

CASE STUDY

WTDS-301 Disc Press Installation



Background

In 2019, a large manufacturer of construction products contacted DHMO to enquire about dewatering systems. At the time, a temporary decanter centrifuge from a large OEM was in place to dewater the site's DAF sludge. A permanent installation was being considered. The client had extensive experience of using decanter centrifuges and had concerns around maintenance requirements and reliability.

Research & Testing

Following a site survey, DHMO proposed a trial of their WTDS dewatering system. This would allow for extensive testing and, if successful, give the client confidence in the WTDS dewatering system or help to rule it out.

The trial unit was installed and ran in parallel with the OEM's centrifuge.

Test Results

Results showed immediately that the WTDS produced better quality filtrate and, with a change to the polymer being used, 2% drier solids were also achieved.

After a 2-week trial, the WTDS was removed and the client paused to weigh their options. It was found that, not only was the WTDS simpler to operate and more reliable than the temporary centrifuge, it also consumed around 1/3 of the polymer and a little over 1/10 of the power.

Solution

A Disc Press was the preferred technology for the permanent installation. Further quotes from manufacturers of similar technology were sought to ensure value for money, which DHMO assisted with.

DHMO was awarded the installation after a few weeks and a WTDS-301, DHMO's mid-range, single-screw system, was purchased and installed. The WTDS-301 system is considerably larger than the WTDS-201 trial system. It was selected to allow for future expansion of the site.

Installation Difficulties

Part-way through the build, there was an issue raised with the company's chemical handling on-site. The WTDS was to be installed on a platform several stories above ground level and there were concerns around the lifting of polymer IBC's up to that level. After further investigation, it was decided that a new split-skid design would be utilised. This consisted of one skid with the disc press and cake pump, to be installed on the overhead platform, and a second skid with the control panel and polymer make-up system to be installed at ground level.

Due to the system's wireless 3g interface, the system could be logged into remotely in order to make changes during commissioning, allowing for fast and flexible interpretation of the client's requirements.



Progress

The system has been operating for around 12 months with the only mechanical issue being a failure of the pump head of a chemical dosing pump. This was swiftly rectified and the system placed back online. Very minimal operator input is required for day-to-day running and the system is connected to the site's SCADA, meaning parameters and alarms can be monitored remotely and the system can be automated to start and stop based on tank levels. Overall, the client is extremely happy with the installation.