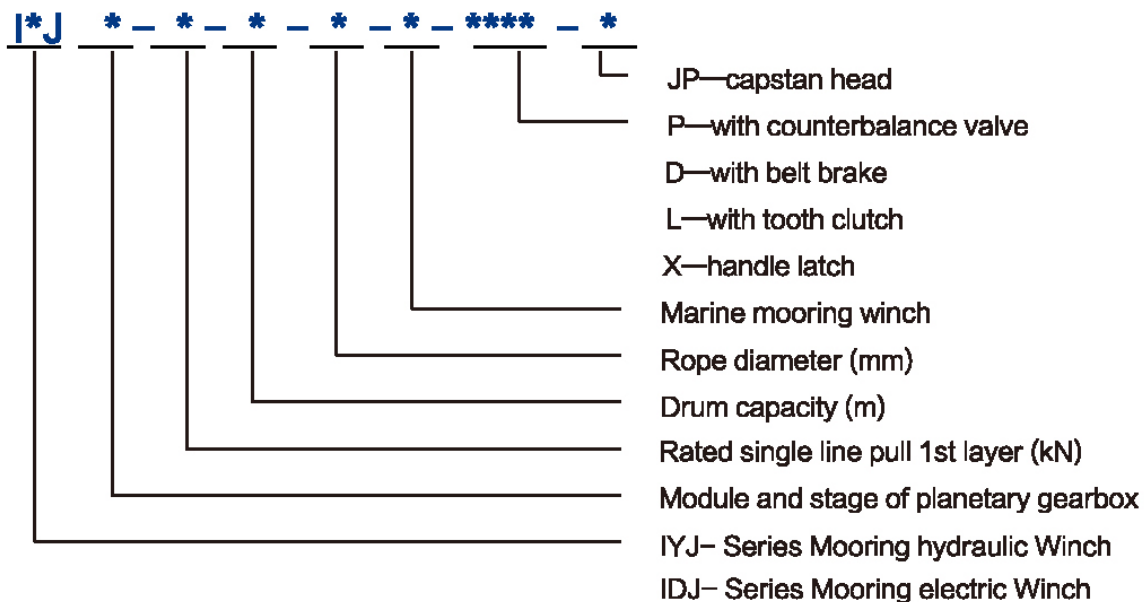


● I*J--C Mooring Winch Series

1. Brief Introduction

I*J--C series mooring winch are patent products of our company. They consist of valve blocks with function of and overload protection, hydraulic motor (electromotor with brake), planetary gearbox, belt brake, tooth clutch, drum capstan head, frame and so on. Due to fit with valve block, not only simplified the design of hydraulic system but also improved the reliability of drives. And the winch series could have CT function if fitted with constant tension valve block. The series also have high startup efficiency and working efficiency. In addition, compared with traditional mooring winch, the total transmission efficiency of the series is improved 6~10% and energy loss is lower because of closed planetary gearbox instead of open gear, and rolling bearing instead of tegular sliding bearing. These improvements bring to a number of features included compact design, lower noise, high economy and free daily lubrication maintenance. The series meet national mooring winches standard of GB4446-84. Therefore they have been widely applied in domestic ship machinery and have been exported to Malaysia, Netherlands, Australia and so on.

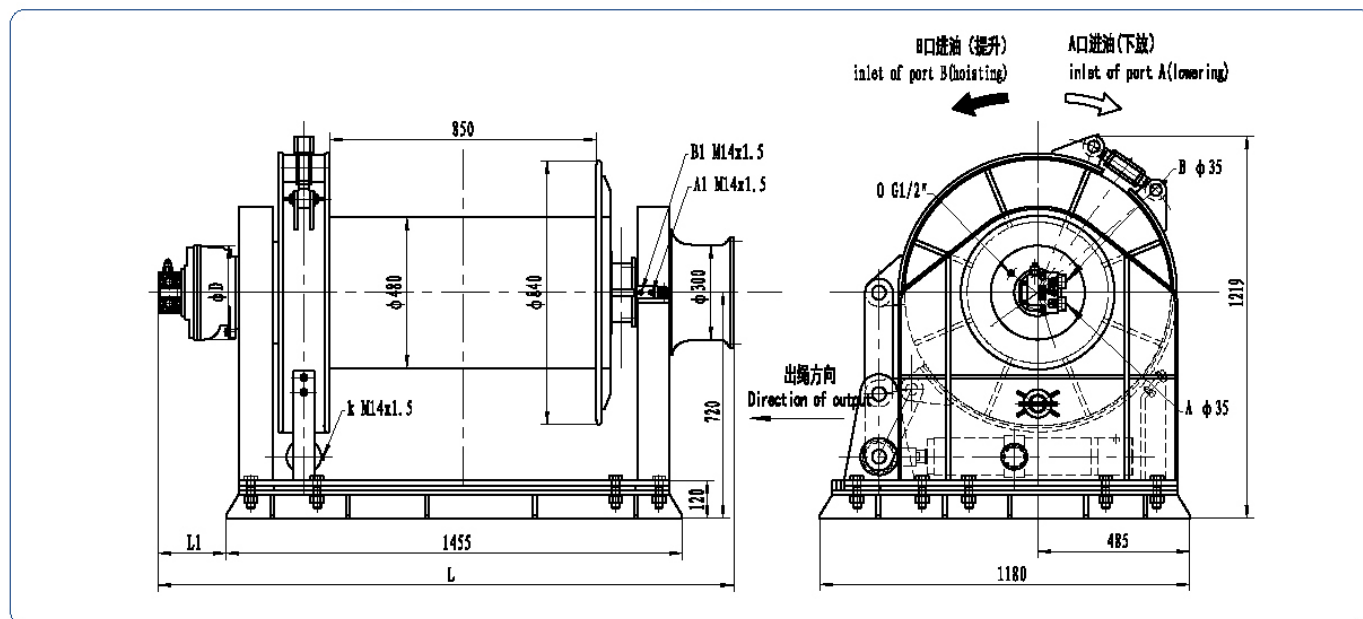
2. Model Options



3. Options Example

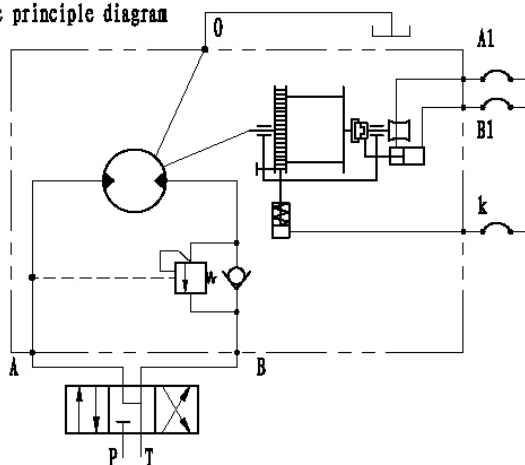
IYJ45-80-180-26-C-PDLX-JP represents that the module of two stages planetary gearbox are 4 and 5 respectively, rated pulling force on 1st layer is 80kN, drum capacity is 180m, rope diameter is 26mm, and the winch fits with belt brake, counterbalance valve, and tooth clutch, handle latch and capstan head.

IYJ45---C系列液压系泊绞车 IYJ45---C Series Hydraulic Mooring Winches



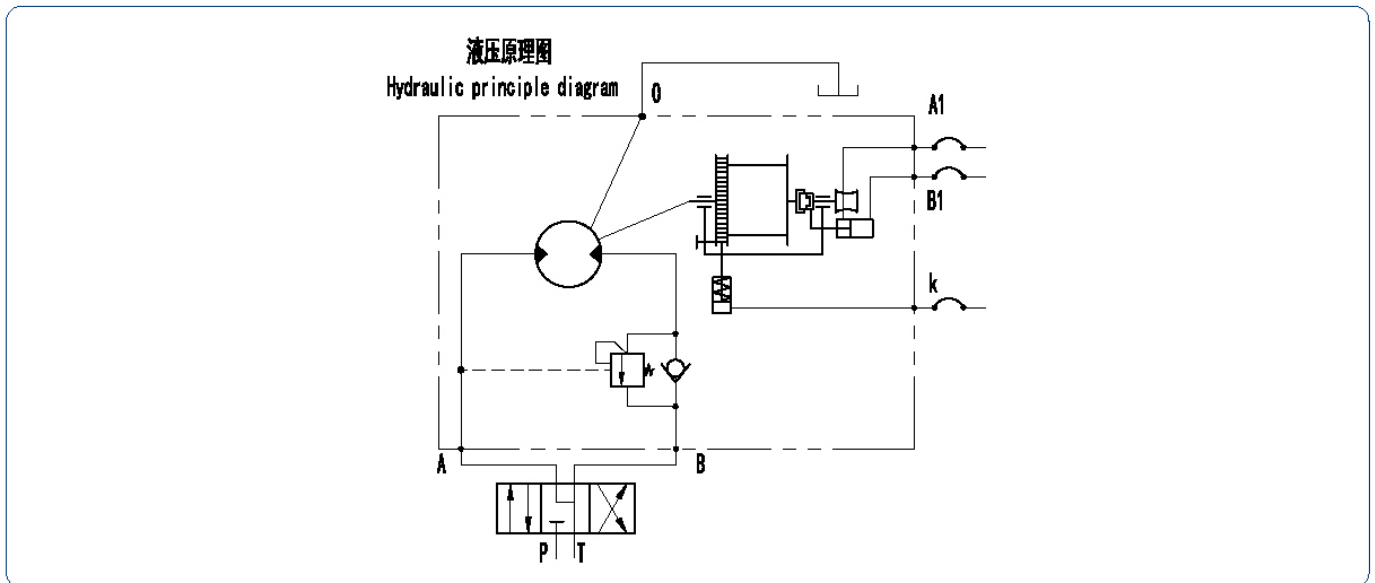
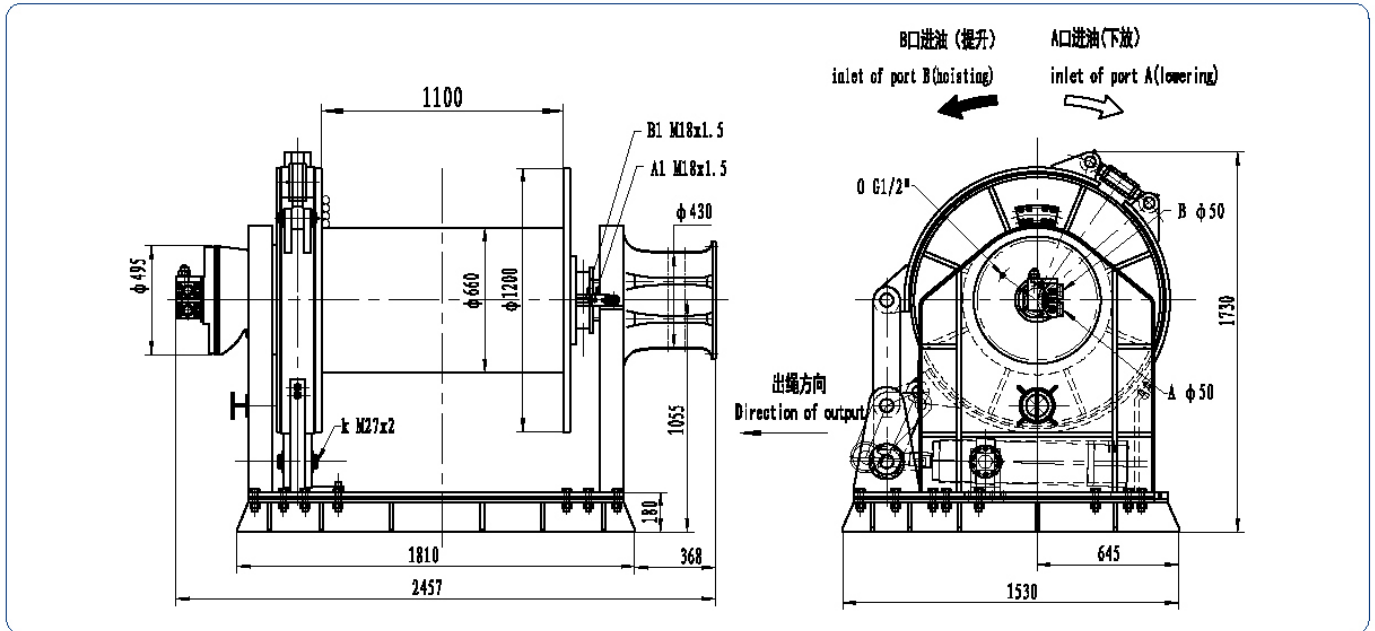
液压原理图

Hydraulic principle diagram



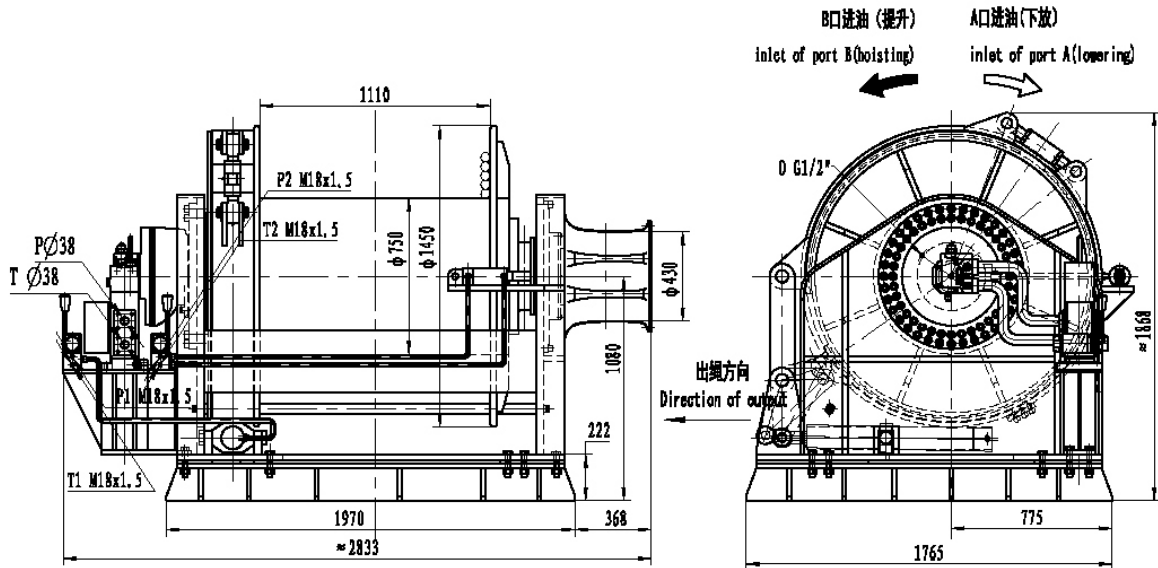
| 型号 Model | 卷筒负载 Drum load (KN) | 支持负载 Holding load (KN) | 公称速度 Nominal Speed (m/min) | 空载速度 Light-line Speed (m/min) | 爬行速度 Creep Speed (m/min) | 总排量 Total displacement (mL/r) | 额定压力 Rated Pressure (MPa) | 供油流量 Supply oil flow (L/min) | 钢丝绳直径 Diameter of rope (mm) | 层数 Layer | 容绳量 Capacity of rope (m) | D (mm) | L1 (mm) | L (mm) |
|----------------------------|---------------------------|------------------------------|----------------------------------|-------------------------------------|--------------------------------|-------------------------------------|---------------------------------|------------------------------------|-----------------------------------|-------------|--------------------------------|-----------|------------|-----------|
| IYJ45-50-280-20-C-PDLX-JP | 50 | 150 | 15 | 30 | 0.5 | 6804 | 16 | 69 | 20 | 4 | 280 | 242 | 191 | 1810 |
| IYJ45-65-265-22-C-PDLX-JP | 65 | 200 | 15 | 30 | 0.5 | 8792 | 16 | 89 | 22 | 4 | 265 | 242 | 191 | 1810 |
| IYJ45-80-250-24-C-PDLX-JP | 80 | 240 | 15 | 30 | 0.5 | 11900 | 15 | 120 | 24 | 4 | 250 | 304 | 216 | 1835 |
| IYJ45-100-230-26-C-PDLX-JP | 100 | 270 | 15 | 30 | 0.5 | 15820 | 14.5 | 158 | 26 | 4 | 230 | 304 | 216 | 1835 |
| IYJ45-125-220-28-C-PDLX-JP | 125 | 310 | 15 | 30 | 0.5 | 17444 | 16 | 174 | 28 | 4 | 220 | 304 | 216 | 1835 |
| IYJ45-150-200-30-C-PDLX-JP | 150 | 420 | 15 | 30 | 0.5 | 22176 | 15.6 | 219 | 30 | 4 | 200 | 380 | 239 | 1858 |

