Ergonomically Correct.
Environmentally Safe.

CLASS II BIOLOGICAL SAFETY CABINETS

NuAire, Inc. | 2100 Fernbrook Lane | Plymouth, MN 55447 | U.S.A. | 763.553.1270 | WWW.NUAIRE.COM

Sustainability

We at NuAire continually strive to improve our responsibilities to the economy, environment, social communications, and our customer satisfaction. Our commitment extends to purchasing or using products that reduce energy consumption, reduce environmental impact, minimize pollution and make use of recycled content that will not deplete natural resources. We continually use more recycled materials in our cabinets through both design and supplier part and process improvements. The following chart represents our current level of sustainability for Biological Safety Cabinets.

General Cabinet Component Description	% Content by Weight	% of Recycled Material used in Manufacturing	% Recyclable
Stainless Steel	75%	80%	100%
Mild Steel	10%	10%	100%
Copper	2%	0%	100%
Aluminum	2%	50%	100%
Glass	3%	0%	100%
Electronics	1%	0%	25%
Filter Media	1%	0%	0%
Misc. Plastic Parts	1%	0%	0%
Packing Materials	5%	60%	95%
	100% BSC	**65%**	**97%**

Experience ergonomics.

NuAire Class II Biological Safety Cabinets

Standard Ergonomic Features

- Armrest
- Extra large workspace
- Cool non-glare white lighting
- Frameless polished edge viewing window
- Staggered sidewall service valves
- Centrally located electronic control center
- More knee space

Optional Features and Accessories

- Automatic adjustable base support stand
- Adjustable footrest
- Elbow rest
- Foam armrest pads
- Stainless steel turntable
- Remote-controlled service valves
- Optional: flex-duct, flex-hose, transitions for exhausting
- BioFit® ergonomic adjustable chair

The best fit for your lab.

Advancements for biological safety cabinets

1 Ability to Sit or Stand at a Range of Heights

The cabinet design maximizes knee/thigh clearance to improve posture and the adjustable base stand allows optimization for leg and forearm support.

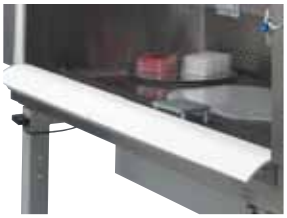
2 Expanded Vision Zone Reduces Awkward Postures and Proper Lighting Reduces Glare

Cabinets incorporate cool white lighting and frameless polished edge windows to allow for greater visibility and better sight lines.

3 Forearm Support for Comfort and Safety

Elbow Rest

- Improves forearm support and keeps arms off front air grill
- Closed cell foam – easy to clean
- Rubber feet caps allow for use on variety of grill configurations



Foam Armrest Pad

- Increased forearm comfort
- Closed cell non-absorbing foam pad
- Disposable pad—self-adhesive tape for easy application and removal (10 pads per package)

4 Effective Work Zone Area for More "User-Friendly" Space

Turntable

NuAire's cabinets provide the largest effective work zone which helps reduce arm/neck/shoulder strain. Extend reach up to 12" with 100% stainless steel turntable (ball bearing construction, easy to clean and can be autoclaved).

5 Ergonomically Designed Laboratory Chair and Footrest

NuAire's BioFit® chair has a star-based platform with adjustable height, back and lumbar support. The non-skid adjustable footrest provides optimal foot/leg support.

BioFit® Chair
Adjustable Footrest

6 Class II Type A2 Cabinet with an Air-Break Canopy Transition*

Class II Type A2 Cabinets with an adjustable base can be canopy connected with the use of Flex Duct and an Air-Break Transition.
*Flex Duct necessary if used with adjustable base stand.

