

| Job Name         | Contractor      |
|------------------|-----------------|
| Job Location     | Wholesaler      |
| Engineer         | NIBCO Sales Rep |
| Air Conditioning |                 |
| Refrigeration    |                 |

#### **PRODUCT DESCRIPTION**

NIBCO® PressACR® system is a copper press connection system designed to meet the demands of refrigeration systems. PressACR utilizes a gray HNBR sealing element to provide permanent leak-proof connections in 1/4" through 1 5/8" OD diameters.

#### **STANDARDS AND CODES**

- ISO 5149-2
- ISO I4903 Helium leak test
- ISO 14903 Thermal cycle test
- ISO 14903 Fatigue test
- ISO 14903 Freeze test
- UL 109 vibration
- ASME B31.5
- ASHRAE 15

- International Residential Code®: IRC
- International Mechanical Code®: IMC
- Uniform Mechanical Code\*: UMC

\*Uniform Mechanical Code is copyrighted publications of the International Association of Plumbing and Mechanical Officials

#### THIRD PARTY LISTINGS AND CERTIFICATIONS

- UL 207
- ICC-ES PMG 1580

#### **OPERATING PARAMETERS**

- Operating Pressure: 700 psi max
- Vacuum: 150 microns

• Operating Temperature: -40°F to 250°F

#### **APPLICATIONS**

Tubing: PressACR is approved for use with K, L & M hard copper tubing and soft copper tubing in 1/4" through 7/8" OD diameters. PressACR is only approved for use with K, L & M hard copper tubing for sizes 1 1/8" and above. All tubing must comply with ASTM B280 ACR tube or B88 standards. PressACR fittings are approved for air conditioning and refrigeration applications using A class refrigerants.



# **PressACR Fitting Applications**

#### **Approved Refrigerants**

R1234yf, R1234ze, R125, R134a, R143a, R404A, R407A, R407C, R407F, R410A, R417A, R422D, R447A, R448A, R449A, R450A, R452A, R452B, R507, R513A, R718, R32, R290, R600, R600a, R407B, R407G, R407H, R421A, R422A, R422B, R422C, R427A, R434A, R446A, R449B, R449C, R451A, R451B, R452C, R454A, R454B, R454C, R456A, R513B

#### **Approved Oils**

POE, PAG, MO, PAO, PVE and AB

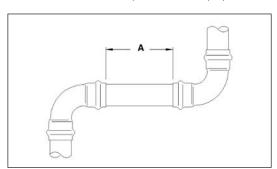
#### **Thermal Expansion and Contraction**

Thermal expansion and contraction should be accounted for in all system designs. Further guidance on how to account for these stresses can be found in The Copper Development Association's Copper Tube Handbook, Section 3.

#### **Brazing Chart**

#### **Minimum Distance Between Joints**

To prevent distortion of the tubing, certain fitting sizes require a minimum distance between crimp joints (refer to Chart 1 below). Failure to provide this minimum distance may result in an improper seal.



|       | Insertion | Minimum Distance<br>Between Two<br>Pressed Connections | Distance to<br>Press Fittings<br>From Existing<br>Brazed Fittings | Distance to<br>Braze from<br>Existing Press<br>Fitting |
|-------|-----------|--|---|--|
| Size  | Depth     | A (inches)   |   |  |
| 1/4   | 11/16     | 1/4  | 3   | 16   |
| 5/16  | 11/16     | 1/4  | 3   | 16   |
| 3/8   | 11/16     | 1/4  | 3   | 16   |
| 1/2   | 11/16     | 1/4  | 3   | 16   |
| 5/8   | 11/16     | 1/4  | 5   | 22   |
| 3/4   | 7/8       | 3/8  | 5   | 22   |
| 7/8   | 7/8       | 3/8  | 5   | 22   |
| 1 1/8 | 7/8       | 3/8  | 6   | 24   |
| 1 3/8 | 1         | 1/2  | 8   | 26   |
| 1 5/8 | 1 3/8     | 5/8  | 8   | 30   |

#### **Elbows**

Elbows cause a pressure drop due to changing direction of the internal fluid. This results in a pressure drop slightly higher than a straight length of ACR tubing. When calculating the total line length for pressure drop, the below chart can be used to account for elbows.

| Pressure Drop: Equivalent Lengths of ACR Tube (ft) |      |  |  |
|--|------|--|--|
| Line Size (OD) NIBCO Press Long Radius Elb         |      |  |  |
| 1/4  | 0.48 |  |  |
| 5/16   | 0.50 |  |  |
| 3/8  | 0.65 |  |  |
| 1/2  | 0.93 |  |  |
| 5/8  | 1.04 |  |  |
| 3/4  | 1.39 |  |  |
| 7/8  | 1.40 |  |  |
| 1 1/8  | 1.88 |  |  |
| 1 3/8  | 2.95 |  |  |
| 1 5/8  | 2.63 |  |  |

