

## SINGLE BANK VANE BUNDLE INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS

### A. BUNDLE INSTALLATION

1. VANE UNIT WILL BE SHIPPED FULLY ASSEMBLED, FULLY WELDED FOR DIRECT INSTALLATION INTO DRUM DURING FABRICATION. VANE UNIT CAN NOT BE DISASSEMBLED AND WILL NOT PASS THROUGH A MANWAY IN ONE PIECE. DISTRIBUTION PIPE WILL BE SHIPPED LOOSE FOR INSTALLATION BY DRUM FABRICATOR.
2. AFTER RECEIPT OF VANE UNIT, USING THE SALES DRAWING, REVIEW THE ASSEMBLY AND NOTE POSITION OF VANE ELEMENTS AND MESH PAD AND REQUIRED FIELD WELDS.
3. LOCATE PROPER LOCATION OF VANE BUNDLE IN VESSEL BY REFERING TO FABRICATION DRAWING. INSTALL TWO TEMPORARY SUPPORT BEAMS IN VESSEL TO SUPPORT BUNDLE AT PROPER LOCATION DURING INSTALLATION.
4. LOOSEN JACKING BOLTS (4 PER BANK) TO RELEASE TENSION AND REMOVE THE TOP AND BOTTOM COVER PLATES. **NOTE HOW VANES ARE ORIENTATED AND MARK FRONT OF VANE TO ASSURE CORRECT REPLACEMENT OF VANES INTO BUNDLE.** REMOVE VANES AND MESH PAD.
5. INSTALL DISTRIBUTION PIPE BY SEAL WELDING LONGITUDINAL SIDES TO VESSEL.
6. INSTALL VANE BUNDLE AND SEAL WELD THE END PLATES, THE TOP PLATE, AND THE BACK PLATE OF THE BOXING TO THE VESSEL SHELL USING CONTINUOUS SEAL WELDS. REMOVE TEMPORARY SUPPORTS.
7. FINISH FABRICATION OF VESSEL AND HEAT TREAT (IF REQUIRED).
8. REPLACE VANES IN BOXING AND REATTACH MESH PAD TO FRONT FACE BY PASSING INDIVIDUAL VANES AND MESH PIECES THROUGH MANWAY. INSTALL DOWNCOMER PIPING.
9. VANES ARE FURNISHED WITH SPACERS. EACH SET OF VANES REQUIRES A VANE JACK PLATE ASSEMBLY TO BE INSTALLED NEXT TO VANE JACKING BOLTS.
10. LOOSEN JACKING BOLTS SO THAT VANE JACK PLATE ASSEMBLY MAY BE INSTALLED IN JACKING SPACE AGAINST BOXING. BE SURE JACK PLATE IS AGAINST BOX.
11. INSTALL THE TWO VANE ACCESS PLATES AFTER INSTALLING THE VANES.
12. TIGHTEN VANE JACKING BOLTS TO SECURE VANES IN BOX. DO NOT OVER TORQUE.

### B. BUNDLE OPERATION

1. ONCE THE VANE BUNDLE IS INSTALLED, IT NEEDS NO OTHER ACTION BY THE OPERATOR TO OPERATE. THE SEPARATOR IS COMPLETE IN ITSELF, AND WILL FUNCTION WHENEVER THERE IS FLOW THROUGH THE SEPARATOR.

### C. BUNDLE MAINTENANCE

1. AT A MINIMUM THE SEPARATOR SHOULD BE INSPECTED ONCE A YEAR AND DURING STANDARD MAINTENCE SHUTDOWNS.
2. DURING INSPECTION, VERIFY THAT THE VANES AND MESH PAD ARE SECURELY HELD IN PLACE. VISUALLY INSPECT VANE FACE FOR SIGNS OF WEAR. IF VANE ELEMENTS ARE DAMAGED, REPAIR OR REPLACE WITH ANDERSON VANE BLADES.

## SINGLE BANK VANE BUNDLE INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS (CONTINUED)

