

# Company Profile



**Established in 1882**

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# KPS METAL A.S.

Our company was established in 1882 as a factory for manufacture of agricultural machines. During its more than 130 years history the company was a part of many



important engineering companies (e.g. Chepos Brno, etc.). In this period was formed the character of manufacturing programme. Modern development of the company is dated since 1995 when it was privatized and got through different stages of progress till present form. Development of the company did not stop and continued to improve its offering service. Currently **KPS Metal a.s.** is the company which can offer wide range of services, is able to adjust new market trends and Client requirements very quickly. We cooperate with several engineering companies in

order to provide our service in high quality and specified range.

At present **KPS Metal** works in the following field of activities:

- Complete service of EPC contractor as Turnkey project execution, mainly in oil & gas industry and chemical industry – consulting services, feasibility study, complete engineering activity (basic design, detail design), procurement, assembly, commissioning, analysis and studies, staff training, after hand over service, guarantee and post-warranty service.
- Design and manufacture of equipment for chemical and petrochemical industries (e.g. pressure and non-pressure vessels, tanks, heat exchangers, air coolers, agitators, reactors, columns, condensators, ejectors, burners, combustion chambers, chemisters „D“, separators etc.)
- Design and manufacture of equipment for power industry (mixing vessels, separators, stack dampers, divertors, combustion exchangers, high pressure and low pressure heaters, fuel heaters, condensators, duct systems, etc.)
- Design and manufacture of steel structures (silos, storage tanks, stacks, steel piping, walkways, supporting structures, machine frames, etc.)



**KPS Metal a.s.** provides high quality service according to client's requirements – from takeover construction site to hand over of the final product.

# TURNKEY PROJECT EXECUTION

Based on its extensive experience in the chemical and petrochemical industry sector, particularly chemical engineering and technology.

## **Field focus:**

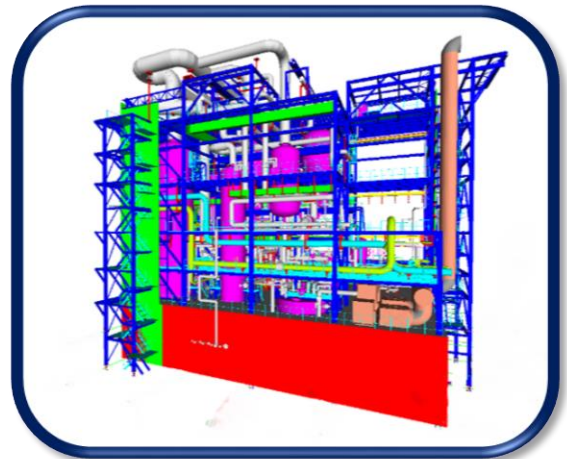
- Crude oil treatment
- Petrochemical engineering
- Gas treatment
- Chemical engineering
- Utilization the flare gas (electricity / steam)

## **Our leading features:**

- Complex services
- Discipline comprehensiveness
- Flexible teamwork
- Sophisticated management system
- Highly qualified personnel
- Long-lasting wide experience
- Social responsibility

## **Design activities:**

- Assessment reports
- HAZOP studies
- Feasibility studies
- Basis of design
- Basic design documentation
- Detail design documentation, it means:
  - Process part of design, including main equipment engineering
  - Mechanical part of design, i.e. equipment and piping layouts – 2D and 3D models, stress analysis, steel structure design
  - Civil design documentation,
  - Electrical design, including telecommunication, electrical fire alarm system, electronic security system, CCTV,
  - Instrumentation design – field Instrumentation and control systems
- Commissioning manuals
- Operating manuals
- Spare parts specification
- Documentation of classified



Finally yet importantly, we also review the equipment state in its operation in all professions including resulting suggestion of repairs and capacity increase.



# THE STRATEGY OF QUALITY SYSTEM AND INFORMATION TECHNOLOGY

The Company will ensure compliance with the certification conditions according to ISO, Quality Management System and Environmental Management System etc.

