**项目优化后**

**全年负荷计算书**

|  |  |
| --- | --- |
| 工程名称 | 新建项目 |
| 设计编号 |  |
| 建设单位 |  |
| 设计单位 |  |
| 计 算 人 |  |
| 校 对 人 |  |
| 审 核 人 |  |
| 计算日期 | 2024年12月25日 |



|  |  |
| --- | --- |
| 采用软件 | 暖通负荷BECH2024 |
| 软件版本 | 20240430(SP1) |
| 研发单位 | 北京绿建软件股份有限公司 |
| 正版授权码 | T17336236768 |

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# 建筑概况

|  |  |
| --- | --- |
| 地理位置 | 浙江-杭州 |
| 气候分区 | 夏热冬冷A区 |
| 北纬 | 30.23 |
| 东经 | 120.17 |
| 建筑名称 | 新建项目 |
| 建筑类型 | 公共建筑 |  |
| 建筑面积 | 地上 49695.88 ㎡ | 地下 0.00 ㎡ |
| 建筑高度 | 地上 159.80 m | 地下0.00 |
| 建筑层数 | 地上 38 | 地下 0 |
| 北向角度 | 90° |

# 气象数据

## 气象地点

浙江-杭州, 《建筑节能气象参数标准》JGJ346-2014

## 逐日干球温度表



## 逐月辐照量表



## 峰值工况

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 气象数据 | 时刻 | 干球温度(℃) | 湿球温度(℃) | 含湿量(g/kg) | 焓值(kj/kg) |
| 最热 | 08月04日15时 | 37.2 | 27.2 | 19.1 | 86.5 |
| 最冷 | 02月01日07时 | -6.1 | -6.7 | 1.7 | -1.9 |

# 软件介绍

本报告采用的软件为绿建暖通负荷BECH2024，该软件紧密结合暖通和节能设计规范、可根据项目实际情况建立建筑热工模型，并可对围护结构材料、房间内扰发热、作息时间表、热回收方式等参数进行设置。

软件包含全国各地典型气象年数据，内置DOE2.1E内核，对于建筑的逐时负荷进行动态模拟，既可以模拟8760小时理想负荷，也可以根据设定好的采暖期/空调期进行逐时模拟。

软件还支持分析全年建筑能耗的来源构成，依据日射得热、新风负荷、围护传热和内扰得热进行归类分项，生成设计建筑全年负荷计算报告书，提供详实的数据和多样的图表，为设计师在设备选型、制定运行策略等方面提供参考和帮助。

# 围护结构

## 屋顶构造

### 上人平屋顶(倒置式)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 材料名称（由上到下） | 厚度δ | 导热系数λ | 蓄热系数S | 修正系数 | 热阻R | 热惰性指标 |
| (mm) | W/(m.K) | W/(㎡.K) | α | (㎡K)/W | D=R\*S |
| 细石混凝土（双向配筋） | 50 | 1.740 | 17.060 | 1.00 | 0.029 | 0.490 |
| 石灰砂浆 | 10 | 0.810 | 10.070 | 1.00 | 0.012 | 0.124 |
| 弹性体改性沥青防水卷材 | 3 | 0.230 | 9.370 | 1.00 | 0.013 | 0.122 |
| 非固化橡胶沥青防水涂料I型 | 1.5 | － | － | － | － | － |
| 水泥砂浆 | 20 | 0.930 | 11.370 | 1.00 | 0.022 | 0.245 |
| 挤塑聚苯板（XPS）(屋面楼板) | 130 | 0.030 | 0.320 | 1.20 | 3.611 | 1.387 |
| 加气混凝土、泡沫混凝土(ρ=500) | 30 | 0.100 | 2.693 | 1.00 | 0.300 | 0.808 |
| 钢筋混凝土 | 100 | 1.740 | 17.200 | 1.00 | 0.057 | 0.989 |
| 石灰水泥砂浆（混合砂浆） | 10 | 0.870 | 10.750 | 1.00 | 0.011 | 0.124 |
| 各层之和∑ | 354.5 | － | － | － | 4.056 | 4.288 |
| 传热系数K=1/(0.15+∑R) | 0.24 |

