



Instantor®

NZ GAS
Copper Press Fittings



NZ WATER
Copper Press Fittings



HIGHFLO

COPPER FITTINGS SINCE 1958

Distributors of



Instantor®

NZ Copper Press Fittings

MARKET LEADERS IN PRESS SOLUTIONS



Instantor[®]

Copper Press Fittings

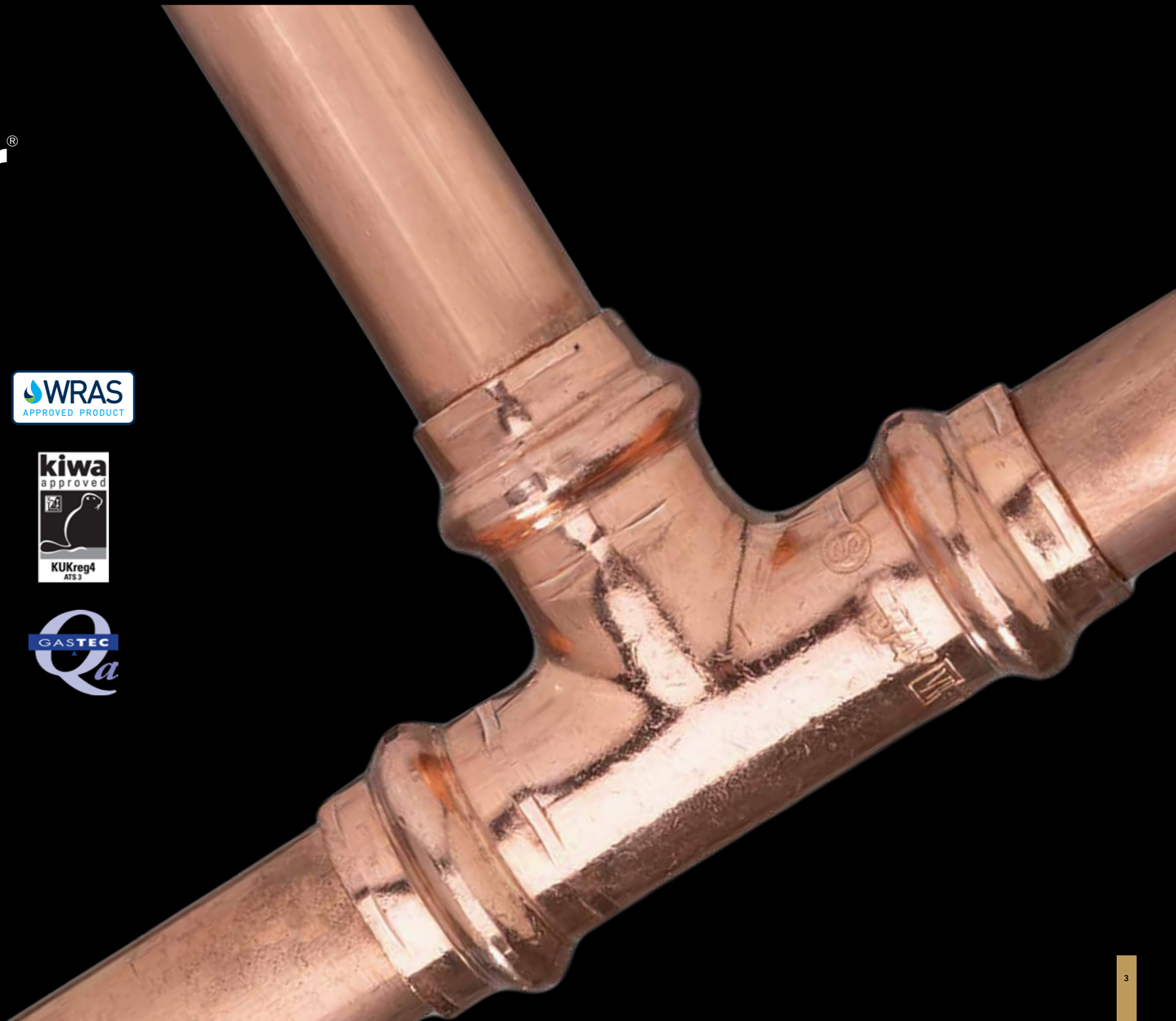
INSTANTOR
COPPER PRESS



Instantor Copper Press fittings are available for water and gas applications. A cutting-edge range offering a quality assured solution with flame free jointing for a quicker and safer installation.

Instantor Copper Press has been rigorously evaluated and certified by WRAS & KIWA to reaffirm our dedication to delivering products that consistently meet the highest standard of quality, safety and performance.

The GAS range of fittings are GASTEC QA approved and feature yellow HNBR O-Rings which are also approved to the relevant industry standards. No hot works permit is required and copper press fittings are quicker and more cost-effective to install than traditional plumbing methods.





Instantor[®]

Copper Press Fittings

FEATURES

- **CERTIFIED** - WRAS & KIWA approval on fittings
- **SAFER INSTALLATIONS** - Flame free jointing with no requirement for hotworks permit
- **QUICK TO INSTALL** - Installation complete in just 5 steps. Cut, Calibrate, Check, Mark & Press
- **SAVE ON TIME** - 35% faster install than traditional soldering method
- **EXTENSIVE OFFERING** - Available to suit NZS3501 specification
- **LEAK DETECTION** - EPDM O-Rings designed with feature to identify un-pressed joints during system testing

INSTALLATION INSTRUCTIONS



CUT

1. Ensure that the fitting is the correct size for the tube being used. Cut the pipe to length using a good quality pipe cutter or rotary pipe cutter. It is important that pipe ends are clean, cut square, and the pipe is not deformed. High speed grinding wheels are not suitable.



