## Standard Accessories

| Code No. | Part Name | Qty | Remarks |
|---|---|---|---|
| 1000949 | Test Cup Assembly for aco (with Handle) | 1 | |
| 1000711 | Thermofuse | 1 | Pack of 5, with insulation tube |
| 1000449 | Gas Hose φ9 × φ16 × 1.5 m | 1 | aco-8, aco-8as only |
| 1000361 | Gas Hose Band | 2 | aco-8, aco-8as only |
| 1001010 | Heating Plate, Upper | 1 | |
| 1005087 | Electric Igniter | 2 | aco-8e, aco-8eas only |
| 1000974 | Skimmer Shaft, Paddle type (Standard) | 3 | aco-8as, aco-8eas only |
| 1001507 | AC Power Cord | 1 | 3.0 m, For 100 to 120 V |
| 1006151 | | 1 | 2.5 m, For 220 to 240 V |
| | USB Stick | 1 | Instruction & Maintenance Manuals |

## Optional Accessories

| Code No. | Part Name | Remarks |
|---|---|---|
| 1006018 | Printer NEX-C200R01 for 100 to 120V | Print out test data and instrument settings |
| 1006019 | Printer NEX-C200R05 for 220 to 240V | Print out test data and instrument settings |
| 1000262 | Mini USB Keyboard | For entering Sample/Operator ID |
| 1001019 | Mercury Thermometer Holder | For calibration |



400

230

180

470

Weight : 17kg
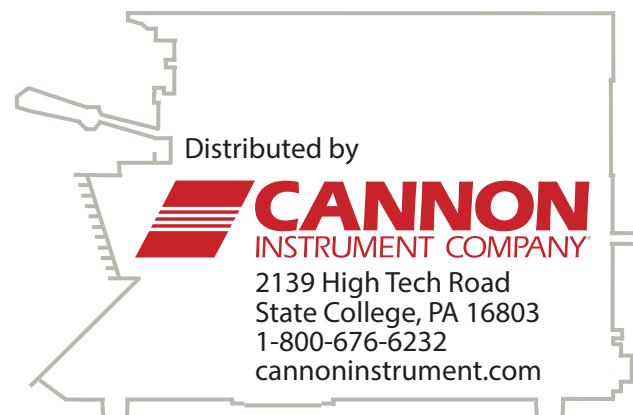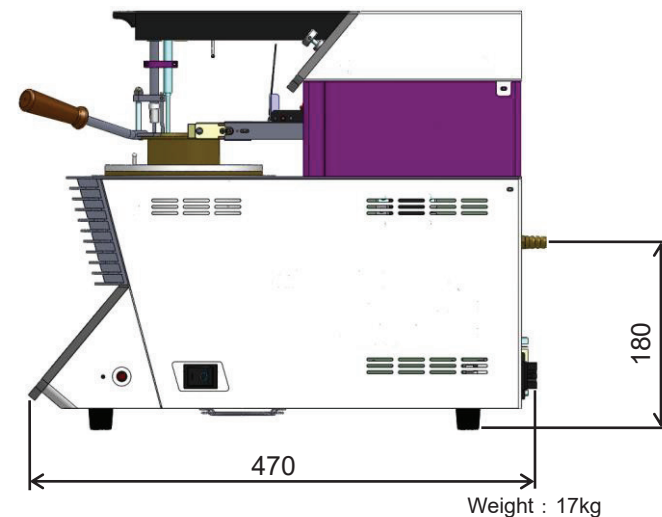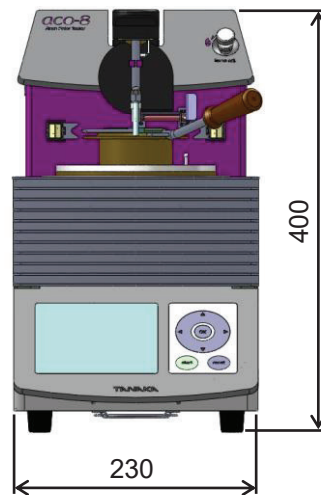
## TANAKA
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## TANAKA
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# Automated Cleveland Open Cup Flash Point Tester

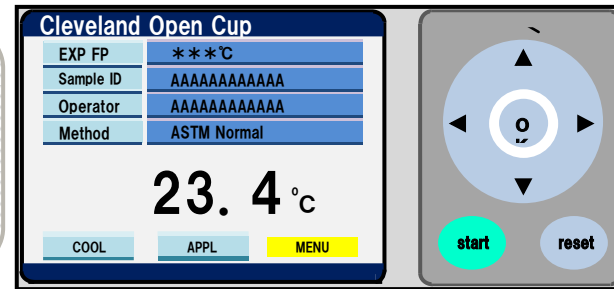# aco-8 Series

## aco-8 / aco-8as
NEW ## aco-8e / aco-8eas



- **Easy Operation with Minimal Key Strokes**
- **Robust and Compact Design**
- **Color Coordinated Display**
- **USB Keyboard (Option)**

## Single Action Setting

Flash detector rings and temperature sensor are permanently mounted on a swing-arm assembly, which allows easy setting of the sample cup.

