



ENGINEERING COMPANY

WEST OIL



GFMS DOMESTIC PRODUCTION OF GAS FLOW MEASUREMENT SYSTEM





WEST OIL Engineering Company LLP is a domestic manufacturer of goods, works and services with high Kazakhstani content, which is confirmed by the Industrial Certificate and ST-KZ certificates for the entire range of manufactured products.

“WEST OIL” advantages



Local
Content



Guarantee of
implementation and
subsequent operation
of the system



Full cycle
engineering

Measurement method

As a domestic manufacturer,
we offer gas flow measurement systems (GFMS) **of Kazakhstani production, using
the measurement method with standard narrowing devices**
according to GOST 8.586-2005



WEST OIL's GFMS includes equipment of its own production

SCA - standard camera aperture

SFD - standard flange diaphragm

FDAC - flanged diaphragm with annular chambers

QRCD - quick release constriction device



- straight sections of piping
- constriction devices SCA, SFD, FDAC, QRCD
- diaphragms



- differential pressure transducer
- pressure sensor
- temperature sensor



- measuring and computing complex (MCC)

The model range of WEST OIL's systems includes
18 modifications



flow range

from 235 m³/h to 152053 m³/h



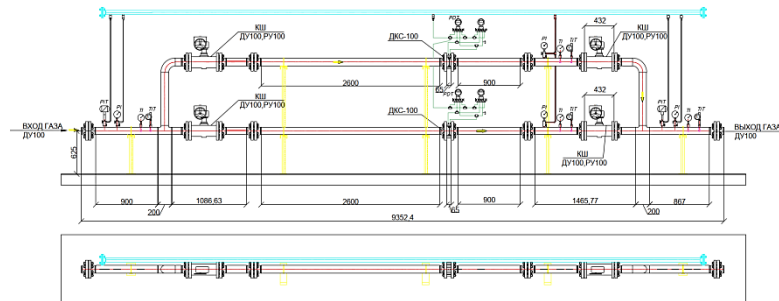
pressure

from 0.1 MPa to 10 MPa



temperature of the measured medium

from -23°C to +50°C



Gas flow rate calculation along the measuring line

| # | Pipeline diameter | D20 | d20 | Local resistance before the restriction device | Local resistance after the constriction device | Measuring pipeline after the restriction device | P | T | Δpmax | Q min | Q max | δ |
|---|-------------------|-----|-----|------------------------------------------------|------------------------------------------------|-------------------------------------------------|-----|----|-------|-------|-------|-----|
| | | mm | mm | m | m | m | MPa | °C | kPa | m³/h | m³/h | % * |

Pressure 0.1-1.6 MPa

| | | | | | | | | | | | | |
|-----|-----|-----|-------|-----|------|-------|---------|-----------|----|--------|--------|-------|
| 1.1 | 100 | 98 | 12,51 | 1,3 | 0,65 | 0,540 | 0,1-1,6 | -23 - +50 | 20 | 77,128 | 233,96 | 1...2 |
| 1.1 | 100 | 98 | 73 | 2,6 | 0,9 | 0,800 | 0,1-1,6 | -23 - +50 | 44 | 2062,9 | 13902 | 1...2 |
| 2.1 | 150 | 149 | 15 | 1,8 | 0,8 | 0,745 | 0-1,6 | -23 - +50 | 20 | 66,447 | 334,86 | 1...2 |
| 2.2 | 150 | 149 | 111 | 3,6 | 1,2 | 0,745 | 0-1,6 | -23 - +50 | 43 | 4629,3 | 31571 | 1...2 |
| 3.1 | 200 | 207 | 21 | 2,5 | 1,2 | 1,100 | 0-1,6 | -23 - +50 | 20 | 106,49 | 652,1 | 1...2 |
| 3.2 | 200 | 207 | 155 | 5,0 | 1,7 | 1,100 | 0-1,6 | -23 - +50 | 43 | 8988,7 | 61517 | 1...2 |

