**空调系统节能率计算书**

公共建筑

|  |  |
| --- | --- |
| 工程名称 | 承旧迎新——旧城区的活化与绿染 |
| 工程地点 | 湖北-武汉 |
| 设计编号 |  |
| 建设单位 |  |
| 设计单位 |  |
| 设 计 人 |  |
| 审 核 人 |  |
| 审 定 人 |  |
| 设计日期 |  |



|  |  |
| --- | --- |
| 采用软件 | 能耗计算BESI2018 |
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| 研发单位 | 北京绿建软件有限公司 |
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# 建筑概况

|  |  |  |
| --- | --- | --- |
| 工程名称 | 新建项目 | |
| 工程地点 | 湖北-武汉 | |
| 地理位置 | 北纬：30.58° | 东经：114.24° |
| 建筑面积(m2) | 地上10508 地下0 | |
| 建筑层数 | 地上4 地下0 | |
| 建筑高度（m） | 地上17.4 地下0.0 | |
| 建筑体积(m3) | 46045.36 | |
| 建筑外表面积(m2) | 11345.56 | |
| 北向角度 | 90 | |
| 结构类型 |  | |
| 外墙太阳辐射吸收系数 | 0.75 | |
| 屋顶太阳辐射吸收系数 | 0.75 | |

# 计算依据

1. 《绿色建筑评价标准》(GB/T50378-2014)

2. 《绿色建筑评价技术细则》(2015)

3. 《建筑能效标识技术标准》(JGJ/T 288-2012)

4. 《公共建筑节能设计标准》(GB50189-2015)

5. 《民用建筑热工设计规范》(GB50176)

# 计算要求

## 计算目标

依据《绿色建筑评价标准》(GB/T50378-2014)第5.2.6相关内容，对于建筑空调系统节能率进行计算。

## 计算方法

暖通空调系统节能措施包括合理选择系统形式，提高设备与系统效率，优化系统控制策略等。

比对建筑和设计建筑在外形、内部的功能分区、气象参数、建筑的室内供暖空调设计参数、房间运行模式(人员、灯光、设备等)以及围护结构均保持一致。

在供暖、通风和空调系统形式以及冷热源能效、输配系统和末端方式上，设计建筑按照用户设计要求设定，比对建筑则根据现有国家和行业有关建筑节能设计标准统一设定。通过分别计算和统计比对建筑和设计建筑在不同负荷率下的负荷情况，得出各自的全年空调系统耗电量及空调系统节能率。

即：空调系统节能率 ＝ （比对建筑全年空调系统耗电量 － 设计建筑全年空调系统耗电量） / 比对建筑全年空调系统耗电量 × 100%

# 围护结构概况

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | 设计建筑 | | |
| 屋顶传热系数K [W/(m2·K)] | | | 0.82(D:3.61) | | |
| 外墙（包括非透明幕墙）传热系数K [W/(m2·K)] | | | 1.22(D:2.93) | | |
| 屋顶透明部分传热系数  K [W/(m2·K)] | | | － | | |
| 屋顶透明部分太阳得热系数 | | | － | | |
| 底面接触室外的架空或外挑楼板传热系数K [W/(m2·K)] | | | 1.18 | | |
| 外窗（包括透明幕墙） | 朝向 | 立面 | 窗墙比 | 传热  系数 | 太阳得热系数 |
| 南向 | 南-默认立面 | 0.34 | 3.90 | 0.59 |
| 北向 | 北-默认立面 | 0.29 | 3.90 | 0.65 |
| 东向 | 东-默认立面 | 0.23 | 3.90 | 0.65 |
| 西向 | 西-默认立面 | 0.26 | 3.90 | 0.65 |

