

# Typhoon Valve System

Low shear control technology for enhanced separation



## Type designation

Low shear control valve system

## Mokveld model

RZD-LS-R..... / CHV-LS-R.....

## Size and pressure ratings

- Sizes up to 16"
- Rating ASME class 150 - 2500  
or API 3000 - 10 000
- Other sizes and ratings upon request

## In preference to

- Multi-stage labyrinth type valves (angle and in-line)
- Conventional globe control valve (angle and in-line)
- Conventional choke valve (angle and in-line)

## Typical applications

- Oil production
- Level control
- Produced water
- Production choke

## Mokveld Typhoon Valve Systems main features:

### Cyclonic axial flow

Emulsification and droplet breaking in petroleum phases are directly coupled to shear forces in throttling valves. Shear forces are a function of the volume involved in energy dissipation in the valve. Typhoon Valve System significantly reduces shear forces by increasing the volume involved in energy dissipation by means of the axial cyclonic flow pattern through the system.

### Cleaner production

An oil in water reduction of 30% to 80% is achievable (figure 1) for choke applications, dependent on the function.

### Improved separation efficiency

Typhoon Valve System reduces oil in separated water and water in separated oil. There is less need for, or improved performance of process chemicals like emulsion breakers, flocculants and anti-foam.

### Availability

Erosion resistant materials in the cyclonic flow area reduces erosion to improve operational lifetime, similar to the standard Mokveld choke valves.

### Accurate control

Linear inherent characteristics allow optimum control for liquid level systems and flow control processes.



Figure 1: Example of water quality improvement between conventional valve (left) and Typhoon Valve System (right)

### Compact

As a result of the low actuation force requirement, small actuators can be used; combined with a compact body design this minimizes the installation's footprint.

### Process safety

In this cyclonic axial flow system the cage is inherently protected against direct impacts by foreign objects. The design further introduces a secondary method to reduce flow rate if cage collapse does occur.

### Special features

- Custom-designed cyclonic control system for each application to maximise liquid droplets based on performance models established during development.
- Full range of matching pneumatic, hydraulic and electric actuators are available.
- Next to the axial Typhoon Valve System, there is also the option for an angle Typhoon Valve System (figure 2) which is interchangeable with existing Mokveld choke valves.

Developed by Typhonix AS in close cooperation with Mokveld.

**For more information, please contact Mokveld.**

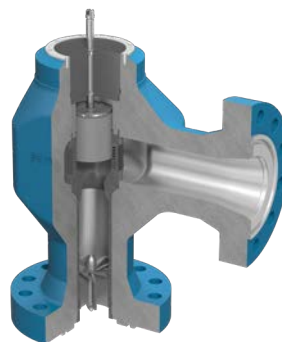


Figure 2: Low shear angle Typhoon Valve System

**Mokveld Valves BV, experts in low shear flow control.**

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