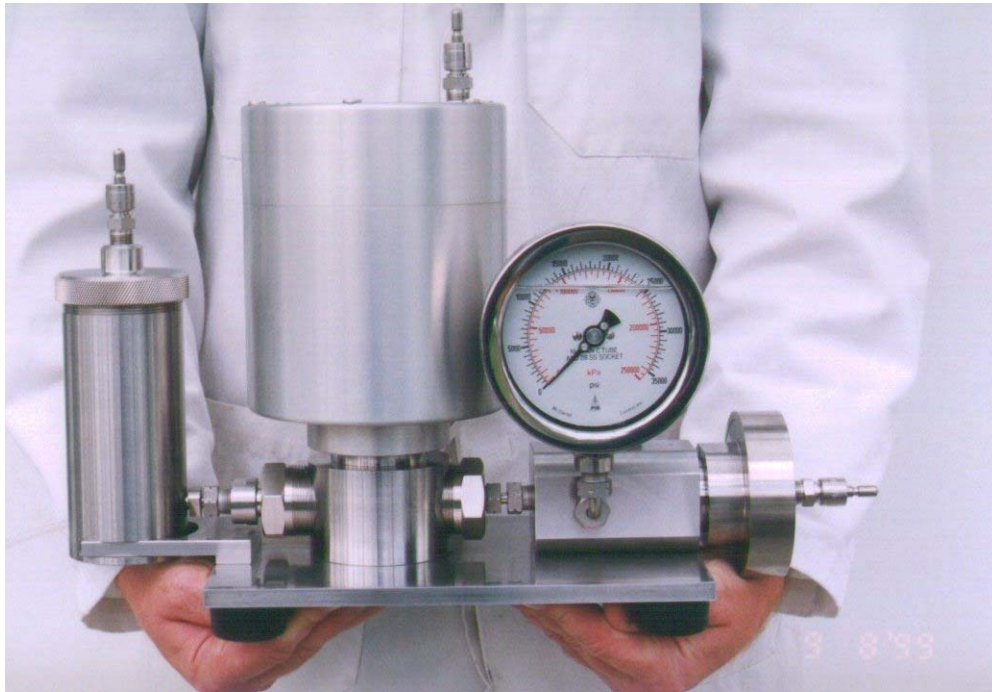


AVESTIN

EmulsiFlex-C5

LABORATORY SCALE HIGH PRESSURE HOMOGENISER FOR THE PRODUCTION OF NANO PARTICLES, LIPOSOMES, AND CELL RUPTURE



EmulsiFlex-C5 shown with an analogue gauge

1. PUMP

The EmulsiFlex-C5 homogenizer has an air/gas driven, high pressure pump developed and manufactured by AVESTIN. There is no single “O-ring or gasket in the entire path of the product. The only plastic seal is the plunger seal which is UHMWPE (Ultra High Molecular Weight Polyethylene). Quiet operation is due to a specially designed pump motor pilot valve.

2. HOMOGENIZING VALVE

The standard EmulsiFlex-C5 is delivered with a pneumatically controlled, dynamic

homogenizing valve. NO “O-rings are present. The only plastic seal is a Teflon ring to seal the homogenizing valve stem. All other seals are precision metal/ceramic and metal/metal face seals without gaskets.

3. CAPACITY/PRESSURE

In common with all air driven pumps, the flow rate depends on the homogenizing pressure selected. The EmulsiFlex-C5 has a capacity of 1-5L/hr. A sample as small as 7ml can be processed with a hold back volume of less than 1ml. The homogenizing pressure can be adjusted in the range of 500-30000psi/3.5-207MPa.

4. TEMPERATURE CONTROL

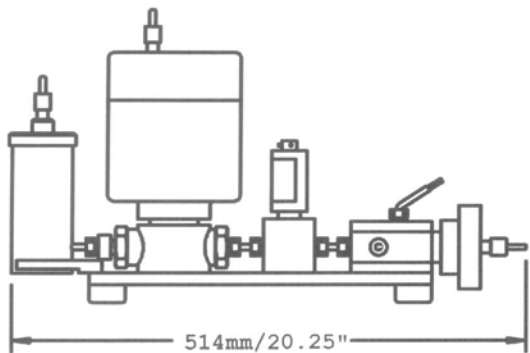
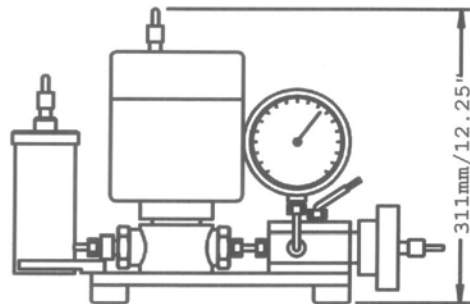
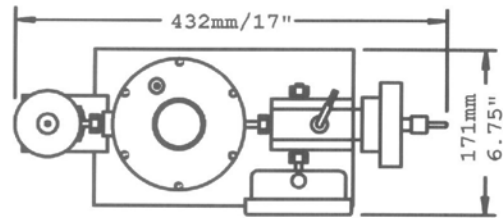
Inlet and outlet temperatures can be controlled with installation of an appropriate heat exchanger. The entire instrument can be immersed in a temperature controlled water bath for heating and cooling purposes.

5. CLEANING & STERILISATION

Hot water, ethanol, acetone and various other cleaning agents can be flushed through the equipment for quick cleaning. After cleaning, residual fluids may be removed from the instrument by blowing the system out with compressed air/gas. The unit, including the homogenising valve, can be fully disassembled for stringent cleaning and inspection if required. All wetted parts are autoclavable and FDA approvable. The inlet of the pump can be connected easily to steam at 120-130⁰C for steam in place (SIP) sterilization.

6. REQUIREMENT FOR OPERATION

Most laboratories, research facilities and production spaces have sufficient air pressure and flow rate to run the C5. For laboratory use, a nitrogen gas cylinder or small compressor of 3hp/2.2kW is sufficient. The air/gas pressure required depends on the application. For most dispersions, emulsions, liposomes and *E. coli* rupture, an air pressure of 85psi/0.6 MPa or more is sufficient.



The top two (2) drawings are of the standard EF-C5. The bottom drawing shows a pressure transducer in its in-line adapter. Note the bottom option is longer than standard. The EmulsiFlex-C5 weighs approx. 16kg unpacked.

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