IYJ56---C系列液压系泊绞车 IYJ56---C Series Hydraulic Mooring Winches

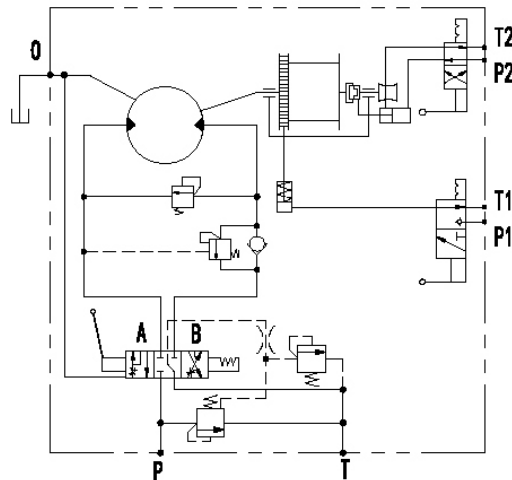


| 型号 Model | 卷筒负载 Drum load (KN) | 支持负载 Holding load (KN) | 公称速度 Nominal Speed (m/min) | 空载速度 Light-line Speed (m/min) | 爬行速度 Creep Speed (m/min) | 总排量 Total displacement (mL/r) | 额定压力 Rated Pressure (MPa) | 供油流量 Supply oil flow (L/min) | 钢丝绳直径 Diameter of rope (mm) | 层数 Layer | 容量 Capacity of rope (m) |
|----------------------------|---------------------|------------------------|----------------------------|-------------------------------|--------------------------|-------------------------------|---------------------------|------------------------------|-----------------------------|----------|-------------------------|
| IYJ56-160-330-32-C-PDLX-JP | 160 | 470 | 15 | 30 | 0.5 | 33180 | 15 | 252 | 32 | 4 | 330 |
| IYJ56-180-310-34-C-PDLX-JP | 180 | 520 | 13 | 30 | 0.5 | 37520 | 15 | 246 | 34 | 4 | 310 |
| IYJ56-200-290-36-C-PDLX-JP | 200 | 590 | 12 | 30 | 0.5 | 40936 | 15 | 248 | 36 | 4 | 290 |

IYJ67---C系列液压系泊绞车 IYJ67---C Series Hydraulic Mooring Winches

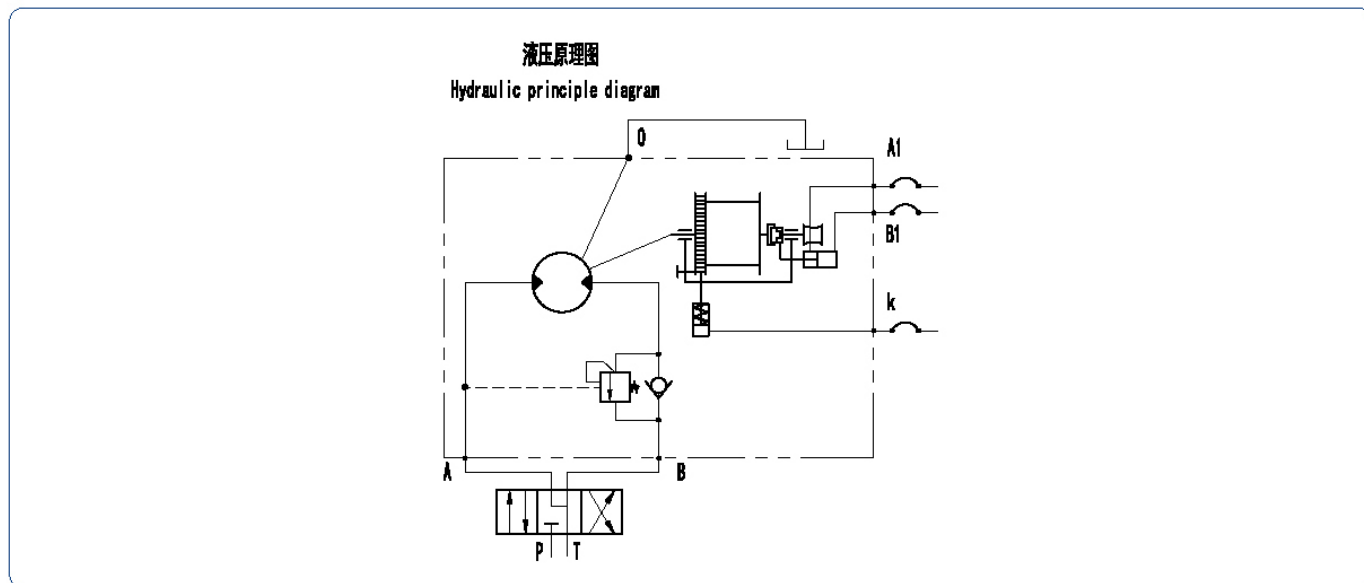
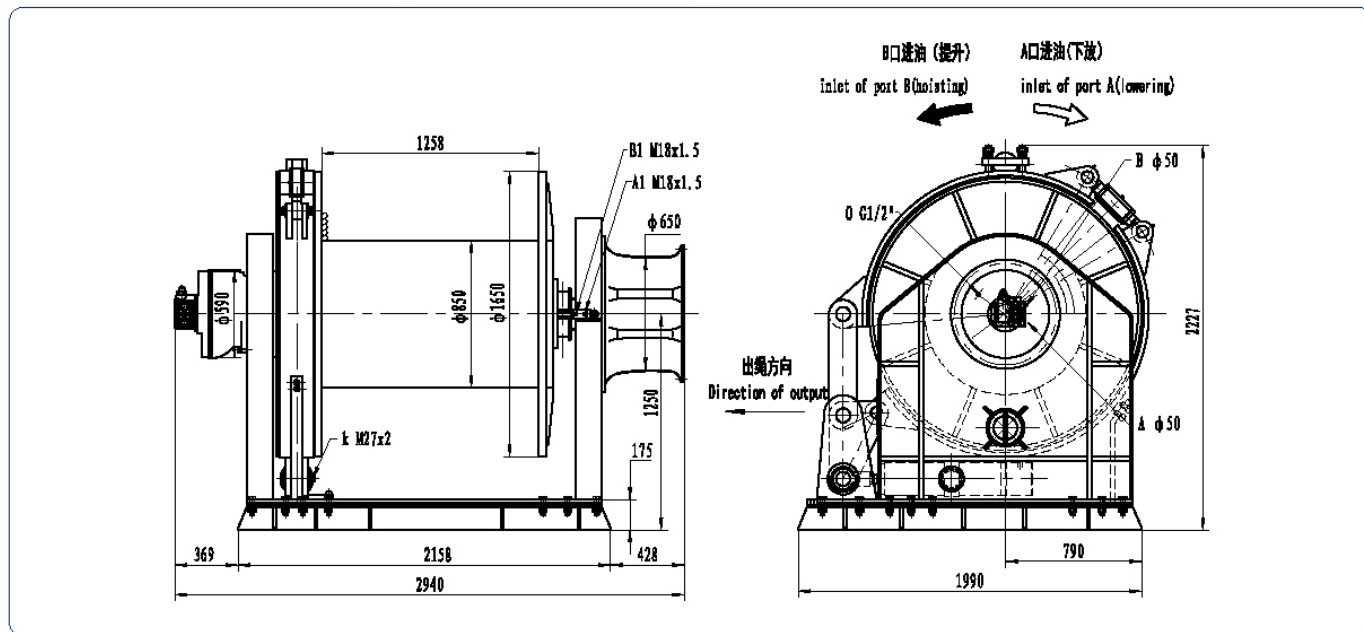


液压原理图
Hydraulic principle diagram



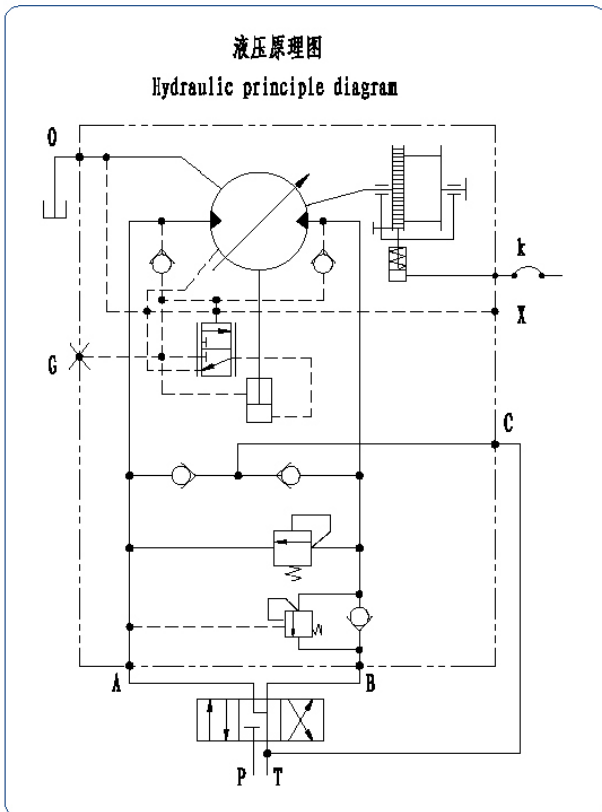
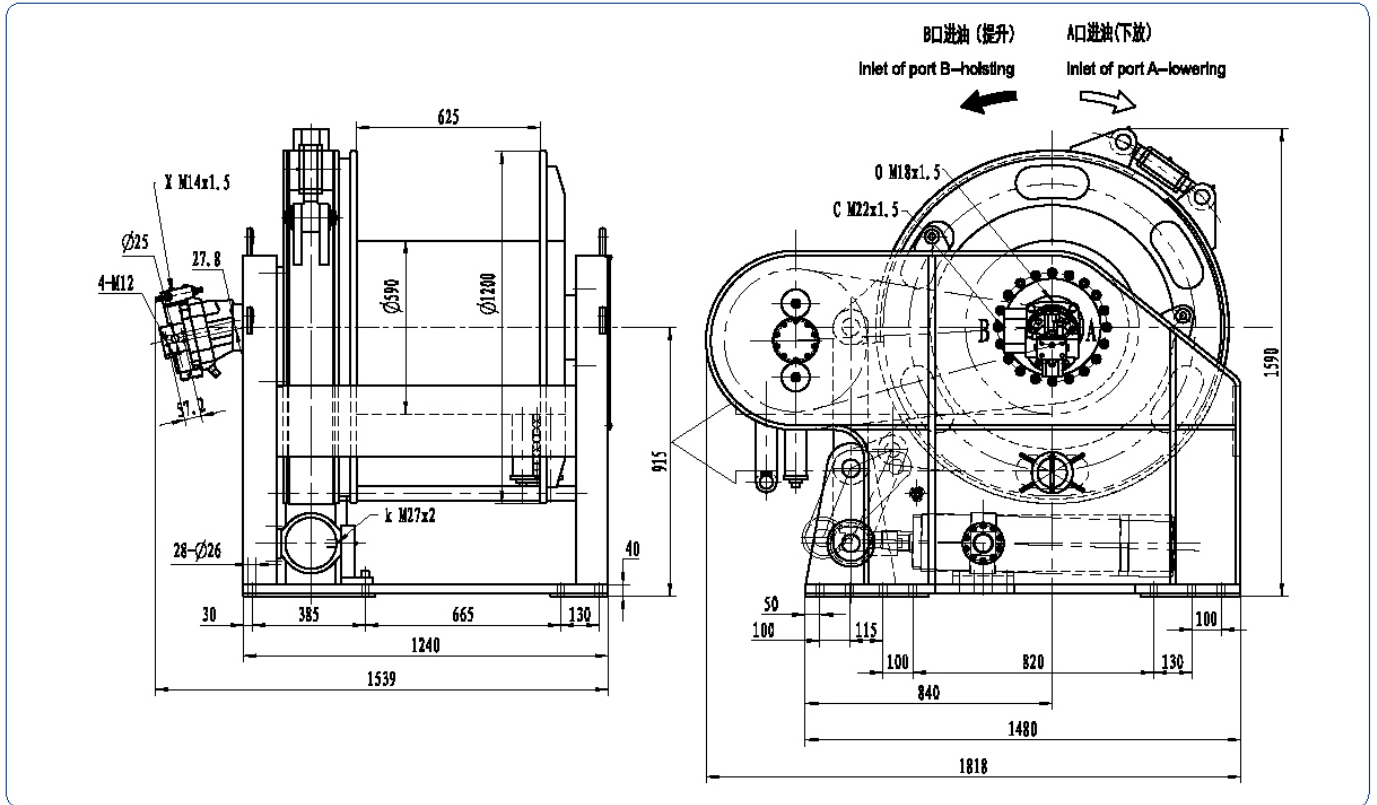
| 型号 Model | 卷筒负载 Drum load (KN) | 支持负载 Holding load (KN) | 公称速度 Nominal Speed (m/min) | 空载速度 Light-line Speed (m/min) | 爬行速度 Creep Speed (m/min) | 总排量 Total displacement (mL/r) | 额定压力 Rated Pressure (MPa) | 供油流量 Supply oil flow (L/min) | 钢丝绳直径 Diameter of rope (mm) | 层数 Layer | 容量 Capacity of rope (m) |
|----------------------------|---------------------------|------------------------------|----------------------------------|-------------------------------------|--------------------------------|-------------------------------------|---------------------------------|------------------------------------|-----------------------------------|-------------|-------------------------------|
| IYJ67-220-400-38-C-PDLX-JP | 220 | 630 | 12 | 20 | 0.5 | 50848 | 15 | 273 | 38 | 5 | 400 |
| IYJ67-250-390-40-C-PDLX-JP | 250 | 720 | 12 | 20 | 0.5 | 59556 | 15 | 320 | 40 | 5 | 390 |
| IYJ67-280-380-42-C-PDLX-JP | 280 | 810 | 10 | 20 | 0.5 | 70364 | 14 | 314 | 42 | 5 | 380 |

