# SERVOMEX PRODUCT GUIDE

OUR INDUSTRY-LEADING GAS ANALYZER RANGE AND SYSTEMS, MATCHED TO YOUR INDUSTRY REQUIREMENTS

UTILIZING HUMMINGBIRD SENSING TECHNOLOGY

WINNERS OF THE QUEEN'S AWARD FOR ENTERPRISE



PROCESSING















## **GAS MEASUREMENT GUIDE**

SERVOTOUGH	NH₃	Ar	co	CO₂	He	C1-C6	NMHC	H₂	HCl	HF	H₂S	CH₄	NO	NOx	NO₂	N <sub>2</sub>
Oxy 1800		P			P										* * * * * * * * * * * * * * * * * * *	
Оху 1900																
OxyExact 2200							*								*	
SpectraScan 2400			%CV	%CV		%CV					%CV					
SpectraExact 2500	%		%ppm	%ppm		%			%ppm			%	%ppm		*	
FluegasExact 2700			ppm													
Laser 3 Plus Ammonia	ppm															
Laser 3 Plus Combustion			ppm									%				
Laser 3 Plus Process			ppm				*					•			†	
LaserSP 2930				%ppm					ppm	ppm	ppm					
LaserCompact 2940				%ppm					ppm	ppm	ppm					
LaserExact 2950	ppb		ppm	ppm					ppb	ppb	ppm					
DF-140E							*								*	
DF-320E																
DF-340E																
H2Scan								%								
:		:	1	:	:	1	:	:	: :		1	:	1		:	1
SERVOPRO	NH₃	Ar	со	CO₂	He	C1-C6	NMHC	H <sub>2</sub>	HCl	HF	H₂S	CH₄	NO	NOx	NO₂	N <sub>2</sub>
AquaXact 1688															7	
AquaXact 1688 Controller																
MonoExact DF150E																
MonoExact DF310E															: :	
4200/4210			%ppm	%ppm								%ppm			* * * *	
4900 Multigas			%ppm	%								ppm	ppm			
FID															*	
Chroma		%ppm/b	%ppm/b	%ppm/b	%ppm/b		ppm	%ppm/b				%ppm/b				%ppn
Plasma		•		• • •				• •				•				ppn
MultiExact 4100		%	%ppm	%ppm	%							ppm			-	%
MultiExact 5400			ppm	ppm												
NanoChrome		ppb/t	ppb/t	ppb/t			ppb/t	ppb/t				ppb/t				ppb
MonoExact TCD		%	ppa	pp	%		pp	%				pp				%
NOx								,					ppm	ppm	ppm	,-
SO <sub>2</sub>													PP	PP	pp	
HFID							ppm					ppm				
							pp					PP				
GAS DETECTION	NH₃	Ar	со	CO <sub>2</sub>	He	C1-C6	NMHC	H <sub>2</sub>	HCl	HF	H₂S	CH₄	NO	NOx	NO <sub>2</sub>	N <sub>2</sub>
OxyDetect		7	?		?	?	7	-			-		?	?	7	_
охувенее							*					*			•	
SERVOFLEX	NH₃	Ar	co	CO₂	Не	C1-C6	NMHC	H <sub>2</sub>	HCl	HF	H₂S	CH₄	NO	NOx	NO₂	N <sub>2</sub>
Micro i.s 5100		:	%	%								İ			7	
MiniMP 5200				%												
MiniHD 5200			%	%											7	
MiniFoodPack 5200				%											7	
DELTA F	NH₃	Ar	co	CO₂	He	C1-C6	NMHC	H <sub>2</sub>	HCl	HF	H₂S	CH₄	NO	NOx	NO₂	N <sub>2</sub>
DF-500 Range		F		: : : : :	#		## *** *** *** *** *** *** *** *** ***					= : : : : : : : : : : : : : : : : : : :	#		# · · · · · · · · · · · · · · · · · · ·	
DF-700 Range																

