


NOTES:

- MODIFICATIONS ARE MARKED IN RED FONT.
- MODIFIED OF PAGE 9 & 10.

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|---|------------|--------------------------------|-----|--------------------|---------------|--------|--------|
| A | 06.11.2024 | ISSUED FOR APPROVAL | | | UNK | MM | GC |
| REV | DATE | DESCRIPTION | | | MOD.BY | CKD.BY | APP.BY |
| REVISIONS | | | | | | | |
|  | | SHIP ORKIM POWER | | | | | |
| | | TITLE ELECTRICAL LOAD ANALYSIS | | | | | |
| SCALE | NTS | DRAWN | UNK | DRAWING NUMBER | HULL NUMBER | REV | |
| | | CHECKED | MM | GSPL-P1513-EL-0001 | ----- | A | |
| SIZE | A4 | VERIFIED | GC | DATE:- 06.11.2024 | SHEET:- 01/10 | | |

| 序号 No | 用电设备名称 Name of electric equipments | 电动机额定数据 Rated Power of Motors | | | | | 负荷系数 COL | 数量 qty | 负荷类别 Specification of loads | 航行 Sailing | | 进出港 Inports & Dep | | 装卸货 Load & Unload | | 停泊 In port | | 应急 Emergency | |
|----------|---------------------------------------|----------------------------------|----------------|---------------|--------------|---------------|-------------|-----------|--------------------------------|------------------------------|------------------|------------------------------|------------------|------------------------------|------------------|------------------------------|------------------|------------------------------|------------------|
| | | 型号 Type | 功率 Power kw | 电流 Curt. A | 效率 eff. % | 功率因素 cos φ | | | | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw |
| 一 | 机舱设备 Equip. of engine room | | | | | | | | | | | | | | | | | | |
| 1 | 1-2#空压机 1-2# Air compressor | YH160M-4 | 11 | 20.4 | 89.1 | | 0.9 | 2 | II | 0.5 | 11.11 | 0.5 | 11.11 | 0.5 | 11.11 | | | 0.5 | 11.11 |
| 2 | 舱底总用泵 Pump of bottom cabin | YH225S-4 | 37 | 62.6 | 92.4 | | 0.9 | 1 | II | 1 | 36.04 | 1 | 36.04 | | | | | | |
| 3 | 消防总用泵 Fire pump | YH225S-4 | 37 | 62.6 | 92.4 | | 0.9 | 1 | II | 0 | 0 | | | | | 1 | 36.04 | | |
| 4 | 滑油输送泵 Pump of lub. oil | YH100L1-4 | 2.2 | 4.55 | 81 | | 0.9 | 1 | II | 1 | 2.44 | 1 | 2.44 | | | | | | |
| 5 | 重油输送泵 Pump of diesel fuel oil | YH112M-4 | 4 | 7.85 | 84.5 | | 0.9 | 2 | II | 0.5 | 4.26 | 0.5 | 4.26 | 0 | 0 | 0 | 0 | | |
| 6 | 轻柴油输送泵 Pump of light fuel oil | YH112M-4 | 4 | 7.85 | 84.5 | | 0.9 | 1 | II | 1 | 4.26 | 1 | 4.26 | 1 | 4.26 | 1 | 4.26 | | |
| 7 | 日用淡水泵及备用泵 freshwater & SP. pump | YH112M-4 | 4 | 7.85 | 84.5 | | 0.9 | 2 | II | 0.5 | 4.26 | 0.5 | 4.26 | 0.5 | 4.26 | 0.5 | 4.26 | | |
| 8 | 辅机海水泵 Seawater pump for aux. | YH132M-4 | 7.5 | 13.8 | 87.9 | | 0.9 | 2 | I | 0.5 | 7.68 | 0.5 | 7.68 | 0.5 | 7.68 | 0.5 | 7.68 | | |
| 9 | 热水柜 Hotwater tank* | | 12 | | | | 0.9 | 1 | II | | | | | 1 | 10.8 | 1 | 10.8 | | |

