



# **ZBKiT**

**PLANT OF BLOCK  
CONSTRUCTIONS  
AND TECHNOLOGIES**

**LLC «Plant of Block  
Constructions  
and Technologies» —  
INNOVATIVE  
COMPANY  
FULL CYCLE**

- **PUMPS (API 610, API 675)**
- **MECHANICAL SEALS  
and FUNCTIONALITY  
ENSURING SYSTEMS  
(API 682)**
- **ELASTIC PLATE MUFFS**
- **BLADE WHEELS FOR  
AIR-COOLED HEAT  
EXCHANGERS**

## OIL FUEL PUMPS NK and NKV types

Oil fuel pumps NK and NKV centrifugal type can be used for transferring and piping oil, oil products, dry hydrocarbon gases and other liquids which have similar physicochemical features and the same corrosive impact to the pump component material.

- **Capacity:** 12-600 m<sup>3</sup>/h
- **Head:** 40-320 m
- **Temperature:** -50 to +400 °C

## OIL FUEL PUMPS NPS type

Oil fuel pumps NPS type can be assigned for transferring and piping oil, oil products, dry hydrocarbon gases and other liquids, which have similar physicochemical features and the same corrosive impact to the pump component material; temperature from minus 80 °C plus +200 °C.

- **Capacity:** 35-200 m<sup>3</sup>/h
- **Head:** 500-750 m

## METERING PUMPS ND type

Metering plunger pumps and units can be assigned for voluminous pressure metering of neutral and aggressive liquids, emulsions and slurry oils which have kinematic viscosity from  $8,5 \times 10^{-7}$  to  $8 \times 10^{-4}$  m<sup>2</sup>/s (from 0,0085 to 8 St); temperature from 258K to 473K (from minus 15°C to plus 200°C).

- **Nominal feed:** 25-2500 L/h
- **Pressure:** 10-630 kgf/cm<sup>2</sup>

## METERING PUMPS ND-2M type

Designed for pumping liquids and suspensions, including toxic and aggressive ones.

The presence of abrasive in the pumped liquid is allowed.

- **Nominal feed:** 25-2500 L/h
- **Pressure:** 10-630 kgf/cm<sup>2</sup>

## METERING PUMPS T, PT type

The T and PT three-plunger crank units and pumps are designed to pump both neutral liquids and aggressive liquids, which are neutral to the materials of the hydraulic portion, with the kinematic viscosity of not more than 800 mm<sup>2</sup>/sec (8 St) at a temperature depending on the make of 243 K to 473 K (minus 30°C to plus 200°C).

- **Capacity:** 1-20 m<sup>3</sup>/h
- **Pressure:** 2,5-50 MPa

## (OH1/OH2) API 610



## (BB3) API 610



## API 675



## Single end sealing brands types

**TM / TMP / TMH** — has a thermal barrier along a shaft (a cooler).

## Double end sealing types

**2 TMH** — has a thermal barrier along a shaft (a cooler).

**2 TM, 2 TMH** sealing is used together with a heat exchanger tank **BTN-12D-35K, SAPPD 1,1-7,5/2-35K**.

## Double tandem-type end sealing types

**2 TMT, 2 TMTH** — has a thermal barrier along a shaft (a cooler), brand is used together with a heat exchanger tank **BT-12T-15K**.



Sealing type	Pumped medium temperature	Piping as in API 682
TM, TMP TMH	from -30 to +100 °C до +400 °C	Plan 01, 02, 11, 12, 13, 21, 22, 31, 32, 41
2TM 2TMH	from -30 to +200 °C to +400 °C	Plan 53A, 53B, 53C, 54
2TMT 2TMTH	from -30 to +200 °C to +400 °C	Plan 52

## Brands of the sealing produced

Mechanical sealing for insulation of running shafts of mixing devices, reactors and other equipment