IYJ79---C系列液压系泊绞车 IYJ79---C Series Hydraulic Mooring Winches



| 型号 Model | 卷筒负载 Drum load (KN) | 支持负载 Holding load (KN) | 公称速度 Nominal Speed (m/min) | 空载速度 Light-line Speed (m/min) | 爬行速度 Creep Speed (m/min) | 总排量 Total displacement (mL/r) | 额定压力 Rated Pressure (MPa) | 供油流量 Supply oil flow (L/min) | 钢丝绳直径 Diameter of rope (mm) | 层数 Layer | 容绳量 Capacity of rope (m) |
|----------------------------|---------------------------|------------------------------|----------------------------------|-------------------------------------|--------------------------------|-------------------------------------|---------------------------------|------------------------------------|-----------------------------------|-------------|--------------------------------|
| IYJ79-315-330-46-C-PDLX-JP | 315 | 940 | 10 | 20 | 0.5 | 79442 | 16 | 313 | 46 | 4 | 330 |
| IYJ79-400-310-50-C-PDLX-JP | 400 | 1080 | 10 | 20 | 0.5 | 94556 | 17 | 370 | 50 | 4 | 310 |
| IYJ79-500-300-52-C-PDLX-JP | 500 | 1350 | 10 | 20 | 0.5 | 94556 | 21 | 370 | 52 | 4 | 300 |

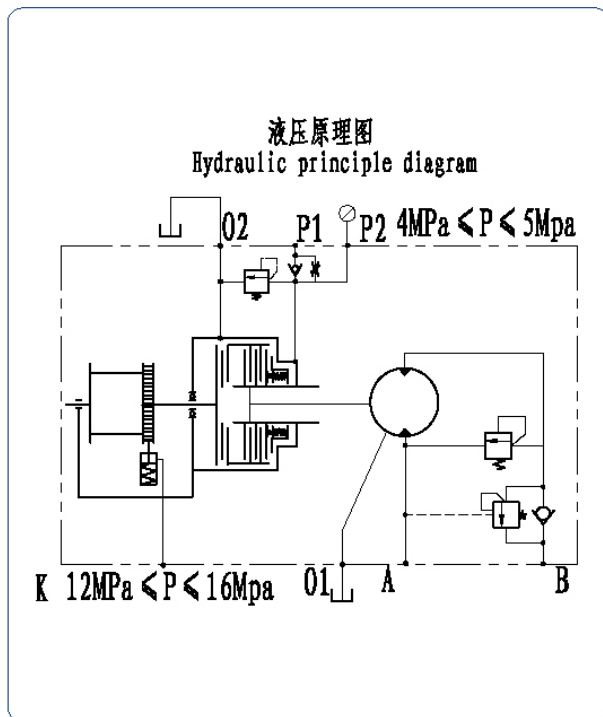
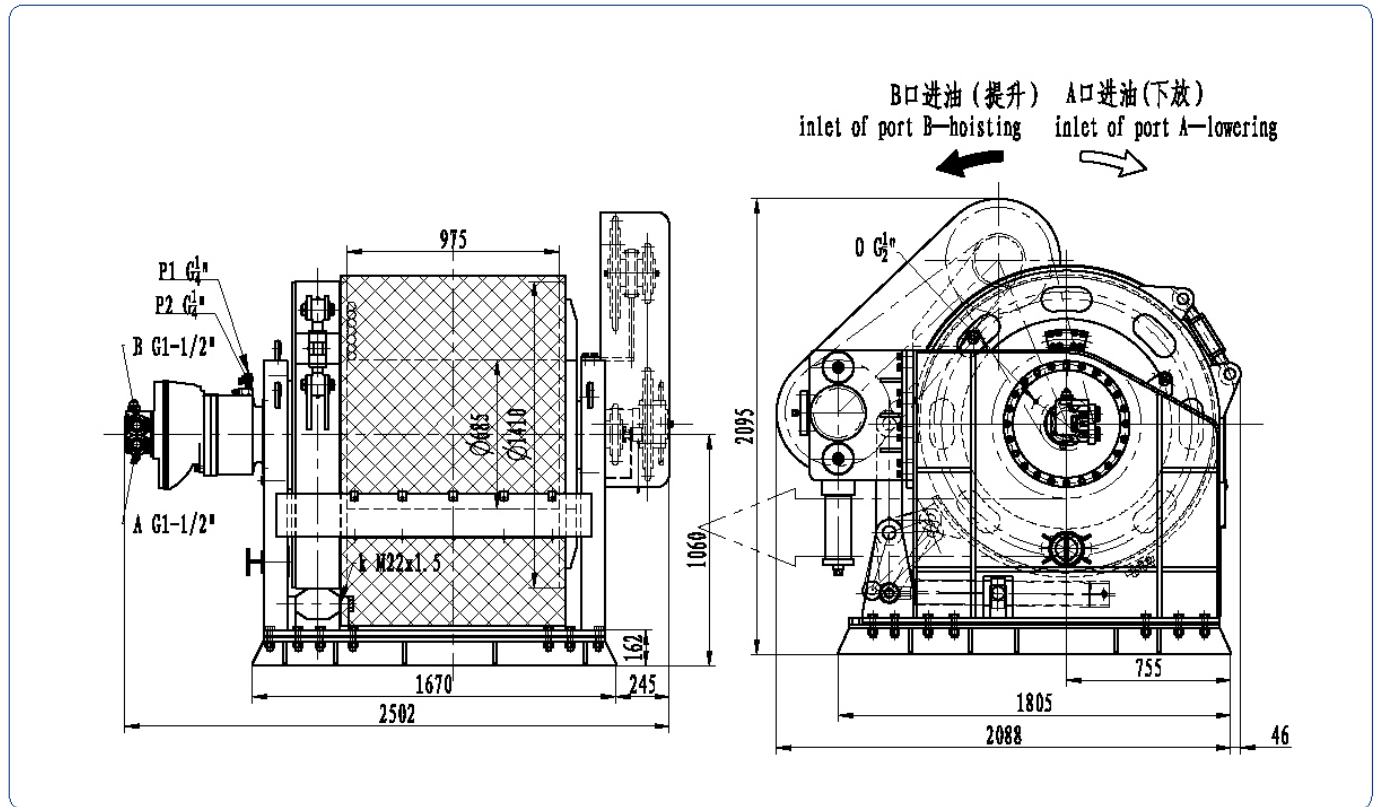
IYJ34.54.5-100 / 50-500-24-C-PDX



主要技术参数
Main Specification

| | | |
|---------|-----------------------------------|---------------------------------|
| 第一层拉力 | Rated working pull 1st layer (kN) | 100/50 |
| 第一层绳速 | Speed 1st layer (m/min) | 15/30 |
| 总排量 | Drum displacement (mL/r) | 10143.6/5119.2 |
| 系统压力 | System rated pressure (MPa) | 25 |
| 钢丝绳直径 | Diameter of rope (mm) | 24 ^{+0.6} ₀ |
| 层数 | Number of rope layers | 8 |
| 容绳量 | Capability of drum (m) | 490 |
| 供油流量 | Pump flow (L/min) | 90 (η _v =0.9) |
| 液马达型号 | Hydraulic motor type | A6V107HD22FZ2-054 |
| 行星减速器型号 | Planetary gearbox type | IGT60W3-B95-A6V107 (i=94.8) |

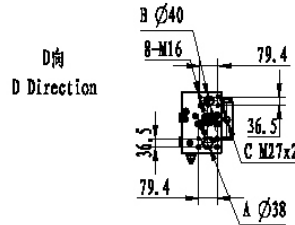
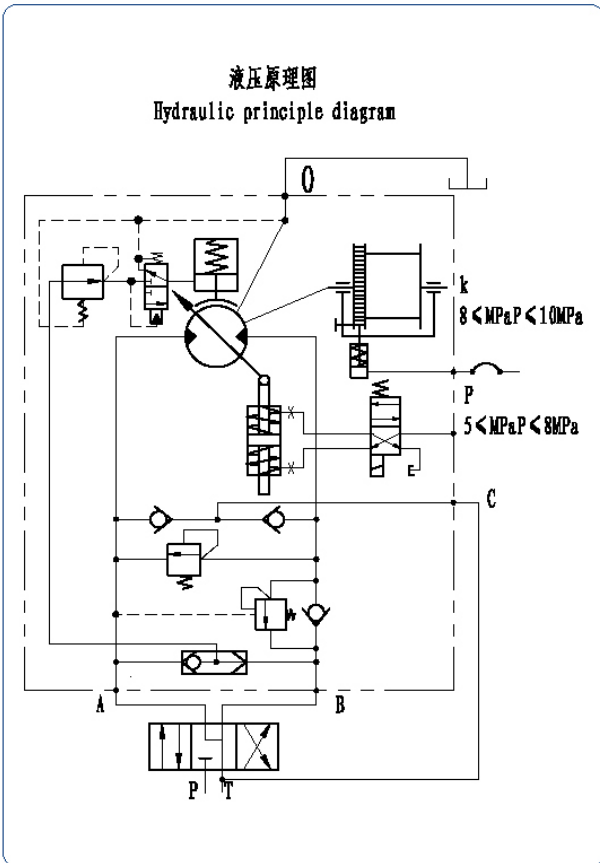
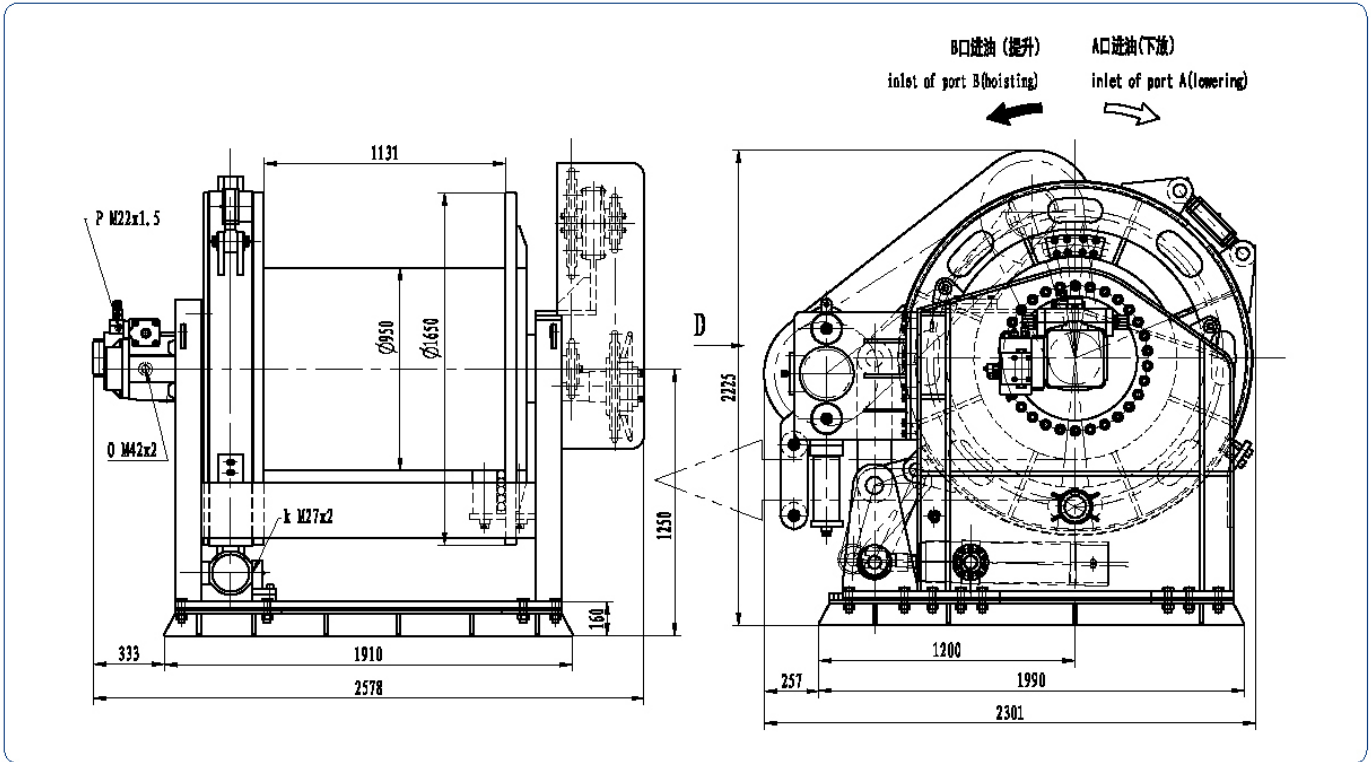
IYJ56-200-500-38-C-PDLX



主要技术参数
Main Specification

| | | |
|---------|-----------------------------------|-----------------------|
| 第一层拉力 | Rated working pull 1st layer (kN) | 200 |
| 支持负载 | Brake support load (KN) | 600 |
| 第一层绳速 | Speed 1st layer (m/min) | 15.6 |
| 总排量 | Drum displacement (ml/r) | 40936 |
| 系统压力 | System rated pressure (MPa) | 16 |
| 钢丝绳直径 | Diameter of rope (mm) | $38^{+0.75}_0$ |
| 层数 | Number of rope layers | 7 |
| 容绳量 | Capability of drum (m) | 500 |
| 供油流量 | Pump flow (L/min) | 300 ($\eta v=0.94$) |
| 液压马达型号 | Hydraulic motor type | INM5-1450D48011 |
| 行星减速器型号 | Planetary gearbox type | C56 (i=28) |

