



德国KPM-BAT传动

Value in Cooperation

价值源于合作

Expert in power transmission for more than 60 years
60多年专注于动力传动系统解决方案和客户服务



Winches Gear Box 卷扬减速机



Made to Customer
为用户专业订制



www.kpm-bat.com

所有产品系列样本可直接在网站下载

Company profile

Since 1970's. KPM-BAT maintains a leading position in research, innovation, system design and manufacturing worldwide and provides the system solution in power transmission.

Our strengths:

- Designing all gear box with the most advanced material and heat treatment. Wir use the highest quality bearing and seals according to German DIN standard.
- All gears are calculated, designed, stimulated and analyzed by sophisticated KISSOFT and KIMOS.
- We can produce and provide Made to Costumer (M2C) and system solutions of power transmission.
- We offer highly flexible couplings manufactured with state of the art rubber vulcanization and two-mass torsional vibration calculation.

KPM is part of Braeutigam Group. In the last six years in China, KPM-BAT has become the standard of high quality and price/performance relation.

公司简介

上世纪70年代以来，德国KPM-BAT传动一直在机械动力传动领域的研发、创新、设计及制造处于世界领先地位，能够为用户提供系统解决方案。

我们的优势：

- 减速机的DIN标准设计及选材、先进的热处理技术、世界顶级品牌轴承和密封件。
- 行星轮系经过先进软件系统（KISSOFT & KIMOS）进行齿形计算、设计、模拟、分析和验证。
- 为用户专业订制的M2C提供减速机和动力传动系统方案。
- 高弹联轴器的橡胶硫化制造工艺及多质点扭振计算。

隶属于德国布劳提干集团的KPM-BAT 品牌走入中国六年来已成为各行业高质量、高性价比的标志。

Content 目录	Page 页码
Product Introduction 03	产品简介 03
Tecnical Data & dimensions 06	技术参数及外形尺寸 06
Appication Factor K 17	工况参数 K 17
Classification Guidance 18	设备分组指导 18
Lubricants Recommended 19	润滑推荐 19
Install The Rules 20	安装规则 20
Slewing Reducer Introduction 22	回转减速机简介 22
Process of Quick Diagnose on Side 23	减速机现场快速诊断(体检)流程 23
Coupling Product Series 24	联轴器系列产品 24
Gear Box Product Line 25	齿轮箱系列产品 25

Product Introduction:

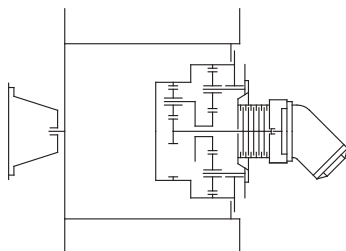
KPM-BAT winch gear box's principal features and most significant advantages are:

- Compact dimensions
- Modular design
- High performance
- Rigid
- Fast install
- Ease of maintenance

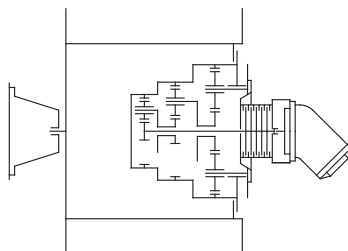
Typical applications:

- Mobile crane
- Aerial platform trucks
- Forestry crane
- Dockyard and harbor cranes
- Dredge ship
- Offshore oil drilling platform
- Oil drilling
- Drilling machine
- Rock drilling
- Drillcore
- Pontoon crane

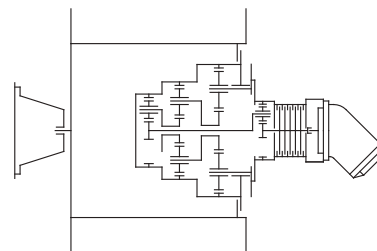
Features 结构特点 :



- ☐ 2 stages planetary gear box
两级行星减速机
- ☐ Ratios from 15 to 35
传动比15至35
- ☐ Input and output in opposite
sense of rotation
输入转向与输出转向相反



- ☐ 3 stages planetary gear box
三级行星减速机
- ☐ Ratios from 45 to 230
传动比45至230
- ☐ Input and output in opposite
sense of rotation
输入转向与输出转向相反



- ☐ 4 stages planetary gear box
四级行星减速机
- ☐ Ratios from 200 to 1170
传动比200至1170
- ☐ Input and output in opposite
sense of rotation
输入转向与输出转向相反

产品简介

德国KPM-BAT传动内藏式行星卷扬减速机具有以下特点:

- 结构紧凑
- 模块化设计
- 传动效率高
- 刚性好
- 快速安装
- 维护方便

典型应用:

- 汽车吊、履带吊
- 高空作业车
- 林业起重机
- 港口吊
- 挖泥船
- 海上石油钻井平台
- 石油钻机
- 旋挖钻机
- 凿岩钻机
- 岩心钻机
- 浮船吊

The scope of work:

KPM-BAT supply 2-4 stages planetary winch gearbox with ratio of 15 to 1170, and torque range of $T_2=1750\text{Nm}$ to 1000000Nm . Higher torque ratings and gear ratios are available on request.

Max line pull can be from 17 to 1950kN . In calculating the rope load care must be taken to include reeving, hooks and an allowance for reeving efficiency.

The gearboxes are designed for use in ambient temperatures -20°C to $+40^\circ\text{C}$. Permissible oil temperatures -20°C to $+80^\circ\text{C}$. Environmental factors such as salt water, salt laden air, dust, excessive air pressure, heavy vibration, high shock loads and extreme ambient temperatures, corrosive media, etc. must be stated.

Design base:

The output torques listed in tab. 2 are based on FEM standard 1st edition chapter 1.3/load conditions L2 running time classification T5.

- ☐ Load conditions: L2
- ☐ Running time classification: $T_5=6300\text{h}$
- ☐ Drive unit group: M5

If the winch is used under different drive unit group, output torque revised by factor K must be taken.

Gear unit:

Standard gear ratios are listed in tab.5, include 2,3,4 stages planetary units.

Gear designed according to DIN 3990. Selected or optimum surface durability and bending strength, also for minimum sliding velocity by software. External gear teeth are case-hardened and ground, internal gears annealed and nitride hardened.

Bearing:

All rotation parts run on rotation element bearings. Ball bearings are used to support the input gearing, needle roller bearings for the planet wheels and self aligning bearing for the drum support bearings.

Seals:

Input and output are protected with radial shaft seals. This prevents oil leakage and protects the unit from ingress of dirt or water. Where the unit is used offshore or on-ship additional protection is provided with greased felt strips.

