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Installation, Operation & Maintenance Instructions

For

Instantaneous Heaters (Incorporating Slurry Heaters)

Document Reference: INST/IOM

Issue: 1

Date: 10/01/08

Unpacking

All delivered items to be checked against the despatch note and any damage or discrepancies should be reported to the carrier immediately.

Installation

Prior to installation the pipework inlet and outlet lines should be isolated.

If slings are used for lifting purposes they should be attached to the unit in a manner that will not cause damage to the equipment or injury to personnel.

Prior to installation all mating faces should be clean and free from any grease or debris.

Instantaneous Heaters are generally supplied ready for immediate insertion into the pipework, it only being necessary to connect the fluid inlet and outlet branches.

Where close control of the unit is required it is recommended that flow control valves be fitted in the fluid inlet lines.

Operation

In operation the fluid to be heated enters the Heater under pressure and passes through a jet nozzle thereby reducing the pressure to approximately atmospheric conditions. The heating medium then enters the fluid to be heated, under pressure, through a series of small holes positioned around the nozzle and begins heating on contact. The two fluid streams then pass through the venturi section of the heater and it is here where complete mixing / heating takes place. The divergent section of the heater then transforms the velocity energy back to pressure energy, thus allowing the heater to discharge against a predetermined counter pressure.

At start-up the fluid to be heated should be initiated prior to the heating medium.

Instantaneous Heaters are designed to carry out a specific duty, which should not be modified without first consulting Northvale Korting Engineers.

Note: For details of the actual duty please refer to the relevant data sheet.

Maintenance

General:

- To avoid damage or injury to personnel and equipment always heed safety warnings and instructions.
- Un-professional re-conditioning, the use of non-original replacement parts or performance of maintenance steps other than those described here, may cause the loss of the Heaters performance or lead to personnel injury and would render the warranty void.
- Prior to conducting any maintenance task ensure that the Heater is properly isolated and free from pressure.
- Prior to tightening any flange joint ensure flange / gasket faces are clean and free from grease and debris.
- The use of suitable bolt lubricants is recommended for flanged joints.
- All flange joints should be tightened in a manner that allows even distribution of bolting force and the correct bolt torque should always be used.

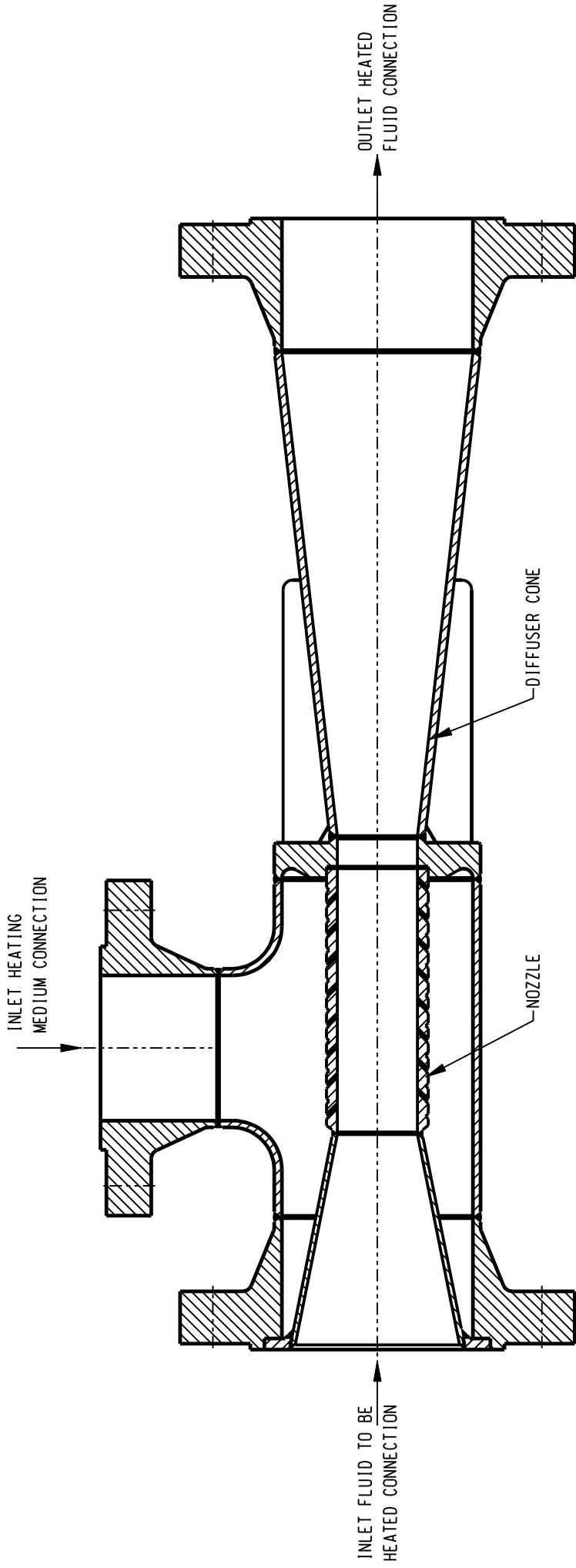
Maintenance Tasks:

Instantaneous Heaters have no moving parts and consequently requires little or no maintenance. The following is a list of recommended maintenance tasks.

- 1) Check the Heater exterior for wear and tear and general serviceability.
 - Checks to be conducted during general operation.
- 2) Check gasketed joints, if applicable, for pressure tightness.
 - As gaskets can relax over time joints should be checked periodically for their serviceability. Checks to be conducted during general operation. If a leak is found, in the first instance the joint should be re-tightened and if this doesn't cure the leak a new gasket should be fitted.
- 3) Inspect / fit new nozzle
 - Over a long period of use the nozzle bore and heating holes can wear and this may affect the Heaters performance. The Heaters performance should be monitored during general operation and if a drop in performance is found the nozzle should be inspected.

To inspect / remove the nozzle;

- Disconnect the fluid to be heated inlet and draw out the nozzle. Inspect the nozzle for wear and fit a new nozzle as required. Prior to re-connecting the inlet connection check the gasket for serviceability.



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APPR	REV	MODIFICATION	INIT	DATE			
				DESCRIPTION			
				REFERENCE			
				TOLERANCES UNLESS STATED			
				N/A			
				INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTION - INST/10M			
				MATERIAL: REFER TO PO			
				CAD FILE: INST-1			
				DRAWING NUMBER	INST/1	REV	0