# 房间类型

## 房间表

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 房间类型 | 空调温度 ℃ | 供暖温度 ℃ | 新风量 | 人员密度 | 照明功率 密度 | 电器设备 功率 |
| 专业教室 | 25 | 18 | 30(m3/h.人) | 28(人) | 9.6(W/㎡) | 20(W/㎡) |
| 储藏室 | － | 18 | 2(m3/h.人) | 0(人) | 4(W/㎡) | 10(W/㎡) |
| 办公-普通办公室 | 26 | 20 | 30(m3/h.人) | 10(㎡/人) | 9(W/㎡) | 15(W/㎡) |
| 办公室 | 25 | 18 | 30(m3/h.人) | 2(人) | 9(W/㎡) | 20(W/㎡) |
| 多功能报告厅 | 25 | 18 | 10(m3/h.人) | 1(人) | 8(W/㎡) | 15(W/㎡) |
| 实验室 | 25 | 18 | 30(m3/h.人) | 15(人) | 9(W/㎡) | 20(W/㎡) |
| 普通教室 | 25 | 18 | 30(m3/h.人) | 10(人) | 9.6(W/㎡) | 20(W/㎡) |
| 档案室 | 25 | 18 | 10(m3/h.人) | 1(人) | 8(W/㎡) | 15(W/㎡) |
| 电梯 | － | 18 | 10(m3/h.人) | 8(人) | 9(W/㎡) | 20(W/㎡) |
| 自习室 | 25 | 18 | 30(m3/h.人) | 20(人) | 9(W/㎡) | 20(W/㎡) |
| 讨论区 | 25 | 18 | 30(m3/h.人) | 5(人) | 9.6(W/㎡) | 20(W/㎡) |
| 设备间 | － | 18 | 10(m3/h.人) | 0(人) | 5(W/㎡) | 20(W/㎡) |
| 非设计课教室 | 25 | 18 | 30(m3/h.人) | 56(人) | 9(W/㎡) | 20(W/㎡) |

## 作息时间表

详见附录

# 设计系统

## 系统类型

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 系统编号 | 系统类型 | 供冷 能效比 | 供热 能效比 | 面积(㎡) | 包含的房间 |
| 默认 | 双管制风机盘管 | － | － | 6540.76 | 2010(2),2006(2),2050(2),2020(2),2122(2),2070(2),2005(2),2002(2),2055(2),2054(2),2144(2),2141(2),2140(2),2137(2),2131(2),2124(2),2123(2),2101(2),2100(2),2092(2),2085(2),2080(2),2071(2),2066(2),2052(2),2024(2),2022(2),2019(2),2018(2),2015(2),2014(2),2012(2),2004(2),2003(2),2009(2),3125(3),3051(3),3090(3),3072(3),3060(3),3146(3),3143(3),3142(3),3132(3),3127(3),3126(3),3114(3),3104(3),3103(3),3102(3),3086(3),3081(3),3073(3),3061(3),3037(3),3035(3),3034(3),3033(3),3032(3),3031(3),3030(3),4002(4),4075(4),4064(4),4062(4),4147(4),4139(4),4138(4),4134(4),4133(4),4130(4),4129(4),4128(4),4120(4),4118(4),4117(4),4116(4),4115(4),4110(4),4108(4),4091(4),4087(4),4082(4),4076(4),4063(4),4045(4),4043(4),4042(4),4041(4),4040(4),4039(4),4038(4) |
| Sys1 | 双管制风机盘管 | － | － | 2893.62 | 1009(1),1002(1),1006(1),1121(1),1011(1),1065(1),1067(1),1057(1),1056(1),1027(1),1145(1),1136(1),1096(1),1084(1),1079(1),1069(1),1068(1),1059(1),1053(1),1029(1),1026(1),1025(1),1058(1),1017(1),1016(1),1013(1),1008(1),1001(1) |

## 制冷系统

### 冷水机组

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 名称 | 类型 | 额定制冷量(kW) | 额定性能系数(COP) | 台数 |
| 冷水机组 | 水冷-螺杆式冷水机组 | 500 | 5.00 | 1 |

