

CEDROB S.A.

Ciechanów, Poland

TYPE OF INDUSTRY	Poultry slaughterhouse and meat processing plant
MODEL OF DEHYDRATOR	MDQ-101
DATE OF PILOT TESTS	August, 2016

ISSUE

The client could not achieve high DS content of sludge cake with the existing centrifuges (barely 13.5 % was achieved with the polymer dose of nearly 19 g/kg DS (38 lb/tonDS). Due to high operation and sludge disposal costs, the client wanted to find a more effective solution and for that was looking for other types of dewatering equipment.

SOLUTION

EKOTON brought MDQ-101 dehydrator with ancillary equipment to the WWTP to perform on-site pilot tests. During the tests, optimum polymer type and operating parameters were determined which resulted in 30 % higher cake DS concentration and consequent reduction of sludge disposal costs as well as reduction of polymer consumption by more than 50 % compared with the existing centrifuges. The client also noted very low energy consumption of the MDQ dehydrator and low rotation speed of its screw which resulted in slower wear and tear processes compared with the centrifuges.

RESULTS

TYPE OF SLUDGE	Mixture of waste activated sludge and anaerobically digested DAF-sludge (nearly 50:50 %)
UNIT SLUDGE SUPPLY	0.10–0.22 m ³ /h (0.44–0.97 GPM) 3–6 kg DS/h (6.6–13.2 lb DS/h)
FEED SLUDGE DS CONCENTRATION	2.86–2.99 %
CAKE DS CONCENTRATION	16.3–19.5 %
AVERAGE POLYMER DOSE	4.0–8.4 g/kg DS (8.0–16.8 lb/ton DS)
FILTRATE SS CONCENTRATION	40–500 mg/l (40–500 ppm)
SOLIDS CAPTURE	97.3–99.9 %

