

## Automated Abel Closed Cup Flash Point Tester

# *abl-8* Series

*abl-8afc* (Metal Block Bath Air-cooled Type)

*abl-8lfc* (Metal Block Bath Liquid-cooled Type)



- Easy Operation with Minimal Key Strokes
- Robust and Compact Design
- Color Coordinated Display
- USB Keyboard (Option)
- Adoption of Fire Containment System

## Specifications

|                                 |   |  |
|---------------------------------|---|--|
| <b>Product</b>                  | <b>Able Closed Cup Flash Point Tester</b>   |  |
| <b>Model</b>                    | <i>abl-8afc</i>   | <i>abl-8lfc</i>  |
| <b>Test Methods</b>             | ISO 13736, IP 170, ISO 1516, ISO 1523   |  |
| <b>Measuring Range</b>          | +10°C to +110°C   | -30°C to +80°C at cooling medium of 10°C<br>0°C ~ +110°C at cooling medium of 40°C |
| <b>Test Mode</b>                | (1) ISO 13736 normal<br>(2) ISO 13736 SPE (search)<br>(3) ISO 13736 Rapid   | (4) ISO 1516<br>(5) ISO 1523<br>(6) User Custom                                    |
| <b>Bath</b>                     | Metal Block Bath Air-cooled Type  | Metal Block Bath Liquid-cooled Type<br>(With an optional chiller)                  |
| <b>Sample Heating / Cooling</b> | By Peltier Device   |  |
| <b>Display</b>                  | 5.7 inch (117 x 88 mm) color LCD with LED back light  |  |
| <b>Stirring</b>                 | 30 rpm  |  |
| <b>Temperature Sensor</b>       | PT-100 in stainless steel sheath  |  |
| <b>Flash Detection</b>          | CRC Thermocouple  |  |
| <b>Ignition Source</b>          | Gas ignition with automatic lighting or electric ignition (Interchangeable)   |  |
| <b>Barometric Correction</b>    | Built-in barometric pressure sensor   |  |
| <b>I/O Port</b>                 | RS-232C = 1 channel (for PC or Optional Printer)<br>USB=1 channel (for USB keyboard or USB Flash Memory)  |  |
| <b>Safety Functions</b>         | Automatically shuts off and the problem is reported by buzzer and display in case:<br>(a) EFP+10°C or 70°C (ISO13736) or 110°C (ISO1516, ISO1523) is reached<br>(b) Temperature sensor for sample is found defective (c) Flash detector is found defective (d) Thermofuse is blown (e) Electric igniter is blown<br>(f) Built-in battery is found drained out (g) Test cup cover is not set in place<br>(h) Control computer runs away (no display) |  |
| <b>Gas Supply</b>               | LP gas or natural gas (Max. pressure: 10 kPa)   |  |
| <b>Power Consumption</b>        | AC 100 to 240 V, 300 VA (max), 50/60 Hz   |  |
| <b>Power Consumption</b>        | 30 Wh for 1 test (about 30 min), 11.34 gCO <sub>2</sub> (@ 0.378 kgCO <sub>2</sub> /kWh)  |  |
| <b>Dimension (W × D × H)</b>    | 230 x 470 x 385 (mm)  |  |
| <b>Weight</b>                   | 16 kg   |  |

### Circulator Requirements for abl-8lfc (Please procure locally)

|                          |   |
|--------------------------|---|
| <b>Type</b>              | Circulator with heating/cooling capacities. Open bath type. |
| <b>Temperature range</b> | -5°C to +40°C or wider                                      |
| <b>Pump capacity</b>     | Pressure: 0.2 bar minimum Flow rate: 2L/min minimum         |
| <b>Cooling capacity</b>  | 250 W@10°C minimum  |
| <b>Heater capacity</b>   | 500W minimum  |
| <b>Bath volume</b>       | 3L minimum  |

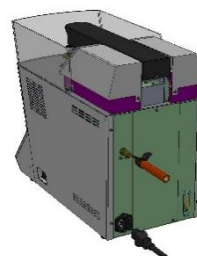
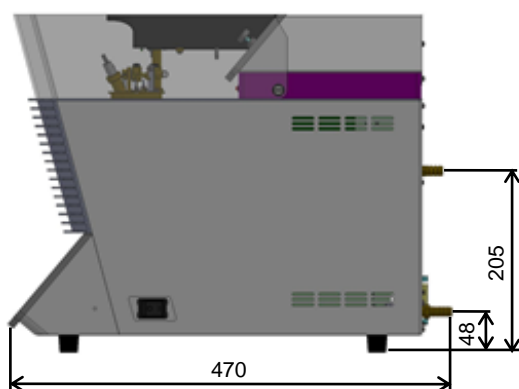
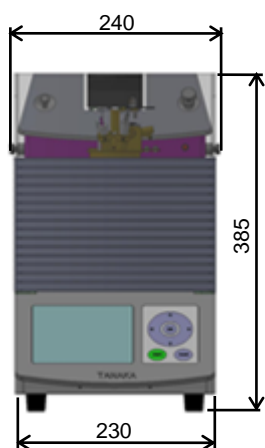
Note: Specifications and appearance are subject to change for product improvement without prior notice.

