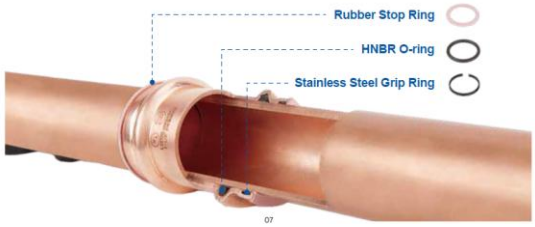
Technical Specification
Instantor®
R-Press





Product Code:	See table 4
Description:	IMPERIAL ACR INSTANTOR® R-PRESS - A range of Radial Press/Crimp Copper Fittings for use with HVACR applications
Application:	Air Conditioning, Heat Pump*(refrigerant side)* VRF/VRV, Refrigeration , Ethylene Glycol
Connection type(s):	Radial Crimp/Press
Size/Range:	¼" , 3/8", ½" , 5/8", ¾", 7/8" & 1 1/8"
Min/Max Operating pressure: (PS)	48 Bar/ 700PSI/ 4800kPa
Min/Max Operating temperature: (TS)	-40°F - +284°F / -40°C - +140°C
Vacuum pressure capability:	200 Microns
Leak tightness:	Helium ≤7.5 x 10^{-7}Pa.m³/s at +20°C, 10 Bar
Colour:	Natural Copper 99.9%
Material Specification:	Body: Copper UNS C12200 (99.9%) (CW024A) O-ring: HNBR – Black Grip ring: Stainless Steel
Approved tubes:	ASTM B280/EN12735-1/ASTM B88/ASTM B743/AS1571 Hard/Half Hard drawn copper – Type ACR, L,K Softer Copper Annealed – Type ACR, L, K

Tube sizing:

Table 1. Tube Compatibility Table Inch Series EN12735

Fitting size	Nominal OD Inch	Nominal OD mm
¼"	0.250"	6.35
3/8"	0.375"	9.53
½"	0.500"	12.70
5/8"	0.625"	15.88
3/4	0.750"	19.05
7/8"	0.875"	22.23
1 1/8"	1.125"	28.58

Approved Lubricants: POE, PAO, PVE, AB and MO

Approved Refrigerants:

Table 2. Approved Refrigerants

R32	R125	R134a	R290	R407A	R407C
R407F	R407H	R454A	R454B	R438A	R448A
R454C	R452A	R452B	R507A	R404A	R410A
R449A	R600A	R452C	R1234yf	R1234ze	

Approved torque for Flares:	Table 3. Flare assembly torque figure

Size	Nm	Ft lbf
¼"	14-18	11-13
3/8"	33-42	25-31
½"	50-62	37-45
5/8"	63-77	47-56
¾"	90-110	67-81

Warranty:	15* Years subject to T&C. See Note 7 in table 6.
Fittings Approval:	UL Certified – 207 9th Ed. – Reference No. SA46454
Fittings Markings:	Ⓢ (Manufacturer logo) , 700PSI (Pressure), UL (mark), ½" (Size)
Material restrictions:	i) Material shall be compatible with the type of refrigerant and oil used. ii) Copper & Brass materials shall not be used in fabrication or assembly intended to handle Ammonia as a refrigerant. iii) Aluminium, Zinc, or magnesium alloys shall not be used in the fabrication or assembly intended to handle Methyl Chloride refrigerants. iv) Tubing connectors of dissimilar metals, such as Aluminium and Copper, shall be protected against moisture to minimise Galvanic action. Use abrasive pads, do not use sandpaper or steel wool to clean tubing. Scores may be left, impairing the joint integrity. If sandpaper is the only option, then it must be above 320 grits, inspect for any scores or damage before continuing.
Installation:	Follow detailed instruction sheet. Installed by a Competent and certified installer. 1. Cut copper tube square with a wheel head tube cutter. The cut must be clean. 2. Deburr the internal and external cut edge with a deburring tool. 3. Clean and smooth the tube end with an abrasive pad (e.g. scotch-Brite pad) 4. Mark insertion depth 5. Inspect the fitting for any obvious damage to the O-ring seal or fitting edges. Check that the O-rings are present and not out of position. Keep fittings in resealable bag until ready to use. 6. Slights rotate the fitting while sliding onto the tube to the insertion marks. 7. Use the correctly selected press jaw (inspect for dirty/debris) and place over the fittings collar at a right angle to the tube, Press/crimp the fitting. Inspect the joint for any obvious marks or deformation and that the press connection has completed satisfactory. If issues present, remove and replace the fitting in question.
Press Tool:	Approved Press Tools as Instantor IT2020, IT2030, IT2040 with ACR Imperial V sized jaws. Check the compatibility chart in Table 5 for more details.
Storage & Handling:	I) Fittings should be handled with care: II) Packaged in polybags, store in a clean dry location, Amb. 5-40°C & humidity 40-70%, Keep away from contaminants such as ammonia and Solvents. III) Inspect fittings for damage before installation, do not embed fittings directly into aggregates such as concrete, lime, plaster, or similar aggressive compounds. IV) If a fitting is dropped, inspect for any damage and do not use if defects are noted. V) Scratches that can be felt with your fingernail should be of concern, with this section of tube replaced. VI) When carrying tubes, do not drag the tube ends across the ground. VII) Follow all health and safety procedures. VIII) Wear Gloves and glasses/goggles when required.

