



Welcome to the latest newsletter from HAT International, aimed at keeping all our customers up to date with the latest products and developments within our company, as well as some general news on what's going on in the industry. We trust you find it informative and we welcome any comments or suggestions you may have to improve the format.

If you wish to unsubscribe, simply reply at any time with 'UNSUBSCRIBE' in the subject box.

LATEST DEVELOPMENTS

Orders this month include **glycol dehydration FPSO column internals** for a project in the Asia Pacific region; **Vane pack demisters in Inconel** for 4 pairs of HP compressor gas scrubbers in the far east; and various **glycol regeneration column packings** and demisters for a semi-sub project in Norway.

Recent deliveries include **2 sets of valve trays** for a project in Libya, **8 qty static mixers** in Duplex stainless steel for a project in Oman, and **24 VH-1 vane pack demisters** together with **12 wire mesh flame arrestor panels** for a customer in the UAE.

A new representative has been appointed for all our products in **Iran**. Based in Tehran, **NAPEEC** (Noandishan Arya Process and Energy Engineering Co) is an established engineering specialist product company servicing the oil, petrochemicals and water treatment businesses in the region. For more information see their website on www.napeec.com

HAT now has representatives in a number of countries including Egypt, Qatar, Oman, Greece, Indonesia and Pakistan. If you would like contact details of any of these regional representatives, please e-mail a request to info@hatltd.com with your details.

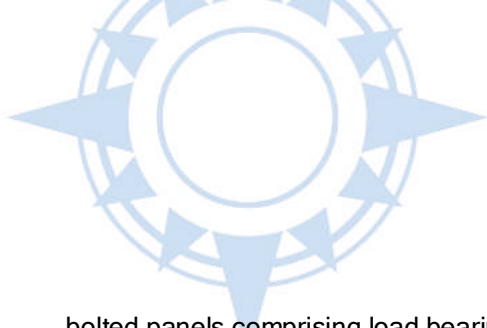
FEATURED APPLICATION - REACTOR BED DISTRIBUTORS & SUPPORT SCREENS

Our feature this month looks at the various ways to support solid catalyst beds (usually in vertical vessels) such as those in molecular sieve driers, hydrotreaters and general reactors.

Typically, the initial requirement is for the incoming fluid to be evenly distributed across the full tower diameter to ensure an even flow up or down the catalyst bed. This is commonly achieved using a central, slotted or perforated cylindrical **inlet diffuser** fitted with a mesh or wedge-wire screen to prevent the back-flow of solids during any regeneration cycle. Sizing the distributor is usually based on the desired velocity profile, whilst the choice of screen covering looks at the bed material, pressure drop and mechanical strength. A wedge-wire screen is generally more robust than a mesh counterpart and has improved clogging resistance, although these may not always be essential requirements.

The main catalyst bed is usually supported by one of two methods. Most commonly, layers of inert ceramic or alumina **support balls** in decreasing size are laid in the lower dished head until they reach the full vessel diameter. The upper layer of these balls will approximate to the catalyst size to minimise migration between the two media. A **floating mesh screen** can also be used to separate the catalyst from the support balls, although this has the potential to clog with fine material if there is degradation likely. The floating screen would typically be #12 to 20 mesh and takes no load, being a flexible fit between the media layers. A similar arrangement is adopted at the upper side of the bed, i.e. a possible floating screen and then layers of increasing diameter inert balls to prevent catalyst lift-off and contamination during reverse flow.

An alternative support arrangement (and one which is used for multi- bed systems) would involve the catalyst being supported on a **metal grid** assembly. This is a construction using



bolted panels comprising load bearing members and smaller grating members that support an upper layer of screen(s). These upper screens again can be plain mesh (#4 and #12) or vee-wire designs depending on service requirements and overall economics.

Factors influencing the selection of these support types include cost, weight, space and thermal capacity.

The **outlet fluid collector** is typically shorter and fatter than the inlet diffuser and it is commonly located at the base of the tower within the support balls themselves. These lower collectors need to be mechanically strong if located below the full bed and taking any direct load.

HAT offers a full range of **AlphaPLUS** support gratings, floating and fixed screens (plain and wedge-wire) and diffusers/collectors to match most applications in a variety of materials. We also manufacture specialist gas/liquid distributor trays for mixed phase reactors.

If you would like an assessment of your current project support screen specification, please contact us for further details.

INDUSTRY MARKET NEWS

OIL PRICE REBOUNDS.....As expected crude prices edge back up to USD 78/Bbl on market tightness, despite OPEC promised increase of 500,000 BPD from 01 November

NICKEL PRICE UP.....Surprising some by picking up from recent levels by around 15 pct to USD 15.00/lb on trader sentiment rather than analyst's reviews of fundamentals

DOLLAR SLIDES.....The US currency continues to suffer against the major currencies from sub-prime sentiment, now standing at at USD1.00 = 0.712 Euros and 0.495 GBP (25 September)

NNPC Nigeria National Petroleum Company has been set a 6 month goal to demerge into separate business units covering exploration, production and distribution

SHELL and Dow Chemical are refusing to comment on reports that they are considering restoring and expanding a petrochemicals complex at Basra, in southern Iraq

S African energy group Sasol claims it has found a solution to the technical problems that are hindering the company's high-profile Oryx gas to liquid (GTL) joint venture in Qatar

Chevron Australia is planning to build the world's largest CO2 geosequestration (carbon capture storage (CCS)) plant in the NW coast of Australia as part of its multi-billion dollar Gorgon project

EXXON MOBIL has revealed it is to build a gargantuan petrochemical complex in Singapore to meet the ever-growing demand for its Asian produce

Thank you for reading, if you would like more details about the above topics or our product