

Chemical Industry

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## Application: Rapeseed Oil Storage Tank

### Mankenberg's Solution

UV5.1F DN 50

#### Description of the Plant

Biodiesel is the biofuel substitute for mineral diesel fuel and is produced from oleiferous plants. In Germany rapeseed is the starting product. The required rapeseed oil methyl ester (RME or "biodiesel") is obtained by means of pressing the seeds, refining and ester interchange with methanol

#### Task of the Valve

The valve serves as pump protection valve at the rapeseed crude oil storage tank. The UV 5.1 ensures a maximum pressure of 10 through 12 bar at an outlet pressure of 1 bar at a flow rate of 30 m<sup>3</sup>/h.

#### Your Advantage

The UV 5.1 combines chemical resistance of the materials (VA, FPM) with sufficient pressure resistance whilst simultaneously featuring a lightweight design. In some cases biodiesel (rapeseed oil methyl ester) is very aggressive to the used elastomers; for such cases FPM and PTFE have been used.

## Application: Production of Bio-Ethanol

### Mankenberg's Solution

UV1.8M DN 80

#### Description of the Plant

Whilst biodiesel is the biofuel substitute for mineral diesel fuel, bio-ethanol is the substitute fuel for otto fuels. Bio-ethanol is obtained by fermentation of grain using yeasts.

An intermediate stage is the formation of slurry, which is very inhomogeneous (in principle a binary system with solid/liquid components) with very variable dynamic viscosities (100 through 2000 mPas).

#### Task of the Valve

In the fermentation/slurry distillation process a constant inlet pressure of 6 bar is required with an outlet pressure of 0.7 through 1 bar at flow rates of abt. 40 m<sup>3</sup>/h.

This is ensured by the UV 1.8.

#### Your Advantage

The Mankenberg backpressure relief valve combines chemical resistance of the materials (VA, FPM) with sufficient pressure resistance whilst simultaneously featuring a lightweight design at a high performance. This valve is suitable for different viscosities of the medium. In some cases bio-ethanol is very aggressive to the used elastomers; for such cases FPM and PTFE have been used.