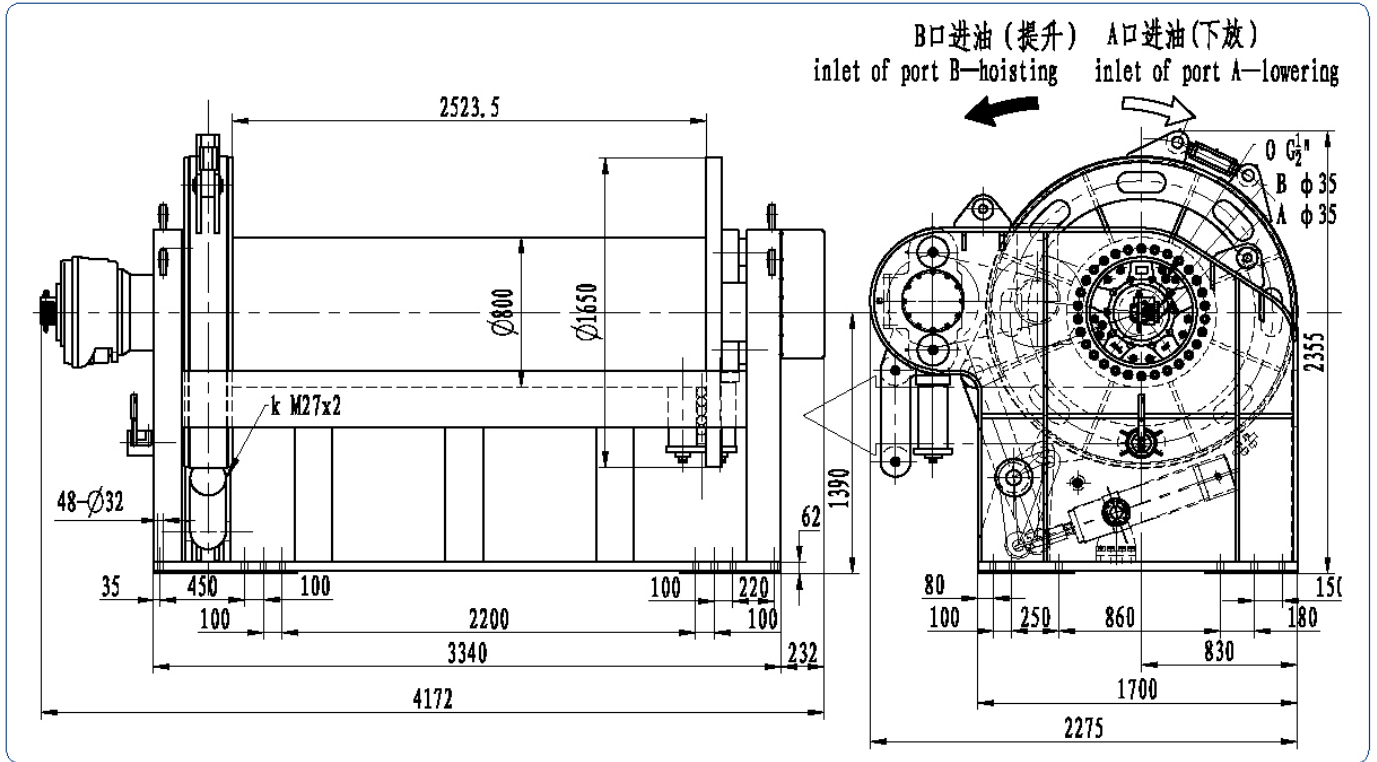
IYJ699-C



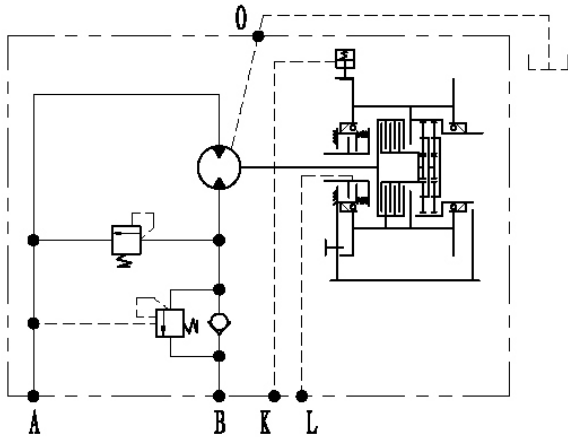
主要技术参数
Main Specification

| | | |
|---------|-------------------------------------|--------------------------------|
| 第五层拉力 | Rated working pull fifth layer (kN) | 350/140 |
| 支持负载 | Brake support load (KN) | 500 |
| 第一层绳速 | Speed 1st layer (m/min) | 6/12 |
| 总排量 | Drum displacement (mL/r) | 75600/37800 |
| 系统压力 | System rated pressure (MPa) | 26/10.5 |
| 钢丝绳直径 | Diameter of rope (mm) | $38^{+0.75}_0$ |
| 层数 | Number of rope layers | 5 |
| 容绳量 | Capability of drum (m) | 500 |
| 供油流量 | Pump flow (L/min) | 162 ($\eta_v=0.9$) |
| 液压马达型号 | Hydraulic motor type | HLA4VSM2500Z-125 |
| 行星减速器型号 | Planetary gearbox type | IGC330W3-B302-A4V250 (i=302.4) |

IYJ99-600-1000-50-C-PDLX



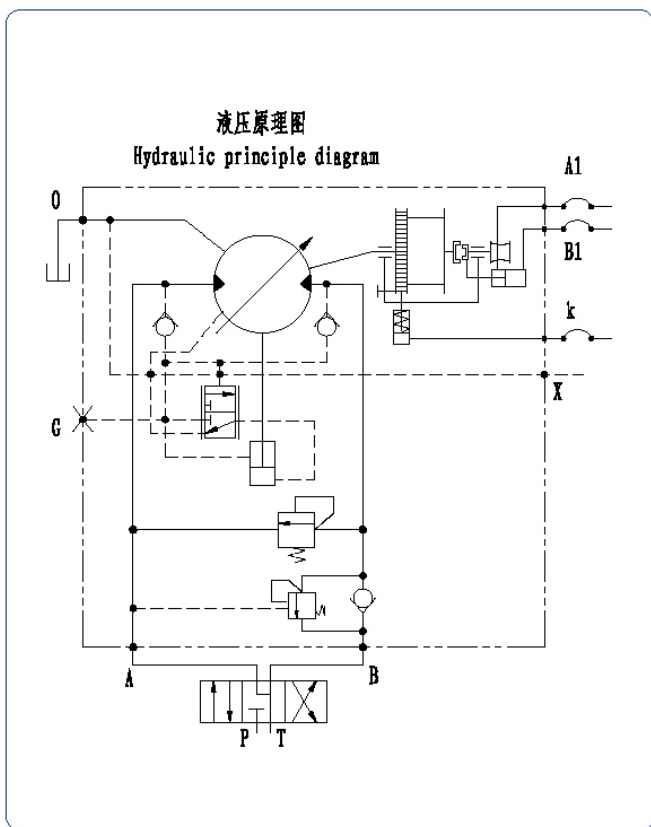
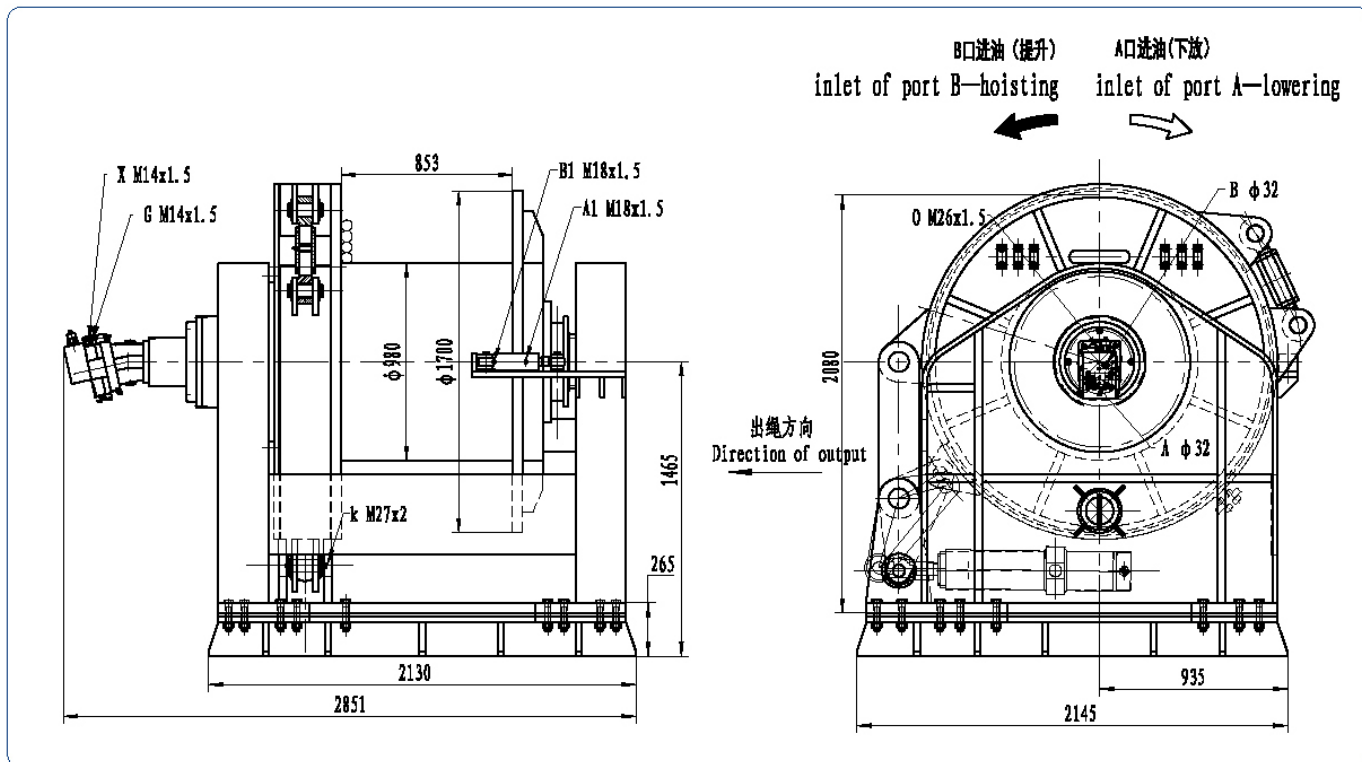
液压原理图
Hydraulic principle diagram



主要技术参数
Main Specification

| | | |
|---------|-----------------------------------|-------------------------------|
| 第一层拉力 | Rated working pull 1st layer (kN) | 600 |
| 支持负载 | Brake support load (KN) | 900 |
| 第四层绳速 | Speed fourth layer (m/min) | 5 |
| 总排量 | Drum displacement (mL/r) | 90744.43 |
| 系统压力 | System rated pressure (MPa) | 22 |
| 钢丝绳直径 | Diameter of rope (mm) | 50 ⁺¹ ₀ |
| 层数 | Number of rope layers | 6 |
| 容绳量 | Capability of drum (m) | 1000 |
| 供油流量 | Pump flow (L/min) | 139 (η _v =0.9) |
| 液压马达型号 | Hydraulic motor type | INM7-3600D24011 |
| 行星减速器型号 | Planetary gearbox type | TGC330W2-B25-INM7 (i=25.13) |

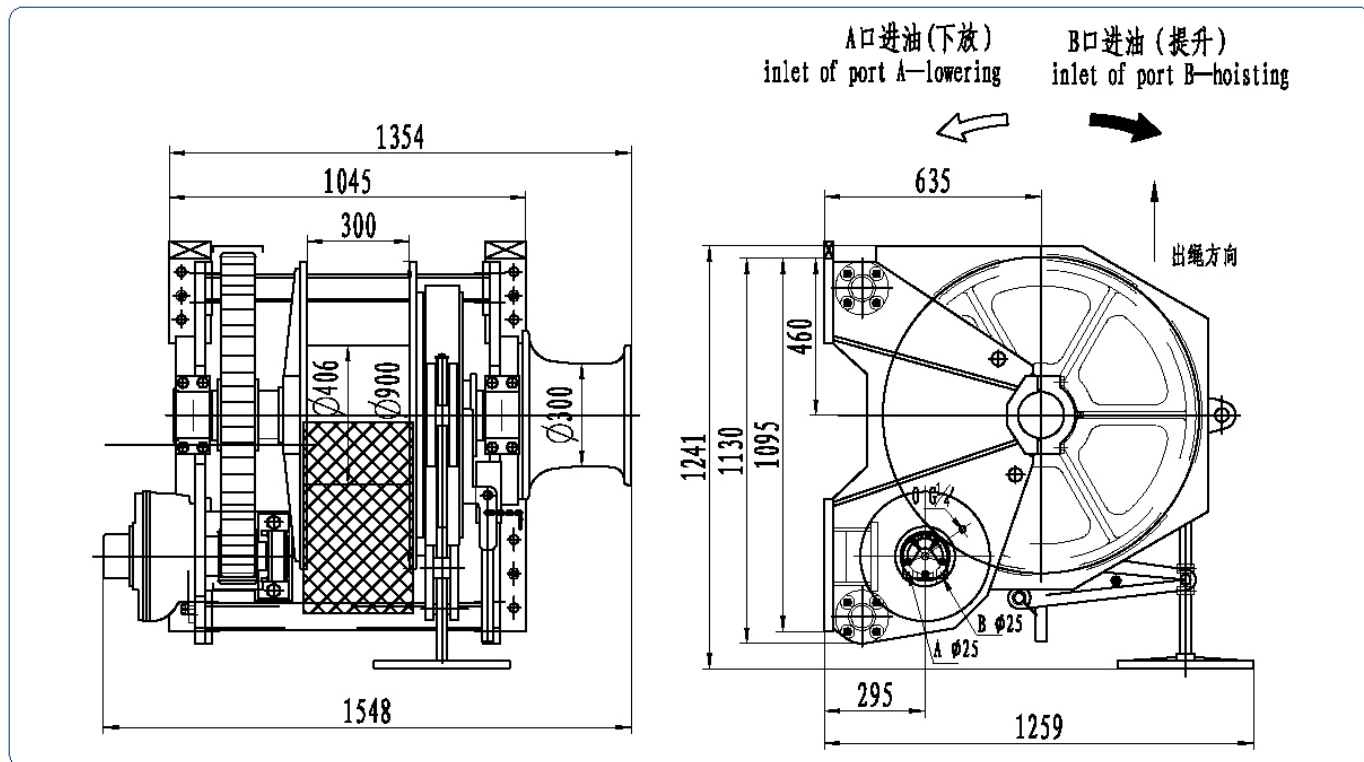
IYJ4611-750/150-240-54-C-PDLX



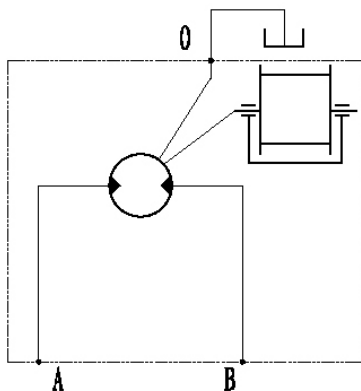
主要技术参数
Main Specification

| | |
|---|---------------------------|
| 第一层拉力 Rated working pull 1st layer (kN) | 750/150 |
| 支持负载 Brake support load (kN) | 1250 |
| 第一层绳速 Speed 1st layer (m/min) | 5/20 |
| 总排量 Drum displacement (mL/r) | 103304.35/25826 |
| 系统压力 System rated pressure (MPa) | 31/26 |
| 钢丝绳直径 Diameter of rope (mm) | 54 |
| 层数 Number of rope layers | 4 |
| 容量 Capability of drum (m) | 240 |
| 供油流量 Pump flow (L/min) | 178 ($\eta=0.9$) |
| 液压马达型号 Hydraulic motor type | A6VM160HD1D/63W0400VZB080 |
| 行星减速器型号 Planetary gearbox type | C46611 (i=645.65) |

