



# HIMMASH JSC

main production



Himmash JSC  
69 Saedinenie blvd, Haskovo, Bulgaria  
Tel. +359 38 / 664 991  
e-mail office@himmash.com  
www.himmash.com

## GENERAL Company Information

Company name - Himmash JSC   
VAT: BG836143969

Main office address: 69 "Saedinenie" blvd, Haskovo,  
Bulgaria  
Postal (ZIP) code - 6300

Phone +359 38 66 45 74,  
E-mail office@himmash.com

Sofia branch address: 67 "Tzanko Tzerkovski" str., Sofia,  
Bulgaria  
Phone +359 2 963 00 60

Representative office in Romania 

Company name - SC Setraco Holding A.S.  
Address 10 Lavandei str., Sector 6, 062219, Bucuresti,  
Romania  
Phone +4021 43 41 366  
E-mail dravici@setraco.ro

Representative office in Greece 

Company name - SFH GROUP IKE  
Proektasi Meandrou 0 Eyosmos, Thessaloniki,  
Greece

Phone: 2310683395 - 2310683873  
E-mail info@falconhellas.gr

## Himmash JSC - Production capabilities

1. Design, furnish and install Distributed Control System, including equipment supply, FAT, and technical field services during plant systems start-up.

2. Mechanical Works contract, including design, furnish, and installation of heat exchangers and auxiliary boilers; emergency diesel generators; gas preparation stations (compressors, filters, knockout drums, heaters); gas pipelines; makeup water treatment equipment and piping, including raw water pretreatment, reverse osmosis, and electrode ionization; wastewater treatment equipment and piping, including oil/water separator and sanitary sewage treatment plant; potable water; fire protection; BOP equipment and piping (not included in CTG, STG, and HRSG contracts), insulation and lagging, pipe hangers/supports, pressure vessel(s); air compressor station; district heating system; sump and misc pump(s); demolition of pumphouse superstructure and replacement of pumps with outside pumps (proposed), and furnish and install travelling water screens.

3. Electrical Contract including plant internal distribution, field instrumentation, communication systems and power outlet up to HV switchyard; high voltage electrical (generator output to transformers); iso-phase or cable bus duct; PDC; MCCs.

4. Building Contract, structural steel, roofing, siding, architectural finishes HVAC and Fire protection (pumps, piping, and sprinkler system within buildings); gas compressor building; water treatment buildings.

5. Design, furnish and install field erected tanks (i.e., makeup water tank, etc.).





**Himmash JSC** is located in Haskovo's Eastern industrial zone, on an area of 226 000 m<sup>2</sup>, 70 000 m<sup>2</sup> of which area, being covered production shops. The company's location benefits from a nearby highway and a national railroad line, to which we have our own railway connection.

Himmash JSC's premises are built and commissioned gradually, during the period from 1976 to 1988. The building is invested by the Committee of Heavy Investment Machine-building – Sofia, using project documentation by Mashproekt – Plovdiv and the building works are done by Bulgarian building and assembly organizations.

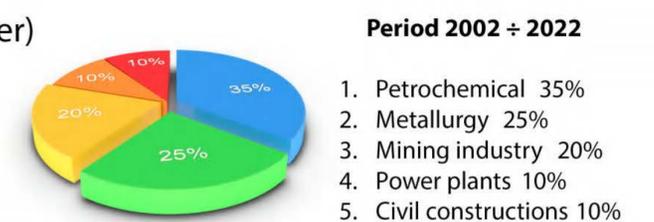
For the period from 1977 to 1991, the plants for chemical machine-building in Pleven and Provadia and the Institute for chemical machine-building in the town of Devnya have all been part of Himmash JSC. These plants were separated from Himmash later and developed as separate entities.

Suppliers of Himmash's production equipment are companies from Germany, Russia, Italy, Hungary, Bulgaria, Switzerland and Romania.

Himmash is a major producer of equipment, made of carbon and stainless steel, for various industry sectors, including but not limited to: chemical, bio-technological, food and pharmaceutical industries, energy production and distribution, metallurgy and civil construction.

