**敏捷生产V8.2**

**接口说明**

北京科斯奇石油科技有限公司

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# 一 概述

1、接口介绍

软件对外提供http接口服务，采用post请求模式，json数据格式。其他系统可通过接口进行数据交互。接口从功能方面分为用户登录接口、数据读取接口与数据写入接口。

2、接口概览

（1）用户登录接口概览

|  |  |  |
| --- | --- | --- |
| **序号** | **接口** | **URL** |
| 1 | 用户登录接口 | 平台访问地址/api/userLogin |

（2）数据访问接口概览

|  |  |  |
| --- | --- | --- |
| **序号** | **接口** | **URL** |
| 1 | 组织数据接口 | 平台访问地址/api/read/getOrganizationData |
| 2 | 井名信息接口 | 平台访问地址/api/read/oilWell/wellInformation |
| 3 | 抽油机设备信息接口 | 平台访问地址/api/read/oilWell/pumpingModelInformation |
| 4 | 油井实时统计数据接口 | 平台访问地址/api/read/oilWell/realtime/statisticsData |
| 5 | 油井实时井列表数据接口 | 平台访问地址/api/read/oilWell/realtime/wellListData |
| 6 | 油井单张功图历史数据接口 | 平台访问地址/api/read/oilWell/realtime/wellHistoryData |
| 7 | 油井单井实时详细信息数据接口 | 平台访问地址/api/read/oilWell/realtime/wellAnalysisData |
| 8 | 单张功图源数据接口 | 平台访问地址/api/read/oilWell/realtime/singleFESDiagramData |
| 9 | 历史功图源数据接口 | 平台访问地址/api/read/oilWell/realtime/historyFESDiagramData |
| 10 | 油井全天统计数据接口 | 平台访问地址/api/read/oilWell/total/statisticsData |
| 11 | 油井全天井列表数据接口 | 平台访问地址/api/read/oilWell/ total /wellListData |
| 12 | 油井全天历史数据接口 | 平台访问地址/api/read/oilWell/total/wellHistoryData |

（3）数据写入接口概览

|  |  |  |
| --- | --- | --- |
| **序号** | **接口** | **URL** |
| 1 | 生产数据上传接口 | 平台访问地址/api/write/production |
| 2 | 抽油机井功图数据上传接口 | 平台访问地址/api/write/FESDiagram |

# 二 接口详情

## 2.1 用户登录接口

### 2.1.1 用户登录接口

#### 2.1.1.1 参数说明

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 描述 | 用户登录接口 | | | | |
| URL | 平台访问地址/api/userLogin | | | | |
| 请求参数 | **代码** | **名称** | **类型** | **必填** | **备注** |
| User | 账号 | string | \* |  |
| Password | 密码 | string | \* |  |
| 响应数据 | **代码** | **名称** | **类型** | **备注** | |
| ResultStatus | 登录状态 | int | 1:登录成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| Msg | 信息 | string | 如：登录成功；用户名不能为空；用户密码不能为空；账号或密码错误等 | |

#### 2.1.1.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456"

}

2、响应数据实例

{

"ResultStatus ": 1,

" Msg ": "登录成功"

}

## 2.2 数据读取接口

### 2.2.1 组织数据

#### 2.2.1.1 参数说明

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 描述 | 获取当前登录用户下组织菜单数据 | | | | |
| URL | 平台访问地址/api/read/getOrganizationData | | | | |
| 请求参数 | **代码** | **名称** | **类型** | **必填** | **备注** |
| User | 账号 | string | \* |  |
| Password | 密码 | string | \* |  |
| 响应数据 | **代码** | **名称** | **类型** | **备注** | |
| ResultStatus | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| Org组织数据 | | | | |
| Text | 组织名称 | string |  | |
| OrgId | 组织编号 | string |  | |
| Children | 子节点 |  |  | |

#### 2.2.1.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456"

}

2、响应数据实例

{

"ResultStatus ": 1,

"Org": {

"Text": "组织根节点", //名称

"OrgId": "1", //编号

"Children": [{

"Text": "油田公司",

"OrgId": "2",

"Children": [{

"Text": "采油一厂",

"OrgId": "3",

"Children": [{

"OrgId": "4",

"Text": "采油一队"

}, {

"OrgId": "5",

"Text": "采油二队"

}]

}]

}]

}

}

### 2.2.2 井名信息

#### 2.2.2.1 参数说明

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 描述 | 获取井名信息 | | | | | |
| URL | 平台访问地址/api/read/oilWell/wellInformation | | | | | |
| 请求数据 | **代码** | **名称** | | **类型** | **必填** | **备注** |
| User | 用户 | | string | \* |  |
| Password | 密码 | | string | \* |  |
| LiftingType | 举升类型 | | int |  | 1-抽油机 2-螺杆泵 缺省：1 |
| WellList | 井列表 | | string[] |  | 获取列表中井信息，为空时查询用户所属组织下所有井 |
| 响应数据 | **代码** | | **名称** | **类型** | **备注** | |
| ResultStatus | | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| DataList数据列表 | | | | | |
| WellName | | 井名 | string |  | |
| ApplicationScenariosName | | 应用场景 | string | 油井或煤层气井 | |
| InstanceName | | 采控实例 | string |  | |
| DisplayInstanceName | | 显示实例 | string |  | |
| AlarmInstanceName | | 报警实例 | string |  | |
| TcpType | | 下位机TCP类型 | string | TCP Server或TCP Client | |
| SignInId | | 注册包ID/IP端口 | string |  | |
| Slave | | 设备从地址 | string |  | |
| PeakDelay | | 错峰延时(s) | string |  | |
| VideoUrl1 | | 视频监控路径1 | string |  | |
| VideoUrl2 | | 视频监控路径2 | string |  | |
| StatusName | | 状态 | string | 使能或失效 | |
| SortNum | | 排序编号 | string |  | |
| CrudeOilDensity | | 原油密度(g/cm^3) | string |  | |
| WaterDensity | | 水密度(g/cm^3) | string |  | |
| NaturalGasRelativeDensity | | 天然气相对密度 | string |  | |
| SaturationPressure | | 饱和压力(MPa) | string |  | |
| ReservoirDepth | | 油层中部深度(m) | string |  | |
| ReservoirTemperature | | 油层中部温度(℃) | string |  | |
| TubingPressure | | 油压(MPa) | string |  | |
| CasingPressure | | 套压(MPa) | string |  | |
| WellHeadTemperature | | 井口温度(℃) | string |  | |
| WaterCut | | 含水率(%) | string |  | |
| ProductionGasOilRatio | | 生产气油比(m^3/t) | string |  | |
| ProducingfluidLevel | | 动液面(m) | string |  | |
| PumpSettingDepth | | 泵挂(m) | string |  | |
| PumpType | | 泵类型 | string | 抽油机井特有 | |
| BarrelType | | 泵筒类型 | string | 抽油机井特有 | |
| PumpGrade | | 泵级别 | string | 抽油机井特有 | |
| PumpBoreDiameter | | 泵径(mm) | string | 抽油机井特有 | |
| PlungerLength | | 柱塞长(m) | string | 抽油机井特有 | |
| BarrelLength | | 泵筒长(m) | string | 螺杆泵井特有 | |
| BarrelSeries | | 泵级数 | string | 螺杆泵井特有 | |
| RotorDiameter | | 转子直径(mm) | string | 螺杆泵井特有 | |
| QPR | | 每转公称排量(ml/r) | string | 螺杆泵井特有 | |
| TubingStringInsideDiameter | | 油管内径(mm) | string |  | |
| CasingStringInsideDiameter | | 套管内径(mm) | string |  | |
| RodGrade1 | | 一级杆级别 | string |  | |
| RodOutsideDiameter1 | | 一级杆外径(mm) | string |  | |
| RodInsideDiameter1 | | 一级杆内径(mm) | string |  | |
| RodLength1 | | 一级杆长度(m) | string |  | |
| RodGrade2 | | 二级杆级别 | string |  | |
| RodOutsideDiameter2 | | 二级杆外径(mm) | string |  | |
| RodInsideDiameter2 | | 二级杆内径(mm) | string |  | |
| RodLength2 | | 二级杆长度(m) | string |  | |
| RodGrade3 | | 三级杆级别 | string |  | |
| RodOutsideDiameter3 | | 三级杆外径(mm) | string |  | |
| RodInsideDiameter3 | | 三级杆内径(mm) | string |  | |
| RodLength3 | | 三级杆长度(m) | string |  | |
| RodGrade4 | | 四级杆级别 | string |  | |
| RodOutsideDiameter4 | | 四级杆外径(mm) | string |  | |
| RodInsideDiameter4 | | 四级杆内径(mm) | string |  | |
| RodLength4 | | 四级杆长度(m) | string |  | |
| NetGrossRatio | | 净毛比(小数) | string |  | |
| NetGrossValue | | 净毛值(m^3/d) | string |  | |
| Manufacturer | | 抽油机厂家 | string | 抽油机井特有 | |
| Model | | 抽油机型号 | string | 抽油机井特有 | |
| Stroke | | 铭牌冲程(m) | string | 抽油机井特有 | |
| CrankRotationDirection | | 曲柄旋转方向 | string | 抽油机井特有 | |
| OffsetAngleOfCrank | | 曲柄偏置角(°) | string | 抽油机井特有 | |
| CrankGravityRadius | | 曲柄重心半径(m) | string | 抽油机井特有 | |
| SingleCrankWeight | | 单块曲柄重量(kN) | string | 抽油机井特有 | |
| SingleCrankPinWeight | | 单块曲柄销重量(kN) | string | 抽油机井特有 | |
| StructuralUnbalance | | 结构不平衡重(kN) | string | 抽油机井特有 | |
| BalanceWeight | | 平衡块重量(kN) | string | 抽油机井特有 | |
| BalancePosition | | 平衡块位置(m) | string | 抽油机井特有 | |

#### 2.2.2.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456",

"LiftingType":1,

"WellList":["rpc01"]

