



PUMPS FOR THERMAL
POWER INDUSTRY



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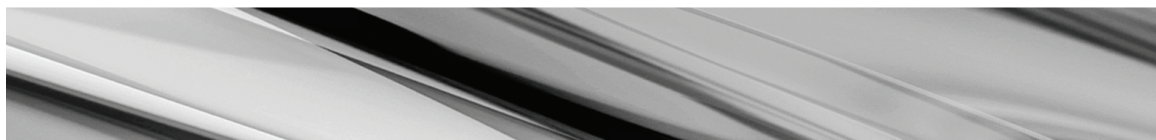
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Location map of HYDROMASHSERVICE office

Pump equipment order questionnaire



INDUSTRIAL PUMPS

HMS PUMPS JSC, Livny, Russia
Manufacturing of pumps for various applications

LIVNYNASOS JSC, Livny, Russia
Manufacturing of submersible centrifugal pumps for water industry

NASOENERGOMASH JSC, Sumy, Ukraine
Manufacturing of pumps for oil and gas industries, thermal and nuclear power plants, household and public utilities, and water industry

HYDROMASHSERVICE JSC, Moscow, Russia
Consolidated trade company of HMS GROUP

VNIIAEN JSC, Sumy, Ukraine
Research and development of pumps for nuclear and energy industries

PROMBURVOD JSC, Minsk, Belarus
Manufacturing of submersible centrifugal pumps for water industry

DIMITROVGRADKHIMMASH JSC
Dimitrovgrad, Russia
Manufacturing of vessels, chemical equipment and pumps

HMS HOUSEHOLD PUMPS JSC
Bavleny, Vladimir Region, Russia
Manufacturing and marketing of household pumps

OIL & GAS EQUIPMENT

HMS NEFTEMASH JSC, Tyumen, Russia
Modular (packaged) oil field equipment manufacturer

SIBNEFTEAVTOMATIKA JSC, Tyumen, Russia
Design and manufacturing of flow metering equipment

NIZHNEVARTOVSKREMSERVICE JSC
Nizhnevartovsk, Russia
Repair, upgrade and maintenance of oil field equipment

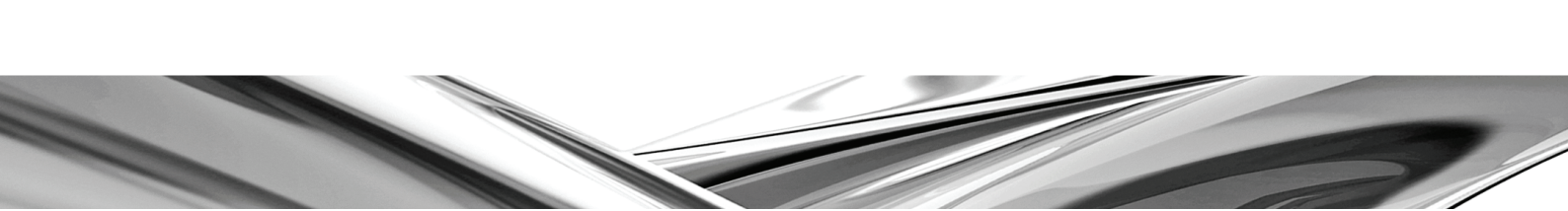
ENGINEERING

GIPROTYUMENNEFTEGAZ JSC, Tyumen, Russia
Engineering of integrated oil and gas fields developments

TOMSKGAZSTROY JSC, Tomsk, Russia
Construction of oil & gas industries facilities

TREST SIBKOMPLEKTMONTAZHNALADKA JSC
Tyumen, Russia
Construction of oil & gas industries facilities

INSTITUTE ROSTOVSKY VODOKANALPROEKT JSC
Rostov-on-Don, Russia
Design of water supply systems, water drainage systems, and hydraulic structures



JOINT STOCK COMPANY «HMS GROUP»

is a dynamically developing holding company, having a high research and production potential in the field of design and production of pumping and oil-and-gas equipment, power units and complex hydraulic systems for power and other industries, pipeline facilities, water supply and irrigation. Important business direction for HMS Group is turn key basis construction and packaged equipping for oil-and-gas industry. HMS Group comprises the following plants, manufacturing pumps and oil-and-gas equipment, as well as engineering and service companies.

BASIC BUSINESS ACTIVITIES OF JSC «HMS GROUP»

design, production, installation and maintenance of pumping equipment for various industries:

- extracting, refining and transport of oil;
- thermal power and nuclear power plants;
- water supply, irrigation, utilities and house hold, including construction of complete pump stations, river dams, waste water pump stations;
- steel and mining industry.

design and production of oil-and-gas equipment:

- modular packaged equipment for oilfields;
- modular packaged equipment for measuring of oil well production;
- flow measuring instruments for oil and gas;
- service and maintenance of oil-and-gas equipment.

engineering of surface facilities for oil-and-gas fields:

- design and construction facilities for collection, storage, processing and distribution of oil, gas and petrochemical products within oil-and-gas fields;
- construction of trunk and on-field pipelines for oil and gas, construction of on-field surface facilities.

The pumping equipment manufactured by the Group is widely used at thermal and nuclear power plant facilities, already existing and those being under construction, in Russia, CIS countries, Iran, Iraq, India, China, Morocco, Finland, Bulgaria.

The product range of the equipment produced by the company for water industry includes pumps of over 300 standard sizes for water supply, sewage, irrigation.

The incorporated trading company of HMS Group is «HYDROMASHSERVICE» CJSC, which supplies the equipment manufactured by the Group's plants and by its long-term partners, namely «Sumy Frunze NPO» OJSC, «Bobruisky mashine-building plant» OJSC, «ENA» OJSC, «Volgogradneftemash» OJSC, «NPO ELSIB» OJSC, «Privod» OJSC, «Safronovsky EZ» OJSC, «ELDIN» OJSC, «PEMZ» OJSC, «VEMZ» OJSC, «ZVI» OJSC, «KHEMZ-IPEC» Joint-Venture CJSC, «Electromash» OJSC.

The sales embrace Russia and foreign markets.

In addition to supply of pumps HYDROMASHSERVICE acts as a general contractor/sub-contractor in construction and supply of complete plants for water system facilities, including pump stations, river dams, sewage purification facilities, waste water pump stations. Contracts for complete plants supply include various equipments and services: pumps, valves, pipes and fittings, high-and low-voltage electrical and power management systems, cabling; substations; water and sewage systems maintenance vehicles; equipment installation, pre-commissioning and commissioning; personnel training.

HYDROMASHSERVICE has implemented and is implementing a number of contracts on improvement of water supply and sewage systems in towns of Russia, Uzbekistan, Tajikistan, which were financed by The World Bank and The European Bank of Reconstruction and Development.

PE-TYPE SMALL FEED PUMPS

APPLICATION

The pumps are intended to feed land-type boilers of fossil-fuel thermal power stations with water heated up to 165 °C.

DESIGN

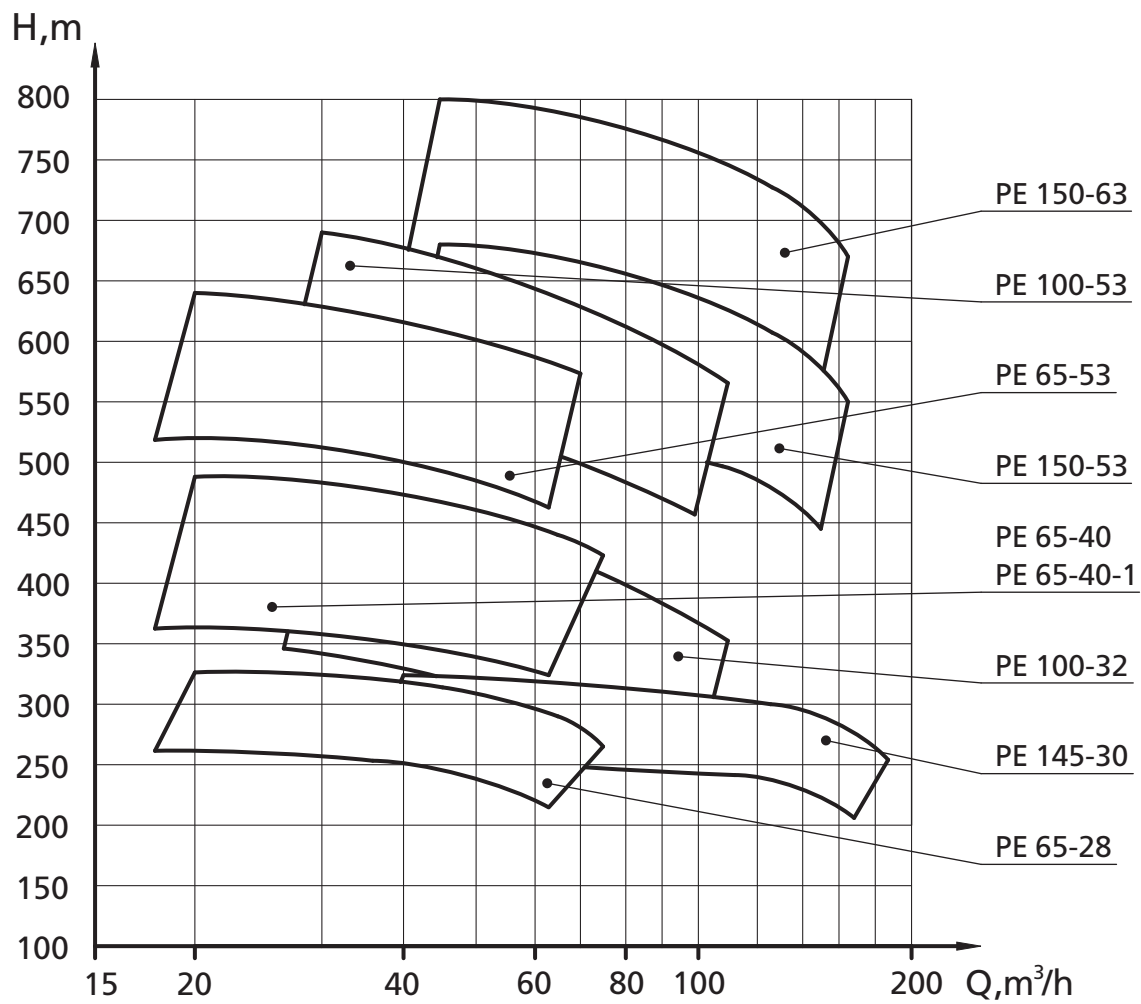
This is a centrifugal, horizontal, multistage single-casing pump with the one-sided impellers location, with a sectional internal housing and electric motor. Rotor supports are oil-ring sleeve bearings. End seals are stuffing box or mechanical seal.



TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
PE 65-28	65	290	3000	110
PE 65-40	65	440	3000	132
PE 65-40-1	51	425	3000	132
PE 65-53	65	580	3000	200
PE 100-32	100	330	3000	160
PE 100-53	100	580	3000	315
PE 145-30	145	293	3000	200
PE 150-53	150	580	3000	500
PE 150-63	150	700	3000	500

PERFORMANCE RANGE



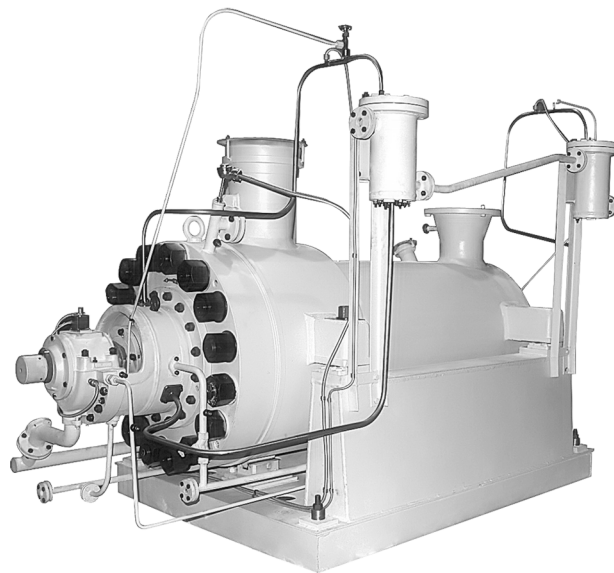
PE TYPE SINGLE-CASING AND BARREL FEED PUMPS

APPLICATION

The pumps are intended to feed land-type boilers of fossil-fuel thermal power stations with water heated up to 165 °C.

DESIGN

This is a centrifugal, horizontal, multistage single-casing or barrel pump, with the one-sided impellers location, with a sectional internal housing and electric motor. Rotor supports are sleeve bearings with forced lubrication. End seals are stuffing box or mechanical seal. The PE 380 and PE 580 type pumps may be operated with or without a hydraulic coupling.

