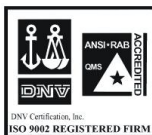


INDUSTRIAL CLUTCH PARTS
Telephone: 01663 734627, Web: www.icpltd.co.uk

WATER COOLED CLUTCHES/BRAKES WITH COPPER ALLOY WEAR PLATES

INSTALLATION & MAINTENANCE INSTRUCTIONS

FOR 11" THRU 36"



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INSTALLATION & MAINTENANCE INSTRUCTIONS
FOR WPT® COPPER WATER COOL UNITS (WITH BOLT-ON WEAR PLATES)
SIZES 11” THRU 36”

I. INSTALLATION

1. The brake is usually mounted to a mounting bracket. The pilot on the mounting bracket must be concentric with the shaft. This can be checked with a dial indicator by placing the indicator tip on the pilot of the mounting bracket and rotating the shaft. The indicator should not read more than +/- .0005” per inch of diameter.
2. With the dial indicator on the shaft, place the indicator tip on the face surface of the mounting bracket and rotate the shaft. The indicator should not read more than +/- .0005” per inch of diameter.
3. Position the hub on the shaft in relation to the unit, as specified by WPT.
4. If the unit is to be mounted while completely assembled, be sure that the spline(s) on the drive plate(s) are aligned with the splines on the hub. Slide the complete unit over the pilot on the mounting bracket. Insert the mounting bolts and tighten. For a brake, the water inlets must be at the lowest level of the water chamber, and the water outlets at the highest level. This is necessary in order to insure a full chamber of water at all times.
5. Even though the units are properly set before shipment from the factory, they should be checked for proper clearance before being put into operation.
6. Operating clearance is obtained by measuring the distance moved by the pressure plate while applying operating pressure to airtube. Add or remove shims to achieve the proper clearance listed in #7 and #8 below.
7. Minimum clearance should be as follows for single drive plate units:

11”,14”,16”,18”,21” sizes	1/16” to 3/32”
24”,24H”,27”,30”,30H”,36”, and 36H”	3/32” to 1/8”
8. Minimum clearance should be as follows for double drive plate units:

11”,14”,16”,18”,21” sizes	3/32” to 1/8”
24”,24H”,27”,30”,30H”,36”, and 36H”	1/8” to 5/32”
9. Install all flexible water connections to the unit. Be sure that all floating water jackets are free to move.
10. If the unit is disassembled before mounting, follow steps #7 thru #17 of Part II (reassembly) and steps #4 thru #9 above.
11. When movement on the pressure plate reaches the tabulated distance below, shims should be removed to achieve the proper clearance. When all shims have been removed and the pressure plate moves the tabulated distance below, the friction material needs to be replaced.

11”,14”,16”,18” sizes	1/2”
21”,24”,27” sizes	5/8”
30” to 36” sizes	3/4”

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INSTRUCTIONS FOR
REPLACING O-RINGS AND COPPER WEAR PLATES
DISASSEMBLY PROCEDURE:

1. Remove all flexible hose connections (air & water) from unit.
2. Remove the capscrews which hold the airtube holding plate onto the unit and remove the airtube holding plate, the airtube, and the pressure plate from the unit. When disassembling, caution should be taken when removing the actuating assembly to prevent the front ring from separating from the back ring.
3. Remove the floating water jacket.
4. Remove the drive plate assembly from the splined hub.
5. Remove the front ring. Leave the back ring in place.
6. Remove the separator springs. Remove the center water jacket. Remove the second drive plate assembly and the second set of separator springs.
7. Remove the mounting bolts which hold the unit onto the mounting bracket and remove the back water jacket and the back ring.
8. Remove all socket head capscrews in the back water jacket in order to separate the back water jacket from the ring.
9. For replacement of the copper wear plates and o-rings, remove all copper O.D. and I.D. retaining capscrews and O.D. retaining snap rings from the water jackets.
10. Remove copper from water jackets.
11. Remove the o-rings from the water jackets.
12. Check jackets for cracks or deformities.
13. Check o-ring grooves for porosity and roughness.

