



晓宇宙齿条科技有限公司

GLOBAL RACK SCIENCE&TECHNOLOGY CO., LTD

创新科技 卓越品质 服务全球

苏州晓宇宙齿条科技有限公司

SUZHOU GLOBAL RACK SCIENCE&TECHNOLOGY CO., LTD

苏州晓宇宙齿条科技有限公司是专业生产齿条的企业，生产基地位于江苏太仓。本公司拥有世界先进的制造齿条的德国进口铣齿设备和磨齿设备，德国高精度的辅助设备，采用世界级高精度检测仪器测量和检验产品，使得产品有稳定的质量保障，具有及时发现问题和解决问题的能力。辅之以优秀的制造技术和长久从事齿条加工经验，有优良的齿条加工工艺，生产的齿条质量、耐用度和精准度能达到国际同等的精度要求，从而完全有能力替代国外进口的高精度齿条，与世界高精度齿条相比不逊色。具有相当竞争力。

合理，务实，认真，诚实，稳定，创新是企业的理念。与客户组成优良的供应链是企业的宗旨，发展技术和开拓创新是企业的生命力，愿我们共同努力创造共同美好的未来。

Suzhou global rack Science and Technology Co.,Ltd.is specialized in producing gear rack enterprise,the production base is located in Taicang,Jiangsu province.The company has advanced manufacturing rack milling equipment imported from Germany and grinding equipment.The German precision auxiliary equipment.Using world-class high-precision measurement and testing products,testing instruments,allowing for a stable quality assurance,with the timely detection And solve problems.Complemented by excellent manufacturing technology and long experience in the processing rack.Rack production quality,durability and precision to achieve the same accuracy requirements of international,which are fully capable and foreign imports high-precision rack competition,with not less than the world's high-precision rack.Both are very competitive.

Reasonable,pragmatic,serious,honest,stable,and innovation is the concept.Excellent composition with the customer is the purpose of the supply chain,technology and innovation development of the vitality of the enterprise,we would like to work together to create a better future together.

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从事齿条加工悠久历史专业生产齿条企业



STANDARD PRODUCTS 标准产品

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库存产品

特殊加工

根据您的图纸

我们的加工能力

齿条
直齿或斜齿
制齿加工长度可至 4000mm
铣齿、模数为 0.5–30

材质，热处理方式或是表面涂层
处理
可根据客户需求订做

磨齿、模数可至 24

我们的设计师将竭诚帮助您实现您的计划。欢迎与我们联系！
We offer more than competitive prices—contact our engineering department!

stock programme

made to order

on request

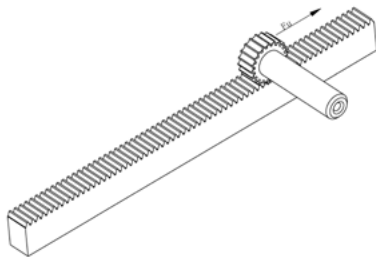
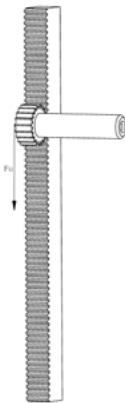
our manufacture possibilities

racks
straight or helical teeth
max.length in one setting
is 4000mm
milled modules 0.5–30

material,hardened or plated
to customers design

with ground teeth up to module 24

齿条传动形式 | selection rack and pinion drive



上升 / 下降 | lift/lower

$F_u=m\cdot g+\mu +m\cdot a$

概括 | general

名称 | description

加速度 | acceleration

速度 | speed

距离 | distance

时间 | time

转速 | revolutions per minute,rpm

分度圆直径 | pitch diameter

扭矩 | torque

功率 | power

设计参数	
使用系数	1,0
齿间连接安全系数	1,0
防齿裂安全系数	1,4
使用寿命	20,000h

所测得的试验齿条的弯曲疲劳极限 $\sigma_{F\lim}$ 和
试验齿条的接触疲劳极限 $\sigma_{H\lim}$ 值如下

水平 | drive

$F_u=m\cdot g\cdot \mu +m\cdot a$

代号 / 公式
symbol/formula

单位
dimension

$a=\frac{v}{t}=\frac{2\cdot s}{t^2}$

m/s²

$v=\frac{s}{t}=\sqrt{2\cdot a\cdot s}$

m/s

s

m

t

s

$n=\frac{v\cdot 60\cdot 000}{\pi\cdot d_0}$

1/min

d0

mm

$M=\frac{F_u\cdot d_0}{2000}$

Nm

$P=\frac{M\cdot n}{9550}=\frac{F_u\cdot n\cdot d_0}{19100}$

kW

The dimensioning happened with	
Application factor:	1,0
Safety for stress at single tooth contact:	1,0
Safety for Tooth root stress:	1,4
Service life in hours:	20,000h

We calculate with following values for rolling load $\sigma_{F\lim}$ and bending
load $\sigma_{H\lim}$

材料	$\sigma_{F\lim}$ [N/mm ²]	$\sigma_{H\lim}$ [N/mm ²]
C45	440	550
C45 高频淬火 Induction hardened	750	1250
16MnCr5 渗碳淬火 Carburisized and hardened	920	1500
42CrMo4V	600	730



齿条 /RACKS

承载力选择表 selection and load tables

在具有充足的润滑油脂，安全及使用系数 1.0，
线速度 V=1.5m/s 的情况下，最大允许扭矩 Nm

maximum permissible torques in Nm with adequate lubrication with
safety–and application factor 1.0;and a speed of 1.5m/s

模数 module		1 b=10mm				1,5 b =15mm				2 b=20mm					
齿数 number of teeth		15	20	25	40	15	20	25	40	15	20	25	30	40	
齿条 rack 材料和齿形 Material & tooth system	圆柱齿轮 pinion														
C45 软材 C45 soft 直齿 straight	C45 软材 C45 soft	0,3	0,9	1,1	10,7	1,0	2,8	8,8	35,3	4,4	14,1	26,9	44,2	98,2	
	C45 高频淬火 C45 ind–hardened	1,2	2,5	4,5	14,7	2,0	5,7	17,7	60,0	13,8	28,1	48,0	74,1	134,7	
C45 高频淬火 C45 ind–hardened 直齿 straight	C45 高频淬火 C45 ind–hardened	2,0	8,7	14,7	25,3	7,0	28,2	52,9	95,3	29,8	75,0	128,2	151,7	200,2	
C45 高频淬火 C45 ind–hardened 齿面经磨削 直齿 Ground teeth; straight	C45 高频淬火 C45 ind–hardened														
C45 高频淬火 C45 ind–hardened 齿面经磨削 斜齿 Ground teeth;helical	C45 高频淬火 C45 ind–hardened														
16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 直齿 Ground teeth;straight	16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 ground teeth											159,8	200,0	238,2	320,3
16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 斜齿 Ground teeth;helical	16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 ground teeth											180,9	227,8	270,2	365,2
42CrMo4V 调质 42CrMo4V quenched & tempered 直齿 straight	16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 ground teeth											42,8	68,2	100,2	186,7
42CrMo4V 调质 42CrMo4V quenched & tempered 斜齿 helical	16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 ground teeth											45,9	73,0	104,8	195,1

模数 module		2,5 b=25mm				3 b=30mm				
齿数 number of teeth		15	20	25	40	15	20	25	30	40
齿条 rack 材料和齿形 Material & tooth system	圆柱齿轮 pinion									
C45 软材 C45 soft 直齿 straight	C45 软材 C45 soft	8,5	25,1	52,8	175,2	13	46	97,2	159,6	339,8
	C45 高频淬火 C45 ind–hardened	15,6	45,1	95	145,2	40,8	91,9	168,2	243,4	450,3
C45 高频淬火 C45 ind–hardened 直齿 straight	C45 高频淬火 C45 ind–hardened	60	149,9	255,8	399,7	87,1	215,1	440,0	497,3	780
C45 高频淬火 C45 ind–hardened 齿面经磨削 直齿 Ground teeth; straight	C45 高频淬火 C45 ind–hardened									
C45 高频淬火 C45 ind–hardened 齿面经磨削 斜齿 Ground teeth;helical	C45 高频淬火 C45 ind–hardened									
16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 直齿 Ground teeth;straight	16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 ground teeth					420,1 530,2				880,0
16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 斜齿 Ground teeth;helical	16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 ground teeth					504,7 605				
42CrMo4V 调质 42CrMo4V quenched & tempered 直齿 straight	16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 ground teeth					138,0 234,8				620,2
42CrMo4V 调质 42CrMo4V quenched & tempered 斜齿 helical	16MnCr5 渗碳淬火 16MnCr5 case–helical 齿面经磨削 ground teeth					145 245,1				

承载力选择表 selection and load tables

在具有充足的润滑油脂，安全及使用系数 1.0，
线速度 V=1.5m/s 的情况下，最大允许扭矩 Nm

maximum permissible torques in Nm with adequate lubrication with
safety–and application factor 1.0;and a speed of 1.5m/s

模数 module		4 b=40mm					5 b=50mm				6 b=60mm			
齿数 number of teeth		15	20	25	30	40	15	20	25	40	15	20	25	
齿条 rack 材料和齿形 Material & tooth system	圆柱齿轮 pinion													
C45 软材 C45 soft 直齿 straight	C45 软材 C45 soft	39,9	115,1	240,2	414,1	850,1	89,8	230,0	489,7	800,4	170,2	429,7	870,4	
	C45 高频淬火 C45 ind-hardened	130	249,9	415,2	593,2	1100,4	259,7	499,7	800,4	1200,1	470	810,3	1400,5	
C45 高频淬火 C45 ind-hardened 直齿 straight	C45 高频淬火 C45 ind-har dened	220,2	640,1	1070,1	1306,9	1710,4	450	1150,0	1660,4	1999,5	794,6	2200,5	2950,0	
C45 高频淬火 C45 ind-hardened 齿面经磨削 直齿 Ground teeth; straight	C45 高频淬火 C45 ind-hardened						1080	2060,0			3640,0			
C45 高频淬火 C45 ind-hardened 齿面经磨削 斜齿 Ground teeth;hardened	C45 高频淬火 C45 ind-hardened						1330				3170,0 4180,0			
16MnCr5 渗碳淬火 16MnCr5 case-hardened 齿面经磨削 直齿 Ground teeth:straight	16MnCr5 渗碳淬火 16MnCr5 case-hardened 齿面经磨削 Ground teeth						1070,1	1330,4	2000,3					
16MnCr5 渗碳淬火 16MnCr5 case-hardened 齿面经磨削 斜齿 Ground teeth;helical	16MnCr5 渗碳淬火 16MnCr5 case-hardened 齿面经磨削 Ground teeth	770,1	1219,7	1530,2										
42CrMo4V 调质 42CrMo4V quenched & tempered 直齿 straight	16MnCr5 渗碳淬火 16MnCr5 case-hardened 齿面经磨削 Ground teeth						355,2	575,0	1550,4					
42CrMo4V 调质 42CrMo4V quenched & tempered 斜齿 helical	16MnCr5 渗碳淬火 16MnCr5 case-hardened 齿面经磨削 Ground teeth	204,8	370,3	589,9										

模数 module		8 b=80mm			10 b=100mm	
齿数 number of teeth		15	20	25	20	
齿条 rack 材料和齿形 Material & tooth system	圆柱齿轮 pinion					
C45 软材 C45 soft 直齿 straight	C45 软材 C45 soft	420,1	1050,5	2101,0	4000	
	C45 高频淬火 C45 ind-hardened	1149,5	2101,0	3398,0		
C45 高频淬火 C45 ind-hardened 直齿 straight	C45 高频淬火 C45 ind-hardened	1898,0	4502,0	7500,0	9900,0	
C45 高频淬火 C45 ind-hardened 齿面经磨削 直齿 Ground teeth; straight	C45 高频淬火 C45 ind-hardened		6870,0		12850,0	
C45 高频淬火 C45 ind-hardened 齿面经磨削 斜齿 Ground teeth;helical	C45 高频淬火 C45 ind-hardened				14000,0	
16MnCr5 渗碳淬火 16MnCr5 case-helical 齿面经磨削 直齿 Ground teeth;straight	6MnCr5 渗碳淬火 16MnCr5 case-helical 齿面经磨削 Ground teeth					
16MnCr5 渗碳淬火 16MnCr5 case-helical 齿面经磨削 斜齿 Ground teeth;helical	16MnCr5 渗碳淬火 16MnCr5 case-helical 齿面经磨削 Ground teeth					
42CrMo4V 调质 42CrMo4V quenched & tempered 直齿 straight	16MnCr5 渗碳淬火 16MnCr5 case-helical 齿面经磨削 Ground teeth					
42CrMo4V 调质 42CrMo4V quenched & tempered 斜齿 helical	16MnCr5 渗碳淬火 16MnCr5 case-helical 齿面经磨削 Ground teeth					

技术特性

Technical Characteristic

品质等级	品质公差
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	品质等级	单齿距	总齿距
M2 L1000	5	-0.005/0.005 mm	-0.025/0.025 mm
	6	-0.008/0.008 mm	-0.035/0.035 mm
	7	-0.011/0.011 mm	-0.045/0.045 mm
	8	-0.016/0.016 mm	-0.063/0.063 mm

	品质等级	单齿距	总齿距
M3 L1000	5	-0.006/0.006 mm	-0.025/0.025 mm
	6	-0.009/0.009 mm	-0.035/0.035 mm
	7	-0.011/0.011 mm	-0.045/0.045 mm
	8	-0.016/0.016 mm	-0.071/0.071 mm

	品质等级	单齿距	总齿距
M4 L1000	5	-0.007/0.007 mm	-0.025/0.025 mm
	6	-0.009/0.009 mm	-0.035/0.035 mm
	7	-0.012/0.012 mm	-0.045/0.045 mm
	8	-0.018/0.018 mm	-0.071/0.071 mm

	品质等级	单齿距	总齿距
M5 L1000	5	-0.007/0.007 mm	-0.028/0.028 mm
	6	-0.010/0.010 mm	-0.040/0.040 mm
	7	-0.012/0.012 mm	-0.056/0.056 mm
	8	-0.018/0.018 mm	-0.080/0.080 mm

	品质等级	单齿距	总齿距
M6 L1000	5	-0.007/0.007 mm	-0.028/0.028 mm
	6	-0.010/0.010 mm	-0.040/0.040 mm
	7	-0.012/0.012 mm	-0.056/0.056 mm
	8	-0.018/0.018 mm	-0.080/0.080 mm

技术特性

Technical Characteristic

品质等级	品质公差
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	品质等级	单齿距	总齿距
M2 L1500	5	-0.005/0.005 mm	-0.025/0.025 mm
	6	-0.008/0.008 mm	-0.035/0.035 mm
	7	-0.011/0.011 mm	-0.045/0.045 mm
	8	-0.016/0.016 mm	-0.063/0.063 mm

	品质等级	单齿距	总齿距
M3 L1500	5	-0.006/0.006 mm	-0.025/0.025 mm
	6	-0.009/0.009 mm	-0.036/0.036 mm
	7	-0.011/0.011 mm	-0.050/0.050 mm
	8	-0.016/0.016 mm	-0.071/0.071 mm

	品质等级	单齿距	总齿距
M4 L1500	5	-0.007/0.007 mm	-0.028/0.028 mm
	6	-0.009/0.009 mm	-0.040/0.040 mm
	7	-0.012/0.012 mm	-0.056/0.056 mm
	8	-0.018/0.018 mm	-0.080/0.080 mm

	品质等级	单齿距	总齿距
M5 L1500	5	-0.007/0.007 mm	-0.028/0.028 mm
	6	-0.010/0.010 mm	-0.040/0.040 mm
	7	-0.012/0.012 mm	-0.056/0.056 mm
	8	-0.018/0.018 mm	-0.080/0.080 mm

	品质等级	单齿距	总齿距
M6 L1500	5	-0.007/0.007 mm	-0.028/0.028 mm
	6	-0.010/0.010 mm	-0.040/0.040 mm
	7	-0.012/0.012 mm	-0.056/0.056 mm
	8	-0.018/0.018 mm	-0.080/0.080 mm

技术特性

Technical Characteristic

品质等级		品质公差	
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M2 L2000	品质等级	单齿距	总齿距
	5	-0.005/0.005 mm	-0.028/0.028 mm
	6	-0.008/0.008 mm	-0.035/0.035 mm
	7	-0.011/0.011 mm	-0.050/0.050 mm
	8	-0.016/0.016 mm	-0.065/0.065 mm

M3 L2000	品质等级	单齿距	总齿距
	5	-0.006/0.006 mm	-0.028/0.028 mm
	6	-0.009/0.009 mm	-0.040/0.040 mm
	7	-0.011/0.011 mm	-0.056/0.056 mm
	8	-0.016/0.016 mm	-0.080/0.080 mm

M4 L2000	品质等级	单齿距	总齿距
	5	-0.007/0.007 mm	-0.032/0.032 mm
	6	-0.009/0.009 mm	-0.045/0.045 mm
	7	-0.012/0.012 mm	-0.063/0.063 mm
	8	-0.018/0.018 mm	-0.090/0.090 mm

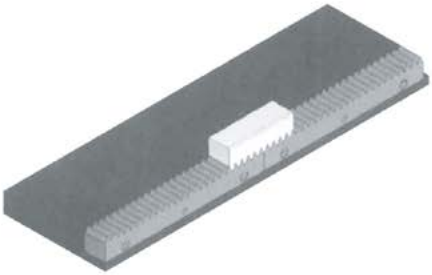
M5 L2000	品质等级	单齿距	总齿距
	5	-0.007/0.007 mm	-0.032/0.032 mm
	6	-0.010/0.010 mm	-0.045/0.045 mm
	7	-0.012/0.012 mm	-0.063/0.063 mm
	8	-0.018/0.018 mm	-0.090/0.090 mm

M6 L2000	品质等级	单齿距	总齿距
	5	-0.007/0.007 mm	-0.032/0.032 mm
	6	-0.010/0.010 mm	-0.045/0.045 mm
	7	-0.012/0.012 mm	-0.063/0.063 mm
	8	-0.018/0.018 mm	-0.090/0.090 mm

安装说明 | assembly instruction



- 齿条的定位和固定（例如：用螺旋卡钳）。
- 用紧固螺栓根据预紧力将齿条紧固
- Positioning and fixing the rack[for example with clamps]
- Mount the rack with screws accordant to the defined torque.



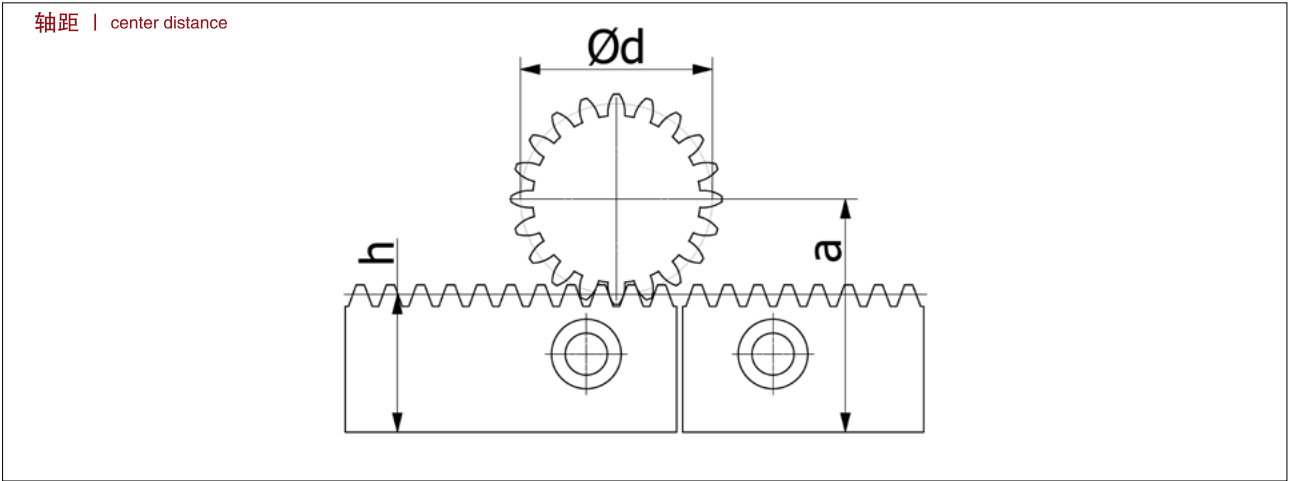
- 用安装块辅助安装续接齿条
- 用紧固螺栓根据预紧力将齿条紧固
- Connect another rack with the help of the mounting piece
- Mount the rack with screws accordant to the defined torque.



- 安装后检验齿条的平行度及各齿条之间的平行度
- 同时还要检验齿条的直线度
- Afer mounting these racks check the parallelism and the connetion from one rack to the other.
- As well check the correct aligning of the racks.



- 在检验完后，将配铰齿条销孔，安装定位销
- After the checkup the register pins reaming and pin the racks.



齿轮轴中心到齿条背面的轴距 a 可通过下面公式计算：

The center distance a resulting in the distance from the middle of the pinion to the back area of the rack to following formula:

a = h + $\frac{d}{2}$

安装块 | Mounting Pieces

安装块 直齿 钢号 1.0503 [C45] | mounting piece,straight teeth,steel 1.0503 [C45]

模数 Module	L ₁	b	订购编号 Part No.
1	200,00	10	994-010-001
1,5	200,00	15	994-015-001
2	200,00	25	994-020-001
2,5	200,00	25	994-025-001
3	200,00	30	994-030-001
4	200,00	40	994-040-001
5	200,00	50	994-050-001
6	200,00	60	994-060-001
8	200,00	80	994-080-001
10	220,00	100	994-100-001

模数 Module	齿距 Pitch	L ₁	b	订购编号 Part No.
1,591	5mm	200,00	15	994-016-001
3,183	10mm	200,00	30	994-031-001

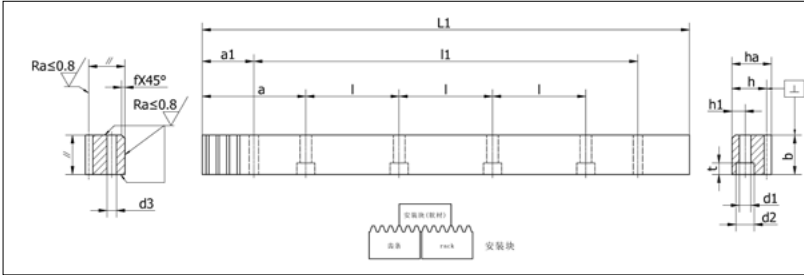
安装块 斜齿 钢号 1.0503 [C45] | mounting piece,helical teeth,steel 1.0503 [C45]

螺旋角 19° 31’ 42” 左旋 | helix angle 19° 31’ 42” left hand

模数 Module	L ₁	b	订购编号 Part No.
2	200	25	993-020-001
3	200	30	993-030-001
4	200	40	993-040-001
5	200	50	993-050-001
6	200	60	993-060-001
8	200	80	993-080-001
10	235	100	993-100-001

可续接安装式齿条 齿面经磨削 直齿 背面及侧面经磨削

Racks for Continuous Mounting with Ground Teeth,Straight Teeth
Ground Rear and Side Surface



钢号 | steel1.0503 [C45]

高频淬火 | induction hardened48-53 HRC *

直齿 | straight teeth

齿形角 | pressure angle20°

制齿精度 | toothing quality6 h25

带孔 | with bores

模数 Module	理论长 L ₁	z**	b	h _a	h	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t	a ₁	l ₁	d ₃	kg	订购编号 Part No.
2	502,65	80	24	24	22	2	62,8	125,66	8	7	11	7	31,3	440,1	5,7	2,10	994-020-405
2	1005,3	160	24	24	22	2	62,8	125,66	8	7	11	7	31,3	942,7	5,7	4,20	994-020-410
3	508,93	54	29	29	26	2	63,6	127,23	9	10	15	9	34,4	440,1	7,7	3,00	994-030-405
3	1017,87	108	29	29	26	2	63,6	127,23	9	10	15	9	34,4	949,1	7,7	6,00	994-030-410
4	502,65	40	39	39	35	3	62,8	125,66	12	10	15	9	37,5	427,7	7,7	5,25	994-040-405
4	1005,30	80	39	39	35	3	62,8	125,66	12	10	15	9	37,5	930,3	7,7	10,50	994-040-410
4	2010,61	160	39	39	35	3	62,8	125,66	12	10	15	9	37,5	1935,6	7,7	21,00	994-040-420
5	502,65	32	49	39	34	3	62,8	125,66	12	14	20	13	30,1	442,4	11,7	6,70	994-050-405
5	1005,3	64	49	39	34	3	62,8	125,66	12	14	20	13	30,1	945	11,7	13,40	994-050-410
5	2010,61	128	49	39	34	3	62,8	125,66	12	14	20	13	30,1	1950,4	11,7	26,80	994-050-420
6	508,93	27	59	49	43	3	63,6	127,23	16	18	26	17	31,4	446,1	15,7	10,40	994-060-405
6	1017,87	54	59	49	43	3	63,6	127,23	16	18	26	17	31,4	955,0	15,7	20,20	994-060-410
6	2035,75	108	59	49	43	3	63,6	127,23	16	18	26	17	31,4	1973,0	15,7	40,40	994-060-420
8	502,65	20	79	79	71	3	62,8	125,66	25	22	33	21	26,6	449,5	19,7	22,38	994-080-405
8	1005,30	40	79	79	71	3	62,8	125,66	25	22	33	21	26,6	952,0	19,7	44,76	994-080-410
8	2010,61	80	79	79	71	3	62,8	125,66	25	22	33	21	26,6	1957,3	19,7	89,50	994-080-420
10	1005,30	32	99	99	89	3	62,8	125,66	32	33	48	32	125,7	754,0	19,7	68,72	994-100-410

不带孔 | without bores

模数 Module	理论长 L ₁	z**	b	h _a	h	f ^{+0.5}											kg	订购编号 Part No.
2	502,65	80	24	24	22	2											2,10	994-020-305
2	1005,3	160	24	24	22	2											4,20	994-020-310
3	508,93	54	29	29	26	2											3,00	994-030-305
3	1017,87	108	29	29	26	2											6,00	994-030-310
4	502,65	40	39	39	35	3											5,25	994-040-305
4	1005,30	80	39	39	35	3											10,50	994-040-310
4	2010,61	160	39	39	35	3											21,00	994-040-320
5	502,65	32	49	39	34	3											6,70	994-050-305
5	1005,3	64	49	39	34	3											13,40	994-050-310
5	2010,61	128	49	39	34	3											26,80	994-050-320
6	508,93	27	59	49	43	3											10,4	994-060-305
6	1017,87	54	59	49	43	3											20,20	994-060-310
6	2035,75	108	59	49	43	3											40,40	994-060-320
8	502,65	20	79	79	71	3											22,38	994-080-305
8	1005,30	40	79	79	71	3											44,76	994-080-310
8	2010,61	80	79	79	71	3											89,50	994-080-320
10	1005,30	32	99	99	89	3											68,72	994-100-310

带孔，不带销孔 | with bores,without pin holes

新设计中不再使用 | not to use for new design!