Minimum distance between fittings:	¼" , 3/8" & ½" = 10mm 5/8",3/4", 7/8" & 1 1/8" = 20mm
Electrical conductivity:	INSTANTOR® R-PRESS Fittings maintain grounding continuity with no requirement for additional grounding. The fittings must not be used as a source of electrical grounding

Table 4. Product List

Product code	Description	Size	Size
RP510100	ACR Instantor R-Press 1/4" Straight Coupler PxP	1/4"	
RP510200	ACR Instantor R-Press 3/8" Straight Coupler PxP	3/8"	
RP510300	ACR Instantor R-Press 1/2" Straight Coupler PxP	1/2"	
RP510400	ACR Instantor R-Press 5/8" Straight Coupler PxP	5/8"	
RP510500	ACR Instantor R-Press 3/4" Straight Coupler PxP	3/4"	
RP510600	ACR Instantor R-Press 7/8" Straight Coupler PxP	7/8"	
RP510700	ACR Instantor R-Press 1 1/8" Straight Coupler PxP	1 1/8"	
RP514100	ACR Instantor R-Press 1/4" Straight Swivel Union PxFPT	1/4"	UNF 7/16-20
RP514200	ACR Instantor R-Press 3/8" Straight Swivel Union PxFPT	3/8"	UNF 5/8-15
RP514300	ACR Instantor R-Press 1/2" Straight Swivel Union PxFPT	1/2"	UNF 3/4-16
RP514400	ACR Instantor R-Press 5/8" Straight Swivel Union PxFPT	5/8"	UNF 7/8-14
RP514500	ACR Instantor R-Press 3/4" Straight Swivel Union PxFPT	3/4"	UNF 11/16-14
RP515100	ACR Instantor R-Press 1/4" 90° Elbow PxP	1/4"	
RP515200	ACR Instantor R-Press 3/8" 90° Elbow PxP	3/8"	
RP515300	ACR Instantor R-Press 1/2" 90° Elbow PxP	1/2"	
RP515400	ACR Instantor R-Press 5/8" 90° Elbow PxP	5/8"	
RP515500	ACR Instantor R-Press 3/4" 90° Elbow PxP	3/4"	
RP515600	ACR Instantor R-Press 7/8" 90° Elbow PxP	7/8"	
RP515700	ACR Instantor R-Press 1 1/8" 90° Elbow PxP	1 1/8"	
RP518100	ACR Instantor R-Press 1/4" Tee PxPxP	1/4"	
RP518200	ACR Instantor R-Press 3/8" Tee PxPxP	3/8"	
RP518300	ACR Instantor R-Press 1/2" Tee PxPxP	1/2"	
RP518400	ACR Instantor R-Press 5/8" Tee PxPxP	5/8"	
RP518500	ACR Instantor R-Press 3/4" Tee PxPxP	3/4"	
RP518600	ACR Instantor R-Press 7/8" Tee PxPxP	7/8"	
RP518700	ACR Instantor R-Press 1 1/8" Tee PxPxP	1 1/8"	
RP519210	ACR Instantor R-Press 3/8" x 1/4" Reducing Coupler PxP	3/8"	1/4"
RP519310	ACR Instantor R-Press 1/2" x 1/4" Reducing Coupler PxP	1/2"	1/4"
RP519320	ACR Instantor R-Press 1/2" x 3/8" Reducing Coupler PxP	1/2"	3/8"
RP519410	ACR Instantor R-Press 5/8" x 1/4" Reducing Coupler PxP	5/8"	1/4"
RP519420	ACR Instantor R-Press 5/8" x 3/8" Reducing Coupler PxP	5/8"	3/8"
RP519430	ACR Instantor R-Press 5/8" x 1/2" Reducing Coupler PxP	5/8"	1/2"
RP519530	ACR Instantor R-Press 3/4" x 1/2" Reducing Coupler PxP	3/4"	1/2"
RP519540	ACR Instantor R-Press 3/4" x 5/8" Reducing Coupler PxP	3/4"	5/8"
RP519630	ACR Instantor R-Press 7/8" x 1/2" Reducing Coupler PxP	7/8"	1/2"
RP519640	ACR Instantor R-Press 7/8" x 5/8" Reducing Coupler PxP	7/8"	5/8"
RP519650	ACR Instantor R-Press 7/8" x 3/4" Reducing Coupler PxP	7/8"	3/4"
RP519740	ACR Instantor R-Press 1 1/8" x 5/8" Reducing Coupler PxP	1 1/8"	5/8"
RP519750	ACR Instantor R-Press 1 1/8" x 3/4" Reducing Coupler PxP	1 1/8"	3/4"
RP519760	ACR Instantor R-Press 1 1/8" x 7/8" Reducing Coupler PxP	1 1/8"	7/8"

