
23058	No.3 Straight Connector 16mm x 20mm MI
23042	No.3 Straight Connector 20mm x 15mm MI
23044	No.3 Straight Connector 20mm x 20mm MI
23048	No.3 Straight Connector 20mm x 25mm MI
23052	No.3 Straight Connector 25mm x 15mm MI
23046	No.3 Straight Connector 25mm x 20mm MI
23050	No.3 Straight Connector 25mm x 25mm MI
23054	No.3 Straight Connector 32mm x 20mm MI
23056	No.3 Straight Connector 32mm x 25mm MI

## NO.12 ELBOW



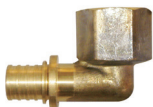
Code	Description
23080	No.12 Elbow 16mm
23082	No.12 Elbow 20mm
23084	No.12 Elbow 25mm
23086	No.12 Elbow 32mm

## NO.13 MALE ELBOW



Code	Description
23400	No.13 Elbow 16mm x 15mm MI
23402	No.13 Elbow 20mm x 15mm MI
23404	No.13 Elbow 20mm x 20mm MI
23406	No.13 Elbow 25mm x 20mm MI

**NO.14 FEMALE ELBOW**



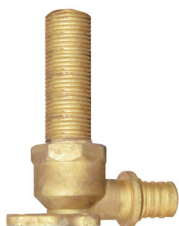
Code	Description
23420	No.14 Elbow 16mm x 15mm FI
23421	No.14 Elbow 16mm x 20mm F
23422	No.14 Elbow 20mm x 15mm FI
23424	No.14 Elbow 20mm x 20mm FI

**NO.15 LUGGED FEMALE ELBOW**



Code	Description
23120	No.15BP Elbow 16mm x 15mm FI
23122	No.15BP Elbow 20mm x 20mm FI

**NO.19 LUGGED MALE ELBOW**



Code	Description
23140	No.19BP Elbow 16mm x 15mm MI 65mm Long
23142	No.19BP Elbow 16mm x 15mm MI 90mm Long
23144	No.19BP Elbow 16mm x 15mm MI 200mm Long
23146	No.19BP Elbow 16mm x 15mm MI 150mm Long
23148	No.19BP Elbow 20mm x 15mm MI 95mm Long
23152	No.19BP Elbow 20mm x 15mm MI 200mm Long
23154	No.19BP Elbow 20mm x 20mm MI 95mm Long
23156	No.19BP Elbow 20mm x 20mm MI 150mm Long
23158	No.19BP Elbow 20mm x 20mm MI 200mm Long

## NO.24 TEE



Code	Description
23160	No.24 Tee 16mm
23162	No.24 Tee 20mm
23164	No.24 Tee 25mm
23166	No.24 Tee 32mm

## NO.25 REDUCED CENTRE TEE



Code	Description
23180	No.25 Tee Reduced Centre 20 x 20 x 16mm
23182	No.25 Tee Reduced Centre 25 x 25 x 20mm
23188	No.25 Tee Reduced Centre 25 x 25 x 16mm
23189	No.25 Tee Reduced Centre 32 x 32 x 20mm
23190	No.25 Tee Reduced Centre 32 x 32 x 25mm

## TEE REDUCED BOTH ENDS



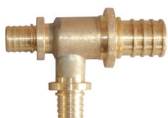
Code	Description
23171	Tee Reduced Both Ends 16 x 16 x 20mm
23172	Tee Reduced Both Ends 20 x 20 x 25mm

## NO.26 REDUCED END TEE



Code	Description
23186	No.26 Tee Reduced End 20 x 16 x 20mm
23192	No.26 Tee Reduced End 25 x 16 x 25mm
23194	No.26 Tee Reduced End 25 x 20 x 25mm
23195	No.26 Tee Reduced End 32 x 20 x 32mm

**NO.27 REDUCED CENTRE & END TEE**



Code	Description
23184	No.27 Tee Reduced Centre+End 20 x 16 x 16mm
23196	No.27 Tee Reduced Centre+End 25 x 16 x 16mm
23380	No.27 Tee Unequal Red Centre+End 25 x 20 x 16mm
23382	No.27 Tee Unequal Red Centre+End 25 x 16 x 20mm
23384	No.27 Tee Reduced Centre+End 25 x 20 x 20mm
23385	No.27 Tee Reduced Centre+End 32 x 20 x 20mm
23386	No.27 Tee Reduced Centre+End 32 x 25 x 25mm

**NO.30 TEE**



Code	Description
23388	No.30 TEE 16mmx16mmx15mmFI
23389	No.30 TEE 20mmx20mmx15mmFI

