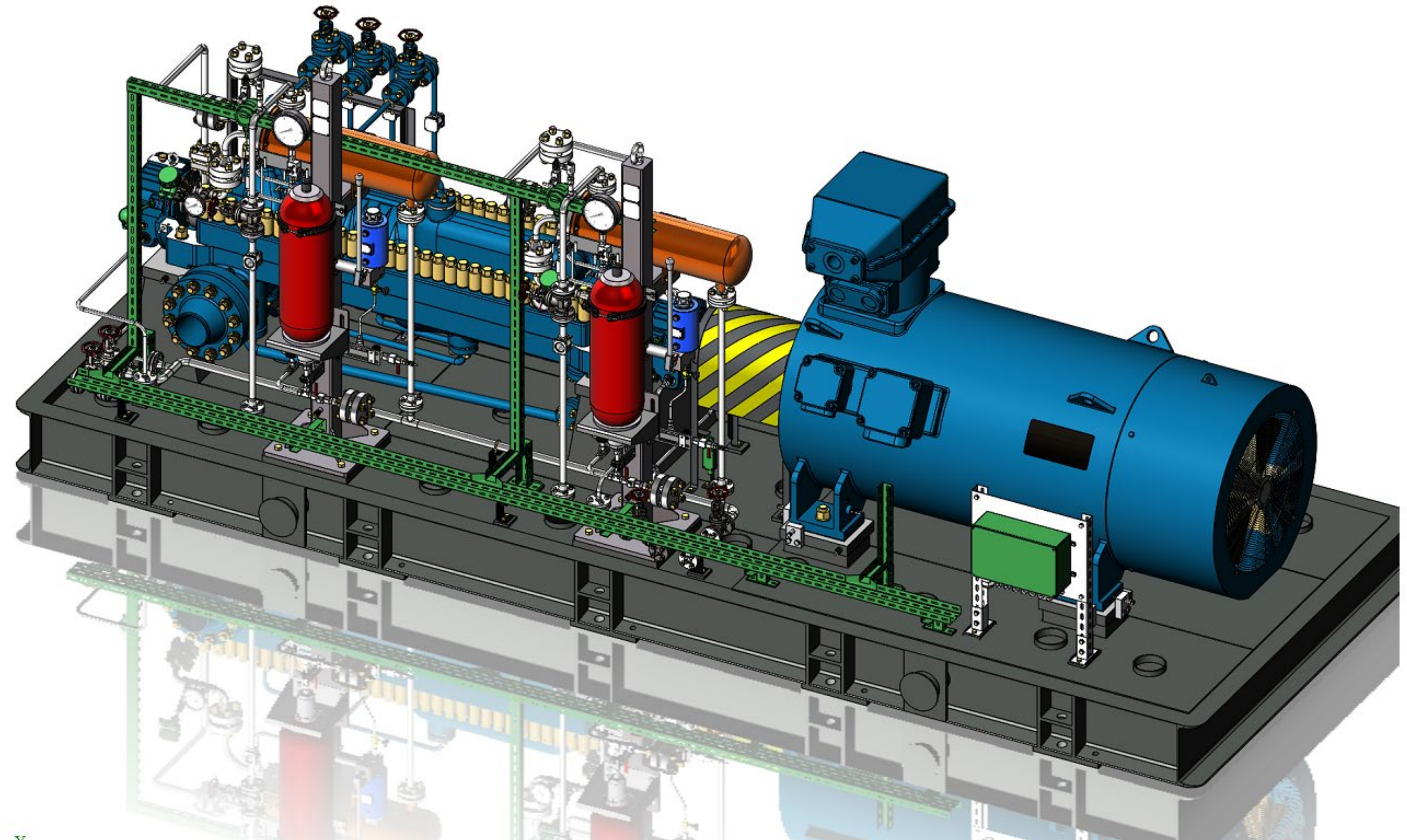


**HUM ELIT OIL**

**PUMPS AND  
PROCESS EQUIPMENT  
FOR OIL & GAS  
INDUSTRY**





# HUM ELIT OIL

## HISTORY of ESTABLISHMENT



# HUM ELIT OIL

## HUM at a glance

### HUM-İZMİR (Aegean Free Zone)

<b>Total area</b>	: 7.044 m <sup>2</sup>
<b>Open area</b>	: 2.442 m <sup>2</sup>
<b>Closed area</b>	: 4.602 m <sup>2</sup>
<b>Workshop</b>	: 2 Buildings 5 halls – 4x20 tons Cranes 1x15 tons Cranes



**Production scope:** Machinery, Pressure Vessels, Heat Exchangers, Process Tanks, Columns, Mixers

**Quality management system** : ISO 9001-2015

**Applied production standards** : EN standards

**Production certifications** : CE Certification  
to PED,MD,LVD,EMC





## **BASIC ENTERPRISE - HUM**

- **Modern industrial and design company with 65-years experience in design and production (Izmir, Turkey) fat & edible oil process equipment , customize equipment for oil and gas industry**



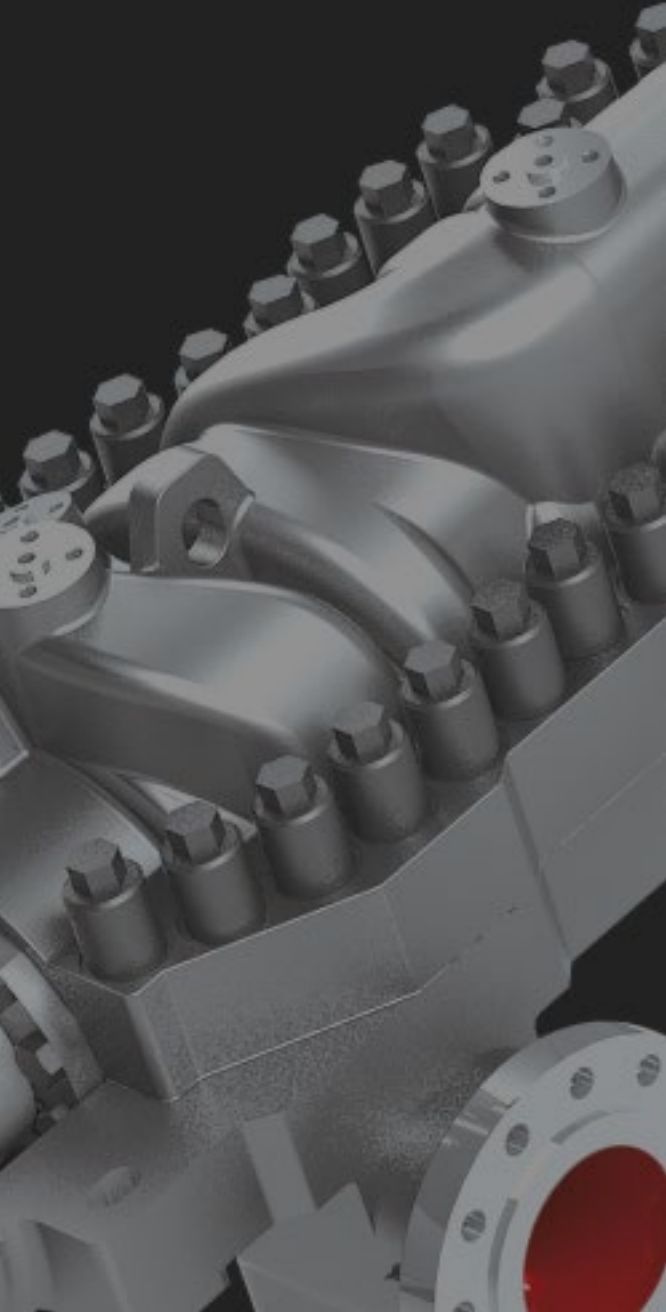
**MANUFACTURING**



**ENGINEERING**



# HUM Production Base





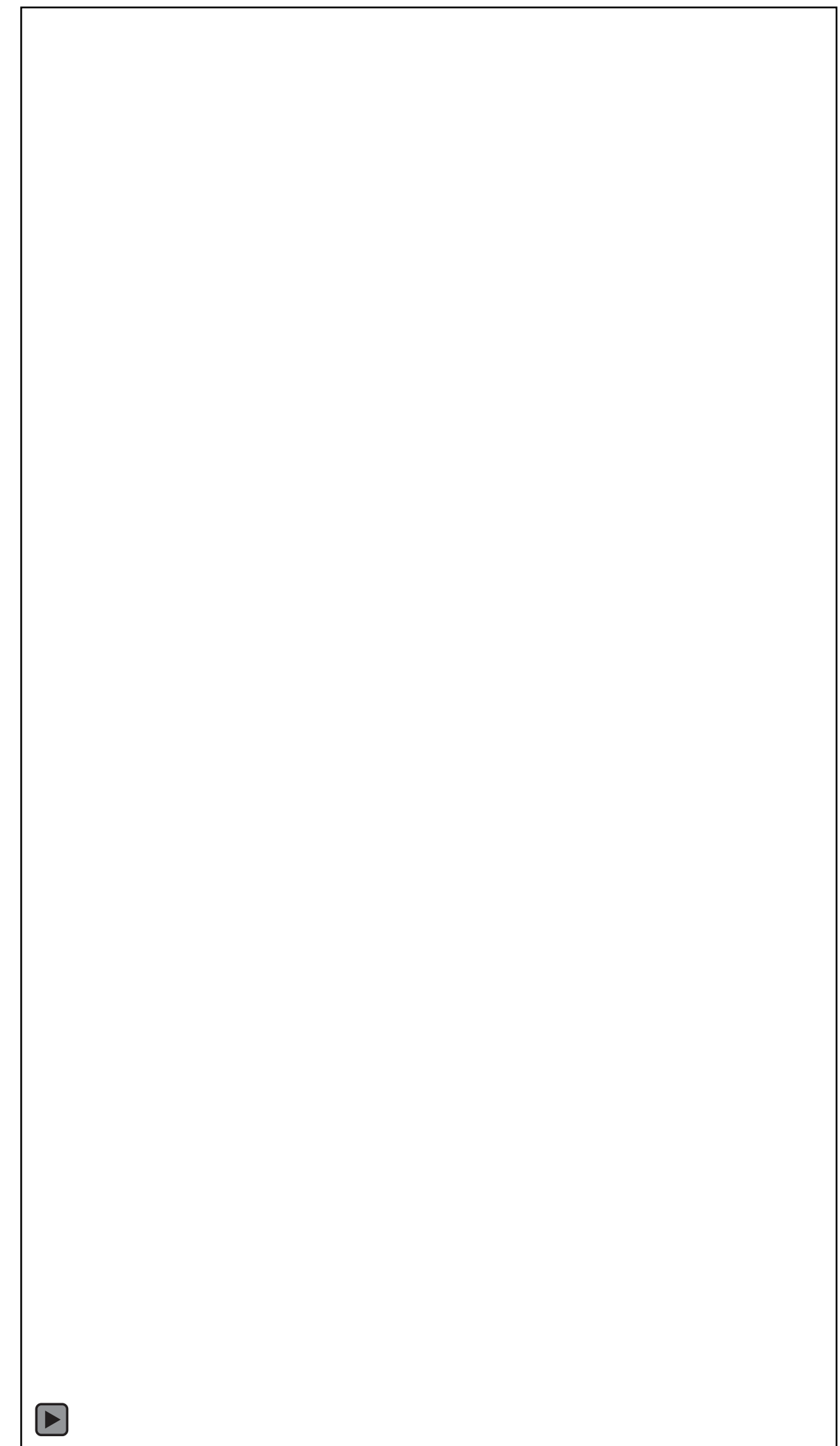
# HUM Production Base





# HUM Production Base

**PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY**





# HUM Process Equipment

## BASIC ENTERPRISE - HUM



**PROCESSING TECHNOLOGIES**



**EXTRACTORS**



**COOKERS**



# HUM Process Equipment

## BASIC ENTERPRISE - HUM



**FLAKERS**



**COOLERS**



**CRUSHERS**



**SCREW PRESSES**



**SCREENING TANKS**



**SEED CONDITIONER**

**HUM OIL & FAT INDUSTRY  
PRODUCTS**



# ELIT OIL



## LLC "ELIT OIL" is located in Romny, Sumy region, Ukraine

Company is developing it's **business in:** machine building industry, oil, gas and chemical industry, food and agriculture processing industry.

**Certified in** accordance to ISO 9001-2015

**Production standards:** ISO, EN, API, ASME, DSTU

"ELIT OIL" produces **industrial pumps and spare parts** in cooperation with **JSC "NASOENERGOMASH Sumy"**, Ukraine.

For oil & gas industry "ELIT OIL" manufactures spare parts for gas compressors (GKN), Heat Exchangers, Filters.

Production is supplied to Ukraine, Iraq, Azerbaijan, Kazakhstan, Uzbekistan, Turkmenistan, Turkey

**LLC "ELIT OIL"** is included in vendor list of **Rumaila Operating Organization** (ROO) (joint venture between BOC, Basra Energy Company Limited (**BECL: BP, CNPC**) and Oil Marketing Company (**SOMO**))



# LICENSED MANUFACTURING, ENGINEERING AND PRODUCTION COOPERATION

**“HUM” and “ELIT OIL” have concluded agreements** with leading Ukrainian manufacturers of industrial pumping equipment and process equipment for oil, petrochemical and chemical industry for:

- **Licensed manufacturing**
- **Representing interests and sell production**



**UKRAINE, SUMY**

**JSC “NASOENERGOMASH SUMY”**

**API AND NON-API CENTRIFUGAL PUMPS  
AND PUMPING SYSTEMS,  
VACUUM PUMPS**



**UKRAINE, SVESSA**

**PJSC “SVESSA PUMP PLANT”**

**SUBMERSIBLE ARTESIAN PUMPS,  
VOLUME PUMPS, DOSING PUMPS,  
PLUNGER PUMPS, STEAM PUMPS,  
PRESSURE TESTING EQUIPMENT**



# LICENSED MANUFACTURING, ENGINEERING AND PRODUCTION COOPERATION

**"HUM" and "ELIT OIL" have concluded agreements** with leading Ukrainian manufacturers of industrial pumping equipment and process equipment for oil, petrochemical and chemical industry for:

- **Licensed manufacturing**
- **Representing interests and sell production**



**UKRAINE, CHERKASY**



**UKRAINE, CHERNIVTSI**

HEAT EXCHANGERS, PROCESS EQUIPMENT, REACTORS, PRESSURE  
VESSELS, TANKS, SKID UNITS FOR OIL AND GAS INDUSTRY, LIFTING  
AND LOADING DEVICES FOR MINING



# “NASOENERGOMASH” (NEM)

**600 000**

Pumps manufactured

**1000**

Models in range

**1500**

Pumps for NPP  
manufactured

**5 continents**

Supply map

› **designing, production of  
Industrial centrifugal pumps;**





# “NASOENERGOMASH” (NEM)

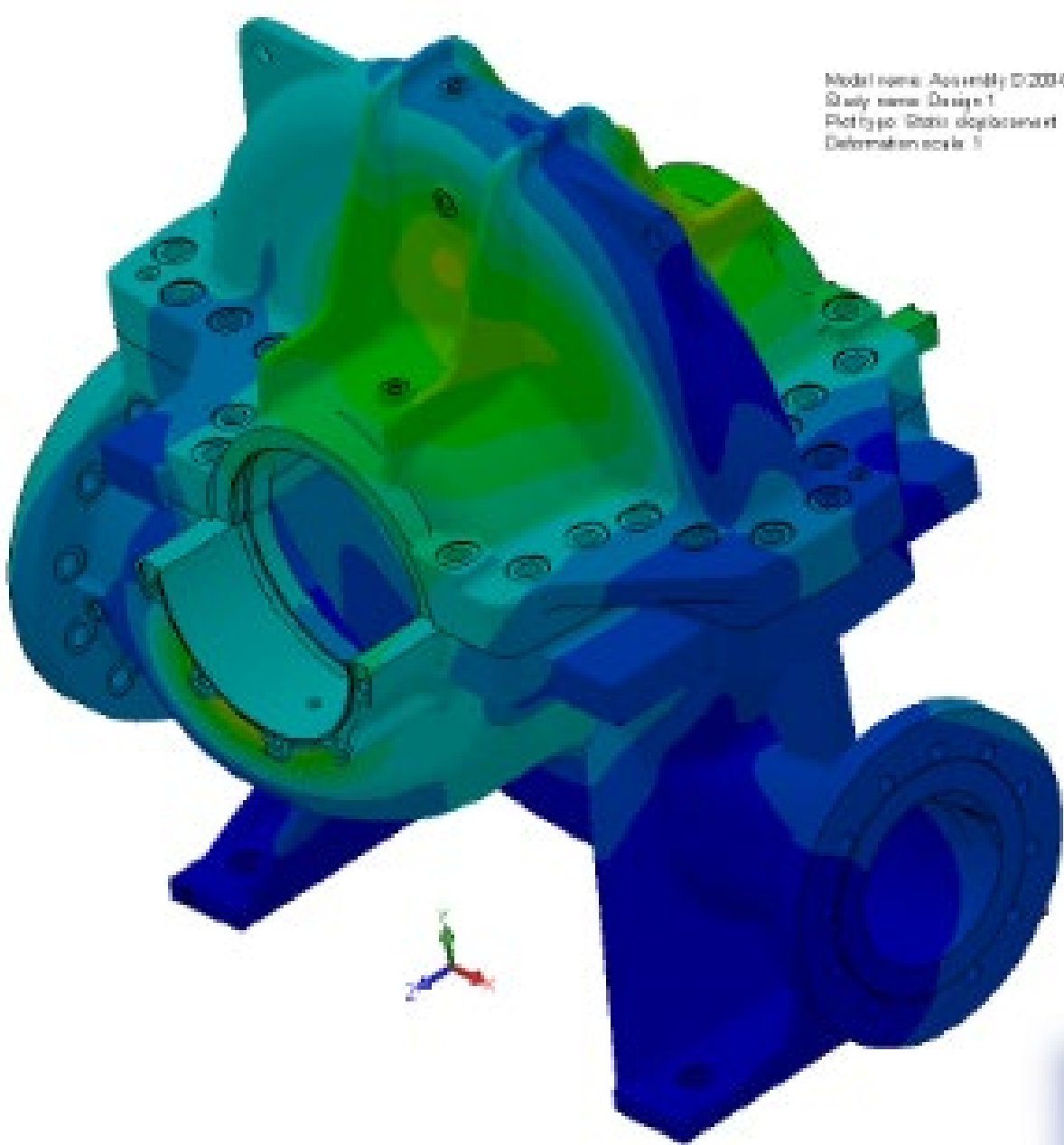
PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY

## CALCULATIONS AND DESIGN

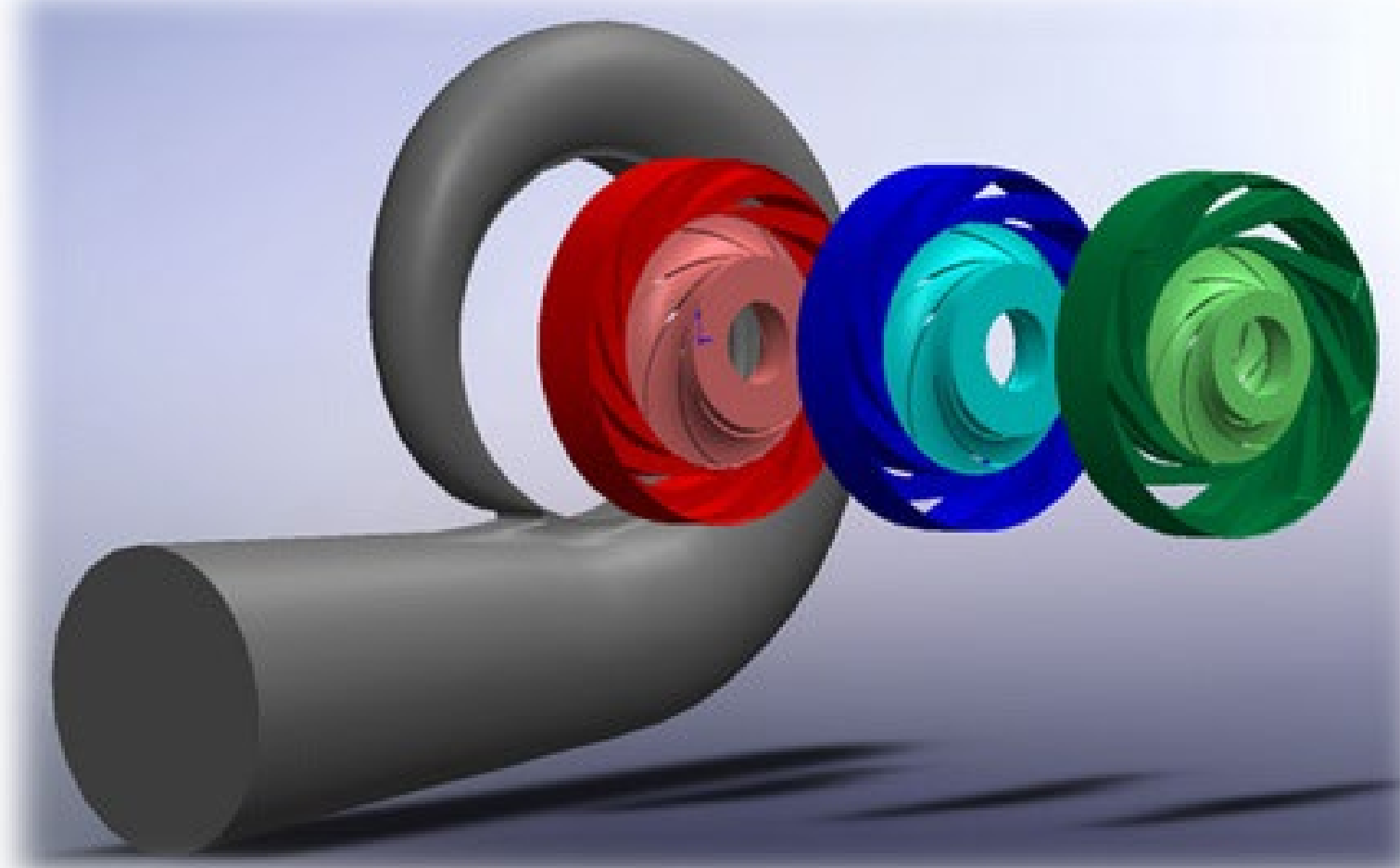
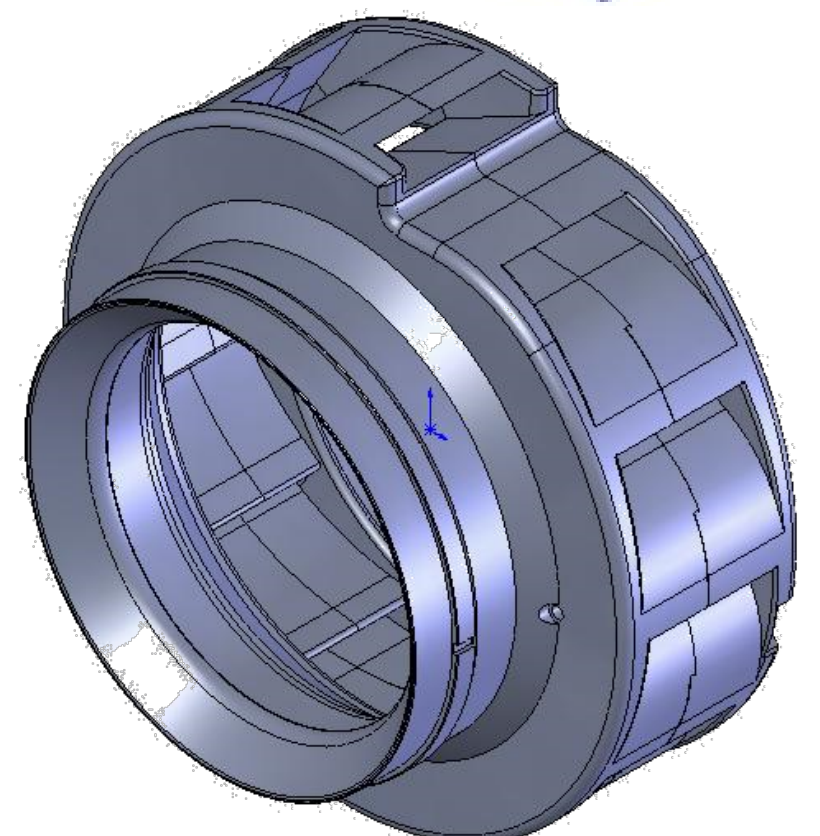
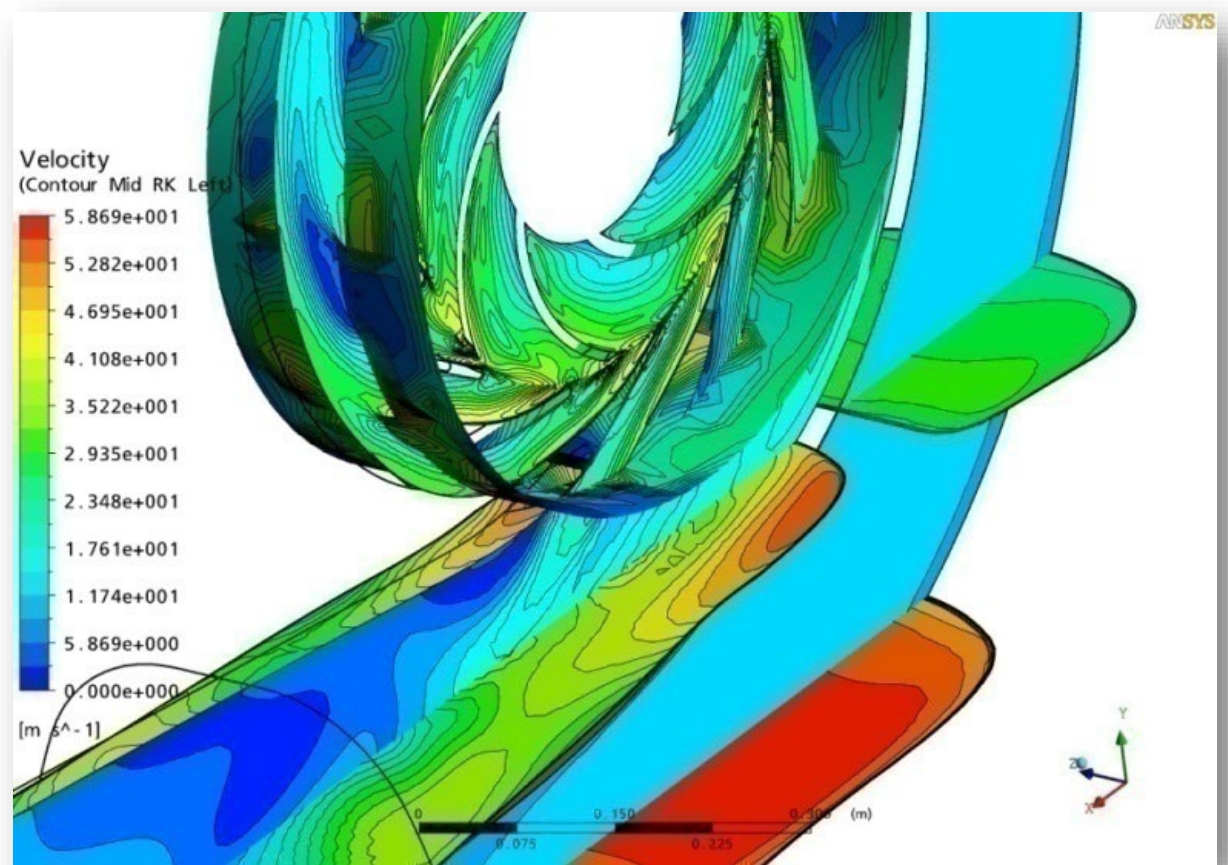
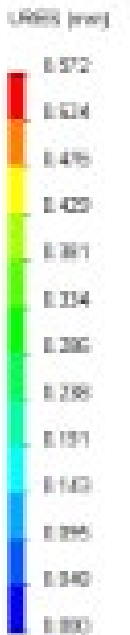
**Calculations: strength,  
hydrodynamics, vibration  
reliability, life term**

**Testing laboratories  
development and  
service, equipment  
examination**

**Licensed  
Software ANSYS CFX, Solid  
Works etc.**



Model name: Assembly 01000-000-01  
Study name: Design 1  
Plot type: Stress distribution  
Deformation scale: 1



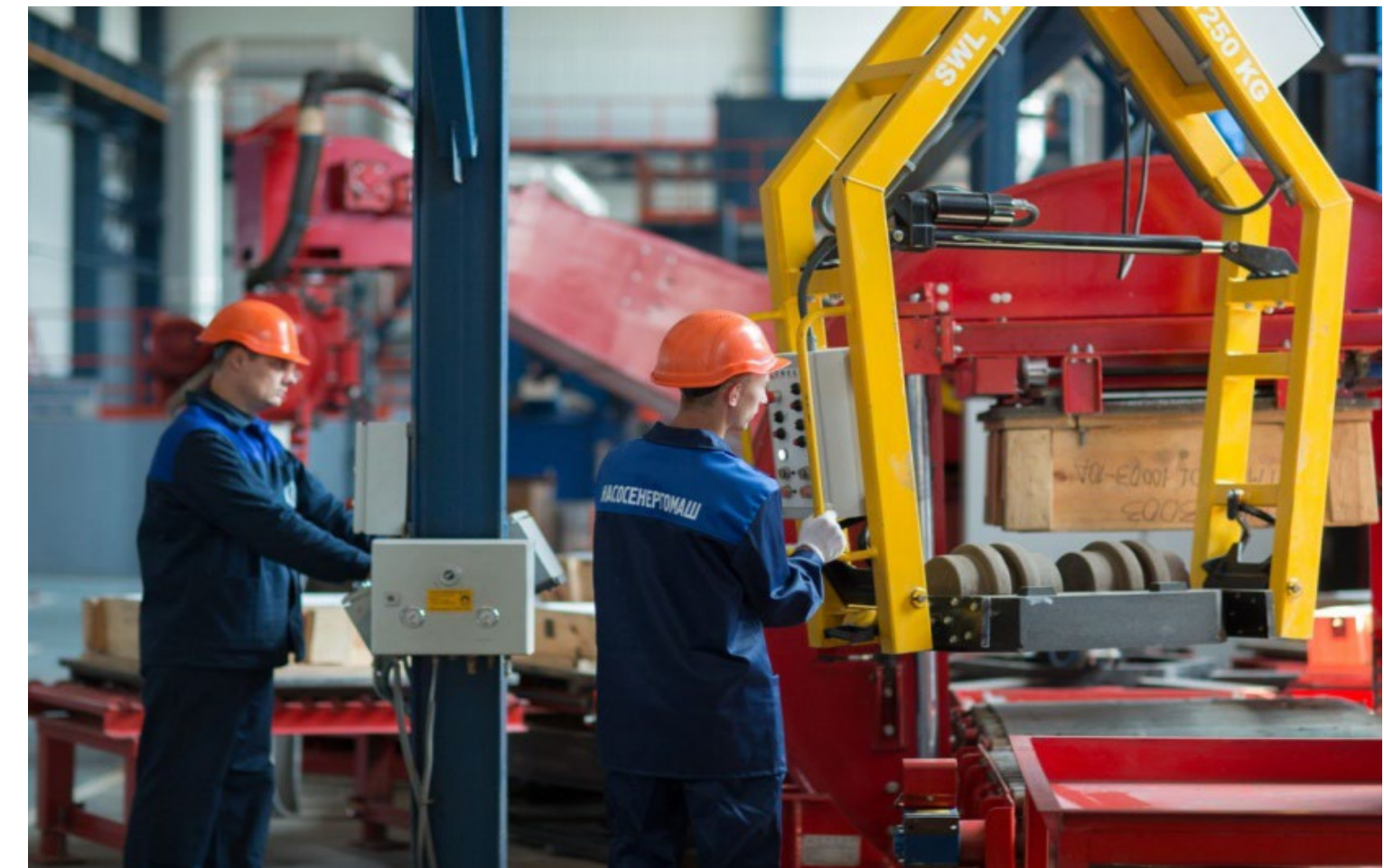


# NEM Development Markers

**Production facilities upgrade**



**Domestic foundry production**



**One of the biggest testing laboratory**



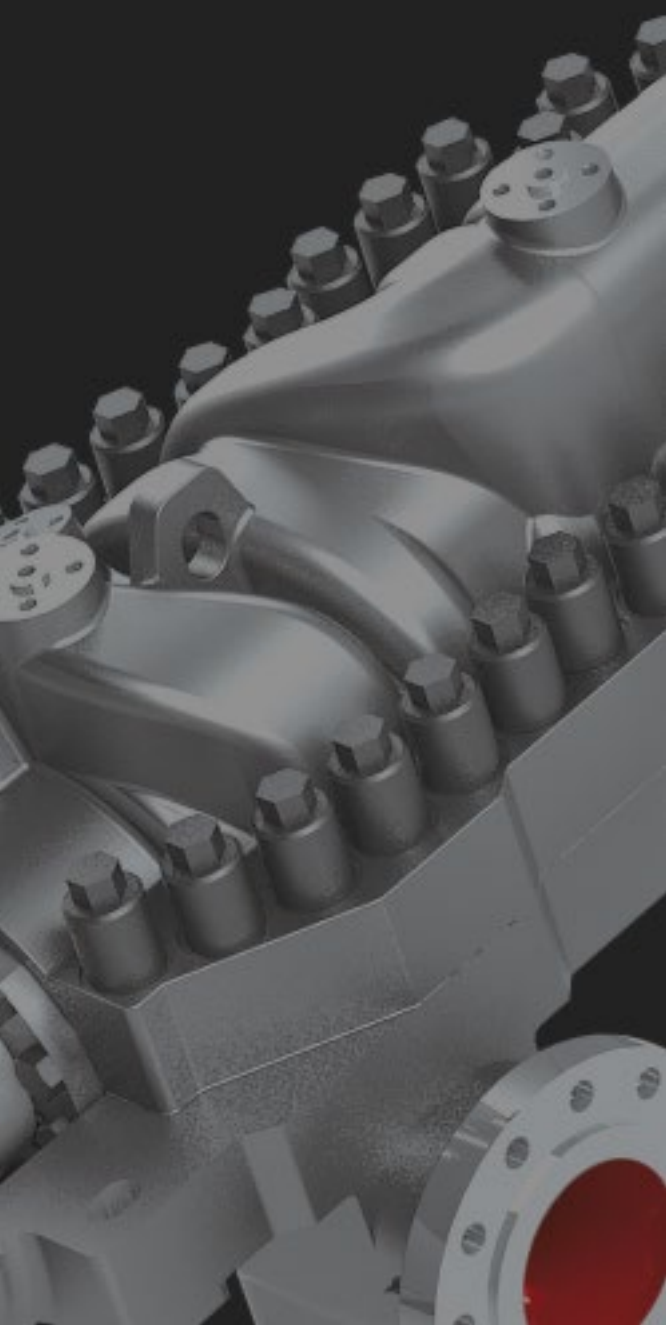
**Applying international standards  
(ISO, OHSAS, API, ASME/ANSI)**





