Blaser Swisslube Inc.
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Water Miscible Startup Procedures

Safety Precaution: Where appropriate, when working in and around automated equipment, follow an effective Lockout / Tagout procedure.

Water Miscible Coolant, all product families.

Do not use a system cleaner that will raise the pH while machining with Synergy 735 or any other coolant that has a normal operating pH below 8.3
This needs to be defined by Blaser Customer Service.

A. Normal Pre Clean Out Procedure (best practice)

1. Add 2-3% by volume of Blasoclean AF, article 29170 to coolant system prior to system clean out. Allow to circulate for 5-7 days, while maintaining pH at 9 (most effective is 7 days). Additional product may need to be added to the coolant system in order to maintain pH over the course of treatment. Additive C41 article 29117 may be used to boost pH during this time. Any decant tanks, coalescer, centrifuge, sump suckers, recycling systems, filtration systems, anything that holds, distributes, processes coolant should be evaluated for cleaning with Blasoclean AF.
2. In cases where the coolant is highly contaminated (fungus, extreme foul odor, etc.) an addition of bactericide and/or fungicide may be necessary. This should be added the day of the initial Blasoclean dose. For fungus contamination, please see Control of Fungus procedure.
3. Also keep in mind any additional steps that might be “system” specific, in the case of a large central system for instance. Flumes, tanks without conveyors, pits around the machines, especially when coolant is pumped back into the sump. For central distribution systems: overhead piping, distribution tanks.

B. High Production Pre Cleanout Procedure (best practice)

To reduce downtime for mechanical cleaning

1. Use Blasoclean AF article 29170 as the top off coolant for the system for 4-8 weeks
2. Be sure the system maintains pH of 9 or more over the course of treatment. Additive C41 article 29117 may be used to achieve this.
3. Blasoclean AF contains all relevant components of a cutting fluid, this means EP additives, corrosion protection, foam control, therefore production is not affected.
4. Follow steps 2 & 3 above in Section A.
5. After 4–8 weeks, the system is ready for **clean out procedure below**.

C. Clean Out Procedure (best practice)

1. Watch machine tool/ coolant system cleanout video
2. Remove old coolant/cleaner mix from tanks, vessels and cavities.
3. If Blasoclean is not approved for use, it is recommended to clean the machine with a machine cleaner/degreaser per manufacturer’s recommendations, after removing the previous coolant.

4. Remove any covers and panels on machines, tanks, fluid filters, chillers and air filters.
5. Remove filters from filter housings and vacuum out remaining coolant.
6. Disconnect all hoses and pipes at both ends and allow draining completely.
7. Disconnect and drain/vacuum any remaining coolant inside of chiller unit.
8. Scrape off and remove any accumulated chips, swarf and sludge.
9. If possible, clean any air handling systems and duct work.
10. If possible, it is advised that a steam cleaner and/or pressure washer is used.
11. Replace all panels, hose connections, pipe fittings, ducts and brackets. Tighten all connections.

D. Rinse Cycle (best practice)

1. After pumping out all of the old coolant/cleaner, refill system with a minimum amount of rinse coolant at 1-2% concentrate by volume. Circulate for 45 minutes.
2. If practical, use any filter media in place during the rinse cycle. This media must be replaced after the rinse.
3. Evaluate the rinse coolant, if it is extremely dirty, remove and repeat the rinsing process.

When removing the rinse coolant from the sump and all filter vessels/etc, vacuum any floating oil/debris on top of the sump first, rather than let it stick to the sidewalls of the sump as the fluid level lowers.

E. Additional Rinse Cycle *when switching from water miscible to neat oil*

1. After removing the rinse coolant, remove all of the remaining water based rinse solution prior to filling with straight oil. Use rags or other absorbent materials to soak up as much as possible. Remaining rinse coolant can be detrimental to straight oil.
2. It may be necessary to flush (after soaking up the coolant rinse) with Blasorinse 4 for all cutting and grinding oils. Please consult your Blaser representative. (see Oil Startup Procedure below)

F. Clean out & rinse cycle *when switching from neat oil to water miscible*

1. Follow steps 1 through 8 Clean Out Procedure below for Neat Oil. No pre-clean out procedure is necessary.
2. After pumping out all of the old oil and cleaning, refill system with a minimum amount of rinse coolant at 1-2% concentrate by volume along with a system degreaser such as Keteca and 0.25% S22. Circulate for 45 minutes. This will help remove and emulsify any residual oil.
3. If practical, use any filter media in place during the rinse cycle. This media must be replaced after the rinse.
4. Evaluate the rinse coolant, if it is extremely dirty, remove and repeat the rinsing process.
5. It is very difficult to remove 100% of the previous oil. Be prepared to vacuum residual oil from the top of the sump for several weeks to avoid serious issues with biological growth.