II. REASSEMBLY PROCEDURE

1. Clean all o-ring grooves by brushing all corrosion from the grooves, being careful not to damage or nick the surfaces.
2. With the water jacket in a horizontal position and with the water cavity facing up, position both o-rings into their respective grooves.
3. Insert the copper wear plate into the water jacket, being careful that the o-rings are not disturbed, and replace the retaining rings.

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4. Replace all capscrews on the I.D. of water jacket and torque the nuts to:

#6 nuts	25 lbs/in
#8 nuts	45 lbs/in
#10 nuts	60 lbs/in
1/4" nuts	100 lbs/in
5/16" nuts	200 lbs/in
3/8" nuts	360 lbs/in

5. For the center water jacket, place both the O.D. and the I.D. o-rings in their respective grooves and position the copper wear plate on one side of the center water jacket. Bolt the copper wear plate down with six equally spaced bolts on the I.D. of the wear plate to the center water jacket. Invert the water jacket and remove the nuts from the bolts. Be careful that the o-rings in the down position do not come out of their grooves. Place the o-rings in their respective grooves on the side facing up, and position the copper wear plate in place. Replace the nuts on the six bolts, in order to hold the wear plates in place. Insert the rest of the bolts and tighten, do not over tighten, torque nuts as specified in #4 above. Install O.D. snap rings.

6. Connect the water supply to the assembled water jacket and test for leaks before reinstalling into unit. **CAUTION: Water pressure should not exceed 60 PSI. If leakage occurs, disassemble and reassemble as described previously.**

7. Bolt the back water jacket to the bottom ring with the socket head capscrews and torque to:

5/16"	300 lbs/in
1/2"	1300 lbs/in
5/8"	2500 lbs/in
3/4"	4400 lbs/in

8. Replace the drive plate assembly onto the splined hub and push the drive plate assembly until it touches the copper wear plate on the back water jacket.
9. Position the separator springs into the counter-bored holes or over the dowels in the back water jacket.
10. If necessary, with a small diameter rod, the springs can now be aligned with the counter-bored holes in both the water jackets.
11. Set front ring onto back ring. Take care that the water outlet slots in both rings align with the water inlet-outlet in the back water jacket.
12. Install second set of springs in counter-bored holes or over dowels.
13. Slide the floating water jacket into the splined front ring, being sure that the water inlet and outlet in the water jacket line up with the slots in the front ring.
14. If necessary, with a small diameter rod, the springs can now be aligned with the counter-bored holes in water jackets.
15. Reverse the assembly procedure in #2 of Part I (Disassembly Procedure) to replace the pressure plate, airtube, and airtube holding plate. **CAUTION: pressure plate buttons on the rib side of the pressure plate should be positioned into the counter-bored holes in the floating water jacket. Caution should be taken to ensure that the proper amount of shims are reinstalled in order to obtain adequate clearance as indicated in #6, #7, or #8 on page 1 of this document.**

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16. Be sure that the capscrews for mounting the airtube holding plate to the unit are torqued before connecting the flexible air lines.

5/16"	300 lbs/in
1/2"	1300 lbs/in
5/8"	2500 lbs/in
3/4"	4400 lbs/in

17. Replace all flexible water and air connections to the unit. Be sure that all floating water jackets are free to move. Check all air and water lines for leaks before putting the unit back in operation.

III. REPLACEMENT OF DRIVE PLATES

1. See Part I (Disassembly Procedure), follow steps #1 thru #6 for removal of drive plates.
2. See Part II (Reassembly Procedure), follow steps #8 thru #17 for reassembly.

NOTE: For replacement of friction pucks on the 18" drive plate, depending on whether the design is an old or new style, only half of the supplied bolts, nuts, and washers may be required. Also, note that (2) lockwashers go under the *head* of each bolt.

IV. REPLACEMENT OF AIRTUBE

1. Units do not have to be dismantled to replace the airtube.
2. Remove air lines and elbows.