ARM PURIFICATION
BY APPLIED ENERGY SYSTEMS

Point-of-Use Purifiers

Gas Purifiers for Low Flow Rate Applications



Low flow rate applications have big implications.
ARM Purification delivers a full suite of point-of-use purifiers that meet your precise requirements and exceed your expectations.

Our point-of-use purifiers are designed for high purity and ultra high purity applications that require impurity levels in process gases to be 100 PPT or less. Learn how they uphold the highest standard of purity for gas delivery systems.

ARM Purification also has frame mounted and bulk systems for larger flow rates.

At-a-Glance

FEATURES

- Flow rates from 0.2 slpm up to almost < 2,000 slpm*
- 316L stainless steel construction
- Integral Particle Filtration
- Simple installation
- Inlet/outlet fittings
- Sub-micron particle filtration

OPTIONS

- Inlet/outlet valves

APPLICATIONS

- Weld gas/purge gas
- Pharmaceutical production
- Semiconductor process equipment
- Analytical equipment
- Annealing cover gas
- Solar and energy

*Bulk Solutions also available

Our Suite of Point-of-Use Gas Purifiers

Vessel Only Purifiers

Operate without requiring heat to remove impurities.

Nova Series In-Line Purifiers

Incorporate a heater, temperature indication, and control.







Point-of-Use Purifier Specs

Including standard sizes, dimensions, and pressure rating.

Model Number	Diameter Inches	Length Inches	Standard MVCR Fittings	Maximum Pressure Rating (psig)
100330	1.0	3.30	1/4" (V04)	250
150330	1.5	3.30	1/4" (V04)	250
150450	1.5	4.50	1/4" (V04)	250
150480	1.5	4.80	1/4" (V04)	250
200630	2.0	6.30	1/4" (V04)	250
200880	2.0	8.80	1/4" (V04)	250
251250	2.5	12.50	1/4" (V04)	250
300790	3.0	7.90	1/4" (V04) & 1/2" (V08)	250
301000	3.0	10.00	1/4" (V04) & 1/2" (V08)	200
301250	3.0	12.50	1/4" (V04) & 1/2" (V08)	200
301820	3.0	18.20	1/4" (V04) & 1/2" (V08)	200
401730	4.0	17.30	1/4" (V04) & 1/2" (V08)	200
401760	4.0	17.60	1/4" (V04) & 1/2" (V08)	200
402000	4.0	20.00	1/4" (V04) & 1/2" (V08)	200
602760	6.0	27.60	1/2" (V08) & 3/4" (V12)	150
605100	6.0	51.00	1/2" (V08) & 3/4" (V12)	150

**Additional sizes available upon request*

Series Overview

ARM Purification offers world-class ambient operation purifier technology optimized for a wide range of flow rates. Following are details about each series. For more information, refer to each Series' individual datasheet.

IG Series

The IG series purifiers are engineered to remove impurities from **Inert Gases,** such as Ar, He, Kr, N_2, Ne, and Xe. The IG series is designed for high and ultra high purity applications that require process gas impurity levels of 100 PPT or less.

For more purifiers that remove CH_4 or N_2, explore our NOVA™ Rare Gas Purifiers, and NOVA™ Nitrogen Gas Purifiers.

IG Series Media					
Fill Material	Impurities Removed	Outlet Purity	Factory Regenerable	Dangerous Goods	Lifetime of 1 year based on inlet challenge
IG-101	H_2O	< 100 ppt	yes	no	3 ppm H_2O
IG-103	H_2O, CO_2, NMHC, Acids & Bases, Refractory Compounds	< 100 ppt	yes	no	1 ppm H_2O
IG-105	H_2O, H_2, O_2, CO, CO_2, NMHC	< 100 ppt	yes	yes	1 ppm O_2
IG-106	H_2O, H_2, O_2, CO, CO_2, NMHC, Acids & Bases, Refractory Compounds	< 100 ppt	yes	yes	1 ppm O_2
IG-108	H_2O, H_2, O_2, CO, CO_2, NMHC, Sulfur Compounds	< 100 ppt	yes	yes	1 ppm O_2
IG-115	NMHC, Refractory Compounds, DMF	< 100 ppt	yes	no	1 ppm NMHC (as Toluene)

RG Series

The RG series purifiers are engineered to remove impurities from **Reactive Gases,** such as D_2, H_2, H_2/Ar, H_2/He, and H_2/N_2. The RG series is designed for high and ultra high purity applications that require process gas impurity levels of 100 PPT or less.