| 10 | 1-2# 机舱风机 1-2# fans for E/R | YH160M-4 | 11 | 20.4 | 89.1 | | 0.9 | 2 | I | 1 | 22.22 | 1 | 22.22 | 1 | 22.22 | 0.5 | 9.9 | 0.5 | 11.11 |
|----------|--|----------------------------------|-------------------|----------------|-----------------|-------------------|-------------------------|-------------------|--|---|-----------------------------|---|-----------------------------|---|-----------------------------|---|-----------------------------|---|-----------------------------|
| 序号 No | 用电设备名称 Name of electric equipments | 电动机额定数据 Rated Power of Motors | | | | | 负 荷 系 数 COL | 数 量 q ty | 负 荷 类 别 S pec if ic a it o n o f l o a d s | 航行 Sailing | | 进出港 Inports & Dep | | 装卸货 Load & Unload | | 停 泊 In port | | 应急 Emergency | |
| | | 型 号 Type | 功率 Power kw | 电 流 Curt. A | 效率 eff. % | 功率 因素 cos φ | | | | 使用 系数 C oeff ic i e n t o f U s e K | 所需 功率 P ower kw | 使用系 数 C oeff ic i e n t o f U s e K | 所需 功率 P ower kw | 使用系 数 C oeff ic i e n t o f U s e K | 所需 功率 P ower kw | 使用系 数 C oeff ic i e n t o f U s e K | 所需 功率 P ower kw | 使用系 数 C oeff ic i e n t o f U s e K | 所需 功率 P ower kw |
| 11 | 主机淡水备用泵 SP.pump for Freshwater of ME. | YH180M-4 | 18.5 | 32.4 | 88 | | 0.9 | 1 | III | | | | | | | | | | |
| 12 | 主机海水泵及备用泵 Seawater pump & SP.for ME. | YH180M-4 | 18.5 | 32.4 | 88 | | 0.9 | 2 | I | 0.5 | 18.92 | 0.5 | 18.92 | | | | | | |
| 13 | 齿轮箱滑油备用泵 Sp.pump for gearbox lub.oil | YH160L-4 | 15 | 27.2 | 90.3 | | 0.9 | 1 | III | | | | | | | | | | |
| 14 | 主机滑油备用泵 Sp.pump for lub.oil of ME. | YH180L-4 | 22 | 38.1 | 91.3 | | 0.9 | 1 | III | | | | | | | | | | |
| 15 | 水基灭火水泵 Fire pump of spray E/R | YH160M-4 | 11 | 20.4 | 89.1 | | 0.9 | 2 | III | | | | | | | | | | |
| 16 | 机舱舱底水油水分离器Separat or of oil & water | | 2.8 | | | | 0.9 | 1 | II | 1 | 2.8 | 1 | 2.8 | 1 | 2.8 | | | | |
| 17 | 生活污水处理装置 dirty water disposal | | 2.7 | | | | 0.9 | 1 | II | 1 | 2.7 | 1 | 2.7 | 1 | 2.7 | 1 | 2.7 | | |
| 18 | 废气锅炉 boiler | | 2.2 | | | | 0.9 | 2 | II | 0.5 | 1.1 | 0.5 | 1.1 | | | | | | |
| 19 | 油渣泵 Residual oil pump | YH112M-6 | 2.2 | 5.08 | 82 | | 0.9 | 1 | II | | | | | | | 1 | 2.415 | | |
| 20 | 尾轴滑油泵 Pump of lub. oil | YH112M-6 | 4 | 8.53 | 83.6 | | 0.9 | 1 | II | 1 | 4.31 | 1 | 4.31 | | | | | | |

