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Also available on request:
- Reference List
- Organisational Chart
- Financial Records (Abbreviated Accounts)
- Typical contract documentation
- Plant list
- Product Brochures
Transvac Systems Limited is a privately owned Ejector Solutions provider formed in 1973.

As both a designer and a manufacturer of Ejectors, Transvac has full in-house control over process and mechanical design, supply of raw materials, manufacturing, scheduling and testing. With all of our procedures certified to BS EN ISO 9001:2008 the quality of the final product is assured.

Transvac is accredited to Module H of the Pressure Equipment Directive (PED) and our products are CE marked where appropriate. We are also 1st Point Assessment (FPAL) and Achilles registered.

All products are custom designed to suit the process and mechanical requirements of each application to ensure maximum operating efficiency.

Transvac offers standard and exotic materials of construction including Hastelloy, Duplex, Super Duplex, Titanium etc.
Ejectors (also referred to as Surface Jet Pumps, Eductors or Venturi’s) provide a simple, robust and reliable method of pumping and boosting the pressure of fluids.

The operation is based on Bernoulli’s principle, whereby by increasing the velocity of a fluid as it passes through the nozzle, a low pressure region is created within the Ejector. This region entrains and compresses the secondary LP stream which we call the suction fluid. As the combined HP and LP streams pass through the Ejector’s diffuser section, the velocity decreases and the pressure is regained, resulting in an intermediate pressure, which lies somewhere between the LP and HP inlet pressures.

“Ejectors use a high pressure fluid to compress a low pressure fluid to an intermediate pressure.”

David Hoon, Technical Director
Why choose Ejectors?

- Environmentally friendly - zero emissions
- No maintenance
- No moving parts
- Proven reliability
- Easy to install
- Simple to control
- Controlled by standard techniques
- Low cost & weight
- Robust construction
- ATEX not applicable
- Short pay-back & significantly cheaper than mechanical pumps / compressors
- Safe to operate
- Performance easily modified to suit depleting well conditions
- Can be installed in tight spaces
- Handles solids and two-phase without damage
- Top-side, sub-sea, FPSO or onshore installation
- Can be performance tested prior to despatch
We understand that any industrial process is not always predictable. Conditions change over time and facilities need to be able to deal with this.

Ejectors are fixed-design devices. Each of our Ejectors are custom designed to perform at specific operating conditions. That’s why we invented our patented ‘Universal Design’ Ejector.

The patented Universal Design (UD) comprises an external pressure retaining shell into which are fitted two replaceable components which give the Ejector its operating characteristics. These two components are called the nozzle and the diffuser and in the Universal Design, they can be easily changed-out with different ones in order to give the Ejector different optimum operating characteristics.

Thus, should conditions change over time, the internals can be replaced with new ones which are more suited to the changed conditions.

By changing-out the internals at recommended intervals, high performance efficiency can be maintained over the lifetime of the unit.
Why choose Universal Design?

- For instances where operating conditions may change gradually over time (e.g. declining gas well conditions)

- UD pressure retaining shell can be sized to suit future operating conditions

- UD Nozzle and Diffuser internals easily changed-out to suit different operating conditions

- UD pressure retaining shell can be manufactured before operating conditions have been confirmed

- Manufacture of UD Nozzle & Diffuser can be delayed until the last few weeks of contract, when operating conditions are confirmed

- Change-out of the new UD internals can be completed in one day

- Less risk to project if predicted operating conditions are found to be wrong, because new internals can be made relatively quickly and with no changes to associated pipework

- Easier to realise short-term well opportunities with UD design approach

- Without internals fitted, pressure retaining shell simply behaves as a piece of pipework

- Potential to relocate UD to a new site with different operating conditions and different internals
Key Personnel