模数 Module	理论长 L ₁	z**	b	h _a	h	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t						kg	订购编号 Part No.
2	999,02	159	24	24	22	2	99,5	200	8	6,6	11	7						4,20	994-020-410-999
3	999,02	106	29	29	26	2	99,5	200	9	9	15	9						6,00	994-030-410-999
4	1005,30	80	39	39	35	3	102,6	200	12	9	15	9						10,05	994-040-410-999

z **... 齿数 number of teeth

* 模数 1-3，齿面和齿跟高频淬火，从模数 4 开始只在齿面高频淬火

*module 1 to 3 tooth flank and tooth root inductive hardened [all-tooth hardening] ,module 4 to 10 only tooth flank inductive hardened [single-tooth hardening]

齿条两端可以任意连接齿条，以达到所需长度。

安装时，我们推荐使用安装块。

Both ends of the racks are manufactured that they can be joined together in each length.

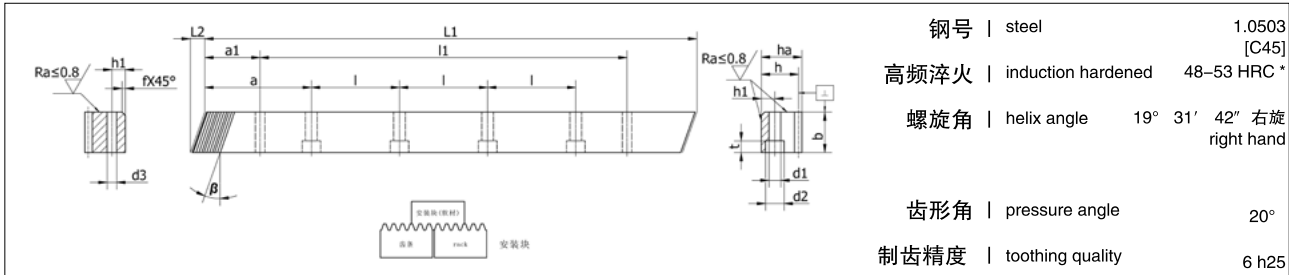
For the mounting we propose the use of mounting pieces.



齿条 /RACKS

可续接安装式齿条 齿面经磨削 斜齿
背面及侧面经磨削

Racks for Continuous Mounting with Ground Teeth,Helical Teeth
Ground Rear and Side Surface



带孔 | with bores

模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t	a ₁	l ₁	d ₃	kg	订购编号 Part No.
2	500,00	8,5	75	24	24	22	2	62,5	125	8	7	11	7	31,7	436,6	5,7	2,1	993-020-405
2	1000,00	8,5	150	24	24	22	2	62,5	125	8	7	11	7	31,7	936,6	5,7	4,1	993-020-410
3	500,00	10,3	50	29	29	26	2	62,5	125	9	10	15	9	35,0	430,0	7,7	2,9	993-030-405
3	1000,00	10,3	100	29	29	26	2	62,5	125	9	10	15	9	35,0	930,0	7,7	5,9	993-030-410
4	506,66	13,8	38	39	39	35	3	62,5	125	12	10	15	9	33,3	433,0	7,7	5,4	993-040-405
4	1000,00	13,8	75	39	39	35	3	62,5	125	12	10	15	9	33,3	933,4	7,7	10,7	993-040-410
4	2000,00	13,8	150	39	39	35	3	62,5	125	12	10	15	9	33,3	1933,4	7,7	21,4	993-040-420
5	500,00	17,4	30	49	39	34	3	62,5	125	12	14	20	13	37,5	425,0	11,7	6,5	993-050-405
5	1000,0	17,4	60	49	39	34	3	62,5	125	12	14	20	13	37,5	925,0	11,7	13,0	993-050-410
5	2000,00	17,4	120	49	39	34	3	62,5	125	12	14	20	13	37,5	1925,0	11,7	26,0	993-050-420
6	500,00	20,9	25	59	49	43	3	62,5	125	16	18	26	17	37,5	425,0	15,7	9,9	993-060-405
6	1000,00	20,9	50	59	49	43	3	62,5	125	16	18	26	17	37,5	925,0	15,7	19,8	993-060-410
6	2000,00	20,9	100	59	49	43	3	62,5	125	16	18	26	17	37,5	1925,0	15,7	36,2	993-060-420
8	480,00	28,0	18	79	79	71	3	60,0	120	25	22	33	21	120,0	240,0	19,7	21,0	993-080-405
8	960,00	28,0	36	79	79	71	3	60,0	120	25	22	33	21	120,0	720,0	19,7	42,5	993-080-410
8	1920,00	28,0	72	79	79	71	3	60,0	120	25	22	33	21	120,0	1680,0	19,7	85,0	993-080-420
10	1000,00	35,1	30	99	99	89	3	62,5	125	32	33	48	32	125,0	750,0	19,7	68,7	993-100-410

不带孔 | without bores

模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h	f ^{+0.5}	kg	订购编号 Part No.
2	500,00	8,5	75	24	24	22	2	2,1	993-020-305
2	1000,00	8,5	150	24	24	22	2	4,1	993-020-310
3	500,00	10,3	50	29	29	26	2	2,9	993-030-305
3	1000,00	10,3	100	29	29	26	2	5,9	993-030-310
4	506,66	13,8	38	39	39	35	3	5,4	993-040-305
4	1000,00	13,8	75	39	39	35	3	10,7	993-040-310
4	2000,00	13,8	150	39	39	35	3	21,4	993-040-320
5	500,00	17,4	30	49	39	34	3	6,5	993-050-305
5	1000,0	17,4	60	49	39	34	3	13,0	993-050-310
5	2000,00	17,4	120	49	39	34	3	26,0	993-050-320
6	500,00	20,9	25	59	49	43	3	9,9	993-060-305
6	1000,00	20,9	50	59	49	43	3	19,8	993-060-310
6	2000,00	20,9	100	59	49	43	3	36,2	993-060-320
8	480,00	28,0	18	79	79	71	3	21,0	993-080-305
8	960,00	28,0	36	79	79	71	3	42,5	993-080-310
8	1920,00	28,0	72	79	79	71	3	85,0	993-080-320
10	1000,00	35,1	30	99	99	89	3	68,7	993-100-310

带孔，不带销孔 | with bores,without pin holes

新设计中不再使用 | not to use for new design!

模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t	kg	订购编号 Part No.
2	1000,00	8,5	150	24	24	22	2	91,5	200	8	6,6	11	7	4,20	993-020-410-999
3	1000,00	10,3	100	29	29	26	3	89,7	200	9	9	15	9	6,00	993-030-410-999
4	1000,00	13,8	75	39	39	35	3	86,2	200	12	9	15	9	10,50	993-040-410-999

z **...齿数 number of teeth

* 模数 1-3，齿面和齿跟高频淬火，从模数 4 开始只在齿面高频淬火

*module 1 to 3 tooth flank and tooth root inductive hardened [all-tooth hardening] ,module 4 to 10 only tooth flank inductive hardened [single-tooth hardening]

齿条两端可以任意连接齿条，以达到所需长度。

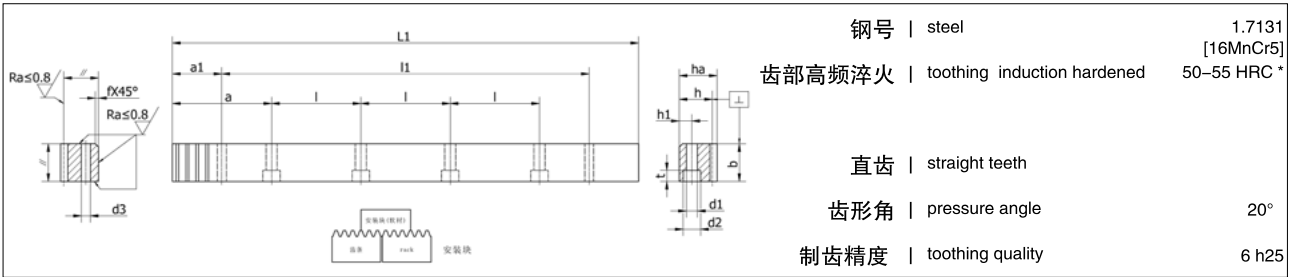
安装时，我们推荐使用安装块。

Both ends of the racks are manufactured that they can be joined together in each length.

For the mounting we propose the use of mounting pieces.

可续接安装式齿条 齿面经磨削 直齿
背面及侧面经磨削

Racks for Continuous Mounting with Ground Teeth,Straight Teeth
Ground Rear and Side Surface



带孔 | with bores

模数 Module	理论长 L ₁	z**	b	h _a	h	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t	a ₁	l ₁	d ₃	kg	订购编号 Part No.
2	502,65	80	24	24	22	2	62,8	125,66	8	7	11	7	31,3	440,1	5,7	2,10	994-020-205
2	1005,30	160	24	24	22	2	62,8	125,66	8	7	11	7	31,3	942,7	5,7	4,20	994-020-210
3	508,93	54	29	29	26	2	63,6	127,23	9	10	15	9	34,4	440,1	7,7	3,00	994-030-205
3	1017,87	108	29	29	26	2	63,6	127,23	9	10	15	9	34,4	949,1	7,7	6,00	994-030-210
4	502,65	40	39	39	35	3	62,8	125,66	12	10	15	9	37,5	427,7	7,7	5,30	994-040-205
4	1005,30	80	39	39	35	3	62,8	125,66	12	10	15	9	37,5	930,3	7,7	10,60	994-040-210

不带孔 | without bores

模数 Module	理论长 L ₁	z**	b	h _a	h	f ^{+0.5}	kg	订购编号 Part No.
2	502,65	80	24	24	22	2	2,10	994-020-105
2	1005,30	160	24	24	22	2	4,20	994-020-110
3	508,93	54	29	29	26	2	3,00	994-030-105
3	1017,87	108	29	29	26	2	6,00	994-030-110
4	502,65	40	39	39	35	3	5,30	994-040-105
4	1005,30	80	39	39	35	3	10,60	994-040-110

z**...齿数 number of teeth

* 模数 1-3，齿面和齿跟高频淬火，从模数 4 开始只在齿面高频淬火。

* case hardening steel-module 1to3 tooth flank and tooth root inductive hardened(all-tooth hardening),module 4 to 10 only tooth flank inductive hardened(single-tooth hardening)

齿条两端可以任意连接齿条，以达到所需长度。

安装时，我们推荐使用安装块。

Both ends of the racks are manufactured that they can be joined together in each length.

For the mounting we propose the use of mounting pieces.

润滑齿条和齿轮时，我们推荐使用自动润滑系统

For lubrication ofracks and pinions we propose the use of automatical lubrication donors.

如果您需要其他尺寸，我们设计师将竭诚为您服务

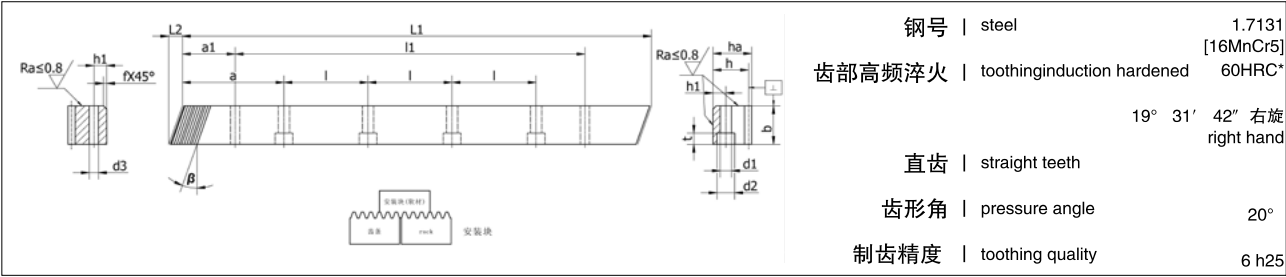
If you need other dimensions-please contact our engineering department.



齿条 /RACKS

可续接安装式齿条 齿面经磨削 斜齿
背面及侧面经磨削

Racks for Continuous Mounting with Ground Teeth,Helical Teeth
Ground Rear and Side Surface



带孔 | with bores

模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t	a ₁	l ₁	d ₃	kg	订购编号 Part No.
2	500,00	8,5	75	24	24	22	2	62,5	125	8	7	11	7	31,7	436,6	5,7	2,10	993-020-205
2	1000,00	8,5	150	24	24	22	2	62,5	125	8	7	11	7	31,7	936,6	5,7	4,20	993-020-210
3	500,00	10,30	50	29	29	26	2	62,5	125	9	10	15	9	35,0	430,0	7,7	3,00	993-030-205
3	1000,00	10,30	100	29	29	26	2	62,5	125	9	10	15	9	35,0	930,0	7,7	6,00	993-030-210
4	506,66	13,80	38	39	39	35	3	62,5	125	12	10	15	9	33,3	433,0	7,7	5,30	993-040-205
4	1000,00	13,80	75	39	39	35	3	62,5	125	12	10	15	9	33,3	933,4	7,7	10,60	993-040-210

不带孔 | without bores

模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h	f ^{+0.5}	kg	订购编号 Part No.
2	500,00	8,5	75	24	24	22	2	2,10	993-020-105
2	1000,00	8,5	150	24	24	22	2	4,20	993-020-110
3	500,00	10,3	50	29	29	26	2	3,00	993-030-105
3	1000,00	10,3	100	29	29	26	2	6,00	993-030-110
4	506,66	13,8	38	39	39	35	3	5,30	993-040-105
4	1000,00	13,8	75	39	39	35	3	10,60	993-040-110

Z**...齿数 number of teeth

* 模数 1-3, 齿面和齿跟高频淬火, 从模数 4 开始只在齿面高频淬火。

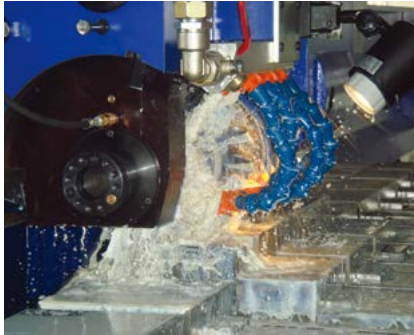
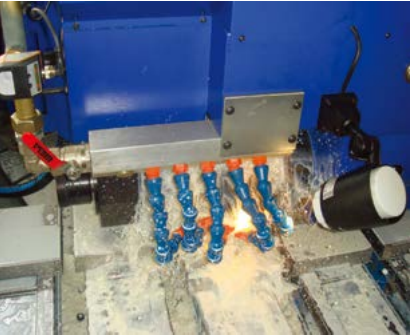
* case hardening steel-module 1to3 tooth flank and tooth root inductive hardened(all-tooth hardening),module 4 to 10 only tooth flank inductive hardened(single-tooth hardening)

齿条两端可以任意连接齿条, 以达到所需长度。

安装时, 我们推荐使用安装块。

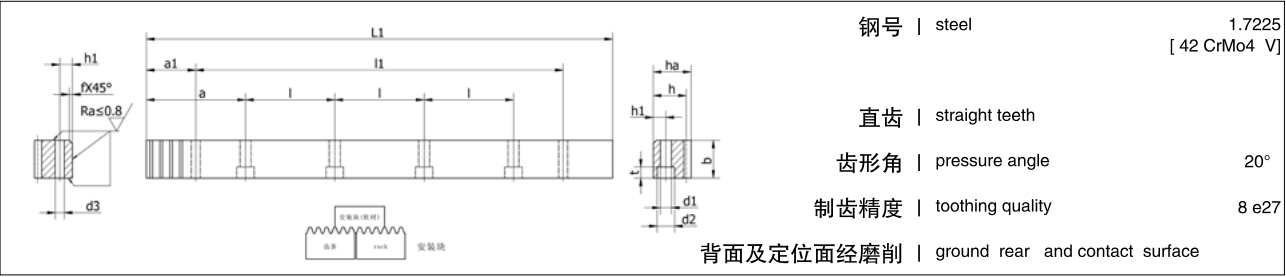
Both ends of the racks are manufactured that they can be joined together in each length.

For the mounting we propose the use of mounting pieces.



可续接安装式齿条 经调质处理 直齿
背面及定位面经磨削

Racks for Continuous Mounting- Quenched and Tempered,Straight Teeth
Ground Rear and Side Surface



带孔 | with bores

模数 Module	理论长 L ₁	z**	b	h _a	h	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t	a ₁	l ₁	d ₃	kg	订购编号 Part No.
2	502,65	80	24	24	22	2	62,8	125,66	8	7	11	7	31,3	440,1	5,7	2,20	996-020-205
2	1005,30	160	24	24	22	2	62,8	125,66	8	7	11	7	31,3	942,7	5,7	4,30	996-020-210
2	2010,61	320	24	24	22	2	62,8	125,66	8	7	11	7	31,3	1948,0	5,7	8,60	996-020-220
3	508,93	54	29	29	26	2	63,6	127,23	9	10	15	9	34,4	440,1	7,7	3,10	996-030-205
3	1017,87	108	29	29	26	2	63,6	127,23	9	10	15	9	34,4	949,1	7,7	6,20	996-030-210
3	2035,75	216	29	29	26	2	63,6	127,23	9	10	15	9	34,4	1967,0	7,7	12,40	996-030-220
4	502,65	40	39	39	35	3	62,8	125,66	12	10	15	9	37,5	427,7	7,7	5,50	996-040-205
4	1005,30	80	39	39	35	3	62,8	125,66	12	10	15	9	37,5	930,3	7,7	11,00	996-040-210
4	2010,61	160	39	39	35	3	62,8	125,66	12	10	15	9	37,5	1935,6	7,7	22,00	996-040-220
5	502,65	32	49	39	34	3	62,8	125,66	12	14	20	13	30,2	442,3	11,7	6,80	996-050-205
5	1005,30	64	49	39	34	3	62,8	125,66	12	14	20	13	30,2	945,0	11,7	13,60	996-050-210
5	2010,61	128	49	39	34	3	62,8	125,66	12	14	20	13	30,2	1950,0	11,7	27,20	996-050-220

不带孔 | without bores

模数 Module	理论长 L ₁	z**	b	h _a	h	f ^{+0.5}	kg	订购编号 Part No.
2	502,65	80	24	24	22	2	2,20	996-020-105
2	1005,30	160	24	24	22	2	4,30	996-020-110
2	2010,61	320	24	24	22	2	8,60	996-020-120
3	508,93	54	29	29	26	2	3,10	996-030-105
3	1017,87	108	29	29	26	2	6,20	996-030-110
3	2035,75	216	29	29	26	2	12,40	996-030-120
4	502,65	40	39	39	35	3	5,50	996-040-105
4	1005,30	80	39	39	35	3	11,00	996-040-110
4	2010,61	160	39	39	35	3	22,00	996-040-120
5	502,65	32	49	39	34	3	6,80	996-050-105
5	1005,30	64	49	39	34	3	13,60	996-050-110
5	2010,61	128	49	39	34	3	27,20	996-050-120

z**...齿数 number of teeth

齿条两端可以任意连接齿条, 以达到所需长度。

安装时, 我们推荐使用安装块。

Both ends of the racks are manufactured that they can be joined together in each length.

For the mounting we propose the use of mounting pieces.



齿条 /RACKS

可续接安装式齿条 经调质处理 斜齿
背面及定位面经磨削

Racks for Continuous Mounting– Quenched and Tempered, Helical Teeth
Ground Rear and Contact Surface

	钢号 steel	1.7225 [42 CrMo4 V]
	螺旋角 helix angle	19° 31’ 42” 右旋 right hand
	齿形角 pressure angle	20°
	制齿精度 toothing quality	8 e27
	背面及定位面经磨削 ground rear and contact surface	

带孔 | with bores

模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t	a ₁	l ₁	d ₃	kg	订购编号 Part No.
2	500,00	8,5	75	24	24	22	2	62,5	125	8	7	11	7	31,7	436,6	5,7	2,10	993-020-505
2	1000,00	8,5	150	24	24	22	2	62,5	125	8	7	11	7	31,7	936,6	5,7	4,30	993-020-510
2	2000,00	8,5	300	24	24	22	2	62,5	125	8	7	11	7	31,7	1936,6	7,7	8,60	993-020-520
3	500,00	10,3	50	29	29	26	2	62,5	125	9	10	15	9	35,0	430,0	7,7	3,00	993-030-505
3	1000,00	10,3	100	29	29	26	2	62,5	125	9	10	15	9	35,0	930,0	7,7	6,10	993-030-510
3	2000,00	10,3	200	29	29	26	2	62,5	125	9	10	15	9	35,0	1930,0	7,7	12,2	993-030-520
4	506,66	13,8	38	39	39	35	3	62,5	125	12	10	15	9	33,3	433,0	7,7	5,50	993-040-505
4	1000,00	13,8	75	39	39	35	3	62,5	125	12	10	15	9	33,3	933,4	7,7	10,90	993-040-510
4	2000,00	13,8	150	39	39	35	3	62,5	125	12	10	15	9	33,3	1933,4	7,7	21,80	993-040-520
5	500,00	17,4	30	49	39	34	3	62,5	125	12	14	20	13	37,5	425,0	11,7	6,50	993-050-505
5	1000,00	17,4	60	49	39	34	3	62,5	125	12	14	20	13	37,5	925,0	11,7	13,00	993-050-510
5	2000,00	17,4	120	49	39	34	3	62,5	125	12	14	20	13	37,5	1925,0	11,7	26,00	993-050-520

不带孔 | without bores

模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h	f ^{+0.5}	kg	订购编号 Part No.
2	500,00	8,5	75	24	24	22	2	2,10	993-020-705
2	1000,00	8,5	150	24	24	22	2	4,30	993-020-710
2	2000,00	8,5	300	24	24	22	2	8,60	993-020-720
3	500,00	10,3	50	29	29	26	2	3,00	993-030-705
3	1000,00	10,3	100	29	29	26	2	6,1	993-030-710
3	2000,00	10,3	200	29	29	26	2	12,2	993-030-720
4	506,66	13,8	38	39	39	35	3	5,50	993-040-705
4	1000,00	13,8	75	39	39	35	3	10,90	993-040-710
4	2000,00	13,8	150	39	39	35	3	21,80	993-040-720
5	500,00	17,4	30	49	39	34	3	6,50	993-050-705
5	1000,00	17,4	60	49	39	34	3	13,00	993-050-710
5	2000,00	17,4	120	49	39	34	3	26,00	993-050-720

z**…齿数 number of teeth

齿条两端可以任意连接齿条，以达到所需长度。
安装时，我们推荐使用安装块。
Both ends of the racks are manufactured that they can be joined together in each length.
For the mounting we propose the use of mounting pieces.

可续接安装式齿条 高频淬火 直齿
背面及侧面经磨削

Racks for Continuous Mounting– Induction Hardened, Straight Teeth
Ground Rear and Side Surface

	钢号 steel	1.0503 [C45]
	高频淬火 induction hardened	48-53 HRC*
	直齿 straight teeth	
	齿形角 pressure angle	20°
	制齿精度 toothing quality	10 e27

带孔 | with bores

模数 Module	理论长 L ₁	z**	b	h _a	h	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t	a ₁	l ₁	d ₃	kg	订购编号 Part No.
2	502,65	80	24	24	22	2	62,8	125,66	8	7	11	7	31,3	440,1	5,7	2,10	994-020-805
2	1005,30	160	24	24	22	2	62,8	125,66	8	7	11	7	31,3	942,7	5,7	4,20	994-020-810
2	2010,61	320	24	24	22	2	62,8	125,66	8	7	11	7	31,3	1948,0	5,7	8,40	994-020-820
3	508,93	54	29	29	26	2	63,6	127,23	9	10	15	9	34,4	440,1	7,7	3,00	994-030-805
3	1017,87	108	29	29	26	2	63,6	127,23	9	10	15	9	34,4	949,1	7,7	6,00	994-030-810
3	2035,75	216	29	29	26	2	63,6	127,23	9	10	15	9	34,4	1967,0	7,7	12,00	994-030-820
4	502,65	40	39	39	35	3	62,83	125,66	12	10	15	9	37,5	427,7	7,7	5,30	994-040-805
4	1005,30	80	39	39	35	3	62,83	125,66	12	10	15	9	37,5	930,3	7,7	10,60	994-040-810
4	2010,61	160	39	39	35	3	62,83	125,66	12	10	15	9	37,5	1935,6	7,7	21,20	994-040-820
5	502,65	32	49	39	34	3	62,83	125,66	12	14	20	13	30,2	442,3	11,7	6,90	994-050-805
5	1005,30	64	49	39	34	3	62,83	125,66	12	14	20	13	30,2	945,0	11,7	13,80	994-050-810
5	2010,61	128	49	39	34	3	62,83	125,66	12	14	20	13	30,2	1950,3	11,7	27,60	994-050-820
6	508,93	27	59	49	43	3	63,62	127,23	16	18	26	17	31,4	446,1	15,7	10,50	994-060-805
6	1017,87	54	59	49	43	3	63,62	127,23	16	18	26	17	31,4	955,0	15,7	21,00	994-060-810
6	2035,75	108	59	49	43	3	63,62	127,23	16	18	26	17	31,4	1972,9	15,7	42,00	994-060-820

不带孔 | without bores

模数 Module	理论长 L ₁	z**	b	h _a	h	f ^{+0.5}	kg	订购编号 Part No.
2	502,65	80	24	24	22	2	2,10	994-020-905
2	1005,30	160	24	24	22	2	4,20	994-020-910
2	2010,61	320	24	24	22	2	8,40	994-020-920
3	508,93	54	29	29	26	2	3,00	994-030-905
3	1017,87	108	29	29	26	2	6,00	994-030-910
3	2035,75	216	29	29	26	2	12,00	994-030-920
4	502,65	40	39	39	35	3	5,30	994-040-905
4	1005,30	80	39	39	35	3	10,60	994-040-910
4	2010,60	160	39	39	35	3	21,20	994-040-920
5	502,65	32	49	39	34	3	6,90	994-050-905
5	1005,30	64	49	39	34	3	13,80	994-050-910
5	2010,61	128	49	39	34	3	27,60	994-050-920
6	508,93	27	59	49	43	3	10,50	994-060-905
6	1017,87	54	59	49	43	3	21,00	994-060-910
6	2035,75	108	59	49	43	3	42,00	994-060-920

z**…齿数 number of teeth

* 模数 1-3，齿面和齿根高频淬火，从模数 4 开始只在齿面高频淬火。
*module 1 to 3 tooth flank and tooth root inductive hardened [all-tooth hardening] ,module 4 to 10 only tooth flank inductive hardened [single-tooth hardening]

齿条两端可以任意连接齿条，以达到所需长度。
安装时，我们推荐使用安装块。
Both ends of the racks are manufactured that they can be joined together in each length.
For the mounting we propose the use of mounting pieces.

