

MBNS – International, spol. s r.o.



Brno, 12-2023

COMPANY



HISTORY

- existing from 1991
- private owned from 1995
- own fabrication from 2005

DATA

- Location: Brno, Czech Republic
- Staff: aprx. 80
- Markets: EU, Middle East, Asia, North Africa



PRODUCTS

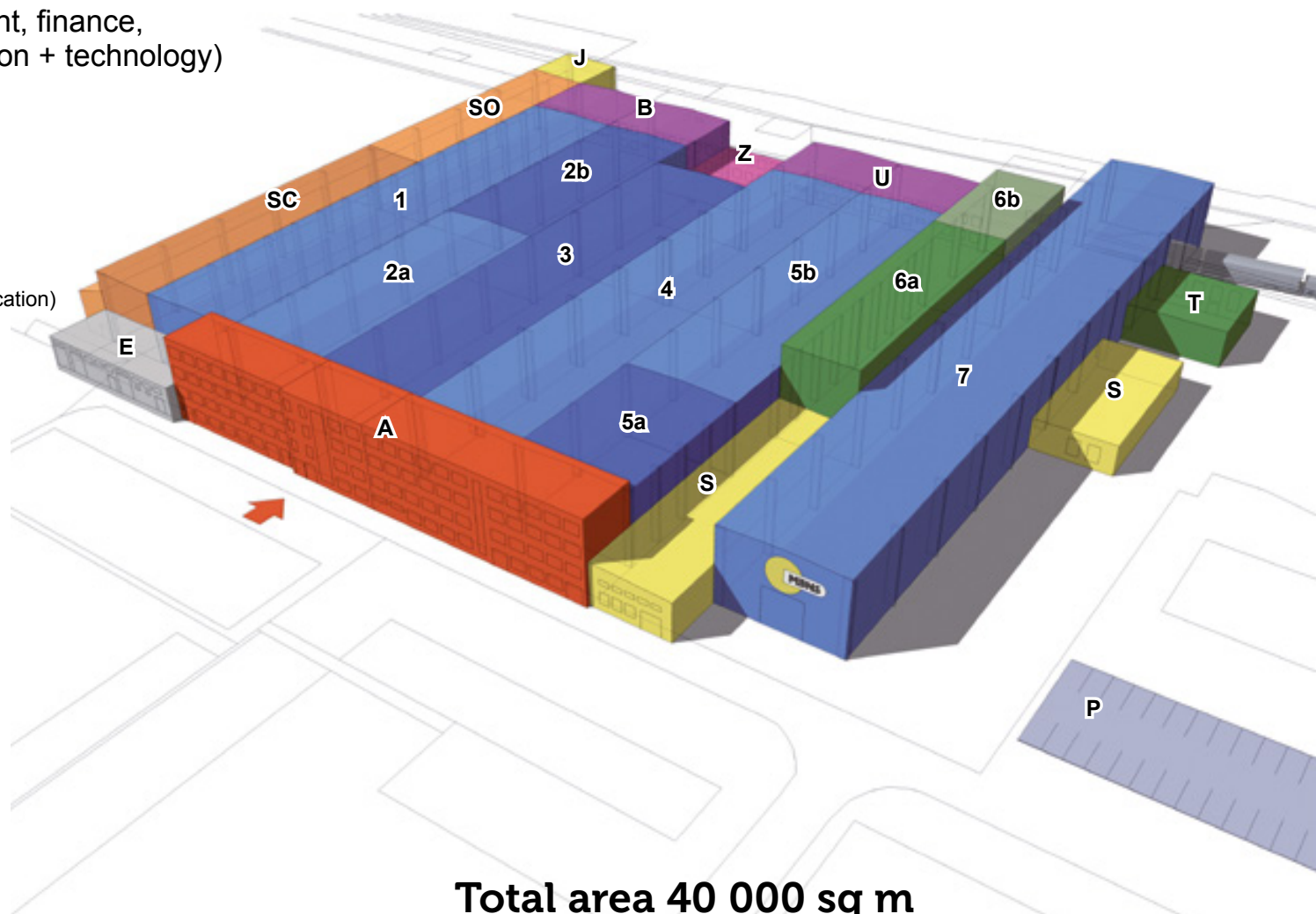
FABRICATION OF THE EQUIPMENT FOR OIL, GAS, CHEMICAL, PETROCHEMICAL AND POWER INDUSTRIES

