

# NEPS1000

Nitrogen purging system

The **NEPS1000 ADVANTAGE** is the latest development for improving the effective and efficient use of dry nitrogen, which purges electronic, optical, high voltage laser systems and equipment requiring gas drying and inhibiting of oxygen.



# Specialist Purging Technology

## KEY FEATURES & BENEFITS

- Easy to Use Single Connection Purging
- Dewpoint and Pressure Readout
- Remote Dewpoint Sensing Option
- Portable and Robust
- User Programmable
- Automatic Purging Operation
- Dewpointstat Gas Control
- Dewpoint Display from +20°C to -80°C
- Maintainable Online
- NATO Approved

### The Complete Purging System

The NEPS1000 ADVANTAGE is designed to maximise the dry gas purging process for humidity removal, with a host of capabilities and functionality for effective and efficient control during the purging operation.

### Easy Operation

NEPS1000 ADVANTAGE is fully self-contained. Simply connect a dry gas source to the inlet connection and the equipment port. The NEPS1000 ADVANTAGE is ready to operate.

### Economic Gas Use

One of the NEPS1000 ADVANTAGE benefits is its use of the purge gas used for purging. By using a single pipe connection the purge gas is controlled and dispersed throughout the Instrument or System being purged. During the depressurisation phase of purging the purge gas is isolated.

### User Friendly

The NEPS1000 ADVANTAGE has simple to use selectable programming, which can be set to view process control values and display dewpoint measurements in °C or °F with pressure in Kpa or psi. Highly visible liquid displays provide constant information and readouts during operation and use.

### Equipment Leak Testing

The NEPS1000 ADVANTAGE comes with a selection of four in built leak testing capabilities to verify the sealing standard of the equipment to be purged. Pressure testing can be conducted in pressures from 10.3 Kpa (1.5 psi) to 34.4 Kpa (5.0 psi). Pressure leakrate display resolution is 0.01 psi.

### Gas Quality Testing

The dryness of the gas is important to the effectiveness of the purging operation and NEPS1000 ADVANTAGE dewpoint monitor can be used to check the dryness of the gas prior to commencing the purging operation.

### Universal Voltage

The NEPS1000 ADVANTAGE can be operated from global country voltages and frequencies ranging from 100 to 230 VAC at 50-60 Hz.

### Why Purge with NEPS1000

Modern systems that use printed circuit boards, wires, electronic components, rubbers and plastics in their construction will have potentially significant amounts of moisture. The amount of in built moisture is often described as “hygroscopic moisture”. This can be significant in comparison to the moisture (water vapour) contained within the air.

### Single Connection Purging

Traditional conditioning with dry nitrogen, gas or air depends on the flow of gas from an entry connection to an outlet port. In this mode the gas will follow the simplest and easiest path to the outlet connection. This can often lead to “pockets” of unconditioned gas.

Using NEPS1000 ADVANTAGE the mode of operation changes to a more efficient single connection purging process which also uses a choice of three selectable pressure cycles to ensure the dry gas influences all the space volume within an equipment.

BROWNELL OFFERS A COMPREHENSIVE RANGE OF PURGING INSTRUMENTS FOR MOISTURE REMOVAL IN EQUIPMENTS AND SYSTEMS TO PREVENT CONDENSATION AND HUMIDITY DAMAGE.

## NEPS1000 ADVANTAGE APPLICATIONS

- Optical Instruments
- LASER Systems
- SF6 Switch Gear
- Printed Circuit Board Conditioning
- Double Glazing Cavities
- Electronic Housings
- Workstations
- Storage Containers
- Surveillance Instruments
- Underwater Equipment
- Thermal Imaging
- Image Intensifiers