## WANT TO VIEW OUR PRODUCTS ONLINE?

## Visit **servomex.com**

N <sub>2</sub> O	O <sub>2</sub>	C₃H <sub>6</sub>	THC	H₂O	SO <sub>2</sub>	KEY APPLICATIONS	PAGE
	%					■ Waste water treatment ■ Food storage ■ Marine inerting applications ■ Inert blanketing	5
	%					■ Process control ■ Flare stack analysis ■ Vapor recovery ■ Safety-critical oxidation	5
	%					■ Oxidation control reactions ■ EO, PTA and EDC manufacturing ■ Catalyst regeneration ■ Solvent recovery	5
						■ BTU/Wobbe content measurement ■ Gas turbine, engines, fuel cells ■ Flare stack monitoring	6
%ppm		%	%	%		■ Water in EDC/solvents ■ Ethylene production ■ TDI production ■ Chlorine production	6
	%					■ Process heaters ■ Utility boilers ■ Thermal crackers ■ Crematoria & incinerators	6
						■ Process heaters ■ Incinerators ■ Power stations ■ Furnaces	7
	%					■ Process heaters ■ Incinerators ■ Power stations ■ Furnaces	7
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				% ppm		■ Emission control systems for CEMS ■ Combustion control systems for process heaters and crackers ■ Ammonia slip control in DeNOx plants	8
				%ppm		■ Chemical reactor – inert gas control ■ Moisture in VCM ■ Natural gas contaminants – H <sub>2</sub> O, CO <sub>2</sub> , H <sub>2</sub> S	8
	ppm			ppm		■ HF and HCI impurity monitoring in process gas ■ Monitoring H <sub>2</sub> S during biogas production ■ H <sub>2</sub> O and H <sub>2</sub> S in natural gas	8
	ppm					■ Reactor process control ■ Pressure swing absorber nitrogen skids ■ Blanketing and inerting	9
	ppm/b					■ Hydrogen production ■ Polypropylene production ■ Polyethylene production ■ Oil refining ■ Petrochemical applications	9
	ppm/b					■ Pressure swing absorber N₂ skids ■ Reactor process control ■ Blanketing and inerting ■ Petrochemical process monitoring	9
						■ Refinery ■ Petrochemical ■ Manufacturing ■ Industrial gas supply	10
N₂O	O <sub>2</sub>	C₃H <sub>6</sub>	THC	H₂O	SO₂	KEY APPLICATIONS	PAGE
				ppmvdp		■ Glove boxes ■ Solder reflow ovens ■ Compressed air generation ■ Ethylene production	10
				ppmvdp		■ Glove boxes ■ Solder reflow overs ■ Compressed air generation ■ Ethylene production	10
	ppm/b			рритиар		■ Glove boxes ■ Heat treating ■ Solder reflow ovens ■ Industrial gas production	11
	%ppm					■ Air separation units ■ Medical/industrial gases ■ Specialty gas blending	11
	% <b>pp</b> iii						11
ppm	%				nnm	■ Product quality validation in hydrogen plants ■ HyCO process control ■ Bottling/filling plants producing flammable gas blends	12
ppm	70				ppm	■ Utility boilers ■ Clinical waste incinerators ■ Chemical incinerators ■ Mobile labs	
	0//lo		ppm			■ Cryogenic air separation ■ Process control ■ Food gas manufacture ■ Product validation	12
	%ppm/b					■ Medical gas production ■ Air separation unit ■ Cryogenic truck loading station ■ High purity gas production	12
	0/					■ Argon production ■ Track loading ■ Pure gas bottling ■ Specialty gas laboratories	13
ppm	%ppm			ppm		■ Product purity on air separation unit ■ Validation of medical O <sub>2</sub> , N <sub>2</sub> , air and He ■ Process control on air separation unit	13
ppm	%ppm					■Validation of medical O <sub>2</sub> , N <sub>2</sub> , and air ■ Process control on air separation unit	13
	ppb/t					■ Semiconductor production — Stationary analytical systems ■ UHP gas production — Quality control measurements	14
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						■ Scrubber efficiency ■Turbine/generator feedback control ■ SCR/SNCR feedback control	14
					ppm	■ Continuous emissions monitoring (CEMS) ■ Ambient air monitoring	15
			ppm			■ Compliance monitoring and testing ■ VOC abatement ■ Scrubber efficiency	15
N₂O	02	C₃H <sub>6</sub>	THC	H₂O	SO <sub>2</sub>	KEY APPLICATIONS	PAGE
	%		20 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8			■ Pharmaceutical plants ■ Helium production and storage ■ Semiconductor facilities ■ Laboratories & universities	15
N₂O	O <sub>2</sub>	C₃H <sub>6</sub>	THC	H₂O	SO₂	KEY APPLICATIONS	PAGE
	%					■ Refineries — catalytic cracker regeneration ■ Process monitoring ■ Inerting applications	16
	%					<ul> <li>Laboratories and research Air separation and gas bottling plants Transfilling Combustion analysis</li> </ul>	16
	%					Physiology studies Universities Combustion optimization Medical gas verification	16
	%		,			■ Equilibrium Modified Atmosphere Packaging (EMAP) fresh consumable produce testing ■ Laboratory and research	17
N₂O	O <sub>2</sub>	C₃H <sub>6</sub>	THC	H₂O	SO <sub>2</sub>	KEY APPLICATIONS	PAGE
	ppb/b/t					■ Continuous quality control monitoring ■ Post purifier quality certification ■ Leak detection for electronics grade gases	17
	Pho P					= continuous quanty control monitoring = rost parmer quanty certained to = teak detection for electionics grade gases	.,

## > WELCOME TO SERVOMEX

# THE WORLD'S LEADING MANUFACTURER OF GAS ANALYZERS AND GAS ANALYSIS SYSTEMS.

Developed and manufactured in our UK and Americas Technical Centers, Servomex analyzers are hand-built to precise requirements. This ensures every product we make provides performance optimized to the needs of each customer process.

Built around the stable, accurate and reliable gas measurements provided by our world-leading Hummingbird sensing technologies, our analyzers incorporate the latest advances in hardware design and software control into resilient designs optimized for hazardous or safe area use.

Once manufactured, our analyzers can integrate into existing systems or be designed into a complete system manufactured to equally high standards in our global network of System Integration facilities.

We build every analyzer to deliver a long lifetime of performance. This ethos is maximized through our global Service offer, which provides a complete support service for your analyzer, from commissioning to regular maintenance.









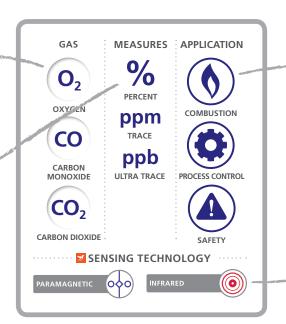
## FIND YOUR PRODUCT NOW

## > 'HOW TO' GUIDE

# HOW TO USE AND GET THE MOST OUT OF THIS PRODUCT GUIDE.

Some analyzers are optimized for single gas measurements while others monitor multiple gas types.

We offer all measurement ranges from percentage to ultra-trace parts per trillion analysis.



We identify which application types the analyzer is suitable for operating in.

The Hummingbird sensing technologies used are listed.

## ACCURATE AND STABLE SAFE AREA O<sub>2</sub> ANALYZER

Designed to reliably measure percent  $O_2$  in many safety-critical industrial applications, the Oxy 1800 is a stable, accurate and highly specific  $O_2$  analyzer for safe area use.



#### **FEATURES AND BENEFITS**

- Internal/external use (IP66/NEMA 4X rated)
- Special version for solvent-bearing samples
- Range of alarm outputs aids integration with other systems

#### **APPLICATIONS**

- Waste water treatment
- Food storage
- Marine inerting applications
- Inert blanketing

#### GAS



OXYGEN

#### MEASURES APPLICATION



PROCESS



SAFETY





## **SERVOTOUGH Oxy 1900**

#### HAZARDOUS AREA

# AWARD-WINNING PARAMAGNETIC DIGITAL O<sub>2</sub> ANALYZER DESIGNED FOR HAZARDOUS AREA USE

Offering industry-standard features alongside revolutionary, value-added options, the Oxy 1900  $O_2$  gas analyzer sets new standards of flexibility, stability and reliability from a single, cost-effective unit.



#### **FEATURES AND BENEFITS**

- Can be used in Safe Area to Zone 1/Div 1 hazard-rated locations
- Heated sample cell allowing simplified sample system requirements
- Unique Servomex Flowcube flow sensor technology for improved safety

#### **APPLICATIONS**

- Process control
- Safety-critical oxidation, such as ethylene oxide and propylene oxide purity
- Flare stack analysis
- Vapor recovery

#### GAS



OXYGEN

#### **MEASURES**



PROCESS



APPLICATION

SAFETY

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✓ SENSING TECHNOLOGY ······



## **SERVOTOUGH OxyExact 2200**

### HAZARDOUS AREA

# HIGH-SPEC PROCESS O<sub>2</sub> ANALYZER OFFERS SAFE OR HAZARDOUS AREA CONTROL WITH UP TO SIX TRANSMITTERS

The OxyExact 2200 high-specification  $O_2$  analyzer offers an unrivaled combination of precision, flexibility and performance for optimum process and safety control. The OxyExact can be configured with a safe or hazardous area control unit with up to six transmitters.



