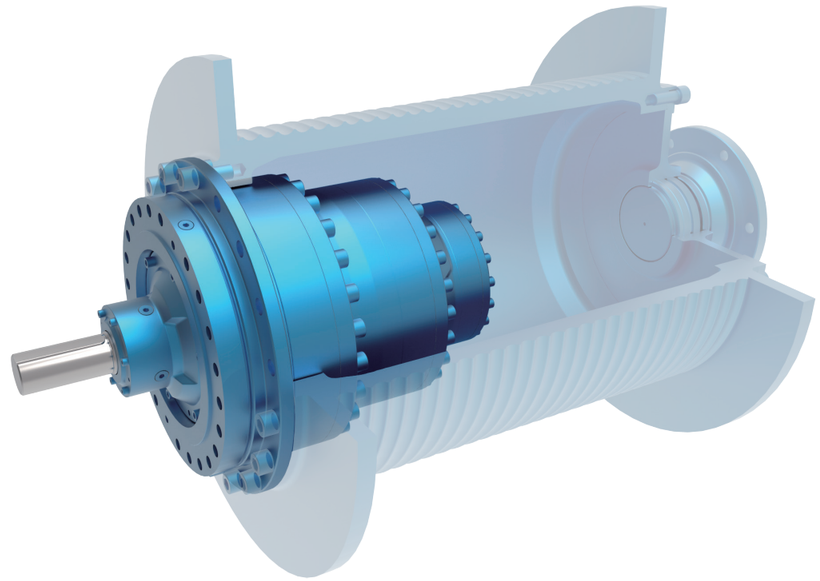
BONENG

PW行星内藏式卷扬齿轮箱

PW winch gearbox



PW行星内藏式卷扬齿轮箱

PW Winch Gearbox

Edit date 04/2026
Selection Sample C05.0025

BONENG

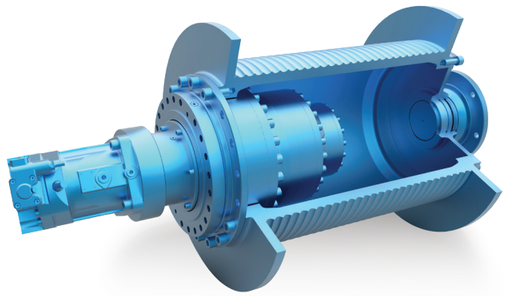
Boneng Transmission

Boneng Transmission enhances reliable, accurate, efficient and intelligent operation in the industry

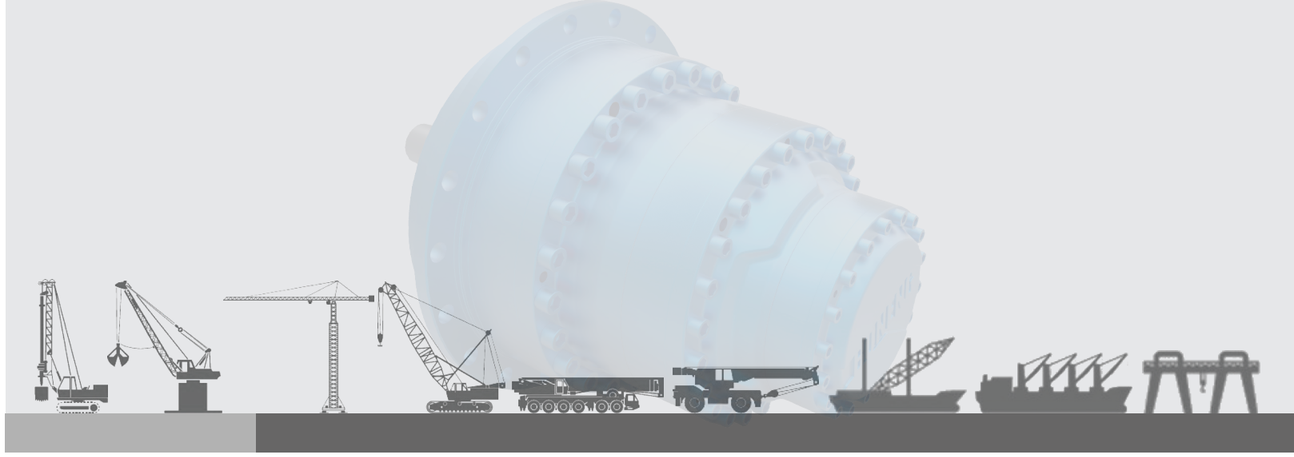
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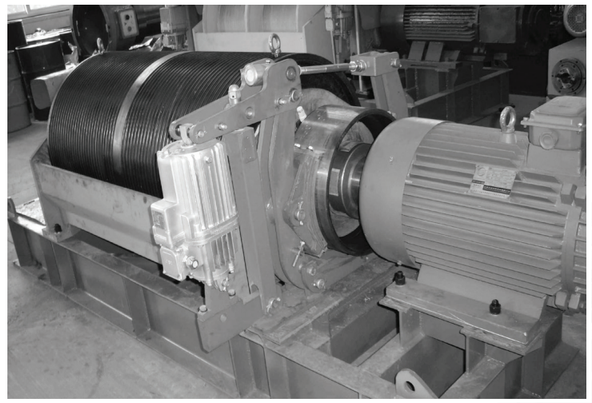
Controller/ Drive/ Motor/
Gearmotor/ Gearbox

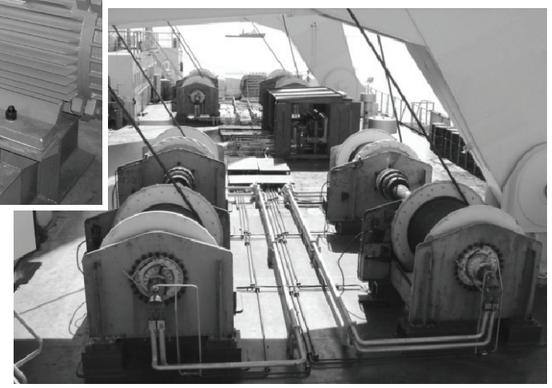
PW行星内藏式卷扬齿轮箱　　PW winch gearbox



- PW行星内藏式卷扬齿轮箱是卷扬机构的理想驱动装置。结构紧凑，可直接安装于卷筒内部，节省空间，特别是在空间窄小的情况下，它是更经济的解决方案。在繁重工作条件和恶劣环境下能提供卓越的品质和性能，并经受过考验。
- PW winch gearbox is the perfect driven device for hoisting winches. Compact dimensions is useful to assemble the PW winch gearbox in the drum and save the space. Especially in the confined space conditions, it is the economic solutions. Boneng PW winch gearbox have proved highly successful under extreme bad operating conditions.
- 太阳轮、行星轮均采用优质合金钢渗碳淬火处理，内齿圈采用优质合金钢表面硬化处理，所有齿轮均磨齿加工。
- Sun and planet wheels material is excellent alloy steel and processed by carburization and quenching. Internal gear wheel material is excellent alloy steel and processed by hardening. All gears grinding.
- 行星架和内齿圈连接法兰均采用球墨铸铁材料，且均通过计算机模拟变形和应力分析等优化设计。
- The connection flange of planet carrier and internal gear wheel are made of ductile graphite iron. Optimal design through the computer and the stress analysis.
- 所有轴承采用知名品牌，轴承系统承载能力高，安全裕度大。
- All bearings are from famous brand. The bearings have high loading support and safety.
- 输入、输出采用径向骨架油封及V型密封，在复杂和恶劣的工作环境中具有更高的安全性和更长的使用寿命。
- The input and output are protected with radial shaft seals and V type seals. Viton material improves the seal life.
- 高度的模块化设计，批量生产更加经济，有效提高供货速度。
- High modular design. Volume production is more economic and speeds up the delivery period.
- 两级、三级和四级行星齿轮传动设计，速比覆盖范围广。
- 2 stage, 3 stage and 4 stage design and wide range of ratio.
- 运转噪音低，传动效率高，使用寿命长。
- Low noise, high efficiency and long operation life.
- 安装简单，维护方便。
- Easy mounting and maintenance.







港口起重机和船厂	Harbour and dockyard cranes
随车吊和汽车吊	Mobile cranes
建筑起重机和输送设备	Construction cranes and conveyors
货运和工作电梯	Material and working elevators
舰船和甲板起重机	Shipboard and deck cranes
集装箱龙门吊	Container gantries
汽车和履带式起重机	Crawling crane
海上平台起重机	Offshore cranes

博能公司全系列产品采用独创的模块化设计，零部件通用最大化，具有量产优势，标准零配件成本低，供货周期短，整个产品系列均采用高制造标准，保证了极好的承载能力和工作可靠性。

All series products of Boneng use the original modular design, parts general maximization, it has advantage of mass production, the standard parts of low costs, short delivery cycle. The whole product series adopt high manufacturing standards to ensure the excellent carrying capacity and working reliability.