# NEM Production Facilities Upgrade

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY





# NEM Domestic Foundry



- **Cast iron,**
- **Bronze,**
- **Steel:**
  - **carbon;**
  - **stainless;**
  - **duplex/superduplex.**





# NEM Testing Laboratory

**25 000**

Design Flow, m<sup>3</sup>/hr

**300**

Design Pressure, kgf/cm<sup>2</sup>

**20MW, 8MW, 7MW**

The biggest testing islands

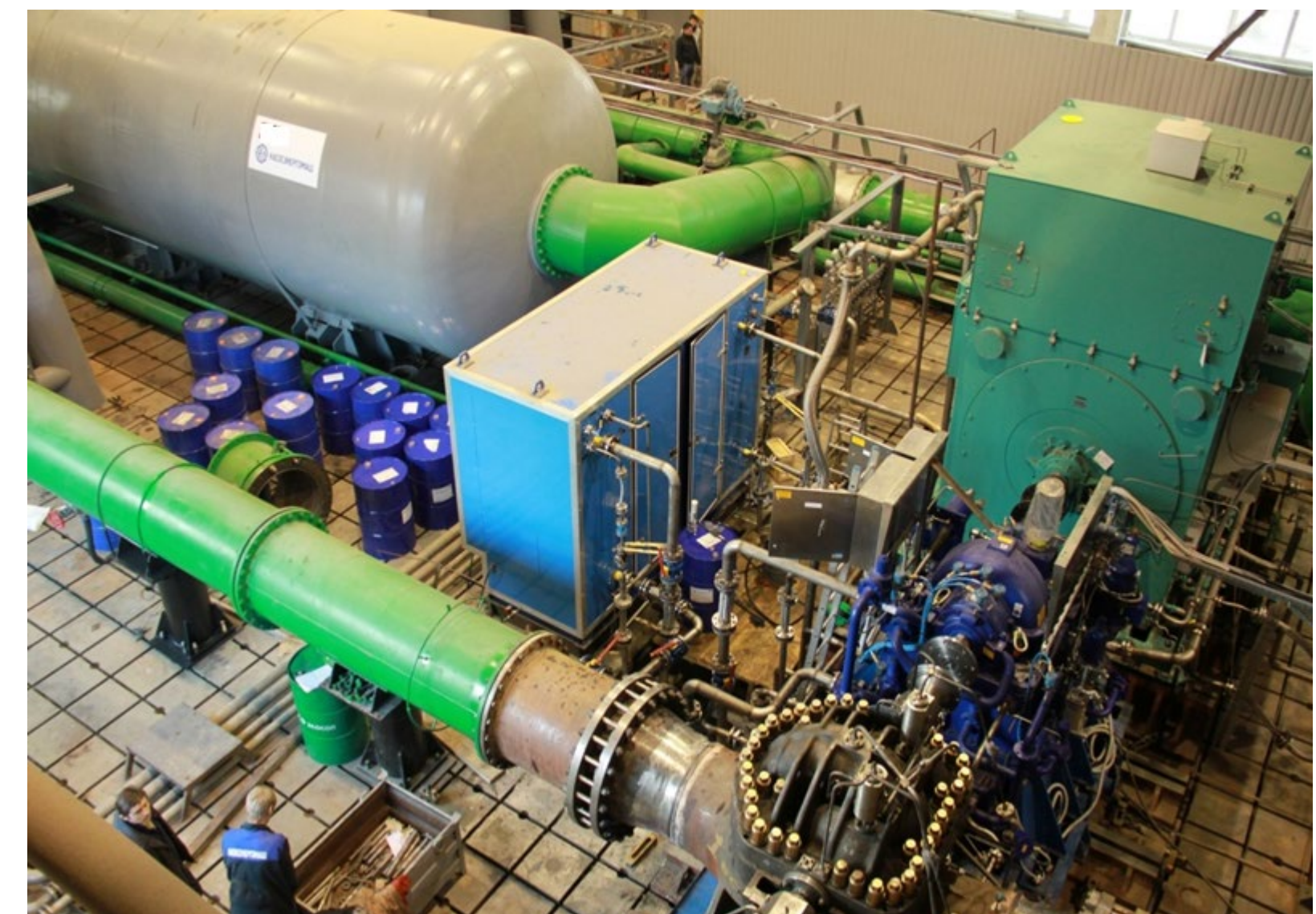
➤ **Nature parameters testing**

➤ **Speed regulation**

➤ **Reliability testing**

➤ **Nature auxiliary systems**

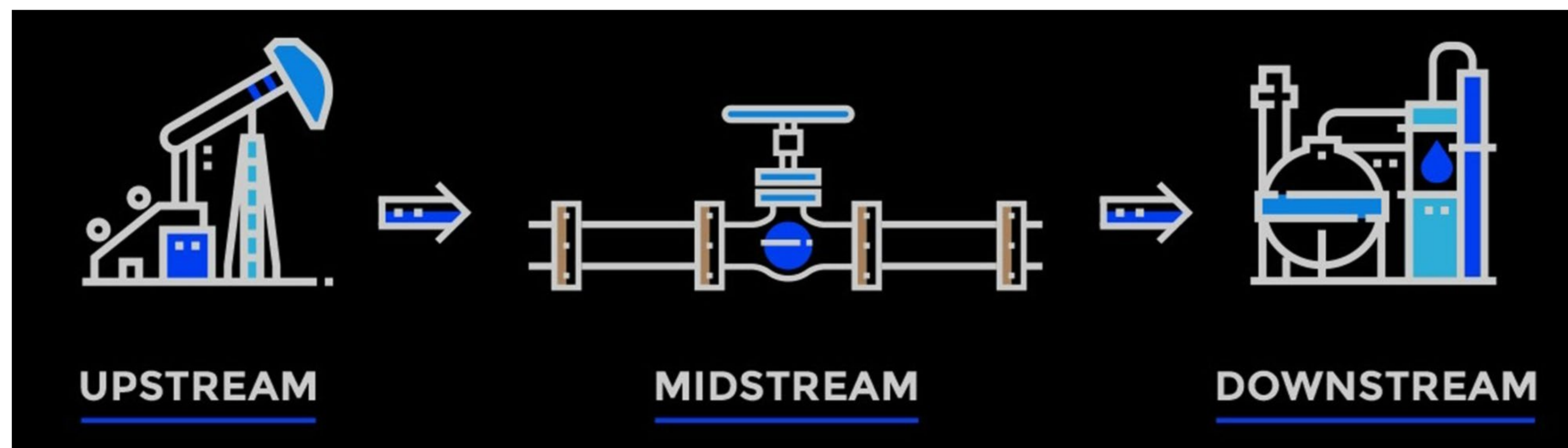
**ILAC CERTIFIED**



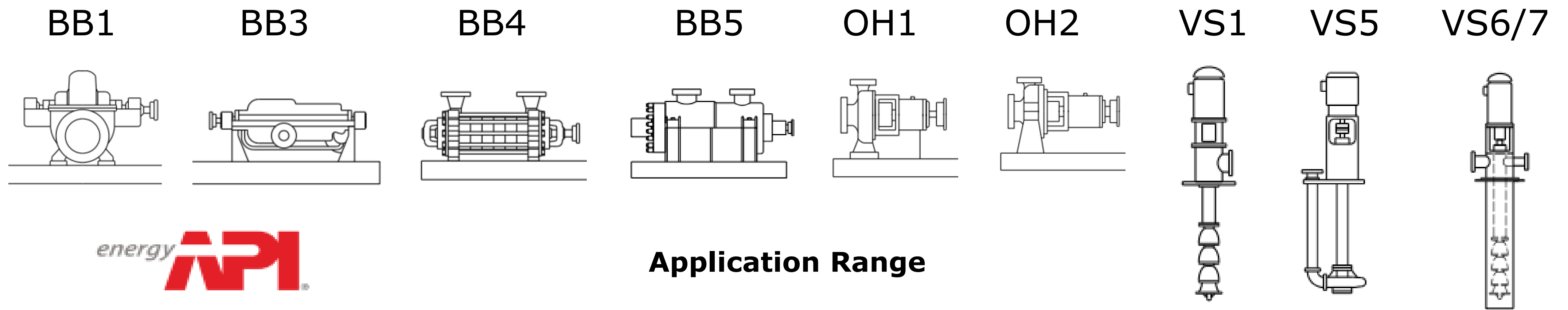


# (NEM) Pumping Equipment Range

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



Our proposal for oil industry includes wide range of horizontal and vertical pumps according to API 610 classification

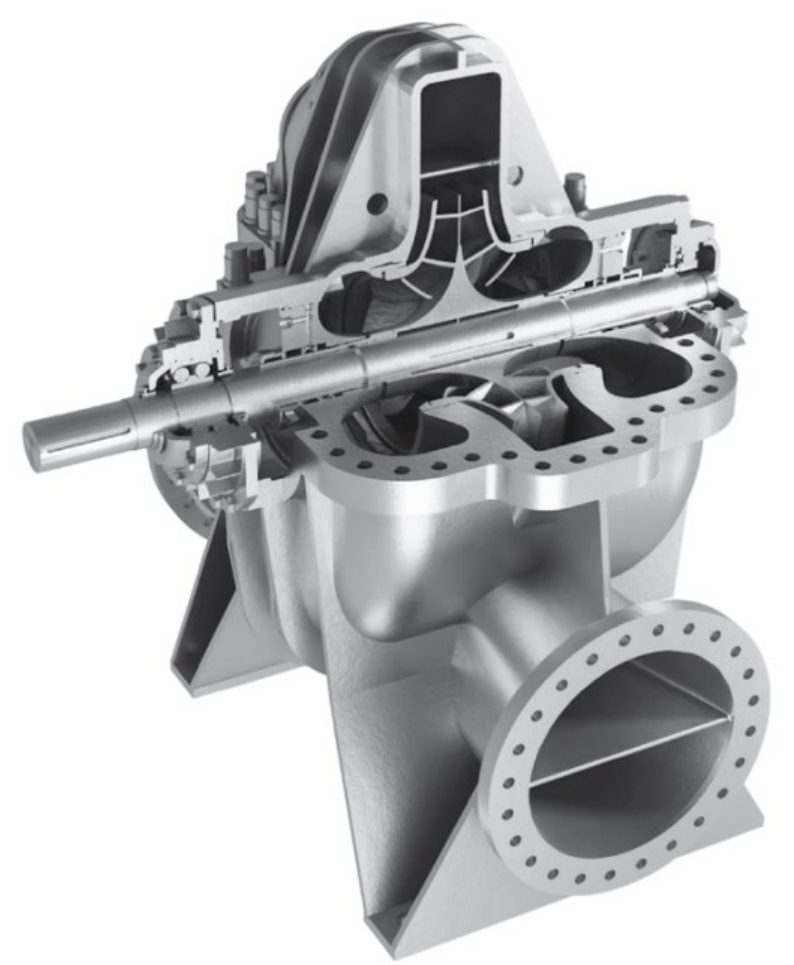


**Application Range**

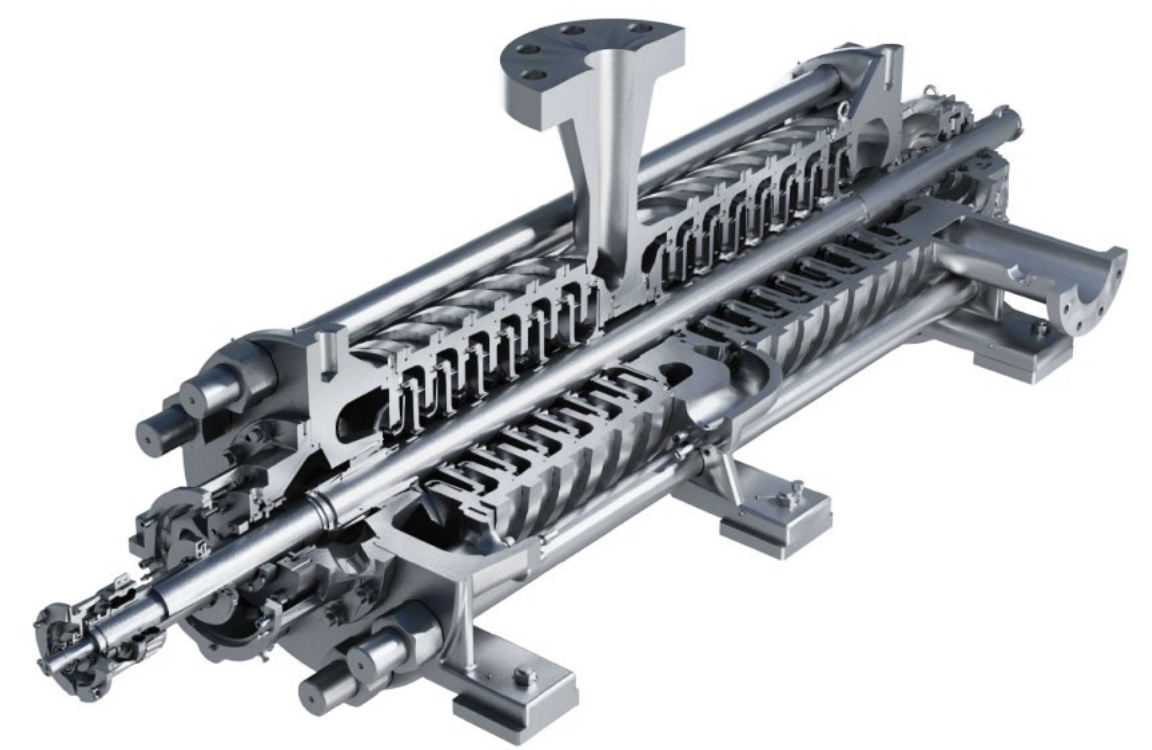


# (NEM) Pumping Equipment Range

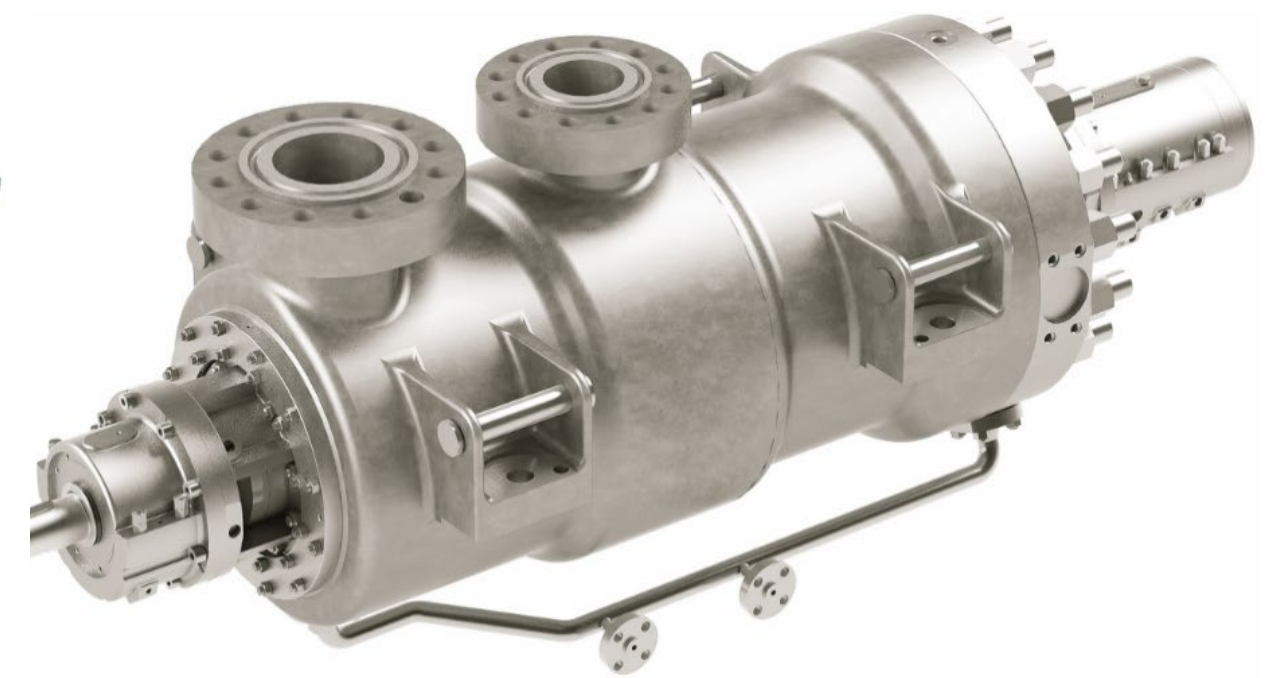
PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