CALIBRATE

2. All burrs and sharp edges should be removed. Using a de-burring tool to both the inside and outside of the pipe, leaving an external chamfer. Wipe the pipe end clean. The pipe ends should be free from scratches or scores for a distance not less than the socket depth. **NOTE:** A poorly calibrated pipe could damage the O-ring on insertion.



CHECK

3. Before inserting the pipe, check the O-ring is seated, lubricated and free from damage. (Re-moisten O-ring with water if necessary).



MARK

4. Insert the pipe fully into the socket of the fitting until it hits the pipe stop (or until pipes meet in the middle in fittings without a pipe stop). Mark the insertion depth with black marker to ensure the pipe has been fully inserted before pressing.



PRESS

5. Making sure to select the correct profile Jaw ('VI' for Imperial/Irish Instantor Copper Press), execute the press cycle. After the press tool cycle is complete remove the Press Jaws and check that the socket depth marking on the pipe has remained in place, adjacent to the mouth of the fitting.

NOTE: Fittings should be kept in original packaging to protect the O-ring and prevent drying out of lubrication.

NB: Copper Press water fittings are only suitable for water applications and O rings are not interchangeable with other Instantor Copper Press Products. Only water Copper Press product (indicated with black O-Rings) should be used on water installations and under no circumstances should 'O-rings' be changed or altered.

TECHNICAL SUMMARY

- **Operating Pressure & Temperatures:**
 - 16bar @ 30°C
 - 10bar @ 95°C
- **Max Operating Temperature:** 110°C
- **Min Operating Temperature:** -25°C

SPACING BETWEEN FITTINGS

Minimum spacing between fittings is recommended as follows:

- 15mm - 10mm space
- 20mm - 20mm space
- 25mm - 20mm space

PIPE SUPPORT

Pipe supports should be used to prevent movement and vibration in the finished system.

Maximum bracket distance for copper tube:

15mm	1.8m Vertical	1.2m Horizontal
20mm	2.4m Vertical	1.8m Horizontal
25mm	2.4m Vertical	1.8m Horizontal

WARNING

Due care should be taken to prevent damage to copper press fittings and O-rings by heat transfer due to nearby brazing. High temperature can anneal copper pipe making it too soft for press fit along with causing excessive heat damage to the EPDM O-rings. Each fitting and O-ring should be inspected before installation to confirm that there is no damage or defects due to storage or transportation. Do not use fitting if any visual defects are noted.

WATER



Instantor[®]

Copper Press Fittings

TECHNICAL INFORMATION

PRESSING PROFILE:

VI Profile - Sizes: 15, 20 & 25mm (1/2", 3/4" & 1")

APPLICATION:

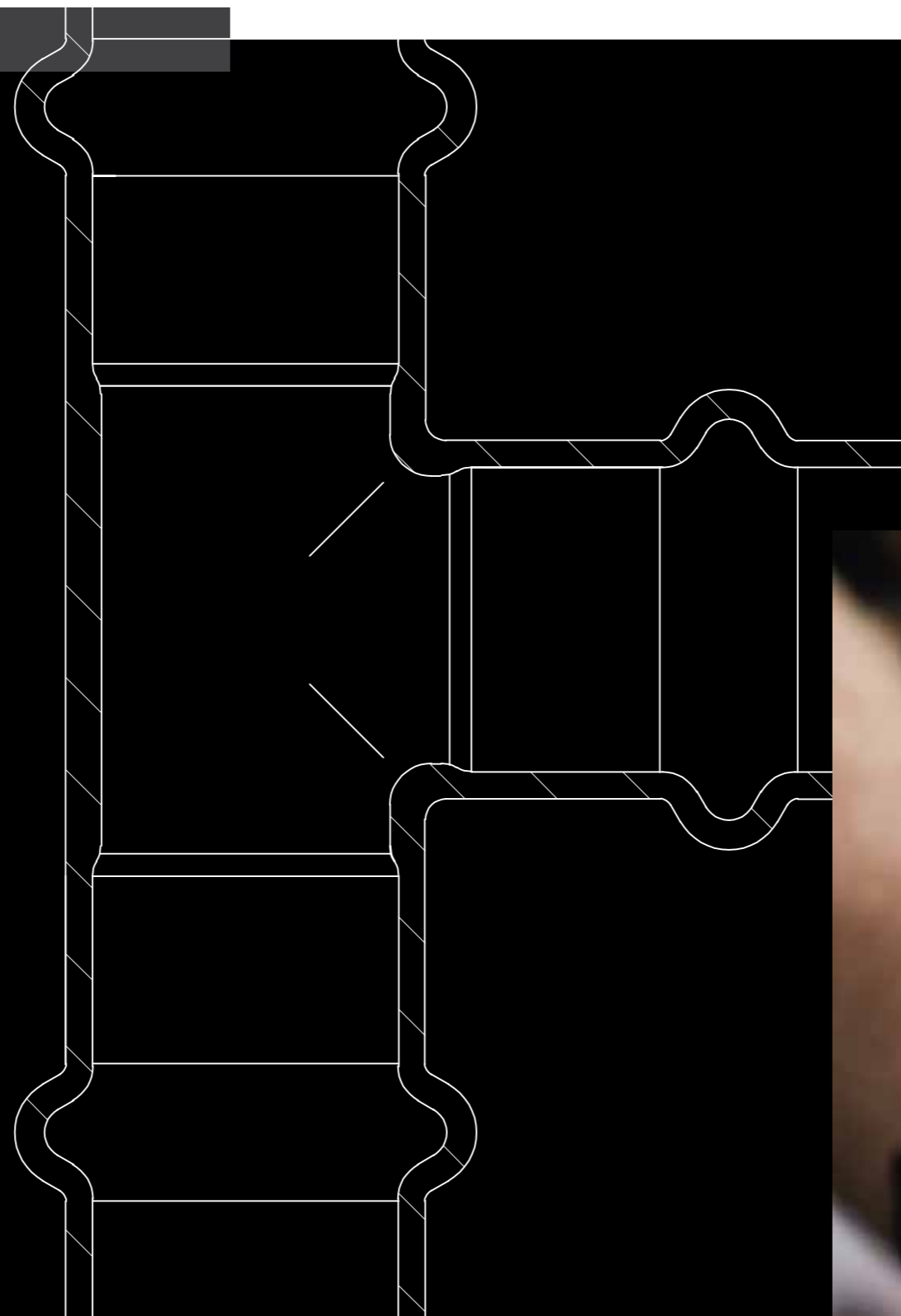
Fittings with black EPDM O-Rings are designed for use in hot and cold water services, heating systems*, chilled water. Instantor Copper press fittings are designed to be used with hard or half hard copper pipe conforming to both NZS3501 & EN 1057. *Excluding solar heating applications, solid fuel primary pipelines and directly buried/embedded applications.