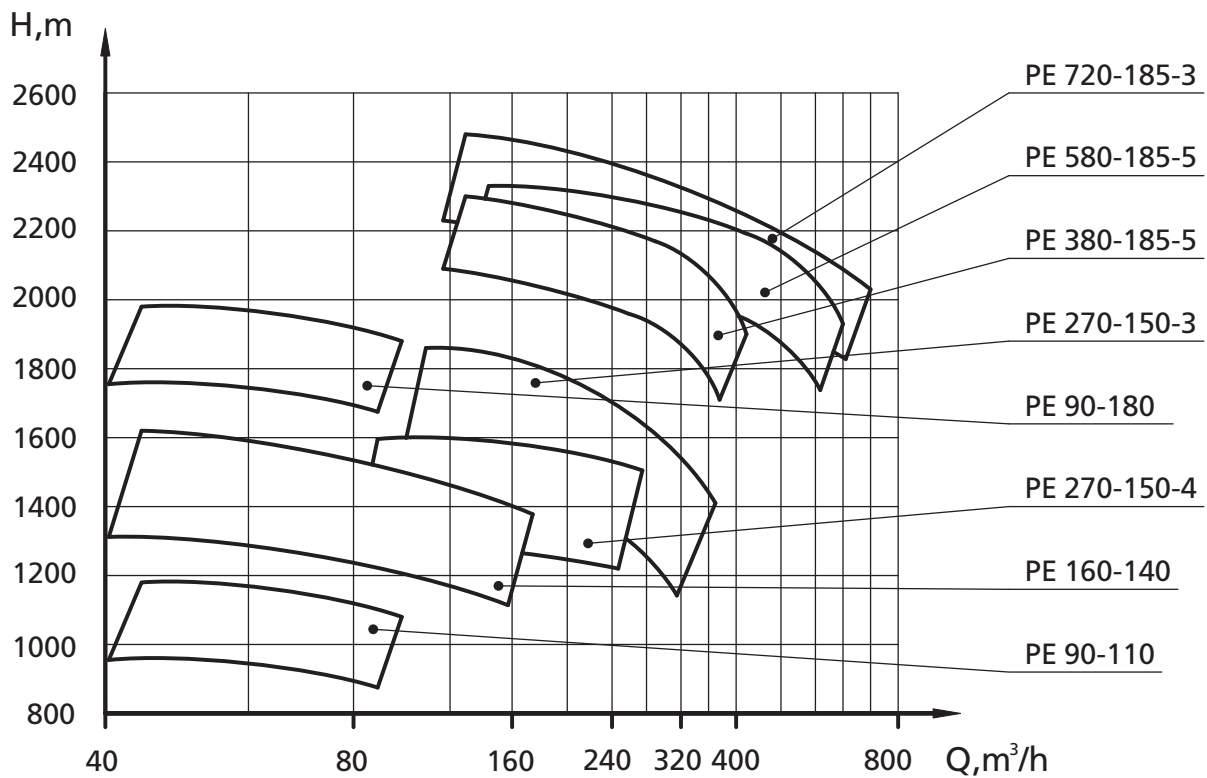


TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
PE 90-110	90	1100	3000	500
PE 90-110	100	1100	3000	630
PE 90-180	90	1900	3000	800
PE 160-140	160	1400	3000	1000
PE 270-150-3	270	1650	3000	2000
PE 270-150-4	248	1524	3000	1600
PE 380-185-5	380	2030	3000	3150

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
PE 380-200-5	380	2190	3000	3150
PE 580-185-5	580	2030	3000	4000
PE 580-195-5	580	2150	3000	5000
PE 710-280	710	280	3000	800
PE 720-185-3	720	2030	3000	5000

PERFORMANCE RANGE



PE TYPE FEED PUMPS FOR COMBINED-CYCLE PLANTS

APPLICATION

Modern PE type feed pumps and APE type pump units based on these pumps are intended to supply feed water at a temperature of up to 180 °C to heat-recovery boilers in power facilities operating combined-cycle/steam plants.

DESIGN

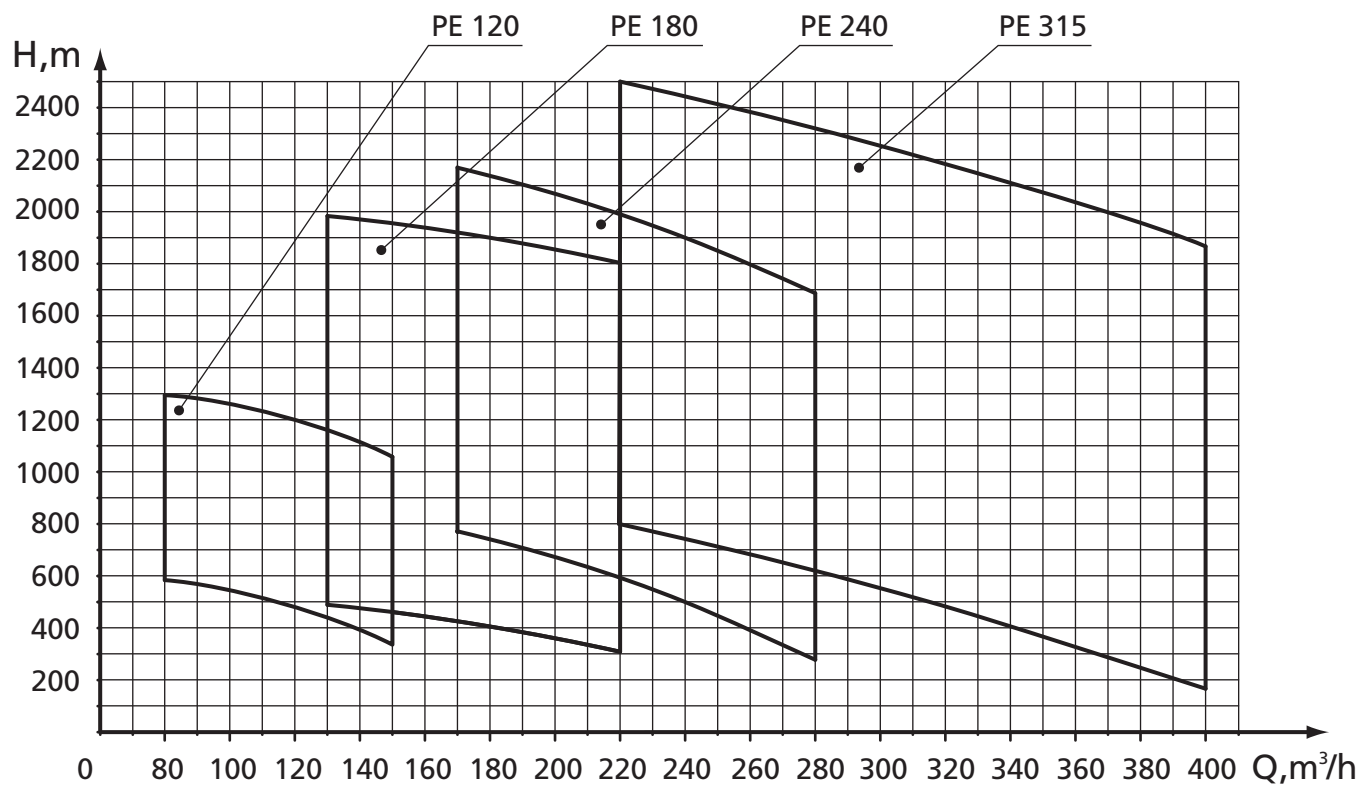
This is a centrifugal, horizontal, sectional, multistage pump with the one-sided liquid input to the first stage. Axial thrust acting on the pump rotor is relieved with the help of a hydraulic balancing device. Rotor supports are sleeve bearings with oil bath or forced lubrication. Mechanical seals are used as rotor end seals. The pump pipes are flanged and faced vertically upwards.



TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	net positive suction head, m
PE 120	120	до 1200	3000	5,5
PE 180	180	до 1900	3000	7
PE 240	240	до 1900	3000	8
PE 315	315	до 2200	3000	9

PERFORMANCE RANGE



PTN 1150-350 TURBINE FEED PUMP

APPLICATION

The pump is intended to supply feed water at a temperature of up to 177 °C to boilers of 250-300 MW output units of thermal power plants.

A variable speed steam turbine is used as a driver. The speed range is from 3530 up to 5300 rpm.

TECHNICAL PARAMETERS

pump model	capacity, m³/h	head, m	rotation speed, rpm	power input, kW
PTN 1150-350	1150	3324	5045	11222

PRIMING /STANDBY FEED PUMPS

APPLICATION

Priming/standby pumps are intended to supply water at a temperature of up to 165 °C to land-type boilers of thermal power plants during starts and shutdowns of units and used as standby pumps while a main feed pump is shut down.

DESIGN

This is a centrifugal, horizontal, multistage, barrel pump, with the one-sided impellers location, with a sectional internal housing and electric motor.

Rotor supports are sleeve bearings with forced lubrication. End seals are mechanical seals.

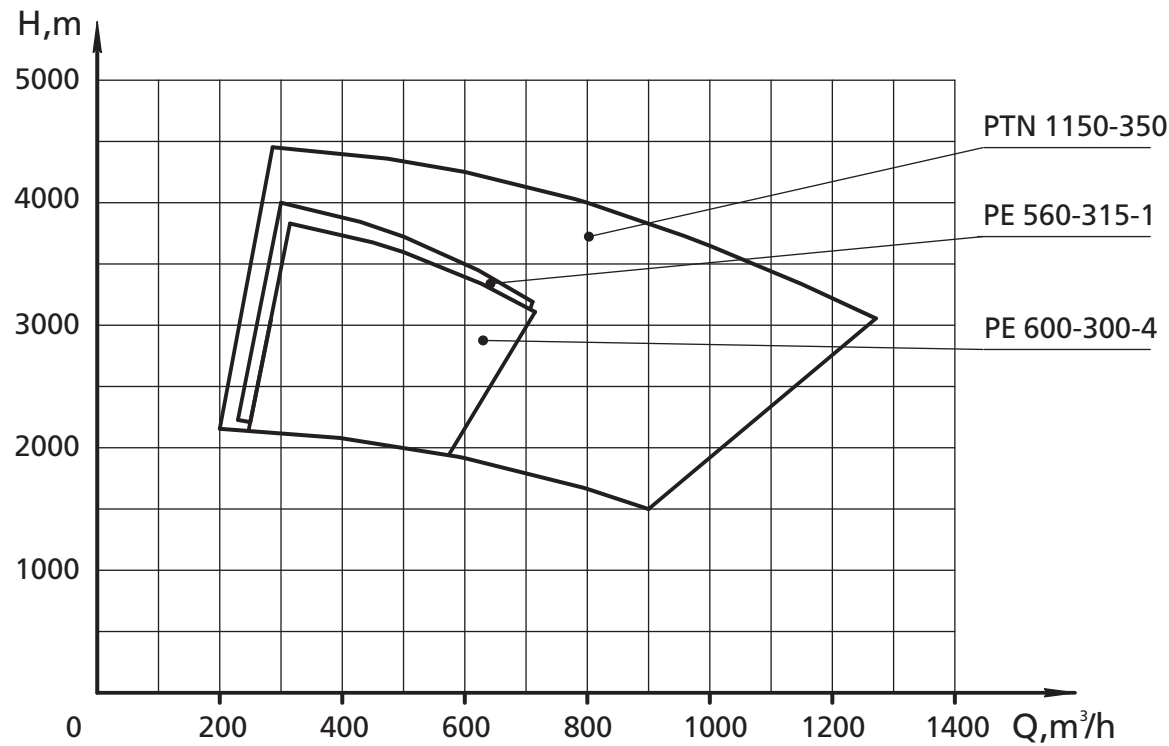
4- version pumps have the suction and discharge pipes faced downwards, and 5-version pumps have the suction and discharge pipes faced upwards.

Pumps are operated along with the MGLM-710 hydraulic coupling.

TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
PE 600-300-4	600	3290	6300	8000
PE 600-300-5	600	3290	6300	8000
PE 560-315-1	580	3500	6300	8000

PERFORMANCE RANGE



PD TYPE PRIMARY PUMPS

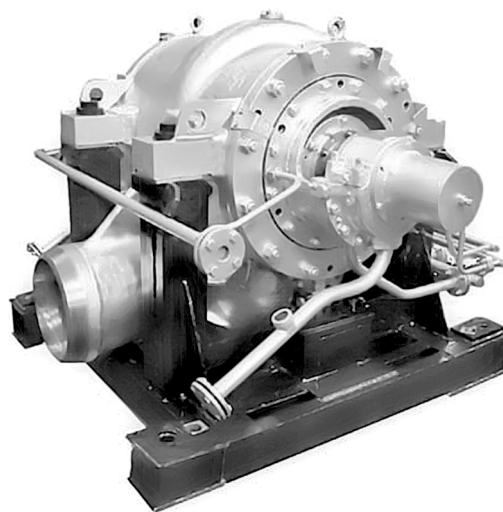
APPLICATION

The pump is intended to supply water at a temperature of up to 165 °C to feed pumps of power-generating units of thermal power plants to provide their cavitation-free operation.

DESIGN

The PD 650-160 pump is a centrifugal, horizontal, single-stage pump, with a double inlet impeller, with oil-ring sleeve bearings and stuffing box end seals, and electric motor driven. The pump pipes are directed horizontally, in opposite directions.