**NO.61 STOPPER**



Code	Description
23260	No.61 Stopper 16mm
23262	No.61 Stopper 20mm

**NO.62 STRAIGHT TAP CONNECTOR**



Code	Description
23240	No.62 Straight Tap Connector CONE 16mm x 15mm FI NUT
23242	No.62 Straight Tap Connector CONE 20mm x 20mm FI NUT
23360	No.62 Straight Tap Connector FLAT 16mm x 15mm FI NUT
23362	No.62 Straight Tap Connector FLAT 20mm x 20mm FI NUT

## NO.63 BENT TAP CONNECTOR



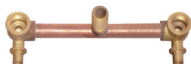
Code	Description
23340	No.63 Bent Tap Connector 16mm x 15mm FI NUT
23342	No.63 Bent Tap Connector 20mm x 20mm FI NUT

## FLARED COMPRESSION UNION



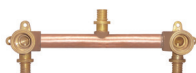
Code	Description
23220	Flared Copper Compression Union 16mm x 15mm FL
23221	Flared Copper Compression Union 20mm x 15mm FL
23222	Flared Copper Compression Union 20mm x 20mm FL

## BATH/LAUNDRY ASSEMBLY



Code	Description
23280	Bath/Laundry Assembly Right Angled 200mm (FLOOR ENTRY)
23282	Bath/Laundry Assembly Right Angled 300mm (FLOOR ENTRY)
23286	Bath/Laundry Assembly Straight 300mm (SIDE ENTRY)

## SHOWER ASSEMBLY



Code	Description
23300	Shower Assembly Right Angled 150mm (FLOOR ENTRY)
23302	Shower Assembly Right Angled 200mm (FLOOR ENTRY)
23304	Shower Assembly Right Angled BARBS UP 150mm (TOP ENTRY)
23306	Shower Assembly Right Angled BARBS UP 200mm (TOP ENTRY)
23320	Shower Assembly Straight 150mm (SIDE ENTRY)

## CONNECTING BARB



Code	Description
23440	Connecting Barb 16mm
23442	Connecting Barb 20mm
23444	Connecting Barb 25mm
23446	Connecting Barb 32mm

## CONNECTING BARB FEMALE



Code	Description
23450	Connecting Barb Female 16mm
23452	Connecting Barb Female 20mm
23454	Connecting Barb Female 25mm
23456	Connecting Barb Female 32mm

## COMPRESSION SLEEVE



Code	Description
23460	Compression Sleeve 16mm
23462	Compression Sleeve 20mm
23464	Compression Sleeve 25mm
23466	Compression Sleeve 32mm

## HOT WATER ENTRY



Code	Description
23600	Hot Water Entry 16mm x 900mm
23602	Hot Water Entry 20mm x 900mm

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**NOVOPRESS COMPRESSION BATTERY TOOL KIT 16-32mm**


Code	Description
23850	BUSH PULL-ON NOVOPRESS COMP BATTERY TOOL 16-32mm KIT

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**NOVOPRESS BATTERY JAWS**


Code	Description
23860	BUSH PULL-ON NOVOPRESS BATTERY JAWS 16-20mm
23862	BUSH PULL-ON NOVOPRESS BATTERY JAWS 25-32mm

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**MANUAL COMPRESSION TOOL KIT 16-20mm**


Code	Description
22900	M. Tool Compr & Expand Kit GEN2 Complt BUSH 16-20mm

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**MANUAL COMPRESSION TOOL KIT 16-32mm**


Code	Description
22901	M. Tool Compr & Expand Kit GEN2 Complt BUSH 16-32mm

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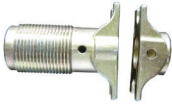
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**MANUAL COMPRESSION TOOL**


Code	Description
22902	M. Compression Tool & Expand Kit GEN3 BUSH including Jaw 16-20mm

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## COMPRESSION JAW



Code	Description
22904	Compression Jaw GEN2 16-20mm
22906	Compression Jaw GEN2 25-32mm

## MANUAL EXPANDER TOOL



Code	Description
22910	Manual Expander Tool BUSH

## EXPANDER HEAD



Code	Description
23919	Expander Head GEN2 BUSH 16mm
23921	Expander Head GEN2 BUSH 20mm
22924	Expander Head GEN2 BUSH 32mm
22922	Expander Head GEN2 BUSH 25mm
22928	Expander Head GEN2 BUSH 16-20mm

## TOOL GREASE



Code	Description
23980	Tool Grease

## BRASS BRUSH



Code	Description
23940	Brass Brush

## MANUAL COMPRESSION TOOL BOX



Code	Description
22950	Manual Tool Box GEN2 BUSH



**Important: Below listed elson BUSHPEX PE-X Pipes and Accessories can be used with all three elson BUSHPEX Plumbing Systems - Pull-On, Crimp-On and Push-On.**

