

# NIRVANA TAS

CCN: 23754195  
Rev: D  
Ref: 9903  
Sheet: 920  
Date: 04<sup>th</sup> June 2012  
Cancels: 01<sup>st</sup> January 2011  
ECN: 80805

**Point of Manufacture – IRN20H-TAS, IRN25H-TAS, IRN30H-TAS, IRN40H-TAS (Campbellsville, US)  
IRN15K-TAS, IRN18K-TAS, IRN22K-TAS, IRN30K-TAS (Unicov, Czech Rep)**

## STANDARD SCOPE OF SUPPLY

### PACKAGE

The NIRVANA “*Total-Air-System*” (TAS) is a unique compressor package, comprising a fully integrated rotary screw compressor with a high efficiency, cycling, air dryer, general purpose and high efficiency air filters. This is all mounted on to a horizontal air storage receiver. The TAS package occupies less space, costs less to install, and delivers high quality compressed air to maximise operating efficiency and reduce costs. The TAS control system delivers the most efficient control available.

All NIRVANA TAS units come complete with the following -

### INLET AIR FILTER

The inlet air filter is 99.9% efficient at 3 microns and above.

### AIREND

The airend consists of high efficiency asymmetric profiled, precision machined rotors, within a housing made from high quality, close grain cast iron. Taper roller thrust and roller bearings are used on all NIRVANA models

### COOLANT/AIR SEPARATION

A pre-separator performs the dual functions of removing bulk coolant from the compressed air and providing a sump for the coolant.

### INTELLIDRIVE

The IntelliDrive incorporates a Variable Frequency Drive unit that controls the speed, to deliver the right amount of air, to the system.

The IntelliDrive allows great flexibility and can operate over a range of input voltages. IntelliDrive can operate effectively at different power limits. NIRVANA can be arranged to operate with power limited to 15kW (20hp) to 18kW (25hp) and 22kW (30hp) to 30kW (40hp) and also allows for any future power changes that are required, via the IntelliKey. The soft start of the IntelliDrive

gives a low inrush current, which can allow frequent stop and re-start cycles.

NIRVANA gives the operator a choice of either running VSD or Auto Start/Stop control, and is also capable of pressure trim adjustment that allows the NIRVANA to run at target pressures of 4.5 barg (65 psig) to 10 barg (150 psig).

### INTELLIKEY

The IntelliKey allows simple 15kW (20hp) to 18kW (25hp) and 22 (30hp) to 30kW (40hp) capacity adjustments.

### DRIVE MOTOR

Variable speed, totally enclosed main drive motor direct drives the airend, and is designed to operate in ambient conditions up to 40°C (104°F).

### ENCLOSURE

The enclosure is powder coated steel with acoustic foam to keep sound levels to a minimum and is separated into three distinct, sections, the blower/cooler, the drive, and the airend module. Access for service and maintenance is made easy.

### COOLANT FILTER

The coolant filter is a high capacity 5-micron, replaceable Spin-on element with pressure bypass.

**CONTROL PANEL - GENERAL** The control panel incorporates a User Interface for the IntelliDrive - which has Start / Stop Keys, Display Keys, Navigation Keys, Information Key, LED status indicators and LCD display screen. The LCD display screen shows the status of the machine, percentage savings, maintenance intervals, warnings and alarms, Setup and Service Screens. The control Panel also includes an emergency stop and dew point indicator.

### COOLERS

NIRVANA compressors come with an integrally mounted air-cooled

combination cooler of tube and fin design, which is rated to operate in ambient temperatures from 2°C (35°F) up to 40°C (104°F).

### TEMPERATURE PROTECTION

Should the compressed air temperature exceed 109°C (228°F) at the airend discharge, the controller will shut down the compressor, and illuminate the fault indicator.

### COMPRESSED AIR FILTRATION

Two stages of filtration are standard within the *Total Air System*. These are selected to reduce total system operating costs and in combination with the dryer extend effective life of production equipment which is powered by the NIRVANA TAS unit.

### CYCLING REFRIGERATED DRYER

Totally integrated within the package and using the same cooling air flow. The air dryer, which cycles on and off with the compressor, uses a unique stainless steel plate heat exchanger, environmentally sound R-134a refrigeration cycle and a high efficiency “micro channel” condenser. Water is removed from the airflow directly after the evaporator by a high efficiency, external cyclone separator. Condensate is discharged by solenoid drain from a manifold in parallel with other drain points.

### BASEPLATE

A one-piece folded mild steel base, with steel strengthening supports.

### COOLANT

NIRVANA is factory filled with Ingersoll Rand Premium Compressor Coolant; a PAG advanced synthetic lubricant, providing better cooling characteristics, reduced wear through improved lubrication, and has a longer operating life than other synthetic lubricants.