### Areas of Core construction competency

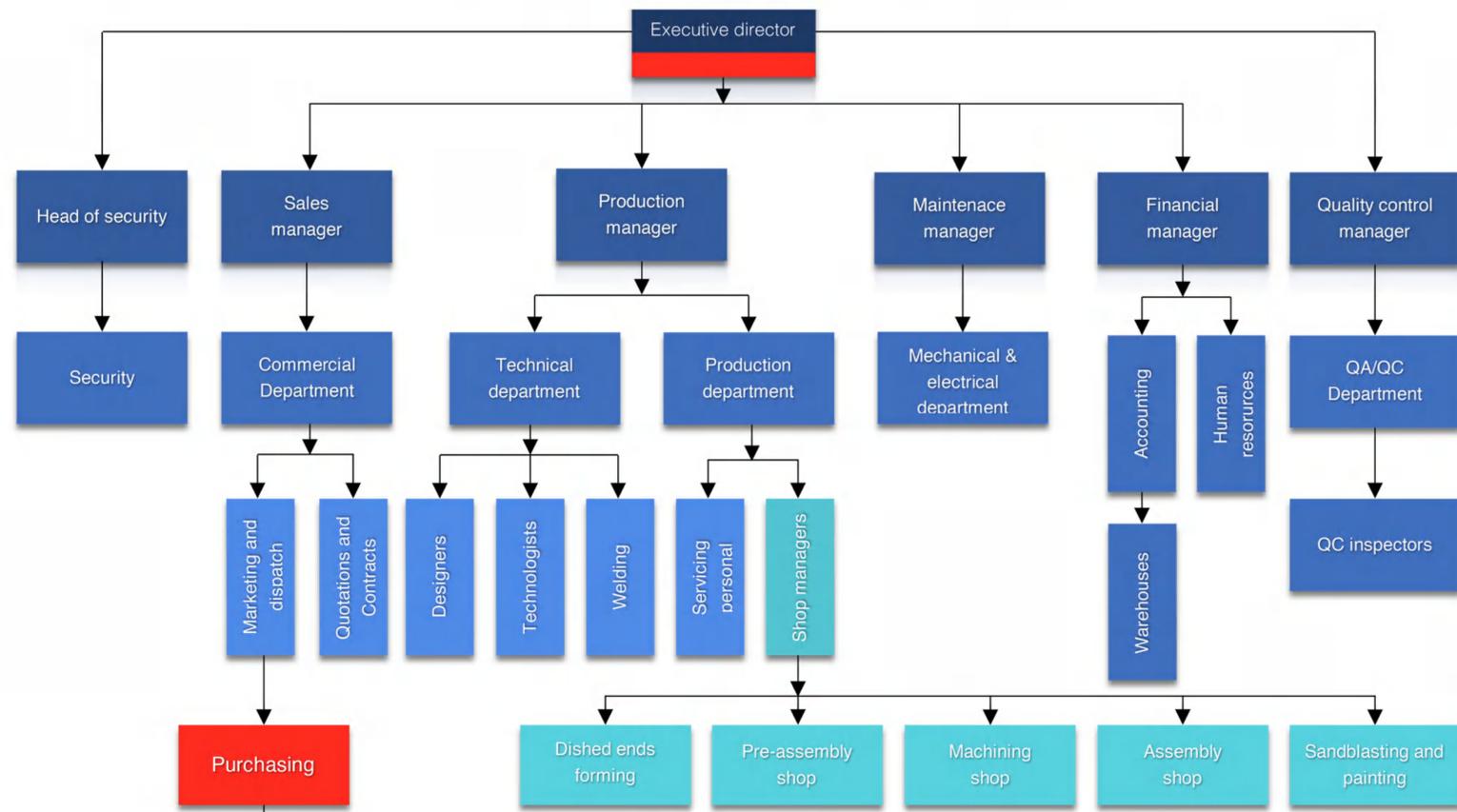
- ✓ Arch/Eng. Services
- ✓ Boilers (Steam Generators)
- ✓ Buildings, Portable
- ✓ Buildings, Metal
- ✓ Cathode Protection
- ✓ Civil
- ✓ Coatings/Linings
- ✓ Cooling Towers
- ✓ Ductwork, Breeching (Heavy)
- ✓ Electrical
- ✓ Engineering / Controls
- ✓ Insulation
- ✓ Mechanical Contractor
- ✓ Equipment Setting
- ✓ Painting
- ✓ Piping, Process (Steam, Water)
- ✓ Process Controls
- ✓ Refractory
- ✓ Reinforcing Steel
- ✓ Rigging/Erecting
- ✓ Scaffolding
- ✓ Stress Relieving
- ✓ Structural Steel
- ✓ Surveying
- ✓ Tanks, Field Erected
- ✓ Testing, NDE
- ✓ Towers
- ✓ Tray Installation
- ✓ Vessels, Field Erected
- ✓ Wastewater Treatment



### Engineering and procurement capability

- ✓ Material Purchasing
- ✓ Piping Engineering
- ✓ Mechanical Engineering
- ✓ Instruments Engineering
- ✓ Operation and Maintenance Manuals
- ✓ Engineering of vessels and field erected tanks