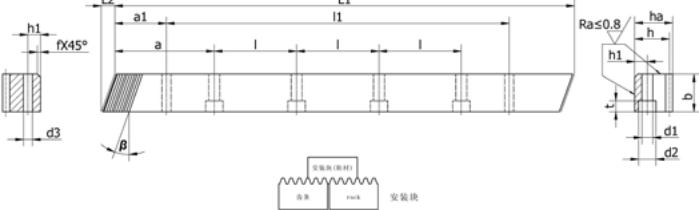
如果您需要其他尺寸，我们的设计师将竭诚为您服务。
If you need other dimensions–please contact our engineering department.



齿条 /RACKS

可续接安装式齿条 高频淬火 斜齿
背面及侧面经磨削

Racks for Continuous Mounting– Induction Hardened, Helical Teeth
Ground Rear and Side Surface



钢号 | steel1.0503
[C45]

高频淬火 | induction hardened48–53 HRC*

螺旋角 | helix angle19° 31’ 42” 右旋
right hand

齿形角 | pressure angle20°

制齿精度 | toothing quality10 e27

带孔 | with bores

模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t	a ₁	l ₁	d ₃	kg	订购编号 Part No.
2	500,00	8,5	75	24	24	22	2	62,5	125	8	7	11	7	31,7	436,6	5,7	2,10	993–020–805
2	1000,00	8,5	150	24	24	22	2	62,5	125	8	7	11	7	31,7	936,6	5,7	4,20	993–020–810
3	500,00	10,3	50	29	29	26	2	62,5	125	9	10	15	9	35,0	430,0	7,7	3,00	993–030–805
3	1000,00	10,3	100	29	29	26	2	62,5	125	9	10	15	9	35,0	930,6	7,7	6,00	993–030–810
4	506,66	13,8	38	39	39	35	3	62,5	125	12	10	15	9	33,3	433,0	7,7	5,30	993–040–805
4	1000,00	13,8	75	39	39	35	3	62,5	125	12	10	15	9	33,3	933,4	7,7	10,60	993–040–810
5	500,00	17,4	30	49	39	34	3	62,5	125	12	14	20	13	37,5	425,0	11,7	6,50	993–050–805
5	1000,00	17,4	60	49	39	34	3	62,5	125	12	14	20	13	37,5	925,0	11,7	13,00	993–050–810
6	500,00	20,90	25	59	49	43	3	62,5	125	16	18	26	17	37,5	425,0	15,7	9,90	993–060–805
6	1000,00	20,90	50	59	49	43	3	62,5	125	16	18	26	17	37,5	925,0	15,7	19,80	993–060–810

不带孔 | without bores

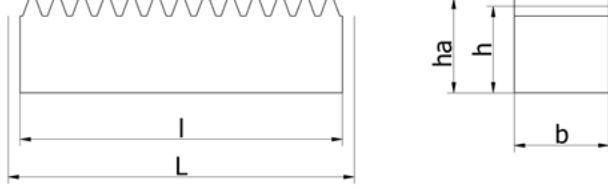
模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h	f ^{+0.5}	kg	订购编号 Part No.
2	500,00	8,5	75	24	24	22	2	2,10	993–020–905
2	1000,00	8,5	150	24	24	22	2	4,20	993–020–910
3	500,00	10,3	50	29	29	26	2	3,00	993–030–905
3	1000,00	10,3	100	29	29	26	2	6,00	993–030–910
4	506,66	13,8	38	39	39	35	2	5,30	993–040–905
4	1000,00	13,8	75	39	39	35	3	10,60	993–040–910
5	500,00	17,4	30	49	39	34	3	6,50	993–050–905
5	1000,00	17,4	60	49	39	34	3	13,00	993–050–910
6	500,00	20,90	25	59	49	43	3	9,90	993–060–905
6	1000,00	20,90	50	59	49	43	3	19,80	993–060–910

z**…齿数 number of teeth

* 模数 1–3，齿面和齿根高频淬火，从模数 4 开始只在齿面高频淬火。
*module 1 to 3 tooth flank and tooth root inductive hardened [all–tooth hardening] ,module 4 to 10 only tooth flank inductive hardened [single–tooth hardening]

齿条两端可以任意连接齿条，以达到所需长度。
安装时，我们推荐使用安装块。
Both ends of the racks are manufactured that they can be joined together in each length.
For the mounting we propose the use of mounting pieces.

可续接安装式齿条 高频淬火
Racks for Continuous Mounting– Induction Hardened



钢号 | steel1.0503
[C45]

直齿 | straight teeth

齿形角 | pressure angle20°

高频淬火 | induction hardened48–53 HRC*

制齿精度 | toothing quality10 e27

模数 Module	理论长 L	l	z**	b _{h11}	h _a	h	kg	订购编号 Part No.
1	499,51	499,0	+/- 0,5	159	10	9,80	0,34	996–010–405
1	999,02	998,5	+/- 0,5	318	10	9,80	0,68	996–010–410
1.5	499,51	499,1	+/- 0,5	106	15	14,80	0,78	996–015–405
1.5	999,02	998,6	+/- 0,5	212	15	14,80	1,55	996–015–410
1.5	1998,05	1997,6	+/- 0,5	424	15	14,80	3,10	996–015–420
2	502,65	502,1	+/- 0,5	80	20	19,75	1,40	996–020–405
2	999,02	998,5	+/- 0,5	159	20	19,75	2,80	996–020–410
2	1998,05	1997,5	+/- 0,5	318	20	19,75	5,60	996–020–420
2.5	502,65	502,1	+/- 0,5	64	25	24,75	2,10	996–025–405
2.5	997,45	996,9	+/- 0,5	127	25	24,75	4,20	996–025–410
2.5	2002,76	2002,3	+/- 0,5	255	25	24,75	8,40	996–025–420
3	499,51	498,9	+/- 0,5	53	30	29,75	3,10	996–030–405
3	999,02	998,4	+/- 0,5	106	30	29,75	6,20	996–030–410
3	1998,05	1997,4	+/- 0,5	212	30	29,75	12,40	996–030–420
4	502,65	501,9	+/- 0,5	40	40	39,70	5,50	996–040–405
4	1005,30	1004,6	+/- 0,5	80	40	39,70	11,00	996–040–410
4	1998,05	1997,3	+/- 0,5	159	40	39,70	22,00	996–040–420
5	502,65	501,8	+/- 0,6	32	50	49,70	8,60	996–050–405
5	1005,30	1004,5	+/- 0,6	64	50	49,70	17,20	996–050–410
5	2010,61	2009,8	+/- 0,6	128	50	49,70	34,40	996–050–420
6	508,93	508,0	+/- 0,6	27	60	59,65	12,30	996–060–405
6	999,02	998,1	+/- 0,6	53	60	59,65	24,50	996–060–410
6	1998,05	1997,2	+/- 0,6	106	60	59,65	49,00	996–060–420
8	502,65	501,4	+/- 0,6	20	80	79,60	21,40	996–080–405
8	1005,30	1004,0	+/- 0,6	40	80	79,60	42,70	996–080–410
8	2010,61	2009,4	+/- 0,6	80	80	79,60	85,40	996–080–420
10	1005,30	1003,9	+/- 0,6	32	100	99,60	70,60	996–100–410

模数 Module	齿距 pitch	理论长 L	l	z**	b _{h11}	h _a	h	kg	订购编号 Part No.
1.591	5	500	499,6	+/- 0,5	100	15	14,80	0,78	996–016–405
1.591	5	1000	999,6	+/- 0,5	200	15	14,80	1,55	996–016–410
1.591	5	2000	1999,1	+/- 0,5	400	15	14,80	3,10	996–016–420
3,183	10	500	499,4	+/- 0,5	50	30	29,70	3,10	996–031–405
3,183	10	1000	999,4	+/- 0,5	100	30	29,70	6,20	996–031–410
3,183	10	2000	1999,4	+/- 0,5	200	30	29,70	12,40	996–031–420

z**…齿数 number of teeth

* 模数 1–3，齿面和齿根高频淬火，从模数 4 开始只在齿面高频淬火。
*module 1 to 3 tooth flank and tooth root inductive hardened [all–tooth hardening] ,module 4 to 10 only tooth flank inductive hardened [single–tooth hardening]

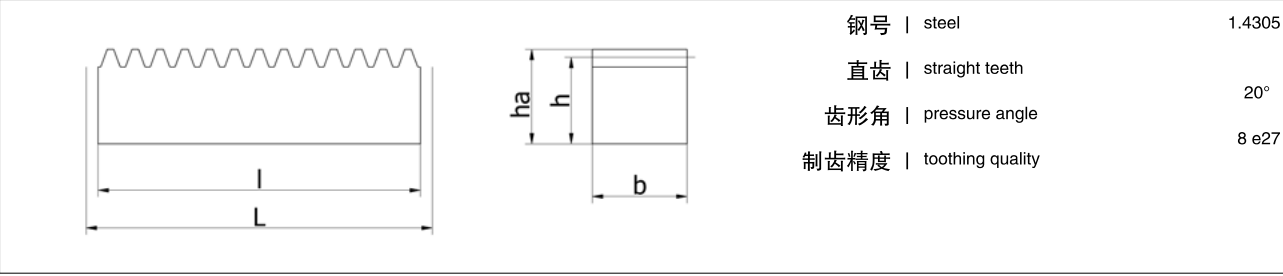
齿条两端可以任意连接齿条，以达到所需长度。
安装时，我们推荐使用安装块。
Both ends of the racks are manufactured that they can be joined together in each length.
For the mounting we propose the use of mounting pieces.

如果您需要其他尺寸，我们的设计师将竭诚为您服务。
If you need other dimensions–please contact our engineering department.



齿条 /RACKS

可续接安装式齿条 不锈钢
Racks for Continuous Mounting– Stainless Steel



模数 Module	理论长							订购编号	
	L	l		z**	b	h _a	h	kg	Part No.
1	499,51	499,0	+/- 0,3	159	10	9,80	8,80	0,34	996-010-605
1	999,02	998,5	+/- 0,3	318	10	9,80	8,80	0,68	996-010-610
1.5	499,51	499,1	+/- 0,3	106	15	14,80	13,30	0,78	996-015-605
1.5	999,02	998,6	+/- 0,3	212	15	14,80	13,30	1,55	996-015-610
2	502,65	502,1	+/- 0,3	80	20	19,75	17,75	1,40	996-020-605
2	999,02	998,5	+/- 0,3	159	20	19,75	17,75	2,80	996-020-610
2	1998,05	1997,5	+/- 0,3	318	20	19,75	17,75	5,60	996-020-620
3	499,51	498,9	+/- 0,3	53	30	29,75	26,75	3,10	996-030-605
3	999,02	998,4	+/- 0,3	106	30	29,75	26,75	6,20	996-030-610
3	1998,05	1997,4	+/- 0,3	210	30	29,75	26,75	12,40	996-030-620
4	1005,30	1004,6	+/- 0,3	80	40	39,70	35,70	11,00	996-040-610
4	1998,05	1997,3	+/- 0,3	159	40	39,70	35,70	22,00	996-040-620

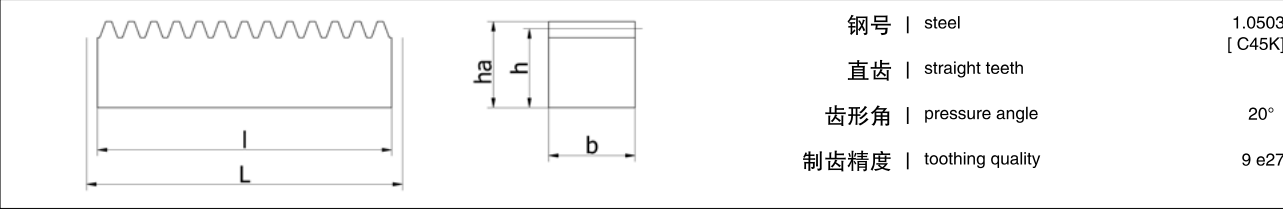
模数 Module	齿距 pitch	理论长 L	l		z**	b	h _a	h	kg	订购编号 Part No.
1.591	5	250	249,6	+/- 0,30	50	15	14,80	13,21	0,39	996-016-602
1.591	5	500	499,6	+/- 0,30	100	15	14,80	13,21	0,78	996-016-605
1.591	5	1000	999,6	+/- 0,30	200	15	14,80	13,21	1,55	996-016-610
3,183	10	250	249,4	+/- 0,30	25	30	29,70	26,52	1,55	996-031-602
3,183	10	500	499,4	+/- 0,30	50	30	29,70	26,52	3,10	996-031-605
3,183	10	1000	999,4	+/- 0,30	100	30	29,70	26,52	6,20	996-031-610
3,183	10	2000	1999,4	+/- 0,30	200	30	29,70	26,52	12,40	996-031-620

z**...齿数 number of teeth

齿条两端可以任意连接齿条，以达到所需长度。
安装时，我们推荐使用安装块。
Both ends of the racks are manufactured that they can be joined together in each length.
For the mounting we propose the use of mounting pieces.

如果您需要其他尺寸，我们的设计师将竭诚为您服务。
If you need other dimensions–please contact our engineering department.

可续接安装式齿条
Racks for Continuous Mounting



模数 Module	理论长									订购编号 Part No.
	L	l		z**	b _{h11}	h _a	h	kg		
1	499,51	499,0	+/- 0,30	159	10	9,80	8,80	0,34	996-010-005	
1	999,02	998,5	+/- 0,30	318	10	9,80	8,80	0,68	996-010-010	
1.5	499,51	499,1	+/- 0,30	106	15	14,80	13,30	0,78	996-015-005	
1.5	999,02	998,6	+/- 0,30	212	15	14,80	13,30	1,55	996-015-010	
1.5	1998,05	1997,6	+/- 0,30	424	15	14,80	13,30	3,10	996-015-020	
2	502,65	502,1	+/- 0,30	80	20	19,75	17,75	1,40	996-020-005	
2	999,02	998,5	+/- 0,30	159	20	19,75	17,75	2,80	996-020-010	
2	1998,05	1997,5	+/- 0,30	318	20	19,75	17,75	5,60	996-020-020	
2	3015,92	3015,4	+/- 0,30	480	20	19,75	17,75	8,50	996-020-030	
2.5	502,65	502,1	+/- 0,30	64	25	24,75	22,25	2,10	996-025-005	
2.5	997,45	996,9	+/- 0,30	127	25	24,75	22,25	4,20	996-025-010	
2.5	2002,76	2002,3	+/- 0,30	255	25	24,75	22,25	8,40	996-025-020	
2.5	3000,22	2999,7	+/- 0,30	382	25	24,75	22,25	12,60	996-025-030	
3	499,51	498,9	+/- 0,30	53	30	29,75	26,75	3,10	996-030-005	
3	999,02	998,4	+/- 0,30	106	30	29,75	26,75	6,20	996-030-010	
3	1998,05	1997,4	+/- 0,30	212	30	29,75	26,75	12,40	996-030-020	
3	3053,62	3053,0	+/- 0,30	324	30	29,75	26,75	19,32	996-030-030	
4	502,65	501,9	+/- 0,30	40	40	39,70	35,70	5,50	996-040-005	
4	1005,30	1004,6	+/- 0,30	80	40	39,70	35,70	11,00	996-040-010	
4	1998,05	1997,3	+/- 0,30	159	40	39,70	35,70	22,00	996-040-020	
4	3015,92	3015,2	+/- 0,30	240	40	39,70	35,70	33,93	996-040-030	
5	502,65	501,8	+/- 0,40	32	50	49,70	44,70	8,60	996-050-005	
5	1005,30	1004,5	+/- 0,40	64	50	49,70	44,70	17,20	996-050-010	
5	2010,61	2009,8	+/- 0,40	128	50	49,70	44,70	34,40	996-050-020	
5	3015,93	3015,1	+/- 0,40	192	50	49,70	44,70	34,40	996-050-030	
6	508,93	508,0	+/- 0,40	27	60	59,65	53,65	12,30	996-060-005	
6	999,02	998,1	+/- 0,40	53	60	59,65	53,65	24,50	996-060-010	
6	1998,05	1997,2	+/- 0,40	106	60	59,65	53,65	49,00	996-060-020	
8	502,65	501,4	+/- 0,50	20	80	79,60	71,60	21,40	996-080-005	
8	1005,30	1004,0	+/- 0,50	40	80	79,60	71,60	42,70	996-080-010	
8	2010,61	2009,4	+/- 0,50	80	80	79,60	71,60	85,40	996-080-020	
10	1005,30	1003,9	+/- 0,50	32	100	99,60	89,60	70,60	996-100-010	

模数 Module	齿距 pitch	理论长 L	l		z**	b _{h11}	h _a	h	kg	订购编号 Part No.
1.591	5	500	499,6	+/- 0,30	100	15	14,80	13,21	0,78	996-016-005
1.591	5	1000	999,6	+/- 0,30	200	15	14,80	13,21	1,55	996-016-010
1.591	5	2000	1999,6	+/- 0,30	400	15	14,80	13,21	3,10	996-016-020
3,183	10	500	499,4	+/- 0,30	50	30	29,70	26,52	3,10	996-031-005
3,183	10	1000	999,4	+/- 0,30	100	30	29,70	26,52	6,20	996-031-010
3,183	10	2000	1999,4	+/- 0,30	200	30	29,70	26,52	12,40	996-031-020

z**...齿数 number of teeth

齿条两端可以任意连接齿条，以达到所需长度。
安装时，我们推荐使用安装块。
Both ends of the racks are manufactured that they can be joined together in each length.
For the mounting we propose the use of mounting pieces.

如果您需要其他尺寸，我们的设计师将竭诚为您服务。
If you need other dimensions–please contact our engineering department.

标准齿条是用过齿顶式铣刀，
由 1.0503 [C45] 冷拔方钢，依据
DIN178,9 级制齿精度，并依据
DIN3962,3963 和 3967 加工而成。

Standard racks made out of
material Steel 1.503 [C45K] are
manufactured according to
DIN178 in tooth quality 9
according to DIN 3962 ,3963 and 3967



齿条 /RACKS

可续接安装式齿条 斜齿
Racks for Continuous Mounting, Helical Teeth

钢号 | steel1.0503
[C45k]

螺旋角 | helix angle19° 31’ 42” 右旋
right hand

齿形角 | pressure angle20°

制齿精度 | toothing quality9 e27

带孔 | with bores

模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h ₀	f ^{+0.5}	a	l	h ₁	d ₁	d ₂	t	a ₁	l ₁	d ₃	kg	订购编号 Part No.
2	500	8,9	75	25	24,75	22,75	2	62,5	125	8	7	11	7	31,7	436,6	5,7	2,2	995-020-205
2	1000	8,9	150	25	24,75	22,75	2	62,5	125	8	7	11	7	31,7	936,6	5,7	4,4	995-020-210
2	2000	8,9	300	25	24,75	22,75	2	62,5	125	8	7	11	7	31,7	1936,6	5,7	8,8	995-020-220
3	500	10,6	50	30	29,75	26,75	2	62,5	125	9	10	15	9	35	430	7,7	3,1	995-030-205
3	1000	10,6	100	30	29,75	26,75	2	62,5	125	9	10	15	9	35	930	7,7	6,2	995-030-210
3	2000	10,6	200	30	29,75	26,75	2	62,5	125	9	10	15	9	35	1930	7,7	12,5	995-030-220
4	506,66	14,5	38	40	39,70	35,70	3	62,5	125	12	10	15	9	33,3	433	7,7	5,6	995-040-205
4	1000	14,2	75	40	39,70	35,70	3	62,5	125	12	10	15	9	33,3	933,4	7,7	11,1	995-040-210
4	2000	14,2	150	40	39,70	35,70	3	62,5	125	12	10	15	9	33,3	1933,4	7,7	22,2	995-040-220
5	1000	17,7	60	50	39,70	34,70	3	62,5	125	12	14	20	13	37,5	925	11,7	13,26	995-050-210
5	2000	17,7	120	50	39,70	34,70	3	62,5	125	12	14	20	13	37,5	1925	11,7	26,52	995-050-220
6	1000	21,3	50	60	49,70	43,70	3	62,5	125	16	18	26	17	37,5	925	15,7	20,12	995-060-210
6	2000	21,3	100	60	49,70	43,70	3	62,5	125	16	18	26	17	37,5	1925	15,7	40,24	995-060-220
8	960	28,4	36	80	79,60	71,60	3	60	120	25	25	33	21	120	720	19,7	44,85	995-080-210
8	1920	28,4	72	80	79,60	71,60	3	60	120	25	25	33	21	120	1680	19,7	89,71	995-080-220
10	1000	35,5	30	100	99,00	89,00	3	62,5	125	32	33	48	32	125	750	19,7	69,80	995-100-210

不带孔 | without bores

模数 Module	理论长 L ₁	L ₂	z**	b	h _a	h ₀	f ^{+0.5}	kg	订购编号 Part No.
2	500	8,9	75	25	24,75	22,75	2	2,2	995-020-105
2	1000	8,9	150	25	24,75	22,75	2	4,4	995-020-110
2	2000	8,9	300	25	24,75	22,75	2	8,8	995-020-120
3	500	10,6	50	30	29,75	26,75	2	3,1	995-030-105
3	1000	10,6	100	30	29,75	26,75	2	6,2	995-030-110
3	2000	10,6	200	30	29,75	26,75	2	12,5	995-030-120
4	506,66	14,5	38	40	39,70	35,70	3	5,6	995-040-105
4	1000	14,2	75	40	39,70	35,70	3	11,1	995-040-110
4	2000	14,2	150	40	39,70	35,70	3	22,2	995-040-120
5	1000	17,7	60	50	39,70	34,70	3	13,26	995-050-110
5	2000	17,7	120	50	39,70	34,70	3	26,52	995-050-120
6	1000	21,3	50	60	49,70	43,70	3	20,12	995-060-110
6	2000	21,3	100	60	49,70	43,70	3	40,24	995-060-120
8	960	28,4	36	80	79,60	71,60	3	44,85	995-080-110
8	1920	28,4	72	80	79,60	71,60	3	89,71	995-080-120
10	1000	35,5	30	100	99,00	89,00	3	69,80	995-100-110

z**…齿数 number of teeth

齿条两端可以任意连接齿条，以达到所需长度。
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Both ends of the racks are manufactured that they can be joined together in each length.
For the mounting we propose the use of mounting pieces.