### 冷却水泵

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 类型 | 轴功率(kW) | 扬程(m) | 供回水温差(°C) | 设计工作点效率(%) | 台数 |
| 单速 | 10 | 25 | 5 | 80 | 1 |

### 冷冻水泵

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 类型 | 轴功率(kW) | 扬程(m) | 供回水温差(°C) | 设计工作点效率(%) | 台数 |
| 单速 | 8 | 30 | 5 | 80 | 1 |

### 制冷系统能耗

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 负荷率 (%) | 机组 制冷量 (kW) | 机组 耗电量 (kW) | 冷却水 泵耗电 (kW) | 冷冻水 泵耗电 (kW) | 性能系数 COP | 区间 负荷 (kWh) | 区间 时长 (h) | 机组 电耗 (kWh) | 冷却水 泵电耗 (kWh) | 冷冻水 泵电耗 (kWh) |
| 25 | 125 | 30 | 10 | 8 | 4.17 | 22582 | 680 | 5420 | 6800 | 5440 |
| 50 | 250 | 55 | 10 | 8 | 4.55 | 50595 | 268 | 11131 | 2680 | 2144 |
| 75 | 375 | 75 | 10 | 8 | 5.00 | 103800 | 333 | 20760 | 3330 | 2664 |
| 100 | 500 | 100 | 10 | 8 | 5.00 | 998191 | 1308 | 199638 | 13080 | 10464 |
| 综合 | | | | | 4.96 | 1175168 | 2589 | 236949 | 25890 | 20712 |

## 供暖系统

## 空调风机

### 独立新风

|  |  |  |
| --- | --- | --- |
| 系统编号 | 单位风量耗功率W/(m3/h) | 新风电耗(kWh) |
| 默认 | 0.24 | 55960 |
| Sys1 | 0.24 | 9557 |
| 合计 | | 65516 |

### 独立排风

|  |  |  |  |
| --- | --- | --- | --- |
| 系统编号 | 单位风量耗功率W/(m3/h) | 排风新风比率 | 排风电耗(kWh) |
| 默认 | 0.24 | 0.8 | 44768 |
| Sys1 | 0.24 | 1 | 9557 |
| 合计 | | | 54324 |

### 风机盘管

|  |  |
| --- | --- |
| 系统编号 | 风机盘管电耗(kWh) |
| 默认 | 2400 |
| Sys1 | 2870 |
| 合计 | 5270 |

# 比对系统

## 系统类型

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 系统编号 | 系统类型 | 供冷 能效比 | 供热 能效比 | 面积(㎡) | 包含的房间 |
| 默认 | 双管制风机盘管 | － | － | 同设计建筑 | 同设计建筑 |
| Sys1 | 双管制风机盘管 | － | － | 同设计建筑 | 同设计建筑 |

## 制冷系统

### 冷水机组

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 名称 | 类型 | 额定制冷量(kW) | 台数 | 全年供冷(kWh) | 综合部分负荷性能系数(IPLV) | 电耗 (kWh) |
| 冷水机组 | 水冷-螺杆式冷水机组 | 1654 | 1 | 1180227 | 6.30 | 187338 |
| 合计 | | | | | | 187338 |

### 冷却水泵

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 负荷率 (%) | 台数 | 区间时长 (h) | 输送能效比 ERe | 最大冷负荷 (kW) | 水泵电耗 (kWh) |
| 25 | 1 | 1386 | 0.0214 | 1654 | 107983 |
| 50 | 1 | 691 |
| 75 | 1 | 425 |
| 100 | 1 | 87 |

### 冷冻水泵

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 负荷率 (%) | 台数 | 区间时长 (h) | 输送能效比 ER0 | 最大冷负荷 (kW) | 水泵电耗 (kWh) |
| 25 | 1 | 1386 | 0.0241 | 1654 | 103181 |
| 50 | 1 | 691 |
| 75 | 1 | 425 |
| 100 | 1 | 87 |