- Fired heaters, process furnaces, reformers
 - Coils - radiant, convection, helical etc.
 - Pre-heaters, stacks, structures etc.
 - Effluent chambers, manifolds, transferlines (TLE), cross-overs, pigtails etc.
 - Columns, reactors, pressure vessels
 - Mechanical pressure static equipment
 - Piping and tubular systems
 - Heavy steel structures
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- **up to max. weight 100 tons/pc;**
max. length 30 m/pc; max. diameter 5,5 m



FABRICATION SHOPS

- A** administration offices (management, finance, trade, QM, engineering, construction + technology)
- 1** machining shop
- 2a** welding shop (automatic)
- 2b** mechanic and plate forming shop
- 3** tube bending shop
- 4** welding and assembly shop
- 5a** clean room (stainless and special steel fabrication)
- 5b** welding and assembly shop
- 7** heavy assembly & shipment shop
- Z** non-destructive analysis (X-ray)
- 6a** paint shop
- 6b** paint shop
- T** blast cleaning shop
- S** stores
- SC** closed store
- SO** open store
- J** scrap yard
- B** grinding shop & tool crib
- U** maintenance
- E** substation
- P** parking



Total area 40 000 sq m
Covered production area 17 000 sq m

FABRICATION FACILITIES



MECHANIC AND PLATE FORMING SHOPS

Plate edge planning - HHP 10 planning machine

- min. plate width 90 mm, max. plate length 9000 mm, through height 90 mm

Pre-bending - press HPC 250 TO

- max. die width 1000 mm, max. piston stroke 520 mm, max. piston centre-to-housing frame depth 500 mm

Plate roll bending

- max. plate thickness 45 mm, width 3000 mm

Oxy-acetylene cutting

- automatic max. 50 mm, manual max. 20 mm (CS)

Plasma cutting

- max. 50 mm (SS)

Plate cutting

- max. 10 x 3000 mm

Saw cutting

- At an angle up to 130 mm, upright 300 mm



FABRICATION FACILITIES



WELDING

Submerged arc welding (SAW) and plasma arc welding (PAW)

- min. Ø 750 mm, max. Ø 5500 mm (3x ESAB + Lincoln machines)

Standard thickness of welded plates, pipes and flanges

- carbon steel 3 - 100 mm, stainless steel 3 - 100 mm

GTAW (TIG/WIG)

- pipe outside Ø 16-800mm (EWM, Fronius, Omicron – 15pcs)

GMAW (MIG/MAG)

- conventional and pulse welding in shield gas,
pulse welding-mainly SS, sources up to 500 A/60%ED
(EWM, Fronius, Omicron – 15pcs)

Electrode

- conventional and special welding (EWM – 5pcs)

GTAW (TIG/WIG)

- pulse sources up to 500 A/60%ED (EWM – 2pcs)

Stud welding

- NELSON resistance stud welding from Ø 6 to Ø 14 mm (2pcs)



FABRICATION FACILITIES



TUBE BENDING

Hot bending

- D 89 - 377 mm, R min. 3 D but min. 450 mm,
- R max. 3000 mm, max. bend angle 180°,
max. wall thickness 23 mm