注意事项！必须严格遵守以下各项！

- 样本中的结构示意图、外形图及其他附图只属范例，无严格比例要求。(未注尺寸单位均为mm)。
- 所注重量仅为平均值，并不具有约束力。
- 为防止意外事故发生，所有旋转部件均按照使用者所在国家和地区的安全规范由购置方加罩保护。
- 试车之前必须认真阅读使用说明书。
- 齿轮箱在供货时已处于准运行状态，运行前需加注润滑油。
- 本样本中注油量只作为参考值，实际注油量应以油尺上的标记为准。
- 润滑油粘度应按齿轮箱使用工况及使用环境温度选取。
- 只能采用国际知名品牌的润滑油。

Note: You must conform to the following instructions

- The structure scheme,appearance diagram and other attached diagrams in sample are examples,there is no strict proportion requirement.(The unmarked dimension units are mm).
- We can only refer to the marked weight in the manual.
- To prevent accidents, all the rotation parts should be added with protective covers according to local safety regulations and laws.
- Before testing, users should read instruction manual carefully.
- Gearbox has been tested before delivered, users should add lubrication oil before running.
- We can only refer to the marked oil in the manual. Actual oil filling level should be the same with the mark on oil immersion lens.
- Lubrication oil viscosity should be selected according to working conditions and the temperature of local environment.
- Users can only use high guality lubrication oil.

产品功能标识


油 镜


通气帽


进油孔


放油孔

Product Function Mark


Oil glass


Breather


Oil filler


Oil drain

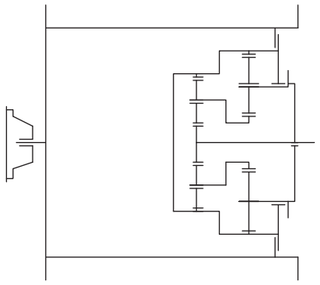
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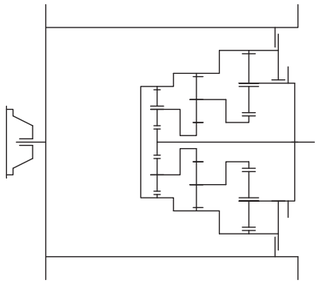
1 结构简图　1 Design and Construction



二级行星传动齿轮箱　2 stage planetary gearbox

额定输出扭矩：11.6至155kN·m
钢丝绳负载：67至408KN
公称减速比13至28
齿轮箱内置于滚筒
输入与输出旋转方向相反

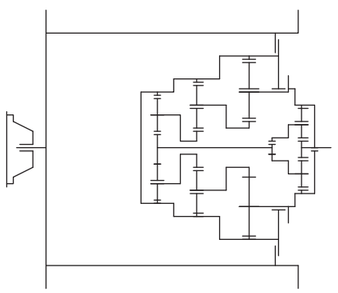
Output torques: 11.6 to 155 KN·m
Rope load: 67 to 408KN
Ratio from i=13 to 28
Gearbox mounted inside winch drum.
Input and output in opposite sense of rotation



三级行星传动齿轮箱　3 stage planetary gearbox

额定输出扭矩：25至236kN·m
钢丝绳负载：116至566KN
公称减速比45至141
齿轮箱内置于滚筒
输入与输出旋转方向相反

Output torques: 25 to 236 KN·m
Rope load: 116 to 566 KN
Ratio from i=45 to 141
Gearbox mounted inside winch drum.
Input and output in opposite sense of rotation



四级行星传动齿轮箱　4 stage planetary gearbox

额定输出扭矩：47至1500kN·m
钢丝绳负载：180至1950KN
公称减速比167至940
齿轮箱内置于滚筒
输入与输出旋转方向相反

Output torques: 47 to 1500 KN·m
Rope load: 180 to 1950 KN
Ratio from i=167 to 940
Gearbox mounted inside winch drum.
Input and output in opposite sense of rotation

备注：各级传动的机械效率为98%，钢丝绳滚筒轴承及密封圈的机械效率为99%。
例如：两级行星卷扬机的总机械效率为η=0.98x0.98x0.99=0.95

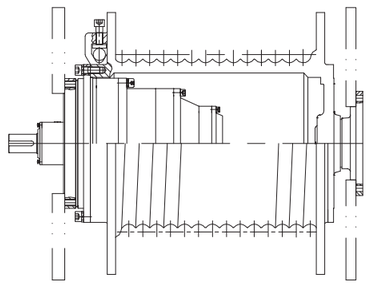
Remark: Mechanical efficiency of every stage is 98%, bearings for rope drum and the seal rings mechanical efficiency is 99%
For example: the total mechanical efficiency for 2 stage winch planetary gearbox η
=0.98×0.98×0.99=0.95

2 型号表示　2 Type Description

PW　3　27 — 90 — H + UV32 — V1

系列名 PW	**Series name** PW
行星齿轮传动级数 2级/3级/4级传动	**Planetary gear transmit stage** 2/Stage/3/Stage/4/Stage
机座号	**Size**
公称减速比	**Nominal ratio**
输入部分 H=液压马达输入 轴(电机)输入时不标	**Input part** H=Hydraulic motor input Shaft (motor) input without mark
附件和特殊要求	**Accessories and special requests**
版本号 产品技术更新	**Version Number** Technical update

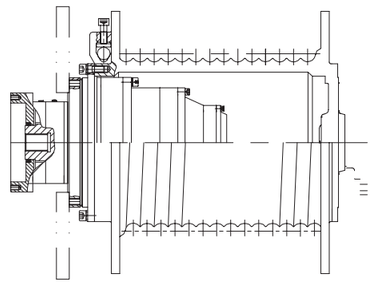
3 输入方式　3 Input Modes



电机输入，水平安装　Motor input foot mounted

产品配备电动机、液压马达两种模块化输入系统。
液压马达输入时，输入轴为DIN 5480规格的花键轴，带具有压力释放弹簧装置的液压多片式驻车制动系统。该制动安全装置是独立的活塞或制动器，其释放压力最小为15bar，最大承压为300bar，系统残留压力小于0.5bar。

备注：PW全系列行星齿轮内藏式卷扬齿轮箱可适配各种马达，如高速马达（单个或2—3个驱动单元）、摆线马达、低速大扭矩马达，能满足客户不同的应用与需求，具体使用请垂询。



液压马达输入，水平安装　Hydraulic motor input, foot mounted

PW with electric motor input and hydraulic motor input.
When hydraulic motor is input, the input shaft is a DIN 5480 spline shaft, equipped with the hydraulic pressure release and loose-spring multi disc brake parking system. This brake safety device is a self contained piston or brake with a minimum release pressure of 15 bar, the maximum pressure is 300 bar. System residual pressure is less than 0.5 bar.

Remark: PW complete range can be equipped with kinds of motors, such as high speed motor (Single or 2 — 3 drive units), cycloidal motor, low speed with big torque motor etc, can meet customer's different demands. For details, please consult Boneng.

4 卷筒概述

4.1 卷筒种类：

1)标准沟槽卷筒（图1）和特殊沟槽卷筒（图2）。

2)沟槽方向分左旋和右旋，默认为右旋（图1）。

3)特殊沟槽卷筒可避免多层缠绕时的乱绳现象，因为每层钢丝绳的交叉点在滚筒截面的同一位置上，并且确定了下一层钢丝绳的螺旋升角，可缠绕八层或更多层。

4 Product Description

4.1 Drum categories:

1) Drum with normal grooves (figure 1) and with special grooves (figure 2).
2) Rope groove has right hand lead and left hand. The default lead is right hand (figure 1).
3) Drum with special grooves can avoid the difficulties encountered in multi-layer winding on to grooves of the usual kind. As the crossover points of the rope in each layer always lie in the same section of the drum and the spiral angle of the next layer rope is determined. 8 and more layers can be accommodated without difficulty.

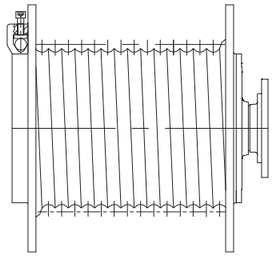


图1 Figure 1

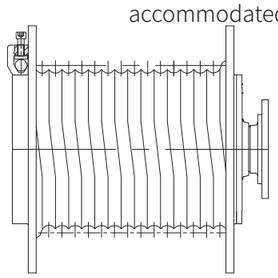


图2 Figure 2

4.2 钢丝绳固定方式在滚筒侧壁外侧

4.2 Output flange slewing shaft length and pinion

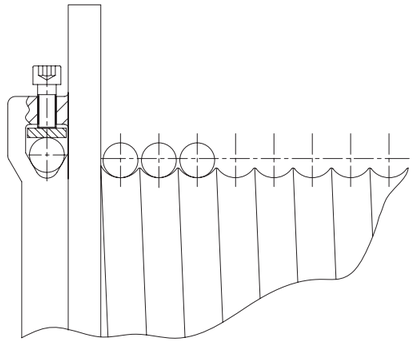


图3 Figure 3

4.3 为了保证钢丝绳正常缠绕，要求绳偏折角α维持在允许范围之内（图4），应注意以下几点：

1)钢丝绳的捻转方向应与卷筒沟槽方向相反。
2)绳偏折角α不应小于0.5°，以防钢丝绳在侧壁处堆积，保证钢丝绳分层缠绕。

3)绳偏折角α不应大于1.5°，为了使钢丝绳在第一层不受与绳槽方向相反的拉力，保证多层缠绕时钢丝绳在滚筒挡板之间均匀的分布。

4.3 To achieve acceptable rope winding, the deflection angleα must be kept in the allowable value (figure 4)Attent the following points:

1)Rope lay should be in the opposite sense to drum lead.
2)The deflection angle α must not less than 0,5° in order to prevent the rope from riding up the drum flange and to ensure that it is guided securely on to the next layer.
3)The deflection angle α must not exceed 1,5° in order to prevent the rope in the first layer being pulled against the grooves and, where a number of layers occur, to enable even winding up to the drum flanges.