RG Series Media					
Fill Material	Impurities Removed	Outlet Purity	Factory Regenerable	Dangerous Goods	Lifetime of 1 year based on inlet challenge
RG-201	H_2O	< 100 ppt	yes	no	3 ppm H_2O
RG-203	H_2O, CO_2, NMHC, Acids & Bases, Refractory Compounds	< 100 ppt	yes	no	1 ppm H_2O
RG-205	H_2O, O_2, CO, CO_2, NMHC	< 100 ppt	yes	yes	1 ppm O_2
RG-206	H_2O, O_2, CO, CO_2, NMHC, Acids & Bases, Refractory Compounds	< 100 ppt	yes	yes	1 ppm O_2
RG-208	H_2O, O_2, CO, CO_2, NMHC, Sulfur Compounds	< 100 ppt	yes	yes	1 ppm O_2
RG-215	NMHC, Refractory Compounds, DMF	< 100 ppt	yes	no	1 ppm NMHC (as Toluene)

AG Series

The AG series purifiers are engineered to remove impurities from **Acid and Corrosive Gases,** such as BCl_3, BF_3, B_2H_6, Cl_2, $CClH_3$, $CHClF_2$, $GeCl_4$, GeH_4, HBr, HCl, HF, H_2S, H_2Se, NF_3, $SiCl_4$, SiF_4, $SiHCl_3$, SiH_2Cl_2, and SO_2. The AG series is designed for high and ultra high purity applications that require process gas impurity levels of 1 PPB or less. Contact factory for complete list of gases.

AG Series Media						
Fill Material	Gas Purified	Impurities Removed	Outlet Purity	Factory Regenerable	Dangerous Goods	Lifetime of 1 year based on inlet challenge
AG-301	Any Acid Gas	H_2O	1 < ppb	no	no	1 ppm H_2O
AG-303	HBr	H_2O	1 < ppb	no	no	1 ppm H_2O

HG Series

The HG series purifiers are engineered to remove impurities from **Hydride Gases,** such as AsH_3, B_2H_6, DCS, DMHZ, GeH_4, GeH_4/H_2, Ge_2H_6, H_2Se, H_2Se/H_2, NH_3, PH_3, SiH_2, SiH_4, Si_2H_6, and SiH_4/H_2. The HG series is designed for high and ultra high purity applications that require process gas impurity levels of 1 PPB or less. Contact factory for complete list of gases.

HG Series Media

Fill Material	Gas Purified	Impurities Removed	Outlet Purity	Factory Regenerable	Dangerous Goods	Lifetime of 1 year based on inlet challenge
HG-501	Hydrides	H_2O, O_2, CO_2	< 1 ppb	no	yes	1 ppm O_2
HG-502	Ammonia	H_2O, O_2, CO_2, NMHC	< 1 ppb	yes	yes	1 ppm O_2
HG-508	Hydrides	H_2O	< 1 ppb	no	no	3 ppm H_2O

OG Series

The OG series purifiers are engineered to remove impurities from **Oxygen and Oxygenated Gases,** such as CDA, O_2, NO and N_2O. The OG series is designed for high and ultra high purity applications that require process gas impurity levels of 100 PPT or less.

