PBG PORTFOLIO OIL&GAS SECTOR

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ABOUT PBG

PBG aims to provide the supply of turnkey complete processing plants or equipment packages of any size or configuration.
We supply all engineering and project management using our professionally trained engineering group.
PBG proudly offers the following:

- engineering
- manufacturing of equipment/pre-assembled as process skid modules
- turnkey supply of plant and equipment including wellsites, pipelines and processing plant.

As part of the turnkey supply we will provide:

- onsite construction supervision
- commissioning
- start-up
- operations
- maintenance
- personnel training

PBG current experience:

- Crude Oil Plants
- Natural Gas Processing Plants
- LNG Production Plants
- LNG Regasification Satellite Stations
- LNG Terminals
- LPG & Condensate Extraction Units
- Gas Sweetening Units
- Glycol Gas Dehydration Units
- Mole Sieve Gas Dehydration Units
- Sulfur Recovery Unit (SRU)
- Underground Gas Storage (UGS)
- Nitrogen Removal Units (NRU)
- Compression Stations
- Storage Tanks
- Steel Pipelines

PBG has been publicly traded on the Warsaw Stock Exchange since 2004.

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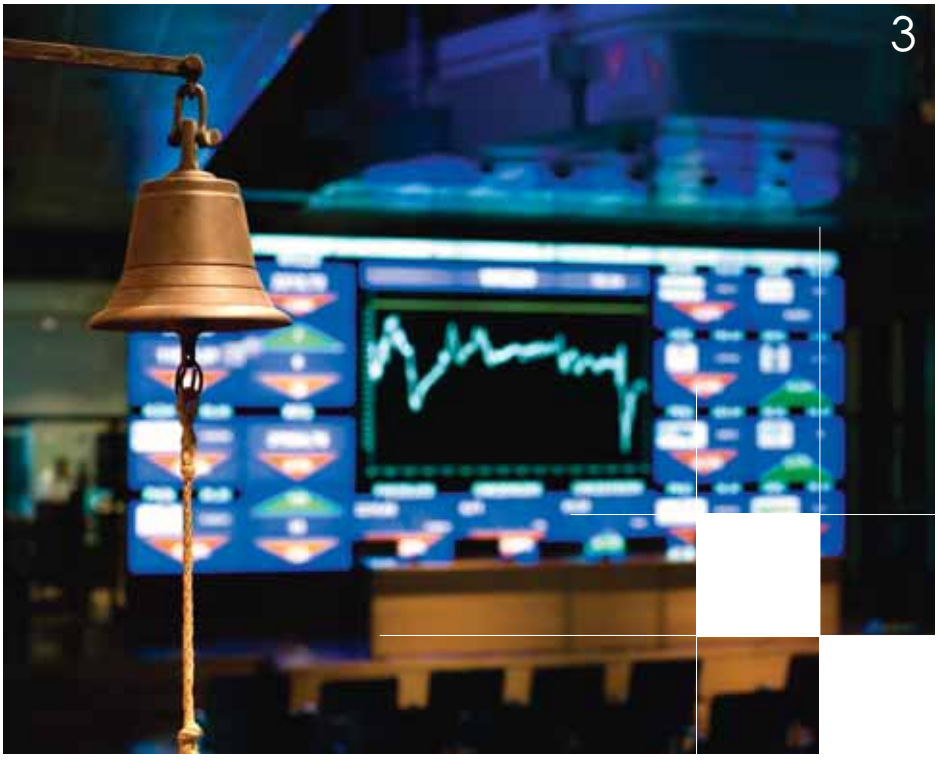

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1 Nitrogen Removal Plant start-up phase, Grodzisk, Poland

2 Documentation standard

3 Warsaw Stock Exchange PBG debut 2004

4 Nitrogen Removal Plant, Grodzisk, Poland

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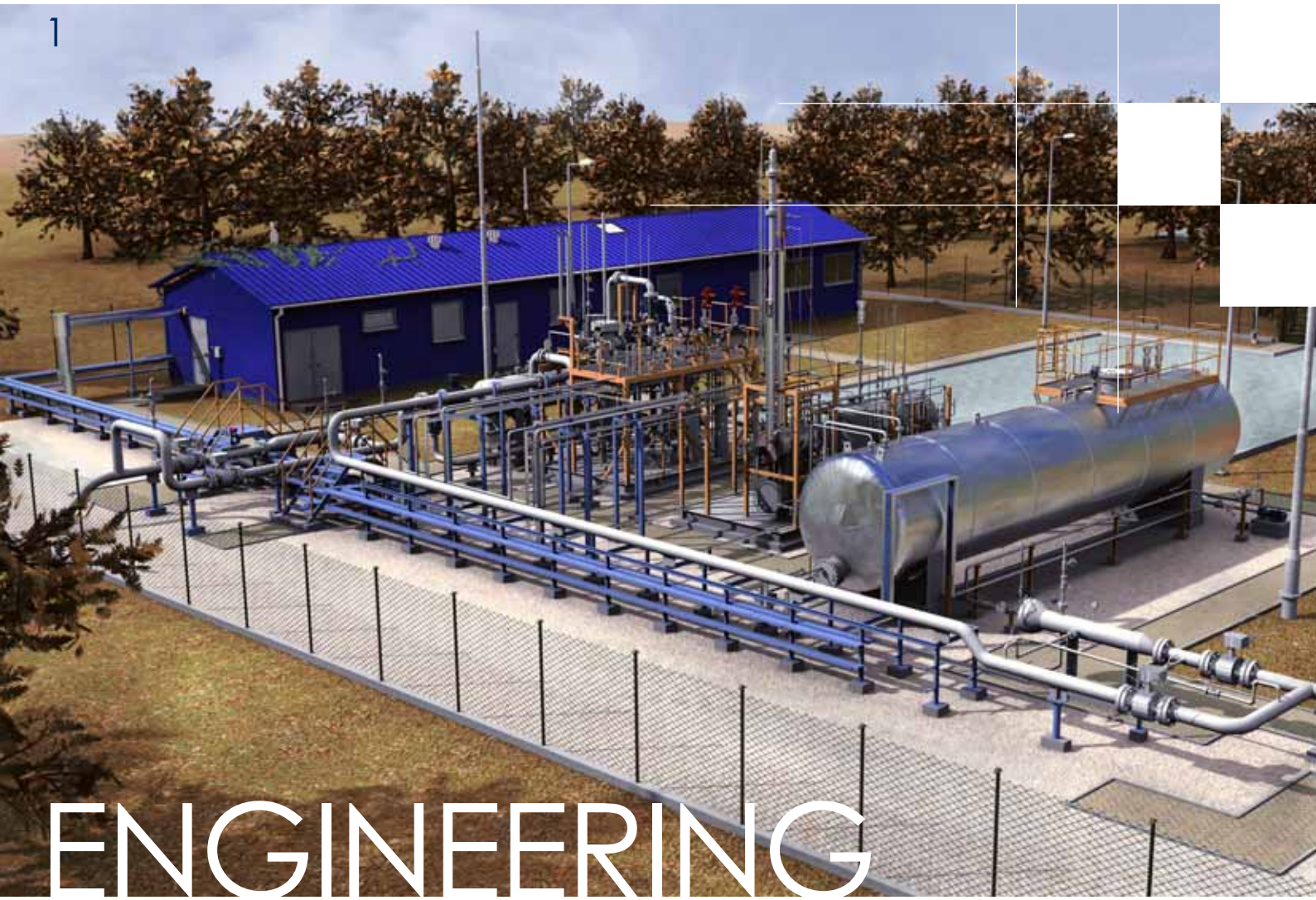


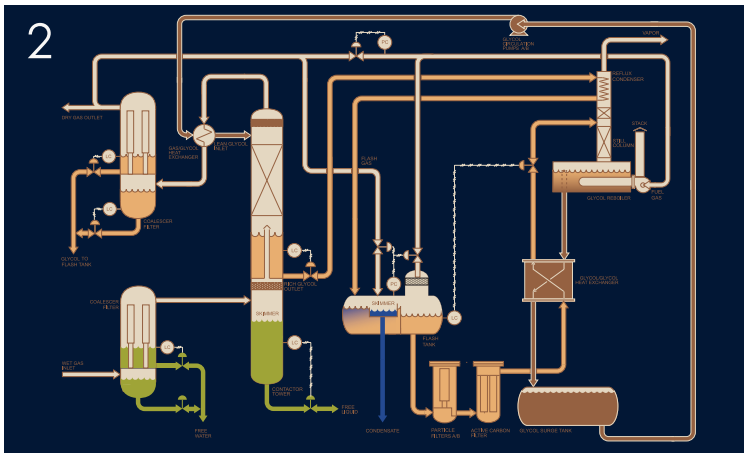
ENGINEERING

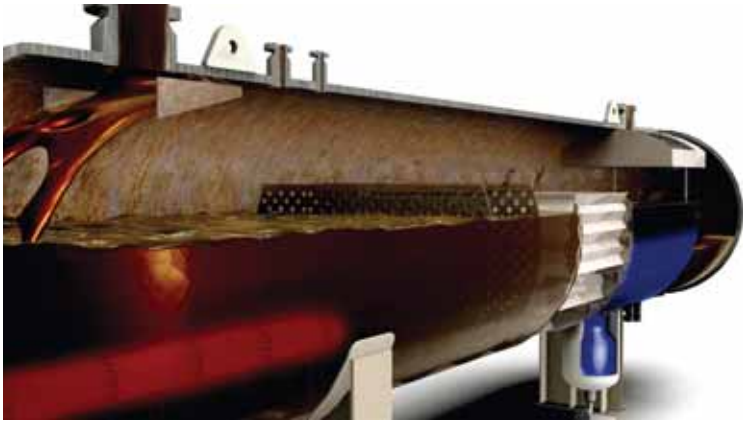
Our multidisciplinary engineering team provides a comprehensive range of services including:

- feasibility study
- basic and detailed design:
  - process
  - mechanical
  - structural
  - civil
  - environmental
  - instrumentation and control system
  - electrical
- as-built documentation
- 3D visualization.

For effective and efficient designing
we utilize modern technology tools such as:

- Aspen HYSYS
- Aspen Exchanger Design and Rating
- Aspen Flare System Analyzer
- Autodesk AutoCAD
- Autodesk AutoCAD Mechanical
- Autodesk Inventor Professional
- Autodesk 3ds Max Design
- Autodesk Robot Structural Analysis
- Bentley AutoPLANT Piping
- Bentley AutoPLANT Equipment
- Bentley AutoPIPE Plus
- Bentley WinNOZL
- OhmTech Visual Vessel Design
- Eplan electric P8
- Eplan PPE
- Eplan schematic generator
- exSILentia
- exSILentia 2
- Primavera Project Planner





1 Natural Gas Plant, Paproc-W, 3DS Max

2 Simplified Flow Diagram

3 3-Phase Separator visualization, 3DS Max

4 Glycol Reboiler visualization, 3DS Max

5 Glycol Regeneration Unit visualization, 3DS Max

CENTRAL FACILITIES

PBG workforce has significant experience in executing large, complicated projects and is dedicated to providing only the highest quality products and services, something which has made PBG a leader in the industries it operates in.