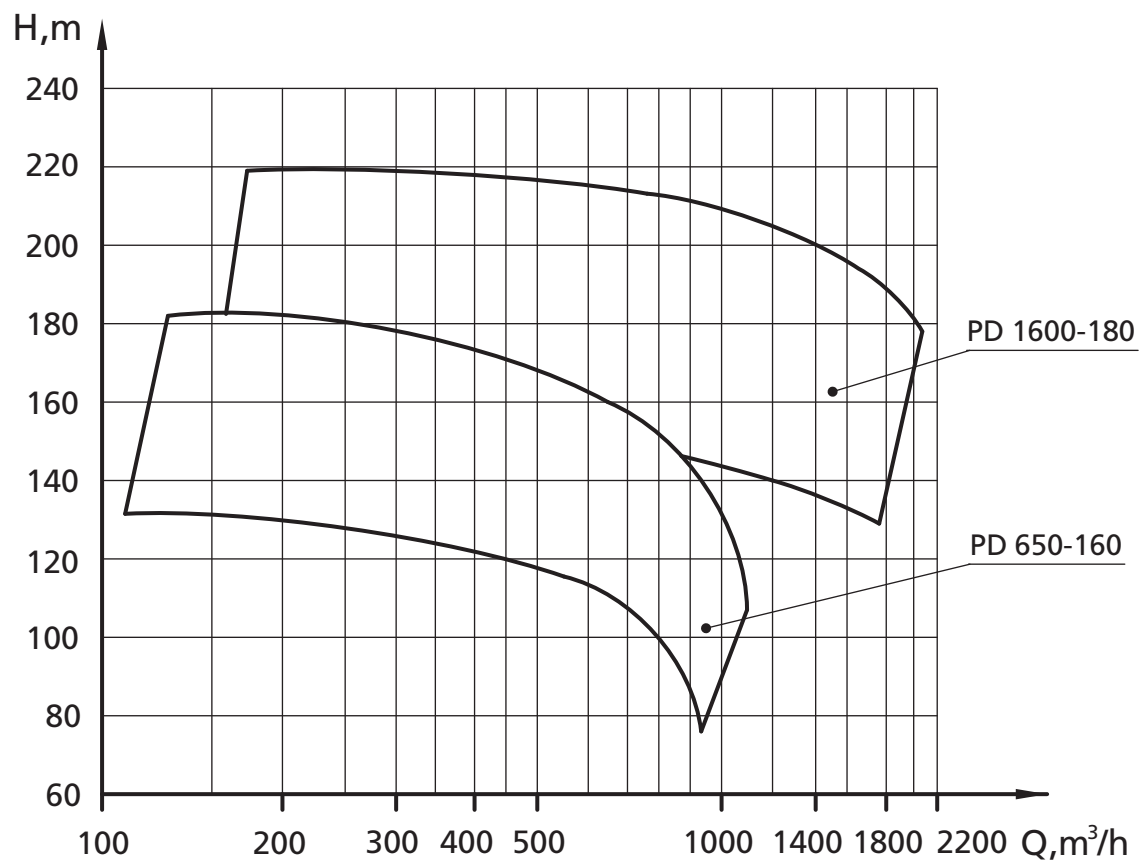
The PD 1600-180-2 type pump is a horizontal, single-stage pump, with a double inlet impeller, sleeve bearings with forced lubrication and mechanical end seals, turbine driven. The discharge pipe is directed horizontally sideways, the suction pipe is faced vertically downwards.



TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	power input, kW
PD 650-160	650	158	2980	324
PD 1600-180-2	1660	194	2063	954
PD 1600-180-2a	1050	184	2092	633
PD 1600-180-2b	1240	158	1995	618

PERFORMANCE RANGE



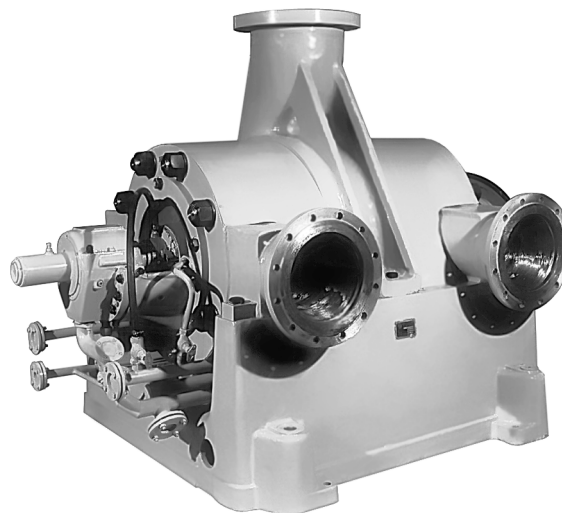
MSK TYPE BOILER ACID WASHING PUMPS

APPLICATION

The pumps are intended for washing power-generating unit boilers of thermal power plants with acid solution at a temperature of up to 120 °C.

DESIGN

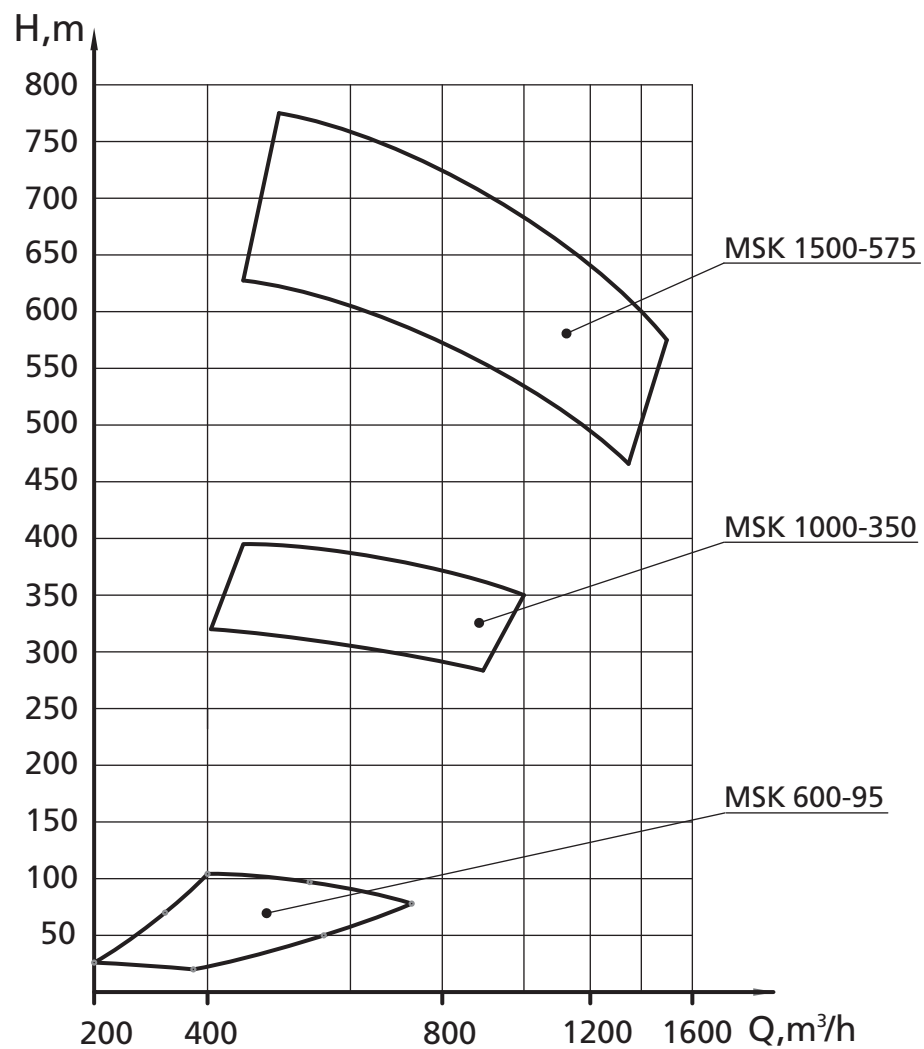
This is a centrifugal, sectional, horizontal, single-casing pump with forced lubrication sleeve bearings, with stuffing box end seals and electric motor.



TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
MSK 600-95	600	95	1500	315
MSK 1000-350	1000	350	3000	1600
MSK 1500-575	1500	575	3000	3150

PERFORMANCE RANGE



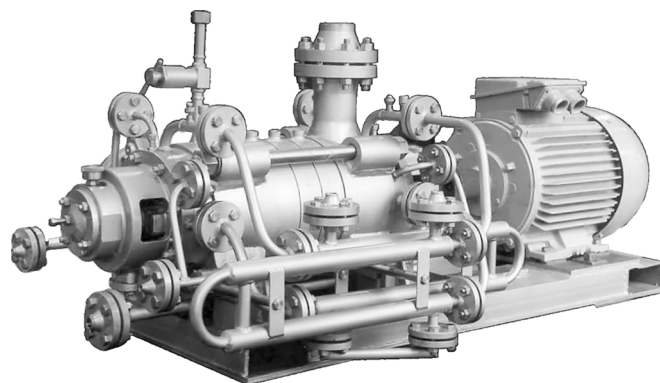
Ks TYPE CONDENSATE PUMPS

APPLICATION

The pumps are intended for pumping condensate in water-steam networks of fossil-fuel thermal power plants, as well as for water pumping in heat/water supply systems.

DESIGN

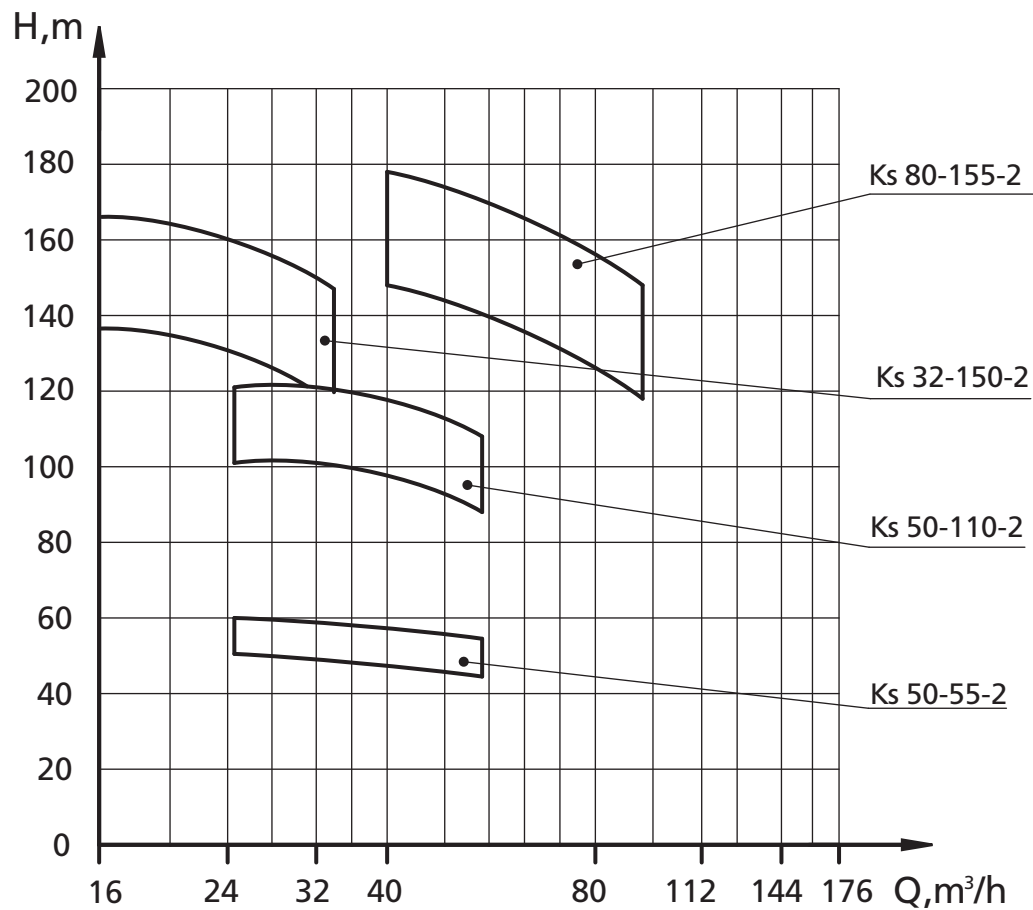
The Ks type pump is a horizontal, single-casing, sectional pump with one-sided input impellers and electric motor. End seals are stuffing boxes or mechanical seals. The rotor is supported with rolling bearings.



TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
Ks 32-150-2	32	150	3000	22
Ks 50-55-2	50	55	3000	15
Ks 50-110-2	50	110	3000	30
Ks 80-155-2	50	155	3000	55

PERFORMANCE RANGE



KsV TYPE CONDENSATE PUMPS

APPLICATION

The pumps are intended for pumping condensate in water-steam networks of fossil-fuel thermal power plants, as well as for water pumping in heat/water supply systems.

DESIGN

The KsV type pump is a vertical, barrel, sectional pump with an internal housing consisting of a rotor, stator parts, stuffing box or mechanical seal end seals, bearings and electric motor.

