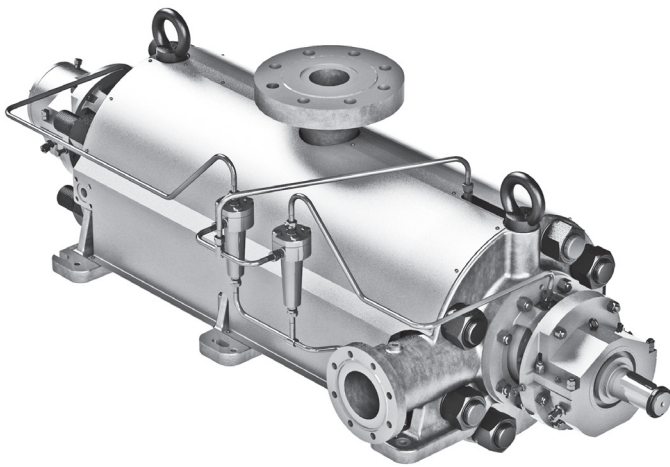


## CNSp MULTISTAGE CENTRIFUGAL PUMPS BACK-TO-BACK DESIGN API BB4 type

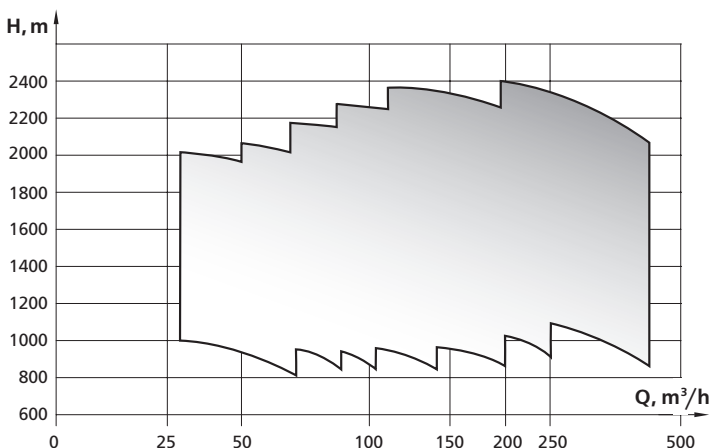


### Lifetime

Depending on the pumped liquid the average operation lifetime amounts to:

- Mean time before repair, MTBR: over 40000 hours.
- Casing parts: over 30 years.

### QH



### Application

Water injection to maintain formation pressure at oilfields.

### Pumped Liquid

Heavy duty condition water, sea water, and waste water with severe chemical composition (including hydrogen sulfide):

Temperature, °C .....	0... +80
Density, kg/m <sup>3</sup> .....	up to 1180
Solid particles, mm .....	0.2
pH .....	4...9
Oil content, mg/l .....	up to 200
H <sub>2</sub> S content, mg/l .....	up to 400

### Design Features

- Horizontal, centrifugal, multistage, ring section pumps with back-to-back design and hydraulically balanced rotor.
- Flow transfer pipe between the stages groups.
- The max number of stages: 16.
- Rotor support by the sleeve bearings with oil bath or forced lubrication.
- Sealing options: API 682 mechanical seal or stuffing box.
- Flanges design according to DIN/ANSI/ISO.
- Nozzles location: suction nozzle - horizontally directed, discharge nozzle - vertically upward.
- Cyclone separators (optional, heightened solids content water only) for mechanical seals.
- Elastic diaphragm coupling to reduce vibration and requiring no maintenance.
- Fully interchangeable by connecting sizes with CNS inline type pumps, apart from the discharge nozzle location.