As an international supplier of oil and gas equipment we can provide equipment into the most challenging applications. Our engineering team is capable of providing equipment to the meet your stringent specifications or we can use our own internationally accepted standard specifications.

1 Nitrogen Removal Plant – Central Facility, Grodzisk, Poland

2 LMG Project – Lubiatow Central Facility, Miedzychod, Poland

3 Underground Gas Storage – Central Facility, Wierzchowice, Poland

4 Natural Gas Dehydration Plant – Central Facility, Koscian, Poland

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WELLSITES

PBG is experienced with wellsites design and construction.
We can supply all equipment necessary for local gas separation and measurement of gas and liquids and comply to client and state regulatory requirements.

Wellsites can be supplied with:

- wellbore ESD valves
- line heaters
- choke valves
- two or three phase separators
- gas, water and crude metering systems
- flare with K.O. Drums
- instrument air systems
- chemical injection packages
- wellhead heating systems
- pig launchers
- electrical power generators with standby or primary power generators

1 Wellsite M-5, Miedzychod, Poland

2 Wellsite K-7, Koscian Natural Gas Dehydration Plant, Poland

3 Wellsite P-29, Paproc-W Natural Gas Dehydration Plant, Poland

4 Wellhead Wilga-255, Wilga Natural Gas Plant, Poland

GLYCOL UNITS

We can supply glycol gas dehydration and regeneration units for onshore installation as well as offshore platforms.
We can use EG, DEG, TEG or TREG for removal saturation water from gas.
From Clients gas composition and process conditions we can provide a recommendation of what is best suited application.
We can design the dehydration systems involving glycol injection or contactor tower.

Glycol/gas dehydration units are complete with:

- Glycol Contactor Tower
- Flash Tank
- Glycol Particle Filter
- Glycol Active Carbon Filter
- Heat Exchangers
- Glycol Reboiler
- Stripping Column
- Still Column
- Reflux Condenser
- Glycol Surge Tank
- Glycol Circulation Pumps

We supply Glycol Unit based on:

- conventional technology
- stripping gas
- coldfinger®
- vacuum
- drigas®
- ecoteg®
- drizo®
- microwave regeneration method

1 Glycol Regeneration Unit, Forties Project, North Sea

2 Glycol Regeneration Unit, Olowi Project, Gabon

3 Glycol Regeneration Unit, Wierzchowice, Poland

4 Glycol Regeneration Unit, Koscian, Poland

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AMINE UNITS

We can supply Amine Units that are skid-mounted or traditionally on-site constructed operation ready sour gas or sour NGL* sweetening units for:

- hydrogen sulfide removal (H_2S)
- carbon dioxide removal (CO_2)
- hydrogen sulfide + carbon dioxide removal
- mercaptans removal

We utilize aqueous solution of MEA, DEA, DGA, MDEA, proprietary MDEA based solvents and sulfinol or Chelate Process for H2S removal from gas.

(*)NGL - Natural Gas Liquids

PBG can supply an Amine Unit complete with:

- Water and HC Coalescing Inlet Filter
- Amine Contactor Tower
- Flash Tank
- Amine Particle Filter
- Amine Active Carbon Filter
- Heat Exchangers
- Amine Reboiler
- Amine Regeneration Tower
- Amine Air Cooler
- Reflux Condenser
- Reflux Pumps
- Reflux Accumulator
- Amine Surge Tank
- Amine Circulation Pumps
- Amine Coalescing Outlet Filter
- Fresh Amine Storage Tank
- Fresh Amine Pumps

1 Amine Unit, Grodzisk, Poland

2 Amine Unit, Miedzychod, Poland

3 Amine Reboiler Skid, PBG workshop

4 Amine Unit, Borzecin, Poland

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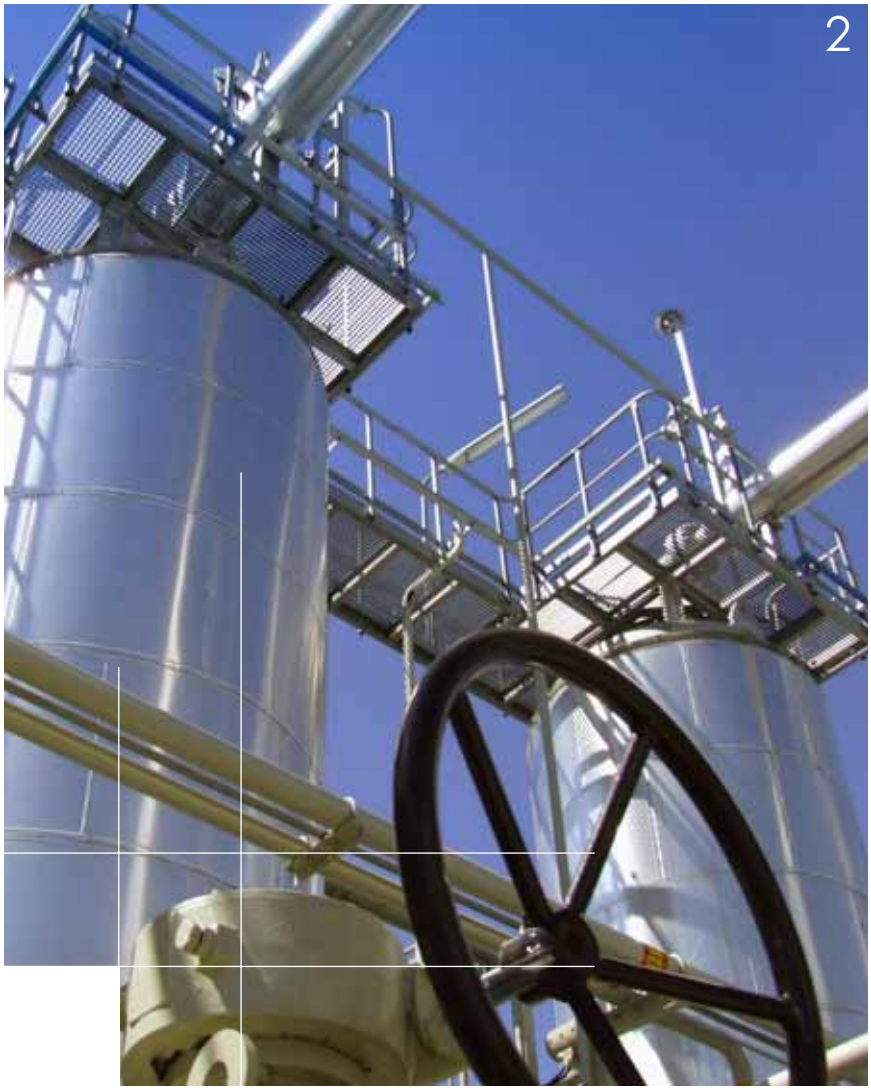
MOLESIEVE UNITS

PBG can design, build and supply Mole Sieve ready for:
- gas and liquid hydrocarbon (LPG* and C5+) dehydration
- removal of carbon dioxide from gas
- removal of mercaptans from gas, LPG and C5+
- removal of hydrogen sulphide from gas, LPG and C5+
- removal of nitrogen from gas

(*)LPG - Liquefied Petroleum Gas

We can supply a Mole Sieve Unit complete with:

- Adsorber Tower Columns
- Valve Switching Module
- Gas Dust Filters
- Regeneration Gas Compressor
- Regeneration Gas Heater
- Regeneration Gas Cooler
- Regeneration Gas Separator



1 Mole Sieve Unit, Grodzisk, Poland

2 Mole Sieve Unit, Grodzisk, Poland

3 Mole Sieve Units (Gas & LPG), Miedzychod, Poland

4 Mole Sieve Vessel visualization, 3DS Max

LNG LIQUEFACTION

We codesign LNG* production plants while working with industry leaders in the production of cold box/cryogenic separation equipment.
Our designs include:
- economic feasibility study
- conceptual technology selection
- supply of modular, where feasible, medium and small scale complete LNG production facility.

(*)LNG - Liquefied Natural Gas

LNG facility is complete with:

- inlet gas pre-treatment for H_2S, mercaptans, CO_2, heavier HC, dehydration and mercury removal
- gas liquefaction (cold box)
- helium product recovery
- nitrogen removal
- product storage tank
- loading system
- utilities
- start-up services and operation support

1 Nitrogen Removal Unit, Cold Box assembly

2 LNG Plant, Punjab, Pakistan

3 Gravi-Float LNG Plant, visualization, Norway

4 LNG Plant, Grodzisk, Poland

1

COMPRESSION UNITS

In cooperation with compressor suppliers we package complete gas compression units utilizing:

- positive displacement compressor either reciprocating or rotary
- dynamic compressor either centrifugal, axial or mixed flow.

Compression units are packaged on skid complete with:

- gas compressor
- gas engine, gas turbine or electrical motor driver
- suction and discharge scrubbers
- pulsation bottles
- gas/water/oil cooling system
- anti surge control system
- fuel gas system
- lube oil system
- cooling water system
- antifreeze system
- performance control
- acoustic enclosure
- active-gas firefighting system
- silencer
- exhaust stack

1 Sales Gas Compressor Unit, Grodzisk, Poland

2 Sales Gas Compressor Unit, Jaroslaw, Poland

3 Sales Gas Compressor Unit, Miedzychod, Poland

4 Sales Gas Compressor Unit, Odolanow, Poland

SEPARATION UNITS

Years of experience give us competence to execute high-quality skid-mounted or traditionally on-site constructed operation ready separation equipment:

- 2-phase separators
- 3-phase separators
- scrubbers or knockout separators
- gas filter/coalescer
- liquid/liquid separators
- solid particle removal gas or liquid filters.

