

## Standard Features & Specifications

### Performance

<b>Lowest Detection Level</b>	2.00 ppb
<b>Resolution</b>	
Analytical ( <i>Sensitivity-smallest detectable change</i> )	0.50 ppb
Display	0.1 ppb
<b>Accuracy (greater of)</b>	±3% of reading or ±1 ppb (Constant Conditions)
<b>Speed of Response (typically)</b>	10 minutes <i>Time to reach 90% of an upward step challenge</i>
<b>Upset Recovery Time</b>	< 5 minutes <i>Time from high ppb upset to within 10 ppb of the previously stable reading</i>
<b>Range</b>	0-20 ppm
<b>Ambient Operating Temperature</b>	50° to 105° F (10° to 40° C)
<b>Background Gas Compatibility</b>	All inert and passive gases including N <sub>2</sub> , He, H <sub>2</sub> , Ar, and O <sub>2</sub> Gas Scale Factor permits accurate read-out of moisture in background gases other than nitrogen.

### Gas Sample Conditions

<b>Sample Pressure</b>	
<i>Operating limits:</i>	5 to 30 psig (1.36 to 3.08 BarA)
<b>Sample Return Pressure</b>	Atmospheric Vent (optimal) Limits: -2 to 2 psig (0.88 bar to 1.14 BarA)
<b>Flow Rate:</b>	
<i>Operating:</i>	0.5 to 4 slpm N <sub>2</sub>
<b>Sample Line Temperature</b>	10° C to 80° C (50° F to 176° F)
<b>Pneumatic Pressure</b>	60 to 100 psig (5.1 to 7.9 BarA)
<b>(Required for 745-ISO)</b>	

### Gas Flow System

<b>Construction Materials</b>	300 Series stainless steel
<b>Gas Connections</b>	¼ inch VCR compatible inlet fitting ¼ inch compression outlet fitting ⅜ inch compression fitting for pneumatic gas inlet
<b>Vacuum Source</b>	
<i>Aspirator (standard):</i>	¼ inch compression inlet/outlet fittings
<i>Pump (optional):</i>	¼ inch compression inlet/outlet fittings
<b>Aspirator Gas Supply</b>	
<i>Gas pressure</i>	80 ± 3 psig
<i>Gas flow rate</i>	15 slpm
<i>Back pressure on outlet stream</i>	<2 psig
<b>Gas Delivery System Components</b>	
Pneumatically actuated springless diaphragm valves, orbital butt welded assembly with zero dead volume for sensor isolation (optional)	

### Construction

<b>Enclosure:</b>	NEMA 1 in 19" Rack Mount
<b>Dimensions:</b>	19" (48.3cm) W x 10.5" (26.7 cm) H x 22.5" (57.2 cm) D
<b>Weight:</b>	64 lbs. (29 kg.)
<b>CE Conformance:</b>	Added EMI/RFI and Conducted interference immunity

### Maintenance & Logging

#### Data Logging & Graphing

*Blocks of data downloadable to 3 ¼" disk drive mounted inside analyzer. User can create filenames and store data to analyzer hard drive and download blocks to disk at later date.*

#### Automatic Maintenance Log

*Records calibration information and system error logs. Automatically maintains records satisfying many ISO 9000 requirements*

### Electrical

<b>Back Lighted Display</b>	7.4" VGA Monochrome (640x480)
<b>Visual Alarm Status Indicators</b>	4 moisture levels, temperature, moisture sensor diagnostic, analyzer off-line, expanded range

#### Relays

*(Failsafe action upon loss of power to alarm condition)*  
4 non-latching, independently assignable to alarms or indicators. SPDT contacts rated for 1A at 30 VDC.

#### Power Requirements

100-120 VAC @ 5A, 50/60 Hz (standard); 200-240 VAC @ 2.5A, 50/60 Hz (optional). Configurable at factory.

#### Output Signals

*Analog Outputs:*  
Menu scaleable single output range of 0-2 ppb up to 0-20 ppm  
Isolated 4-20 mADC, and choice of 0-1, 0-2, 0-5, or 0-10 VDC  
Expanded Range Scales  
*Two user selectable secondary analog output ranges for re-scaling the output once the primary range is exceeded*

#### Digital Output:

2-Way RS232 or RS485, configurable at factory

### Hydrogen Safety

Optional safety system for use with hydrogen includes Sample Delivery Interlock and Case Purge Valves for instrument housing, and enclosure and purge protection system for optional external vacuum pump.

Hydrogen Safety System can be ordered with or without the enclosure and purge protection system for the optional vacuum pump.

Pump enclosure is 16.6" (42.4 cm)W x 14.5" (36.8 cm)H x 11.6" (29.5 cm)D.

NOTE: Hydrogen Safety system limits available relays from 4 to 3

# NanoTrace Moisture Analyzer

## Ordering Codes

### Base Model

**745-0020** NanoTrace Moisture Analyzer

**-V** (added to model number)  
230 VAC/50/60 Hz Input Power

### Outputs

(pick one Serial Communication)

**745-RS232** Two-Way Serial Communications  
**745-RS485** Two-Way Serial Communications

(pick one VDC Output)

**745-OS-1** 0-1 VDC  
**745-OS-2** 0-2 VDC  
**745-OS-5** 0-5 VDC  
**745-OS-10** 0-10 VDC

### Cabinet

**745-KL** Key Lock

### Plumbing

**745-HSS1** Hydrogen Safety System Purge with  
Optional Pump

Includes Sample Delivery Interlock and Case  
Purge valves for instrument housing, and  
enclosure with purge protection system for  
optional vacuum pump.

**745-HSS2** Hydrogen Safety System without Pump  
Purge

Same as above, except vacuum pump or  
aspirator is mounted on bracket only and does  
not include purge protection system.

**745-Pump** High capacity, rocking piston vacuum pump

**745-ISO** Note2

### Isolation Package

Includes upstream and downstream internally  
air actuated electropolished isolation valves to  
isolate cell during transport and upon loss of  
power. Package also includes Bypass  
Rotameter and Inlet Pressure Regulator (rated  
up to 150 psig), and a back flow prevention  
valve. DF-745's with this option require 60-  
100psig connection to 1/8" compression inlet  
fitting for valve actuation.

### NOTES:

1. Hydrogen Safety system limits available relays from 4 to 3
2. If the Isolation Package is not ordered, it is recommended that a regulator with bypass flow loop be incorporated in the sample line prior to the sample inlet of the instrument. Isolation valves and heat tracing can also be incorporated.