SYSTEM TESTING:

Pressure testing on Instantor Copper Press fittings should normally be carried out using clean potable water in accordance with EN806. All fitting joints installed in the system must remain completely visible and accessible until the system has been successfully leak and pressure tested. After flushing, fill the system with clean potable water ensuring all trapped air has been expelled. Apply pressure between 1 and 2 bar and perform inspection for un-pressed fittings. If un-pressed fittings are identified, they may be pressed without draining the system. Do not press fittings more than once. When satisfied, no un-pressed fittings remain, increase pressure slowly to the system test pressure. Testing of the system should be carried out in accordance with EN806 to 1.1 times the working pressure (Maximum Design Pressure) of the system. Full test pressure should hold for a minimum of 30 minutes without any sign of drop in pressure. Final visual inspection should then be carried out to confirm system is leak tight.

GUARANTEE:

Copper is known for its durability, corrosion resistance, thermal conductivity, and hygienic qualities. In some cases, (e.g. chilled water lines) external protection may be required to protect against corrosive conditions. Instantor Copper Press fittings are guaranteed for 25 years provided they have been installed following correct procedure within operating conditions for which they are designed, by a fully qualified plumber using the correct pressing equipment which holds a valid calibration certificate.



CERTIFICATION:



Imperial Instantor Copper Press
WRAS Approval Number: 2003301 & 2205310
Metric Instantor Copper Press
WRAS Approval Number: 1903373



Imperial Instantor Copper Press
KIWA Certificate Number: 2002711



WATER

Tube Joiner

HF REF	CODE	SIZE	PACK QTY
PWTJ15	CP310001	15mm (½")	10
PWTJ20	CP310002	20mm (¾")	10
PWTJ25	CP310003	25mm (1")	10



Reducer Expanded Both Ends

HF REF	CODE	SIZE	PACK QTY
PWCR2015	CP310021	20mm x 15mm (¾" x ½")	10
PWCR2515	CP310031	25mm x 15mm (1" x ½")	10
PWCR2520	CP310032	25mm x 20mm (1" x ¾")	10



Slip Joiner

HF REF	CODE	SIZE	PACK QTY
PWSJ15	CP3100S1	15mm (½")	10
PWSJ20	CP3100S2	20mm (¾")	10
PWSJ25	CP3100S3	25mm (1")	10



Straight Brass Male Coupler (Lead Free CW511L Brass)

HF REF	CODE	SIZE	PACK QTY
PWBRSCM15	CP311001	½" M x 15mm (½") Press	10
PWBRSCM20	CP311002	¾" M x 20mm (¾") Press	10
PWBRSCM25	CP311003	1" M x 25mm (1") Press	10



Straight Brass Female Coupler (Lead Free CW511L Brass)

HF REF	CODE	SIZE	PACK QTY
PWBRSCF15	CP312001	½" F x 15mm (½") Press	10
PWBRSCF20	CP312002	¾" F x 20mm (¾") Press	10
PWBRSCF25	CP312003	1" F x 25mm (1") Press	10



90° Bent Swivel Connector with PTFE Conical Washer

HF REF	CODE	SIZE	PACK QTY
PWBC15x1/2*	CP313001C*	½" x 15mm (½")	10
PWBC20x3/4*	CP313002C*	¾" x 20mm (¾")	10



Straight Swivel Connector with PTFE Conical Washer

HF REF	CODE	SIZE	PACK QTY
PWSC15x1/2*	CP314001C*	½" x 15mm (½")	10
PWSC20x3/4*	CP314002C*	¾" x 20mm (¾")	10



90° Elbow

HF REF	CODE	SIZE	PACK QTY
PWCE1590	CP315001	15mm (½")	10
PWCE2090	CP315002	20mm (¾")	10
PWCE2590	CP315003	25mm (1")	5



*Not WRAS Approved

Note: Fittings should be kept in original packaging to prevent O-ring lubrication drying out before use.

Note: Fittings should be kept in original packaging to prevent O-ring lubrication drying out before use.