Separator or filter configuration can be:

- vertical
- horizontal

Separator design and operation is based on:

- gravity settling
- coalescing
- centrifugal force
- cyclone and multi-cyclone
- solid particle removal by filtration media

1 High Pressure Separation Unit, Miedzychod, Poland

2 Separation Unit, Dzieduszyce, Poland

3 HP & LP Separation Units, Miedzychod, Poland

4 Separation Unit, Gorzyca, Poland

STABILIZATION UNITS

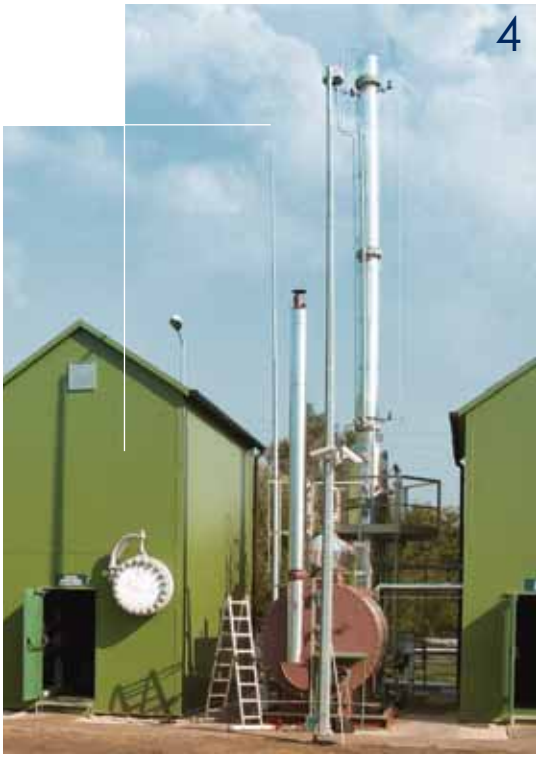
We provide improved technology to:

- stabilize C5+ condensate or crude oil to atmospheric storage RVP* and to remove H_2S if C5+ condensate or crude oil are sour*
- strip produced water of disolved light hydrocarbons and H_2S, if sour.

(*)
RVP - Reid Vapour Pressure
sour - containing H_2S

Stabilization units are complete with:

- direct or in-direct fired reboilers
- heat transfer fluid or steam heated reboilers
- non-reboiler fuel gas stripping
- packed or trayed towers
- non-refluxed or refluxed design



1 Feed Crude Oil Stabilizer Drum, Miedzychod, Poland

2 Crude Oil Stabilization Unit, Miedzychod, Poland

3 Condensate Stabilization Unit, Gorzyca, Poland

4 Condensate Stabilization Unit, Wilga, Poland

FRACTIONATION UNITS

We deliver fractionation units to recover hydrocarbon products from natural gas liquids (NGL) from natural gas. We can separate them by absorption or low temperature separation.

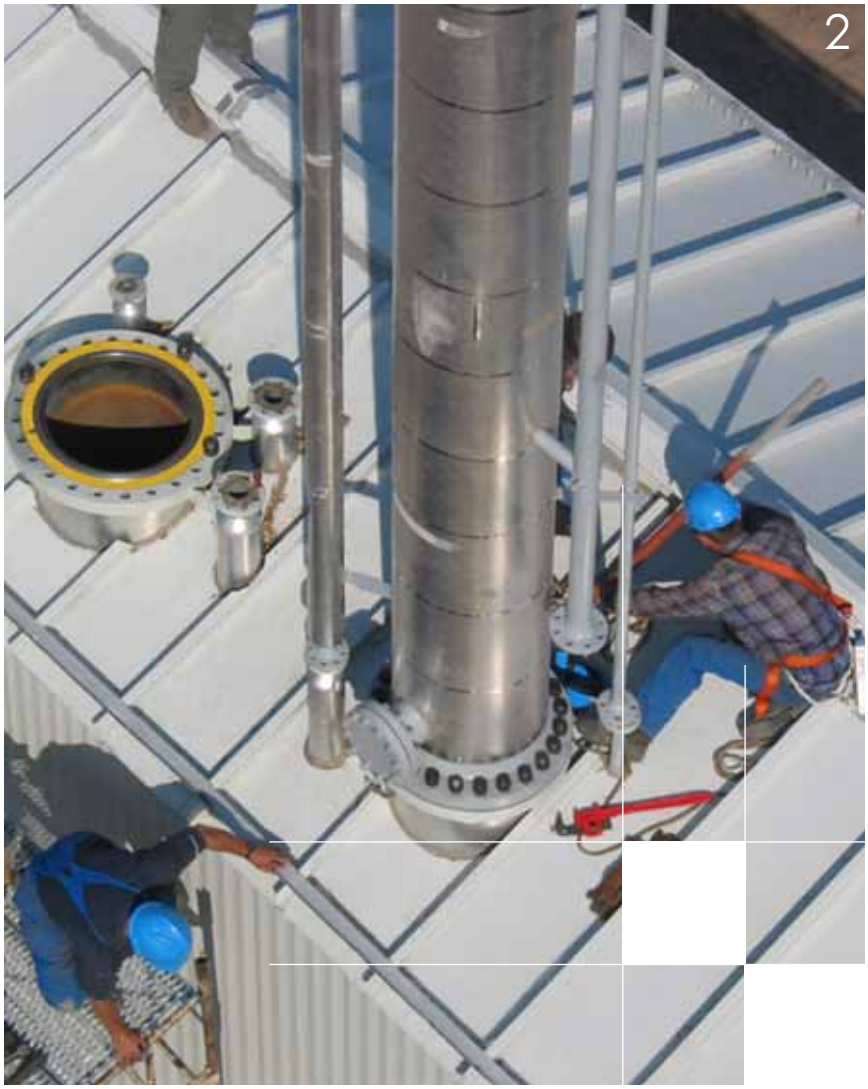
Products may be C2 and heavier. We design the fractionation to your product delivery requirement.

We can design and deliver crude oil distillation systems for production of gasoline, naphtha, kerosine and diesel.

We can design also processing installations to recover methanol or ethanol from its mix with water.

We offer Fractionation Units
as packaged ready for operation
skid-mounted or traditionally
on-site constructed, complete with:

- Feed Separator
- Deetanizer Tower
- Deetanizer Reboiler
- Deethanizer Overhead Condenser
- Deethanizer Reflux Pumps
- Deethanizer Reflux Drum
- Deethanizer Gas Heater (if required)
- Deethanizer Air Cooler
- Debutanizer Tower
- Debutanizer Reboiler
- Debutanizer Overhead Condenser
- Condensate Cooler
- Debutanizer Reflux Drum
- Debutanizer Reflux Pumps



1 Fractionation Unit, Miedzychod, Poland

2 Fractionation Unit, Wladyslawowo, Poland

3 Fractionation Unit, Miedzychod, Poland

4 Fractionation Unit, Gorzyca, Poland

DESALTER UNITS

PBG offers crude oil desalters to remove inorganic salts, water and sediment from crude oil. For desalting PBG uses electrostatic desalters to treat crude oil in one, two or three stages of dehydrators and desalters. Desalting provides protection against corrosion for the downstream processing of the crude oil.

The Desalter Units will remove from the crude oil inorganic salts such as:

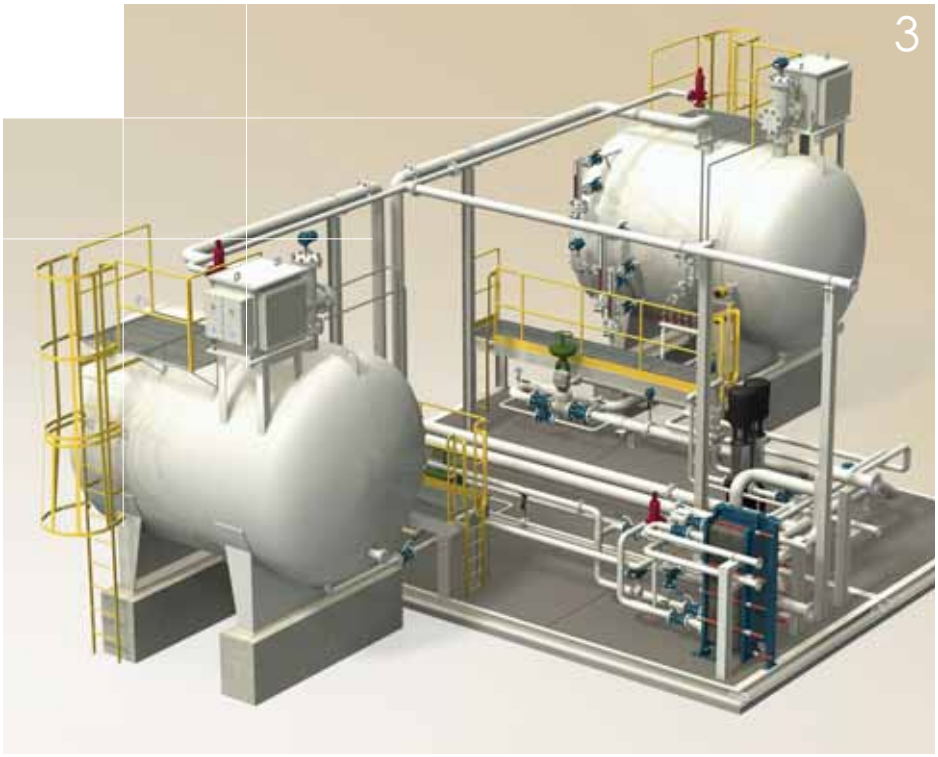
- magnesium chloride ($MgCl_2$)
- calcium chloride ($CaCl_2$)
- sodium chloride (NaCl)

and also various other water-insoluble particles ie:

- clay
- rust
- iron sulfide (FeS)
- asphaltenes.

