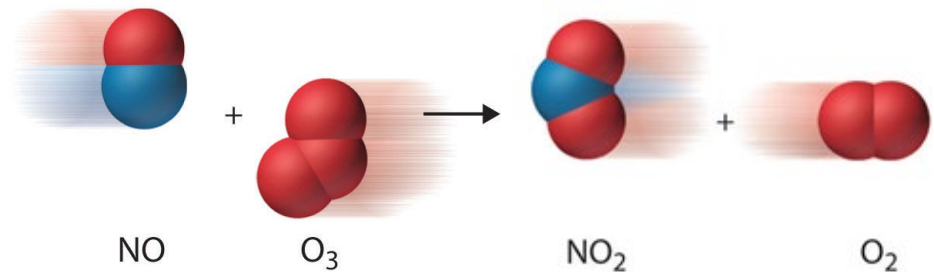
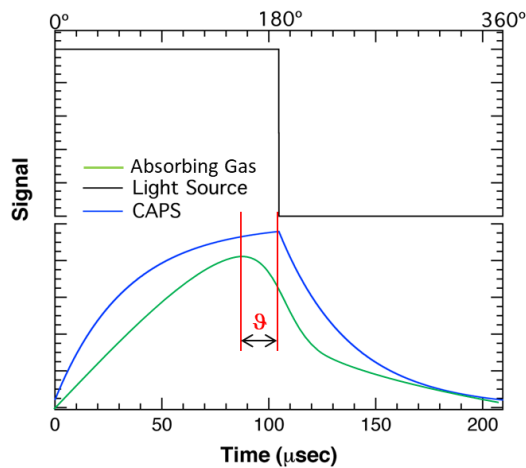