Wingback

(Lead Free CW511L Brass)

HF REF	CODE	SIZE	PACK QTY
PWWB15*	CP319001*	15mm (½")	10
PWWB20*	CP319002*	20mm (¾")	10

**45° Bend**

HF REF	CODE	SIZE	PACK QTY
PWCB1545	CP325001	15mm (½")	10
PWCB2045	CP325002	20mm (¾")	10
PWCB2545	CP325003	25mm (1")	5

**Equal Tee**

HF REF	CODE	SIZE	PACK QTY
PWCTE15	CP318001	15mm (½")	10
PWCTE20	CP318002	20mm (¾")	10
PWCTE25	CP318003	25mm (1")	5

**90° Bend**

HF REF	CODE	SIZE	PACK QTY
PWCB1590	CP335001	15mm (½")	10
PWCB2090	CP335002	20mm (¾")	10
PWCB2590	CP335003	25mm (1")	5

**Reducing Tee**

L x R x Branch (Middle)

HF REF	CODE	SIZE	PACK QTY
PWCTR202015	CP318221	20 x 20 x 15mm (¾" x ¾" x ½")	10
PWCTR201515	CP318211	20 x 15 x 15mm (¾" x ½" x ½")	10
PWCTR201520	CP318212	20 x 15 x 20mm (¾" x ½" x ¾")	10
PWCTR252520	CP318332	25 x 25 x 20mm (1" x 1" x ¾")	5
PWCTR252515	CP318331	25 x 25 x 15mm (1" x 1" x ½")	5

**45° Elbow**

HF REF	CODE	SIZE	PACK QTY
PWCE1545	CP345001	15mm (½")	10
PWCE2045	CP345002	20mm (¾")	10
PWCE2545	CP345003	25mm (1")	5

**Fitting Reducer Expanded 1 End**

HF REF	CODE	SIZE	PACK QTY
PWCR2015MF	CP319021	20mm x 15mm (¾" x ½")	10
PWCR2515MF	CP319031	25mm x 15mm (1" x ½")	10
PWCR2520MF	CP319032	25mm x 20mm (1" x ¾")	10

**End Cap**

HF REF	CODE	SIZE	PACK QTY
PWCC15	CP351001	15mm (½")	20
PWCC20	CP351002	20mm (¾")	15
PWCC25	CP351003	25mm (1")	10



*Not WRAS Approved

Note: Fittings should be kept in original packaging to prevent O-ring lubrication drying out before use.

Note: Fittings should be kept in original packaging to prevent O-ring lubrication drying out before use.



Instantor®

Copper Press Fittings

FEATURES

- **CERTIFIED** - KIWA GASTEC approval on fittings
- **SAFER INSTALLATIONS** - Flame free jointing with no requirement for hotworks permit
- **QUICK TO INSTALL** - Installation complete in just 5 steps. Cut, Calibrate, Check, Mark & Press
- **SAVE ON TIME** - 35% faster install than traditional soldering method
- **EXTENSIVE OFFERING** - Available to suit NZS3501 specification
- **AESTHETIC FINISH** - Neater & cleaner finish with no risk of heat or scorch marks!

INSTALLATION INSTRUCTIONS



CUT

1. Ensure that the fitting is the correct size for the tube being used. Cut the pipe to length using a good quality pipe cutter or rotary pipe cutter. It is important that pipe ends are clean, cut square, and the pipe is not deformed. High speed grinding wheels are not suitable.



CALIBRATE

2. All burrs and sharp edges should be removed. Using a de-burring tool to both the inside and outside of the pipe, leaving an external chamfer. Wipe the pipe end clean. The pipe ends should be free from scratches or scores for a distance not less than the socket depth. **NOTE:** A poorly calibrated pipe could damage the O-ring on insertion.



CHECK

3. Before inserting the pipe, check the O-ring is seated, lubricated and free from damage. (Re-moisten O-ring with water if necessary**).



MARK

4. Insert the pipe fully into the socket of the fitting until it hits the pipe stop (or until pipes meet in the middle in fittings without a pipe stop). Mark the insertion depth with black marker to ensure the pipe has been fully inserted before pressing.



PRESS

5. Making sure to select the correct profile Jaw ('VI' for Imperial/Irish Instantor Copper Press), execute the press cycle. After the press tool cycle is complete remove the Press Jaws and check that the socket depth marking on the pipe has remained in place, adjacent to the mouth of the fitting.

NOTE: Fittings should be kept in original packaging to protect the O-ring and prevent drying out of lubrication.

NB: Copper Press gas fittings are only suitable for gas applications and O-rings are not interchangeable with other Instantor Copper Press Products. Only gas Copper Press product (indicated with yellow O-Rings) should be used on gas installations and under no circumstances should 'O-rings' be changed or altered.

TECHNICAL SUMMARY

- **Operating Pressure & Temperatures:**
Under GASTEC QA 186 approval
200mbar domestic gaseous fuel
-20°C to +70°C

General -20°C to +70°C. MOP 5 Bar - External above ground and MOP 1 Bar - within building subject to fire regulations

SPACING BETWEEN FITTINGS

Minimum spacing between fittings is recommended as follows:

15mm - 10mm space
20mm - 20mm space
25mm - 20mm space

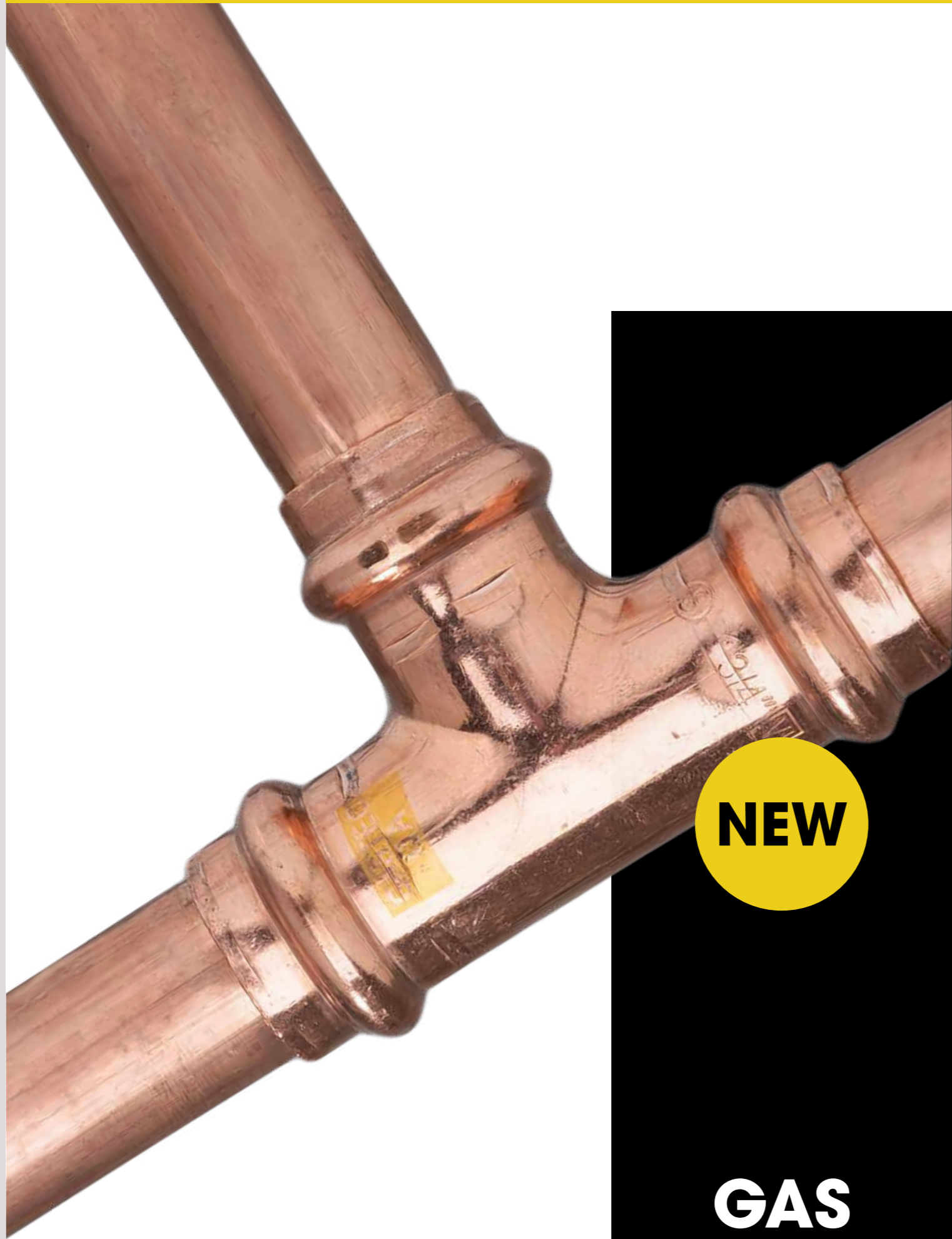
PIPE SUPPORT

Pipe supports should be used to prevent movement and vibration in the finished system. Maximum bracket distance for copper tube:

15mm	1.8m Vertical	1.2m Horizontal
20mm	2.4m Vertical	1.8m Horizontal
25mm	2.4m Vertical	1.8m Horizontal

WARNING

Due care should be taken to prevent damage to copper press fittings and O-rings by heat transfer due to nearby brazing. High temperature can anneal copper pipe making it too soft for press fit along with causing excessive heat damage to the HNBR O-rings. Each fitting and O-ring should be inspected before installation to confirm that there is no damage or defects due to storage or transportation. Do not use fitting if any visual defects are noted.



NEW

GAS



Instantor[®]

Copper Press Fittings

TECHNICAL INFORMATION

PRESSING PROFILE:

VI Profile - Sizes: 15, 20 & 25mm (1/2", 3/4" & 1")

APPLICATION:

Instantor Gas Copper Press Fittings are designed to be used with half-hard copper tubes (R250) or hard copper tubes (R290) conforming to both NZS3501 & EN 1057, with a maximum diameter of 25mm (1") according to GASTEC QA Approval Requirement 5. Instantor Gas Copper Press Fittings are suitable for domestic gas installations for the transport of gaseous fuels in accordance to the 2nd & 3rd family gases. The maximum operating pressure is 200mbar.

Instantor Gas Copper Press Fitting are for gas only and are stamped with GASTEC in yellow markings on the body of each fitting. The O-rings are constructed from premium HNBR which are approved to EN549 & EN682 for use in gas fuel services and are yellow in colour for identification purposes.

SYSTEM TESTING:

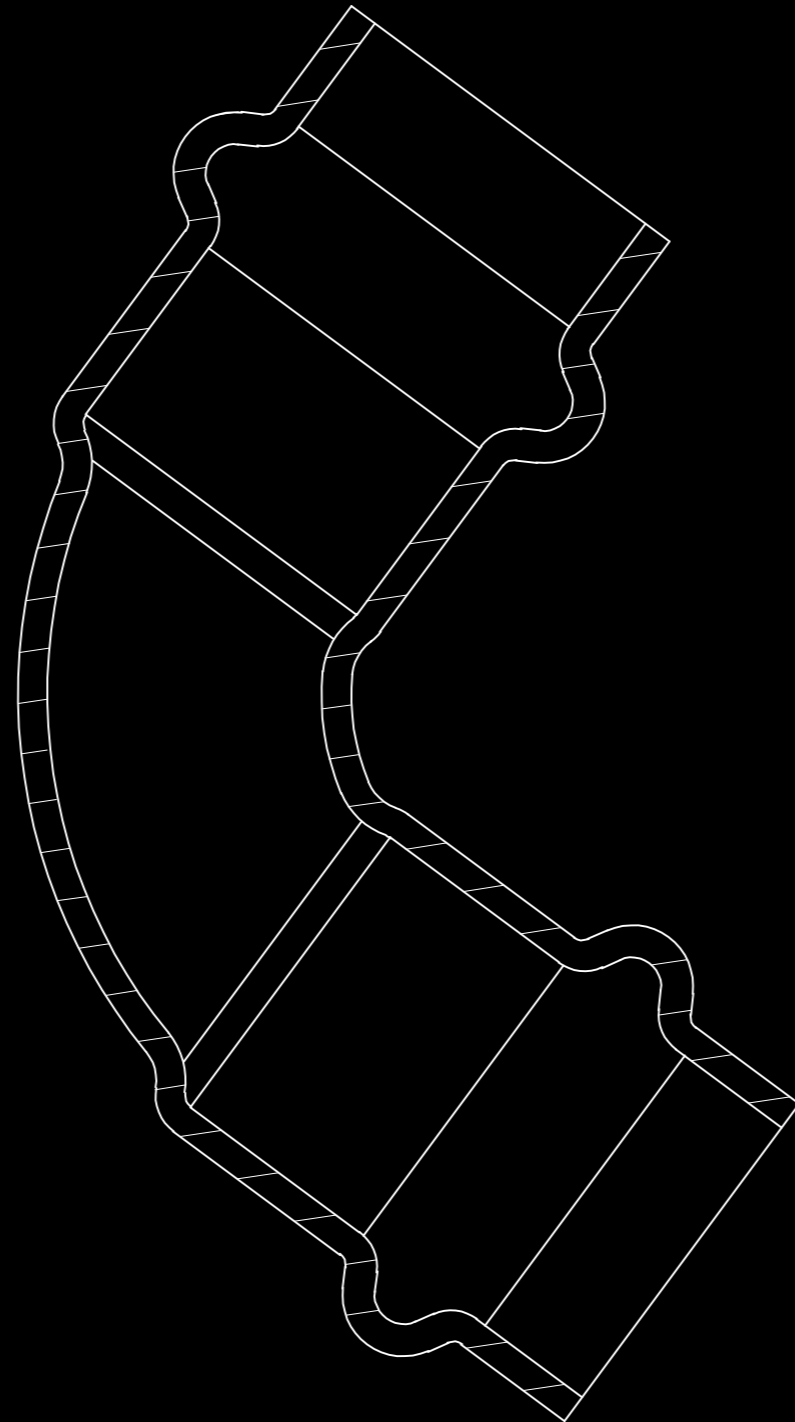
Pressure testing on Instantor Copper Press fittings should normally be carried out using air/leak detection spray in accordance with local regulations and standards e.g., IS813 and RGI.

All joints installed in the system must remain completely visible and accessible until the system has been successfully leak and pressure tested. Final inspections should then be carried out to confirm system is leak tight and sound.

GUARANTEE:

Copper is known for its durability, corrosion resistance, thermal conductivity, and hygienic qualities. In some cases, (sleeving/ marking is required - follow local building standards e.g. IS813) external protection may be required to protect against corrosive conditions.

Instantor Copper Press fittings are guaranteed for 25 years provided they have been installed following correct procedure within operating conditions for which they are designed, by a fully competent person using the correct pressing equipment which holds a valid calibration certificate.



CERTIFICATION:



Imperial & Metric Instantor Gas Copper Press
KIWA GASTEC QA Approval Number: 110435/01



GAS

Gas Tube Joiner

HF REF	CODE	SIZE	PACK QTY
PGTJ15	CPG310001	15mm (1/2")	10
PGTJ20	CPG310002	20mm (3/4")	10
PGTJ25	CPG310003	25mm (1")	10



Gas Reducer Expanded Both Ends

HF REF	CODE	SIZE	PACK QTY
PGCR2015	CPG310021	20mm x 15mm (3/4" x 1/2")	10
PGCR2515	CPG310031	25mm x 15mm (1" x 1/2")	10
PGCR2520	CPG310032	25mm x 20mm (1" x 3/4")	10



Gas Slip Joiner

HF REF	CODE	SIZE	PACK QTY
PGSJ15	CPG3100S1	15mm (1/2")	10
PGSJ20	CPG3100S2	20mm (3/4")	10
PGSJ25	CPG3100S3	25mm (1")	10



Gas Straight Brass Male Coupler

HF REF	CODE	SIZE	PACK QTY
PGBRSCM15	CPG311001	1/2" M x 15mm (1/2") Press	10
PGBRSCM20	CPG311002	3/4" M x 20mm (3/4") Press	10
PGBRSCM25	CPG311003	1" M x 25mm (1") Press	10



Gas Straight Brass Female Coupler

HF REF	CODE	SIZE	PACK QTY
PGBRSCF15	CPG312001	1/2" F x 15mm (1/2") Press	10
PGBRSCF20	CPG312002	3/4" F x 20mm (3/4") Press	10
PGBRSCF25	CPG312003	1" F x 25mm (1") Press	10



Gas 90° Elbow

HF REF	CODE	SIZE	PACK QTY
PGCE1590	CPG315001	15mm (1/2")	10
PGCE2090	CPG315002	20mm (3/4")	10
PGCE2590	CPG315003	25mm (1")	5



Gas Equal Tee

HF REF	CODE	SIZE	PACK QTY
PGCTE15	CPG318001	15mm (1/2")	10
PGCTE20	CPG318002	20mm (3/4")	10
PGCTE25	CPG318003	25mm (1")	5



Gas Reducing Tee

L x R x Branch (Middle)

HF REF	CODE	SIZE	PACK QTY
PGCTR201515	CPG318211	20 x 15 x 15mm (3/4" x 1/2" x 1/2")	10
PGCTR201520	CPG318212	20 x 15 x 20mm (3/4" x 1/2" x 3/4")	10
PGCTR202015	CPG318221	20 x 20 x 15mm (3/4" x 3/4" x 1/2")	10
PGCTR252520	CPG318332	25 X 25 X 20mm (1" x 1" x 3/4")	5



Note: Fittings should be kept in original packaging to prevent O-ring lubrication drying out before use.

