

手术室污水处理设备小型

产品名称	手术室污水处理设备小型
公司名称	山东乐斌环保科技有限公司
价格	.00/套
规格参数	品牌:乐斌环保 型号:乐斌400 产地:山东
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产品详情

手术室污水处理设备小型医院污水消毒处理技术医院污水消毒的主要目的是杀死污水中的各种致病菌，同时也可以改善水质，达到国家规定的排放标准。医院污水常用的消毒剂有氯化消毒剂、二氧化氯消毒剂和臭氧消毒剂等。1 氯的杀菌机理氯化消毒剂主要有：液氯、漂白粉、漂粉精、次氯酸钠等。早期认为氯的杀菌机理在于其与水反应释放出[O]，但事实表明这种观点是错误的。进一步的研究表明，氯与细菌酶的系统反应是不可逆的，细菌由于酶的钝化而被灭活。一般认为，各种消毒剂的灭活效率是消毒剂通过细胞壁扩散速度的函数。次氯酸是所测得的余氯中杀菌力最有效的成分，其原因是次氯酸比较容易渗入细胞壁。次氯酸的渗透速度类似于水的渗透速度，这是因为次氯酸分子比较小而且不带电荷。次氯酸根相对来说杀菌效率比较低，是由于次氯酸根带有负电荷，而细菌本身也带有负电荷，所以次氯酸根离子难以进入生物的细胞壁而扩散。

医院污水的危害

- 1) 医院污水受到粪便、传染性细菌和病毒等病原性微生物污染，具有传染性，可以诱发疾病或造成伤害；
- 2) 医院污水中含有酸、碱、悬浮固体、BOD、COD和动植物油等有毒、有害物质；
- 3) 牙科治疗、洗印和化验等过程产生污水含有重金属、消毒剂、有机溶剂等，部分具有致癌、致畸或致突变性，危害人体健康并对环境有长远影响；
- 4) 同位素治疗和诊断产生放射性污水。放射性同位素在衰变过程中产生 α -、 β -和 γ -放射性，在人体内积累而危害人体健康。

处理方法

根据医院的规模、性质和处理污水排放去向，进行工艺选择。主要采用的工艺有三种：加强处理效果的一级处理、二级处理和简易生化处理。医院污水处理一般采取工程设计、建设及验收的操作与管理办法

，其处理设施需经过一定时间的试运行，处理效果才能达到预期目的。化学法治理需经一个月的试运行，二级生化法处理需经三个月以上的试运行。因此，小型综合医院（主要包括城市卫生服务社区、乡镇卫生院）亟需寻求一种资金投入较少、建设周期较短、安全稳妥达标的技术方案（设备）。

1) 通常采用物化+生化方法处理，主要工艺有：

絮凝沉淀(物化)+水解酸化(生化)+深度氧化(生化)+消毒---达标排放

絮凝沉淀(物化)+水解酸化(生化)+MBR(生化)+消毒--->达标排放

物化：主要是让微生物无法分解的有害沉淀，将絮凝剂、混凝剂等化学药剂加入污水，将有害物转移至污泥，通过处理污泥达到目的。

生化：是人类发现自然界水体中的微生物对有机物的分解能力，分析总结出：不同环境下的微生物能分解不同有害物，一般采用的是厌氧菌+好氧菌培养，即水解酸化和深度氧化医院污水处理设备厂家

医院废水处理流程工艺选择原则,从而避免消毒剂用量过大对环境产生的不良影响。医院污水经化粪池进入调节池，调节池前部设置自动格栅，调节池内设提升水泵,(四)鼓风机：每半年加一次机油，每运行10000小时保养一次(按说明书要求进行),加大饮用水的卫生监督力度，每季度向社会公开饮用水水源水质、水厂出厂水质和用户水龙头水质等饮水安全状况信息,医院污水处理流程的选择需要根据医院的规模、性质来选定 手术室污水处理设备小型

贵州省贵阳市：南明区、花溪区、白云区、开阳县、修文县、清镇市、云岩区、乌当区、小河区、息烽县六盘水市：钟山区、水城县、盘县、六枝特区、遵义市：红花岗区、遵义县、绥阳县、安顺市：西秀区、普定县铜仁地区：铜仁市、玉屏侗族自治县、思南县、毕节地区：毕节市、黔西县、织金县、威宁彝族回族苗族自治县、赫章县、大方县、金沙县、纳雍县黔西南布依族苗族自治州：安龙县、兴义市、普安县、贞丰县、册亨县、兴仁县、晴隆县、望谟县黔东南苗族侗族自治州：凯里市、施秉县、镇远县、天柱县、剑河县、黎平县、从江县、麻江县、丹寨县、黄平县、三穗县