齿条
Racks

钢号 | steel1.0503
[C45K]

直齿 | straight teeth

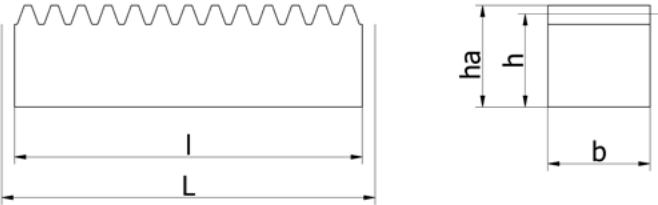
齿形角 | pressure angle20°

制齿精度 | toothing quality9 e27

模数 Module	L	b _{h11}	h _a	h	kg	订购编号 Part No.
1	250	10	9,80	8,80	0,17	990-010-002
1	500	10	9,80	8,80	0,34	990-010-005
1	1000	10	9,80	8,80	0,68	990-010-010
1,5	250	15	14,80	13,30	0,39	990-015-002
1,5	500	15	14,80	13,30	0,78	990-015-005
1,5	1000	15	14,80	13,30	1,55	990-015-010
1,5	2000	15	14,80	13,30	3,10	990-015-020
2	500	20	19,75	17,75	1,40	990-020-005
2	1000	20	19,75	17,75	2,80	990-020-010
2	2000	20	19,75	17,75	5,60	990-020-020
2,5	500	25	24,75	22,25	2,10	990-025-005
2,5	1000	25	24,75	22,25	4,20	990-025-010
2,5	2000	25	24,75	22,25	8,40	990-025-020
3	500	30	29,75	26,75	3,10	990-030-005
3	1000	30	29,75	26,75	6,20	990-030-010
3	2000	30	29,75	26,75	12,40	990-030-020
4	500	40	39,70	35,70	5,50	990-040-005
4	1000	40	39,70	35,70	11,00	990-040-010
4	2000	40	39,70	35,70	22,00	990-040-020
5	500	50	49,70	44,70	8,60	990-050-005
5	1000	50	49,70	44,70	17,20	990-050-010
5	2000	50	49,70	44,70	34,40	990-050-020
6	500	60	59,65	53,65	12,30	990-060-005
6	1000	60	59,65	53,65	24,50	990-060-010
6	2000	60	59,65	53,65	49,00	990-060-020
8	500	80	79,60	71,60	21,40	990-080-005
8	1000	80	79,60	71,60	42,70	990-080-010
8	2000	80	79,60	71,60	85,40	990-080-020

模数 Module	齿距 pitch	L	b _{h11}	h _a	h	kg	订购编号 Part No.
1,591	5	250	15	14,80	13,21	0,39	990-016-002
1,591	5	500	15	14,80	13,21	0,78	990-016-005
1,591	5	1000	15	14,80	13,21	1,55	990-016-010
1,591	5	2000	15	14,80	13,21	3,10	990-016-020
3,183	10	250	30	29,70	26,52	1,55	990-031-002
3,183	10	500	30	29,70	26,52	3,10	990-031-005
3,183	10	1000	30	29,70	26,52	6,20	990-031-010
3,183	10	2000	30	29,70	26,52	12,40	990-031-020

塑料齿条
Synthetic Racks



聚酰胺 P6 | nylon P6

切削加工 | mat.machined

直齿 | straight teeth

齿形角 | pressure angle20°

制齿精度 | toothing quality10 e27

模数 Module	理论长 L	l	z**	b	ha	h	订购编号 Part No.
1	251,32	250,8	80	10	10	9,0	998-010-602
1	499,51	499,0	159	10	10	9,0	998-010-605
1	999,02	998,5	318	15	15	14,0	998-010-610
1,5	249,75	249,3	53	15	15	13,5	998-015-602
1,5	499,51	499,1	106	15	15	13,5	998-015-605
1,5	999,02	998,6	212	17	17	15,5	998-015-610
2	251,32	250,8	40	20	20	18,0	998-020-602
2	502,65	502,1	80	20	20	18,0	998-020-605
2	999,02	998,5	159	20	20	18,0	998-020-610
2,5	251,32	250,8	32	25	25	22,5	998-025-602
2,5	502,65	502,2	64	25	25	22,5	998-025-605
2,5	997,45	997,0	127	25	25	22,5	998-025-610
3	254,46	253,8	27	30	30	27,0	998-030-602
3	499,51	498,9	53	30	30	27,0	998-030-605
3	999,02	998,4	106	30	30	27,0	998-030-610

乙醛树脂 | acetal Resin

[Hostaform C] | [hostaform C]

直齿 | straight teeth

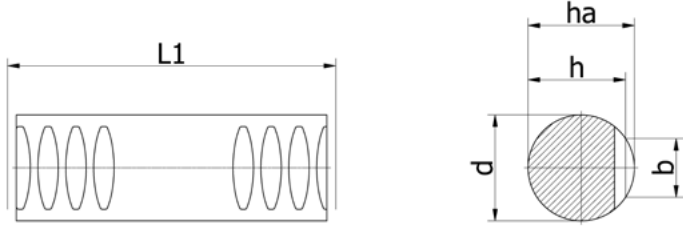
齿形角 20° | pressure angle 20°

注塑成型 | injection moulded

模数 Module	理论长 L	z**	b	ha	h	订购编号 Part No.
0.5	250,0	158	4	4,5	4,0	999-005-602
0.7	250,0	112	6	6,7	6,0	999-007-602
1.0	250,0	79	9	9,0	8,0	999-010-602
1.25	250,0	63	10	11,0	9,8	999-012-602
1.5	250,0	53	12	12,0	10,5	999-015-602
2.0	250,0	39	15,4	11,0	9,0	999-020-602
2.5	250,0	32	17	13,0	10,5	999-025-602
3.0	250,0	26	19,4	15,0	12,0	999-030-602

z**...齿数 number of teeth

可续接安装式圆柱齿条 不锈钢
Round Racks for Continuous Mounting – Stainless Steel



钢号 | steel1.4305

直齿 | straight teeth

齿形角 | pressure angle20°

制齿精度 | toothing quality8 e27

模数 Module	理论长 L	z**	d _{h9}	b	ha	h	kg	订购编号 Part No.
1	499,51	159	10	6,2	9,9	8,9	0,66	991-510-050
1	999,02	318	10	6,2	9,9	8,9	1,35	991-510-100
1,5	499,51	106	15	9,3	14,9	13,4	0,84	991-515-050
1,5	999,02	212	15	9,3	14,9	13,4	1,70	991-515-100
2	502,65	80	20	12,5	19,8	17,8	1,10	991-520-050
2	999,02	159	20	12,5	19,8	17,8	2,20	991-520-100
3	499,51	53	30	18,5	29,8	26,8	2,50	991-530-050
3	999,02	106	30	18,5	29,8	26,8	5,10	991-530-100

z**...齿数 number of teeth

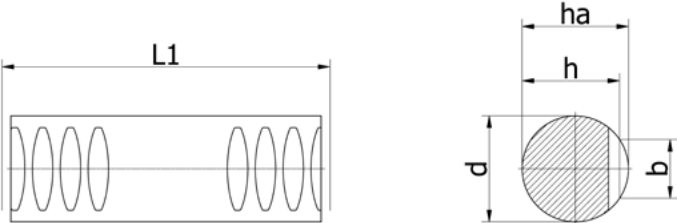
外径精度等级为 h9。
The outside diamater is h9.

齿条两端可以任意连接齿条，以达到所需长度。
Both ends of the racks are manufactured that they can be joined together in each length.



可续接安装式圆柱齿条

Round Racks for Continuous Mounting



钢号 | steel

1.0503
[C45]

直齿 | straight teeth

齿形角 | pressure angle

20°

制齿精度 | toothing quality

8 e27

模数 Module	理论长 L	z**	d _{h11}	b	h _a	h	kg	订购编号 Part No.
1	499,51	159	15	7,5	15	14,0	0,66	991-610-050
1	999,02	318	15	7,5	15	14,0	1,35	991-610-100
1,5	499,51	106	17	9,6	17	15,5	0,84	991-615-050
1,5	999,02	212	17	9,6	17	15,5	1,70	991-615-100
2	502,65	80	20	12,0	20	18,0	1,10	991-620-050
2	999,02	159	20	12,0	20	18,0	2,20	991-620-100
2,5	502,65	64	25	15,0	25	22,5	1,80	991-625-050
2,5	997,45	127	25	15,0	25	22,5	3,60	991-625-100
3	499,51	53	30	18,0	30	27,0	2,50	991-630-050
3	999,02	106	30	18,0	30	27,0	5,10	991-630-100
4	502,65	40	40	24,0	40	36,0	4,50	991-640-050
4	1005,30	80	40	24,0	40	36,0	9,10	991-640-100
5	502,65	32	50	30,0	50	45,0	7,10	991-650-050
5	1005,30	64	50	30,0	50	45,0	14,30	991-650-100

制齿精度 8 e27 | toothing quality 8 e27

模数 Module	齿距 pitch	理论长 L	z**	d _{h11}	b	h _a	h	kg	订购编号 Part No.
1,591	5	500	100	15	9,7	14,8	13,2	0,85	991-616-050
1,591	5	1000	200	15	9,7	14,8	13,2	1,7	991-610-100
3,183	10	500	50	30	19,3	29,7	26,5	2,5	991-631-050
3,183	10	1000	100	30	19,3	29,7	26,5	5,1	991-631-100

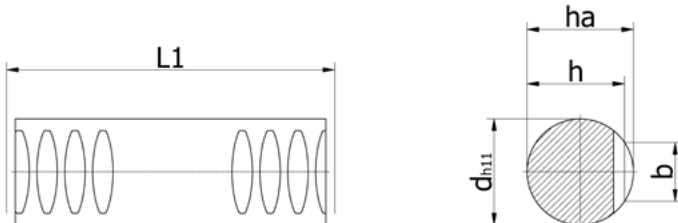
z**...齿数 number of teeth

外径精度等级为 h11。
The outside diamater is h11.

齿条两端可以任意连接齿条，以达到所需长度。
Both ends of the racks are manufactured that they can be joined together in each length.

圆柱齿条

Round Racks



钢号 | steel

1.0503
[C45]

直齿 | straight teeth

齿形角 | pressure angle

20°

制齿精度 | toothing quality

9 e27

模数 Module	L	d _{h11}	h _a	h	kg	订购编号 Part No.
1	250	10	9,8	8,8	0,14	991-010-025
1	500	10	9,8	8,8	0,27	991-010-050
1,5	250	15	14,8	13,3	0,31	991-015-025
1,5	500	15	14,8	13,3	0,61	991-015-050
1,5	1000	15	14,8	13,3	1,22	991-015-100
2	250	20	19,75	17,75	0,55	991-020-025
2	500	20	19,75	17,75	1,10	991-020-050
2	1000	20	19,75	17,75	2,20	991-020-100
2,5	250	25	24,75	22,25	0,83	991-025-025
2,5	500	25	24,75	22,25	1,65	991-025-050
2,5	1000	25	24,75	22,25	3,30	991-025-100
3	250	30	29,75	26,75	1,22	991-030-025
3	500	30	29,75	26,75	2,44	991-030-050
3	1000	30	29,75	26,75	4,80	991-030-100
4	500	40	39,7	35,70	4,32	991-040-050
4	1000	40	39,7	35,70	8,64	991-040-100
5	500	50	49,7	44,70	6,75	991-050-050
5	1000	50	49,7	44,70	13,5	991-050-100

模数 Module	齿距 pitch	L	d _{h11}	h _a	h	kg	订购编号 Part No.
1,591	5	500	15	14,8	13,21	0,78	991-016-050
1,591	5	1000	15	14,8	13,21	1,55	991-016-100
3,183	10	500	30	29,7	26,52	3,10	991-031-050
3,183	10	1000	30	29,7	26,52	6,20	991-031-100

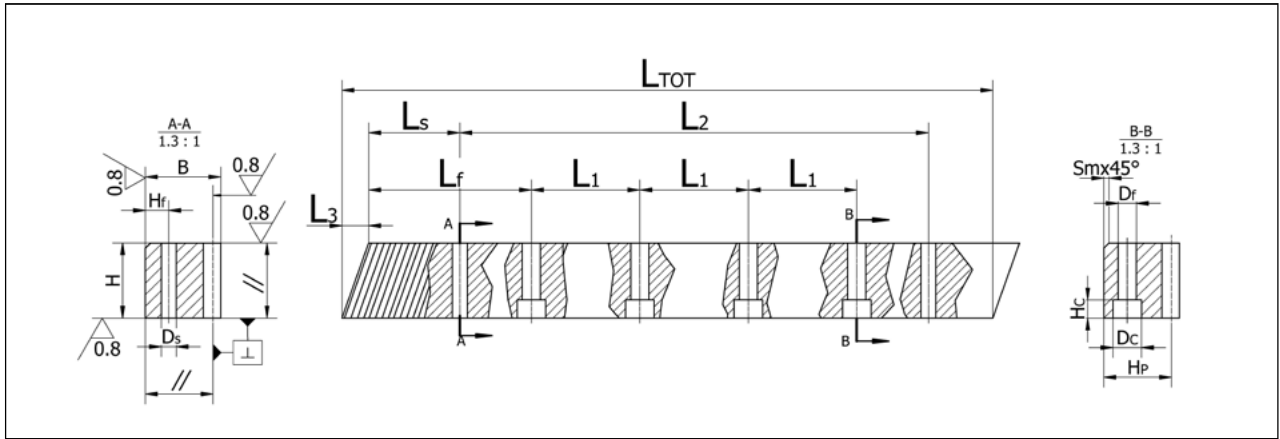
z**...齿数 number of teeth

外径精度等级为 h11。
The outside diamater is h11.

如果您需要其他尺寸，我们的设计师将竭诚为您服务。
If you need other dimensions-please contact our engineering department.

斜齿条

Helical tooth system



品质: 5h25 材质: 16MnCr5

螺旋角: 19° 31’ 42” 右旋

Helical tooth system :19° 31’ 42” Right-hand

表面: 研磨 / Surface:ground

热处理: 表面硬化和感应淬火齿 硬度 60

Heat-treatment:case-hardening and induction-hardened teeth 60 HRC

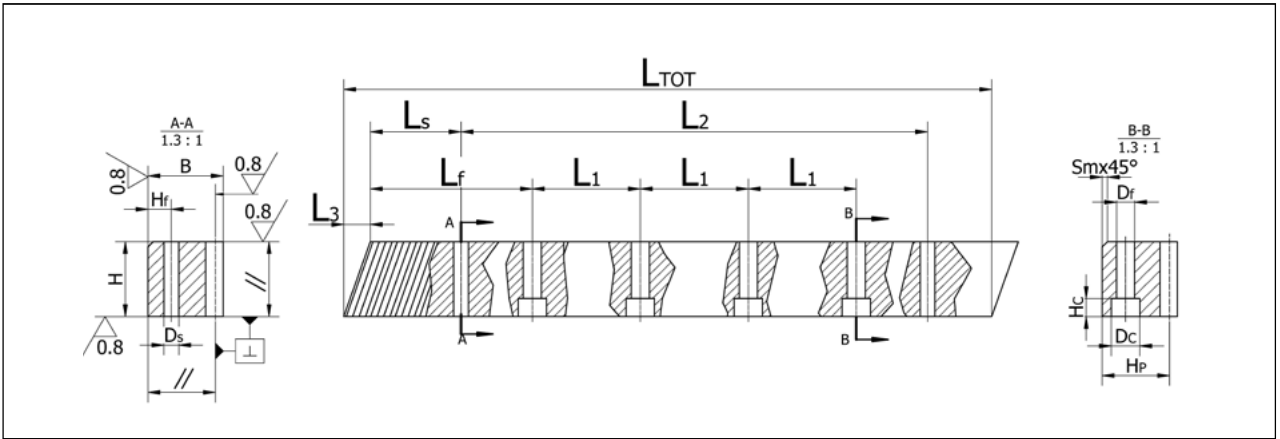
R=1000-1100N/mm2 (张力强度)

R=1000-1100N/mm2 (tensile strength)

M	L3	L TOT	Lf	L1	Ls	H	B	Hf	Ds	Smx 45°	Df	Dc	Hc	Hp	Z	L2	订购编号 Part No.
2	8,51	167,000	62,50	41,7	31,70	24	24	8	5,7	2	7	11	7	22	25	103,300	1GB35R020016
2	8,51	333,000	62,50	104,2	31,70	24	24	8	5,7	2	7	11	7	22	49	269,900	1GB35R020033
2	8,51	480,000	38,51	60	12	24	24	8,5	7,7	2	9	15	8,5	22	72	453,000	1GB35R020048
2	8,51	500,000	62,50	125	31,71	24	24	8	5,7	2	7	11	7	22	75	436,580	1GB35R020050
2	8,51	999,999	62,50	125	31,71	24	24	8	5,7	2	7	11	7	22	150	936,575	1GB35R020100
3	10,29	250,000	62,50	125	34,99	29	29	9	7,7	2	10	15	9	26	25	180,000	1GB35R030025
3	10,29	480,000	28,20	60	10,20	29	29	9,5	7,7	2	11	17	10,5	26	48	453,000	1GB35R030048
3	10,29	499,999	62,50	125	34,99	29	29	9	7,7	2	10	15	9	26	50	430,028	1GB35R030050
3	10,29	999,999	62,50	125	34,99	29	29	9	7,7	2	10	15	9	26	100	930,028	1GB35R030100
4	13,83	480,000	23	60	7	39	39	12	9,7	3	14	20	13	35	36	452,000	1GB35R040048
4	13,83	506,666	62,50	125	33,29	39	39	12	7,7	3	10	15	9	35	38	433,000	1GB35R040050
4	13,83	999,999	62,50	125	33,30	39	39	12	7,7	3	10	15	9	35	75	933,395	1GB35R040100
5	17,38	499,999	62,50	125	37,50	49	39	12	11,7	3	14	20	13	34	30	425,002	1GB35R050050
5	17,38	999,999	62,50	125	37,50	49	39	12	11,7	3	14	20	13	34	60	925,000	1GB35R050100
6	20,92	499,999	62,50	125	37,50	59	49	16	15,7	3	18	26	17	43	25	425,002	1GB35R060050
6	20,92	999,999	62,50	125	37,50	59	49	16	15,7	3	18	26	17	43	50	925,000	1GB35R060100

斜齿条

Helical tooth system



品质: 5h25 材质: C45E

螺旋角: 19° 31’ 42” 右旋

Helical tooth system :19° 31’ 42” Right-hand

表面: 研磨 / Surface:ground

热处理: 感应淬火齿 硬度 45-50

Heat-treatment:induction-hardening teeth 45-50 HRC

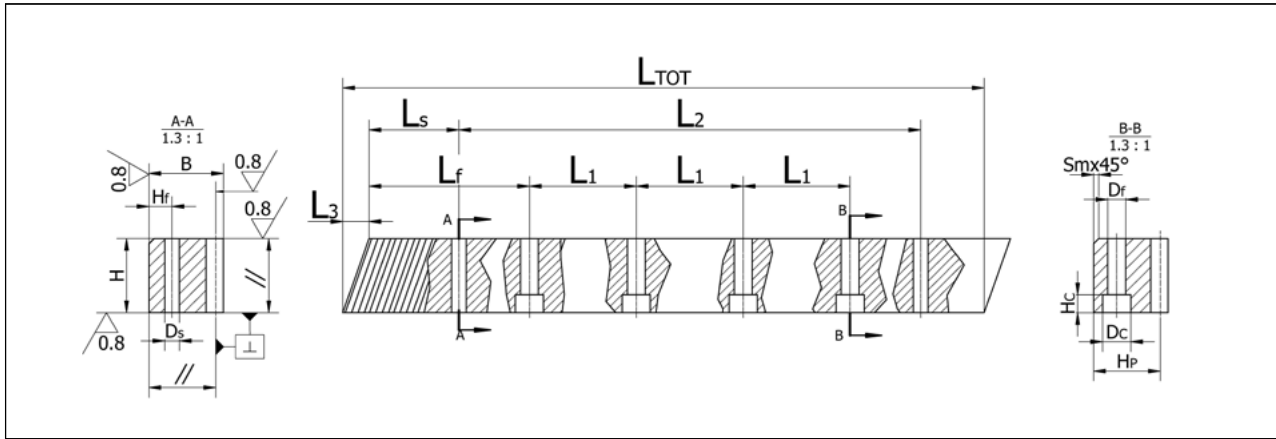
R=600-630N/mm2 (张力强度)

R=600-630N/mm2 (tensile strength)

M	L3	L TOT	Lf	L1	Ls	H	B	Hf	Ds	Smx 45°	Df	Dc	Hc	Hp	Z	L2	订购编号 Part No.
2	8,51	167,000	62,50	41,7	31,70	24	24	8	5,7	2	7	11	7	22	25	103,300	1GB15R020016
2	8,51	333,000	62,50	104,2	31,70	24	24	8	5,7	2	7	11	7	22	49	269,900	1GB15R020033
2	8,51	480,000	38,51	60	12	24	24	8,5	7,7	2	9	15	8,5	22	72	453,000	1GB15R020048
2	8,51	500,000	62,50	125	31,71	24	24	8	5,7	2	7	11	7	22	75	436,580	1GB15R020050
2	8,51	999,999	62,50	125	31,71	24	24	8	5,7	2	7	11	7	22	150	936,575	1GB15R020100
3	10,29	250,000	62,50	125	34,99	29	29	9	7,7	2	10	15	9	26	25	180,000	1GB15R030025
3	10,29	480,000	28,20	60	10,20	29	29	9,5	7,7	2	11	17	10,5	26	48	453,000	1GB15R030048
3	10,29	499,999	62,50	125	34,99	29	29	9	7,7	2	10	15	9	26	50	430,028	1GB15R030050
3	10,29	999,999	62,50	125	34,99	29	29	9	7,7	2	10	15	9	26	100	930,028	1GB15R030100
4	13,83	480,000	23	60	7	39	39	12	9,7	3	14	20	13	35	36	452,000	1GB15R040048
4	13,83	506,666	62,50	125	33,29	39	39	12	7,7	3	10	15	9	35	38	433,000	1GB15R040050
4	13,83	999,999	62,50	125	33,30	39	39	12	7,7	3	10	15	9	35	75	933,395	1GB15R040100
5	17,38	499,999	62,50	125	37,50	49	39	12	11,7	3	14	20	13	34	30	425,002	1GB15R050050
5	17,38	999,999	62,50	125	37,50	49	39	12	11,7	3	14	20	13	34	60	925,000	1GB15R050100
6	20,92	499,999	62,50	125	37,50	59	49	16	15,7	3	18	26	17	43	25	425,002	1GB15R060050
6	20,92	999,999	62,50	125	37,50	59	49	16	15,7	3	18	26	17	43	50	925,000	1GB15R060100

斜齿条

Helical tooth system



品质: 5h25 材质: 42CrMo

螺旋角: 19° 31’ 42” 右旋

Helical tooth system :19° 31’ 42” Right-hand

表面: 研磨 / Surface:ground

热处理: 感应淬火齿 硬度 50-58

Heat-treatment:case-hardening and induction-hardened teeth 50-58 HRC

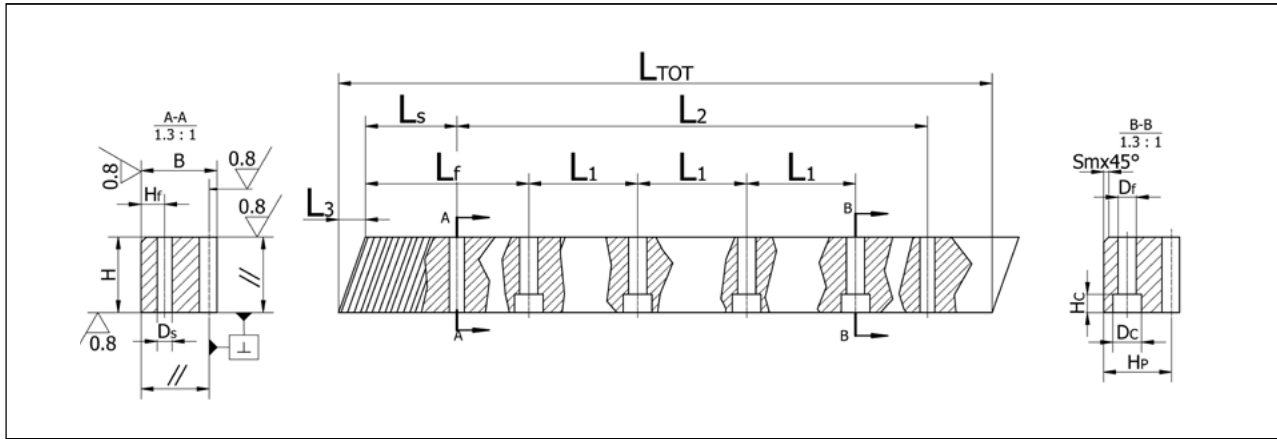
R=800-860N/mm2 (抗拉强度)

R=800-860N/mm2 (tensile strength)

M	L3	L TOT	Lf	L1	Ls	H	B	Hf	Ds	Smx 45°	Df	Dc	Hc	Hp	Z	L2	订购编号 Part No.
2	8,51	167,000	62,50	41,7	31,70	24	24	8	5,7	2	7	11	7	22	25	103,300	1GB25R020016
2	8,51	333,000	62,50	104,2	31,70	24	24	8	5,7	2	7	11	7	22	49	269,900	1GB25R020033
2	8,51	480,000	38,51	60	12	24	24	8,5	7,7	2	9	15	8,5	22	72	453,000	1GB25R020048
2	8,51	500,000	62,50	125	31,71	24	24	8	5,7	2	7	11	7	22	75	436,580	1GB25R020050
2	8,51	999,999	62,50	125	31,71	24	24	8	5,7	2	7	11	7	22	150	936,575	1GB25R020100
3	10,29	250,000	62,50	125	34,99	29	29	9	7,7	2	10	15	9	26	25	180,000	1GB25R020025
3	10,29	480,000	28,20	60	10,20	29	29	9,5	7,7	2	11	17	10,5	26	48	453,000	1GB25R020048
3	10,29	499,999	62,50	125	34,99	29	29	9	7,7	2	10	15	9	26	50	430,028	1GB25R020050
3	10,29	999,999	62,50	125	34,99	29	29	9	7,7	2	10	15	9	26	100	930,028	1GB25R020100
4	13,83	480,000	23	60	7	39	39	12	9,7	3	14	20	13	35	36	452,000	1GB25R020048
4	13,83	506,666	62,50	125	33,29	39	39	12	7,7	3	10	15	9	35	38	433,000	1GB25R020050
4	13,83	999,999	62,50	125	33,30	39	39	12	7,7	3	10	15	9	35	75	933,395	1GB25R020100
5	17,38	499,999	62,50	125	37,50	49	39	12	11,7	3	14	20	13	34	30	425,002	1GB25R020050
5	17,38	999,999	62,50	125	37,50	49	39	12	11,7	3	14	20	13	34	60	925,000	1GB25R020100
6	20,92	499,999	62,50	125	37,50	59	49	16	15,7	3	18	26	17	43	25	425,002	1GB25R020050
6	20,92	999,999	62,50	125	37,50	59	49	16	15,7	3	18	26	17	43	50	925,000	1GB25R020100

斜齿条

Helical tooth system



品质: 7h25 材质: C45E

螺旋角: 19° 31’ 42” 右旋

Helical tooth system :19° 31’ 42” Right-hand

表面: 研磨 / Surface:ground

热处理: 感应淬火齿 硬度 45-50

Heat-treatment:case-hardening and induction-hardened teeth 45-50 HRC

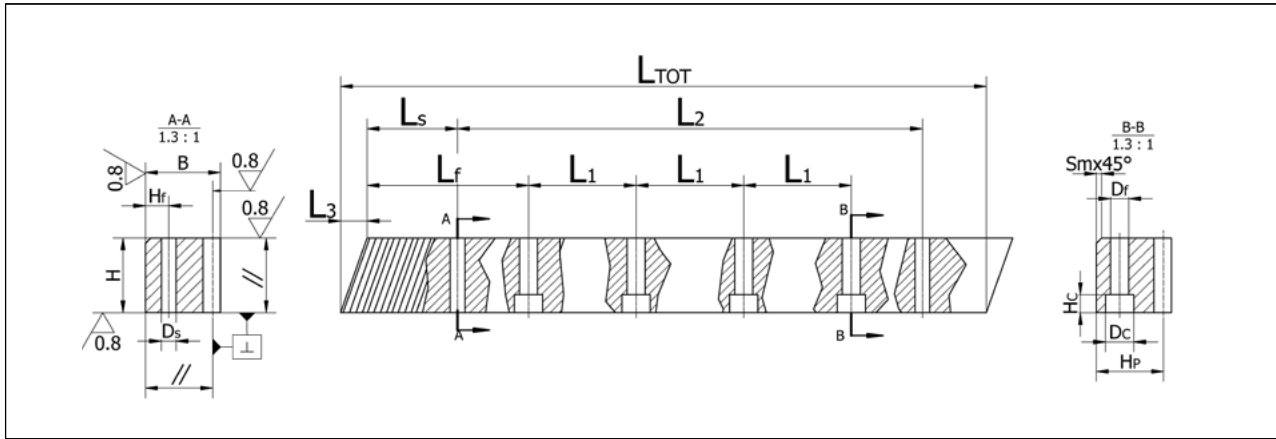
R=600-630N/mm2 (抗拉强度)

