

# Thermo Scientific Vanquish – Charged Aerosol Detectors

Better separations, more results, easier interaction

Thermo Scientific™ Vanquish™ UHPLC system is designed to offer:

- **Better separations** with the power of the system to unveil more compounds than ever before
- **More results** with throughput, speed and sample capacity to boost workflow productivity
- **Easier interaction** to make the system a joy to work with

The Vanquish UHPLC system is designed as an integrated system with several detection options that exploit a broad range of analyses.

Thermo Fisher Scientific is dedicated to providing innovative solutions for analytical laboratories. To meet these demands, we deliver premier instrumentation across our complete portfolio, including new products designed to deliver top performance and productivity for today's most difficult chromatography challenges. Our high performance instruments and automation systems provide the answers that allow you to advance your work and achieve success.



## Proven Universal Detection

A Vanquish Charged Aerosol detector represents an evolutionary refinement in liquid chromatographic detection design based on the widely adopted charged aerosol detection (CAD) technology. Utilize the increased separation speed and resolution of the Vanquish UHPLC system with a charged aerosol detector to detect and quantify virtually any substance using near-universal detection capabilities. With enhanced linear dynamic range, a consistent response, independent of analyte structure, a Vanquish Charged Aerosol Detector can measure active pharmaceutical ingredient (API), impurities and excipients, simultaneously.

Charged aerosol detection technology helps you see analytes that other systems fail to detect. Simply measure any nonvolatile and most semivolatile analytes with sub-nanogram sensitivity along with estimating relative amounts without chemically identical standards.

A Vanquish charged aerosol detector opens new opportunities for discovery and routine analysis – a useful detection capability for virtually every lab. Charged aerosol detection will increase the utility of your Vanquish UHPLC System.

## Features

- Worry-free integration with Vanquish UHPLC system
- Fully compatible with accelerated methods
- Near universal detection capability
- Wide flow rate range with advanced FocusJet™ concentric flow nebulizer
- Adjustable evaporation temperature to optimize analyte sensitivity
- The Vanquish Charged Aerosol Detector H offers versatility for research and methods development
- The Vanquish Charged Aerosol Detector F provides a robust feature set for everyday analysis

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## Application Flexibility with High Performance

Charged aerosol detection can be used for the analysis of large and small molecules, biomolecules, additives, supplements, specialty chemicals and polymers. It excels in characterizing excipients and formulations, forced-degradation studies, testing for impurities, validating cleaning procedures or evaluating final product quality.

With near uniform response that is independent of chemical structure, relative concentrations can easily be measured against any known standard. A Vanquish charged aerosol detector has the flexibility and performance for analytical R&D and the simplicity and reproducibility needed for manufacturing QA/QC.

### PRODUCT SPECIFICATIONS

Specification	Vanquish Charged Aerosol Detector H	Vanquish Charged Aerosol Detector F
Mobile Phase Flow Rate	0.01–2.0 mL/min	0.2–2.0 mL/min
Evaporation Temperature	Settable Range: Ambient +5 to +100 °C	Select: 35, 50, 70 °C
Maximum Data Collection	200 Hz (under Thermo Scientific™ Dionex™ Chromeleon™ Chromatography Data System 7.2 SR2 control or higher)	100 Hz
Operating Mode	Charged Aerosol Detection	
Nebulization	FocusJet Concentric flow design	
Dynamic Range	Up to 4 orders of magnitude	
Filter Time Constant	4th order low-pass Bessel digital with time constant based user selections: 0.1, 0.2, 0.5, 1.0, 2.0, 3.6, 5.0, 10.0 sec	
Inlet Gas Supply	Nitrogen or Compressed Air (N <sub>2</sub> recommended)	Inlet Pressure: 482–551 kPa (4.8–5.5 bar, 70–80 psi)
Internal Gas Pressure	Electronically controlled pressure regulation system	
GLP Features	Predictive Performance functions: gas filter change interval, service monitoring period, system parameters logged in the Chromeleon Chromatography Data System Audit Trail	
PC Connection	USB 2.0; 3-port-HUB to connect further Vanquish modules	
I/O Interfaces	2 × 6 pin Mini-DIN connectors each having functionality: 1 input, 1 relay out	
Analog Signal Output	0–1 V DC with full scale output range: 1 pA to 500 pA in 1-2-5 sequence (installable option)	
Safety Features	Power-up diagnostics, inlet gas over-pressure, high evaporation temp, pump flow shutoff, fluid leak detection and safe leak handling	
Wetted Parts	Stainless steel (type 316), Nitronic® 60 stainless steel, PEEK™, Simriz®, Fused silica	
Biocompatible	No	
Power Requirements	100/240 VAC, 50/60 Hz, max. 150 W/255 VA	
Environmental Conditions	5–35°C at 20–80% RH, (non-condensing)	
Dimensions (h × w × d)	192 mm × 420 mm × 620 mm (7.6 in. × 16.5 in. × 24.4 in.)	
Weight	17.5 kg (38.6 lbs.)	

### ORDERING INFORMATION

Description	Part Number
Vanquish Charged Aerosol Detector H	VH-D20-A
Vanquish Charged Aerosol Detector F	VF-D20-A
Accessories	
Corona Nitrogen 1010 Generator <i>Installation kit included. (compressed air inlet source required: 760 kPa, 110 psig)</i>	6295.0200
Corona Air Compressor 230 V <i>Oil-free air compressor for pairing with 6295.0200 above. Installation kit included.</i>	6295.0300
Corona Air Compressor 110 V <i>Oil-free air compressor for pairing with 6295.0200 above. Installation kit included.</i>	6295.0350

To order in the U.S., call 1-800-346-6390, or contact the Thermo Fisher Scientific office nearest you.  
Outside the U.S., order through your local Thermo Fisher Scientific office or distributor. Refer to the following part numbers.

### [www.thermoscientific.com/chromatography](http://www.thermoscientific.com/chromatography)

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