Model 500 CAPS

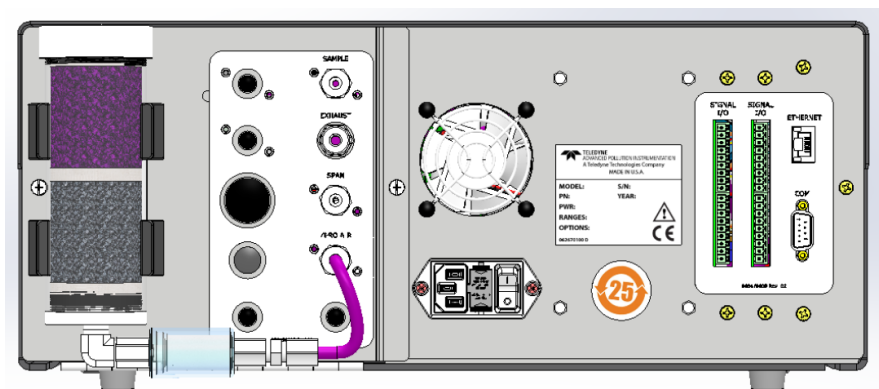
True NO₂-NO-NO_x Instrument

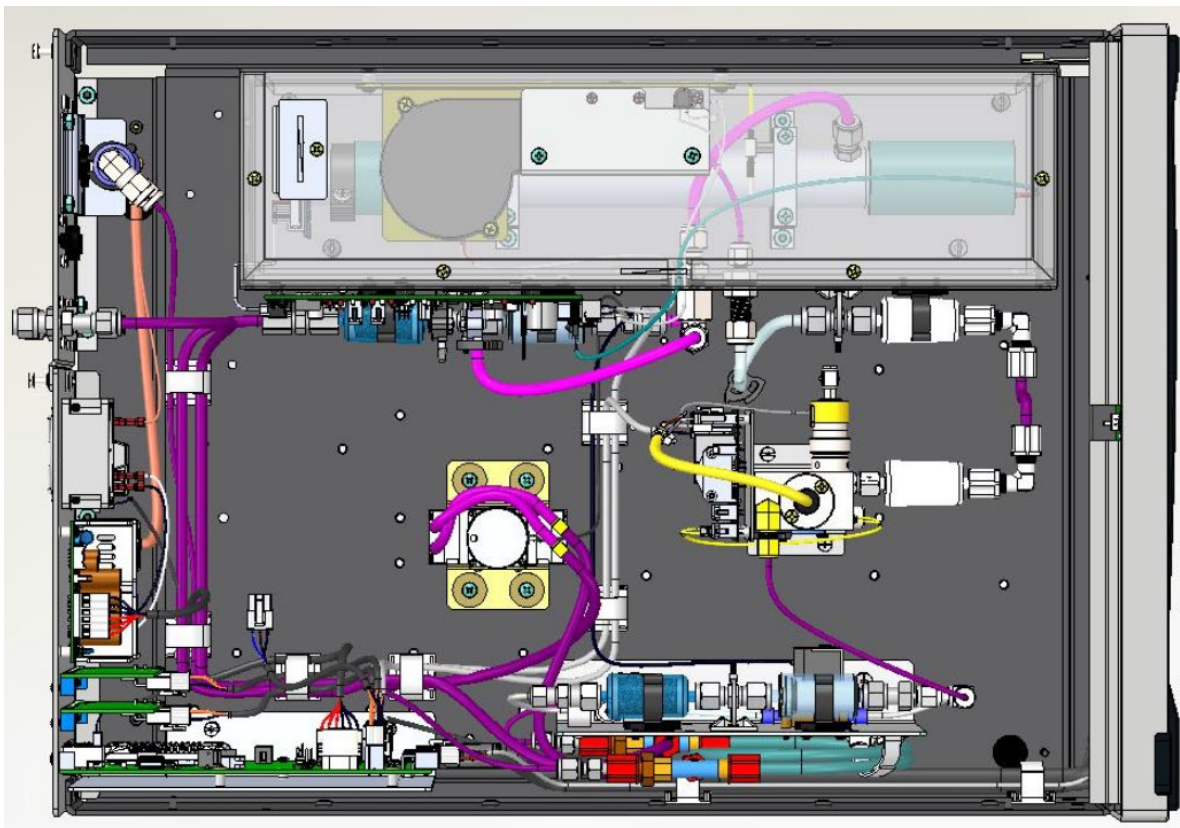


- Provides True NO₂-NO_x-NO measurements using Cavity Attenuated Phase Shift (CAPS) Technology
- NO₂ is measured directly; NO is converted to NO₂ using Gas Phase Titration (GPT) with internal O₃ generator
- Much lower maintenance than Chemiluminescence
- Nearly identical operation as T500U + GPT efficiency verification



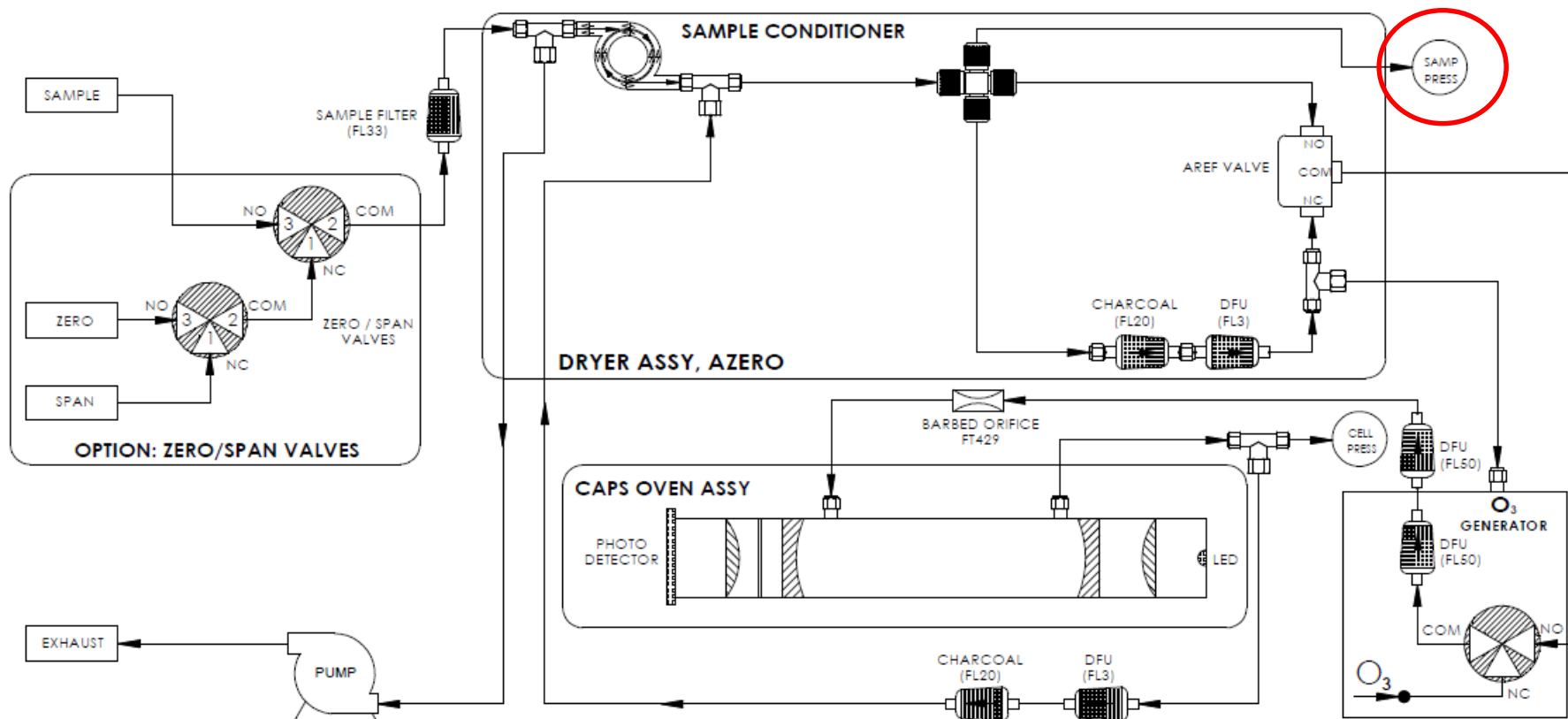
- New, state of the art electronics with modular internal components
 - Less cables, improved reliability, and easier servicing
- ‘Soft’ power switch on front panel to reduce electronic stress
- NumaView and NumaView Remote software platforms
- 2 front panel USB ports
- Ethernet and Serial standard; Analog/Digital output expansion options
- Split rear fold down panel for service access
- Long-life particulate internal sample filter (same as T500U)