- 1、下班前应进行巡检，发现问题及时解决并做好记录；
- 2、对水、气、电等各种管线阀门进行检查，并应处于良好的工况状态；
- 3、做好交接班记录，认真交接班，对出现的异常情况应交接清楚。

二、设备事故的处理

- 1、发现设备有异常情况，应立即停机，及时报告相关人员，并记录值班记录表内。
- 2、由于电气原因引起停机时，应立即报告相关人员进行处理，不得自行修理电气设备，并记入值班记录表内。
- 3、发现电动机异常现象，应立即停止运行，及时报告相关人员进行处理，并记入值班记录表内。
- 4、格栅有异物阻塞时，应及时清除，并且清污时间及清污量记入值班记录表内。

手术室污水处理设备在A级生物池，由于污水中有机物浓度比较高，微生物处理缺氧状态，此时微生物为兼性微生物，它们将污水中的有机氮转化分解成氨氮，同时利用有机碳源作为电子供体将NO₂-N、N

O₃-N转化为N₂，而且还利用部分有机物碳源和氨氮合成新的细胞物质所以A级生物池不仅具有一定的有机物去除功能，减轻后续好氧池的有机负荷，以利于硝化作用的进行；而且依靠原水中存在的较高浓度有机物，完成反硝化作用，最终消除氨的富营养化污染,After hydrolysis and acidification, the wastewater enters oxygen-poor tank, contact oxidation tank and secondary sedimentation tank in order to circulate, so that the wastewater is in the environment of anoxic and oxygen-enriched cycle transformation, and the following transformation can be achieved.- Denitrification; converting organic nitrogen into ammonia nitrogen, transforming ammonia nitrogen into nitrite nitrogen and nitrate nitrogen through aerobic microbial nitrification bacteria, and then transforming nitrite nitrogen and nitrate nitrogen into nitrogen through anaerobic microbial denitrification bacteria, escaping from sewage- phosphorus removal; high phosphorus content sludge is formed by phosphorus accumulating bacteria releasing phosphorus in anoxic environment and absorbing excessive phosphorus in oxygen-rich environment.- Degrading organic matter thoroughly; On the basis of hydrolysis acidification, utilizing the characteristics of rapid propagation of aerobic microorganisms in oxygen-rich environment and rapid propagation of anaerobic microorganisms in anoxic environment, degrading organic matter in turn and transforming it into sludge(3) Disinfection of sewage to meet discharge standards(4) Regular removal of sludgeThe characteristics of sewage treatment methods in small and medium-sized hospitals are as follows: the volume of the oxygen-poor pool is much smaller than that of the contact oxidation pool. When the sewage circulates, the residence time in the oxygen-poor pool is very short, while the residence time in the contact oxidation pool is very long, so that the sludge produced by biochemical treatment is mainly deposited in the contact oxidation pool.The characteristics of sewage treatment methods in small and medium-sized hospitals are as follows: the oxygen-poor pool is composed of adjusting aeration pool and anoxic pool in series. The two pools are connected structure. By changing the aeration degree of the adjusting aeration pool, the sewage is fully mixed and the water quality is uniform.4. The sewage treatment method for small and medium-sized hospitals as described in claim 3 is characterized in that the sewage treatment station also includes a sludge concentration pond which is connected with a contact oxidation pond, and the sludge concentration pond is equipped with a reflux pipe.与调节曝气池连通，回流管路上配有回水泵，开启回水泵，将污泥浓缩池的上层污水泵回调节曝气池，使下层的污泥浓缩，也使接触氧化池中的污泥持续进入污泥浓缩池The characteristics of sewage treatment methods in small and medium-sized hospitals are as follows: chlorine dioxide is injected into the drainage pipe of secondary sedimentation tank; chlorine dioxide flow rate is accurately measured by metering pump to reduce residual chlorine residue; at the same time, water body is sufficiently mixed from the contact oxidation tank and aerated by blower to reduce dosage.6. The small and medium-sized hospital sewage treatment method described in Fig. 4 is characterized by that the sewage return flow $R = 1:1$, i.e. the sewage circulation flow: the treated discharge flow = 1:1.At present, the total number of medical units above county level (including industrial and mining enterprises hospitals, military hospitals, private hospitals and Sino-foreign joint venture hospitals, etc.) in our country (except Hong Kong Special Administrative Region, Macao Special Administrative Region and Taiwan region) is about 21,000, of which 1041 are tertiary first-class hospitals, accounting for about 5% of the total number of hospitals, 90% of which are small and medium-sized hospitals below secondary level, relatively speaking, large hospitals. All of them have more standardized wastewater treatment systems, and are equipped with professional maintenance and management. However, due to the reasons of fund, operation cost and personnel quality, a large number of small and medium-sized medical institutions are weak in the construction of medical wastewater treatment facilities, and their operation is not completely normal, which is a difficult and important point in current pollution control.The sewage discharged by hospitals consists of two parts, one is domestic wastewater, the pollutants are mainly organic matter, the other is medical wastewater, the pollutants are mainly nitrogen, phosphorus and so on. At present, most of the small and medium-sized medical institutions in our country generally adopt the first-level intensified treatment. The typical process is as follows.The characteristic of the first-level intensification process is that it can effectively control pathogens through disinfection process, but the removal effect of COD and BOD is not good and can not meet the requirements of environmental protection.In recent years, with the progress of social economy and the improvement of people's awareness of environmental protection, more and more small and medium-sized medical institutions have built a number of secondary biochemical treatment facilities. The processes adopted include A/O, SBR, oxidation ditch and contact oxidation.As can be seen from Table 1, three biological treatment methods, A/O, SBR and oxidation ditch, all have good treatment effect.However, for small and medium-sized medical institutions, due to the lack of funds and managers, there may be insufficient funds in the actual implementation process, or there may be inadequate management and excessive discharge.Relatively speaking,