When removing the rinse coolant from the sump and all filter vessels/etc., vacuum any floating oil/debris on top of the sump first, rather than let it stick to the sidewalls of the sump as the fluid level lowers.

G. Startup Procedure (best practice)

1. Install new filters/filter paper.
2. Fill system at the recommended target concentration Check for any leaks.
3. Startup system; ensure that the system is running properly while catching the first few gallons from the coolant nozzles.
4. If there is doubt as to the thoroughness of the cleaning procedure, a 1/2 to 1% dose of Blasoclean AF should be added to the charge-up (***do not add to Synergy 735 or any other neutral pH coolant***)

Recommendations for Extended Machine Shut Down:

On occasion, you may find it necessary to shut down a machine (or machines) for an extended period (in excess of 5 days). To maintain coolant stability during this period:

- Remove fines, dirt, sludge and chips from the coolant tank.
- Skim off all tramp oils prior to and during the shutdown period. Unless the machine's power is completely shut off, some machines will continually inject waylube oil.
- Make sure the pH is >9.0 by increasing concentration and/or adding Additive C41, or Blasoclean AF if necessary. *Do not do this when using a neutral pH coolant.*
- Ensure concentration is >8% & fill sump completely.
- Occasionally, (every 5 – 7 days), circulate coolant for at least 30 minutes or otherwise aerate.
- For machines that sit idle > 2 weeks, add Blasoclean AF @ 1% after increasing concentration by 2%. *Do not do this when using a neutral pH coolant.*
- Do not leave any coolant [puddles] on the table, vise, fixtures, pallets, tool holders or other surfaces. It will dry out and form residues. When using a neutral pH coolant, it is optional to apply a thin coating of rust preventative if there is a history of slight corrosion due to drying out of the coolant.

Another option is to remove the coolant entirely machine(s) tank not in use and use in other areas of the shop.

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Neat Oil Startup Procedures

Straight Oil, all product families.

Pre Clean Out Procedure Notes

- Do not use aqueous based cleaners or solvents for cleaning.
- Any foreign oil mixed with Blaser oils have shown to increase the tendency for air entrainment or foam; therefore the machines, any auxiliaries (filters, chillers, piping) should be thoroughly cleaned.
- Also, keep in mind any additional steps that might be “system” specific, in the case of a large central system or grinding filtration system for instance.

Clean Out Procedure

1. Remove any covers and panels on machines, tanks, fluid filters, chillers and air filters.
2. Remove old oil from tanks, vessels and cavities.
3. Remove filters from filter housings and vacuum out remaining oil. Disconnect all hoses and pipes at both ends and allow draining completely.
4. Disconnect and drain/vacuum any remaining oil inside of chiller unit.
5. Scrape off and remove any accumulated chips, swarf and sludge.
6. Clean any air handling systems and duct work.
7. Mechanically clean the sump/machine with a rag and absorb as much oil as you can.
8. Replace all panels, hose connections, pipefittings, ducts and brackets. Tighten all connections.
9. For extremely fouled and/or larger systems, subsequent flushing with rinse oil, Blasorinse 4. For Blasogrind GT series, Blasorinse 4 is a must.

Rinse Cycle (best practice, highly recommended for all systems)

- **NOTE:** When changing from WM to Neat oil, repeat rinse cycle twice!
  A small amount of residual water can cause major problems.
- Fill system with rinse oil and let it circulate in the machine for about 2 hours (30 minutes for grinding systems). Flushing the system will ensure any remaining oil is removed.
- Completely remove the rinse oil from all components per above.
- Based on the contamination level, the rinse oil can be saved and reused up to 5 times based on PIDS note. See PIDS for Blasorinse 4. Also see Section E above when switching from water miscible to neat oil

Startup Procedure (best practice)

1. Install new filters/filter media.
2. Fill system with new oil.
3. Check for any leaks.
4. Startup system; ensure that the system is running properly while catching the first few gallons from the coolant nozzles.