PBG can supply a Desalter Unit complete with:

- feed/produced crude oil circulation pumps
- feed/produced crude oil heat exchanger
- crude oil heater
- electrostatic desalter
- electrostatic dehydrator
- fresh/produced water heat exchanger
- fresh water feed pumps
- demulsifier injection package
- online salt analyzer
- voltage/power control panel for transformers
- remote/onsite control panel for process control

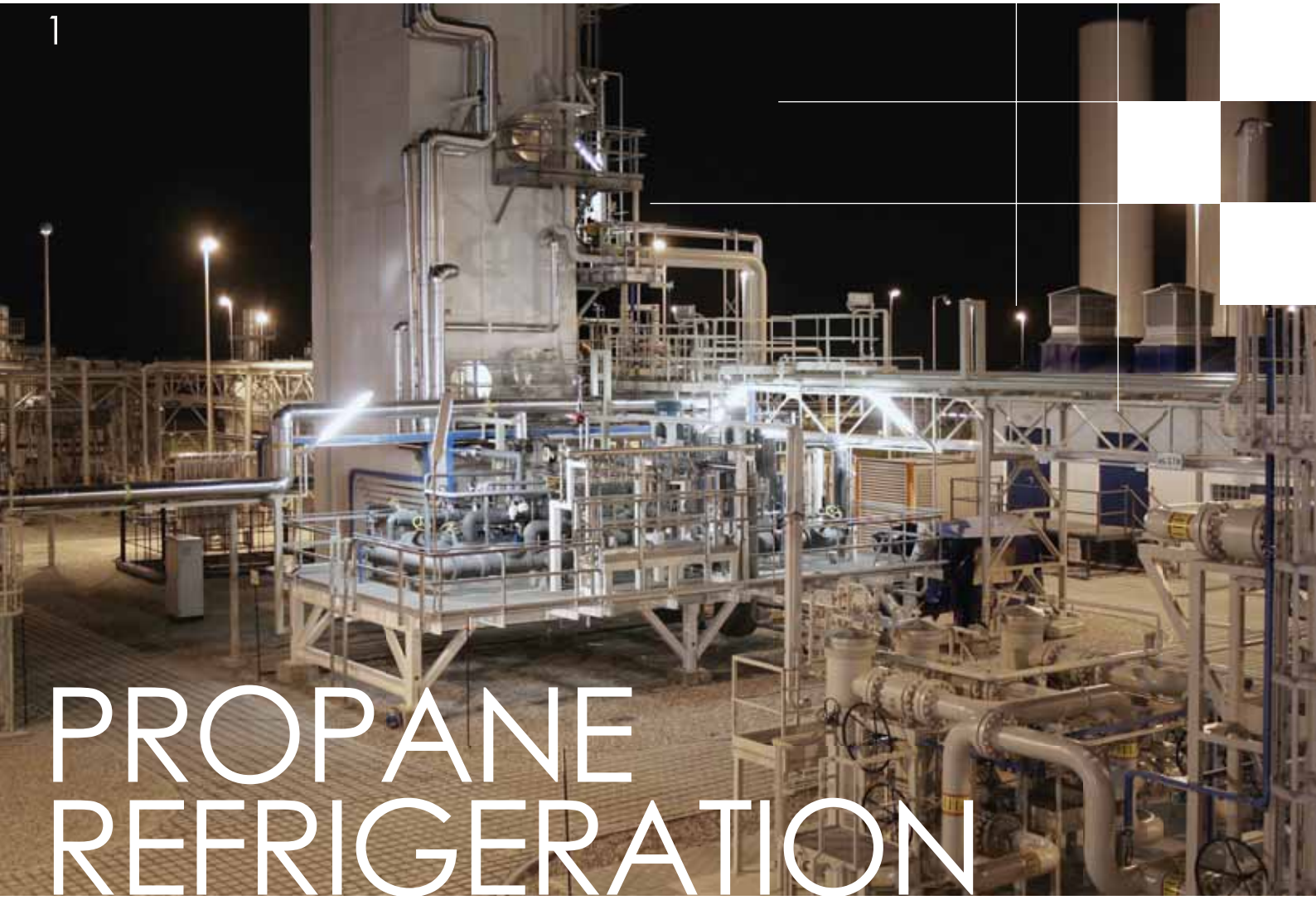


1 Desalter Unit, Miedzychod, Poland

2 Desalter Transformer

3 Desalter Unit, visualization, 3DS Max

4 Desalter Vessel, visualization, 3DS Max



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PROPANE REFRIGERATION

PBG design and build Propane Refrigeration Systems for hydrocarbon dew point control or recovery of heavy hydrocarbons from natural gas.

PBG supplies Propane Refrigeration Systems are equipped with:

- propane suction scrubber
- propane economizer
- propane subcooler
- propane compressor
- propane coalescing filter
- propane air cooler
- propane accumulator
- propane dehydration filter
- propane storage tank
- propane transfer pumps

1 Propane Refrigeration System, Grodzisk, Poland

2 Propane Compressor, Grodzisk, Poland

3 Propane Compressor, Miedzychod, Poland

4 Propane accumulator, suction scrubber and economizer, Poland

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LOW TEMPERATURE SEPARATION

PBG designs and delivers Low Temperature Separation units for removal heavy hydrocarbons from natural gas.
The separator can be downstream of :
- Joule-Thomson valve
- turboexpander
- mechanical refrigeration.

PBG supplies LTS* units complete with:

- heat exchangers
- propane chiller
- JT valve or/and turboexpander
- low temperature separator
- glycol injection package (optional)
- gas/glycol/water metering systems (optional)
- gas chromatograph or calorimeter/Wobbe index meters (optional)

(*)
LTS* - Low Temperature Separation

1 Low Temperature Separator, Wilga, Poland

2 Low Temperature Unit, visualization, 3DMax

3 Low Temperature Unit, Miedzychod, Poland

4 Low Temperature Unit, Koscian, Poland

STORAGE TANKS

We have experience in the construction and maintenance of Storage Tanks. We can build either steel or concrete storage tanks for pressurized or atmospheric service. The designs may be:

- fixed or floating roof
- conventional with concrete tray or double walls
- underground with compliance to NATO requirements
- cryogenic nickel steel LNG tank

We offer storage tanks equipped with:

- anticorrosion system
- control system
- metering system (process & fiscal)
- control system
- pumps
- interconnecting piping
- vapour recovery
- deludge system (water, foam)
- mixers
- leak detection systems
- electric or heat medium coils

1 Storage Tank Farm, Miedzychod, Poland

2 Fuel Storage Tank Farm, Rejowiec, Poland

3 LNG Storage Tank, Swinoujscie, Poland

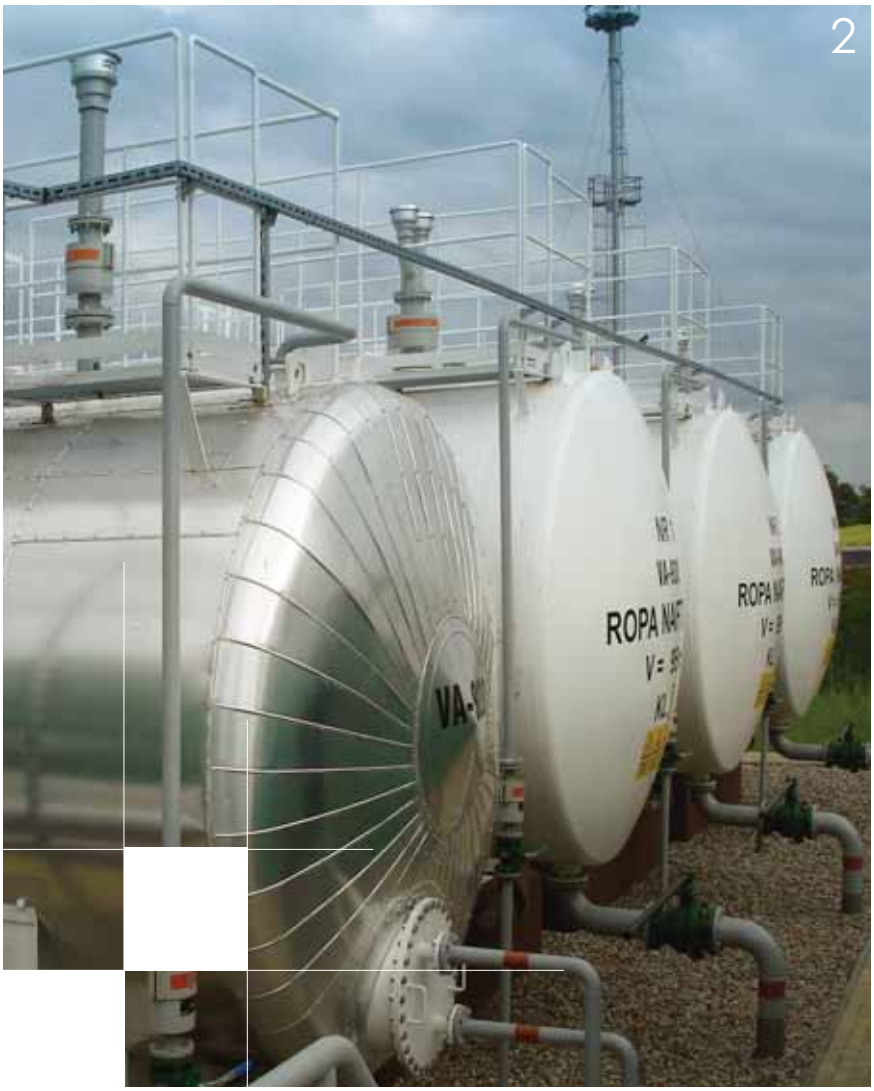
4 Fuel Storage Tank Farm, Kawice, Poland

STORAGE BULLETS

PBG can design and supply Storage Bullets for storage of flammable, toxic, cryogenic, corrosive or dangerous products (LPG and other liquid HC).
We design vertical and horizontal Storage Bullets, installed conventional wayor underground.
The storage bullets can be of steel single or double wall construction.

We offer Storage Bullets equipped with:

- anticorrosion systems
- metering systems (process & fiscal)
- control system
- pumps
- interconnecting piping
- vapour recovery
- deluge system (water, foam)
- mixers
- leak detection systems
- electric or heat medium heating inserts



1 LPG Storage Bullets, Miedzychod, Poland

2 Crude Oil and Produced Water Storage Bullets, Gorzyca, Poland

3 LPG Storage Underground Bullets, Wladyslawowo, Poland

4 Crude Oil Storage Bullets, Dzieduszyce, Poland

FIRED HEATERS

We can design and build Direct Fired Heaters of the following types:

- cylindrical or cabin type
- horizontal or vertical radiant coils
- fire tube or multi-tube return type.

