

## Remote Optical Sensing Assembly (ROSA)

Guided Wave's Remote Optical Sensing Assembly captures modeling or validation samples on demand. This compact, closed loop, sample collection system is integrated with a Multipurpose Flow Cell. ROSA provides simultaneous collection of matching spectral data and liquid samples. NIR calibration models operating on process analyzers need periodic sampling and laboratory analyses to validate the analyzer. Models also need updating if the process changes significantly due to feed stock changes or operating setpoint changes. These changes can occur at times when an operator is not available to collect samples. ROSA provides a means of collecting spectra and samples under computer control. Samples can also be captured at a preprogrammed time, manually, or when the NIR analyzer senses an outlier condition. Simultaneous spectral and closed loop sample collection ensures that the sample sent to the laboratory is representative of the sample measured on-line. An optional laboratory sample unloading station provides convenient sample dispensing into the laboratory, and inert gas flush of the cylinder for in preparation line sample.



ROSA with Outlier Sample Capture Feature

### ROSA – Remote Optical Sensing Assembly

ROSA consists of an optical flow cell mounted in series with a manifold and two, one-liter sample cylinders. Flow through the sample cylinders is controlled by a pair of pneumatically actuated ball valves. ROSA consists of a unique 3 dimensional modular design. The sample cylinders are mounted in the front of a vertical strut with the pneumatic actuator and ball valves in the rear. Each cylinder is coupled to the manifold with zero clearance fittings. This entire module can be quickly removed-for service. Each end of the sample cylinder is sealed with self-sealing quick disconnects plus manually operated, red-handled valves. For safety, cylinder removal is blocked by a red, long handled valve. Closing the valve bleeds air off the actuator and ensures that the fluid lines are closed and in the safe position before the cylinder is removed.

### Flow Cell Access

Three-way isolation valves are mounted around the Multipurpose Flow Cell to permit draining of the cell for service and cleaning. Ports are available for manual injection of a test or standard samples.

### Automated Sample Collection

The computer controls sample collection, hence collection can be triggered by the analyzer's outlier detection algorithm, by manual request, or by a scheduled request. For a model to accurately predict the properties of a stream, the model must be built with representative but statistically different samples. Models become more robust when unusual but legitimate samples are added to the database. These interesting samples frequently occur during process upsets that are hard to predict and occur over short periods of time when technicians are not available to collect samples. Spectral data and sample are captured simultaneously thus ensuring that the sample sent to the laboratory is the same as the one measured. The closed sample cylinders ensure sample integrity and no light ends loss or oxidation, resulting in accurate continuous validation of the analyzer and accurate updates of the analyzer's chemometric model.

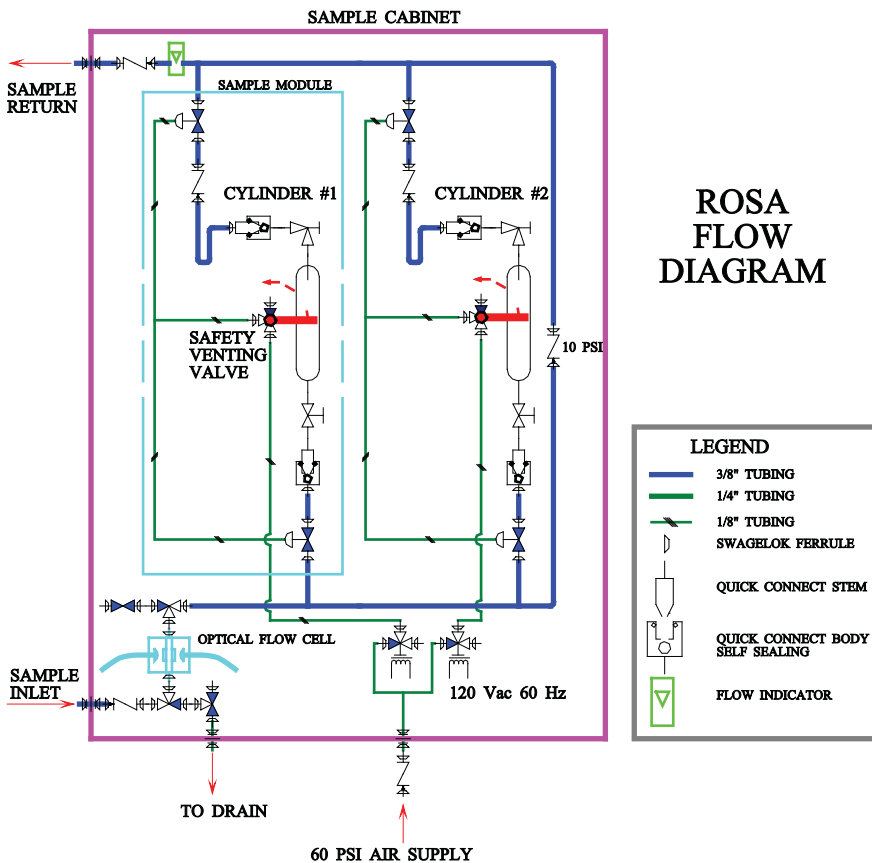
### Accessories

ROSA may be ordered with extra sample cylinders and with a laboratory unloading station.

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## Specifications

Wetted Materials	316 Stainless Steel, Teflon®, Viton (unless specified otherwise)
Fittings/Valves	Swaglok (except quick disconnects), Whitey/Nupro
Manifold	3/8" OD, 0.035" Wall SS316 tubing
Sample Lines	1/4" OD, 0.035" Wall SS316 tubing
Air Lines	1/8" OD, 0.035" Wall SS316 tubing after actuator
Cylinders	1000cc including DOT Vapor Space (20%), NRS Type Shutoff Valves
Number of Cylinders	Maximum 2
Solenoids	120 Vac 60 Hz Class I Div. 1 Grp. C, D (CENELEC & 220 Vac available), Spring Return
Instrument Air	60 psig [414 KPag]
Cabinet	NEMA 12X, 36" x 30" x 12" [91.5 cm x 76.2 cm x 30.5 cm]
Maximum Temperature	200 °C (o-ring material dependent)
Maximum Pressure	500 psi [3450 KPa]
Pressure Drop	15 psig [103.5 KPag] @ 0.75 GPM [3 L] of 0.70 Specific Gravity Fluid
Flow Meter	Brooks 3602 Armored, 0 – 180 GPH [0 – 680 L/hr]



## Contact Us

Please contact Guided Wave at [gwinfo@guided-wave.com](mailto:gwinfo@guided-wave.com) for exact engineering specifications, part numbers, installation details, or pricing on this product. For information on other Guided Wave products, please visit our web site at [www.guided-wave.com](http://www.guided-wave.com).

## Optional Accessory

ROSA unloading station for safely dispensing hydrocarbon samples.