R=600-630N/mm2 (tensile strength)

M	L3	L TOT	Lf	L1	Ls	H	B	Hf	Ds	Smx 45°	Df	Dc	Hc	Hp	Z	L2	订购编号 Part No.
2	8,51	999,999	62,5	125	31,71	24	24	8	5,7	2	7	11	7	22	150	936,575	1GB17R020100
3	10,29	999,999	62,5	125	34,99	29	29	9	7,7	2	10	15	9	26	100	930,028	1GB17R030100
4	13,83	999,999	62,5	125	33,30	39	39	12	7,7	3	10	15	9	35	75	933,395	1GB17R040100
5	17,38	999,999	62,5	125	37,50	49	39	12	11,7	3	14	20	13	34	60	932,095	1GB17R050100

斜齿条

Helical tooth system



品质：7h25 材质：42CrMo

螺旋角：19° 31’ 42” 右旋

Helical tooth system :19° 31’ 42” Right-hand

表面：研磨 / Surface:ground

热处理：感应淬火齿 硬度 50-58

Heat-treatment:case-hardening and induction-hardened teeth 50-58 HRC

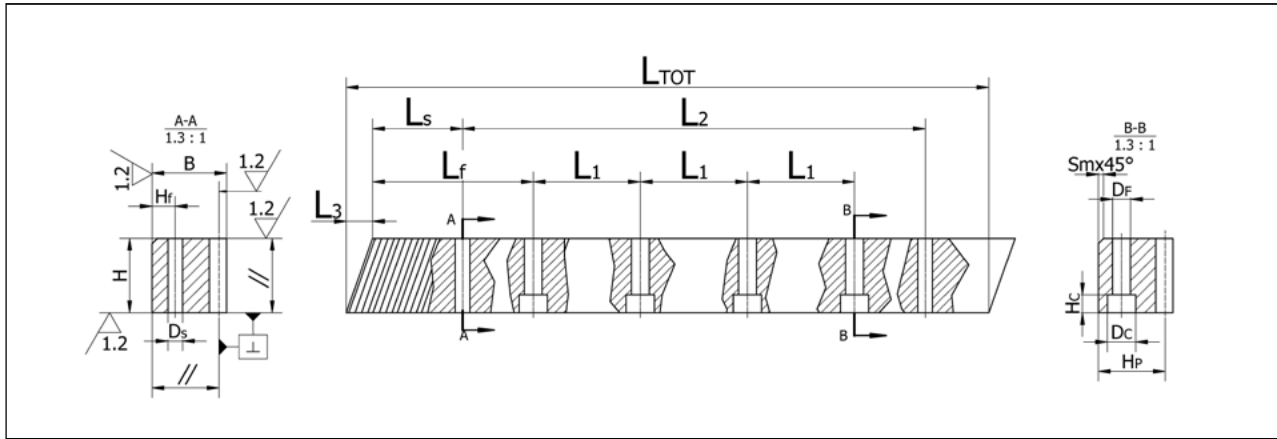
R=800-860N/mm2 (抗拉强度)

R=800-860N/mm2 (tensile strength)

M	L3	L TOT	Lf	L1	Ls	H	B	Hf	Ds	Smx 45°	Df	Dc	Hc	Hp	Z	L2	订购编号 Part No.
2	8,51	999,999	62,5	125	31,71	24	24	8	5,7	2	7	11	7	22	150	936,575	1GB27R020100
3	10,29	999,999	62,5	125	34,99	29	29	9	7,7	2	10	15	9	26	100	930,028	1GB27R030100
4	13,83	999,999	62,5	125	33,30	39	39	12	7,7	3	10	15	9	35	75	933,395	1GB27R040100
5	17,38	999,999	62,5	125	37,50	49	39	12	11,7	3	14	20	13	34	60	932,095	1GB27R050100
6	20,92	999,999	62,5	125	37,50	59	49	16	15,7	3	18	26	17	43	50	925,000	1GB27R060100

斜齿条

Helical tooth system



品质：8h25 材质：C45E

螺旋角：19° 31’ 42” 右旋

Helical tooth system :19° 31’ 42” Right-hand

表面：仅铣削

热处理：感应淬火齿 硬度 45-50

Heat-treatment:case-hardening and induction-hardened teeth 45-50 HRC

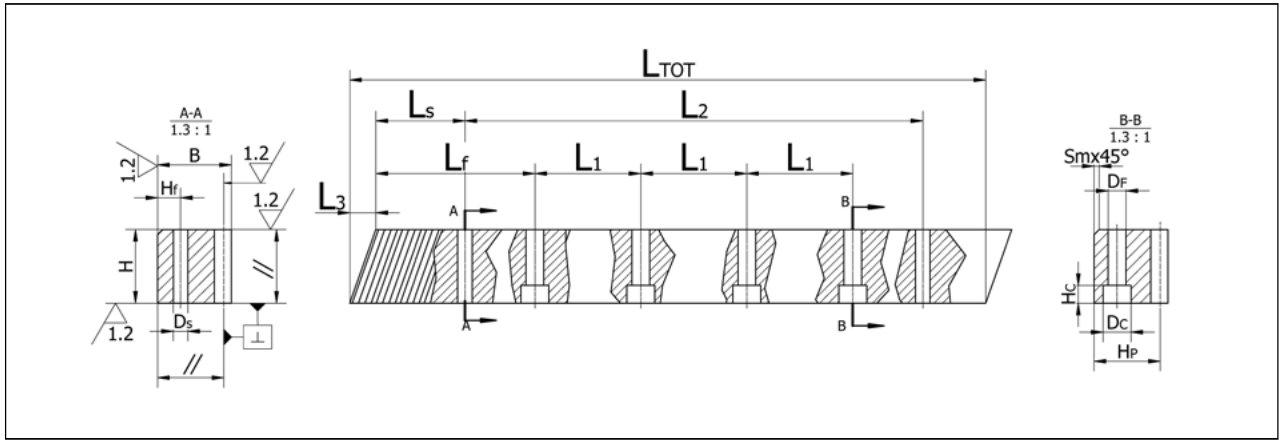
R=600-630N/mm2 (抗拉强度)

R=600-630N/mm2 (tensile strength)

M	L3	L TOT	Lf	L1	Ls	H	B	Hf	Ds	Smx 45°	Df	Dc	Hc	Hp	Z	L2	订购编号 Part No.
2	8,51	999,999	62,5	125	31,71	24	24	8	5,7	2	7	11	7	22	150	936,575	1GB18R020100
3	10,29	999,999	62,5	125	34,99	29	29	9	7,7	2	10	15	9	26	100	930,028	1GB18R030100
4	13,83	999,999	62,5	125	33,30	39	39	12	7,7	3	10	15	9	35	75	933,395	1GB18R040100
5	17,38	999,999	62,5	125	37,50	49	39	12	11,7	3	14	20	13	34	60	932,095	1GB18R050100
6	20,92	999,999	62,5	125	37,50	59	49	16	15,7	3	18	26	17	43	50	925,000	1GB18R060100

斜齿条

Helical tooth system



品质：8h25 材质：42CrMo

螺旋角：19° 31’ 42” 右旋

Helical tooth system :19° 31’ 42” Right-hand

表面：仅铣削

热处理：感应淬火齿 硬度 50–58

Heat-treatment:case-hardening and induction-hardened teeth 50–58 HRC

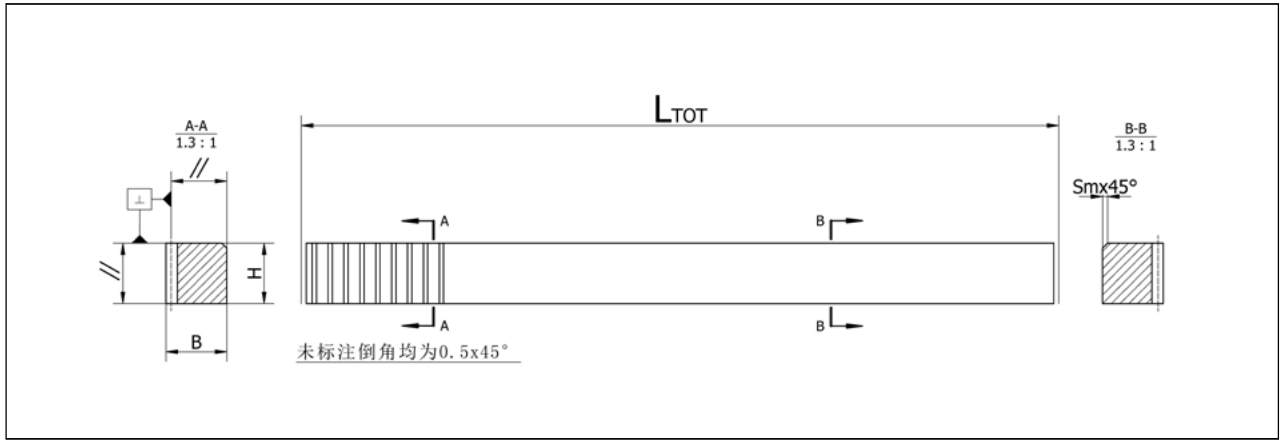
R=800–860N/mm2 (抗拉强度)

R=800–860N/mm2 (tensile strength)

M	L3	L TOT	Lf	L1	Ls	H	B	Hf	Ds	Smx 45°	Df	Dc	Hc	Hp	Z	L2	订购编号 Part No.
2	8,51	999,999	62,5	125	31,71	24	24	8	5,7	2	7	11	7	22	150	936,575	1GB28R020100
3	10,29	999,999	62,5	125	34,99	29	29	9	7,7	2	10	15	9	26	100	930,028	1GB28R030100
4	13,83	999,999	62,5	125	33,30	39	39	12	7,7	3	10	15	9	35	75	933,395	1GB28R040100
5	17,38	999,999	62,5	125	37,50	49	39	12	11,7	3	14	20	13	34	60	932,095	1GB28R050100
6	20,92	999,999	62,5	125	37,50	59	49	16	15,7	3	18	26	17	43	50	925,000	1GB28R060100

直齿条尼龙

Straight tooth system Nylon–Derlin



Materiale / Material:

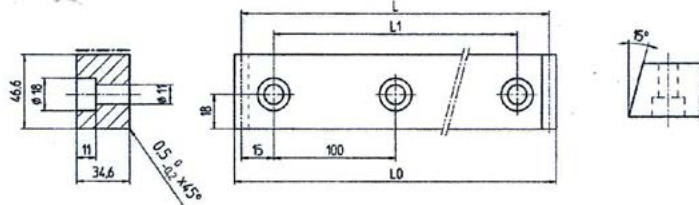
材质：NYLON–DERLIN (尼龙 – 树脂) pA6G 白色

压力角度：20°

M	L TOT	H	B	Hp	Z	订购编号 Part No.
1	502,654	15	15	14	160	1GB71S010050
1	1005,308	15	15	14	320	1GB71S010101
1,5	499,513	17	17	15,5	106	1GB71S015050
1,5	999,026	17	17	15,5	212	1GB71S015100
1,75	500,298	20	20	18,25	91	1GB71S017050
1,75	1000,597	20	20	18,25	182	1GB71S017100
2	502,654	20	20	18	80	1GB71S020050
2	1005,309	20	20	18	160	1GB71S020101
2,5	502,654	25	25	22,5	64	1GB71S025050
2,5	997,455	25	25	22,5	127	1GB71S025100
3	508,937	30	30	27	54	1GB71S030051
3	1017,875	30	30	27	108	1GB71S030102
3,183	499,984	30	30	26,82	50	1GB71S031050
3,183	999,968	30	30	26,82	100	1GB71S031100
4	502,654	40	40	36	40	1GB71S040050
4	1005,309	40	40	36	80	1GB71S040101

齿条集成导轨 Rack mix Guide

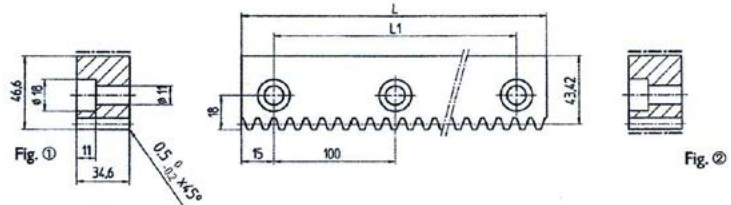
Laufschiene Rail de roulement Guideway flat rail

Type	Part No.	L	L ₀	L ₁	Mat.	m(kg)
LS 350	900635	1230	1239.27	1200	58CrMOV4	1.7792 14.90
	900636	930	939.27	900	58CrMOV4	1.7792 11.30
	900637	630	639.27	600	58CrMOV4	1.7792 7.50
	900638	330	339.27	300	58CrMOV4	1.7792 3.90
LS 350 R	901004	630	639.27	600	X42Cr13	1.2083 7.50

DIN 912 8.8 M_A
M10x35 48 Nm

Laufzahnstange Rail cremaillere de roulement Guideway rack

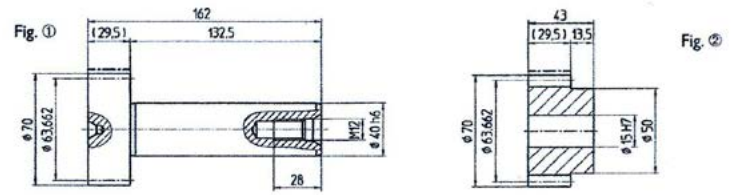
Type	Part No.	L	L ₁	Module	P	Fig.	Mat.	m(kg)
LZ 35	900435	1230	1200	3.1831	10.0	①	58CrMOV4	1.7792 13.90
	900436	930	900	3.1831	10.0	①	58CrMOV4	1.7792 10.50
	900437	630	600	3.1831	10.0	①	58CrMOV4	1.7792 7.10
	900438	330	300	3.1831	10.0	①	58CrMOV4	1.7792 3.70
LZ 35 G	900088	1230	1200	3.1831	10.0	②	58CrMOV4	1.7792 13.90
	900089	330	300	3.1831	10.0	②	58CrMOV4	1.7792 3.70
LZ 35 R	901009	630	600	3.1831	10.0	②	X42Cr13	1.2083 7.10

weich, soft
Quality
7h25

hart, trempé
Quality
6h23

Einbau
Montage / Assembly
Seite / Page 01.71

Antriebsritzel Pignon Drive pinion

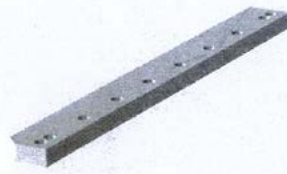
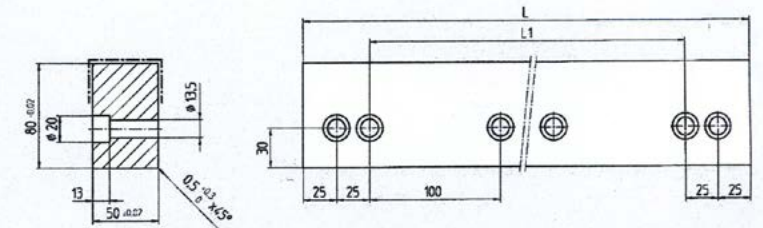



Type	Part No.	z	Module	P	Fig.	Mat.	m(kg)
WR 35	900935	20	3.1831	10.0	①	16MnCr5	1.7131 1.95
MR 10	154100	20	3.1831	10.0	②	16MnCr5	1.7131 0.90

hart, trempe
Quality
6f24

Teilung, pas, pitch

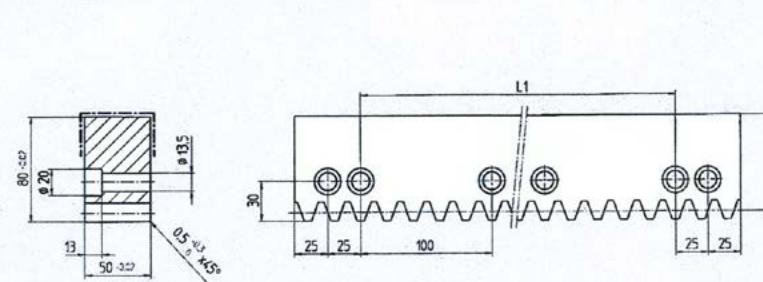
Laufschiene Rail de roulement Guideway flat rail

Type	Part No.	L	L ₁	Mat.	m(kg)
S5080	903655	2000	1900	C45E	1,1191 34,7
	903656	1200	1100	C45E	1,1191 20,8
	903657	800	700	C45E	1,1191 15,0

DIN 912 8,8 M_A
M12x55 83 Nm

Laufzahnstange Rail cremaillere de roulement Guideway rack

Type	Part No.	L	L ₁	Module	P	Mat.	m(kg)
S5080	903658	2000	1900	6.366	20.0	C45E	1,1191 35,6
	903659	1200	1100	6.366	20.0	C45E	1,1191 21,4
	903660	800	700	6.366	20.0	C45E	1,1191 14,3

hart, trempe
Quality
6H25

Einbau / Montage / Assembly
Seite / Page 02.71

DIN 912 8.8 M_A
M12x55 83 Nm

Type	Part No.	L	L ₁	Module	P	Mat.	m(kg)
S5080	903658	2000	1900	6.366	20.0	C45E	1,1191 35,6
	903659	1200	1100	6.366	20.0	C45E	1,1191 21,4
	903660	800	700	6.366	20.0	C45E	1,1191 14,3

hart, trempe
Quality
6H25

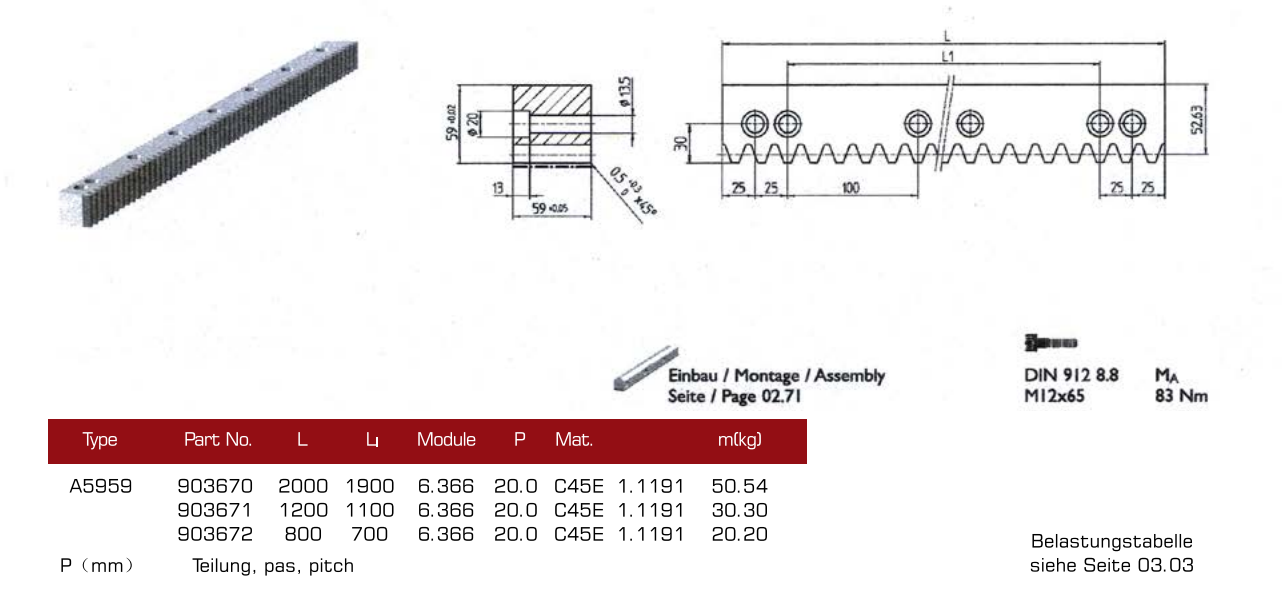
Teilung, pas, ptch

TAILLE $\varnothing 110$
 SIZE $\varnothing 110$

Zahnstange

Cremailleres

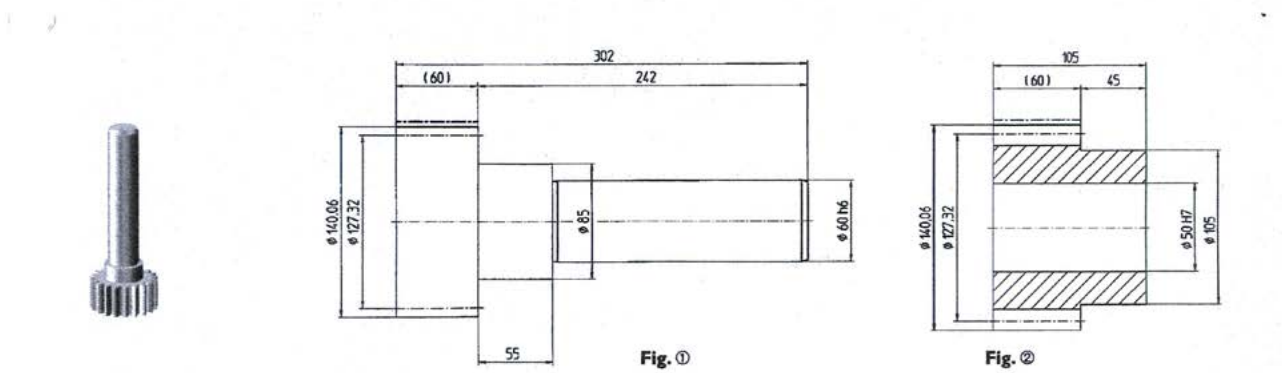
Rack



Antriebsritzel

Pignon

Drive pinion



库存产品

特殊加工

根据您的图纸

我们的加工能力：

最大分度圆 3150mm
 最大模数内 / 外 30/40
 最大齿宽 1250mm

圆柱齿轮
 直齿或斜齿
 铣削、磨削齿面，齿面淬火
 内啮合、外啮合齿
 以及根据客户需求定做

齿环
 内啮合、外啮合齿
 选材、热处理及
 表面处理工艺
 可根据客户需求定做



stock programme

made to order

acc. to your drawing

our manufacture possibilities:

pitch-diameter,max 3150mm
 tooth size,max(module) 30/40
 tooth width,max 1250mm

Spur gears
 straight or helical teeth
 with milled or ground teeth,hardened
 shaped or hobbed
 to customers design

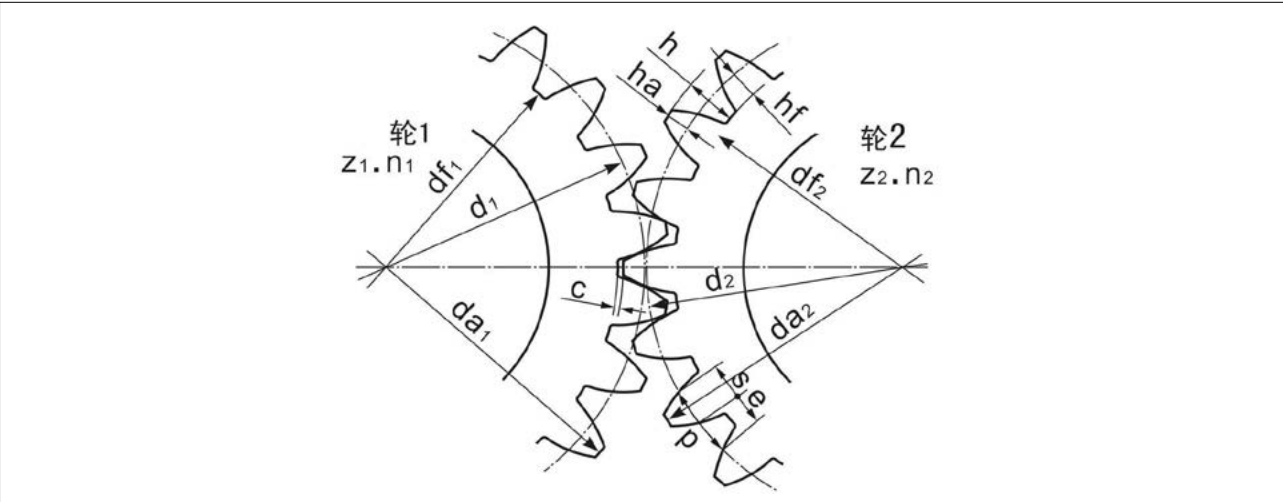
Spur gears
 shaped or hoobbed
 material hardened or plated
 to customers design



圆柱齿轮 啮合几何图及强度

Gearwheels–Toothing Geometrie and Forces

参考数据及公式 | reference data and formulae



概念 description	符号/公式 symbol / formula	单位 description
模数 module	$m = \frac{p}{\pi} = \frac{d}{z}$	mm
齿数 number of teeth	$z = \frac{d}{m}$	
分度圆直径 pitch diameter	$d = z \cdot m$	mm
齿顶圆直径 outside diameter	$d_a = (z + 2) \cdot m$	mm
齿根圆直径 root diameter	$d_f = (z - 2,5) \cdot m$	mm
齿顶高 addendum	$h_a = m$	mm
齿根高 dedendum	$h_f = m + c \approx 1,25 \cdot m = m + 0,25 \cdot m$	mm
全齿高 tooth depth	$h = h_a + h_f = 2 \cdot m + c$	mm
中心距 centre distance	$a = \left(\frac{d_1 + d_2}{2}\right) = \frac{(z_1 + z_2) \cdot m}{2}$	mm
传动比 ratio	$i = \frac{z_2}{z_1} = \frac{d_2}{d_1} = \frac{n_2}{n_1}$	
切向力 peripheral force	$F_u = \frac{2 \cdot 10^3 \cdot T}{d}$	N
扭矩 torque	$T = \frac{9550 \cdot P}{n}$	Nm
圆周线速度 peripheral speed	$v = \frac{z_1 \cdot m \cdot n_1}{19100} = \frac{d_1 \cdot m}{19100}$	m/s
功率 output	P	kW
转速 r.p.m	n	1/min

圆柱齿轮

Spur Gears

传动比为 1:1，直齿圆柱轮受力情况选择表 | selection and load tables for straight spur gears, ratio 1:1

最大扭矩 Nm
具有充足的润滑脂，且支撑稳定，线速度 v=2.5m/s
使用及安全系数 1.0， 根据 DIN3990 计算
齿根安全系数 S_F=1.4
及齿廓安全系数 S_H=1.0 计算在内

Maximum permissible torques in Nm
with good grease lubrication, robust bearing, speed v=2,5m/s,
loading and safety factor 1,0. The values of the table were calculated
in accordance with DIN 3990. A Safety factor for tooth stress S_F=1,4
and for Herzian stress S_H=1,0 is taken in account.