Communication means to improve the quality and ensure its most important parameters. SW used for administrative activities will continue to be based on Microsoft products, in the field of CAD design systems we will perform a strategic selection of CAD and subsequently carry out its implementation and training.



The database will continue to be maintained in all basic standards API, ASTM, ANSI, EN, DIN, CSN and GOST.



Compliance of prescribed procedures is the main priority of the **KPS Metal a.s.** strategy.

# MANUFACTURING POSSIBILITIES

Below manufacturing possibilities are not limiting, with use of mobile lifting devices we are able to manufacture up to 120 tons in our own roofed premises. For more details for particular products please contact our sales department.

## **Material cutting:**

- shearing - up to thickness of 16, length 3150 (upon individual inquiry)
- shape shearing – up to thickness of 4, dia. D = 2000
- cutting - max. diameter D = 420
- flame cutting - RS 501 - carbon materials up to th. 200
  - stainless materials up to th. 40
  - any shapes acc. to programme created in CAD



## **Material forming:**

- folding brake – up to length 4100, pressure 180 t (up to plate thickness approx. 14, acc. to length)
- roll bending up to thickness 25 (upon plate diameter and width)
- presses – eccentric 250 t, table 800 x 1120 mm



## **Welding:**

- automatic submerged-arc welder CaB 300M, ESAB 4,5 x 4 Basic Station 1 up to dia. D 4000 (vessel) do I = 15000 (irons)
- shielded welding
  - MIG, MAG – Fronius Traus Pulse Synergic 4000, 30 – 400 A, wire 0,8 – 1,6
  - WIG, TIG – Selco Genesis 382 AC/DC, 6 – 380 A, welding of materials cl. 17, Al + alloys, Cu + alloys
- coated electrode welding – Selco Genesis 382 AC/DC
- orbital welding POLYSOUDE PS 406, orbital head TS 2000 with AVC and with integrated wire feeder – weld tube – tubesheet



## **Machining:**

- turning – machinery: SV 18A, SU 50A/2000, SU 80/5000, SUR 400/4000 SC 22, Karusel up to D 2150 up to D 1500 over the bed
- grinding – up to D 630, length 3000 mm, weight 1200 kg
- surface grinding dimension 300 x 1000, weight 140 kg



- cutter grinding  
dimensions 300 x 4500, weight 500 kg
- milling – machinery:  
FGSH 50, FGSV 50, FNG 3/20  
clamping dimension 1600 x 6500  
clearance between side milling heads 1710 - max.  
height 1665
- horizontal boring and milling machines  
machinery: W 100, WD 160/4  
spindle movement: height – 2500, width – 3150,  
extension - 1600
- planing - max. dimensions 1800 x 1500 x 6000  
edges of plates L 11550
- shaving – table dimensions D 900, weight 800 kg, max.  
height 450
- gearing - up to M 10  
- up to D 1250, width 400 (without supporting  
stand)



### ***Expanding of tubes into tubesheet:***

- Maus M4V, F 90/VZ
- max. dia. of expanding 38 mm
- min. dia. of expanding 12,7 mm



### ***Surface finish:***

- chamber blasting (max. dimensions 4500 x 4500 x 15000), weight 30000 kg
- coating

### ***Pressure testing set for hydrostatic tests:***

- DENJET CE 20-350/400
- max. pressure 350 bar /5075 psi
- flow: 22,7 l/min.