}

2、响应数据实例

{

"ResultStatus": 1,

"DataList": [{

"Id": "1",

"OrgName": "采油厂",

"WellName": "rpc01",

"ApplicationScenariosName": "油井",

"InstanceName": "抽油机A11采控实例",

"DisplayInstanceName": "抽油机A11显示实例",

"AlarmInstanceName": "抽油机A11报警实例",

"TcpType": "TCP Client",

"SignInId": "1010001",

"Slave": "1",

"PeakDelay": "30",

"VideoUrl1": "ezopen://open.ys7.com/K67592305/1.hd.live",

"VideoUrl2": "ezopen://open.ys7.com/G39444019/1.live",

"SortNum": "1",

"StatusName": "使能",

"CrudeOilDensity": "0.87",

"WaterDensity": "1.0",

"NaturalGasRelativeDensity": "0.63",

"SaturationPressure": "9.7",

"ReservoirDepth": "1657.0",

"ReservoirTemperature": "69.0",

"TubingPressure": "0.64",

"CasingPressure": "0.7",

"WellHeadTemperature": "26.0",

"WaterCut": "97.02",

"ProductionGasOilRatio": "75.0",

"ProducingfluidLevel": "190.0",

"PumpSettingDepth": "1113.72",

"PumpType": "管式泵",

"BarrelType": "组合泵",

"PumpGrade": "1",

"PumpBoreDiameter": "57.0",

"PlungerLength": "1.5",

"TubingStringInsideDiameter": "62.0",

"CasingStringInsideDiameter": "139.0",

"RodGrade1": "HY",

"RodOutsideDiameter1": "22.0",

"RodInsideDiameter1": "0.0",

"RodLength1": "1069.0",

"RodGrade2": "",

"RodOutsideDiameter2": "",

"RodInsideDiameter2": "",

"RodLength2": "",

"RodGrade3": "",

"RodOutsideDiameter3": "",

"RodInsideDiameter3": "",

"RodLength3": "",

"RodGrade4": "",

"RodOutsideDiameter4": "",

"RodInsideDiameter4": "",

"RodLength4": "",

"NetGrossRatio": "1.0",

"NetGrossValue": "0.0",

"Manufacturer": "大庆",

"Model": "CYJY6-2.5-26HB",

"Stroke": "2.5",

"CrankRotationDirection": "顺时针",

"OffsetAngleOfCrank": "-8",

"CrankGravityRadius": "0.65",

"SingleCrankWeight": "9.5",

"SingleCrankPinWeight": "0.706",

"StructuralUnbalance": "1.4",

"BalanceWeight": "7.71,7.71,7.71,7.71",

"BalancePosition": "0.6,0.6,0.6,0.6"

}]

}

### 2.2.3 抽油机设备信息

#### 2.2.3.1 参数说明

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 描述 | 获取抽油机设备信息 | | | | | |
| URL | 平台访问地址/api/read/oilWell/pumpingModelInformation | | | | | |
| 请求数据 | **代码** | **名称** | | **类型** | **必填** | **备注** |
| User | 用户 | | string | \* |  |
| Password | 密码 | | string | \* |  |
| Manufacturer | 抽油机厂家 | | string |  | 检索条件 |
| Model | 抽油机型号 | | string |  | 检索条件 |
| 响应数据 | **代码** | | **名称** | **类型** | **备注** | |
| ResultStatus | | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| DataList数据列表 | | | | | |
| Manufacturer | | 抽油机厂家 | string |  | |
| Model | | 抽油机型号 | string |  | |
| Stroke | | 铭牌冲程(m) | string | 多个以逗号隔开 | |
| CrankRotationDirection | | 曲柄旋转方向 | string |  | |
| OffsetAngleOfCrank | | 曲柄偏置角(°) | string |  | |
| CrankGravityRadius | | 曲柄重心半径(m) | string |  | |
| SingleCrankWeight | | 单块曲柄重量(kN) | string |  | |
| SingleCrankPinWeight | | 单块曲柄销重量(kN) | string |  | |
| StructuralUnbalance | | 结构不平衡重(kN) | string |  | |
| BalanceWeight | | 平衡块重量(kN) | string | 如果平衡块大小不一，不同重量以逗号隔开 | |
| PumpingPRTF位置扭矩因数 | | | | | |
| List[] 不同冲程对应的位置扭矩因数列表 | | | | | |
| Stroke | | 冲程(m) | float |  | |
| PRTF[] 冲程对应的位置扭矩因数列表 | | | | | |
| CrankAngle | | 曲柄转角(°) | float |  | |
| PR | | 光杆位置因数(%) | float |  | |
| TF | | 扭矩因数(m) | float |  | |

#### 2.2.3.2 实例

1、请求参数实例

{

"User": "user01",

"Password": "123456",

"Manufacturer": "大庆",

"Model": " CYJY8-3-37HB "

}

2、响应数据实例

{

"ResultStatus": 1,

"DataList": [{

"Manufacturer": "大庆",

"Model": "CYJY8-3-37HB",

"Stroke": "3,2.5,2.1",

"CrankRotationDirection": "顺时针",

"OffsetAngleOfCrank": "-8",

"CrankGravityRadius": "0.77",

"SingleCrankWeight": "12",

"SingleCrankPinWeight": "0.706",

"StructuralUnbalance": "-0.5",

"BalanceWeight": "12.6,11.25",

"PumpingPRTF": {

"List": [{

"Stroke": 3.0,

"PRTF": [{

"CrankAngle": 0.0,

"PR": 1.01,

"TF": -0.3231

}, {

"CrankAngle": 15.0,

"PR": 0.18,

"TF": 0.1397

}, {

"CrankAngle": 30.0,

"PR": 3.46,

"TF": 0.6076

}, {

"CrankAngle": 45.0,

"PR": 10.56,

"TF": 1.0041

}, {

"CrankAngle": 60.0,

"PR": 20.57,

"TF": 1.2671

}, {

"CrankAngle": 75.0,

"PR": 32.21,

"TF": 1.3817

}, {

"CrankAngle": 90.0,

"PR": 44.3,

"TF": 1.3768

}, {

"CrankAngle": 105.0,

"PR": 56.0,

"TF": 1.297

}, {

"CrankAngle": 120.0,

"PR": 66.8,

"TF": 1.1781

}, {

"CrankAngle": 135.0,

"PR": 76.48,

"TF": 1.0399

}, {

"CrankAngle": 150.0,

"PR": 84.88,

"TF": 0.8859

}, {

"CrankAngle": 165.0,

"PR": 91.84,

"TF": 0.7051

}, {

"CrankAngle": 180.0,

"PR": 97.02,

"TF": 0.4706

}, {

"CrankAngle": 195.0,

"PR": 99.78,

"TF": 0.1434

}, {

"CrankAngle": 210.0,

"PR": 99.18,

"TF": -0.2953

}, {

"CrankAngle": 225.0,

"PR": 94.49,

"TF": -0.7773

}, {

"CrankAngle": 240.0,

"PR": 85.9,

"TF": -1.1702

}, {

"CrankAngle": 255.0,

"PR": 74.55,

"TF": -1.4098

}, {

"CrankAngle": 270.0,

"PR": 61.72,

"TF": -1.5142

}, {

"CrankAngle": 285.0,

"PR": 48.45,

"TF": -1.5166

}, {

"CrankAngle": 300.0,

"PR": 35.52,

"TF": -1.4371

}, {

"CrankAngle": 315.0,

"PR": 23.62,

"TF": -1.2812

}, {

"CrankAngle": 330.0,

"PR": 13.42,

"TF": -1.046

}, {

"CrankAngle": 345.0,

"PR": 5.63,

"TF": -0.726

}, {

"CrankAngle": 360.0,

"PR": 1.01,

"TF": -0.3231

}]

}, {

"Stroke": 2.5,

"PRTF": [{

"CrankAngle": 0.0,

"PR": 0.9,

"TF": -0.2494

}, {

"CrankAngle": 15.0,

"PR": 0.21,

"TF": 0.1233

}, {

"CrankAngle": 30.0,

"PR": 3.52,

"TF": 0.493

}, {

"CrankAngle": 45.0,

"PR": 10.52,

"TF": 0.8086

}, {

"CrankAngle": 60.0,

"PR": 20.39,

"TF": 1.029

}, {

"CrankAngle": 75.0,

"PR": 32.04,

"TF": 1.1408

}, {

"CrankAngle": 90.0,

"PR": 44.34,

"TF": 1.1575

}, {

"CrankAngle": 105.0,

"PR": 56.44,

"TF": 1.1055

}, {

"CrankAngle": 120.0,

"PR": 67.72,

"TF": 1.0091

}, {

"CrankAngle": 135.0,

"PR": 77.82,

"TF": 0.8833

}, {

"CrankAngle": 150.0,

"PR": 86.44,

"TF": 0.7321

}, {

"CrankAngle": 165.0,

"PR": 93.29,

"TF": 0.5496

}, {

"CrankAngle": 180.0,

"PR": 97.98,

"TF": 0.3231

}, {

"CrankAngle": 195.0,

"PR": 99.97,

"TF": 0.0408

}, {

"CrankAngle": 210.0,

"PR": 98.67,

"TF": -0.2911

}, {

"CrankAngle": 225.0,

"PR": 93.74,

"TF": -0.6322

}, {

"CrankAngle": 240.0,

"PR": 85.39,

"TF": -0.9237

}, {

"CrankAngle": 255.0,

"PR": 74.39,

"TF": -1.126

}, {

"CrankAngle": 270.0,

"PR": 61.76,

"TF": -1.2319

}, {

"CrankAngle": 285.0,

"PR": 48.48,

"TF": -1.2503

}, {

"CrankAngle": 300.0,

"PR": 35.42,

"TF": -1.1912

}, {

"CrankAngle": 315.0,

"PR": 23.37,

"TF": -1.0596

}, {

"CrankAngle": 330.0,

"PR": 13.11,

"TF": -0.8566

}, {

"CrankAngle": 345.0,

"PR": 5.39,

"TF": -0.5837

}, {

"CrankAngle": 360.0,

"PR": 0.9,

"TF": -0.2494

}]

}, {

"Stroke": 2.1,

"PRTF": [{

"CrankAngle": 0.0,

"PR": 0.82,

"TF": -0.1878

}, {

"CrankAngle": 15.0,

"PR": 0.24,

"TF": 0.1019

}, {

"CrankAngle": 30.0,

"PR": 3.52,

"TF": 0.3855

}, {

"CrankAngle": 45.0,

"PR": 10.36,

"TF": 0.6297

}, {

"CrankAngle": 60.0,

"PR": 20.06,

"TF": 0.8081

}, {

"CrankAngle": 75.0,

"PR": 31.62,

"TF": 0.9092

}, {

"CrankAngle": 90.0,

"PR": 44.03,

"TF": 0.9378

}, {

"CrankAngle": 105.0,

"PR": 56.42,

"TF": 0.9075

}, {

"CrankAngle": 120.0,

"PR": 68.09,

"TF": 0.8332

}, {

"CrankAngle": 135.0,

"PR": 78.54,

"TF": 0.7255

}, {

"CrankAngle": 150.0,

"PR": 87.36,

"TF": 0.5889

}, {

"CrankAngle": 165.0,

"PR": 94.15,

"TF": 0.4228

}, {

"CrankAngle": 180.0,

"PR": 98.51,

"TF": 0.2242

}, {

"CrankAngle": 195.0,

"PR": 100.0,

"TF": -0.0066

}, {

"CrankAngle": 210.0,

"PR": 98.24,

"TF": -0.2592

}, {

"CrankAngle": 225.0,

"PR": 93.08,

"TF": -0.5092

}, {

"CrankAngle": 240.0,

"PR": 84.78,

"TF": -0.726

}, {

"CrankAngle": 255.0,

"PR": 73.94,

"TF": -0.8852

}, {

"CrankAngle": 270.0,

"PR": 61.42,

"TF": -0.976

}, {

"CrankAngle": 285.0,

"PR": 48.16,

"TF": -0.9974

}, {

"CrankAngle": 300.0,

"PR": 35.06,

"TF": -0.9524

}, {

"CrankAngle": 315.0,

"PR": 22.99,

"TF": -0.8443

}, {

"CrankAngle": 330.0,

"PR": 12.76,

"TF": -0.6764

}, {

"CrankAngle": 345.0,

"PR": 5.15,

"TF": -0.4539

}, {

"CrankAngle": 360.0,

"PR": 0.82,

"TF": -0.1878

}]