模数 | module1
b = 15 mm

齿数 number of teeth	分度圆直径 pitch diameter	转速 r.p.m.	C45 软材 C45 soft [Nm]	C45 高频淬火 C45 induction hardened [Nm]
15	15	3183	0,6	1,9
20	20	2387	1,0	3,4
25	25	1910	1,6	4,7
30	30	1592	2,3	7,3
40	40	1194	4,4	12,9
50	50	955	6,9	19,5
60	60	796	9,2	32,4

模数 | module1.5
b = 17 mm

齿数 number of teeth	分度圆直径 pitch diameter	转速 r.p.m.	C45 软材 C45 soft [Nm]	C45 高频淬火 C45 induction hardened [Nm]
15	22,5	2122	1,6	4,7
20	30,	1592	2,7	8,6
25	37,5	1273	4,1	13,2
30	45	1061	6,0	19,2
40	60	796	10,0	36,2
50	75	637	17,5	55,1
60	90	531	25,0	83,3

模数 | module2
b = 20 mm

齿数 number of teeth	分度圆直径 pitch diameter	转速 r.p.m.	C45 软材 C45 soft [Nm]	C45 高频淬火 C45 induction hardened [Nm]	42CrMo4 高/中频淬火 42CrMo4 induction hardened [Nm]
15	30	1592	3,5	9,7	46,0
20	40	1194	5,6	18,4	73,9
25	50	955	8,5	29,2	106,8
30	60	796	12,6	41,9	163,6
40	80	597	23,1	73,7	326,3
50	100	477	37,8	115,4	489,5
60	120	398	47,6	174,4	750,0

模数 | module2.5
b = 25 mm

齿数 number of teeth	分度圆直径 pitch diameter	转速 r.p.m.	C45 软材 C45 soft [Nm]	C45 高频淬火 C45 induction hardened [Nm]	42CrMo4 高/中频淬火 42CrMo4 induction hardened [Nm]
15	37,5	1273	5,9	18,2	70,5
20	50,6	955	10,0	35,0	106,8
25	62,5	764	15,9	47,7	163,6
30	75	637	23,1	75,6	252,4
40	100	477	42,0	135,9	463,2
50	125	382	65,2	206,0	795,5
60	150	318	90,1	338,0	1090,1

圆柱齿轮

Spur Gears

传动比为 1:1，直齿圆柱轮受力情况选择表 | selection and load tables for straight spur gears, ratio 1:1

最大扭矩 Nm
具有充足的润滑脂，支撑稳定，且线速度 v=2.5m/s
使用及安全系数 1.0，根据 DIN3990 计算
齿根安全系数 S_F=1.4
及齿廓安全系数 S_H=1.0 计算在内

Maximum permissible torques in Nm
with good grease lubrication, robust bearing, speed v=2,5m/s,
loading and safety factor 1,0. The values of the table were calculated
in accordance with DIN 3990. A Safety factor for tooth stress S_F=1,4
and for Herzian stress S_H=1,0 is taken in account.

模数 | module 3
b = 30 mm

齿数	分度圆直径	转速	C45 软材	C45 高频淬火	42CrMo4 高/中频淬火
number of teeth	pitch diameter	r.p.m.	C45 soft [Nm]	C45 induction hardened [Nm]	42CrMo4 induction hardened [Nm]
15	45	1061	10,0	35,0	134,1
20	60	796	18,0	57,7	159,1
25	75	637	28,9	88,5	252,6
30	90	531	41,7	135,9	384,2
40	120	398	73,5	242,0	715,9
50	150	318	117,1	398,0	1477,3
60	180	265	162,9	565,8	1659,1

模数 | module 4
b = 40 mm

齿数	分度圆直径	转速	C45 软材	C45 高频淬火	42CrMo4 高/中频淬火
number of teeth	pitch diameter	r.p.m.	C45 soft [Nm]	C45 induction hardened [Nm]	42CrMo4 induction hardened [Nm]
15	60	796	25,1	80,8	437,7
20	80	597	44,3	146,2	537,0
25	100	477	66,2	206,0	727,3
30	120	398	94,1	344,0	977,3
40	160	298	174,3	578,9	1840,9
50	200	239	300,0	921,1	3241,4
60	240	199	406,7	1400,0	

模数 | module 5
b = 50 mm

齿数	分度圆直径	转速	C45 软材	C45 高频淬火	42CrMo4 高/中频淬火
number of teeth	pitch diameter	r.p.m.	C45 soft [Nm]	C45 induction hardened [Nm]	42CrMo4 induction hardened [Nm]
15	75	637	47,7	153,8	670,5
20	100	477	83,8	290,0	863,6
25	125	382	128,6	428,0	1318,2
30	150	318	182,9	631,6	1886,4
40	200	239	360,0	1089,5	2810,3
50	250	191	542,9	1769,2	
60	300	159	771,4	2538,5	

模数 | module 6
b = 60 mm

齿数	分度圆直径	转速	C45 软材	C45 高频淬火	42CrMo4 高/中频淬火
number of teeth	pitch diameter	r.p.m.	C45 soft [Nm]	C45 induction hardened [Nm]	42CrMo4 induction hardened [Nm]
15	90	531	91,0	284,0	1181,8
20	120	398	163,3	476,0	1272,7
25	150	318	269,4	736,8	2413,8
30	180	265	402,7	1100,0	3655,2
40	240	199	768,7	1900,0	6704,5
50	300	159	1369,3		
60	360	133	2452,7		

圆柱齿轮

Spur Gears

传动比为 1:1，直齿圆柱轮受力情况选择表 | selection and load tables for straight spur gears, ratio 1:1

最大扭矩 Nm
具有充足的润滑脂，支撑稳定，且线速度 v=2.5m/s
使用及安全系数 1.0，根据 DIN3990 计算
齿根安全系数 S_F=1.4
及齿廓安全系数 S_H=1.0 计算在内

Maximum permissible torques in Nm
with good grease lubrication, robust bearing, speed v=2,5m/s,
loading and safety factor 1,0. The values of the table were calculated
in accordance with DIN 3990. A Safety factor for tooth stress S_F=1,4
and for Herzian stress S_H=1,0 is taken in account.

模数 | module 64 mm

齿数	分度圆直径	转速	C45 软材	C45 高频淬火
number of teeth	pitch diameter	r.p.m.	C45 soft [Nm]	C45 induction hardened [Nm]
15	120	398	157,1	789,5
20	160	298	293,3	1425,0
25	200	239	426,7	2000,0

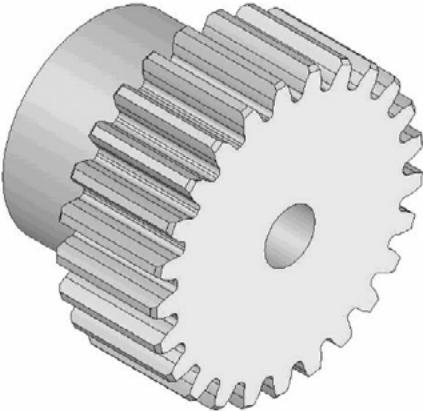
模数 | module 1.591
b = 12 mm

齿数	分度圆直径	转速	C45 软材	C45 高频淬火
number of teeth	pitch diameter	r.p.m.	C45 soft [Nm]	C45 induction hardened [Nm]
15	23,865	2001	1,7	5,4
20	31,82	1501	3,3	9,5
25	39,775	1200	4,5	15,0
30	47,73	1000	6,9	22,3
40	63,64	750	12,4	40,8
50	79,55	600	10,9	65,4
60	95,46	500	20,1	94,9

模数 | module 3,183
b = 25 mm

齿数	分度圆直径	转速	C45 软材	C45 高频淬火
number of teeth	pitch diameter	r.p.m.	C45 soft [Nm]	C45 induction hardened [Nm]
15	47,745	1000	12,4	39,6
20	63,66	750	21,3	69,2
25	79,575	600	34,0	100,0
30	95,49	500	46,8	156,4
40	127,32	375	86,8	300,0
50	159,15	300	140,0	447,1
60	190,98	250	188,6	697,4

标准齿轮
Master-Gears



型号 | type

1. 0503 [C45]
1. 7225 [42CrMo4]

高频淬火 | teeth induction hardened

磨削齿 | ground teeth

直齿或斜齿 | straight teeth or heflicafl,

左旋 角度 | left hand, heflix angle

压力角 | pressure angle

制齿精度 6 e25 | toothing quality

模数 2 - 5 | module

20°

6 e25

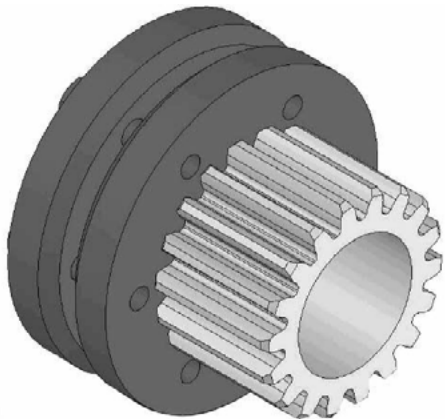
2 - 5

标准齿轮齿面经淬火及磨削。轮毂和中心孔在应用时可继续加工，因此我们缩短了供货时间，扩大了产品的应用范围。

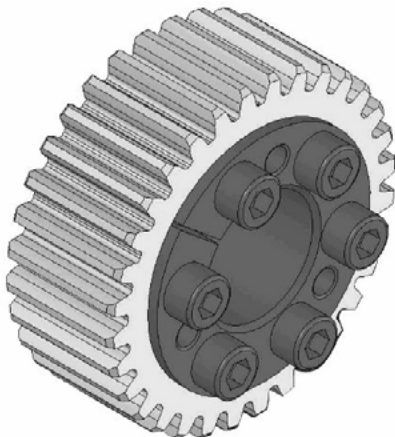
The teeth of the master-gears are case-hardened and ground. The hub and the bore will be machined according to the operating range. Thereby the delivery time is shorter and the spectrum of applications will be enlarged.

示例 | examples

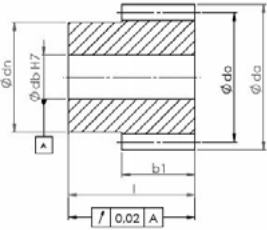
带外夹紧装置
with shrink discs (see page D 10)



带内夹紧装置
with locking assemblies (see chapter D)



标准齿轮 齿面经磨削 直齿
Master-Gears,Ground,Straight Teeth



制齿精度 | toothing quality

齿部高频淬火 | teeth induction hardened

硬度 |

直齿 | straight teeth

压力角 | pressure angle

钢号 | steel

6 e25

50-55HRC

20°

1. 0503 [C45]
1. 7225 [42CrMo4]

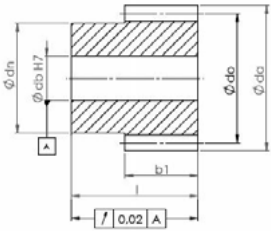
模数 | module 2,0

齿数 No. teeth	d ₀	d _a	d _b ^{H7}	b ₁	d _n	l	订购编号 Part No.
18	36,0	40,0	14	25	30	47	817-020-018
20	40,0	44,0	14	25	30	47	817-020-020
22	44,0	48,0	14	25	36	47	817-020-022
25	50,0	54,0	14	25	44	53	817-020-025
28	56,0	60,0	14	25	50	53	817-020-028
30	60,0	64,0	16	25	54	53	817-020-030
32	64,0	68,0	16	25	55	53	817-020-032
36	72,0	76,0	16	25	65	53	817-020-036
40	80,0	84,0	16	25	68	53	817-020-040

模数 | Modul 3,0

齿数 No. teeth	d ₀	d _a	d _b ^{H7}	b ₁	d _n	l	订购编号 Part No.
18	54,0	60,0	18	30	45	52	817-030-018
20	60,0	66,0	18	30	48	52	817-030-020
22	66,0	72,0	18	30	55	52	817-030-022
25	75,0	81,0	18	30	62	58	817-030-025
28	84,0	90,0	18	30	68	58	817-030-028
30	90,0	96,0	24	30	68	58	817-030-030
32	96,0	102,0	24	30	68	58	817-030-032
36	108,0	114,0	24	30	68	58	817-030-036

标准齿轮 齿面经磨削 直齿
Master–Gears,Ground,Straight Teeth



制齿精度 | toothing quality

齿部高频淬火 | teeth induction hardened

硬度 |

直齿 | straight teeth

压力角 | pressure angle

钢号 | steel

6 e25

50–55HRC

20°

1. 0503 [C45]

1. 7225 [42CrMo4]

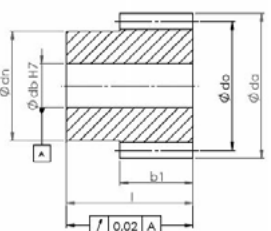
模数 | module 4,0

齿数 No. teeth	d ₀	d _a	d _b ^{H7}	b ₁	d _n	l	订购编号 Part No.
18	72,0	80,0	24	40	62	73	817-040-018
20	80,0	88,0	24	40	62	73	817-040-020
22	88,0	96,0	24	40	68	73	817-040-022
25	100,0	108,0	24	40	80	74	817-040-025
28	112,0	120,0	24	40	80	74	817-040-028
30	120,0	128,0	30	40	80	74	817-040-030
32	128,0	136,0	30	40	110	74	817-040-032
36	144,0	152,0	30	40	110	74	817-040-036

模数 | module 5,0

齿数 No. teeth	d ₀	d _a	d _b ^{H7}	b ₁	d _n	l	订购编号 Part No.
22	110,0	120,0	18	50	90	91	817-050-022
25	125,0	135,0	18	50	110	101	817-050-025
28	140,0	150,0	18	50	110	101	817-050-028
30	150,0	160,0	24	50	110	101	817-050-030
32	160,0	170,0	24	50	110	101	817-050-032
36	180,0	190,0	24	50	110	101	817-050-036

标准齿轮 齿面经磨削 斜齿
Master–Gears,Ground,Helical Teeth



制齿精度 | toothing quality

齿部高频淬火 | teeth induction hardened

硬度 |

左旋 斜齿 | helical, left hand

螺旋角 | helix angle

压力角 | pressure angle

钢号 | steel

6 e25

50–55HRC

19° 31' 42''

20°

1. 0503 [C45]

1. 7225 [42CrMo4]

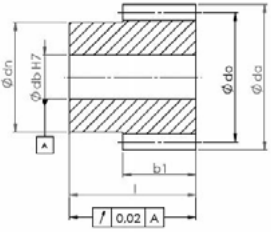
模数 | module 2,0

齿数 No. teeth	d ₀	d _a	d _b ^{H7}	b ₁	d _n	l	订购编号 Part No.
18	38,20	42,20	14	25	30	47	827-020-018
20	42,44	46,44	14	25	30	47	827-020-020
22	46,69	50,69	14	25	36	47	827-020-022
25	53,05	57,05	14	25	44	53	827-020-025
28	59,42	63,42	14	25	50	53	827-020-028
30	63,66	67,66	16	25	54	53	827-020-030
32	67,91	71,91	16	25	55	53	827-020-032
36	76,39	80,39	16	25	65	53	827-020-036
40	84,88	88,88	16	25	68	53	827-020-040

模数 | module 3,0

齿数 No. teeth	d ₀	d _a	d _b ^{H7}	b ₁	d _n	l	订购编号 Part No.
18	57,30	63,30	18	30	45	52	827-030-018
20	63,66	69,66	18	30	48	52	827-030-020
22	70,03	76,03	18	30	62	52	827-030-022
25	79,58	85,58	18	30	62	58	827-030-025
28	89,13	95,13	18	30	68	58	827-030-028
30	95,49	101,49	24	30	68	58	827-030-030
32	101,86	107,86	24	30	68	58	827-030-032
36	114,59	120,59	24	30	68	58	827-030-036

标准齿轮 齿面经磨削 斜齿
Master–Gears,Ground,Helical Teeth



制齿精度 | toothing quality

6 e25

齿部高频淬火 | teeth induction hardened

硬度 | 50–55HRC

左旋 斜齿 | helical, left hand

螺旋角 | helix angle

19° 31´ 42´´

压力角 | pressure angle

20°

钢号 | steel

1. 0503 [C45]

1. 7225 [42CrMo4]

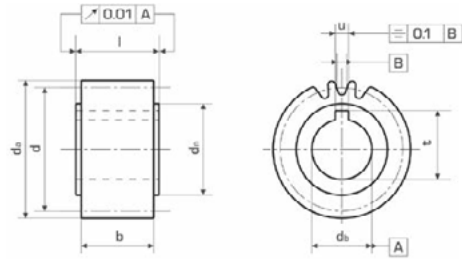
模数 | module 4,0

齿数 No. teeth	d ₀	d _a	d _b ^{H7}	b ₁	d _n	l	订购编号 Part No.
18	76,39	84,39	24	40	62	73	827-040-018
20	84,88	92,88	24	40	62	73	827-040-020
22	93,37	101,37	24	40	68	73	827-040-022
25	106,10	114,10	24	40	80	74	827-040-025
28	118,84	126,84	24	40	80	74	827-040-028
30	127,32	135,32	30	40	80	74	827-040-030
32	135,81	143,81	30	40	110	74	827-040-032
36	152,79	160,79	30	40	110	74	827-040-036

模数 | module 5,0

齿数 No. teeth	d ₀	d _a	d _b ^{H7}	b ₁	d _n	l	订购编号 Part No.
22	116,71	126,71	18	50	90	91	827-050-022
25	132,63	142,63	18	50	110	101	827-050-025
28	148,54	158,54	18	50	110	101	827-050-028
30	159,16	169,16	24	50	110	101	827-050-030
32	169,77	179,77	24	50	110	101	827-050-032
36	190,99	200,99	24	50	110	101	827-050-036

圆柱齿轮 齿面经磨削 直齿
Spur Gears with Straight Ground Teeth



模数 | module

2,0

制齿精度 | toothing quality

直齿 | straigh teeth

压力角 | pressure angle

20°

淬火 | hardened

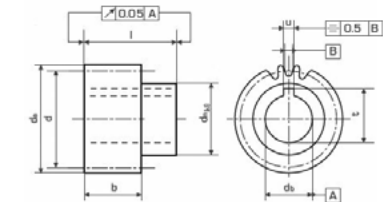
钢号 | steel

1. 0503 [C45]

1. 7225 [42CrMo4]

齿数 No. teeth	d _a	d	d _b ^{H6}	d _n	b	l	u	t	订购编号 Part No.
16	36,0	32,0	15	25	28	30	5	17,3	813-120-516
18	40,0	36,0	20	25	28	30	6	22,8	813-220-018
20	44,0	40,0	20	30	28	30	6	22,8	813-220-020
22	48,0	44,0	15	25	28	30	5	17,3	813-120-522
22	48,0	44,0	20	30	28	30	6	22,8	813-220-022
22	48,0	44,0	25	36	28	30	8	28,3	813-220-522
25	54,0	50,0	20	30	28	30	6	22,8	813-220-025
25	54,0	50,0	25	36	28	30	8	28,3	813-220-525
25	54,0	50,0	30	45	28	30	8	33,3	813-320-025
28	60,0	56,0	20	30	28	30	6	22,8	813-220-028
28	60,0	56,0	25	36	28	30	8	28,3	813-220-528
28	60,0	56,0	30	45	28	30	8	33,3	813-320-028
28	60,0	56,0	35	48	28	30	10	38,3	813-320-528
32	68,0	64,0	20	30	28	30	6	22,8	813-220-032
32	68,0	64,0	25	36	28	30	8	28,3	813-220-532
32	68,0	64,0	30	45	28	30	8	33,3	813-320-032
32	68,0	64,0	35	48	28	30	10	38,3	813-320-532
36	76,0	72,0	25	36	28	30	8	28,3	813-220-536
36	76,0	72,0	30	45	28	30	8	33,3	813-320-036
36	76,0	72,0	35	48	28	30	10	38,3	813-320-536
36	76,0	72,0	45	58	28	30	14	48,8	813-420-536
40	84,0	80,0	25	36	28	30	8	28,3	813-220-540
40	84,0	80,0	30	45	28	30	8	33,3	813-320-040
40	84,0	80,0	35	48	28	30	10	38,3	813-320-540
40	84,0	80,0	45	58	28	30	14	48,8	813-420-540
45	94,0	90,0	35	48	28	30	10	38,3	813-320-545
45	94,0	90,0	45	58	28	30	14	48,8	813-420-545
50	104,0	100,0	35	48	28	30	10	38,3	813-320-550
50	104,0	100,0	45	58	28	30	14	48,8	813-420-550

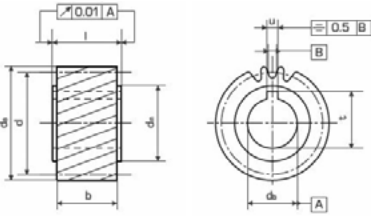
带轮毂 | with hub



齿数 No. teeth	d _a	d	d _b ^{H6}	d _n	b	l	u	t	订购编号 Part No.
20	44,0	40,0	19	30	28	56	6	21,8	815-120-920
20	44,0	40,0	22	36	28	56	6	24,8	815-220-220
22	48,0	44,0	19	30	28	56	6	21,8	815-120-922
22	48,0	44,0	22	36	28	56	6	24,8	815-220-222
25	54,0	50,0	16	30	28	54	5	18,3	815-120-625
25	54,0	50,0	19	30	28	56	6	21,8	815-120-925
25	54,0	50,0	22	36	28	56	6	24,8	815-220-225
28	60,0	56,0	19	30	28	56	6	21,8	815-120-928
28	60,0	56,0	30	50	28	60	8	33,3	815-320-028
32	68,0	64,0	16	30	28	54	5	18,3	815-120-632
32	68,0	64,0	22	36	28	56	6	24,8	815-220-232
32	68,0	64,0	30	50	28	60	8	33,3	815-320-032
32	68,0	64,0	32	55	28	65	10	35,3	815-320-232
36	76,0	72,0	40	62	28	65	12	43,3	815-420-036
40	84,0	80,0	32	55	28	65	10	35,3	815-320-240
40	84,0	80,0	40	62	28	65	12	43,3	815-420-040
40	84,0	80,0	45	68	28	65	14	48,8	815-420-540
50	104,0	100,0	45	68	28	65	14	48,8	815-420-550

圆柱齿轮 齿面经磨削 斜齿

Spur Gears with Ground Teeth, Helical



模数 | module

2,0

制齿精度 | tooting quality

7 e25

左旋, 斜齿 | helical, left hand

螺旋角 | helix angle

19° 31' 42"´´

压力角 | pressure angle

20°

淬火 | hardened

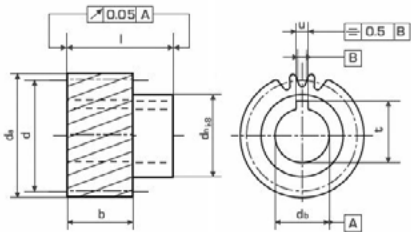
钢号 | steel

1. 0503 [C45]

1. 7225 [42CrMo4]

齿数 No. teeth	d _a	d	d _b H6	d _n	b	l	u	t	订购编号 Part No.
20	46,4	42,44	20	30	28	30	6	22,8	823-220-020
25	57,1	53,05	20	30	28	30	6	22,8	823-220-025
25	57,1	53,05	25	36	28	30	8	28,3	823-220-525
28	63,4	59,42	35	48	28	30	10	38,3	823-320-528
30	67,7	63,66	25	36	28	30	8	28,3	823-220-530
30	67,7	63,66	30	45	28	30	8	33,3	823-320-030
32	71,9	67,91	20	30	28	30	6	22,8	823-220-032
32	71,9	67,91	25	36	28	30	8	28,3	823-220-532
32	71,9	67,91	35	48	28	30	10	38,3	823-320-532
36	80,4	76,39	35	48	28	30	10	38,3	823-320-536
40	88,9	84,88	35	48	28	30	10	38,3	823-320-540

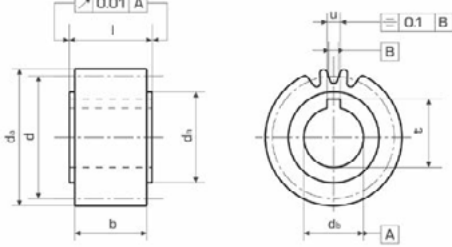
带轮毂 | with hub



齿数 No. teeth	d _a	d	d _b H6	d _n	b	l	u	t	订购编号 Part No.
20	46,4	42,44	19	30	28	56	6	21,8	825-120-920
20	46,4	42,44	22	36	28	56	6	24,8	825-220-220
21	48,6	44,56	22	36	28	56	6	24,8	825-220-221
22	50,6	46,69	19	30	28	56	6	21,8	825-120-922
22	50,6	46,69	22	36	28	56	6	24,8	825-220-222
25	57,0	53,05	19	30	28	56	6	21,8	825-120-925
25	57,0	53,05	22	36	28	56	6	24,8	825-220-225
28	63,4	59,42	19	30	28	56	6	21,8	825-120-928
28	63,4	59,42	22	36	28	56	6	24,8	825-220-228
30	67,7	63,66	22	36	28	56	6	24,8	825-220-230
30	67,7	63,66	30	50	28	60	8	33,3	825-320-030
30	67,7	63,66	32	55	28	65	10	35,3	825-320-230
32	71,9	67,91	22	36	28	56	6	24,8	825-220-232
39	86,8	82,76	32	55	28	65	10	35,3	825-320-239

圆柱齿轮 齿面经磨削 直齿

Spur Gears with Straight Ground Teeth



模数 | module

3,0

制齿精度 | tooting quality

7 e25

直齿 | straigh teeth

压力角 | pressure angle

20°

淬火 | hardened

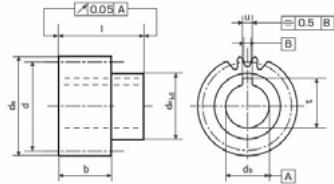
钢号 | steel

1. 0503 [C45]

1. 7225 [42CrMo4]