#### **FEATURES AND BENEFITS**

- Zone 1 certified to ATEX Cat 2, IECEx and FM/CSA Class 1 Div 1
- Three enclosure systems allow sampling of any flammable gas up to 100% O₂ and pressures of up to 40psi
- High-temperature version eliminates the need to condense hot sample prior to analysis

#### **APPLICATIONS**

- Oxidation control reactions
- EO, PTA and EDC manufacturing
- Catalyst regeneration
- Solvent recovery

#### GAS : I



OXYGEN

#### MEASURES APPLICATION



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CONTRO



SAFETY

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SENSING TECHNOLOGY ······



#### **REVOLUTIONARY INLINE REAL-TIME ANALYSIS OF HYDROCARBON COMPONENTS C1-C6**

A real time optical analyzer utilizing the Precisive field-proven optical bench, the SpectraScan 2400 delivers a breakthrough capability in the continuous analysis of light hydrocarbons C1-C6.



#### **FEATURES AND BENEFITS**

- North American Cat 1, Div 2 ATEX Cat 3 IECEx Zone 2
- Tunable band-pass filter enables simultaneous scanning of selected wavelength bands for gases including methane, ethane, propane and iso-butane
- Unique tunable filter process with Infared photometer technology delivers industryleading interference compensation

#### **APPLICATIONS**

- BTU/Wobbe content measurement
- Gas turbine, engines, fuel cells
- Flare stack monitoring

#### GAS

CARRON MONOXIDE

CO<sub>2</sub>

CARBON DIOXIDE

C1-C6





MEASURES :







**APPLICATION** 





QUALITY



···· **SENSING TECHNOLOGY** ·····



TOXIC

FLAMMABLE

CORROSIVE

## SERVOTOUGH SpectraExact 2500

#### **HAZARDOUS AREA**

#### **RUGGED PHOTOMETRIC GAS** ANALYZER FOR DEMANDING **PROCESS APPLICATIONS**

Servomex's iconic industry-leading Photometric analyzer delivers flexible single and multicomponent gas analysis capability for corrosive, toxic and flammable sample streams. The SpectraExact 2500's reliable, accurate and stable real-time online process analysis makes it ideal for a range of process, combustion and emissions gas analysis applications.



#### **FEATURES AND BENEFITS**

- IECEx and North American hazardous area approvals
- Easy integration with DCS from 4-20mA to Modbus TCP
- Sample cell and electronics segregated for easy maintenance and safe operation

#### **APPLICATIONS**

- Water in EDC/solvents
- Ethylene production
- TDI production
- Chlorine production

#### MEASURES GAS







#### APPLICATION



CONTROL











## SERVOTOUGH FluegasExact 2700

#### **HAZARDOUS AREA**

#### **ADVANCED FLUE GAS ANALYZER** FOR HIGH-TEMPERATURE MEASUREMENT OF O<sub>2</sub> AND COMBUSTIBLES

Designed to measure O2 and COe in flue gases for improved combustion efficiency and reduced emissions, the FluegasExact 2700 gas analyzer is designed to suit the most demanding needs of combustion efficiency applications in the power generation and process industries



#### **FEATURES AND BENEFITS**

- ATEX Cat. 3, IECEx Zone 2 & North America Class I, Div 2
- Unique Flowcube flow sensor technology enables positive flow conditions to be
- Sulfur-resistant combustibles sensor enables sensor to operate at elevated sulfur levels

#### **APPLICATIONS**

- Process heaters
- Utility boilers
- Thermal crackers
- Crematoria & incinerators

## GAS







COMBUSTIBLES

#### MEASURES APPLICATION



ppm





**▼** SENSING TECHNOLOGY









#### WORLD-LEADING NH3 **MEASUREMENT, OPTIMIZED** FOR AMMONIA SLIP DeNOx **APPLICATIONS**

This TDL analyzer specifically optimized for ammonia slip measurement provides all the benefits of Servomex's TDL technology in a compact, light unit, offering unparalleled installation flexibility plus cost and performance benefits.



#### **FEATURES AND BENEFITS**

- High measurement reliability utilizing Servomex's own line lock cuvette technology
- ATEX, IECEx and North American hazardous area approvals
- A compact analyzer specifically optimized for the fast, accurate and responsive measurement of NH<sub>3</sub>
- Ideal for slip ammonia application on power plants and fired heaters

#### **APPLICATIONS**

- Process heaters
- Incinerators
- Power stations
- Furnaces

#### GAS

NH<sub>3</sub>

AMMONIA

DeNOx







APPLICATION

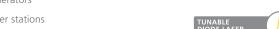


**EMISSIONS** 

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✓ SENSING TECHNOLOGY ······





## SERVOTOUGH Laser 3 Plus Combustion

#### **HAZARDOUS AREA**

#### THE REVOLUTIONARY COMPACT **COMBUSTION ANALYZER** OPTIMIZED FOR CO, O<sub>2</sub>, OR CO + CH<sub>4</sub> MEASUREMENTS

Containing all the benefits of Servomex's TDL technology in a light, compact unit, with unmatched installation flexibility plus cost and performance benefits, this analyzer is optimized for fast, accurate and responsive measurements in combustion and process control, making it a must for safety applications.



#### **FEATURES AND BENEFITS**

- High safety integrity utilizing Servomex's own line lock cuvette technology
- Compact size means quick and easy installation by one person with on-board display negating the need for lanton configuration
- ATEX, IECEx and North American hazardous area approvals. Approved for process Zone 2. SIL 2 assessed and CE marked
- Optimized for combustion processes

#### **APPLICATIONS**

- Process heaters
- Furnaces

SERVOTOUGH Laser 3 Plus Process

#### GAS



OXYGEN



CARBON MONOXIDE



CARBON MONOXIDE METHANE

**MEASURES** 

**%** PERCENT

ppm TRACE

APPLICATION



PROCESS



SENSING TECHNOLOGY



#### Incinerators Power stations

#### HAZARDOUS AREA

#### THE WORLD'S SMALLEST TDL GAS ANALYZER, OPTIMIZED FOR PROCESS O<sub>2</sub> AND CO **MEASUREMENTS**

All the benefits of Servomex's TDL technology in a small, light unit offering unparalleled installation flexibility plus cost and performance benefits. Optimized for the fast, accurate and responsive measurement of process oxygen in hot or hazardous conditions.