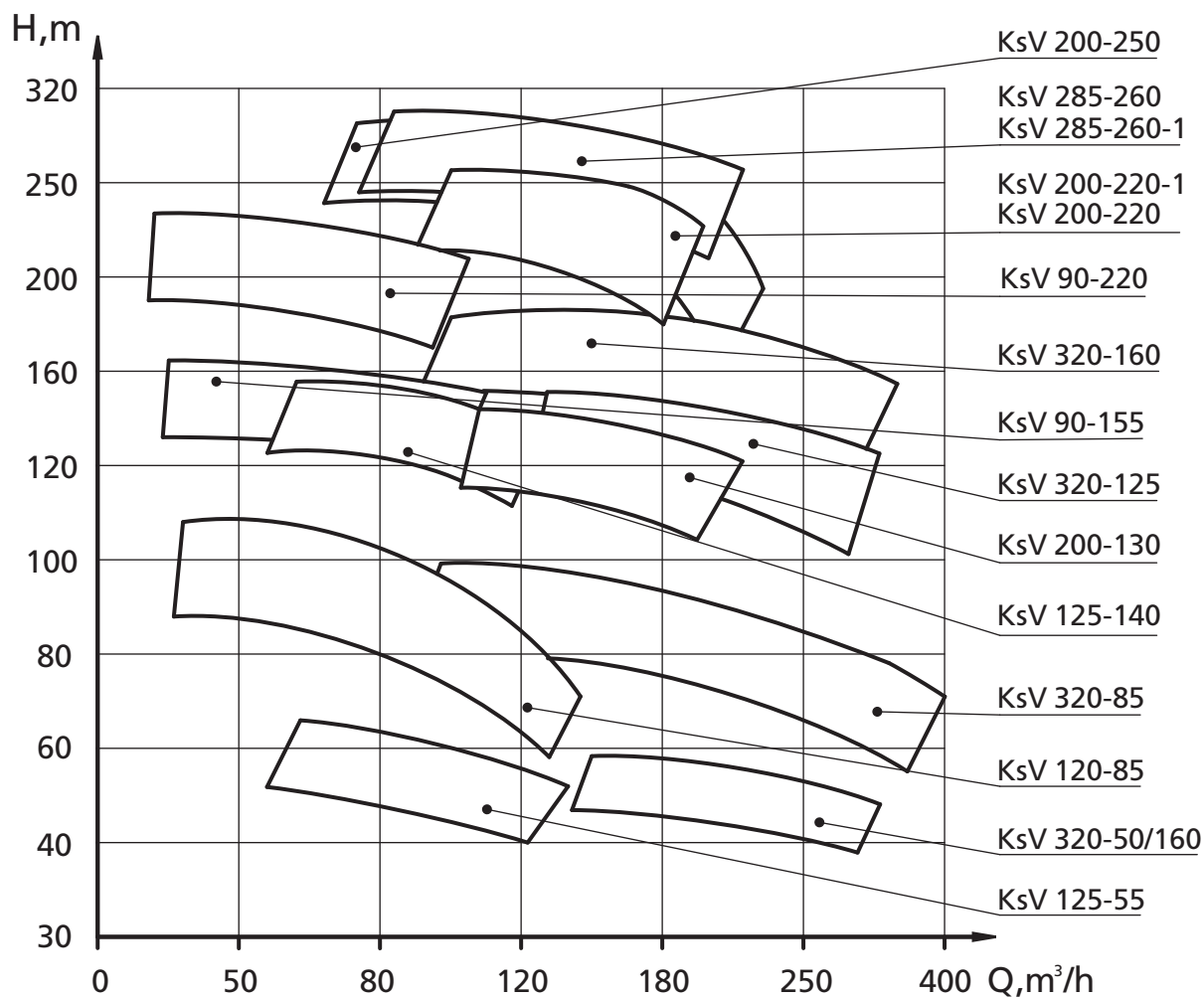


TECHNICAL PARAMETERS

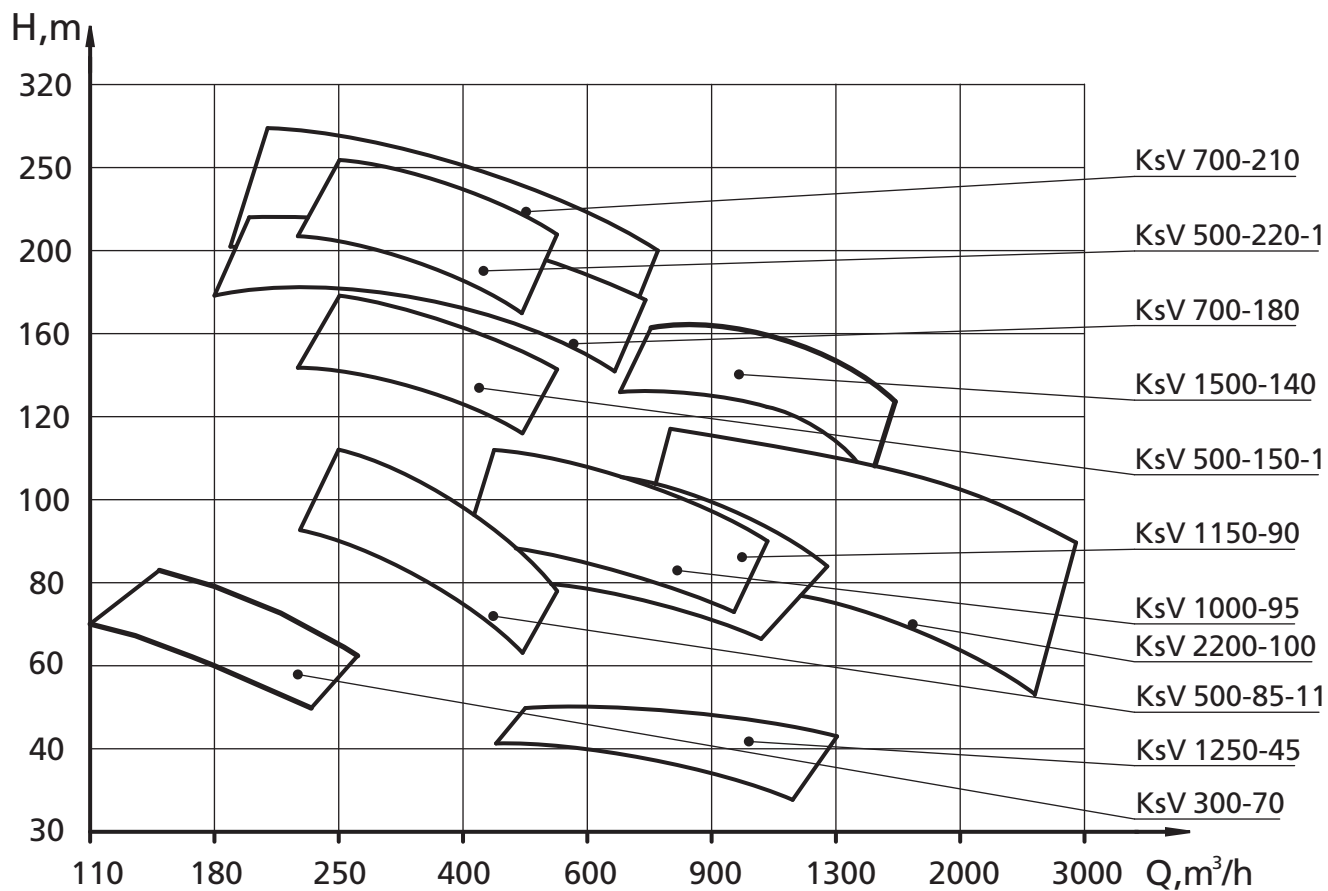
pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
KsV 90-155	90	155	3000	75
KsV 90-220	90	220	3000	110
KsV 120-85	120	85	3000	55
KsV 125-55	125	55	3000	30
KsV 125-55a	125	45	3000	30
KsV 125-556	125	40	3000	30
KsV 125-140	125	140	3000	75

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
KsV 125-140a	125	125	3000	75
KsV 125-140b	125	100	3000	55
KsV 200-130	200	130	3000	110
KsV 200-130a	200	115	3000	110
KsV 200-130b	200	99	3000	110
KsV 200-220	200	220	1500	250
KsV 200-220-1	200	220	1500	250
KsV 200-250	200	250	1500	250
KsV 285-260	336	260	1500	400
KsV 285-260-1	335	238	1500	400
KsV 300-70	230	70	1000	75
KsV 320-85	320	85	1500	132
KsV 320-125	320	125	1500	160
KsV 320-50/160	320	50/160	1500	315
KsV 320-160-2	320	160/100	1500	250
KsV 320-160-3	320	160/100	1500	250
KsV 500-85-1	500	85	1000	200
KsV 500-150-1	500	150	1500	315
KsV 500-220-1	500	220	1500	500
KsV 700-180	700	180	1500	500
KsV 700-210	700	210	1500	630
KsV 1000-95	1000	95	1000	400
KsV 1150-90	1150	90	1500	500
KsV 1150-90a	925	90	1500	500
KsV 1250-45	1250	45	1500	250
KsV 1250-45a	975	45	1500	250
KsV 1500-140	1500	140	1500	1000
KsV 2200-100	2200	100	1500	1000

PERFORMANCE RANGE



PERFORMANCE RANGE



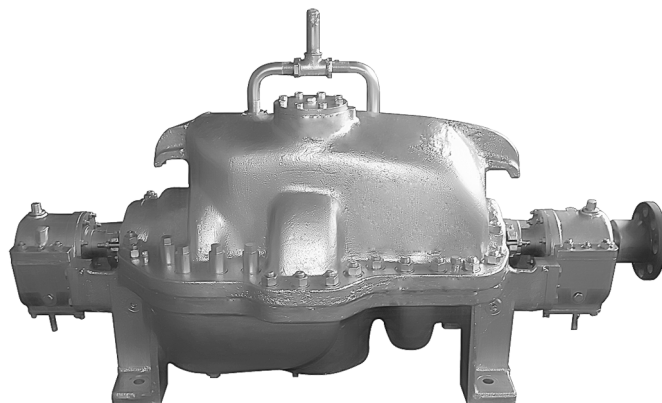
KsD TYPE CONDENSATE PUMPS

APPLICATION

The pumps are intended for pumping condensate in water-steam networks of fossil-fuel thermal power plants, as well as of liquids similar to condensate by viscosity, chemical activity and solids content.

DESIGN

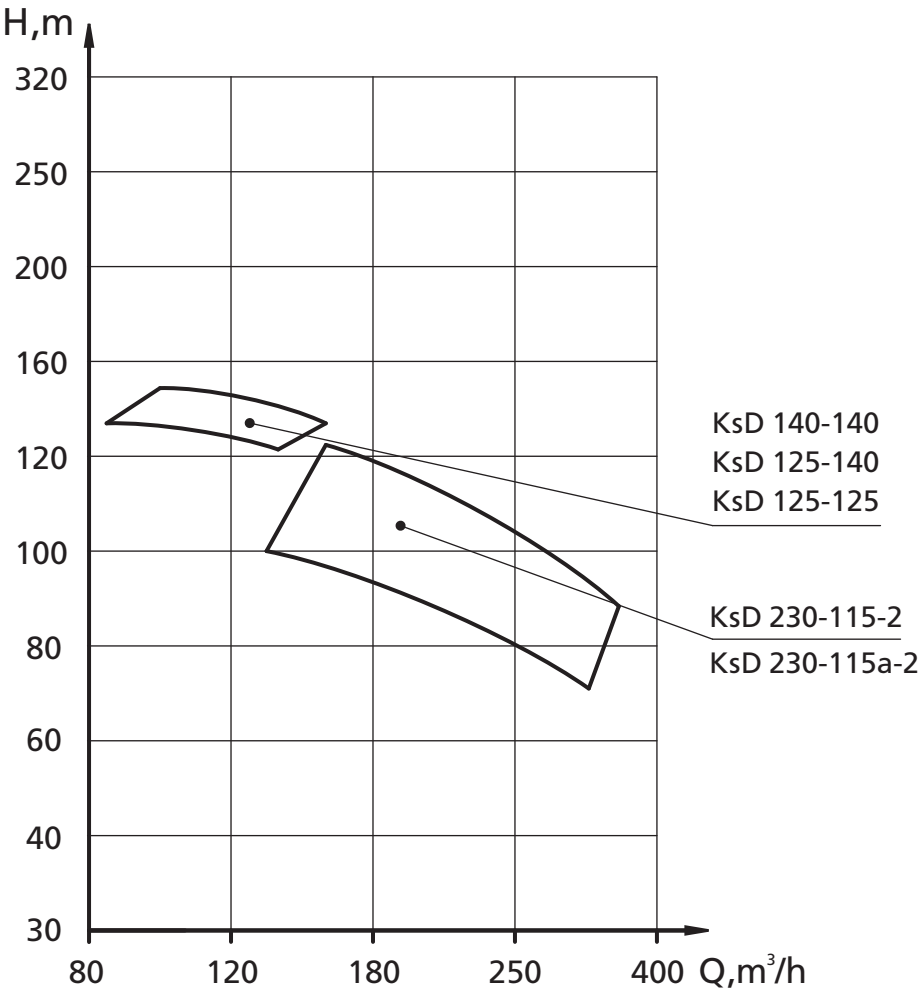
This is a centrifugal, horizontal, three-stage pump with the semi-helical input, helical output and a double-sided impeller of the first stage, with stuffing box end seal, rolling bearings and electric motor.



TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
KsD 140-140	140	140	1500	110
KsD 125-140	125	140	1500	110
KsD 125-125	125	125	1500	90
KsD 230-115-2	230	115	1000	160
KsD 230-115a-2	210	95	1000	160

PERFORMANCE RANGE



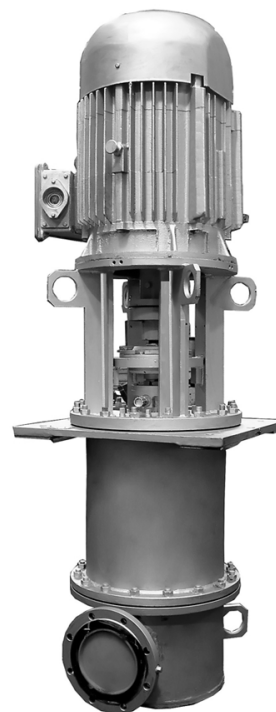
1KsV TYPE CONDENSATE PUMPS

APPLICATION

The 1KsV type pump units are intended for pumping condensate or fresh water at a temperature of up to 160 °C at pH 6.8-9.2, with not more than 5 mg/l solids content, particle size is up to 0.1 mm, particle micro hardness is not more than 6.5 GPa.

DESIGN

The unit consists of a pump and an electric motor connected with a pin flexible coupling. The main (fast-speed) pump rotor has one or two impellers. Rotor supports are rolling and sleeve bearings. A double mechanical seal and the pin flexible coupling are mounted onto the main rotor shaft. A turbine and a booster impellers are mounted on the slow-speed rotor. The slow-speed rotor is driven by the turbine impeller located in the flow of liquid to be pumped by the fast-speed rotor impeller. The slow-speed rotor rotates on its own sleeve bearings combined with a hydraulic balancing device. The pump features increased suction capacity.

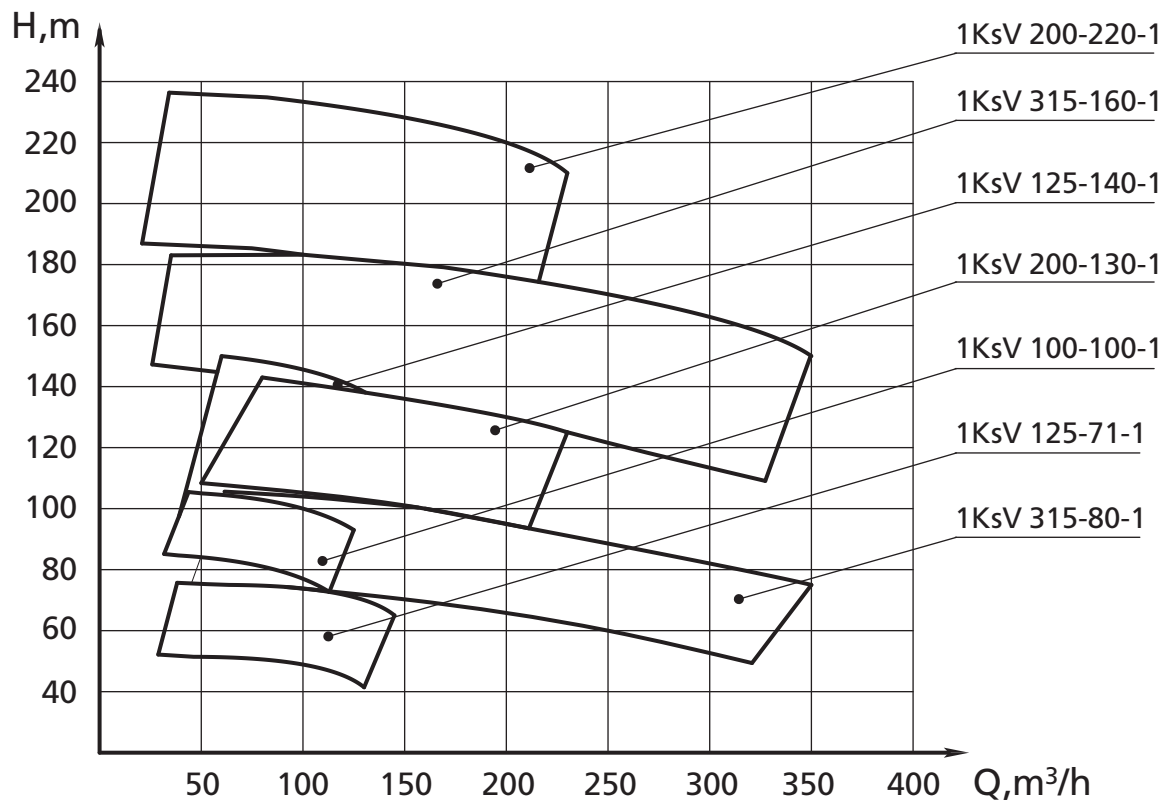


TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	net positive suction head, m	motor power, kW
1KsV 125-140-1	125	140	3000	1,0	90
1KsV 100-100-1	100	100	3000	1,0	75
1KsV 125-71-1	125	71	3000	1,0	45

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	net positive suction head, m	motor power, kW
1KsV 200-130-1	200	130	3000	1,4	132
1KsV200-220-1	200	220	3000	1,4	250
1KsV 315-80-1	315	80	3000	1,4	110
1KsV 315-160-1	315	160	3000	1,4	250

PERFORMANCE RANGE



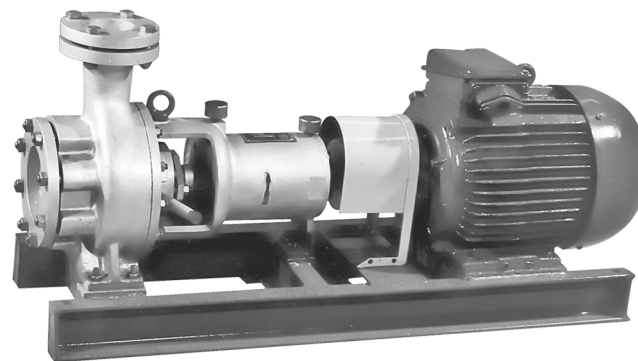
KO/2KO/3KO TYPE CONDENSATE PUMPS

APPLICATION

The pumps are intended for pumping condensate in water-steam networks of fossil-fuel thermal power plants, as well as for water pumping in heat/water supply systems.

DESIGN

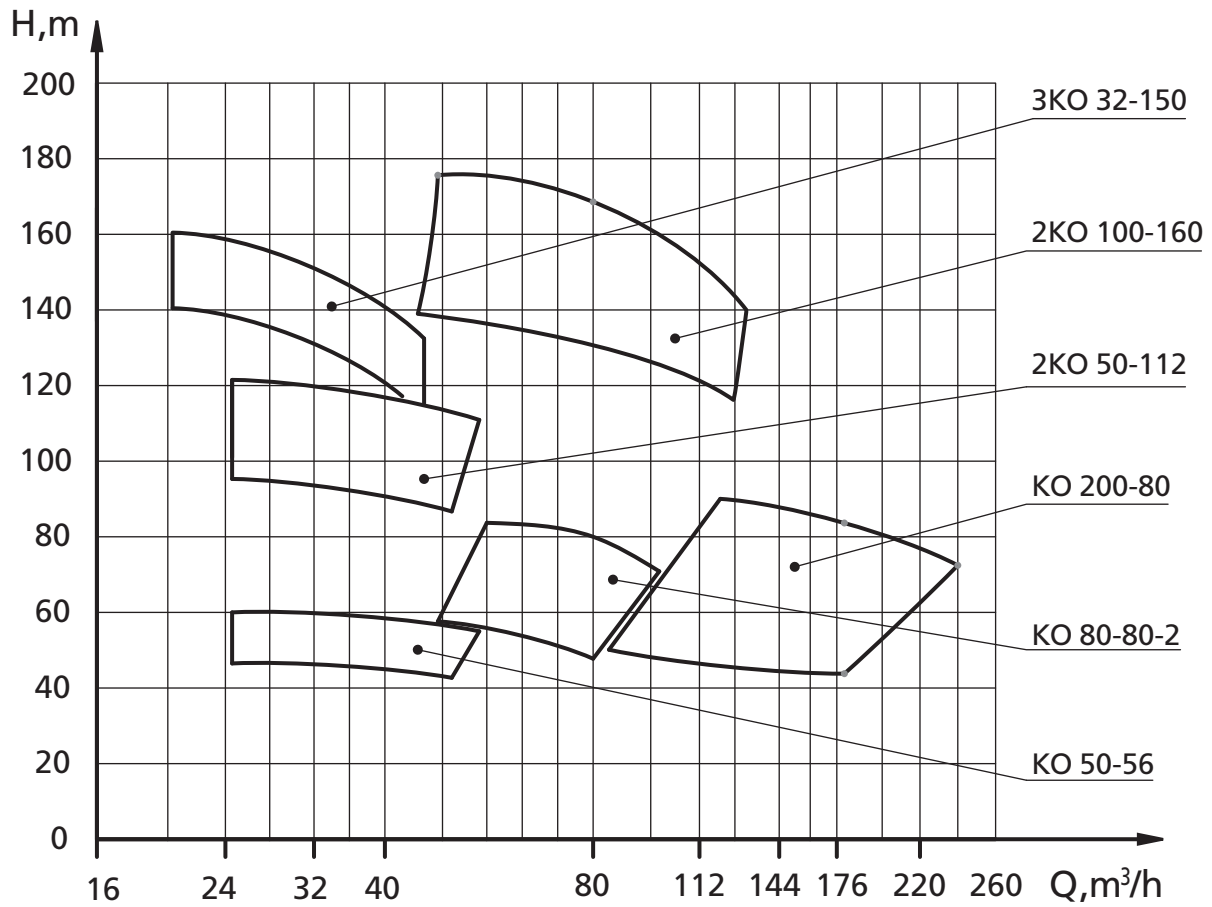
These are centrifugal, horizontal, cradle-mounted, single-stage (KO), two-stage (2KO) and three-stage (3KO) pumps, with the axial input, stuffing boxes, with rolling bearings and electric motor.



TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
KO 50-56	50	56	3000	15
KO 50-56a	50	48	3000	15
KO 50-56b	50	41	3000	15
KO 80-80-2	80	80	3000	37
KO 200-80	200	80	3000	75
2KO 50-112	50	112	3000	30
2KO 50-112a	50	97	3000	30
2KO 50-112b	50	80	3000	30
2KO 100-160	100	160	3000	75
3KO 32-150	32	150	3000	30

PERFORMANCE RANGE



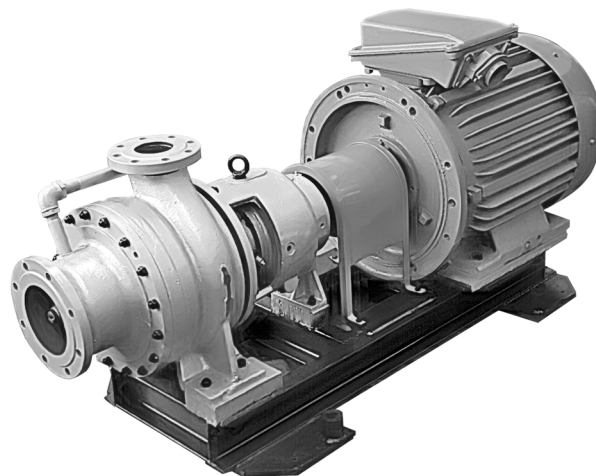
KOSH/2KOSH TYPE CONDENSATE PUMPS

APPLICATION

The pumps are intended for pumping condensate in water-steam networks of fossil-fuel thermal power plants, as well as for water pumping in heat/water supply systems.

