Technical note 112: Liquids in gas tubes
of the **MIG-O-MAT microflame** series

MIG·O·MAT®

How can liquid get into the gas tubes?

There is more than one possibility/reason:

1. reactor overrun

If the reactor, meaning the actual gas cell, is refilled with too much distilled water and overruns, the very aggressive electrolyte flows into the gas tubes. This severely damages the unit! Such a unit has to be repaired as soon as possible. The probability of the reactor overrunning depends on its size, usually these problems do not occur with those units having larger reactors.

2. condensation in interior tubes

As the reactor produces gas the unit will warm up. Thus the gas has a higher temperature than its environment. When it cools down condensation occurs. The liquid is slightly aggressive caused by the traces of electrolyte which the gas takes from the reactor. Even though manufacturers apply several methods to dry the gas condensation can not be completely avoided. The produced gas is usually piped through alcoholic solutions. Leaving these enrichment tanks the condensate mostly consists of this fluid. MIG-O-MAT units from microflame 140 upwards almost never have condensation in the unit's interior.

3. condensation in the tube between unit and welding torch

If condensation occurs in the tube between the units and the welding torch is is often simply caused by different temperatures which the floor and the working level in a room might have.

Therefore the tube should be laid as short and level as possible. Long tubes should be laid slowly inclining and we suggest the use of a condensate trap and an additional flame arrester.