Note: Fittings should be kept in original packaging to prevent O-ring lubrication drying out before use.

Gas Fitting Reducer Expanded 1 End

HF REF	CODE	SIZE	PACK QTY
PGCR2015MF	CPG319021	20mm x 15mm (¾" x ½")	10
PGCR2515MF	CPG319031	25mm x 15mm (1" x ½")	10
PGCR2520MF	CPG319032	25mm x 20mm (1" x ¾")	10



Gas 45° Bend

HF REF	CODE	SIZE	PACK QTY
PGCB1545	CPG325001	15mm (½")	10
PGCB2045	CPG325002	20mm (¾")	10
PGCB2545	CPG325003	25mm (1")	5



Gas 90° Bend

HF REF	CODE	SIZE	PACK QTY
PGCB1590	CPG335001	15mm (½")	10
PGCB2090	CPG335002	20mm (¾")	10
PGCB2590	CPG335003	25mm (1")	5



Gas 45° Elbow

HF REF	CODE	SIZE	PACK QTY
PGCE1545	CPG345001	15mm (½")	10
PGCE2045	CPG345002	20mm (¾")	10
PGCE2545	CPG345003	25mm (1")	5



Gas End Cap

HF REF	CODE	SIZE	PACK QTY
PGCC15	CPG351001	15mm (½")	20
PGCC20	CPG351002	20mm (¾")	15
PGCC25	CPG351003	25mm (1")	10



Note: Fittings should be kept in original packaging to prevent O-ring lubrication drying out before use.



VI Jaws - Suitable for both Water & Gas Applications
To Suit Novopress ACO 151 / 152 / 153 Press-tools



CODE	CODE	SIZE
PRJAW15	IT20036A	15mm (½") VI
PRJAW20	IT20037A	20mm (¾") VI
PRJAW25	IT20038A	25mm (1") VI





Instantor[®]

Copper Press Fittings

APPLICATIONS CHART

Instantor Copper Press Fittings are designed in two variations:

One containing **Black** coloured **EPDM** sealing rings for use in standard water applications and the other contains **Yellow** coloured **HNBR** sealing rings for use with 2nd & 3rd family **gases**.

The fittings should be left in their packaging until use, this prevents the O-ring from drying out along with protecting the fittings from knocks, scratches or any external damage to the O-ring. If the fitting or O-ring is damaged or any defects are noticed, do not use it and obtain a new fitting.

Instantor Gas Copper Press Fittings are marked in yellow with the word GAS for identification purposes.

Instantor Copper Press **Water** Fittings are designed to EN1254-7 and are **WRAS & KIWA** approved. Instantor **Gas** Copper Press Fittings are designed to EN1254-7 and are KIWA **GASTEC** Approved.



In New Zealand, both the water and gas fittings in sizes DN15, DN20, and DN25 are pressed using "VI" profile jaws.

Instantor Copper Press Water Fittings incorporate a '**Leak Before Press**' feature on the O-rings for ease of identifying unpressed fittings. For safety reason, gas fittings do not incorporate this feature.

For use with Copper Tubes to: EN1057 (Imperial) and NZS3501 (Table I, II, III).
Tempers: Half Hard R250 and Hard R290.

Not suitable for: Uncontrolled/solid fuel application, solar high temperature primary flow and return lines. Refrigeration and air conditioning, soft copper tube R220, any gases not specifically mentioned in the below Table A. Direct embedment/buried in concrete, aggregate, plaster or similar aggressive compounds, copper must be protected in these circumstances (sleeved).