- 24 VDC electronics throughout
- 2 circuit boards – main and sensor
- Internal (DC) sample pump
- Long-life particulate filter
- Sample dryer
- O₃ generator module
- Auto-reference (AREF) loop
- CAPS measurement bench
- Internal Zero/Span Option (not shown)
- Analog/Digital I/O boards Options (shown)

Pneumatic Diagram



- Differences with T500U
 - Sample orifice upstream of CAPS cell – *flush cell faster*
 - Uses full sample flow to flush sample dryer – *more sample flow into cell*
 - O₃ generator – *NO_x measurement*
 - Sample pressure sensor – *Sample flow measurement (same as T200)*

- Ranges: 0 – 5 ppb up to 1 ppm
- Zero Noise: < 0.05 ppb
- Span Noise: < 0.2 % of reading + 50 ppt
- Lower Detectable Limit: < 0.1 ppb
- Zero Drift: < 0.2 ppb/24 hrs
- Span Drift: < 0.5% of reading/24 hrs
- Response Time: < 58 seconds to 95%
- Linearity: 1% of full scale
- Precision: 0.5% of reading above 5 ppb
- Sample Flow: 1000 cc/min
- Power Consumption: 110W; 100-250VAC (50-60Hz)

GREEN = *Better
than T200P!*

Spec Comparisons

| Specification | Model 500 | T200U/UP | T200/P |
|---------------|-------------------------------|-------------------------------|------------------------------------|
| Ranges | 0 – 5 ppb to 1 ppm | 0 – 5 ppb to 2 ppm | 0 – 50 ppb to 20 ppm (4 ppm for P) |
| Zero Noise | < 0.05 ppb | < 0.025 ppb | < 0.1 ppb* |
| Span Noise | < 0.2% of reading + 50 ppt | < 0.5% of reading + 25 ppt | < 0.5% of reading + 100 ppt |
| LDL | < 0.1 ppb | < 0.05 ppb | < 0.2 ppb* |
| Zero Drift | < 0.2 ppb/24 hrs | < 0.1 ppb/24 hrs | < 0.5 ppb/24 hrs |
| Span Drift | < 0.5% of reading/24 hrs | < 0.5% of reading/24 hrs | < 0.5% of reading/24 hrs |
| Response Time | < 58 seconds | < 70 seconds | < 80 seconds |

* The T200 now ships with the U-PMT standard which greatly improves the zero noise and LDL specifications (from < 0.2 ppb and < 0.4 ppb previously).

Spec Comparisons

| Specification | Model 500 | T500U |
|---------------|-------------------------------|--------------------------------|
| Ranges | 0 – 5 ppb to 1 ppm | 0 – 5 ppb to 1 ppm |
| Zero Noise | < 0.05 ppb | < 0.02 ppb |
| Span Noise | < 0.2% of reading + 50 ppt | < 0.1% of reading + 20 ppt* |
| LDL | < 0.1 ppb | < 0.04 ppb |
| Zero Drift | < 0.2 ppb/24 hrs | < 0.1 ppb/24 hrs |
| Span Drift | < 0.5% of reading/24 hrs | < 0.5% of reading/24 hrs |
| Response Time | < 58 seconds | < 38 seconds |
| | | |

* Further in-depth testing of the T500U shows improved Span Noise specification (from < 0.2% of reading/24 hrs).

- True NO₂, NO_x, NO Measurements with CAPS technology
- Gas Phase Titration (GPT) for NO conversion at ~100%
- NO₂ only and NO_x only modes
- Fast response compared with chemiluminescence
- Very low maintenance, cost of operation, and long autonomy
- 2x better sensitivity than standard-level NO_x instruments
- Exceptional span stability
- Auto-reference (AREF) for baseline compensation
- Long life particulate sample filter
- New, robust and efficient electronics architecture design
- Low power consumption

- *July 1, 2019: Begin accepting orders (8-10 week lead time)*

For more information contact

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