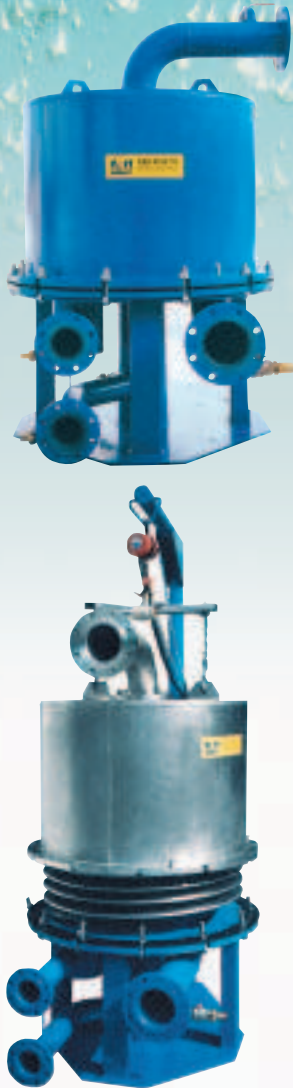


SCREW HEAT EXCHANGER WATER - SLUDGE

TWK 6, TVVK 12 and TVVK 18



use

Screw exchangers water-sludge are mainly used for indirect heating of mixed sludge and maintenance of production temperature during anaerobe mesophilic stabilisation of sludge of the waste water treatment plant. They can be used in different branches of industry for heating suspensions and non-aggressive solutions where silting of an area of the heated medium can be expected. The advantage of the exchanger is the easy access to clean the sludge area and the possibility to increase the power of an exchanger by changing the screw.

The joint stock company K&H KINETIC is a supplier of water-supplies and industrial structure, heating systems, introduction of gas systems and control systems for industry and ecology.

Specialised products for waste water treatment plants are also an important part of the company production.

technical specification

Heating exchange screw area is covered by cylindrical casing and is placed on the base with frontal inlet flange branches, water outlet, sludge inlet. Sludge outlet branches are placed on the screw casing. Sludge branches are equipped with cocks to connect water washing system.

In the case of breakdown or when an increase of the exchanger power is required, it is easy to replace the screw. It is a counter-current exchanger. By taking down the cylindrical casing by means of a pulley block, a sludge area of the exchanger is opened which makes washing and checking easy.

The exchanger is produced in two types:

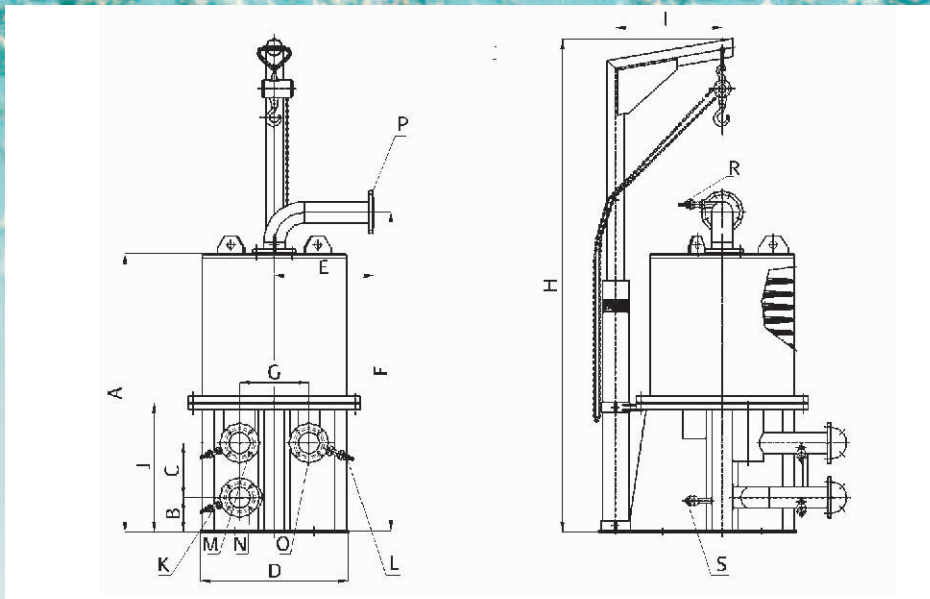
- a) Type N - the bottom part - steel rank 11, the upper part (cylindrical casing and screw) - stainless steel rank 17
- b) Type K - the whole exchanger - steel rank 11

The basic type of the exchanger is supplied without a crane. The crane can be supplied based on customer request. Exchanger is tested by overpressure 0,4 MPa to control the tightness of the sludge and water system. If the customer requests, the final coating, according to CSN 03 8240 for the fourth grade of corrosive aggressivity, is possible.

designing datas

- the introduced type of exchanger is produced for heating and heated non aggressive medium
- maximum quantity of solid substance in the sludge is 10% in mass, the size of solid parts up to 10 mm
- to minimize cleaning and to ensure economical operation, it is recommended to use min. speed of sludge flow 1m/s
- to check real function of the exchanger it is recommended to use means for direct temperature measuring at the outlet and inlet branches
- closing fittings are recommended to be installed directly on the exchanger to make free and safety service
- leave spare room in radius in action of the pulley block for leaving casing during mechanical cleaning of the sludge area
- do not overload the exchanger body with the weight of pipelines, pipe armatures and dilatation forces of the pipelines

technical specification



technical specification	TWK 6		TWK 12		TWK 18	
	water	sludge	water	sludge	water	sludge
operating temperature (°C)	90	45	90	45	90	45
operating overpressure (MPa)	0,3	0,3	0,3	0,3	0,3	0,3
testing overpressure (MPa)	0,4	0,4	0,4	0,4	0,4	0,4
nominal heating exchange area (m ²)	6		12		18	
real heating exchange area (m ²)	7,4		13,54		19,3	
operating weight (kg)	890		1910		2680	
total weight (kg)	670		1460		2090	

figure table

measurement	TWK 6	TWK 12	TWK 18
A (mm)	1406	1411	1511
B (mm)	175	190	210
C (mm)	275	305	325
D (mm)	750	1050	1260
E (mm)	500	650	750
F (mm)	1608	1696	1800
G (mm)	350	550	650
H (mm)	2700	2800	3000
I (mm)	538	685	747
J (mm)	650	655	710
K	water outlet DN20	water outlet DN20	water outlet DN20
L	sludge washing DN32	sludge washing DN40	sludge washing DN40
M	Branches 1 / water - outlet (DN100/PN10)	Branches 1 / water - outlet (DN100/PN10)	Branches 1 / water - outlet (DN100/PN10)
N	Branches 2 / water - inlet (DN100/PN10)	Branches 2 / water - inlet (DN100/PN10)	Branches 2 / water - inlet (DN100/PN10)
O	Branches 3 / sludge - inlet (DN100/PN10)	Branches 3 / sludge - inlet (DN150/PN10)	Branches 3 / sludge - inlet (DN150/PN10)
P	Branches 4 / sludge - outlet (DN100/PN10)	Branches 4 / sludge - outlet (DN150/PN10)	Branches 4 / sludge - outlet (DN150/PN10)
R	deaeration / sludge washing DN32	deaeration / sludge washing DN40	deaeration / sludge washing DN40
S	water deaeration DN15	water deaeration DN15	water deaeration DN15

Other sizes on customer request. A programme for counting and dimensioning of the sizes and pressure losses of the exchanger with more information regarding our products and our other offers can be found at <http://www.kk-technology.cz>.

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