## 楼板构造

### 保温砂浆楼板

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 材料名称 | 厚度δ | 导热系数λ | 蓄热系数S | 修正系数 | 热阻R | 热惰性指标 |
| (mm) | W/(m.K) | W/(㎡.K) | α | (㎡K)/W | D=R\*S |
| 细石混凝土（双向配筋） | 40 | 1.740 | 17.060 | 1.00 | 0.023 | 0.392 |
| 无机轻集料保温砂浆(ρ0≤450) | 30 | 0.085 | 1.500 | 1.25 | 0.282 | 0.529 |
| 钢筋混凝土 | 120 | 1.740 | 17.200 | 1.00 | 0.069 | 1.186 |
| 各层之和∑ | 190 | － | － | － | 0.374 | 2.108 |
| 传热系数K=1/(0.22+∑R) | 1.68 |

## 周边地面构造

### 地面构造一

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 材料名称 | 厚度δ | 导热系数λ | 蓄热系数S | 修正系数 | 热阻R | 热惰性指标 |
| (mm) | W/(m.K) | W/(㎡.K) | α | (㎡K)/W | D=R\*S |
| 水泥砂浆 | 30 | 0.930 | 11.370 | 1.00 | 0.032 | 0.367 |
| C15混凝土垫层 | 60 | 1.740 | 17.060 | 1.00 | 0.034 | 0.588 |
| 钢筋混凝土 | 120 | 1.740 | 17.200 | 1.00 | 0.069 | 1.186 |
| 碎石 | 150 | 1.000 | 13.410 | 1.00 | 0.150 | 2.012 |
| 各层之和∑ | 360 | － | － | － | 0.286 | 4.153 |
| 传热系数K=1/(0.11+∑R) | 0.52 |

## 非周边地面构造

### 地面构造一

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 材料名称 | 厚度δ | 导热系数λ | 蓄热系数S | 修正系数 | 热阻R | 热惰性指标 |
| (mm) | W/(m.K) | W/(㎡.K) | α | (㎡K)/W | D=R\*S |
| 水泥砂浆 | 30 | 0.930 | 11.370 | 1.00 | 0.032 | 0.367 |
| C15混凝土垫层 | 60 | 1.740 | 17.060 | 1.00 | 0.034 | 0.588 |
| 钢筋混凝土 | 120 | 1.740 | 17.200 | 1.00 | 0.069 | 1.186 |
| 碎石 | 150 | 1.000 | 13.410 | 1.00 | 0.150 | 2.012 |
| 各层之和∑ | 360 | － | － | － | 0.286 | 4.153 |
| 传热系数K=1/(0.11+∑R) | 0.30 |

## 门构造

|  |  |  |  |
| --- | --- | --- | --- |
| 序号 | 构造名称 | 传热系数 | 备注 |

## 窗构造

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 序号 | 构造名称 | 传热系数 | 窗遮阳系数 | 可见光透射比 | 备注 |
| 1 | 80系列平开隔热铝合金窗(5+12Ar+5Low\_E+12Ar+5Low\_E)(中低透) | 1.100 | 0.276 | 0.510 |  |

# 房间类型

## 房间参数表

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 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 |
| 会议室 | 26 | 18 | 14(m^3/h.人) | 2.5(m^2/人) | 8(W/m^2) | 15(W/m^2) |
| 卫生间 | 28 | 18 | 20(m^3/h.人) | 20(m^2/人) | 5(W/m^2) | 15(W/m^2) |
| 普通办公室 | 26 | 20 | 30(m^3/h.人) | 8(m^2/人) | 8(W/m^2) | 15(W/m^2) |
| 档案室 | 26 | 18 | 30(m^3/h.人) | 8(m^2/人) | 6(W/m^2) | 15(W/m^2) |
| 楼梯间 | － | － | 0(m^3/h.人) | 0(人) | 3.5(W/m^2) | 15(W/m^2) |
| 空房间 | － | － | 20(m^3/h.人) | 0(人) | 0(W/m^2) | 0(W/m^2) |
| 设备间 | － | － | 0(次/h) | 0(人) | 6(W/m^2) | 15(W/m^2) |
| 走廊 | 26 | 16 | 20(m^3/h.人) | 50(m^2/人) | 3.5(W/m^2) | 15(W/m^2) |

