

Combustion-IC



Thermo Scientific Cindion combustion ion chromatography (C-IC) system

Keywords

Cindion, pyrolysis, combustion-ic, combustion-ion chromatography

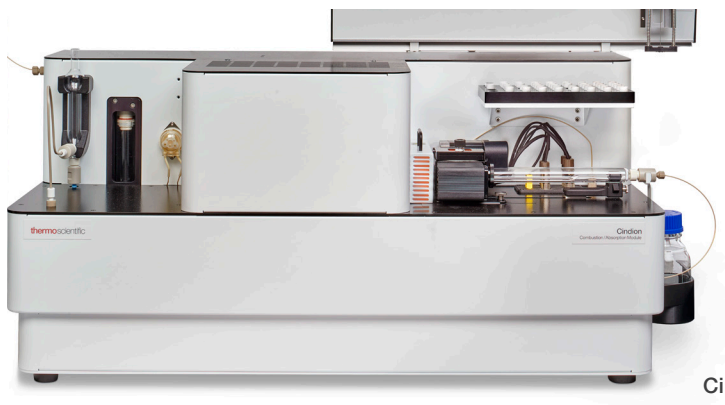
A bold way to ignite new insights

Combustion-ion chromatography (C-IC) has become an indispensable tool to screen solid, liquid, and gas samples for corrosive and toxic halogens and sulfur constituents by removing potentially interfering sample components.

Integrated solution, transformational benefits

- Small system footprint – A novel, compact combustion tube design ensures complete combustion in a shorter distance. The autosampler and absorption tube are integrated into the combustion/absorption module.
- Minimized PFAS contamination – With its unique combustion front-end that incorporates non-detectable PFAS-containing components within the sample pathway, the Thermo Scientific™ Cindion™ Combustion Ion Chromatography (C-IC) System eliminates potential sources of PFAS during analysis to deliver the lowest achievable background levels enabling the most sensitive detection.
- Industry-leading IC features – Unique innovations include electrolytic suppression and reagent-free ion chromatography (RFIC™) eluent generation, which enhance consistency and facilitate ease of use.
- Single-source convenience – Acquire the complete system and all consumables from a single vendor for a seamless customer experience.
- Complete workflow package – Enjoy an unparalleled breadth of complementary technologies for analytical determinations—especially advantageous for PFAS analysis requiring both targeted and non-targeted analyses.
- Experience and support – Count on the extensive library of Thermo Scientific C-IC application notes for multiple sample types and benefit from our 50-year leadership in IC technology.

Cindion C-IC system specifications

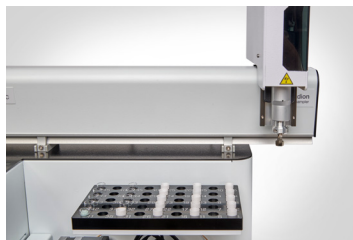


Cindion combustion/absorption module

| Specification | Value |
|-------------------------------------|---|
| Combustion/absorption module | |
| Gases | |
| Connection type | 1/8" Swagelok |
| Argon | 99.998% technical grade (4.8) |
| Oxygen | 99.999% technical grade (5.0) |
| Flow rate | 100-500 mL/min (+/-25 mL/min) |
| Pressure | 2-3 bar (30-45 psi) |
| Combustion | |
| Furnace temperature | 500 to 1150°C, 2 heating zones |
| Temperature accuracy | ± 50 °C |
| Absorption | |
| Syringe volume | 1-25 mL |
| Rinse | 0-10x with up to 25 mL of rinse solution |
| Physical specifications | |
| Power requirements | 110-240 V, 50-60 Hz, <1200 watt |
| Operating temperature | 4 to 40 °C (40 to 104 °F); cold-room-compatible (4 °C) as long as system power remains on |
| Operating humidity range | 5-80% relative, noncondensing |
| Control modes | Full control through Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS) |
| USB communication protocol | One USB input; one built-in two-output USB hub |
| Ethernet/LAN | One input |
| Dimensions (w × h × d) | 91.4 cm × 91.4 cm × 43.2 cm (36 in x 36 in x 17 in) with AS 91.4 cm × 43.2 cm × 43.2 cm (36 in x 17 in x 17 in) without AS |
| Weight | 43 kg (94.8 lb) with autosampler (AS) 35 kg (77.2 lb) without AS |



Cindion liquids autosampler



Cindion solids autosampler



Cindion LPG/gas module



Cindion adsorption module

Autosampler (AS)

| | |
|------------------------|--|
| Dimensions (w x h x d) | 63.5 cm x 43.2 cm x 30.5 cm (25 in x 17 in x 12 in) |
| Weight | Approx 7.8 kg (17.3 lb) |
| Interchangeability | Switch between liquid syringe and a gripper for solid cups without any tools |

Liquids AS

| | |
|--------------------|-----------------------------|
| Tray capacity | 120 position, 2 mL vials |
| Syringe volume | 10-500 µL |
| Wash vessel volume | 100 mL |
| Waste volume | Waste vessel size dependent |

Solids AS

| | |
|---------------|-------------|
| Tray capacity | 45 position |
|---------------|-------------|