Pressure 0.1-6.3 MPa

| | | | | | | | | | | | | |
|-----|-----|-----|-------|-----|------|-------|---------|-----------|----|--------|--------|-------|
| 1.1 | 100 | 94 | 12,51 | 1,3 | 0,65 | 0,540 | 0,1-6,3 | -23 - +50 | 20 | 147,67 | 490,02 | 1...2 |
| 1.1 | 100 | 94 | 70 | 2,6 | 0,9 | 0,800 | 0,1-6,3 | -23 - +50 | 43 | 3922,4 | 26631 | 1...2 |
| 2.1 | 150 | 143 | 15 | 1,8 | 0,8 | 0,745 | 0,1-6,3 | -23 - +50 | 20 | 136,92 | 701,36 | 1...2 |
| 2.2 | 150 | 143 | 107 | 3,6 | 1,2 | 0,745 | 0,1-6,3 | -23 - +50 | 43 | 9020 | 62026 | 1...2 |
| 3.1 | 200 | 201 | 21 | 2,5 | 1,2 | 1,100 | 0,1-6,3 | -23 - +50 | 20 | 221 | 1365,9 | 1...2 |
| 3.2 | 200 | 201 | 150 | 5,0 | 1,7 | 1,100 | 0,1-6,3 | -23 - +50 | 43 | 17501 | 121132 | 1...2 |

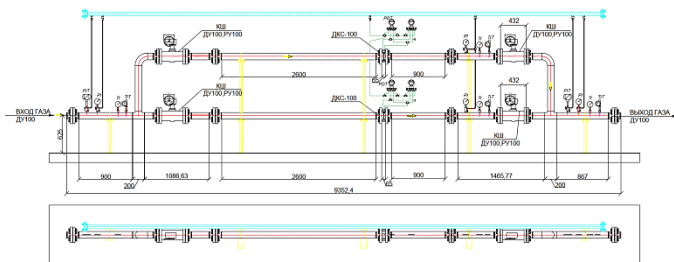
Pressure 0.6-10 MPa

| | | | | | | | | | | | | |
|-----|-----|-----|-------|-----|------|-------|--------|-----------|----|--------|--------|-------|
| 1.1 | 100 | 92 | 12,51 | 1,3 | 0,65 | 0,540 | 0,6-10 | -23 - +50 | 20 | 195,53 | 639,89 | 1...2 |
| 1.1 | 100 | 92 | 69 | 2,6 | 0,9 | 0,540 | 0,6-10 | -23 - +50 | 43 | 5026,8 | 34007 | 1...2 |
| 2.1 | 150 | 141 | 15 | 1,8 | 0,8 | 0,745 | 0,6-10 | -23 - +50 | 20 | 179,21 | 915,83 | 1...2 |
| 2.2 | 150 | 141 | 105 | 3,6 | 1,2 | 0,745 | 0,6-10 | -23 - +50 | 43 | 11307 | 77800 | 1...2 |
| 3.1 | 200 | 197 | 21 | 2,5 | 1,2 | 1,100 | 0,6-10 | -23 - +50 | 20 | 288,81 | 1783,6 | 1...2 |
| 3.2 | 200 | 197 | 147 | 5,0 | 1,7 | 1,100 | 0,6-10 | -23 - +50 | 43 | 21972 | 152053 | 1...2 |

* - confirmed by calculations

Made in KZ

The WEST OIL team develops and implements GFMS projects, using equipment of Kazakhstani and domestic production, **which maximizes local content in manufacturing**



For each manufactured system, **full-cycle engineering is carried out:** equipment selection, design, assembly, instrumentation, automation, commissioning at the customer's site, metrological certification, and subsequent service support.

Documents

“WEST OIL” has all necessary licenses and certificates



Industrial certificate
of domestic manufacturer

| Наименование товаров, работ, услуг (рус.яз) | Код ТН ВЭД ЕАЭС | Код КП ВЭД | Код ЕНС ТРУ |
|------------------------------------------------------------------------------------------------|--------------------|---------------|-------------------|
| Автоматизированная групповая замерная установка АГЗУ-Поток-400-14-4,0 - 1 категория | 9026808000 | 26.51.52 | |
| Система измерений количества и качества нефти (СИКН) - 1 категория | 9026808000 | 26.51.52 | |
| Система измерений расхода газа (СИРГ) - 1 категория | 9026808000 | 26.51.52 | |
| Блок измерения количества и показателей качества нефти и нефтепродуктов (БИК) - 1 категория | 9026808000 | 26.51.52 | |
| Система отбора проб - 1 категория | 9026808000 | 26.51.52 | |