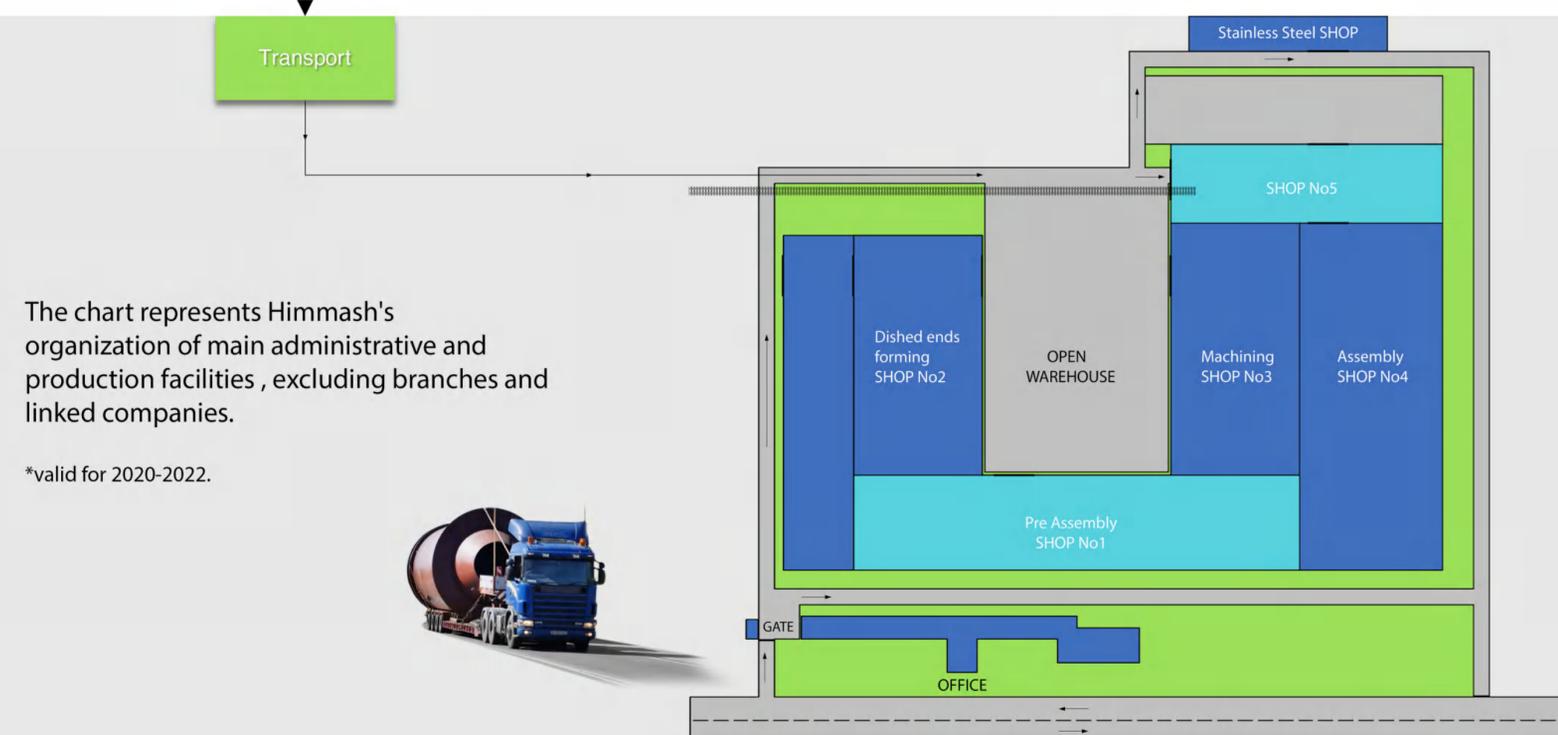
# HIMMASH JSC Company organization chart



Workshop No	City	Covered areas	Uncovered areas	Offices
No 1	Haskovo	70 000	156 000	1800
No 2	Sofia	12 000	35 000	700
No 3	Burgas	8 000	15 000	450
No 4	Topolovgrad	6 000	16 000	340



Our Company area spans over more than 320.000 sqm with four fabrication workshops. Three of them are located in eastern and central part of the country and one is a sea front workshop, in Burgas, located on the Black sea. In this workshop large-scale equipment is assembled, completed and delivered, in one piece, all over the world.



The chart represents Himmash's organization of main administrative and production facilities, excluding branches and linked companies.  
\*valid for 2020-2022.



Head office Personnel	22
Workshop Personnel	215
Field Personnel	65
Graduated	50
Holder of Diploma	45
Other	202
Senior Executives	10
Employees	48
Workers	194