DESIGN

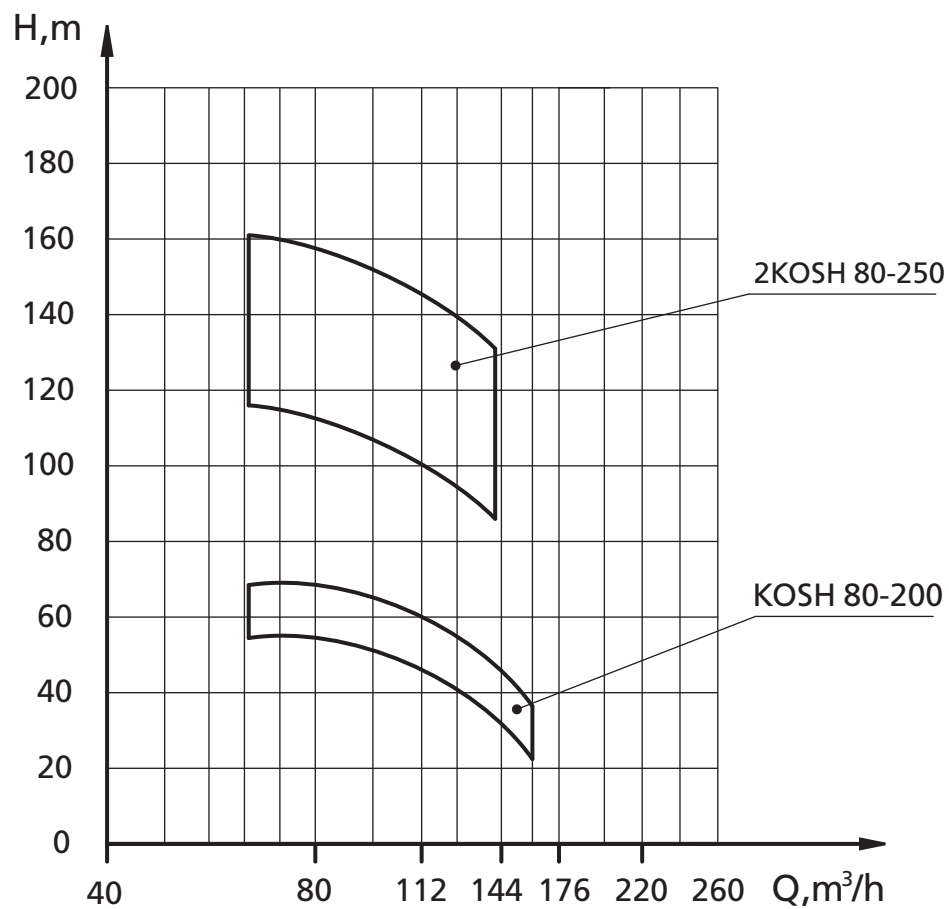
These are centrifugal, horizontal, cradle mounted, single-stage (KOSH), two-stage (2KOSH) pumps, with a primary impeller, with the axial input, stuffing box, rolling bearings and electric motor.



TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
KOSH 80-200	125	55	3000	30
2KOSH 80-250	125	140	3000	75

PERFORMANCE RANGE



SE TYPE MAIN-LINE PUMPS

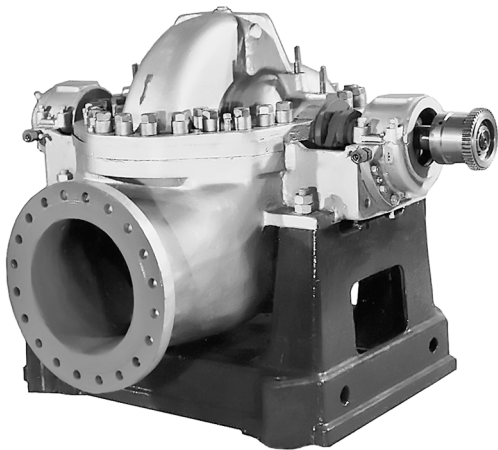
APPLICATION

The pumps are intended for pumping water at a temperature of up to 160 °C in heat networks.

DESIGN

This is a centrifugal, horizontal, single-stage (SE 800-100-11/SE 1250-140-11 are two-stage pumps), volute-type pump, with double-sided input impeller

and electric motor. Rotor supports are forced lubrication/oil ring sleeve or rolling bearings. End seal is stuffing box or mechanical seal.



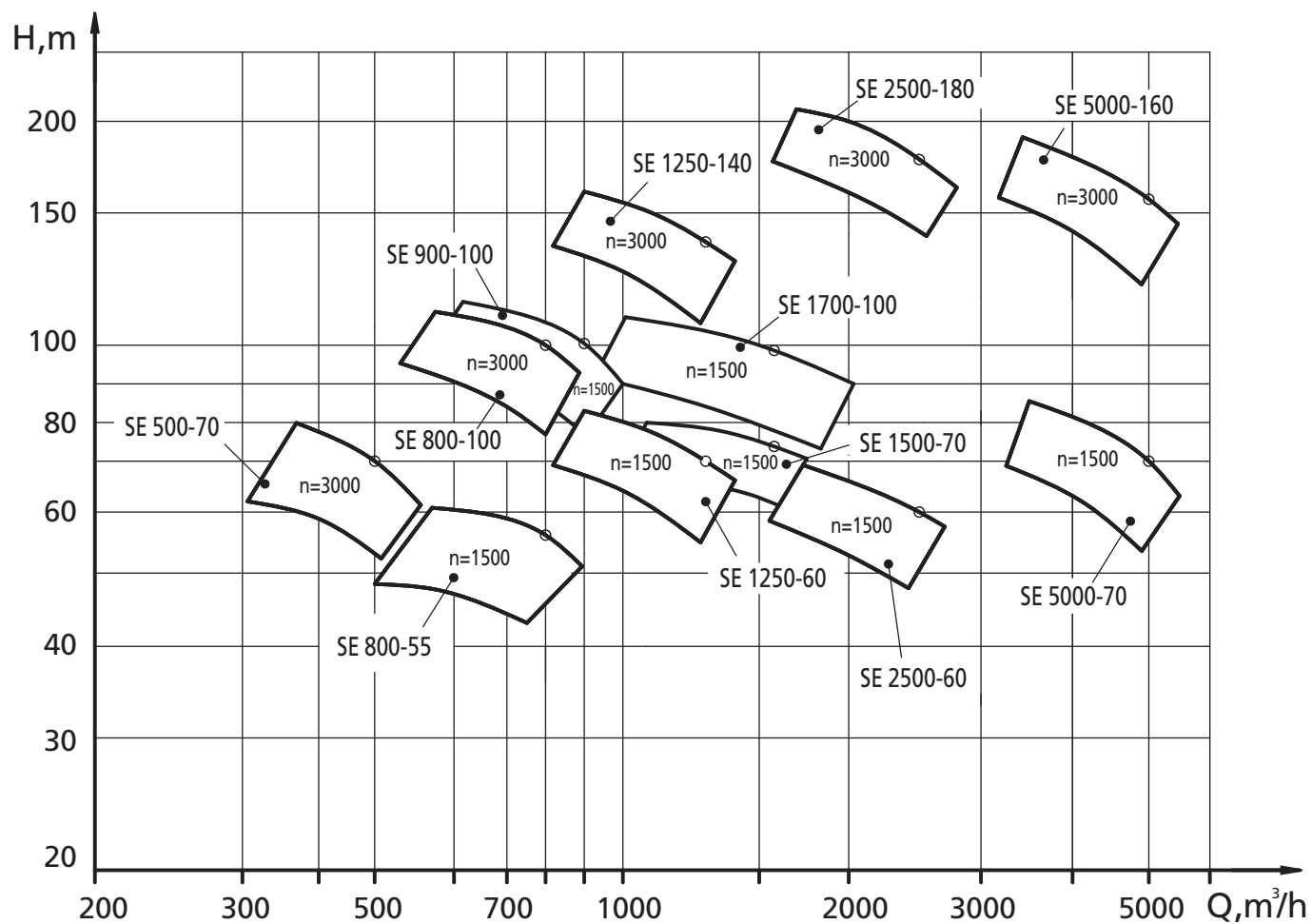
TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
SE 500-70-16*	500	70	3000	160
SE 800-55-11	800	55	1500	200
SE 800-100-8*	800	100	3000	315
SE 800-100-11*	800	100	1500	315
SE 900-100	900	100	1500	315
SE 1250-45-11	1250	45	1500	200
SE 1250-70-11*	1250	70	1500	315
SE 1250-140-8*	1250	140	3000	800
SE 1250-140-11*	1250	140	1500	630
SE 1500-70	1500	70	1500	500
SE 1700-100	1700	100	1500	800
SE 2500-60-8	2500	60	1500	630
SE 2500-60-11-1	2500	60	1500	630
SE 2500-60-16**	2500	60	1500	630
SE 2500-150-25	2500	100	1500	1250
SE 2500-180-8	2500	180	3000	1600
SE 2500-180a-8	2500	130	3000	1250
SE 2500-180-8-02	1250	45	1500	250
SE 2500-180-10	2500	180	3000	1600
SE 2500-180-25**	2500	180	3000	1600
SE 5000-70-5	5000	70	1500	1250
SE 5000-160-8	5000	160	3000	3150
SE 5000-160-10	5000	160	3000	3150
SE 5000-160-25**	5000	160	3000	3150

* End seal is stuffing box or mechanical seal.

** End seal is mechanical seal.

PERFORMANCE RANGE



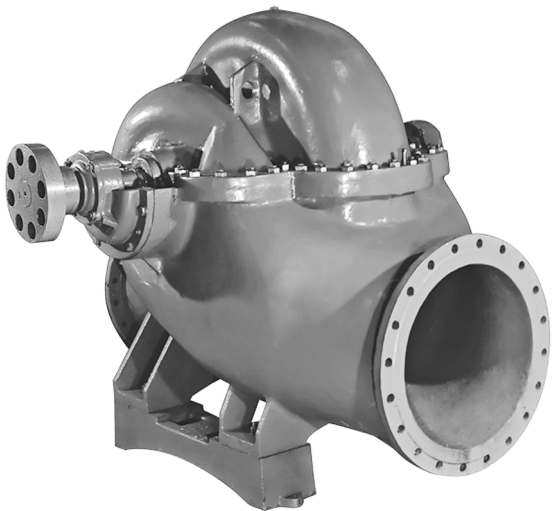
D TYPE CIRCULATING PUMPS

APPLICATION

The pumps are intended for pumping water and other liquids similar to water by viscosity (up to 36 cSt) and chemical activity, at a temperature of up to 85 °C, with not more than 0.05 % solids content, maximal particle size is not more than 0.2 mm, and particle micro hardness is not more than 650 kgf/mm².

DESIGN

This is a single-stage pump with the horizontal casing split. The impeller has double-sided input. Rotor supports are rolling bearings. The suction and discharge pipes are located in the casing bottom part, which allows disassembling the pump without dismounting matched pipeline sections.



TECHNICAL PARAMETERS

pump model	capacity, m³/h	head, m	rotation speed, rpm	motor power, kW
D 160-112M	160	122	2900	84
D 160-112	160	112	2900	76
D 160-112a	150	100	2900	62
D 160-112b	135	80	2900	45
D 160-112m	90	29,5	1450	12
D 160-112	80	28	1450	10
D 160-112a	70	25	1450	8

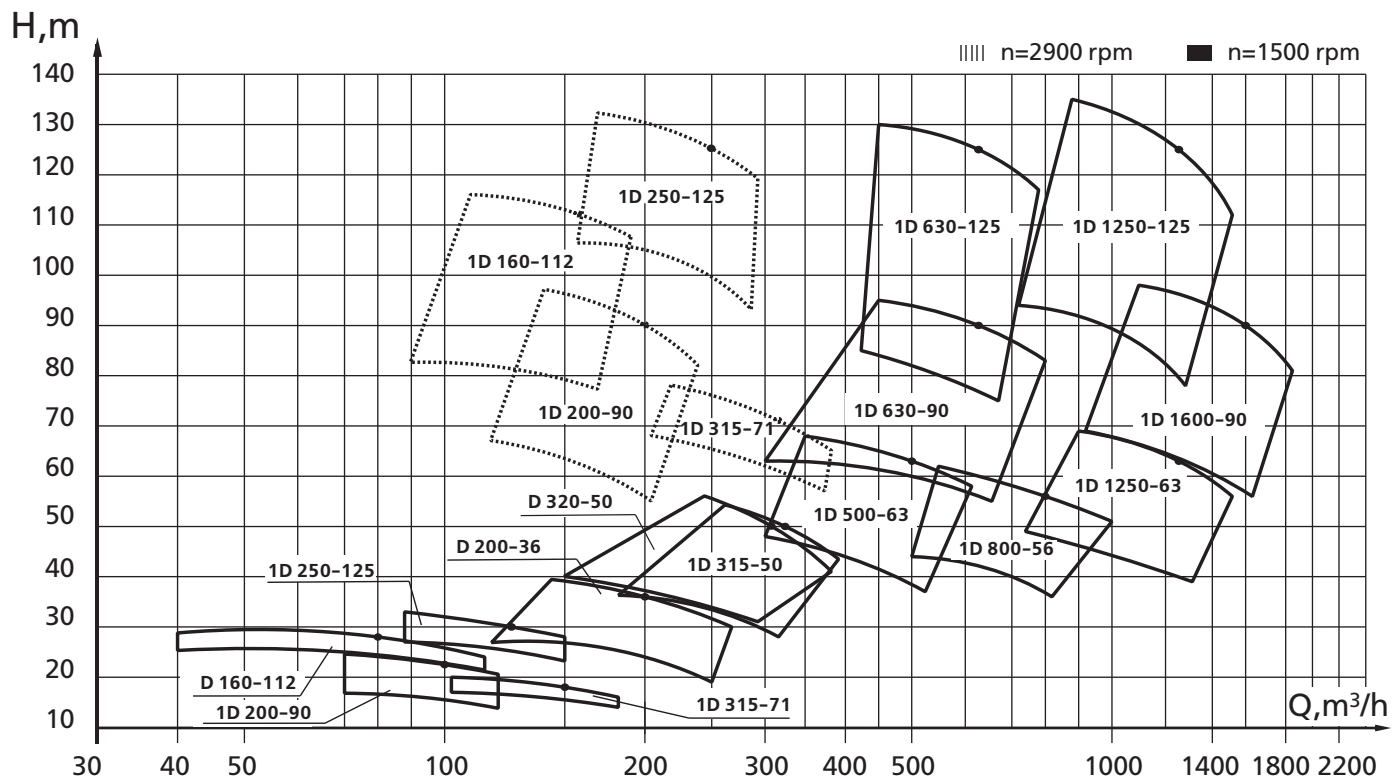
pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
D 200-36	200	36	1450	28
D 200-36a	190	29,7	1450	22
D 200-36b	180	25	1450	17
D 320-50	320	50	1450	62
D 320-50a	300	39	1450	44
D 320-50b	300	30	1450	36
1D 200-90	200	90	2900	72
1D 200-90a	180	74	2900	54
1D 200-90b	160	62	2900	37
1D 200-90	100	22,5	1450	8,5
1D 250-125	250	125	2900	130
1D 250-125a	240	101	2900	85
1D 250-125	125	30	1450	24
1D 315-50	315	50	2900	63
1D 315-50a	300	42	2900	47
1D 315-50b	230	36	2900	32
1D 315-71	315	71	2900	86
1D 315-71a	300	62	2900	72
1D 315-71	150	18	1450	14,5
1D 500-63	500	63	1450	120
1D 500-63a	450	53	1450	90
1D 500-63b	400	44	1450	70
1D 630-90	630	90	1450	200
1D 630-90a	550	74	1450	150
1D 630-90b	500	60	1450	120
1D 630-90	500	38	980	74