Chairman : David Redgate
davidredgate@transvac.co.uk

Managing Director : David Ainge
davidainge@transvac.co.uk

Technical Director : David Hoon
davidhoon@transvac.co.uk

R&D Director : Gary Short
garyshort@transvac.co.uk

Operations Director : John Davies
johndavies@transvac.co.uk

Quality Assurance Manager : Bob Marshall
bobmarshall@transvac.co.uk

Financial Controller : Jenny Lucas
jennylucas@transvac.co.uk
Company Information

Company : Transvac Systems Limited
Location : Monsal House,
            Bramble Way,
            Alfreton,
            Derbyshire,
            DE55 4RH
Post Code : DE55 4RH
Country : UK
Telephone : 0044 (0) 1773 831100
Fax : 0044 (0) 1773 831123
Email : sales@transvac.co.uk
Web Site : www.transvac.co.uk
Company Registration : 1526398
VAT No. : GB353434465

Trade Organisations

Transvac / staff are members of the following organisations:-

- Institute of Chemical Engineers
- Institute of Petroleum Engineers
- The Welding Institute (TWI)
- Society of Petroleum Engineers
- Institute of Occupational Safety & Health
- Institute of Quality Assurance
- First Point Assessment (FPAL)
- Achilles
- Energy Industries Council, Global Members (EIC)
- Subsea UK
- Society of Underwater Technology (SUT)
Quality Policy

Transvac Systems Limited is expert in the design, manufacture, contract management and supply of specialist equipment for the process industries, including oil and gas, water, power, food, petrochemical, pharmaceutical and chemical. Transvac equipment is also used in the offshore and marine industries. Due to the technical nature of our products and services, Transvac also focuses on research and development and site engineering work relating to our technologies.

The nature of the work places particular emphasis on experience, capability, reliability and quality.

The prime objectives of the Transvac management team are to provide products, equipment and services in a manner which meets contractual and regulatory requirements, the expectations of our customers and to continually improve this equipment and service through customer feedback and regular audits of the Quality and Business Management Systems.

To achieve these objectives, it is a Transvac policy to implement and maintain a Quality Assurance System based on the requirements of BS EN ISO 9001:2008.

This policy shall be issued to, and understood by, all Transvac personnel. This policy, the Quality Manual and the Business Management System shall undergo regular review to ensure its continuing relevance and effectiveness.

David Ainge
Managing Director
Quality

Transvac has a fully accredited Quality Management System complying with the requirements of BS EN ISO 9001: 2008. It is our objective to ensure that all goods and services are supplied in accordance with the client’s specified requirements.

Transvac is also fully registered to module H of the PED (Pressure Equipment Directive – EU standard). We are also a member of 1st Point Assessment, Supplier No. 44491 and Achilles I.D. 25938.

We often engage a Third Party Inspection Authority for the purpose of carrying out design review and manufacturing surveillance activities. Alternatively the customer is free to appoint their own third party.
Health, Safety & Environmental

The Directors of Transvac recognise that Health and Safety issues are an integral part of our business activities. It is therefore, the policy of this company that our work will be undertaken in accordance with the current legal requirements and that all reasonably practicable measures will be taken to safeguard our employees and also others who may be affected.

The Managing Director has ultimate responsibility for Health and Safety issues within the company, and ensures that adequate resources are provided for the proper implementation of the management system.

Day to day management of Health & Safety issues is delegated to the Health & Safety Manager.

Transvac maintains a training programme to ensure all employees are competent to carry out their duties and responsibilities and are aware of the Health and Safety aspects of their work.

Wherever possible, employees are involved and consulted in the implementation of the Health and Safety Policy to ensure they understand the Policy, and that they are committed to it.

Periodic review of the Health & Safety System, its performance, and its continuing relevance to the organisation is recorded. The findings from these reviews are used to establish objectives for the continual improvement of Health & Safety performance.

We have a detailed Health & Safety COSHH system which covers the safe handling and disposal of hazardous / polluting substances. E.g. chemicals, painting materials, oils etc. Transvac employees are trained to follow these COSHH standards.