## 供暖系统

## 空调风机

### 独立新风

|  |  |  |
| --- | --- | --- |
| 系统编号 | 单位风量耗功率W/(m3/h) | 新风电耗(kWh) |
| 默认 | 0.24 | 55960 |
| Sys1 | 0.24 | 9557 |
| 合计 | | 65516 |

### 独立排风

|  |  |  |  |
| --- | --- | --- | --- |
| 系统编号 | 单位风量耗功率W/(m3/h) | 排风新风比率 | 排风电耗(kWh) |
| 默认 | 0.24 | 0.8 | 44768 |
| Sys1 | 0.24 | 1 | 9557 |
| 合计 | | | 54324 |

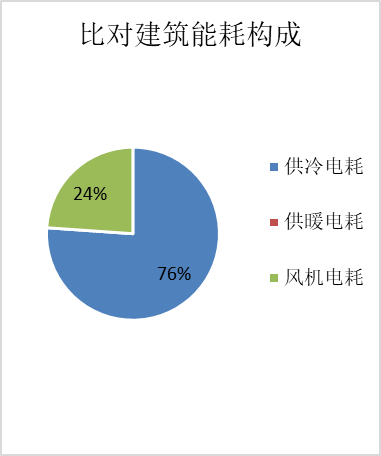
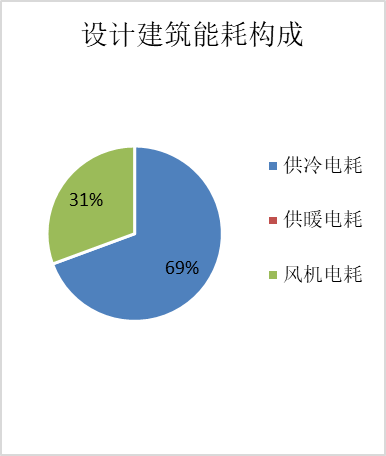
### 风机盘管

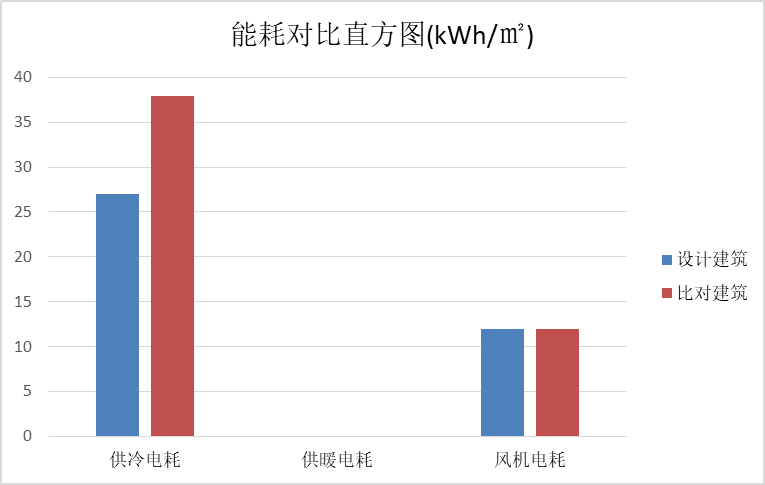
|  |  |
| --- | --- |
| 系统编号 | 风机盘管电耗(kWh) |
| 默认 | 2400 |
| Sys1 | 2870 |
| 合计 | 5270 |