Note: Other fitting shapes and size variations are available upon request.

Products produced from Brass are not suitable for underground applications!

Table 5. Press Tools and Jaws compatibility - Inch/Imperial V-Profile-Jaws		
1.	2. INSTANTOR R-PRESS V JAWS (ACR)	3. Own Listed Tool Jaws (ACR)
Instantor Mini Tool 18V	✓	✓
Novopress AFP101/ACO102/ACO103	✓	✓
Milwaukee M12 Force Logic	✓	✓
Rothenberger Romax Compact - TT	✓	✓
Hilti Nuron NPR 19-22	✓	✓
Ridgid RP 251 24KN	✓	✓
Klauke MAP219/MAP2L19	✓	✓
REMS Mini-Press 22V	X	✓
Rothenburger Romax	X	✓
Klauke UAP2/UNP2/UAP3L/UAP4L	x	✓
Milwaukee M18 Force logic	X	✓
Ridgid RP350 & RP351	X	✓
19KN press tools are suitable and approved to press fitting with tubes up to 1. 1/8”. All above tool and jaws are for use with Instantor R-Press System, Size ¼” to 1. 1/8”. Instantor R-Press V- Jaws fit tools with a tick in column 2 The other tools own V-profile Inch series ACR jaw as listed in column 3 can be used with their own tool only.		

Table 6. Technical notes:	
Note 1:	It is the Engineer/Installers responsibility to ensure that the correct tube and press profile V-Jaw are compatible with Instantor R-Press and meets the operating pressures and temperature requirements of the system.
Note 2:	The joint connection is complete after one full crimp cycle. Do NOT crimp more than once.
Note 3:	Adhere to all Health & Safety regulations, wear appropriate PPE per your risk assessment requirements. (Ear protection, Eye protection, High Vis, Hard hat etc. keep hands away from the press tool ends when crimping.
Note 4:	Only use the refrigerants listed in table 2. Do NOT use any other refrigerants.
Note 5:	Do NOT rotate the fittings after the completion of the crimp/press cycle.
Note 6:	Do NOT force tube ends together to make the connection, the joint should be made on unstressed and aligned pipework.
Note 7:	Refer to local guidelines, regulations, and EN 378-2 Refrigerating systems and heat pumps. Safety and environmental requirements. Design, construction, testing, marking, and documentation. EU No.517/2014 on fluorinated greenhouse gases.
Note 7:	*Warranty covers defects in manufacturing that are attributed to our areas of responsibility. The warranty period is 2 years out of the bag, and 15 years where certified training has been provided. This warranty is not valid if the installation was conducted by non-professionals or if the assembly instructions in our manual were not followed. Civil responsibility is limited to a period of 15 years after the installation. In the event of damage, this must be communication to Sanbra Fyffe Ltd. In writing within a period of five days, from the date of the incident. Defective Instantor R-Press fittings must be kept and made available to our technicians for the checks required in each case. The correct Jaw and tool compatibility must be adhered to per table 5 and with the applicable tool in calibration with a valid calibration certificate for the installed period.

Table 7. Minimum Brazing distances to existing pressed fittings	
Tube OD	Min Distance
¼”	250mm
3/8”	300mm
½”	350mm
5/8”	450mm
¾”	500mm
7/8”	600mm
1-1/8”	700mm