#### **FEATURES AND BENEFITS**

- High safety integrity utilizing Servomex's own line lock cuvette technology
- ATEX, IECEx and North American hazardous area approvals. Approved for process Zone 2. SIL 2 assessed and CE marked
- Quick and easy installation by one person with on-board display negating the need for laptop configuration
- Suitable for a range of combustion and process control applications

#### **APPLICATIONS**

- Oxidation control
- Inerting
- Safety monitoring
- Flare gas monitoring
- Combustion control (<500°C)
- Coal to chemical

#### GAS



OXYGEN



CARBON MONOXIDE

#### **MEASURES**

% PERCENT

ppm TRACE

## PROCESS

**APPLICATION** 

CONTROL



COMBUSTION

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SENSING TECHNOLOGY ······



#### **HIGH-SENSITIVITY CROSS-STACK TDL ANALYZER**

A high-performance gas analyzer designed for continuous in-situ monitoring, the LaserSP 2930 delivers a fast response time and highly stable performance. Suitable for measuring a range of gases including HCl, HF, H2O, H2S, HCN, and other hydrocarbons, the LaserSP is ideal for a wide range of process, combustion control and emissions applications.



#### **FEATURES AND BENEFITS**

- Designed for Zone 1 and Zone 2 hazard rated (gas/dust) locations
- In-situ with no sample conditioning delivers reliable operation
- Wavelength Modulated Spectroscopy provides wide dynamic range and lowest cross–interference

#### **APPLICATIONS**

- Emission control systems for CEMS
- Combustion control systems for process heaters and crackers
- Ammonia slip control in DeNOx plants

GAS

MULTIPLE

MEASURES APPLICATION



ppm TRACE





SENSING TECHNOLOGY ......





## **SERVOTOUGH LaserCompact 2940**

#### **HAZARDOUS AREA**

#### **SHORT PATH LENGTH** TDL ANALYZER

Optimized for measurement across pipes and along short measurement cells and able to measure through very thin nozzles, reducing or even eliminating consumption of purge gas, the LaserCompact 2940 delivers the fast response time, highly stable performance and minimum sample conditioning advantages of TDL technology.



#### **FEATURES AND BENEFITS**

- ATEX, IECEx and North American hazardous area approvals. ATEX Cat 3 (Gases) and Cat 2 (Dusts) IECEx Zone 2 and Zone 21. CSA Divisions and Zones (Gas and Dust)
- Line width correction delivers accurate measurement with variations in matrix
- In-situ with low purge gas consumption

#### **APPLICATIONS**

- Chemical reactor inert gas control
- Moisture in VCM
- Natural gas contaminants H<sub>2</sub>O, CO<sub>2</sub>, H<sub>2</sub>S

#### MEASURES



GAS

PERCENT

ppm

APPLICATION



CONTROL



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SENSING TECHNOLOGY ······





## SERVOTOUGH LaserExact 2950

#### **HAZARDOUS AREA**

#### **EXTRACTIVE TDL TRACE MULTI-GAS ANALYZER, DESIGNED FOR MEASURING** TRACE GASES OFFLINE

Specifically designed for extractive trace analysis applications, the LaserExact 2950's TDL technology offers unsurpassed low ppb detection limits for most gases, making it ideal for the measurement of trace gases offline.



#### **FEATURES AND BENEFITS**

- Zone 2/Div 2 hazard-rated locations and use without purge
- Advanced multipass cell delivers ppb or low ppm detection limits
- Innovative PeakLock pattern recognition line tracking eliminates drift over extended operational periods

#### **APPLICATIONS**

- Refinery monitoring: H<sub>2</sub>S and CO<sub>2</sub> (during natural gas refinement)
- HF and HCI impurity monitoring in process gas
- Monitoring H<sub>2</sub>S during biogas production
- H₂O and H₂S in natural gas

GAS



ppb ULTRA TRACE

ppm TRACE





**PROCESS** 



QUALITY

**▼** SENSING TECHNOLOGY ······





#### **RELIABLE RESULTS IN A TESTING RANGE OF ENVIRONMENTS**

The DF-140E allows for reliable oxygen measurement in a wide variety of environments, including outdoors and in explosive environments with a NEMA 7 remote sensor enclosure. Using the revolutionary non-depleting E-Sensor, the DF-140E delivers reliable readings without frequent recalibration and periodic sensor replacement.



#### **FEATURES AND BENEFITS**

- Long-term reliability and stability with minimal maintenance
- Durability can be used in Class 1, Div 1 or 2 areas
- STAB-EL option allows for accurate measurement in the presence of acid gases

#### **APPLICATIONS**

- Reactor process control
- Pressure swing absorber nitrogen skids
- Blanketing and inerting

GAS

02

OXYGEN

MEASURES APPLICATION





PROCESS CONTROL



OUALITY

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✓ SENSING TECHNOLOGY ······



### SERVOTOUGH DF-320E

#### **HAZARDOUS AREA**

#### HIGH-RELIABILITY TRACE AND PERCENT O<sub>2</sub> MEASUREMENTS IN **HAZARDOUS AREA LOCATIONS**

Designed for use in harsh and hazardous areas, the DF-320E uses Servomex's unique, non-depleting Coulometric sensor technology to give highly stable O<sub>2</sub> measurements, making it ideal for applications including hydrogen, propene and polyethylene production, oil refining and petrochemical process monitoring.



#### **FEATURES AND BENEFITS**

- Ideal analytical solution for applications including  $H_2$ ,  $C_3H_6$  and PE production, oil refining, and petrochemical process monitoring
- Microprocessor-driven for easy configuration and maintenance
- Coulometric sensor delivers accurate results with no sensor drifting, false low readings, or frequent calibration requirements

#### **APPLICATIONS**

- Hydrogen production
- Polypropylene production
- Polyethylene production
- Oil refining
- Petrochemical applications

GAS



OXYGEN

**MEASURES** 



ppm TRACE

APPLICATION



CONTROL



QUALITY

**▼** SENSING TECHNOLOGY



## SERVOTOUGH DF-340E

#### **HIGH-SENSITIVITY TRACE/** PERCENT COULOMETRIC **OXYGEN ANALYZER CERTIFIED** FOR HAZARDOUS AREA USE

Designed for heated or external locations, the DF-340E remains stable in changing sample and flow rate conditions, and is designed to provide measurements of trace or percent level oxygen in pure gas streams and multi-gas backgrounds. It is ideal for upset-prone conditions.



