

“Explosion-proof WATT- Parallel shaft geared motors for BIODOS automatic feeders“

The operation of biogas installations requires the utilization of gear units with high-degree explosion proofness. This is why this branch is increasingly using WATT Drive Parallel shaft geared motors of the type FUA 85S IA 132M4 in explosion-proof (ATEX) execution.

Messrs. *Eckart Maschinenbau GmbH*, D-94571 Schaufling (subsidiary of the Austrian company *Röhren- und Pumpenwerk BAUER Gesellschaft m.b.H.*, A-8570 Voitsberg) are considerably increasing their gas production (optimum feeding) out of biogas installations with their all-automatic feeder in conjunction with WATT Drive high-quality drive units.

Eckart BIODOS Automatic feeder:

The additional feeding of biogas installations (figure 1) with reproductive materials, like maize, grass, etc. contributes to an increased gas yield and, with this, improves also the economic effectiveness of the installation.

The WATT Drive drives used deliver the raw materials (coenzymes) from the automatic feeder to the biogas plant. Feeding is fully-automatic, either through timing pulses or by means of weighing.

The aggressive gas atmosphere demands an adequate protection of the installation parts as well as of the drives. A closed glass fibre reinforced plastic laminate mantle protects the large-size dimensioned conveyor worm. So, the drives of choice are designed in explosion-proof execution according to **ATEX 95 - II 3G T4**.

There will be used WATT-Parallel shaft geared motors of the type **FUA 85S IA 132M4**. (figure 2)

The parallel shaft geared motors will be slipped on the conveyor worm through the hollow shaft. The torque link support is made through the two ends of the unilaterally machined Uniblock housing with two each rubber buffers.



Technical data:

Power: 7,5 kW
 Output speed: 35 U/min
 Voltage/Frequency/Connection: 400/690V,50Hz, D/Y
 Protection class/Isolation class: IP55/F
 Degree of protection for zone 2: II 3G EEx nA II T3

Design of the gear unit according to ATEX:

- The gear units have been designed with impact-proof hollow shaft cover or shrinkage washer covering.
- Screws are secured/locked against working loose.
- Oil types with elevated temperature stability will be used.
- Special pressure vent plug

According to ATEX the gear units can either be used for gas explosion protection (G) or for dust explosion protection (D).

For the following EX areas will be issued an ATEX approval:

Equipment group I category M2: I M2 c
 Equipment group II category 2: II 2G c T4
 II 2D c 120°C
 Equipment group II category 3: II 3G T4
 II 3D 120°C

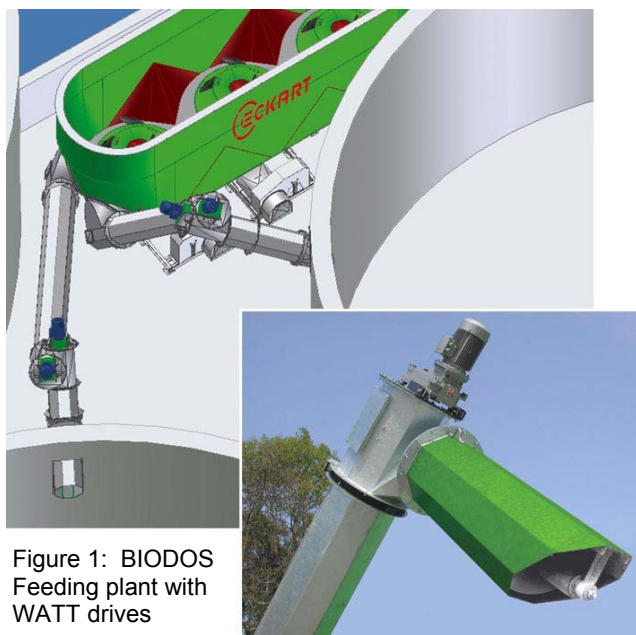


Figure 1: BIODOS Feeding plant with WATT drives

Figure 2: WATT - Parallel shaft geared motor



Further information related to Watt's production programme is available on our web side www.wattdrive.com.