OG Series Media

Fill Material	Impurities Removed	Outlet Purity	Factory Regenerable	Dangerous Goods	Lifetime of 1 year based on inlet challenge
OG-601	H_2O	< 100 ppt	yes	no	3 ppm H_2O
OG-602	H_2O, CO_2, NMHC, Acids & Bases, Refractory Compounds	< 100 ppt	yes	no	1 ppm H_2O
OG-605	Acids & Bases, Refractory Compounds	< 1 ppb	no	no	1 ppm Toluene
OG-606	H_2O, CO_2, NMHC	< 100 ppt	yes	no	3 ppm H_2O
OG-615	NMHC, Refractory Compounds, DMF	< 100 ppt	yes	no	1 ppm NMHC (as Toluene)

CO2 Series

The CO_2 series purifiers are engineered to remove impurities from **Carbon Dioxide Gas.** The CO_2 series is designed for high and ultra high purity applications that require process gas impurity levels of 100 PPT or less.

CO2 Series Media

Fill Material	Impurities Removed	Outlet Purity	Factory Regenerable	Dangerous Goods	Lifetime of 1 year based on inlet challenge
CO2-701	H_2O	< 100 ppt	yes	no	3 ppm H_2O
CO2-703	H_2O, O_2, CO, H_2, NMHC, Acids & Bases, Refractory Compounds	< 100 ppt	yes	yes	1 ppm O_2
CO2-715	NMHC, Refractory Compounds, DMF	< 100 ppt	yes	no	1 ppm NMHC (as Toluene)

CO Series

The CO series purifiers are engineered to remove impurities from **Carbon Monoxide Gas** (CO). The CO series is designed for high and ultra high purity applications that require process gas impurity levels of 100 PPT or less.

CO Series Media

Fill Material	Impurities Removed	Outlet Purity	Factory Regenerable	Dangerous Goods	Lifetime of 1 year based on inlet challenge
CO-801	H_2O, O_2, CO_2	< 1 ppb	no	no	1 ppm H_2O

FG Series

The FG series purifiers are engineered to remove impurities from **Fluorocarbon Gases,** such as CCl_4 $CClF_3$, CCl_2F_2, CF_4, C_2F_6, C_3F_8, C_4F_8, CHF_3, and CH_3F. The FG series is designed for high and ultra high purity applications that require process gas impurity levels of 100 PPT or less. Contact factory for complete list of gases.

FG Series Media					
Fill Material	Impurities Removed	Outlet Purity	Factory Regenerable	Dangerous Goods	Lifetime of 1 year based on inlet challenge
FG-903	H_2O	< 100 ppt	no	no	3 ppm H_2O
FG-908	H_2O, H_2, O_2, CO, CO_2, NMHC, Sulfur Compounds	< 100 ppt	no	yes	1 ppm O_2

HCG Series

The HCG series purifiers are engineered to remove impurities from **Hydrocarbon Gases,** such as CH_4, C_2H_2, C_2H_4, C_2H_6, and C_3H_8. The HCG series is designed for high and ultra high purity applications that require process gas impurity levels of 100 PPT or less, except for HG-1106 which has levels of < 1 PPT.

For a purifier that removes N_2 from methane, explore our NOVA™ Methane Purifier.

HCG Series Media					
Fill Material	Impurities Removed	Outlet Purity	Factory Regenerable	Dangerous Goods	Lifetime of 1 year based on inlet challenge
HCG-1106	H_2O	< 100 ppt	no	no	3 ppm H_2O
HCG-1108	H_2O, H_2, O_2, CO, CO_2, NMHC, Sulfur Compounds	< 100 ppt	no	yes	1 ppm O_2
HCG-1115	NMHC, Refractory Compounds, DMF	< 100 ppt	no	no	1 ppm NMHC (as Toluene)

Ordering Information

Example: Inert Gas Purifier

IG	–	105	–	301000	–	V08	–	F
Class		Fill		Size		Fittings		Filtration

Class

IG = Inert Gas

Fill

See IG Series Media chart for details.

Size

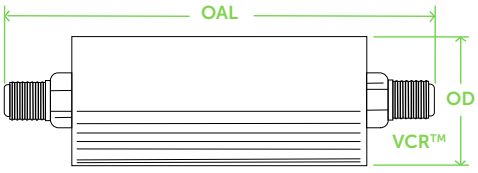
First two digits are the diameter (OD); Last four digits are the length (OAL) in inches.

