



**FAIRBANKS NIJHUIS™**

# **PACKAGED SYSTEMS**

## **INSTALLATION INSTRUCTIONS**

NOTE! To the installer: Please make sure you provide this manual to the owner of the equipment or to the responsible party who maintains the system.

## IMPORTANT NOTE TO INSTALLER:

Fairbanks Nijhuis Packaged Systems thanks you for selecting our product. We recommend that before attempting to install, operate or repair this package you read this entire instruction. Failure to read and comply with installation and operating instructions will void the responsibility of the manufacturer and may also result in bodily injury as well as property damage.

### CALIFORNIA PROPOSITION 65 WARNING:

**▲ WARNING** This product and related accessories contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

## SCOPE:

These instructions are intended to provide a general understanding regarding the installation of Packaged Systems designed and built by Fairbanks Nijhuis Packaged Systems.

## INSPECTION:

The package and its contents are to be inspected at time of delivery.

If any item(s) show evidence of shipping damage when received, this must be noted on the waybill when signing for acceptance of shipment and also whether or not the item(s) had been inspected for concealed damage. Buyer should notify the carrier immediately and make arrangements for an inspector of the carrier to be present during the unpacking of the item(s). Buyer should then notify Fairbanks Nijhuis Engineered Systems immediately. Item(s) should not be opened until the carrier's inspector is present. If the items have been unpacked, the shipping container MUST be saved for inspection. Customers wishing Fairbanks Nijhuis Packaged Systems to inspect equipment at the job site for shipping damage may request a compensated field service call. Normal field service rates will apply and will be charged to the Buyer's account.

Fairbanks Nijhuis Packaged Systems is to be notified within 10 working days of any damaged and/or missing items. Failure to comply with this requirement will void Fairbanks Nijhuis Packaged Systems' responsibility for corrective or replacement action.

## HANDLING:

Removal and installation of the Packaged Pump System is the responsibility of the Buyer and should be performed by experienced riggers accustomed to the handling of large packages. Lifting devices such as cranes, spreader bars, slings, and shackles required for the removal and installation of the package is the responsibility of the Buyer. Removable lifting lugs are supplied with unit. Care shall be taken to prevent damage to the Packaged System during off loading and installation.

Packaged Systems off loaded and stored prior to final placement must be leveled to allow opening of doors and prevent racking of doorframes.

## SITE PREPARATION:

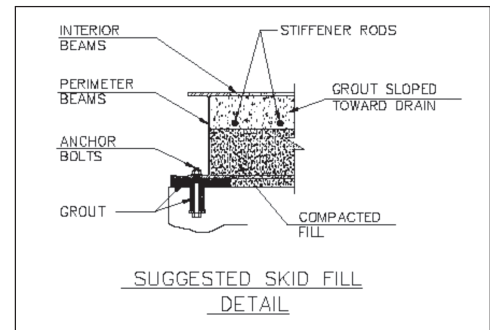
The site shall be prepared for installation of the Packaged Pump System prior to receipt to minimize handling. Site preparation shall be the responsibility of the Buyer and shall consist of the following:

1. A suitable foundation shall be provided for installation of the Packaged System.
2. Floor drain(s) piping shall be installed as recommended by Fairbanks Nijhuis Engineered Systems or other suitable means provided to handle the discharge from the packaged components.
3. Power circuit(s) and final hookup shall be provided for the pump package.

## INSTALLATION:

Pump package shall be installed and anchored on a suitable foundation, provided by others. It is recommended that the pump package be installed allowing for a 3/4" to 1-1/2" grout thickness. Pump package shall be leveled and piping connection locations verified prior to installation of skid fill.

A suggested method of fill for the pump package interior floor is indicated below. This offering is a suggested method of fill and Fairbanks Nijhuis accepts no liability for its use.



Packaged Systems must be installed level and the piping must mate with the pump flanges without strain.