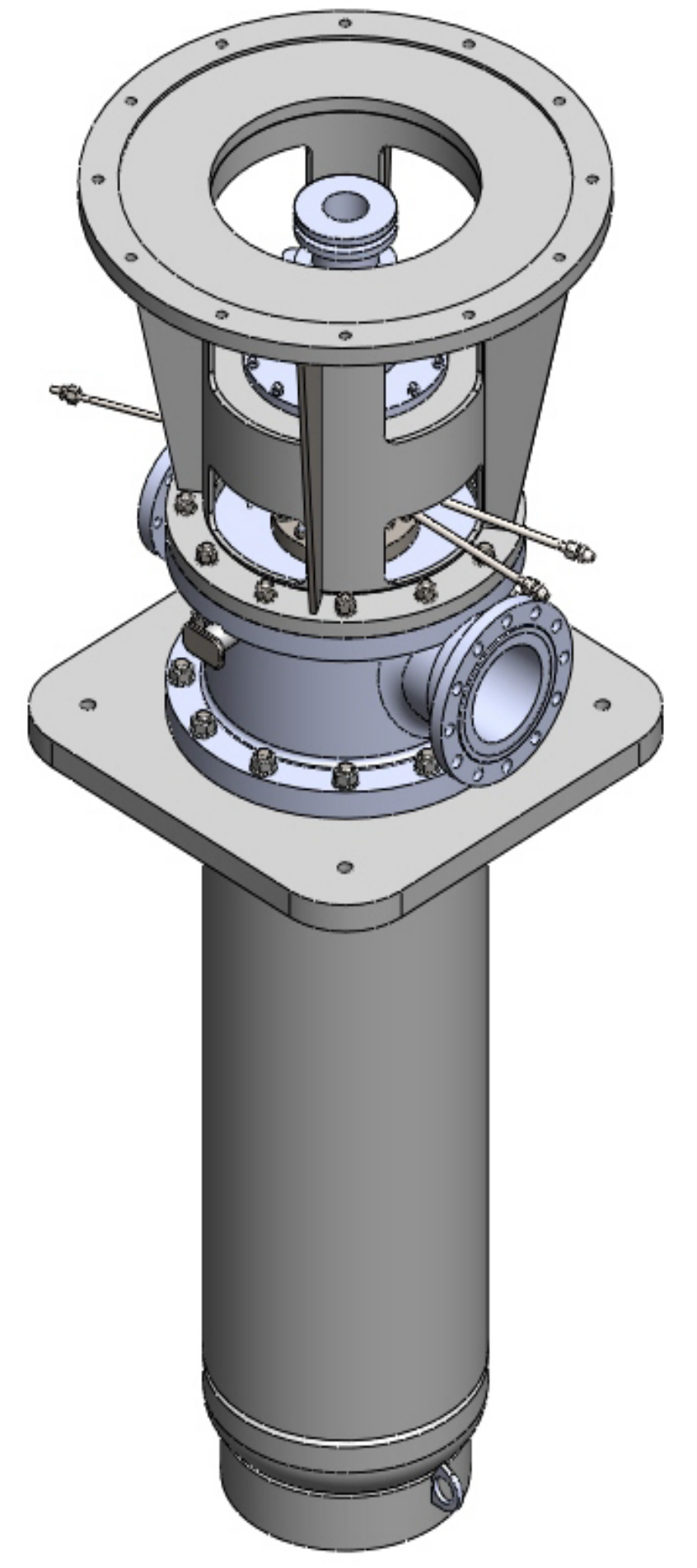
**BB1**



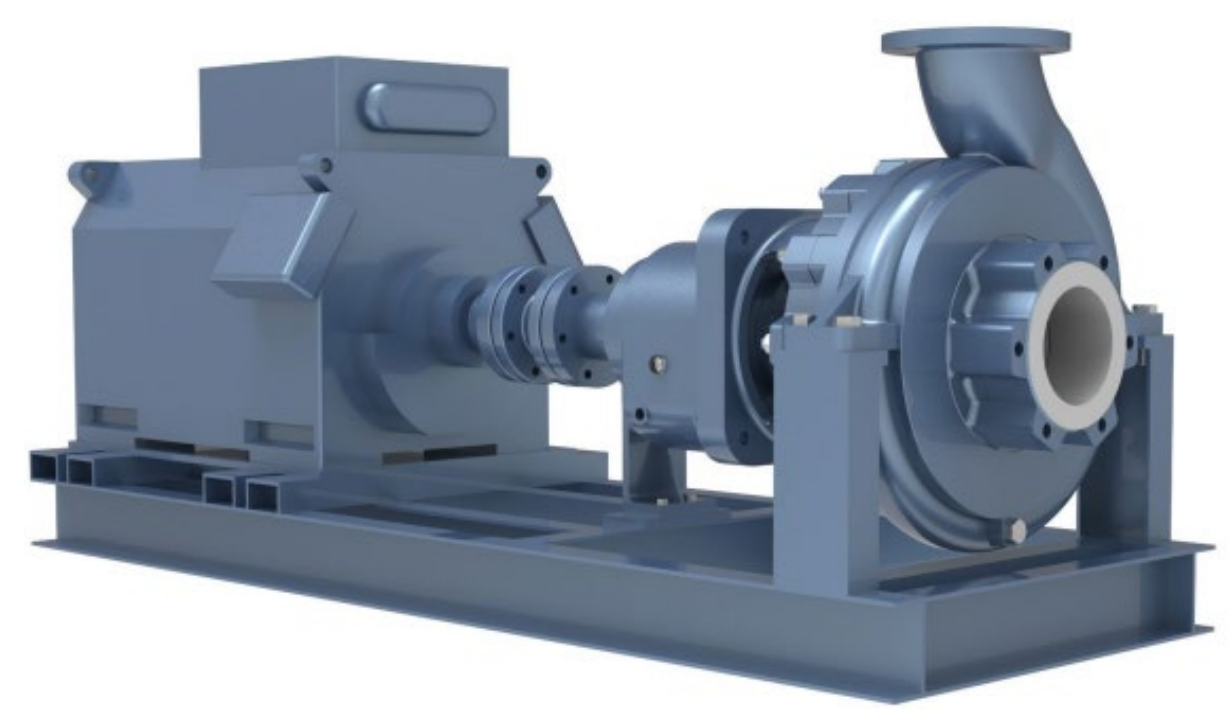
**BB4**



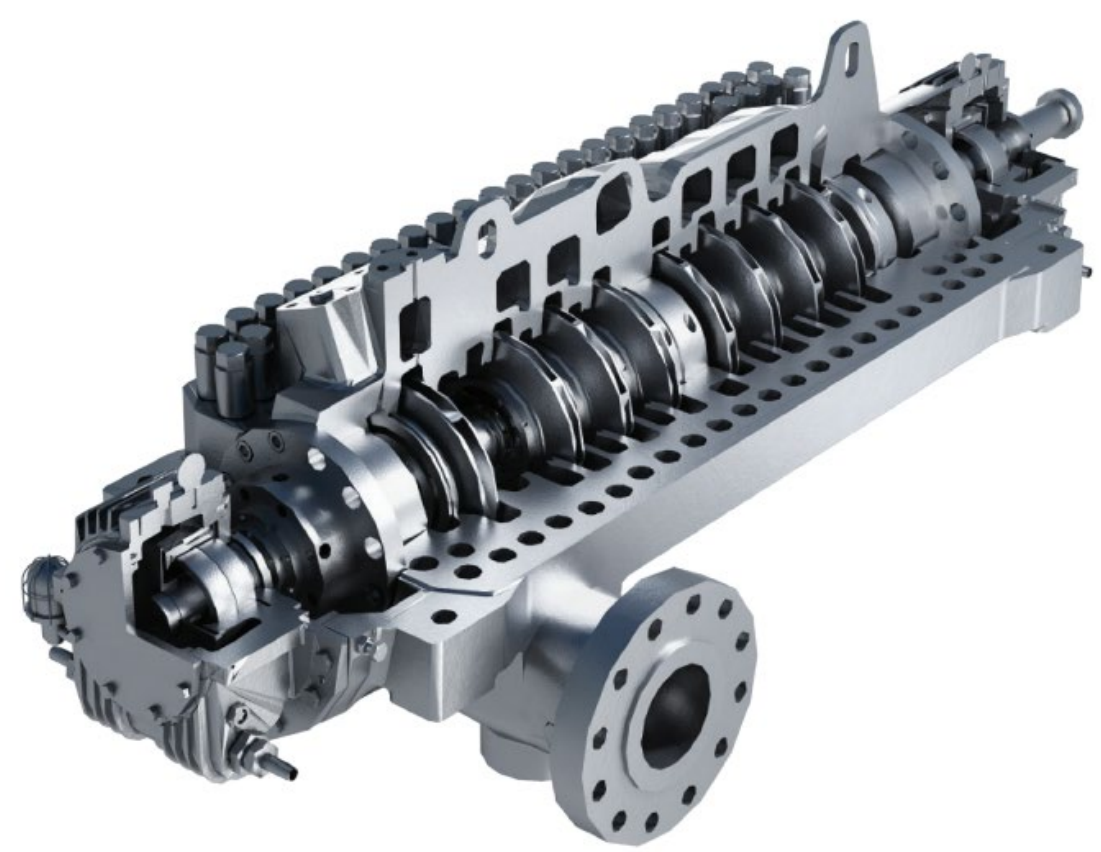
**BB5**



**VS 1/5/6/7**



**OH1/2**



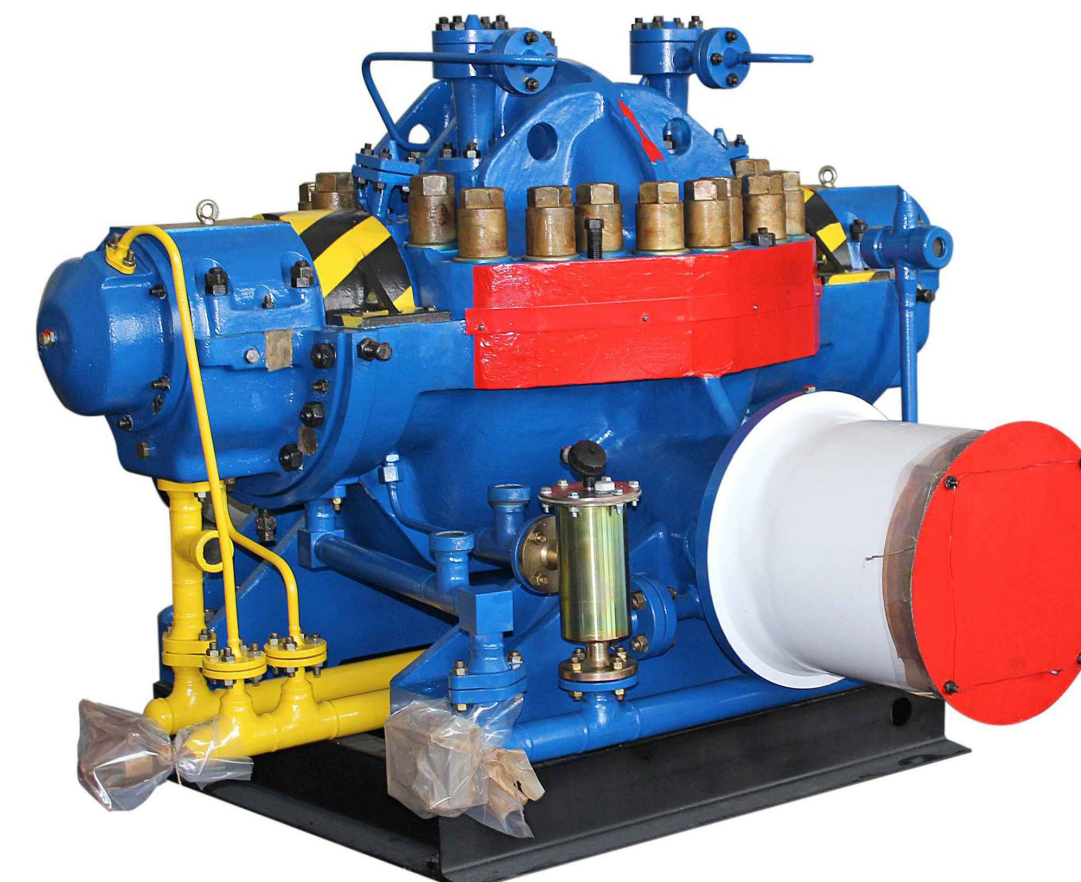
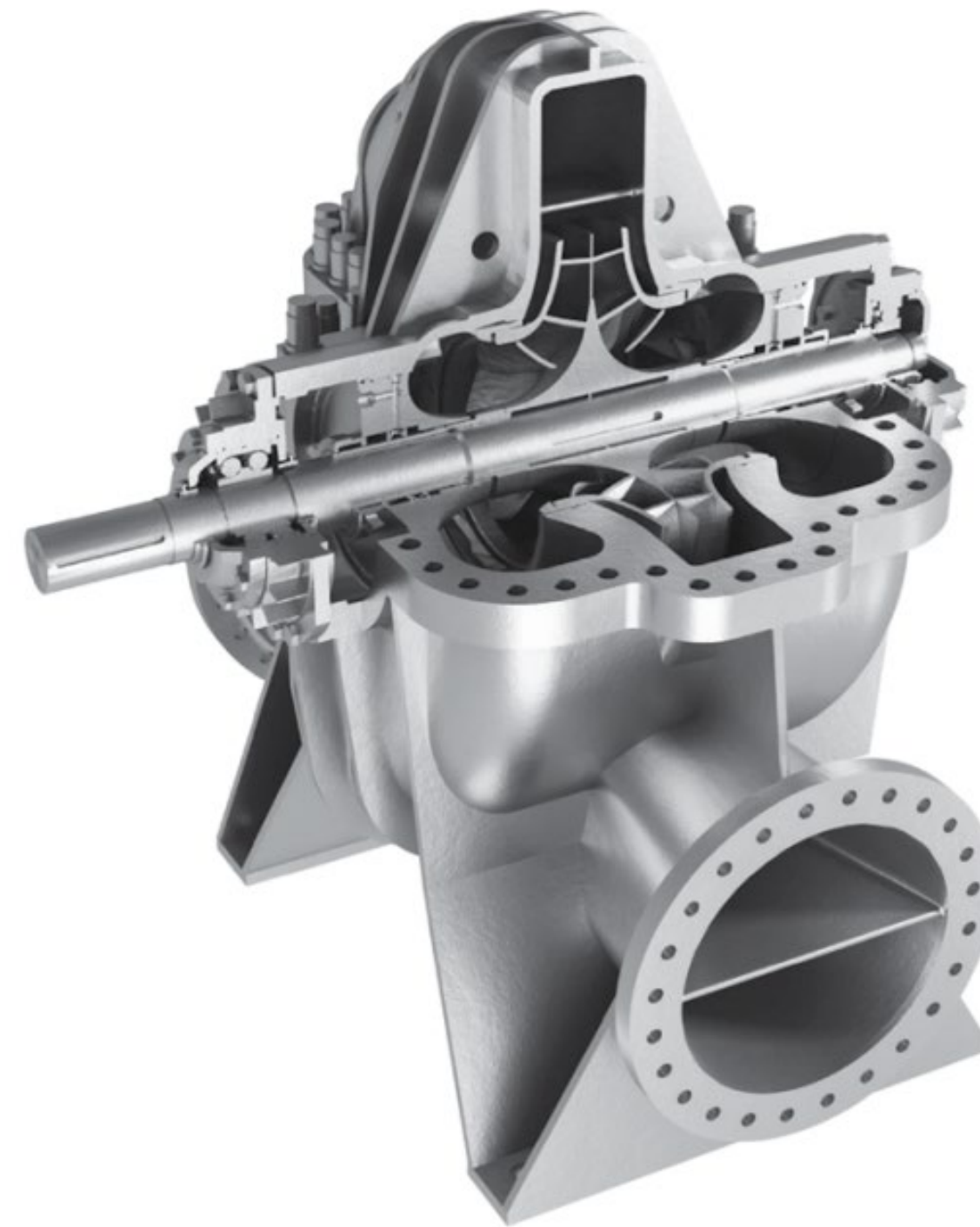
**BB3**

**Design Range – Centrifugal Pumps**



# (NEM) Pumping Equipment Range

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



**BB1**

## Water Pumps

- Water treatment;
- Booster for water injection pumps;
- Fire pumps

## **Models:**

- **D (Д), NDS (НДС)**  
Flow range: 500-13000m<sup>3</sup>/hr;  
Head range: 10-200m.

## Oil Pumps

- Oil main pipelines;
- Oil booster pipelines;
- Oil products.

## **Models:**

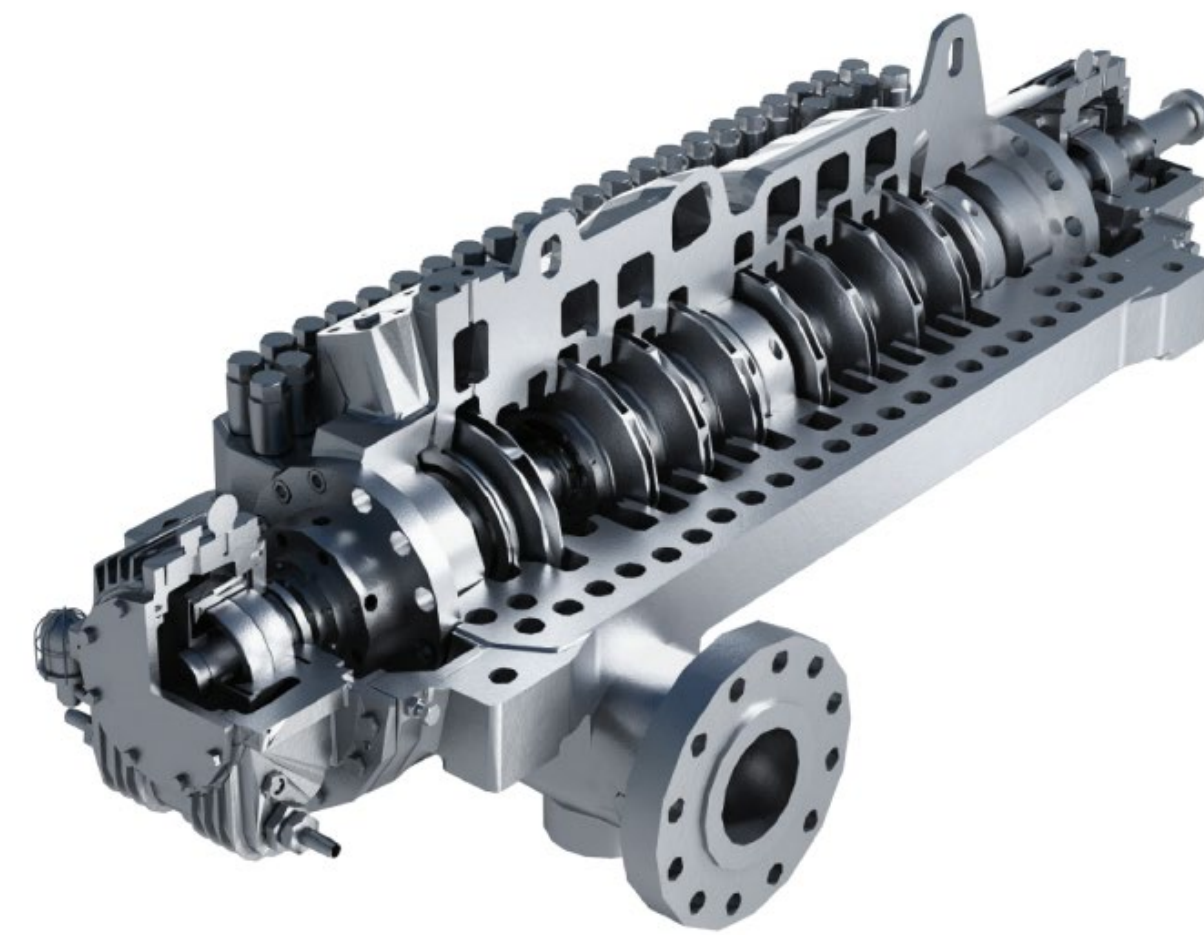
- **NM (НМ), NDSn (НДСн);  
NGPNM (НГПН-М),  
NCN-E (НЦН-Е)**  
Flow range: 300-13000m<sup>3</sup>/hr;  
Head range: 50-300m.

