NANOCHEM®

NANOCHEM® OPX™ Purification Medium

Oxygenated and Inert gases and Dimethyl Ether purifiers
Removal of moisture from oxygenated and inert gases and Dimethyl Ether

Overview

NANOCHEM® OPX™ Purifiers were developed to remove trace moisture from oxygenated gases, but have proven to be effective for removing moisture from inert gases and Dimethyl Ether (DME). Oxidation and etch processes are sensitive to moisture and require low moisture gas in order to produce high quality thin film oxides.

Applications

- Oxygen is used in the high-tech thin film industries of semiconductor and LCD display manufacturing.
- Dimethyl Ether is used as a fuel substitute for diesel fuel and LPG (liquefied petroleum gas), as well as, propellant, solvent, refrigerant and in cryotherapy.
- Compatible gases include Oxygen (O_2), Clean Dry Air (CDA), Dimethyl Ether (CH_3OCH_3) and inert gases.

Features and Benefits

- Custom-designed adsorbent material for point-of-use moisture removal offering:
  - -High Capacity
  - -Long Lifetimes
  - -< 2 ppb Efficiency for moisture removal from Oxygen
  - -Low Overall Cost of Ownership
- Room temperature operation – no power required
- Easy to install and operate
- Media refills available

Specifications

- 0.003 µm particle filter
- Internal surface finish < 10 µin Ra
- Metal components of stainless steel, type 316L
- Maximum operating temperature of 40°C (104°F)

Purifier Models / Sizes

NANOCHEM® OPX™ purification medium is available in a wide variety of hardware configurations for point-of-use, distribution, source and bulk purification applications:

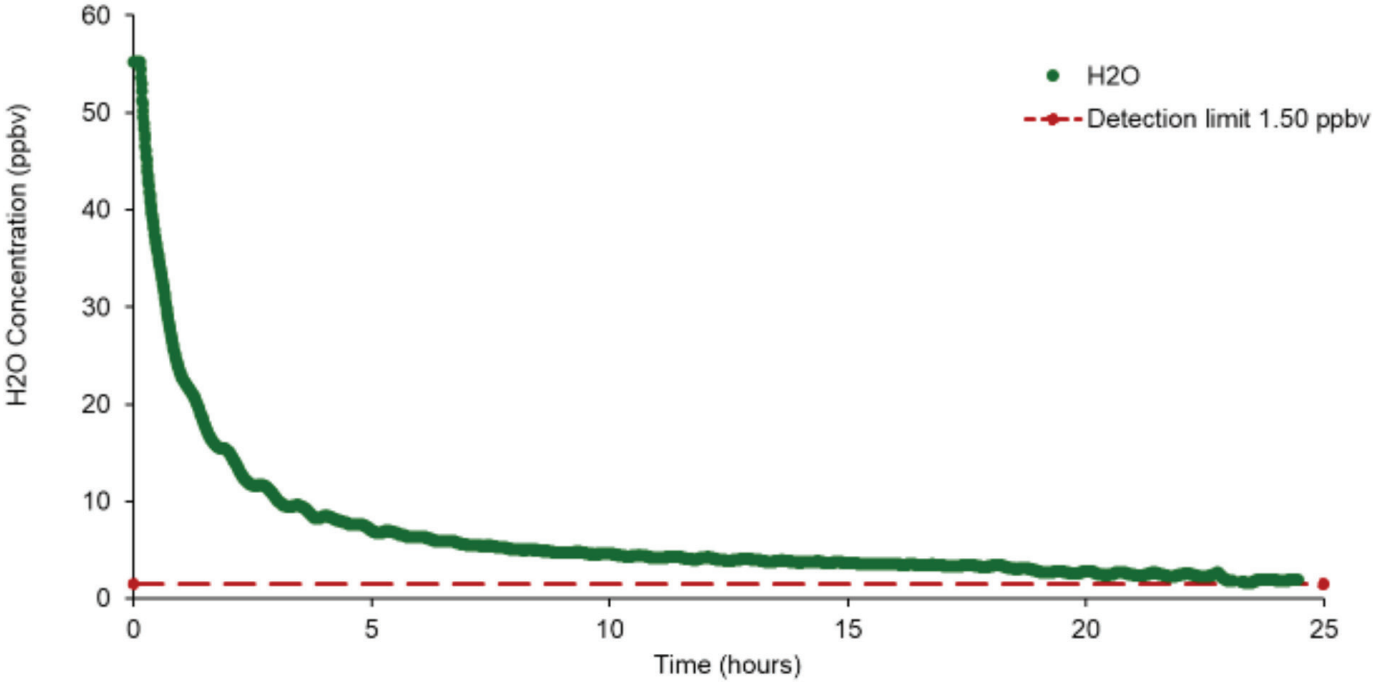
Model	Maximum Recommended Flow Rate** slpm	(NM³/hr)	Media Volume ml or liters	Maximum Allowable Operating Pressure Without End-Point psig	(MPa)
Purifilter®	3	(0.2)	25 ml	1,000	(7)
A-Series*	50	(3)	300, 500, 2000 ml	500	(3.55)
L-Series	8-150	(0.5-9)	60, 300, 500, 2000 ml	500	(3.55)
H-Series	50	(3)	500 ml	500	(3.55)
HP-Series	50	(3)	300, 500 ml	2,850	(19.8)
MS-Series	1000	(60)	4, 8, 16, 32 liters	300	(2.17)
WK-Series*	10	(0.6)	50, 55 ml	1000	(7)
	75-800	(4.5-48)	300, 500, 700, 2500, 5000 ml	500	(3.55)
	1000	(60)	9 liters	350	(2.51)

**Drop-in replacements available for competing hardware designs.*
***For higher flow rates, contact MATHESON*
NOTE: 0.003 µm particle filter.

MATHESON
The Gas Professionals

OPX Efficiency Testing:

- Challenge gas: 833 ppbv H_2O industrial N_2
  - Moisture Removal Efficiency: <1.5 ppb (Detection Limit)



Testing performed using Cavity Ring Down Spectroscopy, CRDS.

Printed in the USA PB81 09/25

MATHESON
The Gas Professionals
www.mathesongas.com
Tel: 800-416-2505
Email: Info@mathesongas.com