#### **FEATURES AND BENEFITS**

- Coulometric sensing ideal for upset-prone applications and compensates for sample and flow rate fluctuations
- Suitable for outdoor installation, with NEMA 4-rated sensor enclosure options
- Multiple background gas stream monitoring, with simplified ongoing maintenance requirements

#### **APPLICATIONS**

- Pressure swing absorber N₂ skids
- Reactor process control
- Blanketing and inerting
- Oil refinery monitoring
- Petrochemical process monitoring



GAS

OXYGEN

TRACE

MEASURES APPLICATION

**HAZARDOUS AREA** 

ppb ULTRA TRACE ppm

CONTROL



QUALITY

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✓ SENSING TECHNOLOGY ·····



H2Scan **HAZARDOUS AREA** 

#### **EXPLOSION-PROOF IN-LINE** HYDROGEN PROCESS ANALYZER, **USING A SOLID-STATE, NON-CONSUMABLE SENSOR CONFIGURED TO OPERATE IN PROCESS GAS STREAMS**

The H2Scan hydrogen process analyzer features thin film technology that provides a direct hydrogen measurement that is not cross-sensitive to other gases.



#### **FEATURES AND BENEFITS**

- UL Class 1, Div 1, Groups B, C, D. ATEX & CSA certifications
- Easily configurable alongside SERVOTOUGH SpectraScan 2400
- Simple system integration

#### **APPLICATIONS**

- Refinery
- Petrochemical
- Manufacturing
- Industrial gas supply

GAS



HYDROGEN

MEASURES APPLICATION



PROCESS





H2Scan thin film

## **SERVOPRO AquaXact 1688**

#### SAFE AREA

#### A FAST, ACCURATE AND **RESILIENT MOISTURE MEASUREMENT SOLUTION**

The AquaXact 1688 is a rugged ultra-thin film Aluminum Oxide moisture sensor that enables the measurement of moisture in a wide variety of gas phase process applications, such as glove boxes, air separation units, natural gas processing, transportation, and instrument air, with no calibration required after sensor replacement or dry-out.



#### **FEATURES AND BENEFITS**

- Functions as a standalone 4-20 mA transmitter or remotely interfaces with SERVOPRO MonoExact DF310E multichannel gas analyzer system
- High-performance field-replaceable sensor element unaffected by condensation and liquid water
- Stainless steel, weatherproof casing (which is Class 1 Div 2) enables operation in ambient temperatures ranging from -10°C to +70°C

#### **APPLICATIONS**

- Glove boxes
- Solder reflow ovens
- Compressed air generation
- Ethylene production

GAS



WATER

MEASURES

ppmv

**DEW POINT** 

CONTROL

APPLICATION

SENSING TECHNOLOGY ......



## SERVOPRO AquaXact 1688 Controller

#### SAFE AREA

#### **DIGITAL CONTROLLER PLATFORM FOR THE AQUAXACT 1688**

Built specifically to work in harmony with the AquaXact 1688 ultra-thin film Aluminum Oxide moisture transmitter, this digital controller provides a high-clarity color touchscreen display, alarms, relays and advanced communications protocols, and allows easy sensor tip replacement in the field.



#### **FEATURES AND BENEFITS**

- Seamless integration with the AquaXact 1688 moisture sensor for advanced digital control of dew point and ppmv H<sub>2</sub>O measurements
- Compact footprint for easy integration into your system
- Advanced digital communications including Ethernet, Modbus TCP/IP and PROFIBUS

#### **APPLICATIONS**

Air separation units

Instrument air units

- Glove hoxes
- Refining gases

GAS



WATER

MEASURES APPLICATION

DEW **POINT** ppmv



CONTROL

····· 

SENSING TECHNOLOGY ······







## TOUCHSCREEN PPM OXYGEN ANALYZER FOR GENERAL INDUSTRIAL APPLICATIONS

With a brand new digital, programmable touchscreen and easier navigation, the MonoExact DF150E combines the reliability of Servomex's tried and tested Coulometric oxygen sensor with a more user-friendly package.



#### **FEATURES AND BENEFITS**

- Advanced touchscreen GUI for intuitive hands-on setup and operation
- Back-compatible with DF-150E platform, including hardware wiring inputs and gas inlets
- Servomex proprietary software makes reporting and parameter control simple

#### **APPLICATIONS**

- Glove boxes
- Heat treating
- Solder reflow ovens
- Industrial gas production

GAS



OXYGEN

MEASURES APPLICATION

ULTRA TRACE



PROCESS







## **SERVOPRO MonoExact DF310E**

#### **SAFE AREA**

# NEXT-GENERATION DIGITAL OXYGEN ANALYZER DESIGNED FOR INDUSTRIAL GAS APPLICATIONS

Designed specifically to accurately measure oxygen in industrial gas applications, the MonoExact DF310E is a next-generation digital oxygen analyzer that combines precision trace-level measurement with new performance benefits and extended digital communications compatibility.



#### **FEATURES AND BENEFITS**

- Advanced touchscreen GUI for intuitive hands-on setup and operation
- Back-compatible with DF-310E platform, including hardware wiring inputs and gas inlets
- Field-proven Servomex Coulometric electrochemical performance and reliability

#### **APPLICATIONS**

- Air separation units
- Medical/industrial gases
- Specialty gas blending

MEASURES



GAS

OXYGEN

IVIEASURES



ppm TRACE

ppb ULTRA TRACE APPLICATION



PROCESS CONTROL













## SERVOPRO 4200/4210

#### **SAFE AREA**

## GAS ANALYZER SUITABLE FOR FLAMMABLE GAS MIXTURES

The 4200/4210 multi-gas analyzer is designed to monitor flammable gas samples including  $H_2/CO$ , 'HyCO' or 'Syngas' mixtures for trace level contaminants and percent level components. The 4200/4210 offers oxygen control using Servomex's unique Paramagnetic cell, trace level measurement of CO,  $CO_2$ ,  $N_2O$  and  $CH_4$  and percent levels of CO,  $CO_2$ ,  $CH_4$  using Photometric sensor technology.



#### **FEATURES AND BENEFITS**

- Meets the requirements of EN 61010-1:2010 and EN 61326-1:2013
- Measures up to four gases simultaneously
- RS232/RS485 and Modbus communications

#### **APPLICATIONS**

- Product quality validation in hydrogen plants
- HyCO process control
- Bottling/filling plants producing flammable gas blends

GAS



MEASURES APPLICATION

O/O PERCENT

ppm TRACE



PROCESS CONTROL



QUALITY

SENSING TECHNOLOGY











#### AN ADVANCED DIGITAL **MULTI-GAS CEMS ANALYZER**

Specifically designed for Continuous Emissions Monitoring (CEMS) of flue gas, the SERVOPRO 4900 Multigas provides up to four simultaneous gas stream measurements. It combines Servomex's leading-edge sensing technologies with a modern digital platform for next-generation performance.