## Standard Accessories

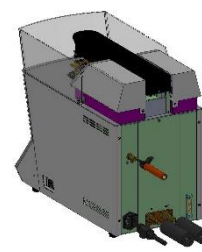
| Code No. | Part Name   | Qty | Code No. | Part Name                                       | Qty |
|----------|---|-----|----------|---|-----|
| 1000909  | Test Cup  | 1   | 1000454  | Insulated Tubing, 2 m <i>8lfc</i>               | 2   |
| 1000711  | Thermofuse<br>(Pack of 5, with insulation tube)     | 1   | 1000363  | Hose Band, SNP-8 <i>8lfc</i>                    | 4   |
|          |   |     | 1001401  | Thermal Insulation Lid                          | 1   |
| 1000449  | Gas Hose $\phi 9 \times \phi 16 \times 1.5\text{m}$ | 1   | 1001507  | AC Power Cord, 3.0m for 100 to 120 V            | 1   |
|          |   |     | 1006151  | AC Power Cord, 2.5m for 220 to 240 V            | 1   |
| 1000361  | Gas Hose Band                                       | 2   |          | USB Stick<br>(Instruction & Maintenance Manual) | 1   |
| 1000907  | Windscreen for abl-8, atg-8, asc-8                  | 1   |          |   |     |

## Optional Accessories

| Code No. | Part Name                | Remarks                                     |
|----------|--------------------------|---|
| 1006018  | Printer NEX-C200R01 100V | Print out test data and instrument settings |
| 1006019  | Printer NEX-C200R05 200V |   |
| 1000262  | Mini USB Keyboard        | For entering Sample/Operator ID             |

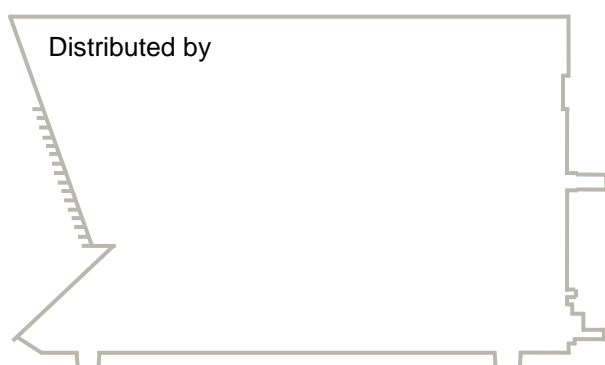


*abl-8afc*



*abl-8lfc*

Weight : 16 kg



# TANAKA

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## Single Action Setting

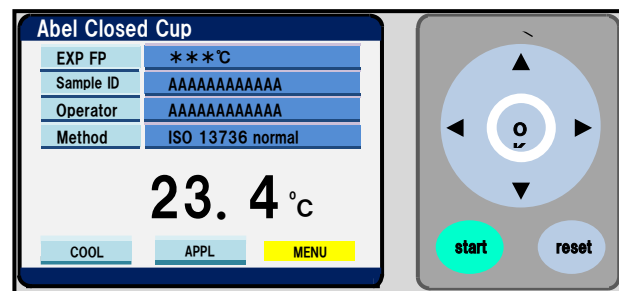
The cup cover is permanently mounted on a swing-arm assembly, which allows an easy handling of the test cup cover. Due to this design, the hot cup cover right after completion of a test can also be lifted with ease. The swing arm assembly can be raised to a vertical position, ensuring easier cleaning of the test cover.

## 2 Types of Baths

Heating / Cooling is done by energy efficient Peltier modules attached to a metal block bath. Air-cooled model abl-8afc and liquid-cooled model abl-8lfc are available for different temperature ranges (Model abl-8lfc requires an optional chiller).

## Easy Operation

Select a test mode and enter the expected flash point; while the instrument executes the test, you are free to do other lab work. The instrument follows the exact procedures prescribed in the test method, and the completion of the test cycle is signaled by beeps. The test result is brightly shown on the color LCD module.



## Data Handling

The unit is designed to store up to 200 test results and export to an optional printer or to a LIMS through an RS-232 port or USB memory.

## Interchangeable Ignition Source

abl-8 series is equipped with both gas and electric igniter as the ignition source. It only takes a few minutes to switch from gas to electric or vice versa.



Gas Ignition



Electric Ignition

## USB Port

A USB port allows connecting USB keyboard for easy entering of sample and operator ID. USB flash memory can be utilized to export data to a PC or to save/copy/upload test parameters.



Connection of USB Keyboard



Connection of USB Stick

## Password Protection

By setting password by the administrator, the device is protected against inadvertent change of parameters by operators.



Password Entry

## Draft Protection Shield

A fire-resistant "FM4910" conforming cover insures the flame integrity. This material shall meet the numerical criterion of each index.

- (1) FPI (Fire Propagation Index)  $\leq 6$
- (2) SDI (Smoke Damage Index)  $\leq 0.4$