#### **Tools**

| Tool & Jaws Compatibility Matrix |  |                |  |  |
|----------------------------------|--|----------------|--|--|
| Manufacturer                     | Model(s)                               | Size Range     | NIBCO Jaws   |  |
| NIBCO®                           | PCR-20M (19 kN)                        | 1/4" to 1 1/8" | PCR-14M 1/4 Jaw, PCR-516M<br>5/16 Jaw. PCR-38M 3/8 Jaw,<br>PCR-12M 1/2 Jaw. PCR-1M 5/8 |  |
| Klauke®                          | MAP2L19 (19 kN)                        | 1/4" to 1 1/8" | Jaw, PCR-34M 3/4 Jaw, PCR-2M 7/8 Jaw and PCR-3M 11/8 Jaw                               |  |
| NIBCO <sub>®</sub>               | PC-280 (32 kN)                         | 1/4" to 1 3/8" |  |  |
|                                  | RP 350 (32 kN)                         | 1/4" to 1 3/8" | DCD 140 1/4 I DCD F100   |  |
| RIDGID◎                          | RP 351 (32 kN)                         | 1/4" to 1 3/8" | PCR-14S 1/4 Jaw, PCR-516S<br>5/16 Jaw, PCR-38S 3/8 Jaw.                                |  |
| TIIDGID                          | RP 342-XL Long<br>Reach (32 kN)        | 1/4" to 1 3/8" | PCR-12S 1/2 Jaw, PCR-1S 5/8<br>Jaw. PCR-34S 3/4 Jaw. PCR-2S                            |  |
|                                  | M18™ (32 kN)                           | 1/4" to 1 3/8" | 7/8 Jaw, PCR-3S 11/8 Jaw and   |  |
| Milwaukee®                       | M18 <sup>™</sup> Long<br>Throw (32 kN) | 1/4" to 1 3/8" | PCR-138M 13/8 Jaw  |  |
| DeWalt∘                          | DCE200 (32 kN)                         | 1/4" to 1 3/8" |  |  |

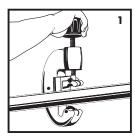
NOTE: Only NIBCO jaws can be used to crimp NIBCO PressACR  $^{\text{TM}}$  fittings. Use of any other jaw will void the product warranty.



# NIBCO PressACR

# **Fittings Installation Instructions**

For hard or annealed ACR copper tubing



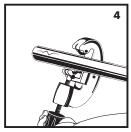
1. Select clean, undamaged copper tube and cut to desired length using a wheel type cutter. Do not use a hacksaw or reciprocating saw. Do not crimp over any etched print on the tube.



2. Remove all external sharp edges to the tube end. A cone type deburring tool should be used on the tube outer diameter and inner diameter (rotated 5-7 times). A pen type deburing tool may be used on the tube inner diameter. It is critical to visually inspect and feel the end of the tube to make sure it is free of any sharp edges which could damage the fitting seal.



**3.** Polish the end of the tube with an abrasive pad (such as Scotch-Brite® 7447 Maroon by 3M® or equivalent) in a radial manner for 5-7 seconds. Do not polish axially. The tube end must be free from any oxidation, dirt, debris, and any imperfections. The surface of the tube should be shiny and bright. If sandpaper or emery cloth must be used, polish with 360-400 grit.



**4.** Inspect the polished tube end for any imperfections or scratches. Any surface imperfection that cannot be corrected must be cut-off and the tube preparation restarted.



**5.** Mark the tube with the proper insertion depth using a NIBCO insertion depth tool and a permanent marker. Improper insertion depth may result in an improper seal.



6. Check each opening of the fitting to make sure that the seal is in place. Only original NIBCO gray HNBR seals are to be used. Do not use a fitting that does not have a visible seal.



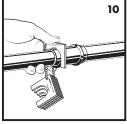
7. Insert the tube into the fitting using a twisting motion to the marked depth. Note that the tubing should contact the fitting tube stop. If tube is difficult to insert, some refrigerant lubricant may be added to the seal. Use only approved lubricants as listed on page 10 of the PressACR catalog.



**8.** Ensure that the proper pressing jaws are installed in the pressing tool and squeeze jaw arms to open jaw set. Place open jaws around the fitting end and ensure the jaw is properly aligned with the contour of the fitting. For sizes 1-1/8" and above, the jaw has a pipe side and bead side orientation.



**9.** Before pressing, make sure that the tube is inserted to the proper depth in the fitting. Start the pressing process. Refer to the tool operating instructions for proper tool operation. Squeeze jaw arms to open jaw set and remove from the pressed tube fitting assembly.



10. Use the NIBCO PressACR Crimp Gauge to ensure a quality installation. Place the crimp gauge adjacent to the outside of the bead (copper tube side) where the jaws close. There should be a slight copper deformation in that location. If the gauge is in complete contact with the fitting, the crimp has been successful. Each pressed connection should be gauged using the crimp gauge.

#### **Tube Insertion Depth Chart**

| Tube Size (In. OD) | Insertion Depth (In.) |
|--------------------|-----------------------|
| 1/4 – 3/4          | 11/16                 |
| 7/8 – 1-1/8        | 7/8                   |
| 1-3/8              | 1                     |
| 1-5/8              | 1-3/8                 |

#### WARNING

Read press tool operator's manual and fitting manufacturer's installation instructions before using. Failure to follow all instructions may result in extensive property damage and/or serious personal injury. Call the NIBCO Technical Service Department at 1.888.446.4226 if you have any questions or need assistance.

#### MISE EN GARDE!

Familiarisez-vous avec le mode d'emploi de la presse et les instructions du fabricant des raccords avant d'utiliser l'appareil. Le non-respect de leurs consignes risquerait d'augmenter les risques de dégâts matériels importants et/ou de graves blessures corporelles. Veuillez adresser toutes questions éventuelles ou demandes de mode d'emploi à la NIBCO en composant le 1.388.446.4226.

#### **ADVERTENCIA**

Antes de usar, lea el Manual del Operario de esta herramienta de presión y las instrucciones de instalación del acopliamiento proporcionadas por su fabricante. Pueden ocurrir daños materiales de gran envergadura y lesiones corporales de gravedad si no se respetan todas las instrucciones. Si tiene alguna pregunta o desea pedir un manual, llame al Departamento de Servicio Técnico de NIRCO al 1888 866 4276

Note: PressACR fittings can only be installed with NIBCO PressACR jaws. Use of any other jaw will void the product warranty.

