

**TDLS8000, TDLS8100/8200, and TDLS8220 Tunable Diode Laser Spectrometer Inquiry Form**

Thank you for your inquiry about our TDLS (Tunable Diode Laser Spectrometers). Please help us to choose the best possible solution for your application by filling in the information below to the best of your abilities. If you need any assistance please call 1-800-524-7378 or e-mail at [YCA-support@yokogawa.com](mailto:YCA-support@yokogawa.com).

**1. General Information**

Company:
Site/Plant Name:
Address:
Contact Person:
Email:
Telephone:
Requested Delivery Date (MM/DD/YYYY):
Brief Description of Application:
Purpose of Measurement (Control, Safety, Monitoring, etc.):
Quote Type (Budgetary or Firm):

**2. Physical Installation Details:**

Installation Type:

Area Classification of Analyzer Installation:

☐ Cross Stack/Pipe: For measurement across the process.

Path Length:
Process Connection:
Nozzle Length:

☐ Bypass Leg: Measurement across bypass leg located at process measurement point.

Path Length:
Process Connection:

Probe Style: Single Flange Entry (please refer to Section 8 for orientation and length specifications)

Process Connection:

\*Limited to 3"150# or 4"150# process connection for mid-temperature units (>600°C).

Probe Style: Reflective Type (please refer to section 8 for additional details)

Process Connection:

Extractive: Sample is extracted and transported (by others) to analyzer (refer to Section 9 for additional details).

Ambient Temperature at Analyzer Installation Point:

Min:
Max:

**3. Stream Composition (Please Use One Sheet Per Application):**

Process Wetted Materials:

Must Use:

Must Not Use:

Mill Test Reports Required on Wetted Metals:

Positive Material Identification Testing Required on Wetted Metals:

Component	Concentrations			Units	Measured	Range If Measured
Name	Min.	Typ.	Max.	ppm(v)/vol%	Yes/No	

**4. Process Physical Properties:**

	Units	Min.	Typ.	Max.
Temperature				
Pressure				
Dew Point				
Water Vapor				
Flow				
Velocity				
Particulate Concentration				

**5. Purge Options:**

Purge Gas Availability:

Nitrogen

Pressure:

Temperature:

Dew Point:

Instrument Air

Pressure:

Temperature:

Dew Point:

Concentration Range:

**6. Analyzer Options:**
☐ YH8000 HMI Unit

Installed by Customer (Wall or pipe mount)

Stainless Steel Tags

As Part of Utility Panel (See Section 7 Below)

HMI Sunshield

IF8000 Isolation Flanges (for pressures in excess of 72 psig or direct process window temperatures in excess of 131°F with purge considered)

MOC: Stainless Steel

Monel

Other(specify):

Analyzer Heat Shields (Instrument air requirement: 10 SCFM at 100 psig per heatshield, 20 SCFM per analyzer)

Analyzer Insulation Blankets

Analyzer ambient temperature range: -20 to 55°C (-4 to 131°F)

4-Pair Cable for Connecting the Sensor Control Unit (SCU) to the Laser Unit (LU)

Distance from SCU to LU:

Extended Warranty (18 months standard from ship date):    One Year        Two Years        Three Years

**7. Utility Panel Options:**

Gas Panel 1:  
(Top Left)

Gas Panel 2:  
(Top Right)

Gas Panel 3:  
(Bottom Left)

Gas Panel 4:  
(Bottom Right)

Single Validation

Single Validation

Single Validation

Single Validation

Dual Validation

Dual Validation

Dual Validation

Dual Validation

Safety Splitter &  
HART Converter

Safety Splitter &  
HART Converter

Safety Splitter &  
HART Converter

Safety Splitter &  
HART Converter

Enclosure Material:

316 Stainless Steel

Fiberglass

HMI Mounting:

Internal  
(N/A with 4 analyzer panel)

External

Window Kit(s):

No Windows

HMI Only

HMI and Gas Panel(s)

Gas Panel(s) Only

Additional Options:

Flow Switches on purge Inlets

In-Validation Relays

Z-Purge

Z-Purge with Loss of Pressure Switch

Environmental Purge  
(Rotameter & Breather Vent)

