

TOXIRAE PRO SINGLE-GAS MONITORS

FREQUENTLY ASKED QUESTIONS

1. Q: What models does the ToxiRAE Pro family include?

A: The ToxiRAE Pro family encompasses the broadest portfolio of personal single-gas instruments in the industry, covering the full range of common hazardous industrial gases and vapors. The ToxiRAE Pro family includes:

- ToxiRAE Pro PID (model PGM-1800) monitors for volatile organic compounds
- ToxiRAE Pro (model PGM-1860) monitors for toxic gases and oxygen deficiency / enrichment
- ToxiRAE Pro LEL (model PGM-1820) monitors for combustible gases.

2. Q: What are the similarities and differences between the ToxiRAE Pro models?




A1: Similarities between the models. All members of the ToxiRAE Pro family are built on the same platform, so they all feature:

- A similar look and feel
- A consistent user interface
- Similar calibration and maintenance procedures
- A common software program for instrument configuration, data download, and exposure analysis (ProRAE Studio II, v.1.03 or later)
- Multiple accessories and spare parts that are shared across the family (including the AutoRAE 2 Automated Test and Calibration Station).

Customers who choose to standardize on ToxiRAE Pro enjoy significant cost and time savings arising from decreased training requirements for users and maintenance personnel; better pricing (on larger orders) and easier ordering (fewer disparate items to order) on accessories and parts that are shared across the ToxiRAE Pro family.

A2: The differences between the ToxiRAE Pro family members are summarized in Table 1 on the next page.

Table 1. Differences between the ToxiRAE Pro family products

Points of Difference	ToxiRAE Pro PID	ToxiRAE Pro [Electrochemical]	ToxiRAE Pro LEL
Appearance			
Model	PGM-1800	PGM-1860	PGM-1820
Weight	8.29 oz. / 235 g	7.76 oz. / 220 g	8.29 oz. / 235 g
Battery runtime	12+ hours	30+ hours	12+ hours
Sampling	Fan-assisted	Diffusion	Diffusion
Datalogging (3 months @ 1-minute intervals)	- Standard on Industrial Hygiene configurations - Not available on Safety configurations	Standard	Standard
Sensors interchangeable	No	Yes (EC sensors only)	No
Correction factors	190 built-in	Not applicable	34 built-in
Instrument cap shape	Elongated	Perfect circle	Perfect circle
Instrument cap removal	Screw driver and special tool	Twist-off; no tools	Twist-off; no tools
Ordering	Fixed part numbers	Assemble to order (ATO)	Fixed part numbers
Pack of 10 available?	No	Yes (CO, H ₂ S, O ₂ , SO ₂)	Yes

3. Q: Can sensors be swapped between the different ToxiRAE Pro models?

A: Even though the ToxiRAE Pro [Electrochemical] (model PGM-1860) supports a wide variety of interchangeable electrochemical sensors, sensors cannot be swapped between the different ToxiRAE Pro models. For example, the ToxiRAE Pro PID (model PGM-1800) can only be used with a PID sensor¹, the ToxiRAE Pro LEL (model PGM-1820) only supports the catalytic bead LEL sensor, and the ToxiRAE Pro (model PGM-1860) will only work with electrochemical sensors.

4. Q: What are the differences between the Industrial Hygiene and Safety configurations of the ToxiRAE Pro PID?

A: The differences between the Industrial Hygiene and Safety configurations of the ToxiRAE Pro PID are summarized in Table 2 below. The configurations are similar in all other aspects (appearance, battery life, maintenance, etc.).

Table 2. Differences between ToxiRAE Pro PID configurations

ToxiRAE Pro PID	Industrial Hygiene Configurations	Safety Configurations
Target application	Industrial hygiene	PPE for workers and contractors
Starting list price	\$1,699	\$999
Standard PID Sensor	High-performance PID (10.6 eV, 0.1 - 2,000 ppm range, 0.1 ppm resolution)	Basic (10.6 eV, 1 - 1,000 ppm range, 1 ppm resolution) sensor only
9.8 eV lamp sensor option	Yes	No
Datalogging	Yes	No

5. Q: What is the default calibration interval for ToxiRAE Pro monitors?

A: The default calibration interval is 30 days on all ToxiRAE Pro monitors.