# DESIGN & Control

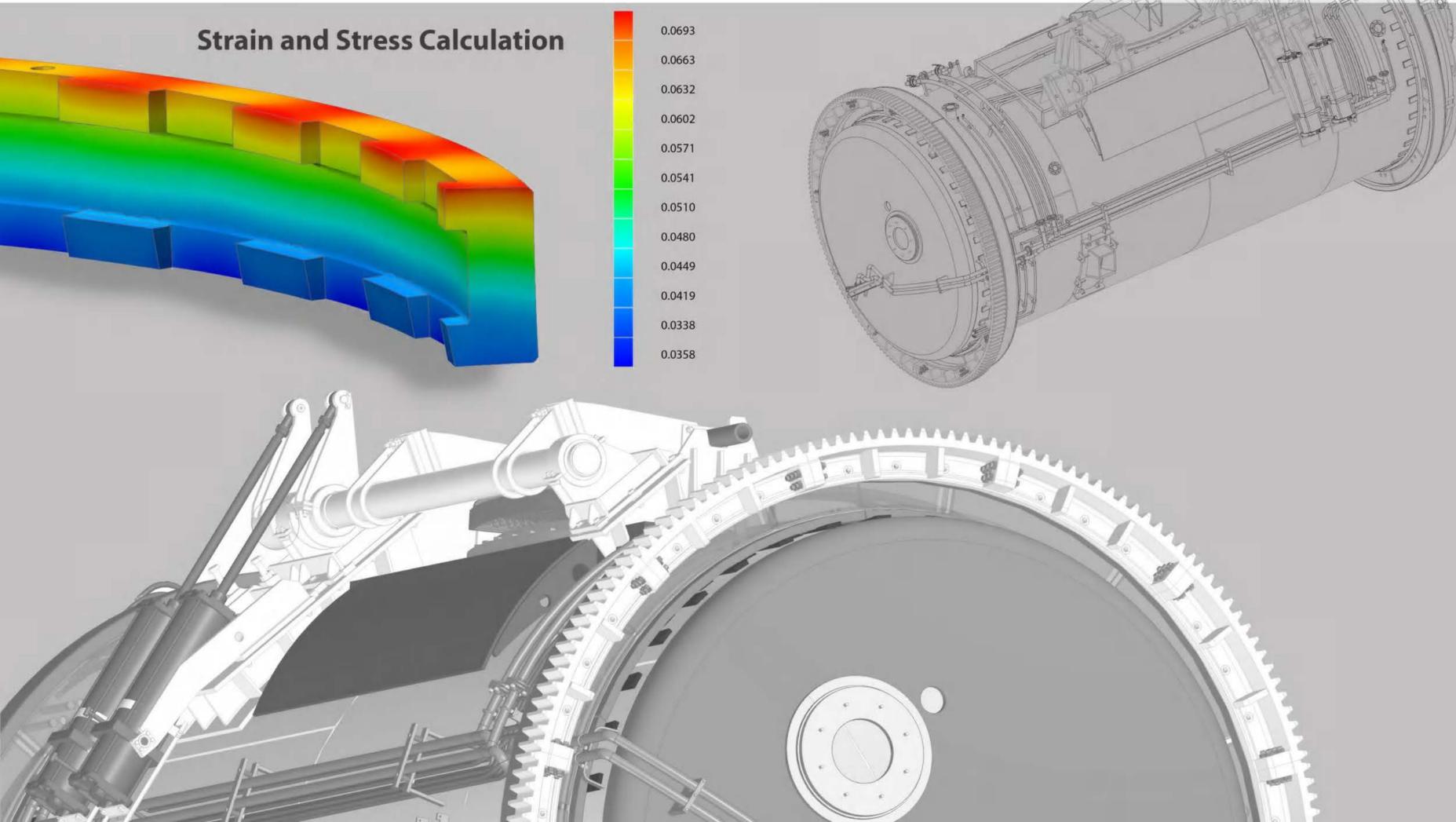
Himmash JSC develops contracts specification in full compliance with Design Codes and customer's requirements.

Himmash's engineers, draftsman and design managers are able to satisfy contracts requirements. Through the application of advanced software for both - thermal and mechanical design.

The full knowledge and familiarity with all the existing Design Codes as ASME, PD, AD2000-Merkblatt and GOST, allow Himmash's engineers to perform sophisticated mechanical designs, according to the most advanced technical requirements.

## Computer aided DESIGN

-  **VVD** Visual Vessel Design 3D calculation software
-  **PV Elite** Vessel Analysis 3D calculation software
-  **SOLID EDGE** 3D drawing and design software
-  **AUTOCAD** 2D drawing and design software



## Material examination laboratories:

### Non-destructive examination laboratory:

Radiographic (x-ray) equipment for material thickness up to 120 mm;

### Multifunctional non-destructive equipment:

Ultrasonic examination;

Ferritometers;

Magnetic particle examination and dye-penetrant testing;

Measuring the thickness of the base material – carbon and stainless steel;

Measuring the dry film thickness of applied anti-corrosion products;

### Chemical analysis laboratory.

### Mechanical test laboratory:

Tensile strength;

Impact strength;

Hardness;

Bend stability;





Pressing



Bending



Drilling



Cutting



# MACHINING

## heavy duty processing

### General equipment list:

- CNC controlled Gas and Plasma-arc cutting of carbon / stainless steel plates.
- Guillotine / shear cutting of carbon and stainless steel plates.
- Cutting of EN profiles and bar materials.
- Edge preparation / Chamfering machines with nominal working length of 12 000 mm.
- Hot-forming of carbon / stainless steel dished ends with internal nominal diameter up to  $\varnothing$  7 500 mm.
- Automatic under-flux welding and Semi-automatic protective-gas welding.
- Cold-bending of steel plates with width up to 3000 mm and thickness up to 150 mm.
- Hot-bending of steel plates.
- Gear-cutting: modules up to 40 and diameter up to  $\varnothing$  6000 mm. Maximum single workpiece weight of 25 000 kg.
- Volumetric post-weld heat treatment (PWHT) furnace with dimensions of 12 000 x 5 400 x 4 900 mm.
- Local / spot post-weld heat treatment.
- Sandblasting / Shotblasting equipment.
- Painting pumps, chambers and driers.