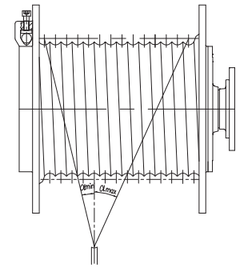


图4 Figure 4

4.4 卷筒和钢丝绳相关计算（图5）：

卷筒直径D1=20xd或按客户要求
卷筒法兰直径：D2=D1+2（Z+1）d
钢丝绳绳长（包含三圈过放保险钢丝绳）：

$$Ls = \left(\frac{L2}{P} - a\right)(D1+0.866 * d\ (Z-1)\ )\ \frac{Z^{*}\ \pi}{1000}$$

Ls：钢丝绳绳长（m）
L2：卷筒长度或两挡板间距（mm）
D1：卷筒直径（mm）
d ：钢丝绳直径（mm）
p ：绳槽螺旋升角或节距（mm）
Z ：钢丝绳缠绕层数
a ：标准沟槽卷筒a=1；特殊沟槽卷筒a=0.5

4.4 The related calculations between drum and rope (figure 5):

Rope drum diameter D1= 20 x d or as specified
Drum flange diameter D2= D1 + 2 (Z + 1) d
Length of rope (including 3 safety turns)

LS = Length of rope [m]
L2 = Length of drum [mm]
D1 = Diameter of drum [mm]
d = Diameter of rope [mm]
p = Pitch of rope groove [mm]
z = Number of rope layers
a = 1 for normal grooves,a= 0,5 for special grooves

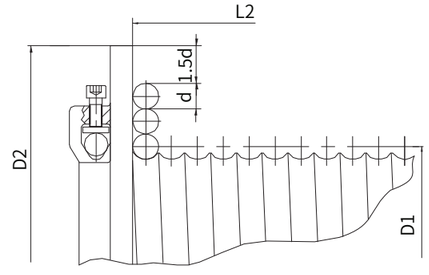


图5 Figure 5

5 阀块说明

根据卷扬的不同使用工况，需要在驱动马达上配备一些辅助阀块来保证卷扬安全、正常的工作。
卷扬驱动马达用阀块分为两种：一种是用于开式液压系统的马达集成阀块：该阀块将负载平衡、缓冲压力冲击、制动器自动开启等功能集成在一起；一种是用于闭式液压系统的管路防爆安全阀：该阀块主要可在管路爆裂时锁住马达，防止马达失速。

5.1 开式系统马达用阀块

马达集成阀块作为卷扬驱动马达用标准阀块，优先推荐客户使用此阀块。如果客户只使用该阀块中的一种功能，则需要进行非标设计。

5.1.1 马达集成阀块

卷扬驱动马达用集成阀块具有缓冲压力冲击、平衡负值负载、刹车制动打开等功能，阀块原理图：平衡阀位于马达B侧油口（图6）、平衡阀位于马达A侧油口（图7）。
当马达A口进油时卷扬进行放绳则选择图6所示阀块；当马达B口进油时卷扬进行放绳则选择图7所示阀块。

5 Valve explanation

According to different working condition, the drive motor should be equipped with the valve to make sure the hoisting winch running safely.
There are two different valves:One is the motor integrated valve with open hydraulic system. The valve can control the load while it is descending, lighten the pressure and opening the brake automatically.Another is the tube explosion-proof valve with close hydraulic system. The valve can lock the motor when the tube is exploded and prevent the fail save motor.

5.1 The motor integrated valve with open hydraulic system

The motor integrated valve is the standard valve for the hoisting winch drive, we suggest the customer to use the valve in advance. If customer need only use one of the valve function, it should be customized.

5.1.1 Motor integrated valve

The motor integrated valve can lighten the pressure, control the load and open the integrated motor brake automatically.Valve working principle drawing: the balance valve is on the oil port B side of motor (figure 6), the balance valve is on the oil port A side of motor (figure 7).
When filling the oil on motor A side and pull the rope, should select the valve as figure 6; When filling the oil on motor B side and pull the rope, should select the valve as figure 7.

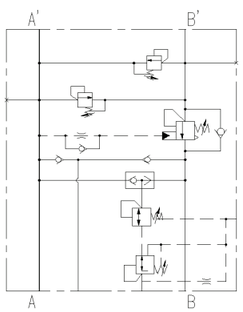


图6 马达集成阀块 Figure 6 motor integrated valve

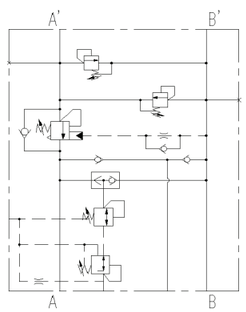


图7 马达集成阀块 Figure 7 motor integrated valve

阀块功能说明：
1）卷扬在吊装作业时承受负值负载，为保证卷扬在承受负值负载时依然能平稳运行，不出现失速，需要在马达上安装平衡阀。

2）卷扬在使用时，随着钢丝绳拉力的变化，负载不平稳容易导致液压系统压力波动，并出现较高的压力峰值，为了防止压力过高损坏液压马达，需要应用缓冲阀释放压力峰值。

3）卷扬停止工作时为保证卷扬可靠锁至，不出现遛钩现象，需要在卷扬上安装制动器。马达集成阀块中的刹车开启功能可实现制动器在卷扬工作时自动打开、停止工作时自动关闭。

备注：阀块中平衡阀的安装方位至关重要，至于如何确定马达A侧、还是B侧安装平衡阀，可参考：滚筒旋转方向说明。

Valve function:
1) When the hoisting winch is operating under negative loading, we should mount the balance valve on the motor to prevent the hoisting winch from stalled glide and keep the stable operating.
2) When the rope pulling force is changing and the load is unstable, it will cause the hydraulic pressure wave and there is the higher pressure, we should mount the cushion valve to release the pressure to prevent the hydraulic system damaged.
3) Brake is mounted to prevent the hoisting winch from slipping when the hoisting winch stops running and is locked well. The brake in the motor integrated valve can open automatically when the hoisting winch is operating and will close automatically when the hoisting winch is stopping.

Remark: the balance valve mounting position is very important. How to confirm the mounting position is on the A side or B side of motor, you can refer to the winding direction on the rope drums.

5.2 闭式系统马达用阀块

闭式系统可通过液压泵实现静液压制动，由发动机吸收制动扭矩，一般不推荐使用平衡阀，以防止系统液压油温度过高，如果客户有特殊需要，需进行技术论证。

5.2.1 管路防爆安全阀块

为了保证客户安全的使用卷扬设备，推荐客户使用管路防爆安全阀。该阀块可在液压管路发生爆裂时，切断马达回油口，依靠马达回油口背压对马达进行动态制动，防止卷扬失速，重物下坠。
管路防爆安全阀块原理图：防爆安全阀位于马达A侧油口（图8）、防爆安全阀位于马达B侧油口（图9）。

5.2 The motor integrated valve with close hydraulic system

The close hydraulic system can achieve the hydrostatic brake through the hydraulic pump, and motor can absorb the brake torque, usually balance valve is not suggested to keep from the hydraulic oil temperature too high. If customer has this special demand, the technical testing should be done.

5.2.1 The tube explosion-proof valve

To ensure the correct using hoisting winch, we suggest customer to use the tube explosion-proof valve. It can cut off the returned oil port of motor when the hydraulic tube is split. The counter pressure of the returned oil port will make the dynamic brake on the motor to prevent the hoisting winch from slipping.
The tube explosion-proof valve working principle drawing: the tube explosion-proof valve is on the oil port A side of motor (figure 8), the tube explosion-proof valve is on the oil port B side of motor (figure 9).