}]

}

}]

}

### 2.2.4 油井实时统计数据

#### 2.2.4.1 参数说明

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 描述 | 获取油井实时统计数据 | | | | | | |
| URL | 平台访问地址/api/read/oilWell/realtime/statisticsData | | | | | | |
| 请求数据 | **代码** | **名称** | | **类型** | | **必填** | **备注** |
| User | 账号 | | string | | \* |  |
| Password | 密码 | | string | | \* |  |
| LiftingType | 举升类型 | | int | |  | 1-抽油机 2-螺杆泵  缺省：1 |
| StatType | 统计类型 | | int | |  | 1-功图工况统计  2-通信状态统计  3-运行状态统计  缺省：1 |
| WellList | 所统计井列表 | | string[] | |  | 为空时统计用户所属组织下所有井 |
| 响应数据 | **代码** | | **名称** | | **类型** | **备注** | |
| ResultStatus | | 状态 | | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| DataList统计项数据列表 | | | | | | |
| Item | | 项 | | string |  | |
| Count | | 数量 | | int |  | |

#### 2.2.4.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456",

"LiftingType":1,

"StatType":1,

"WellList":["well1","well2"]

}

2、响应数据实例

{

"ResultStatus": 1,

"DataList": [{

"Item": "正常",

"Count": 1

}, {

"Item": "充满不足",

"Count": 1

}]

}

### 2.2.5 油井实时井列表数据

#### 2.2.5.1 参数说明

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 描述 | 获取某种状态或者某种工况下油井实时的数据 | | | | |
| URL | 平台访问地址/api/read/oilWell/realtime/wellListData | | | | |
| 请求数据 | **代码** | **名称** | **类型** | **必填** | **备注** |
| User | 账号 | string | \* |  |
| Password | 密码 | string | \* |  |
| LiftingType | 举升类型 | int |  | 1-抽油机 2-螺杆泵  缺省：1 |
| StatType | 统计类型 | int |  | 1-功图工况统计  2-通信状态统计  3-运行状态统计  缺省：1 |
| StatValue | 统计值 | string |  | 为空，不统计 |
| WellList | 所统计井列表 | string[] |  | 为空时筛选用户所属组织下所有井 |
| 响应数据 | **代码** | **名称** | **类型** | **备注** | |
| ResultStatus | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| DataList数据列表 | | | | |
| Id | 记录编号 | int |  | |
| WellName | 井名 | string |  | |
| AcqTime | 功图采集时间 | string |  | |
| ResultName | 工况名称 | string |  | |
| OptimizationSuggestion | 优化建议 | string |  | |
| CommStatusName | 通信状态 | string | 在线、离线 | |
| CommTime | 在线时间 | float |  | |
| CommTimeEfficiency | 在线时率 | float | 小数 | |
| CommRange | 在线区间 | string |  | |
| RunStatusName | 运行状态 | string | 运行、停抽、离线 | |
| RunTime | 运行时间 | float |  | |
| RunTimeEfficiency | 运行时率 | float | 小数 | |
| RunRange | 运行区间 | string |  | |
| LiquidWeightProduction | 功图产液量(吨) | float |  | |
| OilWeightProduction | 功图产油量(吨) | float | 单张功图计算产量 | |
| WaterWeightProduction | 功图产水量(吨) | float |  | |
| WeightWaterCut | 重量含水率 | float | % | |
| LiquidWeightProduction\_L | 累计产液量(吨) | float | 截至当前功图，日累计产量 | |
| LiquidVolumetricProduction | 功图产液量(方) | float | 单张功图计算产量 | |
| OilVolumetricProduction | 功图产油量(方) | float |  | |
| WaterVolumetricProduction | 功图产水量(方) | float |  | |
| VolumeWaterCut | 重量含水率 | float | % | |
| LiquidVolumetricProduction\_L | 累计产液量(方) | float | 截至当前功图，日累计产量 | |
| SystemEfficiency | 系统效率 | float | % | |
| SurfaceSystemEfficiency | 地面效率 | float | % | |
| WelldownSystemEfficiency | 井下效率 | float | % | |
| EnergyPer100mLift | 吨液百米耗电量 | float | kW·h/100m·t | |
| PumpEff | 总泵效 | float | % | |
| WattDegreeBalance | 功率平衡度 | float | % | |
| IDegreeBalance | 电流平衡度 | float | % | |
| DeltaRadius | 曲柄平衡块移动距离 | float | cm | |
| TodayKWattH | 日用电量 | float | kW·h | |
| ResultAlarmLevel | 工况报警级别 | int | 0-正常；100-一级报警；  200-二级报警；300-三级报警 | |
| CommAlarmLevel | 通信报警级别 | int |
| RunAlarmLevel | 运行报警级别 | int |

#### 2.2.5.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456",

"LiftingType":1,

"StatType":1,

"StatValue":"正常",

"WellList":["POC1","POC2"]

}

2、响应数据实例

{

"ResultStatus": 1,

"DataList": [{

"Id": 1,

"WellName": "rpc01",

"AcqTime": "2022-10-10 16:16:54",

"ResultName": "正常",

"OptimizationSuggestion": " ",

"CommStatusName": "在线",

"CommTime": "0.5",

"CommTimeEfficiency": "0.0307",

"CommRange": "15:40-15:50;15:54-15:54;15:56-16:16",

"RunStatusName": "运行",

"RunTime": "16.27",

"RunTimeEfficiency": "1",

"RunRange": "00:00-16:16",

"LiquidWeightProduction": "55.78",

"OilWeightProduction": "1.45",

"WaterWeightProduction": "54.33",

"WeightWaterCut": "0.0",

"LiquidWeightProduction\_L": "37.82",

"LiquidVolumetricProduction": "56",

"OilVolumetricProduction": "1.67",

"WaterVolumetricProduction": "54.33",

"VolumeWaterCut": "97.02",

"LiquidVolumetricProduction\_L": "37.97",

"SurfaceSystemEfficiency": "64.7",

"WelldownSystemEfficiency": "16.5",

"SystemEfficiency": "10.7",

"Energyper100mlift": "2.55",

"PumpEff": "87",

"IDegreeBalance": "91.25",

"WattDegreeBalance": "98.95",

"Deltaradius": "0",

"TodayKWattH": "0",

"ResultAlarmLevel": 0,

"CommAlarmLevel": 0,

"RunAlarmLevel": 300

}]

}

### 2.2.6 油井单张功图历史数据

#### 2.2.6.1 参数说明

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 描述 | 获取某种状态或者某种工况下油井历史数据 | | | | |
| URL | 平台访问地址/api/read/oilWell/realtime/wellHistoryData | | | | |
| 请求数据 | **代码** | **名称** | **类型** | **必填** | **备注** |
| User | 账号 | string | \* |  |
| Password | 密码 | string | \* |  |
| LiftingType | 举升类型 | int |  | 1-抽油机 2-螺杆泵  缺省：1 |
| StatType | 筛选类型 | int |  | 1-功图工况筛选  2-通信状态筛选  3-运行状态筛选  缺省：1 |
| StatValue | 筛选值 | string |  | 为空，不筛选 |
| StartDate | 起始时间 | string |  | 格式：yyyy-MM-dd HH:mm:ss |
| EndDate | 结束时间 | string |  | 格式：yyyy-MM-dd HH:mm:ss |
| WellName | 井名 | string |  |  |
| 响应数据 | **代码** | **名称** | **类型** | **备注** | |
| ResultStatus | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| DataList数据列表 | | | | |
| Id | 记录编号 | int |  | |
| WellName | 井名 | string |  | |
| AcqTime | 功图采集时间 | string |  | |
| ResultName | 工况名称 | string |  | |
| OptimizationSuggestion | 优化建议 | string |  | |
| CommStatusName | 通信状态 | string | 在线、离线 | |
| CommTime | 在线时间 | float |  | |
| CommTimeEfficiency | 在线时率 | float | 小数 | |
| CommRange | 在线区间 | string |  | |
| RunStatusName | 运行状态 | string | 运行、停抽、离线 | |
| RunTime | 运行时间 | float |  | |
| RunTimeEfficiency | 运行时率 | float | 小数 | |
| RunRange | 运行区间 | string |  | |
| LiquidWeightProduction | 功图产液量(吨) | float |  | |
| OilWeightProduction | 功图产油量(吨) | float | 单张功图计算产量 | |
| WaterWeightProduction | 功图产水量(吨) | float |  | |
| WeightWaterCut | 重量含水率 | float | % | |
| LiquidWeightProduction\_L | 累计产液量(吨) | float | 截至当前功图，日累计产量 | |
| LiquidVolumetricProduction | 功图产液量(方) | float | 单张功图计算产量 | |
| OilVolumetricProduction | 功图产油量(方) | float |  | |
| WaterVolumetricProduction | 功图产水量(方) | float |  | |
| VolumeWaterCut | 重量含水率 | float | % | |
| LiquidVolumetricProduction\_L | 累计产液量(方) | float | 截至当前功图，日累计产量 | |
| SystemEfficiency | 系统效率 | float | % | |
| SurfaceSystemEfficiency | 地面效率 | float | % | |
| WelldownSystemEfficiency | 井下效率 | float | % | |
| EnergyPer100mLift | 吨液百米耗电量 | float | kW·h/100m·t | |
| PumpEff | 总泵效 | float | % | |
| WattDegreeBalance | 功率平衡度 | float | % | |
| IDegreeBalance | 电流平衡度 | float | % | |
| DeltaRadius | 曲柄平衡块移动距离 | float | cm | |
| TodayKWattH | 日用电量 | float | kW·h | |
| ResultAlarmLevel | 工况报警级别 | int | 0-正常；100-一级报警；  200-二级报警；300-三级报警 | |
| CommAlarmLevel | 通信报警级别 | int |
| RunAlarmLevel | 运行报警级别 | int |

