

FLUITEN GTA / 10774 MECHANICAL SEAL FOR DIGESTERS

In the renewable energy field, a digester, or fermenter, is a large silo in which organic waste is used to form what is known as an organic suspension. This suspension consists of waste from agribusiness processes and municipal solid waste mixed with livestock slurry or herbaceous crops. Digesters produce biogas, which mainly consists of methane, used to generate electricity.

Digesters are vessels in which the anaerobic digestion of biomass occurs. In other words, micro-organisms break the biomass down. The liquid inside digesters has to be mixed using **side entry agitators**. This helps the organic mass transform through intermediate products to methane gas. An agitator is a machine which transfers energy to a liquid through a suitably sized impeller turned by a shaft connected to an electric motor.

The mechanical seal on the agitator has to ensure a seal between the rotating shaft and the tank wall in order to prevent undesirable process leakage to the atmosphere. The mechanical seal has to be able to **withstand the abrasive action** of the solids contained in the process liquid, be made with compatible materials, and allow maintenance without having to empty the tank. The agitator and mechanical seal can be likened to a plug at the bottom of the tank.

MARKET: Digesters/fermenters for biogas plants

MACHINES: Side-mounted agitators

PURPOSE: Mixing biomass from the agro- industry and animal slurry



The **Fluiten GTA/10774 mechanical seal** was designed specifically for **horizontal agitators** and is widely used by leading equipment manufacturers.

SPECIFICATIONS:

Single or double version: The GTA/10774 seal is available in a single version for environmentally harmless liquids and liquids which are not highly abrasive. The double version with special auxiliary pressurization device, on the other hand, ensures zero emissions to the atmosphere and high resistance to process liquid abrasion.

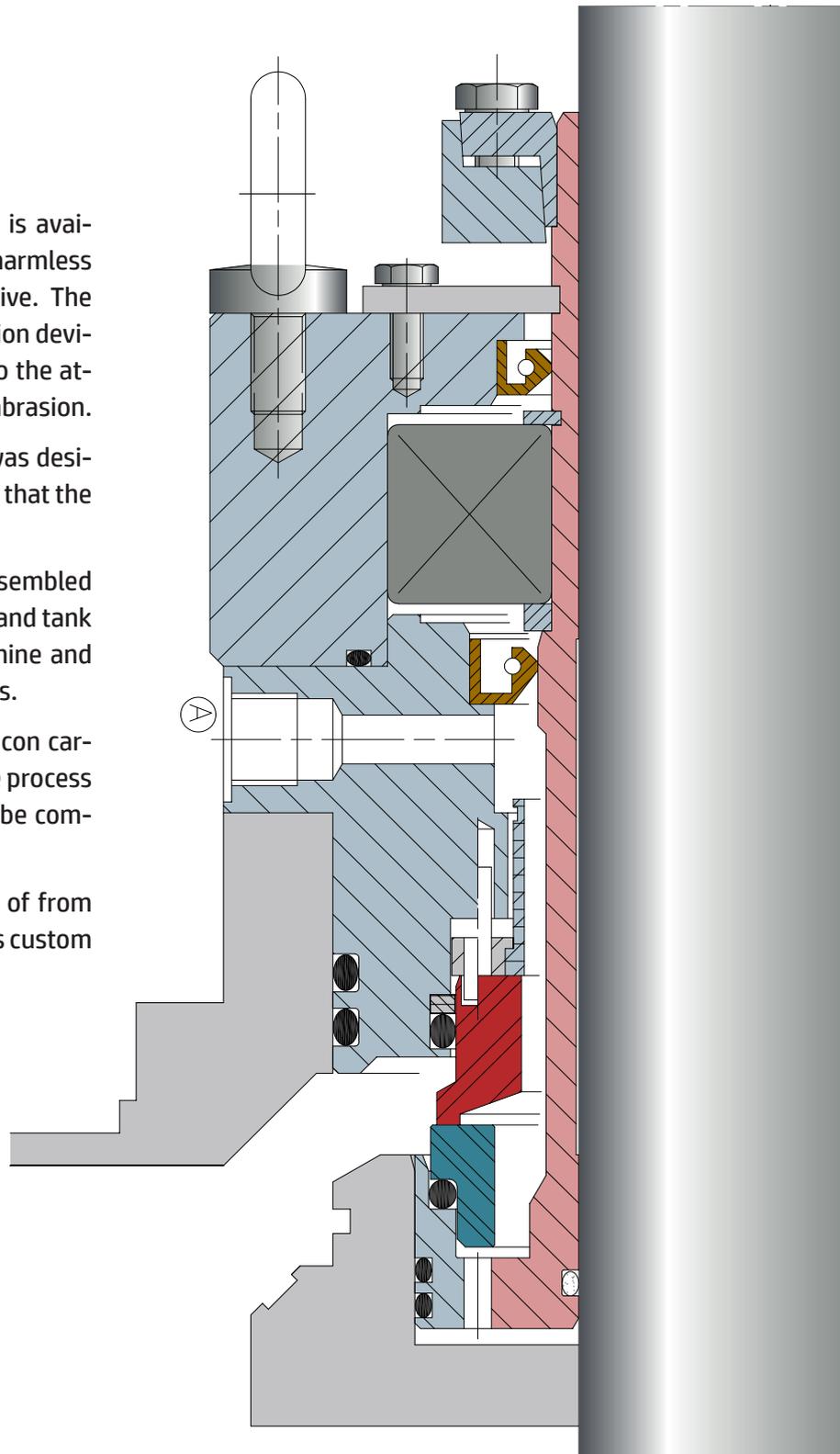
Shut-off device: The Fluiten sealing assembly was designed together with the agitator manufacturer so that the seal may be removed when the tank is full.

Cartridge: The Fluiten GTA/10774 seal is pre-assembled in the correct working position on a shaft sleeve and tank coupling flange. Maintenance work on the machine and seal does not require complicated measurements.

Materials: The sealing surfaces are made of silicon carbide so that they resist the abrasive action of the process liquid. The seals and metal parts are chosen to be compatible with the process liquid.

Dimensions: Available for agitators with shafts of from 40 mm to 180 mm. The tank attachment flange is custom made according to the size of the machine.

Inches dimensions available



In the next bulletin, we will discuss Fluiten single mechanical seals with backup and without lubrication for light hydrocarbons or solvents. Please let us know if you are interested in receiving the next technical bulletin or send us the address of people who are interested in the subject.