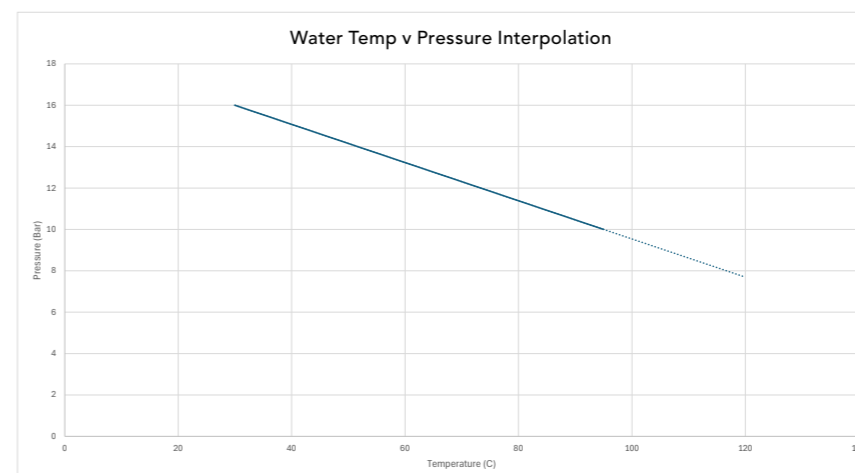
Table A

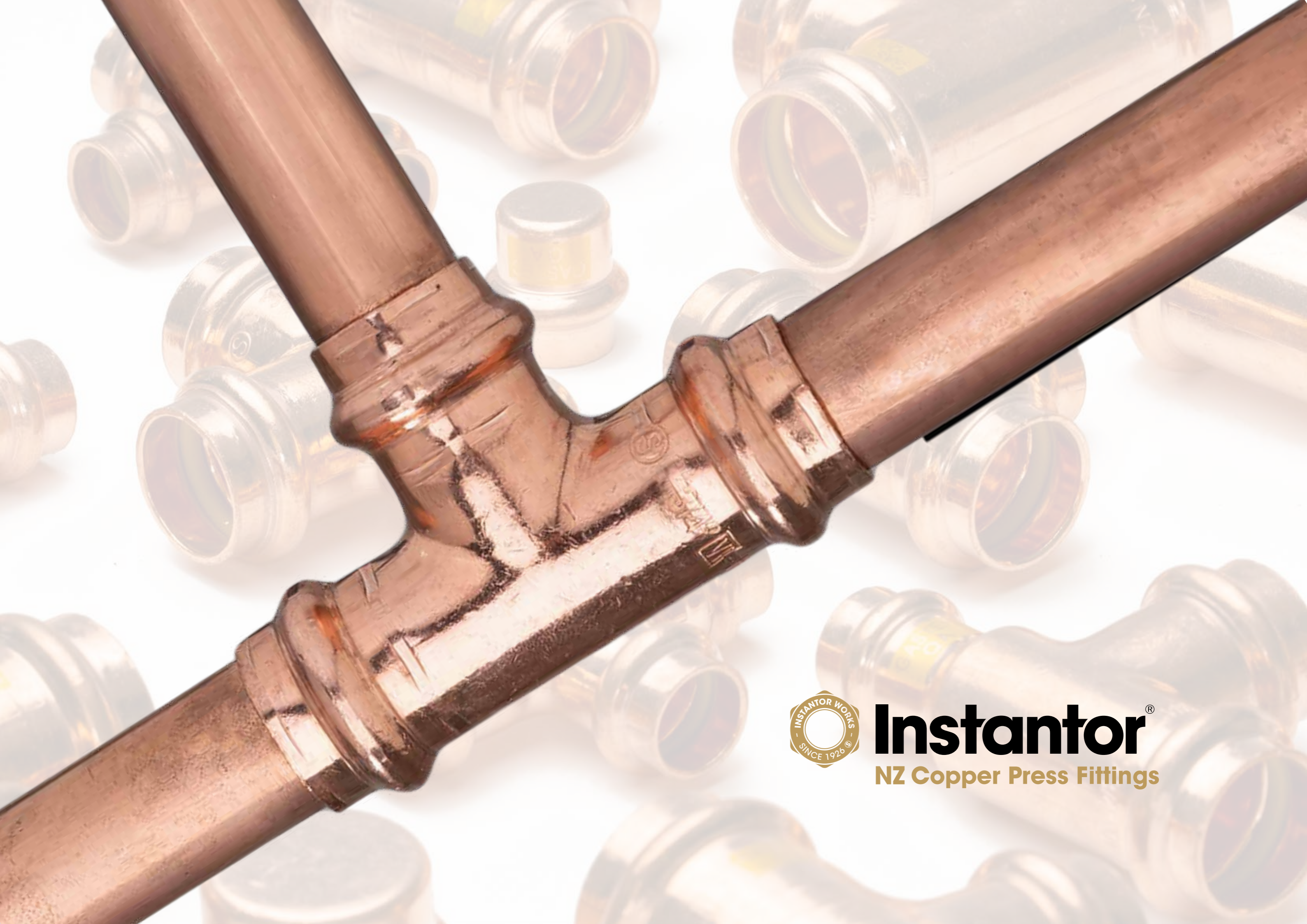
WATER			GAS		
O-ring Material	EPDM (Ethylene propylene diene monomer)		O-ring Material	HNBR (Hydrogenated nitrile butadiene rubber)	
O-ring Colour	Black 		O-ring Colour	Yellow 	
Application Refer Chart 1	Pressure	Temperature	Application	Pressure	Temperature
Hot & Cold Potable	16 bar	70°C per regulation Max: 120°C	Natural gas installations 2nd & 3rd family gases	MOP5 Bar MOP1 Bar 200mbar domestic	-20°C to ±70°C
Cold Potable (Drinking Cat1.)	16 bar	20°C (±5°C)	Liquid gas installations (LPG)	MOP5 Bar MOP1 Bar 200mbar domestic	-20°C to ±70°C
Water Based Heating	16 bar	110°C	Heating oil/Diesel/Kerosine	MOP5 Bar	+40°C
Service Water	16 bar	40°C	Compressed air with oil	10 Bar	+70°C
Remote Network Heating <120°C	16 bar	120°C	Bio Gas	MOP5 Bar	+70°C
Chilled Water	10 bar	-25°C			
Rain Water* PH>6.0 <9.0 (Inspect water quality)	10 bar	Ambient			
Sprinkler (WET)	10 bar	Ambient			
Compressed Air - Oil Free (<1mg/m3)	10 bar	70°C			
Vacuum	-0.8 bar	Ambient			

* Inspect the rain water composition to confirm it's compatible with copper prior to installation. Check for any microbiological incompatibility, high salts, ammonia compounds and high concentration of organic compounds.

If the application is not listed above, do not use it. Confirmation is required through a consultation.

Chart 1





Instantor[®]
NZ Copper Press Fittings



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HIGHFLO

COPPER FITTINGS SINCE 1958

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