#### 2.2.6.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456",

"LiftingType": 1,

"StatType": 1,

"StatValue": "正常",

"StartDate": "2022-10-09 00:00:00",

"EndDate": "2022-10-09 18:00:00",

"WellName": "rpc01"

}

2、响应数据实例

{

“ResultStatus”: 1,

"DataList": [{

"Id": 2207,

"WellName": "rpc01",

"AcqTime": "2022-10-09 17:21:30",

"CommStatus": 1,

"CommStatusName": "在线",

"CommTime": "0",

"CommTimeEfficiency": "0",

"CommRange": "17:14-17:14;17:18-17:18;17:20-17:20;17:21-17:21",

"RunStatus": 1,

"RunStatusName": "运行",

"RunTime": "0.12",

"RunTimeEfficiency": "0.0067",

"RunRange": "17:14-17:21",

"ResultCode": "1202",

"ResultName": "正常",

"OptimizationSuggestion": " ",

"LiquidWeightProduction": "55.78",

"OilWeightProduction": "1.45",

"WaterWeightProduction": "54.33",

"WeightWaterCut": "0.0",

"LiquidWeightProduction\_L": "0.27",

"LiquidVolumetricProduction": "56",

"OilVolumetricProduction": "1.67",

"WaterVolumetricProduction": "54.33",

"VolumeWaterCut": "97.02",

"LiquidVolumetricProduction\_L": "0.27",

"SurfaceSystemEfficiency": "64.7",

"WelldownSystemEfficiency": "16.5",

"SystemEfficiency": "10.7",

"Energyper100mlift": "2.55",

"PumpEff": "87",

"IDegreeBalance": "91.25",

"WattDegreeBalance": "98.95",

"Deltaradius": "0",

"TodayKWattH": "0",

"ResultAlarmLevel": 0,

"CommAlarmLevel": 0,

"RunAlarmLevel": 300

}, {

"Id": 2206,

"WellName": "rpc01",

"AcqTime": "2022-10-09 17:20:15",

"CommStatus": 1,

"CommStatusName": "在线",

"CommTime": "0",

"CommTimeEfficiency": "0",

"CommRange": "17:14-17:14;17:18-17:18;17:20-17:20",

"RunStatus": 1,

"RunStatusName": "运行",

"RunTime": "0.1",

"RunTimeEfficiency": "0.0058",

"RunRange": "17:14-17:20",

"ResultCode": "1202",

"ResultName": "正常",

"OptimizationSuggestion": " ",

"LiquidWeightProduction": "55.78",

"OilWeightProduction": "1.45",

"WaterWeightProduction": "54.33",

"WeightWaterCut": "0.0",

"LiquidWeightProduction\_L": "0.23",

"LiquidVolumetricProduction": "56",

"OilVolumetricProduction": "1.67",

"WaterVolumetricProduction": "54.33",

"VolumeWaterCut": "97.02",

"LiquidVolumetricProduction\_L": "0.23",

"SurfaceSystemEfficiency": "64.7",

"WelldownSystemEfficiency": "16.5",

"SystemEfficiency": "10.7",

"Energyper100mlift": "2.55",

"PumpEff": "87",

"IDegreeBalance": "91.25",

"WattDegreeBalance": "98.95",

"Deltaradius": "0",

"TodayKWattH": "0",

"ResultAlarmLevel": 0,

"CommAlarmLevel": 0,

"RunAlarmLevel": 300

}]

}

### 2.2.7 单井实时详细信息数据

#### 2.2.7.1 参数说明

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 描述 | 获取某口抽油机井井单张功图详细分析数据 | | | | |
| URL | 访问地址/api/read/oilWell/realtime/wellAnalysisData | | | | |
| 请求数据 | **代码** | **名称** | **类型** | **必填** | **备注** |
| User | 账号 | string | \* |  |
| Password | 密码 | string | \* |  |
| LiftingType | 举升类型 | int |  | 1-抽油机 2-螺杆泵  缺省：1 |
| WellName | 井名 | string | \* |  |
| AcqTime | 采集时间 | string | \* |  |
| 响应数据 | **代码** | **名称** | **类型** | **备注** | |
| ResultStatus | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| ResultName | 工况名称 | string |  | |
| WattDegreeBalance | 功率平衡度 | float | % | |
| IDegreeBalance | 电流平衡度 | float | % | |
| DeltaRadius | 曲柄平衡块移动距离 | float | cm | |
| LiquidProduction | 产液量 | float | 产量单位与系统配置相同 | |
| OilProduction | 产油量 | float |
| WaterProduction | 产水量 | float |
| WaterCut | 含水率 | float |
| AvailablePlungerstrokeProd | 有效冲程计算产量 | float |
| PumpClearanceLeakProd | 间隙漏失量 | float |
| TvleakProduction | 游动凡尔漏失量 | float |
| SvleakProduction | 固定凡尔漏失量 | float |
| GasInfluenceProd | 气影响 | float |
| TheoreticalProduction | 理论排量 | float | m^3/d | |
| PlungerStroke | 柱塞冲程 | float | m | |
| SvailablePlungerStroke | 柱塞有效冲程 | float | m | |
| PumpBoreDiameter | 泵径 | float | mm | |
| PumpSettingDepth | 泵挂 | float | m | |
| ProducingFluidLevel | 动液面 | float | m | |
| Submergence | 沉没度 | float | m | |
| Stroke | 冲程 | float | m | |
| SPM | 冲次 | float | 次/min | |
| Fmax | 最大载荷 | float | kN | |
| Fmin | 最小载荷 | float | kN | |
| DeltaF | 载荷差 | float | kN | |
| DeltaLoadLine | 理论液柱载荷 | float | kN | |
| Area | 功图面积 | float | kN·m | |
| AverageWatt | 有功功率 | float | kW | |
| AolishrodPower | 光杆功率 | float | kW | |
| WaterPower | 水功率 | float | kW | |
| SurfaceSystemEfficiency | 地面效率 | float | % | |
| WelldownSystemEfficiency | 井下效率 | float | % | |
| SystemEfficiency | 系统效率 | float | % | |
| EnergyPer100mLift | 吨液百米耗电量 | float | kW·h/100m·t | |
| PumpEff1 | 冲程损失系数 | float | % | |
| PumpEff2 | 功图充满系数 | float | % | |
| PumpEff3 | 漏失系数 | float | % | |
| PumpEff4 | 液体收缩系数 | float | % | |
| PumpEff | 总泵效 | float | % | |
| RodFlexLength | 抽油杆伸缩量 | float | m | |
| TubingFlexLength | 油管伸缩量 | float | m | |
| InertiaLength | 惯性增量 | float | m | |
| PumpIntakeP | 泵入口压力 | float | MPa | |
| PumpIntakeT | 泵入口温度 | float | ℃ | |
| PumpIntakeGOL | 泵入口就地气液比 | float | m^3/m^3 | |
| PumpIntakeVisl | 泵入口液体粘度 | float | mPa·s | |
| PumpIntakeBo | 泵入口原油体积系数 | float |  | |
| PumpOutletP | 泵出口压力 | float | MPa | |
| PumpOutletT | 泵出口温度 | float | ℃ | |
| PumpOutletGOL | 泵出口就地气液比 | float | m^3/m^3 | |
| PumpOutletVisl | 泵出口液体粘度 | float | mPa·s | |
| PumpOutletBo | 泵出口原油体积系数 | float |  | |

#### 2.2.7.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456",

"LiftingType": 1,

"WellName": "rpc01",

"AcqTime": "2022-9-30 18:51:49"

}

2、响应数据实例

{

“ResultStatus”: 1,

"ResultName": "正常",

"WattDegreeBalance": "98.95",

"IDegreeBalance": "91.25",

"DeltaRadius": "0",

"LiquidProduction": "56",

"OilProduction": "1.67",

"WaterProduction": "54.33",

"waterCut": "97.02",

"AvailablePlungerstrokeProd": "56.25",

"PumpClearanceLeakProd": "0.02",

"TvleakProduction": "0",

"SvleakProduction": "0",

"GasInfluenceProd": "0",

"TheoreticalProduction": "64.35",

"PlungerStroke": "3.68",

"AvailablePlungerStroke": "3.68",

"PumpBoreDiameter": "57.0",

"PumpSettingDepth": "1113.72",

"ProducingFluidLevel": "190.0",

"Submergence": "",

"Stroke": "4.21",

"SPM": "4.16",

"Fmax": "58.17",

"Fmin": "20.35",

"DeltaF": "37.82",

"DeltaLoadLine": "30.6",

"Area": "101.53",

"AverageWatt": "10.88",

"PolishrodPower": "7.04",

"WaterPower": "1.16",

"SurfaceSystemEfficiency": "64.7",

"WelldownSystemEfficiency": "16.5",

"SystemEfficiency": "10.7",

"EnergyPer100mLift": "2.55",

"PumpEff1": "87.4",

"PumpEff2": "100",

"PumpEff3": "100",

"PumpEff4": "99.6",

"PumpEff": "87",

"RodFlexLength": "0.02",

"TubingFlexLength": "0",

"InertiaLength": "0.02",

"PumpIntakeP": "8.85",

"PumpIntakeT": "66.77",

"PumpIntakeGOL": "0.01",

"PumpIntakeVisl": "0.49",

"PumpIntakeBo": "1.12",

"PumpOutletP": "11.04",

"PumpOutletT": "66.69",

"PumpOutletGOL": "0.01",

"PumpOutletVisl": "0.48",

"PumpOutletBo": "1.14"

}

### 2.2.8 单张功图源数据

#### 2.2.8.1 参数说明

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 描述 | 获取某口井某个时间点采集的功图源数据 | | | | |
| URL | 平台访问地址/api/read/oilWell/realtime/singleFESDiagramData | | | | |
| 请求数据 | **代码** | **名称** | **类型** | **必填** | **备注** |
| User | 账号 | string | \* |  |
| Password | 密码 | string | \* |  |
| WellName | 井名 | string | \* |  |
| AcqTime | 功图采集时间 | string | \* | 如：2021-07-07 20:57:37 |
| 响应数据 | **代码** | **名称** | **类型** | **备注** | |
| ResultStatus | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| DataList数据列表 | | | | |
| Id | 记录编号 | int |  | |
| WellName | 井名 | string |  | |
| AcqTime | 功图采集时间 | string |  | |
| ResultName | 工况名称 | string |  | |
| PointCount | 功图点数 | int |  | |
| UpperLoadLine | 理论上载荷 | float |  | |
| LowerLoadLine | 理论下载荷 | float |  | |
| Fmax | 最大载荷 | float |  | |
| Fmin | 最小载荷 | float |  | |
| Stroke | 冲程 | float |  | |
| SPM | 冲次 | float |  | |
| LiquidProduction | 产液量 | float |  | |
|  | S | 位移 | float[] | 功图数据-位移值 | |
|  | F | 载荷 | float[] | 位移对应载荷值 | |
|  | Watt | 有功功率 | float[] | 位移对应功率值 | |
|  | A | 电流 | float[] | 位移对应电流值 | |