Cold bending/rolling

- D from 16 to 108 mm, R min. 3 D, max. bend angle 180°
- D from 20 to 159 mm, R max. unlimited, bend angle 360°,
max. wall thickness 8 mm
(AMOB MAH150 and HPR 12-V-H machines)
- tubes can be bent with the bend axis placed in more planes,
as well as helically up to max. \varnothing 159 mm
- D from 15 to 80mm, R min. 1 D, max. bend angle 180°
(2023 AMOB CH 80 CN1 booster machine)

Press for panel straightening

- load – 350 tons (own design and fabrication)



FABRICATION FACILITIES



MACHINING

Horizontal boring and milling machine PT160

- spindle \varnothing 160 mm, X = 3150 mm, Y = 2300 mm, Z = 1600 mm, clamping area 6000 x 4000 mm, maximum load 20 t

Vertical lathe SK25A CNC, SK 16, SK12

- max. machining \varnothing 2700 mm, max. workpiece height 1500 mm, maximum load 12,5 t

Lathes

- max. machining \varnothing 620 mm, max. L = 4500 mm, maximum load 3 t

Milling machines

- spindle \varnothing 110 mm, X = 1600 mm, Y = 1250 mm, Z = 800 mm, clamping area 1400 x 1400 mm, maximum load 8 t

Drilling machines

- max. drilling \varnothing 40 mm, max. working span D = 2000 mm, max. workpiece height 1200 mm



FABRICATION FACILITIES

OTHER

Non-destructive testing (indoors)

- X-ray RT, ultrasonic testing UT (new Olympus machine), magnetic testing MT, penetration testing PT, visual inspection, positive material identification PMI (NITON machine)

Surface treatment

- blast cleaning, painting, pickling

Heat treatment

- post welding heat treatment/stress relieving PWHT (Weldotherm machine)

Refractory works

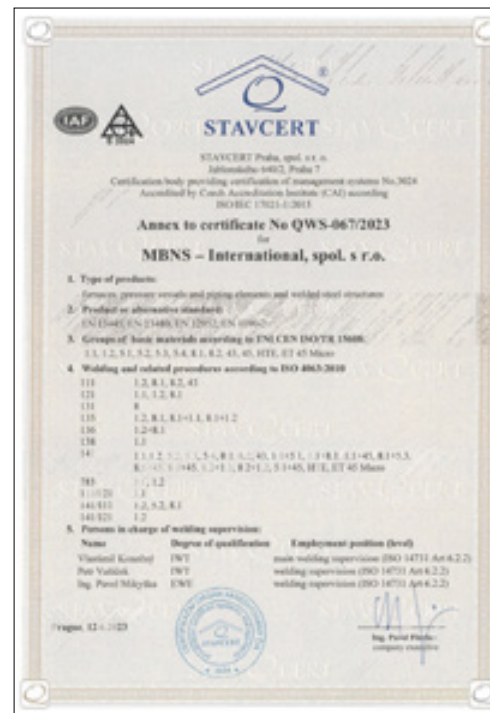
- refractory & anchors supply and installations, dry-outs



CERTIFICATES



- EN ISO 9001 : 2015 in connection with EN ISO 3834-2 : 2021
- AD 2000 Merkblatt HP 0
- EN 1090-2 + A1:2011, EXC 3
- MBNS also provides GOST-TRCU certification for particular projects in C.I.S. countries
- ASME certified welders (WPQ) & procedures (PQR)



