HANDLING AND CARE OF WATER-MISCIBLE COOLANTS

AHB
TOOLING & MACHINERY, INC.

COMPLETE METALWORKING SOLUTIONS

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Before Filling

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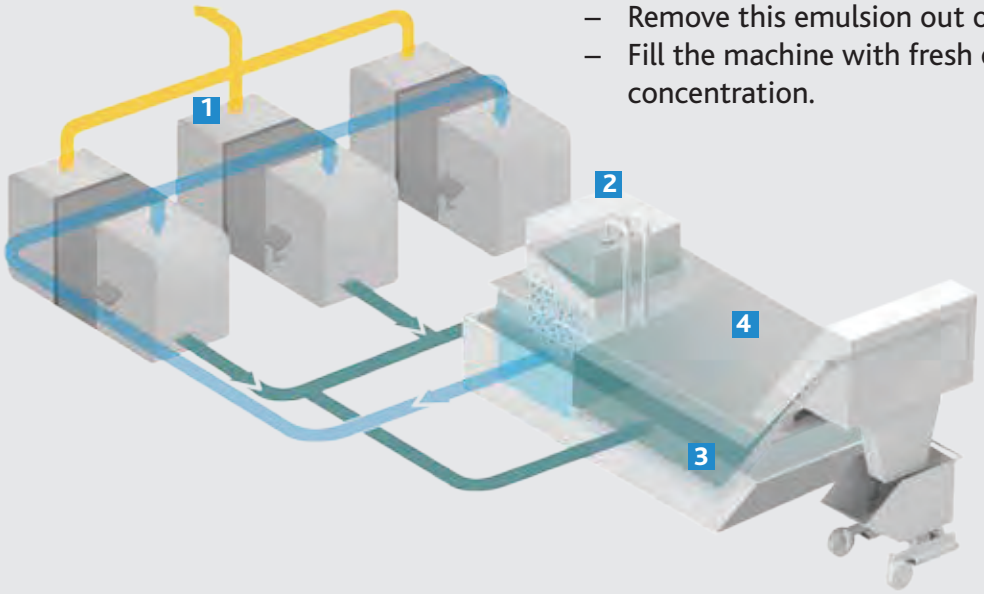
Initial fill or re-filling

Before filling or re-filling the system, absolute cleanliness is essential. Thoroughly clean the metalworking fluid tank and the machine of all chips, swarf, sludge and other residues.

Proceed as follows

- Add system cleaner to the old emulsion as per recommended dosage. Then work with this mixture so that the cleaner can circulate throughout the system.
- Drain the system.
- Clean the machine with a high-pressure spray and rags.
- Remove residual fluid out of the machine for waste disposal.
- Fill the machine with diluted fresh emulsion (at least 1% concentration) to the level required for pump suction intake.
- Let this diluted fresh emulsion circulate for at least 30 minutes. During this time turn the chip conveyor on and flush all the nozzles as well as the internal coolant.
- Remove this emulsion out of the machine for waste disposal.
- Fill the machine with fresh emulsion at the recommended concentration.



Machine / system cleaning

Special attention should be paid to clean the following zones where residues collect in particular:

1 Air filtration unit

2 Filter

3 Chip conveyor

4 Metalworking fluid tank

Water Quality

The metalworking fluid emulsion is mainly comprised of water. The water quality (chloride content, hardness and pH) varies widely by region and country. Poor water quality can cause negative effects on the metalworking fluids, machine parts and components.

Chloride content

Should be as low as possible, no more than 25 ppm.

Varies according to product. For most Blaser products 90 –270 ppm water hardness is ideal.

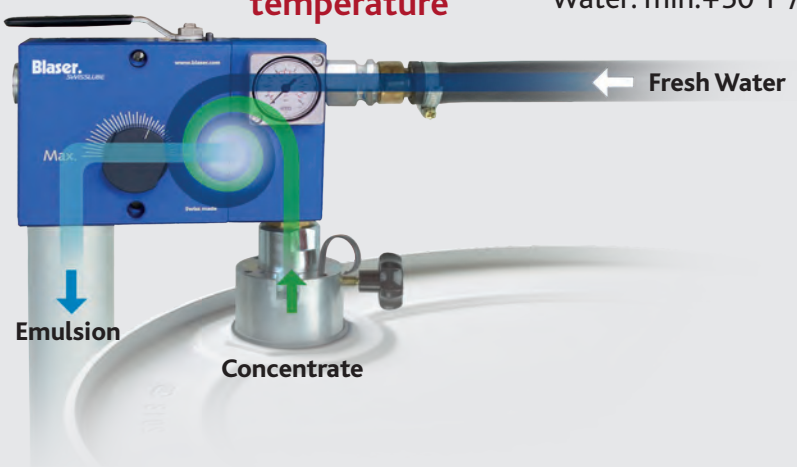
Water hardness tolerance

Softer water promotes foaming. This can be avoided with most Blasocut and some B- Cool products by adding calcium acetate to harden the water.