**Models and Parameters Range– Axial Split Casing Centrifugal Pumps**



# (NEM) Pumping Equipment Range

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



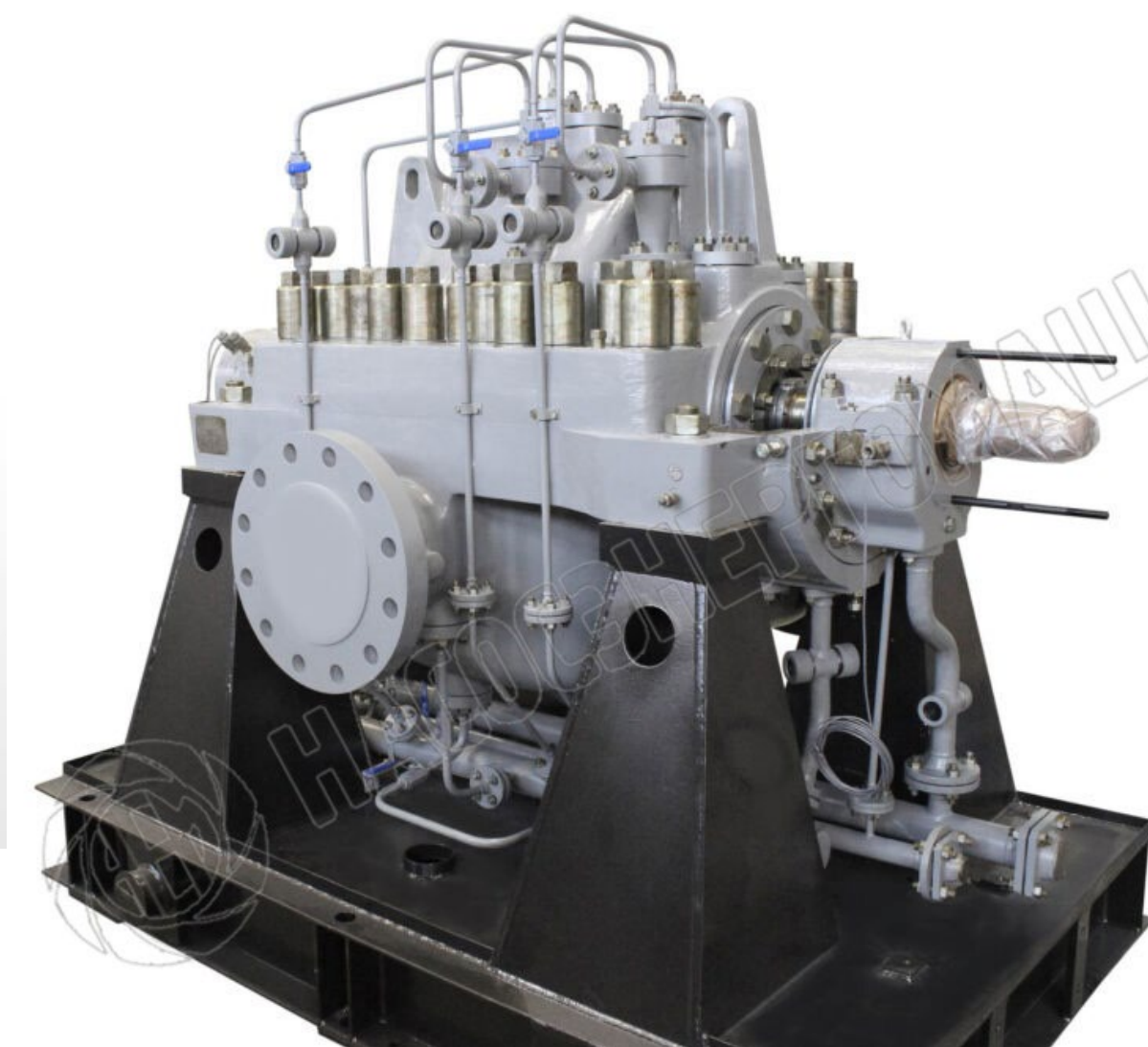
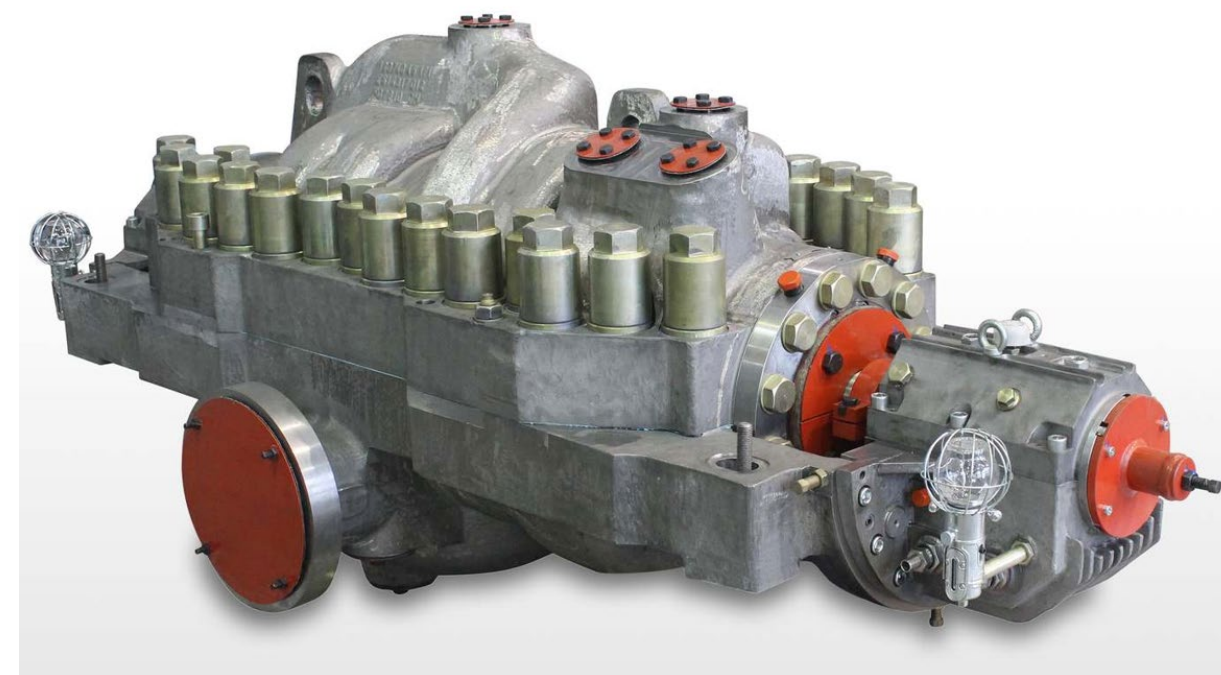
## Water Pumps

- Water treatment;
- Booster for water injection pumps;
- Fire pumps

## **Models:**

- **CN (ЦН)**

Flow range: 300-3300m<sup>3</sup>/hr;  
Head range: 80-220m.



## Oil Pumps

- Oil main pipelines;
- Oil products;
- Water injection

## **Models:**

- **AMG (AMГ)**

Flow range: 50-2000m<sup>3</sup>/hr;  
Head range: 200-1500m.

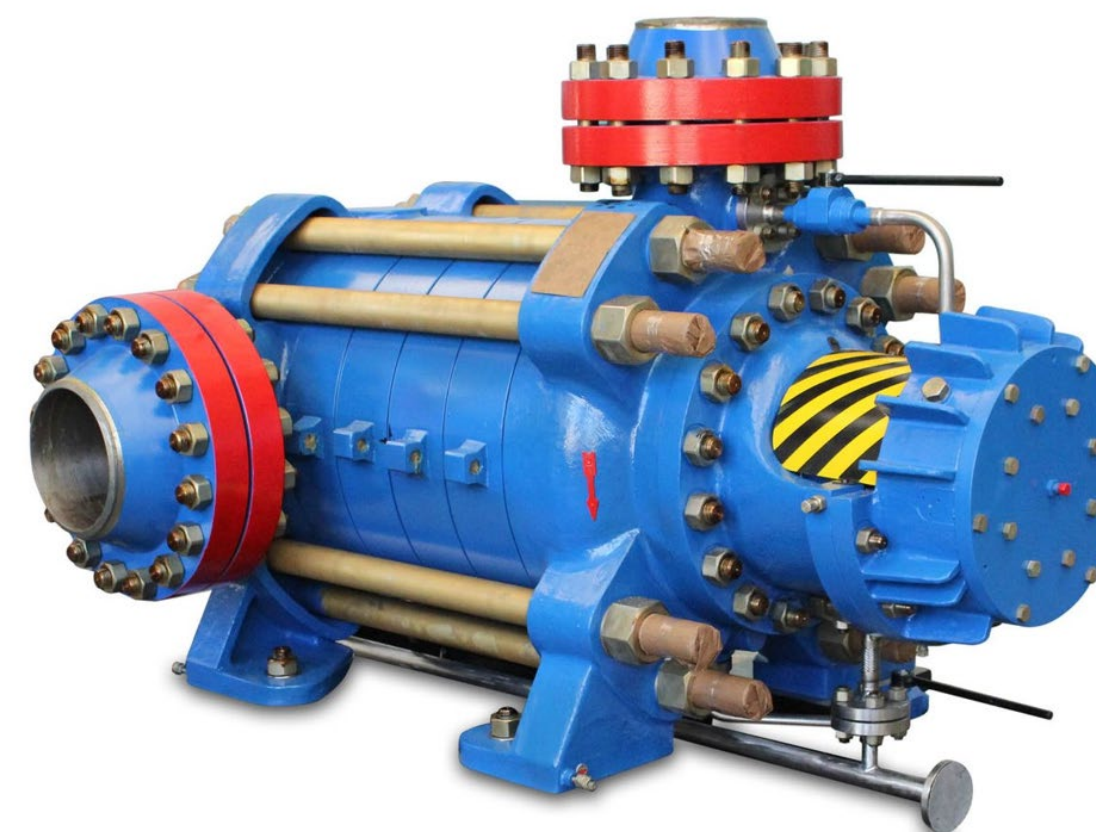
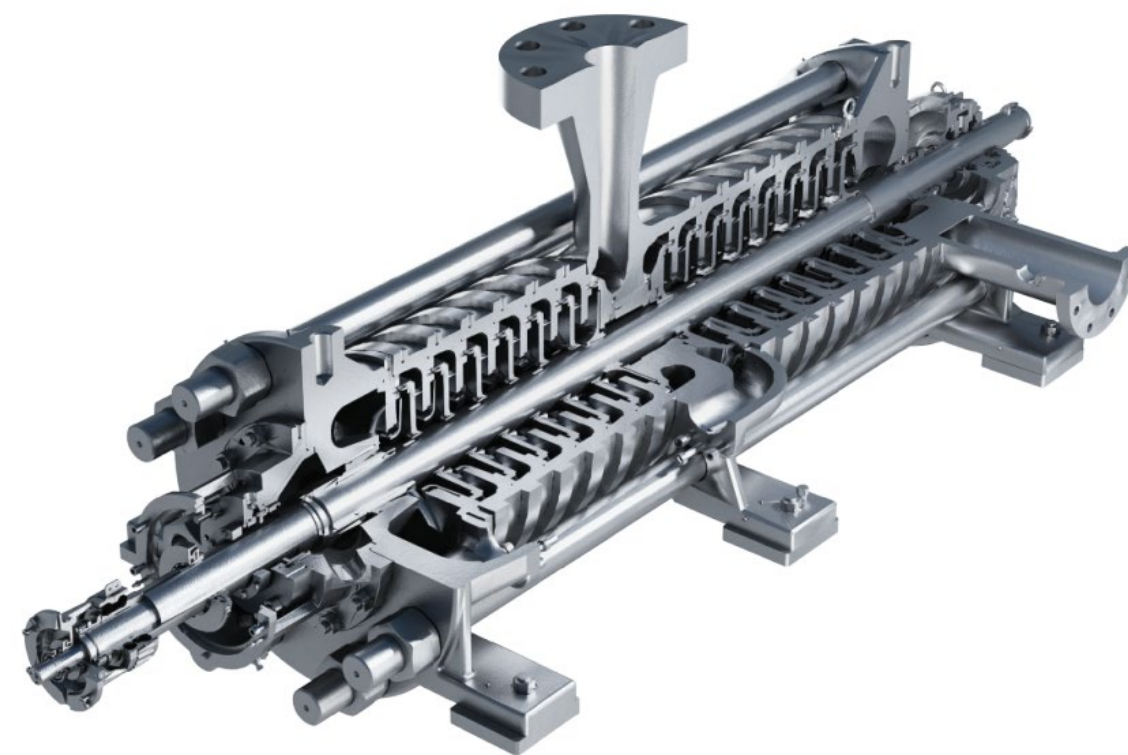
**BB3**

**Models and Parameters Range– Axial Split Casing Centrifugal Pumps**



# (NEM) Pumping Equipment Range

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



## Water Pumps

- Water injection;
- Booster for water injection pumps;

## **Models:**

- **CNS (ЦНС), GPD (ЦНСп)**
- Flow range: 30-1500m<sup>3</sup>/hr;  
Head range: 60-2500m.

## Oil Pumps

- Oil main pipelines;
- Oil products;
- Process pumps

## **Models:**

- **CNSn (ЦНСн), HP, NM (НМ), HB-E (ХБ-Е)**
- Flow range: 30-1500m<sup>3</sup>/hr;  
Head range: 60-2500m.