工作范围:

德国KPM-BAT传动可提供2-4级单元的行星减速机, 速比范围 $i=15$ 至1170。输出扭矩 $1,750$ 至 $1,000,000\text{Nm}$ 。更高扭矩范围和速比范围可按用户要求进行设计。

滚筒单绳拉力为 17 kN 至 1950 kN 。计算滚筒绳拉力时应考虑物料抓取装置和起吊装置的重量以及绳索传动的效率。

德国KPM-BAT 传动内藏式行星卷扬减速机使用的环境温度为 -20°C 至 $+40^\circ\text{C}$ 。允许的油温 -20°C 至 $+80^\circ\text{C}$ 。当设备处于特殊环境条件下, 如过高或过低环境温度、海水、盐雾、粉尘、超压、剧烈振动、极端冲击、腐蚀性介质等, 请及时和我们沟通。

设计基础:

输出扭矩是参照欧洲起重机械联合会标准FEM1.3章(1987版), 列于表2中:

- ☐ 载荷等级: L2
- ☐ 工况等级: $T_5=6300\text{h}$
- ☐ 机构等级: M5

当卷扬机用于其它不同的机构等级时, 其所需的输出扭矩必须采用系数K进行修正。

齿轮单元:

标准齿轮速比列于表5中, 包括2级、3级和4级行星齿轮单元。

齿轮的设计是基于DIN 3990标准进行。通过专业软件计算选择合理的参数, 从而获得更好的齿根和齿面的载荷能力。外齿轮表面渗碳硬化处理并磨齿, 内齿轮调质并渗氮硬化处理。

轴承:

所有部件均使用滚动轴承。所有圆柱齿轮对中使用深沟球轴承。在行星齿轮中有滚针轴承或圆柱滚子轴承, 在传动装置驱动端有滚筒轴承, 对面有调心滚子轴承。

密封:

减速机的输入和输出端通过径向轴密封圈加以保护, 防止漏油及灰尘和水的进入。另外通过油脂填充的唇形密封可将绞车应用到甲板起重机中。

Work efficiency:

The efficiency per planetary stage is 98% and about 99% for the drum bearings including seals. Example: Rope winch with 2 planetary gear stages
 $\eta_{\text{total}} = 0.98 \times 0.98 \times 0.99 = 0.95$

KPM supply outer cooling:

Cooling may be required where the unit is to operate continuously in direct sunlight or high ambient temperature environments or power on time is high. KPM supplier outer cooling cycle outlet as well as suitable coolers.

Drive input:

Drive input can be done by hydraulic motor, e-motor or flexible input.

Mounting position:

Horizontal usually

Lubrication:

Gearboxes are supplied without oil except extra-requirement. All gears and anti-friction bearings are splash lubricated. Flange bearing can be grease packed for lifetime operation.

Brake:

A hydraulic multi disc parking with spring applied, pressure release operation is fitted. It's not suitable for dynamic brake.

Release pressure: min. 15 bar, max. 250 bar

Back pressure: Max. 0.5 bar

工作效率:

每级传动效率为98%，滚筒轴承包括密封效率为99%。例如：2个行星齿轮级的绞车
 $\eta_{\text{合计}} = 0.98 \times 0.98 \times 0.99 = 0.95$

外部冷却:

当环境温度过高或阳光直射时，或者大功率长时间运行情况下，外部冷却是非常必要的。我们为此提供外循环油冷却接口。

输入驱动:

输入驱动可以通过液压马达、电机或自由轴端完成。

安装形式:

一般采用水平安装方式。

润滑:

如果没有特殊要求，减速机在发货时是不含油的。所有齿轮部件和减磨轴承以及滚筒轴承驱动端都通过浸油方式提供充分可靠供油。法兰轴承用油脂润滑。如需要也可长期润滑。

制动:

德国KPM-BAT传动可提供带液压多片式制动器的方案，可以用于紧急情况下的安全和制动。不适用于动态制动。

释放压力：最小15 bar，最大250 bar

背压：最大允许0.5 bar

Tecnical Data &Dimensions

技术参数及外形尺寸

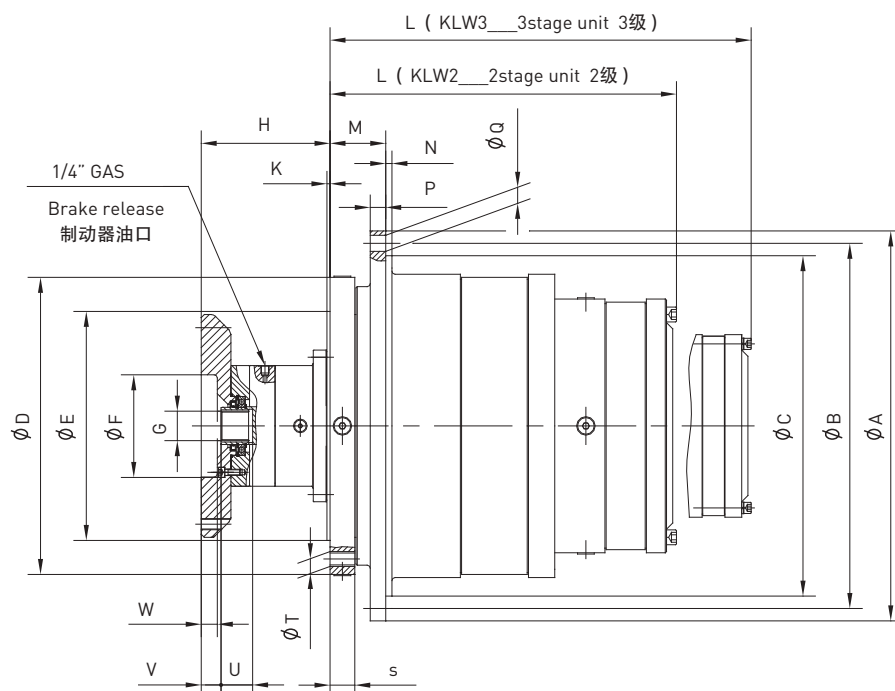


表1

Type / 型号	Connecting gearbox & frame 减速机与卷扬支架连接尺寸					
TYPE	止口E	分度圆Y	连接孔T	外径D	法兰厚度S	止口宽度K
KLW_025	215f7	240	16*M12	265	20	5
KLW_050	215f7	240	16*M12	265	20	5
KLW_070	270f7	300	16*M16	330	25	5
KLW_100	270f7	300	16*M16	330	25	5
KLW_160	320f7	360	16*M20	395	30	5
KLW_260	320f7	360	16*M20	395	30	5
KLW_330	370f7	430	20*M24	540	38	5
KLW_400	370f7	430	20*M24	540	38	5
KLW_500	370f7	430	20*M24	540	38	5
KLW_600	370f7	430	20*M24	540	38	5
KLW_850	430f7	480	24*M27	530	45	5
KLW_1050	430f7	480	24*M27	530	45	5
KLW_1350	430f7	480	24*M27	530	45	5
KLW_1800	515f7	565	24*M30	615	47	5
KLW_2250	515f7	565	24*M30	615	47	5
KLW_2700	700f7	750	30*M30	800	47	5
KLW_3500	770f7	820	36*M30	870	47	5
KLW_4500	770f7	820	36*M30	870	47	5

注：1、Input dimensions decided by rated e or hydraulic motor or input shaft.

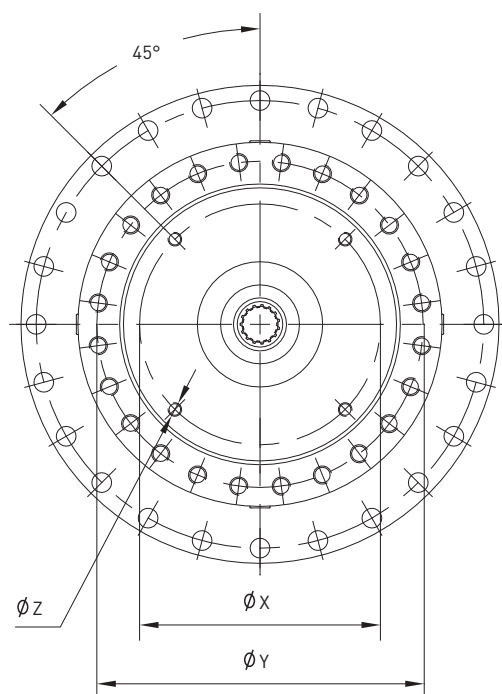
输入端尺寸根据对应的电机、液压马达或输入轴形式确定。

2、Bolts class 10.9.