FIRED EQUIPMENT 2000-2022



- **2022** Qatar, 656pcs of outlet pigtails, Ras Laftan Qatar Shell GTL plant, T.EN
- **2021** Russia, radiant coils of heaters P-111A and P-111B, refinery Slavneft-YANOS
- **2021** Pakistan, inlet pigtails, support frames, tube sheets, Engro Fertilizers Limited
- **2020** France, regeneration gas heater F1201, ExxonMobil Chemical France
- **2020** Czech Republic, incinerator of BBU Unit, Unipetrol RPA, Litvinov
- **2020** Czech Republic, vacuum distillation unit charge heater stack, Unipetrol RPA
- **2019** Iran, HT + LT CROSSOVERS, Kharg Ethylene plant – Olefin Complex
- **2017** Czech Republic, spare parts of the heater 2512-H03, refinery Kralupy
- **2017** Iran convection bank flue gas ducts, header boxes, Polymer Arian Company
- **2017** Slovakia, radiant coils of distillation fired heater B101.101, refinery Slovnaft
- **2016** Slovakia, effluent chambers, 192 pigtails, heater BA102.301, refinery Slovnaft
- **2015** Russia, 4pcs of fired heaters 208-20-H002 and 208-10-H001-003, Antipinsky oil refinery
- **2015** Russia, steam preheater 12 H-163 of sulphur acid plant, Ryazan refinery
- **2015** Belarus, cylindrical fractional column feed heater P-351N, Mozyr oil refinery
- **2015** Russia, hydrogen steam reformer effluent chamber OH-2001, Ryazan refinery
- **2014** Iran, effluent transfer line+line between superheaters, Pardis Petrochemical
- **2014** Belarus, helical coils of reformer heaters No. 4+5, OAO Naftan refinery
- **2014** Russia, spare parts for radiant coil - inlet/outlet manifolds, Ryazan refinery
- **2012** Iraq, heater H-01, Basrah refinery
- **2012** Belorussia, heater P150N, reboiler for column K150N, Mozyr oil refinery
- **2011** Russia, magnesite plant furnace, PKI Teplotechna/Magnezit
- **2011** Russia, 3 pcs of vacuum heaters, Nizhnekamsk refinery, TANEKO
- **2010** Russia, heater F-501 for Astrakhan, Lurgi
- **2009** Russia, atmospheric heater of crude oil distillation unit, Usinsk refinery
- **2009** Russia, steam/gas mixture superheater of ammonia AM-76, KuibyshevAzot
- **2008** Ukraine, heaters 222-H1+222-H2, combustion air ducts, Nadvirna refinery
- **2008** Russia, collectors of the steam reformer of methanol plant, Novatek
- **2007** Iran, heater 40KT/Y of asphaltic anhydride plant, Esfahan, Bertrams
- **2007** Germany, heater BA-6430, refinery BP, Gelsenkirchen
- **2006** Iraq, shaft heater and drum heater for Basrah Refinery
- **2006** Russia, effluent transfer line+12 pcs of riser heads of the steam reformer of ammonia plant AM-76, KuibyshevAzot PJSC
- **2006** Russia, oil distillation unit - heater P1, LCC Mariysky Refinery
- **2005** Belarus, steam preheater E08, Koch Gliitsch
- **2004** Russia, heater for Sosnogorsk gas refinery, Škoda JS
- **2000-2003** Uzbekistan completion of the nitric acid production plant of capacity 360 ths. t/year and of the ammonium nitrate plant of capacity 450 ths. t/year