COLD AND HOT

**Method:** cold worked (dishing and flanging or pressing).

**Material:** ferritic, austenitic and non-ferritic metals.

**Dimensions:** up to 7500 mm diameter depending upon thickness of material and wall thickness up to 40 mm depending upon material and diameter; custom forms and dimensions on request.

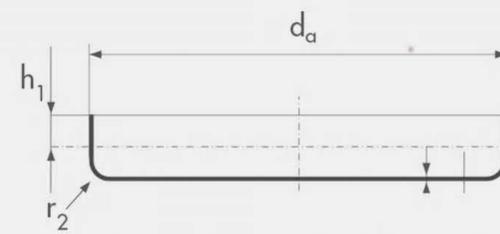
**Surface treatment:**

- Polishing: internally and externally to 0,2  $\mu\text{m}$  surface smoothness for diameters up to 5200 mm.
- Pickling: for stainless steel heads
- Blasting: sand-blasting for ferritic steels and glass granulate blasting for austenitic steels.

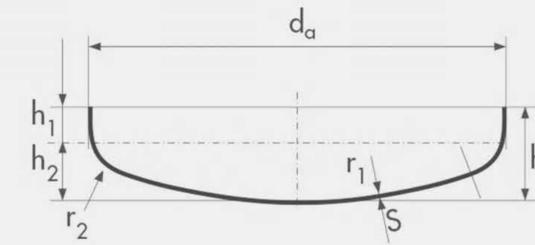
**Approvals:** for Material Manufacturer acc. to European Directive PED 2014/68 / EU, ASME U, AD 2000.

**Inspections:** by TÜV or other inspection companies.

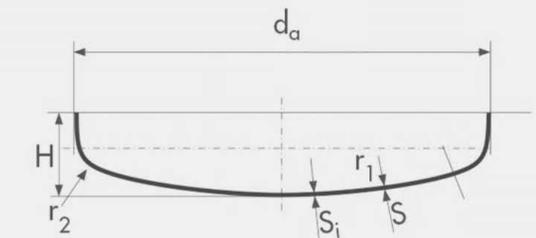
**Testing of materials:** non-destructive or destructive with certificate.