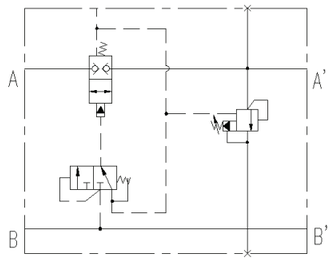


图8 管路防爆安全阀　　Figure 8 The tube explosion-proof valve

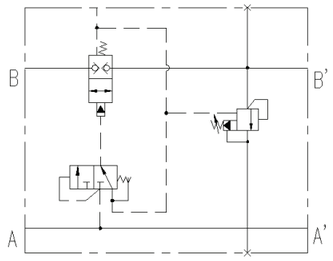


图9 管路防爆安全阀　　Figure 9 The tube explosion-proof valve

当马达B口进油时卷扬进行放绳则选择图8所示阀块；
当马达A口进油时卷扬进行放绳则选择图9所示阀块。

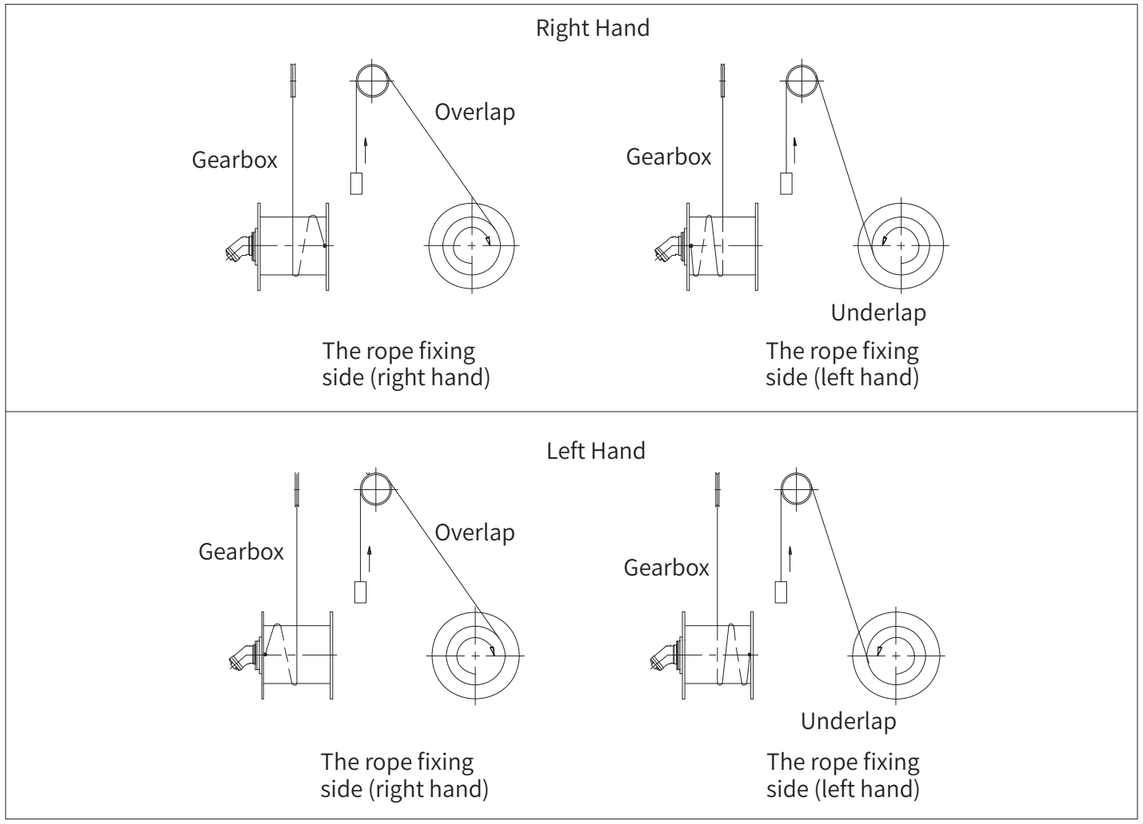
When filling the oil on motor B side and pull the rope, should select the valve as figure 8;
When filling the oil on motor A side and pull the rope, should select the valve as figure 9.

备注：防爆安全阀的安装方位至关重要，至于如何确定马达A侧、还是B侧安装防爆安全，可参考：滚筒旋转方向说明。

Remark: the tube explosion-proof valve mounting position is very important. How to confirm the mounting position is on the A side or B side of motor, you can refer to the winding direction on the rope drums.

5.3 滚筒旋转方向说明

5.3 Winding direction on the rope drums.



钢丝绳方向 Rope direction	绳槽旋向 Rope groove lead	出绳方式 Rope pull mode	齿轮箱输出 Gearbox output	齿轮箱输入 Gearbox input	马达旋向 Motor rotation	马达进油口 Motor inlet oil port	平衡阀/防爆安全阀安装侧 Balance valve/explosion-proof valve mounting position
提绳 Draw rope	右方向 Right hand	上出绳 overshot	顺时针 CW	逆时针 CCW	顺时针 CW	A（B）	A（B）
	右方向 Right hand	下出绳 undershot	逆时针 CCW	顺时针 CW	逆时针 CCW	B（A）	B（A）
	左方向 Left hand	上出绳 overshot	顺时针 CW	逆时针 CCW	顺时针 CW	A（B）	A（B）
	左方向 Left hand	下出绳 undershot	逆时针 CCW	顺时针 CW	逆时针 CCW	B（A）	B（A）
放绳 Release rope	右方向 Right hand	上出绳 overshot	逆时针 CCW	顺时针 CW	逆时针 CCW	B（A）	A（B）
	右方向 Right hand	下出绳 undershot	顺时针 CW	逆时针 CCW	顺时针 CW	A（B）	B（A）
	左方向 Left hand	上出绳 overshot	逆时针 CCW	顺时针 CW	逆时针 CCW	B（A）	A（B）
	左方向 Left hand	下出绳 undershot	顺时针 CW	逆时针 CCW	顺时针 CW	A（B）	B（A）

备注：1)表中齿轮箱的输入输出方向定义为：正对齿轮箱输入侧看。

2)表中液压马达旋转方向定义为：正对马达输出轴看。
3)滚筒方向定义为：正对马达齿轮箱输入侧看，滚筒方向即齿轮箱输出方向。

Remark:1)Gearbox output and input direction in above table: when facing the gearbox input shaft.
2)The motor rotation in above table: when facing the motor output shaft.
3)The drum rotation: When facing the gearbox input shaft, the gearbox output shaft rotation is the drum rotation.

6 选型说明

6.1 使用说明

PW行星齿轮箱额定动态输出扭矩Tdyn max按欧洲起重机械联合会标准FEM(FEM—Federation Europeenne de la Manutention)第三版第一章，驱动机构等级M5，负载分组L2(P=常数，=15rpm)，工况等级T5分组设计。工作环境温度+20°C。
如果卷扬机构分级为其它工作级别，则其所需输出扭矩必须采用系数K进行修正。

T2：输出扭矩(N·m)
Fnom：单绳拉力(N)
Dw：相应卷绕直径(m)

$$T2 = \frac{Fnom^{*}\ Dw}{2}$$

T2k: 修正后的输出扭矩(N·m)

K: 工况系数(设备分组工况系数)

T2k =T2*K

注：齿轮箱选型时T2k必须≤Tdyn max(设计扭矩或样本扭矩)

6 Type selection explanation

6.1 Operation instruction

PW rated dynamic output torques Tdyn max are based on FEM Standards section 1, 3rd edition (FEM - Federation Europeenne de la Manutention). Drive unit group M5,load conditions L2 (P=constant, =15rpm), running time classification T5. Ambient temperature +20 °C.
If the hoisting winch is classified as other working grades, the output torque must be multiplied by the factor K.

T2：output torque(N·m)
Fnom：single rope pull(N)
Dw：rope strands diameter(m)

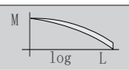
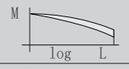
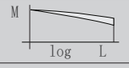
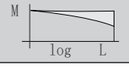
$$T2 = \frac{Fnom^{*}\ Dw}{2}$$

T2k: output torque with multiplied factor(N·m)
K: application factor (the relative factor for drive unit group and load conditions)
T2k =T2*K

Note: T2k≤Tdyn max(design torque or sample torque)

6.2 工况系数(机构利用等级和载荷状态分级)

6.2 Application factor K (running time classification and load conditions)

工况等级 Running time classification	运行时间级别	Symbol	T2	T3	T4	T5	T6	T7	T8
	一年内,日平均工作时间（小时）	Mean running time per day in hours, related to one year	0.25—0.5	0.5—1	1—2	2—4	4—8	8—16	>16
	使用寿命（小时）8年，200天/年	Life in hours 8 years,200 days/year	400—800	800—1600	1600—3200	3200—6300	6300—12500	12500—25000	25000—50000
负载情况 Load conditions	集合系数	Collective coefficient Km	设备分组 工况系数 Drive unit class Application Factor K						
L1		—0.125	M1 0.90	M2 0.90	M3 0.90	M4 0.92	M5 0.92	M6 1.1	M7 1.36
L2		0.125—0.250	M2 0.90	M3 0.92	M4 0.96	M5 1	M6 1.07	M7 1.3	M8 1.6
L3		0.250—0.500	M3 1.05	M4 1.09	M5 1.17	M6 1.23	M7 1.28	M8 1.53	M8 1.89
L4		0.500—1.000	M4 1.32	M5 1.36	M6 1.46	M7 1.53	M8 1.58	M8 1.8	M8 2.22

6.3 起重机械典型载荷谱(图10)

