elson BUSHPEX

THE BRAND PLUMBERS TRUST

elson BUSHPEX CRIMP-GAS

PEX-AL PIPING SYSTEM

Product information and installation manual

Certified Product™
Australian Standard
Certificate No: SMKP 21859
AS 4176.8

Version 4.0

Elson Australasia Pty Ltd proudly presents the BUSHPEX Crimp Gas PEX-AL Piping System. This compliments the range of PEX and PEX-AL Plumbing Systems / Gas Piping System offered by Elson Australasia.
BUSHPEX Pull-On PEX System for Water Reticulation, 16 to 32mm.
BUSHPEX Crimp-On PEX System for Water Reticulation, 16 to 25mm.
All Two Systems For Water use the same BUSHPEX PN20 Pipe.
BUSHPEX CRIMP GAS PEX-AL PIPING SYSTEM - BUSHPEX Crimp System for GAS, 16 to 63mm.
BUSHPEX Crimp-On PEX for WATER and BUSHPEX CRIMP GAS PEX-AL Systems use the same BUSHPEX Crimp tools and gauges. Reaming / Calibrating tools are specific to the BUSHPEX Crimp Gas PEX-AL Piping System.

This brochure provides specifications and installation information relevant to the BUSHPEX Crimp Gas PEX-AL Piping system.

The system comprises of Pipe, Fittings and Tooling.

BUSHPEX Gas PEX-AL pipe is manufactured as a composite pipe consisting of an inner and outer layer of cross linked polyethylene which is permanently adhered to a central core of Aluminium. The pipe is manufactured under Strict Quality controls to **Australian Standards AS4176 / ATS5200.478 under Licence SMKP21859**.

BUSHPEX Crimp Gas fittings are a solid brass double crimp fitting with double “O” ring secondary seal and stainless steel crimp sleeves. The fittings are manufactured under Strict Quality controls to **Australian Standard AS4176 under licence SMKP21859.**

BUSHPEX CRIMP Tooling comprises of both Manual Tooling for 16mm, 20mm, 25mm and Battery tooling from 16mm to 63mm. All tooling used should be verified before use to ensure suitability for BUSHPEX Crimp systems. BUSHPEX Crimp Gauges and BUSHPEX Crimp Gas PEX-AL Reaming / Calibrating tools are essential requirements for use during the installation procedure as detailed in this Manual.

All products are fully warranted for a period of **25 years** when installed as a Proprietary Gas System in accordance with **AS/NZS5601** and this **BUSHPEX Crimp Gas PEX-AL Piping System Installation Manual** by a Licenced Gas Fitter using all Pipe and Fittings with Licence Number **SMKP21859 only,** and the approved tooling.

IMPORTANT NOTE

ELSON AUSTRALASIA aims to ensure all BUSHPEX Branded products are manufactured and installed in accordance with all applicable Australian Standards and requirements. Installation of the BUSHPEX Crimp Gas PEX-AL Piping System MUST only be carried out by a Licenced Gas Fitter.

The Licenced Gas Fitter must also have successfully completed the BUSHPEX Crimp Gas PEX-AL Piping System Induction and Training Module. Installation must be in accordance with the Gas Installation Australian Standards AS/NZS5601 and any other relevant and applicable local authority codes which may take precedence. The Installer must also use the installation guidelines set out in this manual. Installation must only ever involve the use of the approved system of BUSHPEX Gas PEX-AL pipe and fittings with Licence SMKP21859 and Approved tooling. The Design of any Gas piping system must safely supply an adequate flow and velocity of gas to every appliance at the required pressure. Please consult the Sizing tables in this Manual and the calculation process and procedures as defined in AS/NZS5601 to ensure conformance and suitability of this system prior to installation.

ELSON AUSTRALASIA Pty Ltd will log records of Licenced Gas Fitters who have successfully completed Induction and Training. These records if required can be accessed by Technical Regulators on verification if confirmation is required for training.

Application for verification of completion of BUSHPEX Crimp Gas PEX-AL Piping System Training should be sent to the email address below requesting the name of the person requiring verification. ELSON AUSTRALASIA will then reply confirming or denying training and supply the training date, Personal details will not be supplied.

Email: sales@elson.net.au

BUSHPEX Crimp Gas PEX-AL Piping System is required and detailed in this manual for installation conformance to AS/NZS5601.

If you require a copy of this standard it can be purchased from the following Website:

http://infostore.saiglobal.com/store

If you require further assistance with purchasing this standard please contact our office by phone (02) 9625 7899 or by email

sales@elson.net.au

BUSHPEX CRIMP GAS

FEATURES AND BENEFITS

- Manufactured, distributed and supported by Elson.
- 25 Year product Warranty when installed according to detailed requirements.
- Product manufactured by Elson to relevant Australian Standards by our ISO9001 approved manufacturing facility with all Certification by SAI Global.
- BUSHPEX Crimp Gas PEX-AL Piping System is a cost effective alternative to other Gas systems.
- BUSHPEX Crimp Gas PEX-AL Piping System is fast and easy to install.
- BUSHPEX hand crimping tools can be used for both BUSHPEX Crimp-on Water PEX and BUSHPEX Crimp Gas PEX-AL Piping Systems.
- Light weight – easy to handle & install.
- Smooth inner core reduces pressure losses.
- Low levels of thermal conductivity and expansion.
- Strong impact resistance.
- Comprehensive size range 16mm – 63mm diameter.
- Double “O” ring is the internationally preferred system.
- Long entry stainless steel crimp sleeve.
- Double crimp seal.
- Four easy to see witness holes to confirm full engagement of fitting onto pipe.
- Yellow retaining ring signifies “Gas” and also locates Battery tool Jaws.
- German manufactured Battery Tools available in two sizes.

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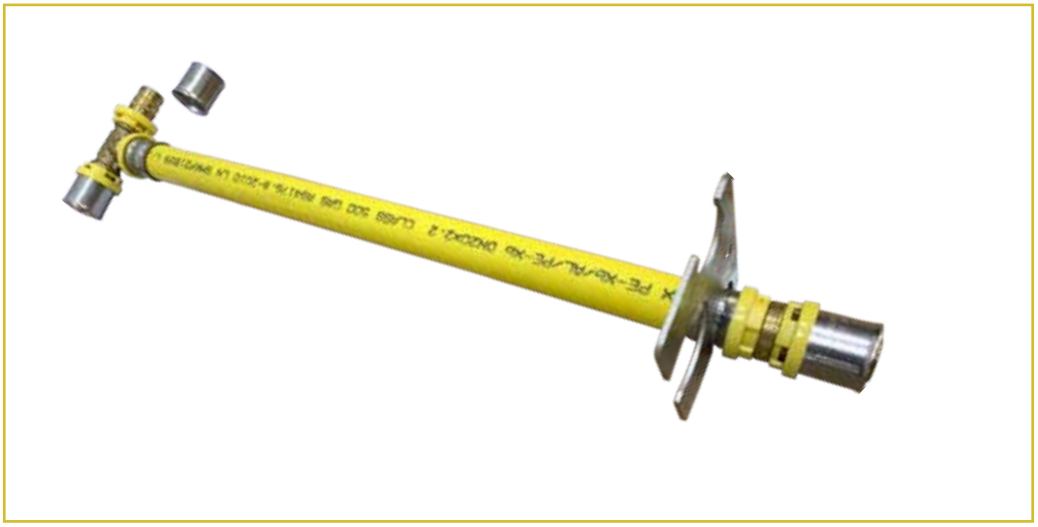


Technical Information

BUSHPEX Crimp Gas is a complete Gas Piping system comprising of a multi-layer composite PE-Xb/AL/PE-Xb (PEX-AL) pipe, a comprehensive range of Brass crimp fittings from 16mm to 63mm and tooling options in both manual and Battery operation complete with reaming/calibrating tools and crimp gauges to ensure system performance.