**BB4**

**Models and Parameters Range – Ring-section Diffuser Centrifugal Pumps**





UPSTREAM

# (NEM) High Pressure Water Injection Pumps

**NEM Production Experience:**  
10 000pcs.



**ЦHC Model pumps**  
**The most widespread model**  
**at Oil Field Water Injection**  
**Systems of:**

Ukraine, Kazakhstan, Uzbekistan,  
Turkmenistan, Iraq, Russia

**Standard parameters range:**

ЦHC 45; ЦHC 90; ЦHC 120;  
ЦHC 180; ЦHC 200; ЦHC 240  
ЦHC 315; ЦHC 360; ЦHC 500  
ЦHC 630; ЦHC 720



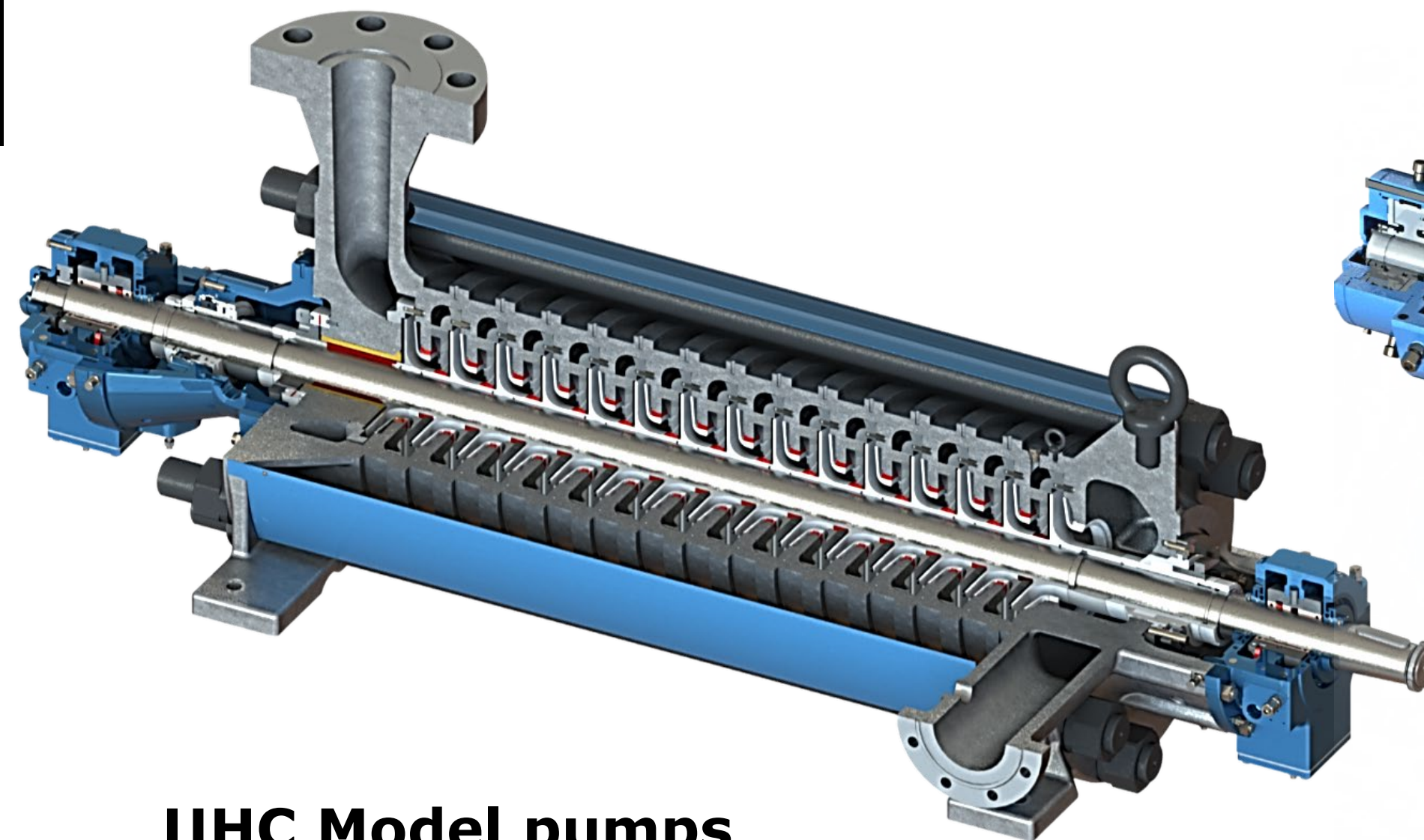


# (NEM) High Pressure Water Injection Pumps

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY

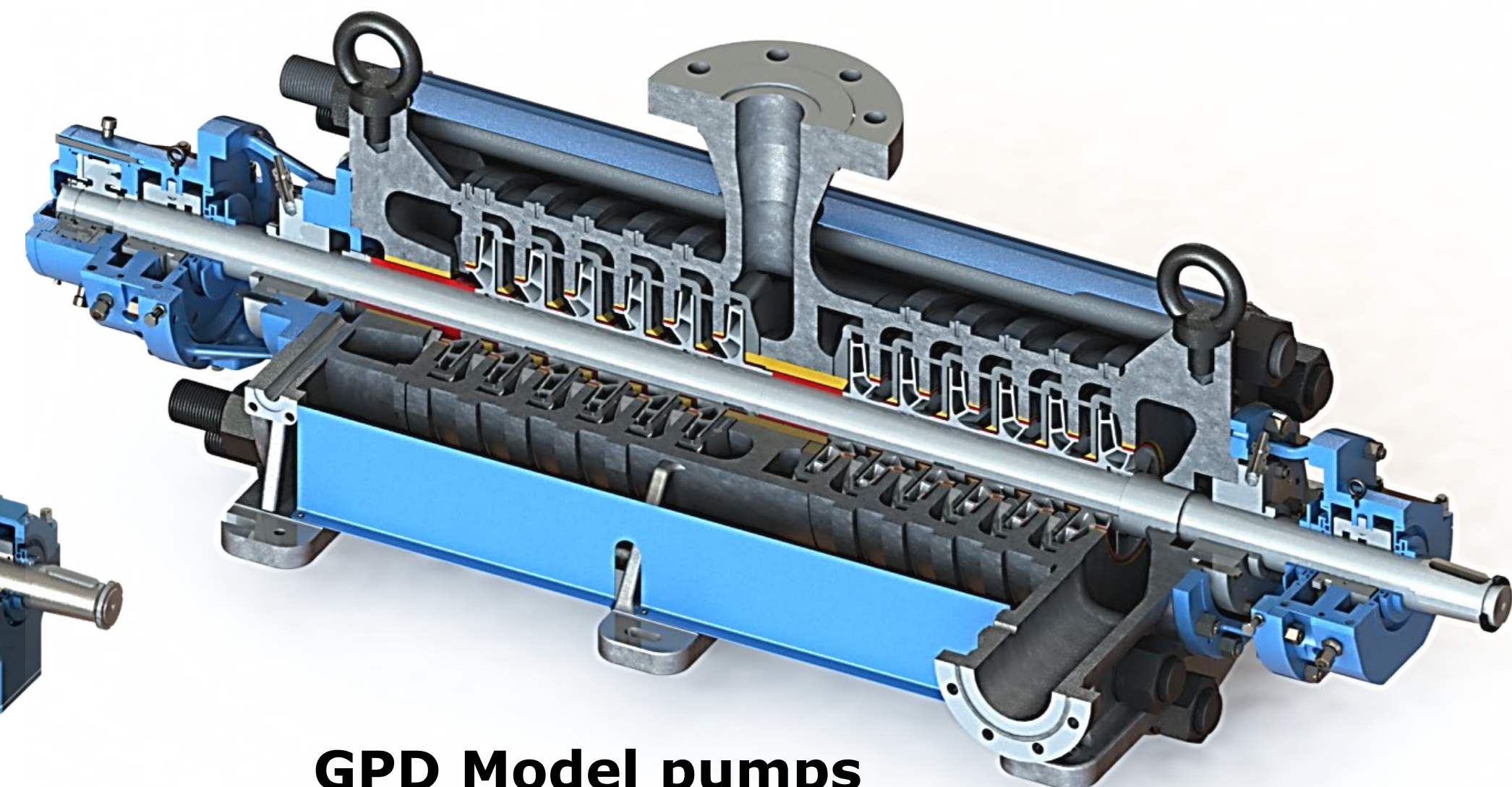


**BB4**



**QHC Model pumps  
Standard Design**

**One-by-one Hydraulic Part  
with automatic hydraulic  
balancing device (Balancing  
disc/balancing pad)**



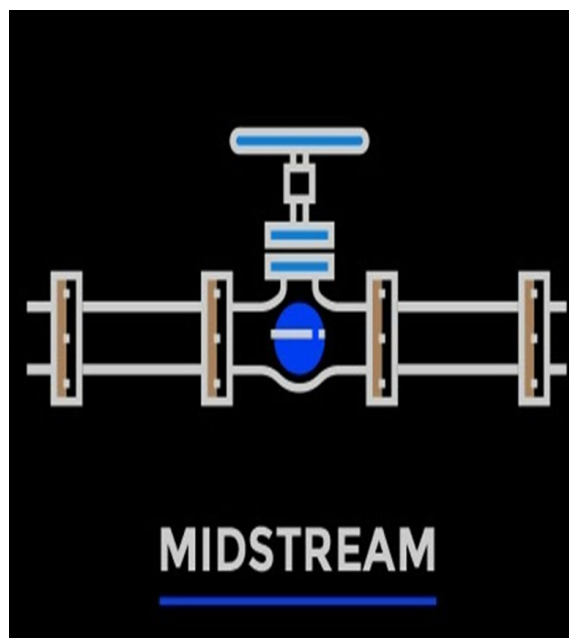
**GPD Model pumps  
Upgraded Design**

**Back-to-back Hydraulic Part  
with no balancing device**



# (NEM) Pumping Equipment Range

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



**BB5**



## Water Pumps

- **Water injection**

### **Models:**

- **CNSDp (ЦНСДп), TG, TL**  
Flow range: 50-1500m<sup>3</sup>/hr;  
Head range: 500-2800m.

## Oil Pumps

- **Oil main pipelines;**
- **Oil products;**
- **Process pumps**

### **Models:**

- **TG, TL, NM (HM), HB (XB)**  
Flow range: 50-1500m<sup>3</sup>/hr;  
Head range: 500-2800m.

**Models and Parameters Range – Barrel Casing Diffuser Centrifugal Pumps**

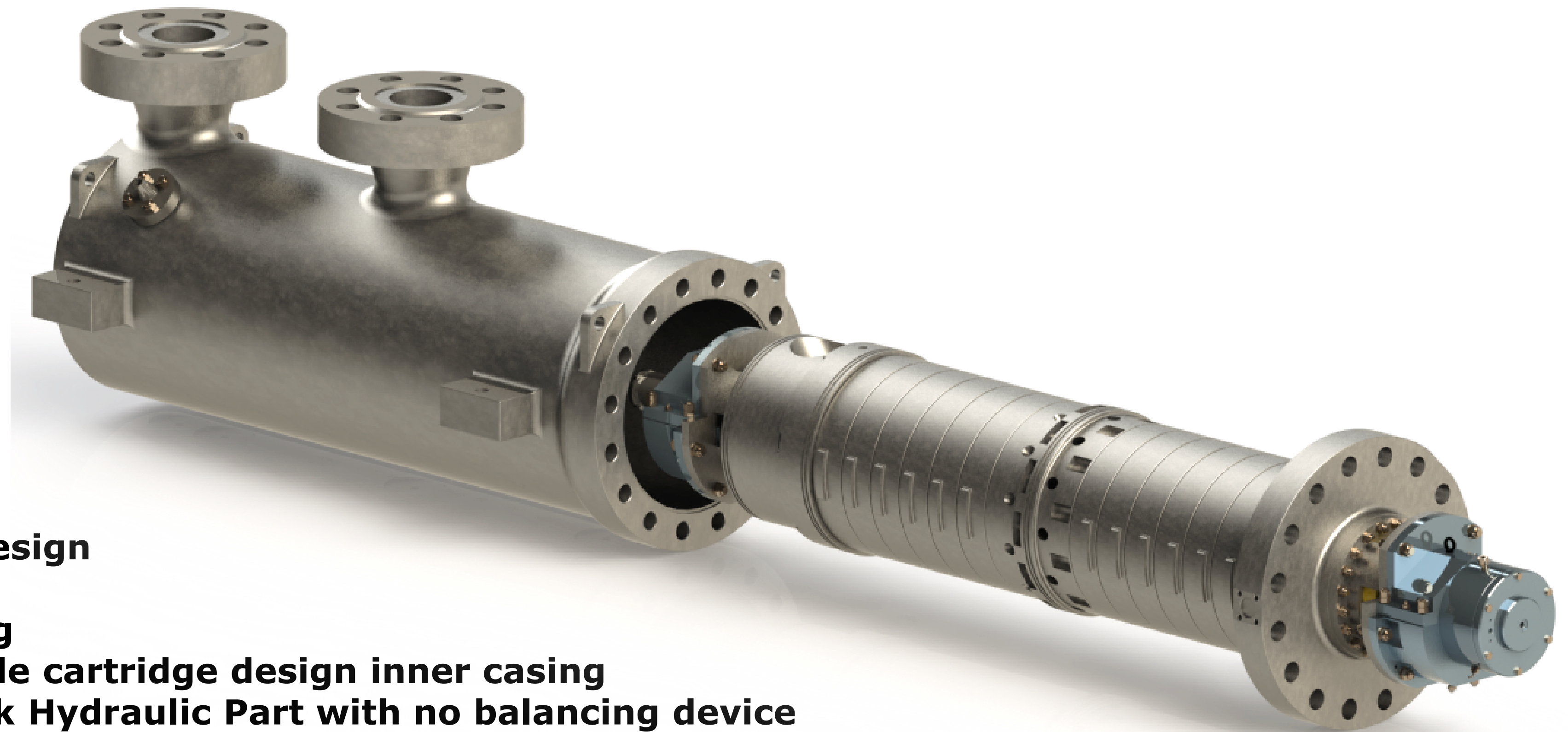


# (NEM) High Pressure Water Injection Pumps

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



BB5



## Upgraded Design

### Barrel casing

**Withdrawable cartridge design inner casing**

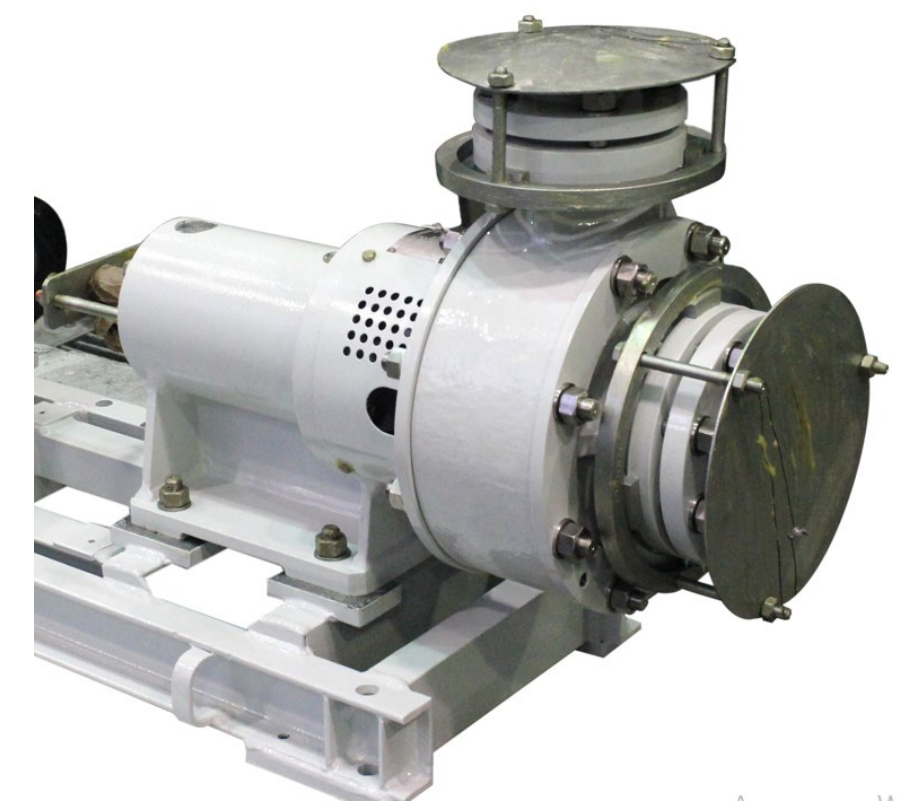
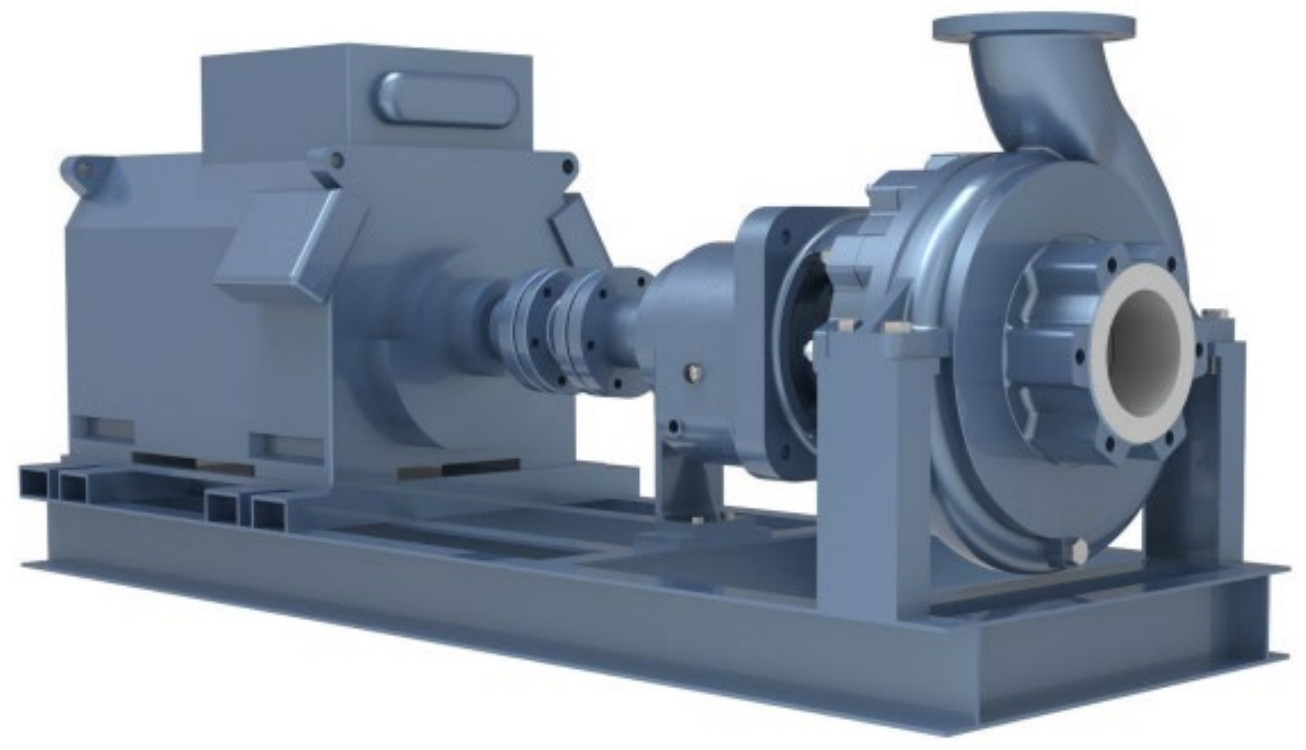
**Back-to-back Hydraulic Part with no balancing device**

Increased safety thanks to a single split on the outer casing (barrel).  
The cartridge-type withdrawable inner casing allows on-site service and repairs to be carried out as quickly as possible without dismantling the main casing.



