

WCBx-B系列生化法生活污水处理装置

WCBx-B Series Biochemical Sewage Treatment Plant

◎ 型号说明 Model Instruction

WCBx-20 B
 符合 MEPC 第 159 (55) 决议
 Satisfies resolution MEPC 159 (55)
 使用人数 20 人
 The number of using personnel is 20
 生化法生活污水处理装置
 Biochemical sewage treatment plant



◎ 概述 Overview

WCBx-B 系列生活污水处理装置采用催化氧化和超滤加紫外线消毒杀菌相结合的方式, 处理来自船舶厕所等处的生活污水。本产品优化设计了生化反应器, 采取了紫外杀菌室, 因而与同类产品相比, 具有体积小、重量轻、结构紧凑、杀菌能力强, 无二次污染等特点。超滤器采用外置方式安装, 便于清洗、维修、更换。经该装置处理后的排放水达到国际规定的排放标准, 并符合国际海事组织环保委员会 MEPC.159(55) 号决议的要求及国际环保排放标准。

The method of combining catalytic oxidation, ultraviolet disinfections and sterilization is adopted in the WCBx-B Series Sewage Treatment Plant; it treats the domestic sewage of toilet from ship. And it optimal designed the biochemical reactor, the chlorine adding sterilization is adopted, so compare with the products of the same kind, it has the characteristics of small outsize, light weight, compact structure and without secondary pollution. The discharged water after the treatment of this device has reached the effluent standard stipulated internationally, and it accords with the requirement of resolution MEPC 159 (55) of International Marine Organization Environmental Protection Commission, and International Waste Fluid Effluent Standard.

WCBx-B 系列生活污水处理装置由五个水室的舱室组成。这五个舱室分别为污水舱、一级接触氧化舱、二级接触氧化舱、沉淀箱、积水箱。

WCBx-B Series Sewage Treatment Plant consists of 5 watertight tanks. These 5 tanks respectively are a sewage tank, first-stage contact oxidation tank, second-stage contact oxidation tank, a settlement tank and a catchment tank.

本装置耐腐蚀性强, 能适用于海水冲洗厕所。

This device has strong corrosion resistance and applies to sea water to flush toilets.

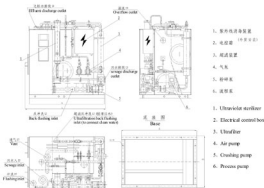
◎ 原理 Principle

从卫生间提地来的生活污水自然流入的方式进入装置污水舱, 经过充分粉碎后, 流进接触氧化舱, 通过气泵对其强制曝气。污水以一定流速流过填料与生物膜接触, 其中有积污染物被生物膜粘附、分解, 生成 CO₂ 和水, 使污水中的有机物得到降解。经生化处理后的污水流入沉淀箱进行沉淀、絮凝, 并按一定比例回

流, 并以提高出水水质, 减少出水浓度, 调节和稳定冲击负荷, 提高生物膜活性, 提高接触氧化舱的有机质负荷率。然后污水流入积水箱, 当积水箱收集到一定的水量时, 启动溢流泵, 将水引入超滤装置。过滤水中的杂质, 超滤装置靠负压冲洗自动清洗排污。超滤装置前置安装, 方便维护、更换, 克服了传统滤芯安装麻烦。过滤后的水通过紫外线消毒装置将水中的细菌清除干净后直接排放出舱。

After the sewage from toilet crushed completely flows into the sewage tank by the way of nature inflow to contact oxidation tank to aerate by the air pump, and to contact with biofilms by a certain velocity flowing through fillings. The organic pollutant will be digested by biofilms, and CO₂ and water are generated. After further treatment of the biofilm in the second contact tank, the sewage will flow into settlement tank for settlement and dewatering, and then is sent to catchment tank. When the catchment tank collects a certain amount of liquid, the process pump is started and the liquid is put into the ultrafilter to filter the slag by the water pump. The ultraviolet sterilizing plant kills the bacteria in the fluid, and treated water is discharged overboard as an effluent. The sludge in the settlement tank will be returned to first-stage contact tank in airlift device, which will cause a certain back flow ratio. This will enhance output water quality, reduce input water impurity, adjust and stabilize pulse loading, and increase activation of biofilm, improve organic loading rate in the contact tanks.