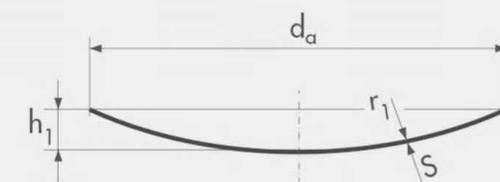
FLAT HEADS



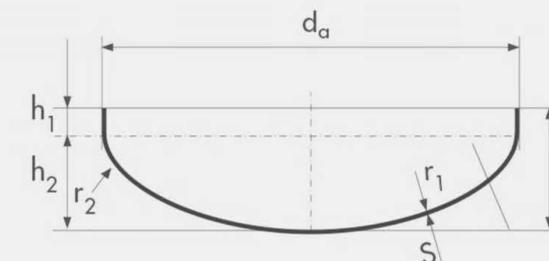
TORISPHERICAL HEADS DIN 28011



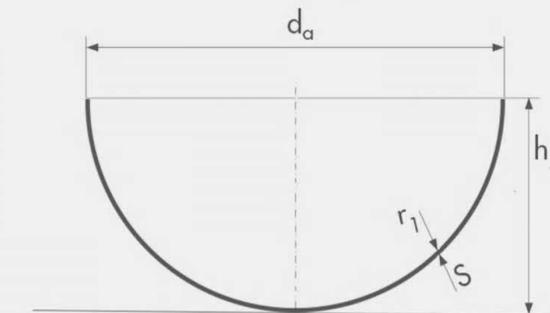
TANK ENDS



CURVED DISCS



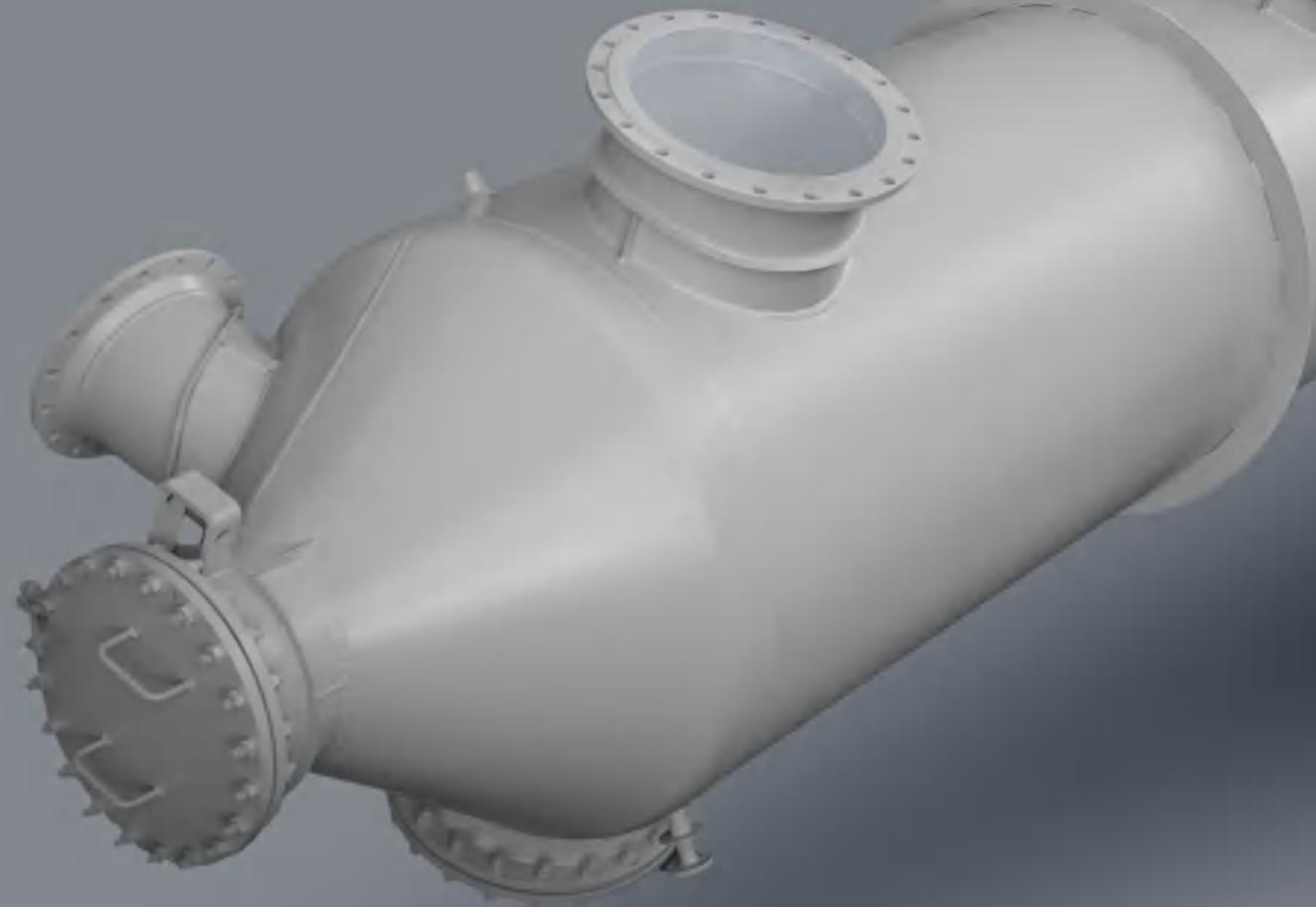
SEMI-ELLIPTICAL HEADS DIN 28013



SEMI-SPHERICAL HEADS

# PRODUCTION

gallery by industries



# Mining industry

Companies from the mining industry have always been valuable clients of Himmash. Their large-scale projects require large-scale equipment – Himmash's specialty. The range of products starts from the relatively simple Thickeners, Gears, Flotation cells and Rake arms and goes up to highly specialized equipment like the Autoclaves.



50 m3 Flotation cells and auxiliary equipment for the National Iranian Steel Company (NISCO), ordered by FLSmidth, Denmark.



A trial assembly of Ø 37 meters Thickener. The equipment was ordered by Dorr Oliver EIMCO, UK for their project in Jordan.

Pictured to the right is a Pressure Oxidation Autoclave a unique vessel made of 42 mm thick P460NH plate material, A105 forgings and **Inconel alloy**, weighing in at 200 tons, operating at 40 bars and 130°C. The Autoclave was ordered by Dundee Precious Metals, Canada for a Gold ore processing facility in Australia.



# METALLURGICAL

industry and steel plants

We have once again proven our shop capabilities, by producing more than 1200 tons of Equipment for just 5 months. The Equipment was completed and delivered to one of the major sea ports in Bulgaria.