联接螺栓等级为10.9级。

3、KPM-BAT keep right to improve the products,details may be changed without notice.

德国KPM-BAT传动保留继续改进产品的权利，改进细节恕不另行通知。



Connecting gearbox and drum 减速机与卷筒连接尺寸						Distance two flange 两法兰跨距	Length 减速机长度	
止口C	分度圆B	连接孔O	外径A	法兰厚度P	止口宽度N	M	L2	L3
250f7	275	16*φ13	295	12	10	60	245	310
250f7	275	16*φ13	295	12	10	60	255	320
295f7	320	16*φ17	345	16	10	60	305	370
295f7	320	16*φ17	345	16	10	60	320	385
355f7	385	16*φ17	410	16	10	75	370	435
415f7	450	18*φ22	475	20	10	75	415	542
455f7	515	20*φ26	560	24	10	75	510	595
455f7	515	20*φ26	560	24	10	90	535	645
500f7	550	20*φ26	590	24	10	90	540	660
500f7	550	20*φ26	590	24	10	90	550	680
560f7	600	24*φ26	640	24	10	110	590	720
640f7	690	24*φ30	750	27	10	110	675	835
640f7	690	24*φ30	750	27	10	110	675	840
700f7	755	24*φ33	815	30	10	120	725	890
700f7	755	24*φ33	815	30	10	120	725	915
820f7	870	30*φ33	920	30	10	120	825	1050
900f7	950	36*φ33	1000	30	10	120	910	1160
900f7	950	36*φ33	1000	30	10	120	950	1200

Ratings K LW-2 (2级 / 2 stages)

Ratings K LW-3 (3级 / 3 stages)

Nominal torques according to FEM 1.001 part 1-3rd edition-1987

额定扭矩根据FEM1.001第一部第三版1987年

表2

型号 Size	速比 Ratio	Fem L2-T5 at 25 rpm [Nm]	最大动态扭矩 (Nm) Max Dynamic Torque [Nm]	最大静态扭矩 (Nm) Max Static Torque [Nm]
K LW2025	14.54	2966	4045	4315
	17.27	3282	4476	4774
	21.88	2622	3576	3814
	28.96	2622	3576	3814
	31.00	2966	4045	4315
	35.16	2622	3576	3814
	40.14	2966	4045	4315
	45.50	2622	3576	3814
K LW3025	44.28	3282	4476	4774
	49.44	2966	4045	4315
	56.44	2966	4045	4315
	62.00	3282	4476	4774
	68.64	3282	4476	4774
	72.50	2602	3549	3785
	84.10	2602	3549	3785
	98.12	3282	4476	3774
	109.28	2966	4045	4315
	121.28	2966	4045	4315
	132.96	3282	4476	4774
	147.98	2966	4045	4315
	153.00	2966	4045	4315
	160.47	3282	4476	4774
	168.00	2622	3576	3814
	178.60	2966	4045	4315
K LW2050	14.54	5933	8091	8630
	17.27	6565	8953	9550
	21.88	5244	7152	7628
	28.96	5244	7152	7628
	31.00	5244	7152	7628
	35.16	5244	7152	7628
	40.14	4758	6489	6921
	45.50	5244	7152	7628
K LW3050	44.28	6565	8953	9550
	49.44	5933	8091	8630
	56.44	5973	8145	8688
	62.00	6565	8953	9550
	68.64	6565	8953	9550
	72.50	5317	7251	7734
	84.10	5317	7251	7734
	98.12	6565	8953	9550
	109.28	5933	8091	8630
	121.28	5933	8145	8688
	132.96	6565	8953	9550
	147.98	5933	8091	8630
	153.00	5933	8091	8630
	160.47	6565	8953	9550
	168.00	5244	7152	7628
	178.60	5933	8091	8630

Ratings K LW-2 (2级 / 2 stages)

Ratings K LW-3 (3级 / 3 stages)

Nominal torques according to FEM 1.001 part 1-3rd edition-1987

额定扭矩根据FEM1.001第一部第三版1987年

续表2

型号 Size	速比 Ratio	Fem L2-T5 at 25 rpm [Nm]	最大动态扭矩 (Nm) Max Dynamic Torque [Nm]	最大静态扭矩 (Nm) Max Static Torque [Nm]
K LW2070	13.43	9345	12744	13593
	14.58	9883	13477	14376
	16.01	11320	15436	16465
	17.08	9178	12516	13350
	20.31	9840	13419	14313
	24.37	6545	8925	9520
	26.42	10206	13918	14846
	32.14	9883	13477	14376
K LW3070	43.92	9108	12420	13248
	48.00	9108	12420	13248
	51.89	9883	13477	14376
	53.25	9108	12420	13248
	62.93	9345	12744	13593
	74.35	11320	15436	16465
	79.00	9345	12744	13593
	89.38	9883	13477	14376
	99.16	9883	13477	14376
	108.37	11320	15436	16465
	120.21	9178	12516	13350
	131.00	11320	15436	16465
	148.18	10830	14769	15753
	164.33	10206	13918	14846
	174.67	9883	13477	14376
	190.81	9883	13477	14376
K LW2100	13.43	16316	22249	23732
	14.58	17622	24030	25632
	16.01	16129	21994	23460
	17.08	16316	22249	23732
	20.31	16129	21994	23460
	24.37	13090	17850	19040
	26.42	17622	24030	25632
	43.92	16316	22249	23732
K LW3100	48.00	16316	22249	23732
	53.25	16316	22249	23732
	62.93	16316	22249	23732
	74.35	16129	21994	23460
	79.00	16316	22249	23732
	89.38	17622	24030	25632
	99.16	17622	24030	25632
	108.37	16129	21994	23460
	121.61	16129	21994	23460
	131.00	16129	21994	23460
	148.18	16129	21994	23460
	161.75	16316	22249	23732
	174.67	17622	24030	25632
	190.81	14576	19876	21201
	-	--	-	-
	-	-	-	-

Ratings K LW-2 (2级 / 2 stages)

Ratings K LW-3 (3级 / 3 stages)

Nominal torques according to FEM 1.001 part 1-3rd edition-1987

额定扭矩根据FEM1.001第一部第三版1987年

续表2

型号 Size	速比 Ratio	Fem L2-T5 at 25 rpm [Nm]	最大动态扭矩 (Nm) Max Dynamic Torque [Nm]	最大静态扭矩 (Nm) Max Static Torque [Nm]
KLW2160	14.34	22517	30705	32752
	16.01	22517	30705	32752
	17.88	22110	30150	32160
	20.13	21451	29251	31201
	23.54	24758	33762	36012
	26.47	20697	28224	30105
	28.65	24758	33762	36012
	32.20	17129	23358	24915
KLW3160	43.27	19577	26697	28476
	50.53	19577	26697	28476
	55.21	22517	30705	32752
	60.38	22517	30705	32752
	70.59	21749	29658	31635
	79.43	22110	30150	32160
	88.00	22517	30705	32752
	92.51	24267	33091	35297
	103.66	22110	30150	32160
	108.55	22110	30150	32160
	120.41	22110	30150	32160
	136.21	22110	30150	32160
	146.95	21451	29251	31201
	156.68	19288	26302	28056
	164.61	22110	30150	32160
	188.87	19288	26302	28056
KLW2260	14.23	36577	49858	53202
	15.68	42168	57502	61336
	17.48	42168	57502	61336
	19.89	42168	57502	61336
	22.25	37858	51625	55067
	26.00	37858	51625	55067
	28.31	33273	45373	48398
	31.62	29016	39568	42206
KLW3260	44.23	33608	45829	48884
	52.31	34485	47025	50160
	58.07	34485	47025	50160
	67.80	42168	57502	61336
	75.25	42168	57502	61336
	85.17	42168	57502	61336
	94.50	41237	56233	59982
	105.28	37858	51625	55067
	119.13	42168	57502	61336
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-
	-	-	-	-

