



## **Cosaic**

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## **Sales Offer: MiniDeBEE New Generation High Pressure Homogenizer**

### **1. Product Overview**

We are pleased to offer a second-hand MiniDeBEE New Generation of High Pressure Homogenizer, specially suited for cell lysis, particle size reduction, production of nano and micro-emulsion. Perfect mix between laboratory and pilot scale. Scaling up guaranteed.



Cosaic SA - Rte Petite Glâne 20 - 1566 Saint-Aubin - CH

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CHE-204.378.349



## 2. Technical Specifications

Model: MiniDeBEE 2011 - up to 2000 bar

Condition: Used for 1.5 years at Cosaic - **Currently NOT FUNCTIONAL** ;

*(problem diagnosed with Pion's support. Cost repair spare parts up to 2500 EUR; <2-months estimated delivery (quote available))*

Task: cell lysis, particle size reduction, production of nano and micro-emulsion

## 3. Requirement

|   | Requirement                                    | Specification                                                                                                          | Please fill<br><input checked="" type="checkbox"/> When done |
|---|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 1 | Electricity supply                             | 220V, 50/60Hz, 3 phase, 20A; or<br>380V, 50/60Hz, 3 phase, 12A                                                         | <input type="checkbox"/>                                     |
| 2 | Hydraulic oil                                  | 23 liter oil, Viscosity of 310 SSU at 38°C<br><i>For example:</i> Mobil DTE-26, Shell Tellus 68,<br>Texaco Rando HD-68 | <input type="checkbox"/>                                     |
| 3 | Coolant supply,<br>Hydraulic Cooler            | Inlet & Outlet Ports require 3/8" tube ID<br>Coolant: 0.5 LPM Min. @ 20°C Max.                                         | <input type="checkbox"/>                                     |
| 4 | Coolant supply,<br>Processed Product<br>Cooler | Inlet & Outlet Ports require 1/4" tube ID<br>Coolant: 0.5 LPM Min. @ 10°C recommended                                  | <input type="checkbox"/>                                     |
| 5 | Waste drain                                    |                                                                                                                        | <input type="checkbox"/>                                     |
| 6 | Site foundation                                | Strong enough to support a weight of 250 Kg                                                                            | <input type="checkbox"/>                                     |
| 7 | Work space area                                | 2.5 m X 2 m recommended clearance                                                                                      | <input type="checkbox"/>                                     |

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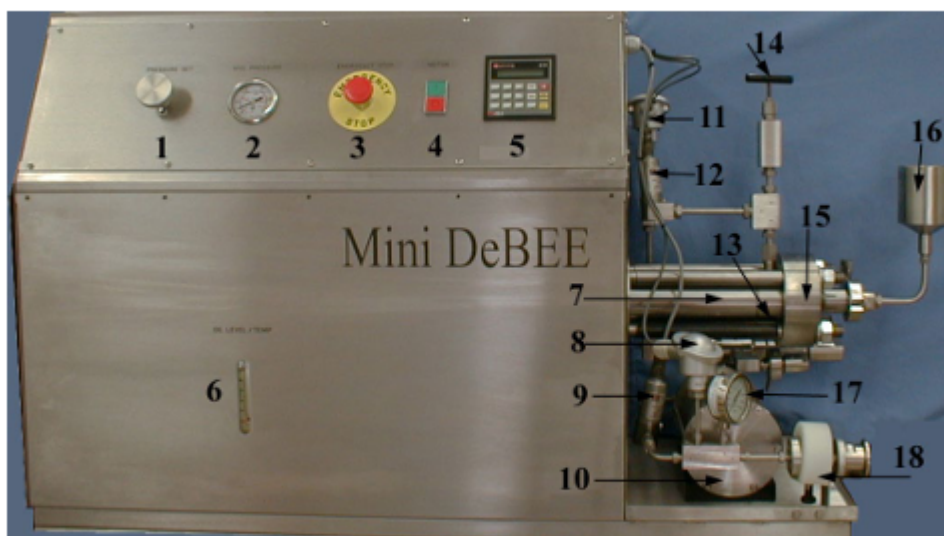
CHE-204.378.349

