

Clockwork beltfeeders

The clockwork beltfeeder is a low cost automatic feeder excellent for distribution of small quantities of feed. All-in-one moulded rigid PVC box and lid ensure a weather-proof construction. The clockwork beltfeeder operates without electric power

Available in two sizes with running time of 12 or 24 hours:



MINI capacity 3 kg

Length : 56 cm
Width : 20 cm
Height : 15 cm



MAXI capacity 5 kg

Length : 56 cm
Width : 30 cm
Height : 15 cm

CJ-feeders



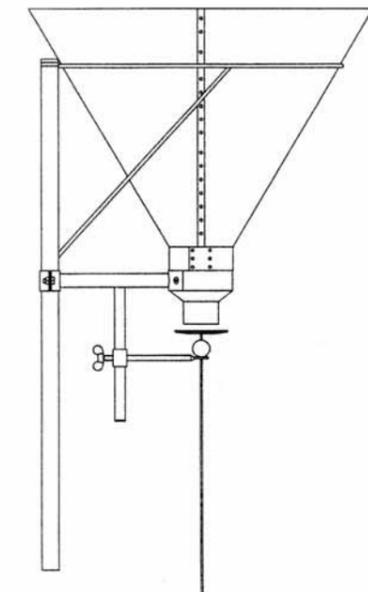
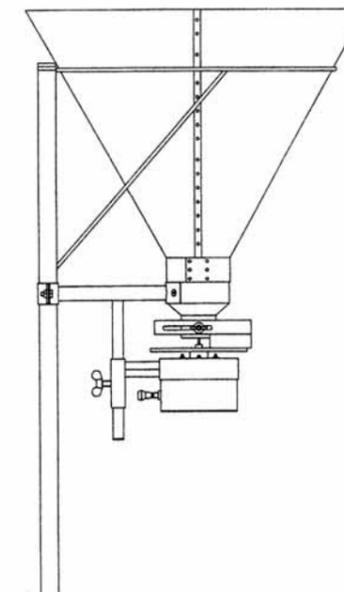
CJ offers a range of highly reliable feeders with a wide field of applications. Due to its uniform construction the motor unit and pendulum are exchangeable, enabling the farmer to use the feeder for early weaning with motor or apply appetite feeding using the pendulum.

The CJ feeder can be equipped with various silos 5 - 100 L transparent plastic funnels.

Dosing of the feed can be regulated for each feeder by adjustment of the opening between the silo outlet and the feeding disc.

For outdoor feeding a very robust model can be delivered with an outside collar around the feeding disc to protect it from splashing and/or strong winds.

The feeders are equipped with a 24 VAC motor unit. A control unit can be supplied with included transformer (230 VAC to 24 VAC). With the included clock and timer the feeders can feed accurately during a preset period.



Arvo-Tec feeding equipment



Currently feeding is very labour intensive, due to time consuming monotonous activities as weighing feed portions per tank and distributing the feed over the farm. To reduce the labour involvement in feeding, automatic feeding systems will play an important role

in the near future on all modern fishfarms. Another time-consuming aspect, which is often neglected, is the data collecting and storage of the growth results related to the feed rations given. With the data easily available,

the farmmanager can take actions to increase growth rates and/or to decrease the feed conversion ratios.

Feed consumption can be affected by oxygen depletion in tanks. Therefore all the Arvo-Tec feeding systems can be connected with oxygen measurement equipment to detect the actual oxygen levels in the tank. Either oxygen supply during the depletion is stimulated or feeding is reduced until conditions have improved. The knowledge and experience already gained by Arvo-Tec in the salmon industry and the interaction with customers will ensure that the equipment will always be up dated with the newest developments and adapted –where necessary– to the specific needs of the cultured species. New developed equipment by Arvo-Tec is always thoroughly tested and used on site in their own fish farm.

Arvo-Tec control system is an integrated feeding, measurement and alarm system. Feeding amounts are automatically calculated, separately for each tank according to the incoming water temperature and oxygen content. The control system is easy to use with menu driven display and with optional MS Windows based PC-connection.