**HOT & COLD WATER PIPE (BLACK) STRAIGHT LENGTH**



Code	Description
23700	Hot & Cold Water Pipe (Black) 5m Length 16mm
23702	Hot & Cold Water Pipe (Black) 5m Length 20mm
23704	Hot & Cold Water Pipe (Black) 5m Length 25mm

**HOT & COLD WATER PIPE (BLACK) COIL**



Code	Description
23707	Hot & Cold Water Pipe (Black) 25m Coil 16mm
23708	Hot & Cold Water Pipe (Black) 25m Coil 20mm
23709	Hot & Cold Water Pipe (Black) 25m Coil 25mm
23717	Hot & Cold Water Pipe (Black) 50m Coil 16mm
23718	Hot & Cold Water Pipe (Black) 50m Coil 20mm
23714	Hot & Cold Water Pipe (Black) 50m Coil 25mm
23710	Hot & Cold Water Pipe (Black) 100m Coil 16mm
23712	Hot & Cold Water Pipe (Black) 100m Coil 20mm

**HOT WATER PIPE (RED) STRAIGHT LENGTH**



Code	Description
23750	Hot Water Pipe (Red) 5m Length 16mm
23752	Hot Water Pipe (Red) 5m Length 20mm
23754	Hot Water Pipe (Red) 5m Length 25mm

## HOT WATER PIPE (RED) COIL



Code	Description
23756	Hot Water Pipe (Red) 50m Coil 16mm
23758	Hot Water Pipe (Red) 50m Coil 20mm
23759	Hot Water Pipe (Red) 25m Coil 25mm
23753	Hot Water Pipe (Red) 25m Coil 50mm

## HOT & COLD WATER PIPE (BLACK) IN CONDUIT COIL



Code	Description
23720	Hot & Cold Water Pipe (Black) in Conduit 50m Coil 16mm
23722	Hot & Cold Water Pipe (Black) in Conduit 50m Coil 20mm

## CONDUIT BLACK FOR BUSH PE-X PIPE



Code	Description
23725	50m Coil for 20mm PE-X Pipe (Conduit only)
23726	50m Coil for 25mm PE-X Pipe (Conduit only)
23727	50m Coil for 16 mm PE-X Pipe (Conduit only)

## RECYCLED WATER PIPE (LILAC) STRAIGHT LENGTH



Code	Description
23737	Recycled Water Pipe (Lilac) 5m Length 16mm
23738	Recycled Water Pipe (Lilac) 5m Length 20mm
23739	Recycled Water Pipe (Lilac) 5m Length 25mm

## RECYCLED WATER PIPE (LILAC) COIL



Code	Description
23730	Recycled Water Pipe (Lilac) 50m Coil 16mm
23732	Recycled Water Pipe (Lilac) 50m Coil 20mm
23734	Recycled Water Pipe (Lilac) 50m Coil 25mm

## RAIN WATER PIPE (GREEN) STRAIGHT LENGTH



Code	Description
23747	Rain Water Pipe (Green) 5m Length 16mm
23748	Rain Water Pipe (Green) 5m Length 20mm
23749	Rain Water Pipe (Green) 5m Length 25mm

## RAIN WATER PIPE (GREEN) COIL



Code	Description
23740	Rain Water Pipe (Green) 50m Coil 16mm
23742	Rain Water Pipe (Green) 50m Coil 20mm
23744	Rain Water Pipe (Green) 50m Coil 25mm

## PE-X PIPE CUTTER



Code	Description
29930	PE-X Pipe Cutter for 16-25mm Pipe

## PE-X PIPE CUTTER



Code	Description
23932	Pipe Cutter for 16-25mm Pipe

## CLIP MASONRY NAIL



Code	Description
23810	Open Clip 16mm Masonry Nail
23812	Open Clip 20mm Masonry Nail
23814	Open Clip 25mm Masonry Nail

## CLIP TIMBER NAIL



Code	Description
23816	Open Clip 16mm Timber Nail
23817	Open Clip 20mm Timber Nail
23818	Open Clip 25mm Timber Nail

## CLIP METAL SCREW



Code	Description
23820	Open Clip 16mm Metal Screw
23822	Open Clip 20mm Metal Screw
23824	Open Clip 25mm Metal Screw

## PROFILE BEND BRACKET



Code	Description
23830	Profile Bend Bracket 90 Deg x 5D 16mm
23832	Profile Bend Bracket 90 Deg x 5D 20mm
23834	Profile Bend Bracket 90 Deg x 5D 25mm

## PROFILE BEND BRACKET W/ SPRING



Code	Description
23831	Profile Bend Bracket w/ Spring 90 Deg 16mm
23833	Profile Bend Bracket w/ Spring 90 Deg 20mm
23835	Profile Bend Bracket w/ Spring 90 Deg 25mm







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**Version 2.0**