6. Q: How can the calibration interval be adjusted on ToxiRAE Pro monitors?

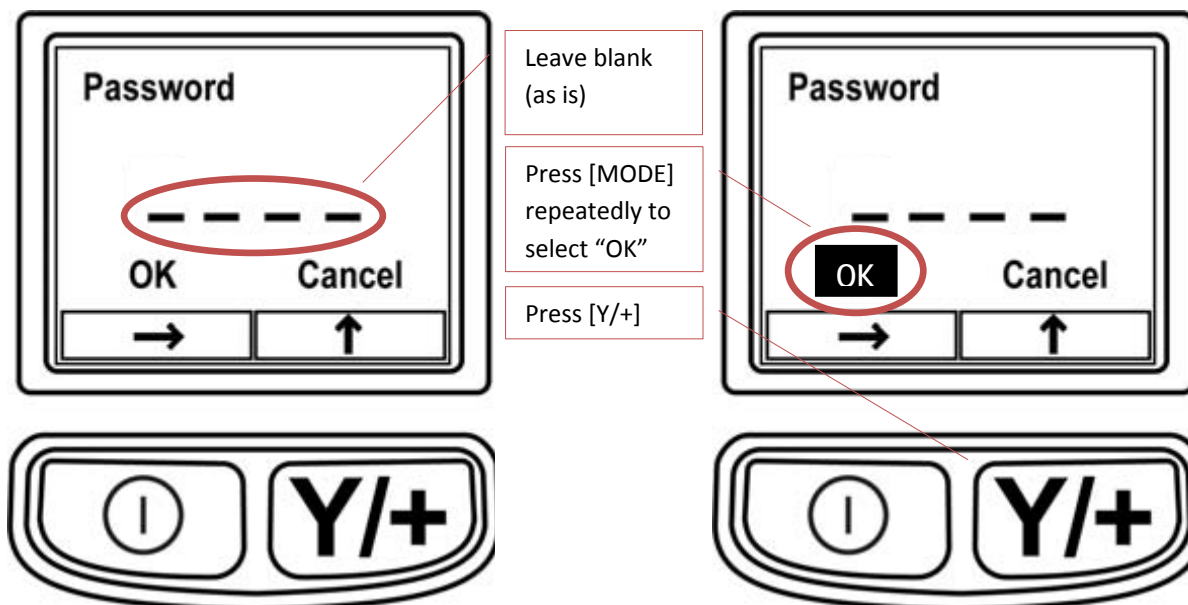
A: Calibration intervals can be modified using ProRAE Studio II Instrument Configuration and Data Management software version 1.03 or later. Please refer to the software User's Guide for details.

¹ - The PID sensor with the 9.8 eV lamp as well as the 10.6 eV, 0.1 - 2,000 ppm, 0.1 ppm resolution PID sensor are only supported on Industrial Hygiene configurations of the ToxiRAE Pro PID. Safety configurations of the ToxiRAE Pro PID can only work with the 10.6 eV, 1-1,000 ppm, 1 ppm resolution PID sensor.

7. Q: Can a user enter the Calibration Menu (to perform zero or span calibration) on a ToxiRAE Pro if s/he does not know the instrument (Programming Menu) password?

A: Absolutely. A Basic User (one who does not know the password) can perform both zero (fresh air) and span calibration on any ToxiRAE Pro instrument. To enter the Calibration Menu without supplying a password, follow the steps described below:

1. Press and hold both the [MODE] and [Y/+] buttons simultaneously until the Password screen appears (as shown below.)



2. Leave the password blank and press the [MODE] button repeatedly to highlight "OK."
3. Press [Y/+] to enter the [Basic] Calibration Menu.
 - Please bear in mind that the [Basic] Calibration Menu does not allow a user to change the calibration (span) gas. A correct password must be entered to get access to this and other Programming Menu features.
4. Follow the instructions in the User's Guide to perform a zero (fresh air) or span calibration.
5. Once done, select "Exit" to return to the main measurement screen.

