

## Project Details

Project name:..... **METERING SKIDS FOR TURKMENBASHI COMPLEX OF OIL REFINERIES, TURKMENISTAN**

Contractor, contact: ..... AUTEL, a.s., Vladimír Dušek, Marketing Sales Manager

Scope of works: ..... Design, fabrication and start-up assistance

Period of performance: ... 2008 (design & fabrication) to 2009 (start-up)

Project details: ..... There are 14 metering skids for custody transfer of different oil products. The skids have been installed in the sea terminal in the Turkmenbashi complex for measuring and control of amount of products when loaded into ships.



Each skid is equipped with two metering lines which allow both parallel and stand-by operation. Connections for a prover are available, too.

The skid consists of a metal frame onto which pipes, ball valves, butterfly control valves, pressure safety valves, pressure gauges, drainage system, field instrumentation and auxiliary equipment have been installed. Part of the ball valves is equipped with electrical drives to allow automated flow control and setting the mode of operation. All the ball valves have the DBB (double block and bleed) design to provide dual isolation.

The instrumentation consists of a pair of 6" mass meters,



temperature and pressure transmitters and of a batch controller. All electrical equipment inclusive junction boxes is pre-wired to allow easy and quick integration with electrical and SCADA system on-site. The skids for heavy fuel oil are additionally equipped with electrical heating and thermal insulation.

The skids have been designed to allow easy handling and transport by common road trucks.

The skids meet requirements of ATEX and PED. All the skids have been completely set, and pretested before delivery (X-ray, pressure test, electrical loop test, function test).

### Basic technical data

Suitable for measuring of	heavy fuel oil, heating oil, gas oil, diesel, jet fuel, petrol
Nominal flow through the skid (2 lines)	1 200 t/h
Maximum flow through the skid (2 lines)	1 400 t/h
Nominal flow through one line	600 t/h
Maximum flow through one line	1 100 t/h
Error of measurement at 120 to 1 200 t/h	≤0,2%
Design temperature	-20 to + 50 deg. C
Design pressure	PN 16
Main pipe connections	DN 350
Proover connections	DN 200
Dimensions (width x length x height)	2,3 x 8,1 x 2,3 m
Weight without electrical heating and insulation	8 400 kg
Weight with electrical heating and insulation	8 600 kg
Power supply without electrical heating	380 VAC, ≤2 kVA
Power supply with electrical heating	380 VAC, ≤10 kVA
Weather protection	IP54