

-  **Customer:** Agricultural company (Ukraine)
-  **Task:** Fuel consumption monitoring
-  **Machinery:** Tractors with diesel engines
-  **Solution:** DFM fuel flow meter
-  **Result:** 20-30 % decrease in fuel consumption

CUSTOMER

Agricultural company was established in 2001 on the base of collective farm, which existed for 60 years. Over the years, it became leading agricultural company in Kirovogradskaya region of Ukraine.

Company specializes in crop (wheat, corn, sunflower, beet, peas) and livestock production, milk and sugar production.

Factors leading to successful work of the company are: fleet renovation and regular maintenance, introduction of modern methods of engine hours and fuel consumption monitoring.

 **70+** employees

 **30+** machines

 **4500+** hectares of arable land

 **16+** years of successful work

MACHINERY

Company mainly uses MTZ-80 and John Deere 8310R tractors.

MTZ-80 tractor with cultivator is reliable and proven agricultural machine. It came off the assembly line in 1974 and is still in operation. Tractor's engine power is 80 h.p. (4 cylinders, working volume 4.75 L). Volume of fuel tank is 130 L.

Modern tractor John Deere 8310R has been producing since 2011. It is equipped with 6-cylinder engine (working volume 9 L, engine power 310 h.p.). Volume of fuel tank is 695 L.



TASK



From the beginning of operation, all tractors of agricultural company were equipped with fuel monitoring system which includes fuel level sensor and tracking device connected to online telematics service.

The system determines fuel volume and shows tank refilling and fuel draining from tank. However, it has considerable shortcomings. Agricultural machines often work on rough terrain, which causes noticeable fluctuations in fuel tank. In this case fuel level sensor can't determine fuel volume accurately. Fuel consumption volume, which is calculated on telematics server, differs much from reality.

Also, subscription fee is charged for using online telematics service.

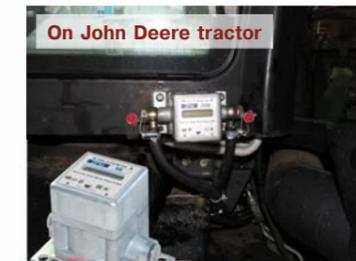
Top management of agricultural company decided to equip tractors with devices, that can measure engine fuel consumption and display received data without connection to telematics service.

SOLUTION

DFM autonomous fuel flow meters are mounted into fuel supply line of vehicle's engine and measure actual fuel consumption.

Autonomous fuel flow meter is equipped with display, where instant, total and fuel consumption in different workload modes are shown. Technical specialist sees this data and records it in special journal (statement).

Also, information about interference into operation of fuel flow meter is registered and shown on display.



On John Deere tractor



On MTZ tractor

DFM

Autonomous fuel flow meter DFM 250B and DFM 100B

Specific model of fuel flow meter and installation scheme is chosen depending on fuel consumption volume and specifications of tractor's fuel supply system. DFM 100B fuel flow meters were mounted on MTZ-80 tractors, DFM 250B – on John Deere 8310R tractors. Fuel flow meter installation doesn't prevent fuel flow through the supply line. Autonomous fuel flow meter is power-supplied from embedded battery and there is no need in connection to tractor's electric system.



Artyom Pepelyavev, Technoton:

"Agricultural company's primary requirement was accurate fuel volume monitoring in harsh environment. In current economic situation, customers usually request solution with minimum additional operational cost."

Technoton suggested to install autonomous DFM fuel flow meters. It allows to implement effective fuel monitoring system without installation of vehicle tracking device and paying subscription fee for telematics service. These models of fuel flow meters are in great demand."

RESULT

Autonomous DFM fuel flow meters were installed on 16 tractors at the beginning of 2016. After installation, **fuel economy reached 20-30 %** (depending on model and technical condition of engine). It took **2 month to return costs** of purchasing and installation of flow meters.

Robust design of DFM fuel flow meter ensures performance even in sever conditions of operation. DFM fuel flow meters work without any failures for almost two years already.

Vladimir Gavrush, director of agricultural company:

"Technoton fuel flow meters are reliable and accurate devices. We receive data on real fuel consumption after the flow meters were installed on MTZ and John Deere tractors. Now we can optimize fuel costs and as result - increase our profitability."

Technoton products are modern high-tech equipment, affordable and reliable. We are planning to install DFM fuel flow meters on other tractors and machines in our company fleet."