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
1D 630-90a	470	30	980	59
1D 630-90b	420	25	980	42
1D 630-125	630	125	1450	305
1D 630-125a	550	101	1450	220
1D 630-125b	500	82	1450	190
1D 800-56	800	56	1450	150
1D 800-56a	740	48	1450	123
1D 800-56b	700	40	1450	100
1D 1250-63	800	28	980	82
1D 1250-63a	740	24	980	64
1D 1250-63b	710	20	980	47
1D 1250-63	1250	63	1450	265
1D 1250-63a	1100	52,5	1450	190
1D 1250-63b	1050	44	1450	165
1D 1250-125	1250	125	1450	545
1D 1250-125a	1150	102	1450	435
1D 1250-125b	1030	87	1450	350
1D 1600-90	1000	40	980	140
1D 1600-90a	970	34	980	104
1D 1600-90b	870	30	980	84
1D 1600-90	1600	90	1450	470
1D 1600-90a	1450	75	1450	360
1D 1600-90b	1300	63	1450	280
2D 2000-21	1250	13	730	56
2D 2000-21a	1250	10	730	42
2D 2000-21	2000	21	980	145
2D 2000-21a	1750	18	980	99

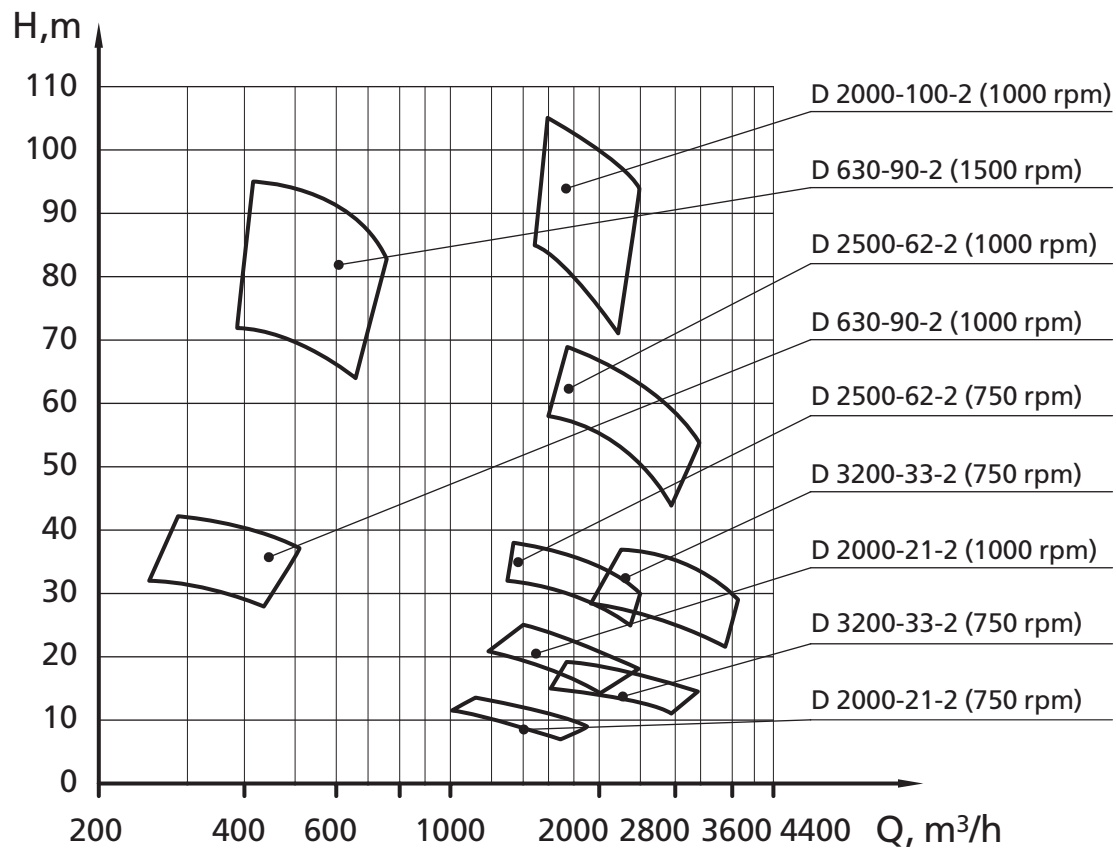
pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
D 630-90-2	630	90	630	188
	420	40	420	56
D 630-90a-2	490	80	490	160
	390	35	390	46
D 630-90b-2	550	68	550	130
	365	30	365	37
D 2000-21-2	2000	21	2000	130
	1600	11	1600	55
D 2000-21a-2	1850	19	1850	110
	1500	10	1500	50
D 2000-21b-2	1700	17	1700	90
	1400	9	1400	40
D 2000-100-2	2000	100	2000	665
D 2000-100a-2	1900	88	1900	577
D 2000-100b-2	1800	80	1800	510
D 2500-62-2	2500	62	2500	480
	2000	34	2000	210
D 2500-62a-2	2300	52	2300	380
	1900	29	1900	175
D 3200-33-2	3200	33	3200	320
	2500	17	2500	130
D 3200-33a-2	3000	29	3000	270
	2400	15	2400	110
D 3200-33b-2	2800	25	2800	220
	2300	13	2300	95

pump model	capacity, m³/h	head, m	rotation speed, rpm	motor power, kW
D 3200-75-2	3200	75	3200	740
	2500	42	2500	325
D 3200-75a-2	3000	65	3000	615
	2300	35	2300	255
D 4000-95-2	4000	95	4000	1170
	3200	50	3200	495
D 4000-95a-2	3700	82	3700	955
	3000	45	3000	425
D 6300-27-3	6300	27	6300	515
	5000	17	5000	260
D 6300-27-3-1	5000	32	5000	485
	4000	20	4000	240
D 6300-27a-3	5800	24	5800	430
	4620	15	4620	215
D 6300-27b-3	5450	22	5450	380
	4350	14	4350	195
D 6300-80-2	6300	80	6300	1550
	5000	50	5000	770
D 6300-80a-2	5900	70	5900	1300
	4700	45	4700	665
D 6300-80b-2	5500	60	5500	1060
	4000	38	4000	540
D 12500-10	12500	24	495	929
D 12500-24	12500	10	372	426

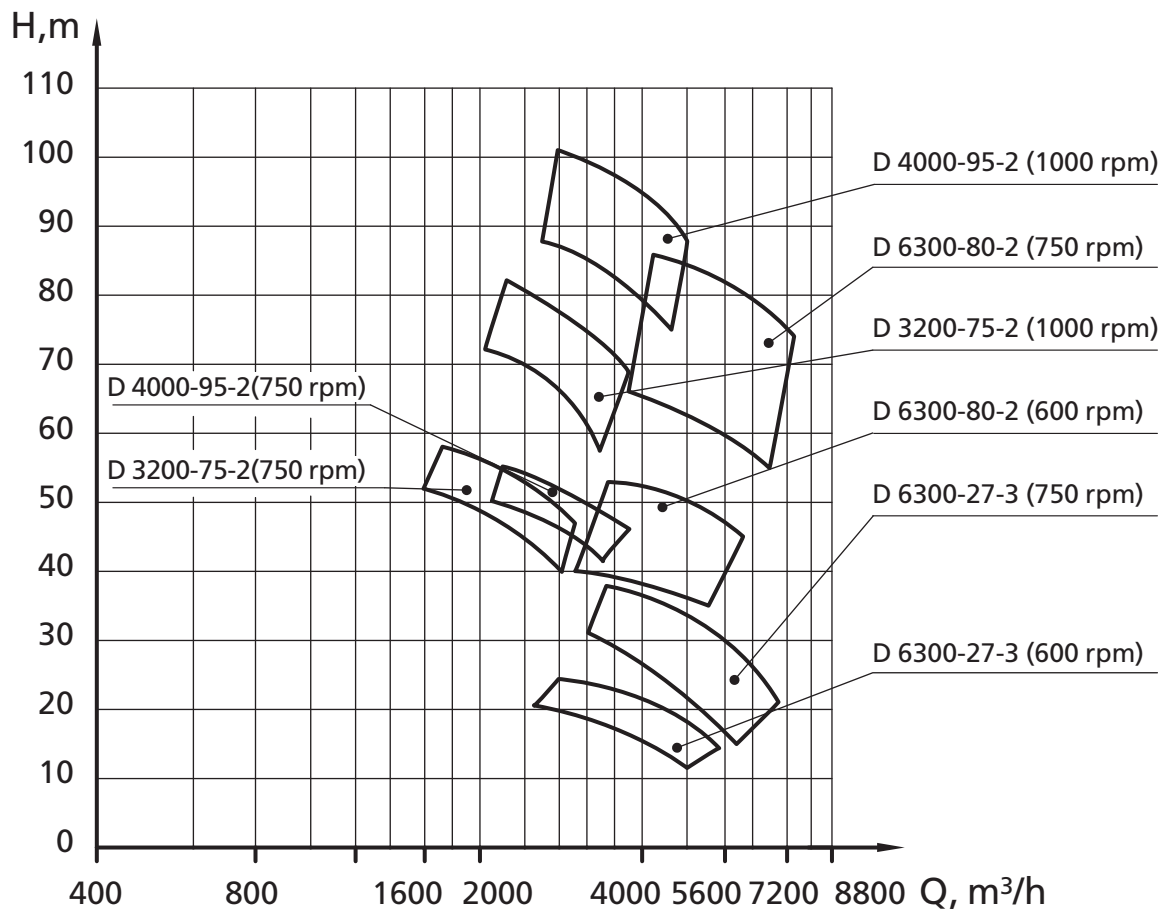
PERFORMANCE RANGE



PERFORMANCE RANGE



PERFORMANCE RANGE



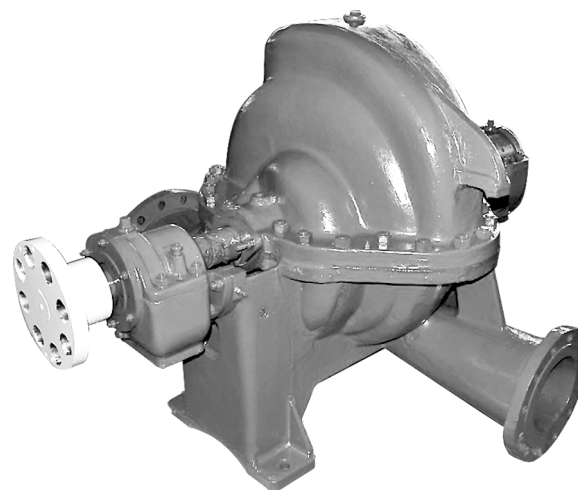
CN TYPE INDUSTRIAL PUMPS

APPLICATION

The pumps are intended for pumping water and other liquids similar to water by viscosity and chemical activity, at a temperature of up to 100 °C, with not more than 0.05 % solids content and maximal particle size is not more than 0.2 mm.

