

## 机械设计常用英文词汇

阿基米德蜗杆 Archimedes worm  
安全系数 safety factor; factor of safety  
安全载荷 safe load  
凹面、凹度 concavity  
扳手 wrench  
板簧 flat leaf spring  
半圆键 woodruff key  
变形 deformation  
摆杆 oscillating bar  
摆动从动件 oscillating follower  
摆动从动件凸轮机构 cam with oscillating follower  
摆动导杆机构 oscillating guide-bar mechanism  
摆线齿轮 cycloidal gear  
摆线齿形 cycloidal tooth profile  
摆线运动规律 cycloidal motion  
摆线针轮 cycloidal-pin wheel  
包角 angle of contact  
保持架 cage  
背对背安装 back-to-back arrangement  
背锥 back cone ; normal cone  
背锥角 back angle  
背锥距 back cone distance  
比例尺 scale  
比热容 specific heat capacity  
闭式链 closed kinematic chain  
闭链机构 closed chain mechanism  
臂部 arm  
变频器 frequency converters

变频调速 frequency control of motor speed  
变速 speed change  
变速齿轮 change gear change wheel  
变位齿轮 modified gear  
变位系数 modification coefficient  
标准齿轮 standard gear  
标准直齿轮 standard spur gear  
表面质量系数 superficial mass factor  
表面传热系数 surface coefficient of heat transfer  
表面粗糙度 surface roughness  
并联式组合 combination in parallel  
并联机构 parallel mechanism  
并联组合机构 parallel combined mechanism  
并行工程 concurrent engineering  
并行设计 concurred design, CD  
不平衡相位 phase angle of unbalance  
不平衡 imbalance (or unbalance)  
不平衡量 amount of unbalance  
不完全齿轮机构 intermittent gearing  
波发生器 wave generator  
波数 number of waves  
补偿 compensation  
参数化设计 parameterization design, PD  
残余应力 residual stress  
操纵及控制装置 operation control device  
槽轮 Geneva wheel  
槽轮机构 Geneva mechanism ; Maltese cross  
槽数 Geneva numerate  
槽凸轮 groove cam  
侧隙 backlash

差动轮系 differential gear train

差动螺旋机构 differential screw mechanism

差速器 differential

常用机构 conventional mechanism; mechanism in common use

车床 lathe

承载量系数 bearing capacity factor

承载能力 bearing capacity

成对安装 paired mounting

尺寸系列 dimension series

齿槽 tooth space

齿槽宽 spacewidth

齿侧间隙 backlash

齿顶高 addendum

齿顶圆 addendum circle

齿根高 dedendum

齿根圆 dedendum circle

齿厚 tooth thickness

齿距 circular pitch

齿宽 face width

齿廓 tooth profile

齿廓曲线 tooth curve

齿轮 gear

齿轮变速箱 speed-changing gear boxes

齿轮齿条机构 pinion and rack

齿轮插刀 pinion cutter; pinion-shaped shaper cutter

齿轮滚刀 hob ,hobbing cutter

齿轮机构 gear

齿轮轮坯 blank

齿轮传动系 pinion unit

齿轮联轴器 gear coupling  
齿条传动 rack gear  
齿数 tooth number  
齿数比 gear ratio  
齿条 rack  
齿条插刀 rack cutter; rack-shaped shaper cutter  
齿形链、无声链 silent chain  
齿形系数 form factor  
齿式棘  
轮机构 tooth ratchet mechanism  
插齿机 gear shaper  
重合点 coincident points  
重合度 contact ratio  
冲床 punch  
传动比 transmission ratio, speed ratio  
传动装置 gearing; transmission gear  
传动系统 driven system  
传动角 transmission angle  
传动轴 transmission shaft  
串联式组合 combination in series  
串联式组合机构 series combined mechanism  
串级调速 cascade speed control  
创新 innovation creation  
创新设计 creation design  
垂直载荷、法向载荷 normal load  
唇形橡胶密封 lip rubber seal  
磁流体轴承 magnetic fluid bearing  
从动带轮 driven pulley  
从动件 driven link, follower  
从动件平底宽度 width of flat-face