## 作息时间表

详见附录

# 系统设置

## 系统划分

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 系统编号 | 热回收类型 | 启动条件 | 回收效率 | 排风比例 | 面积(m2) | 包含的房间 |
| 默认 | 无 | -- | -- | -- | 10519.53 | X024,X023,X022,X021,X020,X019,X018,X017,X016,X015,X014,X013,X012,X011,X010,X009,X024,X023,X022,X021,X020,X019,X018,X017,X016,X015,X014,X013,X012,X011,X010,X009,X024,X023,X022,X021,X020,X019,X018,X017,X016,X015,X014,X013,X012,X011,X010,X009,X024,X023,X022,X021,X020,X019,X018,X017,X016,X015,X014,X013,X012,X011,X010,X009,X024,X023,X022,X021,X020,X019,X018,X017,X016,X015,X014,X013,X012,X011,X010,X009,X024@6,X023@6,X022@6,X021@6,X020@6,X019@6,X018@6,X017@6,X016@6,X015@6,X014@6,X013@6,X012@6,X011@6,X010@6,X009@6,X008@6,X004@6,X003@6,X024@7,X023@7,X022@7,X021@7,X020@7,X019@7,X018@7,X017@7,X016@7,X015@7,X014@7,X013@7,X012@7,X011@7,X010@7,X009@7,X008@7,X004@7,X003@7,X024@8,X023@8,X022@8,X021@8,X020@8,X019@8,X018@8,X017@8,X016@8,X015@8,X014@8,X013@8,X012@8,X011@8,X010@8,X009@8,X008@8,X004@8,X003@8,X024@9,X023@9,X022@9,X021@9,X020@9,X019@9,X018@9,X017@9,X016@9,X015@9,X014@9,X013@9,X012@9,X011@9,X010@9,X009@9,X008@9,X004@9,X003@9,X024@10,X023@10,X022@10,X021@10,X020@10,X019@10,X018@10,X017@10,X016@10,X015@10,X014@10,X013@10,X012@10,X011@10,X010@10,X009@10,X008@10,X004@10,X003@10,X024@11,X023@11,X022@11,X021@11,X020@11,X019@11,X018@11,X017@11,X016@11,X015@11,X014@11,X013@11,X012@11,X011@11,X010@11,X009@11,X008@11,X004@11,X003@11,X024@12,X023@12,X022@12,X021@12,X020@12,X019@12,X018@12,X017@12,X016@12,X015@12,X014@12,X013@12,X012@12,X011@12,X010@12,X009@12,X008@12,X004@12,X003@12,X024@13,X023@13,X022@13,X021@13,X020@13,X019@13,X018@13,X017@13,X016@13,X015@13,X014@13,X013@13,X012@13,X011@13,X010@13,X009@13,X008@13,X004@13,X003@13,X004@14,X003@14,X024@14,X023@14,X022@14,X021@14,X020@14,X019@14,X018@14,X017@14,X016@14,X015@14,X014@14,X013@14,X012@14,X011@14,X010@14,X009@14,14001@14,X024@15,X023@15,X022@15,X021@15,X020@15,X019@15,X018@15,X017@15,X016@15,X015@15,X014@15,X013@15,X012@15,X011@15,X010@15,X009@15,14001@15,X024@16,X023@16,X022@16,X021@16,X020@16,X019@16,X018@16,X017@16,X016@16,X015@16,X014@16,X013@16,X012@16,X011@16,X010@16,X009@16,X008@16,X004@16,X003@16,X024@17,X023@17,X022@17,X021@17,X020@17,X019@17,X018@17,X017@17,X016@17,X015@17,X014@17,X013@17,X012@17,X011@17,X010@17,X009@17,X008@17,X004@17,X003@17,X024@18,X023@18,X022@18,X021@18,X020@18,X019@18,X018@18,X017@18,X016@18,X015@18,X014@18,X013@18,X012@18,X011@18,X010@18,X009@18,X008@18,X004@18,X003@18,X024@19,X023@19,X022@19,X021@19,X020@19,X019@19,X018@19,X017@19,X016@19,X015@19,X014@19,X013@19,X012@19,X011@19,X010@19,X009@19,X008@19,X004@19,X003@19,X024@20,X023@20,X022@20,X021@20,X020@20,X019@20,X018@20,X017@20,X016@20,X015@20,X014@20,X013@20,X012@20,X011@20,X010@20,X009@20,X008@20,X004@20,X003@20,X024@21,X023@21,X022@21,X021@21,X020@21,X019@21,X018@21,X017@21,X016@21,X015@21,X014@21,X013@21,X012@21,X011@21,X010@21,X009@21,X008@21,X004@21,X003@21,X024@22,X023@22,X022@22,X021@22,X020@22,X019@22,X018@22,X017@22,X016@22,X015@22,X014@22,X013@22,X012@22,X011@22,X010@22,X009@22,X008@22,X004@22,X003@22,X024@23,X023@23,X022@23,X021@23,X020@23,X019@23,X018@23,X017@23,X016@23,X015@23,X014@23,X013@23,X012@23,X011@23,X010@23,X009@23,X008@23,X004@23,X003@23,X004@24,X003@24,X024@24,X023@24,X022@24,X021@24,X020@24,X019@24,X018@24,X017@24,X016@24,X015@24,X014@24,X013@24,X012@24,X011@24,X010@24,X009@24,14001@24,X024@25,X023@25,X022@25,X021@25,X020@25,X019@25,X018@25,X017@25,X016@25,X015@25,X014@25,X013@25,X012@25,X011@25,X010@25,X009@25,14001@25,X024@26,X023@26,X022@26,X021@26,X020@26,X019@26,X018@26,X017@26,X016@26,X015@26,X014@26,X013@26,X012@26,X011@26,X010@26,X009@26,X008@26,X004@26,X003@26,X024@27,X023@27,X022@27,X021@27,X020@27,X019@27,X018@27,X017@27,X016@27,X015@27,X014@27,X013@27,X012@27,X011@27,X010@27,X009@27,X008@27,X004@27,X003@27,X024@28,X023@28,X022@28,X021@28,X020@28,X019@28,X018@28,X017@28,X016@28,X015@28,X014@28,X013@28,X012@28,X011@28,X010@28,X009@28,X008@28,X004@28,X003@28,X024@29,X023@29,X022@29,X021@29,X020@29,X019@29,X018@29,X017@29,X016@29,X015@29,X014@29,X013@29,X012@29,X011@29,X010@29,X009@29,X008@29,X004@29,X003@29,X024@30,X023@30,X022@30,X021@30,X020@30,X019@30,X018@30,X017@30,X016@30,X015@30,X014@30,X013@30,X012@30,X011@30,X010@30,X009@30,X008@30,X004@30,X003@30,X024@31,X023@31,X022@31,X021@31,X020@31,X019@31,X018@31,X017@31,X016@31,X015@31,X014@31,X013@31,X012@31,X011@31,X010