IYJK08-50-150-22-PDL



液压原理图
Hydraulic principle diagram

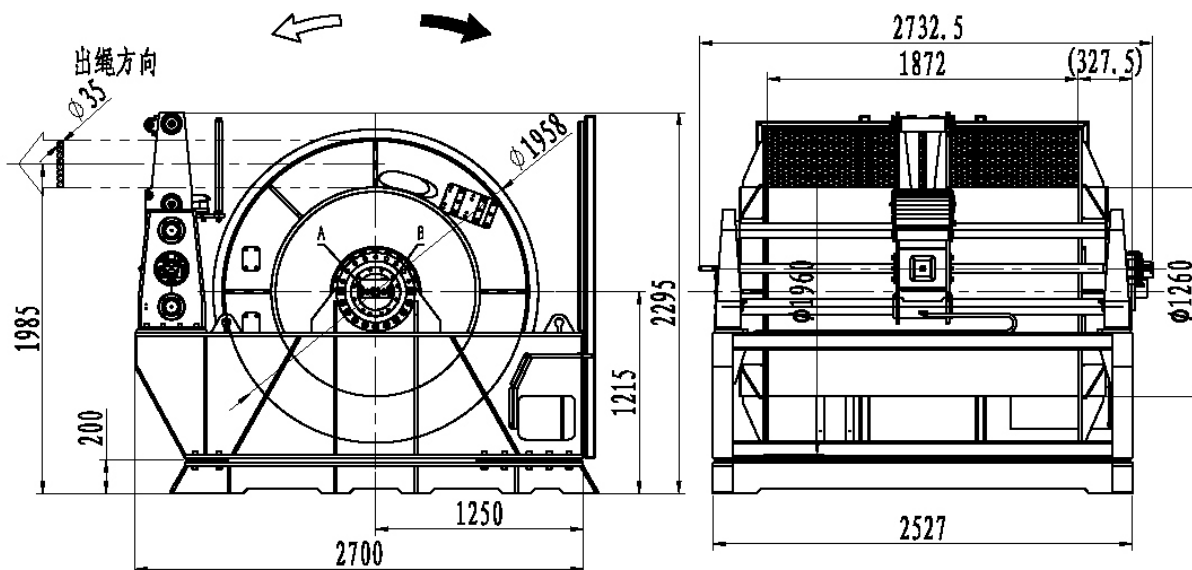


绞车主要技术参数
Winch main Specification

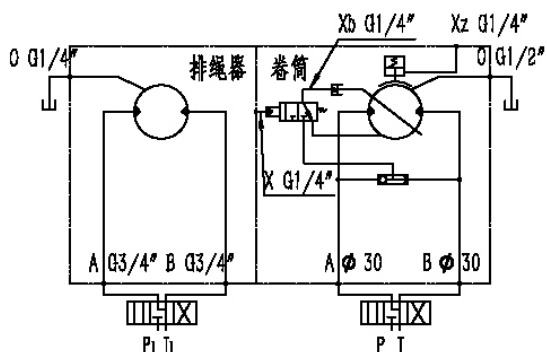
| | | |
|--------|-----------------------------------|---------------------|
| 第一层拉力 | Rated working pull 1st layer (kN) | 50 |
| 第一层绳速 | Speed 1st layer (m/min) | 20 |
| 总排量 | Drum displacement (mL/r) | 6360.66 |
| 系统压力 | System rated pressure (MPa) | 15 |
| 钢丝绳直径 | Diameter of rope (mm) | 22 |
| 层数 | Number of rope layers | 7 |
| 容绳量 | Capability of drum (m) | 60 |
| 供油流量 | Pump flow (L/min) | 79 ($\eta v=0.9$) |
| 液压马达型号 | Hydraulic motor type | GM3-1000-7D47 |

IYJ355-50-2000-35-DP

A口进油(下放) B口进油(提升)
inlet of port A—lowering inlet of port B—hoisting



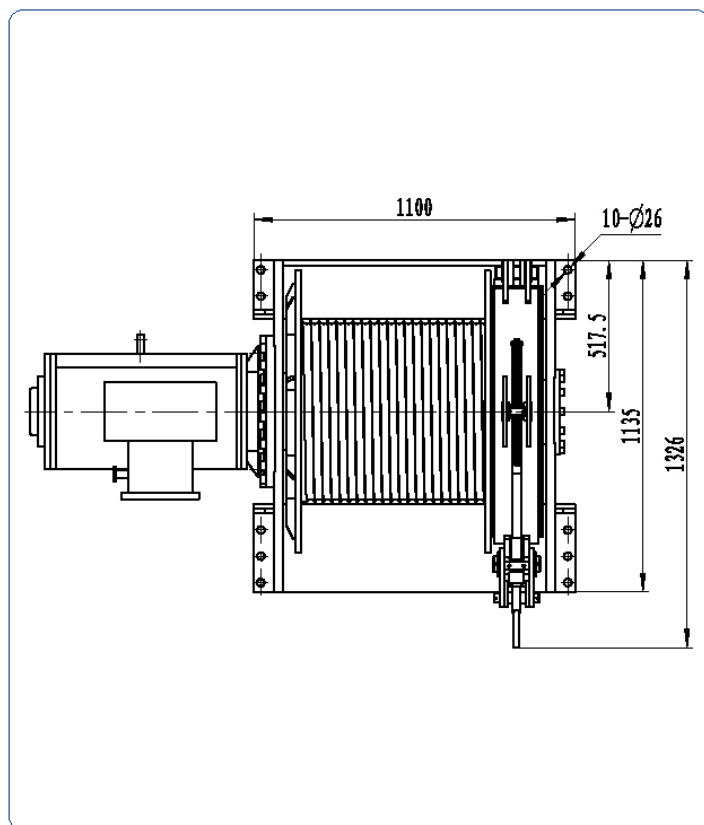
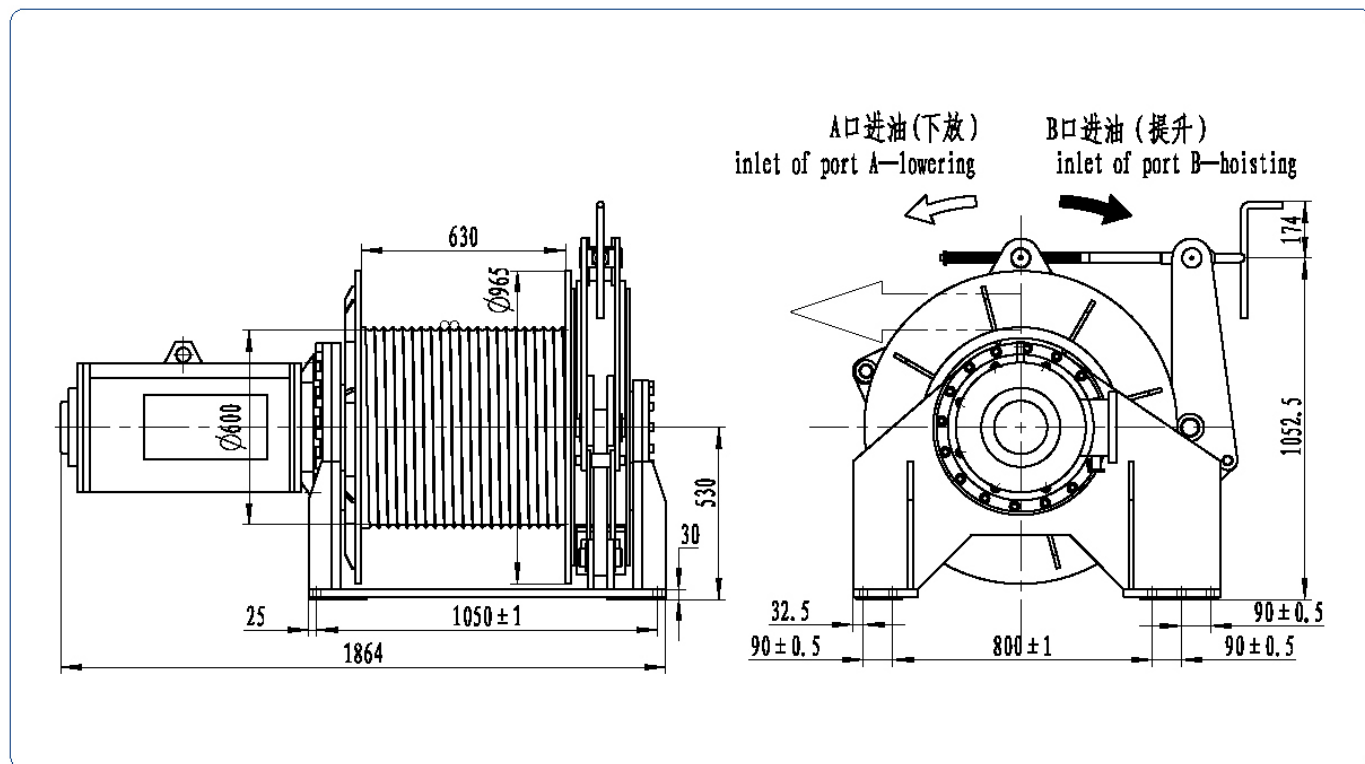
液压原理图
Hydraulic principle diagram



绞车主要技术参数
Winch main Specification

| | | |
|--------|-----------------------------------|---------------------------|
| 第四层拉力 | Rated working pull 4st layer (kN) | 50 |
| 第四层绳速 | Speed 4th layer (m/min) | 90 |
| 总排量 | Drum displacement (mL/r) | 13162 |
| 系统压力 | System rated pressure (MPa) | 25 |
| 钢丝绳直径 | Diameter of rope (mm) | 35 |
| 层数 | Number of rope layers | 8 |
| 容绳量 | Capability of drum (m) | 2000 |
| 供油流量 | Pump flow (L/min) | 278 ($\eta v=0.9$) |
| 液压马达型号 | Hydraulic motor type | IGT80T3-B76.7-1M171.6/111 |

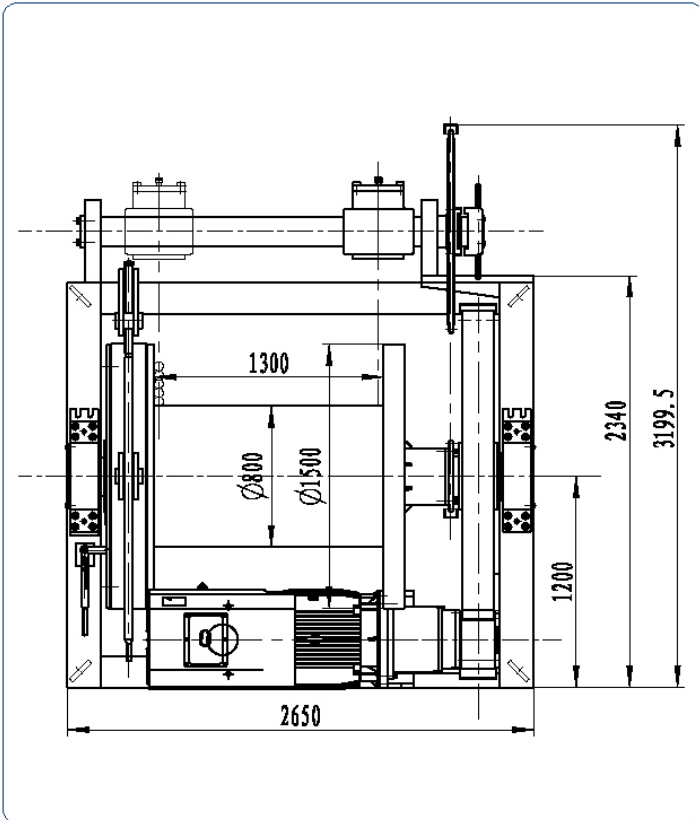
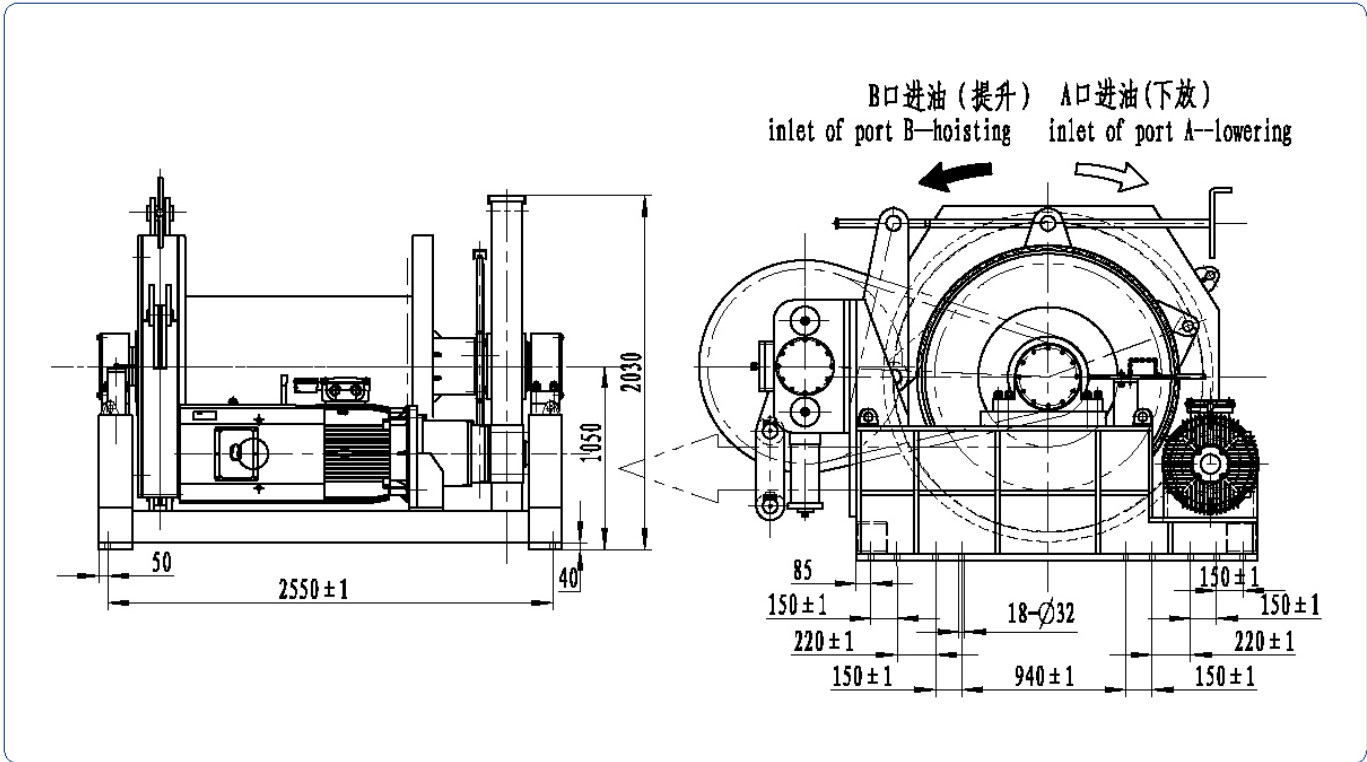
IDJ344-50-200-28-D



