JD turbulators for improved heat transfer.

Turbulators are a very practical and cost effective solution for increasing the efficiency of boilers, air heaters, heat exchangers and a diverse range of other applications. Our flexible production method allows us to produce the best type of turbulator according to the dimensions and specifications of the application concerned. Additionally we can manufacture custom made steel and aluminium parts to suite your specific needs.

Greater efficiency with the least investment costs!

Turbulators
L-R Twisted / Efficiency+ / Spiral
# Turbulator product range

## L-R Twisted Turbulator (RTRLR)

Our conventional turbulator design is based on the left-right twisted tapes. This turbulator is known to have the best ratio between pressure drop and heat transfer.

## Efficiency+ Turbulator (RTRLRE)

The Efficiency+ turbulator is based on our proven left-right twisted tape design. Added is a corrugated surface and a shorter pitch, which results in a higher heat transfer-rate when more pressure drop is allowed.

## Spiral Turbulator (RTRS)

The spiral turbulator provides increased heat transfer combined with cleaning functionality for biomass boilers.

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## Production

- V V V Vary the pitch according to the allowed pressure drop
- V V V Flexible production method allows the production of both large and small quantities
- V V V Tailor made according to the customers specifications
- V 360° twisted for full coverage of the fluepipe
- V V A corrugated surface and a shorter pitch

## Dimensions & Materials

- V V Width: 7mm – 96mm
- V V Width: 20mm – 96mm
- V V V Lengths: Available in all lenghts
- V Thickness: 1mm
- V V Thickness: 0,4mm
- V V Wide range of corrosion and heat resistant materials
- V EN 1.4016 / other materials on request

## Handling & Shipment

- V V Easily stackable
- V V V Easy to instal and remove
- V V Lightweight
- V V V Shipment worldwide
- V V Easy shipment of large quantities

## Costs & Service

- V Paybacktime often < 1 year
- V V Inexpensive
- V V Performance analysis for your application on request
- V V V Request a quote and determine a turbulator design without obligation
In tubular heat exchanger systems heat transfer occurs at the tube wall. Laminar flow of gases and liquids develop an insulating layer (thermal boundary layer) around the tube wall due to flow stagnation around the wall which restricts heat transfer. By increasing the turbulence intensity or fast fluid mixing, turbulators reduce the development of this thermal boundary layer and create greater contact with the tube wall. Hereby the heat transfer coefficient ($\alpha$) and thermal performance of heat exchanger systems increase considerably.

**Benefits**

- Significant increase in heat transfer with low resistance
- Reduction in fuel costs
- Improved heat distribution and pressure control
- Saves energy
- More compact and lightweight design
- Improved combustion
- Meet the latest emission and efficiency standards/norms

**Applications**

For many heat exchanger systems thermal performance improvement is needed for energy saving and reduction of operating cost. Turbulators are one of the main tools used to enhance heat transfer and to decrease the size, weight and cost of equipment. Years of experience and continual investment in research and development enables us to produce the best type of turbulator for many applications. The most common applications we have experience with are:

- Shell & Tube Heat exchangers
- Firetube boilers
- Hot water Heaters
- Biomass boilers
- Radiant heaters
- Solar water heaters
- Convection air heaters
- Air preheaters
- Condensors
- Bakery and sauna ovens
- Static mixers
- (oil) coolers
Performance

The application of van Dijk heating turbulators in heat exchangers have proved to be an important means for improving heat transfer.

Measuring results show the significant influence of our left-right twisted turbulator on the heat transfer through convection in fire tubes. As the deformation of the turbulator increases (smaller pitch), the heat transfer and the resistance increase. The heat transfer coefficient of (α) becomes three times greater than in a smooth pipe. The coefficient of friction (λ) becomes up to eight times greater. Conclusion: In practice the length of the fire tubes can be reduced to between 35% and 50% of the smooth pipe length when turbulators are used.

Our service

Thanks to our flexible production process we can manufacture custom made turbulators to meet the specific needs of our customers. We understand that energy efficiency is key in the design of heat exchanger systems. We’re happy to help you with a solution for your specific heat transfer problems. Please call or email us for sample requests, heat transfer calculations or define your dimensional requirements and request a quote.