



Hydraulic Company of America

JR-33 TWINPAK

Installation/Operating Instructions

Installation Instructions

JR-33 Transfer Valve

TWINPAK

1.0 Installation:

- Install both JR-33 3-way valves between the heat exchangers or filters and tighten the flange bolts.
- .2 Set the shaft position on the (master) 3-way valve by tightening the "T" handle until the elastomeric port seal shoe just contacts the valve body wall. This point while having no visual indication, can be felt by a slight increase in the torque required to rotate the tee handle.
 - .2 **The ball handle must rotate all the way against one stop or the other (as indicated by the longitudinal slots for the loop bar). This will properly position the port seal shoe over a port. Either of the two stop positions (180° apart) may be used.**
 - .3 Phase the bottom (slave) 3-way valve shaft, relative to the master 3-way by rotating the slave shaft so that the anti-rotation pin is directly under the loop handle on the master 3-way. Manually push the shaft into the valve (it should move easily) until resistance of the shoes against the body is felt.
 - .3 **The anti-rotation pin on the slave must be fully against the stop. If either the top or bottom 3-way is not rotated against the respective stop, and/or is not phased correctly before welding the driveshaft, failure to isolate or valve damage may result.**
 - 1.4 Position the square length adjusters on both master and slave shafts so that they are midway along the threaded part of the valve shafts. Tighten the hex locknuts against both sides of both length adjusters.
 - .5 Cut the driveshaft pipe to final length, slip into place and weld.
 - .6 Fill system and test for failure to isolate. If failure to isolate is detected, a minor adjustment to the driveshaft length is needed.

2.0 Failure to Isolate

2. Failure to isolate is caused by the port sealing shoe of one 3-way valve tightening against the valve body wall when the shoe on the other one does not. This assumes that the shoes are correctly phased (aligned with each other). Both shoes must move and tighten in near-perfect synchronization for isolation of the off-line vessel to occur.
- 2.2 Failure to isolate is usually indicated by a pressurization of the off line vessel or continual fluid bleed from the off-line vessel. In this case, it is not possible to determine which shoe is not closing. A leak past either master or slave will result in the same observable indications.
 - 2.2. **Due to capacitance effects, large vessels can require several minutes to bleed down even when the ports are tightly sealed. This effect can be compounded if there is a possibility of any air remaining in the vessel. Sufficient observation time should be allowed before declaring a condition of failure to isolate.**
- 2.3 In most cases, it will be the slave or bottom 3-way valve shoe that is not sealing properly. This is because the tee handle holds the master shoe at the "just contact" point during the installation procedure described above. However, the slave shaft and shoe have no positive longitudinal locator until welding is complete. Therefore, the recommended procedure is to assume that it is leakage past the slave shoe that is causing a failure to isolate.



3.0 Adjustment - Slave

- 3 To correct a leak past the slave shoe, the slave shoe must be moved closer to the wall (causing it to tighten sooner). First, loosen the "T" handle completely and depress the operating (ball) handle. This will retract both shoes to their furthers point away from the wall.
- 3.2 Working with either of the length adjusters, loosen the locknut closest to the slave 3-way valve by one or two turns.
- 3.3 Tighten the other locknut on the same length adjuster. The effect is one of lengthening the master shaft / drive shaft / slave shaft combination.
- 3.4 Retest. If failure to isolate still exists, repeat this process.

4.0 Adjustment - Master

4. If failure to isolate still exists after several attempts to adjust the slave, the master shoe may not be properly contacting the body wall.
- 4.2 To correct this, the slave shoe must be moved further away from the wall; the master shaft / driveshaft / slave shaft must be **shortened**. This scenario has the slave shoe stopping the entire assembly before the master shoe can properly contact the wall.
- 4.3 Loosen the "T" handle completely and depress the operating (ball) handle.
- 4.4 Working with either of the length adjusters, loosen the locknut furthest from the slave 3-way valve by one or two turns.
- 4.5 Tighten the other locknut on the same adjuster.
- 4.6 Retest. If failure to isolate still exists, repeat this process.