DESIGN

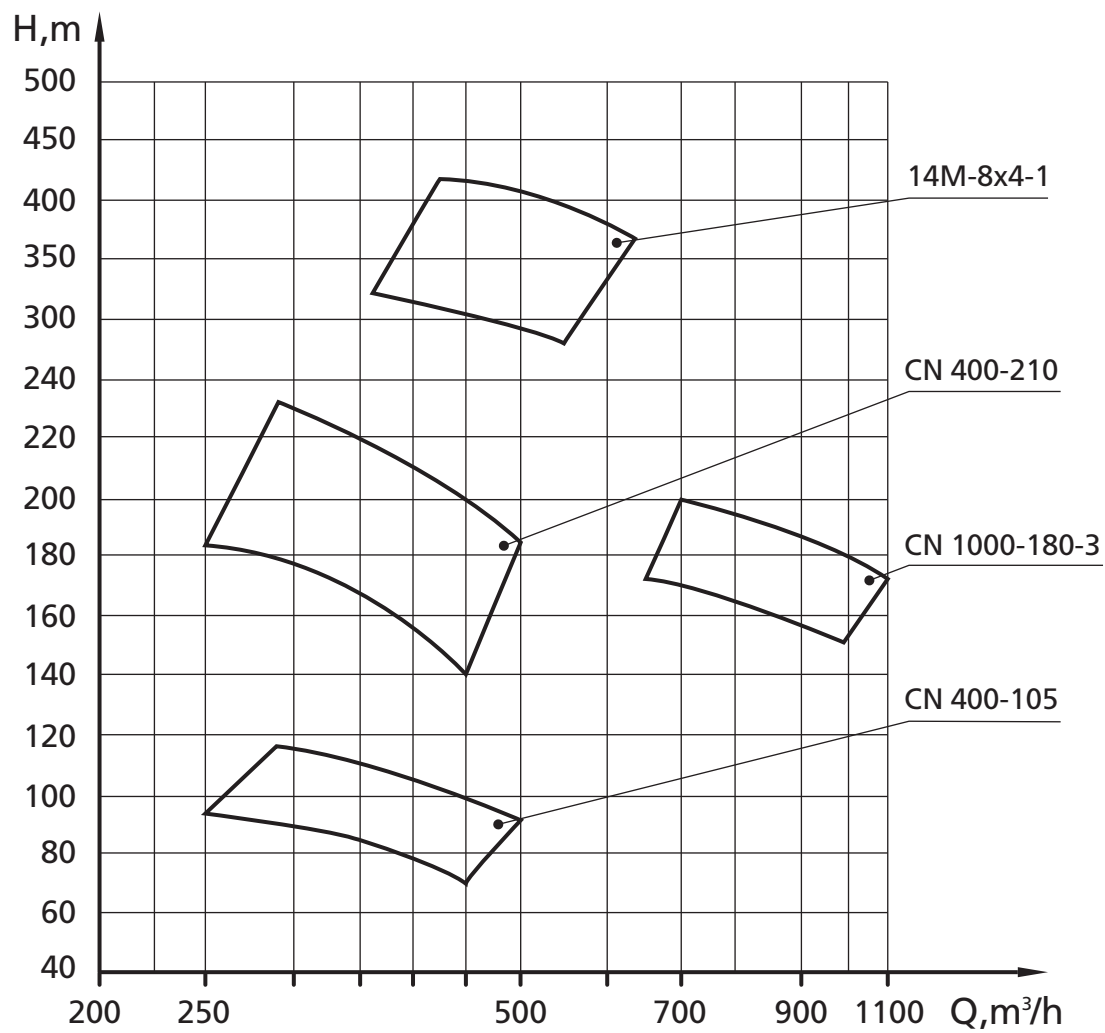
This is a centrifugal, horizontal, volute-type, two-stage (CN 400-210 is two stage pump) pump, with single-sided input impellers, with stuffing boxes, rolling bearings and electric motor or diesel engine (CN 400-105).



TECHNICAL PARAMETERS

pump model	capacity, m ³ /h	head, m	rotation speed, rpm	motor power, kW
CN 400-105	400	105	1500	200
CN 400-105a	380	96	1500	160
CN 400-105b	360	83	1500	132
CN 400-210	400	210	1500	400
CN 400-210a	380	192	1500	315
CN 400-210b	360	166	1500	250
CN 1000-180-3	1 000	180	1500	630
CN 1000-180a-3	900	157	1500	500
14M-8x4-1	600	380	1500	1000

PERFORMANCE RANGE

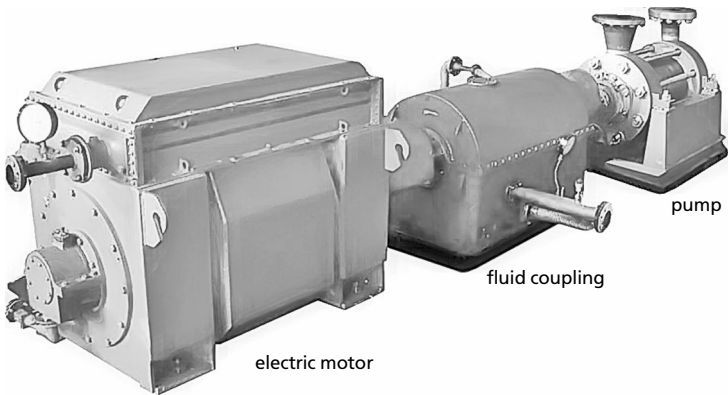


FLUID COUPLINGS

APPLICATION

Fluid couplings are intended to control the electric driven pump unit speed in order to vary head and capacity depending on system head curve. These are horizontal fluid couplings with the scoop control.

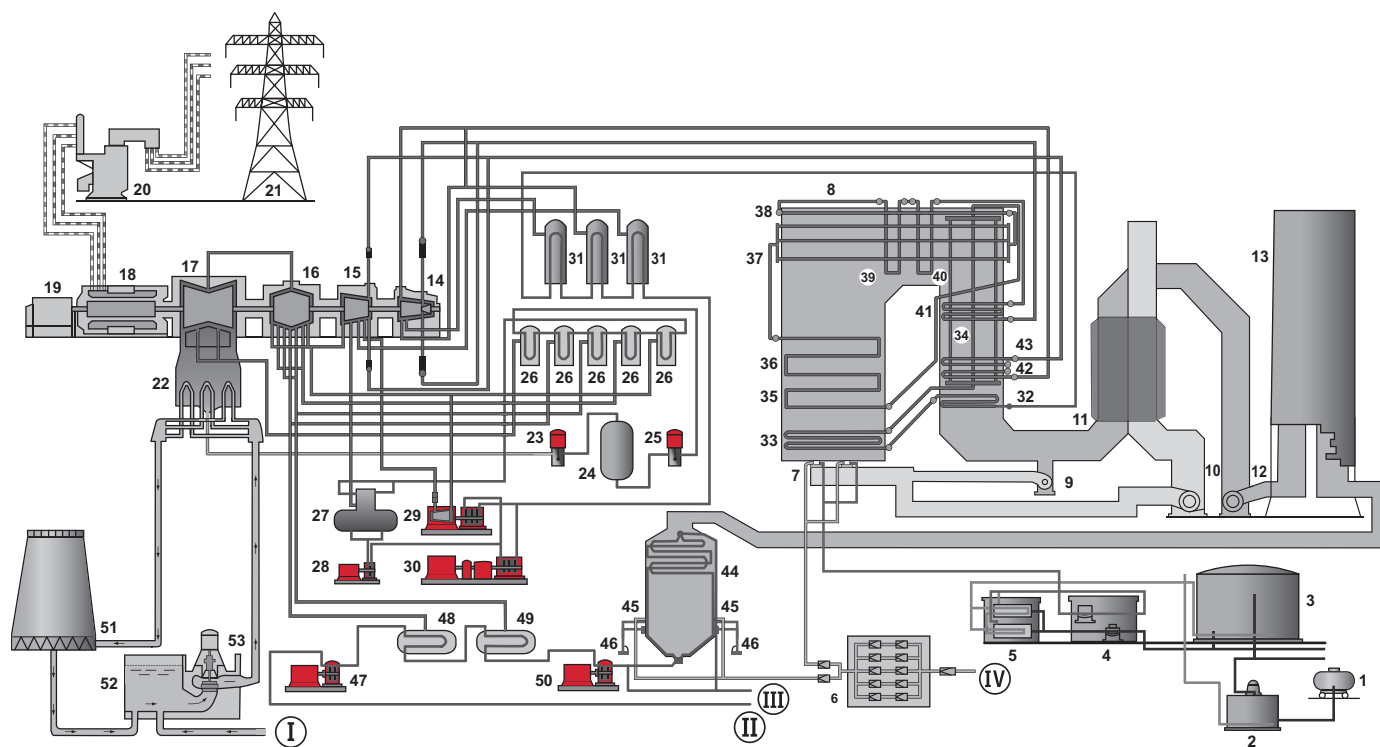
The MGL-M-710 couplings are single-cavity fluid couplings with a gear set, and the MG-600/MG-670 couplings are single-cavity fluid couplings without gear set. The MG2-600/MG2-650 couplings are double-cavity fluid couplings.



TECHNICAL PARAMETERS

fluid coupling type	output shaft rotating speed, rpm		transmission power, kW
	from	to	
MG-600	2900	600	до 2000
MG-670	2900	600	до 5000
MGL-M-710	6300	1890	до 7000
MG2-600	2900	600	до 5000
MG2L-650	2900	600	до 7000

BASIC DIAGRAM FOR PUMP APPLICATION AT TPP*



* Backgrounds of modern energetic: course of lectures for energy companies' managers.
In two parts/Edited by E.V. Ametistov, corresponding member of the Russian Academy of Sciences.
Part 1. Modern thermal energetic/A.D.Trukhny. A.A.Makarov, V.V.Klimenko – Moscow Power Engineering Institute Publishers, 2002.

LEGEND



Pumps to be delivered
by HMS Group's plants

- ① - water extraction from reservoir
- ② - from heat consumer
- ③ - to heat consumer
- ④ - from gas main

- 1 - train set of cars containing fuel oil
- 2 - fuel oil receiving tank
- 3 - fuel oil tank
- 4 - fuel oil pump station
- 5 - fuel oil heaters
- 6 - gas-regulating station
- 7 - gas-fuel oil burners
- 8 - power-generating boiler
- 9 - smoke fumes circulation exhauster
- 10 - blow fan
- 11 - regenerative stove
- 12 - smoke exhauster
- 13 - funnel
- 14 - high pressure cylinder
- 15 - medium pressure cylinder №1
- 16 - medium pressure cylinder №2
- 17 - low pressure cylinder
- 18 - generator
- 19 - generator exciter
- 20 - transformer
- 21 - power transmission line
- 22 - turbine condenser
- 23 - first lift condensate pump

- 24 - demineralizer unit installation
- 25 - second-lift condensate pump
- 26 - low pressure regenerative stove
- 27 - deaerator
- 28 - booster pump
- 29 - feed turbine pump
- 30 - feed pump
- 31 - high pressure regenerative stove
- 32 - water economizer
- 33 - bottom radiation part
- 34 - screens of suspended pipes
- 35 - medium radiation part
- 36 - upper radiation part
- 37 - rotary chamber screens
- 38 - overhung steam superheater
- 39 - platen superheater №1
- 40 - platen superheater №2
- 41 - high pressure convective superheater
- 42 - low pressure convective superheater №1
- 43 - low pressure convective superheater №2
- 44 - water boiler
- 45 - burners
- 46 - blow fans
- 47 - first-lift main-line pump
- 48 - system water heater №1
- 49 - system water heater №2
- 50 - second-lift main-line pump
- 51 - cooling tower
- 52 - forebay
- 53 - circulating pump*

* As circulation pumps the D type pumps are offered.

MOSCOW



JSC HYDROMASHSERVICE head office location map
6 A, 3-rd Pryadilnaya St., Moscow



PUMP EQUIPMENT ORDER QUESTIONNAIRE

6 A, 3-rd Pryadilnaya St., Moscow, 105037; Ph.: +7 (495) 730 0225; Fax: +7 (495) 730 0236; e-mail: hydro@hms.ru www.hms.ru

Company name _____
Department _____ request № /Letter ref. No. _____ dated _____
Executing officer _____
Phone _____ Fax _____ E-mail _____
Electric pump unit type _____

1. PARAMETERS			
☐ 1.1. Capacity, m³/h	Q min	Q nom	Q max
☐ 1.2. Head in pump performance operating area, m	H (Q min)	H (Q nom)	H (Q max)
☐ 1.3. Suction pressure, MPa			
☐ 1.4. Pumped liquid			
☐ 1.5. Pumped liquid temperature, °C			
2. DELIVERY SET			
☐ 2.1. Pump			
☐ 2.2. Driver			
☐ 2.3. Frame			
☐ 2.4. Fluid coupling			
☐ 2.5. Variable frequency drive			
☐ 2.6. Oil station			

Please check off required items with ☒ mark

2.7. CONNECTING COUPLINGS	
☐ 2.7.1. Driver to fluid coupling	
☐ 2.7.2. Driver to pump	
☐ 2.7.3. Fluid coupling to pump	
☐ 2.8. Automatic control	
☐ 2.9. Spare parts kit	

3. NOTES

4. POWER FACILITIES (WARNING! The equipment price is advised after providing this data only)

DATA APPROVED BY:

Head of plant

Last/first name _____ signature _____ date _____

stamp

6A, Pryadilnaya st.
Moscow, 105037, Russia

Phone: + 7 (495) 730 02 25
Fax: + 7 (495) 730 02 36

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