齿数 No. teeth	d _a	d	d _b H6	d _n	b	l	u	t	订购编号 Part No.
18	60,0	54,0	25	36	28	30	8	28,3	813-230-518
20	66,0	60,0	25	36	28	30	8	28,3	813-230-520
20	66,0	60,0	30	45	28	30	8	33,3	813-330-020
20	66,0	60,0	35	48	28	30	10	38,3	813-330-520
22	72,0	66,0	25	36	28	30	8	28,3	813-230-522
22	72,0	66,0	30	45	28	30	8	33,3	813-330-022
22	72,0	66,0	35	48	28	30	10	38,3	813-330-522
25	81,0	75,0	25	36	28	30	8	28,3	813-230-525
25	81,0	75,0	30	45	28	30	8	33,3	813-330-025
25	81,0	75,0	35	48	28	30	10	38,3	813-330-525
25	81,0	75,0	45	58	28	30	14	48,8	813-430-525
28	90,0	84,0	25	36	28	30	8	28,3	813-230-528
28	90,0	84,0	30	45	28	30	8	33,3	813-330-028
28	90,0	84,0	35	48	28	30	10	38,3	813-330-528
28	90,0	84,0	45	58	28	30	14	48,8	813-430-528
32	102,0	96,0	25	36	28	30	8	28,3	813-230-532
32	102,0	96,0	30	45	28	30	8	33,3	813-330-032
32	102,0	96,0	35	48	28	30	10	38,3	813-330-532
32	102,0	96,0	45	58	28	30	14	48,8	813-430-532
36	114,0	108,0	35	48	28	30	10	38,3	813-330-536
36	114,0	108,0	45	58	28	30	14	48,8	813-430-536
40	126,0	120,0	35	48	28	30	10	38,3	813-330-540
40	126,0	120,0	45	58	28	30	14	48,8	813-430-540

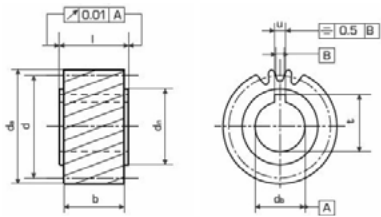
带轮毂 | with hub



齿数 No. teeth	d _a	d	d _b H6	d _n	b	l	u	t	订购编号 Part No.
22	72,0	66,0	22	36	28	56	6	24,8	815-230-222
22	72,0	66,0	25	44	28	60	8	28,3	815-230-522
22	72,0	66,0	30	50	28	60	8	33,3	815-330-022
22	72,0	66,0	32	55	28	65	10	35,3	815-330-222
22	72,0	66,0	35	55	28	65	10	38,3	815-330-522
22	72,0	66,0	40	62	28	65	12	43,3	815-430-022
25	81,0	75,0	32	55	28	65	10	35,3	815-330-225
25	81,0	75,0	40	62	28	65	12	43,3	815-430-025
28	90,0	84,0	22	36	28	56	6	24,8	815-230-228
28	90,0	84,0	25	44	28	60	8	28,3	815-230-528
28	90,0	84,0	30	50	28	60	8	33,3	815-330-028
28	90,0	84,0	32	55	28	65	10	35,3	815-330-228
28	90,0	84,0	35	55	28	65	10	38,3	815-330-528
28	90,0	84,0	40	62	28	65	12	43,3	815-430-028
28	90,0	84,0	45	68	28	65	14	48,8	815-430-528
32	102,0	96,0	32	55	28	65	10	35,3	815-330-232
32	102,0	96,0	40	62	28	65	12	43,3	815-430-032
36	114,0	108,0	45	68	28	65	14	48,8	815-430-536

圆柱齿轮 齿面经磨削 斜齿

Spur Gears with Ground Teeth, Helical



模数 | module

制齿精度 | toothing quality

左旋, 斜齿 | helical, left hand

螺旋角 | helix angle

压力角 | pressure angle

淬火 | hardened

钢号 | steel

3,0

7 e25

19° 31' 42''

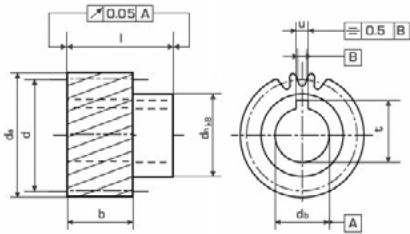
20°

1. 0503 [C45]

1. 7225 [42CrMo4]

齿数 No. teeth	d _a	d	d _b H6	d _n	b	l	u	t	订购编号 Part No.
20	69,7	63,66	30	45	28	30	8	33,3	823-330-020
20	69,7	63,66	35	48	28	30	10	38,3	823-330-520
22	76,0	70,03	25	36	28	30	8	28,3	823-230-522
22	76,0	70,03	30	45	28	30	8	33,3	823-330-022
22	76,0	70,03	35	48	28	30	10	38,3	823-330-522
25	85,6	79,58	25	36	28	30	8	28,3	823-230-525
25	85,6	79,58	30	45	28	30	8	33,3	823-330-025
25	85,6	79,58	35	48	28	30	10	38,3	823-330-525

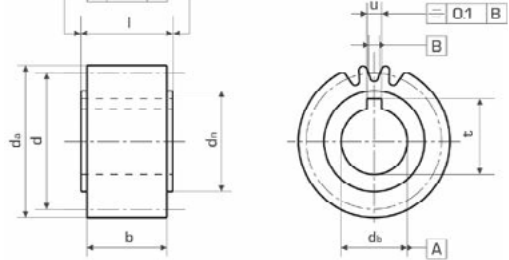
带轮毂 | with hub



齿数 No. teeth	d _a	d	d _b H6	d _n	b	l	u	t	订购编号 Part No.
20	69,7	63,66	22	36	28	56	6	24,8	825-230-220
20	69,7	63,66	25	44	28	60	8	28,3	825-230-520
20	69,7	63,66	30	50	28	60	8	33,3	825-330-020
20	69,7	63,66	32	55	28	65	10	35,3	825-330-220
22	76,0	70,03	32	55	28	65	10	35,3	825-330-222
22	76,0	70,03	40	62	28	65	12	43,3	825-430-022
25	85,6	79,58	22	36	28	56	6	24,8	825-230-225
25	85,6	79,58	25	44	28	60	8	28,3	825-230-525
25	85,6	79,58	30	50	28	60	8	33,3	825-330-025
25	85,6	79,58	32	55	28	65	10	35,3	825-330-225
25	85,6	79,58	35	55	28	65	10	38,3	825-330-525
25	85,6	79,58	40	62	28	65	12	43,3	825-430-025
28	95,1	89,13	32	55	28	65	10	35,3	825-330-228
28	95,1	89,13	40	62	28	65	12	43,3	825-430-028
32	107,85	101,86	32	55	28	65	10	35,3	825-330-232
32	107,85	101,86	40	62	28	65	12	43,3	825-430-032

圆柱齿轮 齿面经磨削 直齿

Spur Gears with Straight Ground Teeth



模数 | module

制齿精度 | toothing quality

直齿 | straigh teeth

压力角 | pressure angle

淬火 | hardened

钢号 | steel

4,0

7 e25

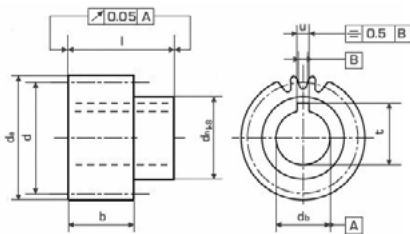
20°

1. 0503 [C45]

1. 7225 [42CrMo4]

齿数 No. teeth	d _a	d	d _b H6	d _n	b	l	u	t	订购编号 Part No.
20	88,0	80,0	35	52	40	50	10	38,3	813-340-520
20	88,0	80,0	45	65	40	50	14	48,8	813-440-520
22	96,0	88,0	35	52	40	50	10	38,3	813-340-522
22	96,0	88,0	45	65	40	50	14	48,8	813-440-522
25	108,0	100,0	35	52	40	50	10	38,3	813-340-525
25	108,0	100,0	45	65	40	50	14	48,8	813-440-525
28	120,0	112,0	35	52	40	50	10	38,3	813-340-528
28	120,0	112,0	45	65	40	50	14	48,8	813-440-528
32	136,0	128,0	35	52	40	50	10	38,3	813-340-532
32	136,0	128,0	45	65	40	50	14	48,8	813-440-532
40	168,0	160,0	45	65	40	50	14	48,8	813-440-540
40	168,0	160,0	60	80	40	50	18	64,3	813-640-040

带轮毂 | with hub



齿数 No. teeth	d _a	d	d _b H6	d _n	b	l	u	t	订购编号 Part No.
20	88,0	80,0	32	55	40	75	10	35,3	815-340-220
20	88,0	80,0	35	55	40	75	10	38,3	815-340-520
20	88,0	80,0	40	62	40	75	12	43,3	815-440-020
22	96,0	88,0	45	68	40	75	14	48,8	815-440-522
25	108,0	100,0	32	55	40	75	10	35,3	815-340-225
25	108,0	100,0	35	55	40	75	10	38,3	815-340-525
25	108,0	100,0	40	62	40	75	12	43,3	815-440-025
25	108,0	100,	55	80	40	80	16	59,3	815-540-525
28	120,0	112,0	45	68	40	75	14	48,8	815-440-528
32	136,0	128,0	55	80	40	80	16	59,3	815-540-532
32	136,0	128,0	75	110	40	100	20	80,4	815-740-532
40	168,0	160,0	75	110	40	100	20	80,4	815-740-540

圆柱齿轮 齿面经磨削 斜齿

Spur Gears with Ground Teeth, Helical

模数 | module

4,0

制齿精度 | toothing quality

7 e25

左旋, 斜齿 | helical, left hand

螺旋角 | helix angle

19° 31' 42''

压力角 | pressure angle

20°

淬火 | hardened

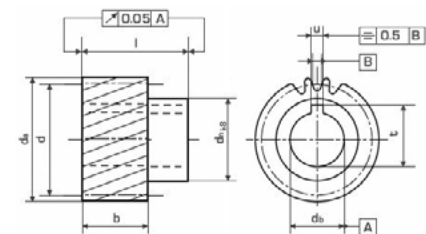
钢号 | steel

1. 0503 [C45]

1. 7225 [42CrMo4]

齿数 No. teeth	d _a	d	d _b H6	d _n	b	l	u	t	订购编号 Part No.
15	71,7	63,66	35	48	40	50	10	38,3	823-340-515
20	92,9	84,88	35	48	40	50	10	38,3	823-340-520
20	92,9	84,88	45	58	40	50	14	48,8	823-440-520
22	101,4	93,37	35	52	40	50	10	38,3	823-340-522
22	101,4	93,37	45	65	40	50	14	48,8	823-440-522
25	114,1	106,10	35	48	40	50	10	38,3	823-340-525
25	114,1	106,10	45	58	40	50	14	48,8	823-440-525

带轮毂 | with hub



齿数 No. teeth	d _a	d	d _b H6	d _n	b	l	u	t	订购编号 Part No.
18	84,4	76,39	32	55	40	75	10	35,3	825-340-218
21	97,1	89,13	32	55	40	75	10	35,3	825-340-221
21	97,1	89,13	35	55	40	75	10	38,3	825-340-521
21	97,1	89,13	40	62	40	75	12	43,3	825-440-021
21	97,1	89,13	45	68	40	75	14	48,8	825-440-521
24	109,9	101,86	32	55	40	75	10	35,3	825-340-224
24	109,9	101,86	35	55	40	75	10	38,3	825-340-524
24	109,9	101,86	40	62	40	75	12	43,3	825-440-024
24	109,9	101,86	45	68	40	75	14	48,8	825-440-524
24	109,9	101,86	55	80	40	80	16	59,3	825-540-524
25	114,1	106,10	55	80	40	80	16	59,3	825-540-525

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth

模数 | module

1,0

直齿 | straight teeth

压力角 | pressure angle

20°

60 齿以下带单侧轮毂

76 齿以上无轮毂

12 to 60 teeth with hub

76 to 120 teeth without hub

钢号 | steel

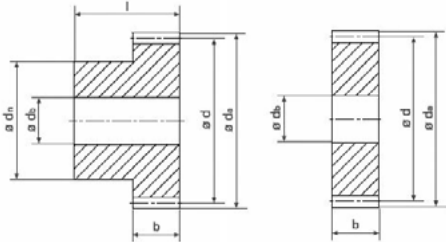
1.0503 [C45]

b = 8 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	14,0	12,0	9	4	18	8	0,01	811-010-012
13	15,0	13,0	10	4	18	8	0,01	811-010-013
14	16,0	14,0	12	4	18	8	0,02	811-010-014
15	17,0	15,0	12	5	18	8	0,02	811-010-015
16	18,0	16,0	12	5	18	8	0,02	811-010-016
17	19,0	17,0	14	6	18	8	0,02	811-010-017
18	20,0	18,0	15	6	18	8	0,02	811-010-018
19	21,0	19,0	15	6	18	8	0,03	811-010-019
20	22,0	20,0	15	6	18	8	0,03	811-010-020
21	23,0	21,0	18	6	18	8	0,04	811-010-021
22	24,0	22,0	18	6	18	8	0,04	811-010-022
23	25,0	23,0	18	6	18	8	0,04	811-010-023
24	26,0	24,0	18	6	18	8	0,04	811-010-024
25	27,0	25,0	18	6	18	8	0,05	811-010-025
28	30,0	28,0	20	8	18	8	0,05	811-010-028
30	32,0	30,0	20	8	18	8	0,06	811-010-030
36	38,0	36,0	25	8	18	8	0,09	811-010-036
38	40,0	38,0	25	8	18	8	0,10	811-010-038
40	42,0	40,0	25	8	18	8	0,11	811-010-040
45	47,0	45,0	30	8	18	8	0,15	811-010-045
48	50,0	48,0	30	8	18	8	0,16	811-010-048
50	52,0	50,0	35	8	18	8	0,19	811-010-050
52	54,0	52,0	35	10	18	8	0,19	811-010-052
56	58,0	56,0	35	10	18	8	0,21	811-010-056
60	62,0	60,0	40	10	18	8	0,26	811-010-060
76	78,0	76,0	-	10	-	8	0,27	811-010-076
80	82,0	80,0	-	10	-	8	0,30	811-010-080
95	97,0	95,0	-	10	-	8	0,43	811-010-095
120	122,0	120,0	-	10	-	8	0,68	811-010-120

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth



模数 | module

1.0

直齿 | straight teeth

压力角 | pressure angle

20°

70 齿以下带单侧轮毂
76 齿以上无轮毂
12 to 70 teeth with hub
76 to 114 teeth without hub

钢号 | steel

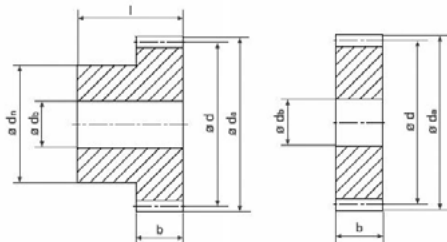
1.0503 [C45]

b = 15 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	14,0	12,0	9	-	25	15	0,010	816-010-012
13	15,0	13,0	10	-	25	15	0,020	816-010-013
14	16,0	14,0	11	6	25	15	0,020	816-010-014
15	17,0	15,0	12	6	25	15	0,020	816-010-015
16	18,0	16,0	13	6	25	15	0,030	816-010-016
17	19,0	17,0	14	6	25	15	0,030	816-010-017
18	20,0	18,0	15	8	25	15	0,030	816-010-018
19	21,0	19,0	15	8	25	15	0,040	816-010-019
20	22,0	20,0	16	8	25	15	0,040	816-010-020
21	23,0	21,0	16	8	25	15	0,050	816-010-021
22	24,0	22,0	16	8	25	15	0,050	816-010-022
23	25,0	23,0	18	8	25	15	0,060	816-010-023
24	26,0	24,0	20	10	25	15	0,060	816-010-024
25	27,0	25,0	20	10	25	15	0,070	816-010-025
26	28,0	26,0	20	10	25	15	0,070	816-010-026
28	30,0	28,0	20	10	25	15	0,080	816-010-028
30	32,0	30,0	20	10	25	15	0,090	816-010-030
32	34,0	32,0	25	10	25	15	0,120	816-010-032
35	37,0	35,0	25	10	25	15	0,140	816-010-035
36	38,0	36,0	25	10	25	15	0,140	816-010-036
38	40,0	38,0	25	10	25	15	0,160	816-010-038
40	42,0	40,0	25	10	25	15	0,170	816-010-040
42	44,0	42,0	30	10	25	15	0,200	816-010-042
45	47,0	45,0	30	10	25	15	0,230	816-010-045
48	50,0	48,0	30	10	25	15	0,250	816-010-048
50	52,0	50,0	30	12	25	15	0,260	816-010-050
52	54,0	52,0	40	12	25	15	0,330	816-010-052
54	56,0	54,0	40	12	25	15	0,340	816-010-054
56	58,0	56,0	40	12	25	15	0,370	816-010-056
58	60,0	58,0	40	12	25	15	0,390	816-010-058
60	62,0	60,0	40	12	25	15	0,410	816-010-060
70	72,0	70,0	50	12	25	15	0,580	816-010-070
76	78,0	76,0	-	12	-	15	0,520	814-010-076
80	82,0	80,0	-	12	-	15	0,580	814-010-080
95	97,0	95,0	-	12	-	15	0,820	814-010-095
110	112,0	110,0	-	12	-	15	1,100	814-010-110
114	116,0	114,0	-	12	-	15	1,190	814-010-114

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth



模数 | module

1.5

直齿 | straight teeth

压力角 | pressure angle

20°

60 齿以下带单侧轮毂
76 齿以上无轮毂
12 to 60 teeth with hub
76 to 120 teeth without hub

钢号 | steel

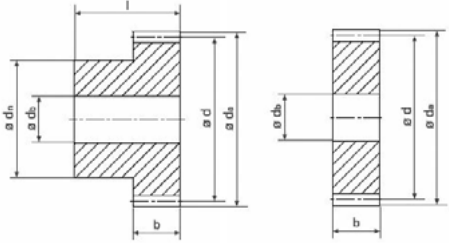
1.0503 [C45]

b = 12 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	21,0	18,0	14	6	25	12	0,03	811-015-012
13	22,5	19,5	15	6	25	12	0,04	811-015-013
14	24,0	21,0	16,5	6	25	12	0,05	811-015-014
15	25,5	22,5	18	6	25	12	0,06	811-015-015
16	27,0	24,0	18	6	25	12	0,06	811-015-016
17	28,5	25,5	20	6	25	12	0,07	811-015-017
18	30,0	27,0	20	8	25	12	0,07	811-015-018
19	31,5	28,5	20	8	25	12	0,08	811-015-019
20	33,0	30,0	20	8	25	12	0,10	811-015-020
21	34,5	31,5	25	8	25	12	0,11	811-015-021
22	36,0	33,0	25	8	25	12	0,12	811-015-022
23	37,5	34,5	25	8	25	12	0,13	811-015-023
24	39,0	36,0	25	8	25	12	0,14	811-015-024
25	40,5	37,5	25	8	25	12	0,14	811-015-025
28	45,0	42,0	30	10	25	12	0,18	811-015-028
30	48,0	45,0	30	10	25	12	0,20	811-015-030
36	57,0	54,0	40	10	25	12	0,32	811-015-036
38	60,0	57,0	40	10	25	12	0,35	811-015-038
40	63,0	60,0	40	10	25	12	0,36	811-015-040
45	70,5	67,5	45	10	25	12	0,45	811-015-045
48	75,0	72,0	45	10	25	12	0,53	811-015-048
50	78,0	75,0	50	12	25	12	0,56	811-015-050
52	81,0	78,0	50	12	25	12	0,59	811-015-052
56	87,0	84,0	50	12	25	12	0,66	811-015-056
60	93,0	90,0	60	12	25	12	0,82	811-015-060
76	117,0	114,0	-	16	-	12	0,90	810-015-076
80	123,0	120,0	-	16	-	12	1,03	810-015-080
95	145,5	142,5	-	16	-	12	1,45	810-015-095
120	183,0	180,0	-	16	-	12	2,34	810-015-120

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth



模数 | module

1,5

直齿 | straight teeth

压力角 | pressure angle

20°

70 齿以下带单侧轮毂
76 齿以上无轮毂
12 to 70 teeth with hub
76 to 114 teeth without hub

钢号 | steel

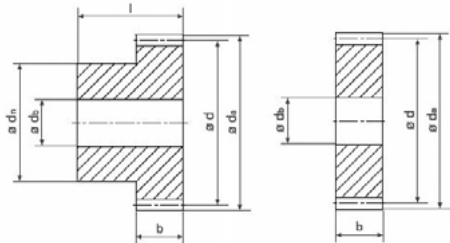
1.0503 [C45]

b = 17 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	21,0	18,0	14	8	30	17	0,040	816-015-012
13	22,5	19,5	15	8	30	17	0,050	816-015-013
14	24,0	21,0	17	8	30	17	0,060	816-015-014
15	25,5	22,5	18	8	30	17	0,070	816-015-015
16	27,0	24,0	19	8	30	17	0,080	816-015-016
17	28,5	25,5	20	8	30	17	0,090	816-015-017
18	30,0	27,0	20	8	30	17	0,100	816-015-018
19	31,5	28,5	20	8	30	17	0,100	816-015-019
20	33,0	30,0	25	8	30	17	0,130	816-015-020
21	34,5	31,5	25	10	30	17	0,130	816-015-021
22	36,0	33,0	25	10	30	17	0,140	816-015-022
23	37,5	34,5	25	10	30	17	0,160	816-015-023
24	39,0	36,0	25	10	30	17	0,170	816-015-024
25	40,5	37,5	25	10	30	17	0,180	816-015-025
26	42,0	39,0	30	12	30	17	0,200	816-015-026
28	45,0	42,0	30	12	30	17	0,230	816-015-028
30	48,0	45,0	30	12	30	17	0,260	816-015-030
32	51,0	48,0	35	12	30	17	0,310	816-015-032
35	55,5	52,5	35	12	30	17	0,360	816-015-035
36	57,0	54,0	35	12	30	17	0,370	816-015-036
38	60,0	57,0	40	12	30	17	0,440	816-015-038
40	63,0	60,0	40	12	30	17	0,480	816-015-040
42	66,0	63,0	50	12	30	17	0,590	816-015-042
45	70,5	67,5	50	12	30	17	0,650	816-015-045
48	75,0	72,0	50	14	30	17	0,700	816-015-048
50	78,0	75,0	50	14	30	17	0,760	816-015-050
52	81,0	78,0	60	14	30	17	0,890	816-015-052
54	84,0	81,0	60	14	30	17	0,940	816-015-054
56	87,0	84,0	60	16	30	17	0,980	816-015-056
58	90,0	87,0	60	16	30	17	1,030	816-015-058
60	93,0	90,0	60	16	30	17	1,090	816-015-060
70	108,0	105,0	70	16	30	17	1,500	816-015-070
76	117,0	114,0	-	16	-	17	1,330	814-015-076
80	123,0	120,0	-	16	-	17	1,480	814-015-080
95	145,5	142,5	-	16	-	17	2,090	814-015-095
110	168,0	165,0	-	16	-	17	2,820	814-015-110
114	174,0	171,0	-	16	-	17	3,030	814-015-114

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth



模数 | module

2,0

直齿 | straight teeth

压力角 | pressure angle

20°

60 齿以下带单侧轮毂
76 齿以上无轮毂
12 to 60 teeth with hub
76 to 120 teeth without hub

钢号 | steel

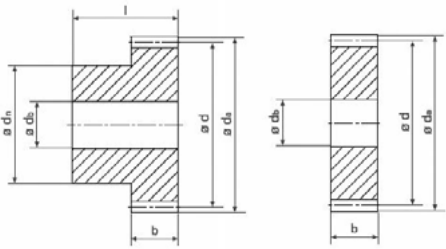
1.0503 [C45]

b = 16 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	28,0	24,0	18	8	30	16	0,07	811-020-012
13	30,0	26,0	20,5	8	30	16	0,08	811-020-013
14	32,0	28,0	22,5	8	30	16	0,10	811-020-014
15	34,0	30,0	24	8	30	16	0,12	811-020-015
16	36,0	32,0	25	8	30	16	0,13	811-020-016
17	38,0	34,0	27,5	8	30	16	0,16	811-020-017
18	40,0	36,0	28	10	30	16	0,17	811-020-018
19	42,0	38,0	28	10	30	16	0,18	811-020-019
20	44,0	40,0	28	10	30	16	0,20	811-020-020
21	46,0	42,0	30	10	30	16	0,22	811-020-021
22	48,0	44,0	30	10	30	16	0,24	811-020-022
23	50,0	46,0	30	10	30	16	0,26	811-020-023
24	52,0	48,0	30	10	30	16	0,27	811-020-024
25	54,0	50,0	30	10	30	16	0,29	811-020-025
28	60,0	56,0	40	10	30	16	0,41	811-020-028
30	64,0	60,0	40	12	30	16	0,45	811-020-030
36	76,0	72,0	50	12	30	16	0,67	811-020-036
38	80,0	76,0	50	12	30	16	0,71	811-020-038
40	84,0	80,0	50	12	30	16	0,76	811-020-040
45	94,0	90,0	60	12	30	16	1,07	811-020-045
48	100,0	96,0	60	12	30	16	1,18	811-020-048
50	104,0	100,0	70	15	30	16	1,35	811-020-050
52	108,0	104,0	70	15	30	16	1,43	811-020-052
56	116,0	112,0	70	15	30	16	1,61	811-020-056
60	124,0	120,0	80	15	30	16	1,91	811-020-060
76	156,0	152,0	-	16	-	16	2,24	810-020-076
80	164,0	160,0	-	16	-	16	2,47	810-020-080
95	194,0	190,0	-	16	-	16	3,52	810-020-095
120	244,0	240,0	-	20	-	16	5,59	810-020-120