## WE ALSO PROVIDE

### ***Material cutting:***

- laser cutting
- water jet cutting

### ***Heat treatment:***

- normalizing, induction, resistance annealing
- hardening (including induction)
- tempering
- nitriding
- sulphurizing

### ***Surface finish:***

- electrogalvanizing, hot dip galvanizing
- pickling
- passivation
- chrome plating
- nickeling
- blackening



## INSPECTIONS AND TESTS

Our products also have high requirements for checks and different tests. There are generally carried out below types of tests:

- **as per ASME**
  - visual test (VT) as per SNT-TC-1A, Level 2
  - nondestructive penetration testing (PT) as per SNT-TC-1A, Level 2
  - nondestructive magnetic particle testing (MT) as per SNT-TC-1A, Level 2
  - nondestructive ultrasonic testing (UT) as per SNT-TC-1A, Level 2
  - nondestructive X-Ray examination (RT) as per SNT-TC-1A, Level 2
- **as per EN**
  - visual test (VT) as per EN 970 / ISO 17637
  - visual test (VT) as per EN ISO 9712, Level 2
  - nondestructive penetration testing (PT) as per EN ISO 9712, Level 2
  - nondestructive magnetic particle testing (MT) as per EN ISO 9712, Level 2
  - nondestructive ultrasonic testing (UT) as per EN ISO 9712, Level 2
  - nondestructive X-Ray examination (RT) as per EN ISO 9712, Level 3

# EQUIPMENT FOR CHEMICAL AND PETROCHEMICAL INDUSTRIES

In the field of chemical and petrochemical industries we design, manufacture and deliver wide scope of apparatuses and equipment that are used especially in the wide line of chemical plants, refineries and many other industry sectors like e.g. distilleries, breweries, sugar refineries, plating plants, iron mills, paper mills, glass works, gasworks and a lot of other plants.



## Summary of delivered range of equipment:

### Vessels

- pressure (horizontal and vertical)
- double-surface (duplicator)
- with heating coil
- non-pressure (cylindrical, angular, etc.)

### Columns

- designed as per project requirements, can be delivered including internals and trays

### Tube heat exchangers and tube bundles

- of various designs and materials, e.g. with fixed tube-sheet, with floating head, with compensator in the shell, clad tube-sheet, as per project specification



### Air coolers

- various options and workmanship of finned tubes. Possible to provide complete delivery including design



### Apparatuses

- special construction and design by engineer's office for exist technological purposes, delivered as per engineering requirements and specification of the customers



## Reactors

- specially designed apparatuses determined for exist operation, e.g. agitated reactors, can be delivered of various materials, can be delivered of various materials, CS, SS + e.g. rubberizing or another surface finish by reason of resistance to used medium



## Agitators

- we deliver various designs and workmanship, each equipment is designed separately for exist agitation process and purpose of its use, the equipment is delivered within the range of electric motor input from 0,5 up to 120 kW



## Burners of industrial furnaces

- the burners are determined for chemical and petrochemical industries, both for domestic refineries and plants engaged in oil products processing and also for petrochemical complexes in former USSR, Iraq and Syria

## Steam ejectors

- we manufacture and deliver the steam ejectors as per handed documentation, workmanship of the ejectors can be heated, unheated with possible regulable power control etc.



## Equipment for pressure air treatment

- air chambers, chemists 6 FAD, separators VF, MF and air driers VAB, they are destined to drying and filtration of gases and aerosols (water, oil, etc.)

## Separators

- are supplied in various designs and they serve for separation of oil mists, emulsions, liquid aerosols, good soluble gases and further of dust submicron and fibrous fly ashes

**KPS Metal** also manufactures wide line of other equipment as per special requirements of engineer's offices and customers requests as e.g.: evaporators, crystallizers, autoclaves, filters, condensators, combustion chambers, furnace equipment, stacks,

separators, reservoirs, equipment for alternative and renewable power resources and whole range of other apparatuses.

