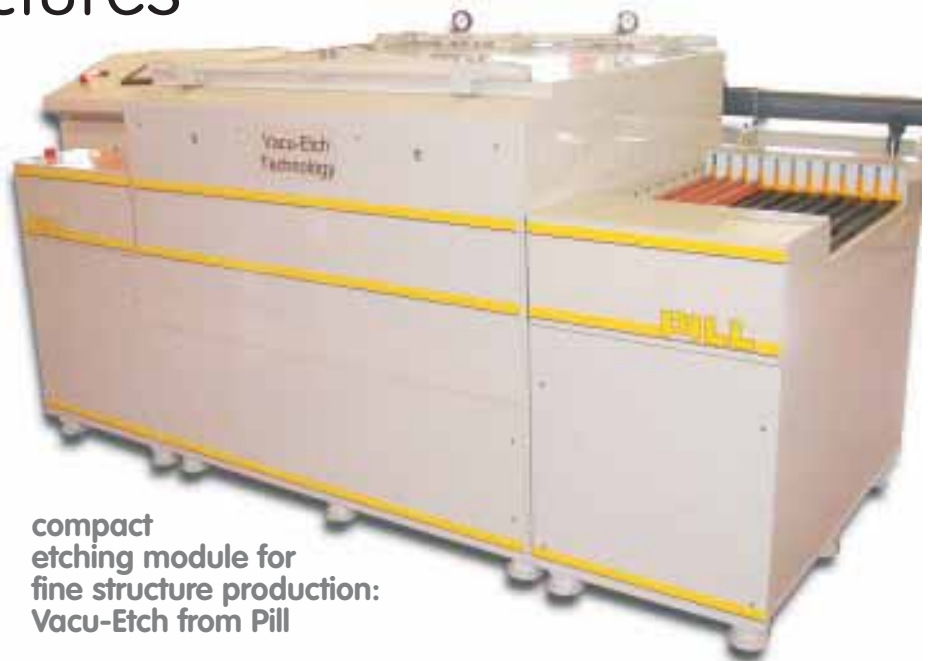


# Vacuum Etching Technology – An Improved Etching Technique for Ultra-Fine Structures

PILL e.K. launches a revolutionary etching concept - extraction of etchant to prevent the „puddling effect“

Conductor etching is a highly sensitive stage of the printed circuit board production process, particularly when working with ultra-fine conductor structures. One particularly critical aspect of the process is frequent uncontrollable undercutting, which can result in conductor width discrepancies. Ideally, manufacturers aim to achieve conductor track edges which are as steeply etched as possible meeting precise layout specifications. In the past, an enormous degree of technical input was required to achieve this. However, despite the most sophisticated spray manifold designs one underlying problem could not be overcome: in horizontal wet processing lines, a puddle of etchant inevitably forms in the center of the upper side of the printed circuit board. This „puddling effect“ leads to highly fluctuating etching rates on the upper surface of the board compared to the lower surface, where gravity prevents the formation of a puddle. When etching ultra-fine conductor structures, tolerances are frequently exceeded to an unacceptably high degree. PILL e.K., Auenwald Germany, has taken a closer look at the root causes of this problem and has developed a totally new type of etching concept called Vacuum Etching Technology. This new concept prevents the puddling effect before it is able to occur and so permits extremely even conductor etching.



compact etching module for fine structure production: Vacu-Etch from Pill



This could be the view into your etching chamber in the very next future: spray bars on top, extraction units between the conveyor rods on bottom

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