# 计算结果

注:负荷和电耗均为考虑热回收后的值

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 能耗分类 | 能耗子类 | 设计建筑  (kWh/㎡) | 比对建筑  (kWh/㎡) | 比对节能率  （%） |
| 建筑负荷 | 耗冷量 | 111.83 | | － |
| 耗热量 | 49.92 | | － |
| 冷热合计 | 161.75 | | － |
| 热回收负荷 | 供冷 | 0.48 | － |  |
| 供暖 | 0.00 | － |  |
| 冷热合计 | 0.48 | － |  |
| 供冷电耗 | 中央冷源 | 22.55 | 17.83 | 28.85% |
| 冷却水泵 | 2.46 | 10.28 |
| 冷冻水泵 | 1.97 | 9.82 |
| 多联机/单元式空调 | 0.00 | 0.00 |
| 供冷合计 | 26.98 | 37.92 |
| 供暖电耗 | 中央热源 | 0.00 | 0.00 | - |
| 供暖水泵 | 0.00 | 0.00 |
| 多联机/单元式热泵 | 0.00 | 0.00 |
| 供暖合计 | 0.00 | 0.00 |
| 风机电耗 | 新风系统 | 6.23 | 6.23 | 0.00% |
| 排风系统 | 5.17 | 5.17 |
| 风机盘管 | 0.50 | 0.50 |
| 多联机室内机 | 0.00 | 0.00 |
| 全空气系统 | 0.00 | 0.00 |
| 风机合计 | 11.91 | 11.91 |
| 空调系统电耗 | | 38.89 | 49.83 | 21.95% |





# 附录

暑假:7.15~8.25; 寒假：1.15~3.1

## 工作日/节假日人员逐时在室率(%)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 房间类型 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 专业教室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 10 | 10 | 10 | 10 | 10 | 50 | 90 | 90 | 90 | 90 | 90 | 40 | 90 | 90 | 90 | 90 | 40 | 90 | 90 | 80 | 60 | 10 | 10 |
| 储藏室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 办公-普通办公室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 95 | 95 | 95 | 80 | 80 | 95 | 95 | 95 | 95 | 30 | 30 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 办公室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 80 | 80 | 80 | 80 | 40 | 20 | 80 | 80 | 80 | 80 | 80 | 40 | 20 | 0 | 0 | 0 | 0 |
| 多功能报告厅 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 实验室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 普通教室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 60 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 60 | 20 | 60 | 60 | 60 | 0 | 0 | 0 |
| 档案室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 电梯 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 自习室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 60 | 60 | 60 | 50 | 50 | 20 | 0 | 0 |
| 讨论区 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 40 | 40 | 60 | 40 | 20 | 60 | 70 | 70 | 60 | 20 | 80 | 80 | 60 | 20 | 0 | 0 |
| 设备间 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 非设计课教室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 20 | 80 | 80 | 80 | 80 | 80 | 20 | 80 | 80 | 80 | 80 | 20 | 80 | 80 | 80 | 20 | 0 | 0 |

注：上行：工作日；下行：节假日

## 工作日/节假日照明开关时间表(%)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 房间类型 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 专业教室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 储藏室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 办公-普通办公室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 95 | 95 | 95 | 80 | 80 | 95 | 95 | 95 | 95 | 30 | 30 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 办公室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 多功能报告厅 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 实验室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 普通教室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 档案室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 电梯 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 自习室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 1000 | 10 | 10 |
| 讨论区 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 设备间 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 非设计课教室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 100 | 0 | 0 |

注：上行：工作日；下行：节假日

## 工作日/节假日设备逐时使用率(%)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 房间类型 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 专业教室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 10 | 10 | 10 | 10 | 10 | 60 | 80 | 80 | 95 | 80 | 40 | 20 | 60 | 80 | 80 | 80 | 40 | 80 | 80 | 80 | 10 | 10 | 10 |
| 储藏室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 办公-普通办公室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 95 | 95 | 95 | 50 | 50 | 95 | 95 | 95 | 95 | 30 | 30 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 办公室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 多功能报告厅 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 实验室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 普通教室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 0 | 0 | 0 |
| 档案室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 电梯 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 自习室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 0 |
| 讨论区 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 设备间 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 非设计课教室 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 95 | 80 | 40 | 20 | 50 | 60 | 60 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 |

注：上行：工作日；下行：节假日

## 工作日/节假日空调系统运行时间表(1:开,0:关)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 系统编号 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 默认 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Sys1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |

注：上行：工作日；下行：节假日