All our waste e.g. Turnings from lathe machines etc are segregated and collected by licensed waste contractors. Typically we send quantities of waste stainless steels, carbon steels, nickels alloys and plastics to specialist processors for recycling.

Transvac has a spray paint shop with a filtration system that complies with the current emission requirements. Wherever possible, paints are selected with minimal environmental impact.

It is Transvac’s policy to minimise sub-contracted manufacture. This has the benefit of reducing the carriage of materials by road transport and it keeps most of the manufacturing processes within our control.

We pride ourselves on the fact that our products are often used for energy conservation and reducing carbon emissions.
Test Facilities

- 8 x flow loops
- 8 x VSD water pumps
- Pump pressure up to 250 bar
- Liquid flows up to 700 m³/h
- Sand slurry flows up to 60 m³/h [up to 60% SVF]
- Nitrogen 100 barg @ 200 kg/h
- Air 12.5 barg @ 70 Am³/h
- 400 KvA stand alone generator
- 150 KvA mains supply

- 2 x 9 m³ clean water tanks
- 1 x 35 m³ slurry / water tank
- 1 x 6 m³ calibrated weigh tank
- 5 x coriolis meters (liquid / gas)
- 1 x 16m³ 27.5 barg pressure vessel for closed loop multi-phase testing
- High pressure in-line solids / phase separator [150 barg and 100 m³/h]
- Fully automatic control and data acquisition system using ASi field bus system (LabView)
- Flow assurance: flow accuracy 0.1 - <1.0 % FS / Pressure Accuracy 0.1% or better
Transvac officially opened its R&D Test facility in April 2010. The state-of-the-art test facility primarily develops new oil & gas Ejector technology for subsea processing, flare gas recovery, sand slurry pumping and enhanced recovery & production solutions.

Ejector applications for the nuclear, bio-fuel, chemical and wastewater industries are also under development.

The R&D test facility includes high and low pressure equipment for handling water, oil, gas, multi-phase and slurry. Test programmes are supported by CFD studies and include fundamental University research.

The Transvac facilities include liquid flow lines for high, medium & low pressure testing (in excess of 250 barg) and solids handling systems.

“we are focused on turning innovative designs into proven solutions.”

- Gary Short, R&D Director
Design

**Process Design** - Supported by CFD (CFX)

Process Design Software:
- Physical property generation software - ASPEN One (Hysis)

**Mechanical Design**
All Transvac’s products are custom designed to suit our client’s individual mechanical design requirements. Designs are carried out to recognised standards / codes including:-

- ASME B31.3
- ASME VIII
- PD 5500
- PED 97/23/EC
- RTOD (Stoomwezen)
- NACE

Also customer specific standards including:-
- Shell DEP
- NORSOK
- NAM NSS

**Mechanical Design Software**

- **Finglow** - Pressure Vessel Design
- **Algor** - Finite Element Analysis (FEA)
- **Boltcalc** - Joint calculations

Products are CE marked where appropriate.
Manufacturing Facilities

Machining
Facilities include:-

- Centre Lathes (manual & semi-automatic)
- Horizontal boring (semi-automatic)
- Radial and Pillar drilling
- Milling machines (manual & semi-automatic)

Welding & Fabrication
Transvac employs Welders qualified to weld at national standards such as EN 287, ASME IX and others.
Welders are qualified for a range of materials and grades including:-

- Stainless steel - All grades
- Carbon steel - All grades
- Exotic metals - Hastelloy, Titanium, Duplex, Super Duplex and Nickel Alloys etc

Test & Inspection
Transvac has in-house facilities for pressure testing and surface crack detection of welds. Visual weld inspection, magnetic particle examination and dye penetrant examination is carried out by Level II (2) qualified operators. Other NDE testing such as UT and Radiography is sub-contracted to local specialist test houses.

Painting & Surface Finishes
Our painting facility uses airless spray equipment with a full flow air filtration plant. Pickling and Passivation is carried out at a specialist sub-contractor.

A full plant list is available upon request.