

APPLICATION PROFILE

COOLANT AND CHIP MANAGEMENT

Automotive

Challenge: **CNC MACHINE TOOL THROUGH SPINDLE HIGH PRESSURE COOLANT**

Location: **JAPAN/US/MEXICO/ARGENTINA**

Flodraulic's RHM group has been building high pressure coolant systems for a major Japanese CNC machine tool OEM for many years.

In the past, each CNC typically had its own coolant system, including reservoir, or was part of a "zone" serving several machines.

Working with the OEM and automotive engineers, RHM has come up with this individual or online "tank-less" design. It is located on the CNC machine and feed coolant from a centralized plant coolant filtration system.

The backwashing filter is designed to protect the high pressure screw pump, spindle and tools from contamination. System includes an automatic air purge to purge air that collects in the top of the filter during operation, filter differential pressure switch with warning and fault outputs, pump inlet pressure switch to protect pump from low inlet pressure conditions, pump outlet pressure switch to protect tools from low coolant pressure conditions. This individual design is used in place of zone type units when machine layout flexibility is desired.

This high pressure coolant is fed through the machine tool spindle and the tooling as opposed to the old flooded lower pressure coolant designs. Advantages include:

- Faster tooling speeds
- Increased production rates
- Increased tooling life
- Better chip control
- Less coolant consumption
- Improved surface finish
- Better heat removal
- Easier plumbing
- Less tool breakage