@31,X009@31,X008@31,X004@31,X003@31,X024@32,X023@32,X022@32,X021@32,X020@32,X019@32,X018@32,X017@32,X016@32,X015@32,X014@32,X013@32,X012@32,X011@32,X010@32,X009@32,X008@32,X004@32,X003@32,X024@33,X023@33,X022@33,X021@33,X020@33,X019@33,X018@33,X017@33,X016@33,X015@33,X014@33,X013@33,X012@33,X011@33,X010@33,X009@33,X008@33,X004@33,X003@33,X024@34,X023@34,X022@34,X021@34,X020@34,X019@34,X018@34,X017@34,X016@34,X015@34,X014@34,X013@34,X012@34,X011@34,X010@34,X009@34,X008@34,X004@34,X003@34,X024@35,X023@35,X022@35,X021@35,X020@35,X019@35,X018@35,X017@35,X016@35,X015@35,X014@35,X013@35,X012@35,X011@35,X010@35,X009@35,X008@35,X004@35,X003@35,X024@36,X023@36,X022@36,X021@36,X020@36,X019@36,X018@36,X017@36,X016@36,X015@36,X014@36,X013@36,X012@36,X011@36,X010@36,X009@36,X008@36,X004@36,X003@36,X024@37,X023@37,X022@37,X021@37,X020@37,X019@37,X018@37,X017@37,X016@37,X015@37,X014@37,X013@37,X012@37,X011@37,X010@37,X009@37,X008@37,X004@37,X003@37,X024@38,X023@38,X022@38,X021@38,X020@38,X019@38,X018@38,X017@38,X016@38,X015@38,X014@38,X013@38,X012@38,X011@38,X010@38,X009@38,X008@38,X004@38,X003@38 |
| Sys1 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 2559.00 | 1001 |
| Sys2 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 2559.00 | 2001 |
| Sys3 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 2271.00 | 3001 |
| Sys4 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 1983.00 | 4001 |
| Sys5 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 1695.00 | 5001 |
| Sys@10 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@10,X006@10,X005@10,X002@10,X001@10 |
| Sys@11 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@11,X006@11,X005@11,X002@11,X001@11 |
| Sys@12 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@12,X006@12,X005@12,X002@12,X001@12 |
| Sys@13 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@13,X006@13,X005@13,X002@13,X001@13 |
| Sys@16 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@16,X006@16,X005@16,X002@16,X001@16 |
| Sys@17 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@17,X006@17,X005@17,X002@17,X001@17 |
| Sys@18 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@18,X006@18,X005@18,X002@18,X001@18 |
| Sys@19 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@19,X006@19,X005@19,X002@19,X001@19 |
| Sys@20 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@20,X006@20,X005@20,X002@20,X001@20 |
| Sys@21 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@21,X006@21,X005@21,X002@21,X001@21 |
| Sys@22 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@22,X006@22,X005@22,X002@22,X001@22 |
| Sys@23 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@23,X006@23,X005@23,X002@23,X001@23 |
| Sys@26 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@26,X006@26,X005@26,X002@26,X001@26 |
| Sys@27 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@27,X006@27,X005@27,X002@27,X001@27 |
| Sys@28 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@28,X006@28,X005@28,X002@28,X001@28 |
| Sys@29 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@29,X006@29,X005@29,X002@29,X001@29 |
| Sys@30 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@30,X006@30,X005@30,X002@30,X001@30 |
| Sys@31 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@31,X006@31,X005@31,X002@31,X001@31 |
| Sys@32 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@32,X006@32,X005@32,X002@32,X001@32 |
| Sys@33 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@33,X006@33,X005@33,X002@33,X001@33 |
| Sys@34 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@34,X006@34,X005@34,X002@34,X001@34 |
| Sys@35 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@35,X006@35,X005@35,X002@35,X001@35 |
| Sys@36 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@36,X006@36,X005@36,X002@36,X001@36 |
| Sys@37 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@37,X006@37,X005@37,X002@37,X001@37 |
| Sys@38 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@38,X006@38,X005@38,X002@38,X001@38 |
| Sys@6 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@6,X006@6,X005@6,X002@6,X001@6 |
| Sys@7 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@7,X006@7,X005@7,X002@7,X001@7 |
| Sys@8 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@8,X006@8,X005@8,X002@8,X001@8 |
| Sys@9 | 全热回收 | 温差启动冷:≥5.0(℃)暖:≥5.0(℃) | 冷:0.50, 暖:0.55 | 0.80 | 964.56 | X007@9,X006@9,X005@9,X002@9,X001@9 |