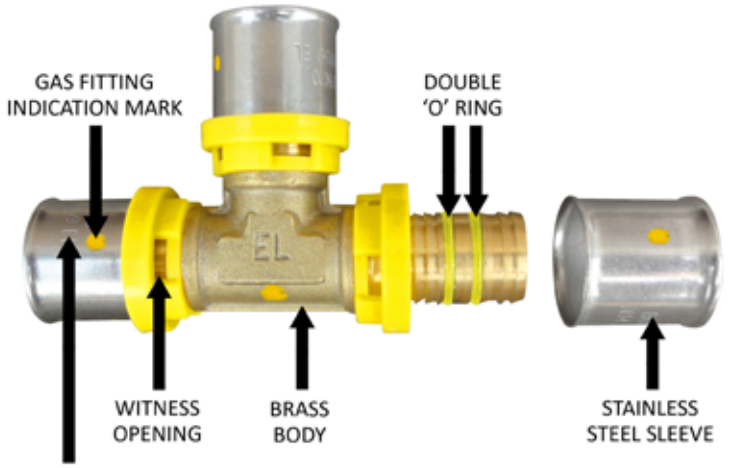
BUSHPEX Crimp Gas PEX-AL Pipe

BUSHPEX Crimp Gas composite pipe is manufactured from an inner and outer wall of crossed linked polyethylene material which is bonded on both sides with a middle layer of aluminium. The Pipe is yellow in colour and is clearly marked at 1m intervals detailing Brand, Type, Size, Class, Standard and Licence Number. The pipe has been tested and approved in accordance with the Australian Standard AS4176 / ATS5200 under Licence number SMKP21859 for gas Installation only using BUSHPEX Crimp Gas fittings with the same corresponding Licence number.

MARKING:
① BUSHPEX PE-Xb/AL/PE-Xb DN20x2.2 CLASS 500 GAS AS4176/ATS5200.478
② LN SMKP21859 I >>>>> I 20120112 16 : 18 DN20120112806807080504 EL01
③ NOT FOR USE IN DIRECT SUNLIGHT B018M

BUSHPEX Crimp Gas fittings

BUSHPEX Crimp Gas fittings are manufactured to a very high standard from a solid brass forged process. Fittings have long engagement dual “O” ring Barbs with a Stainless Steel Crimp ring and a yellow plastic retainer with 4 engagement sighting holes. All fittings have stamped detail into their Stainless Steel Crimp Rings clearly showing Brand, Size, Class, Standard avnd Licence Number. Identification Stamping also appears on the brass fitting where possible or it will display the letters EL. In addition all BUSHPEX Crimp Gas Stainless Steel sleeves are identified with a yellow dot. BUSHPEX Crimp Gas fittings have been tested and approved in accordance with the Australian Standard AS4176 under licence number SMKP21859 for gas Installation only, using BUSHPEX PEX-AL Gas Pipe with the same corresponding Licence number.



elson BUSHPEX CRIMP GAS PEX/AL/PEX Technical information							
Nominal O.D. (mm)	16	20	25	32	40	50	63
Color	RAL 1018	RAL 1018	RAL 1018	RAL 1018	RAL 1018	RAL 1018	RAL 1018
Class (kPa)	500	500	500	500	500	500	500
Standard Pipe / Fittings	AS4176.8	AS4176.8	AS4176.8	AS4176.8	AS4176.8	AS4176.8	AS4176.8
License Number For Pipe / Fittings	SMKP 21859	SMKP 21859	SMKP 21859	SMKP 21859	SMKP 21859	SMKP 21859	SMKP 21859
Maximum Supported distance – Clipping (m)	1.0m	1.25m	1.5m	2.0m	2.0m	2.0m	2.0m
Min Bending Radius by hand (mm)	80mm	100mm	-	-	-	-	-
Min Bending Radius with Bending Tools (mm)	-	-	90mm	115mm	-	-	-
Min Bending Radius with Bending Spring (mm)	32mm	60mm	110mm	150mm	-	-	-
Coil Sizes metres (m)	25, 50 & 100	25, 50 & 100	25 & 50	25 & 50	-	-	-
Straight Length metres (m)	5m	5m	5m	5m	5m	5m	5m
Coefficient of Linear (UOM) Thermal Expansion in mm per meter of pipe for every 10Deg C Temperature variation	0.26mm/m.k	0.26mm/m.k	0.26mm/m.k	0.26mm/m.k	0.26mm/m.k	0.26mm/m.k	0.26mm/m.k

Pipe & Fitting Protection and Care during Handling and Installation:

BUSHPEX Crimp Gas PEX-AL pipe and fittings must be protected from damage through all stages of the process from transport to storage and installation in accordance with AS/NZS5601. Provision for pipe and fitting protection therefore includes but is not limited to the following:

- Care must be taken to keep pipe free of grit, dirt, dust and foreign matter.
- Care must be taken to ensure fittings are free of grit, dirt, dust and foreign matter and the yellow retainer is securely seated onto the fitting with the stainless steel crimp ring and dual "O" rings are seated correctly.
- Pipe must be protected from physical damage including cuts, abrasion, dents, kinks, tears, holes, etc.
- Pipe must be protected from long term or permanent U.V. exposure.
- Pipe and fittings must be protected from excessive heat or burning, (refer to maximum operating temperature detailed in Pipe specification section), chemical / solvent attack, animal or rodent attack, machinery damage, other external threats, etc.
- Chemical or corrosive environments.

  1. Pipe needs to be protected.
  2. Fittings must be wrapped and protected. This includes all underground installations for all fittings.

- Pipe support and clipping; both vertically and horizontally 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 need to conform and may require protection using grommets, fire collars, sleeving or wrapping. Holes, notches and cutouts must be accurately drilled "in-line" to allow movement for any expansion or contraction of the pipe and fitting so engagements 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 torsional pullout allowances on fittings resulting in product failure. Refer to Pipe specification Chart for the Thermal Expansion co-efficient.
- Pipe Bending; BUSHPEX Crimp Gas PEX-AL pipe is flexible but requires care when bending to avoid kinks, cracks or other permanent deformation that may restrict flow or put undue pressure on joints. If the pipe is kinked, bent or damaged in any way it must be cut out and replaced. BUSHPEX Crimp Gas elbows are recommended for tight bends and larger pipe sizes above 32mm. Refer to the Pipe specification Chart for minimum bending radius and tools for bending.
- Connecting Barbs; when soldering connecting barbs, (male or female) first remove/dismantle the yellow plastic retainer ring, stainless crimp ring and two "O" rings, then, solder the brass connecting barbs – allow to cool before assembly. When assembling the fitting, ensure the yellow plastic retainer ring, the two "O" rings and the stainless steel sleeve are installed correctly. (Refer to picture on Page 7 of this brochure for assembly detail). Alternatively, use elson PRESS Crimp-On fittings from copper to BUSHPEX Crimp Gas.

Underground Pipe installation:

Underground installation of BUSHPEX Crimp Gas PEX-AL Pipe must be in accordance with AS/NZS5601. The following points should be noted and referenced for conformance to the standard:

- Piping beneath a building and in the ground is allowed with NO joints.
- Piping embedded in Concrete is allowed with NO joints, maximum pressure 70kPa.
- Underground installation should include the provision for a Trace Wire and Marker Tape to be installed to assist in pipe detection.
- Underground installation should comply with standard for quality of bedding and backfill.
- Underground installation must comply with the required standards for minimum buried depth.
- Underground Installation must comply with the required standard for termination to Metallic risers.
- Underground Installation must comply with the required separation standard for Consumer Gas Piping.
- BUSHPEX Crimp Gas Fittings must be wrapped and protected using suitable and verified processes for all in ground installations and corrosive environments.

Proprietary Gas System Identification:

BUSHPEX Crimp Gas PEX-AL Piping system has an identification Tag as part of its Product Range and must be permanently attached adjacent to the gas meter or LP Gas cylinder to identify the system installed on every installation as detailed in AS/NZS5601. Do not attach this signage plate to any gas cylinder or other movable object.

Provision for Pipe Reversion:

As detailed in AS/NZS5601, in certain installations in some building types it is mandatory for the installation of reversion fittings to allow for Proprietary Gas Piping systems like BUSHPEX Crimp Gas to be extended or additions made for future application. A Reversion Fitting allows for the connection of a Proprietary system to be adapted to a standard Thread or Copper tube. The BUSHPEX Crimp Gas PEX-AL Piping system Product Range includes the three variants of Reversion fittings as detailed in the standard.

