AEROTECH HERMAN NELSON INTERNATIONAL INC.

EXECUTIVE SUMMARY

THE EVOLUTION OF A LEGEND

A LEAP FORWARD

BT400-NEX

BT400-NEX SERIES

THE EVOLUTION OF A LEGEND

Although we can see minor updates on the surface, it is on the inside of the new Aerotech Herman Nelson BT400-NEX where you can see real evolution. The original Herman Nelson heater used proven decades-old technologies and was the best system available for the US Military.

Over 60 years of continuous production and technology improvement allowed a level of automatic monitoring and control which were never possible in previous generations. What was once a military only product has now become a portable, durable and reliable commercial industrial heater.

Government safety certification was the greatest challenge facing Aerotech in moving the Herman Nelson heater from the military equipment it once was to a widely accepted and available commercial heat product used in commercial aviation, construction and exploration. In these industries safety is not just a concern but is a requirement for any manufacturer producing a modern heater.

Today if you look inside and under the hood of the BT400-NEX, you will see an advanced and efficient heater producing instant clean air heat. From our roots as the military H-1 Ground Heater to today's electronically controlled, safety regulated equipment, quality, durability and unlimited dependability are the foundation of today's NEX-G and NEX-D Heaters.

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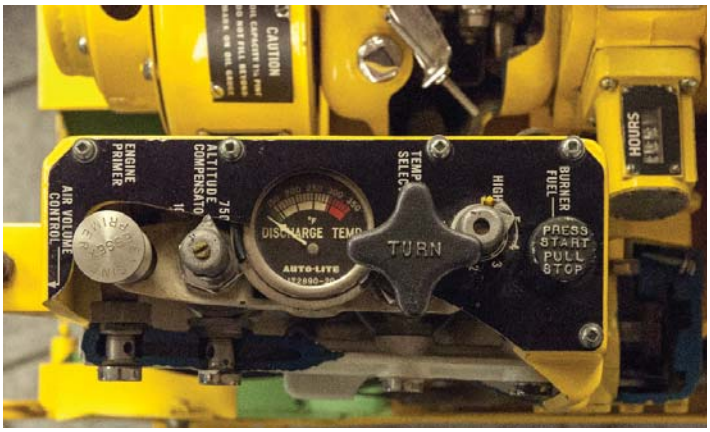
Electronic Controlled System

THE RIGHT TEMPERATURE, ON THE SPOT

Older models had mechanical valves which were manually controlled. The heater operator had to closely observe the machine and manually set the temperature — opening and closing the valve - leading to potential human error. Our new BT400-NEX models use an electronic thermostat control and sensor in place of the mechanical controller — more cost effective with the same 150 °F to 250 °F temperature range.

Wired sensors eliminate the problems associated with the capillary tube breaking and leakage of the fluid. With better temperature control throughout the entire range this new design provides you with a more accurate and repeatable control over the temperature output. The quick disconnect terminals allow for fast easy installation and service. The result is better temperature control and less maintenance.



The valve system of the BT400-10

The intuitive temperature controller from the new BT400-NEX

CPU MONITORED OPERATIONS: RELIABILITY AND CONSISTENCY

The NEX generation models use microprocessor to monitor the system and control fuel delivery to ensure optimum usage of the BT400-NEX Heaters. The new Burner Control Module regulates fuel flow and cycle the heat to hold constant temperature.

The Control Module replaced old manual valves and uses solenoid to deliver the right amount of fuel to the combustion chamber. Using CdS optical sensors the module constantly checks for the presence of flame; if no spark or flame are detected the heater enters into “lockout” mode and will not supply fuel to the unit until the problem is resolved. Moreover, if there is a physical problem in the unit, the heater will automatically stop supplying fuel to the combustion chamber.

Using CPU monitoring, allows the Herman Nelson BT400-NEX to hold temperatures by cycling on and off the heat without operators interference to manually adjust valves. The factory calibrated output temperature of constant 250 °F allows the longest service life of the heater exchanger. Likewise the new Burner Control Module continuously monitors temperatures and other vital signs like fuel pressure and nozzle health to maximize heaters operation and longevity.