## 运行时间表

详见附录

# 计算结果

## 模拟周期

全年8760小时模拟

## 全年冷暖需求

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 系统名称\负荷 | 供暖需求(kWh) | 供暖指标(kWh/㎡·a) | 供冷需求(kWh) | 供冷指标(kWh/㎡·a) |
| Sys1 | 72448 | 28.31 | 62619 | 24.47 |
| Sys2 | 1872 | 0.73 | 120455 | 47.07 |
| Sys3 | 882 | 0.39 | 141356 | 62.24 |
| Sys4 | 721 | 0.36 | 133851 | 67.50 |
| Sys5 | 698 | 0.41 | 113192 | 66.78 |
| Sys | 15123 |  | 2506143 |  |
| 默认系统 | 257 | 0.02 | 1312982 | 124.81 |
| 建筑总计 | 92000 | 1.85 | 4390597 | 88.35 |



## 负荷分项统计

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 分类 | 围护传热 | 室内得热 | 窗日射 | 新风/渗透 | 热回收 | 合计 |
| 供暖(kWh/㎡) | -0.68 | 1.02 | 0.48 | -3.97 | 1.29 | -1.85 |
| 供冷(kWh/㎡) | 11.92 | 43.26 | 19.72 | 14.68 | -1.22 | 88.35 |