Ratings K LW-2 (2级 / 2 stages)

Ratings K LW-3 (3级 / 3 stages)

Nominal torques according to FEM 1.001 part 1-3rd edition-1987

额定扭矩根据FEM1.001第一部第三版1987年

续表2

型号 Size	速比 Ratio	Fem L2-T5 at 25 rpm [Nm]	最大动态扭矩 (Nm) Max Dynamic Torque [Nm]	最大静态扭矩 (Nm) Max Static Torque [Nm]
K LW2330	13.15	60484	82478	87976
	15.68	60484	82478	87976
	17.48	60484	82478	87976
	20.11	58887	80301	85654
	25.44	47726	65081	69419
	29.71	80726	110081	117419
	31.63	54300	74046	78982
	36.10	52228	71220	75968
K LW3330	44.23	52228	71220	75968
	47.82	52228	71220	75968
	52.31	52228	71220	75968
	56.54	52228	71220	75968
	58.08	52228	71220	75968
	63.70	60484	82478	87976
	67.80	60484	82478	87976
	71.07	52228	71220	75968
	75.25	60484	82478	87976
	77.69	52228	71220	75968
	80.38	54300	74046	78982
	83.86	54300	74046	78982
	85.18	60484	82478	87976
	94.91	54300	74046	78982
	98.89	47726	65081	69419
	108.07	47726	65081	69419
K LW2400	14.10	54866	74817	79805
	15.91	54866	74817	79805
	18.15	59408	81011	86411
	20.95	59408	81011	86411
	22.01	59408	81011	86411
	24.67	50783	69249	73866
	25.06	59408	81011	86411
	29.46	50783	69249	73866
K LW3400	47.07	54866	74817	79805
	53.45	59408	81011	86411
	58.17	54866	74817	79805
	63.17	59408	81011	86411
	66.85	54866	74817	79805
	69.57	59408	81011	86411
	74.02	50783	69249	73866
	77.99	59408	81011	86411
	82.14	50783	69249	73866
	86.54	59408	81011	86411
	91.34	50783	69249	73866
	97.93	50783	69249	73866
	101.34	50783	69249	73866
	112.43	59408	81011	86411
	116.33	50783	69249	73866
	131.61	50783	69249	73866

Ratings K LW-2 (2级 / 2 stages)

Ratings K LW-3 (3级 / 3 stages)

Nominal torques according to FEM 1.001 part 1-3rd edition-1987

额定扭矩根据FEM1.001第一部第三版1987年

续表2

型号 Size	速比 Ratio	Fem L2-T5 at 25 rpm [Nm]	最大动态扭矩 (Nm) Max Dynamic Torque [Nm]	最大静态扭矩 (Nm) Max Static Torque [Nm]
KLW2500	12.74	72562	98948	105544
	14.04	79444	108333	115555
	15.54	79444	108333	115555
	17.51	79444	108333	115555
	20.23	79444	108333	115555
	22.63	71324	97260	103744
	24.19	79444	108333	115555
	27.04	71324	97260	103744
KLW3500	47.07	72562	98948	105544
	50.89	72562	98948	105544
	55.66	72562	98948	105544
	58.17	72562	98948	105544
	61.31	72562	98948	105544
	66.85	72562	98948	105544
	69.97	72562	98948	105544
	74.62	79444	108333	115555
	77.04	72562	98948	105544
	83.64	79444	108333	115555
	86.35	72562	98948	105544
	87.62	72562	98948	105544
	94.66	79444	108333	115555
	99.15	72562	98948	105544
	108.68	79444	108333	115555
	121.06	71324	97260	103744
KLW2600	12.63	89368	121866	129990
	14.44	101236	138050	147253
	15.91	101236	138050	147253
	17.82	101236	138050	147253
	18.77	86537	118005	125872
	21.00	86537	118005	125872
	24.02	86537	118005	125872
	28.33	86537	118005	125872
KLW3600	46.72	89368	121866	129990
	51.25	89368	121866	129990
	55.23	89368	121866	129990
	57.15	89368	121866	129990
	58.18	101236	138050	147253
	61.32	89368	121866	129990
	62.69	101236	138050	147253
	64.86	101236	138050	147253
	67.25	89368	121866	129990
	68.75	101236	138050	147253
	70.09	101236	138050	147253
	74.96	89368	121866	129990
	76.63	101236	138050	147253
	81.52	86537	118005	125872
	85.03	101236	138050	147253
	99.57	86537	118005	125872

Ratings K LW-2 (2级 / 2 stages)

Ratings K LW-3 (3级 / 3 stages)

Nominal torques according to FEM 1.001 part 1-3rd edition-1987

额定扭矩根据FEM1.001第一部第三版1987年

续表2

型号 Size	速比 Ratio	Fem L2-T5 at 25 rpm [Nm]	最大动态扭矩 (Nm) Max Dynamic Torque [Nm]	最大静态扭矩 (Nm) Max Static Torque [Nm]
KLW2850	12.63	98065	133725	142640
	14.44	111088	151484	161582
	15.91	111088	151484	161582
	17.82	111088	151484	161582
	20.40	111088	151484	161582
	21.15	98065	133725	142640
	24.02	111088	151484	161582
	28.33	94959	129489	138122
KLW3850	46.72	98065	133725	142640
	51.25	91361	124583	132888
	55.23	98065	133725	142640
	57.15	98065	133725	142640
	58.18	111088	151484	161582
	61.32	98065	133725	142640
	62.69	111088	151484	161582
	64.86	111088	151484	161582
	67.25	98065	133725	142640
	68.75	111088	151484	161582
	70.09	111088	151484	161582
	74.96	98065	133725	142640
	76.63	111088	151484	161582
	81.52	94959	129489	138122
	85.03	111088	151484	161582
	99.57	94959	129489	138122
KLW21050	12.74	125525	171171	182582
	15.54	138048	188247	200797
	17.41	138048	188247	200797
	18.03	125525	171171	182582
	19.94	138048	188247	200797
	22.43	123278	168107	179314
	23.55	138048	188247	200797
	26.47	123278	168107	179314
KLW31050	47.07	125525	171171	182582
	51.65	125525	171171	182582
	56.90	138048	188247	200797
	61.31	138048	188247	200797
	63.43	138048	188247	200797
	67.23	138048	188247	200797
	70.92	125525	171171	182582
	74.94	138048	188247	200797
	76.84	123278	168107	179314
	84.00	123278	168107	179314
	89.25	125525	171171	182582
	95.66	123278	168107	179314
	109.46	138048	188247	200797
	113.23	125525	171171	182582
	124.62	138048	188247	200797
	139.60	123278	168107	179314