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|----------|---|----------------------------------|-------------------|-------------------|---------------------|---------------------------|-------------------------|-------------------|--|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|---------------------|-------|
| 21 | 3#空压机 3# Air compressor | YH132S-4 | 5.5 | 10.6 | 88 | | 0.9 | 1 | II | | | | | | 1 | 5.625 | | | |
| 序号 No | 用电设备名称 Name of electric eupiments | 电动机额定数据 Rated Power of Motors | | | | | 负 荷 系 数 COL | 数 量 q ty | 负 荷 类 别 S pec ific ait on of loads | 航 行 Sailing | | 进 出 港 Inports & Dep | | 装 卸 货 Load & Unload | | 停 泊 In port | | 应 急 Emergency | |
| | | 型 号 Type | 功率 Power kw | 电 流 Curt. A | 效 率 eff. % | 功 率 因 素 cos φ | | | | 使用 系 数 C oeff icient of Use K | 所 需 功 率 P ower kw | 使用 系 数 C oeff icient of Use K | 所 需 功 率 P ower kw | 使用 系 数 C oeff icient of Use K | 所 需 功 率 P ower kw | 使用 系 数 C oeff icient of Use K | 所 需 功 率 P ower kw | | |
| 22 | 应急消防泵 Emergency fire pump | YH200L-4 | 30 | 50.9 | 92.1 | | 0.9 | 1 | I | | | | | | | | | 1 | 29.32 |
| 23 | 燃油分油机 Separator of fuel | YH112M-4 | 4 | 7.85 | 84.4 | | 0.9 | 2 | II | 0.5 | 4.27 | 0.5 | 4.27 | | | | | | |
| 24 | 柴油分油机 Separator of fuel | YH100L1-4 | 2.2 | 4.55 | 81.1 | | 0.9 | 1 | II | 1 | 2.44 | 1 | 2.44 | | | | | | |
| 25 | 燃油供应单元电动泵 fuel feeding unit | | 3 | | | | 0.9 | 2 | II | 0.5 | 2.7 | 0.5 | 2.7 | | | | | | |
| 26 | 滑油分油机 Separetor of lub oil | YH100L1-4 | 2.2 | 4.55 | 81.1 | | 0.9 | 1 | II | 1 | 2.44 | 1 | 2.44 | | | | | | |
| 27 | 中央空调 * Central air-condition | | 32.5 | | | | 0.9 | 1 | II | 1 | 29.25 | 1 | 29.25 | 1 | 29.25 | 1 | 29.25 | | |
| 28 | 中央空调风机 Fan for central ari-condition | YH160M1-4 | 11 | 21.58 | 89 | | 0.9 | 1 | II | 1 | 11.12 | 1 | 11.12 | 1 | 11.12 | 1 | 11.12 | | |
| 29 | 中央空调冷却水泵 * Cooling for central air-condition | YH132S-4 | 5.5 | 10.6 | 88 | | 0.9 | 1 | II | 1 | 5.63 | 1 | 5.63 | 1 | 5.63 | 1 | 5.63 | | |
| 30 | 柜式空调 * Tank air-condition | | 2.6 | | | | 0.9 | 2 | II | 1 | 4.68 | 1 | 4.68 | 1 | 4.68 | 0.5 | 2.34 | | |