“WEST OIL” has all necessary licenses and certificates

EAC Declaration of goods conformity

Origin of Goods Certificate

ST-KZ form

Documents

“WEST OIL” has all necessary licenses and certificates



**1st and 2nd category License
for project activities**

**1st and 2nd category License
for construction and installation work**

**ISO ST RK Certificates
9001:2016
14001:2016
45001:2019**



Implemented projects

PROJECT: Construction of the Rozhkovskoye oilfield

Operational water metering unit

Commercial condensate metering unit

Commercial gas metering unit



MAIN DATA

Location: Kazakhstan,
West Kazakhstan region,
Rozhkovskoye oilfield

Customer:
Neftestroy servis Ltd LLP

Safety Incidents: 0

Sales period: 10 months

Scope of work:

- Development of technical solution;
- Equipment supply;
- Engineering;
- Assembly and acceptance testing;
- Installation and commissioning;
- Commissioning of the system.

The system provided a solution to the following customer tasks:

- Operational water metering with standardized accuracy;
- Commercial gas metering;
- Commercial condensate metering.

Brands used:

- Emerson
- Endress+Hauser
- Wika

**PROJECT: Modernization of measuring instruments of gas metering units of TPP-1, TPP-2 and TPP (1st stage)
for Mangistau Nuclear Power Plant LLP**



MAIN DATA

Location: Kazakhstan,
Mangistau region, Aktau city,
Customer: MNPP LLP
Safety Incidents: 0
Sales period: 12 months

Scope of work:

- Development of technical solution;
- Detailed design;
- Equipment supply;
- Engineering;
- Assembly and acceptance testing;
- Installation and commissioning;
- Commissioning of the system.

The system provided a solution to the following customer tasks:

- Determination of volumetric flow rate of natural gas;
- Registration, storage and transmission of information to the telemetry system and SCADA.

Brands used:

- Siemens
- Emerson
- SCADA systems construction

PROJECT: Gas flow measurement system (GFMS)
for Embamunaigas JSC, customer Kerneu Limited LLP



MAIN DATA

Location: Kazakhstan,
Mangistau region,
Tolkyn oilfield
(Prorvinskaya oilfield group)
Customer: Kerneu Limited LLP
Safety incidents: 0
Sales period: 6 months

Scope of work:

- Development of technical solution;
- Detailed design;
- Equipment supply;
- Engineering;
- Assembly and acceptance testing;
- Installation and commissioning;
- Commissioning of the system.

The system provided a solution to the following customer problems:

- Automated measurement of volumetric flow rate, quantity (volume) and quality of dry purified natural gas (determination of component composition, density, dew point temperature for moisture and hydrocarbons), when conducting accounting and settlement operations.

Brands used:

- Ametek - Ruffneck
- Emerson - SCADA systems construction
- CPO3C

PROJECT: Gas flow measurement system (GFMS) for Ken-Sary LLP



MAIN DATA

Location: Kazakhstan,
Mangistau region,
Arystanovskoye oilfield
Customer: Ken-Sary LLP
Safety incidents: 0
Sales period: 12 months

Scope of work:

- Development of technical solution;
- Detailed design;
- Equipment supply;
- Engineering;
- Assembly and acceptance tests;
- Installation and commissioning;
- Metrological certification;
- Commissioning of the system.

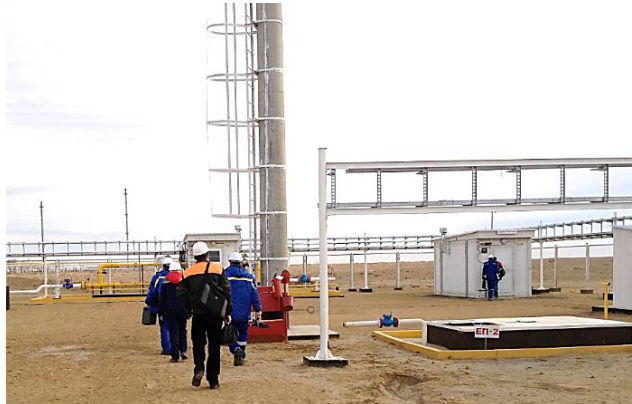
The system provided a solution to the following customer tasks:

- Determination of volumetric flow rate of natural gas;
- Control of hydrogen sulfide analysis;
- Determination of dew point for hydrocarbons;
- Determination of the moisture level of natural gas;
- Determination of the component composition of gas;
- Registration, storage and transmission of information to the telemetry system and SCADA.

