



### **I Application**

The CMC mixing unit is a skid designed for a fast dispersion of hydrocolloid products such as carboxymethylcellulose (CMC), flours, carbopol, pectin, and guar or xanthan gum. These additives are widely used in industry on account of their multiple properties: as thickeners, jellifying agents, stabilisers, complexing agents, etc. In the food industry, these additives provide texture, body, consistency and stability to food products. In the cosmetics industry they are used as thickeners, stabilisers, suspending agents and film formers in creams, lotions or shampoo.

### **I Operating principle**

Hydrocolloid compounds are usually available in dry powder form, which must be diluted in water to obtain the desired colloidal solution.

When these powders come into contact with water, lumps quickly form and it is difficult to obtain a homogeneous mixture using a conventional agitator. To overcome this problem, this mixing unit incorporates a rotor-stator mixer at the bottom of the tank that shears the product, thereby increasing the water-additive contact area.

A cowles-type agitator fitted in the tank allows efficient circulation of the powder to the mixer lower head and also helps improve the dispersion time.

When the process requires working with high powder percentages, the use of hot water can be an important factor as this allows the viscosity to be significantly increased. For such cases, the available options include a heating jacket and the replacement of the cowles-type propeller with another suitable agitation element such as anchor.

### **I Materials**

Parts in contact with the product	AISI 316
Other materials	AISI 304
Seals in contact with the product	EPDM
Internal surface finish	2B, with ground and polished welds $Ra \leq 0.8 \mu m$
External surface finish	2B

### **I Design and features**

- AISI 316 stainless steel vertical body.
- Vertical agitator with cowles propeller.
- Tank bottom high-shear mixer.
- Maximum and minimum level monitoring probe.
- Tank-mounted sampling valve.
- Powder adding and inspection manhole.
- Clean-in-place (CIP) diffuser balls.
- Manual discharge butterfly valve.
- Electrical control panel.

### **I Options**

- Product discharge pump.
- Skid-mounted discharge pump.
- Pump protection level control.
- Jacketed tank.
- Electric element hot water generating system.
- Anchor-type agitator or other agitation element according to client's requirements.
- Other options available upon demand according to special client's requirements.

**I Technical specifications**

500L and 1000L capacities.

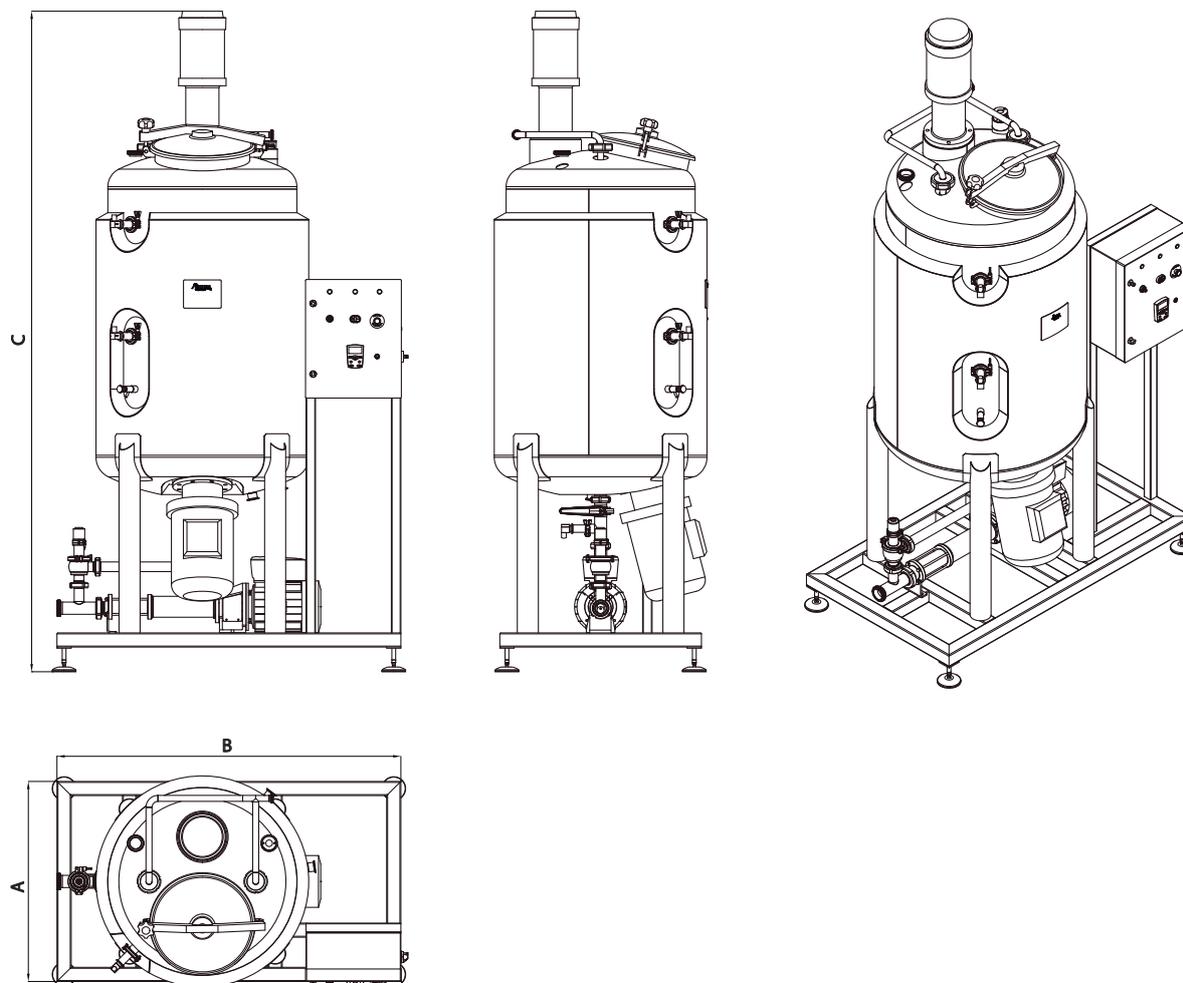
Operating pressure: atmospheric.

Operating temperature: ambient (regular unjacketed equipment).

**I General dimensions**

Model	Dimensions (mm)		
	A	B	C
MCMC-500	850	1450	2807
MCMC-1000	1250	1600	2784

**500L CMC Unit**



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