Aeration is one of the most important aspects in pneumatic flotation, aerated leaching tanks and in other processes that require air/gas dispersion. With an advanced control system developed by Outotec, the SonicSparger™ Jet promotes an intense air injection that generates the most appropriate size distribution of energetic microbubbles for flotation collection and gas reaction, enhancing process performance and recovery.

**OUTOTEC SONICSPARGER™ JET FOR COLUMNCUTS**

**BENEFITS**

- The most appropriate size distribution of energetic microbubbles
- Reliable operation with advanced control system
- Easy to handle, assemble and disassemble
- Easy to calibrate and maintain
SPARGER SYSTEMS FOR ENHANCED RECOVERY IN COLUMN CELLS

For good sparger operation, it is essential to guarantee that the air will flow with an adequate volumetric flow rate and pressure. Outotec SonicSparger Jet operates with inlet air pressures between 5-7 bar and the maximum flowrate of each sparger is determined by the size of the outlet nozzle orifice, which is changeable.

Outotec offers five nozzle sizes; 2.0, 2.5, 3.0, 4.0, 5.0 mm; each one allowing a different flow rate. The nozzle size and the number of spargers are calculated by Outotec to suit the specific application, guaranteeing the best process performance. SonicSparger Jet have up to three different lengths and, in large tanks/columns, they are alternately distributed to provide even air injection through the cross section area.

Reliable operation
SonicSparger Jet is reliable and easy to control. It is designed to close automatically in case of an unexpected shutdown of the main air source, avoiding back flow of slurry into the sparger. Differently from other similar systems, SonicSparger Jet has an exclusive back pressure chamber that uses compressed air to guarantee that the sparger outlet will open only when the main air flow reaches a pressure higher than 2 bar, which is enough to avoid slurry back flow. A gauge indicates this control pressure in the chamber.

The control chamber can be connected to a control air manifold (apart from the main air) or can be closed with a check valve. When it is connected to a control air manifold, this back pressure can be controlled remotely, from the control room. When it is closed with a check valve, the back pressure can be verified with the sparger gauge in the field.

The system is able to keep this pressure for long periods and the gauge allows an immediate identification of pressure loss in the chamber. Sparger calibration is fast and easy with the Outotec Portable Sparger Calibration Tool. It allows very fast calibration with the sparger on the column, eliminating the need to remove the sparger and taking it to a calibration bench for calibration.

Easy maintenance
General maintenance is easy, fast and safe. Typically, in preventive maintenance, only the nozzle of the SonicSparger Jet needs to be replaced. The sparger can be removed from the column by a single operator, without interrupting the operation and without slurry spillage, due to the design of connections and valve used in the column inlet.

Figure 1. SonicSparger Jet is based on ultrasonic injection of air or air plus water.

Figure 2. Aiming at increased safety and easier maintenance, Portable Sparger Calibration Tool (height 50 cm) enables sparger calibration in the field.

Figure 3. The nozzle size and the number of spargers are calculated to guarantee the best process performance.