#### 2.2.8.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456",

"WellName": "rpc01",

"AcqTime": "2022-9-30 18:51:49"

}

2、响应数据实例

{

“ResultStatus”: 1,

"DataList": [{

"Id": "2187",

"WellName": "rpc01",

"AcqTime": "2022-09-30 18:51:49",

"PointCount": "200",

"UpperLoadLine": "57.89",

"LowerLoadLine": "27.29",

"Fmax": "58.17",

"Fmin": "20.35",

"Stroke": "4.21",

"SPM": "4.16",

"LiquidProduction": "56",

"ResultName": "正常",

"S": [0.0, 0.0, 0.0, 0.01, 0.01, 0.03, 0.04, 0.05, 0.07, 0.09, 0.12, 0.14, 0.17, 0.2, 0.23, 0.27, 0.31, 0.34, 0.39, 0.43, 0.47, 0.52, 0.56, 0.61, 0.66, 0.71, 0.77, 0.83, 0.88, 0.94, 1.0, 1.06, 1.12, 1.18, 1.24, 1.3, 1.36, 1.43, 1.49, 1.55, 1.62, 1.68, 1.75, 1.81, 1.87, 1.94, 2.0, 2.06, 2.12, 2.18, 2.24, 2.3, 2.36, 2.42, 2.48, 2.54, 2.6, 2.65, 2.71, 2.76, 2.81, 2.87, 2.92, 2.97, 3.02, 3.07, 3.11, 3.16, 3.21, 3.25, 3.3, 3.34, 3.38, 3.43, 3.47, 3.51, 3.54, 3.58, 3.62, 3.66, 3.69, 3.73, 3.76, 3.79, 3.83, 3.86, 3.89, 3.91, 3.94, 3.97, 3.99, 4.02, 4.04, 4.06, 4.09, 4.1, 4.12, 4.14, 4.15, 4.17, 4.18, 4.19, 4.2, 4.2, 4.21, 4.21, 4.21, 4.21, 4.21, 4.2, 4.19, 4.18, 4.17, 4.15, 4.13, 4.11, 4.09, 4.06, 4.03, 4.0, 3.97, 3.93, 3.9, 3.86, 3.81, 3.77, 3.73, 3.68, 3.63, 3.58, 3.53, 3.47, 3.41, 3.35, 3.29, 3.23, 3.17, 3.11, 3.05, 2.98, 2.92, 2.86, 2.8, 2.73, 2.66, 2.6, 2.53, 2.46, 2.34, 2.33, 2.26, 2.2, 2.13, 2.06, 2.0, 1.93, 1.86, 1.8, 1.73, 1.67, 1.6, 1.54, 1.47, 1.41, 1.35, 1.29, 1.22, 1.16, 1.1, 1.04, 0.99, 0.93, 0.87, 0.82, 0.77, 0.71, 0.66, 0.61, 0.56, 0.52, 0.47, 0.43, 0.39, 0.35, 0.31, 0.27, 0.24, 0.21, 0.18, 0.15, 0.12, 0.1, 0.08, 0.06, 0.04, 0.03, 0.02, 0.01, 0.0, 0.0],

"F": [29.13, 29.46, 30.58, 31.46, 31.92, 32.48, 33.06, 33.68, 34.41, 36.11, 37.45, 38.52, 39.99, 40.93, 42.37, 44.56, 46.7, 48.82, 51.0, 53.32, 55.17, 56.93, 58.17, 57.69, 56.52, 55.21, 54.0, 52.62, 51.81, 51.61, 51.95, 52.61, 53.22, 53.7, 54.29, 54.47, 54.32, 53.99, 53.43, 52.65, 51.84, 51.27, 51.03, 50.96, 50.96, 51.02, 51.18, 51.39, 51.59, 51.65, 51.64, 51.57, 51.44, 51.25, 51.01, 50.75, 50.67, 50.59, 50.55, 50.63, 50.9, 51.16, 51.3, 51.38, 51.52, 51.61, 51.5, 51.38, 51.28, 51.18, 51.03, 50.94, 50.91, 50.94, 50.95, 50.98, 51.07, 51.24, 51.28, 51.26, 51.21, 51.17, 51.11, 50.97, 50.69, 50.64, 50.64, 50.64, 50.66, 50.72, 50.8, 50.86, 50.86, 50.84, 50.81, 50.76, 50.63, 50.55, 50.52, 50.51, 50.51, 50.53, 50.57, 50.67, 50.77, 50.78, 50.71, 49.79, 48.52, 47.32, 46.96, 46.28, 45.34, 44.26, 43.67, 43.16, 42.46, 41.21, 39.92, 38.239998, 36.12, 34.45, 32.7, 30.65, 28.09, 25.36, 22.66, 20.58, 20.35, 21.53, 23.36, 25.35, 27.12, 28.52, 29.24, 28.77, 27.5, 26.01, 24.64, 23.48, 22.83, 22.8, 23.48, 24.28, 25.08, 25.79, 26.3, 26.36, 26.03, 25.43, 24.98, 24.59, 24.33, 24.37, 24.4, 24.59, 24.92, 25.14, 25.4, 25.64, 25.78, 25.74, 25.69, 25.65, 25.65, 25.59, 25.55, 25.57, 25.65, 25.79, 25.96, 26.14, 26.3, 26.4, 26.45, 26.53, 26.6, 26.65, 26.72, 26.75, 26.84, 27.0, 27.22, 27.35, 27.56, 27.85, 27.97, 28.1, 28.23, 28.31, 28.39, 28.43, 28.47, 28.58, 28.66, 28.76, 28.89, 29.03, 29.19, 29.37],

"Watt": [10.6, 10.52, 10.52, 10.66, 10.51, 10.51, 10.7, 10.7, 10.75, 10.7, 10.75, 10.76, 11.0, 11.01, 11.0, 11.02, 11.19, 11.24, 11.26, 11.22, 11.25, 11.25, 11.45, 11.44, 11.37, 11.37, 11.29, 11.29, 11.46, 11.46, 11.35, 11.35, 11.35, 11.42, 11.42, 11.42, 11.28, 11.21, 11.23, 11.23, 11.09, 11.09, 11.09, 11.09, 11.08, 11.08, 10.94, 10.94, 10.96, 10.96, 10.96, 10.84, 10.84, 10.73, 10.77, 10.86, 10.74, 10.74, 10.74, 10.67, 10.67, 10.67, 10.71, 10.71, 10.59, 10.59, 10.75, 10.75, 10.75, 10.62, 10.62, 10.62, 10.72, 10.61, 10.61, 10.61, 10.77, 10.77, 10.64, 10.64, 10.71, 10.71, 10.71, 10.71, 10.69, 10.77, 10.82, 10.82, 10.79, 10.79, 10.79, 10.79, 10.86, 10.86, 10.77, 10.77, 10.81, 10.88, 10.88, 10.88, 10.72, 10.72, 10.72, 10.85, 10.85, 10.65, 10.65, 10.77, 10.77, 10.77, 10.58, 10.59, 10.73, 10.73, 10.73, 10.73, 10.54, 10.54, 10.67, 10.67, 10.67, 10.51, 10.51, 10.63, 10.59, 10.55, 10.51, 10.58, 10.72, 10.77, 10.77, 10.79, 10.92, 11.04, 11.21, 11.24, 11.06, 11.04, 11.13, 11.13, 11.16, 11.16, 11.14, 11.14, 11.27, 11.27, 11.27, 11.07, 11.07, 11.34, 11.34, 11.34, 11.17, 11.17, 11.25, 11.25, 11.15, 11.15, 11.15, 11.08, 11.14, 11.14, 11.14, 11.03, 11.0, 11.0, 11.0, 10.9, 10.9, 10.9, 10.89, 10.89, 10.85, 10.85, 10.85, 10.8, 10.8, 10.8, 10.8, 10.63, 10.63, 10.75, 10.75, 10.75, 10.57, 10.57, 10.57, 10.66, 10.66, 10.66, 10.47, 10.55, 10.63, 10.63, 10.53, 10.53, 10.53, 10.53, 10.53, 10.6],

"A": [1.16, 1.06, 1.06, 1.28, 1.76, 1.76, 2.07, 2.07, 2.62, 2.76, 2.86, 2.92, 3.19, 3.38, 3.51, 3.64, 3.85, 3.88, 4.03, 4.12, 4.25, 4.28, 4.34, 4.41, 4.45, 4.45, 4.53, 4.53, 4.53, 4.53, 4.57, 4.57, 4.57, 4.43, 4.43, 4.43, 4.38, 4.27, 4.18, 4.18, 3.91, 3.91, 3.91, 3.91, 3.78, 3.78, 3.47, 3.47, 3.36, 3.36, 3.36, 3.11, 3.11, 2.89, 2.88, 2.91, 2.72, 2.72, 2.72, 2.52, 2.52, 2.52, 2.53, 2.53, 2.35, 2.35, 2.35, 2.35, 2.35, 2.34, 2.32, 2.32, 2.35, 2.38, 2.38, 2.38, 2.41, 2.41, 2.51, 2.51, 2.64, 2.64, 2.64, 2.64, 2.7, 2.8, 2.81, 2.81, 2.86, 2.86, 2.86, 2.86, 2.98, 2.98, 3.0, 3.0, 3.05, 3.04, 3.04, 3.04, 2.99, 2.99, 2.99, 2.86, 2.86, 2.7, 2.7, 2.57, 2.57, 2.57, 2.35, 2.31, 2.3, 2.3, 2.3, 2.3, 2.09, 2.09, 1.89, 1.89, 1.89, 1.64, 1.57, 1.49, 1.53, 1.57, 1.69, 1.81, 2.13, 2.28, 2.28, 2.65, 3.13, 3.32, 3.63, 3.79, 3.95, 3.94, 3.9, 3.9, 3.95, 3.95, 4.01, 4.01, 4.14, 4.14, 4.14, 4.06, 4.06, 4.14, 4.14, 4.14, 4.17, 4.17, 4.07, 4.07, 4.1, 4.1, 4.1, 3.91, 3.87, 3.87, 3.87, 3.78, 3.58, 3.58, 3.58, 3.44, 3.44, 3.44, 3.33, 3.33, 3.1, 3.1, 3.1, 2.84, 2.77, 2.77, 2.77, 2.49, 2.49, 2.32, 2.32, 2.32, 2.12, 2.12, 2.12, 1.92, 1.92, 1.92, 1.7, 1.65, 1.58, 1.58, 1.42, 1.42, 1.33, 1.33, 1.33, 1.16]

