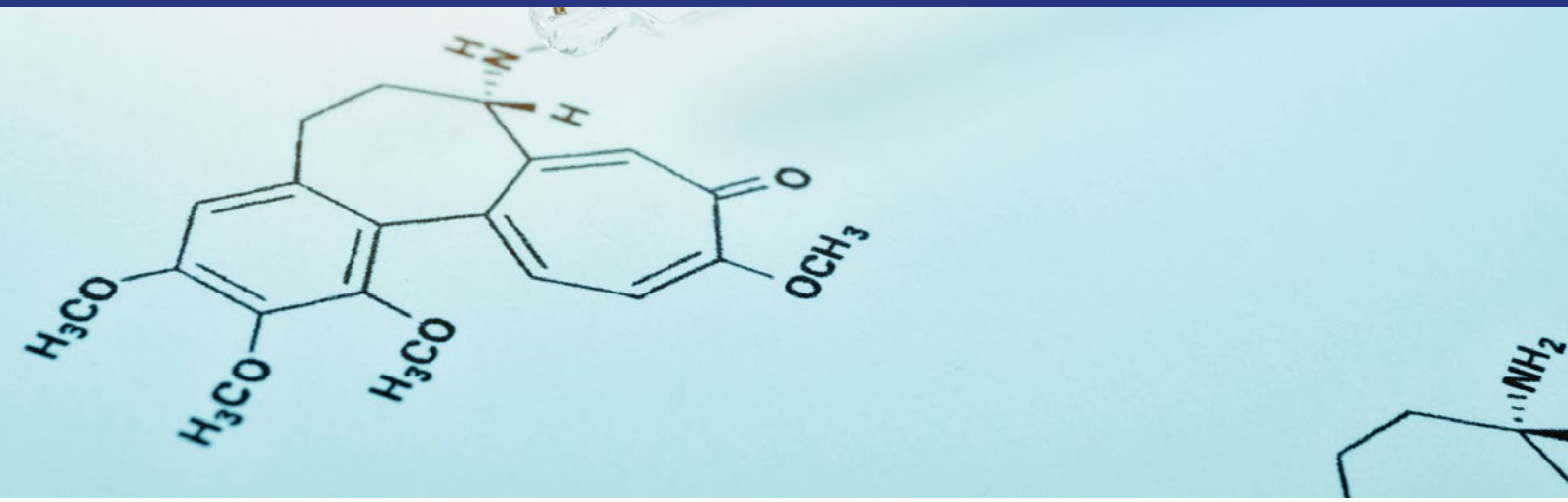

Coolant volumes:
The correct process parameters for a perfect production process

To achieve the best results in your production process, the processing machine and coolant used must not only be perfectly suited to one another, using the correct volume of coolant is another important factor. In this latest newsletter from Siebert, we will shed light on why this parameter is important, as well as why it pays to think about the coolant quantity at an early stage and how you can go about determining the correct volume.

A suitable volume of coolant is required

The volume of coolant emulsion is no small matter. If the volume is too low, this can seriously impair the fluid process. The reason for this is that the lower the volume, the more frequently the emulsion is circulated each hour. This in turn reduces the effectiveness at which any remaining air and foreign substances are separated from the emulsion, reduces the cooling time and leads to a deterioration in the emulsion's foaming behaviour. These are all factors that can have a serious impact on the production process. To ensure optimal machine operation, a sufficient quantity of coolant and a suitable container must therefore be used.

Consider the quantity when making a purchase

Your customers can err on the side of caution by taking into account the necessary volume of coolant as well as a suitable container for the emulsion when acquiring a new processing machine. This prevents costly retrofits later on. It is important to understand that the amount of coolant which needs to be circulated differs depending on the machine's output; this volume must be determined on an individual basis.

Determining the optimum operating volume

The VDI (Association of German Engineers) directive 3035 (Design of machine tools, production lines and peripheral devices for the use of metalworking fluids) defines the basic requirements for proper machine function. The following formula can be used to reliably determine the minimum volume of a coolant container:

$$\text{Container volume } (m^3) = \frac{\text{effective volume flow rate } (m^3/h) \text{ of the pump}}{\text{circulation index (revolutions per hour)}}$$

The circulation index specifies how often the substance that the system is filled with (at least, theoretically) is circulated per hour. This depends on whether the coolant is mixed with water or is neat. The following values apply:

	Water-mixed coolant
Circulation index	6 to 10

	Neat coolant
Circulation index	3 to 6

With a suitable container size and sufficient lubricant filling, your customers can actively prevent disruptions in their production process and therefore achieve reliable, economic and high-quality production.

We are there for you

Do you have further questions regarding coolant volumes? Our experts at Siebert will be happy to help.

Contact:
gerwen@siebertgmbh.com