Certificate No.1147

Promat

Promat Australia Pty. Ltd.

SYSTEM CERTIFICATE*

This is to certify that

PROMAT Retrofit Fire Protection Collars

For 128mm lightweight partitions and 120mm slab penetrations

have been tested/approved in accordance with

"Australian Standard 1530: Part 4: 2005

Methods for fire tests on building materials, components and structures"

protecting BUSH PEX/AL/PEX Gas pipe penetrations

Retrofit Collar	Pipe	Size (mm)	Wall / Concrete Slab	FRL	Approval no.
PROMASEAL® CFC 32	Bush Gas	16	Concrete Slab	-/180/90	WFRA 21138-01
PROMASEAL® CFC 32	Bush Gas	16	Wall	-/180/90	WFRA 21138-01
PROMASEAL® CFC 32	Bush Gas	20	Concrete Slab	-/180/180	WFRA 21138-01
PROMASEAL® CFC 32	Bush Gas	20	Wall	-/180/120	WFRA 21138-01
PROMASEAL® CFC 32	Bush Gas	25	Concrete Slab	-/180/90	WFRA 2159700B.1
PROMASEAL® CFC 32	Bush Gas	25	Wall	-/120/60	FSRG A-14-927
PROMASEAL® CFC 32	Bush Gas	32	Concrete Slab	-/180/90	WFRA 2253500
PROMASEAL® CFC 32	Bush Gas	32	Wall	-/180/90	WFRA 2253502
PROMASTOP® UniCollar	Bush Gas	40	Concrete Slab	-/180/90	WFRA 2253500
PROMASTOP® UniCollar	Bush Gas	40	Wall	-/180/120	WFRA 2253502
PROMASTOP® UniCollar	Bush Gas	50	Concrete Slab	-/240/90	A-14-949
PROMASTOP® UniCollar	Bush Gas	50	Wall	-/120/60	FSRG A-14-927
PROMASTOP® UniCollar	Bush Gas	60	Concrete Slab	-/180/30(1)	WFRA 2253500
PROMASTOP® UniCollar	Bush Gas	60	Wall	-/180/30	WFRA 2253502

(1) Can be increased to -/180/60 with added PROMASEAL IBS to pipe on the underside of the slab

* This is NOT a test certificate. For installation instructions or further information please contact Promat Australia Pty. Ltd.

Dial: 1800 PROMAT (776 628) Email: mail@promat.com.au Visit: www.promat.com.au

PROMAT Australia Pty Ltd
1 Scotland Rd Mile End SA 5031
T 1800 PROMAT (776 628)
www.promat.com.au

etex building performance

BUSHPEX Crimp Gas Tools

BUSHPEX Crimp Gas Tools are specifically designed to be used with the BUSHPEX Crimp Gas PEX-AL Pipe and Fittings System and must not be used with other systems. BUSHPEX Crimp Gas Tools are manufactured to precise specifications and require:

• Care during operation and confirmation that each completed crimp joint is crimped correctly. The use of the BUSHPEX Crimp Gauge is required to confirm crimp conformance.

• Regular maintenance and cleaning after use to avoid dirt, dust, grit or moisture damaging the tool.

• Recognition of the jointing guide procedures and safety recommendations within this Manual and the Handbook Instructions of the approved BUSHPEX Crimp battery tool kit.

Specific and approved manual or battery drill BUSHPEX Crimp Gas PEX-AL Reaming / Calibrating tools are an essential requirement to round and deburr every squarely cut pipe end prior to insertion into the crimp fitting.

Use the BUSHPEX crimp gauge on each crimped joint to ensure the joint has been sufficiently crimped.

System Testing

Pipe and joint system testing must be carried out in accordance with the standard AS/NZS5601 and any other relevant and applicable local authority codes prior to burying or concealing the BUSHPEX Crimp Gas PEX-AL Piping system. It is the responsibility of the Licenced Installer to ensure that all joints and fittings are inspected, checked and tested for leaks to ensure safety and compliance. It is recommended to incorporate a checking procedure to ensure that each joint has been correctly crimped by testing every joint with a crimp gauge and marking as complete.

Warranty

BUSHPEX Crimp Gas PEX-AL Piping System carries a 25 year warranty when the system is installed by a Licenced Gas Fitter in accordance with AS/NZS5601 and any other relevant and applicable local authority codes which may take precedence and established installation practices.

The Licenced Gas Fitter must also have successfully completed the BUSHPEX Crimp Gas PEX-AL Piping System Induction and Training. The Installer must use the installation guidelines set out in this manual and the Induction Training. Installation must only ever involve the use of the same approved system of BUSHPEX Crimp Gas PEX-AL pipe and fittings with licence SMKP21859 and approved tooling.

Compliance with Australian Standards

BUSHPEX Crimp Gas PEX-AL Piping System is licensed by SAI Global to Australian Standards and complies with Australian Standards AS 4176 (Licence SMKP 21859).

elson BUSHPEX Crimp Gas
Jointing Instruction

Tool inspection Manual Tools:

Inspect the tool and jaw to ensure it is in good working order, operates properly and approved for use with BUSHPEX Crimp Gas fittings and BUSHPEX PEX-AL pipe. Visually inspect and ensure the jaws align and have no gap when the crimp tool is fully compressed and closed. The jaws must be clean and undamaged – free of defects, debris and corrosion. Always keep clean and dry and lubricate after use. If a gap is visible between the jaws then the tool must be adjusted, (see Tool Adjustment section and follow the instruction).

WARNING: An incompatible tool, incorrectly adjusted tool or damaged jaws may result in a joint failure, tool damage or both. It will also void the warranty!

Manual Tool Adjustment: The tool will require adjustment if the jaws do not fully close when compressed OR if the crimp gauge does not pass easily over both indentations in the stainless steel sleeve after the crimping process. If this occurs, follow the procedure below and re-test the tool to ensure adjustment is correct.

1. Loosen LH and / or RH “Back Nuts” with spanner.
2. Turn LH and / or RH “Adjustment Dials” one increment at a time.
3. Tighten LH and / or RH “Back Nuts” with spanner.
4. Confirm if the jaws now fully close? If NO – repeat process (1) to (4). If YES – go to step 5.
5. Crimp a joint then check with the crimp gauge until the crimp auge passes easily over both indentations in the stainless steel crimped sleeve.

Battery Tools: Tested and approved tools include:

1. Novopress ACO153, Novopress ACO-203.

Above battery tools all require specific BUSHPEX Jaws to suit the BUSHPEX Crimp Gas piping system.

- Before using the battery tool it is essential that the user reads and recognises the instructions contained in the manual included with every tool. Make sure you are aware of the operating features and functions.
- Ensure that only BUSHPEX compatible jaws are used to match the tool. Check the jaw matches the diameter of the BUSHPEX PEX-AL pipe and BUSHPEX Crimp gas fittings.
- Inspect and test all tools prior to use to ensure they are functioning properly.
- Visually inspect all tools and jaws to ensure they are clean, dry, free of dust, dirt, grit and corrosion.
- It is a requirment to check every crimped joint with the crimp gauge by passing the crimp gauge over both indentations in the stainless steel sleeve to ensure proper crimping function.
- If the battery warning light comes on or any detection of incomplete crimping occurs you must change the battery immediately, check the joint with a crimp gauge and re-crimp as necessary.
- If the crimping tool does not fully compress or the jaws do not flully close, release the trigger, actuate the retract slide, check the tool then re-crimp the joint and check with the crimp gauge to ensure conformance.

Jointing Procedure:

- Cut the pipe straight and square using BUSHPEX pipe cutters. Check for any damage to the pipe including any surface damage, cuts, scores, abrasion, kinks, splits, heat damage. Re-cut or replace and remove any physically damaged pipe.

- Round and debur the end of the pipe using either the specific sized BUSHPEX Crimp Gas manual calibrating tool or the BUSHPEX Crimp Gas Battery drill Calibrating tool. Match the size of the calibrating tool to the pipe. Insert the calibrating tool completely into the end of the pipe with a twisting action and rotate 2-3 full turns. Remove all swarf from outside and inside the pipe.