Fiber to Ethernet Switch  
(Standard Ethernet Switch Included)

Panel Tagging:

Area Classification Where YP8000 Will Be Installed:
3 <sup>rd</sup> Party Certification Required (Specify):
Distance From Analyzer Sensor Control Unit to YP8000 :

\*Max distance using WT200-UT 18AWG cable is 248 feet (75m)

Ambient Temperature

Min:

Min:

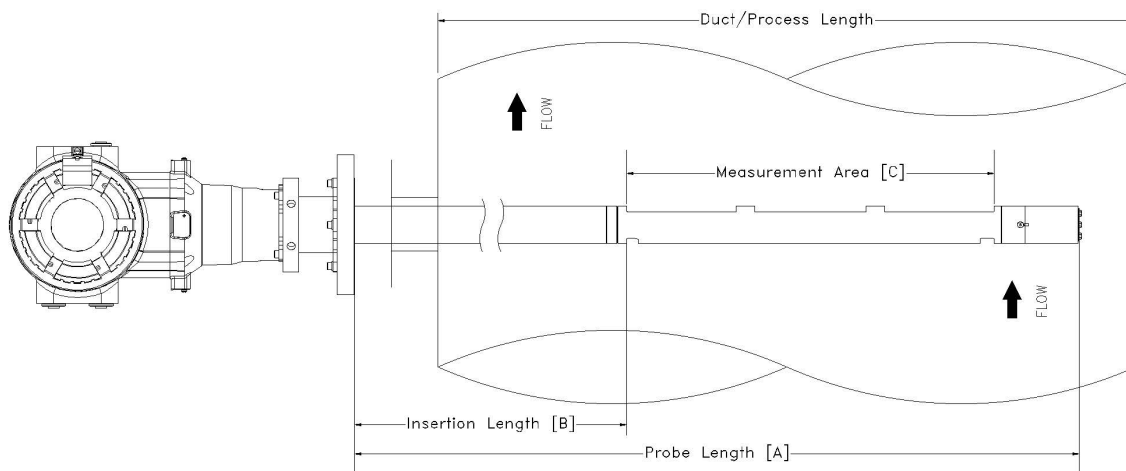
## 8. TDLS8100/8200 Probe Options and Specifications

Probe Length [A]: 0.7m (28in)  
Insertion Length [B]: 0.078m (3in)

Probe Length [A]: 1.0m (40in)  
Insertion Length [B]: 0.378m (15in)

Probe Length [A]: 1.5m (59in)  
Insertion Length [B]: 0.878m (35in)

Probe Length [A]: 2.0m (79in)  
Insertion Length [B]: 1.38m (54in)



\*Measurement Area [C]: 0.5m (20in), Optical path length: 1.0m (39.4in)

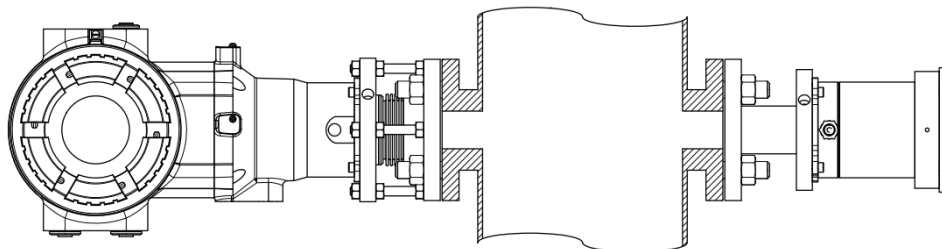
\*Insertion length should account for process nozzle length, refractory, and positioning of measurement area [C] into middle third of process or duct.

Display Orientation (1-12, see below):

	0°	90°	180°	270°
Horizontal Left	[1]	[2]	[3]	[4]
Horizontal Right	[5]	[6]	[7]	[8]
Vertical	[9]	[10]	[11]	[12]

vertical upwards is not possible

TDLS8200 Single Gas O<sub>2</sub>. Reflective Type -REF option  
(Recommended for process optical path lengths up to 40in).

