

ABSTRACT

A nozzle for liquid coolant in a machine tool in the form of an annular or polygonal frame-like nozzle 3 for liquid coolant disposed above a machining tool, such as a milling tool, grinding tool or drill, connected to a vertical main shaft such that the nozzle is coaxial with said main shaft and directed downward, comprising;

a) an inner peripheral wall 15,

b) an inner flange 23 for inside channel support formed directly in or close to said inner peripheral wall 15,

c) an upper framework which comprises a ceiling formed to serve as a guide surface for allowing the liquid coolant flowing out upward from an inside channel to flow in a planar radial manner, and an outer peripheral wall 17 serving as an outside guide surface for downwardly bending said planar radial flowing liquid to allow the latter to flow downward and which cooperates with the outer wall surface of said flange to define an outside channel, wherein the wall surface is formed in at least one place thereon with a flow agitating recess 27,

d) a lower framework 19 positioned below said inner flange 23 and including at least one level difference 19a/19b, and forming a flow guide floor by which the liquid coolant reaching the lower end of said outer peripheral wall 17 is guided radially inward through said level difference,

e) the arrangement being such that the liquid coolant is allowed to flow downward with the inner peripheral edge of said flow guide floor defining a circulatory waterfall opening 28, thereby forming a cylindrical or downwardly tapering conical waterfall-like liquid coolant veil surrounding said cutter.