MAINTENANCE INSTRUCTIONS

SURMET SERIES II STEM LOWERING OUTLET VALVE

Replacement of Main Valve Seal (ITEM 4)

This Seal (item 4) may be replaced in situ from inside the vessel if required and is easily and safely accessible.

If the Valve is a MANUAL type then it should be in the CLOSED position. Remove the valve seat (item 2) on the top of the valve so as to expose the stem head. Unscrew the seal mounting flange (item 5) from the stem using the flats on item 5 until they separate from the stem. If the stem does not protrude sufficiently to carry this out then loosen the locking nut (item 35) and unscrew the stem from the pivot block (item 13) until adequate access is available. Do not unscrew the stem from the pivot block completely.

If the valve is an ACTUATED type then it must be in the CLOSED position. Remove the cam housing cover plate (item 8), loosen the locknut (item 35)and unscrew the stem from the pivot block stud (item 13)until stem head moves in to the valve body. The actuator spring tension is thus released allowing the valve Seat (item 2) and stem (item 6) to be removed as per the manual valve

Replace seal and reassemble valve in reverse order of the above, final adjustment of the valve stem may be required which is explained in section VALVE ADJUSTMENTS.

Replacement of Stem Seal Kit

Manual Operated Valves

a) Remove valve from vessel, set handle to CLOSED position.

b) Remove cam housing cover plate (item 8), loosen the locknut (item 35) and unscrew the stem from the pivot block stud (item 13) and withdraw the stem from the valve body.

c) Remove split housing flange (item 15) and the cam housing can be pulled apart of its seating in the valve body.

d) Using a 24mm Dia bar having a 19mm Dia shouldered end to locate in the top guide bush (item 18) the entire stem seals can be pushed out , and be inspected and replaced if necessary.

(If old seals are removed for inspection Magmix Engineering recommend that new seals be inserted as older seals may not reseal the valve after re-installation) .

e) Obtain replacement seal kits for re-installation checking the stem seal kit is complete of all parts comprising of the following items

1 No. Item 28 Spring
1 No. Item 18 Top Guide Bush
1 No. Item 20 Bottom Guide Bush

2 No. Item 27 'O' Rings
1 No. Item 26 Packing Set

f) When replacing the stem seal kit the stem must be in place in valve body. This is to reduce risk of damage to stem packing and bushes when assembling. Replace parts in order as shown on sketch included.

g) To Replace the cam housing back onto the valve body (with the handle in the closed position), carefully guide and push onto the stem and into the seating on the body of the valve while holding the stem firmly in place . The stem must be withdrawn somewhat to enable it to be screwed back onto the pivot block stud.

h) Finally replace the split housing flange (item 15)

i) Adjust valve as necessary as specified in paragraph VALVE ADJUSTMENTS

Pneumatically Operated Valves

a) Remove the valve from vessel, (**being a spring return actuator the valve stem is still under tension**)

b) Remove the cam housing cover plate (item 8), loosen the locknut (item 35) and unscrew the stem completely until the stem can be removed from the body

c) The tension is now released from the actuator springs, and, if the split housing flange (item 15) is removed, the complete cam housing / actuator assembly can be withdrawn.

d) Removal and replacement of the stem seal kit is the same as specified for the manual valve paragraphs d), e) and f).

e) To replace the cam housing / actuator assembly carefully push this onto the end of the stem and into the valve body seating while holding the stem firmly in place. The stem must be withdrawn somewhat to enable it to be screwed onto the pivot block stud (item 13)

f) Finally replace the split housing flange (item 15)

g) Adjust the valve closing tension as specified in paragraph VALVE ADJUSTMENTS

Valve Adjustments

Manual Valve

a) Position Handle to OPEN position.

b) Loosen stem locking nut (item 35) if tight.

c) Screw stem half turn clockwise on to pivot block stud using 17mm spanner

d) Test Seal by moving the handle to CLOSED position, Slight resistance should be felt before the last notch in the closed position. Repeat operations a), b), and c) until this resistance is reached.

e) Tighten locking nut (item 35) and replace the cam housing cover (item 8)

Actuated Valve

a) With the cam housing cover (item 8) removed and the locking nut loosened

b) Screw the stem onto the pivot block stud until the cam arm is pulled up to at least 3mm below the horizontal position.

c) Tighten Locking nut (item 35) and replace the cam housing cover (item 8). It is recommended that adjustment is made with air supply connected. If not, a spanner may be used to turn the actuator.

Replacement of Actuator Parts

a) This can be carried out with the valve attached to the vessel if required.

Remove spring tension as mentioned in previous paragraphs. Remove bolts (item 67) holding the actuator plate in position. The actuator can now be removed.

b) Actuator to be dismantled and parts replaced as noted in the attached actuator suppliers instruction sheets.

c) After reassembly of the actuator, refit to the cam housing, and re-adjust spring loading as noted in the VALVE ADJUSTMENT paragraph

Cam Mechanism

No maintenance should be required for the mechanism and very little wear should take place under normal operating conditions but should a problem occur contact Magmix Engineering for further advise.