Technical specifications:

- 24 VAC/VDC or 12 VDC power
- max 32 feeders per control unit
- max 30 control units per system
- max. 7 measurements per local control unit, with 2 alarm/ control outputs
- 2 program versions: simple and advanced
- optional MS Windows based PC-connection

T-drum feeders

The Arvo-Tec “T-drum” feeder is a precision feed dosing machine. The important feature of the T-drum feeder is the special dosing outlet, which guarantees an exact feed dosing. This means that when more feeders are installed, they all have exactly the same dosing speed. Therefore only one feeder has to be calibrated to a specific type of feed. All other feeders in the system will thus distribute the same required feed dose. The number of doses and thus the feed amount per tank is controlled by the central control unit. The feed dose supplied by the T-drum is accurately divided in portions, where each portion can be chosen in advance considering the required feeding regime. Portion size can be selected from 100 g per portion down to 0.1 gram per portion. The T-drum feeder will allow you to feed with an accuracy better than $\pm 98\%$. Pellet sizes can be used in the range from 0.9 mm.



In the standard version of the control unit, the desired

feeding amount is divided over the pre-set time-interval. The control unit can automatically adjust the feeding amount based on the daily weight increase/growth.

With the advanced program more data can be used to calculate the feeding regime (stocking density, fish size, temperature etc). The control unit selects the feeding regime from preset feeding tables. The only labour involved in this system will be to top up the silo of the T-drum feeder, to guarantee a continuous well controlled feed supply.

Windows based software links the control unit to a computer for easy access of the program settings and data. With the data collected in a spread sheet program the manager can easily monitor and adjust his feeding data. For optimal spreading of the feed over a large area, a spreader can be added to the T-drum feeder.



Technical specifications:

- Motor: 24 VAC, 7 W, 2 rpm.
- Hopper size: Transparent funnel in 1, 5 or 9 l.
PE silo in: 50, 150, 600 or 1200 l.
- Spreader with a range of up to 13 m depending on pellet size.
Typical: 5-7 m spreading (2 m width) with 0,5-1 mm pellets.
1-10 m spreading (1.5 m width) with 11 mm pellets.

Feeding robots



The Arvo-Tec feeding robot is capable of distributing the feed in a fishfarm and has the same accurate feed dosing system as the T-drum feeder. The robot moves along a rail above the tanks and fills either a local feeder for further distribution or feeds directly into the fish tank. Feeding to the fish tank can either be made from a stationary position or during movement so that the feed is spread over the tank. The robot can be equipped with a maximum of four silos ensuring all fish get the proper feed size. During transfer periods of the fish to a larger pellet size, a mixture out of two silos can be fed simultaneously. This makes

weaning of the fish to the larger pellet easier. Again the precision distribution system as used in the T-drum feeder, guarantees a secure control of feeding by the built in microprocessor. A computer software program gives the farm manager easy access to data and he can control the robot from his desk. The built-in robot system can be automatically filled at a filling station, which reduces the involved labour to almost zero.

- speed variable between 2,2 and 22 m/min.
- battery powered 2 x 12 (24) VDC
- 2-4 different feeds in 45 or 100 l. silos
- max. rail length 400 m
- max. 199 tanks per robot
- rail: standard 80 mm steel "I", INP 80, DIN 1025
- "eye" to avoid collision

Options:

- temperature and oxygen related feeding with control computer
- MS windows based PC-connection (max. 4 robots per system)
- automatic filling station



Centralized hatchery feeders

The OCEA centralized hatchery feeder is capable of distributing feed to all tanks in a hatchery from a central position. Feed is distributed from the feeder to each tank by 20 mm PE pipes. Single feed doses even as small as 1 gram are blown to the tanks according to the desired feeding schedule. The hatchery feeder can handle feed particles from 4 mm down to crumbled feed.

The system allows the farmer to control the feeding of each tank individually according to the desired production strategy. It supports both cyclic and attention feeding, automatically optimising the system usage to increase capacity. The operator may

choose whether the feeding should be directed towards desired totals or table recommended amounts. The accompanying software gives full access to all production figures, i.e. growth, feed consumption, FCR, mortality, etc., and also historical data and has the possibility to make a prediction of this data for the future.

As the system is operated by an independent control unit, it is fully operational and adjustable even if the connected computer breaks down or is removed. All historical data may also be retrieved from the controller. The OCEA software has built-in functionality for data export to farm management software. Feed adjustment according to environmental input (oxygen, temp) and remote control by wireless network, radio, telephone or Internet.

The systems may be supplied as a compact unit integrated with silos. Custom made silos ranging from hundred kilos up to fifty tons or more can also be supplied.

OCEA hatchery feeders can be custom made for any farm, and are today used for species like salmon, trout, sole, turbot, sea bass, sea bream, eel and cod. The range of feeders goes from 20 mm and 50 mm pipe systems designed for hatcheries up to 90 mm pipe systems for ongrowing and offshore sites (See Offshore farming).

