SERVICE ENGINEERING BULLETIN				
REVISIONS				
REV	DESCRIPTION	DATE	CHG	APPR

APPROVALS	UBA GmbH Neu-Anspach	
ORIGINATOR:	BULLETIN, 791 LIQUID SAMPLE VALVE REPAIR	
PRODUCT ENG:		
CHECKED:	791J006-1	Rev: A
ENGINEERING:		Sheet: 1 of 5

Refer to Figure 1 for typical sample valve component location.

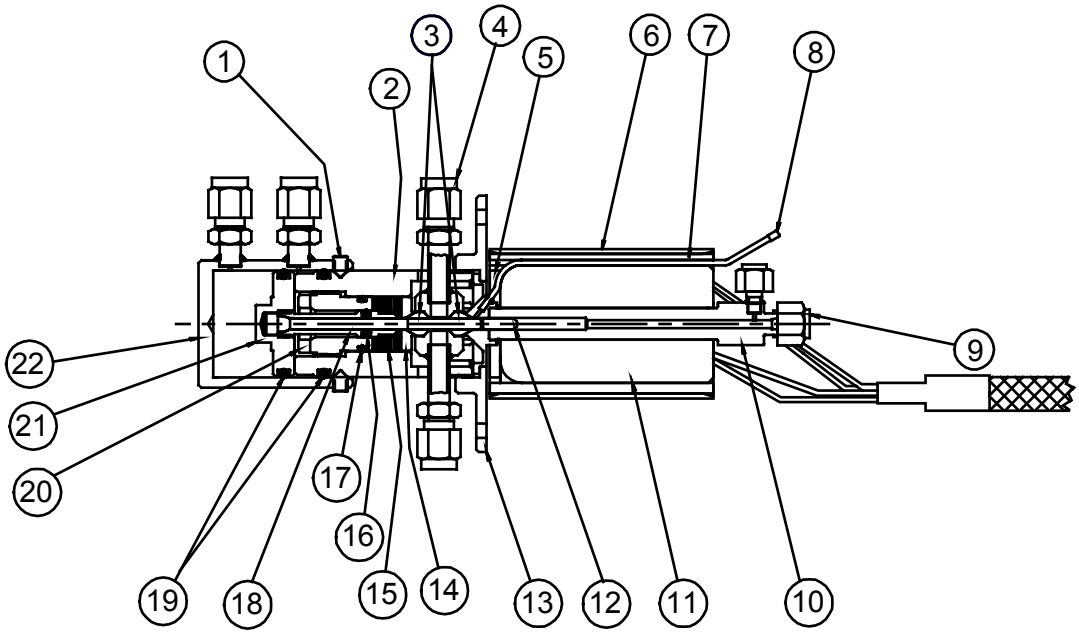

Figure 1. LIQUID SAMPLE VALVE

WARNING

Sample will spill or leak out during this procedure. Consult MSDS sheets on file at your location for safety requirements.

Sample valve repair may necessitate the venting of flammable substances into the atmosphere surrounding the analyzer. Remove power from all sources of ignition in the immediate area. Do not open any purged enclosures that remain powered.

Ensure proper safety equipment is worn, such as rubber gloves and face shield or safety glasses.

CAUTION

Ensure that there are no hazardous or flammable gases present in the immediate area of the analyzer. The purged electrical sections of the analyzer will be declassified when purge is removed, and a danger exists for fire, explosion, damage to property and injury or death to plant personnel during the nonpurged time. Obtain proper permits such as hot work, etc.

Ensure adequate ventilation in analyzer shelter.

See "AIR PURGING" in Section 4 for the X Purge override function. Do not perform override until you have read Section 4 completely and you understand and can perform the procedure properly.

DISASSEMBLY

1. Stop the analysis at the end of a cycle.

2. Turn off power, carrier, sample, and air to the analyzer.

3. Remove the two cone point set screws (1 in Figure 1) from the cylinder (22).

4. Slide the cylinder (22) off of piston (21) and body (2).

5. Using an Allen wrench, rotate the sleeve (20) counterclockwise until it is loose.

6. Unscrew the body (2) from the flange (13) and vaporizer chamber (10).

7. Remove the vaporizer chamber (10) from the flange (13).

8. Slide the seal (3) from the stem (12) using sample chamber (4).

9. Withdraw the piston (21) and the rod assembly (18) from the sleeve (20).

10. This will free the seal (3) from the stem (12).

11. Inspect the seals for visible imperfections. If imperfections are found, replace the seals.

12. Inspect the stem for visible imperfections. If imperfections are found, replace the stem.

13. Remove the rear valve seat (14) from the body (2).

14. Remove the 15 Belleville springs (15) from the body (2).

15. Remove the O-ring (19) from the body (2) and piston (21).

16. Unscrew the piston rod (18) from the piston (21). and extract the stem assembly (12) from the piston rod (18).

17. Remove the O-ring (16) from the piston rod (18).

18. Unscrew the sleeve (20) from the body (2).

19. Remove the O-ring (17) from the sleeve (20).

REASSEMBLY

NOTE

In all steps the lubricant used is High Vacuum Grease.