Not suitable for use with ammonia (R717).

Visit www.NIBCO.com for approved list of refrigerants.

**Leak Testing:** Once all fittings are installed and pressed, the system may be tested for leaks. Testing for leaks should consist of pressurizing the system with nitrogen and using leak detect fluid or tracer gas to detect leaks. Pressurize system to a minimum of 50% of the maximum rated pressure of the system, but no more than 700 PSI. Check the system for leaks and make repairs/replacements where necessary, and verify.

# NIBCO® PressACR® — Fitting Installation Instructions, cont.

# **Properly Prepped Tube**

The tube has been deburred and chamfered.

After polishing the tube the surface should be smooth and free from scratches or etched print.





Tube polishing should be done radially with an abrasive pad such as Scotch-Brite® 7447 Maroon by 3M®

# Unprepped Tube (2)



The tube has not been deburred or chamfered.

A sharp edge can be seen at the end of the tube. This sharp edge could potentially cause damage to the O-ring during insertion.

Etched markings can also be seen on the tube, these could create leak paths past the O-ring. The etchings should be cut out and replaced with clean, smooth tube.



# Improperly Prepped Tube



The tube has been deburred and polished but a deep scratch is still present. The tube should either be polished until the scratch is removed or cut out and a cleaner portion of tube should be chosen.



# Tube Insertion

Tube should be marked and fully inserted into the fitting.

The left side of the picture shows the insertion depth marking sticking far away from the end of the fitting. This could cause a leak because the tube may not be fully engaged with the O-ring.

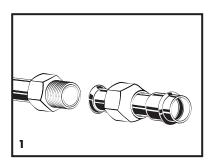


The right side of the picture shows a fully inserted tube. The insertion depth marking should be in contact or inserted into the fitting end.

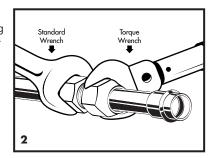


# NIBCO® PressACR® — SAE Flares Installation Instructions

Install PressACR® Female Flare Connector to a Male Flare Connector by making the flare connection prior to pressing the joint.



1. Apply compatible refrigerant lubricating oil to inner and outer surface of flare. To avoid overtightening, do not apply oil to the threads. Hand-tighten nut onto flare.



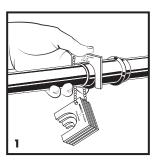
2. Complete joint by applying the specified torque to the nut and flare fittings, as shown in the table below. Always use an open ended wrench and a torque wrench to ensure integrity of fittings. Do not use a pipe wrench. Do not exceed the maximum torque listed below.

#### Flares Tightening Torque (DO NOT OVERTIGHTEN)

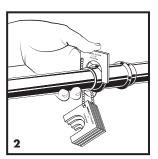
| Tube Diameter | Recommended Torque     | Maximum Torque         |
|---------------|------------------------|------------------------|
| 1/4"          | 12,2 Nm (9 ft. lbs.)   | 13,5 Nm (10 ft. lbs.)  |
| 3/8"          | 27,0 Nm (20 ft. lbs.)  | 33,7 Nm (25 ft. lbs.)  |
| 1/2"          | 40,5 Nm (30 ft. lbs.)  | 47,2 Nm (35 ft. lbs.)  |
| 5/8"          | 60,8 Nm (45 ft. lbs.)  | 74,2 Nm (55 ft. lbs.)  |
| 3/4"          | 107,0 Nm (79 ft. lbs.) | 119,0 Nm (88 ft. lbs.) |

<sup>\*</sup>See warning at bottom of page

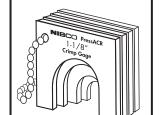
# NIBCO® PressACR® — Crimp Gauge Instructions



1. After crimping the PressACR fitting, place the Crimp Gauge adjacent to the outside of the bead (copper tube side) where the jaws close. There should be a slight copper deformation in that location. If the gauge is in complete contact with the copper fitting, the crimp has been successful. Each pressed connection on the fitting should be gauged.



2. If you are unable to obtain complete contact with the copper fitting or see any kind of gap between the gauge and the fitting at the top of the gauge (arch), the crimp has not been successful.



NIBCO offers the PressACR Crimp Gauge to ensure quality installations.

#### WARNING

Read press tool operator's manual and fitting manufacturer's installation instructions before using. Failure to follow all instructions may result in extensive property damage and/or serious personal injury. Call the NIBCO Technical Service Department at 1.888.446.4226 if you have any questions or need assistance.

#### MISE EN GARDE!

Familiarisez-vous avec le mode d'emploi de la presse et les instructions du fabricant des raccords avant d'utiliser l'appareil. Le non-respect de leurs consignes risquerait d'augmenter les risques de dégâts matériels importants et/ou de graves blessures corporelles. Veuillez adresser toutes questions éventuelles ou demandes de mode d'emploi à la NIBCO en composant le 1.888.446.4226.

#### ADVERTENCIA

Antes de usar, lea el Manual del Operario de esta herramienta de presión y las instrucciones de instalación del acopliamiento proporcionadas por su fabricante. Pueden ocurrir daños materiales de gran envergadura y lesiones corporales de gravedad si no se respetan todas las instrucciones. Si tiene alguna pregunta o desea pedir un manual, llame al Departamento de Servicio Técnico de NIBCO al 1.888.446.4226.