主要技术参数
Main Specification

| | | |
|-------|-----------------------------------|----------------|
| 第4层拉力 | Rated working pull 4th layer (kN) | 50 |
| 支持负载 | Brake support load (kN) | 210 |
| 第一层绳速 | Speed 1st layer (m/min) | 12/5.7/2.75 |
| 钢丝绳直径 | Diameter of rope (mm) | 28 |
| 层数 | Number of rope layers | 4 |
| 容绳量 | Capability of drum (m) | 200 |
| 电机型号 | Motor model | JZ2-H42-4/8/16 |
| 电机功率 | Rated power of the Motor (kW) | 11/11/7.5 |

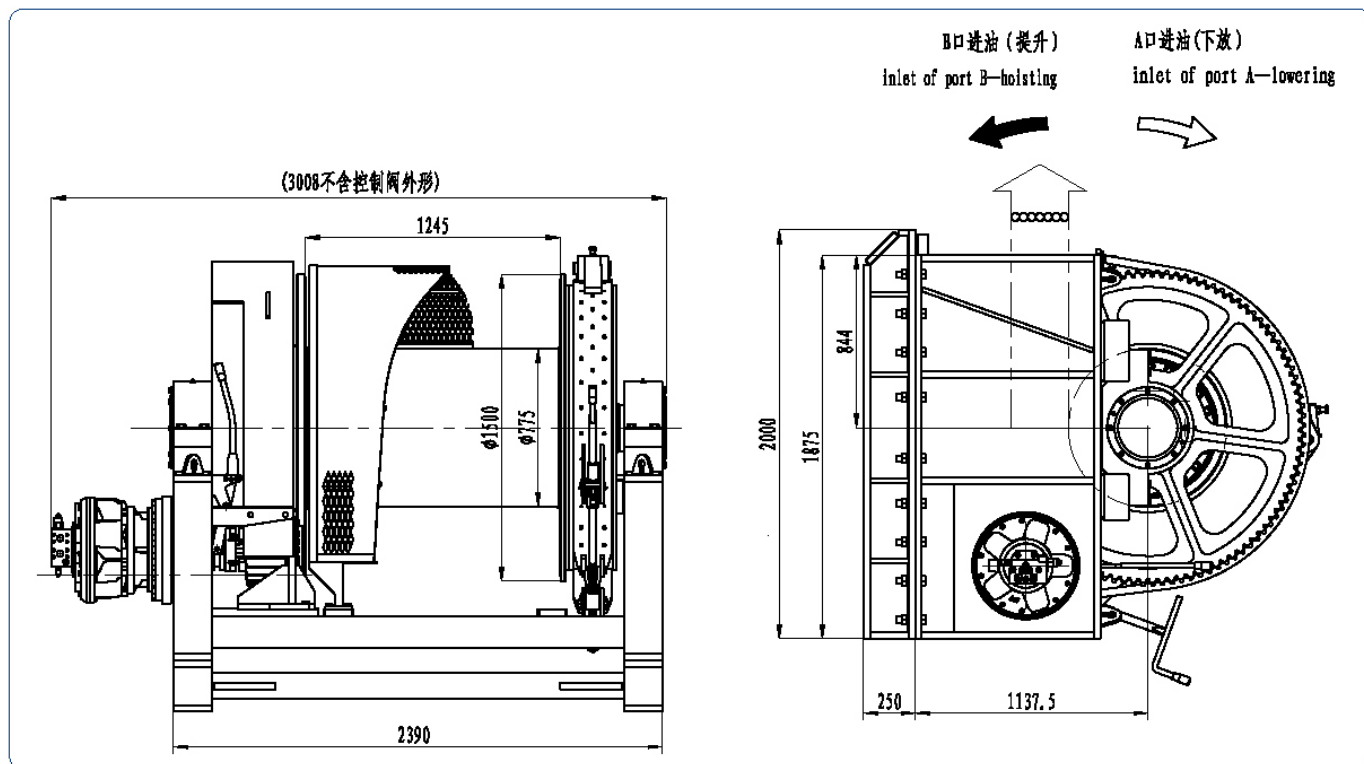
IDJK3514-150-400-50-LDB



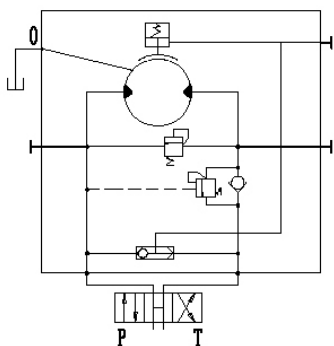
主要技术参数
Main Specification

| | | |
|-------|-----------------------------------|------------------------|
| 第五层拉力 | Rated working pull 5th layer (kN) | 150/75 |
| 支持负载 | Brake support load (kN) | 770 |
| 第一层绳速 | Speed 1st layer (m/min) | 4/8 |
| 钢丝绳直径 | Diameter of rope (mm) | 50 |
| 层数 | Number of rope layers | 5 |
| 容绳量 | Capability of drum (m) | 400 |
| 电机型号 | Motor model | W21-250S/M-37KW-6P-B5T |
| 电机功率 | Rated power of the Motor (kW) | 37 |

IYJK12



液压原理图
Hydraulic principle diagram

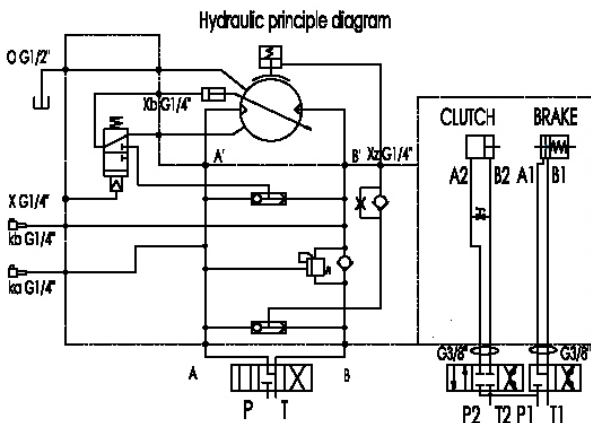
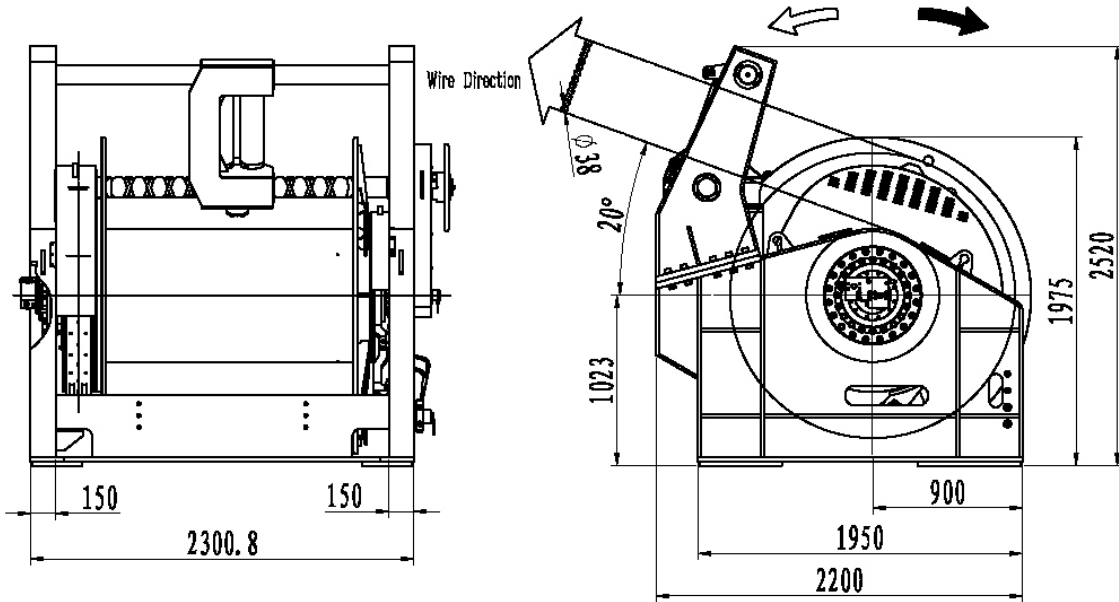


绞车主要技术参数
Winch main Specification

| | |
|---|----------------------|
| 第四层拉力 Rated working pull 4ur layer (kN) | 150 |
| 第一层绳速 Speed 2nd layer (m/min) | 12 |
| 总排量 Drum displacement (mL/r) | 6138 |
| 系统压力 System rated pressure (MPa) | 17 |
| 钢丝绳直径 Diameter of rope (mm) | 32 |
| 层数 Number of rope layers | 8 |
| 容绳量 Capability of drum (m) | 500 |
| 供油流量 Pump flow (L/min) | 191 ($\eta = 0.9$) |
| 液压马达型号 Hydraulic motor type | INM4-1100D480111 |

IYJ34.54.5-160-1800-38-LPZGV

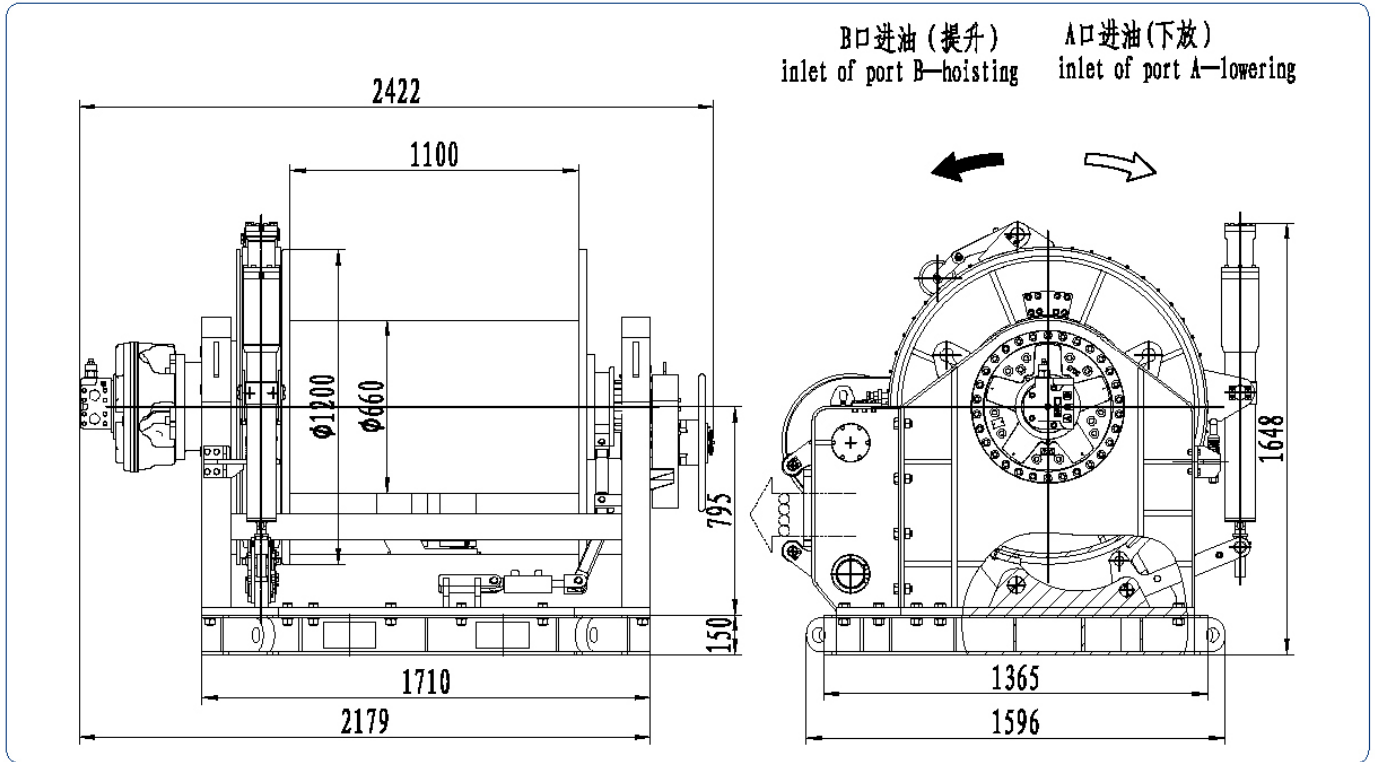
A口进油(下放) B口进油(提升)
inlet of port A—lowering inlet of port B—hoisting



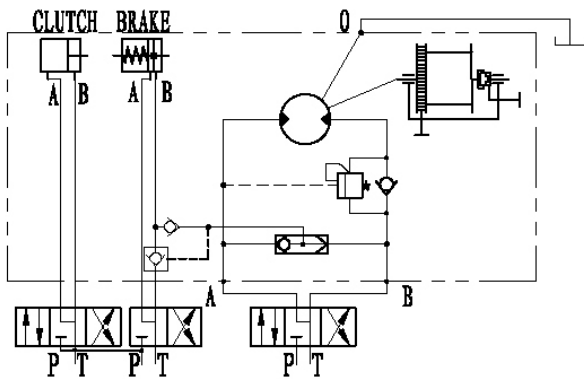
绞车主要技术参数
Winch main Specification

| | | |
|--------|-----------------------------------|----------------------------|
| 第一层拉力 | Rated working pull 1st layer (kN) | 160 |
| 第一层绳速 | Speed 1st layer (m/min) | 12 |
| 总排量 | Drum displacement (mL/r) | 25723 |
| 系统压力 | System rated pressure (MPa) | 25 |
| 钢丝绳直径 | Diameter of rope (mm) | 38 |
| 层数 | Number of rope layers | 12 |
| 容量 | Capability of drum (m) | 1800 |
| 供油流量 | Pump flow (L/min) | 130 ($\eta_v=0.9$) |
| 液压马达型号 | Hydraulic motor type | IGT80T3-B149.9-IM17L.6/111 |