| 31 | 柜式空调冷却水泵* Cooling for tank air-condition | YH90S-2 | 1.5 | 3.52 | 79 | | 0.9 | 1 | II | 1 | 1.71 | 1 | 1.71 | 1 | 1.71 | 1 | 1.71 | | |
|----------|--|----------------------------------|----------------|---------------|--------------|---------------|-------------|----------|--------------------------------|------------------------------|------------------|------------------------------|------------------|------------------------------|------------------|------------------------------|------------------|------------------------------|------------------|
| 32 | 泡沫泵 foam pump | YH802-4 | 0.75 | 1.89 | 72.6 | | 0.9 | 1 | III | | | | | | | | | | |
| 序号 No | 用电设备名称 Name of electric equipments | 电动机额定数据 Rated Power of Motors | | | | | 负荷系数 COL | 数量 ty | 负荷类别 Specification of loads | 航行 Sailing | | 进出港 Inports & Dep | | 装卸货 Load & Unload | | 停泊 In port | | 应急 Emergency | |
| | | 型号 Type | 功率 Power kw | 电流 Curt. A | 效率 eff. % | 功率因素 cos φ | | | | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw |
| 33 | 应发CO2首泵舵机舱分油机室油漆间抽风机 Fans for EG\bow pump\CO2\steer\sepr.Fuel\paint | YH80L1-2 | 0.75 | 1.81 | 75 | | 1 | 5 | I | 1 | 5 | 0.5 | 2.5 | 0.5 | 2.5 | 0.25 | 1.25 | 0.5 | 2.5 |
| 34 | 其他舱室风机 Fans for other rooms | | 0.75 | 1.81 | 75 | | 1 | 4 | I | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | | |
| 35 | 电焊机 * Electric welding | | 14 | | | | 0.9 | 1 | III | | | | | | | | | | |
| 36 | 车床、台钻、砂轮机* Lathe, drill, grinding wheel | | 6.4 | | | | 0.9 | 1 | III | | | | | | | | | | |
| 37 | 冷藏压缩机 Compressor of refrigeratory | | 3 | | | | 0.9 | 2 | II | 1 | 5.4 | 1 | 5.4 | 1 | 5.4 | 1 | 5.4 | | |
| 38 | 冷藏冷却水泵 Cooling for refrigeratory | YH90S-2 | 1.5 | 3.04 | 79.8 | | 0.9 | 1 | II | 1 | 1.69 | 1 | 1.69 | 1 | 1.69 | 1 | 1.69 | | |
| 39 | 焚烧炉 incinerator | | 7 | | | | | 1 | III | | | | | | | | | | |
| 40 | 首部舱底压载泵 bow bilge ballast pump | YH160M1-2 | 11 | 21.58 | 89 | | 0.9 | 1 | II | | | 1 | 11.12 | | | | | | |

[illegible]

| 8 | 油管吊 Crane oil pipe | YB160L-4-I | 15 | 30.3 | 89 | | 0.9 | 2 | III | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | |
| 序号 No | 用电设备名称 Name of electric equipments | 电动机额定数据 Rated Power of Motors | | | | | 负荷系数 COL | 数量 q ty | 负荷类别 Specification of loads | 航行 Sailing | | 进出港 Imports & Dep | | 装卸货 Load & Unload | | 停泊 Import | | 应急 Emergency | |
| | | 型号 Type | 功率 Power kw | 电流 Curt. A | 效率 eff. % | 功率因素 cos φ | | | | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw | 使用系数 Coefficient of Use K | 所需功率 Power kw |
| 三 | 照明及其他 lighting & others | | | | | | | | | | | | | | | | | | |
| 1 | 正常照明 Normal lighting | | 20 | | | | | | I | 0.8 | 16 | 0.7 | 14 | 0.7 | 14 | 0.6 | 12 | | |
| 2 | 应急照明 Emergency lighting | | 7 | | | | | | I | 0.8 | 5.6 | 0.7 | 4.9 | 0.7 | 4.9 | 0.6 | 4.2 | 1 | 7 |
| 3 | 工作照明 Work lighting | | 7.7 | | | | | | I | | | 0.7 | 5.39 | 0.8 | 6.16 | 0.1 | 0.77 | | |
| 4 | 充电装置 Charge equipments | | 4 | | | | | | II | 1 | 4 | 1 | 4 | 0.7 | 2.8 | 1 | 4 | 1 | 4 |
| 5 | 通导设备、报警、信号 Communication, Alarm, Signal | | 4 | | | | | | II | 0.7 | 2.8 | 0.8 | 3.2 | 0.4 | 1.6 | 0.2 | 0.8 | 0.4 | 1.6 |
| 6 | 无线电设备 Wireless equipments | | 3 | | | | | | II | 0.7 | 2.1 | 0.8 | 2.4 | 0.4 | 1.2 | 0.2 | 0.6 | 0.4 | 1.2 |
| 7 | 厨房设备 * Kitchen equipments | | 37 | | | | | | II | 0.7 | 25.9 | 0.7 | 25.9 | 0.8 | 29.6 | 0.7 | 25.9 | | |

