MAZZEI INJECTOR GUIDELINES FOR HANDLING SOLIDS DURING INJECTOR AND NOZZLE MIXING APPLICATIONS

Mazzei® Injectors and nozzles are used to mix a wide variety of gas and liquid chemicals into water and wastewater systems. When sufficient motive flow pressure difference exists between the inlet and outlet ports of the patented injector, a vacuum is created inside the injector body which initiates suction through the suction port. In applications where suspended solids or particles may be present in the motive flow stream, injector fouling can occur. Mazzei recommends limiting the maximum non-compressible solid/particle size. Guidance values are located in TABLE 1.

MAXIMUM NON-COMPRESSIBLE SOLID/PARTICLE SIZE

US Standard Units		Metric	
Nominal Inlet Size	**Non-compressible Solids Size**	**Nominal Inlet Size**	**Non-compressible Solids Size**
0.50 in	≤ 0.05 in	15 mm	≤ 1 mm
0.75 in	≤ 0.10 in	20 mm	≤ 2 mm
1.00 in	≤ 0.15 in	25 mm	≤ 4 mm
1.50 in	≤ 0.20 in	40 mm	≤ 5 mm
2.00 in	≤ 0.30 in	50 mm	≤ 8 mm
3.00 in	≤ 0.60 in	80 mm	≤ 15 mm
4.00 in	≤ 0.80 in	100 mm	≤ 20 mm
6.00 in	≤ 1.20 in	150 mm	≤ 30 mm
8.00 in	≤ 1.50 in	200 mm	≤ 38 mm
12.00 in	≤ 2.20 in	300 mm	≤ 56 mm

TABLE 1

Solids/particles are not always spherical. Therefore, particle length, width and diameter should be considered.