Air-Break Canopy Transition

Accessories

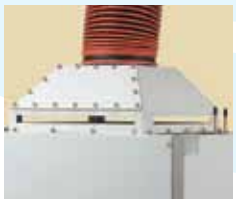
Automatic Adjustable Base Support Stand

Adjustable Footrest

Elbow Rest

Stainless Steel Turntable

Foam Armrest Pad



Air-Break Canopy Transition

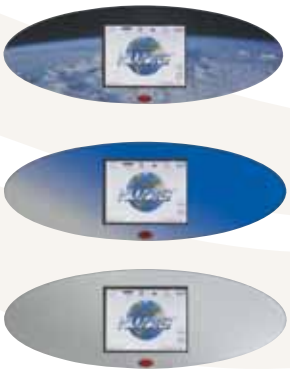
Remote Controlled Service Valves

BioFit® Ergonomic Adjustable Chair

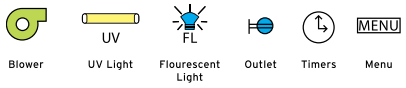
Accessories from Scientific Visions make a difference. Order online at **www.scientificvisions.com**

Energy saver technology.

Save time, money and energy.



User Interface Icons



Electronic Control System

NU-440 (Class II Type A2)

NU-480 (Class II Type A2)

NU-427 (Class II Type B1)

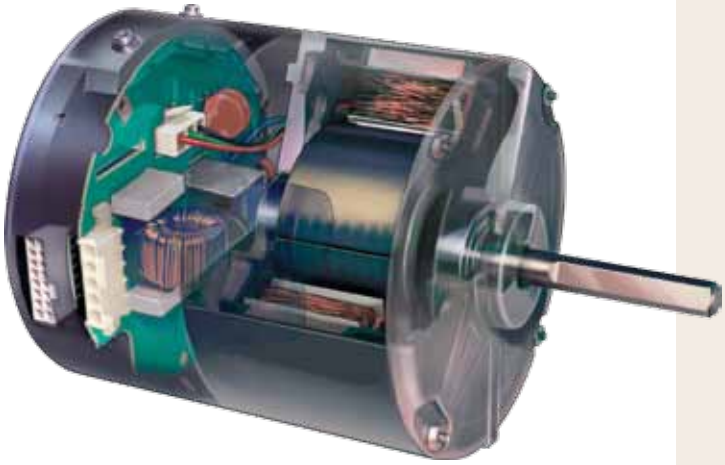
NU-430 / 435 (Class II Type B2)

The TOUCHLINK™ is an easy-to-use LCD touch screen which operates and displays all system functions including on/off functions for fluorescent and germicidal ultraviolet lights, blower motor, and interior outlets. Monitors high/low limits for downflow, inflow, and sliding window position. The password protected TOUCHLINK™ also contains a unique date/clock display and timer function which can be used as a laboratory timer, to set purge cycles, outlet timer, UV light timer, auto-run timer, night setback, or weekend turn-off. The TOUCHLINK™ contains diagnostic functions for a NSF trained service technician or certifier.

nite**care**™ – A unique system initiated by the window closure, will reduce motor/blower operational airflow to conserve energy while maintaining work zone sterility.

intelli**flow**™ – Fast, accurate, reliable, dual thermistor airflow sensors powered by TSI, Inc. manufacturer of the same sensor technology used in certification instruments designed to assure optimal airflow performance.

Historical Fact: In the early 1970's NuAire® was awarded a contract to design and manufacture the first modern day Biological Safety Cabinet to meet the U.S. National Institutes of Health Specification NIH-03-112c entitled "Laminar Flow Biological Safety Cabinet". Since that time, NuAire® has grown substantially and now manufactures a wide range of Laminar Air Flow Systems including but not limited to Class I, Class II, and Class III Biological Safety Cabinets. NuAire® has continued to expand with new systems that include CO_2 Incubators, Ultra-Low Freezers, Vivarium Equipment, Barrier Isolators, Polypropylene Fume Hoods and Casework.



Experience energy savings with DC ECM Technology

NuAire incorporates our existing technology and new DC ECM technology to give you the best VALUE – lower energy costs, longer filter life, and reduced noise and vibration.