## PACKAGE TIE ENDS:

The Buyer is responsible for material and labor for all customer connections to the Packaged System. Flexible connections at customer connections are recommended to prevent loading of pipe connections due to settling of the Packaged System foundation after installation. Piping connections within the skid perimeter are to be checked for tightness prior to connecting to external piping connections due to vibration during transit.

Customer connections are as applicable but not limited to the following:

1. Piping Connections
  - a. Pump suction
  - b. Pump discharge
  - c. Relief valve discharge
  - d. Casing relief valve discharge
  - e. Flow meter discharge
  - f. Engine cooling water discharge
  - g. Collection drains
2. Electrical connections
  - a. Incoming power distribution junction box
  - b. Main power distribution panel
  - c. Electric fire pump controller
  - d. Engine fire pump controller
  - e. Jockey pump controller
  - f. Component space heaters
    - i. Electric fire pump controller
    - ii. Engine fire pump controller
    - iii. Jockey pump controller
    - iv. Electric fire pump motor
    - v. Engine block
    - vi. Jockey pump motor

The following items were preinstalled and removed to prevent damage and/or reduce shipping cost associated with oversized loads. Buyer is responsible for installation of the following items provided by Fairbanks Nijhuis Packaged Systems as applicable for the project but not limited to the following:

1. Package components
  - a. Test header and hose valves
  - b. Fire department connections
2. Engine components
  - a. Exhaust system
    - i. Exhaust piping including personnel insulation
    - ii. Exhaust silencer and brackets
    - iii. Exhaust silencer tail pipe and flapper
  - b. Fuel system
    - i. Fuel tank vent(s)
    - ii. Fuel tank vent caps or flame arrestors

Buyer shall inspect all Enclosed Packaged System penetrations for cracks in caulking seals due to transportation and handling and recaulk areas as required with sealant.

## ALIGNMENT:

All base plates and skid structures are flexible to some extent and, therefore, must be not be relied upon to maintain the factory alignment. Realignment of all rotating components is necessary after the complete unit has been leveled

on the foundation and again after the grout has set and foundation bolts have been tightened. Alignment must be checked after the unit is piped and rechecked periodically to facilitate accurate field alignment.

## **ELECTRICAL:**

Incoming power is to be connected to the Packaged System components in accordance with national and local codes. Line voltage and wire capacity must match the electrical ratings of the electrical component. Electric motors shall be disconnected from the driven component to verify that rotation is in the proper direction.

## **COMPONENT INSTALLATIONS:**

Installation procedures for the following items may or may not apply to the specific Packaged System being furnished.

**Engine accessories:** Batteries – Batteries are shipped dry for installation of battery acid by others after final installation at the site. Batteries to be filled with acid, cables connected and charged for 24 hours prior to attempting to start the engine using engine controller battery charger(s). Prior to energizing engine controller verify power supply connections and line voltage to the controller.

### **Exhaust system:**

1. Open Skid – Material and labor associated with the installation of an exhaust system, with the exception of the engine flexible connector and the silencer, which are the responsibility of others. Engine exhaust silencer and flexible exhaust connection are shipped loose for installation by others after package installation at the site.
2. Enclosed Skid – External enclosure exhaust systems are preinstalled and removed prior to shipment to prevent damage and reduce transportation cost. Exhaust silencer, piping, and personnel protection (if required) to be installed by others after final package installation at the site.

**Enclosure accessories:** Louvers – Enclosure louvers are fail/open design and operation linkage is removed to allow closure during shipment. Operating linkage to be reinstalled and adjusted by others after installation of the package and prior to energizing electrical circuit.

Fuel tank vent(s) to be installed by others after final package installation at the site.

## **OPERATION:**

Before attempting to operate any component of this package, operator(s) should read and be familiar with each individual component operating instruction. Failure to read and comply with the specific component's operating instructions could void the Seller's and component manufacturer's warranty and may also result in bodily injury as well as property damage.

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