contact oxidation method is more suitable for sewage treatment in small and medium-sized medical institutions, but contact oxidation method lacks oxygen-deficient stage, so the ability of denitrification is weak. Nitrogen in effluent is basically converted to nitrate, ammonia nitrogen may reach the standard, and the essence of total nitrogen has not been removed. The purpose is to overcome the shortcomings of the above-mentioned treatment methods and provide a more suitable treatment method for sewage treatment in small and medium-sized hospitals. The treatment process of this method is simple, occupies less land, has low construction investment and operation cost. It can not only meet the sewage treatment standards, but also is easy to operate and manage, and has low requirements for the quality of operators.

6. 各类电器设备均设电路短路，过载保护装置以确保电器设备安全运，After hydrolysis and acidification, the wastewater enters oxygen-poor tank, contact oxidation tank and secondary sedimentation tank in order to circulate, so that the wastewater is in the environment of anoxic and oxygen-enriched cycle transformation, and the following transformation can be achieved.

- Denitrification; converting organic nitrogen into ammonia nitrogen, transforming ammonia nitrogen into nitrite nitrogen and nitrate nitrogen through aerobic microbial nitrification bacteria, and then transforming nitrite nitrogen and nitrate nitrogen into nitrogen through anaerobic microbial denitrification bacteria, escaping from sewage- phosphorus removal; high phosphorus content sludge is formed by phosphorus accumulating bacteria releasing phosphorus in anoxic environment and absorbing excessive phosphorus in oxygen-rich environment.
- Degrading organic matter thoroughly; On the basis of hydrolysis acidification, utilizing the characteristics of rapid propagation of aerobic microorganisms in oxygen-rich environment and rapid propagation of anaerobic microorganisms in anoxic environment, degrading organic matter in turn and transforming it into sludge

(3) Disinfection of sewage to meet discharge standards (4) Regular removal of sludge

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4. The sewage treatment method for small and medium-sized hospitals as described in claim 3 is characterized in that the sewage treatment station also includes a sludge concentration pond which is connected with a contact oxidation pond, and the sludge concentration pond is equipped with a reflux pipe. 与调节曝气池连通，回流管路上配有回水泵，开启回水泵，将污泥浓缩池的上层污水泵回调节曝气池，使下层的污泥浓缩，也使接触氧化池中的污泥持续进入污泥浓缩池

The characteristics of sewage treatment methods in small and medium-sized hospitals are as follows: chlorine dioxide is injected into the drainage pipe of secondary sedimentation tank; chlorine dioxide flow rate is accurately measured by metering pump to reduce residual chlorine residue; at the same time, water body is sufficiently mixed from the contact oxidation tank and aerated by blower to reduce dosage.

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