◎ 结构形式 Structure Type



1. 集污舱
2. 电控制箱
3. 超滤装置
4. 气泵
5. 粉碎泵
6. 曝气器

1. Ultraviolet sterilizer
2. Electrical control box
3. Ultrafilter
4. Air pump
5. Crushing pump
6. Process pump

◎ 主要技术参数 Main Technical Parameter

参数 Parameter	型号 Model	WCx-108	WCx-118	WCx-208	WCx-258	WCx-308	WCx-408	WCx-508	WCx-608	WCx-808	WCx-1008	WCx-1108	WCx-2008	WCx-3008	WCx-4008	WCx-6008	WCx-8008
适用人数 Suitable no. of people		10	15	20	25	30	40	50	60	80	100	150	200	300	400	600	800
水力负荷 Hydraulic load		0.70	1.05	1.40	1.75	2.10	2.80	3.50	4.20	5.60	7.0	10.5	14	21	28	35	42
有机负荷 Organic load		0.35	0.525	0.70	0.875	1.05	1.40	1.75	2.10	2.80	3.50	5.25	7.0	10.5	14	17.5	21
排放标准 Discharge standard		CODCr≤25mg/L; CODMn≤15mg/L; TSS≤35mg/L; 大肠菌群数≤3个/L; 氨氮≤1.0mg/L; 总磷≤0.5mg/L (不含氨氮)															
规格型号 Model	型号 Model	32CGW-10-20										40CGW-20-20					
	形式 Type	垂直式 Vertical type															
	容量 Capacity	10															
水泵 Pump	容量 Capacity	10															
	电压 Voltage	1.5															
	功率 Power	2.2															
气泵 Air pump	型号 Model	CYBW-10				CYBW-20				CYBW-25				CYBW-40			
	形式 Type	叶片式 Sliding vane type															
	容量 Capacity	10				20				25				40			
	功率 Power	0.37				0.75				1.1				1.5			
刮泥机 Gudge pump	型号 Model	0.8CWF-10															
	形式 Type	刀片离心式 Blade centrifugal type															
	容量 Capacity	5				10				20				20			
	功率 Power	1.1				1.5				2.2				2.2			
膜分离装置 Mbr	型号 Model	CSUF-5000															
	形式 Type	高级纤维超滤膜 Advanced anti-sol ultrafiltration membrane															
	容量 Capacity	1.1								2.1							
	型号 Model	Nixon-1.5								Nixon-3.0							
消毒装置 Disinfect	容量 Capacity	253.7															
	功率 Power	0.3								0.38							
	容量 Capacity	1.5															
	工作压力 Working pressure	0.1 ~ 0.25MPa															
电源 Power supply	AC 3ph/380V/50Hz or AC 3ph/440V/60Hz																
控制方式 Control mode	自动/手动 Automatic/manual																

注：适用人数200人以下时设备采用筒体式设计。
适用人数300人以上的设备采用中心筒体式设计。
Note: For the number of 200 persons and below, the device adopts integral tubular structure.
For the number of more than 300 persons, the device adopts three tubular structure.

◎ 外接口尺寸 External Interface Size

型号 Model	名称 Name	污水入口 Sewage inlet(DN)	污泥排放口 Sludge discharge outlet(DN)	溢流口 Overflow outlet (DN)	冲洗水口 Flushing water inlet(DN)	通气口 Vent(DN)	溢冲水口 Back flushing water inlet(DN)	回流泵出口 Back flushing pump outlet(DN)	污水排放口 Sewage discharge outlet(DN)
WCEx-108		125	25	50	32	50	25	25	32
WCEx-158		125	25	50	32	50	25	25	32
WCEx-208		125	25	50	32	50	25	25	32
WCEx-258		125	25	50	32	50	25	25	32
WCEx-308		150	25	50	32	50	25	25	32
WCEx-408		150	25	50	32	50	25	25	32
WCEx-508		150	25	50	32	65	32	25	32
WCEx-608		150	25	50	32	65	32	25	32
WCEx-808		150	25	50	32	65	32	25	32
WCEx-1008		150	25	65	32	100	32	25	32
WCEx-1508		150	25	65	32	100	32	25	32
WCEx-2008		150	25	65	32	100	32	25	32
WCEx-3008		150	32	100	32	100	40	32	40
WCEx-4008		150	32	100	32	100	40	32	40
WCEx-5008		150	32	100	32	100	40	32	40
WCEx-6008		150	32	100	32	100	40	32	40

◎ 安装尺寸 Installation Size

型号 Model	名称 Name	外形尺寸 Overall dimension			基础尺寸 Base dimension		
		L	R	H	A	E	H-g
WCEx-108		1790	1280	1920	1650	1200	12-g20
WCEx-158		1890	1280	1920	1700	1200	12-g20
WCEx-208		1890	1280	1920	1750	1200	12-g20
WCEx-258		1990	1280	1920	1850	1200	12-g20
WCEx-308		2090	1450	1920	1950	1450	12-g20
WCEx-408		2230	1650	2200	2050	1650	12-g20
WCEx-508		2280	1780	2120	2160	1700	16-g20
WCEx-608		2650	1890	2120	2500	1800	16-g20
WCEx-808		2850	1890	2320	2700	1800	22-g20
WCEx-1008		3050	2090	2320	2900	2000	22-g20
WCEx-1508		3390	2290	2520	3300	2200	22-g20
WCEx-2008		4435	2290	2520	4325	2200	22-g20
WCEx-3008		4950	2865	2890	4624	2500	22-g20
WCEx-4008		5630	3070	2890	5094	2700	22-g20
WCEx-5008		5965	3270	2890	5429	2900	22-g20
WCEx-6008		6465	3590	2890	5929	3100	22-g20