# (NEM) Pumping Equipment Range

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



## Water Pumps

- **Booster pumps;**
- **Sewage water pumps;**
- **Fire pumps**

### **Models:**

- **LC; CKM; K**

Flow range: 20-800m<sup>3</sup>/hr;  
Head range: 20-250m.

## Oil Pumps

- **Oil products;**
- **Process pumps**

### **Models:**

- **NK/NKV (HK/HKB); LC; X**

Flow range: 20-800m<sup>3</sup>/hr;  
Head range: 20-250m.

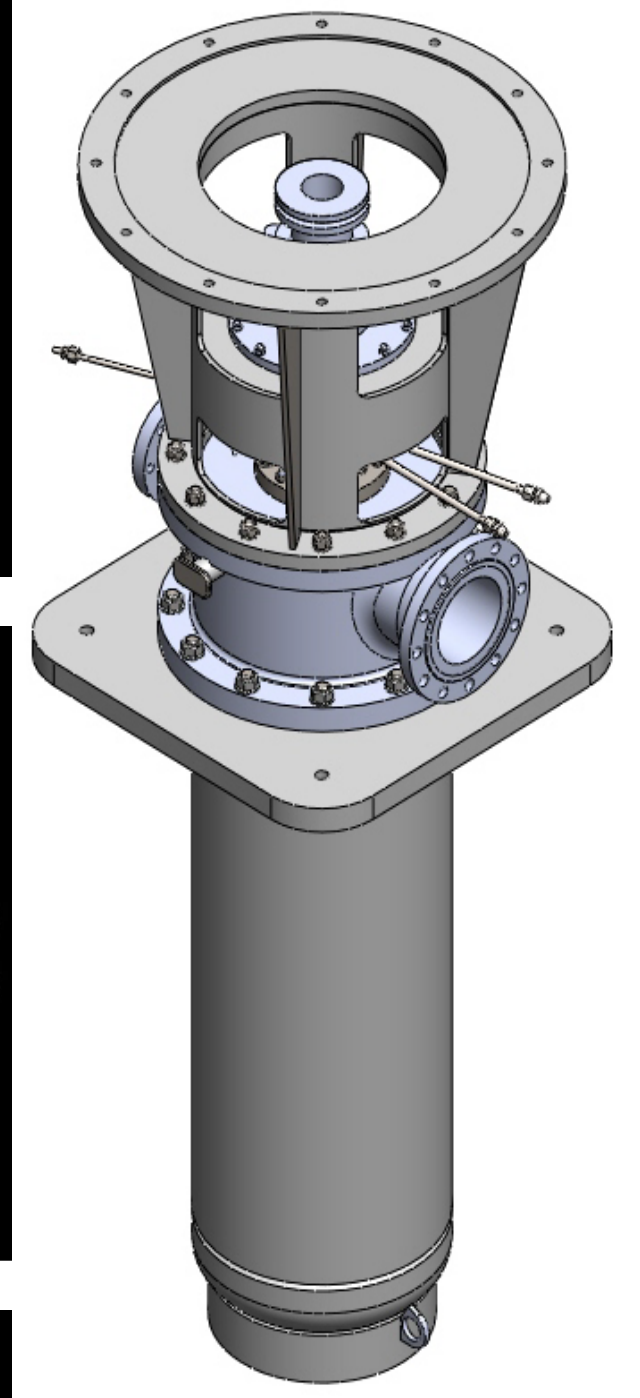
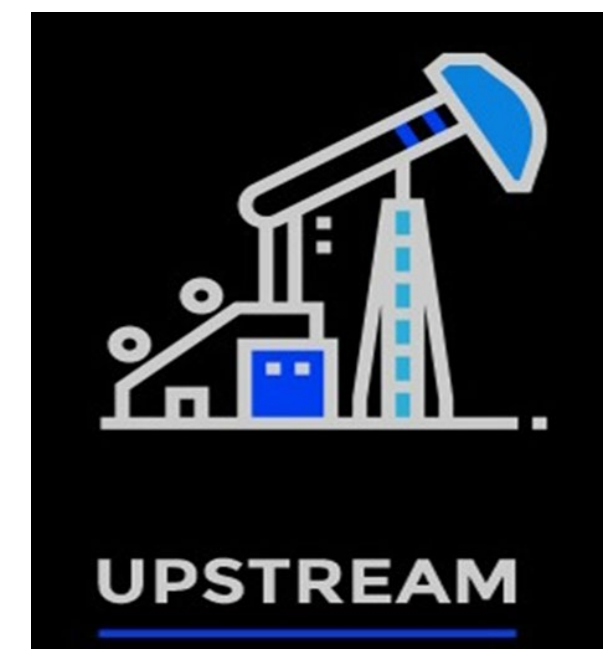
**OH 1/2**

**Models and Parameters Range – Overhung Centrifugal Pumps**



# (NEM) Pumping Equipment Range

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



**VS 1/5/6/7**



**Oil Booster Pumps**  
**Models: NPV (НПВ); NMV (НМВ)**  
Flow range: 10-70m<sup>3</sup>/hr;  
Head range: 50-900m.



**Oil Leakages Dain Pumps**  
**Models: NOU (НОУ); NV (НВ)**  
Flow range: 10-70m<sup>3</sup>/hr;  
Head range: 50-900m.



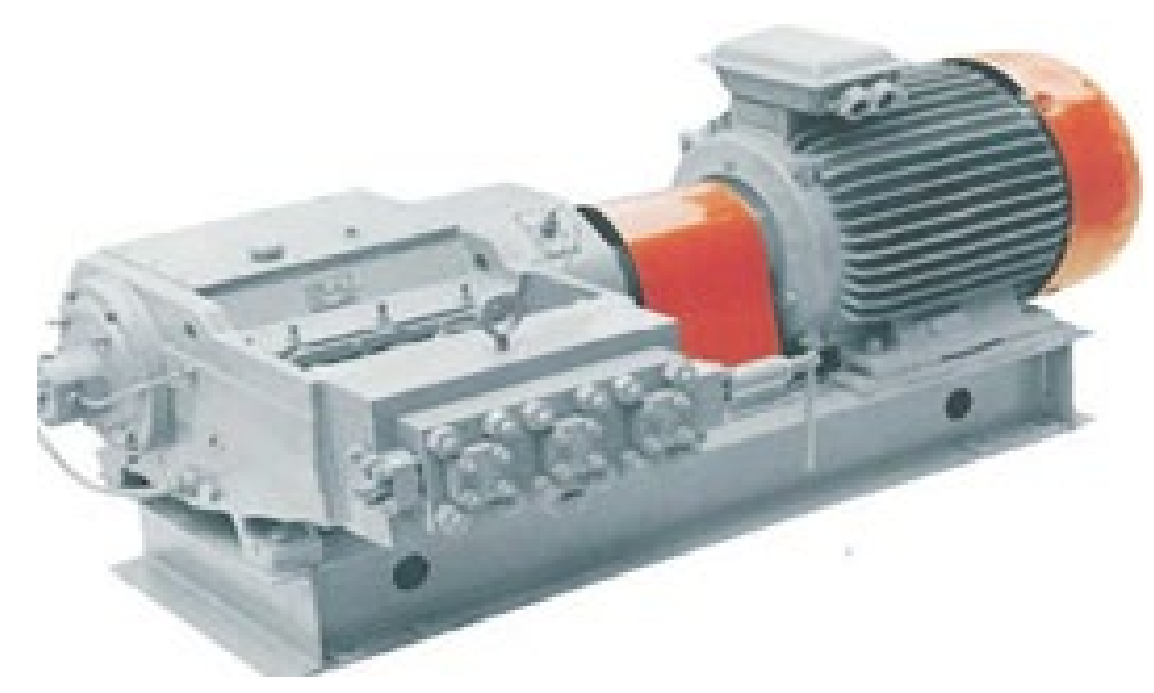
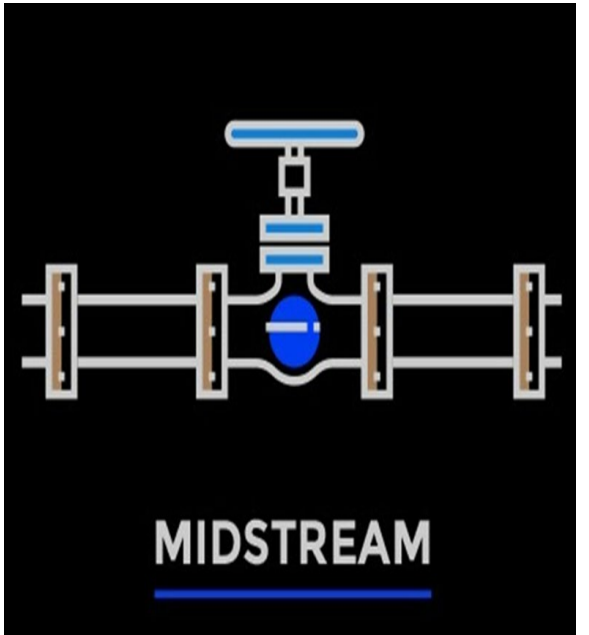
**Water Artesian & Oil Pumps**  
**Models: A & NA (НА)**  
Flow range: 600-1200m<sup>3</sup>/hr;  
Head range: 75-350m.

**Design Range – Vertical Centrifugal Pumps**



# (NEM) Pumping Equipment Range

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



**Volume three-plunger pumps  
T, PT (ПТ) series**  
Q: 0,16 – 25 m<sup>3</sup>/h  
P: 2,5 – 100 MPa



**Volume controlled  
Plunger dosing pumps  
ND/2ND (НД/2НД)  
series**  
Q: 0,1 – 5000 l/h  
P: 10 – 630 bar



**Pipeline pressure testing unit  
UNI (УНИ) type**  
P: 2,5 – 100 MPa



**Membrane  
dosing pumps  
NDM series**  
Q: 16 – 1000 l/h  
P: 10 – 250 bar

**Special, Volume Pumps**





**UPSTREAM**

**High pressure water injection BB4 pump unit on skid.**

**Flow: 650 m<sup>3</sup>/hr,  
Pressure: 200 bar.**

**“VANKOR” Oil Field**

# REALISED PROJECTS (NEM)



**Parameters range:  
Flow=10-1000m<sup>3</sup>/hr; Head= 50-2500m**





**UPSTREAM**

# REALISED PROJECTS (NEM)

**High pressure sea water injection BB5 pump unit on skid.**

**Flow: 240 m<sup>3</sup>/hr,  
Pressure: 150 bar.**

**Super-duplex pumps**

**"WEST KURNA-2" Oil Field**



**Parameters range:  
Flow=50-1000m<sup>3</sup>/hr; Head= 300-2500m**





**UPSTREAM**

# REALISED PROJECTS (NEM)

**Booster sea water BB1  
pump unit on skid.**

**Flow: 500 m<sup>3</sup>/hr;  
Pressure: 15 bar.**

**Super-duplex pumps**

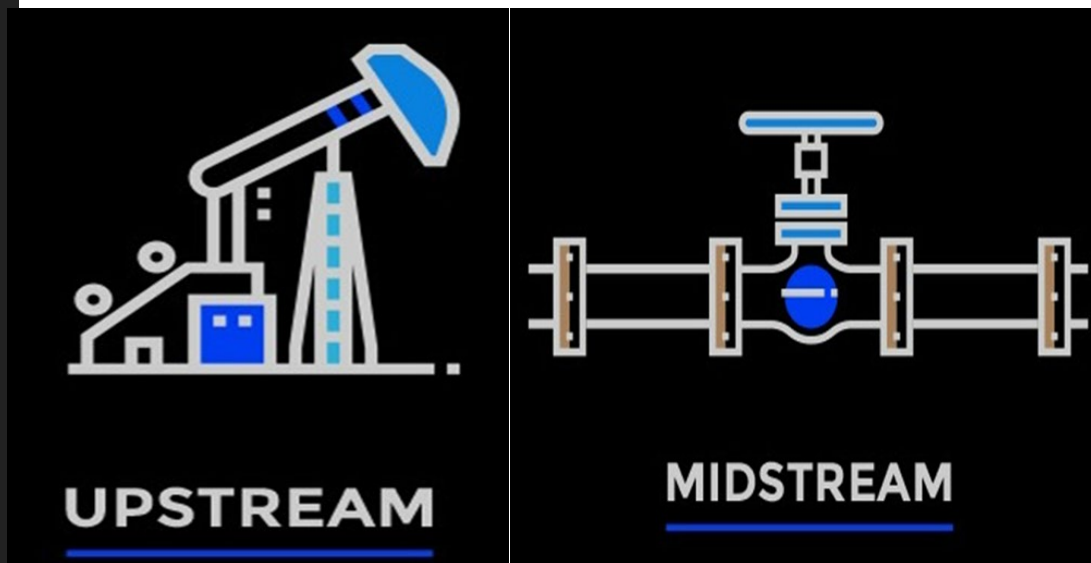
**"Zubair" Oil Field**



**Parameters range:  
Flow=300-10000m<sup>3</sup>/hr; Head= 10-250m**



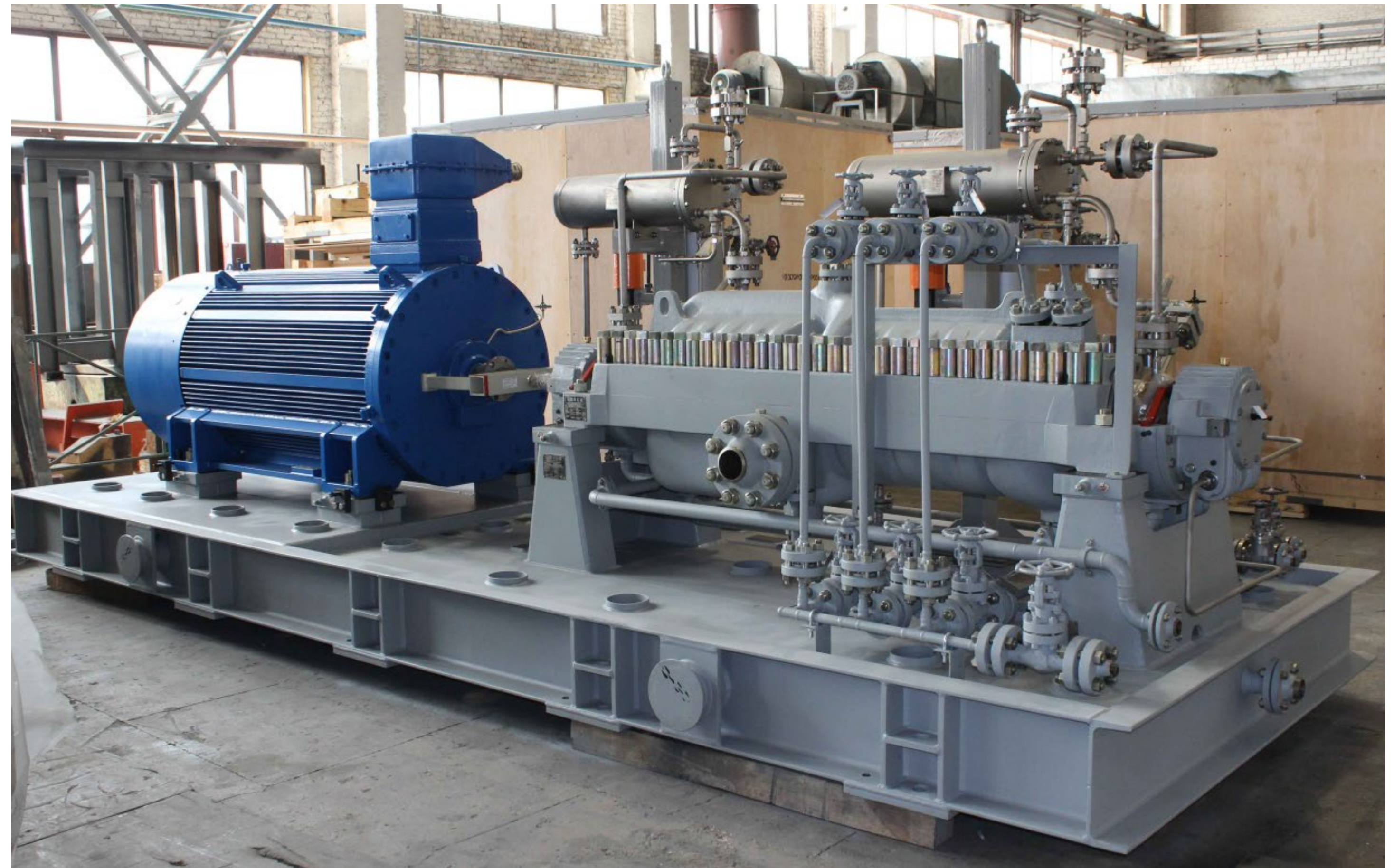
# REALISED PROJECTS (NEM)