- Visually inspect the inside of the fitting to ensure it is free of dust, dirt and grit and confirm the 2 “O” rings are intact and undamaged.

- Insert the BUSHPEX PEX-AL pipe into the BUSHPEX Crimp Gas fitting. Ensure that the pipe is fully inserted into the fitting by viewing the pipe through the 4 inspection holes in the yellow plastic retaining ring.

• For BUSHPEX Manual Crimping Tools: Centralise the BUSHPEX Manual tool – sized to suit the pipe and fitting with jaws over the stainless steel crimp ring and butted up against the yellow retaining ring. Slowly bring the lever handles together closing the jaws completely compressing the joint.
NOTE: DO NOT position the manual tool crimp jaws over the yellow retaining ring. This will damage the fitting, destroy the integrity of the fitting and void warranty. If this occurs you must cut-out the fittings and replace immediately.

• For BUSHPEX approved Battery Crimping Tool: Align the Battery tool jaw to seat over the plastic retaining ring at one end and cover the stainless crimp ring. This position locates the jaw onto the fitting. Activate the battery tool and compress the stainless crimp ring completely until the jaw is closed.

• Check each joint has been compressed correctly by using the BUSHPEX Crimp Gauge. If the BUSHPEX crimp gauge does not pass over the crimp indentations check tooling, inspect and adjust the tool according to instructions, then re-crimp and test.

BUSHPEX Crimp Gas PEX-AL Calibration Tool Battery Drill Calibration Tool

Specific tooling for BUSHPEX Crimp Gas PEX-AL piping system.

IMPORTANT NOTES:

• Always set the drill speed no greater than 500rpm. • Water & Gas calibrating tools are NOT interchangeable.

Calibration Procedure BUSHPEX Crimp Gas:

• Confirm you have all tooling to complete the job – DO NOT start without these: BUSHPEX Crimp Gas Calibration tool – sized to suit the pipe, Battery Drill – charged, BUSHPEX Crimp Gauge, BUSHPEX Crimp Gas PEX-AL pipe & fittings.

• Cut the BUSHPEX Gas PEX-AL pipe to length, using BUSHPEX pipe cutter. Calibrate the end of the BUSHPEX Gas PEX-AL pipe using the specific sized calibrating tool to round and deburr the end of the pipe. Ensure the calibrating tool has been completely inserted into the BUSHPEX Gas PEX-AL pipe with at least 2-3 full turns. Remove all swarf from outside and inside of pipe.

• Continue as per page 12.

IMPORTANT:

- Pressure test the complete installation in accordance with AS/NZS 3500.
- This system must be installed by a licenced Plumber in accordance with this procedure otherwise warranty will be void.
- It is requirment to incorporate a visual checking system to confirm every joint has been crimped prior to concealing joints. This should be done with a crimp gauge test on every joint.

FAQ

Is there anything I need to do before using a Manual crimp Tool?

YES – follow all of these important steps below:

- Ensure that the tool is compatible with BUSHPEX GAS PEX-AL Pipe and BUSHPEX Crimp Gas Fittings
- Ensure the tool is in good working order
- Ensure that the jaws align and have no gap when closed
- Ensure that the jaws are clean, free of defects and debris
- Refer to the Jointing Procedure in this manual for correct method

If the jaws of the Manual Tool do not align when closed what must I do?

- Adjust the jaws and test until the jaws align and have no gap. Follow the process described in the section, "jointing procedures – Tool adjustment"

Is there anything I need to do before using the approved battery crimp Tool?

YES – follow all of these important steps below:

- Ensure that the tool and jaws are compatible with BUSHPEX GAS PEX-AL Pipe and BUSHPEX Crimp Gas Fittings
- Read and recognise the instructions contained in the manual
- Ensure the correct jaws match the tool, the pipe and the fittings
- Inspect the tool to ensure it functions properly
- Inspect the jaws to ensure they're clean, dry, free of dirt grit and corrosion

If the battery Tool does not fully compress what should I do?

- Release the trigger and jaws by actuating the retract slide
- Recharge the battery or replace with charged battery
- Crimp the joint a second time and check with the crimp gauge
- Cut off the pipe and fitting if it fails to crimp properly

Do I need to inspect the pipe end prior to crimping?

YES, always inspect the pipe and ensure it is cut square, has been "rounded & deburred", has no rough edges and the internal and external pipe is undamaged prior to crimping.

Do I need to "round and deburr" the pipe prior to every crimp joint?

YES – this is a requirement for every joint – ensure that the reaming/calibrating tool suits BUSHPEX Gas PEX-AL pipe.

Do I need to inspect the crimp fitting prior to every crimp joint?

YES - you should visually inspect each fitting to ensure it is free of any dirt and grit, has both "O" rings intact, the stainless crimp sleeve is properly located and all parts are undamaged – clean/ replace/discard as required.

How can I tell if the pipe has been pushed into the fitting properly?

• Inspect the fitting to ensure the pipe is visible through all 4 witness openings.

Do I need to check every crimp joint has been compressed properly?

YES - you should check every crimp joint has been compressed properly by testing with the crimp gauge.

Is there a procedure to follow when soldering connecting barbs?

YES, ALWAYS:

• Dismantle the fitting prior to heating and brazing

• Allow to cool fully before assembly

• Ensure the yellow plastic retainer rings, two "O" rings and stainless steel sleeve are installed correctly – refer to picture assembly detail on page 9 of this brochure.

What are the requirements for installing the BUSHPEX Crimp Gas system?

• Must only be installed by a licenced Gas Fitter

• Must be installed in accordance with AS/NZS5601

• Must be installed using the BUSHPEX Crimp Gas PEX-AL Piping system procedures

• Must be installed using BUSHPEX Gas PEX-AL pipe, BUSHPEX Crimp Gas fittings and tools, licence SMKP21859

PIPE SIZING - NATURAL GAS

The following gas pipe sizing tables were calculated using the method described in AS/NZS 5601.

PIPE SIZING TABLE 1 - Flow rates in units of MJ/h

Nom diam (DN)	Natural Gas @ 1.1 kPa - 0.075 kPa Pressure Drop (Flow rates in units of MJ/h) Length of straight pipe m																		
DN	**2**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**+m for Fitting**
16	87	59	48	41	36	33	30	28	26	25	22	20	18	17	16	15	14	14	1.25
20	184	127	102	87	77	70	64	60	56	53	47	43	39	36	34	32	31	29	1.10
25	334	230	184	158	140	127	117	108	102	96	85	77	71	66	62	59	56	53	0.70
32	735	505	406	347	308	279	257	239	224	212	188	170	156	145	136	129	122	117	0.55
40	1206	829	665	569	505	457	421	391	367	347	307	279	256	238	224	211	201	191	
50	2374	1632	1310	1121	994	901	829	771	723	683	605	549	505	470	441	416	395	377	
63	5147	3537	2841	2431	2155	1952	1796	1671	1568	1481	1313	1189	1094	1018	955	902	857	817	
	65	**70**	**75**	**80**	**85**	**90**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**	**280**	**300**	**320**	
16	13	13	12	12	11	11	10	9	9	8	8	7	7	6	6	6	6	6	
20	28	27	26	25	24	23	22	20	18	17	16	15	14	14	13	13	12	12	
25	51	49	47	45	44	43	40	36	34	31	29	28	26	25	24	23	22	21	
32	112	107	104	100	97	94	89	80	74	69	64	61	58	55	53	51	49	47	
40	183	176	170	164	159	154	145	132	121	113	106	100	95	90	87	83	80	77	
50	361	347	334	323	312	303	286	259	238	222	208	197	187	178	171	164	158	152	
63	783	752	724	700	677	656	620	562	517	481	451	426	405	386	370	355	342	330	