Ratings KLV-2 (2级 / 2 stages)
Ratings KLV-3 (3级 / 3 stages)

Nominal torques according to FEM 1.001 part 1-3rd edition-1987
额定扭矩根据FEM1.001第一部第三版1987年

续表2

型号 Size	速比 Ratio	Fem L2-T5 at 25 rpm [Nm]	最大动态扭矩 (Nm) Max Dynamic Torque [Nm]	最大静态扭矩 (Nm) Max Static Torque [Nm]
KLV21350	11.66	147458	201080	214485
	13.34	147458	201080	214485
	15.76	147458	201080	214485
	17.40	143438	195597	208637
	19.57	147458	201080	214485
	20.51	143438	195597	208637
	22.00	158514	216156	230566
	25.40	143438	195597	208637
KLV31350	46.09	147458	201080	214485
	50.79	147458	201080	214485
	52.34	147458	201080	214485
	56.97	147458	201080	214485
	59.44	143438	195597	208637
	64.58	164784	224706	239686
	65.46	147458	201080	214485
	67.57	147458	201080	214485
	72.40	164784	224706	239686
	74.27	147458	201080	214485
	75.75	147458	201080	214485
	83.16	164784	224706	239686
	84.29	143438	195597	208637
	87.00	147458	201080	214485
	95.60	143438	195597	208637
	111.93	143438	195597	208637
KLV21800	12.74	200358	273216	291430
	14.04	200358	273216	291430
	15.54	220287	300392	320418
	17.41	220287	300392	320418
	18.04	200358	273216	291430
	19.94	220287	300392	320418
	22.43	196719	268253	286137
	26.47	196719	268253	286137
KLV31800	50.10	200358	273216	291430
	55.19	200358	273216	291430
	60.53	220287	300392	320418
	61.89	200358	273216	291430
	66.67	220287	300392	320418
	67.88	200358	273216	291430
	71.11	200358	273216	291430
	74.31	220287	300392	320418
	75.65	200358	273216	291430
	76.42	196719	268253	286137
	78.30	220287	300391	320417
	83.29	220287	300392	320418
	86.89	200358	273216	291430
	93.35	196719	268253	286137
	96.20	196719	268253	286137
	107.18	196719	268253	286137

Ratings KLV-2 (2级 / 2 stages)
Ratings KLV-3 (3级 / 3 stages)

Nominal torques according to FEM 1.001 part 1-3rd edition-1987
额定扭矩根据FEM1.001第一部第三版1987年

续表2

型号 Size	速比 Ratio	Fem L2-T5 at 25 rpm [Nm]	最大动态扭矩 (Nm) Max Dynamic Torque [Nm]	最大静态扭矩 (Nm) Max Static Torque [Nm]
KLV22250	11.66	255478	348380	371605
	13.34	255478	348380	371605
	15.76	255478	348380	371605
	17.74	285272	389008	414941
	19.57	241910	329877	351869
	20.51	248317	338613	361188
	22.00	270121	368346	392903
	25.40	248317	338613	361188
KLV32250	45.74	255478	348380	371605
	50.19	255478	348380	371605
	51.94	255478	348380	371605
	56.23	285272	389008	414941
	56.97	255478	348380	371605
	58.99	248317	338613	361188
	62.69	285272	389008	414941
	63.52	255478	348380	371605
	66.78	255478	348380	371605
	68.20	285272	389008	414941
	71.14	285272	389008	414941
	74.43	255478	348380	371605
	81.80	248317	338613	361188
	83.33	285272	389008	414941
	85.98	248317	338613	361188
	95.80	248317	338613	361188
KLV22700	12.63	264994	361356	385446
	14.44	300184	409342	436632
	16.49	300184	409342	436632
	17.05	264994	361356	385446
	19.44	300184	409342	436632
	22.90	256599	349908	373235
	24.09	300184	409342	436632
	28.33	256599	349908	373235
KLV32700	49.34	264994	361356	385446
	54.13	264994	361356	385446
	56.01	264994	361356	385446
	60.35	264994	361356	385446
	61.43	264994	361356	385446
	63.57	300184	409342	436632
	65.65	264994	361356	385446
	68.48	264994	361356	385446
	71.99	264994	361356	385446
	74.49	256599	349908	373235
	77.69	300184	409342	436632
	80.23	264994	361356	385446
	81.67	300184	409342	436632
	91.00	256599	349908	373235
	95.64	256599	349908	373235
	106.56	256599	349908	373235

Ratings K LW-2 (2级 / 2 stages)

Ratings K LW-3 (3级 / 3 stages)

Nominal torques according to FEM 1.001 part 1-3rd edition-1987

额定扭矩根据FEM1.001第一部第三版1987年

续表2

型号 Size	速比 Ratio	Fem L2-T5 at 25 rpm [Nm]	最大动态扭矩 (Nm) Max Dynamic Torque [Nm]	最大静态扭矩 (Nm) Max Static Torque [Nm]
K LW23500	11.75	430665	587271	626422
	13.03	473504	645688	688734
	14.70	422846	576608	615048
	16.55	472157	643850	686774
	17.00	368882	503022	536556
	19.15	490450	668795	713382
	22.10	473202	645275	688294
	26.42	398766	543771	580023
K LW33500	46.09	430665	587271	626422
	50.57	430665	587271	626422
	55.71	473504	645688	688734
	56.66	480889	655757	699474
	59.44	490450	668795	713382
	63.17	480889	655757	699474
	64.27	430665	587271	626422
	65.18	490450	668795	713382
	69.57	528724	720987	769052
	72.66	490450	668795	713382
	77.99	472157	643850	686774
	79.34	422846	576608	615048
	82.77	490450	668795	713382
	88.83	472157	643850	686774
	91.12	490450	668795	713382
	102.11	490450	668795	713382
K LW24500	10.76	499550	681204	726618
	12.14	557807	760646	811355
	13.69	557807	760646	811355
	14.09	491991	670896	715623
	15.87	549366	749135	799077
	18.36	485544	662106	706246
	19.13	460421	627846	669703
	22.10	485544	662106	706246
K LW34500	42.40	499550	681204	726618
	47.53	557807	760646	811355
	48.16	499550	681204	726618
	53.96	499550	681204	726618
	54.70	485544	662106	706246
	56.47	499550	681204	726618
	60.45	557807	760646	811355
	61.28	485544	662106	706246
	62.09	491991	670896	715623
	63.25	499550	681204	726618
	69.53	485544	662106	706246
	70.84	557807	760646	811355
	72.75	491991	670896	715623
	79.96	485544	662106	706246
	81.46	549366	749135	799077
	93.65	485544	662106	706246

Application Factor K 工况参数K

Drive Groups and Service Time Categories to FEM, Section 1, 3rd issue 1987

机构工作级别和机构利用等级按FEM, 第一部分, 第3版, 1987 (FEM: 欧盟标准)