## What is dewpoint?

**The temperature to which air or gas must be cooled for the formation of condensation or frost.**

**This means dewpoint is ideal for stating the quality control requirement for purging an instrument or enclosure.**

### **The use of Nitrogen**

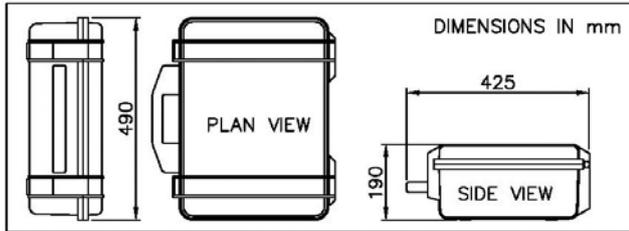
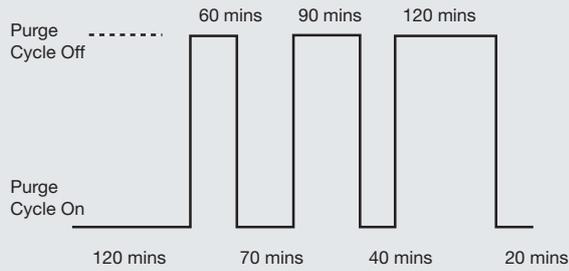
Nitrogen is a stable and safe gas which fails to support combustion and has no or limited reactive capability with other elements when compared to oxygen. Nitrogen gas is widely used for nitrogen blanketing to prevent moisture adsorption and product deterioration.



### **NEPS1000 Advantage**

*being used with Dry Nitrogen to purge an optical periscope to prevent condensation and corrosion.*

## Hygroscopic Removal Phase

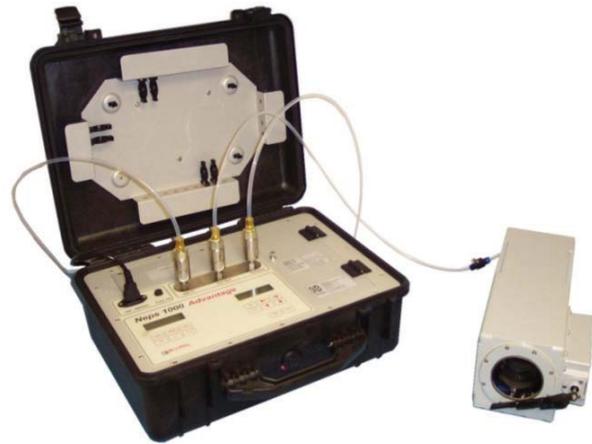


*NEPS1000 ADVANTAGE being used with dry nitrogen to single point purge a camera to a dewpoint of  $-40^{\circ}\text{C}$  as part of a routine maintenance schedule.*

## NEPS1000 ADVANTAGE Dewpointstat

The Dewpointstat feature of NEPS1000 ADVANTAGE enables users to determine the amount of moisture contained within an equipment and to implement an optimised gas and purging procedure for production control.

Using the remote dewpoint sensor option the NEPS1000 ADVANTAGE monitors the progress of the dewpoint dryness within the equipment being purged. It then switches off and isolates the dry gas when the selected dewpoint is achieved. (see graph opposite).



## TECHNICAL SPECIFICATIONS

Useable Gases	Air, Nitrogen, SF6, Helium, Argon
Selectable Pressure Ranges	10.3 Kpa (1.5 psi) 17.2 Kpa (2.5 psi) 34.4 Kpa (5.0 psi)
Display Range Pressure	0 to 34.4 Kpa (0-5.0 psi)
Display Range Dewpoint	(Selectable) +20°C to -80°C dewpoint +68°F to -94°F dewpoint
Resolution	0.1°C dewpoint
Accuracy	+/- 2°C dewpoint
Data Output Pressure	0 - 5 Volts
Data Output Dewpoint	0 - 5 Volts

Power	100-230 volt 50 hz - 60 hz
Power Consumption	3 amps
Dimensions	490W x 425D x 190H (closed)
Weight	12 kilograms
Ingress Protection	IP54 (Closed Case)
Operating Temp	-10°C to +50°C
Storage Temp	-50°C to + 65°C
Proof Pressure	input 137 Kpa (20 PSI)
Flowrate (typical)	20 litres per minute
Optional extras	See NEPS Accessories

**Nato Stock NSN  
Order Code:**

**4440-99-551-4115  
N240**