1. Clean the seals (3) with acetone and air dry them.

2. Clean the sample chamber (10) with acetone and air dry it.

3. Lightly lubricate O-Ring (17), sleeve threads (2), and internal threads and bore of the body (2) with High Vacuum Grease.

4. Install the O-ring (17) onto the sleeve (20).

5. Screw the sleeve (20) into the body (2) until the back of the sleeve (20) is flush with the ears on the back of the body (2), then back the sleeve (20) out 1-1/2 turns.

6. Lightly lubricate the O-ring (16) and the threads of the piston rod (18).

7. Install the O-ring (16) onto the piston rod (18). Do not allow grease to enter the small hole through the center of the piston.

8. Insert the stem assembly (12) into the rear of the piston rod (18).

9. Screw the piston rod (18) into the piston (21) and tighten to 27-30 in-lb. Do not overtighten or bend the rod or stem! Do not allow grease to contact the stem.

10. Lightly lubricate the two O-rings (19).

11. Install the O-rings (19) onto the body (2) and the piston (21).

12. Insert the piston (21) and the rod assembly (18) into the sleeve (20). Be careful not to cut the O-ring. Fully insert the piston (21) until it contacts the stops.

13. Stack the 15 Belleville springs (15) (see Figure 2) onto the 1/4-inch thin wall plastic tubing.

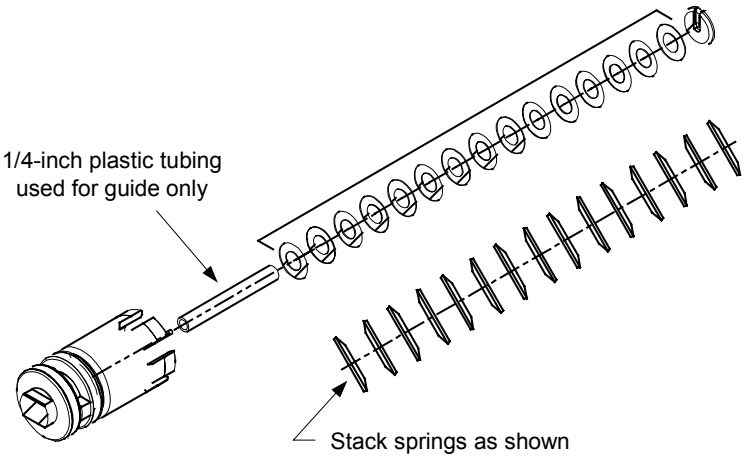

Figure 2. STACKING THE BELLEVILLE SPRINGS

14. Using the tubing as a guide, slide the springs (15) over the stem (12) into the bore of the body (2).

15. Install the rear valve seat (14) over the stem (12) and let it rest against the springs (15). Do not allow the seat to scratch the stem.

16. Clean all the exposed area of the stem (12) with acetone. Ensure the stem and groove are free of grease and contamination. Inspect the stem for visible imperfections. If imperfections are found, replace the stem.

17. Slide the first cleaned seal (3) over the stem (12) using the “A” end of Seal Insertion Tool TL-791A006B. The 30° angle (pointed end) of the seal (3) must face the springs (15).

18. Slide the cleaned sample chamber (4) over the stem onto the seal (3).

19. Slide the second cleaned seal (3) over the stem (12) using the “B” end of Seal Insertion Tool TL-791A006B. The 30° angled (pointed end) of the seal (3) faces out, away from the sample chamber (4).

20. Install the vaporizer chamber (10) into the flange (13) as shown.

21. Lightly lubricate the threads on the body (2).

22. Screw the body (2) into the flange (13) against the vaporizer chamber (10) until tight. The sample chamber (4) should be loose in the assembly at this point. If not, back out the sleeve (20) until the sample chamber (4) is loose. Use the end of a 0.156 Allen wrench in the slot of the sleeve (20) to adjust to the point of eliminating the longitudinal play of the sample chamber (4).

23. Tighten the sleeve (20) in 24 1/4-turn increments (6 turns total) to preload the seals.

24. Lightly lubricate the inside bore of the cylinder (22).

25. Align the fittings on the cylinder (22) with the sample chamber (4) tubes, or with air lines if servicing.

26. Slide the cylinder (22) onto the piston (21) and the body (2).

27. Install two cone point set screws (1) into the cylinder (22) and tighten into the groove on the body (2).