

Square final sedimentation tank

KUNST iDNC-1-K through iDNC-6-K

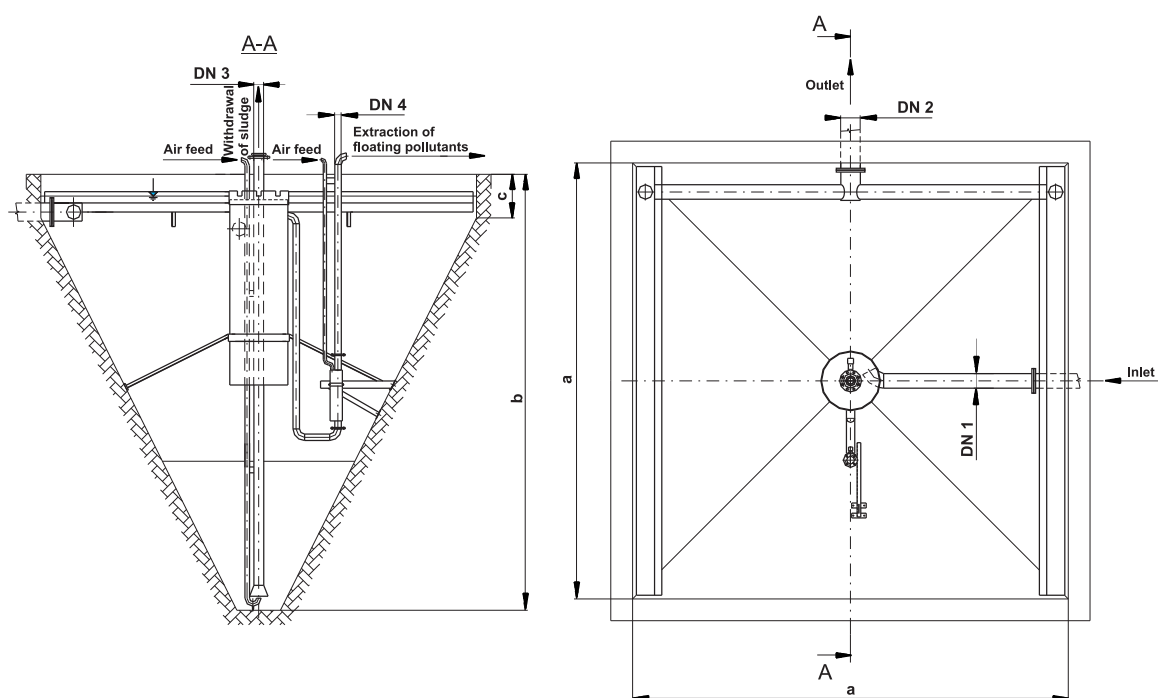


TABLE OF MAIN DIMENSIONS:

Parameter	Designation		Size and designation of final sedimentation tank					
			iDNC-1-K	iDNC-2-K	iDNC-3-K	iDNC-4-K	iDNC-5-K	iDNC-6-K
Tank width	a	mm	3000	3600	4200	4800	5400	6000
Total tank height	b	mm	3900	4200	4800	5100	5700	6000
Height of vertical part	c	mm	1500	1200	1200	900	900	600
Total tank volume	V_{DN}	m^3	19,73	27,14	40,50	50,62	69,91	82,74
Dimension of inlet pipe	DN 1	mm	200	200	250	250	300	300
Dimension of outlet pipe	DN 2	mm	150	150	200	200	250	250
Dimension of sludge outlet pipe	DN 3	mm	80	80	80	80	80	80
Dimension of floating pollutants	DN 4	mm	65	65	65	65	65	65
Maximal daily inlet	Q_h	m^3/h	10,80	15,55	21,17	27,65	34,99	43,20
Maximal daily inlet	Q_d	m^3/h	4,91	7,07	10,08	13,17	17,50	21,60
Average daily inlet	Q_{24}	m^3/d	78,55	113,11	172,80	225,70	299,93	370,29
Basic recirculation ratio	R_k	% of Q_d	100	100	100	100	100	100
Specific waste water production per PE	spQ_{PE}	$l/PE \cdot d$	150	150	150	150	150	150
Possible number of connected PE	n_{PE}	piece	524	754	1152	1505	2000	2469



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APPLICATION

Final sedimentation tanks iDNC-1-K through iDNC-6-K are designated for waste water treatment plants of small and medium size. They are used for sedimentation and withdrawal of activated sludge which is contained in the waste water due to the preceding treatment stage.

FUNCTIONAL PRINCIPLE

The waste water is fed by means of inlet pipe and tangentially inlet into the central degasification and flocculation cylinder of the tank. Sludge sediments in the sludge part of the tank, whence it is removed and directly pumped into the pipe of recirculation sludge using a special mammoth pump. This pipe is in the tank, what simplifies the construction as well as technology of the entire system. Effluent water is withdrawn using two gutters that are placed at the wall of the tank and equipped with skimming wall and adjustable overfall. Thanks to a novel solution, skimming of floating pollutions into the flocculation cylinder can be done continuously. Further, it is possible to skim floating pollutions cyclically using another mammoth pump and collecting tank. The maximum area loading for this type series is $u=1.2$ m/h and the load of the separation plane with undissolved material $NA=4.8$ kg/m³.h without consideration of the recycle sludge. The recycle ratio is assumed to be 100% Qd. For design coefficients of daily and hourly irregularity are taken into account according to CSN 75 6401- waste water treatment plants for more than 500 pollutions equivalents. The specific waste water production is assessed to be 150 l/PE.d. The equipment of iDNC is protected by utility pattern of the company KUNST, spol.

MATERIAL DESIGN

The entire equipment of the final sedimentation tank is made out of stainless steel. This ensures long plant lifetime without necessity of work and cost intensive maintenance.

OPERATION OF FINAL SEDIMENTATION TANK

The operation of the entire iDNC is limited to occasional cleaning of the overfall edge, if necessary gutters and skimming unit for floating pollutions. These operations need to be done within certain periods of time or as necessary.

DELIVERY FORM

The equipment is the total final sedimentation tank including delivery and installation or according to contract. The disposition of equipment can be individually reviewed and upgraded to enhance comfort and process and is the subject of the technical explanation.

DELIVERY DATE

According to contract.

R.č. iDNC-K 02/08-A-en