6.3 Typical load spectrum for crane (figure 10)

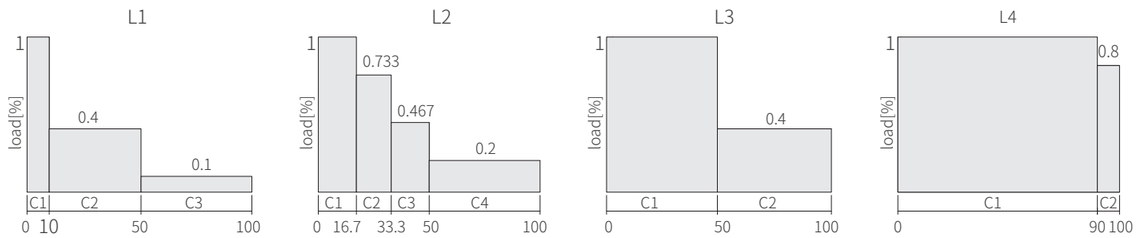


图10 起重机械典型载荷谱

Figure 10 Crane load spectrum

6.4 设备分级指导 参见FEM标准第三版第一章,表T.2.1.3.5

6.4 Classification Guidance According FEM section 1, 3rd edition,table T.2.1.3.5

起重机类型	Type of crane(name)	工作元件 Working accessories	驱动机构类型 Type of mechanism 起升 Hoisting	回转 Slewing	变幅 Luffing	小车运行 Traverse	大车运行 Travel
安装用起重机	Erection cranes		M2-M3	M2-M3	M1-M2	M1-M2	M2-M3
桥式起重机	Bridge crane	吊钩 Hook duty	M5-M6	M4	-	M4-M5	M5-M6
桥式起重机	Bridge crane	抓斗或磁铁 Grab or magnet	M7-M8	M6	-	M6-M7	M7-M8
车间用起重机	Workshop cranes	抓斗或磁铁 Grab or magnet	M6	M4	-	M4	M5
天车，夯锤起重机。废钢场起重机	Crane, Ram crane, Scrap mill crane	吊钩或磁铁 Hook or magnet	M8	M6	-	M6-M7	M7-M8
卸料桥，集装箱用门式起重机	Unloading bridge,Container gantry crane	吊钩 Hook	M6-M7	M5-M6	M3-M4	M6-M7	M4-M5
其它门式起重机（带小车和/或转台）	Other gantry crane(with crab and/or slewing jib crane)	抓斗或磁铁 Grab or magnet	M4-M5	M4-M5	-	M4-M5	M4-M5
卸料桥，集装箱用门式起重机（带小车或转台）	Unloading bridge,Container gantry crane (with crab and/or slewing jib crane)	吊钩 Hook	M8	M5-M6	M3-M4	M7-M8	M4-M5
船台起重机船坞起重机，拆卸用起重机	Shipyard crane,Dock crane,Disassembly crane		M5-M6	M4-M5	M4-M5	M4-M5	M5-M6
港口起重机（可转动，门式），浮式起重机，浮式起重架	Dockside cranes (slewing, on gantry, etc.), floating cranes and pontoon derricks	吊钩 Hook	M6-M7	M5-M6	M5-M6	-	M3-M4
港口起重机（可转动，门式），浮式起重机，浮式起重架	Dockside cranes (slewing, on gantry, etc.), floating cranes and pontoon derricks	抓斗或磁铁 Grab or magnet	M7-M8	M6-M7	M6-M7	-	M4-M5
浮式起重机和浮式起重架，用于非常高的负荷（一般在100t以上）	Floating cranes and pontoon derricks for very heavy loads (usually greater than 100 t)		M3-M4	M3-M4	M3-M4	-	-
甲板起重机	Deck cranes	吊钩 Hook	M4	M3-M4	M3-M4	M2	M3
甲板起重机	Deck cranes	抓斗或磁铁 Grab or magnet	M5-M6	M3-M4	M3-M4	M4-M5	M3-M4
塔式起重机用于建筑工地	Tower cranes for building		M4	M5	M4	M3	M3
门式塔架	Derricks		M2-M3	M1-M2	M1-M2	-	-
铁路起重机，批准用于铁路维修	Railway cranes allowed to run in train		M3-M4	M2-M3	M2-M3	-	-
车辆起重机	Mobile cranes	吊钩 Hook	M3-M4	M3-M4	M2-M3	-	-

备注:仅列出了卷扬机构的一些典型范围以供参考

Note: Above are only some typical applications for hoisting winch.

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7 传动能力

7 Transmission capacity

公称减速比 Nominal ratio iN	精确减速比 Exact ratio iex	型号 type PW PW	20	22	24	25	26	27	29	31	32	33	34	36	38	40
		T动 T dynamic kN·m kN·m	11.6	19.4	25.5	36	48	63	105	155	236	311	406	644	1100	1500
		T静 T static kN·m kN·m	18.5	31	41	57.5	77	101	168	248	377.5	497.5	649.5	1030.5	1760	2400
13	13.11	2级 2 stage	☆	☆	☆	☆	☆	☆	☆	☆	☆					
15	15.14		☆	☆	☆	☆	☆	☆	☆	☆	☆					
18	18.22		☆	☆	☆	☆	☆	☆	☆	☆	☆					
20	20.45		☆	☆	☆	☆	☆	☆	☆	☆	☆					
23	23.47		☆	☆	☆	☆	☆	☆	☆	☆	☆					
28	27.79		☆	☆	☆	☆	☆	☆	☆	☆	☆					
45	44.97	3级 3 stage	☆	☆	☆	☆	☆	☆	☆	☆	☆					
52	51.56		☆	☆	☆	☆	☆	☆	☆	☆	☆					
59	59.10		☆	☆	☆	☆	☆	☆	☆	☆	☆					
71	70.57		☆	☆	☆	☆	☆	☆	☆	☆	☆					
79	78.88		☆	☆	☆	☆	☆	☆	☆	☆	☆					
84	84.23		☆	☆	☆	☆	☆	☆	☆	☆	☆					
90	90.13		☆	☆	☆	☆	☆	☆	☆	☆	☆					
105	105.18		☆	☆	☆	☆	☆	☆	☆	☆	☆					
120	120.13		☆	☆	☆	☆	☆	☆	☆	☆	☆					
141	141.49		☆	☆	☆	☆	☆	☆	☆	☆	☆					
167	167.48	4级 4 stage	☆	☆	☆	☆	☆	☆	☆							
192	192.03		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆		
220	220.1		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
262	262.1		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
273	273.16		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
293	292.54		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
313	312.95		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
334	333.74		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
349	349.31		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
374	373.52		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
393	392.59		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
417	416.91		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
445	445.46		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
476	475.62		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
509	508.98		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
532	531.54		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
559	559.49		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
594	593.94		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
625	625.27		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
678	678.38		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
699	698.68		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
798	798		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
841	841.37		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
940	939.89		☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆

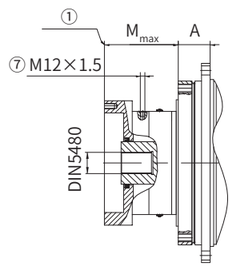
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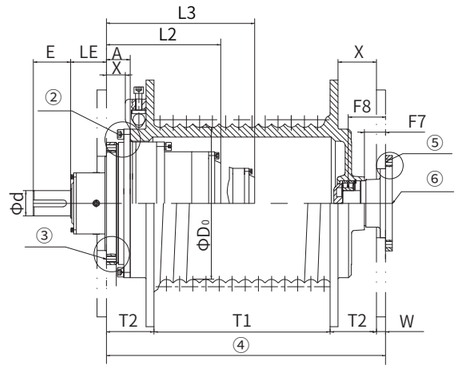
Note: For ratios not listed, please contact!