PIPE SIZING TABLE 2 - Flow rates in units of MJ/h

Nom diam (DN)	Natural Gas @1.25 kPa - 0.12 kPa Pressure Drop (Flow rates in units of MJ/h) Length of straight pipe m																		
DN	**2**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**+m for Fitting**
16	99	68	55	47	42	38	35	32	30	29	25	23	21	20	18	17	17	16	1.75
20	235	162	130	111	99	89	82	76	72	68	60	54	50	47	44	41	39	37	1.60
25	437	301	241	207	183	166	153	142	133	126	112	101	93	87	81	77	73	69	0.85
32	970	666	535	458	406	368	338	315	295	279	247	224	206	192	180	170	161	154	0.70
40	1666	1145	919	787	697	632	581	541	507	479	425	385	354	329	309	292	277	265	
50	2980	2048	1645	1408	1247	1130	1040	967	908	857	760	689	633	589	553	522	496	473	
63	6752	4641	3727	3190	2827	2561	2356	2192	2057	1943	1722	1560	1435	1335	1253	1184	1124	1072	
	65	**70**	**75**	**80**	**85**	**90**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**	**280**	**300**	**320**	
16	15	14	14	13	13	13	12	11	10	9	9	8	8	7	7	7	7	6	
20	36	34	33	32	31	30	28	26	24	22	21	19	19	18	17	16	16	15	
25	67	64	62	59	58	56	53	48	44	41	38	36	34	33	31	30	29	28	
32	147	142	136	132	128	124	117	106	97	91	85	80	76	73	70	67	64	62	
40	253	243	234	226	219	212	201	182	167	156	146	138	131	125	120	115	111	107	
50	453	435	419	405	392	380	359	325	299	278	261	247	234	224	214	206	198	191	
63	1027	987	950	918	888	861	813	737	678	631	592	559	531	507	485	466	449	434	

PIPE SIZING - NATURAL GAS

The following gas pipe sizing tables were calculated using the method described in AS/NZS 5601.

PIPE SIZING TABLE 3 - Flow rates in units of MJ/h

Nom diam (DN)	Natural Gas @2.75 kPa - 0.25 kPa Pressure Drop (Flow rates in units of MJ/h) Length of straight pipe m																		
DN	**2**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**+m for Fitting**
16	146	100	80	69	61	55	51	47	44	42	37	34	31	29	27	26	24	23	1.25
20	379	261	209	179	159	144	132	123	116	109	97	88	81	75	70	66	63	60	1.60
25	642	441	354	303	269	243	224	208	195	185	164	148	136	127	119	112	107	102	0.85
32	1318	906	727	622	552	500	460	428	401	379	336	304	280	261	245	231	219	209	0.70
40	2590	1780	1429	1223	1084	982	904	841	789	745	660	598	551	512	481	454	431	411	
50	4698	3229	2593	2219	1967	1782	1639	1525	1431	1352	1198	1085	999	929	872	823	782	746	
63	9757	6706	5385	4609	4085	3701	3405	3168	2972	2807	2488	2254	2074	1930	1810	1710	1624	1550	
	65	**70**	**75**	**80**	**85**	**90**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**	**280**	**300**	**320**	
16	22	21	21	20	19	19	18	16	15	14	13	12	11	11	10	10	10	9	
20	58	55	53	52	50	48	46	41	38	35	33	31	30	28	27	26	25	24	
25	98	94	90	87	84	82	77	70	64	60	56	53	50	48	46	44	43	41	
32	200	193	185	179	173	168	159	144	132	123	115	109	104	99	95	91	88	85	
40	394	378	365	352	341	330	312	283	260	242	227	214	204	194	186	179	172	166	
50	714	686	661	638	618	599	566	513	472	439	412	389	369	352	337	324	312	302	
63	1484	1426	1373	1326	1283	1244	1175	1065	980	911	855	808	767	732	701	673	649	626	

PIPE SIZING TABLE 4 - Flow rates in units of MJ/h

Nom diam (DN)	Natural Gas @2.75 kPa - 0.75 kPa Pressure Drop (Flow rates in units of MJ/h) Length of straight pipe m																		
DN	**2**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**+m for Fitting**
16	294	202	162	139	123	111	103	95	89	29	85	75	68	62	58	55	51	49	47
20	614	422	339	290	257	233	214	199	187	68	177	157	142	131	121	114	108	102	98
25	1191	819	658	563	499	452	416	387	363	126	343	304	275	253	236	221	209	198	189
32	2263	1556	1250	1070	948	859	790	735	690	279	652	578	523	481	448	420	397	376	359
40	4402	3025	2429	2079	1843	1670	1536	1429	1341	479	1267	1123	1017	936	870	817	771	733	699
50	8351	5739	4609	3945	3496	3168	2914	2711	2544	857	2403	2130	1930	1775	1651	1550	1464	1390	1326
63	17072	11733	9422	8064	7147	6476	5958	5542	5200	1943	4912	4354	3945	3629	3376	3168	2992	2842	2711
	65	**70**	**75**	**80**	**85**	**90**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**	**280**	**300**	**320**	
16	45	43	41	40	39	37	35	32	30	27	26	24	23	22	21	20	20	19	
20	93	90	86	83	81	78	74	67	62	57	54	51	48	46	44	42	41	39	
25	181	174	168	162	157	152	144	130	120	111	104	99	94	89	86	82	79	76	
32	344	331	319	308	298	289	274	247	228	211	198	188	179	169	163	156	150	144	
40	669	643	620	598	579	561	530	480	442	411	386	364	346	330	316	304	293	283	
50	1270	1220	1175	1135	1098	1065	1006	911	839	780	732	691	657	626	600	576	555	536	
63	2596	2494	2403	2320	2246	2177	2057	1863	1714	1595	1496	1413	1342	1281	1226	1178	1135	1096	

PIPE SIZING - NATURAL GAS

The following gas pipe sizing tables were calculated using the method described in AS/NZS 5601.

PIPE SIZING TABLE 5 - Flow rates in units of MJ/h

Nom diam (DN)	Natural Gas @2.75 kPa - 1.5 kPa Pressure Drop (Flow rates in units of MJ/h) Length of straight pipe m																		
DN	**2**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**+m for Fitting**
16	427	294	236	202	179	162	149	139	130	123	109	99	91	84	79	75	71	68	1.75
20	946	650	522	447	396	359	330	307	288	272	241	218	201	187	175	166	157	150	1.60
25	1752	1204	967	828	734	665	612	569	534	504	447	405	373	347	325	307	292	278	0.85
32	3481	2392	1921	1644	1457	1320	1215	1130	1060	1001	888	804	740	688	646	610	579	553	0.70
40	6300	4330	3477	2976	2637	2390	2198	2045	1919	1813	1607	1456	1339	1246	1169	1104	1049	1000	
50	12188	8377	6727	5757	5103	4623	4253	3957	3713	3507	3108	2816	2591	2410	2262	2136	2029	1936	
63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	65	**70**	**75**	**80**	**85**	**90**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**	**280**	**300**	**320**	
16	65	62	60	58	56	54	51	47	43	40	37	35	34	32	31	29	28	27	
20	144	138	133	129	124	121	114	103	95	88	83	78	74	71	68	65	63	61	
25	267	256	247	238	231	223	211	191	176	164	154	145	138	131	126	121	117	113	
32	529	509	490	473	458	444	419	380	350	325	305	288	274	261	250	240	231	223	
40	958	920	887	856	829	803	759	688	633	588	552	522	495	473	453	435	419	404	
50	1854	1781	1715	1657	1603	1554	1468	1330	1224	1139	1068	1009	958	914	876	841	810	783	
63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

PIPE SIZING - PROPANE GAS

The following gas pipe sizing tables were calculated using the method described in AS/NZS 5601.