Above stated pressure vessels, columns and apparatuses can be fit with various internals that serve especially for separation but also for other technological and process purposes. Also in this field we can offer wide range of equipment to our customers. Such equipment are especially:

#### **Chemister „D“ („demister“)**

- wire separators that achieve high effectivity in the field of separation of gases and aerosols and are delivered as per technical conditions and standards of KPS Metal or as per customer's request



#### **Filter plugs and separation baskets**

- they are used especially for chemisters and separators



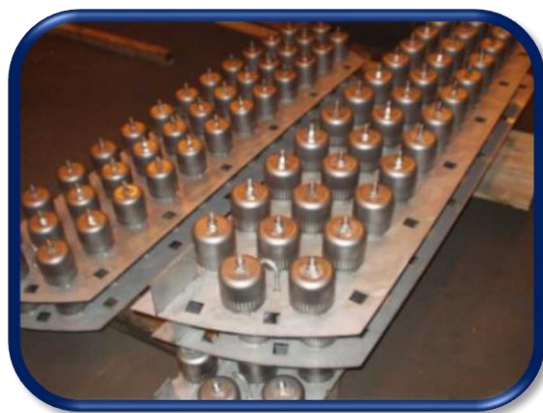
#### **Louver separators**

- separators where gaseous part of the medium flows through different shapes of lamellas. To increase its effectivity it can be combined along with the separator type Chemister „D“ („demister“).



#### **Trays of columns, flaps**

- the equipment is determined and delivered exclusively for columns, eventually it can be also delivered separately as spare part



#### **Separators**

- specially designed inner parts that KPS Metal manufactures as per customer's documentation

#### **Other internals**

- manufactured as per project documentation. Mainly tube heating coils, half-tube coils, siphon closures and grids with mesh for different fillings.



# EQUIPMENT FOR POWER INDUSTRY

In the field of power industry we design, manufacture and deliver wide scope of apparatuses and equipment that are of use especially in the wide line of power plants like power stations, boiler houses, heating plants, heat stations and incineration plants.

## Summary of delivered scope of equipment:

### Feed tanks

- we manufacture the whole scope of feed tanks of various designs. They are all-welded horizontal cylindrical tanks fitted with internals. The equipment is determined especially for steam generators and boilers with low and middle powers.



### High pressure heaters (HPH)

- such heaters are manufactured as per engineering requirement of the customer and are made of various materials. In principle the HPH are all-welded capillary heat exchangers of special construction with U-tubes in the shell which are expanded and welded into the steel tubesheet.



### Low pressure heaters (LPH)

- they are also all-welded capillary heat exchangers of various constructions. Bundles tubes (U tubes) are expanded into the tubesheet, eventually welded with seal weld.



### Fuel heaters (DH)

- they are mainly multi-way capillary tube heat exchangers of various designs and constructions. The bundle tubes are in most cases expanded into the tubesheet.



### Stacks, flue gas ductings, duct systems

- we manufacture also stacks and various interconnecting fittings like e.g. flue gas ductings and duct systems. We prefer manufacture of small and middle parts that can be manufactured and consequently delivered as assembled in individual assembly groups.



## Condensators

- equipment that is an independent part of turbine, in principle it is a tube apparatus in which flowing water cools steam passing through the turbine and by this is achieved its subsequent liquefying.



## Combustion exchangers

- the equipment that is used in exist power operations and is designed especially for another utilization of waste after heat.



## Stack and flue dampers

- the equipment that is installed on stacks of power units. Such equipment fulfills the whole scope of functions like e.g. prevention of boiler cooling, holding of rainwater and a lot of other functions.



## Divertors (three-way fittings)

- the equipment that enables to operate the power units by bypass way and also enables an independent operation of the turbine following to other parts of the technological entity.



## Equipment for mixing centers

- specially designed equipment and mixing apparatuses that are determined especially for transport of products rising during combustion in thermal power stations and heating plants including ash matters from fluidized bed boilers and waste products of desulphurization.



## Boiler drums

- boiler drums of various designs and constructions as per the customer's documentation.