表3

Service time category / 机构利用等级				T2	T3	T4	T5	T6	T7	T8
Assumed average service time per day in hours 假定每天平均工作时间 小时				0.25-0.5	0.5-1	1-2	2-4	4-8	8-16	>16
Theoretical service time per day in hours 理论工作寿命 小时				400-800	800-600	1600-3200	3200-6300	6300-12500	12500-25000	25000-50000
Collective Loda Class / 载荷状态分级				Driver Group with K Factor / 机构工作级别及系数K						
Collective groups / 载荷状态组	L1	light 轻	maximum loads occurring in exceptional cases only, slight loads constanly 偶尔承受最大载荷 经常承受轻的载荷	M1 0.90	M2 0.90	M3 0.92	M4 0.90	M5 0.92	M6 1.10	M7 1.36
	L2	medium 中	small, medium and maximum loads about equally distributed over service time 工作时间内轻、中和最大载荷分布平均	M2 0.90	M3 0.92	M4 0.93	M5 1.00	M6 1.07	M7 1.30	M8 1.60
	L3	heavy 重	loads always near maximum 经常承受接近最大的载荷	M3 1.05	M4 1.09	M5 1.17	M6 1.23	M7 1.28	M8 1.53	M8 1.89
	L4	very heavy 特重	always maximum loads 经常承受最大的载荷	M4 1.32	M5 1.36	M6 1.46	M7 1.53	M8 1.58	M8 1.80	M8 2.22

Gear box Selection

T_2 = output torque

F = cable pull in N

D_w = relevant winding diameter in m

$$T_2 = F \cdot D_w / 2$$

T_{2k} = corrected output torque

K Factor according to service time category and collective group given the table.

$$T_{2k} = T_2 \cdot K$$

T_{2k} of the gearbox be selected must be $\leq T_{2max}$ (acc.to bulletin).

减速机选型

T_2 = 输出转矩

F = 单绳拉力 N

D_w = 相应卷绕直径 m

T_{2k} = 修正的输出转矩

K按上表所给机构利用等级和载荷状态所对应的系数。

减速机选型时 T_{2k} 必须 $\leq T_{2max}$ (见样本)。

Classification Guidance

设备分组指导

According FEM section I 3rd edition, table T.2.1.3.5
此表按FEM标准第三版第一章，表T.2.1.3.5绘制

表4

Type of appliance (Designation) 起重机类型 (名称)	Component operated (1) 工作元件	Type of Driver / 机构类型				
		Hoisting 起重	Slewing 回转	level 变幅	Trolley 小车运行	Crane 大车运行
erection cranes / 安装用起重机		M2-M3	M2-M3	M1-M2	M1-M2	M2-M3
loading bridges / 桥式起重机	hook/吊钩	M5-M6	M4	-	M4-M5	M5-M6
loading bridges / 桥式起重机	grap or magnet 抓斗或磁铁吸盘	M7-M8	M6	-	M6-M7	M7-M8
workshop cranes / 车间起重机		M6	M4	-	M4	M5
overhead travelling cranes, ram, scrap yard cranes 天车、旁挂起重机, 废钢场起重机	grap or magnet 抓斗或磁铁吸盘	M8	M6	-	M6-M7	M7-M8
unloading bridges, container gantry cranes 卸料桥, 集装箱用门式起重机	hook or magnet 吊钩或磁铁	M6-M7	M5-M6	M3-M4	M6-M7	M4-M5
other gantry crans (with trolley and /or live ring) 其他门式起重机 (带小车和/或转台)	hook/吊钩	M4-M5	M4-M5	-	M4-M5	M4-M5
unloading bridges, container gantry cranes (with trolley and/or live ring) 卸料桥, 集装箱用门式起重机 (带小车和/ 或转台)	grap or magnet 抓斗或磁铁吸盘	M8	M5-M6	M3-M4	M7-M8	M4-M5
berth cranes, shipyard cranes, dismantling cranes 船台起重机, 船坞起重机, 拆卸用起重机	hook/吊钩	M5-M6	M4-M5	M4-M5	M4-M5	M5-M6
dockside cranes (shewable, gantry type) floating cranes, floating sheer legs 港口起重机 (可转动, 门式), 浮式起重 机, 浮式起重架	hook/吊钩	M6-M7	M5-M6	M5-M6	-	M3-M4
dockside cranes (shewable, gantry type) floating cranes, floating sheer legs 港口起重机 (可转动, 门式), 浮式起重 机, 浮式起重架	grap or magnet 抓斗或磁铁吸盘	M7-M8	M6-M7	M6-M7	-	M4-M5
floating cranes and floating heerlegs for very high loads (normally above 100t) 浮式起重机和浮起起重架, 用于非常高的 负荷 (一般在100t以上)		M3-M4	M3-M4	M3-M4	-	-
shipboard cranes / 甲板起重机	hook/吊钩	M4	M3-M4	M3-M4	M2	M3
shipboard cranes / 甲板起重机	grap or magnet 抓斗或磁铁吸盘	M5-M6	M3-M4	M3-M4	M4-M5	M3-M4
tower cranes for construction sites 塔式起重机用于建筑工地		M4	M5	M4	M3	M3
derrick tower gantry / 门式塔架		M2-M3	M1-M2	M1-M2	-	-
railroad cranes for construction sites 铁路起重机, 批准用于铁路维修		M3-M4	M2-M3	M2-M3	-	-
vehicle-mounted crane / 车辆起重机	hook/吊钩	M3-M4	M3-M4	M2-M3	-	-

1) This column only shows some typical areas of .
此项仅列出了卷扬机构的一些典型范围以供参考。

Lubricants Recommended

润滑推荐

表5

	粘度 ISO-VG DIN 51519 at 40°C in mm ² /s	Oil grade recommended 推荐的油品等级				
		ARAL	SHELL	BP	MOBIL	KLÜBER
Mineral oil 矿物油	VG 680	ARAL DEGOL BMB 680	SHELL Omala 680	BP-Energol GR-XP 680	Mobilgear 636	Unimoly Oil 680
	VG 460	ARAL DEGOL BMB 460	SHELL Omala 460	BP-Energol GR-XP 460	Mobilgear 634	Unimoly Oil 460
	VG 320	ARAL DEGOL BMB 320	SHELL Omala 320	BP-Energol GR-XP 320	Mobilgear 632	Unimoly Oil 320
	VG 220	ARAL DEGOL BMB 220	SHELL Omala 220	BP-Energol GR-XP 220	Mobilgear 630	Unimoly Oil 220
	VG 150	ARAL DEGOL BMB 150	SHELL Omala 150	BP-Energol GR-XP 150	Mobilgear 629	KLüberoil GEM 1-150
	VG 100	ARAL DEGOL BMB 100	SHELL Omala 100	BP-Energol GR-XP 100	Mobilgear 627	Unimoly Oil 100
	VG 46	ARAL DEGOL BMB 46		BP-Energol HLP 45 S	MOBIL DTE 25	KLüberoil GEM 1-46
	VG 32	ARAL DEGOL BG 32	SHELL Teguls V 32	BP-Energol HL-XP 32	Mobilfluid 125	
Synthetic 合成油	VG 460	ARAL DEGOL GS 460	SHELL Tivela S 460	BP-Energol SG-XP 460	MOBIL Glygoile HE 460	KLübersynth GH 6-460
	VG 220	ARAL DEGOL GS 220	SHELL Tivela S 220	BP-Energol SG-XP 220	MOBIL Glygoile 30	KLübersynth GH 6-220
	VG 150	ARAL DEGOL GS 150	SHELL Tivela S 150		MOBIL Glygoile 22	KLübersynth GH 6-150
Low temperature oil 低温油 (-40°C)		ARAL EP-Synth 75 W-90	SHELL GetriebeÖl EP 75 W-90	BP-Energol SAE 75 W-90	MOBIL SHC 220	KLübersynth GEM 4-220 N

	工作温度范围	Grease grade recommended 推荐的油脂等级				
		ARAL	SHELL	BP	MOBIL	KLÜBER
Grease grade recommended 润滑脂用于轻载	-20~+120°C	Aralub HL 2	SHELL Alvania Fett RL 2	EP Energ grease LS 2	Mobilux 2	Centoplex 2
Grease for heavy load 润滑脂用于重载	-20~+120°C	Aralub HLP 2	SHELL Alvania Fett EP(LF) 2	EP Energ grease LS-EP 2	Mobilux EP 2	Unimoly GL 402
Grease for low temperature ambient 润滑脂用于低温环境	-40~+120°C	Aralub SKL 2	SHELL Alvania EPB2 4	EP Energ grease LT 2	Mobilux SHC 100	Isofiex Topas L 32

Oil listed in tab fits to basic requirement of DIN 51517/3. Different oil can not be mixed even same brand.

