

Labor Pilot High Shear Mixer

Model: IKA® Labor Pilot 2000/4 (DR configuration)

Location of Machine: Composites Lab, RFM 1218

Location of SOP and Machine Operating & Safety Manual: Composites Lab website under resources; Composites Lab TRACS site; and Hardcopy near machine.

Emergency Contact:

- Call 911
- Call EHS & Risk Management at 512-245-3616
- Call Head Lab Technician, Dr. Ray Cook (office 512-245-2050)
- Call Dr. Jitendra S Tate (office 512-245-4872)

Before using this machine:

- You must have permission from Dr. Tate.
- You must have received formal training from technician or, trained research student (designated by Dr. Tate) related to machine safety and operation.
- You must read and understand **SOP and Machine Cleaning Manual.**
- You must use this machine under direct supervision of Dr. Tate or, Dr. Cook or, trained research student (designated by Dr. Tate).
- You must have signed “Lab Rules” document with Dr. Tate. This document must be signed every semester fall, spring, and summer (as applicable).
- If you do NOT follow above instructions you will be held responsible for your own safety and damages.

Safety Precautions:

Protective Equipment: Prior to performing this procedure, the following personal protective equipment must be obtained and ready for use: **Gloves, Safety Goggles, Lab Coat.**

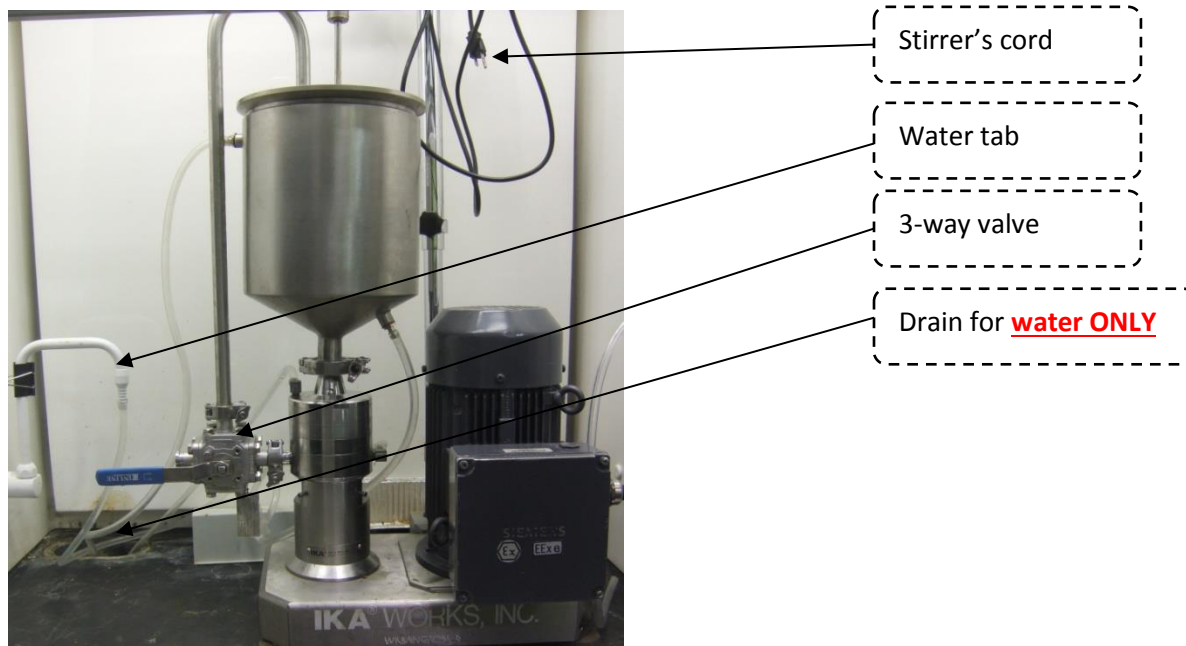
Important Safeguards:

1. Prior to performing this procedure, the following safety equipment must be accessible and ready for use: (e.g. chemical fume hood, biological safety cabinet, laminar flow hood, chemical spill kits)**Fume hood**
2. All liquids should be drained to containers for chemical disposal and properly marked.
3. **Do not run** pure Acetone through machine because it can damage O-rings.
4. In the event that a hazardous material spill during this procedure, be prepared to clean with cleaner according to MSDS of materials used.

Specifications:

- Power 1,5 kW
- Output speed 3.160 - 13.750 min⁻¹
- Flow capacity (H₂O) approx. 300 - 700 l/h (depending on type of generator)

- Peripheral speed 9,4 - 41 m/s
- Voltage/frequency 3 x 380-420 V/50-60 Hz or 3 x 220-240 V/50-60 Hz
- Dimensions (LxWxH) 450 x 250 x 350 mm




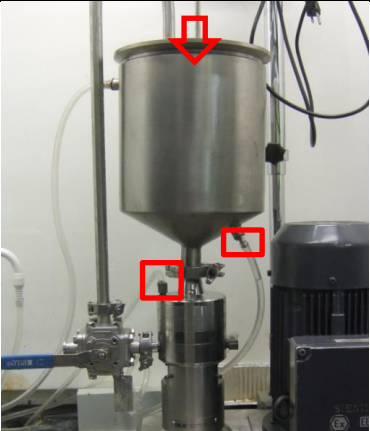


IKA Labor Pilot 2000/4 DR in fume hood


General Information

IKA Labor Pilot is an all-purpose machine for Research and Developing. The mixer can be equipped with different modules. Our machine has DR configuration which has 3-stage disperser for applications with high shear requirements. It is also equipped with optional IKA-stirrer RW 28 basic. The unit is controlled by a controller which is mounted on the wall outside the fume hood.

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High Shear Mixer Standard Operating procedure	
<p>Starting up:</p> <ol style="list-style-type: none">Plug in the cord outside the fume hoodTurn on switchAdjust the speed (Frequency)	 <p>The image shows the AC Tech controller panel. A red box highlights the 'START' and 'STOP' buttons. A dashed box labeled 'Current Frequency' points to the digital display showing '50.00 Hz'.</p>
<p>Run water through the mixer to check leakage</p> <ol style="list-style-type: none">Put water in the hopperPush "Start" on the controllerAdjust the frequency- "up"/"down" (Note: no recirculation under 40 Hz)Check for leakage	 <p>The image shows the high shear mixer. A red arrow points to the hopper at the top. Another red arrow points to the mixing chamber below it. A red box highlights the mixing chamber area.</p>
<p>Drain the water</p> <ol style="list-style-type: none">Open the 3-way valveBe careful: Fast current/High Pressure/High Temperature of the materialclose valve after draining water	 <p>The image shows the high shear mixer. A red box highlights the 3-way valve on the left side of the mixing chamber.</p>
<p>Mixing</p> <ol style="list-style-type: none">Put material(s) into hopperPush "Start"Adjust the frequency-"up/down" <p>Note: make sure mixer does not exceed 60°C.</p>	 <p>The image shows the AC Tech controller panel. A red arrow points to the 'START' button. Another red arrow points to the 'STOP' button.</p>

<p>Removing material(s) from the mixer</p> <ol style="list-style-type: none">Keep the motor runningPlace bicker under 3-way valveCarefully open the valve	
<p>Turn off the motor</p> <ol style="list-style-type: none">Close the valve	
Cleaning of the Mixer	
<p>Cleaning of the mixer</p> <ol style="list-style-type: none">Run cleaning agent through the mixer many times (Hot water/soap/diluted acetone/alcohol/etc).Do not use pure acetoneTurn off the motorClose the valve	