# STEEL STRUCTURES

## Objects for manufacture and storage

- silos, storage tanks, containers
- stacks, tower washers, hoppers
- steel pipelines of different diameters



## Special structures

- frames of machines
- frames of mobile vehicles



## Technological structures

- supporting structures
- platforms including shielding
- ladders, stairs, railings



## Other structures according to customer's requirements





# CERTIFICATES



Certificate of quality management system acc. to ISO 9001:2015  
including welding technology by EN 3834-2 issued by VUPS  
on March 22, 2019



Inspection certificate for  
manufacturing of pressure  
equipment, issued by TI - technical  
inspection on April 7, 2017

Certificate for execution of steel structures  
acc. to EN 1090-2 including manufacture  
for execution class EXC3, issued by VUPS  
on March 22, 2019



# CERTIFICATES



Certificate of Authorization for manufacture of pressure vessels in accordance with ASME Code - „U“-Stamp issued on August 27, 2019



Certificate of Authorization for manufacture of pressure vessels in accordance with ASME Code - „U2“-Stamp issued on August 27, 2019

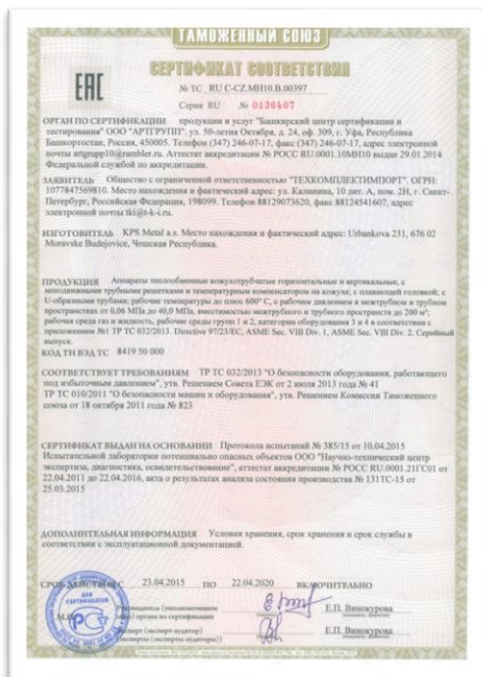


Certificate of Authorization for manufacture of power boilers in accordance with ASME Code - „S“-Stamp issued on August 27, 2019

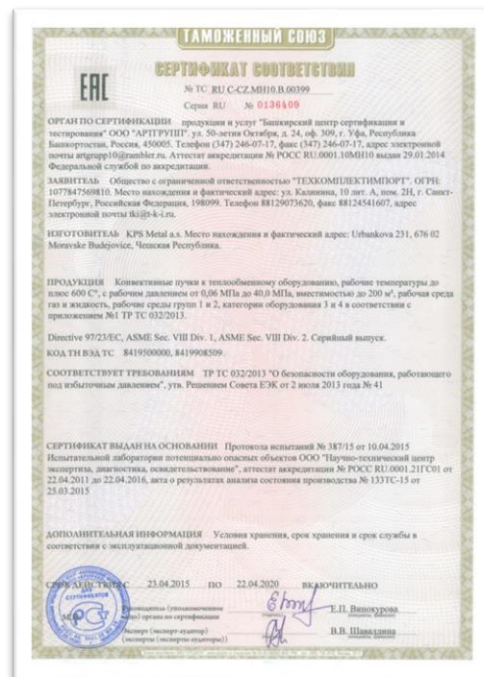


Certificate authorizing to apply NB mark and register pressure vessels and boilers manufactured in accordance with ASME Code, issued by National Board on July 13, 2016

