MOTT GAS PURIFIERS
HIGH PURITY BULK SERIES

mott
MISSION CRITICAL PRECISION

Mott CDA Bulk Gas Purifier System (Model HP500-CDA-A)

Feature Overview

- Fully Automated PLC Controls with HMI (Human Machine Interface)
- Adsorber Purifier
- Automatic Adsorber Regeneration for continuous purification
- Electric Gas Preheaters with Closed-Loop Temperature Controls
- Alarm Relay / Remote Contact Shutdown / Gas Relay
- All Metal Enclosure with Doors
- Impurities Removed: see table on second page

Included Features

- Inlet & Outlet Isolation Valves
- Inlet Mass Flow Meter (4-20mA Output)
- Inlet & Outlet Pressure Transducers (4-20mA Output)
- High Temperature Hardware Interlock
- Auto or Manual Bypass
- Over Pressurization Safety System
- Integrated Particle Filtration
- MODBUS Data Communication Port
- Ground Fault Protection (GFI)
- Emergency Off Button (EMO)
- Separate Control Power
- Purifier Hold Down Brackets & Lifting Points
- Uninterruptible Power Supply (UPS)
- ASME stamp/CE Marking, must be specified at order

Purifier Specifications

- Dimensions: 2100 (2275 with Accessories)x 1700 x 1550 mm (H x L x W)
- Weight: ca. 1500Kg
- Clearance Required: 1 meter on all sides
- Inlet & Outlet Connections: 1.5” FVCR
- Instrument Air Connection: 3/8” Compression
- Instrument Air pressure min -max: 6.6 – 9.7 barg
- Burst Disk Pressure: 13.1 barg (Customizable)
- Integrated Particle Filtration: >=1.5nm
- Wetted Surface Finish: 316L SS, EP 12Ra Maximum
- Process gas Relief & Regen Vent : ½” Tube Stub

Purifier Specifications

Max Flow Rate	500Nm^3/hr
Min Flow Rate	25 Nm^3/hr
Inlet Pressure (min-max)	3.5-10.4 barg
Max Pressure Drop @ 6.9 barg	< 1.0 bard (standard)
Inlet Gas Temp (min-max)	0° - 35°C
Outlet Gas Temp	Ambient

Control System Details

- Control & Display Interface
- Automatic Alarm Response & Display
- (Including Valve Operation
- System Temperatures
- Heater Power Levels
- Optional Gas Pressure Readouts
- Warning and Alarm Status
- and Optional Gas Flow
- Totalizer Readout

Facility requirements

- Main Power: 400 VAC, 3 Phase, 50/60 Hz – 11 kW
- Control Power: 230 VAC, 3 Phase, 50/60 Hz –100W
- Average Power at Max Flow: 1 kW
- Instrument Air: 6.6 – 9.7 barg
- Indoor Temperature: 5° - 35°C

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Mott CDA Purifier Proposal

Customer:

End User:

Working Gas: Clean Dry Air Inlet specification according to Class 1/2/1 from ISO 8573-1:2010

Customer Gas Inlet (CDA) and Outlet (XCDA) Specification and Mott Purifier outlet specification

Impurity	Inlet-compressed Air according to Gas SPEC 1/2/1 ISO 8573-1 and Mott max acceptable inlet impurity concentrations	Carl Zeiss reference V8-2.2.5 XCDA	Mott Purifier Outlet
Total volatile acids	< 2,000 pptv	< 1 pptv	< 1 pptv
SO2	< 100 pptv	< 1 pptv	< 1 pptv
Total volatile bases	< 1,000 pptv	< 5 pptv	< 5 pptv
NH3	< 100 pptv	< 5 pptv	< 5 pptv
Condensable organics (VOC)	< 10,000 pptv	< 1 pptv	< 1 pptv
Non-condensable organics	< 10,000 pptv	< 1000 pptv	< 10 pptv
Refractory compounds	< 100 pptv	< 1 pptv	< 1 pptv
H2O (at 1 bar)	100 ppmv	< 0.001 ppmv	< 0.1 ppbv
Particles	< 600 ppcf	< 10 ppcf	< 1 ppcf
Filtration Rating	0.1 to 5µm**	filtration ≥ 99.99999% removal of 3nm particles	filtration ≥ 99.99999% removal of >=1.5nm particles
CO2	<5ppmv	Not specified	< 100 pptv
Total Oil content (as VOC)	< 10.000 pptv	1 pptv	1 pptv
TOC (as C7H8)	Not specified	Not specified	1 pptv

**Detailed ISO 8573-1:2010 (class 1/2/1) inlet specification:

Class	Solid particles, max. quantity of particles per m³			PDP	Oil content (liquid, aerosol, oil)
	0.1 µm < d ≤ 0.5 µm	0.5 µm < d ≤ 1.0 µm	1.0 µm < d ≤ 5.0 µm	°C	mg/m³
0	As specified by the manager of the equipment or the supplier, most stringent class 1 requirements				
1	≤20,000	≤400	≤10	≤–70	≤0.01
2	≤400,000	≤6,000	≤100	≤–40	≤0.1