#### **FEATURES AND BENEFITS**

- A comprehensive solution for CEMS analysis of multiple flue gas components
- Low maintenance and cost of ownership
- Advanced digital communications including Ethernet, Modbus TCP/IP and PROFIBUS

#### **APPLICATIONS**

- Utility boilers
- Chemical incinerators
- Crematoria
- Mobile labs

#### GAS

MEASURES :







SENSING TECHNOLOGY











## SERVOPRO FID

#### TRACE HYDROCARBON ANALYZER IDEAL FOR AIR **SEPARATION UNITS (ASU) SAFETY AND QUALITY CONTROL APPLICATIONS**

A Flame Ionization Detector analyzer designed to assure safe operation for cryogenic ASU, the FID ensures the level of Total Hydrocarbons (THC) is maintained below flammable limits, as well as providing quality control in pure O2, N2, Ar, air, He and CO<sub>2</sub>.



#### **FEATURES AND BENEFITS**

- Electrical safety to IEC 61010-1. In compliance with Low Voltage, EMC and applicable Directives
- Excellent output resolution over three operating ranges
- Electronic flow controllers for air, fuel and sample for no dependency to atmospheric pressure variations and inlet pressure variation

#### **APPLICATIONS**

- Cryogenic air separation
- Process control
- Food gas manufacture
- Product validation

#### GAS



TOTAL HYDROCARBONS

#### **MEASURES**

ppm TRACE

APPLICATION

SAFE AREA





OUALITY

····· SENSING TECHNOLOGY



### SERVOPRO Chroma

#### SAFE AREA

#### **HIGHLY VERSATILE TRACE GAS ANALYZER PLATFORM CONFIGURABLE TO A WIDE RANGE OF APPLICATIONS**

Offering a unique, non-depleting plasma emission detector, the Chroma analyzer is one of the most versatile gas analyzers for trace gas measurement available. Most applications will be satisfied by a single 4U rack analyzer configuration, making the Chroma a compact, cost-effective solution for continuous process control or quality monitoring.



#### **FEATURES AND BENEFITS**

- PlasmaHC measurement system requires no FID for THC measurement
- Fully automated tune to the application - system for unique simplicity of use
- Standalone systems requires no third-party software or computer to operate

#### **APPLICATIONS**

- Medical gas production
- Air separation plants
- Cryogenic truck loading station
- High purity gas production

#### MEASURES APPLICATION GAS



PERCENT

ppm TRACE

ppb ULTRA TRACE





CONTROL

**▼** SENSING TECHNOLOGY















#### **RELIABLE MONITORING OF NITROGEN IN ARGON AND** HELIUM, OPTIMIZED FOR AIR **SEPARATION UNIT (ASU) PLANT OPERATIONS**

Specifically designed for the continuous monitoring of N<sub>2</sub> in Ar or He or both, the Plasma's unique plasma emission detector provides an accurate, highly stable and reliable measurement ideal for the requirements of ASU plant operators.



#### **FEATURES AND BENEFITS**

- Electrical safety to IEC 61010-1: Ed 3. In compliance with Low Voltage, EMC and applicable Directives
- Wide measurement range 0-1ppm, 0-10ppm, 0-100ppm (higher on request)
- Electronic flow control system for low flow consumption and reading stability

#### **APPLICATIONS**

- Argon production
- Track loading
- Pure gas bottling
- Specialty gas laboratories

GAS



TRACE

NITROGEN

MEASURES APPLICATION



**▼** SENSING TECHNOLOGY ······



## **SERVOPRO MultiExact 4100**

#### SAFE AREA

#### A SOPHISTICATED, NEXT-**GENERATION MULTI-GAS ANALYZER PROVIDING** A HIGHLY ADAPTABLE **ANALYSIS SOLUTION**

The MultiExact 4100 is a high-performance multi-gas analyzer designed to provide up to four simultaneous gas stream measurements including: O2 (trace, control, and purity), CO2, CO, N2O, CH4 (trace), Ar in O2, N2 in Ar, O2 or air, and He in Ar,  $O_2$  or  $N_2$ .



#### **FEATURES AND BENEFITS**

- Comprehensive solution for industrial and medical gas manufacture and for pharmacopeia applications
- Integrated support for the AquaXact 1688 Aluminum Oxide moisture transmitter
- Uses ultra-stable, non-depleting digital sensing technologies that help extend maintenance intervals

#### **APPLICATIONS**

- Product purity on air separation plant
- Process control on air separation plant
- Monitor trace CO<sub>2</sub> on scrubbed air inlet to air separation process
- Validation of medical O<sub>2</sub>, N<sub>2</sub>, air and He



PERCENT ppm

TRACE

APPLICATION





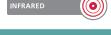












## SAFE AREA

## SERVOPRO MultiExact 5400

#### **DIGITAL MULTI-GAS ANALYZER, OPTIMIZED FOR WIDE RANGE** OF AIR SEPARATION UNIT (ASU) **MEASUREMENTS**

Combining industry-leading performance and a range of new and enhanced functions as standard, the MultiExact 5400 offers air separation plants a multi-gas analyzer specifically optimized to industry requirements - with GFx, Zirconia and Paramagnetic measurements now augmented by Servomex's revolutionary TCD measurement sensing technology.



#### **FEATURES AND BENEFITS**

- IEC 61010-1. European Pharmacopeia compliant. US Pharmacopeia compliant (O2). In compliance with Low Voltage, EMC and applicable Directives
- TruRef technology offers class leading measurements for Ar, He and N<sub>2</sub>
- Options include digital communication options, an integrated valve block function and unique Servomex Flowcube flow sensor technology

#### **APPLICATIONS**

- Product purity on air separation plant
- Process control on air separation plant
- Monitor trace CO<sub>2</sub> on scrubbed air inlet to air separation process
- Validation of medical O2, N2, air and He

#### MEASURES APPLICATION GAS



ppm TRACE



CONTROL















#### **SUB-PPB TRACE MEASUREMENT** OF H<sub>2</sub>, CH<sub>4</sub>, CO, CO<sub>2</sub>, N<sub>2</sub>, Ar AND NMHC FOR THE **SEMICONDUCTOR INDUSTRY**

Incorporating the latest advances in gas sensing technology and signal processing methodology, the NanoChrome revolutionizes ultra-trace purity measurements for the semiconductor industry



#### **FEATURES AND BENEFITS**

- In compliance with Low Voltage, EMC and applicable Directives
- New PED Sensor technology enables sub-ppb measurements of H<sub>2</sub>, CH<sub>4</sub>, CO, CO<sub>2</sub>, N<sub>2</sub>, Ar and NMHC
- Enables unique total Servomex solution for UHP gas analysis

#### **APPLICATIONS**

- Semiconductor production quality control measurements
- Semiconductor production stationary analytical systems
- UHP gas production quality control measurements

GAS



ppb **ULTRA TRACE** ppt ULTRA TRACE



**▼ SENSING TECHNOLOGY** 







## SERVOPRO MonoExact TCD

#### SAFE AREA

#### **DIGITAL SINGLE-GAS ANALYZER** WITH TCD MEASUREMENTS

The MonoExact gas analyzer brings Servomex's acclaimed TruRef Thermal Conductivity (TCD) technology to air separation unit (ASU) operators in a compact, single-component analyzer, offering class-leading measurements for Ar, He, N<sub>2</sub> and H<sub>2</sub>.