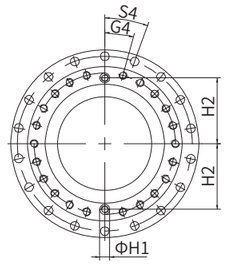
BONENG

8 外形尺寸　　8 Dimension Drawing

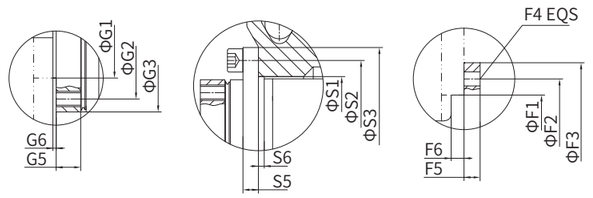
液压马 hydraulic
达输入 motor input







G接口尺寸　S接口尺寸　F接口尺寸
G Flange connection　S Flange connection　F Flange connection



Type PW	Nominal Gearbox ratings Output torque (KN.m)			G Flange connection Gearbox to frame bolts class10.9						S Flange connection Gearbox to drum Bolts class 8.8						F Flange connection Drum flange to frame bolts class 8.8								installation dimension shaft (motor) input										hydraulic motor input									oil pump connection		weight(kg)			Type PW
	T dyn max	T static max	Fnom KN	G1	G2	G3	G4	G5	G6	S1	S2	S3	S4	S5	S6	F1	F2	F3	F4	F5	F6	F7	F8	2stage d	2stage E	2stage LE	3stage d	3stage E	3stage LE	4stage d	4stage E	4stage LE	Mmax	A	L 2 stage L2	L 3 stage L3	T1min 2 stage	T1min 3 stage	Do Approx min	X min	T2	W suggestion	H1	H2	2 stage	3 stage	4 stage	
20	11.6	18.5	69	200h7	255±0.2	285	20° 16*M16	25	5	295h7	320±0.2	340	15° 24*Φ14	12	9	175h7	200±0.2	225	60° 6*Φ11	15	10	30	64	55m6	110	98.5	—	—	—	—	—	—	183	60	300	—	240	—	340	15	95	15	26	117		—	—	20
22	19.4	31	98	230h7	280±0.2	315	15° 22*M16	25	5	330h7	360±0.2	390	20° 18*Φ18	16	9	200h7	230±0.2	260	60° 6*Φ14	18	12	35	71	55m6	110	85	—	—	—	—	—	—	171	60	315	—	255	—	390	15	100	15	26	132		—	—	22
24	25.5	41	119	270h7	320±0.2	355	15° 22*M16	25	5	370h7	400±0.2	430	15° 24*Φ18	16	9	200h7	230±0.2	260	60° 6*Φ14	18	12	35	71	75m6	140	135.5	65m6	140	117.5	—	—	—	207	60	350	489	290	430	440	20	100	20	26	152	210	245	—	24
25	36	57.5	147	300h7	350±0.2	385	15° 22*M20	30	5	400h7	440±0.2	480	20° 18*Φ22	20	9	230h7	260±0.2	290	60° 6*Φ18	18	15	40	78	75m6	140	118	65m6	140	100	—	—	—	189	75	366	506	295	435	480	20	120	20	30	168	245	275	—	25
26	48	77	184	330h7	390±0.2	425	15° 22*M20	30	5	440h7	480±0.2	520	15° 24*Φ22	20	9	260h7	310±0.2	360	60° 6*Φ22	25	15	50	92	95m6	170	139.5	65m6	140	104.5	65m6	140	238	209	75	426	555	355	480	520	20	120	20	30	184	365	385	415	26
27	63	101	220	355h7	420±0.2	460	15° 22*M24	38	5	470h7	520±0.2	560	20° 18*Φ26	24	9	260h7	310±0.2	360	60° 6*Φ22	25	15	50	92	95m6	170	135	65m6	140	100	65m6	140	233.5	204	90	431	560	345	475	570	20	140	20	30	195.5	400	415	445	27
29	105	168	313	430h7	480±0.2	530	15° 22*M24	38	5	550h7	590±0.2	630	15° 24*Φ26	24	9	300h7	350±0.2	400	60° 6*Φ22	30	15	50	104	110m6	210	165	95m6	170	165	75m6	140	281	209	90	507	685	420	595	670	25	145	25	30	233	630	720	730	29
31	155	248	408	515h7	565±0.2	615	15° 24*M30	47	5	640h7	690±0.2	750	15° 24*Φ33	30	9	325h7	375±0.2	425	60° 6*Φ26	35	15	70	134	110m6	210	142	95m6	170	142	75m6	140	258	186	110	530	708	425	600	770	30	180	30	38	235	805	890	920	31
32	236	377.5	566	580h7	630±0.2	680	15° 24*M30	47	5	700h7	755±0.2	815	15° 24*Φ33	30	9	325h7	375±0.2	425	60° 6*Φ26	35	15	70	134	—	—	—	110m6	210	130	75m6	140	251	321	110	—	800	—	695	830	30	180	30	38	268	—	1320	1360	32
33	311	497.5	660	670h7	720±0.2	770	12° 30*M30	47	5	790h7	840±0.2	890	12° 30*Φ33	30	9	375h7	435±0.2	500	60° 6*Φ33	40	15	80	144	—	—	—	—	—	—	110m6	210	381	462	110	—	928	—	820	930	40	180	40	38	298	—	—	1970	33
34	406	649.5	787	720h7	770±0.2	820	10° 36*M30	47	5	850h7	900±0.2	950	10° 36*Φ33	30	9	375h7	435±0.2	500	60° 6*Φ33	40	15	80	144	—	—	—	—	—	—	110m6	210	377.5	458	120	—	932	—	815	1030	40	200	40	38	335	—	—	2195	34
36	644	1030.5	1073	840h7	900±0.2	960	10° 36*M36	56	5	1000h7	1055±0.2	1120	10° 36*Φ39	36	9	430h7	490±0.2	550	60° 6*Φ33	40	15	90	180	—	—	—	—	—	—	110m6	210	261	345	120	—	1045	—	970	1200	50	240	50	38	385	—	—	2920	36
38	1100	1760	1520	1060h7	1140±0.2	1210	10° 36*M30	78	26	1240h7	1320±0.2	1390	10° 36*Φ33	45	13	600h7	680±0.2	750	30° 12*Φ33	50	20	80	180	—	—	—	—	—	—	160m6	300	421	457	130	—	1415	—	1320	1360	50	240	60	45	497	—	—	6650	38
40	1500	2400	1950	1160h7	1240±0.2	1310	10° 36*M30	78	26	1340h7	1420±0.2	1490	10° 36*Φ33	45	13	600h7	680±0.2	750	30° 12*Φ33	50	20	80	180	—	—	—	—	—	—	160m6	300	392	307	130	—	1444	—	1650	1530	50	240	60	45	545	—	—	7660	40

备注:未注尺寸请垂询

① 取决于马达和制动器尺寸
② 制动器油口　③ S接口尺寸
④ G接口尺寸　⑤ 安装尺寸
⑥ F接口尺寸　⑦ 凸轮行程开关连接法兰

Note: For dimensions not listed, please contact!

① Length depending on motor/brake size
② Oil port for brake　③ S connection size
④ G connection size　⑤ Installation dimension
⑥ F connection size　⑦ Geared limit switch connecting flange

G1 止口
G2 分度圆
G3 外径
G4 分度
S1 止口
S2 分度圆
S3 外径
S4 分度

F1 止口
F2 分度圆
F3 外径
F4 分度
W 推荐
D₀ 近似

G1 Location
G2 Pitch diameter
G3 Outer diameter
G4 Fixing
S1 Location
S2 Pitch diameter
S3 outer diameter
S4 Fixing

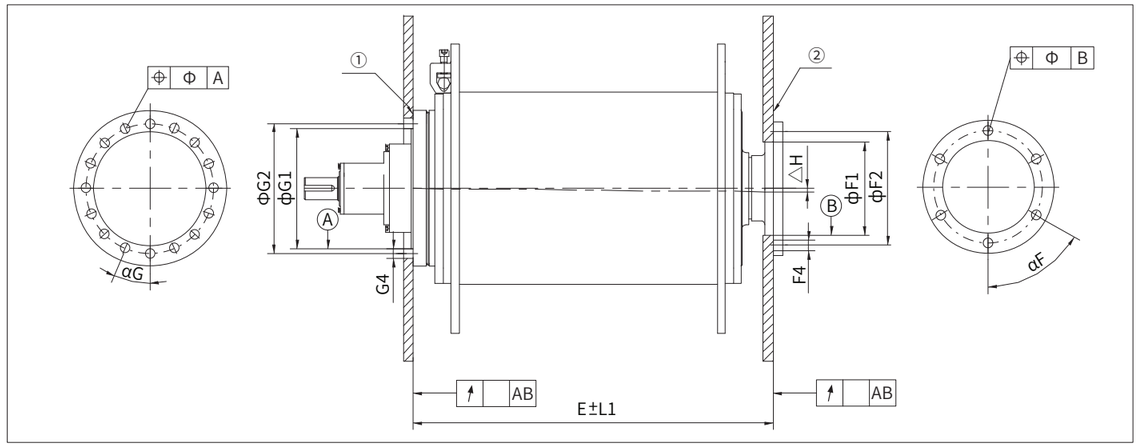
F2 Pitch diameter
F3 Outer diameter
F4 Fixing
W Suggestion
D₀ Approx

9 安装规则

为了保证卷扬机的正常运转，卷扬齿轮箱与支撑钢结构的安装孔必须对中，并且法兰安装面必须与其垂直。钢结构安装孔与法兰安装面之间的相对位置在工作中、环境影响及外力作用下不允许有过大的改变。卷扬机支撑钢结构的制造公差及允许的最大变形见下表。

9 Assemble method

To ensure correct operation of the winch, the winch gearbox must be in the same line with the frame fixing hole centers and the flange pieces square to the base plate. The relative location between frame mounting central hole and flange mounting surface shouldn' t be changed more when they are operating in different environment and outer force. The working tolerance and allowed max. deflections for the support frame are given in the accompanying table.



① 减速机连接侧避免涂漆

② 对侧支撑侧避免涂漆

① gearbox flange connection surface to kept free paint.

② support frame connection surface to kept free paint.