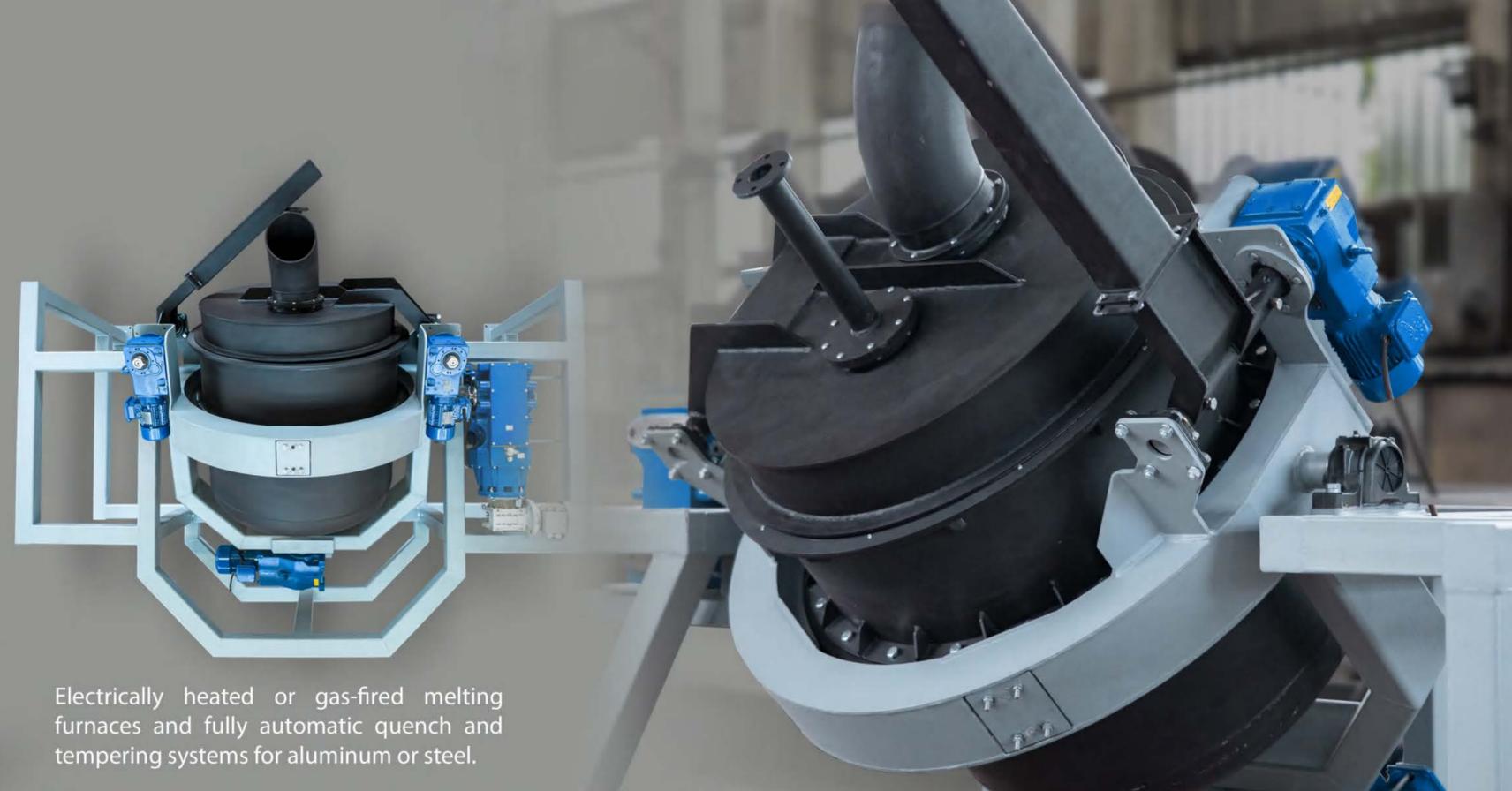
The project, completed by Himmash was the design, production, and delivery of 26 pcs Sandfilters and 2 pcs Activated Carbon Filters for a Client in Pennsylvania, USA. The diameter of the filters was 4,5 meters and the height – 10 meters, with weight of 40 tons each. Both the design and the production of the Equipment were executed according to the requirements of ASME Section VIII, Division 1 + the specific Rules and Regulation of Pennsylvania state.



Because of the location of the End Customer - USA, Himmash applied for and receive certification of a National Board Stamp (NB) giving us the right to register the Filters for operation on the territory of the USA.



In addition to the various types of Filters, Himmash also produces liquid metal ladles, smelting pots, stationary and rotating furnices and all the related equipment.



Electrically heated or gas-fired melting furnaces and fully automatic quench and tempering systems for aluminum or steel.



# PETROCHEMICAL

and refinery



Productions of various Columns for Motor Oil Hellas - the columns were designed for a refinery in Corinth, Greece and the project engineer was Technip Italy S.p.A. The Italian company Brembana executed the workshop design and Himmash - the production of the equipment, including material procurement, prefabrication, assembly, welding, painting, packing and the delivery to the erection site.



# LIQUID Petroleum Gas (LPG)

Another major field of activity for Himmash is production of LPG storage tanks. The constantly growing LPG market in most of the Balkan countries demands high-volume LPG storage yards for distribution of the fuel. Pictured to the right are some of the last projects we completed, all of them using LPG storage tanks with volume of 400 m<sup>3</sup>. The total storage capacity of these yards is more than 20 000 tons of LPG. Himmash did the design, material procurement, prefabrication, assembly, welding, painting and transport. Himmash also took part of the site installation and commissioning.

The company's LPG tanks production range starts from small 0,3 m<sup>3</sup> units for home use, through tanks for petrol and gas **filling stations** (5 to 30 m<sup>3</sup>) and up to 50÷500 m<sup>3</sup> per unit, intended for storage yards.

Together with the design and production of our largest tanks, Himmash can also provide transport solutions to its customers, using both road and sea transport to the installation site.