ELECTRIC START & STOP THROTTLE

Using the same familiar 12 volt electrical system of older generations, NEX's design allows electric key ignition without manually setting throttle. Eliminating the use of lock out plunger removes potential errors and abuse by operators and provide a more dependable fail safe heater.

The new BT400-NEX Series has the operating RPM set to a constant 3600 RPM which allows for a longer service life of the heat exchanger when proper cool down periods are followed.

Tested & Listed By O-TL C US Portland Oregon USA
OMNI-Test Laboratories, Inc.

SAFETY

The new CPU monitored system replaced older heaters where it was possible for fuel delivery to continue to supply the combustion chamber in absence of flame. The optical sensor monitors and controls the fuel delivery ensuring safe operation at all times. The NEX generation of Aerotech Herman Nelson BT400 Heaters is CSA, UL, and O-TL certified.

Heating System

Magnetos used in the old BT400-10

SOLENOID VS. MECHANICAL VALVES

BETTER SERVICE LIFE AND LOWER COST

The replacement of the manual valve and magnetos for new solenoid valves in the Burner Control Module of our NEX heaters allowed microprocessors to control fuel delivery to combustion chamber. Solenoids are electro-mechanically operated valves - controlled by an electric current through a solenoid. This improvement offer fast and safe switching, high reliability, long service life, good medium compatibility of the materials used, low control power and compact design.

Even though Aerotech continues to manufacture manual control valves at its factory to support existing customers, replacement costs in the solenoid system are approximately 40% of the previous replacement valves. Updating the valve system ensures that dependability and service life are extreme.

Solenoid system in the BT400-NEX

OIL COOLED ENGINE

THE KUBOTA 0C60

From tuning to reliability, oil-cooled engines are far superior to air cooled and are preferred because they maintain a more constant temperature around the cylinder and head.

There's various reasons that apply to how good a fuel to air mixture burns: how metals expand, contract, how many heat cycles a piece of steel can go through before it's structurally weakened; heat around the engine causes air to thin out, causing the mix to richen.

Oil-cooled engines are simpler than liquid cooled - no radiator, no pump and no accessories. By replacing and eliminating unnecessary parts the redesign of the BT400 keeps the engine running at a predictable stable and relatively low temperature.

FUEL TANK

POLYETHYLENE RESIN VS. STEEL

Steel tanks will eventually rust and fail leaving deposits in the tank and potentially shorten the service times by clogging the fuel filters and affecting the nozzle. Herman Nelson BT400-NEX introduced polyethylene tanks to replace the original steel ones. Steel has a shorter service life than modern polyethylene.

The NEX generation of heaters uses a high density polyethylene resin tank eliminating the deposits and ensuring fast and reliable replacement if servicing is needed - easily accessing the unit by removing the front of the trailer chassis. The NEX can also include a spill recovery tray under the fuel tank panel for environmentally sensitive situations.

Portability

TOW BAR AND TIRES

The BT400-NEX features the standard “long bar” and now we offer an optional swivel wheel kit for ease of maneuverability. The new generation standardized tubeless tires and solid rims on all models diminishing maintenance.

A TRADITION OF EXCELLENCE

Our military roots ensure stringent engineering across all our product categories. Today, we're truly a global company, supplying governments, businesses and industries on all five continents. The "one and only" engine driven Herman Nelson BT400-NEX Series Heaters is engineered and built for the most extreme cold conditions delivering instant clean air heat in some of the toughest environments.

Industrial Heaters since 1973

THE LONG STANDING NAME FOR DEPENDABLE, PORTABLE HEAT

ABOUT US

AEROTECH HERMAN NELSON INTERNATIONAL INC.

Based in Winnipeg, Canada, Aerotech Herman Nelson International manufactures commercial standalone heaters used in industrial sectors like aviation oil & gas and construction.

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