型号Type PW PW	齿轮箱连接侧 gearbox flange connection			对侧支撑侧 support frame connection				组装长度L1上中轴线的最大允许偏差△H Maximum permitted deviation ΔH from the central line in relation to L1							型号 Type PW PW
	AB	ΦA	α G	AB	ΦB	α F	L1	250	500	750	1000	1500	2000	2500	
20	0.1	0.4	20°	0.2	0.3	60°	2	0.1	0.2	0.2	0.3	0.4			20
22	0.1	0.4	15°	0.2	0.3	60°	2		0.2	0.2	0.3	0.4			22
24	0.1	0.4	15°	0.2	0.3	60°	2			0.2	0.3	0.4	0.5		24
25	0.1	0.5	15°	0.4	0.5	60°	2			0.2	0.3	0.4	0.5		25
26	0.1	0.5	15°	0.4	0.5	60°	3			0.2	0.3	0.4	0.5		26
27	0.1	0.5	15°	0.4	0.5	60°	3				0.3	0.4	0.5		27
29	0.1	0.5	15°	0.4	0.5	60°	3				0.3	0.4	0.5		29
31	0.2	0.5	15°	0.6	0.5	60°	3				0.3	0.4	0.5		31
32	0.2	0.5	15°	0.6	0.5	60°	3				0.3	0.4	0.5	0.7	32
33	0.2	0.5	12°	0.6	0.5	60°	3				0.3	0.4	0.5	0.7	33
34	0.2	0.5	10°	0.6	0.5	60°	3				0.3	0.4	0.5	0.7	34
36	0.3	0.5	10°	0.8	0.5	60°	3				0.3	0.4	0.5	0.7	36
38	0.3	0.5	10°	0.8	0.5	30°	3					0.4	0.5	0.7	38
40	0.3	0.5	10°	0.8	0.5	30°	3					0.4	0.5	0.7	40

10 润滑说明

润滑油(重负荷工业齿轮油)粘度牌号选用【VG320(附件代号:UV320)】

环境温度	Ambient temperature	-20℃～+40℃
粘度牌号	Viscosity	VG320

注：1.支撑结构轴端轴承采用脂润滑。

2.上表中粘度牌号为40°C温度下的ISO-VG粘度。

3.环境温度低于-10°C必须使用合成油。

4.为保证产品寿命，实际使用中建议使用合成油。

5.若环境温度超出上述范围，敬请垂询。

10 Lubrication

Lubrication viscosity (heavy industrial gear oil)【VG20 (Code: UV320)】

Note: 1. The bearing on the support frame is lubricated by grease.

2. Above table viscosity is only for the temperature under 40°C

3. Ambient temperature is -10°C, must use synthetic oil.

4. To make sure the long using life, we suggest to use synthetic oil.

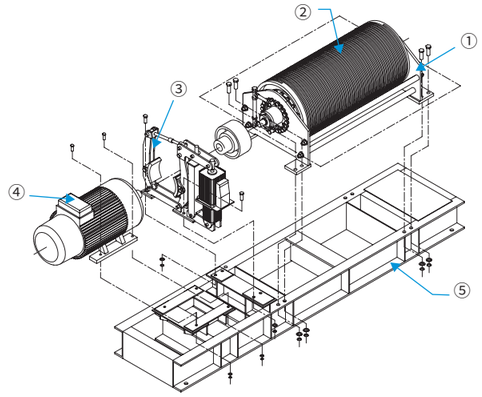
5. If the ambient temperature is not in the range of table, please consult BONENG.

11 附件 (具体请垂询)

- ☐ 滚筒 (光筒、普通沟槽、特殊沟槽)
- ☐ 滚筒支架
- ☐ 底座
- ☐ 电机
- ☐ 液压马达
- ☐ 制动器
- ☐ 阀块
- ☐ 编码器

11 Accessories (on request)

- ☐ Drum (without grooves, with normal grooves, with special grooves)
- ☐ Drum support
- ☐ Base plate
- ☐ Motor
- ☐ Hydraulic motor
- ☐ Brake
- ☐ Valve
- ☐ Encoder



电机驱动总成 Integrated motor drive

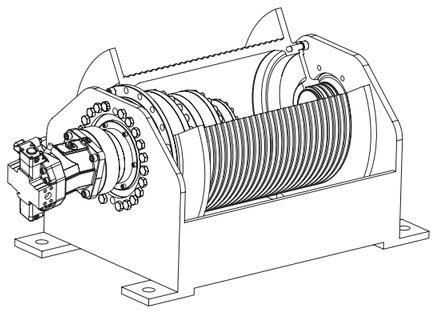
① 滚筒支架 ① Drum support

② 滚筒 ② Drum

③ 制动器 ③ Brake

④ 电机 ④ Motor

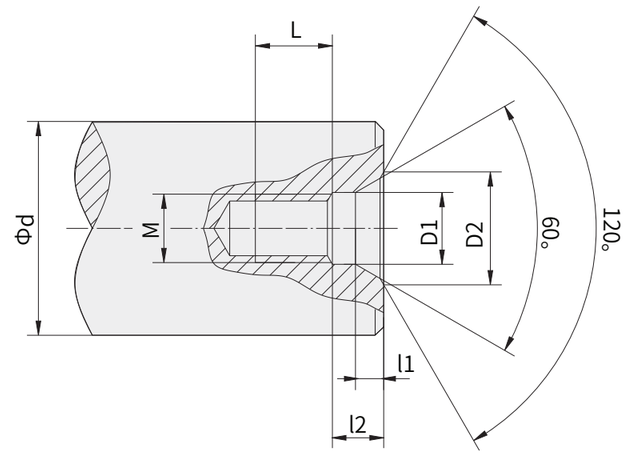
⑤ 底座 ⑤ Base



液压马达驱动总成 Integrated hydraulic motor drive

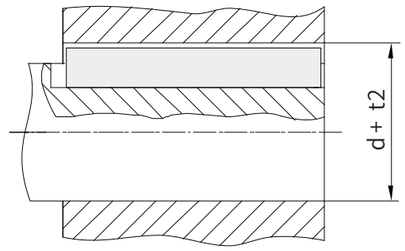
12 轴端中心孔　　12 Shaft end central hole

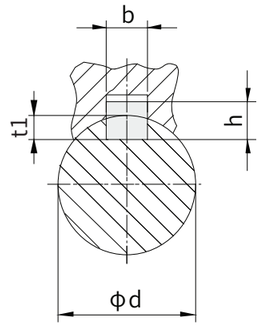
轴端C型螺纹中心孔　　C type screw central hole



d	M	L	12	11	D1	D2
7＜ d ≤10	M3	10	2.6	1.8	3.2	5.8
10＜ d ≤13	M4	10	3.2	2.1	4.3	7.4
13＜ d ≤16	M5	10	4	2.4	5.3	8.8
16＜ d ≤21	M6	12	5	2.8	6.4	10.5
21＜ d ≤24	M8	12	6	3.3	8.4	13.2
24＜ d ≤30	M10	15	7.5	3.8	10.5	16.3
30＜ d ≤38	M12	20	9.5	4.4	13	19.8
38＜ d ≤50	M16	25	12	5.2	17	25.3
50＜ d ≤85	M20	30	15	6.4	21	31.3
85＜ d ≤130	M24	35	18	8	25	38
130＜ d ≤225	M30	45	18	11	31	48

13 平键与键槽尺寸　　13 Key and Keyway dimension





d	b	h	t_1	d + t_2
8＜ d ≤10	3	3	1.8	d + 1.4
10＜ d ≤12	4	4	2.5	d + 1.8
12＜ d ≤17	5	5	3	d + 2.3
17＜ d ≤22	6	6	3.5	d + 2.8
22＜ d ≤30	8	7	4	d + 3.3
30＜ d ≤38	10	8	5	d + 3.3
38＜ d ≤44	12	8	5	d + 3.3
44＜ d ≤50	14	9	5.5	d + 3.8
50＜ d ≤58	16	10	6	d + 4.3
58＜ d ≤65	18	11	7	d + 4.4
65＜ d ≤75	20	12	7.5	d + 4.9
75＜ d ≤85	22	14	9	d + 5.4
85＜ d ≤95	25	14	9	d + 5.4
95＜ d ≤110	28	16	10	d + 6.4
110＜ d ≤130	32	18	11	d + 7.4
130＜ d ≤150	36	20	12	d + 8.4
150＜ d ≤170	40	22	13	d + 9.4
170＜ d ≤200	45	25	15	d + 10.4
200＜ d ≤230	50	28	17	d + 11.4
230＜ d ≤260	56	32	20	d + 12.4

14 设计参数表

公司名称:_____

地址:_____

联系人:_____

电话:_____ 传真:_____

应用:_____（举例. 岸桥，克令吊，汽车吊，船载起重等）

用于:_____（举例. 主卷扬，副卷扬，牵引机）

工况概述	技术参数
卷筒上拉力（第一层）: [KN]	卷筒直径:（第一层） [mm]
最外层拉力: [KN]	钢丝绳直径: [mm]
最大测试载荷第（ ）层/: [KN]	卷筒螺旋方: ☐ 右 ☐ 左 ☐ 普通绳槽 ☐ 特殊绳槽 ☐ 光筒
额定载荷下绳的速度: [m/min]	
空载时绳的速度: [m/min]	
卷筒上绳的数量:	
卷筒上总的绳拉力: [KN]	钢丝绳固定位置: ☐ 齿轮箱驱动端 ☐ 齿轮箱驱动端对面
钢丝绳长度 : [mm]	
速比:	卷筒长度或两档板间距 : [mm]