IYJ56-200-268-41-PDL



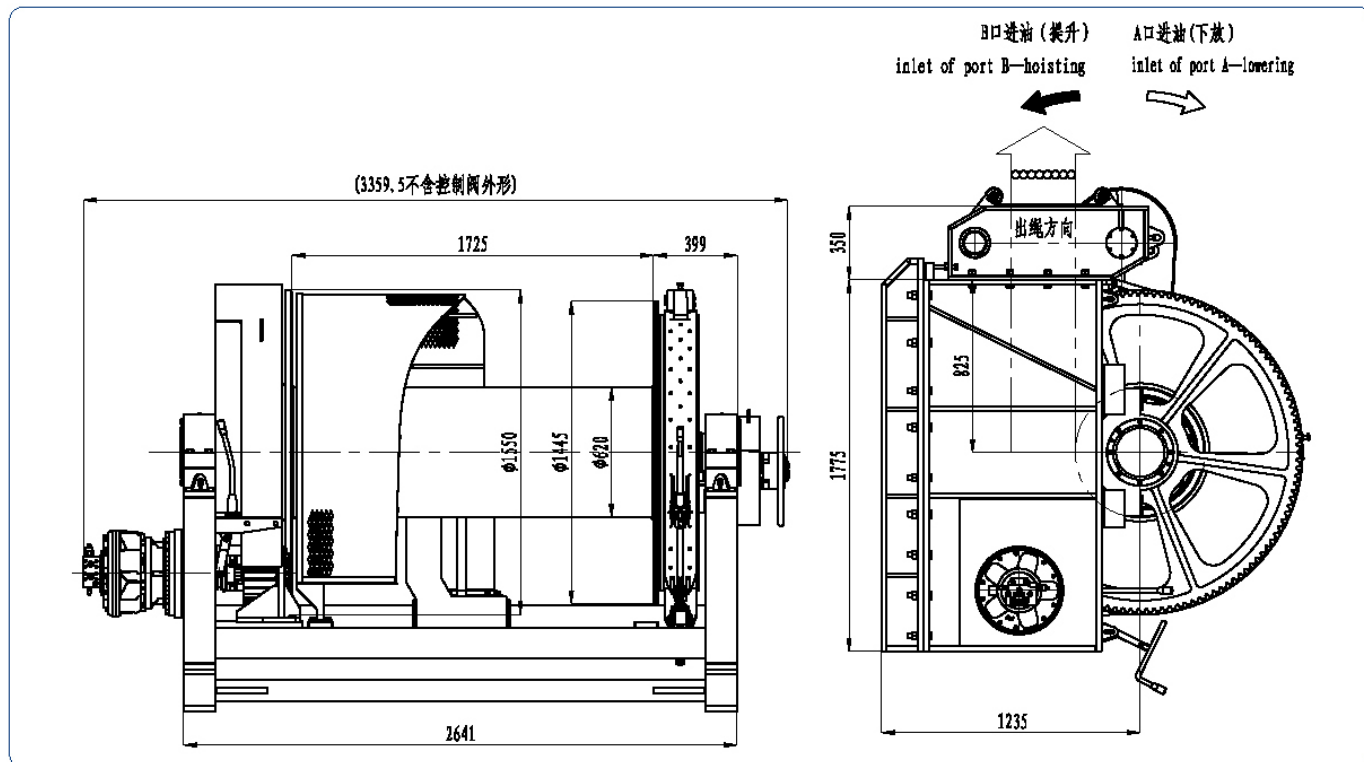
液压原理图
Hydraulic principle diagram



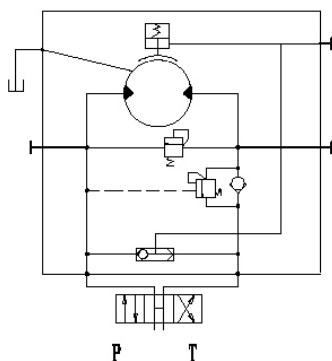
绞车主要技术参数
Winch main Specification

| | | |
|--------|-----------------------------------|----------------------|
| 第一层拉力 | Rated working pull 1st layer (kN) | 200 |
| 第一层绳速 | Speed 1st layer (m/min) | 12 |
| 总排量 | Drum displacement (mL/r) | 40936 |
| 系统压力 | System rated pressure (MPa) | 15.5 |
| 钢丝绳直径 | Diameter of rope (mm) | 41 |
| 层数 | Number of rope layers | 4 |
| 容绳量 | Capability of drum (m) | 268 |
| 供油流量 | Pump flow (L/min) | 248 ($\eta v=0.9$) |
| 液压马达型号 | Hydraulic motor type | INMS-1450D480101 |

IYJK12



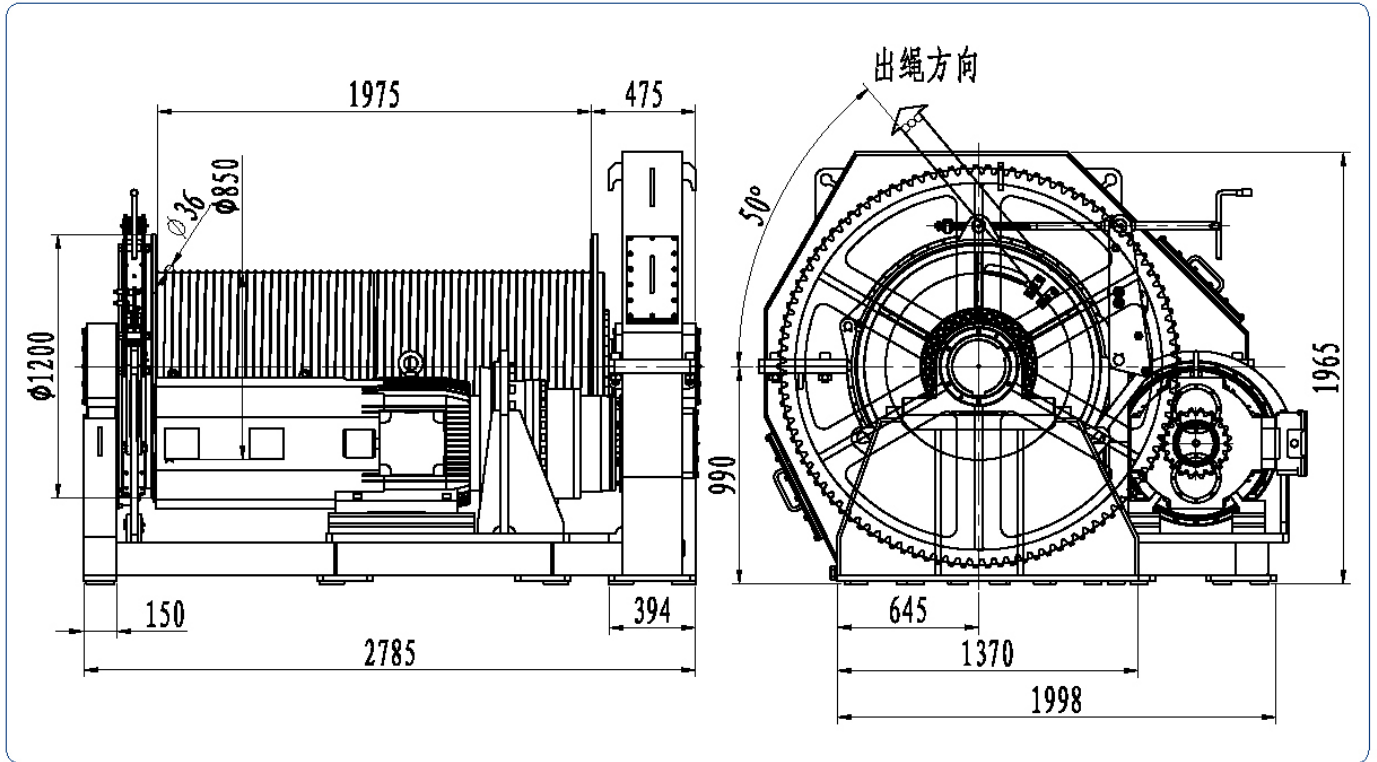
液压原理图
Hydraulic principle diagram



绞车主要技术参数
Winch main Specification

| | |
|---|----------------------|
| 第四层拉力 Rated working pull 4ur layer (kN) | 200 |
| 第二层绳速 Speed 2nd layer (m/min) | 12 |
| 总排量 Drum displacement (mL/r) | 6138 |
| 系统压力 System rated pressure (MPa) | 20 |
| 钢丝绳直径 Diameter of rope (mm) | 38 |
| 层数 Number of rope layers | 8 |
| 容绳量 Capability of drum (m) | 1000 |
| 供油流量 Pump flow (L/min) | 237 ($\eta v=0.9$) |
| 液压马达型号 Hydraulic motor type | INM4-1100D480111P |

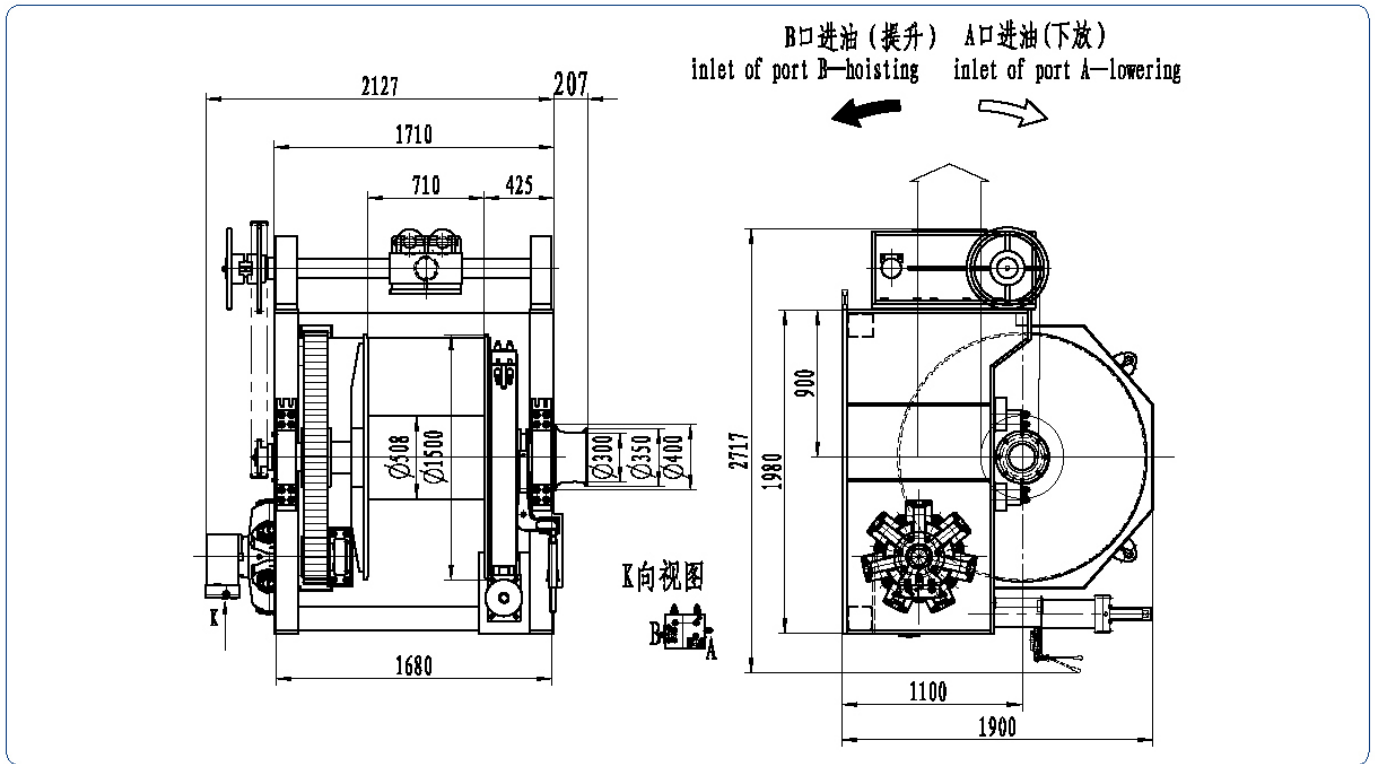
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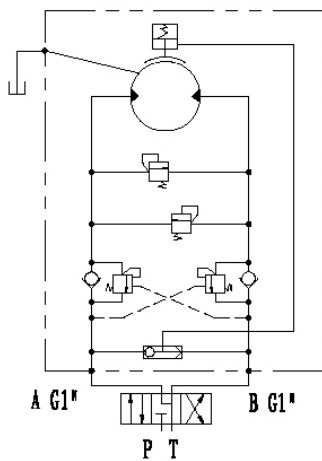
绞车主要技术参数
Winch main Specification

| | | |
|-----------------------|-------------|-----------------------------|
| Rope layer | 钢丝绳层数 | 3 |
| Line pull | 钢丝绳拉力(kN) | 250 (2nd layer) |
| Rope speed | 绳速(m/min) | 15 |
| Rope capacity | 容绳量(m) | 300 |
| Rope size | 钢绳规格(mm) | 36 |
| Gearbox model | 减速箱型号 | C56(i=28) |
| System ratio | 传动比 | 141.4 |
| Motor type | 电机型号 | W21-315S/M-110kW-6P-B35L(D) |
| Motor Power | 电机功率(kW) | 110 |
| Motor R.P.M | 电机转速(r/min) | 985 |
| Voltage and Frequency | 电制 | 380、50Hz |
| Motor Insulation | 绝缘等级 | F |
| Motor Protection | 防护等级 | IP56 |