2TMR —



BG —



- Shaft diameters — from 40 to 150 mm
- Working medium (product) maximum pressure seal of the following brands:
  - TMR, TMR-P, 2 TMR, 2 TMR-P — not more than 35 kgf/cm<sup>2</sup>;
  - 2 TMF, 2 TMF-P — not more than 10 kgf/cm<sup>2</sup>;
  - TBG, TBG-P, 2 TBG, 2 TBG-P — not more than 6 kgf/cm<sup>2</sup>;
- Sealed liquid/gas temperature from -30 to 200°C (with use of a cooler between boxes of a chemical device (cooler along the shaft) — up to 400°C
- Sealing has hydraulically unloaded friction pairs

## END SEALING Functionality ensuring systems

### Heat exchanging tank BT-12T-15K

it is intended to store, cool and control quantity, temperature, pressure of flush liquid, used for lubricating and cooling of double end sealing. It is used in piping of tandem-type end sealing according to the plan 52 API 682.

### Heat exchanging tank BTN-12D-35K

it is intended to store, cool and control quantity, temperature, pressure of barrier liquid, which is used to lubricate and cool of double end sealing. It is used in piping of double end sealing according to the plan 53A API 682.

### Pressure fall automatic maintenance system on the basis of a differential hydro-sucker SAPPD 1,1-7,5/2-35K

It is for storing, cooling down, refill of quantity and automatic maintenance of pressure fall of barrier liquid in a cooling system of double end sealing. SAPPD is used in piping according to the 53C API 682 plan.

### Detachable heat exchanger VT-45K

It is intended to cool down liquids pumped into a chamber of an end sealing. It is used for piping according to the plans 21,22,23,41 API 682.

## API 682

BT —

BTN —



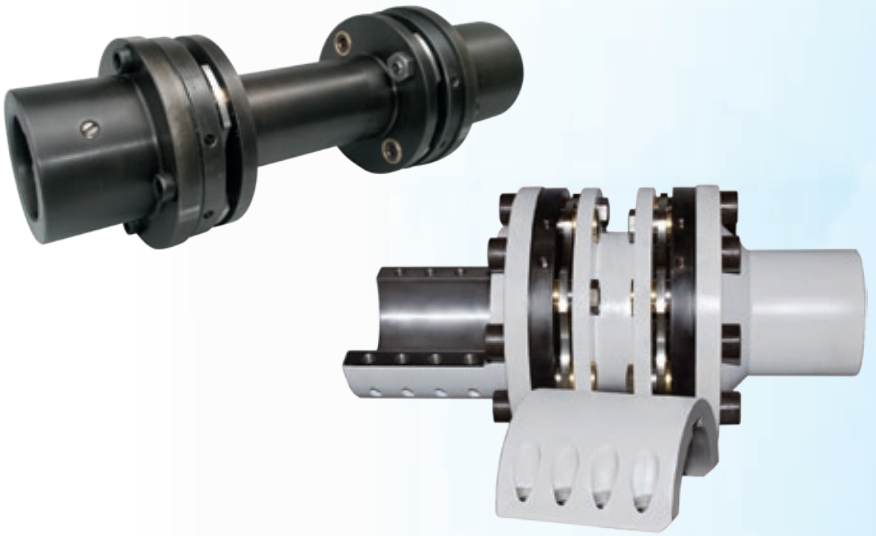
### Hydrocyclone separator brand GCC

is designed for cleaning the sealing fluid supplied to the mechanical seal of the hard abrasive inclusions. Used in together with single mechanical seal in piping plan 31 API682.

## **ELASTIC PLATE MUFFS**

### **MK type**

Elastic plate muffs type MK are designed to transmit the torsional moment from drive to pumps, compressors, smoke exhausters and other rotation devices.



## **IMPELLERS FOR COOLING TOWER FANS (CTF) AND AIR COOLER UNITS (ACU)**

Impellers with fiberglass blades of different sizes and with a diameter of 1.7 to 7.0 meters and the number of blades from 2 to 14 pcs



Impellers with metal blades made by riveting of different sizes with a diameter of 1.7 to 7.0 meters and the number of blades: 2 to 12 pcs



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