8. Q1: What are the recommended span gas concentrations for ToxiRAE Pro instruments?

Q2: What are the default sensor alarm levels on ToxiRAE Pro instruments?

A: Please refer to Table 3 below.

Table 3. Recommended span gas concentrations and default alarm limits for ToxiRAE Pro monitors.

All values are in parts per million (ppm), unless specified otherwise.

ToxiRAE Pro PID (MODEL PGM-1800) - INDUSTRIAL HYGIENE CONFIGURATIONS						
<i>Sensor</i>	<i>Span Gas</i>	<i>Low Alarm</i>	<i>High Alarm</i>	<i>Over Range Alarm</i>	<i>STEL Alarm</i>	<i>TWA Alarm</i>
PID 10.6 eV HR	100 (Isobutene)	50	100	2,000	25	10
PID 9.8 eV	5 (Benzene)	2	5	1,000	2.5	0.5
ToxiRAE Pro PID (MODEL PGM-1800) - SAFETY CONFIGURATIONS						
PID 10.6 eV	100 (Isobutene)	50	100	1,000	25	10

ToxiRAE Pro (MODEL PGM-1860)						
<i>Sensor</i>	<i>Span Gas</i>	<i>Low Alarm</i>	<i>High Alarm</i>	<i>Over Range Alarm</i>	<i>STEL Alarm</i>	<i>TWA Alarm</i>
CH₃-SH (Methyl Mercaptan)	5	1	2	10	0.5	0.5
Cl₂ (Chlorine)	10	0.5	1	50	1	0.5
ClO₂ (Chlorine Dioxide)	0.5	0.2	0.5	1	0.3	0.1
CO (Carbon Monoxide)	50	35	200	500	100	35
CO HR (Carbon Monoxide, Ext. Range)	100	35	200	2,000	100	35
CO comp. H₂ (Carbon Monoxide, H ₂ -comp.)	100	35	200	2,000	100	35
COCl₂ (Phosgene)	0.5	0.2	0.4	1	0.1	0.1
ETO-A (Ethylene Oxide)	10	5	10	100	5	1
ETO-B (Ethylene Oxide)	5	2	5	10	5	1
ETO-C (Ethylene Oxide)	50	25	50	500	5	1
H₂ (Hydrogen)	200	100	400	1,000	-	-
H₂S (Hydrogen Sulfide)	10	10	20	100	15	10
H₂S HR (Hydrogen Sulfide, Ext. Range)	25	10	20	1,000	15	10
HCL (Hydrogen Chloride)	10	2	5	15	5	1
HCN (Hydrogen Cyanide)	10	4.7	25	50	4.7	4.7
HF (Hydrogen Fluoride)	6	2	6	10	6	3
NH₃ (Ammonia)	50	25	50	100	35	25
NO (Nitric Oxide)	25	25	50	250	25	25
NO₂ (Nitrogen Dioxide)	5	1	10	20	1	1
O₂ (Oxygen)	18% Vol.	19.5% Vol.	23.5% Vol.	30% Vol.	-	-
PH₃ (Phosphine)	5	1	2	20	1	0.3
PH₃ HR (Phosphine, Ext. Range)	100	50	100	1,000	1	0.3
SO₂ (Sulfur Dioxide)	5	2	10	20	5	2

ToxiRAE Pro LEL (MODEL PGM-1820)						
<i>Sensor</i>	<i>Span Gas</i>	<i>Low Alarm</i>	<i>High Alarm</i>	<i>Over Range Alarm</i>	<i>STEL Alarm</i>	<i>TWA Alarm</i>
LEL (catalytic bead)	50% LEL (Methane)	10% LEL	20% LEL	100% LEL	-	-

9. Q: How can the filter be replaced on ToxiRAE Pro monitors?

A: For all ToxiRAE Pro monitors, the filter replacement procedure involves replacing the entire instrument top cap assembly that includes the top cap, screw (ToxiRAE Pro PID only), rubber gasket, and the filter. The top cap assemblies are sold in packs of three. The part number for the ToxiRAE Pro PID top cap assembly is G02-0305-003, and that for all other ToxiRAE Pro instruments is G02-0307-003.

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