# NIBCO® PressACR® Limited Warranty

#### **NIBCO INC. LIMITED WARRANTY**

Applicable to NIBCO PressACR

NIBCO INC. warrants each that the NIBCO PressACR fitting ("Fittings") shall be free from defects in materials and workmanship under normal use, service, and maintenance in accordance with the product specifications (including, but not limited to installation recommendations) and maintenance in accordance with the product specifications for a period of fifteen (15) years from the Warranty Commencement Date. The Warranty Commencement Date for Fittings shall be the date upon which the Fitting is installed.

NIBCO warrants that the PressACR tools ("Tools") shall be free from defects in materials and workmanship under normal use, service, and maintenance in accordance with the product specifications for a period of two (2) years from date of purchase by the contractor.

NIBCO will repair or replace – at its option and at no charge –Fittings or Tools that have been determined by NIBCO, or an authorized representative or agent thereof, to have failed solely because of a defect in materials or workmanship under normal use, service, and maintenance during the warranty period.

This limited warranty applies to all Fittings installed, tested, applied, and used in accordance with NIBCO's approved and published recommendations and instructions and using the approved NIBCO Tools.

This warranty does not cover any failure or damage for or caused by:

- 1. any product, parts, or systems which are not manufactured or sold by NIBCO;
- 2. any Fitting or Tool which is used for purposes other than a purpose authorized by NIBCO;
- 3. any Fitting not installed, tested, applied, used, or maintained in accordance with NIBCO's recommended installation guidelines and instructions using NIBCO Tools;
- 4. any Tool not applied, used, or maintained in accordance with NIBCO's recommended installation guidelines and instructions;
- 5. any Fitting not installed or used in accordance with applicable codes;
- 6. any damage caused by, contributed in whole or in part by, or resulting from, any of the following:
  - a. abuse, misuse, mishandling, alteration, tampering, neglect, or accidental damage such as, without limitation, vandalism;
  - b. natural disasters, such as, without limitation, flooding, windstorm, and lightning;
  - c. attachments or modifications not authorized by NIBCO;
  - d. external, physical or chemical qualities, such as, without limitation, any refrigerant or lubricant not cited in NIBCO product literature as compatible, or an unsuitable or hostile environment;
  - e. any defects other than those in material or workmanship; or
  - f. any other cause beyond the control of NIBCO.

NIBCO DISCLAIMS ANY AND ALL LIABILITY FOR ANY OTHER DIRECT OR INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO, ECONOMIC LOSS, LOSS OF BUSINESS, LOST PROFITS, PUNITIVE DAMAGES, MOLD INTRUSION, WATER DAMAGE, ETC.

Some states do not allow the exclusion or limitation of damages, so the above limitation or exclusion may not apply to you.

THIS WARRANTY IS THE ONLY WARRANTY FOR THE FITTINGS AND TOOLS PROVIDED BY NIBCO, AND IS AND SHALL BE IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, AN IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND FOR ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF A MANUFACTURER. NO EMPLOYEE OF NIBCO, OR ANY OTHER DISTRIBUTOR, AGENT, OR OTHER PERSON OR BUSINESS, IS AUTHORIZED TO MAKE ANY OTHER WARRANTY ON BEHALF OF NIBCO.

Some states do not allow limitations on implied warranties, so the above limitation may not apply to you.

In the event any defect occurs which is believed to be covered by this warranty, NIBCO Technical Services must immediately be contacted by calling 888.446.4226 or emailing CS-TechnicalServices@nibco.com. NIBCO Technical Services after being contacted will make further arrangements for the product's return to NIBCO at the customer's expense for review and evaluation.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

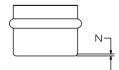
To the best of our knowledge, the information contained in this publication is accurate. However, NIBCO does not assume any liability, whatsoever for the accuracy or completeness of such information. Final determination of the suitability of any information or product for the use to be contemplated is the sole responsibility of the user. The manner of that use, and whether there is any infringement of patents, is also the sole responsibility of the user.





#### **CAPS**





PC9617 Cap P – Wrot

| OD. SIZE | APPROX.<br>NET WT./LBS. | DIM. N<br>INCHES |
|----------|-------------------------|------------------|
| 1/4      | .012                    | .06              |
| 5/16     | .015                    | .06              |
| 3/8      | .019                    | .06              |
| 1/2      | .029                    | .06              |
| 5/8      | .046                    | .08              |
| 3/4      | .069                    | .08              |
| 7/8      | .087                    | .08              |
| 1        | .101                    | .08              |
| 1 1/8    | .125                    | .08              |
| 1 3/8    | .171                    | .08              |
| 1 5/8    | .311                    | .10              |

## **COUPLINGS**



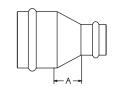


PC9600-DS Coupling P x P – Wrot

| OD. SIZE | APPROX.<br>NET WT./LBS. | DIM. A<br>INCHES |
|----------|-------------------------|------------------|
| 1/4      | .022                    | .12              |
| 5/16     | .026                    | .13              |
| 3/8      | .032                    | .14              |
| 1/2      | .054                    | .15              |
| 5/8      | .083                    | .16              |
| 3/4      | .114                    | .16              |
| 7/8      | .157                    | .16              |
| 1        | .169                    | .16              |
| 1 1/8    | .198                    | .16              |
| 1 3/8    | .271                    | .16              |
| 1 5/8    | .530                    | .18              |