#### **FEATURES AND BENEFITS**

- In compliance with Low Voltage, EMC and applicable Directives
- TruRef offers ASU operators truly industryleading measurements for drift accuracy, linearity and repeatability
- Cost of ownership optimized by longer calibration intervals and no reference gas requirements

#### **APPLICATIONS**

- Validation on industrial processes
- Hydrogen purity
- Process control on air separation plants
- Bottling/filling plant applications

GAS



MEASURES

'n PERCENT



CONTROL



QUALITY

····· 

✓ SENSING TECHNOLOGY ······



## SERVOPRO NOx

#### SAFE AREA

#### **CHEMILUMINESCENCE DETECTOR (CLD) ANALYZER FOR KEY EMISSIONS APPLICATIONS INVOLVING ULTRA-LOW NO, NO2 AND NOX**

Utilizing Chemiluminescence detection technology to measure NO or NO/NO<sub>2</sub>/NOx concentrations in industrial gas and vehicle emission applications, the versatile SERVOPRO NOx can be calibrated for four measurement ranges starting from ultra-low to high ppm and is easy to install and operate.



#### **FEATURES AND BENEFITS**

- Multiple-range NOx emissions monitoring solution with a fast response
- Non-depleting light-based measurement and electronic flow control keeps costs low
- Heated version available for wet to dry conversion option
- EPA 1065/1066 and LD Euro 6, HD Euro V1 compliant

#### **APPLICATIONS**

- Continuous emissions monitoring (CEMS)
- Scrubber efficiency
- Turbine/generator feedback control
- SCR/SNCR feedback control

GAS



NITRIC OXIDE



NOx

NITROGEN OXIDES

MEASURES

ppm TRACE



**APPLICATION** 



FMISSIONS



**▼ SENSING TECHNOLOGY** 





#### **USES PROVEN PULSED UV FLUORESCENCE TECHNOLOGY** TO DELIVER A PRECISE AND **RELIABLE MEASUREMENT OF ULTRA-LOW SULFUR DIOXIDE IN EMISSIONS AND AMBIENT AIR**

For industrial applications that require ultra-low emissions monitoring of sulfur dioxide, this robust analyzer is designed to slot seamlessly into rack systems, making it easy to integrate with existing emissions monitoring systems to provide unrivaled performance.



#### **FEATURES AND BENEFITS**

- Ultra-long-lasting UV light source
- Removable flash memory stores up to 10 years of data
- Operation over wide temperature range reduces cost of ownership

#### **APPLICATIONS**

- Continuous emissions monitoring (CEMS)
- Ambient air monitoring

GAS



**SULFUR** DIOXIDE MEASURES APPLICATION



ULTRA TRACE





**™** SENSING TECHNOLOGY



### SERVOPRO HFID

#### SAFE AREA

#### **HIGH-PERFORMANCE FAST ANALYSIS OF TOTAL HYDROCARBONS, METHANE AND NON-METHANE HYDROCARBONS**

Using a highly sensitive Flame Ionization Detector (FID) for measuring volatile hydrocarbon concentrations in industrial or vehicle emission applications, the HFID utilizes an internally heated oven set to 190°C to maintain the sample gas above its dew point, for optimum performance in total hydrocarbon analysis (THC). Can be equipped with a non-methane cutter for additional CH4 and non-methane hydrocarbon (NMHC) reporting.



#### **FEATURES AND BENEFITS**

- Four user-definable measurement ranges, reconfigurable in the field
- High-accuracy, gas-selective FID technology for maximized uptime
- Heated oven for maximum stability and "hot/wet" sampling
- EPA Method 25A compliant
- EPA 1065/1066 and LD Euro 6, HD Euro V1 compliant

#### **APPLICATIONS**

- Continuous emissions monitoring (CEMS)
- VOC abatement
- Scrubber efficiency
- Compliance monitoring and testing

GAS



TOTAL HYDROCARBONS



METHANE **NMHC** 

NON-METHANE HYDROCARBONS **MEASURES** 

ppm TRACE



**APPLICATION** 







**™** SENSING TECHNOLOGY



## GAS DETECTION OxyDetect

#### **SERVOMEX**

#### **NON-DEPLETING PARAMAGNETIC OXYGEN MONITOR DESIGNED** FOR LIFE SAFETY APPLICATIONS

Life safety monitor designed for safe area or hazardous area environments, utilizing superior performance of non-depleting Hummingbird Paramagnetic O<sub>2</sub> sensing technology.



#### **FEATURES AND BENEFITS**

- IP66 (indoor use only)
- The most reliable O₂ detector on the market
- No more false readings or false alarms caused by depleting cell technologies
- SIL 2 approval

#### **APPLICATIONS**

- Pharmaceutical plants
- Helium production and storage
- Semiconductor facilities
- Laboratories & universities

GAS



OXYGEN

MEASURES

**APPLICATION** 

····· 

✓ SENSING TECHNOLOGY ······



#### **INTRINSICALLY SAFE ANALYZER MEASURES OXYGEN, CARBON MONOXIDE OR CARBON DIOXIDE**

Designed for the measurement of toxic and flammable gas samples, the intrinsically safe Micro i.s. 5100 is a unique analyzer certified to Zone 0 and Zone 1 and suitable for measuring percent levels of O2, CO and CO2.



#### **FEATURES AND BENEFITS**

- Intrinsically safe design to ATEX and IEC standards ensures safety operation in hazardous environments
- Ergonomic design ensures easy operation on the move
- Available in non-pump or pump versions with optional sample conditioning kit

#### **APPLICATIONS**

- Hazardous area combustion optimization
- Refineries catalytic cracker regeneration
- Process monitoring
- Inerting applications

#### GAS



OXYGEN



CARBON MONOXIDE



CARBON DIOXIDE

#### MEASURES APPLICATION







SAFFTY

····· 

✓ SENSING TECHNOLOGY









## **SERVOFLEX MiniMP 5200**

#### **BENCHTOP ANALYZER OFFERING SINGLE OR DUAL MEASUREMENTS OF OXYGEN AND CARBON DIOXIDE**

The only truly portable battery-powered gas analyzer with MCERTS certification, the MiniMP 5200 is designed to offer single or dual measurement of O<sub>2</sub> and CO<sub>2</sub> by utilizing Servomex's advanced Paramagnetic and Infrared sensing technologies.