PIPE SIZING TABLE 6 - Flow rates in units of MJ/h

Nom diam (DN)	Propane Gas @2.75 kPa - 0.25 kPa Pressure Drop (Flow rates in units of MJ/h) Length of straight pipe m																		
DN	**2**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**+m for Fitting**
16	233	160	129	110	98	88	81	76	71	67	59	54	50	46	43	41	39	37	1.75
20	602	414	332	285	252	228	210	196	183	173	154	139	128	119	112	106	100	96	1.60
25	1025	705	566	484	429	389	358	333	312	295	262	237	218	203	190	180	171	163	0.85
32	2105	1447	1162	995	881	799	735	684	641	606	537	486	448	416	391	369	350	334	0.70
40	4138	2844	2284	1955	1732	1570	1444	1343	1261	1191	1055	956	880	818	768	725	689	657	
50	7506	5159	4143	3545	3142	2847	2619	2437	2286	2160	1914	1734	1596	1484	1393	1316	1249	1192	
63	15589	10715	8604	7364	6527	5914	5440	5061	4749	4486	3976	3602	3314	3083	2893	2732	2595	2476	
	65	**70**	**75**	**80**	**85**	**90**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**	**280**	**300**	**320**	
16	35	34	33	32	31	30	28	25	23	22	20	19	18	17	17	16	15	15	
20	92	88	85	82	79	77	73	66	60	56	53	50	47	45	43	42	40	39	
25	156	150	144	139	135	131	124	112	103	96	90	85	81	77	74	71	68	66	
32	320	308	296	286	277	269	254	230	211	197	185	174	166	158	151	145	140	135	
40	629	605	582	562	544	528	498	452	416	387	363	343	325	310	297	286	275	266	
50	1141	1097	1056	1020	987	957	904	819	754	701	658	621	590	563	539	518	499	482	
63	2371	2278	2194	2119	2051	1988	1878	1702	1565	1456	1366	1291	1226	1169	1120	1076	1036	1001	

PIPE SIZING TABLE 7 - Flow rates in units of MJ/h

Nom diam (DN)	Propane Gas @70 kPa - 10 kPa Pressure Drop (Flow rates in units of MJ/h) Length of straight pipe m																		
DN	**2**	**4**	**6**	**8**	**10**	**12**	**14**	**16**	**18**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**+m for Fitting**
16	1620	1118	900	771	684	621	572	532	500	472	419	380	350	326	306	289	275	262	1.75
20	3566	2446	1962	1678	1487	1346	1238	1152	1080	1020	904	818	752	700	656	620	589	561	1.60
25	6601	4533	3639	3113	2758	2499	2298	2138	2006	1894	1678	1520	1398	1301	1220	1153	1094	1044	0.85
32	13119	9037	7267	6225	5521	5006	4608	4288	4025	3803	3373	3058	2815	2620	2459	2324	2208	2107	0.70
40	25148	17079	13620	11600	10241	9250	8488	7878	7377	6955	6141	5547	5089	4724	4423	4171	3955	3767	
50	47263	32379	25953	22182	19639	17780	16345	15197	14251	13455	11912	10784	9914	9217	8644	8161	7747	7388	
63	96178	66044	53008	45351	40182	36400	33480	31142	29215	27592	24448	22146	20370	18947	17775	16788	15942	15207	
	65	**70**	**75**	**80**	**85**	**90**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**	**280**	**300**	**320**	
16	251	242	233	225	218	211	200	181	167	155	146	138	131	125	120	115	111	107	
20	537	516	497	480	465	450	425	385	354	329	309	292	277	264	253	243	234	226	
25	1000	960	925	893	864	838	791	717	659	613	575	544	516	492	471	453	436	421	
32	2018	1939	1869	1805	1747	1694	1601	1451	1336	1243	1167	1103	1048	1000	958	920	887	856	
40	3603	3457	3326	3208	3102	3004	2833	2558	2348	2179	2040	1924	1824	1738	1662	1594	1534	1480	
50	7072	6792	6541	6315	6109	5922	5591	5061	4653	4326	4057	3830	3636	3467	3319	3188	3070	2964	
63	14561	13988	13474	13011	12590	12206	11528	10443	9605	8934	8381	7916	7517	7171	6866	6596	6353	6135	

Product listing

NO.1 STRAIGHT COUPLING

Code	Description
29000	NO.1 Straight Coupling 16mm
29002	NO.1 Straight Coupling 20mm
29004	NO.1 Straight Coupling 25mm
29006	NO.1 Straight Coupling 32mm
29007	NO.1 Straight Coupling 40mm
29008	NO.1 Straight Coupling 50mm
29009	NO.1 Straight Coupling 63mm

NO.1R REDUCING COUPLING

Code	Description
29020	NO.1R Reducing Coupling 20mm x 16mm
29022	NO.1R Reducing Coupling 25mm x 16mm
29024	NO.1R Reducing Coupling 25mm x 20mm
29025	NO.1R Reducing Coupling 32mm x 20mm
29026	NO.1R Reducing Coupling 32mm x 25mm
29028	NO.1R Reducing Coupling 40mm x 20mm
29030	NO.1R Reducing Coupling 40mm x 25mm
29032	NO.1R Reducing Coupling 40mm x 32mm
29034	NO.1R Reducing Coupling 50mm x 25mm
29036	NO.1R Reducing Coupling 50mm x 32mm
29037	NO.1R Reducing Coupling 50mm x 40mm
29038	NO.1R Reducing Coupling 63mm x 40mm
29039	NO.1R Reducing Coupling 63mm x 50mm

NO.2 STRAIGHT FEMALE CONNECTOR

Code	Description
29060	NO.2 Straight Connector 16mm x 15mm FI
29061	NO.2 Straight Connector 16mm x 20mm FI
29062	NO.2 Straight Connector 20mm x 15mm FI
29064	NO.2 Straight Connector 20mm x 20mm FI
29065	NO.2 Straight Connector 25mm x 15mm FI
29066	NO.2 Straight Connector 25mm x 20mm FI
29070	NO.2 Straight Connector 25mm x 25mm FI
29069	NO.2 Straight Connector 32mm x 20mm FI
29072	NO.2 Straight Connector 32mm x 25mm FI
29071	NO.2 Straight Connector 32mm x 32mm FI
29073	NO.2 Straight Connector 40mm x 25mm FI
29074	NO.2 Straight Connector 40mm x 32mm FI
29076	NO.2 Straight Connector 50mm x 40mm FI
29078	NO.2 Straight Connector 63mm x 25mm FI
29079	NO.2 Straight Connector 63mm x 50mm FI

NO.3 STRAIGHT MALE CONNECTOR

Code	Description
29040	NO.3 Straight Connector 16mm x 15mm MI
29058	NO.3 Straight Connector 16mm x 20mm MI
29042	NO.3 Straight Connector 20mm x 15mm MI
29044	NO.3 Straight Connector 20mm x 20mm MI
29048	NO.3 Straight Connector 20mm x 25mm MI
29052	NO.3 Straight Connector 25mm x 15mm MI
29046	NO.3 Straight Connector 25mm x 20mm MI
29050	NO.3 Straight Connector 25mm x 25mm MI
29054	NO.3 Straight Connector 32mm x 20mm MI
29056	NO.3 Straight Connector 32mm x 25mm MI
29059	NO.3 Straight Connector 32mm x 32mm MI
29013	NO.3 Straight Connector 40mm x 25mm MI

NO.3 STRAIGHT MALE CONNECTOR CONT'D

Code	Description
29014	NO.3 Straight Connector 40mm x 32mm MI
29015	NO.3 Straight Connector 40mm x 40mm MI
29016	NO.3 Straight Connector 50mm x 40mm MI
29017	NO.3 Straight Connector 50mm x 50mm MI
29018	NO.3 Straight Connector 63mm x 32mm MI
29019	NO.3 Straight Connector 63mm x 50mm MI

NO.12 ELBOW

Code	Description
29080	NO.12 Elbow 16mm
29082	NO.12 Elbow 20mm
29084	NO.12 Elbow 25mm
29085	NO.12 Elbow 40mm
29086	NO.12 Elbow 32mm
29087	NO.12 Elbow 50mm
29089	NO.12 Elbow 63mm

NO.12R ELBOW

Code	Description
29088	NO.12R Elbow 20mm x 16mm
29090	NO.12R Elbow 25mm x 16mm
29092	NO.12R Elbow 25mm x 20mm
29094	NO.12R Elbow 32mm x 20mm
29095	NO.12R Elbow 40mm x 32mm
29097	NO.12R Elbow 50mm x 40mm
29098	NO.12R Elbow 63mm x 40mm
29099	NO.12R Elbow 63mm x 50mm

45° ELBOW

Code	Description
29105	45° Elbow 40mm x 40mm
29106	45° Elbow 50mm x 50mm
29107	45° Elbow 63mm x 63mm