分类按 FEM1.001---ISO4301

设备分组 M:_____ 起重等级 L:_____ 工作时间等级 T:_____

驱动单元

☐电机驱动: 型号: 功率 P:_____ [KW] 额定转速 n:_____ [rpm] 起动转矩 MA:_____ [Nm] 极限转矩 Tk:_____ [Nm] 起动时间 ED:_____ [%] 每小时起动:_____	☐ 液压马达驱动 型号: 有效流量 qv:_____ [L/min] 有效压力差△P:_____ [bar] 排量Vg:_____ [cm³]

制动

类型 ☐ 驻车制动	应用类型 ☐ 液压 工作压力最小_____ [bar] 工作压力最大_____ [bar]
☐ 工作制动	☐ 电力/磁力

目前供货范围（具体请垂询）

☐ 齿轮箱　☐ 液压马达
☐ 滚筒支架　☐ 制动器
☐ 滚筒　☐ 阀块
☐ 电机　☐ 编码器

备注和特殊要求:_____

14 Parameter table

Company name: _____

Address:_____

Contact:_____

Tel:_____ Fax:_____

Application:_____（e.g. Quay crane, crane, mobile crane,ship offshore harbor cranes etc.）

Used for:_____（e.g. Hoisting,luffing, pulling winch）

Operating condition	Technical data
Drum over pull (first rope layer)F1: [KN]	Diameter of rope drum: (first rope layer) [mm]
Top rope layer line pull F2: [KN]	Rope diameter d: [mm]
Max. testing loading number of rope layer ( ) F: [KN]	Drum lead: ☐ right ☐ left ☐ normal groove ☐ special groove ☐ grooveless
Rope speed with rated loading V: [m/min]	
Rope speed without loading V: [m/min]	
Rope numbers on the drum n:	
Total line pull at drum F: [KN]	Position of rope anchor: ☐ drive side ☐ opposite to drive
Rope length Ls: (including 3 safety turns) [mm]	
Ratio i:	Length of drum between flanges L2: [mm]

Classify as FEM1.001---ISO4301

Drive unit group M:_____ The load spectrum L:_____ Running time classification T:_____

Drive unit

☐ electric motor drive: Type: Power P:_____ [KW] Rated speed n:_____ [rpm] Starting torque MA:_____ [Nm] Breakdown torque Tk:_____ [Nm] Starting time ED:_____ [%] Starting per hour:_____	☐ hydraulic motor drive Type: Available oil flow qv:_____ [L/min] Available pressure difference△P:_____ [bar] DisplacementVg:_____ [cm³]

Brake

Apply as ☐ parking brake	Actuation ☐ hydraulically Min. release pressure_____ [bar] Max. release pressure_____ [bar]
☐ service braking	☐ electric/ magnetic

Scope of supply (on request)

☐ gearbox　☐ hydraulic motor
☐ drum support　☐ brake
☐ drum　☐ valve
☐ motor　☐ encoder

Remarks and special requests:_____

随着技术迭代进步，博能产品样本将会同步更新，请见谅。
Along with the technology advancedet.,the product of the manual of Boneng will be changed,please forgive.

控制层 CONTROL

驱动层 DRIVE

马达层 MOTOR

齿轮层 GEAR



X3010 PLC
EtherCAT&Modbus
24VDC



X3050 运动控制器
Motion Controller
EtherCAT&Modbus
24VDC

C/F/K/S-M
*・・・D
马达分布式
变频驱动器
Integrated
Gearmotor
Drive











EtherCAT&
Modbus
380~480VAC
0.25~3kW
i=4~355

AM 变频驱动器
Variable Frequency Drive



Modbus
380~480VAC
0.75~5.5kW

A1 变频驱动器
Variable Frequency Drive



Modbus/CANopen
/PROFINET
380~480VAC
0.75~250kW

C/F/K/S/R
齿轮马达
Gearmotor











380~480VAC
0.09~200kW
i=1.25~500

MP/MU/MA
三相交流异步马达
AsynchronousMotor



380~480VAC
0.09~90kW
960/1450r/min
1160/1750r/min

HB/BE/HK
齿轮箱
Gearbox



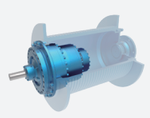
4.2~15775kW
i=5.6~450

P/PK
行星齿轮箱
Planetary
Gearbox



0.4~14000kW
i=25~4000

PW
卷扬齿轮箱
Planetary
Winch
Gearbox



1~1810kW
i=13~940

PS
回转齿轮箱
Planetary
Slewing
Gearbox



1~1626kW
i=14~947

J/JB
升降机
Jack



0.35~22.63kW
i=5~34

T
转向箱
Spiral Bevel
Gearbox



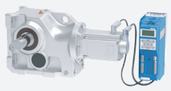
0.08~303kW
i=1:1~3:1

MX&AX
伺服马达&伺服驱动器
Permanent
Magnet
Servo Motor
&Servo Drive

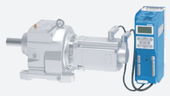


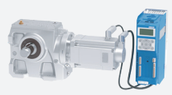
EtherCAT/
PROFINET
380~480VAC
0.28~14kW
1500/2000r/min
3000/4500r/min

C/F/K/S-MX
&AX齿轮伺
服马达&伺
服驱动器
Servo
Gearmotor
&Servo Drive









EtherCAT/
PROFINET
380~480VAC
0.28~14kW
i=1.25~315

PX-MX&AX
行星伺服马达
&伺服驱动器
Planetary
Precision Gear
Servo Motor
&Servo Drive





EtherCAT/
PROFINET
380~480VAC
0.38~14kW
i=3~100

PN-MN&AN
行星伺服马达
&伺服驱动器
Planetary
Precision Gear
Servo Motor
&Servo Drive







EtherCAT
PROFINET
380~480VAC
0.28~5.03kW
i=3~100

ME&AN
永磁同步伺服马
达&伺服驱动器
Permanent
Magnet
Servo Motor
&Servo Drive



EtherCAT/
PROFINET
200~240VAC
0.1kW~1.2kW

博能传动（沈阳）有限公司

辽宁省沈阳市沈北新区
太平洋工业城A区A73-6号
电话：024-31271571

BONENG TRANSMISSION(SHENYANG)CO.,LTD.

No. A73-6, Area A, Pacific Industrial City,
Shenbei New District, Shenyang, Liaoning
Province, China
TEL: 024-31271571

博能传动（天津）有限公司

天津市北辰区双海道6号
宏鹏工业园7号车间
电话：022-26929556

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Shuanghai Road, Beichen District, Tianjin
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TEL: 022-26929556

博能传动（潍坊）有限公司

山东省潍坊市安丘市经济开发区
汶水路与昆仑大街交叉口往北
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电话：0536-2141166

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TEL: 0536-2141166

博能传动（开封）有限公司

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博能传动（长沙）有限公司

湖南省长沙市望城经济开发区
普瑞大道1288号
电话：0731-88386958

BONENG TRANSMISSION(CHANGSHA)CO.,LTD.

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Development Zone, Changsha City, Hunan
Province, China
TEL: 0731-88386958

博能传动设备（成都）有限公司

四川省成都市金牛区金牛坝路9号5栋
向荣中心A座7楼-703
电话：028-87741100

BONENG TRANSMISSION EQUIPMENT(CHENGDU) CO., LTD.

703, 7th Floor, Block A, Xiangrong Center,
Building 5, No. 9 Jinniuba Road, Jinniu District,
Chengdu City, Sichuan Province, China
TEL: 028-87741100

博能传动（肇庆）有限公司

广东省肇庆市鼎湖区肇庆新区
科创大道7号平谦国际现代产业园
一期A12北厂房
电话：0757-86719757

BONENG TRANSMISSION(ZHAOQING)CO.,LTD.

No. 7 Science and Technology
Innovation Avenue, Zhaoqing New Area,
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Guangdong Province, China
TEL: 0757-86719757

博能传动（苏州）有限公司

江苏省苏州市相城区如元路100号
电话：0512-66189662

BONENG TRANSMISSION(SUZHOU)CO.,LTD.

No. 100, Ruyuan Road, Xiangcheng
District, Suzhou, Jiangsu Province, China
TEL: 0512-66189662

博能传动（美国）有限公司

1250 E 222nd Euclid, OH 44117,
United Staes
TEL: 1-216-618-0138
TEL: 1-216-618-0496
TEL: 1-216-618-3099

BONENG TRANSMISSION(USA)LLC.

1250 E 222nd Euclid, OH 44117,
United Staes
TEL: 1-216-618-0138
TEL: 1-216-618-0496
TEL: 1-216-618-3099

博能传动（印度）有限公司

Plot No. E-10/3, MIDC sinnar
(Malegaon) Industrial Area, Nashik,
422123, Maharashtra, India.
TEL:+91-11- 4507 6293（DELHI）
TEL:+91-22-2781 3385（MUMBAI）

BONENG TRANSMISSION(INDIA)PVT.LTD

Plot No. E-10/3, MIDC sinnar
(Malegaon) Industrial Area, Nashik,
422123, Maharashtra, India.
TEL:+91-11- 4507 6293（DELHI）
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