}]

}

### 2.2.9 历史功图源数据

#### 2.2.9.1 参数说明

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 描述 | 获取某口井某个时间段采集的功图源数据 | | | | |
| URL | 平台访问地址/api/read/oilWell/realtime/historyFESDiagramData | | | | |
| 请求数据 | **代码** | **名称** | **类型** | **必填** | **备注** |
| User | 账号 | string | \* |  |
| Password | 密码 | string | \* |  |
| WellName | 井名 | string | \* |  |
| StartDate | 起始时间 | string | \* | 格式：yyyy-MM-dd HH:mm:ss |
| EndDate | 结束时间 | string | \* | 格式：yyyy-MM-dd HH:mm:ss |
| 响应数据 | **代码** | **名称** | **类型** | **备注** | |
| ResultStatus | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| DataList数据列表 | | | | |
| Id | 记录编号 | int |  | |
| WellName | 井名 | string |  | |
| AcqTime | 功图采集时间 | string |  | |
| ResultName | 工况名称 | string |  | |
| PointCount | 功图点数 | int |  | |
| UpperLoadLine | 理论上载荷 | float |  | |
| LowerLoadLine | 理论下载荷 | float |  | |
| Fmax | 最大载荷 | float |  | |
| Fmin | 最小载荷 | float |  | |
| Stroke | 冲程 | float |  | |
| SPM | 冲次 | float |  | |
| LiquidProduction | 产液量 | float |  | |
|  | S | 位移 | float[] | 功图数据-位移值 | |
|  | F | 载荷 | float[] | 位移对应载荷值 | |
|  | Watt | 有功功率 | float[] | 位移对应功率值 | |
|  | A | 电流 | float[] | 位移对应电流值 | |

#### 2.2.9.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456",

"WellName": "rpc01",

"StartDate": "2022-10-09 17:20:15",

"EndDate": "2022-10-09 18:00:00"

}

2、响应数据实例

{

“ResultStatus”: 1,

"DataList": [{

"Id": "2207",

"WellName": "rpc01",

"AcqTime": "2022-10-09 17:21:30",

"PointCount": "200",

"UpperLoadLine": "57.89",

"LowerLoadLine": "27.29",

"Fmax": "58.17",

"Fmin": "20.35",

"Stroke": "4.21",

"SPM": "4.16",

"LiquidProduction": "56",

"ResultName": "正常",

"S": [0.0, 0.0, 0.0, 0.01, 0.01, 0.03, 0.04, 0.05, 0.07, 0.09, 0.12, 0.14, 0.17, 0.2, 0.23, 0.27, 0.31, 0.34, 0.39, 0.43, 0.47, 0.52, 0.56, 0.61, 0.66, 0.71, 0.77, 0.83, 0.88, 0.94, 1.0, 1.06, 1.12, 1.18, 1.24, 1.3, 1.36, 1.43, 1.49, 1.55, 1.62, 1.68, 1.75, 1.81, 1.87, 1.94, 2.0, 2.06, 2.12, 2.18, 2.24, 2.3, 2.36, 2.42, 2.48, 2.54, 2.6, 2.65, 2.71, 2.76, 2.81, 2.87, 2.92, 2.97, 3.02, 3.07, 3.11, 3.16, 3.21, 3.25, 3.3, 3.34, 3.38, 3.43, 3.47, 3.51, 3.54, 3.58, 3.62, 3.66, 3.69, 3.73, 3.76, 3.79, 3.83, 3.86, 3.89, 3.91, 3.94, 3.97, 3.99, 4.02, 4.04, 4.06, 4.09, 4.1, 4.12, 4.14, 4.15, 4.17, 4.18, 4.19, 4.2, 4.2, 4.21, 4.21, 4.21, 4.21, 4.21, 4.2, 4.19, 4.18, 4.17, 4.15, 4.13, 4.11, 4.09, 4.06, 4.03, 4.0, 3.97, 3.93, 3.9, 3.86, 3.81, 3.77, 3.73, 3.68, 3.63, 3.58, 3.53, 3.47, 3.41, 3.35, 3.29, 3.23, 3.17, 3.11, 3.05, 2.98, 2.92, 2.86, 2.8, 2.73, 2.66, 2.6, 2.53, 2.46, 2.34, 2.33, 2.26, 2.2, 2.13, 2.06, 2.0, 1.93, 1.86, 1.8, 1.73, 1.67, 1.6, 1.54, 1.47, 1.41, 1.35, 1.29, 1.22, 1.16, 1.1, 1.04, 0.99, 0.93, 0.87, 0.82, 0.77, 0.71, 0.66, 0.61, 0.56, 0.52, 0.47, 0.43, 0.39, 0.35, 0.31, 0.27, 0.24, 0.21, 0.18, 0.15, 0.12, 0.1, 0.08, 0.06, 0.04, 0.03, 0.02, 0.01, 0.0, 0.0],

"F": [29.13, 29.46, 30.58, 31.46, 31.92, 32.48, 33.06, 33.68, 34.41, 36.11, 37.45, 38.52, 39.99, 40.93, 42.37, 44.56, 46.7, 48.82, 51.0, 53.32, 55.17, 56.93, 58.17, 57.69, 56.52, 55.21, 54.0, 52.62, 51.81, 51.61, 51.95, 52.61, 53.22, 53.7, 54.29, 54.47, 54.32, 53.99, 53.43, 52.65, 51.84, 51.27, 51.03, 50.96, 50.96, 51.02, 51.18, 51.39, 51.59, 51.65, 51.64, 51.57, 51.44, 51.25, 51.01, 50.75, 50.67, 50.59, 50.55, 50.63, 50.9, 51.16, 51.3, 51.38, 51.52, 51.61, 51.5, 51.38, 51.28, 51.18, 51.03, 50.94, 50.91, 50.94, 50.95, 50.98, 51.07, 51.24, 51.28, 51.26, 51.21, 51.17, 51.11, 50.97, 50.69, 50.64, 50.64, 50.64, 50.66, 50.72, 50.8, 50.86, 50.86, 50.84, 50.81, 50.76, 50.63, 50.55, 50.52, 50.51, 50.51, 50.53, 50.57, 50.67, 50.77, 50.78, 50.71, 49.79, 48.52, 47.32, 46.96, 46.28, 45.34, 44.26, 43.67, 43.16, 42.46, 41.21, 39.92, 38.239998, 36.12, 34.45, 32.7, 30.65, 28.09, 25.36, 22.66, 20.58, 20.35, 21.53, 23.36, 25.35, 27.12, 28.52, 29.24, 28.77, 27.5, 26.01, 24.64, 23.48, 22.83, 22.8, 23.48, 24.28, 25.08, 25.79, 26.3, 26.36, 26.03, 25.43, 24.98, 24.59, 24.33, 24.37, 24.4, 24.59, 24.92, 25.14, 25.4, 25.64, 25.78, 25.74, 25.69, 25.65, 25.65, 25.59, 25.55, 25.57, 25.65, 25.79, 25.96, 26.14, 26.3, 26.4, 26.45, 26.53, 26.6, 26.65, 26.72, 26.75, 26.84, 27.0, 27.22, 27.35, 27.56, 27.85, 27.97, 28.1, 28.23, 28.31, 28.39, 28.43, 28.47, 28.58, 28.66, 28.76, 28.89, 29.03, 29.19, 29.37],

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"Fmin": "20.35",

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}]

}

### 2.2.10 油井全天统计数据

#### 2.2.10.1 参数说明

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 描述 | 获取油井全天统计数据 | | | | |
| URL | 平台访问地址/api/read/oilWell/total/statisticsData | | | | |
| 请求数据 | **代码** | **名称** | **类型** | **必填** | **备注** |
| User | 账号 | string | \* |  |
| Password | 密码 | string | \* |  |
| LiftingType | 举升类型 | int |  | 1-抽油机 2-螺杆泵  缺省：1 |
| Date | 日期 | string |  | 缺省：当天 |
| StatType | 统计类型 | int |  | 1-功图工况统计  2通信状态统计  3-运行状态统计  缺省：1 |
| WellList | 所统计的井列表 | string[] |  | 为空则统计用户所在组织下所有井 |
| 响应数据 | **代码** | **名称** | **类型** | **备注** | |
| ResultStatus | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| date | 日期 | string |  | |
| DataList统计项数据列表 | | | | |
| Item | 项 | string |  | |
| Count | 数量 | int |  | |

#### 2.2.10.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456",

"LiftingType":1,

"Date":"2022-10-10",

"StatType ":1,

"WellList":["well1", "well2"]

}

2、响应数据实例

{

“ResultStatus”: 1,

"Date":"2022-10-10",

"DataList": [{

"Item": "正常",

"Count": 1

}, {

"Item": "充满不足",

"Count": 1

}]

}

### 2.2.11 油井全天井列表数据

#### 2.2.11.1 参数说明

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 描述 | 获取某天某种状态或者某种工况下油井全天汇总数据列表 | | | | |
| URL | 平台访问地址/api/read/oilWell/total/wellListData | | | | |
| 请求数据 | **代码** | **名称** | **类型** | **必填** | **备注** |
| User | 账号 | string | \* |  |
| Password | 密码 | string | \* |  |
| LiftingType | 举升类型 | int |  | 1-抽油机 2-螺杆泵  缺省：1 |
| Date | 日期 | string |  | 缺省：当天 |
| StatType | 筛选类型 | int |  | 1-功图工况筛选  2-通信状态筛选  3-运行状态筛选  缺省：1 |
| StatValue | 筛选值 | string |  | 为空，不筛选 |
| WellList | 所统计井列表 | string[] |  | 为空，查询用户所在组织下所有符合的井 |
| 响应数据 | **代码** | **名称** | **类型** | **备注** | |
| ResultStatus | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| DataList数据列表 | | | | |
| Id | 记录编号 | int |  | |
| WellName | 井名 | string |  | |
| Caldate | 汇总日期 | string |  | |
| ExtendedDays | 功图沿用天数 | int |  | |
| ResultName | 工况名称 | string |  | |
| OptimizationSuggestion | 优化建议 | string |  | |
| CommStatusName | 通信状态 | string | 在线、离线 | |
| CommTime | 在线时间 | float |  | |
| CommTimeEfficiency | 在线时率 | float | 小数 | |
| CommRange | 在线区间 | string |  | |
| RunStatusName | 运行状态 | string | 运行、停抽、离线 | |
| RunTime | 运行时间 | float |  | |
| RunTimeEfficiency | 运行时率 | float | 小数 | |
| RunRange | 运行区间 | string |  | |
| LiquidWeightProduction | 功图产液量(吨) | float | 单张功图计算产量 | |
| OilWeightProduction | 功图产油量(吨) | float |  | |
| WaterWeightProduction | 功图产水量(吨) | float |  | |
| WeightWaterCut | 重量含水率 | float |  | |
| LiquidVolumetricProduction | 功图产液量(方) | float | 单张功图计算产量 | |
| OilVolumetricProduction | 功图产油量(方) | float |  | |
| WaterVolumetricProduction | 功图产水量(方) | float |  | |
| VolumeWaterCut | 重量含水率 | float |  | |
| WattDegreeBalance | 功率平衡度 | float | % | |
| IDegreeBalance | 电流平衡度 | float | % | |
| DeltaRadius | 曲柄平衡块移动距离 | float | cm | |
| SystemEfficiency | 系统效率 | float | % | |
| SurfaceSystemEfficiency | 地面效率 | float | % | |
| WelldownSystemEfficiency | 井下效率 | float | % | |
| EnergyPer100mLift | 吨液百米耗电量 | float | kW·h/100m·t | |
| TodayKWattH | 日用电量 | float | kW·h | |
| PumpEff | 总泵效 | float | % | |
| ResultAlarmLevel | 工况报警级别 | int | 0-正常；100-一级报警；  200-二级报警；300-三级报警 | |
| CommAlarmLevel | 通信报警级别 | int |
| RunAlarmLevel | 运行报警级别 | int |