从动件停歇 follower dwell  
从动件运动规律 follower motion  
从动轮 driven gear  
粗线 bold line  
粗牙螺纹 coarse thread  
大齿轮 gear wheel  
打包机 packer  
打滑 slipping  
带传动 belt driving  
带轮 belt pulley  
带式制动器 band brake  
单列轴承 single row bearing  
单向推力轴承 single-direction thrust bearing  
单万向联轴节 single universal joint  
单位矢量 unit vector  
当量齿轮 equivalent spur gear; virtual gear  
当量齿数 equivalent teeth number; virtual number of teeth  
当量摩擦系数 equivalent coefficient of friction  
当量载荷 equivalent load  
刀具 cutter  
导数 derivative  
倒角 chamfer  
导热性 conduction of heat  
导程 lead  
导程角 lead angle  
等加等减速运动规律 parabolic motion; constant acceleration  
and deceleration motion  
等速运动规律 uniform motion; constant velocity motion  
等径凸轮 conjugate yoke radial cam  
等宽凸轮 constant-breadth cam

等效构件 equivalent link  
等效力 equivalent force  
等效力矩 equivalent moment of force  
等效量 equivalent  
等效质量 equivalent mass  
等效转动惯量 equivalent moment of inertia  
等效动力学模型 dynamically equivalent model  
底座 chassis  
低副 lower pair  
点划线 chain dotted line  
（疲劳）点蚀 pitting  
垫圈 gasket  
垫片密封 gasket seal  
碟形弹簧 belleville spring  
顶隙 bottom clearance  
定轴轮系 ordinary gear train; gear train with fixed axes  
动力学 dynamics  
动密封 kinematical seal  
动能 dynamic energy  
动力粘度 dynamic viscosity  
动力润滑 dynamic lubrication  
动平衡 dynamic balance  
动平衡机 dynamic balancing machine  
动态特性 dynamic characteristics  
动态分析设计 dynamic analysis design  
动压力 dynamic reaction  
动载荷 dynamic load  
端面 transverse plane  
端面参数 transverse parameters  
端面齿距 transverse circular pitch

端面齿廓 transverse tooth profile  
端面重合度 transverse contact ratio  
端面模数 transverse module  
端面压力角 transverse pressure angle  
锻造 forge  
对称循环应力 symmetry circulating stress  
对心滚子从动件 radial (or in-line ) roller follower  
对心直动从动件 radial (or in-line ) translating follower  
对心移动从动件 radial reciprocating follower  
对心曲柄滑块机构 in-line slider-crank (or crank-slider)

#### mechanism

多列轴承 multi-row bearing  
多楔带 poly V-belt  
多项式运动规律 polynomial motion  
多质量转子 rotor with several masses  
惰轮 idle gear  
额定寿命 rating life  
额定载荷 load rating  
II 级杆组 dyad  
发生线 generating line  
发生面 generating plane  
法面 normal plane  
法面参数 normal parameters  
法面齿距 normal circular pitch  
法面模数 normal module  
法面压力角 normal pressure angle  
法向齿距 normal pitch  
法向齿廓 normal tooth profile  
法向直廓蜗杆 straight sided normal worm  
法向力 normal force

反馈式组合 feedback combining  
反向运动学 inverse ( or backward) kinematics  
反转法 kinematic inversion  
反正切 Arctan  
范成法 generating cutting  
仿形法 form cutting  
方案设计、概念设计 concept design, CD  
防振装置 shockproof device  
飞轮 flywheel  
飞轮矩 moment of flywheel  
非标准齿轮 nonstandard gear  
非接触式密封 non-contact seal  
非周期性速度波动 aperiodic speed fluctuation  
非圆齿轮 non-circular gear  
粉末合金 powder metallurgy  
分度线 reference line; standard pitch line  
分度圆 reference circle; standard (cutting) pitch circle  
分度圆柱导程角 lead angle at reference cylinder  
分度圆柱螺旋角 helix angle at reference cylinder  
分母 denominator  
分子 numerator  
分度圆锥 reference cone; standard pitch cone  
分析法 analytical method  
封闭差动轮系 planetary differential  
复合铰链 compound hinge  
复合式组合 compound combining  
复合轮系 compound (or combined) gear train  
复合平带 compound flat belt  
复合应力 combined stress  
复式螺旋机构 Compound screw mechanism