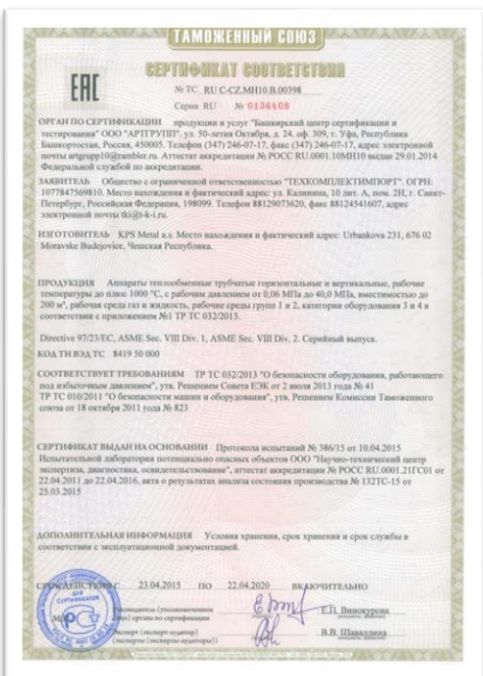
# CERTIFICATES



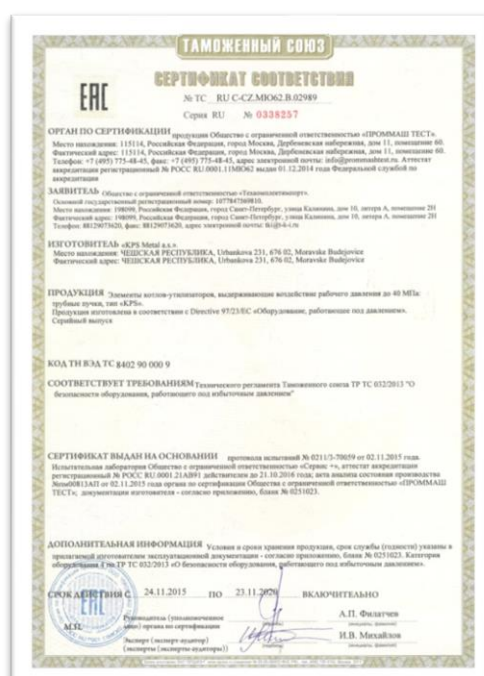
Certificate of conformity for manufacture of shell and tube heat exchanging apparatuses, issued on April 23, 2015 in the Russian Federation



Certificate of conformity for manufacture of convection bundles for heat exchanging equipment, issued on April 23, 2015 in the Russian Federation



Certificate of conformity for manufacture of tube heat exchanging apparatuses, issued on April 23, 2015 in the Russian Federation.



Certificate of conformity for manufacture of waste heat boilers, issued on November 24, 2015 in the Russian Federation.

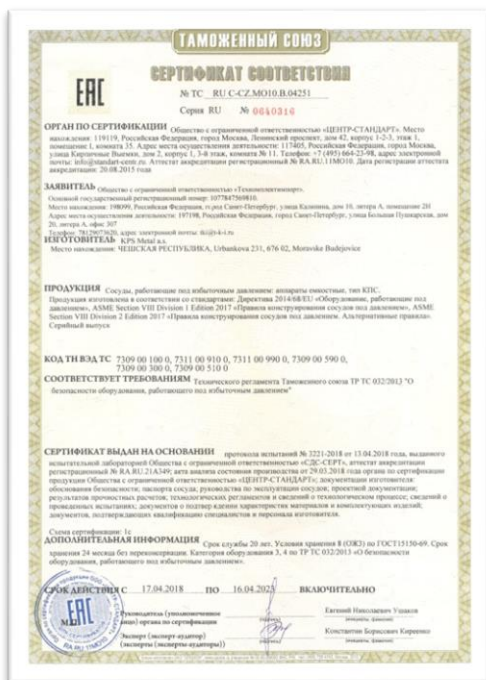
# CERTIFICATES



Certificate of conformity for  
manufacture of waste heat boiler  
parts, issued on November 24,  
2015 in the Russian Federation.



Certificate of conformity for  
manufacture of piping parts, issued  
on November 24, 2015 in the  
Russian Federation.



