

Water Raise/Lower for Submerged Cutting

For many abrasive waterjet applications, underwater submerged cutting is the best solution. For materials like steel, stainless, aluminum, copper, bronze, inconel, titanium, and other metals, as well as materials like glass, stone, marble, granite, etc., submerged cutting offers two big advantages:



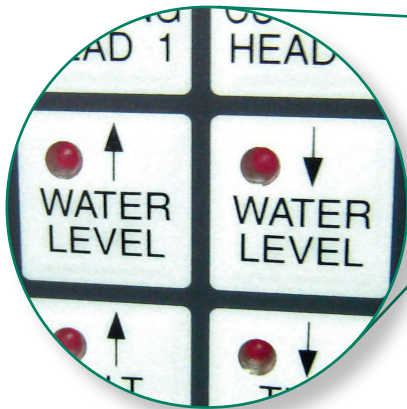
1) REDUCED NOISE

- a typical abrasive waterjet stream travels over three times the speed of sound and as it travels through the air, the turbulent passing air generates noise levels over 100 dB, even as high as 120 dB.
- by raising the water level and submerging the material, "the operating noise level" is reduced below safety limits.
- because the high pressure water stream is underwater and the stream is not exposed to the air, minimal noise is created and it is "trapped" underwater.
- submerged cutting noise levels usually remain below 78 dB while normal conversation can take place standing right next to the waterjet.

2) LESS MESS

- the typical high pressure waterjet piercing process results in an abrasive jet stream that "rooster tails" back into the environment for the duration of the pierce, anywhere from just a few seconds on the thin materials, up to several minutes, depending on the thickness and hardness of the material.
- If the material is not submerged, that diffused stream shoots back into the environment, and literally gets everywhere including on the beams, rails, bearings, controller, electronics and anywhere else.

Techni Waterjet offers "Water Raise/Lower for Submerged Cutting" by designing our tanks to include air-tight welds of an air chamber which uses regular shop air pressure (80 psi, 18 cfm) to raise/lower the air pressure level, forcing the raise/lower of the water level. No moving parts are required and no parts will wear out. An on/off solenoid valve controls the air intake/exhaust. The entire table water level can be raised and lowered in seconds depending on the model size of the tank.



- As the abrasive stream shoots upward, an abrasive mist is created and rises, which consequently settles, and then contaminates the entire work area.
- customers without submerged cutting often have to isolate their machines away from all other machines in their shop.



*"Excellence through Innovation,
Technology & Service"*