# **COUPLINGS**, cont.





PC9600-R

Reducing Coupling P x P – Wrot

| OD SIZE       | APPROX.<br>NET WT./LBS. | DIM. A<br>INCHES |
|---------------|-------------------------|------------------|
| 5/16 x 1/4    | .025                    | .14              |
| 1/2 x 1/4     | .040                    | .14              |
| 3/8 x 1/4     | .028                    | .11              |
| 1/2 x 3/8     | .043                    | .11              |
| 5/8 x 1/4     | .054                    | .17              |
| 5/8 x 3/8     | .056                    | .14              |
| 5/8 x 1/2     | .067                    | .18              |
| 3/4 x 5/8     | .098                    | .15              |
| 3/4 x 1/2     | .080                    | .18              |
| 7/8 x 1/2     | .099                    | .24              |
| 7/8 x 5/8     | .121                    | .22              |
| 7/8 x 3/4     | .131                    | .17              |
| 1 x 7/8       | .163                    | .14              |
| 1 1/8 x 1/2   | .140                    | .51              |
| 1 1/8 x 5/8   | .139                    | .44              |
| 1 1/8 x 3/4   | .168                    | .31              |
| 1 1/8 x 7/8   | .184                    | .40              |
| 1 3/8 x 7/8   | .245                    | .50              |
| 1 3/8 x 1 1/8 | .231                    | .44              |



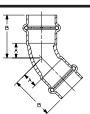


PC9601 (No Stop)
Repair Coupling P x P – Wrot

|         | 0                       |                  |
|---------|-------------------------|------------------|
| OD SIZE | APPROX.<br>NET WT./LBS. | DIM. B<br>INCHES |
| 1/4     | .022                    | 1.56             |
| 5/16    | .026                    | 1.56             |
| 3/8     | .025                    | 1.56             |
| 1/2     | .054                    | 1.75             |
| 5/8     | .082                    | 1.75             |
| 3/4     | .114                    | 1.88             |
| 7/8     | .157                    | 2.25             |
| 1       | .169                    | 2.25             |
| 1 1/8   | .190                    | 2.25             |
| 1 3/8   | .271                    | 2.47             |
| 1 5/8   | .524                    | 3.34             |

#### **ELBOWS**



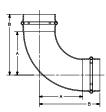


PC9606-LT

45° Elbow P x P – Wrot

| OD SIZE | APPROX.<br>NET WT./LBS. | DIM. A<br>INCHES | DIM. B<br>INCHES |
|---------|-------------------------|------------------|------------------|
| 1/4     | .025                    | .41              | 1.11             |
| 5/16    | .030                    | .41              | 1.11             |
| 3/8     | .036                    | .40              | 1.11             |
| 1/2     | .062                    | .41              | 1.11             |
| 5/8     | .092                    | .38              | 1.11             |
| 3/4     | .149                    | .51              | 1.24             |
| 7/8     | .181                    | .48              | 1.41             |
| 1       | .233                    | .53              | 1.44             |
| 1 1/8   | .251                    | .63              | 1.50             |
| 1 3/8   | .403                    | .78              | 1.79             |
| 1 5/8   | .723                    | .92              | 2.31             |
|         |                         |                  |                  |





PC9607-LT 90° Elbow P x P – Wrot

| OO LIBOVVI XI VVIOL |                         |                  |                  |
|---------------------|-------------------------|------------------|------------------|
| OD SIZE             | APPROX.<br>NET WT./LBS. | DIM. A<br>INCHES | DIM. B<br>INCHES |
| 1/4                 | .030                    | .66              | 1.38             |
| 5/16                | .036                    | .66              | 1.38             |
| 3/8                 | .041                    | .72              | 1.44             |
| 1/2                 | .076                    | .93              | 1.65             |
| 5/8                 | .110                    | .72              | 1.44             |
| 3/4                 | .174                    | 1.12             | 1.88             |
| 7/8                 | .223                    | 1.09             | 1.99             |
| 1                   | .286                    | 1.26             | 2.16             |
| 1 1/8               | .331                    | 1.44             | 2.32             |
| 1 3/8               | .528                    | 1.85             | 2.89             |
| 1 5/8               | .895                    | 2.21             | 3.64             |



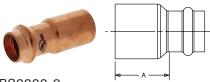
## ELBOWS, cont.



PC9607-2-LT 90° Elbow Ftg x P — Wrot

|         | APPROX. |      | MENSIO |      |
|---------|---------|------|--------|------|
| OD SIZE | LBS.    | Α    | В      | C    |
| 1/4     | .030    | .66  | 1.55   | 1.38 |
| 5/16    | .036    | .66  | 1.55   | 1.38 |
| 3/8     | .041    | .66  | 1.55   | 1.38 |
| 1/2     | .079    | .93  | 1.82   | 1.65 |
| 5/8     | .110    | .78  | 1.64   | 1.47 |
| 3/4     | .166    | 1.12 | 2.01   | 1.88 |
| 7/8     | .219    | 1.05 | 2.20   | 1.99 |
| 1       | .253    | 1.26 | 2.34   | 2.16 |
| 1 1/8   | .262    | 1.50 | 2.60   | 2.40 |
| 1 3/8   | .490    | 1.88 | 3.09   | 2.91 |
| 1 5/8   | .871    | 2.22 | 3.94   | 3.67 |

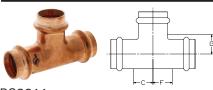
## FITTING REDUCERS



PC9600-2 Fitting Reducer Ftg x P — Wrot

| OD SIZE       | APPROX.<br>NET WT/LBS. | DIM. A<br>INCHES |
|---------------|------------------------|------------------|
| 3/8 x 1/4     | .021                   | .86              |
| 1/2 x 3/8     | .030                   | .92              |
| 5/8 x 3/8     | .037                   | .99              |
| 5/8 x 1/2     | .044                   | .92              |
| 3/4 x 5/8     | .086                   | 1.03             |
| 7/8 x 1/2     | .097                   | 1.34             |
| 7/8 x 5/8     | .092                   | 1.42             |
| 7/8 x 3/4     | .112                   | 1.20             |
| 1 1/8 x 7/8   | .151                   | 1.39             |
| 1 3/8 x 7/8   | .175                   | 1.40             |
| 1 3/8 x 1 1/8 | .181                   | 1.42             |