#### 4. Detailed description :

##### Technical Specifications

|    |                                                                                                                                                                            |                                                       |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 1  | <b>Model:</b>                                                                                                                                                              | Mini DeBEE 30                                         |
| 2  | <b>Overall Dimensions</b>                                                                                                                                                  |                                                       |
|    |  <b>Note</b><br>These are general figures, your specific system may vary based on options |                                                       |
|    | <b>Width</b>                                                                                                                                                               | 111 cm (46 inches)                                    |
|    | <b>Depth</b>                                                                                                                                                               | 50 cm (20 inches)                                     |
| 3  | <b>Height</b>                                                                                                                                                              | 70 cm (28 inches)                                     |
|    | <b>Approximate Weight</b>                                                                                                                                                  | 250 kg (552 lbs.)                                     |
|    | <b>Maximum Operating Pressure</b>                                                                                                                                          | 30,000 psi                                            |
|    | <b>Maximum Flow Rate</b>                                                                                                                                                   | 200 ml/min.                                           |
| 5  | <b>NOTE:</b> Actual flow rate will vary, depending on operating pressure, product viscosity, and nozzle type.                                                              |                                                       |
| 6  | <b>Maximum Product Inlet Temperature</b>                                                                                                                                   | 80°C                                                  |
| 7  | <b>Product Inlet Connection</b>                                                                                                                                            | 1 liter Reservoir or 1" Tri-Clover                    |
| 8  | <b>Product Outlet Connection</b>                                                                                                                                           | Tube, 6.3 mm (1/4") O.D.                              |
| 9  | <b>High Pressure Pump</b>                                                                                                                                                  | One Single-Acting Intensifier                         |
| 10 | <b>Post-Cooling Product Heat Exchanger</b>                                                                                                                                 |                                                       |
|    | <b>Cooling Medium</b>                                                                                                                                                      | Chilled Fluid (by the customer)                       |
|    | <b>Cooling Ports</b>                                                                                                                                                       | 1/8" BSP with quick-disconnects for 3/8" ID soft tube |
|    | <b>Product Tubing</b>                                                                                                                                                      | (1) 1/4" M/P coil, 5.5m Lg.                           |
|    | <b>Product Ports</b>                                                                                                                                                       | 1/4" M/P                                              |
|    | <b>Minimum Temp.</b>                                                                                                                                                       | -40°C                                                 |
| 11 | <b>Seals Materials:</b>                                                                                                                                                    | UHMWPE, Viton, PTFE                                   |

|    |                                                                            |                                                                                                          |
|----|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| 12 | <b>Materials of Construction:</b>                                          |                                                                                                          |
|    | <b>Direct Product Contact</b>                                              | Type 316 SS, Type 17-4 PH SS, 15-5 PH SS, Alumina, Zirconia, PEEK, Glass-filled PEEK, Carbon-filled PEEK |
|    | <b>Indirect Product Contact</b>                                            | 300 Series Stainless Steel                                                                               |
| 13 | <b>Electric Motor</b>                                                      | 220/380 V, 50/60Hz, 3 $\phi$ , 4 kW                                                                      |
| 14 | <b>Hydraulic Pump</b>                                                      | Piston Pump, Variable Disp. Press. Comp.                                                                 |
| 15 | <b>Accumulator</b>                                                         | 1. 0.7L, 80 Bar Pre-charged Nitrogen Press.<br>2. 0.7L, 30 Bar Pre-charged Nitrogen Press.               |
| 16 | <b>Required Oil (for Hydraulic Power Unit)</b>                             |                                                                                                          |
|    | <b>Capacity</b>                                                            | 23 Liter                                                                                                 |
|    | <b>Viscosity</b>                                                           | 310 SSU @ 38°C                                                                                           |
|    | <b>Type (examples):</b>                                                    | Mobil DTE26, Shell T68, Texaco Rando HD-68                                                               |
| 17 | <b>Required Electric Supply</b>                                            | 220V, 50/60 Hz, 3 phase, 20 A ; or<br>380V, 50/60 Hz, 3 phase, 12 A                                      |
| 18 | <b>Required Oil Cooling (for continuous operation of more than 1 hour)</b> |                                                                                                          |
|    | <b>Coolant</b>                                                             | Water                                                                                                    |
|    | <b>Min. Coolant Flow Rate</b>                                              | 0.5 l/min                                                                                                |
|    | <b>Max. Coolant Temperature</b>                                            | 20°C (for cont. operation of more than 2 hrs.)                                                           |
|    | <b>Inlet/Outlet Ports</b>                                                  | Barbed connectors for 3/8" ID soft tubing                                                                |