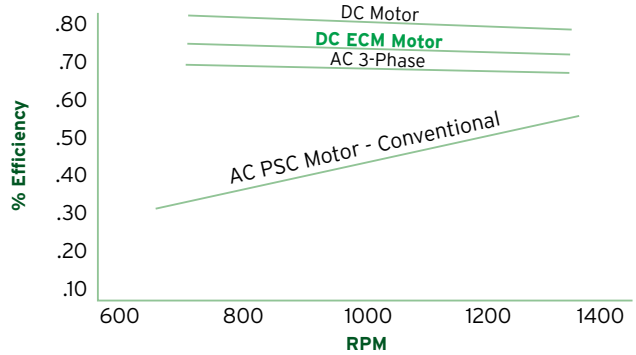
Benefits of NuAire cabinets

- Largest HEPA filters with the most pleats per square inch
- TouchLink™ airflow control system
- Internal exhaust damper
- Optimally determined fans for each model size/width

Added benefits from DC ECM technology

- Less energy to operate
- Greater horsepower and lower potential RPM
- Integrated digital control system
- Longer filter life
- Lowest possible noise and vibration
- Ability to upgrade classic AC PSC motor technology in existing cabinets to realize future energy savings

Fan Motor Efficiency



Higher RPMs represent filter loading from particulates in the laboratory.

Filter Loading Capacity

DC ECM technology increases filter life from the NSF minimum requirement of 50% or an approximate 3 year equivalent life to 10 years or more.

Percent increase in total load capacity*:

85% - DC (4 Years)
180% - AC PSC (7 Years)
250% - DC ECM (10 Years)
250% - AC 3-Phase (10 Years)

*Percent increase testing based on NSF/ANSI 49, ANNEX A.12 motor/blower performance test methods.

Energy Costs	AC PSC	DC ECM	DC	AC 3-Phase
Kilowatts	.564	.299	.163	.414
KWH	4927	2612	1424	3617
Annual Cost ($.09/KWH)*	$443.43	$235.09	$128.16	$325.53

4 Foot Type A2 BSC that runs 24/7 (8736 hours per year) plus the energy required to control the laboratory ventilation by adding the rejected heat.
* U.S. DOE Average Cost

Noise	AC PSC	DC ECM	DC	AC 3-Phase
	N/A	N/A	N/A	N/A
	1100-1700	800-1400	1400-2200	800-1400
	Yes	No	No	No

Vibration	AC PSC	DC ECM	DC	AC 3-Phase
Airflow (Design)	N/A	N/A	N/A	N/A
Fan (RPM)	Higher	Lower	Higher	Lower

Comparison	NuAire DC ECM	NuAire AC PSC	BSC A AC 3-Phase	BSC B DC
8 hrs per day / 5 days per week = 2,000 hrs per year				
KWH per year	598	1128	828	326
$0.09/kwh	**$54**	**$102**	**$75**	**$29**
24 hrs per day / 7 days per week = 8,736 hrs per year				
KWH per year	2612	4927	3617	1424
$0.09/kwh	**$235**	**$443**	**$326**	**$128**
15 Year Life Cycle Costs				
Avg. Filter Changes*	1 Set	2 Sets	1 Set	3 Sets
Estimated Cost of HEPA Filters	$715	$1,430	$715	$2,145
Total Cost of Decon/Certification	$450	$900	$450	$1,350
Motors to Replace**	1 Motor	1 Motor	1 Motor	2 Motors
Cost of Motors/ Power Supplies/ Fan Control	$650	$420	$725	$2,544
Utility Costs (2,000 hrs/yr over 15 years)	$810	$1,530	$1,125	$435
Total Cost of Ownership	**$2,625**	**$4,280**	**$3,015**	**$6,474**

* Estimate (See Filter Load Capacity)
** Estimate based on historical information.

Disclaimer: This example is for illustrative purposes only and should not be deemed a representation of future performance or a guarantee of any kind. Information is based on internal performance data obtained through NuAire® testing and information provided by motor, blower, HEPA filter manufacturers, and independent service technicians.

NuAire, Inc.® Registered to: ISO 9001:2008

Best Products. Best Performance. Best Protection.

For more information please visit
www.nuaire.com or call **1.800.328.3352**

Process #9 - 1193D Rev 1 2/10

NuAire, Inc. | 2100 Fernbrook Lane | Plymouth, MN 55447 | U.S.A.