复杂机构 complex mechanism  
杆组 Assur group  
干涉 interference  
刚度系数 stiffness coefficient  
刚轮 rigid circular spline  
钢丝软轴 wire soft shaft  
刚体导引机构 body guidance mechanism  
刚性冲击 rigid impulse (shock)  
刚性转子 rigid rotor  
刚性轴承 rigid bearing  
刚性联轴器 rigid coupling  
高度系列 height series  
高速带 high speed belt  
高副 higher pair  
格拉晓夫定理 Grashoff's law  
根切 undercutting  
公称直径 nominal diameter  
高度系列 height series  
功 work  
工况系数 application factor  
工艺设计 technological design  
工作循环图 working cycle diagram  
工作机构 operation mechanism  
工作载荷 external loads  
工作空间 working space  
工作应力 working stress  
工作阻力 effective resistance  
工作阻力矩 effective resistance moment  
公法线 common normal line  
公共约束 general constraint

metric gears

功率 power

功能分析设计 function analyses design

共轭齿廓 conjugate profiles

共轭凸轮 conjugate cam

构件 link

鼓风机 blower

固定构件 fixed link; frame

固体润滑剂 solid lubricant

关节型操作器 jointed manipulator

惯性力 inertia force

惯性力矩 moment of in

ertia ,shaking moment

惯性力平衡 balance of shaking force

惯性力完全平衡 full balance of shaking force

惯性力部分平衡 partial balance of shaking force

惯性主矩 resultant moment of inertia

惯性主矢 resultant vector of inertia

冠轮 crown gear

广义机构 generation mechanism

广义坐标 generalized coordinate

轨迹生成 path generation

轨迹发生器 path generator

滚刀 hob

滚道 raceway

滚动体 rolling element

滚动轴承 rolling bearing

滚动轴承代号 rolling bearing identification code

滚针 needle roller

滚针轴承 needle roller bearing

roller

滚子轴承 roller bearing

滚子半径 radius of roller

滚子从动件 roller follower

滚子链 roller chain

滚子链联轴器 double roller chain coupling

滚珠丝杆 ball screw

滚柱式单向超越离合器 roller clutch

过度切割 undercutting

函数发生器 function generator

函数生成 function generation

含油轴承 oil bearing

耗油量 oil consumption

耗油量系数 oil consumption factor

赫兹公式 H. Hertz equation

合成弯矩 resultant bending moment

合力 resultant force

合力矩 resultant moment of force

黑箱 black box

横坐标 abscissa

互换性齿轮 interchangeable gears

花键 spline

滑键、导键 feather key

滑动轴承 sliding bearing

滑动率 sliding ratio

滑块 slider

环面蜗杆 toroid helicoids worm

环形弹簧 annular spring

缓冲装置 shocks; shock-absorber

灰铸铁 grey cast iron

return

回转体平衡 balance of rotors

混合轮系 compound gear train

积分 integrate

机电一体化系统设计 mechanical-electrical integration system

design

机构 mechanism

机构分析 analysis of mechanism

机构平衡 balance of mechanism

机构学 mechanism

机构运动设计 kinematic design of mechanism

机构运动简图 kinematic sketch of mechanism

机构综合 synthesis of mechanism

机构组成 constitution of mechanism

机架 frame, fixed link

机架变换 kinematic inversion

机器 machine

机器人 robot

机器人操作器 manipulator

机器人学 robotics

技术过程 technique process

技术经济评价 technical and economic evaluation

技术系统 technique system

机械 machinery

机械创新设计 mechanical creation design, MCD

机械系统设计 mechanical system design, MSD

机械动力分析 dynamic analysis of machinery

机械动力设计 dynamic design of machinery

机械动力学 dynamics of machinery

机械的现代设计 modern machine design

mechanical system

机械利益 mechanical advantage

机械平衡 balance of machinery

机械手 manipulator

机械设计 machine design; mechanical design

机械特性 mechanical behavior

机械调速 mechanical speed governors

机械效率 mechanical efficiency

机械原理 theory of machines and mechanisms

机械运转不均匀系数 coefficient of speed fluctuation

机械无级变速 mechanical stepless speed changes

基础机  
构 fundamental mechanism

基本额定寿命 basic rating life

基于实例设计 case-based design,CBD

基圆 base circle

基圆半径 radius of base circle

基圆齿距 base pitch

基圆压力角 pressure angle of base circle

基圆柱 base cylinder

基圆锥 base cone

急回机构 quick-return mechanism

急回特性 quick-return characteristics

急回系数 advance-to return-time ratio