**Figure 1: Front View**

**Front View Legend:**

|   |                                                                                                                                                                                                                                        |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <b>Operating Pressure Dial</b> - This stainless steel knob is used to determine the operating pressure of the <i>Mini DeBEE</i> . Turn this knob clockwise to increase operating pressure, and counter-clockwise to decrease pressure. |
| 2 | <b>Hydraulic Pressure Gauge</b> - The hydraulic pressure gauge displays the pressure of the hydraulic system.                                                                                                                          |

|    |                                                                                                                                                                                                                                                                                                                                                                                                |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3  | <b>Emergency Stop Button</b> - This button is used to quickly end all operation and disconnect power from the machine. When the machine must be stopped quickly, this button is simply pushed down. To continue operating the machine, turn the button clockwise, as indicated by arrows, and the button will pop out. Then press on the PLC the +/- button and the ENT button simultaneously. |
| 4  | <b>Motor On/Off Button</b> - The MOTOR switch turns on and off the electric motor and the hydraulic pump. Press the green (I) button to turn the motor ON, and the red (O) button to turn the motor OFF.                                                                                                                                                                                       |
| 5  | <b>Programmable Logic Controller (PLC)</b> - The PLC provides a user friendly interface to control and monitor Mini DeBEE operation and settings.                                                                                                                                                                                                                                              |
| 6  | <b>Oil Level and Temperature Gauge</b> – enables monitoring proper oil level and temperature of the Hydraulic Power Unit.                                                                                                                                                                                                                                                                      |
| 7  | <b>High Pressure Cylinder</b>                                                                                                                                                                                                                                                                                                                                                                  |
| 8  | <b>Thermocouple, Outlet</b> (optional) - A thermocouple is a sensor for measuring temperature. This thermocouple measures product temperature after it has been processed in the EC and cooled in the heat exchanger.                                                                                                                                                                          |
| 9  | <b>Back-Pressure Transducer</b> (optional) - measures back-pressure (after the EC) and displays this pressure on the PLC.                                                                                                                                                                                                                                                                      |
| 10 | <b>Heat Exchanger</b> – for cooling the processed product after it leaves the EC.                                                                                                                                                                                                                                                                                                              |
| 11 | <b>Thermocouple, Inlet</b> (optional) A thermocouple is a sensor for measuring temperature. This thermocouple measures product temperature before it enters the EC.                                                                                                                                                                                                                            |
| 12 | <b>Process Pressure Transducer</b> – measures process pressure and displays this value                                                                                                                                                                                                                                                                                                         |

|           |                                                                                                                                                                                                                                                                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | on the PLC.                                                                                                                                                                                                                                                                                                                                         |
| <b>13</b> | <b>Intensifier Outlet Fitting</b>                                                                                                                                                                                                                                                                                                                   |
| <b>14</b> | <b>Priming Valve</b>                                                                                                                                                                                                                                                                                                                                |
| <b>15</b> | <b>Intensifier Inlet Fitting</b>                                                                                                                                                                                                                                                                                                                    |
| <b>16</b> | <b>Inlet Reservoir</b>                                                                                                                                                                                                                                                                                                                              |
| <b>17</b> | <b>Back-Pressure Gauge</b> – measures and displays back-pressure (after the EC). This gauge is not supplied when the optional Back-Pressure Transducer is installed on the system.                                                                                                                                                                  |
| <b>18</b> | <b>Back-Pressure Controller</b> – The back-pressure controller generates pressure during post-cooling, in the heat exchanger and the outlet port of the EC. Standard systems include a metering valve to control back-pressure. The optional sanitary back-pressure controller (shown in the picture) consists of a hub with 14 different orifices. |

#### 4. Commercial Terms

- Total Offer Price: 15 000 CHF (Excl VAT)
- Delivery Terms: EX WORKS COSAIC (previously - Cultivated Biosciences SA)  
Bachtobelstrasse 5  
8810 Horgen  
Switzerland
- Delivery Time: direct available for shipment
- Payment Terms: 100% before shipment