RECENT PROJECTS 2017+2019+2023

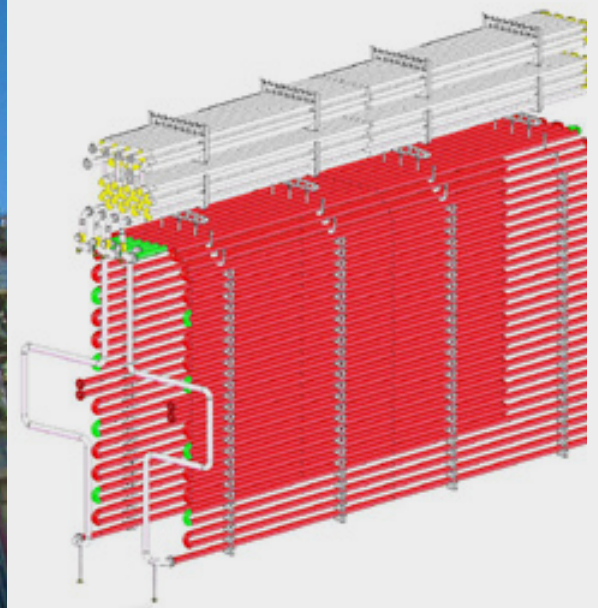
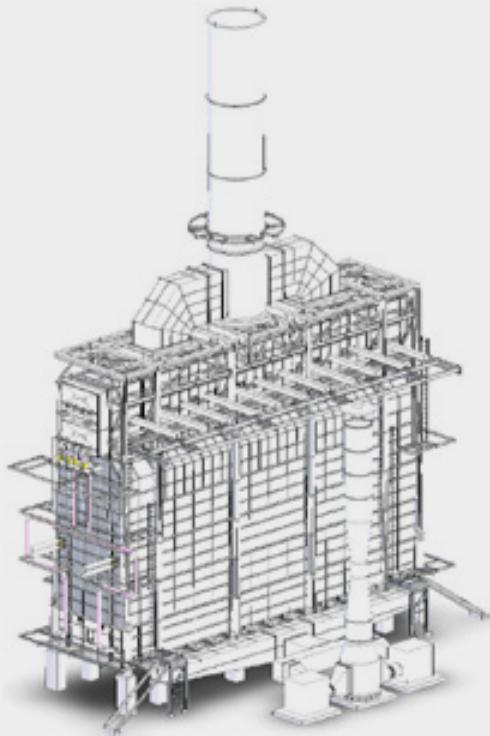


- 2 pcs of oil regeneration heaters 2D-400, incl. on-site assembly, HyLube 1+2 (2017+2019)
- 3 pcs of fired heaters 3D-110, 3D-111, 3D-400 + APH incl. on-site assembly, HyLube3 (2023)
- PURAGLOBE, ALTTROGLITZ, GERMANY



RECENT PROJECTS 2018

- atmospheric heater 4-H01 for PU-001 Crude Oil Distillation Unit with CDU No. 4 LPG Unit for Basrah Refinery, IRQ;
dimensions approx. 25 x 7 x 40 m, total weight approx. 800 tons



RECENT PROJECTS 2018

- atmospheric heater 4-H01 for PU-001 Crude Oil Distillation Unit with CDU No. 4 LPG Unit for Basrah Refinery, IRQ; dimensions approx. 25 x 7 x 40 m, total weight approx. 800 tons



RECENT PROJECTS 2018

- 4pcs of Regeneration Gas Heaters for VE for Zohr Development Project, Egypt, tubes 141,3 x 9 mm, CS A335 Gr.P22



RECENT PROJECTS 2018+2020

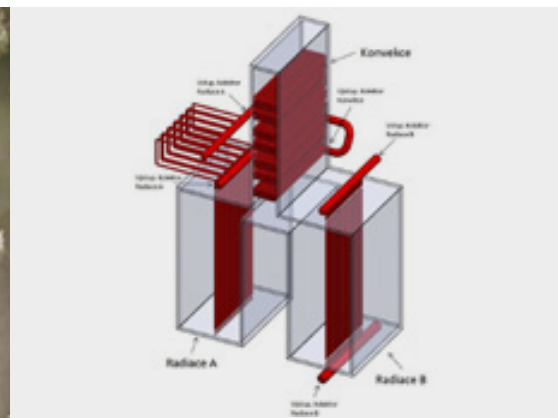


- Spun cast Mixed Feed Inlet Headers of primary reformer H501 of Ammonia for Yara Sluiskil, NL, SMLS TUBES 355,6 x 27,3 mm and 457,2 x 33,45 mm A312 TP321H, pigtails 42,16 x 3,11 mm Incoloy 800H