#### **TEES**



PC9611 Tee P x P x P – Wrot

| OD SIZE         LBS.         C         F         G           1/4         .037         .30         .30         .30           5/16         .047         .35         .35         .35           3/8         .067         .53         .53         .53           1/2         .110         .53         .53         .53           5/8         .176         .71         .71         .47           3/4         .338         1.13         1.13         .83           7/8         .320         .77         .77         .66           1         .101         .72         .72         .72           1/8         .475         .87         .87         .91           13/8         .759         1.00         1.00         .91           15/8         .311         .95         .95         1.08 |         | APPROX.<br>NET WT. |      | /ENSIO |      |
|---|---------|--------------------|------|--------|------|
| 5/16         .047         .35         .35         .35           3/8         .067         .53         .53         .53           1/2         .110         .53         .53         .53           5/8         .176         .71         .71         .47           3/4         .338         1.13         1.13         .83           7/8         .320         .77         .77         .66           1         .101         .72         .72         .72           1/8         .475         .87         .87         .91           13/8         .759         1.00         1.00         .91  | OD SIZE |                    |      |        |      |
| 3/8         .067         .53         .53         .53           1/2         .110         .53         .53         .53           5/8         .176         .71         .71         .47           3/4         .338         1.13         1.13         .83           7/8         .320         .77         .77         .66           1         .101         .72         .72         .72           1/8         .475         .87         .87         .91           1 3/8         .759         1.00         1.00         .91   | 1/4     | .037               | .30  | .30    | .30  |
| 1/2     .110     .53     .53     .53       5/8     .176     .71     .71     .47       3/4     .338     1.13     1.13     .83       7/8     .320     .77     .77     .66       1     .101     .72     .72     .72       1/8     .475     .87     .87     .91       1 3/8     .759     1.00     1.00     .91  | 5/16    | .047               | .35  | .35    | .35  |
| 5/8         .176         .71         .71         .47           3/4         .338         1.13         1.13         .83           7/8         .320         .77         .77         .66           1         .101         .72         .72         .72           1/8         .475         .87         .87         .91           1 3/8         .759         1.00         1.00         .91   | 3/8     | .067               | .53  | .53    | .53  |
| 3/4     .338     1.13     1.13     .83       7/8     .320     .77     .77     .66       1     .101     .72     .72     .72       1 1/8     .475     .87     .87     .91       1 3/8     .759     1.00     1.00     .91  | 1/2     | .110               | .53  | .53    | .53  |
| 7/8         .320         .77         .77         .66           1         .101         .72         .72         .72           1 1/8         .475         .87         .87         .91           1 3/8         .759         1.00         1.00         .91   | 5/8     | .176               | .71  | .71    | .47  |
| 1     .101     .72     .72     .72       1 1/8     .475     .87     .87     .91       1 3/8     .759     1.00     1.00     .91  | 3/4     | .338               | 1.13 | 1.13   | .83  |
| 1 1/8     .475     .87     .87     .91       1 3/8     .759     1.00     1.00     .91   | 7/8     | .320               | .77  | .77    | .66  |
| 1 3/8 .759 1.00 1.00 .91  | 1       | .101               | .72  | .72    | .72  |
|   | 1 1/8   | .475               | .87  | .87    | .91  |
| <u>1 5/8</u> .311 .95 .95 1.08  | 1 3/8   | .759               | 1.00 | 1.00   | .91  |
|   | 1 5/8   | .311               | .95  | .95    | 1.08 |

## Y-JOINTS



PC9649 Y Joint Ftg x Ftg – Wrot

| OD SIZE | APPROX.<br>NET WT./LBS. | DIM. A<br>INCHES | DIM. B<br>INCHES |
|---------|-------------------------|------------------|------------------|
| 3/8     | 0.200                   | 8.27             | 2.76             |
| 1/2     | 0.310                   | 9.45             | 2.76             |
| 5/8     | 0.510                   | 9.84             | 3.15             |
| 3/4     | 0.670                   | 10.63            | 3.15             |
| 7/8     | 1.020                   | 12.60            | 3.15             |
| 1 1/8   | 1.700                   | 13.39            | 3.74             |

## **FLARES**





PC9635 SAE Flares Adapters Flare X P

| OD SIZE | APPROX.<br>NET WT/LBS. | DIM. A<br>INCHES |
|---------|------------------------|------------------|
| 1/4     | 0.057                  | 1.45             |
| 3/8     | 0.092                  | 1.53             |
| 1/2     | 0.134                  | 1.66             |
| 5/8     | 0.181                  | 1.73             |
| 3/4     | 0.345                  | 1.89             |

# **ACCESSORIES**



## HNBR (gray) Seal

| SIZE  | PART<br>No. |  |  |
|-------|-------------|--|--|
|       |             |  |  |
| 1/4   | T048080 PP  |  |  |
| 5/16  | T048081 PP  |  |  |
| 3/8   | T048082 PP  |  |  |
| 1/2   | T048083 PP  |  |  |
| 5/8   | T048084 PP  |  |  |
| 3/4   | T048085 PP  |  |  |
| 7/8   | T048086 PP  |  |  |
| 1     | T048090 PP  |  |  |
| 1 1/8 | T048087 PP  |  |  |
| 1 3/8 | T048088 PP  |  |  |
| 1 5/8 | T048076 PP  |  |  |
|       |             |  |  |



