

# Wax Content Testing

## with the mobile Cold Finger

### Characteristics

- Designed for mobile use or small required sample throughput
- 2 measuring places
- Small, reusable sample volume
- Highly precise measurements with weight-calibrated finger sleeves
- Software for documentation

The Cold Finger by PSL Systemtechnik improved significantly the established test method in its operation and provides measurement recording by software.

The PSL mobile Cold Finger is equipped with two measuring places for testing in the lab and is designed for high mobility to be used in the field, in a mobile lab or at customer site.



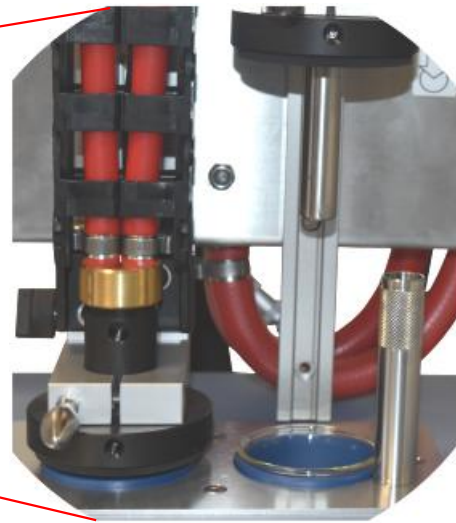
### Measurement Principle

A crude oil sample is stirred and kept above Wax Appearance Temperature (WAT). A cooled cylinder element - the 'cold finger' - is immersed in the sample, providing a cold surface where the waxes of the crude oil deposit. An integrated magnetic stirrer is providing a gentle circulation to ensure that

all of the sample gets in touch with the cold finger surface. The amount of wax that deposits at this surface at given temperature in ratio to the total amount of sample is an indication of potential amount of wax deposition as well as, related to a blank test, for the efficiency of a wax inhibitor (WI).



mobile Cold Finger mCF2 with thermostat



Left: finger inserted Right: finger lifted

### High mobility

The reduction to two measurement places allows this specific design for a very mobile use with easy, quick changes of location. You don't need to bring the sample in the main lab, you can measure directly at the sampling site. This is optimal for quick sample checks in production or quality control. Also for low sample throughput the mCF2 is a perfect choice.

### Software

The mobile Cold Finger can be operated stand-alone or you can connect it to a PC or laptop. Then the sample temperature and thermostat for finger temperature are controlled via our WinCFC software. This saves the readings of the sensors and the finger weighings from the balance directly for documentation.

### High precision

Just like his bigger counterpart, the Cold Finger CF15 which has set a new industry standard, this mobile Cold Finger works with the same high precision. The finger is cooled very homogeneously allowing a reproducible deposition of the wax. The removable finger sleeves are weight-adjusted with a deviation of <math><0.01\text{ g}</math>. The finger sleeves can be exchanged between different measurement places and they can be remounted to determine wax deposition rate or – in case of lack of sample – the wax can be melted to use the same sample for further tests runs.

## Specifications:

Temperature range:	
Cold Finger	-5 ... +65 °C (23 ... +149 °F)
Sample temperature	+30 ... +100 °C (+86 ... +212 °F)
Number of measuring places:	2 fingers
Sample volume:	70 - 80 ml
Finger rotation speed:	0 / 480 .. 1200 rpm
Weight:	9 kg
Voltage input:	230 V~
Dimensions (WxDxH):	25 x 55 x 54 cm (main unit)