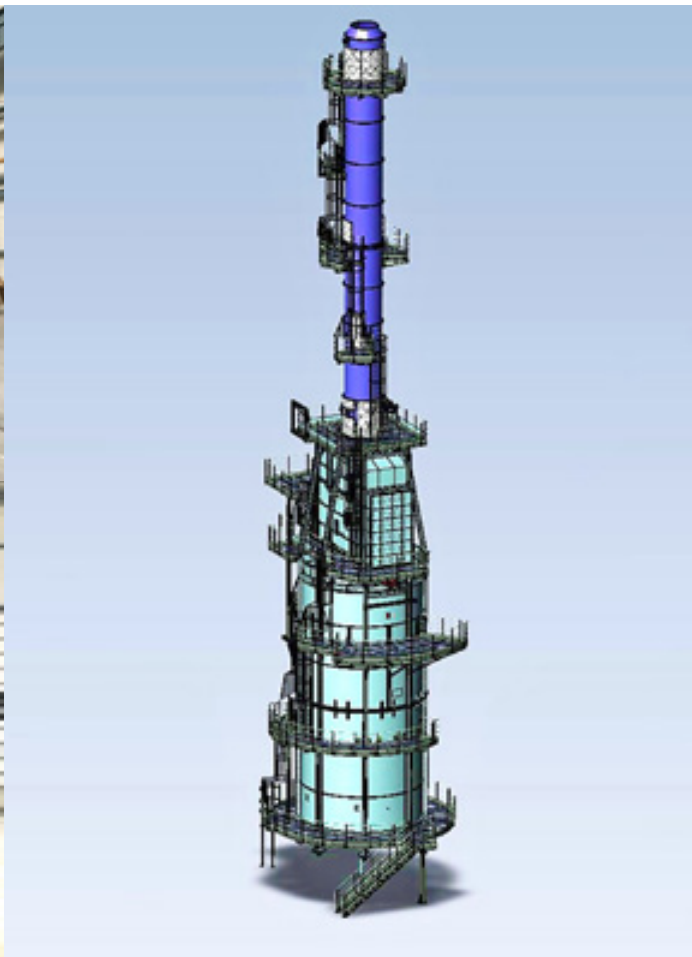
RECENT PROJECTS 2019

- Revamp of heater B-101 of Styren III unit at SYNTHOS Kralupy, CZ, radiant coils: A - inlet manifold $\varnothing 457,2 \times 12,8$ mm, A358Gr.304H, tubes Centralloy - HP40Nb+micro, outlet manifold $\varnothing 508 \times 18$ mm, Alloy 800HT + B - inlet manifold $\varnothing 508,13,2$ mm, A358Gr.304H, tubes 88,9 x 6,35 mm Centralloy - HP40Nb+micro, outlet manifold $\varnothing 609,6 \times 17,5$ mm, Alloy 800HT; radiant coils operating temperature 900 – 1200 °C; convection: inlet manifold $\varnothing 406,4 \times 12,7$ mm, A106 Gr.B, tubes $\varnothing 88,9 \times 5,49$ mm, outlet manifold $\varnothing 457,2 \times 12,8$ mm, A358 Gr304H; cross-over piping: Alloy 800HT



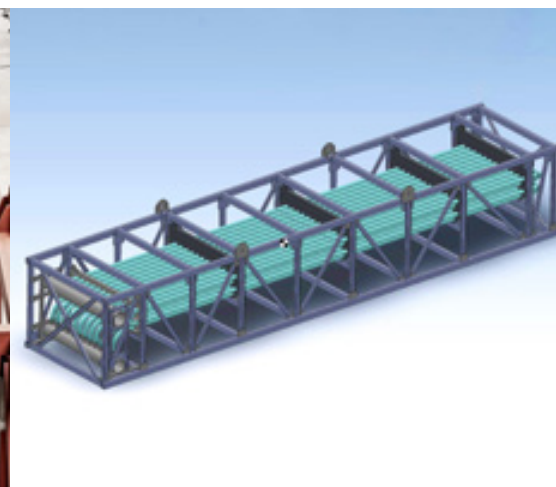
RECENT PROJECTS 2021

- REBOILER HEATER B202N of hydrocracking unit, mat. S235JR, tubes \varnothing 168,3 x 7,11 A.W. ASTM A312 TP321, VE/WOOD/Petroineos Refinery, Lavera, France