# PressACR® Depth Gauges

| SIZE                   | PART<br>No. |
|------------------------|-------------|
| 1/4" OD to 1" OD       | K700008RPC  |
| 1 1/8" OD to 2 1/8" OD | K700009RPC  |



# PressACR® Crimp Gauges

| SIZE                    | PART<br>No. |
|-------------------------|-------------|
| 1/4" OD to 1 3/8" OD    | K700006RPC  |
| 1 5/8" OD and 2 1/8" OD | K700007RPC  |

# NIBCO PressACR Tools and Jaws





# **NIBCO® PressACR® Tools**

# **PCR-20M 19kN Tool and Jaws**

1/4" through 1 1/8" OD

#### **MATERIAL LIST**

| MODEL N   | NO. DESCRIPTION   | LBS.  |
|-----------|---|-------|
| PCR-20M   | 19kN mini Pressing Tool, 2 - 18V, 2.0 Ah Lithium-ion batteries, 110V charger & small case (NO jaws) | 10.10 |
| PCR-20MC  | Small Case Empty  | 7.89  |
| PCR-20ML  | 19kN mini Pressing Tool, 2 - 18V 1.3Ah lithium-ion<br>batteries, 11V charger & large case (No Jaws) | 17.00 |
| PCR-20MCL | Large Case Empty  | 9.70  |
|           |   |       |
| PCR-14M   | 1/4" OD Jaw   | 2.80  |
| PCR-516M  | 5/16" OD Jaw  | 2.87  |
| PCR-38M   | 3/8" OD Jaw   | 2.87  |
| PCR-12M   | 1/2" OD Jaw   | 2.88  |
| PCR-1M    | 5/8" OD Jaw   | 3.13  |
| PCR-34M   | 3/4" OD Jaw   | 3.00  |
| PCR-2M    | 7/8" OD Jaw   | 3.70  |
| PCR-4M    | 1" OD Jaw   | 3.80  |
| PCR-3M    | 1 1/8" OD Jaw   | 3.80  |
|           |   |       |
| PC-4ML    | 18V, 2.0Ah Lithium-ion Battery (for PCR-20M)  | 0.85  |
| PC-7L     | 18V, 3.0Ah Lithium-ion Battery (for PC-280 or PCR-20M)  | 1.30  |
| PC-8L     | 110V Battery Charger (for PC-4ML and PC-7L)   | 2.20  |
| PC-9L     | AC Adapter (for PC-280 or PCR-20M)  | 1.70  |
|           |   |       |
| PC-50     | 1/4" - 1 1/8" OD Deburring Tool   | 0.42  |

#### $\Lambda$

For use with NIBCO PressACR fittings only.



PCR-20M



PCR-20ML Mini Pressing Tool and Large Case



PCR-20MC Small Case Empty



PCR-20MCL Large Case Empty



PC-50 PCR Deburring Tool



**PC-4ML** 18V, 2.0 Ah Lithium-ion Battery



**PC-7L** 18V, 3.0 Ah Lithium-ion Battery

#### **PCR-20M FEATURES**

#### **TOOLS**

#### Light weight

PCR-20M Mini: 3.7 lbs. (without jaw)

#### Easy to handle / simple design

Jaws rotate 350°
No calibration necessary
No complicated switches or controls
Mini: Ergonomic compact design is easy to use
in tight spaces

#### Interruptible crimp cycle

Safety feature prevents injuries Can begin crimp, stop to align and level fitting / tube, and complete crimp

#### **Battery**

Can be changed during crimp cycle Lithium-ion has short charging cycle and larger capacity

- PC-4ML: 15 minute recharge time
- PC-7L: 22 minute recharge time

#### **AC Power Adapter**

Converts the tool to electric power Allows continuous use

#### Service light

Illuminates at 10,000 cycles

Tool will not stop operating when light illuminates

- RED indicates battery charge status, service intervals, tool functions & faults
- WHITE illuminates the work area

#### Hydraulic Pressure Check (HPC)

An audible warning signal sounds if adequate working pressure is not achieved

**WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



PCR-14M, PCR-516M, PCR-38M, PCR-12M, PCR-34M, PCR-1M, PCR-2M, PCR-3M and PCR-4M

Mini Pressing Jaws



**PC-8L** 110V Battery Charger



AC Adapter



# NIBCO® PressACR® PC-280 32kN Jaws

#### **MATERIAL LIST**

| MODEL    | NO. DESCRIPTION                                   | LBS.  |
|----------|---|-------|
| PCR-14S  | 1/4 jaw for PC-280 32kN tool                      | 4.29  |
| PCR-516S | 5/16" jaw for PC-280 32kN tool                    | 4.29  |
| PCR-38S  | 3/8" jaw for PC-280 32kN tool                     | 4.27  |
| PCR-12S  | 1/2" jaw for PC-280 32kN tool                     | 4.25  |
| PCR-1S   | 5/8" jaw for PC-280 32kN tool                     | 4.20  |
| PCR-34S  | 3/4" jaw for PC-280 32kN tool                     | 4.29  |
| PCR-2S   | 7/8" jaw for PC-280 32kN tool                     | 4.25  |
| PCR-4S   | 1" OD jaw for PC-280 tool                         | 4.65  |
| PCR-3S   | 1 1/8" jaw for PC-280 32kN tool                   | 4.65  |
| PCR-138S | 1 3/8" jaw for PC-280 32kN tool                   | 4.40  |
| PCR-158S | 1 5/8" OD Chain for PC-280 Tool                   | 12.53 |
|          |   |       |
| PCR-2C   | Metal Case for Large Diameter PressACR Chain 8.70 |       |
| PC-5     | Pressing Chain Adapter Jaw* 7.01                  |       |

