



## 50-113-001 / 50-130-002 MFFT 10 and MFFT 20

### Standards

ISO 2115 – ASTM D 2354



### Application

Temperature gradient plate for measuring the Minimum Film Forming Temperature, MFFT of polymer dispersion.

### Features

For determination of the MFFT a sample is applied on the tempered measuring plate by the help of a film caster. A visual inspection of the dry film is then made to determine the position along the length of the film where it changes from the coalesced to the non-coalesced state. A non-coalesced film shows whitening and /or cracking. The lowest temperature at which the film is coalesced is reported as the MFFT.

The temperature gradient plate consists of a high precision chromium measuring plate, with equispaced temperature sensors beneath the surface. For measuring the temperature, the MFFT 20 is equipped with 20 Pt-100 temperature sensors. (MFFT 10: 10 Pt-100 sensors). The controller with touch screen guarantees optimal temperature control. The temperature set points for the MFFT 20 can vary with a maximum possible gradient on the surface of 100° (MFFT 10: with a maximum gradient of 20°). Purge gas is dried by an integrated membrane dryer and flows over the heating plate. A constant flow according to the standards can be set with a built-in flow meter. The flat hinged acrylic glass cover provides thermal and atmospheric insulation while allowing constant visual inspection of the experiment.



## Technical Data

	<b>MFFT 10 (50-113-001)</b>	<b>MFFT 20 (50-130-002)</b>	<b>MFFT 20 (50-131-001)</b>
Variable adjustment of set point	-5°C ... +80°C	-30°C ... +250°C	-30°C ... +250°C
Max. gradient (depends on the used cryomate)	20°C*	100°C*	100°C*
Temperature detection	10 Pt-100 sensors in measuring plate	20 Pt-100 sensors in measuring plate	20 Pt-100 sensors in measuring plate
Resolution temperature display	0.1 K	0.1 K	0.1 K
Measuring length	500 mm	500 mm	500 mm
Measuring width	180 mm	180 mm	180 mm
Lanes	None	None	6 lanes; 300 µm depth, 20 mm width

\*ATTENTION: The maximum gradient also depends on the set temperature range and can be lower than indicated.

## Dimensions and Connection

	<b>MFFT 10 (50-113-001)</b>	<b>MFFT 20 (50-130-002)</b>	<b>MFFT 20 (50-131-001)</b>
Dimensions (WxDxH)	800 x 350 x 320 mm	800 x 350 x 320 mm	800 x 350 x 320 mm
Weight	approx. 50 kg	approx. 52 kg	approx. 52 kg
Mains	230 V, 50/60 Hz (optional: 115 V Transformer 300x230x192 mm, 23 kg)	230 V (optional: 115 V Transformer 300x230x192 mm, 23 kg)	230 V (optional: 115 V Transformer 300x230x192 mm, 23 kg)
Power	1500 W	1500 W	1500 W
Interfaces	n.a.	n.a.	n.a.
Air	Compressed air	Compressed air	Compressed air
Cooling	Cooling connection	Cooling connection	Cooling connection
Other	n.a.	n.a.	n.a.

## Accessories

incl.	Item no.	Description
-	50-037-001	Changeable hood for MFFT up to 250°C made of stainless steel 4301
-	50-034	Changeable hood for MFFT up to 80°C made of acrylic glass (720 x 280 x 250 x 5 mm)
1	9-107-085	Standard hood for MFFT up to 80°C made of acrylic glass (750 x 280 x 76 mm)
-	50-100-001	Dropping bordering made of stainless steel
-	50-047-002	Film caster 100 µm, made of plastics, for 6 parallel grooves (20 mm each)
-	50-047-008	Film caster 100 µm, made of stainless steel, for 6 parallel grooves (20mm each), with guide rolls
-	60-005-006	Cryomate, temperature range: -25...80°C, for MFFT 10
-	60-005-020	Cryomate, temperature range: -45...200°C, for MFFT 20