RECENT PROJECTS 2021

- Of Ammonia Plant Reformer, W: 36 t + 19 t, material: A335P22/A312TP316/25Cr20Ni, KCKK branch of Uralchem, Kirovo-Chepetsk, Russia



RECENT PROJECTS 2021

- Technip Parallel Reformer (TPR), OD = 2,4 m, L = 23,5 m, W: 150 t, material: SA387GR11/GR12, reaction tubes, refractory lined, ASME VIII. Div. 1./API 934/API 936, Technip Energies, India, 2021



RECENT PROJECTS 2022



- Atmospheric heater F1 – AVD – 5, tubes \varnothing 168,3 x 7,11 mm, \varnothing 141,3 x 6,55 mm (finned), \varnothing 323,8,3 x 7,11 mm, mat. A335 P9 + radiant coil and convection module of heater B103.101, tubes \varnothing 114,3 x 19,5 mm, mat. A213 TP347H, refinery Slovnaft, MOL (time-lapse video of the heater replacement: https://www.youtube.com/watch?v=VP017q_gOm8)



RECENT PROJECTS 2022

- Refractory lined outlet header (RLOH) of hydrogen reformer package, Ø 1016 mm, L=16000 mm, W = 26,5 t, mat. A387 Gr.11/B409-N08810/A608/B564-N08811, Assiut refinery, T.EN



RECENT PROJECTS 2023

- HP steam convection tube bank incl. header box with refractory, mat. SA-106 Gr. B finned tubes, A335 P11, total weight 55 t, radiant section reformer tubes assemblies, mat. HTE+ET45Micro, S+C for YPF & Dow Chemical, Argentina



RECENT PROJECTS 2023



- Convection coils, inlet system and pigtails, convection section modules assembly incl. refractory installation, mat. SA-106 Gr. B, SA-312 Gr. TP347H, SA-335 Gr. P11, total weight aprx. 300 t, Assiut refinery Egypt, T.EN https://www.mbns.cz/images/IMG_2979.mp4



RECENT PROJECTS 2023

- 6pcs of Primary Decoke Cyclones + 6pcs of Secondary Decoke Cyclones, mat. HARDOX / RELIA 400, WRS wear resistant material, weight aprx. 12t each, incl. FEA analysis, T.EN



Benefits of cooperation with MBNS:

COMPETENCE

- core MBNS fabrication commodities are fired heaters and its parts (coils, manifolds, pigtails, stacks, convection sections etc.) = long-term experience, know-how, references (Chempex-HTE <https://www.chempex.cz/en/>, Schmidt Clements <https://www.schmidt-clemens.com/>, Technip Energies <https://www.ten.com/en>, Vergaengineering <https://www.vergaengineering.it/>, Novargi, Furnace Engineering, APEX Group, PURAGLOBE, Dow Chemical, Uralchem, KuibyshevAzot etc.)
- MBNS work shop has been adapted to meet heater fabrication requirements incl. panels straightening, refractory installation etc.

QUALITY

- high technological production quality, compact and clean fabrication process, qualified and skilled staff
- materials exclusively from EU suppliers – Italy, Spain, Germany, Austria, CZ, Netherlands etc. (MBNS does not use any materials from China, India and C.I.S countries)

FLEXIBILITY

- small-sized enterprise – flexible and adaptive to any changes and issue solving
- meeting deadlines – OTD (On-Time Delivery Rate) 2020: 93,3 %, 2021: 100 %, 2022: 90,5 %

DETAIL ENGINEERING

- strength analysis calculations, shop drawings – 3D design (AUTOCAD, TEKLA, SOLIDWORKS, VISUAL VESSEL DESIGN, AUTOPIPE)



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