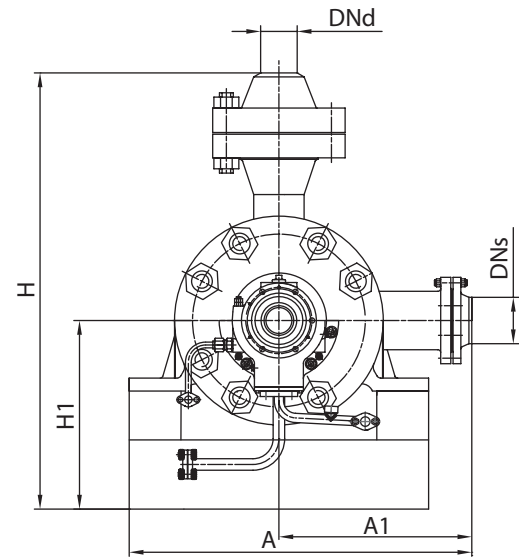
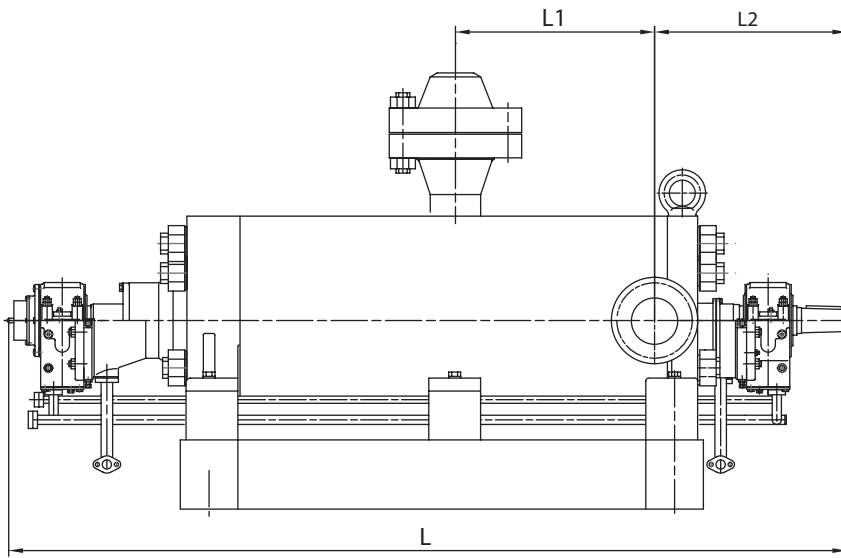
### Materials

#### Duplex SS

- Casing – Duplex SS, GX2CrNiMoCuN-25-6-3-3;
- Flow part (impeller and diffuser) – Duplex SS, GX2CrNiMoCuN-25-6-3-3;
- Shaft – Duplex SS, X2CrNiMoN-22-5-3;
- Seals – Duplex SS with special surfacing.

#### Superduplex SS

- Casing – Superduplex SS, GX2CrNiMoN-26-7-4;
- Flow part (impeller and diffuser) – Superduplex SS, GX2CrNiMoN-26-7-4;
- Shaft – Superduplex SS, X2CrNiMoCuWN-25-7-4;
- Seals – Superduplex SS with special surfacing.



## SPECIFICATIONS

Pump	Capacity, m <sup>3</sup> /h	Head, m	NPSH, m	Efficiency, %	Motor, kW*	Rotation speed, rpm	DNs	DNd	A	A1	H	H1	L	L1	L2
CNSp45-1050-2	45	1050	5	51	500	3000	150	125	1230	670	1425	565	2402	594	625
CNSp45-1422-2		1422			630						1515	655	2782	784	
CNSp45-1900-2		1900			800						1515	655	3162	974	
CNSp63-1050-2	63	1050	5,5	58	500						1425	565	2402	594	
CNSp63-1422-2		1422			630						1515	655	2782	784	
CNSp63-1900-2		1900			1000						1515	655	3162	974	
CNSp90-1050-2	90	1050	6	62	630						1425	565	2402	594	
CNSp90-1422-2		1422			800						1515	655	2782	784	
CNSp90-1900-2		1900			1000						1515	655	3162	974	
CNSp120-1050-2	120	1050	7	73	800						1425	565	2402	594	
CNSp120-1422-2		1422			1000						1515	655	2782	784	
CNSp120-1900-2		1900			1250						1515	655	3162	974	
CNSp180-1050-2	180	1050	7	77	800						1425	565	2402	594	
CNSp180-1422-2		1422			1250						1515	655	2782	784	
CNSp180-1900-2		1900			1600						1515	655	3162	974	
CNSp240-1050-2	240	1050	8	78	1000	1425	565	2402	594						
CNSp240-1422-2		1422			1250	1515	655	2782	784						
CNSp240-1900-2		1900			1600	1515	655	3162	974						
CNSp315-1050-2	315	1050	9	81	1600	200	150	1275	685	1635	675	2354	594	640	
CNSp315-1422-2		1422			2000							2639	784		
CNSp315-1900-2		1900			2500							3019	974		

\*Motor power is given for the liquid density value of 1000 kg/m<sup>3</sup>

Scope of supply, options, and any custom solutions are the subject of prior confirmation before order placement.

Manufacturer: Public JSC «NASOENERGOMASH Sumy» (HMS Group).

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