Mineral and PAO-based gearbox oils are not to be mixed with synthetic oil. Grease with different soap bases are not to be mixed.

1st oil change after 200 operating hours. 2nd oil change after 1000 hours and further change every 1000 hours, at least once a year.

表中列出的油品与DIN 51517/3最低要求相符合。ARAL-DEGOL油是典型的MoS₂添加油。不同等级的油品，即使是同一品牌，也不应混合。

不允许混合矿物油和合成油。对于完全的合成油使用（聚乙二醇）须配合使用耐酸性密封盒适当的内部抗腐油漆（请订货时说明）。

换油频率和保养油脂，油脂：每六个月，油：1、200个工作小时后换油。2、1000个工作小时后换油，之后每1000小时后换油，或每年。

Install The Rules: 安装规则











Central hole must align to the flange in the frame and vertical to each other, to ensure the right running of winch.

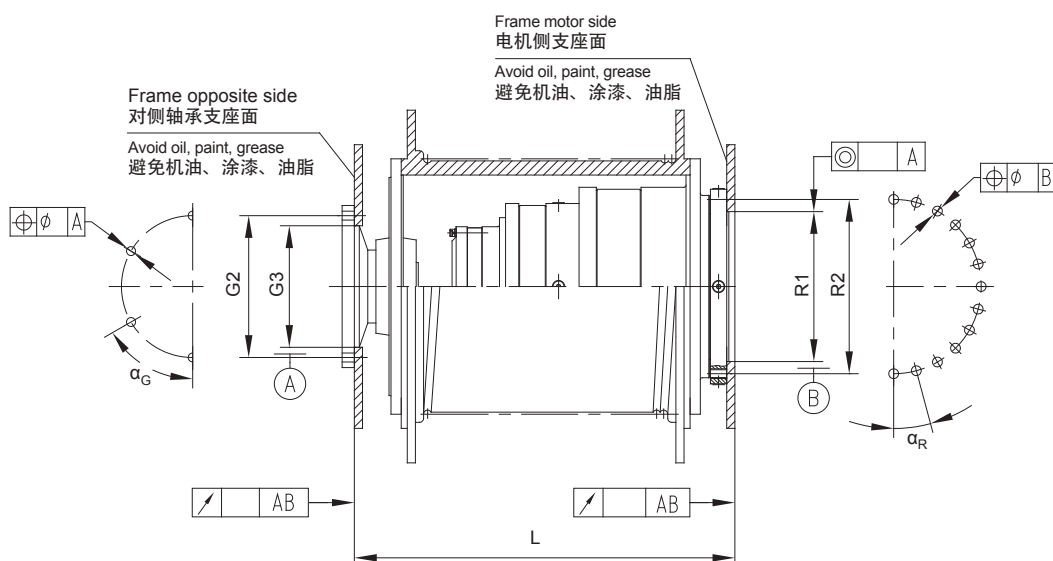
中心孔，以及支架上相配的法兰表面，必须对中并互为直角，确保卷扬机无故障运行。

Temperature, force and gearbox itself will cause some deformation. Max. tolerance allowed listed in tab.6 .

温度、外力，以及齿轮箱本身的工作等原因均会引起一定的变形，最大允许公差如下表。

表6

Type 型号	Frame motor side 电机侧支架				Frame opposite side 对侧支架			L±	Max deformation allowed =Central-radial deviation and mounting length 外力作用产生最大允许变形 = 中心 - 轴向 偏移和安装长度					
	$\alpha_{R\pm}$				$\alpha_{G\pm}$				250	500	750	1000	1500	2000
														
KLW025	10'	0.2	0.1	0.2	10'	0.2	0.2	1	0.2	0.4	0.6	0.8		
KLW050	10'	0.2	0.1	0.2	10'	0.2	0.2	1		0.4	0.6	0.8	1.0	
KLW070	10'	0.25	0.1	0.3	10'	0.25	0.2	2		0.4	0.6	0.8	1.0	
KLW100	10'	0.3	0.1	0.3	10'	0.3	0.2	2		0.4	0.6	0.8	1.0	
KLW160	10'	0.4	0.1	0.3	10'	0.3	0.3	2		0.4	0.6	0.8	1.0	
KLW260	10'	0.4	0.1	0.4	10'	0.4	0.3	2		0.4	0.6	0.8	1.0	
KLW330	10'	0.4	0.1	0.4	10'	0.4	0.3	2		0.4	0.6	0.8	1.0	
KLW400	10'	0.4	0.1	0.4	10'	0.4	0.3	3			0.6	0.8	1.0	1.2
KLW500	10'	0.4	0.1	0.4	10'	0.4	0.3	3			0.6	0.8	1.0	1.2
KLW600	10'	0.5	0.2	0.5	10'	0.5	0.4	3				0.8	1.0	1.2
KLW850	10'	0.5	0.2	0.5	10'	0.5	0.4	3				0.8	1.0	1.2
KLW1050	10'	0.5	0.2	0.5	10'	0.5	0.4	3				0.8	1.0	1.2
KLW1350	10'	0.5	0.2	0.5	10'	0.5	0.4	3				0.8	1.0	1.2
KLW1800	10'	0.5	0.3	0.5	10'	0.5	0.6	3				0.8	1.0	1.2
KLW2250	10'	0.5	0.3	0.5	10'	0.5	0.6	3				0.8	1.0	1.2
KLW2700														
KLW3500														
KLW4500														



卷扬机选型参数表	
原动机	
电机	液压马达/其他
型号:	型号:
电机功率 $P_1 =$ kw	额定输出扭矩 $T_1 =$ Nm
电机转速 $n_1 =$ rpm	额定输出转速 $n_1 =$ rpm
高速端电磁制动器: <input type="checkbox"/> 有 <input type="checkbox"/> 无	高速端液压制动器: <input type="checkbox"/> 有 <input type="checkbox"/> 无
卷筒设备	
卷筒直径 $D_1 =$ mm	卷筒长度 $L_2 =$ mm
钢丝绳直径 $d =$ mm	钢丝绳槽沟节距 $p =$ mm
钢丝绳长度 $L_s =$ m	吊重 $m =$ kg
钢丝绳速 $v =$ m/s	出绳方向: <input type="checkbox"/> 上出绳 <input type="checkbox"/> 下出绳
槽沟方向: <input type="checkbox"/> 左 <input type="checkbox"/> 右	槽沟形式: <input type="checkbox"/> 标准槽 <input type="checkbox"/> 深槽
钢丝绳固定点: <input type="checkbox"/> 驱动端 <input type="checkbox"/> 非驱动端	有无低速制动器: <input type="checkbox"/> 有 <input type="checkbox"/> 无
工作场景: <input type="checkbox"/> 室内 <input type="checkbox"/> 室外 <input type="checkbox"/> 海上	
工况等级: <input type="checkbox"/> M1 <input type="checkbox"/> M2 <input type="checkbox"/> M3 <input type="checkbox"/> M4 <input type="checkbox"/> M5 <input type="checkbox"/> M6 <input type="checkbox"/> M7 <input type="checkbox"/> M8	
排绳器: <input type="checkbox"/> 需要 <input type="checkbox"/> 不需要	防雨罩: <input type="checkbox"/> 需要 <input type="checkbox"/> 不需要
内藏式行星减速机	
减速机类型: <input type="checkbox"/> 直线型 <input type="checkbox"/> 直角型	
减速机速比: $i =$	
有无特别要求: (如编码器、限位开关)	