Brands used:

- GE Sensing, Emerson, Ametek, Rotork
- SCADA systems construction

PROJECT: Gas flow measurement system (GFMS) for Meerbusch LLP



MAIN DATA

Location: Kazakhstan,
Mangistau region,
Kulzhan oilfield

Customer: Meerbusch LLP

Safety incidents: 0

Sales period: 12 months

Scope of work:

- Development of technical solution;
- Detailed design;
- Equipment supply;
- Engineering;
- Assembly and acceptance testing;
- Installation and commissioning;
- Commissioning of the system.

The system provided a solution to the following customer tasks:

- Determination of volumetric flow rate of natural gas;
- Control of hydrogen sulfide analysis;
- Determination of dew point for hydrocarbons;
- Determination of the moisture level of natural gas;
- Determination of the component composition of gas;
- Registration, storage and transmission of information to the telemetry system and SCADA.

Brands used:

- Ametek
- GE Sensing
- Emerson
- Rotork
- SCADA systems construction

**PROJECT: Gas quality analysis unit (GQAU)
for KPO b.v.**



MAIN DATA

Location: Kazakhstan,

Mangistau region,

Kulzhan oilfield

Customer: Meerbusch LLP

Safety incidents: 0

Sales period: 12 months

Scope of work:

- Development of technical solution;
- Detailed design;
- Equipment supply;
- Engineering;
- Assembly and acceptance testing;
- Installation and commissioning;
- Commissioning of the system.

The system provided the solution to the following customer tasks:

- Determination of the component composition of gas with a high content of hydrogen sulfide (5-7%);
- Control over the technological process (control of the content of components C5+);
- Determination of gas humidity;
- Determination of physical and chemical parameters.

Brands used:

- DANI Instruments Spa
- Dräger
- SCADA systems construction
- Ametek
- Ruffneck
- Birdwell
- Siemens

PROJECT: Gas quality analysis unit (GQAU) as part of OQMS for Ken-Sary LLP



MAIN DATA

Location: Kazakhstan,
Mangistau region,
Arystanovskoye oilfield
Customer: Ken-Sary LLP
Safety Incidents: 0
Sales period: 12 months

Scope of work:

- Development of technical solution;
- Detailed design;
- Equipment supply;
- Engineering;
- Assembly and acceptance testing;
- Installation and commissioning;
- Commissioning of the system.

The system provided the solution to the following customer tasks:

- Determination of component composition;
- Determination of dew point temperature for water;
- Determination of dew point temperature for hydrocarbons;
- Determination of low concentrations of hydrogen sulfide in gas;
- Determination of physicochemical parameters.

Brands used:

- Ametek
- Emerson
- Birdwell
- CF03C
- Ruffneck
- SCADA systems construction

**PROJECT: Gas quality analysis unit (GQAU)
for JV Kazgermunai LLP**



MAIN DATA

Location: Kazakhstan,
Kyzylorda region,
Akshabulak oilfield

Customer: JV Kazgermunai LLP

Safety Incidents: 0

Sales period: 6 months

Scope of work:

- Development of technical solution;
- Detailed design;
- Equipment supply;
- Engineering;
- Assembly and acceptance testing;
- Installation and commissioning;
- Commissioning of the system.

The system provided the solution to the following customer tasks:

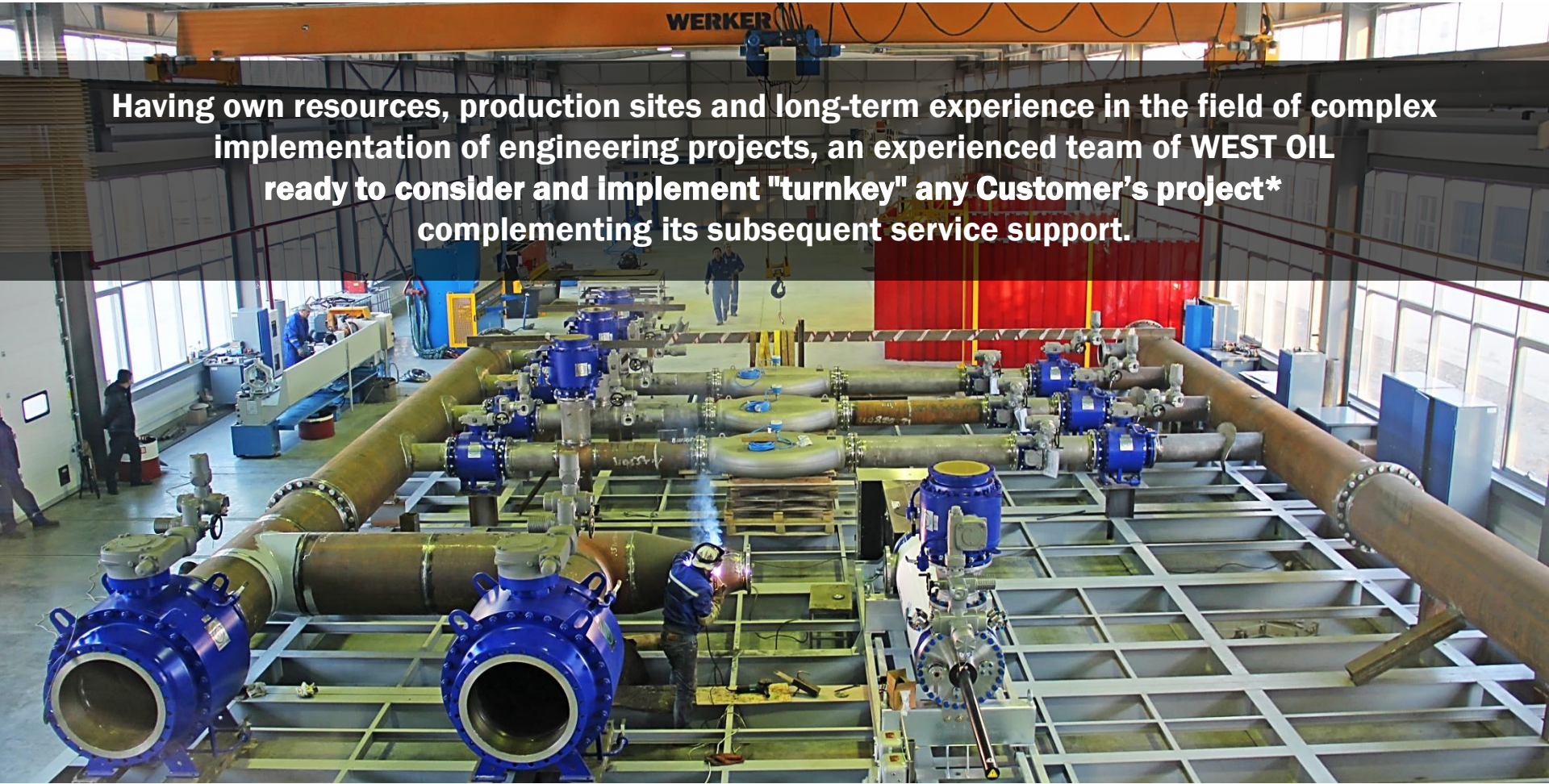
- Determination of dew point temperature for water;
- Determination of dew point temperature for hydrocarbons.

Brands used:

- Ametek
- Stahl
- Birdwell
- CF03C
- Ruffneck

Company resources

Having own resources, production sites and long-term experience in the field of complex implementation of engineering projects, an experienced team of WEST OIL ready to consider and implement "turnkey" any Customer's project* complementing its subsequent service support.



*** Serial or single design and production of products**

Production facilities of WEST OIL are equipped with all the necessary modern equipment and divided into zones of the technological production chain.



**The workshop is combined with an administrative and household building
Total Area 1530 m²**

**COMPANY STAFF
MORE THAN 90 100% KZ RESIDENTS
PEOPLE**

**Highly qualified experienced professionals
at all levels of the production process:**

18

**Manufacturing
Process
Managers**

6

**Design Development
and
Engineering**

6

**Automation
Specialists
Department**

4

**Production
and technical
department**

17

**Instrumentation
Installation
Department**

8

**Service and
Maintenance of
Analytical Equipment**

25

**Mechanical Assembly
Production
Workshop**

6

**Transport
department**

**The distribution of tasks among specialized departments allows you to shorten
the periods of implementation of engineering projects.**

**We are always open for cooperation and are ready to
consider the possibility of implementing projects
of any complexity**

Republic of Kazakhstan,
WKO, Uralsk, 090005,
Democratic St., 7/1
+7 7112 933 325
WhatsApp: +7 777 79 79 101
e-mail: info@ogs.kz