Fired Heater construction includes:

- radiant section
- convection section
- air ducts
- flue gas ducts
- refractory lining
- stack
- APH* supporting structure
- platforms, ladders, stairs, railings, gratings, etc.
- dampers and guillotines
- NDT* tests and PWHT*
- painting and insulation
- trial assembly
- hydro-test of pressure coils
- complete erection at site

(*)
APH - Air Pre-Heater
NDT - Non Destructive Testing
PWHT - Post Weld Heat Treatment

1 Combined Feed Heater, Vohburg, Germany
2 Fired Heater, Grodzisk, Poland
3 Fired Heater, Bourgas, Bulgaria
4 Fired Heater, Gdansk, Poland

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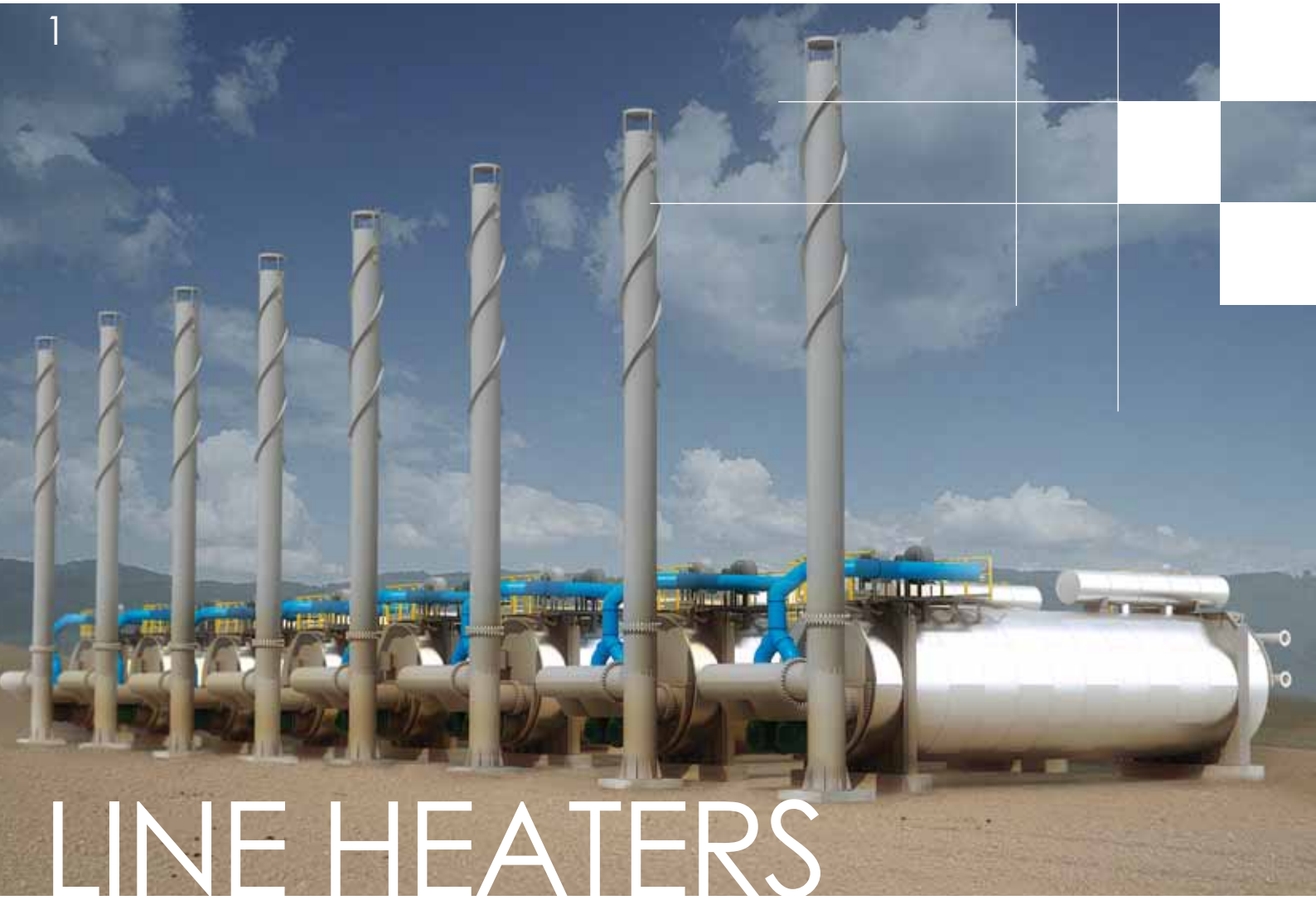
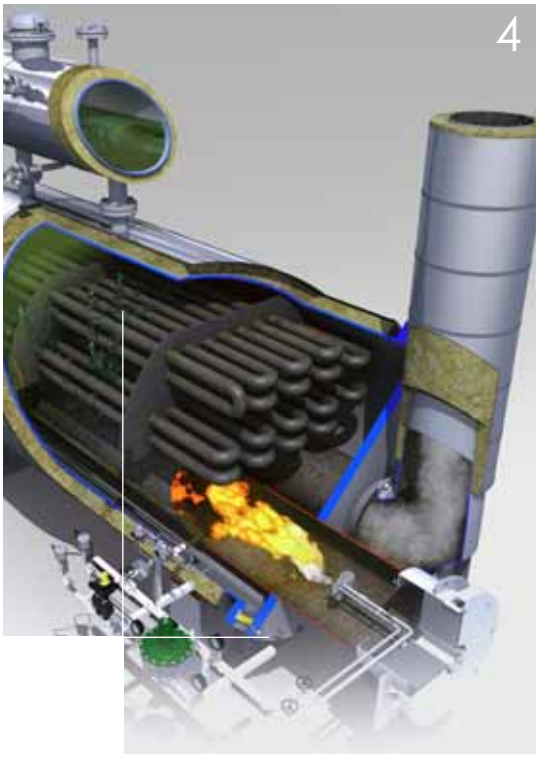


LINE HEATERS

PBG designs and supplies Line Heaters for heating crude oil, fluids or gas for oil and gas processing installations.
Wellsite Line Heaters are used to heat process fluid to prevent the formation of hydrates or paraffin downstream the pressure reduction valve.
Line Heater design based on API Spec 12K:
Specification for Indirect-type Oil Field Heaters.

PBG offers Line Heaters complete with:

- main heater shell
- expansion tank
- process coils
- firetubes
- stack
- natural or forced draft burners
- burner management system
- forced draft fan (if necessary)
- fuel gas train c/w fuel gas scrubber
- insulation
- ladders, platforms and handrails as required



1 Line Heaters visualization, 3DS Max

2 Line Heater, Dzieduszyce, Poland

3 Line Heaters, Gorzyca, Poland

4 Line Heater, visualization, 3DS Max

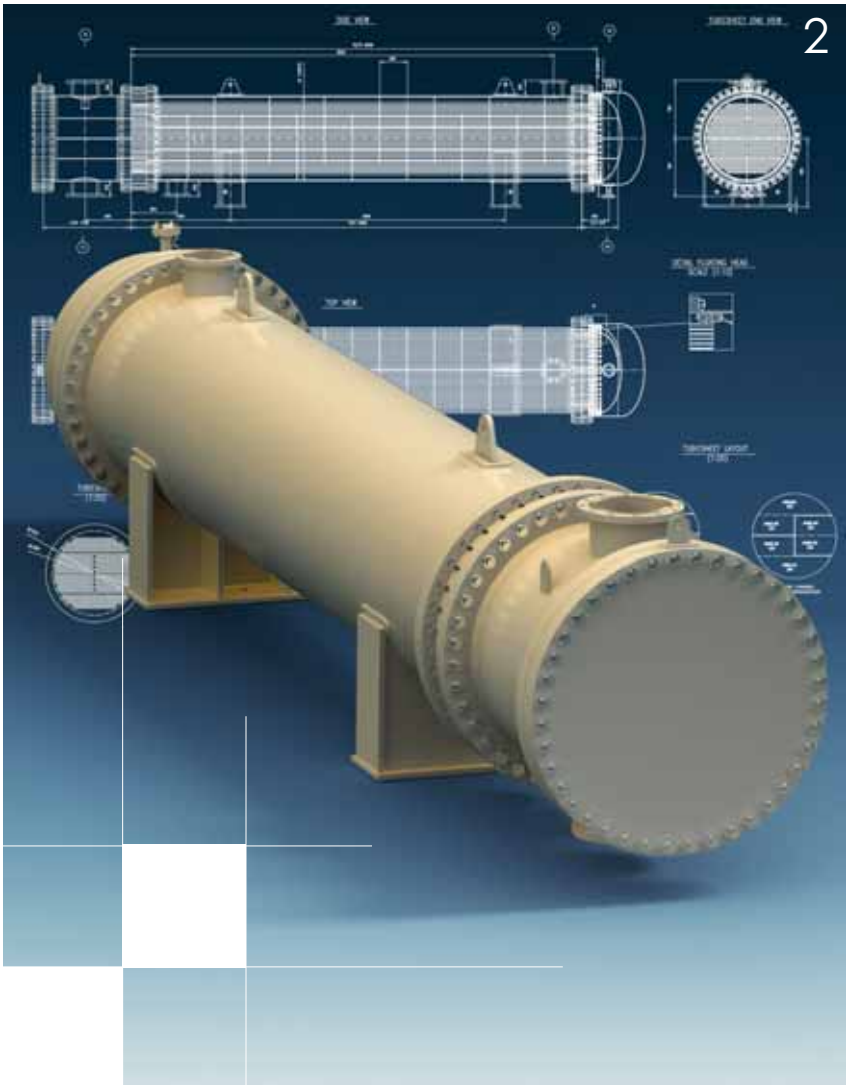
HEAT EXCHANGERS

PBG designs and deliver variety of Heat Exchangers types according to TEMA standards:

- fined tube
- pipe-in-pipe
- plate and frame
- plate and shell
- spiral
- shell and tube
- brazed aluminium.

More than 60% of Heat Exchangers in oil & gas industry are designed to TEMA standards heat exchangers.
PBG can supply Heat Exchangers with:

- removable or integral cover channel
- one or two-pass shell
- split or double split flow
- divided or cross flow
- kettle type reboiler/chiller
- fixed tubesheet or floating head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1 Multi-bank Heat Exchanger, Wilga, Poland

2 Floating Head Heat Exchanger, Design, Kuwait

3 Shell and Tube Heat Exchanger, Miedzychod, Poland

4 Plate and Frame Heat Exchanger, visualization, 3DS Max

ADSORPTION UNITS

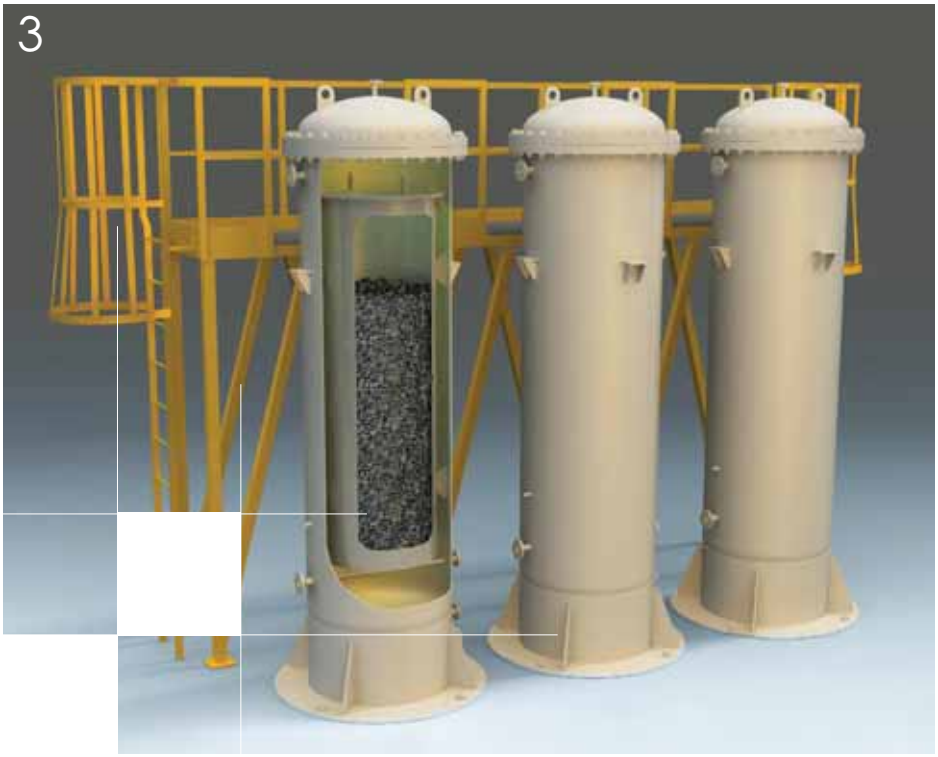
We can supply Absorption Units that are skid-mounted or traditionally on-site construction that are operation ready for:

- vapour recovery, glycol and amine purification/HC* recovery from natural gas by activated carbon
- mercury removal from natural gas by sulfur impregnated/activated carbon
- gas/air dehydration using silica gel
- gas/liquids dehydration using activated alumina
- short-cycle dehydration/HC recovery from natural gas by sorbead (alumino-silicate gel)
- H_2S removal from gas by sulfatreat.