Fittings

V04=1/4" V12=3/4"
V08=1/2" V16=1"

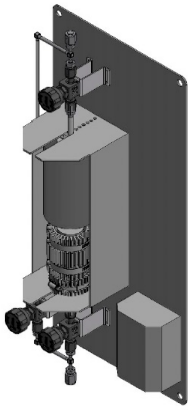
Filtration

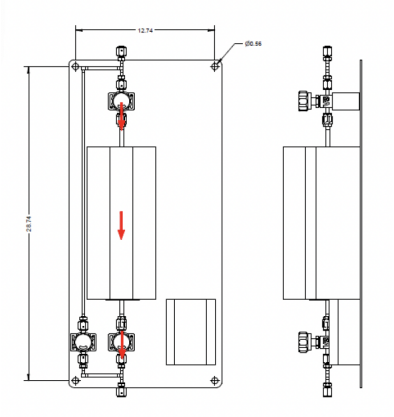
No letter = .1 micron filter
F = 1.5nm filter

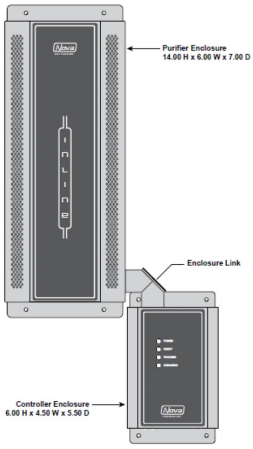


NOVA™ Nitrogen Gas Purifier

Nova Series Dimensions







SPECIFICATIONS

GASES PURIFIED
- Nitrogen (N_2) and Nitrogen Mixtures

DESIGN FLOW RATE Up to 10 slpm

IMPURITIES REMOVED

• Oxygen (O_2)	< 1 ppb
• Carbon Monoxide (CO)	< 1 ppb
• Carbon Dioxide (CO_2)	< 1 ppb
• THC (as CH_4)	< 1 ppb
• Moisture (H_2O)	< 1 ppb
• Hydrogen (H_2)	< 1 ppb

MAXIMUM PRESSURE 150 PSIG

Nova Series Ordering Information

Example: NOVA Nitrogen Gas Purifier

N	–	2101	–	200880	–	N	–	F	–	115N
Product Line		Fill		Model Number		Working Gas		Filtration		Power Supply

Product Line
N - Nova Series

Fill*
2101 - Nitrogen Gas Media

*Other options available for rare gases and methane.

Model Number
200880 - For flow rates up to 10 slpm

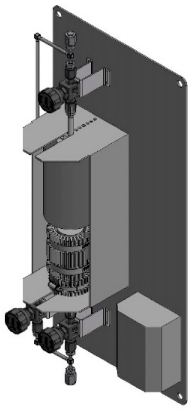
Working Gas
N - Nitrogen Gas

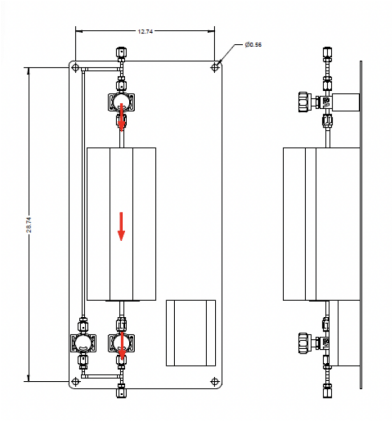
Filtration
F - 1.5 nm filter

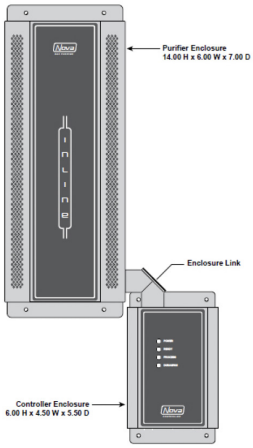
Power Supply
115N - 115V with Nema plug
230C - 230V with CEE 7/7 plug
230B - 230V with BS 1363 plug