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|----------|--|--|-------------------|----------------|-----------------|-------------------|-----------------|---------------|---------------------------------------|-------------------------------------|-------------------------|-------------------------------------|-------------------------|-------------------------------------|-------------------------|-------------------------------------|-------------------------|-----------------|---|
| 8 | 其他 Others | | 5 | | | | | | II | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 |
| | BWTS Load | | 45.5 | | | | | | I | | | 1 | 45.5 | 1 | 45.5 | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 序号 No | 用电设备名称 Name of electric equipments | 电动机额定数据 Rated Power of Motors | | | | | 负荷 系数 COL | 数量 q ty | 负荷 类别 Specification of loads | 航行 Sailing | | 进出港 Inports & Dep | | 装卸货 Load & Unload | | 停 泊 In port | | 应急 Emergency | |
| | | 型 号 Type | 功率 Power kw | 电 流 Curt. A | 效率 eff. % | 功率 因素 cos φ | | | | 使用 系数 Coefficient of Use K | 所需 功率 Power kw | 使用系 数 Coefficient of Use K | 所需 功率 Power kw | 使用系 数 Coefficient of Use K | 所需 功率 Power kw | 使用系 数 Coefficient of Use K | 所需 功率 Power kw | | |
| | 总计 Total | | | | | | | | | | | | | | | | | | |
| 1 | I 类负荷总功率 I Type Total loads | P _I (kW) | | | | | | | | 86.07 | | 191 | | 946.77 | | 38.55 | | 56.57 | |
| 2 | II 类负荷总功率 II Type Total loads | P _{II} (kw) | | | | | | | | 184.41 | | 224 | | 136.98 | | 169.52 | | 22.91 | |
| 3 | III类负荷总功率 IIIType Total loads | P _{III} (kw) | | | | | | | | | | | | | | | | | |
| 4 | I 类负荷考虑同时系数 (K _I = 0.85, 特大负荷K _I = 1) 时的总功率 Total powr of I Type loads when coefficient | P _I (kW) | | | | | | | | 73.16 | | 162 | | 918.94 | | 32.77 | | 52.48 | |
| 5 | II 类负荷考虑同时系数 (K _{II} = 0.4) 时的总功率 Total power of II type loads when coefficient | P _{II} (kW) | | | | | | | | 73.76 | | 89.7 | | 54.79 | | 67.81 | | 9.16 | |
| 6 | III类负荷考虑同时系数 (K _{III} = 0.87) 时的总功率 Total power of IIItype loads when coefficient | P _{III} (kW) | | | | | | | | | | | | | | | | | |
| 7 | I 、 II 类负荷功率总和 Total of I , II type loads | P _I +P _{II} (kW) | | | | | | | | 146.9 | | 252 | | 973.7 | | 100.6 | | 61.6 | |
| 8 | 考虑网络损失5%时所需功率 Power required when net work lost 5%, | (P _I +P _{II}) ×105% (kw) | | | | | | | | 154.3 | | 264 | | 1022.4 | | 105.6 | | 64.7 | |
| 9 | 使用发电机台数及功率 台数×功率 Power and Quantity of Generator | Quantity×Power (kw) | | | | | | | | 1×380 | | 1×380 | | 3×380 | | 1×380 | | 1×80 | |
| 10 | 备用发电机台数及功率 台数×功率 Power and Quantity of standbyGenerator | Quantity×Power (kw) | | | | | | | | 2×380 | | 2×380 | | | | 2×380 | | | |

| | | | | | | | |
|----|---|------------------------------|----|----|----|----|----|
| 11 | 发电机负荷率 | Loads ratio of Generator (%) | 41 | 70 | 90 | 28 | 81 |
| 备注 | <p>1、在发电机过载时，可将非重要负载（带*负载）卸除，以保证船舶安全航行。</p> <p>2、本船装卸货工况，两台货油泵若同时工作时，三台发电机需并联运行。</p> <p>1. Unimportant loads can be load-shedding automatically when any generator overloads 10% of rated power. which can satisfy safety sailing of vessel.</p> <p>2. At load & Unload,the three generators must be work paralleling if two cargo oil pump are working at the same time.</p> | | | | | | |