(*)HC - Hydrocarbons

PBG can supply Adsorption Units which are complete with:

- adsorption towers
- switching valves
- adsorbent thermal regeneration system
- adsorbent pressure-swing regeneration system (where applicable)
- pre-programmed for automatic operation by PLC or DCS control systems
- automatic or manual sampling system
- insulation
- ladders, platforms and handrails as required



1 Mercury Removal Unit, Koscian, Poland

2 Mercury Removal Unit, Grodzisk, Poland

3 Adsorber, visualization, 3DS Max

4 Fuel Gas H_2S Adsorber, Dzieduszyce, Poland

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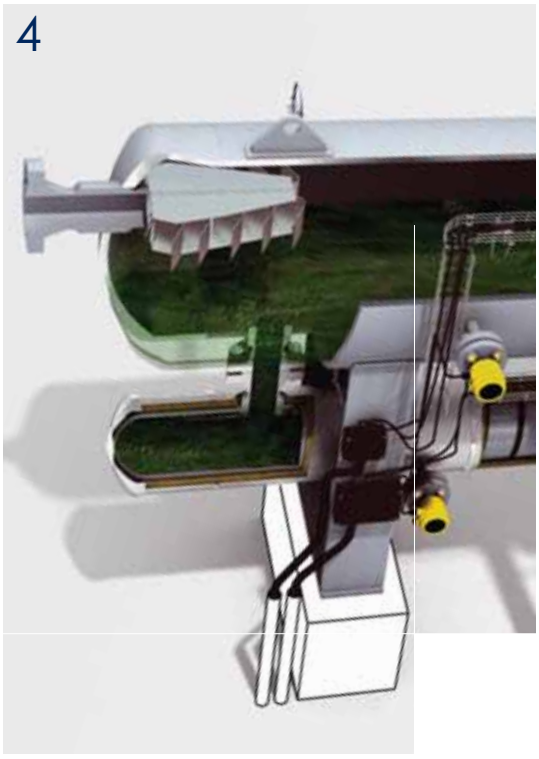
SLUG-CATCHERS

In order to protect natural gas processing facilities against slugs we design and deliver slug-catchers which are located at the plant inlet.

PBG designs and select Slug-Catchers according to process and technical requirements.
PBG supply for example:

- horizontal vessel slug-catcher
- multiple pipe slug-catcher
- line drip/trip slug-catcher



1 Slug-Catcher, Inchukalns, Latvia

2 Slug-Catcher, Koscian, Poland

3 Slug-Catcher, Paproc-W, Poland

4 Slug-Catcher, vizualization, 3DS Max

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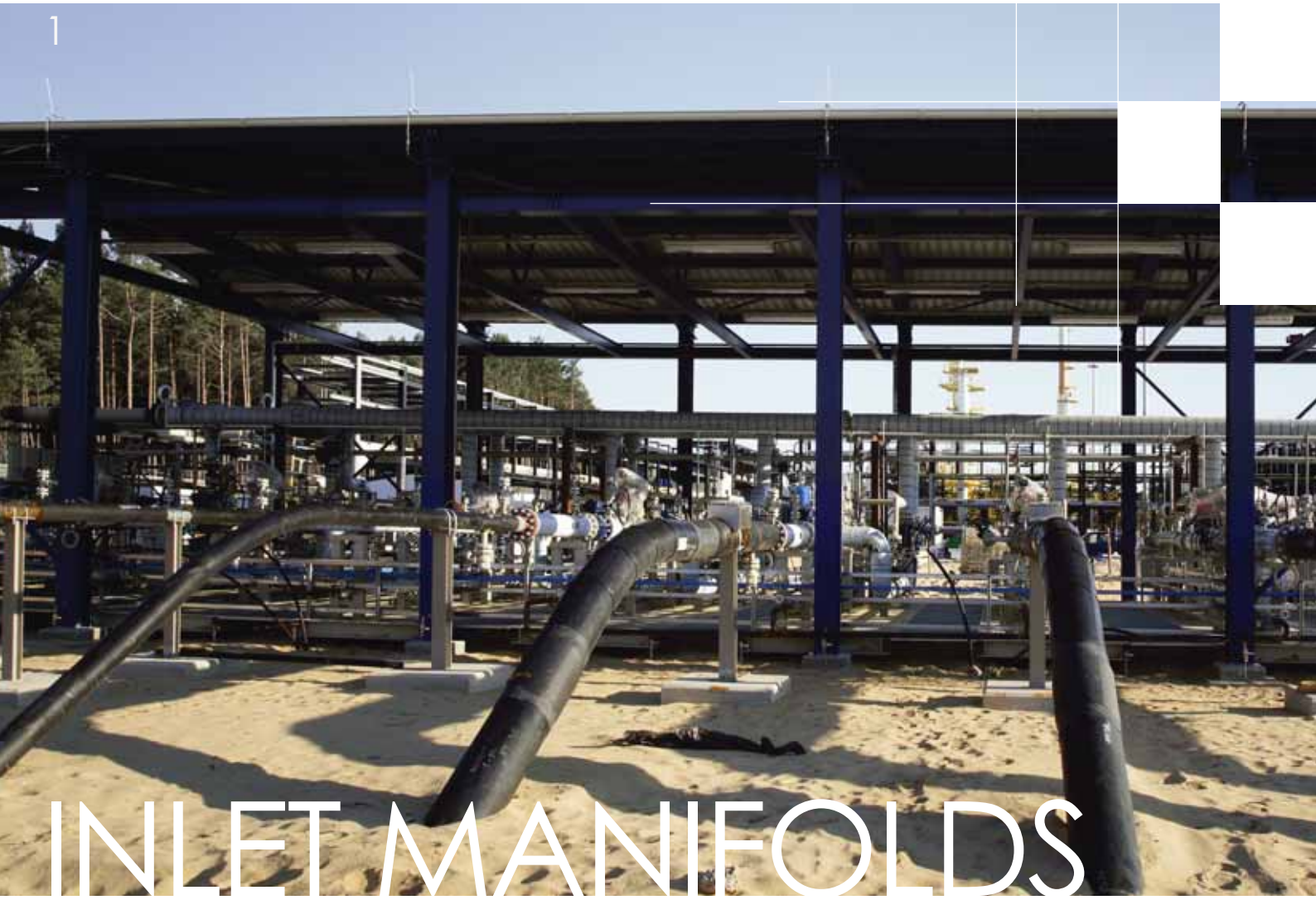

INLET MANIFOLDS

PBG is experienced with design and construction of Inlet Manifolds that gas or oil come from wells to Central Facility. Inlet Manifolds are designed to protect the down stream piping and collect all pipelines from wells to one header.

We supply Inlet Manifolds which are complete with:

- pig receivers
- pig passage indicators
- ESD valves
- switching valves
- flowmeters
- control system
- nitrogen purge system
- interconnecting piping
- drip trays
- drain system
- vents

1 Inlet Manifold, Miedzychod, Poland

2 Inlet Manifold, visualization, 3DMax

3 Inlet Manifold, Koscian, Poland

4 Inlet Manifold, Miedzychod, Poland

FILTRATION UNITS

PBG can supply filters for crude oil and gas service.
PBG uses various type of filtration media such as:

- microfiltration: coalescing elements
- fibra/fiberglass filtration: knitted mesh or vane type demisters, cyclone or multi-cyclone
- media filtration: based on polyester, polypropylene, fiber glass or cellulose filtration material.

PBG can provide filters
with efficiency up to:

- 98,90% for particle impurities > 1µm
- 99,00% for particle impurities > 3µm
- 99,99% for particle impurities > 5µm
- 99,98% for liquid droplets > 1µm
- 9,99% for liquid droplets > 2µm
- 99,999% for liquid droplets > 3µm

PBG supply Filters
complete with:

- quick-closure or manway
- liquid level transmitters/indicators
- pressure transmitters/gauges
- pressure differential transmitters/gauges
- temperature transmitters/gauges
- pressure safety valves
- automatic drainage systems

1 Filtration Unit, PMG Wierzchowice, Poland

2 Filtration Unit, Incukalns, Latvia

3 Filtration Unit, Koscian, Poland

4 Filtration Unit, Goleniow, Poland

FLOW METERING UNITS

PBG can supply Flow Metering Units for measuring gas or liquid. We design and supply skid-mounted Flow Metering Units for process and fiscal service.

PBG supplies Flow Metering Units using different types of flowmeters:

- turbine
- ultrasonic
- magnetic
- vortex
- mass
- rotor
- positive displacement
- Pitot tube
- orifice
- quick change orifice

1 Ultrasonic Flow Metering Unit, Wierzchowice, Poland

2 Ultrasonic Flow Metering Unit, Incukalns, Latvia

3 Mass Flow Metering Unit, Miedzychod, Poland

4 Quick Change Orifice Metering Unit, Miedzychod, Poland

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LNG REGASIFICATION SATELLITE STATION

Taking into account today's high demand for natural gas supply in the shortest possible time we offer LNG regasification satellite stations which have the following advantages compared with the traditional pipeline distribution:

- no high pressure pipelines
- short construction period
- easy to install, easy to move
- back up system during pipeline supply interruption
- peak shaving system for shortage in gas pipeline delivery.