NO.13 MALE ELBOW

Code	Description
29400	NO.13 Elbow 16mm x 15mm MI
29402	NO.13 Elbow 20mm x 15mm MI
29404	NO.13 Elbow 20mm x 20mm MI
29406	NO.13 Elbow 25mm x 20mm MI
29408	NO.13 Elbow 25mm x 25mm MI
29410	NO.13 Elbow 32mm x 25mm MI
29412	NO.13 Elbow 40mm x 25mm MI
29419	NO.13 Elbow 63mm x 50mm MI

NO.14 FEMALE ELBOW

Code	Description
29420	NO.14 Elbow 16mm x 15mm FI
29421	NO.14 Elbow 16mm x 20mm FI
29422	NO.14 Elbow 20mm x 15mm FI
29424	NO.14 Elbow 20mm x 20mm FI
29425	NO.14 Elbow 25mm x 20mm FI
29426	NO.14 Elbow 25mm x 25mm FI
29427	NO.14 Elbow 32mm x 25mm FI
29432	NO.14 Elbow 40mm x 40mm FI
29434	NO.14 Elbow 50mm x 40mm FI

NO.15 LUGGED FEMALE ELBOW

Code	Description
29120	NO.15BP Elbow 16mm x 15mm FI
29123	NO.15BP Elbow 20mm x 15mm FI
29122	NO.15BP Elbow 20mm x 20mm FI

NO.19BP LUGGED MALE ELBOW

Code	Description
29140	NO.19BP Elbow 16mm x 15mm MI 65mm LONG
29142	NO.19BP Elbow 16mm x 15mm MI 90mm LONG
29145	NO.19BP Elbow 16mm x 15mm MI 185mm LONG
29148	NO.19BP Elbow 20mm x 15mm MI 95mm LONG
29154	NO.19BP Elbow 20mm x 20mm MI 95mm LONG
29158	NO.19BP Elbow 20mm x 20mm MI 200mm LONG

NO.24 TEE

Code	Description
29160	NO.24 Tee 16mm
29162	NO.24 Tee 20mm
29164	NO.24 Tee 25mm
29166	NO.24 Tee 32mm
29167	NO.24 Tee 40mm
29168	NO.24 Tee 50mm
29169	NO.24 Tee 63mm

NO.25 REDUCED CENTRE TEE

Code	Description
29180	NO.25 Tee Reduced Centre 20 x 20 x 16mm (16mm Centre)
29188	NO.25 Tee Reduced Centre 25 x 25 x 16mm (16mm Centre)
29182	NO.25 Tee Reduced Centre 25 x 25 x 20mm (20mm Centre)
29392	NO.25 Tee Reduced Centre 32 x 32 x 16mm (16mm Centre)
29394	NO.25 Tee Reduced Centre 32 x 32 x 20mm (20mm Centre)
29190	NO.25 Tee Reduced Centre 32 x 32 x 25mm (25mm Centre)
29480	NO.25 Tee Reduced Centre 40 x 40 x 20mm (20mm Centre)
29481	NO.25 Tee Reduced Centre 40 x 40 x 25mm (25mm Centre)
29482	NO.25 Tee Reduced Centre 40 x 40 x 32mm (32mm Centre)
29483	NO.25 Tee Reduced Centre 50 x 50 x 20mm (20mm Centre)
29484	NO.25 Tee Reduced Centre 50 x 50 x 25mm (25mm Centre)
29485	NO.25 Tee Reduced Centre 50 x 50 x 32mm (32mm Centre)
29486	NO.25 Tee Reduced Centre 50 x 50 x 40mm (40mm Centre)
29488	NO.25 Tee Reduced Centre 63 x 63 x 40mm (40mm Centre)
29489	NO.25 Tee Reduced Centre 63 x 63 x 50mm (50mm Centre)

NO.26 REDUCED END TEE

Code	Description
29186	NO.26 Tee Reduced End 20 x 16 x 20mm (20mm centre)
29194	NO.26 Tee Reduced End 25 x 20 x 25mm (25mm centre)

NO.27 REDUCED CENTRE & END TEE

Code	Description
29184	NO.27 Tee Reduced Centre+End 20 x 16 x 16mm (16mm Centre)
29384	NO.27 Tee Reduced Centre+End 25 x 20 x 20mm (20mm Centre)
29386	NO.27 Tee Reduced Centre+End 32 x 25 x 25mm (25mm Centre)
29494	NO.27 Tee Reduced Centre+End 40 x 32 x 32mm (32mm Centre)

UNEQUAL REDUCED CENTRE & END TEE

Code	Description
29496	Tee Unequal Red Centre+End 40 x 32 x 25mm (25mm Centre)
29497	Tee Unequal Red Centre+End 50 x 40 x 32mm (32mm Centre)

FEMALE TEE

Code	Description
29600	Tee Female 16 x 16 x 15mm FI (15mm FI Centre)
29602	Tee Female 20 x 20 x 15mm FI (15mm FI Centre)
29604	Tee Female 20 x 20 x 20mm FI (20mm FI Centre)
29606	Tee Female 25 x 25 x 15mm FI (15mm FI Centre)
29608	Tee Female 25 x 25 x 20mm FI (20mm FI Centre)
29610	Tee Female 25 x 25 x 25mm FI (25mm FI Centre)
29612	Tee Female 32 x 32 x 20mm FI (20mm FI Centre)
29614	Tee Female 32 x 32 x 25mm FI (25mm FI Centre)
29616	Tee Female 40 x 40 x 25mm FI (25mm FI Centre)
29618	Tee Female 50 x 50 x 25mm FI (25mm FI Centre)
29619	Tee Female 63 x 63 x 25mm FI (25mm FI Centre)

NO.61 STOPPER

Code	Description
29260	NO.61 Stopper 16mm
29262	NO.61 Stopper 20mm
29264	NO.61 Stopper 25mm
29266	NO.61 Stopper 32mm
29268	NO.61 Stopper 40mm

NO.62 STRAIGHT TAP CONNECTOR

Code	Description
29240	NO.62 Straight Tap Connector Cone 16mm x 15mm FI Nut
29242	NO.62 Straight Tap Connector Cone 20mm x 20mm FI Nut

FLARED COMPRESSION UNION

Code	Description
29220	Flared Compression Union 16mm x 15mm FL
29222	Flared Compression Union 20mm x 20mm FL
29224	Flared Compression Union 25mm x 25mm FL

CONNECTING BARB FEMALE

Code	Description
29440	Connecting Barb Female 16mm x 15mm OD
29442	Connecting Barb Female 20mm x 20mm OD
29443	Connecting Barb Female 25mm x 20mm OD
29444	Connecting Barb Female 25mm x 25mm OD
29448	Connecting Barb Female 32mm x 25mm OD
29445	Connecting Barb Female 32mm x 32mm OD
29446	Connecting Barb Female 40mm x 40mm OD
29447	Connecting Barb Female 50mm x 50mm OD

CONNECTING BARB MALE

Code	Description
29450	Connecting Barb male 16mm x 15mm CU
29452	Connecting Barb male 20mm x 20mm CU
29454	Connecting Barb male 25mm x 25mm CU

LOOSE NUT CONNECTOR ELBOW MALE

Code	Description
29470	Loose Nut Connector Elbow Male 25mm x 25mm MI

REVERSION UNION

Code	Description
29500	Reversion Union 16mm
29502	Reversion Union 20mm
29504	Reversion Union 25mm
29506	Reversion Union 32mm
29508	Reversion Union 40mm
29510	Reversion Union 50mm
29512	Reversion Union 63mm

elson PRESS to BUSHPEX Crimp Gas Adaptor LF DR BRASS

Code	Description
LF29880	Adaptor LF DR Brass Cu Press Gas 15mm x BUSHPEX Crimp Gas 16mm
LF29882	Adaptor LF DR Brass Cu Press Gas 15mm x BUSHPEX Crimp Gas 20mm
LF29884	Adaptor LF DR Brass Cu Press Gas 15mm x BUSHPEX Crimp Gas 25mm

REVERSION PIECE

Code	Description
29520	Reversion Piece 16mm CU Tube 300mm
29522	Reversion Piece 20mm CU Tube 300mm