#### 2.2.11.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456",

"LiftingType": 1,

"Date": "2022-10-09",

"StatType": 1,

"StatValue": "正常",

"WellList": ["rpc01", "rpc02"]

}

2、响应数据实例

{

“ResultStatus”: 1,

"DataList": [{

"Id": 704,

"WellName": "rpc01",

"Caldate": "2022-10-09",

"ExtendedDays": "0",

"CommStatusName": "在线",

"CommTime": "0.33",

"CommTimeEfficiency": "0.0164",

"CommRange": "17:14-17:14;17:18-17:18;17:20-17:20;17:21-17:21;18:01-18:01;18:06-18:06;18:09-18:09;18:30-18:30;19:24-19:24;19:25-19:25;19:26-19:26;19:28-19:28;19:30-19:30;19:54-19:54;19:55-19:55;19:57-20:17",

"RunStatusName": "运行",

"RunTime": "3.05",

"RunTimeEfficiency": "0.15",

"RunRange": "17:14-20:17",

"ResultName": "正常",

"OptimizationSuggestion": " ",

"LiquidWeightProduction": "7.09",

"OilWeightProduction": "0.18",

"WaterWeightProduction": "6.9",

"WeightWaterCut": "0",

"LiquidVolumetricProduction": "7.12",

"OilVolumetricProduction": "0.21",

"WaterVolumetricProduction": "6.9",

"VolumeWaterCut": "97.02",

"IDegreeBalance": "98.95",

"WattDegreeBalance": "91.25",

"Deltaradius": "0",

"SurfaceSystemEfficiency": "64.7",

"WelldownSystemEfficiency": "16.5",

"SystemEfficiency": "10.7",

"Energyper100mlift": "2.55",

"TodayKWattH": "0",

"PumpEff": "87",

"ResultAlarmLevel": 0,

"CommAlarmLevel": 0,

"RunAlarmLevel": 300

}]

}

### 2.2.12 油井全天历史数据

#### 2.2.12.1 参数说明

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 描述 | 获取某时间段某口井某种状态或者某种工况下汇总数据 | | | | |
| URL | 平台访问地址/api/read/oilWell/total/wellHistoryData | | | | |
| 请求数据 | **代码** | **名称** | **类型** | **必填** | **备注** |
| User | 账号 | string | \* |  |
| Password | 密码 | string | \* |  |
| LiftingType | 举升类型 | int |  | 1-抽油机 2-螺杆泵  缺省：1 |
| StartDate | 起始日期 | string |  | yyyy-mm-dd |
| EndDate | 结束日期 | string |  | yyyy-mm-dd |
| StatType | 统计类型 | int |  | 1-功图工况筛选  2-通信状态筛选  3-运行状态筛选  缺省：1 |
| StatValue | 统计值 | string |  | 为空，不筛选 |
| WellName | 井名 | string |  | 为空，查询用户所在组织下所有符合条件记录 |
| 响应数据 | **代码** | **名称** | **类型** | **备注** | |
| ResultStatus | 状态 | int | 1:请求成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用 | |
| DataList数据列表 | | | | |
| Id | 记录编号 | int |  | |
| WellName | 井名 | string |  | |
| Caldate | 汇总日期 | string |  | |
| ExtendedDays | 功图沿用天数 | int |  | |
| ResultName | 工况名称 | string |  | |
| OptimizationSuggestion | 优化建议 | string |  | |
| CommStatusName | 通信状态 | string | 在线、离线 | |
| CommTime | 在线时间 | float |  | |
| CommTimeEfficiency | 在线时率 | float | 小数 | |
| CommRange | 在线区间 | string |  | |
| RunStatusName | 运行状态 | string | 运行、停抽、离线 | |
| RunTime | 运行时间 | float |  | |
| RunTimeEfficiency | 运行时率 | float | 小数 | |
| RunRange | 运行区间 | string |  | |
| LiquidWeightProduction | 功图产液量(吨) | float | 单张功图计算产量 | |
| OilWeightProduction | 功图产油量(吨) | float |  | |
| WaterWeightProduction | 功图产水量(吨) | float |  | |
| WeightWaterCut | 重量含水率 | float |  | |
| LiquidVolumetricProduction | 功图产液量(方) | float | 单张功图计算产量 | |
| OilVolumetricProduction | 功图产油量(方) | float |  | |
| WaterVolumetricProduction | 功图产水量(方) | float |  | |
| VolumeWaterCut | 重量含水率 | float |  | |
| WattDegreeBalance | 功率平衡度 | float | % | |
| IDegreeBalance | 电流平衡度 | float | % | |
| DeltaRadius | 曲柄平衡块移动距离 | float | cm | |
| SystemEfficiency | 系统效率 | float | % | |
| SurfaceSystemEfficiency | 地面效率 | float | % | |
| WelldownSystemEfficiency | 井下效率 | float | % | |
| EnergyPer100mLift | 吨液百米耗电量 | float | kW·h/100m·t | |
| TodayKWattH | 日用电量 | float | kW·h | |
| PumpEff | 总泵效 | float | % | |
| ResultAlarmLevel | 工况报警级别 | int | 0-正常；100-一级报警；  200-二级报警；300-三级报警 | |
| CommAlarmLevel | 通信报警级别 | int |
| RunAlarmLevel | 运行报警级别 | int |

#### 2.2.12.2 实例

1、请求参数实例

{

"User": "user01",

"Password ": "123456",

"LiftingType": 1,

"WellName": "rpc01",

"StartDate": "2022-10-08",

"EndDate": "2022-10-09",

"StatType": 1,

"StatValue": "正常"

}

2、响应数据实例

{

“ResultStatus”: 1,

"DataList": [{

"Id": 704,

"WellName": "rpc01",

"Caldate": "2022-10-09",

"ExtendedDays": "0",

"CommStatusName": "在线",

"CommTime": "0.33",

"CommTimeEfficiency": "0.0164",

"CommRange": "17:14-17:14;17:18-17:18;17:20-17:20;17:21-17:21;18:01-18:01;18:06-18:06;18:09-18:09;18:30-18:30;19:24-19:24;19:25-19:25;19:26-19:26;19:28-19:28;19:30-19:30;19:54-19:54;19:55-19:55;19:57-20:17",

"RunStatusName": "运行",

"RunTime": "3.05",

"RunTimeEfficiency": "0.15",

"RunRange": "17:14-20:17",

"ResultName": "正常",

"OptimizationSuggestion": " ",

"LiquidWeightProduction": "7.09",

"OilWeightProduction": "0.18",

"WaterWeightProduction": "6.9",

"WeightWaterCut": "0",

"LiquidVolumetricProduction": "7.12",

"OilVolumetricProduction": "0.21",

"WaterVolumetricProduction": "6.9",

"VolumeWaterCut": "97.02",

"IDegreeBalance": "98.95",

"WattDegreeBalance": "91.25",

"Deltaradius": "0",

"SurfaceSystemEfficiency": "64.7",

"WelldownSystemEfficiency": "16.5",

"SystemEfficiency": "10.7",

"Energyper100mlift": "2.55",

"TodayKWattH": "0",

"PumpEff": "87",

"ResultAlarmLevel": 0,

"CommAlarmLevel": 0,

"RunAlarmLevel": 300

}, {

"Id": 724,

"WellName": "rpc01",

"Caldate": "2022-10-10",

"ExtendedDays": "0",

"CommStatusName": "在线",

"CommTime": "1.17",

"CommTimeEfficiency": "0.0635",

"CommRange": "15:40-15:50;15:54-15:54;15:56-16:16;17:01-17:01;17:03-17:03;17:15-17:15;17:20-17:20;17:29-17:29;17:31-18:01;18:12-18:22",

"RunStatusName": "运行",

"RunTime": "18.37",

"RunTimeEfficiency": "1",

"RunRange": "00:00-18:22",

"ResultName": "正常",

"OptimizationSuggestion": " ",

"LiquidWeightProduction": "42.75",

"OilWeightProduction": "1.11",

"WaterWeightProduction": "41.64",

"WeightWaterCut": "0",

"LiquidVolumetricProduction": "42.92",

"OilVolumetricProduction": "1.28",

"WaterVolumetricProduction": "41.64",

"VolumeWaterCut": "97.02",

"IDegreeBalance": "98.95",

"WattDegreeBalance": "91.25",

"Deltaradius": "0",

"SurfaceSystemEfficiency": "64.8",

"WelldownSystemEfficiency": "16.3",

"SystemEfficiency": "10.6",

"Energyper100mlift": "2.58",

"TodayKWattH": "0",

"PumpEff": "87",

"ResultAlarmLevel": 0,

"CommAlarmLevel": 0,

"RunAlarmLevel": 300

}]