#### **FEATURES AND BENEFITS**

- EN15267-3 (MCERTS V3.3, Annex F) makes the MiniMP ideal for source testers that require reference O<sub>2</sub> analysis for CEMS verification
- Li-ion battery system offers unique true portability
- Non-depleting sensor design ensures long service with minimal calibration

#### **APPLICATIONS**

- Laboratories and research
- Air separation and gas bottling plants
- Transfilling
- Combustion analysis

#### GAS



OXYGEN



CARBON DIOXIDE

#### MEASURES APPLICATION







**☑ SENSING TECHNOLOGY** 









## SERVOFLEX MiniHD 5200

#### PORTABLE GAS ANALYZER FOR **MEASUREMENT OF COMMON GAS MIXTURES**

Designed for use in field locations or light industrial applications, the MiniHD 5200 portable gas analyzer is a rugged, heavy duty analyzer designed to accurately measure the levels of O2, CO and CO<sub>2</sub> within common gas mixtures. The MiniHD 5200 utilizes Servomex's non-depleting Paramagnetic and Infrared sensors to give dependable and accurate results.



#### **FEATURES AND BENEFITS**

- Robust IP65 construction meets the demanding needs of field location analysis
- Long life Li-ion rechargeable batteries and range of sampling options ensure ease of use
- Accurate measurement of O2, CO and CO2 levels with no background interference

#### **APPLICATIONS**

- Physiology studies
- Universities
- Combustion optimization
- Medical gas verification

#### GAS



OXYGEN



CARBON MONOXIDE



CARBON DIOXIDE

#### MEASURES :





APPLICATION

















#### **BENCHTOP ANALYZER FOR QUALITY CONTROL/CHECKS** IN MODIFIED ATMOSPHERE **PACKAGING**

A small sample volume portable benchtop analyzer designed specifically for the checking and quality control of gas mixtures in Modified Atmosphere Packaging (MAP) used in the food and pharmaceutical industries, the MiniFoodPack 5200 enables single or dual measurements for percent levels of O2 and CO2.



#### **FEATURES AND BENEFITS**

- CE marked and in compliance with EEC, EMC and WEEE Directives. UL approved and CE marked 100-240V/43-70Hz AC power supply
- Range of sampling accessories is available for taking measurement from rigid or flexible pack
- Rechargeable battery option enables complete portability for flexible operation

#### **APPLICATIONS**

- Modified Atmosphere Packaging (MAP) quality testing for food and beverage products
- Modified Atmosphere Packaging (MAP) for packaged pharmaceuticals
- Equilibrium Modified Atmosphere Packaging (EMAP) fresh consumable produce testing
- Laboratory and research

#### GAS



PERCENT





CARBON DIOXIDE

**MEASURES APPLICATION** 



······ 

SENSING TECHNOLOGY







## DELTA F DF-500 Range

#### **LEADING ULTRA-TRACE PPT** O<sub>2</sub> ANALYZER RANGE

Verified by independent experts as measuring O<sub>2</sub> to the lowest ppt levels available, the DF-500 analyzer range delivers the premium performance in ultra-trace oxygen measurement. Consisting of the DF-550E NanoTrace and DF-560E NanoTrace II, the NanoTrace series delivers exceptional O2 measurements at trace and ultra-trace ppt levels.



#### **FEATURES AND BENEFITS**

- The industry standard for the reliable measurement of oxygen in semiconductor manufacture
- Fast response and quick upset recovery ensures ultimate performance
- Options include flexible configurations and hand-carry portable option

#### **APPLICATIONS**

- Continuous quality control monitoring
- Inert gases control checks for electronics grade gases
- Post purifier quality certification
- Leak detection for electronics grade gases

GAS **MEASURES** 



OXYGEN



ULTRA TRACE

ppm TRACE

APPLICATION

**HIGH PURITY** 



**▼** SENSING TECHNOLOGY



## **DELTA F DF-700 Range**

### **HIGH PURITY**

#### **TUNABLE DIODE LASER** (TDL) TRACE MOISTURE **ANALYZER RANGE**

A sophisticated process moisture analyzer range which offers users the comprehensive solution for trace and ultra-trace moisture measurement, the DF-700 series combines the latest TDL Absorption Spectroscopy technology, a robust measuring cell and a true baseline reference for highly accurate moisture measurement.



#### **FEATURES AND BENEFITS**

- Exceptional sub-ppb moisture level readings which exceed current UHP moisture measurement requirements
- requirements
  Models include DF-730 (moisture in HCI);
  DF-740 (moisture in ammonia); DF-745 (high
  sensitivity 2ppb LDL); DF-745 SGMax (specialty
  gas trace moisture analyzer); DF-750 NanoTrace
  (base model); DF-760E dual oxygen and moisture measurement
- 2F TDL detection technology for robustness to particulates contamination

#### **APPLICATIONS**

- 730: Quality control of HCl gas in semiconductor fabs ■ 740: Trace moisture analysis for quality control of electronics-grade NHs specialty gas used in microelectronics production ■ 745 NanoTrace: Inert gases leak detection for LED and LCD plant applications ■ 745 SGMax: Specialty gas cylinder quality control checks ■ 749: Leak detection checks for UHP bulk gases
- used semiconductor applications 750: Bulk UHP gas quality control checks for high-end semiconductor fabs 760E: Leak detection checks for UHP bulk gases used semiconductor applications

GAS

H<sub>2</sub>O

WATER

ppm TRACE

dag ULTRA TRACE

ppt ULTRA TRACE

MEASURES APPLICATION



OUALITY

SENSING TECHNOLOGY





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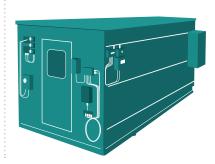
### We build systems to suit every size and need...











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#### **RACKS**

Systems integrating rack-mounted analyzers for SERVOPRO and DF ranges.

#### **PANELS**

Sampling systems on open panels, for easy accessibility to components for calibration and maintenance.

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Enclosures to ensure suitable weather protection for your system. Suitable for hazardous areas.

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WHATEVER YOUR GAS ANALYSIS REQUIREMENTS, WHEREVER YOU ARE