Non-standard tank dimensions:

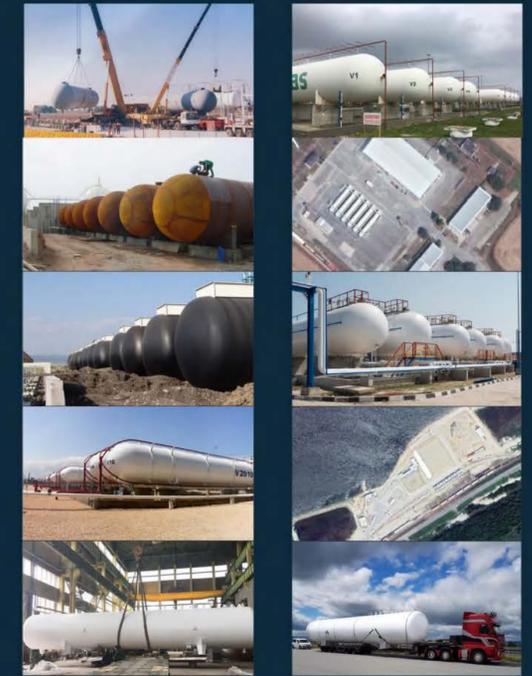
Being the only producer of dished ends in Bulgaria, Himmash is capable of producing any size of tank, requested from a client.

- No diameter restrictions;
- No length restrictions;
- No operating position restrictions (horizontal or vertical);
- Underground / aboveground installation.



## LPG - total storage volume production by terminal 2002 - 2018

SHELL BULGARIA	2002	1000 m <sup>3</sup>	Storage
SYNERGON HOLDING	2004	4000 m <sup>3</sup>	Storage
GASTRADE	2009	10 000 m <sup>3</sup>	Storage
ROMPETROL	2011	4000 m <sup>3</sup>	Sea terminal
LUKOIL	2012	2500 m <sup>3</sup>	Storage
ART OIL	2013	4000 m <sup>3</sup>	Sea terminal
SYNERGON HOLDING	2014	1500 m <sup>3</sup>	Storage
MORAVIA GAS	2015	4000 m <sup>3</sup>	River terminal
GASTRADE	2016	6000 m <sup>3</sup>	Sea terminal
MOL HUNGARY	2018	800 m <sup>3</sup>	Storage



# Petrol products storage tanks

Most fuel terminals, combine both LPG and petrol products storage tanks, with volumes up to 50 000 m<sup>3</sup> each. Depending on the client's requirements, Himmash can produce different types of petrol products storage tanks, based on their erection method, construction type (fixed and floating roofs) and technology, according to the requirements of EN 14015:2005 and API 650, 13th Ed. Along with the standart tank erection method of welding separate plates at site, using horizontal girth welding machines, we can also propose an alternative – production, delivery and erection of coil-type tanks. With these tanks, most of the site welding is executed at the shop. The tank's shell is delivered as a single, bent sheet, which is uncoiled at site. This saves a lot of time and manhours, as the only remaining site erection operation is the welding of just one vertical, closing seam.

## Standart tanks's production capacity by Type:

Coil Type	Welded at Site
1 000 m <sup>3</sup>	1 000 m <sup>3</sup>
2 000 m <sup>3</sup>	2 000 m <sup>3</sup>
5 000 m <sup>3</sup>	5 000 m <sup>3</sup>
10 000 m <sup>3</sup>	10 000 m <sup>3</sup>
Up to 20 000 m <sup>3</sup>	20 000 m <sup>3</sup>
	30 000 m <sup>3</sup>
	50 000 m <sup>3</sup>

The use of either one of the two methods depends not just of the Client's requirements but also of the local laws and regulations.



# Civil constructions and Steel structures:

Certified for production of steel structures acc. to **EN 1090-2**, Himmash is capable to design, produce and install both civil constructions, used in the building and steel structures, servicing various purposes. We have a highly-trained erection team, equipped with all the necessary specizlied lifting and handling equipment.

Pictured to the left and below is the installation of a 3000 tons pipe-rack steel construction, ordered to Himmash during the expansion and modernization of Lukoil Neftochim Burgas – the largest Bulgarian petrol refinery.



To the left - specific building structure frame for Park Arena sports facility (swimming pool) in Burgas, prodiced and erected by Himmash.

# Nuclear

power plants

Himmash's experience in producing equipment for nuclear power plants includes numerous vessels and tanks for both Bulgarian NPP sites - Kozlodui and Belene. Our latest NPP-related project was completed in 2019. Together with Framatome France.

Himmash produced four stainless steel (AISI 321) Venturi scrubbers. The original technical documentation of these vessels was according to GOST, so have updated the design, to consider the requirements of the current EN regulations.



production and assembling of Venturi scrubbers

Description of the vessels produced for the both NPPs in the period from 2010 to 2019 :



## Kozlodui and Belene

**Biological protection doors** – base models: A219, A226, A233 A328 and A334  
Total quantity 260 pcs.

**Hydrogen receivers** with volume of 80 m3:  
Total quantity 20 pcs.

**Filters for water chemical cleaning:**  
Na-cation, H-anion, OH-anion:  
Total quantity 86 pcs.

**Filters for water mechanical cleaning:**  
Total quantity 62 pcs.

**Venturi scrubbers:**  
Total quantity 4 pcs.



Himmash has been successfully audited by Atomstroyexport JSC for production of nuclear-related components in 2010.



# VARIOUS industries

Paper, Cement, Food and Chemical