## 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.

**Cleveland Open Cup**

| EXP FP | ***℃ |
| Sample ID | AAAAAAAAAAAA |
| Operator | AAAAAAAAAAAA |
| Method | ASTM Normal |

**23. 4** ℃

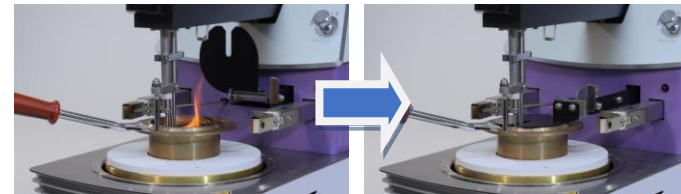COOL   APPL   MENU

start   reset

## Auto Fire Point

In addition to flash point, fire point can also be tested. Fire point is detected when the detection rings detect fire for 5 seconds.

## Auto Fire Containment

The fire containment lid activates automatically to help putting out fire when aco-8 detects a fire point or specimen is burning up heavily.
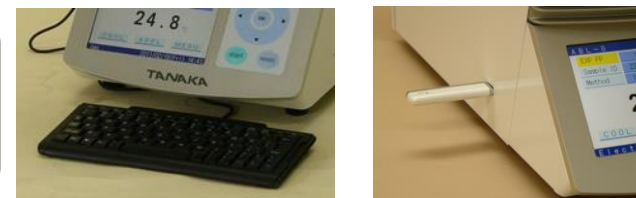
## Data Handling

The unit is equipped 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.

## 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.

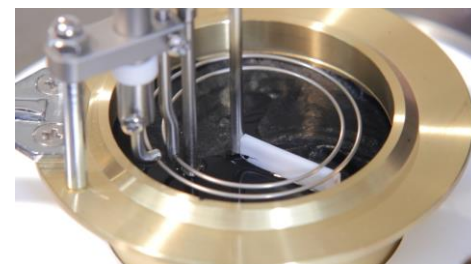**USB keyboard**          **USB memory**

## Electric Ignition Model

In addition to the existing gas ignition models (aco-8 / 8as), 2 new electric ignition models (aco-8e / 8eas) have been launched. An electric igniter coil replaces the gas flame which allows the user to remove combustible gas from the lab and operate in a safer environment.

**aco-8e**

## Skimmer for Surface Skin (Asphalt Version)

For aco-8 asphalt version (aco-8as / 8eas), a unique skimmer has been added to automatically remove the surface skin that forms on the sample when bitumen or some other samples are tested. Surface skin removal has been known to improve the precision and the safety of the COC flash point testing of such samples.

## Specifications

| Product | Cleveland Open Cup Flash Point Tester | | | |
|---|---|---|---|---|
| Model | *aco-8* | *aco-8as* | NEW *aco-8e* | NEW *aco-8eas* |
| Test Methods | ASTM D92, ISO 2592, IP36 JIS K 2265-4, AASHTO T48 | | JIS K 2265-4 | |
| Related Test Methods | | | ASTM D92, ISO 2592, IP36, AASHTO T48 | |
| Measuring Range | Ambient to 400°C | | | |
| Test Mode | ISO CRM, ISO Normal, ISO SPE, ISO Fire, ISO Skim*, ISO Manual, ISO Skim+Man*, ASTM Normal, ASTM SPE, ASTM Fire, ASTM Skim* ASTM Manual, ASTM Skim+Man*, Custom   *: aco-8as, aco-8eas only | | | |
| Heater | Nichrome coil heater: 100 V – 800 W / 220 V – 800 W | | | |
| Cooling Method | Forced air cooling by cooling fan | | | |
| Display | 5.7 inch (117 x 88 mm) color LCD with LED back light | | | |
| Skimming Mechanism (aco-8as, aco-8eas only) | PTFE Paddle rotates to skim the surface film of specimen. Skimming start temperature and interval are programmable. When not in use, the paddle can be removed. | | | |
| Temperature Sensor | Platinum resistance thermometer sensor 100Ω @ 0℃（Pt100） | | | |
| Flash Detection | Double ionization rings | | | |
| Ignition Source | Gas ignition with automatic lighting | | Electric ignition coil | |
| Barometric Correction | Built-in barometric pressure sensor | | | |
| I/O Port | RS-232C = 1 channel (for PC or Optional Printer) USB=1 channel (for USB keyboard or USB Flash Memory) | | | |
| Safety Functions | Automatically shuts off and the problem is reported by buzzer and display, in case: (a) EFP+30°C or 400°C is reached, (b) temperature sensor is found defective, (c) flash detector is found defective, (d) thermofuse is blown (also fire containment lid activates), (e) built-in battery is found drained out, (f) arm is not set in place, (g) control computer runs away (no display) | | | |
| Gas Supply | LP gas or natural gas (Max. pressure:10 kPa) | | | |
| Power Consumption | AC 100 V to 120 V, 1200 VA (max), 50/60 Hz AC 220 V to 240 V, 1100 VA (max), 50/60 Hz | | | |
| Electricity Consumption | 160 Wh for 1 test (about 20 min), 60.48 gCO$_2$ (@ 0.378 kgCO$_2$/kWh) | | | |
| Dimension (W × D × H) | 230 x 470 x 400 (mm) | | | |
| Weight | 17 kg | | | |

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