



CF Cold Finger

Wax



Measurement Category	Wax
Measurement Target	Investigation of the effectiveness and efficiency of wax inhibitors
Sample Materials	Crude oil, condensates
Pressure Range	Ambient (optional up to 172 bar)
Temperature Range	Finger temp.: -5 to +65 °C (-20 °C low temp.); Sample temp.: +30 to +120 °C <i>Low temp. -10 to +80 °C or high temp. +30 to +200 °C)</i>
Sample Quantity	60 to 80 ml
Repeatability	0,01 g
Dimensions	55 x 59 x 118 cm + thermostats, PC
Weight	Approx. 95 kg (CF main unit)
Supply	Power Supply
Price Range	
Special Features	<ul style="list-style-type: none">• De-Facto industry standard with extremely simple handling• Modular design enables upgrading and different configurations for each rack• Weighing of sample can be done individually• Dry bath enables sample temperatures up to 120 °C, no open fluids for improved HSE• Calibrated measuring sleeves• Experiments at different temperatures / pressures parallel at different fingers possible



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Basic requirements
Situation (s)

- Level of comfort in handling is too low
- Accuracy is too low
- Level of reliability between the tests is too low
- Number of tests per day (per device) is too low

Requirement criteria

- Which oilfield chemicals do you sell?
(good: Wax inhibitors)
- Focus more on wax deposits or pour point depressants PPD?
(good: wax inhibitors, wax solvers | bad: PPD --> PPT 45150)
- Which method do you currently use to measure wax inhibitors?
(good: not yet, static (Cold Finger) | bad: dynamic)
- Is the static measuring method sufficient or do you need a dynamic one?
(good: static | bad: dynamic)
- Do you use an external device or a self-construction?
(good: self-construction --> dirty, unsecure, open water bath --> accuracy & HSE) | bad: external device)
- How many tests do you run per day?
- How many tests would you like to run per day?
(good: GAP between ACTUAL and SET: Factor >1)
- How often does it happen that you want to continue measuring with the samples, but cannot, because components got lost due to weighing determination?
(good: it happens | bad: that's not important)
- Which temp. range do you need for the fingers?
(good: from -20 up to +65 °C)



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Optional add-on products (Up-selling)

Extended physics. Properties	T, p
Software	optional
More measuring stations	✓
Maintenance	✓
Additional Features	Single temp. sensor
Spare parts (if required)	✓
Documents for customs	✓
Customizing	✓
Service	✓
Training	✓

Optional by-products (cross-selling)

Test measurement	✓
Chiller (per drawer)	✓
Gas-Booster	✗
PC	recommended
Other	Balance, manifold, pressure booster





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Reason for purchase 1	You operate your measuring instruments in a comfortable and simple way because you can interrupt and continue individual measurements (for one finger) at any time. This was a very important buying motive for our customer Baker Hughes (USA).
Reason for purchase 2	You increase the quality of your measurement data because you can adapt more precisely to the required parameters (pressure, temperature).
Reason for purchase 3	You save money because you have more measuring stations available and the sample throughput (measurements/time) increases. You can do this with the 5-15 fingers of our system, which allow simultaneous tests even at different temperatures.
Reason for purchase 4	You save sample quantity (max. 80 ml per finger), because you can continue to use the sample after the measurement and also generally need a very small sample quantity per finger.
Reason for purchase 5	You increase the comparability of your tests and thus ensure the effectiveness of your chemicals. For this reason, our customer Baker Hughes bought 10 of our Cold Fingers for the USA and also 1 for the UK.
Reason for purchase 6	You save space in the laboratory thanks to the compact and revolutionary design of our CF15.



PSL Systemtechnik
Germany



For all devices

Step 1	Step 2
<p>In the first step after our discussion, you will receive a quotation for the system with various variants and options. On this basis, you can initiate an internal budget discussion and use secure arguments.</p>	<p>In the second step, you discuss the requirements and the available budget internally with your colleagues. We support you with our advice and helpful documents.</p>
Step 3	Step 4
<p>In the third step we evaluate the quotation with you - based on your internal requirements - and compile the variants and variables as you need them for your application. On this basis you can make a well-founded decision.</p>	<p>If we are perceived as your best alternative, we would be pleased to receive your order. Afterwards we will deal with the details of production, delivery and commissioning. Also, we will send you the order confirmation with the 1st invoice (70 % advance payment) and set an expected delivery date.</p>
Step 5	Step 6
<p>1 month before delivery you will receive the 2nd invoice (30 %). After receipt of payment, we will send the system to you.</p>	<p>In the sixth step, we accompany the commissioning and train your staff. Four weeks after commissioning, we arrange a telephone feedback discussion with you and clarify questions and previous experience.</p>

