**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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# 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