NMR SFC Analyzer
(Nuclear Magnetic Resonance Solid Fat Content Analyzer)

PQ001 Series

- Daily check ensured reliabale results;
    - Simple and rapid detection process without chemical treatment of the sample;
        - Both the steady and unsteady fat can be measured.

Technical indexes

- Magnet type: Permanent Magnet
- Magnetic Field Intensity: 0.5 ± 0.08 T
- Probe Diameter: Ø 10 mm
- Sample diameter ≤ 10 mm, Sample height ≤ 20 mm
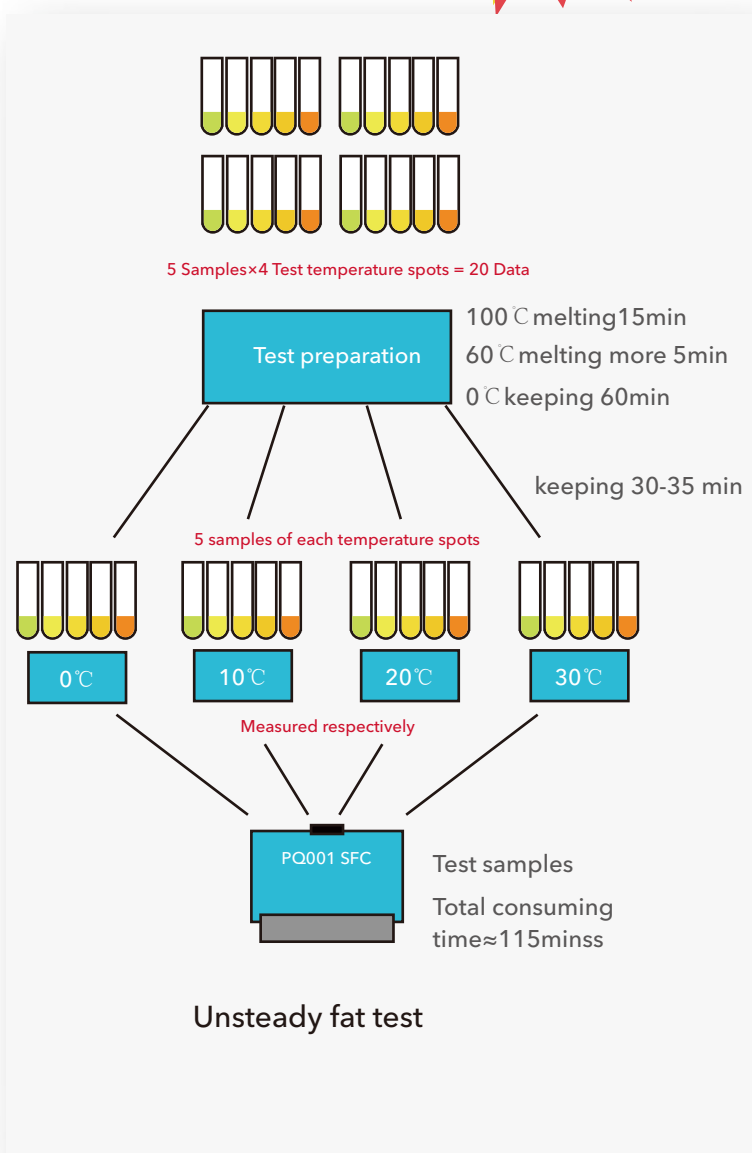
Why to do the SFC detection?

The solid fat content (SFC) is the index of melting and hardness performance of the fat (Cocoa butter, margarine, butter, etc.) at different temperatures. Melting and hardness properties significantly influenced the taste, aroma and smear performance.
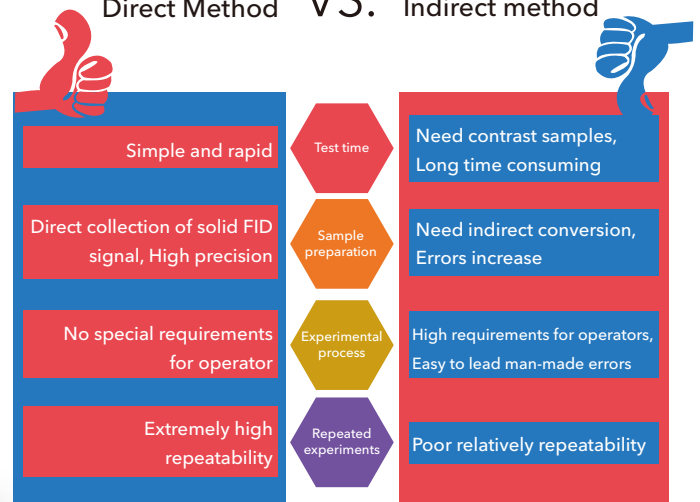
ISO Standard, AOCS Standard

- International standard ISO8292
- American Oil Chemists' Society AOCS Cd 16b-93
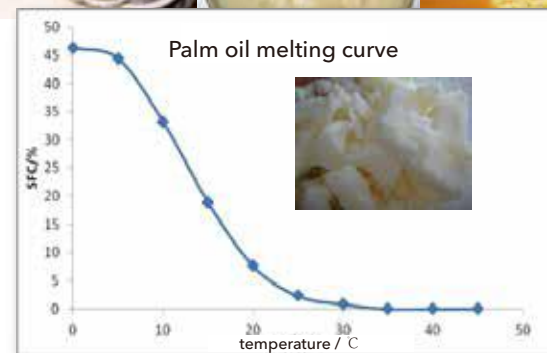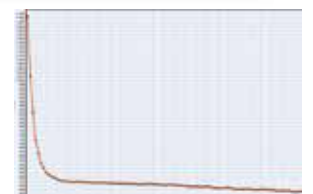
Direct Method VS. Indirect method

Direct Method		Indirect method
Simple and rapid	Test time	Need contrast samples, Long time consuming
Direct collection of solid FID signal, High precision	Sample preparation	Need indirect conversion, Errors increase
No special requirements for operator	Experimental process	High requirements for operators, Easy to lead man-made errors
Extremely high repeatability	Repeated experiments	Poor relatively repeatability

NMR Test Method :

Direct Method

5 Samples×4 Test temperature spots = 20 Data

Test preparation
100℃melting15min
60℃melting more 5min
0℃keeping 60min

keeping 30-35 min

5 samples of each temperature spots

| 0℃ | 10℃ | 20℃ | 30℃ |

Measured respectively

PQ001 SFC

Test samples

Total consuming time≈115minss

Unsteady fat test

Applicable for butter, cocoa butter, palm oil, animal fats, etc.

Palm oil melting curve

Professional testing software, simple and approachable.

Uniform magnetic field, Short dead time , Almost with no attenuation of liquid