We deliver LNG Regasification Satellite Stations furnished with:

- vertical/horizontal LNG pressure double wall storage tank
- LNG vaporizers: ORV*, SCV* STV* and CHP* types
- pressure reduction gas station
- flow metering gas station (process and fiscal)
- odorizing gas station (if required)
- heat medium system

(*)
ORV – Open Rack Vaporizer
SCV – Submerged Combustion Vaporizer
STV – Shell and Tube Vaporizer
CHP – Combined Heat and Power Vaporizer

1 LNG Regasification Satellite Station, Kleczew, Poland
2 LNG Regasification Satellite Station, Czempin, Poland
3 LNG Regasification Satellite Station, Przysucha, Poland
4 LNG Regasification Satellite Station, Wysogotowo, Poland

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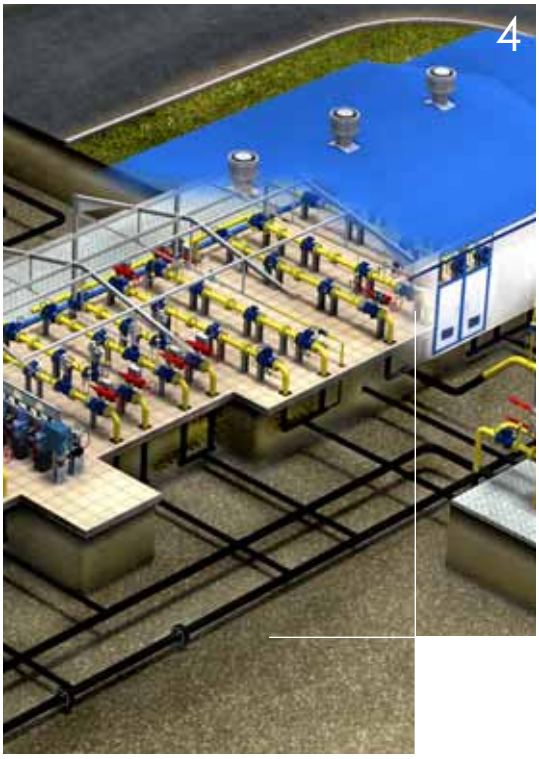
BLENDING STATIONS

To obtain the required gas calorific value, we design and supply Blending Gas Stations for mixing different types of gas groups or natural gas with nitrogen.

We supply Blending Gas Stations equipped with:

- gas flow metering (process and fiscal)
- flow control system
- gas pressure control system
- gas heat exchangers
- gas chromatographs
- gas calorimeter/Wobbe index meters
- nitrogen system
- instrument air system
- heat medium system
- electrical system
- civil works



1 Blending Gas Station, Snowidowo, Poland

2 Gas analyzers, Sonwidowo, Poland

3 Blending Gas Station, Krobia, Poland

4 Blending Gas Station, visualization, 3DS Max

FUEL GAS STATIONS

To provide our Clients with complete plants, we offer in our scope of delivery Fuel Gas Stations supplying fuel gas to gas consuming equipment such as heaters, reboilers, engines etc.

We supply Blending Gas Stations equipped with:

- gas flow metering (process and fiscal)
- flow control system
- gas pressure control system
- gas heaters (gas/heat medium exchangers)
- gas chromatographs
- gas calorimeter/Wobbe index meters
- odorizing gas station (if required)
- nitrogen system
- instrument air system
- heat medium system
- electrical system
- civil works

1 Fuel Gas Station, Choszczno, Poland

2 Fuel Gas Station, Wierzchowice, Poland

3 Fuel Gas Station, Goleniow, Poland

4 Fuel Gas Station, Miedzychod, Poland

FLARES

PBG, with coordination with flare design consultants
can design a flare for your needs.
PBG design all flares with long-life tip and minimizing conventional flaring effects, smoke, noise, visibility and emissions.
We can supply all flare types listed below:

- steam assisted smokeless
- air assisted smokeless
- gas assisted smokeless
- ground.

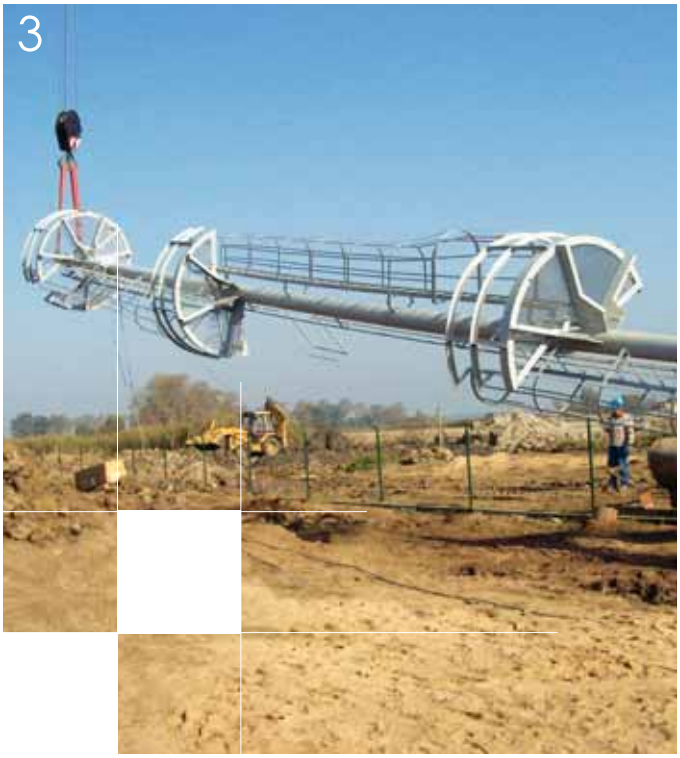
PBG Flare System are supplied with:

- liquid knock-out drum
- flare stack
- ladders, platforms and handrails as required
- liquid seal
- gas seal
- burner tip
- burner pilot
- ignition system
- flame detectors
- remote/onsite control panel

with various types of construction:

- guy wire supported
- self supported
- integral liquid knock-out drum

PBG supplies also other equipment belonging to the same family such as: exhaust/vent stacks or incinerators.



1/2 Guy Wire Supported Flare, Miedzychod, Poland

3 Guy Wire Supported Flare, Gorzyca, Poland

4 Ground Flare, Wladyslawowo, Poland

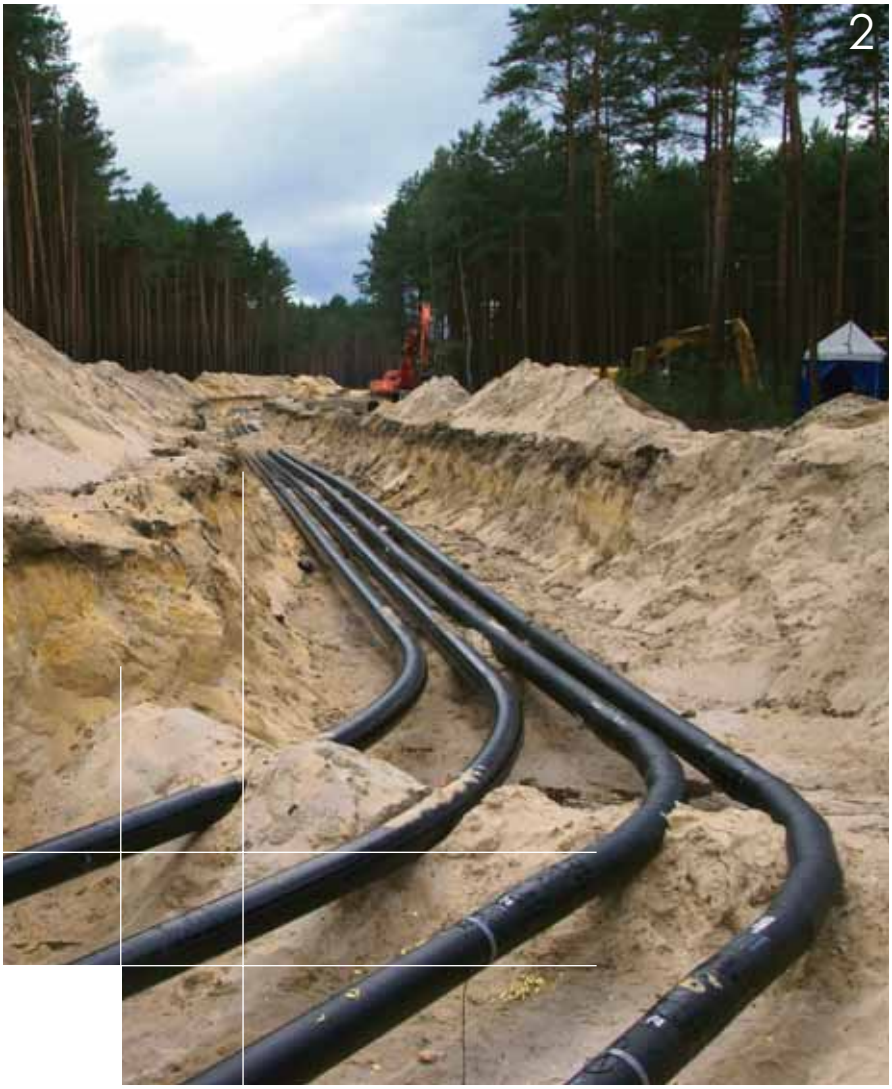
5 Internal Liquid Knock-Out Drum Flare, Grodzisk, Poland

PIPELINES

Our range of activities also includes construction of steel pipelines and structures for transmission of natural gas, crude oil and water equipped with pig launcher and receiver as well as anticorrosion and leak detection systems.

We construct steel pipelines furnished with:

- pig luncher/receiver
- liquid drip/trap
- slug catcher
- block valve station
- anticorrosion systems
- corrosion monitoring systems
- leak detection systems
- skin-effect tracing systems



1 28" pipeline, Grodzisk, Poland

2 4 x 8" pipeline, Koscian, Poland

3 16/12" pig launcher, Wierzbno, Poland

4 2 x 14" pipelines, Miedzychod, Poland

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PIPE RACK

All plants require pipe racks - steel framed structures for holding and distributing interconnecting piping, electrical and instrumentation cables between all units.
PBG design and constructs both - high and low pipe racks according to project specifications.

PBG supplies pipe racks with interconnecting piping, cable trays and cables.

Pipe rack are normally constructed of carbon steel and protected against corrosion by paint or galvanizing.

Pipe racks in a fire hazard area are protected by applying fire proofing.

All pipe racks designed and constructed by PBG in modular style (site easy assembly technology).