IYJK12-300-800-30-PDL



液压原理图
Hydraulic principle diagram



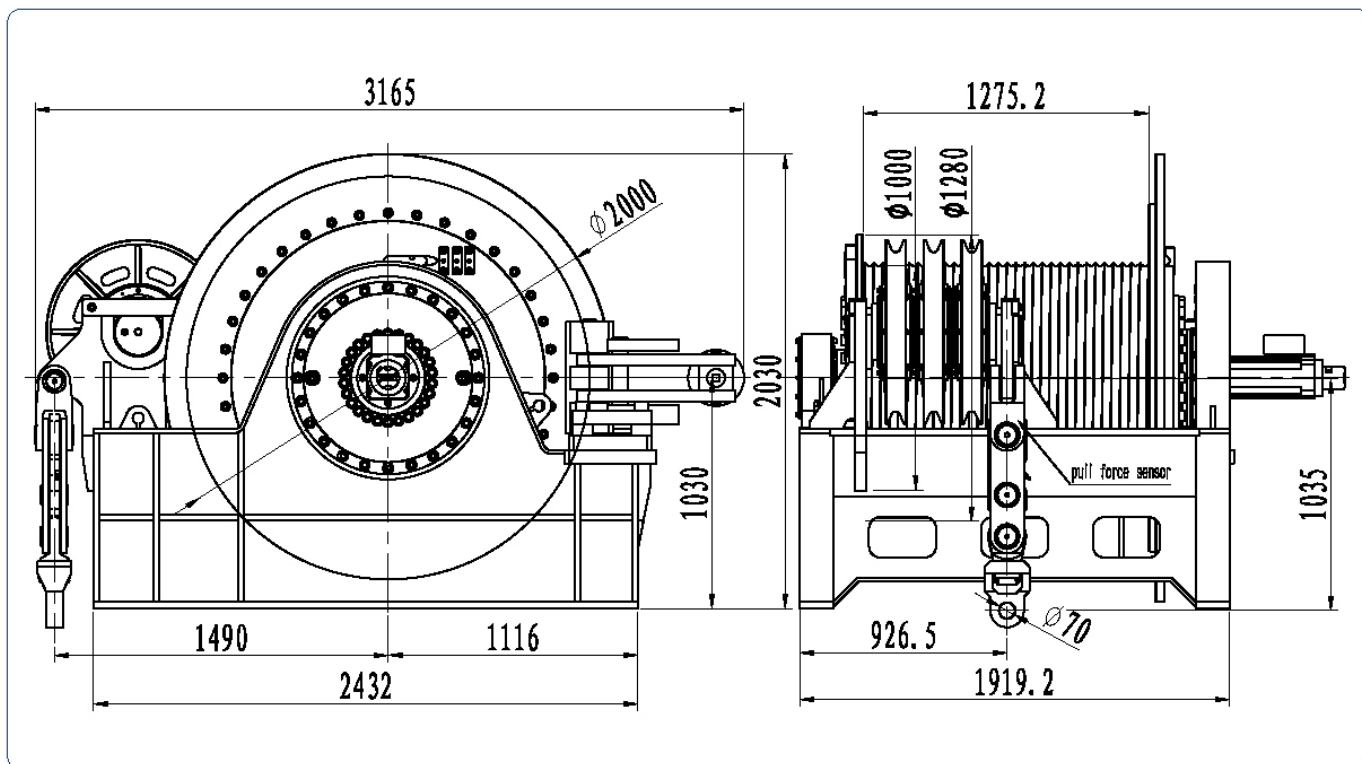
绞盘主要技术参数
Capstan main Specification

| | |
|----------------------------|------|
| 工作拉力 Working pull (kN) | 30 |
| 工作绳速 Working speed (m/min) | 0-20 |

绞车主要技术参数
Winch main Specification

| | |
|---|--------------------------|
| 第一层拉力 Rated working pull 1st layer (kN) | 300 |
| 第一层绳速 Speed 1st layer (m/min) | 6 |
| 支撑负载 Drum Brake Holding (kN) | 450 AT 1st Layer, Static |
| 总排量 Drum displacement (ml/r) | 33367.5 |
| 系统压力 System rated pressure (MPa) | 25 |
| 钢丝绳直径 Diameter of rope (mm) | 30 |
| 层数 Number of rope layers | 14 |
| 容量 Capability of drum (m) | 800 |
| 供油流量 Pump flow (L/min) | 131.6 ($\eta_v=0.9$) |
| 液压马达型号 Hydraulic motor type | 1MB325-5000-S1 |

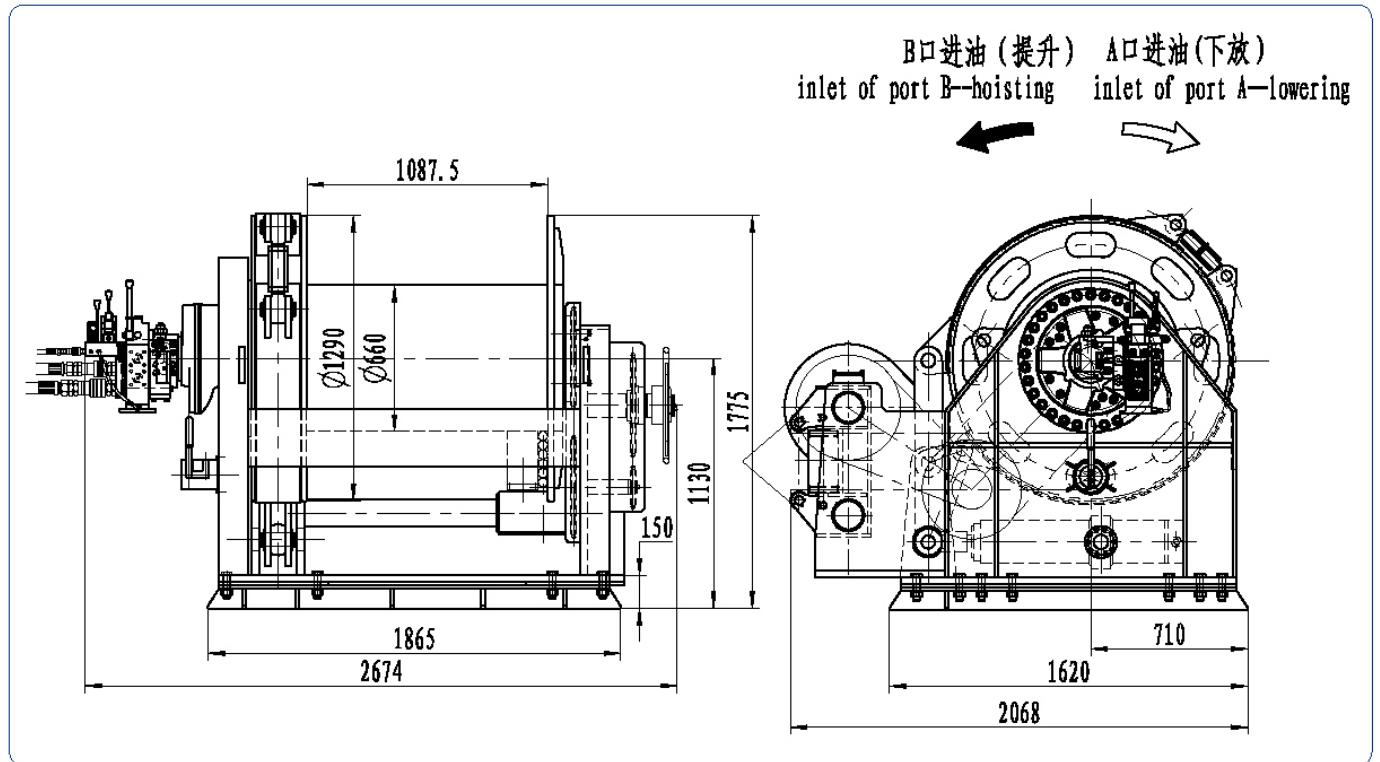
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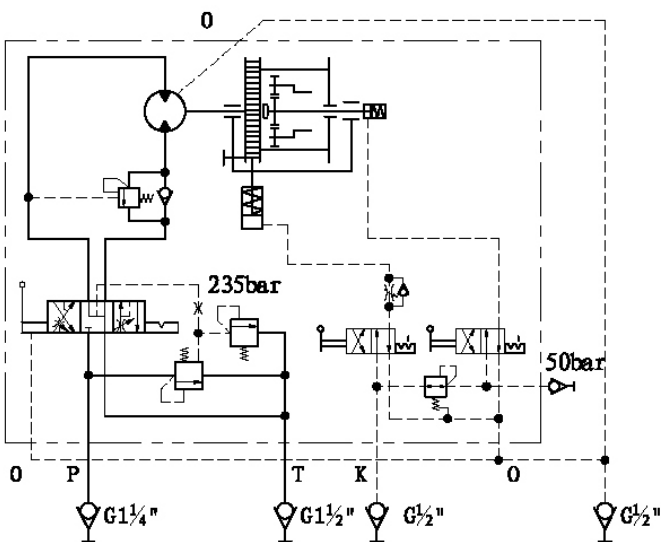
绞车主要技术参数
Winch main Specification

| | | |
|-----------------------|-------------|-----------------------------------|
| Rope layer | 钢丝绳层数 | 1 |
| Line pull | 钢丝绳拉力(kN) | 325 (1st layer) |
| Rope speed | 绳速(m/min) | 1.6 |
| Rope capacity | 容绳量(m) | 100 |
| Rope size | 钢绳规格(mm) | 38 |
| Gearbox model | 减速箱型号 | IGT220W4-3669-CFM112H (i=3669) |
| System ratio | 传动比 | 3669 |
| Motor type | 电机型号 | SEW CFM112H/BR/TF/AK1H/KK6 (68Nm) |
| Motor Power | 电机功率(kW) | 11 |
| Motor R.P.M | 电机转速(r/min) | 2000 |
| Voltage and Frequency | 电制 | 380、50Hz |
| Motor Insulation | 绝缘等级 | F |
| Motor Protection | 防护等级 | IP56 |

IYJ6.56.5-450-400-42-PDLBX



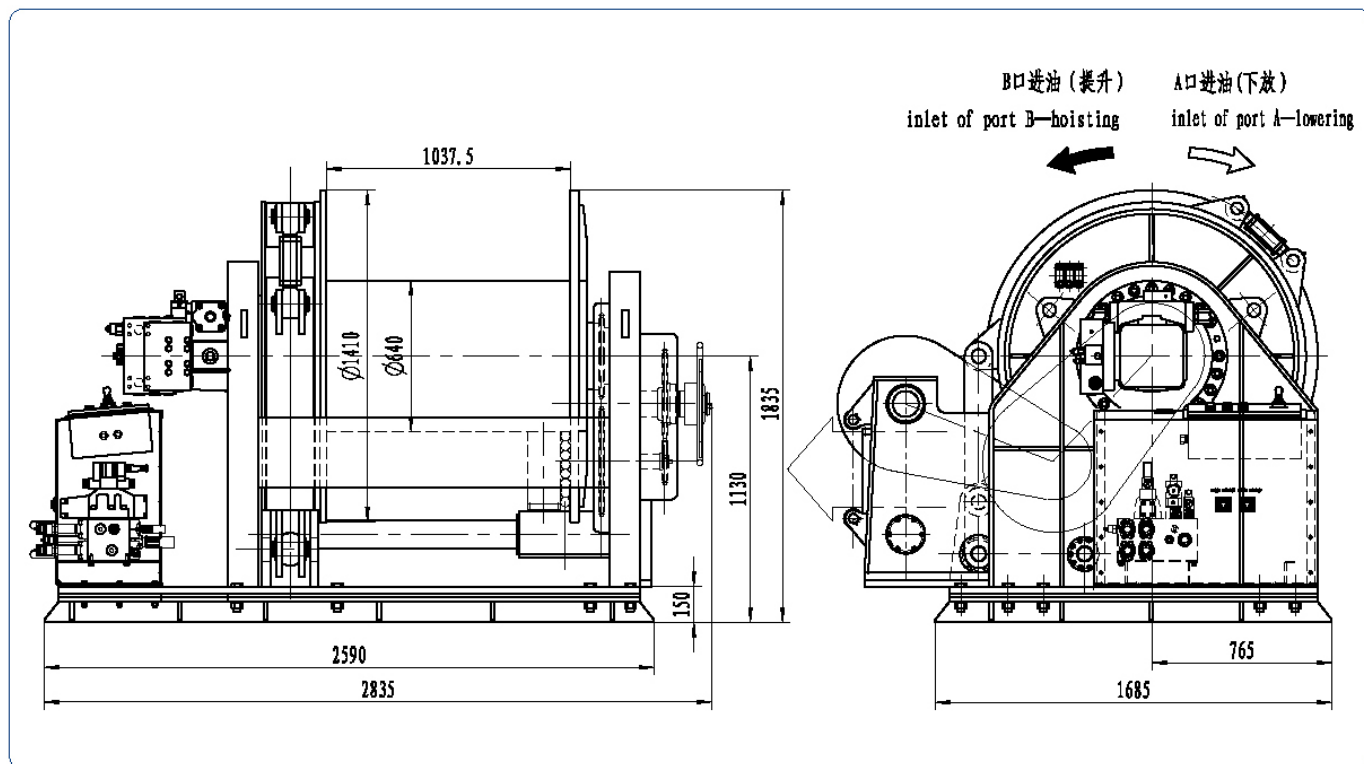
液压原理图
Hydraulic principle diagram



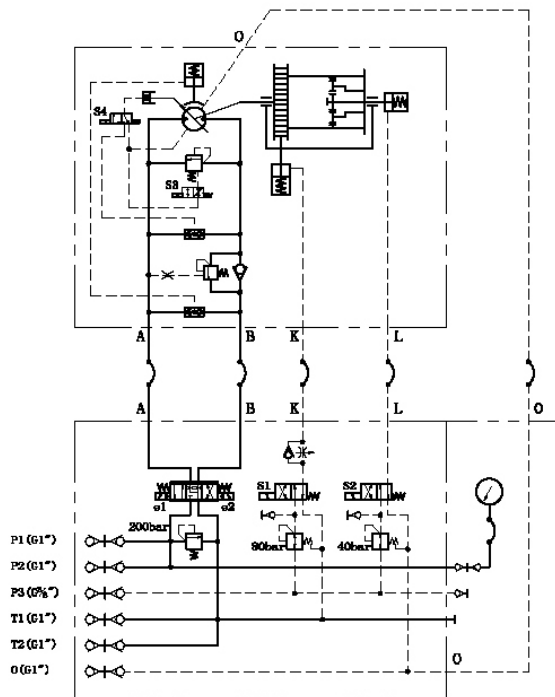
主要技术性能参数
Main Specification

| | |
|--|---------------------------------|
| 第一层额定拉力 Rated working pull on first layer(t) | 45 |
| 第一层绳速 Nominal speed at first layer(m/min) | 8.5 |
| 卷筒排量 Drum displacement (L/r) | 56.056 |
| 支持负载 Support load(t) | 120 |
| 系统额定压力 System rated pressure (Bar) | 223 |
| 钢丝绳直径 Diameter of rope (mm) | 42 ^{+0.8} ₀ |
| 层数 Number of rope layers | 6 |
| 容绳量 Capability of drum (m) | 400 |
| 泵供油流量 Pump flow (L/min) | 235 (ηv=0.9) |
| 液压马达型号 Hydraulic motor type | IGC180W2-B28-INM5 (i=27.93) |
| 减速器型号 Planetary gearbox type | INM5-2000D4801 |

IYJ477



液压原理图
Hydraulic principle diagram



主要技术性能参数
Main Specification

| | | |
|--|---------------------------------|--------|
| 第一层额定拉力 Rated working pull on first layer(t) | 50 | 35 |
| 第一层绳速 Nominal speed at first layer(m/min) | 5.3 | 7 |
| 卷筒排量 Drum displacement (L/r) | 62.75 | 47.188 |
| 支持负载 Support load(t) | 100 | |
| 系统额定压力 System rated pressure (Bar) | 235 | |
| 钢丝绳直径 Diameter of rope (mm) | 40 ^{+0.8} ₀ | |
| 层数 Number of rope layers | 8 | |
| 容绳量 Capability of drum(m) | 600 | |
| 泵供油流量 Pump flow(L/min) | 173(η _v =0.9) | |
| 液压马达型号 Hydraulic motor type | HL-A4YSM250DZ/30W-VZB10N00-TN | |
| 减速器型号 Planetary gearbox type | TGC180W3-B251-A4YSM250 (i=251) | |