}

## 2.3 数据写入接口

### 2.3.1 生产数据

#### 2.3.1.1 参数说明

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 描述 | 生产数据写入接口 | | | | | |
| URL | 平台访问地址/api/write/production | | | | | |
| 请求参数 | **代码** | **名称** | **单位** | **类型** | **必填** | **备注** |
| User | 账号 |  | string | \* |  |
| Password | 密码 |  | string | \* |  |
| LiftingType | 举升类型 |  | int |  | 1-抽油机 2-螺杆泵 缺省：1 |
| WellName | 井名 |  | string | \* |  |
| CrudeOilDensity | 原油密度(g/cm^3) |  | string |  |  |
| WaterDensity | 水密度(g/cm^3) |  | string |  |  |
| NaturalGasRelativeDensity | 天然气相对密度 |  | string |  |  |
| SaturationPressure | 饱和压力(MPa) |  | string |  |  |
| ReservoirDepth | 油层中部深度(m) |  | string |  |  |
| ReservoirTemperature | 油层中部温度(℃) |  | string |  |  |
| TubingPressure | 油压(MPa) |  | string |  |  |
| CasingPressure | 套压(MPa) |  | string |  |  |
| WellHeadTemperature | 井口温度(℃) |  | string |  |  |
| WaterCut | 含水率(%) |  | string |  |  |
| ProductionGasOilRatio | 生产气油比(m^3/t) |  | string |  |  |
| ProducingfluidLevel | 动液面(m) |  | string |  |  |
| PumpSettingDepth | 泵挂(m) |  | string |  |  |
| PumpType | 泵类型 |  | string |  | 抽油机井特有 |
| BarrelType | 泵筒类型 |  | string |  | 抽油机井特有 |
| PumpGrade | 泵级别 |  | string |  | 抽油机井特有 |
| PumpBoreDiameter | 泵径(mm) |  | string |  | 抽油机井特有 |
| PlungerLength | 柱塞长(m) |  | string |  | 抽油机井特有 |
| BarrelLength | 泵筒长(m) |  | string |  | 螺杆泵井特有 |
| BarrelSeries | 泵级数 |  | string |  | 螺杆泵井特有 |
| RotorDiameter | 转子直径(mm) |  | string |  | 螺杆泵井特有 |
| QPR | 每转公称排量(ml/r) |  | string |  | 螺杆泵井特有 |
| TubingStringInsideDiameter | 油管内径(mm) |  | string |  |  |
| CasingStringInsideDiameter | 套管内径(mm) |  | string |  |  |
| RodGrade1 | 一级杆级别 |  | string |  |  |
| RodOutsideDiameter1 | 一级杆外径(mm) |  | string |  |  |
| RodInsideDiameter1 | 一级杆内径(mm) |  | string |  |  |
| RodLength1 | 一级杆长度(m) |  | string |  |  |
| RodGrade2 | 二级杆级别 |  | string |  |  |
| RodOutsideDiameter2 | 二级杆外径(mm) |  | string |  |  |
| RodInsideDiameter2 | 二级杆内径(mm) |  | string |  |  |
| RodLength2 | 二级杆长度(m) |  | string |  |  |
| RodGrade3 | 三级杆级别 |  | string |  |  |
| RodOutsideDiameter3 | 三级杆外径(mm) |  | string |  |  |
| RodInsideDiameter3 | 三级杆内径(mm) |  | string |  |  |
| RodLength3 | 三级杆长度(m) |  | string |  |  |
| RodGrade4 | 四级杆级别 |  | string |  |  |
| RodOutsideDiameter4 | 四级杆外径(mm) |  | string |  |  |
| RodInsideDiameter4 | 四级杆内径(mm) |  | string |  |  |
| RodLength4 | 四级杆长度(m) |  | string |  |  |
| NetGrossRatio | 净毛比(小数) |  | string |  |  |
| NetGrossValue | 净毛值(m^3/d) |  | string |  |  |
| Manufacturer | 抽油机厂家 |  | string |  | 抽油机井特有 |
| Model | 抽油机型号 |  | string |  | 抽油机井特有 |
| Stroke | 铭牌冲程(m) |  | string |  | 抽油机井特有 |
| CrankRotationDirection | 曲柄旋转方向 |  | string |  | 抽油机井特有 |
| OffsetAngleOfCrank | 曲柄偏置角(°) |  | string |  | 抽油机井特有 |
| CrankGravityRadius | 曲柄重心半径(m) |  | string |  | 抽油机井特有 |
| SingleCrankWeight | 单块曲柄重量(kN) |  | string |  | 抽油机井特有 |
| SingleCrankPinWeight | 单块曲柄销重量(kN) |  | string |  | 抽油机井特有 |
| StructuralUnbalance | 结构不平衡重(kN) |  | string |  | 抽油机井特有 |
| BalanceWeight | 平衡块重量(kN) |  | string |  | 抽油机井特有 |
| BalancePosition | 平衡块位置(m) |  | string |  | 抽油机井特有 |
| 响应数据 | **代码** | **名称** |  | string | **备注** | |
| ResultStatus | 状态 |  | int | 1:写入成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用，  -6：用户权限不足 | |

#### 2.3.1.2 实例

1、上传参数实例

{

"User": "user01",

"Password ": "123456",

"LiftingType":1,

"WellName": "rpc01",

"CrudeOilDensity": "0.87",

"WaterDensity": "1.0",

"NaturalGasRelativeDensity": "0.63",

"SaturationPressure": "9.7",

"ReservoirDepth": "1657.0",

"ReservoirTemperature": "69.0",

"TubingPressure": "0.64",

"CasingPressure": "0.7",

"WellHeadTemperature": "26.0",

"WaterCut": "97.02",

"ProductionGasOilRatio": "75.0",

"ProducingfluidLevel": "190.0",

"PumpSettingDepth": "1113.72",

"PumpType": "管式泵",

"BarrelType": "组合泵",

"PumpGrade": "1",

"PumpBoreDiameter": "57.0",

"PlungerLength": "1.5",

"TubingStringInsideDiameter": "62.0",

"CasingStringInsideDiameter": "139.0",

"RodGrade1": "HY",

"RodOutsideDiameter1": "22.0",

"RodInsideDiameter1": "0.0",

"RodLength1": "1069.0",

"RodGrade2": "",

"RodOutsideDiameter2": "",

"RodInsideDiameter2": "",

"RodLength2": "",

"RodGrade3": "",

"RodOutsideDiameter3": "",

"RodInsideDiameter3": "",

"RodLength3": "",

"RodGrade4": "",

"RodOutsideDiameter4": "",

"RodInsideDiameter4": "",

"RodLength4": "",

"NetGrossRatio": "1.0",

"NetGrossValue": "0.0",

"Manufacturer": "大庆",

"Model": "CYJY6-2.5-26HB",

"Stroke": "2.5",

"CrankRotationDirection": "顺时针",

"OffsetAngleOfCrank": "-8",

"CrankGravityRadius": "0.65",

"SingleCrankWeight": "9.5",

"SingleCrankPinWeight": "0.706",

"StructuralUnbalance": "1.4",

"BalanceWeight": "7.71,7.71,7.71,7.71",

"BalancePosition": "0.6,0.6,0.6,0.6"

}

2、响应数据实例

{

"ResultStatus": 1

}

### 2.3.2 功图数据

#### 2.3.2.1 参数说明

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 描述 | 功图数据写入接口 | | | | | |
| URL | 平台访问地址/api/write/FESDiagram | | | | | |
| 请求参数 | **代码** | **名称** | **单位** | **类型** | **必填** | **备注** |
| User | 账号 |  | string | \* |  |
| Password | 密码 |  | string | \* |  |
| WellName | 井名 |  | string | \* |  |
| AcqTime | 采集时间 |  | string | \* | 格式：YYYY-MM-DD HH:NN:SS  如： "2016-07-16 12:00:01" |
| Stroke | 冲程 | m | float | \* |  |
| SPM | 冲次 | 1/min | float | \* |  |
| F | 载荷 | kN | float[] | \* |  |
| S | 位移 | m | float[] | \* |  |
| Watt | 三项总有功功率 | kW | float[] |  |  |
| I | 三项平均电流 | A | float[] |  |  |
| 响应数据 | **代码** | **名称** |  | **类型** | **备注** | |
| ResultStatus | 状态 |  | int | 1:写入成功，-1:用户名为空，-2:密码为空，  -3:账号或密码错误，-4:用户已被禁用，  -6：用户权限不足 | |

#### 2.3.2.2 实例

1、上传参数实例

{

"User": "user01",

"Password ": "123456",

"WellName": "rpc01",

"AcqTime": "2022-12-06 19:20:52",

"Stroke": 4.21,

"SPM": 4.18,

"F": [29.13, 29.46, 30.58, 31.46, 31.92, 32.48, 33.06, 33.68, 34.41, 36.11, 37.45, 38.52, 39.99, 40.93, 42.37, 44.56, 46.7, 48.82, 51.0, 53.32, 55.17, 56.93, 58.17, 57.69, 56.52, 55.21, 54.0, 52.62, 51.81, 51.61, 51.95, 52.61, 53.22, 53.7, 54.29, 54.47, 54.32, 53.99, 53.43, 52.65, 51.84, 51.27, 51.03, 50.96, 50.96, 51.02, 51.18, 51.39, 51.59, 51.65, 51.64, 51.57, 51.44, 51.25, 51.01, 50.75, 50.67, 50.59, 50.55, 50.63, 50.9, 51.16, 51.3, 51.38, 51.52, 51.61, 51.5, 51.38, 51.28, 51.18, 51.03, 50.94, 50.91, 50.94, 50.95, 50.98, 51.07, 51.24, 51.28, 51.26, 51.21, 51.17, 51.11, 50.97, 50.69, 50.64, 50.64, 50.64, 50.66, 50.72, 50.8, 50.86, 50.86, 50.84, 50.81, 50.76, 50.63, 50.55, 50.52, 50.51, 50.51, 50.53, 50.57, 50.67, 50.77, 50.78, 50.71, 49.79, 48.52, 47.32, 46.96, 46.28, 45.34, 44.26, 43.67, 43.16, 42.46, 41.21, 39.92, 38.24, 36.12, 34.45, 32.7, 30.65, 28.09, 25.36, 22.66, 20.58, 20.35, 21.53, 23.36, 25.35, 27.12, 28.52, 29.24, 28.77, 27.5, 26.01, 24.64, 23.48, 22.83, 22.8, 23.48, 24.28, 25.08, 25.79, 26.3, 26.36, 26.03, 25.43, 24.98, 24.59, 24.33, 24.37, 24.4, 24.59, 24.92, 25.14, 25.4, 25.64, 25.78, 25.74, 25.69, 25.65, 25.65, 25.59, 25.55, 25.57, 25.65, 25.79, 25.96, 26.14, 26.3, 26.4, 26.45, 26.53, 26.6, 26.65, 26.72, 26.75, 26.84, 27.0, 27.22, 27.35, 27.56, 27.85, 27.97, 28.1, 28.23, 28.31, 28.39, 28.43, 28.47, 28.58, 28.66, 28.76, 28.89, 29.03, 29.19, 29.37],

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2、响应数据实例

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