1 Pipe rack, Wierzchowice, Poland

2 Pipe rack, Miedzychod, Poland

3 Pipe rack, Wladyslawowo, Poland

4 Pipe rack, Borzecin, Poland

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UTILITIES

When PBG supplying a complete plant we can provide the following:

- administration buildings
- workshops
- roads
- potable water purification systems
- power generation systems
- power distribution systems
- sewage systems
- rainwater systems
- security systems etc.

Utilities that we can include with delivery are listed below but are not limited to the list below:

- product loading and unloading systems
- fire fighting systems
- heat medium systems
- instrument air systems
- demineralized water systems
- raw water treatment systems
- evaporation ponds
- truck weigh scales

1 Helium Loading Station, Grodzisk, Poland

2 Fire-fighting System, Miedzychod, Poland

3 Heat Medium System, Snowidowo, Poland

4 Liquid Nitrogen System, Wladyslawowo, Poland

UTILITIES

When PBG supplying a complete plant we can provide the following:

- administration buildings
- workshops
- roads
- potable water purification systems
- power generation systems
- power distribution systems
- sewage systems
- rainwater systems
- security systems etc.

PBG delivers specialized utilities and systems listed below:

- steam boilers
- chemical injection packages
- storage tanks
- waste heat recovery systems
- vapour recovery units (VRU)
- induced gas flotation units (IGF)

1 Instrument Air System, Miedzychod, Poland

2 Chemical Injection Package, Wierzchowice, Poland

3 Induced Gas Flotation Unit, Miedzychod, Poland

4 Produced Water Injection System, Miedzychod, Poland

CONTROL & ELECTRICAL SYSTEM

For process modules/individual unit designed by PBG, we supply instrumentation wiring to skid edge junction boxes. Complete plant include all electrical and control systems required for plant operation.

PBG can design and supply
the following control systems:

- basic process control system (BPCS)
- distributed control system (DCS)
- safety instrumented system (SIS)
- emergency shutdown system (ESD)
- fire detection system (FDS)
- gas detection system (GDS)
- corrosion monitoring system
- leak detection system
- air monitoring system
- access control system
- anti-intrusion control system
- closed-circuit television (CCTV)

Electrical systems:

- high and medium voltage power distribution
- uninterruptible power supply (UPS) for control and emergency lighting
- plant grounding
- site illumination and task lighting
- building and equipment lightning protection

1 Cable-trays on piperack, Miedzychod, Poland

2 Electric Station Cabinets, Grodzisk, Poland

3 SIS Cabinet, Wierzchowice, Poland

4 Junction Box Panel, Olowi Project, Gabon

Selected PBG Major Projects in Oil & Gas sector:

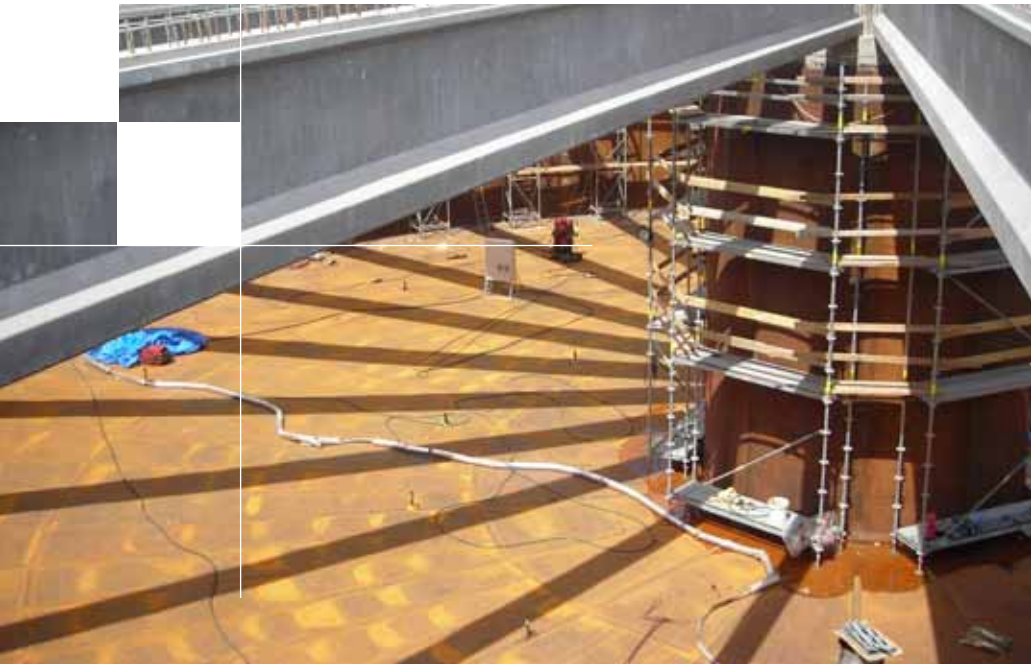
2010/14 Swinoujscie LNG Terminal, Poland
2010/12 KGHM Glogow Heat Recovery Steam Generator, Poland
2010/12 KGHM Polkowice Heat Recovery Steam Generator, Poland
2010/12 KGHM Glogow Gas Turbine Power Plants, Poland
2010/12 KGHM Polkowice Gas Turbine Power Plants, Poland
2010/12 Adamowo - Plebanka III-rd Oil Pipeline Collector, Phase I, III, Poland
2010/11 Jaroslaw Gas Compression Station, Phase II, Poland
2009/10 Goleniow Gas Compression Station, Poland
2008/9 Trzek Nitrogen Rejection Plant (Engineering), Poland
2008/12 Wierzchowice Underground Gas Storage, Phase I, Poland
2008 Fired Charge Heater for Bourgas Lukoil Neftochim Refinery, Bulgaria
2008/13 LMG Crude Oil Plant, Poland
2008/10 MHC Unit Installation on Lotos Gdansk Refinery, Poland
2008/9 Storege Tanks for ARU II/SWS/SRU/TGT on Lotos Gdansk Refinery, Poland
2008/9 Jeleniow Gas Compressors Station Development, Poland
2008 Participation in Shut-down on Total Raffinerie de Normandie, France
2007/9 Fired Produced Stripper Heaters for Lotos Gdansk Refinery, Poland
2007/8 Charge Heater for Orlen Plock Refinery, HDS Unit, Poland
2007/8 Forties Charlie Glycol Regeneration Unit, Offshore, North Sea, UK Sector
2007/8 Forties Alpha Glycol Regeneration Unit, Offshore, North Sea, UK Sector
2007/8 Forties Delta Glycol Regeneration Unit, Offshore, North Sea, UK Sector
2007 Grodzisk Gas Blending Station Phase II, III, IV, Poland
2007 Participation in shut-down on Gravenchon Exxon-Mobil Refinery, France
2007/8 Combined Fired Heater for Vohburg BayernOil Refinery, Germany
2007 Antwerp Oiltanking Storage Tanks Farm Development, Belgium
2007 Reactor Feed Heater for Izmir Tupras Refinery, FCC Unit, Turkey
2007 Rejowiec Fuel Storage Tank Farm, Phase II, Poland
2007/8 Shorkot LNG Liquefaction Plant, Pakistan
2007 Kawice Fuel Storage Tank Farm, Phase II, Poland
2007 Borzecin Natural Gas Dehydration and Sweetening Plant, Poland
2007 Olowi Glycol Regeneration Unit, Offshore, Gabon
2007 Participation in Shut-down on Total Raffinerie de Normandie, France
2007/9 Underground Fuel Storages for 12 NATO bases, Poland
2006/7 Paproc-W Natural Gas Dehydration Plant, Poland
2006/7 Risavika LNG Base Load Plant (Engineering), Norway
2006/9 Grodzisk Nitrogen Rejection Plant, Poland
2006 Kawice Fuel Storage Tank Farm, Phase I, Poland
2006 Rejowiec Fuel Storage Tank Farm, Phase I, Poland
2006 Wysogotowo LNG Regasification Satellite Station, Poland
2006/10 Gardeja Fuel and Lubricant Storage Tanks Farm Development, Poland
2006 Kleczew LNG Regasification Satellite Station, Poland
2005 Slawoborze 3 Crude Oil Wellsite Development, Poland
2005/6 Biszcza-Ksiezpol Natural Gas Dehydration Plant, Poland
2005/7 Incukalns Underground Gas Storage, Phase II, Latvia

2005/7 Incukalns Underground Gas Storage, Phase I, Latvia
2005 Wilga Natural Gas Purification & Condensate Extraction Plant, Poland
2005/6 Poznan Hydrazine Storage Tank Farm, Poland
2005/9 Cybowo Fuel and Lubricant Storage Tanks Farm Development, Poland
2005 Przysucha LNG Regasification Satellite Station, Poland
2005 Swietoszow LNG Regasification Satellite Station, Poland
2005 Staw LNG Regasification Satellite Station, Poland
2005/6 Nowa Sol Fuel Storage Tank Farm, Poland
2005/6 Wroclaw Fuel Storage Tank Farm, Poland
2004 Gorzyca Crude Oil and Natural Gas Plant, Poland
2004/5 Compressor Unit on Odolanow Nitrogen Rejection Plant, Poland
2004 Grodzisk Gas Blending Station, Phase I, Poland
2004 Poznan CNG Station, Poland
2004/5 Siemirowice Fuel and Lubricant Storage Tanks Farm Development, Poland
2004 Buk Crude Oil Plant, Poland
2003 Lubicz LNG Regasification Satellite Station, Poland
2003 Dzieduszyce Crude Oil Plant, Poland
2003 Ciechnowo Crude Oil Plant, Poland
2003/4 Bukowiec Natural Gas Dehydration Plant (Engineering), Poland
2002 Czempin LNG Regasification Satellite Station, Poland
2002 Slawa LNG Regasification Satellite Station, Poland
2002 Jarogniewice LNG Regasification Satelite Station, Poland
2002 Chojna LNG Regasification Satellite Station, Poland
2001/3 Wladyslawowo LPG and Condensate Extraction Plant, Poland
2001/2 Koscian Natural Gas Dehydration Plant, Phase I & II, Poland
2000 Wierzchowo Gas Compression Station, Poland
2000 Racot Natural Gas Dehydration Plant, Poland
1999 Bonikowo Natural Gas Dehydration Plant, Poland

Main Clients and Cooperation Companies:

COVER PAGE 1 Fuel Storage Tank Farm, Kawice, Poland
2 Mole Sieve Dehydration Unit, Grodzisk, Poland
3 Underground Gas Storage, Wierzchowice, Poland

CURRENT PAGE 1 Underground Fuel Storage Tank, NATO
2 Vent Stack, Wierzchowice, Poland
3 Crude Oil and Gas Plant, Miedzychod, Poland



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