Jongia is the Dutch market leader in mixer design and manufacturing. Since 1937 Jongia supplies, installs and gives service on mixing equipment for the (petro)chemical plants and oil terminals. We combine the financial strength of an international group of companies with the flexibility and fast response of a mid-size company.

Application

For the storage or blending of crude oil, Jongia has designed a dedicated side entry mixer. This type of mixer is often used in large scale tank storage. In order to get a homogeneous product, tank cycles and blending time will be calculated to obtain the most effective flow in the tank. Mixer positions (axial and radial) will be calculated to create the best possible induced flow. Pumping capacity versus absorbed power can be checked by means of a Computal Flow Diagram to meet the customer requirements.

Depending on the specific case and tank dimension we can install 1 up to 5 side entry mixers. With the high efficient HIFLo propeller we have not only selected the most efficient mixing element, though also the most effective. Dedicated mixer test facilities and R&D equipment to support customers needs and questions are available in our new and renovated production facilities.

Process description

In general crude oils and related products are viscous and in static phase, often highly viscous. Common processes in tank storage are:

- Mixing of various types of crude oil and fuel oil to meet final specification
- Avoidance of any solids or sedimentation on the tank bottom, due to separation of the products
- Heat transfer into the tank, in case of long term storage, to prevent coagulation
Based on proven design we developed a robust side entry mixer. Due to the open construction the seal and bearing section is clearly visible and easy accessible for maintenance. With a state-of-the-art shut off device we can meet your safety requirements when closing the mixer from the tank.

**Side Mixer RWM**
Our side mixer type RWM is a side entry mixer suitable for heavy duty applications and large tank capacities. The oversized mixer shaft has a separate bearing house and is coupled to the drive with a tooth belt type transmission.

The side mixer is fitted with an outside single or double acting mechanical seal and a tank-shut-off system. The side mixer RWM is equipped with Jongia’s Hiflo prop for ultimate hydraulic performance.

**Shut-off device**
The Jongia shut-off device is unique for this type of side entry mixer and when activated, there is no radial/axial displacement of the shaft. We have designed the conical seat in such a way that this is pulled on to the conical ring. In this way the shaft (including bearings and seal) remains in its position, whilst closing the conical seat. Once the shut off device is engaged, the seal can easily be exchanged from the fixed shaft. Due to the open construction of the mixer the shut off device is easy accessible and only one wrench is needed to close it within two minutes. Heavy duty (double row) ball bearings and a dedicated mechanical mixer seal, designed for mixer duties results in a design life cycle of 20 years and are based to a minimum on OPEX cost. No casted parts are used, which results in the highest strength of the materials. Due to the compact design, no slings are needed to support the mixers at the tank. Although we have a modular design, every mixer will be engineered, dedicated to the process. We are certified to manufacture the mixers suitable for ATEX Zone 2 and even up to zone 1.
Our latest development, a magnetic coupled mixer, the Magitator, is especially developed for the chemical industry, where companies have to deal with product contaminations, exothermic reactions and work with extremely aggressive products. Prevention of seal leakage and product contamination has top priority. The Magitator’s main feature is its hermetically closed and sealless shaft design. The mixer can be operated in almost any chemical environment, including in processes where hydrosulfic acid, hydrofluoric acid, amines, isocyanides and NaOH are used.

Magitator
Opting for the Magitator ensures that the tank can remain hermetically closed under no-emission conditions. The open design of the mixing head ensures an optimum flow for easy cleaning and efficient mixing. Zero-emission is ensured and in addition the absence of a mechanical seal considerably cuts down on maintenance costs. The Magitator can be mounted as a side or bottom entry mixer.

Motor requirements
Depending on the process and product requirements a motor will be selected from a power range of 0.5 - 45 kW. All brands of Motor /gearbox drives can be supplied as well as explosion-proof motors up to ATEX Zone 1. In principle the magitator is of standard design, however the mixer can be custom-made and adapted to your process.

Solutions
The magitator can be used in processes involving low to medium viscosity liquids and low solid contents.
- Keeping homogeneous
- Mixing in small quantities of additives / solids
- Alcohols / minerals and synthetic oils / monomers / pesticides / herbicides / organic solvents / glycols / bio-ethanol
A ROBUST DESIGN WITH MAXIMUM RELIABILITY, HIGH DURABILITY AND STIRRING EFFICIENCY