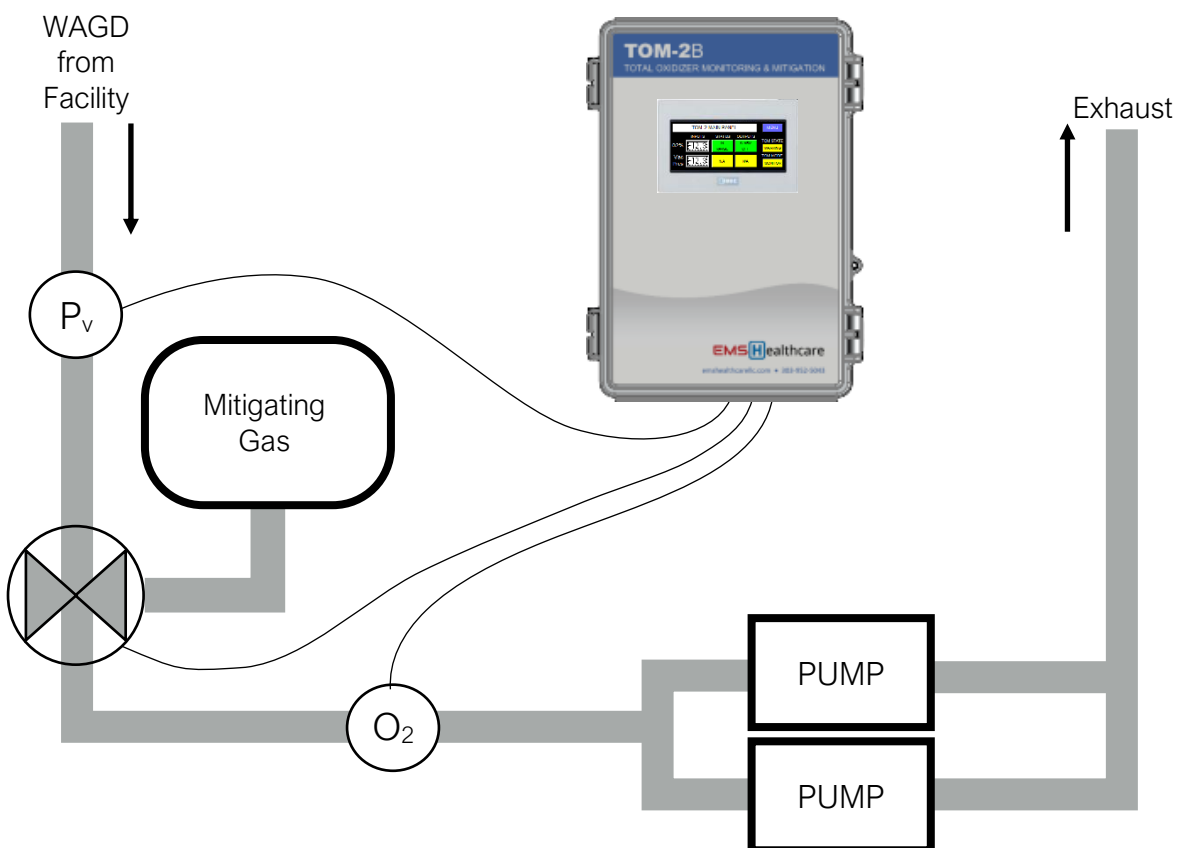


TOM-2 Total Oxidizer Monitor w/Mitigation

With the introduction of NFPA 99 2012 edition came an entirely new requirement for medical-surgical vacuum systems that are also used for Waste Anesthetic Gas Disposal (WAGD). For these combined-use systems, the NFPA now requires the total concentration of oxidizers (oxygen and nitrous oxide) be maintained below 23.6 percent or the materials, lubricants, and sealants within the vacuum pump be inert to these oxidizers for new installations (reference section 5.1.3.8.1.2. (2)). The NFPA 99 2018 edition imposes this requirement on all (existing and new) combined-use vacuum systems and the 2021 edition removes nitrous oxide from the requirement.

The **TOM-2** Total Oxidizer Monitor (patent pending) from EMS Healthcare, LLC is a gas monitoring and mitigation system that's ideal for the continuous regulation of oxygen below the limit of 23.6 percent in combined-use vacuum systems. The heart of the monitoring & mitigation system is a PLC that interfaces to an oxygen sensor, a vacuum transducer, and a control valve. The unit monitors oxygen concentration and vacuum pressure and take appropriate action based on these input parameters. The PLC will operate a valve plumbed to a regulated gas source (e.g., carbon dioxide or nitrogen) or ambient air to maintain levels below the critical threshold of 23.6%. Vacuum pressure is always prioritized over oxygen levels; as long as vacuum pressure remains acceptable, increasing oxygen levels to the vacuum pump inlet will be mitigated.



TOM-2

The TOM-2 is available in two models. The TOM-2A performs oxygen monitoring only. The TOM-2B performs both oxygen monitoring and mitigation and is recommended for use in both inpatient and outpatient facilities along with surgery centers where oxygen concentrations can exceed the NFPA 99 threshold of 23.6%. Both TOM-2A and TOM-2B continuously monitor and log oxygen concentration levels in order to provide periodic reports for compliance purposes.

Part Number		TOM-2095A	TOM-2095B
Description		Oxygen monitoring, alarm relay output, data logging	Oxygen monitoring and mitigation, vacuum pressure monitoring, alarm relay output, data logging
Performance	Response Time	Within 1 second of any change in oxygen levels	
	Accuracy	± 0.5% of FS	
	Repeatability	± 1% of reading	
	Operating Temp	-40° to 122°F (-40° to +50°C)	
	Humidity	0 – 98% RH, non-condensing	
	Data Logging	Oxygen concentration readings logged every 10 seconds	Oxygen concentration and Vacuum Pressure readings logged every 10 seconds
	Alarm Output	2-wire dry contact, normally closed (open on alarm of 23.6% O ₂)	
Oxygen Monitoring	Range	0 – 95% oxygen concentration	
	Sensor Connection	1" NPT male adapter with KF25 quick disconnect (10 ft cord to control unit)	
Vacuum Pressure Monitoring	Range	N/A	0 – 30 in Hg, vacuum range
	Sensor Connection	N/A	¼" NPT male threaded connection (10 ft cord to control unit)
Gas Mitigation	Gas Type	N/A	Carbon dioxide, nitrogen or ambient air (with included muffler)
	Gas Pressure	N/A	5 – 10 psig (operating pressure range at valve inlet port)
	Gas Connection	N/A	½" NPT female threaded connection
	Valve Power	N/A	Power supplied by control unit (10 ft cord to control unit)
Electrical	Voltage Source	110-120 VAC, 60 Hz	
	Power (max)	13 Watts	19 Watts
Physical (Control Unit)	Dimensions	8" (W) x 12" (H) x 6" (D)	
	Weight	6.5 pounds (2.9 kg)	10.0 pounds (4.5 kg) including solenoid valve and vacuum transducer
	Enclosure Type	NEMA 1,2,4,4X rated, polycarbonate, indoor/outdoor use	