急回运动 quick-return motion

棘轮 ratchet

棘轮机构 ratchet mechanism

棘爪 pawl

极限位置 extreme (or limiting) position

极位夹角 crank angle between extreme (or limiting) positions

computer aided design, CAD

计算机辅助制造 computer aided manufacturing, CAM

计算机集成制造系统 computer integrated manufacturing system, CIMS

计算力矩 factored moment; calculation moment

计算弯矩 calculated bending moment

加权系数 weighting efficient

加速度 acceleration

加速度分析 acceleration analysis

加速度曲线 acceleration diagram

尖点 pointing; cusp

尖底从动件 knife-edge follower

间隙 backlash

间歇运动机构 intermittent motion mechanism

减速比 reduction ratio

减速齿轮、减速装置 reduction gear

减速器 speed reducer

减摩性 anti-friction quality

渐开螺旋面 involute helicoid

渐开线 involute

渐开线齿廓 involute profile

渐开线齿轮 involute gear

渐开线发生线 generating line of involute

渐开线方程 involute equation

渐开线函数 involute function

渐开线蜗杆 involute worm

渐开线压力角 pressure angle of involute

渐开线花键 involute spline

简谐运动 simple harmonic motion

键 key

keyway

交变应力 repeated stress

交变载荷 repeated fluctuating load

交\*带传动 cross-belt drive

交错轴斜齿轮 crossed helical gears

胶合 scoring

角加速度 angular acceleration

角速度 angular velocity

角速比 angular velocity ratio

角接触球轴承 angular contact ball bearing

角接触推力轴承 angular contact thrust bearing

角接触向心轴承 angular contact radial bearing

角接触轴承 angular contact bearing

铰链、枢纽 hinge

校正平面 correcting plane

接触应力 contact stress

接触式密封 contact seal

阶梯轴 multi-diameter shaft

结构 structure

结构设计 structural design

截面 section

节点 pitch point

节距 circular pitch; pitch of teeth

节线 pitch line

节圆 pitch circle

节圆齿厚 thickness on pitch circle

节圆直径 pitch diameter

节圆锥 pitch cone

节圆锥角 pitch cone angle

解析设计 analytical design

紧边 tight-side

紧固件 fastener

径节 diametral pitch

径向 radial direction

径向当量动载荷 dynamic equivalent radial load

径向当量静载荷 static equivalent radial load

径向基本额定动载荷 basic dynamic radial load rating

径向基本额定静载荷 basic static radial load rating

径向接触轴承 radial contact bearing

径向平面 radial plane

径向游

隙 radial internal clearance

径向载荷 radial load

径向载荷系数 radial load factor

径向间隙 clearance

静力 static force

静平衡 static balance

静载荷 static load

静密封 static seal

局部自由度 passive degree of freedom

矩阵 matrix

矩形螺纹 square threaded form

锯齿形螺纹 buttress thread form

矩形牙嵌式离合器 square-jaw positive-contact clutch

绝对尺寸系数 absolute dimensional factor

绝对运动 absolute motion

绝对速度 absolute velocity

均衡装置 load balancing mechanism

抗压强度 compression strength

开口传动 open-belt drive



开式链 open kinematic chain

开链机构 open chain mechanism

可\*度 degree of reliability

可\*性 reliability

可\*性设计 reliability design, RD

空气弹簧 air spring

空间机构 spatial mechanism

空间连杆机构 spatial linkage

空间凸轮机构 spatial cam

空间运动副 spatial kinematic pair

空间运动链 spatial kinematic chain

空转 idle

宽度系列 width series

框图 block diagram

雷诺方程 Reynolds's equation

离心力 centrifugal force

离心应力 centrifugal stress

离合器 clutch

离心密封 centrifugal seal

理论廓线 pitch curve

理论啮合线 theoretical line of action

隶属度 membership

力 force

力多边形 force polygon

力封闭型凸轮机构 force-drive (or force-closed) cam

mechanism

力矩 moment

力平衡 equilibrium

力偶 couple

力偶矩 moment of couple

连杆 connecting rod, coupler

连杆机构 linkage

连杆曲线 coupler-curve

连心线 line of centers

链 chain

链传动装置 chain gearing

链轮 sprocket sprocket-wheel sprocket gear chain wheel

联组 V 带 tight-up V belt

联轴器 coupling shaft coupling

二维凸轮 two-dimensional cam

临界转速 critical speed

六杆机构 six-bar linkage

龙门刨床 double Haas planer

轮坯 blank

轮系 gear train

螺杆 screw

螺距 thread pitch

一个男子成长的故事告诉了我们——追求得到之日即其终止之日，  
寻爱的过程就是失去的过程。

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