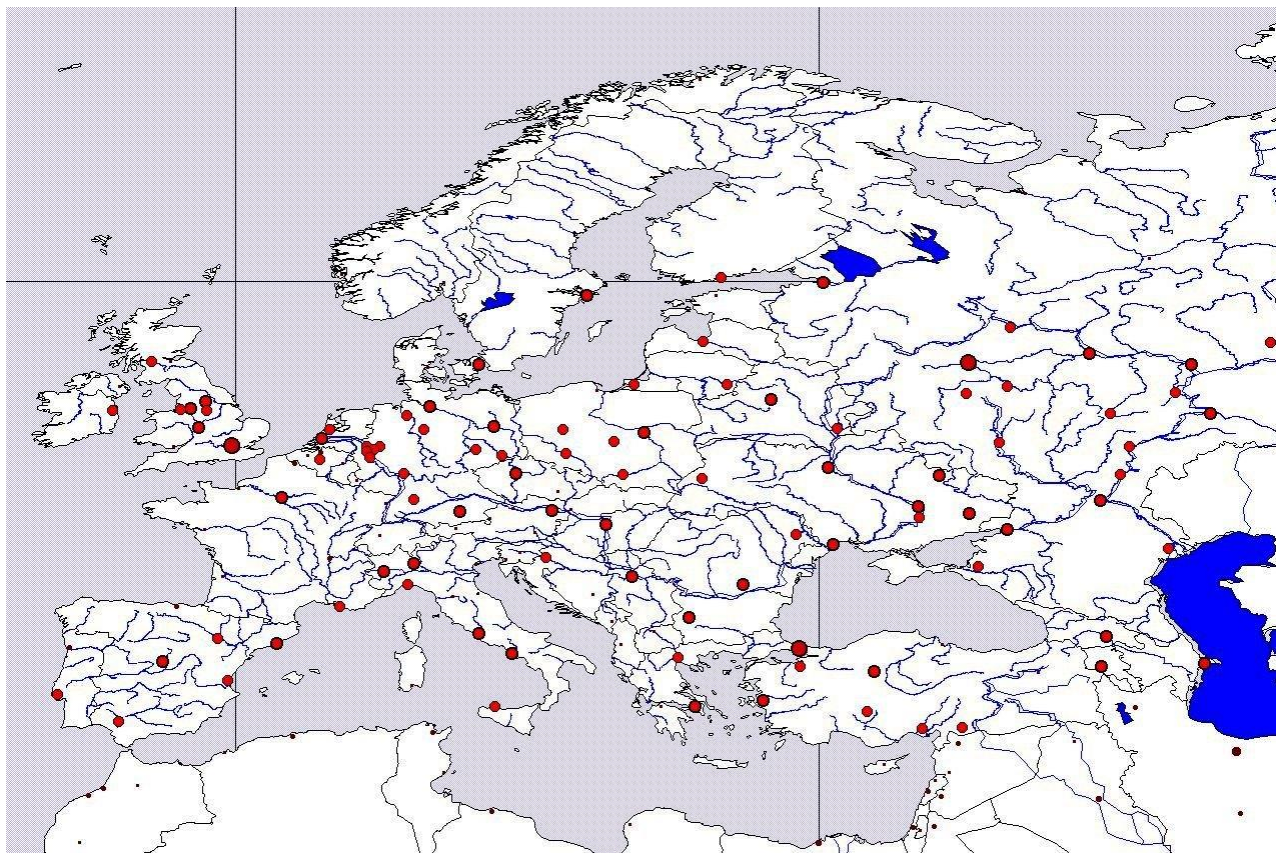
Certificate of conformity for  
manufacturing of pressure vessels,  
issued on April 17, 2018 in the  
Russian Federation.



Certificate of conformity for  
manufacturing of columns, issued  
on April 17, 2018 in the Russian  
Federation.