If the water is too hard (>270 ppm), tap water can be used for mixing new emulsions, but for daily topping-off it is better to use water that is de-mineralized or treated by reverse osmosis.

Recommended mixing temperature

Concentrate: min.+50°F / max.+86°F
Water: min.+50°F / max. +86°



Mixing concentrate and water

Never mix the existing metalworking fluid with any other product.

Important: Never add water alone or straight concentrate to the metalworking fluid emulsion.

Mixing device

We recommend using a Jetmix or Minimix to make a finely dispersed, homogeneous emulsion of metalworking fluid concentrate and water.

Manual mixing

First fill a container with water. Then add the right amount of concentrate while stirring continuously until it is completely dispersed. (A hand held drill with mixing attachment is suitable for stirring).

Do not use compressed air, a water jet, or any metalworking fluid pumping system!

Monitoring

In order to detect adverse developments and address them in a timely manner, regularly check the following parameters:

Concentration

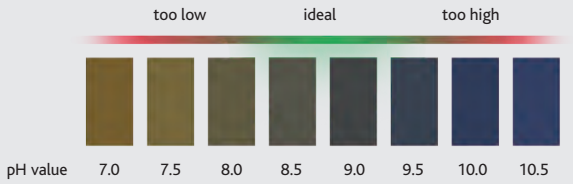
Keep the concentration within the recommended range. This ensures the optimal metalworking fluid condition for best machining performance and corrosion protection with minimal foaming and long term stability. Top-off concentration can vary and is generally lower than the actual working concentration in the machine.

Topping-off frequency

Keep the coolant sump as full as possible by frequently topping-off. This maintains constant emulsion conditions as well as providing consistent, reliable machining parameters.

pH value

The pH value indicates the condition of the metalworking fluid during use. If the pH value is above the maximum or below the minimum limit, then corrective measures need to be taken. We recommend checking the pH value weekly.



Metalworking fluid maintenance

A minimal effort in metalworking fluid maintenance is a good investment.

Tramp oil removal, filtration

Efficient filtration and regular removal of the tramp oil with a skimmer are enough to keep the emulsion in optimal condition. Good fluid maintenance promotes long sump life, thus reducing coolant disposal and expensive additive additions.

TIP: Measuring intervals depend very much on the tank size. Central systems should be checked daily, and individually filled machines on a weekly basis. We recommend keeping a monitoring log of all measurements taken, and can provide you with a template accordingly, if desired. Do not hesitate to contact us in case of any unusual changes observed in measurement data.

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Seven Points for Success

Product: _____
Ref: _____
System: _____
Date: _____

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1 Start with proper machine preparation and cleaning

a. Add recommended Blaser cleaner and follow Start up and Cleanout procedure/video

2 Use recommended water quality

☐	DI, distilled or otherwise mineral free	
☐	RO	
☐	City	
☐	Softened only	
☐	Other	

3 Use recommended mixing device/method

☐	Jetmix	
☐	Minimix	
☐	Dosatron	
☐	O.I.L = Oil In Last (hand mix)	
☐	Other	

4 Maintain recommended concentration & top off range

a. Avoid adding straight water or straight concentrate to the system

b. Always lean out cutting fluid with a light mix, down to 1/2%

	Sump refractometer reading	Top off refractometer reading
Min		
Max		

5 Maintain your sump

a. Do not throw garbage, spit, cigarette butts, sunflower seeds, tobacco juice, soft drinks, coffee, energy drinks or any other foreign matter into the coolant

b. Periodically remove sludge and chips from the sump

c. Monitor recommended pH

	pH	
Min		
Max		

6 Keep tramp oil to a minimum. Remove via…

☐	Shop vac	
☐	Coalescer	
☐	Skimmer	
☐	Centrifuge	
☐	Other:	

7 Top off machines regularly

a. Keep sumps 75-100% full

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