Liquid petroleum gas (LPG)/Gas module

| | |
|--------------------------------------|---|
| Power requirements | 115-240 V, 50-60 Hz, max: 100 Watt |
| Operating temperature | 4 to 40 °C (40 to 104 °F); cold-room-compatible (4 °C) as long as system power remains on |
| Operating humidity range | 5-80% relative, noncondensing |
| Dimensions (w x h x d) | 38.1 cm x 40.6 cm x 48.3 cm (15 in x 16 in x 19 in) |
| Weight | 18 kg (39.7 lb) |
| Primary pressure gas sample | ≤ 40 bar |
| Secondary sampling pressure | 2-5 bar, internal adjustable |
| Primary pressure (LPG) | ≤ 20 bar |
| Secondary sampling pressure (LPG) | Automatically controlled |
| Quick fit connector gas/LPG cylinder | ¼" Swagelok (SS) QC4 SS Series Swagelok (DESO type) |
| Evaporation temperature | Ambient to 75 °C |
| Sample loops | 10 mL for gases, 25 µL for LPG |
| Safety sensor | Hydrocarbon |
| Pathway tolerance | Inert (Sulfinert) |

Adsorption module

| | |
|--------------------------|---|
| Power requirements | 115/230 V, 50/60 Hz, max: 90 Watt |
| Operating temperature | 4 to 40 °C (40 to 104 °F) |
| Operating humidity range | 20-80% relative, non-condensing |
| Dimensions (w x h x d) | 46.4 cm x 55.2 cm x 48.6 cm (18.5 in x 21.8 in x 19.1 in) |
| Weight | 17.8 kg (39.2 lb) |
| Sample positions | 6 |
| Maximum flow rate | 10.0 mL/min |
| Sample volume | Up to 120 mL |
| Wash volume | Up to 60 mL |



Inuvion IC system

IC system (shown: Thermo Scientific™ Dionex™ Inuvion™ IC system)

| | |
|--------------------------------|--|
| Power requirements | 100–240 V AC, 50–60 Hz autoranging |
| Operating temperature | 4 to 40 °C (40 to 104 °F) |
| Operating humidity range | 20-80% relative, non-condensing |
| Control modes | Full control through Chromeleon CDS; alternative control through TTL or relay closures; one relay output, two TTL outputs, two assignable TTL inputs |
| USB communication protocol | One USB input; three USB outputs |
| Product dimensions (h x w x d) | 66.1 x 29.2 x 43.2 cm (26.0 x 11.5 x 17.0 in.) |
| Weight | 16.2 kg (36 lb) |

[Dionex Inuvion IC system specifications](#)

Software

Chromeleon CDS,
version 7.3.2 MUD and above

- Full control of combustion/absorption module, LPG/gas module, autosampler, and Dionex Inuvion IC system
- Autoconfiguration
- Automated procedure wizards
- Data trending plots (numerical device parameters)
- Virtual column simulator (evaluation mode standard, isocratic and gradient optional)
- Multi-vendor automation support of proprietary and 3rd party instruments (fully controls over 550 modules from more than 25 manufacturers, including GC, CE, HPLC, and MS)
- Customizable system control panels
- System status virtual channels
- System trigger commands and conditionals
- Data audit trail, system audit trail and instrument audit trail
- Multiple network control and network failure protection (optional)
- System calibration storage (factory, present, and previous; completely user selectable)
- Customized reporting (unlimited report workbooks)
- Automated system qualification (detailed, comprehensive qualification reports)
- Dual sequence view in the studio

Ordering information

| Description | Part no. |
|--|-----------|
| Cindion C-IC system combustion/absorption module | B51006425 |
| Cindion C-IC system liquids kit | B51006426 |
| Cindion C-IC system solids kit | B51006427 |
| Cindion C-IC system LPG/gas module | B51006428 |
| Cindion C-IC system autosampler | B51006429 |
| Cindion C-IC system adsorption module | B51006430 |
| Consumables/accessories | |
| Combustion tube | B51006432 |
| Absorber tube | B51006433 |
| Glass connector outlet 1/4" | B51006434 |
| Inlet silicone sponge gasket | B51006435 |
| Boat guiding tube | B51006444 |
| Solids boat for use with autosampler | B51006443 |
| Liquids boat for use with autosampler | B51006445 |
| 10 µl PFAS-free syringe removable needle (no needle included) | B51006436 |
| 25 µl PFAS-free syringe removable needle (no needle included) | B51006437 |
| 100 µl PFAS-free syringe removable needle (no needle included) | B51006438 |
| 250 µl PFAS-free syringe removable needle (no needle included) | B51006439 |
| 500 µl PFAS-free syringe removable needle (no needle included) | B51006440 |
| 6 pack of needles blunt point for syringes up to 100 µl | B51006441 |
| 6 pack of needles blunt point for 250 or 500 µl syringes | B51006442 |
| Septum, 12 mm diameter, 10 pcs | B51006449 |
| 2 mL vial with septum (PFAS-free) + screwcap (100 pcs) | B51006450 |
| Quartz wool, 10 g | B51006451 |
| Quartz cup, 1 pc | B51006446 |
| Quartz cup, 45 pcs | B51006447 |
| Porcelain cup, 3 pcs | B51006448 |
| Carbon columns (100/pack) | B51006452 |
| Column holder, 1 pc | B51006453 |

 Learn more at thermofisher.com/cindion