

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

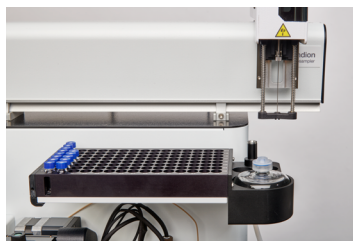
- Small system footprint—A novel, compact combustion tube design ensures complete combustion in a shorter distance. The autosampler and absorption tube are integrated into the combustion/absorption module.
- Minimized PFAS contamination—With its unique front-end combustion that incorporates non-detectable 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 (Thermo Scientific™ Dionex™ 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

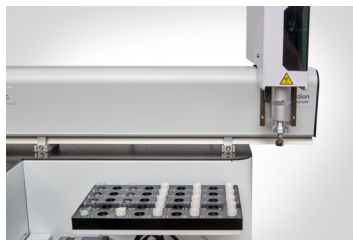


Cindion combustion/absorption module

Specification	Value
Combustion/absorption module	
Gases	
Connection type	1/8 in. 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 1,150 °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, <1,200 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	Approximately 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 μ L
Wash vessel volume	100 mL
Waste volume	Waste vessel size dependent

Solids AS

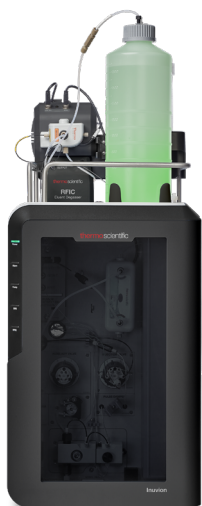
Tray capacity	45 position
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Liquid petroleum gas (LPG)/gas module

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	\leq 25 bar (360 psi)
Secondary sampling pressure	2–5 bar, internal adjustable
Primary pressure (LPG)	\leq 40 bar (580 psi)
Secondary sampling pressure (LPG)	Automatically controlled
Quick fit connector gas/LPG cylinder	¼ in. Swagelok (SS) QC4 SS Series Swagelok (DESO type)
Evaporation temperature	Ambient to 75 °C
Sample loops	10 mL for gases, 25 μ L 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 cm x 29.2 cm x 43.2 cm (26.0 in. x 11.5 in. 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 Thermo Scientific™ Dionex™ Integrion™ HPIC System or 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 third 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 in.	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 syringe, removable needle (no needle included)	B51008996
25 µL syringe, removable needle (no needle included)	B51008997
100 µL syringe, removable needle (no needle included)	B51008998
250 µL syringe, removable needle (no needle included)	B51008977
500 µL syringe, removable needle (no needle included)	B51008999
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