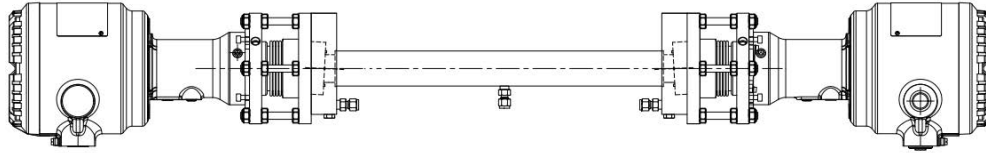


## 9. TDLS Extractive Options and Specifications

Sampling System Required (sample transport by others):

Desired Temperature and Pressure Control Points:

TDLS8000 with Extractive Flow Cell (YC8000)

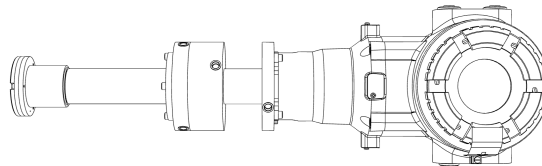


YC8000 Flow Cell Specifications:

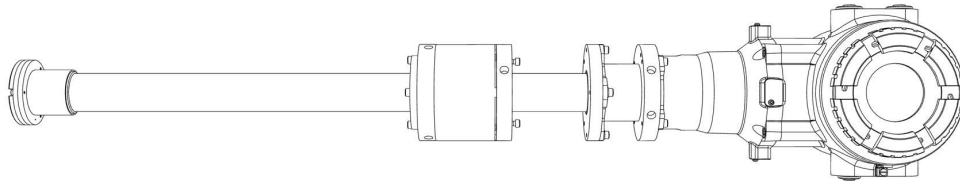
MOC:	Stainless Steel	Monel	Other (specify):
Length:	40 (in)	60 (in)	Other (specify):

TDLS8100 Extractive Unit with Integrated Flow Cell (heat trace, insulation, purge control, etc. by others)

Shortened Version (15.75in, 0.4m OPL) with Total Length of 36in, 0.91m



Standard Length (39.4in, 1.0m OPL) with Total Length of 48in, 1.2m



TDLS8220 Extractive Unit with Integrated Flow Cell (includes heat trace, insulation, purge control, etc.)

TDLS8220 Options:

Area Classification

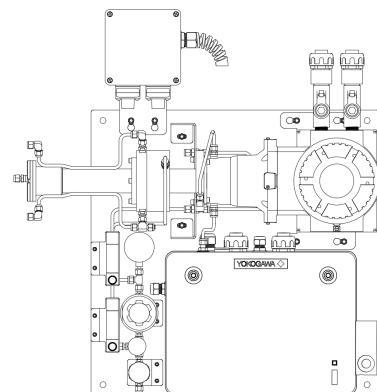
Designed with CID2 Components (FM)

Designed with CID2 Components (cFM)

Sample Cell Heating

No Sample Cell Heating; Insulation and Temp. Tx Included.

Configurable Sample Cell Heat Trace Setpoint (up to 120°C), Heat Trace Controller, and Insulation.



Sample Cell Length

Shortened Version (15.75in, 0.4m Optical Path Length) with Total Dimensions of 30x30x20in (WxHxD).

Z-Purge Exhaust

Standard Exhaust (To Atmosphere)

Exhaust Vent Kit (Indoor Installation)

**10. Documentation, Service, and Spare Parts:**

## Alignment Services

*Nozzle installation and alignment is extremely important to properly execute a TDLS installation. If you are unsure about performing this scope of work please consult with Yokogawa's alignment supervision services to ensure a successful TDLS installation.*

Startup and Commissioning

Complete Data Book

Annual Maintenance Contract

Certified Product Drawings

Recommended Spare Parts

**11. General Application & Installation Notes/Comments:**

If you have any issues completing this form,  
please contact your local sales representative who can be found here:  
<https://www.yokogawa.com/us/contact/#Find-a-Sales-Representative>,  
contact us directly via e-mail at [YCA-support@yokogawa.com](mailto:YCA-support@yokogawa.com),  
or by phone at 1-800-524-7378.