1. Adjustment of pump for QC12 pump head

Document no: **QC12 AP-02 EN**

2. Validity

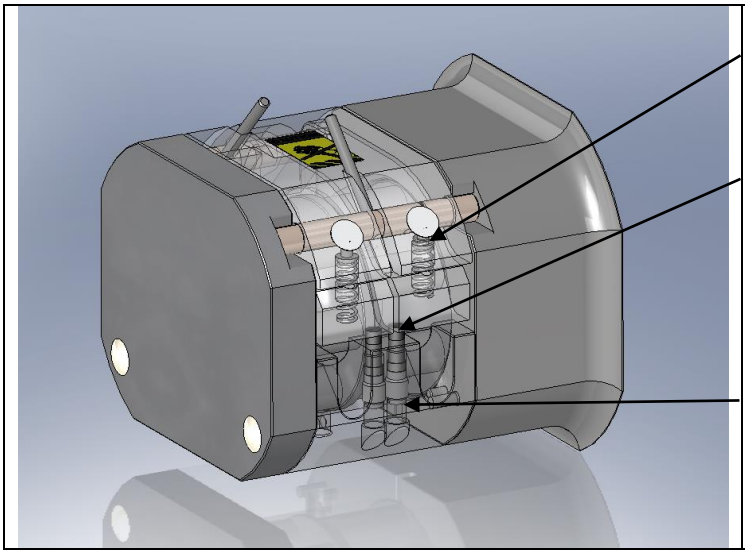
This procedure is valid for all machines fitted with QC12 pump head that include bottom stops.
This procedure sets the spring force and pressure for the full range of valid tube sizes.

3. Necessary tools

For adjustment of pump pressure for QC12 you will need the following:

- Pressure gauge suitable for measuring 0,8 – 0,9 bar, item no 52-540-060.
- Ø8,0 ID tube (app 2x0,5 m – use Accusil tubing 84-103-080 max 1 year old and without any visible wear marks).
- Screwdrivers, slotted size 3 and 5.
- Height measuring tool, item no 52-540-200.
- Adhesive pads, 2 pcs 74-990-105 and 1 pcs 74-990-109.

4. Illustration



Adjustment screws (A) for spring force.

Stroke limiters (C).

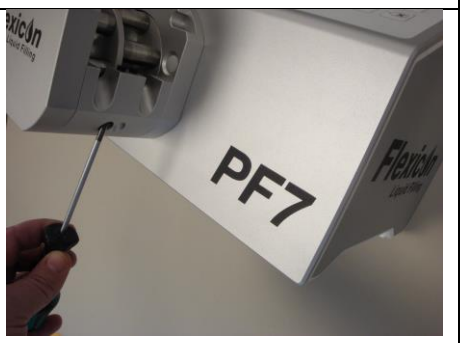
Adjustment screws (B) for stroke limiters (C).

5. Adjusting the spring force

Step	Action	Remarks / control
1.	Remove the pads covering the adjustment screws (A).	NA
2.	Mount Ø8,0 ID tubes in the pump (2 separate pieces of tube open at both ends). Observe that tubes lie correctly in the pump.	NA
3.	Set speed for 100 rpm and start the pump. **NB!** When using new tubes – let the pump run app. 5 minutes to let the tubes settle.	NA
4.	**Verification of pump pressure.** Connect pressure gauge to outlet end of a tube and measure outlet air pressure. The 2 “channels” must be checked separately. If outlet pressure is between 0,7 and 1,1 bar, the spring force is acceptable for filling, and previous fills are OK. If outlet pressure is less than 0,7 bar, the previous fills might be inaccurate. If outlet pressure is more than 1,1 bar the previous fills are acceptable, but increased tube wear may be experienced.	
5.	**Adjustment of pump pressure.** **Regardless of findings in previous steps, the following adjustment should be made.** The 2 “channels” must be adjusted separately. Adjust the spring force action on the tubes by use of adjustment screws (A). The outlet pressure should be adjusted to 0,9 bar +/- 0,1 bar.	
6.	Stop the pump and cover the adjustment screws with adhesive pads.	NA

6. Adjusting the stroke limiters

Step	Action	Remarks / control
1.	**Measuring the height of the two stroke limiters.** Remove the tube bridge from the pump. Remove the pad covering the adjustment screws B.	NA
2	Place the height measuring tool as shown in the picture to zero the meter. Make sure that the surface on the end plate is flat and undamaged and the meter is activated - that the needle is activated when placing the measuring tool on the end plate. Adjust by turning the black outer ring and lock by tightening the lock screw. NB! Adjust 0-setting if necessary.	
3	Measure the height of the outer channel stroke limiter by placing the measuring tool up against the outer end plate.	
4	Measure the height of the inner channel stroke limiter by placing the measuring tool up against the inner end plate.	

5.	**Verification of height of stroke limiters** This step is to verify validity of previous fills The 2 stroke limiters must be checked separately. If height of the stroke limiter is between 2,35 and 2,55 mm, the height is acceptable for filling, and previous fills are OK. If height of stroke limiter is above 2,55 mm, the previous fills might be inaccurate If height of stroke limiter is less than 2,35 mm, the previous fills are acceptable, but increased tube wear may be experienced.	
5.	**Adjustment of height.** **Regardless of findings in previous step, the following adjustment should be made.** The 2 stroke limiters must be adjusted separately. Adjust the height of the stroke limiters by use of adjustment screws (B). Note: no locktite needed. The height should be adjusted to 2,45 mm +/- 0,05 mm.	
6.	Cover the adjustment screws with adhesive pad.	NA

7. Revision

Rev.	Date	Description	Initials
01	2017-10-24	New procedure	JOJ
02	2018-05-23	New procedure for stroke limiters	MSO
03	2018-08-17	Set point changed from 2,75 to 2,45mm based on tests that showed rare problems with dripping during long production stops and when the level of the supply is relatively high compared to the height of the filling needle.	MSO