NOTE: Only NIBCO jaws can be used to crimp NIBCO PressACR™ fittings. Use of any other jaw will void the product warranty

<sup>\*</sup>Must be used with 1 5/8" OD Chain



PCR-14S, PCR-516S, PCR-38S, PCR-12S, PCR-1S, PCR-34S, PCR-2S, PCR-4S, PCR-3S, PCR-138S, PCR-158S



PCR-2C Metal Case for Large Diameter PressACR Chain



**PC-5**Pressing Chain Adapter Jaw

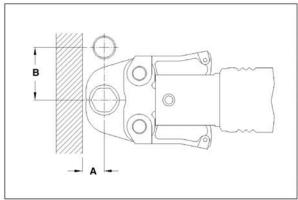


# **NIBCO**° PressACR° — Engineering Data Tools

| Tool & Jaws Compatibility Matrix |                                     |                |  |  |
|----------------------------------|-------------------------------------|----------------|--|--|
| Manufacturer                     | Model(s)                            | Size Range     | NIBCO Jaws   |  |
| NIBC0®                           | PCR-20M (19 KN)                     | 1/4" to 1 1/8" | PCR-14M 1/4 Jaw, PCR-516M 5/16 Jaw. PCR-38M 3/8 Jaw, PCR-12M                                 |  |
| Klauke®                          | MAP2L19 (19 KN)                     | 1/4" to 1 1/8" | 1/2 Jaw, PCR-1M 5/8 Jaw, PCR-34M 3/4 Jaw, PCR-2M 7/8 Jaw and PCR-3M 11/8 Jaw                 |  |
| NIBCO®                           | PC-280 (32 KN)                      | 1/4" to 1 5/8" |  |  |
|                                  | RP 350 (32 KN)                      | 1/4" to 1 3/8" |  |  |
| BUBBUB                           | RP 351 (32 KN)                      | 1/4" to 1 3/8" | PCR-14S 1/4 Jaw, PCR-516S 5/16 Jaw, PCR-38S 3/8 Jaw, PCR-12S 1/2                             |  |
| RIDGID®                          | RP 342-XL Long Reach (32 KN)        | 1/4" to 1 3/8" | Jaw, PCR-1S 5/8 Jaw, PCR-34S 3/4 Jaw, PCR-2S 7/8 Jaw, PCR-3S 11/8 Jaw, and PCR-138S 13/8 Jaw |  |
|                                  | RP 340-B                            | 1/4" to 1 3/8" | PC-5 adapter and PCR-158S are both required to crimp 1 5/8" OD fittings                      |  |
| Milwaukee®                       | M18™ Force Logic (32 KN)            | 1/4" to 1 3/8" |  |  |
| IVIIIWdukee                      | M18™ Long Throw Force Logic (32 KN) | 1/4" to 1 3/8" |  |  |
| DeWalt®                          | DCE200 (32 KN)                      | 1/4" to 1 3/8" |  |  |

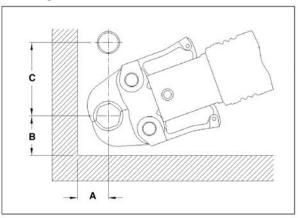
NOTE: Only NIBCO jaws can be used to crimp NIBCO PressACR $^{\text{TM}}$  fittings. Use of any other jaw will void the product warranty.

#### Tool perpendicular to wall



| Clearance         |          |                   |  |
|-------------------|----------|-------------------|--|
| Size              | A (min.) | B (min.)          |  |
| 3126              | Inches   | Inches            |  |
| 1/4               | 1        | 1 <sup>5</sup> /8 |  |
| <sup>5</sup> /16  | 1        | 1 <sup>5</sup> /8 |  |
| 3/8               | 1        | 13/4              |  |
| 1/2               | 1        | 17/8              |  |
| 5/8               | 11/8     | 23/8              |  |
| 3/4               | 11/4     | 25/8              |  |
| 7/8               | 13/8     | 3                 |  |
| 1                 | 11/2     | 3                 |  |
| 1 <sup>1</sup> /8 | 11/2     | 3                 |  |
| 13/8              | 11/2     | 13/4              |  |
| 1 <sup>5</sup> /8 | 43/4     | 61/8              |  |

#### Tool angled to wall



| Clearance        |                   |          |  |
|------------------|-------------------|----------|--|
| Size             | A (min.)          | B (min.) | C (min.)   |
|                  | Inches            | Inches   | Inches   |
| 1/4              | 13/8              | 15/8     | 25/8   |
| <sup>5</sup> /16 | 11/4              | 11/2     | 3  |
| 3/8              | 11/8              | 11/2     | 2 <sup>5</sup> / <sub>8</sub> 3 <sup>1</sup> / <sub>8</sub>    |
| 1/2              | 11/4              | 13/8     | 31/8   |
| 5/8              | 13/8              | 15/8     | 3  |
| 3/4              | 1 <sup>5</sup> /8 | 13/4     | 3 <sup>3</sup> / <sub>8</sub><br>3 <sup>1</sup> / <sub>2</sub> |
| 7/8              | 13/4              | 17/8     | 31/2   |
| 1                | 2                 | 21/8     | 35/8   |
| 11/8             | 2                 | 21/8     | 33/4   |
| 13/8             | 17/8              | 2        | 3 <sup>3</sup> / <sub>4</sub><br>3 <sup>5</sup> / <sub>8</sub> |
| 15/8             | 41/2              | 43/4     | 61/8   |

# **Notes**



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