# REFERENCES - EUROPE



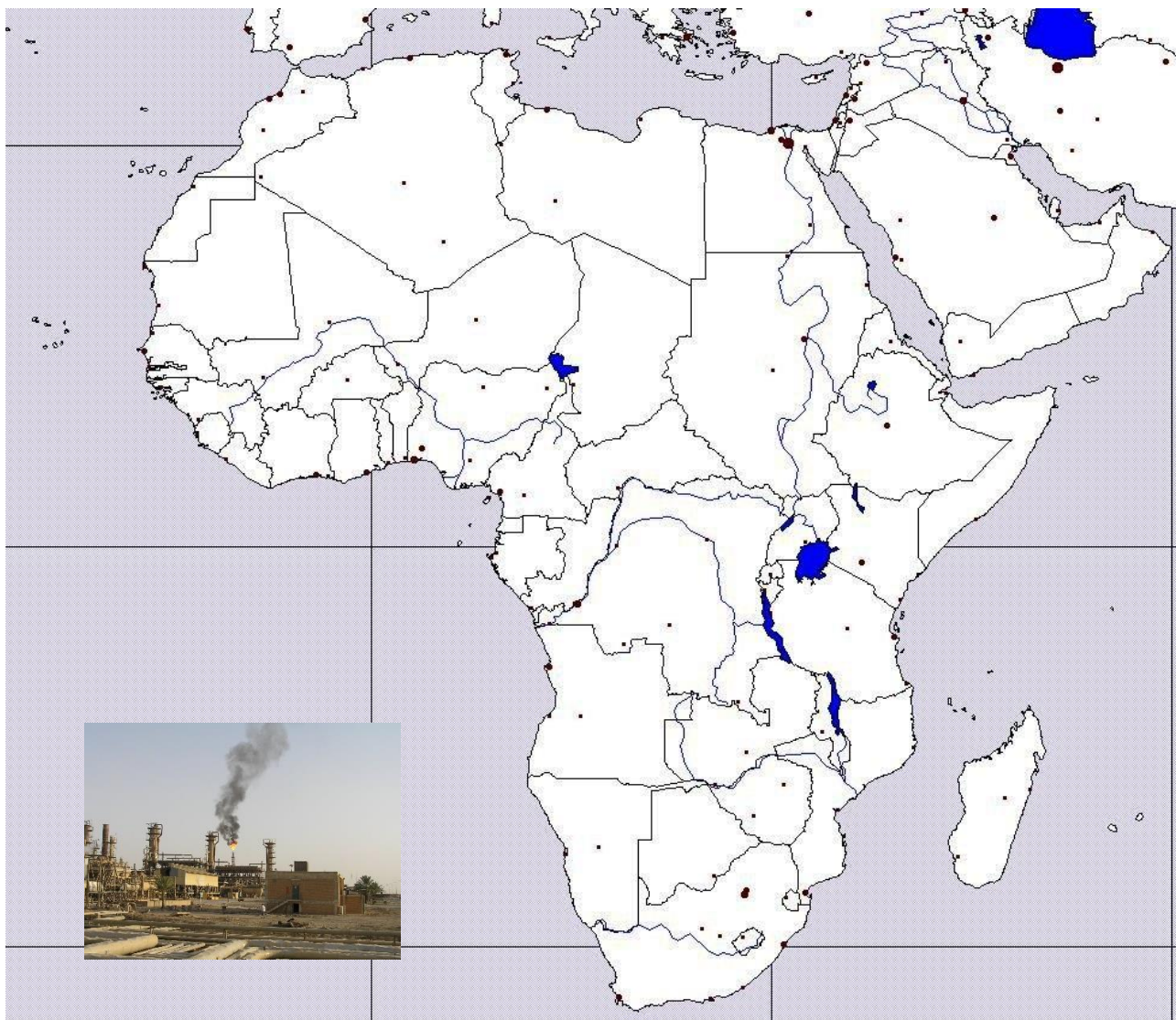


# REFERENCES – RUSSIA, ASIA AND NEAR EAST





# REFERENCES – AFRICA AND NEAR EAST





# REFERENCES – NORTH AND SOUTH AMERICA



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