NOVA™ Rare Gas Purifier

Nova Series Dimensions







SPECIFICATIONS

GASES PURIFIED
- Ar, He, Ne, Xe, Kr

DESIGN FLOW RATE Up to 10 slpm

IMPURITIES REMOVED

• Oxygen (O_2)	< 1 ppb
• Carbon Monoxide (CO)	< 1 ppb
• Carbon Dioxide (CO_2)	< 1 ppb
• THC (as CH_4)	< 1 ppb
• Moisture (H_2O)	< 1 ppb
• Hydrogen (H_2)	< 1 ppb
• Nitrogen (N_2)	< 1 ppb

MAXIMUM PRESSURE 150 PSIG

Nova Series Ordering Information

Example: NOVA Rare Gas Purifier

N	–	2102	–	200880	–	R	–	F	–	115N
Product Line		Fill		Model Number		Working Gas		Filtration		Power Supply

Product Line

N - Nova Series

Fill*

2102 - Rare Gas Media

*Other options available for nitrogen gases and methane.

Model Number

200880 - For flow rates up to 10 slpm

Working Gas

R - Rare Gases that contain < 10ppm N

Filtration

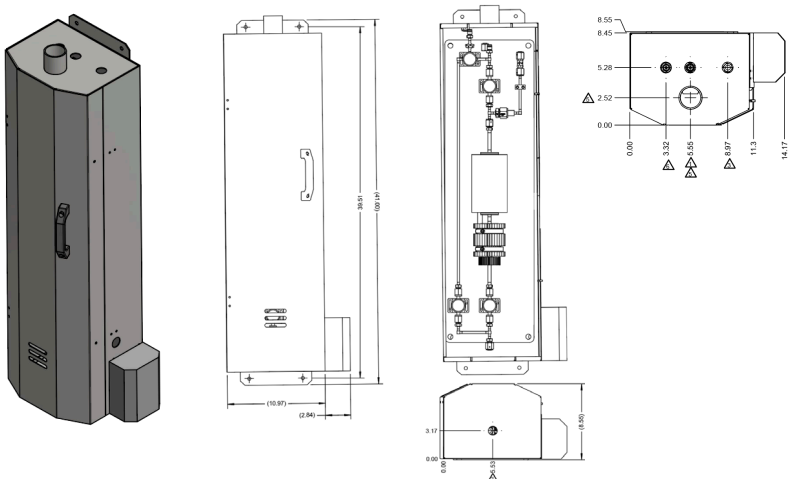
F - 1.5 nm filter

Power Supply

115N - 115V with Nema plug
230C - 230V with CEE 7/7 plug
230B - 230V with BS 1363 plug

NOVA™ Methane Purifier

Nova Series Dimensions



SPECIFICATIONS

GASES PURIFIED
- Methane CH_4

DESIGN FLOW RATE Up to 10 slpm

IMPURITIES REMOVED
- Moisture (H_2O) < 1 ppb
- Oxygen (O_2) < 1 ppb
- Nitrogen (N_2) < 1 ppb

MAXIMUM PRESSURE 150 PSIG

Nova Series Ordering Information

Example: NOVA Methane Purifier

N	–	2106	–	200880	–	M	–	F	–	115N
Product Line		Fill		Model Number		Working Gas		Filtration		Power Supply

Product Line
N - Nova Series

Fill*
2106 - Methane Media

*Other options available for nitrogen gases and methane.

Model Number
200880 - For flow rates up to 10 slpm

Working Gas
M - Methane CH_4

Filtration
F - 1.5 nm filter

Power Supply
115N - 115V with Nema plug
230C - 230V with CEE 7/7 plug
230B - 230V with BS 1363 plug

Learn how we can help you meet your gas purification needs by visiting www.armpurification.com.

For more information, contact your ARM Purification sales rep or visit **armpurification.com/request-quote/.**

To place an order, email **orders@appliedenergysystems.com.**

ARM PURIFICATION
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BROUGHT TO YOU BY
APPLIED ENERGY SYSTEMS
www.appliedenergysystems.com

180 Quaker Lane
Malvern, PA 19355 USA
610.647.8744
purification@appliedenergysystems.com
www.armpurification.com