此选型参数表只列出常用减速机参数, 如遇非标或其他要求的请具体联系KPM-BAT公司技术部。

Slewing Units:

Modular design of KPM-BAT's slewing planetary unit make it achieve economic characteristic. Output pinion can be separated or intergrated. Support can be short, long and reinforced design. Output torque from 1500Nm to 1,500,000Nm while ratio from 14 to 3000(Please consult sales team for details).

Applications:

- Mobile cranes
- Construction cranes and conveyors
- Loading and cargo handling cranes
- Dockyard crane
- Harbor crane
- Offshore crane
- Horitontal drilling machine
- Bucket
-



回转减速机简介:

德国KPM-BAT传动回转减速机采用模块化组合, 可以获得良好的经济性。输出齿轮可以是脱卸式的也可以是和输出轴做为一体。支撑形式有短型设计、长型设计和加固型设计。输出扭矩 1500Nm 到 1,500,000Nm, 传动比14 到3000, 详细情况请咨询。

使用范围:

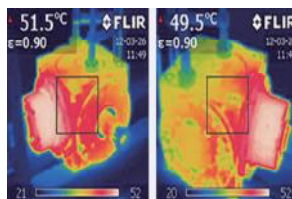
- 汽车吊
- 建筑起重机
- 装载和转载起重机
- 船舶起重机
- 港口起重机
- 海上平台起重机
- 水平定向钻机
- 斗轮机
-



Process of Quick Diagnose on Side 减速箱现场快速诊断（体检）流程



减速箱运行时的热图像检测



减速箱的热图像



快速反应24小时内到达现场



不用拆卸减速箱诊断过程中



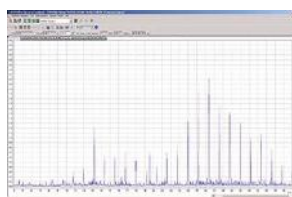
带照片的检测文档



减速箱现场各项数据结果分析，提供评估报告和维修建议



现场振动分析操作过程中



振动频谱分析报告

Coupling Product Series 联轴器系列产品

Highly flexible coupling 高弹性联轴器



Highly flexible rubber disc couplings
齿式高弹联轴器



Torsional couplings with cardan shaft
盘式高弹联轴器



Shafts for test benches
双向高弹联轴器



Tyre couplings
轮胎式高弹联轴器

Torque range 扭矩范围
25Nm – 78 000 Nm

Flexible coupling 弹性联轴器 (橡胶体)



Claw couplings
爪型弹性联轴器



Flexible flywheel couplings
飞轮爪型弹性联轴器



Flexible claw couplings
梅花弹性联轴器



Pin couplings
弹性套柱销联轴器

Torque range 扭矩范围
40 Nm – 500 000 Nm

Rigid coupling 刚性联轴器



Grid couplings
蛇簧联轴器



Torsional stuff couplings
膜片式联轴器



Gear couplings
鼓型齿式联轴器



Universal joint couplings
万向联轴器

Torque range 扭矩范围
90 Nm – 7 000 000 Nm

Gear Box Product Line 齿轮箱系列产品

Gear Box 齿轮减速机



Helical gear box
平行轴减速机



Bevel-helical gear box
直交轴减速机



Right angle gear box
圆锥齿轮减速机



Gear motor
齿轮马达

Torque range 扭矩范围
600 Nm – 1 500 000 Nm

CAVEX® Worm Gear Box CAVEX® 蜗轮蜗杆减速机



Single worm gear box
单级蜗轮蜗杆减速机



Double worm gear box
双级蜗轮蜗杆减速机

Torque range 扭矩范围
600 Nm – 500 000 Nm

Planetary Gear Box 行星减速机



Coaxial planetary gear box
直线型行星减速机



Orthogonal planetary gear box
直角型行星减速机



Winches planetary gear box
卷扬行星减速机

Torque range 扭矩范围
600 Nm – 1 500 000 Nm

德国KPM-BAT已成为在中国维保全球知名品牌减速机的专业厂家



M2C
Made to Customer
为用户专业订制

Reference 业绩参考

Terex, 中铁建(CRCC), Liebherr, Zeppelin, 振华港机(ZMPCC), 中联重科(ZOOMLION), 江苏谷登, Vossloh, Komatsu(小松), Stiebel, 徐工(XCMG), Cummins(康明斯), 天业通联(TOLIAN), 土行孙, 恒天九五, 天津鼎盛, 地龙, GE Jenbacher(通用电气), MWM, MTU, Caterpillar(卡特彼勒), Atlas(阿特斯), Sullair(寿力), GHG, Ingersoll Rand(英格索兰), 上海宝钢(Bao Steel), 大亚湾核电(DYW Nuclear), 武钢(Wuhan Steel), VAI(奥钢联), Howden, 鞍钢(ANSTEEL), 上海电力(Shanghai Electric), SMS(西玛格), 上海石化(SPC), 天华院, 金山石化, 江西瑞林, 安柴, 苏州协力, 江苏胜达, 江阴华硕, 中国二重(CNEG), 沈阳电力.ZF, Schottel, Lindenberg, Janssen, SDT, 江苏海泰船舶, 江苏博林, 江苏瑞风, 华西海工, AVL, Horiba, D2T, FEV, Daimler(奔驰汽车), VW(大众汽车), Hyundai(现代汽车), MAN, 东风汽车, 福田汽车, 一汽大众(FAW), 上汽集团, Herrenknecht, Sandvik, Bucyrus, Eickhoff, FLSmidh, ThyssenKrupp.ZF Marine (HRP), Veth, Wärtsilä, Stork, Rolls Royce, Voith Turbo, Schuler, Arcelo Mittal, Saarschmiede, Saarstahl, Longwall, Vits, KBA, Wifag, Heidelberg, Polytipe, MAN Plamag, Megtec, Amal, Goss, Dorr Oliver, Krupp Fördertechnik, Krauss Maffei Verf, Poseidon, Sachtleben Chemie, Larox, Peterson Filters, Baker Hughes, Dorr Oliver, 上重, 兴澄特钢, Dorr, Chemie,, Larox, Peterson, Filters, Baker Hughes, Dorr Oliver, 上重, 兴澄特钢, Dorr

KPM-BAT Antriebstechnik Located in State Owned Jiangning Economic Development Zone (Riverside), Nanjing China
德国KPM-BAT传动位于江苏省南京市江宁国家级经济开发区(滨江)



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