## 逐月负荷表

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 月份 | 供暖(kWh) | 供冷(kWh) | 热负荷峰值(kW) | 热负荷峰值时刻 | 冷负荷峰值(kW) | 冷负荷峰值时刻 |
| 1月 | 16562 | 11385 | 1188.870 | 1月2日7时 | 87.762 | 1月25日15时 |
| 2月 | 17469 | 14449 | 1178.821 | 2月4日7时 | 604.037 | 2月21日15时 |
| 3月 | 23560 | 63923 | 367.517 | 3月4日7时 | 2798.380 | 3月15日12时 |
| 4月 | 19434 | 233104 | 251.899 | 4月8日7时 | 2739.639 | 4月30日15时 |
| 5月 | 10711 | 491083 | 162.834 | 5月6日7时 | 3782.834 | 5月10日15时 |
| 6月 | 2307 | 547967 | 116.525 | 6月10日7时 | 3645.416 | 6月6日13时 |
| 7月 | 21 | 951663 | 20.784 | 7月1日7时 | 4960.642 | 7月22日9时 |
| 8月 | 0 | 937972 | 0.000 | -- | 5010.977 | 8月5日8时 |
| 9月 | 0 | 599822 | 0.000 | -- | 4260.425 | 9月2日15时 |
| 10月 | 0 | 340089 | 0.000 | -- | 4648.437 | 10月4日10时 |
| 11月 | 0 | 174622 | 0.000 | -- | 2102.617 | 11月19日15时 |
| 12月 | 1935 | 24518 | 457.340 | 12月16日7时 | 990.539 | 12月27日15时 |





# 附录

**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 |
| 会议室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 100 | 100 | 100 | 30 | 100 | 100 | 100 | 100 | 50 | 20 | 10 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 卫生间 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 100 | 100 | 100 | 30 | 100 | 100 | 100 | 100 | 50 | 20 | 10 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 普通办公室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 100 | 100 | 100 | 30 | 100 | 100 | 100 | 100 | 50 | 20 | 10 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 档案室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 100 | 100 | 100 | 30 | 100 | 100 | 100 | 100 | 50 | 20 | 10 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 楼梯间 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 70 | 50 | 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 |
| 空房间 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 50 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 70 | 50 | 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 |
| 设备间 | 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 走廊 | 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 |

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 |
| 会议室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 36 | 62 | 56 | 54 | 43 | 53 | 55 | 58 | 67 | 40 | 18 | 10 | 10 | 10 | 10 | 10 | 10 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 卫生间 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 36 | 62 | 56 | 54 | 43 | 53 | 55 | 58 | 67 | 40 | 18 | 10 | 10 | 10 | 10 | 10 | 10 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 普通办公室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 36 | 62 | 56 | 54 | 43 | 53 | 55 | 58 | 67 | 40 | 18 | 10 | 10 | 10 | 10 | 10 | 10 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 档案室 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 36 | 62 | 56 | 54 | 43 | 53 | 55 | 58 | 67 | 40 | 18 | 10 | 10 | 10 | 10 | 10 | 10 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 楼梯间 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 空房间 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 80 | 90 | 100 | 100 | 100 | 10 | 10 | 10 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 设备间 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 走廊 | 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 |

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 |
| 会议室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 50 | 20 | 10 | 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 |
| 卫生间 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 50 | 20 | 10 | 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 |
| 普通办公室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 50 | 20 | 10 | 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 |
| 档案室 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 50 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 50 | 20 | 10 | 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 |
| 楼梯间 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 50 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 70 | 50 | 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 |
| 空房间 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 50 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 70 | 50 | 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 |
| 设备间 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 走廊 | 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 |

注：上行：工作日；下行：节假日

**工作日/节假日空调系统开关时间表**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 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 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@10 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@11 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@12 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@13 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@16 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@17 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@18 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@19 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@20 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@21 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@22 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@23 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@26 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@27 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@28 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@29 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@31 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@32 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@33 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@34 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@35 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@36 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@37 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@38 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@7 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@8 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |
| Sys@9 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 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 | 0 |

注：上行：工作日；下行：节假日