**Process BB3 pump unit on skid.**

**Flow: 120 m<sup>3</sup>/hr;  
Pressure: 120 bar.**

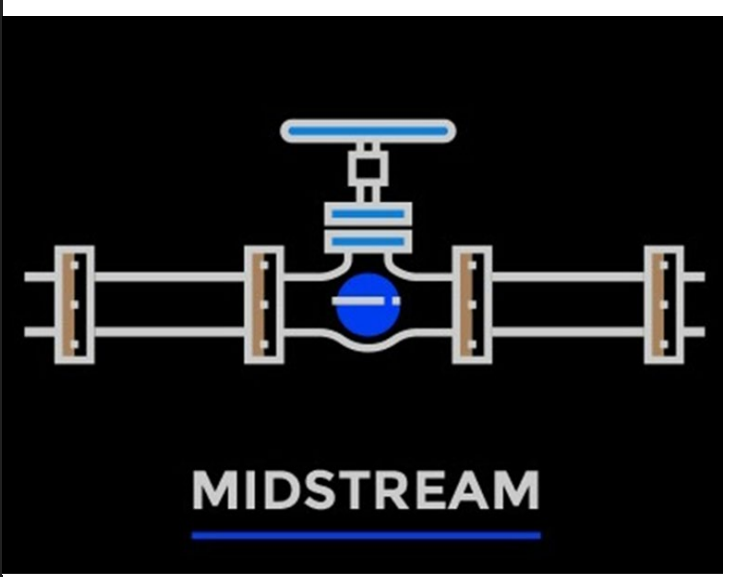
**Refinery  
Oil injection**



**Parameters range:  
Flow=50-1500m<sup>3</sup>/hr; Head= 300-1500m**



# REALISED PROJECTS (NEM)



**Process BB1 pump unit on skid.**

**Flow: 10000m<sup>3</sup>/hr;  
Pressure: 38bar;  
Design pressure: 100bar.**

**Oil Main Pipelines  
"East Siberia – Pacific Ocean"**



**Parameters range:  
Flow=500-12500m<sup>3</sup>/hr; Head max=350m**





**Process BB5 pump unit on skid.**

**Flow: 350 m<sup>3</sup>/hr;  
Pressure: 230 bar;  
Medium: 250grad C.**

**Refinery**

# REALISED PROJECTS

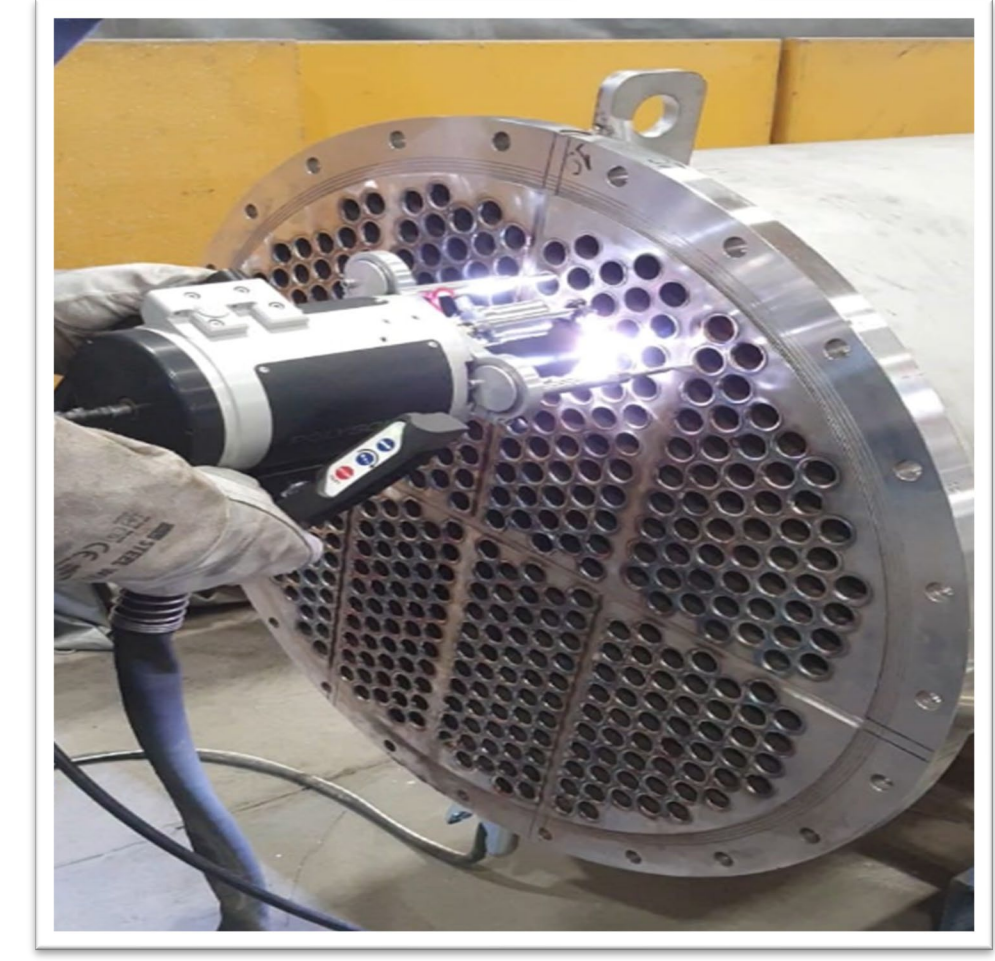


**Parameters range:  
Flow=50-1000m<sup>3</sup>/hr; Head= 300-2500m**



# **HUM ELIT OIL**

## **Process Equipment for Oil & Gas Industry**

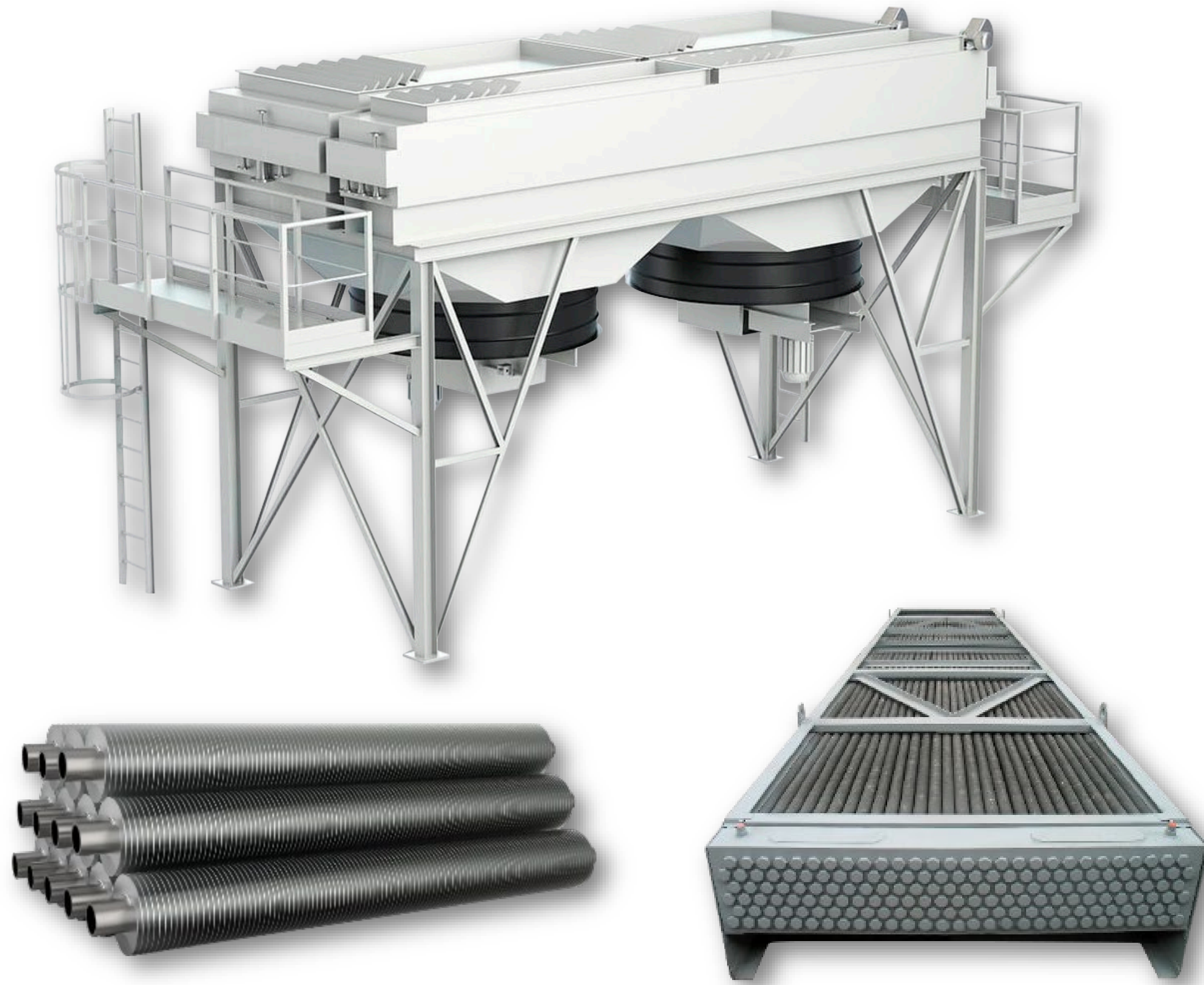


- **Fixed tubesheet shell-and-tube heat exchangers;**
- **Shell and tube heat exchangers with a floating head with U-type tubes**

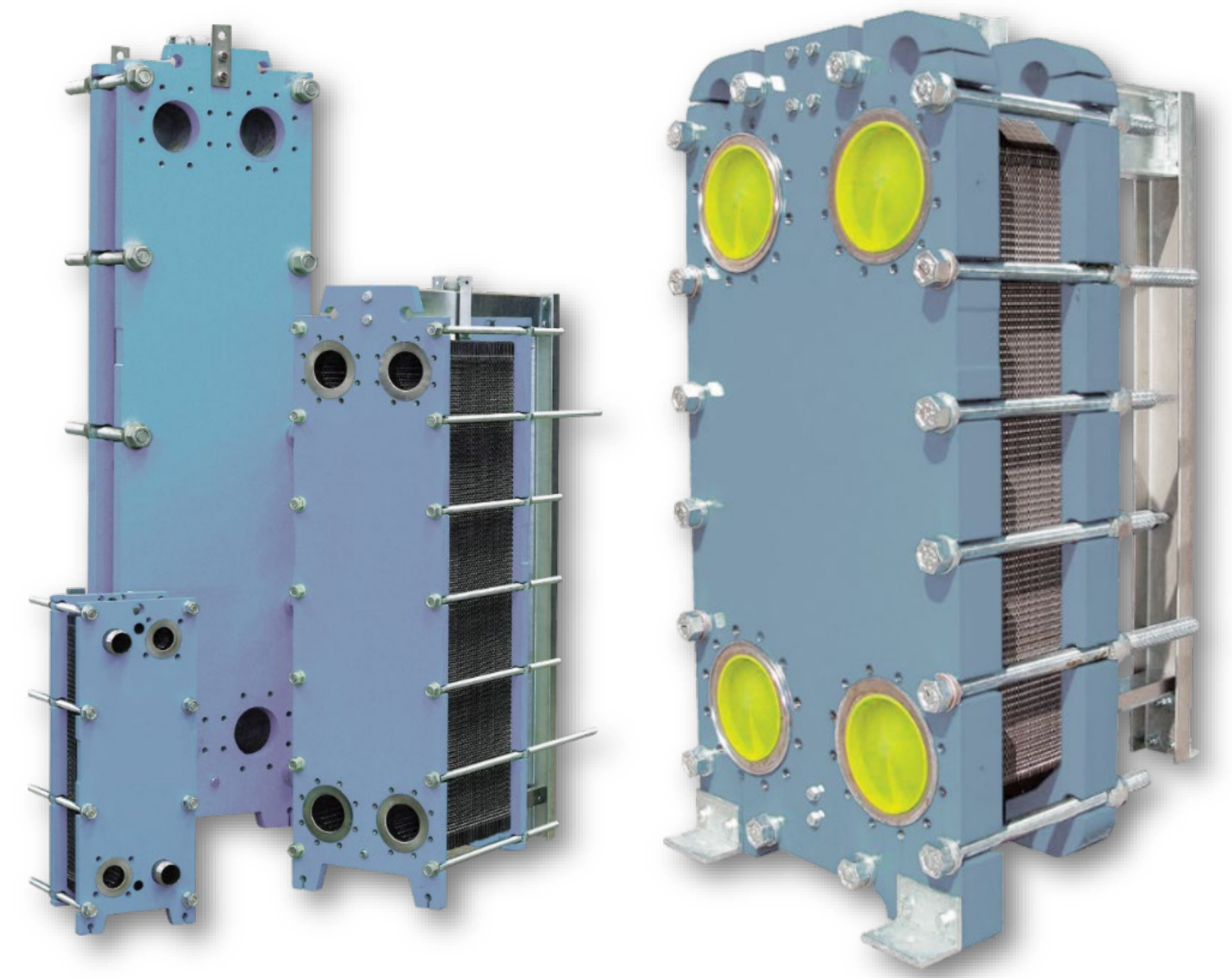
- **Double-pipe heat exchangers;**
- **Steam-water heater;**
- **Kettle-type evaporator coolers**



# **HUM ELIT OIL Process Equipment for Oil & Gas Industry**



**AIR COOLED FIN TUBE  
HEAT EXCHANGERS AND SECTIONS**



**PLATE TYPE AIR COOLED  
HEAT EXCHANGERS**



# HUM ELIT OIL Process Equipment for Oil & Gas Industry

PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY



**COLUMN AND REACTOR EQUIPMENT**



# **HUM ELIT OIL**

## **Process Equipment for Oil & Gas Industry**



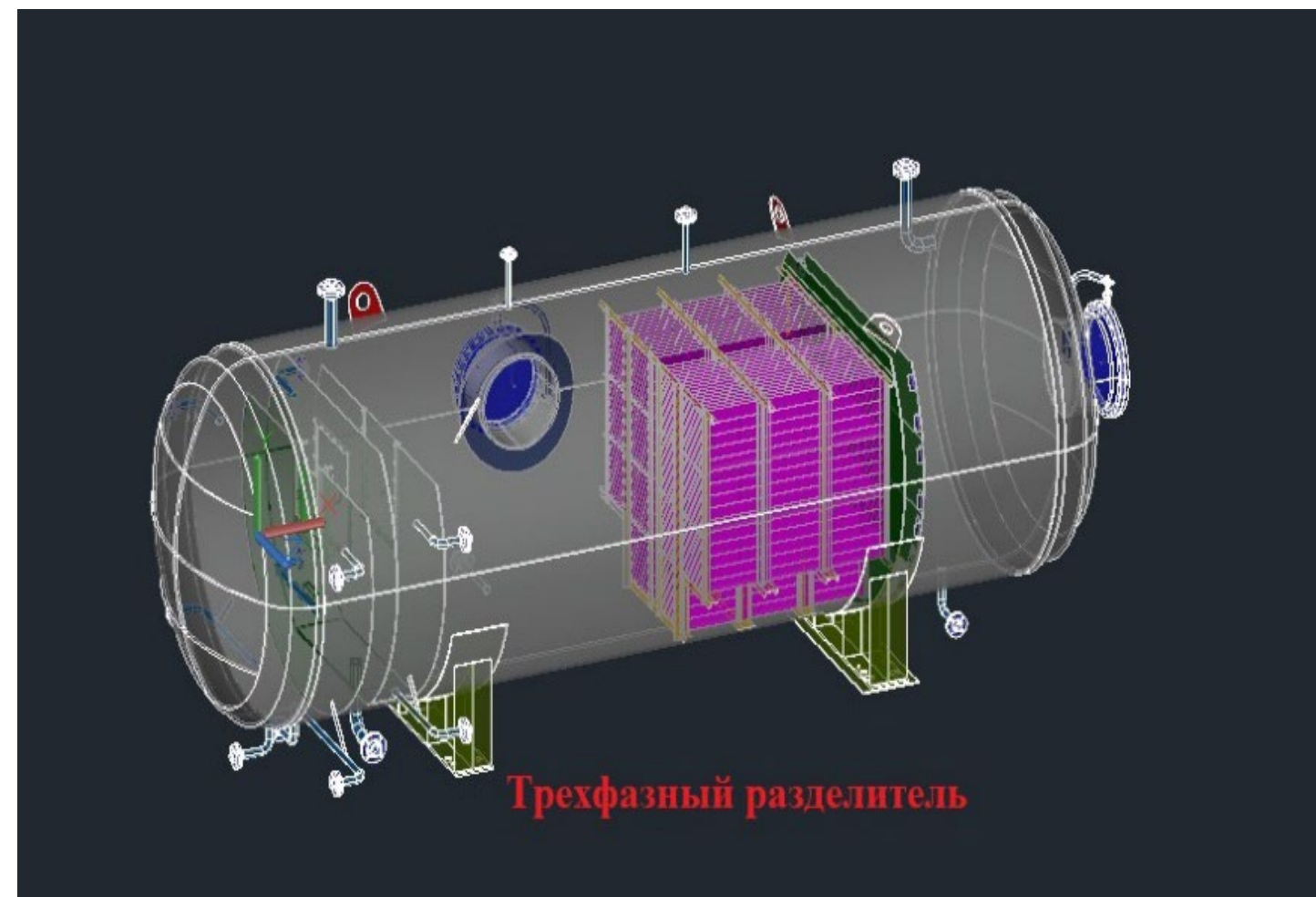
**MASS EXCHANGE EQUIPMENT, VARIOUS PRESSURE VESSELS AND TANKS**





# HUM ELIT OIL

## Process Equipment for Oil & Gas Industry



**Diameter from 200  
up to 3000mm;**

**Pressure up to 15.2 MPa:**

- **grid-type gas separators (ГС) designed to purify natural gas from impurities;**
- **oil and gas separators;**
- **input separators;**
- **flare separators;**
- **gas separators,**
- **gas – liquid separators,**
- **oil and gas separators**

**SEPARATORS**



**HUM ELIT OIL**

# HUM ELIT OIL Process Equipment for Oil & Gas Industry

**PUMPS AND  
PROCESS  
EQUIPMENT  
FOR OIL & GAS  
INDUSTRY**



**COMPLETE PROCESS UNITS AND PLANTS**



# END USERS AND PARTNERS





# PARTNERSHIP FOR COMMON DEVELOPMENT

**HUM ELIT OIL**

WORKSHOP:

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