INSTALLATION ID TAG

Code	Description
29530	Installation ID Tag BUSHPEX Crimp Gas System

elson BUSHPEX Crimp Gas Ball Valve

Code	Description
72980	elson BUSHPEX Crimp Gas Ball Valve 729 Series DR Brass L/H 16mm
72982	elson BUSHPEX Crimp Gas Ball Valve 729 Series DR Brass L/H 20mm
72984	elson BUSHPEX Crimp Gas Ball Valve 729 Series DR Brass L/H 25mm

elson PRESS GAS TO BUSHPEX Crimp Gas Ball Valve

Code	Description
72990	elson Press Gas to BUSHPEX Crimp Gas Ball Valve 729 Series DR Brass L/H 16mm
72992	elson Press Gas to BUSHPEX Crimp Gas Ball Valve 729 Series DR Brass L/H 20mm
72994	elson Press Gas to BUSHPEX Crimp Gas Ball Valve 729 Series DR Brass L/H 25mm

NOVOPRESS ACO153 BLUETOOTH PRESS TOOL KIT

Code	Description
36901	Novopress ACO153 Bluetooth Press Tool Kit With 2 Batteries & 1 Charger, Less Jaw

NOVOPRESS ACO153 BLUETOOTH PRESS TOOL SKIN

Code	Description
36902	Novopress ACO153 Bluetooth Press Tool Skin

NOVOPRESS JAW

Code	Description
29934	Novopress Jaw BUSHPEX Crimp-On Water & Crimp Gas 16
29935	Novopress Jaw BUSHPEX Crimp-On Water & Crimp Gas 20
29936	Novopress Jaw BUSHPEX Crimp-On Water & Crimp Gas 25
29937	Jaw BUSHPEX / EPS LF Crimp 32mm Suit NV ACO-153 (BT) Bat Tool
29938	Novopress Jaw BUSHPEX Crimp Gas 40mm
29939	Novopress Jaw Kit BUSHPEX Crimp Gas 16-40mm

NOVOPRESS BATTERY

Code	Description
23864	Novopress Battery 1.5AH LI-LON 12V

NOVOPRESS BATTERY CHARGER

Code	Description
23866	Novopress Battery Charger 12V 230V AUS

NOVOPRESS CASE ONLY SUIT ACO-153 TOOL

Code	Description
36909	Novopress Case Only Suit ACO-153 Tool

NOVOPRESS ACO203 BLUETOOTH PRESS TOOL KIT

Code	Description
36903	Novopress ACO203 Bluetooth Press Tool Kit With 2 Batteries & 1 Charger, Less Jaw

NOVOPRESS ACO203 BLUETOOTH PRESS TOOL SKIN

Code	Description
36907	Novopress ACO203 Bluetooth Press Tool Skin

NOVOPRESS JAW

Code	Description
29940	Novopress Jaw BUSHPEX Crimp 16mm For UAP2 & ACO203 Tool
29941	Novopress Jaw BUSHPEX Crimp 20mm For UAP2 & ACO203 Tool
29942	Novopress Jaw BUSHPEX Crimp Gas 25mm
29943	Novopress Jaw BUSHPEX Crimp Gas 32mm

29944	Novopress Jaw Adaptor Gas 40-63mm

29948	Novopress Jaw Set Crimp Gas 16-32mm

NOVOPRESS SLING FOR JAW ADAPTOR GAS

Code	Description
29945	Novopress Sling For Jaw Adapt Gas 40
29946	Novopress Sling For Jaw Adapt Gas 50
29947	Novopress Sling For Jaw Adapt Gas 63
29949	Novopress Sling & Jaw Adpt Set Gas 40-63

NOVOPRESS BATTERY

Code	Description
36928	Novopress Battery 1.5AH LI-LON 18V

NOVOPRESS BATTERY CHARGER

Code	Description
36927	Novopress Battery Charger 18V 230V AUS

HAND CRIMPING TOOL

Code	Description
39911	Hand Crimping Tool MKII BUSHPEX 16mm
39913	Hand Crimping Tool MKII BUSHPEX 20mm

JAW INSERT FOR HAND CRIMPING TOOL

Code	Description
39921	BUSHPEX Jaw Insert Hand Crimping Tool MKII 16mm
39923	BUSHPEX Jaw Insert Hand Crimping Tool MKII 20mm

BUSHPEX CRIMP GAS CALIBRATING TOOL TO SUIT BATTERY DRILL

Code	Description
29810	Battery Calibrating Tool BUSHPEX Crimp Gas DN16
29812	Battery Calibrating Tool BUSHPEX Crimp Gas DN20
29814	Battery Calibrating Tool BUSHPEX Crimp Gas DN25
29816	Battery Calibrating Tool BUSHPEX Crimp Gas DN32
29818	Battery Calibrating Tool BUSHPEX Crimp Gas DN40
29820	Battery Calibrating Tool BUSHPEX Crimp Gas DN50
29822	Battery Calibrating Tool BUSHPEX Crimp Gas DN63
29824	Battery Calibrating Tool Kit BUSHPEX Crimp Gas DN16-DN32

CUTTER PIPE PEX BUSHPEX/BUSHPEX GAS

Code	Description
23930	Cutter Pipe Pex BUSHPEX/BUSHPEX Gas 16-32

T135 DAWN KWIKCUT ORIGINAL PIPE CUTTER

Code	Description
21932	T135 DAWN KWIKCUT Original Pipe Cutter 16mm-32mm

PIPE CUTTER PEX PIPE & PEX/AL/PEX PIPE

Code	Description
21936	Pipe Cutter PEX Pipe & PEX/AL/PEX Pipe 16mm-32mm

CUTTER PIPE PEX BUSHPEX/BUSHPEX GAS

Code	Description
29932	Cutter PEX-AL Pipe 40-63 Rigid

CALIBRATING TOOL BUSHPEX GAS

Code	Description
29970	Calibrating Tool BUSHPEX Gas 16-25mm
29972	Calibrating Tool BUSHPEX Gas 32-40mm
29974	Calibrating Tool BUSHPEX Gas 50mm
29976	Calibrating Tool BUSHPEX Gas 63mm

CRIMP GAUGE

Code	Description
39981	BUSHPEX Crimp Gauge 16,20, 25mm
29982	BUSHPEX Crimp Gauge 32,40mm
29984	BUSHPEX Crimp Gauge 50,63mm

GAS PIPE STRAIGHT

Code	Description
29700	PEX/AL/PEX Pipe 5m Length 16mm
29702	PEX/AL/PEX Pipe 5m Length 20mm
29704	PEX/AL/PEX Pipe 5m Length 25mm
29706	PEX/AL/PEX Pipe 5m Length 32mm
29780	PEX/AL/PEX Pipe 5m Length 40mm
29782	PEX/AL/PEX Pipe 5m Length 50mm
29784	PEX/AL/PEX Pipe 5m Length 63mm

GAS PIPE COIL

Code	Description
29710	PEX/AL/PEX Pipe 100m Coil 16mm
29712	PEX/AL/PEX Pipe 100m Coil 20mm
29717	PEX/AL/PEX Pipe 50m Coil 16mm
29718	PEX/AL/PEX Pipe 50m Coil 20mm
29714	PEX/AL/PEX Pipe 50m Coil 25mm
29715	PEX/AL/PEX Pipe 50m Coil 32mm
29707	PEX/AL/PEX Pipe 25m Coil 16mm
29708	PEX/AL/PEX Pipe 25m Coil 20mm
29709	PEX/AL/PEX Pipe 25m Coil 25mm
29716	PEX/AL/PEX Pipe 25m Coil 32mm

BUSHPEX CRIMP GAS PEX/AL/PEX PIPE IN CONDUIT

Code	Description
23720	Hot & Cold Water Pipe (Black) in Conduit 50m Coil 16mm
23722	Hot & Cold Water Pipe (Black) in Conduit 50m Coil 20mm
23724	Hot & Cold Water Pipe (Black) in Conduit 50m Coil 25mm

SLEEVE CORRUGATED COIL

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

BENDING SPRING

Code	Description
29950	Spring Bending Internal 16mm
29952	Spring Bending Internal 20mm
29954	Spring Bending Internal 25mm
29956	Spring Bending Internal 32mm
29960	Spring Bending External 16mm
29962	Spring Bending External 20mm
29964	Spring Bending External 25mm

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