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HIGHLIGHTS

FEATURES

- ❑ Continuous operation, non-consumable
- ❑ Available for CDA and Oxygen
- ❑ Flow rates to 100 slpm, Higher flow rates available on request
- ❑ Removes all THC's (CH₄ + NMHC)
- ❑ Low cost of ownership

PURITY PERFORMANCE

Impurity	Outlet
THC (CH ₄ + NMHC)	< 1 ppb
CO	< 1 ppb
H ₂	< 1 ppb

MODELS

PS15-MT3-CDA

PS15-MT3-O

Phase I with Manual Valves,
Mounting Plate
10 slpm Max Flow

PS15-MT15-CDA

PS15-MT15-O

Phase II with Enclosure, Pneumatic
Valves and Auto Bypass
50 slpm Max Flow

PS15-MT50-CDA

PS15-MT50-O

High Flow with Enclosure, Pneumatic
Valves and Auto Bypass
100 slpm Max Flow

MONO TORR[®]

PS15 Series

FEATURES

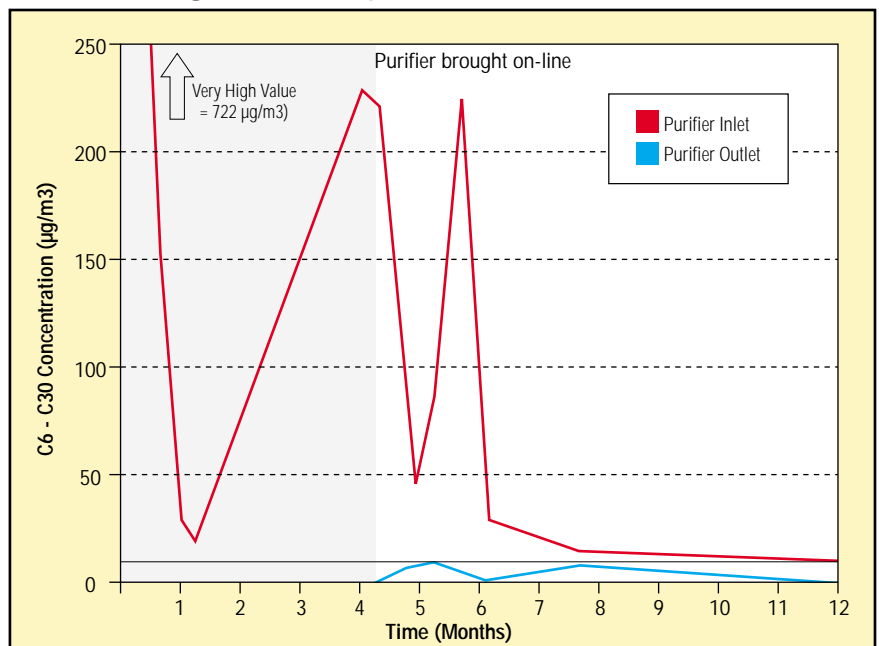
The PS15 Series MonoTorr gas purifiers, available for CDA and oxygen service, decrease hydrocarbon, carbon monoxide, and hydrogen impurities to less than 1 ppb.

The purification process is a catalytic oxidation of reducing species, namely CH₄, NMHC (non-methane hydrocarbons), CO and H₂.

If CO₂ and/or H₂O removal is required, then a purifier/dryer, such as the MicroTorr PS11-MC400, MC9000, or MCD9000 can be installed downstream.

The PS15 series is designed for continuous uninterrupted operation, with no consumable components. Under normal use, there is no need to ever replace or regenerate the purification column. Thus, there is no need for an end point detection device, allowing for simple installation and operation.

C₆ - C₃₀ Organic Compound Concentration



Analysis in CDA using GC/MS

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APPLICATIONS



PS15-MT3
For CDA or O₂, 10 slpm



PS15-MT15
For CDA or O₂, 50 slpm



PS15-MT50
For CDA or O₂, 100 slpm

Optical Fiber Manufacturing

Process gas purity is a critical element in controlling the integrity of optical fibers. The presence of OH- free radicals degrades the quality of light transmission within the fiber. To avoid this, moisture and hydrocarbons must be completely removed from the O₂ stream during the glass preform manufacturing step.

The MonoTorr PS15 (for O₂ service) operated in concert with the MicroTorr PS11 completely removes moisture and hydrocarbon impurities assuring high integrity optical fibers.

Photolithography

I-Line, DUV, and VUV lithography processes are sensitive to contamination on the stepper lens. Condensation on the lens as well as the presence of hydrocarbons between the lens, the mask, and the wafer can result in poor optical transmission. Additional costs can be incurred from downtime associated with lens cleaning or total lens replacement. For 365nm, 248nm, and 193nm steppers, hydrocarbon species have been found to absorb light at their respective wavelengths.

MonoTorr PS15 purifiers eliminate all hydrocarbons from CDA to enhance performance and extend optical system life.

Mask Pattern Generation

Mask pattern generation systems use precision lasers or electron beams to "pattern" each design layer of a semiconductor chip onto a photomask.

Photomask systems use CDA to purge the patterning chamber. Analyses performed by a major microelectronics manufacturer conclusively indicate that the light beam can be deflected by contaminants as small as 500nm. Deflection as small as 90nm can also affect the mask. Heavy hydrocarbons are especially damaging because they deflect the light beam and coat surfaces within the patterning chamber.

The MonoTorr PS15 eliminates all hydrocarbons from CDA making it ideal for this application.

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