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth



模数 | module

2,0

直齿 | straight teeth

压力角 | pressure angle

20°

70 齿以下带单侧轮毂
76 齿以上无轮毂
12 to 70 teeth with hub
76 to 114 teeth without hub

钢号 | steel

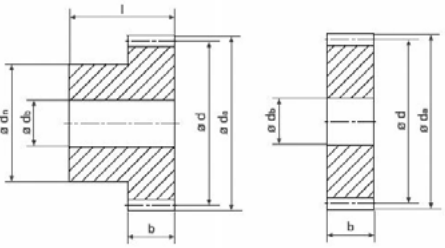
1.0503 [C45]

b = 20 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	28,0	24,0	18	10	35	20	0,080	816-020-012
13	30,0	26,0	20	10	35	20	0,100	816-020-013
14	32,0	28,0	20	10	35	20	0,120	816-020-014
15	34,0	30,0	24	10	35	20	0,140	816-020-015
16	36,0	32,0	25	10	35	20	0,160	816-020-016
17	38,0	34,0	25	10	35	20	0,180	816-020-017
18	40,0	36,0	25	10	35	20	0,190	816-020-018
19	42,0	38,0	25	10	35	20	0,210	816-020-019
20	44,0	40,0	30	10	35	20	0,260	816-020-020
21	46,0	42,0	30	12	35	20	0,270	816-020-021
22	48,0	44,0	30	12	35	20	0,290	816-020-022
23	50,0	46,0	30	12	35	20	0,310	816-020-023
24	52,0	48,0	35	12	35	20	0,360	816-020-024
25	54,0	50,0	35	12	35	20	0,390	816-020-025
26	56,0	52,0	40	12	35	20	0,450	816-020-026
28	60,0	56,0	40	12	35	20	0,500	816-020-028
30	64,0	60,0	40	14	35	20	0,550	816-020-030
32	68,0	64,0	45	14	35	20	0,650	816-020-032
35	74,0	70,0	45	14	35	20	0,740	816-020-035
36	76,0	72,0	45	14	35	20	0,780	816-020-036
38	80,0	76,0	50	14	35	20	0,900	816-020-038
40	84,0	80,0	50	14	35	20	0,970	816-020-040
42	88,0	84,0	55	16	35	20	1,090	816-020-042
45	94,0	90,0	60	16	35	20	1,270	816-020-045
48	100,0	96,0	70	16	35	20	1,530	816-020-048
50	104,0	100,0	70	16	35	20	1,620	816-020-050
52	108,0	104,0	70	16	35	20	1,720	816-020-052
54	112,0	108,0	70	16	35	20	1,830	816-020-054
56	116,0	112,0	70	16	35	20	1,940	816-020-056
58	120,0	116,0	70	16	35	20	2,050	816-020-058
60	124,0	120,0	70	16	35	20	2,160	816-020-060
70	144,0	140,0	80	16	35	20	2,940	816-020-070
76	156,0	152,0	-	20	-	20	2,790	814-020-076
80	164,0	160,0	-	20	-	20	3,090	814-020-080
95	194,0	190,0	-	20	-	20	4,390	814-020-095
110	224,0	220,0	-	20	-	20	5,900	814-020-110
114	232,0	228,0	-	20	-	20	6,340	814-020-114

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth



模数 | module

2,5

直齿 | straight teeth

压力角 | pressure angle

20°

60 齿以下带单侧轮毂
76 齿以上无轮毂
12 to 60 teeth with hub
76 to 95 teeth without hub

钢号 | steel

1.0503 [C45]

b = 20 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	35,0	30,0	23	10	35	20	1,13	811-025-012
13	37,5	32,5	25	10	35	20	0,16	811-025-013
14	40,0	35,0	25	10	35	20	0,19	811-025-014
15	42,5	37,5	25	10	35	20	0,20	811-025-015
16	45,0	40,0	25	10	35	20	0,23	811-025-016
17	47,5	42,5	30	10	35	20	0,28	811-025-017
18	50,0	45,0	30	12	35	20	0,29	811-025-018
19	52,5	47,5	30	12	35	20	0,31	811-025-019
20	55,0	50,0	30	12	35	20	0,34	811-025-020
21	57,5	52,5	40	12	35	20	0,43	811-025-021
22	60,0	55,0	40	12	35	20	0,47	811-025-022
23	62,5	57,5	40	12	35	20	0,49	811-025-023
24	65,0	60,0	40	12	35	20	0,52	811-025-024
25	67,5	62,5	40	12	35	20	0,55	811-025-025
28	75,0	70,0	45	12	35	20	0,74	811-025-028
30	80,0	75,0	50	15	35	20	0,86	811-025-030
36	95,0	90,0	60	15	35	20	1,23	811-025-036
38	100,0	95,0	60	15	35	20	1,38	811-025-038
40	105,0	100,0	60	15	35	20	1,50	811-025-040
45	117,5	112,5	70	15	35	20	1,95	811-025-045
48	125,0	120,0	70	15	35	20	2,16	811-025-048
50	130,0	125,0	80	20	35	20	2,40	811-025-050
52	135,0	130,0	80	20	35	20	2,56	811-025-052
56	145,0	140,0	80	20	35	20	2,90	811-025-056
60	155,0	150,0	90	20	35	20	3,41	811-025-060
76	195,0	190,0	-	16	-	20	4,36	810-025-076
80	205,0	200,0	-	16	-	20	4,84	810-025-080
95	242,5	237,5	-	16	-	20	6,85	810-025-095

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth

模数 | module

2,5

直齿 | straight teeth

压力角 | pressure angle

20°

60 齿以下带单侧轮毂
70 齿以上无轮毂
12 to 60 teeth with hub
70 to 114 teeth without hub

钢号 | steel

1.0503 [C45]

b = 25 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	35,0	30,0	22	10	45	25	0,170	816-025-012
13	37,5	32,5	25	10	45	25	0,210	816-025-013
14	40,0	35,0	28	10	45	25	0,250	816-025-014
15	42,5	37,5	30	10	45	25	0,300	816-025-015
16	45,0	40,0	32	12	45	25	0,330	816-025-016
17	47,5	42,5	35	12	45	25	0,380	816-025-017
18	50,0	45,0	35	12	45	25	0,420	816-025-018
19	52,5	47,5	35	12	45	25	0,450	816-025-019
20	55,0	50,0	40	12	45	25	0,540	816-025-020
21	57,5	52,5	40	14	45	25	0,560	816-025-021
22	60,0	55,0	45	14	45	25	0,660	816-025-022
23	62,5	57,5	45	14	45	25	0,700	816-025-023
24	65,0	60,0	45	14	45	25	0,740	816-025-024
25	67,5	62,5	50	14	45	25	0,850	816-025-025
26	70,0	65,0	50	14	45	25	0,900	816-025-026
28	75,0	70,0	50	14	45	25	1,000	816-025-028
30	80,0	75,0	55	14	45	25	1,180	816-025-030
32	85,0	80,0	55	14	45	25	1,280	816-025-032
35	92,5	87,5	60	16	45	25	1,540	816-025-035
36	95,0	90,0	60	16	45	25	1,610	816-025-036
38	100,0	95,0	60	16	45	25	1,750	816-025-038
40	105,0	100,0	70	16	45	25	2,060	816-025-040
42	110,0	105,0	70	16	45	25	2,220	816-025-042
45	117,5	112,5	70	16	45	25	2,470	816-025-045
48	125,0	120,0	80	20	45	25	2,880	816-025-048
50	130,0	125,0	80	20	45	25	3,070	816-025-050
52	135,0	130,0	90	20	45	25	3,480	816-025-052
54	140,0	135,0	90	20	45	25	3,680	816-025-054
56	145,0	140,0	100	20	45	25	4,130	816-025-056
58	150,0	145,0	100	20	45	25	4,340	816-025-058
60	155,0	150,0	100	20	45	25	4,570	816-025-060
70	180,0	175,0	-	20	-	25	4,640	814-025-070
76	195,0	190,0	-	20	-	25	5,480	814-025-076
80	205,0	200,0	-	25	-	25	6,040	814-025-080
95	242,5	237,5	-	25	-	25	8,570	814-025-095
110	280,0	275,0	-	25	-	25	11,530	814-025-110
114	290,0	285,0	-	25	-	25	12,390	814-025-114

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth

模数 | module

3,0

直齿 | straight teeth

压力角 | pressure angle

20°

40 齿以下带单侧轮毂
45 齿以上无轮毂
12 to 40 teeth with hub
45 to 95 teeth without hub

钢号 | steel

1.0503 [C45]

b = 25 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	42,0	36,0	25	10	40	25	0,22	811-030-012
13	45,0	39,0	30	10	40	25	0,27	811-030-013
14	48,0	42,0	30	10	40	25	0,33	811-030-014
15	51,0	45,0	30	12	40	25	0,38	811-030-015
16	54,0	48,0	30	12	40	25	0,36	811-030-016
17	57,0	51,0	40	12	40	25	0,48	811-030-017
18	60,0	54,0	40	15	40	25	0,50	811-030-018
19	63,0	57,0	40	15	40	25	0,55	811-030-019
20	66,0	60,0	40	15	40	25	0,60	811-030-020
21	69,0	63,0	45	15	40	25	0,72	811-030-021
22	72,0	66,0	50	15	40	25	0,78	811-030-022
23	75,0	69,0	50	15	40	25	0,85	811-030-023
24	78,0	72,0	50	15	40	25	0,86	811-030-024
25	81,0	75,0	50	15	40	25	0,96	811-030-025
28	90,0	84,0	60	15	40	25	1,34	811-030-028
30	96,0	90,0	60	20	40	25	1,45	811-030-030
36	114,0	108,0	70	20	40	25	2,15	811-030-036
38	120,0	114,0	70	20	40	25	2,33	811-030-038
40	126,0	120,0	80	20	40	25	2,68	811-030-040
45	141,0	135,0	-	20	-	25	2,70	810-030-045
48	150,0	144,0	-	20	-	25	3,10	810-030-048
50	156,0	150,0	-	20	-	25	3,36	810-030-050
52	162,0	156,0	-	25	-	25	3,51	810-030-052
56	174,0	168,0	-	25	-	25	4,28	810-030-056
60	186,0	180,0	-	25	-	25	4,84	810-030-060
76	234,0	228,0	-	25	-	25	7,81	810-030-076
80	246,0	240,0	-	25	-	25	8,60	810-030-080
95	291,0	285,0	-	25	-	25	12,29	810-030-095

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth

模数 | module

3,0

直齿 | straight teeth

压力角 | pressure angle

20°

48 齿以下带单侧轮毂
50 齿以上无轮毂
12 to 48 teeth with hub
50 to 114 teeth without hub

钢号 | steel

1.0503 [C45]

b = 30 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	42,0	36,0	27	12	50	30	0280	816-030-012
13	45,0	39,0	30	12	50	30	0340	816-030-013
14	48,0	42,0	33	12	50	30	0410	816-030-014
15	51,0	45,0	35	12	50	30	0470	816-030-015
16	54,0	48,0	38	14	50	30	0540	816-030-016
17	57,0	51,0	42	14	50	30	0630	816-030-017
18	60,0	54,0	45	14	50	30	0720	816-030-018
19	63,0	57,0	45	14	50	30	0780	816-030-019
20	66,0	60,0	45	14	50	30	0840	816-030-020
21	69,0	63,0	45	16	50	30	0890	816-030-021
22	72,0	66,0	50	16	50	30	1020	816-030-022
23	75,0	69,0	50	16	50	30	1100	816-030-023
24	78,0	72,0	50	16	50	30	1180	816-030-024
25	81,0	75,0	60	16	50	30	1390	816-030-025
26	84,0	78,0	60	16	50	30	1480	816-030-026
28	90,0	84,0	60	16	50	30	1660	816-030-028
30	96,0	90,0	60	16	50	30	1850	816-030-030
32	102,0	96,0	70	16	50	30	2210	816-030-032
35	111,0	105,0	70	16	50	30	2550	816-030-035
36	114,0	108,0	70	20	50	30	2620	816-030-036
38	120,0	114,0	80	20	50	30	3050	816-030-038
40	126,0	120,0	80	20	50	30	3310	816-030-040
42	132,0	126,0	80	20	50	30	3580	816-030-042
45	141,0	135,0	90	20	50	30	4220	816-030-045
48	150,0	144,0	100	20	50	30	4920	816-030-048
50	156,0	150,0	-	20	-	30	4060	814-030-050
52	162,0	156,0	-	20	-	30	4400	814-030-052
60	186,0	180,0	-	20	-	30	5890	814-030-060
76	234,0	228,0	-	25	-	30	9460	814-030-076
80	246,0	240,0	-	25	-	30	10490	814-030-080
95	291,0	285,0	-	25	-	30	14860	814-030-095
100	306,0	300,0	-	25	-	30	19970	814-030-100
114	348,0	342,0	-	30	-	30	21400	814-030-114

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth

模数 | module

4,0

直齿 | straight teeth

压力角 | pressure angle

20°

30 齿以下带单侧轮毂
36 齿以上无轮毂
12 to 30 teeth with hub
36 to 95 teeth without hub

钢号 | steel

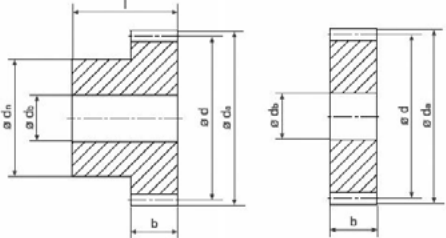
1.0503 [C45]

b = 32 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	56,0	48,0	36	12	50	32	0,50	811-040-012
13	60,0	52,0	40	12	50	32	0,61	811-040-013
14	64,0	56,0	44	12	50	32	0,74	811-040-014
15	68,0	60,0	45	15	50	32	0,80	811-040-015
16	72,0	64,0	45	15	50	32	0,99	811-040-016
17	76,0	68,0	50	15	50	32	1,08	811-040-017
18	80,0	72,0	50	20	50	32	1,15	811-040-018
19	84,0	76,0	50	20	50	32	1,26	811-040-019
20	88,0	80,0	50	20	50	32	1,38	811-040-020
21	92,0	84,0	60	20	50	32	1,63	811-040-021
22	96,0	88,0	60	20	50	32	1,77	811-040-022
23	100,0	92,0	60	20	50	32	1,91	811-040-023
24	104,0	96,0	60	20	50	32	2,06	811-040-024
25	108,0	100,0	60	20	50	32	2,22	811-040-025
28	120,0	112,0	70	20	50	32	3,00	811-040-028
30	128,0	120,0	80	25	50	32	3,29	811-040-030
36	152,0	144,0	-	25	-	32	3,91	810-040-036
38	160,0	152,0	-	25	-	32	4,40	810-040-038
40	168,0	160,0	-	25	-	32	4,92	810-040-040
45	188,0	180,0	-	25	-	32	6,23	810-040-045
48	200,0	192,0	-	25	-	32	7,05	810-040-048
50	208,0	200,0	-	25	-	32	7,70	810-040-050
52	216,0	208,0	-	30	-	32	8,27	810-040-052
56	232,0	224,0	-	30	-	32	9,60	810-040-056
60	248,0	240,0	-	30	-	32	11,06	810-040-060
76	312,0	304,0	-	30	-	32	17,80	810-040-076
80	328,0	320,0	-	30	-	32	19,80	810-040-080
95	388,0	380,0	-	30	-	32	28,10	810-040-095

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth



模数 | module

4,0

直齿 | straight teeth

压力角 | pressure angle

20°

36 齿以下带单侧轮毂
38 齿以上无轮毂
12 to 36 teeth with hub
38 to 114 teeth without hub

钢号 | steel

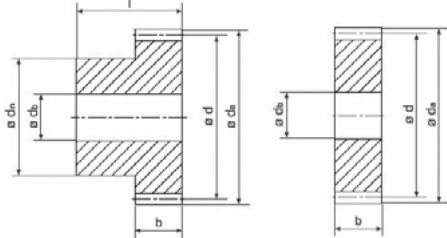
1.0503 [C45]

b = 40 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	56,0	48,0	35	14	60	40	0,630	816-040-012
13	60,0	52,0	40	14	60	40	0,780	816-040-012
14	64,0	56,0	45	14	60	40	0,930	816-040-012
15	68,0	60,0	45	14	60	40	1,050	816-040-012
16	72,0	64,0	50	16	60	40	1,200	816-040-012
17	76,0	68,0	50	16	60	40	1,330	816-040-012
18	80,0	72,0	50	16	60	40	1,470	816-040-012
19	84,0	76,0	60	16	60	40	1,750	816-040-012
20	88,0	80,0	60	16	60	40	1,900	816-040-012
21	92,0	84,0	70	16	60	40	2,220	816-040-012
22	96,0	88,0	70	16	60	40	2,390	816-040-012
23	100,0	92,0	75	20	60	40	2,600	816-040-012
24	104,0	96,0	75	20	60	40	2,790	816-040-012
25	108,0	100,0	75	20	60	40	2,980	816-040-012
26	112,0	104,0	75	20	60	40	3,180	816-040-012
28	120,0	112,0	75	20	60	40	3,600	816-040-012
30	128,0	120,0	75	20	60	40	4,060	816-040-012
32	136,0	128,0	80	20	60	40	4,640	816-040-012
35	148,0	140,0	80	20	60	40	5,430	816-040-012
36	152,0	144,0	80	25	60	40	5,630	816-040-012
38	160,0	152,0	-	25	-	40	5,200	816-040-012
40	168,0	160,0	-	25	-	40	6,110	816-040-012
45	188,0	180,0	-	25	-	40	7,780	816-040-012
48	200,0	192,0	-	25	-	40	8,870	816-040-012
50	208,0	200,0	-	25	-	40	9,650	816-040-012
52	216,0	208,0	-	25	-	40	10,450	816-040-012
60	248,0	240,0	-	25	-	40	13,970	816-040-012
76	312,0	304,0	-	30	-	40	22,470	816-040-012
80	328,0	320,0	-	30	-	40	24,930	816-040-012
95	388,0	380,0	-	30	-	40	35,260	816-040-012
100	408,0	400,0	-	30	-	40	47,380	816-040-012
114	464,0	456,0	-	30	-	40	50,910	816-040-012

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth



模数 | module

5,0

直齿 | traight teeths

压力角 | pressure angle

20°

25 齿以下带单侧轮毂
28 齿以上无轮毂
12 to 25 teeth with hub
28 to 95 teeth without hub

钢号 | steel

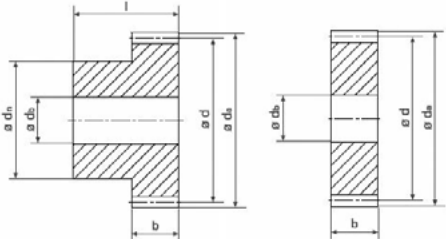
1.0503 [C45]

b = 40 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	70,0	60,0	45	15	60	40	0,99	811-050-012
13	75,0	65,0	50	15	60	40	1,22	811-050-013
14	80,0	70,0	50	15	60	40	1,45	811-050-014
15	85,0	75,0	50	20	60	40	1,50	811-050-015
16	90,0	80,0	50	20	60	40	1,69	811-050-016
17	95,0	85,0	64	20	60	40	2,08	811-050-017
18	100,0	90,0	65	25	60	40	2,15	811-050-018
19	105,0	95,0	68	25	60	40	2,50	811-050-019
20	110,0	100,0	70	25	60	40	2,61	811-050-020
21	115,0	105,0	75	25	60	40	3,11	811-050-021
22	120,0	110,0	75	25	60	40	3,40	811-050-022
23	125,0	115,0	80	25	60	40	3,74	811-050-023
24	130,0	120,0	80	25	60	40	3,85	811-050-024
25	135,0	125,0	80	25	60	40	4,30	811-050-025
28	150,0	140,0	-	25	-	40	4,60	810-050-028
30	160,0	150,0	-	30	-	40	5,25	810-050-030
36	190,0	180,0	-	30	-	40	7,75	810-050-036
38	200,0	190,0	-	30	-	40	8,50	810-050-038
40	210,0	200,0	-	30	-	40	9,58	810-050-040
45	235,0	225,0	-	30	-	40	12,10	810-050-045
48	250,0	240,0	-	30	-	40	13,80	810-050-048
50	260,0	250,0	-	30	-	40	15,00	810-050-050
52	270,0	260,0	-	40	-	40	16,14	810-050-052
56	290,0	280,0	-	40	-	40	18,71	810-050-056
60	310,0	300,0	-	40	-	40	21,60	810-050-060
76	390,0	380,0	-	40	-	40	35,20	810-050-076
80	410,0	400,0	-	40	-	40	39,00	810-050-080
95	485,0	475,0	-	40	-	40	55,00	810-050-095

圆柱齿轮 铣削齿

Spur Gears with Milled Teeth



模数 | module

5,0

直齿 | straight teeth

压力角 | pressure angle

20°

30 齿以下带单侧轮毂
32 齿以上无轮毂
12 to 30 teeth with hub
32 to 114 teeth without hub

钢号 | steel

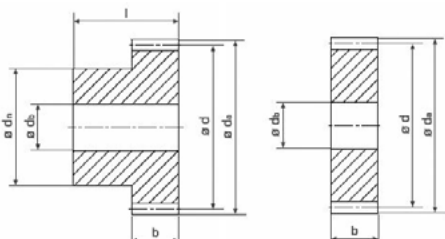
1.0503 [C45]

b = 50 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	70,0	60,0	45	20	75	50	1,210	816-050-012
13	75,0	65,0	50	20	75	50	1,470	816-050-013
14	80,0	70,0	55	20	75	50	1,760	816-050-014
15	85,0	75,0	60	20	75	50	2,070	816-050-015
16	90,0	80,0	65	20	75	50	2,400	816-050-016
17	95,0	85,0	70	20	75	50	2,750	816-050-017
18	100,0	90,0	70	20	75	50	3,020	816-050-018
19	105,0	95,0	70	20	75	50	3,300	816-050-019
20	110,0	100,0	80	20	75	50	3,830	816-050-020
21	115,0	105,0	80	20	75	50	4,150	816-050-021
22	120,0	110,0	80	20	75	50	4,480	816-050-022
23	125,0	115,0	90	20	75	50	5,080	816-050-023
24	130,0	120,0	90	20	75	50	5,440	816-050-024
25	135,0	125,0	90	20	75	50	5,820	816-050-025
26	140,0	130,0	100	20	75	50	6,500	816-050-026
28	150,0	140,0	100	25	75	50	7,220	816-050-028
30	160,0	150,0	110	25	75	50	8,440	816-050-030
32	170,0	160,0	-	25	-	50	7,620	814-050-032
35	185,0	175,0	-	25	-	50	9,160	814-050-035
38	200,0	190,0	-	25	-	50	10,840	814-050-038
40	210,0	200,0	-	25	-	50	12,040	814-050-040
45	235,0	225,0	-	25	-	50	15,300	814-050-045
48	250,0	240,0	-	25	-	50	17,440	814-050-048
50	260,0	250,0	-	30	-	50	18,860	814-050-050
52	270,0	260,0	-	30	-	50	20,430	814-050-052
60	310,0	300,0	-	30	-	50	27,310	814-050-060
76	390,0	380,0	-	30	-	50	44,040	814-050-076
80	410,0	400,0	-	30	-	50	48,840	814-050-080
95	485,0	475,0	-	30	-	50	69,030	814-050-095
100	510,0	500,0	-	30	-	50	92,690	814-050-100
114	580,0	570,0	-	30	-	50	99,590	814-050-114

圆柱齿轮 铣齿

Spur Gears with Milled Teeth



模数 | module

6,0

直齿 | straight teeth

压力角 | pressure angle

20°

25 齿以下带单侧轮毂
28 齿以上无轮毂
12 to 25 teeth with hub
28 to 95 teeth without hub

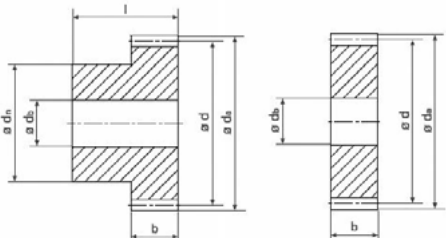
钢号 | steel

1.0503 [C45]

b = 48 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	84,0	72,0	54	20	70	48	1,70	811-060-012
13	90,0	78,0	60	20	70	48	2,03	811-060-013
15	102,0	90,0	60	25	70	48	2,56	811-060-015
16	108,0	96,0	60	25	70	48	3,16	811-060-016
18	120,0	108,0	70	25	70	48	3,79	811-060-018
20	132,0	120,0	70	25	70	48	4,60	811-060-020
24	156,0	144,0	80	30	70	48	6,53	811-060-024
25	162,0	150,0	80	30	70	48	7,02	811-060-025
28	180,0	168,0	-	30	-	48	8,00	810-060-028
30	192,0	180,0	-	30	-	48	9,23	810-060-030
36	228,0	216,0	-	30	-	48	13,30	810-060-036
38	240,0	228,0	-	30	-	48	14,80	810-060-038
40	252,0	240,0	-	30	-	48	16,61	810-060-040
45	282,0	270,0	-	40	-	48	20,90	810-060-045
48	300,0	288,0	-	40	-	48	23,75	810-060-048
50	312,0	300,0	-	40	-	48	25,90	810-060-050
52	324,0	312,0	-	40	-	48	28,10	810-060-052
56	348,0	336,0	-	40	-	48	32,00	810-060-056
60	372,0	360,0	-	40	-	48	37,70	810-060-060
76	468,0	456,0	-	40	-	48	60,20	810-060-076
80	492,0	480,0	-	50	-	48	66,80	810-060-080
95	582,0	570,0	-	50	-	48	95,00	810-060-095

圆柱齿轮 铣齿
Spur Gears with Milled Teeth



模数 | module6,0

直齿 | straight teeth

压力角 | pressure angle20°

25 齿以下带单侧轮毂

28 齿以上无轮毂

12 to 25 teeth with hub

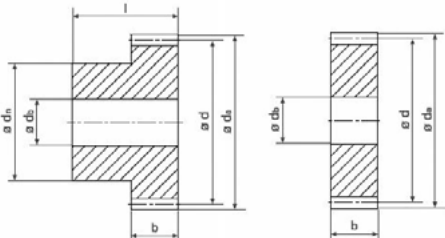
28 to 40 teeth without hub

钢号 | steel1.0503 [C45]

b = 60 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	84,0	72,0	54	-	80	60	1,820	816-060-012
13	90,0	78,0	60	-	80	60	2,200	816-060-013
15	102,0	90,0	70	-	80	60	3,010	816-060-015
16	108,0	96,0	75	-	80	60	3,460	816-060-016
18	120,0	108,0	80	-	80	60	4,330	816-060-018
20	132,0	120,0	90	-	80	60	5,430	816-060-020
24	156,0	144,0	110	-	80	60	7,880	816-060-024
25	162,0	150,0	110	-	80	60	8,420	816-060-025
28	180,0	168,0	-	25	-	60	8,410	814-060-028
30	192,0	180,0	-	25	-	60	9,690	814-060-030
32	204,0	192,0	-	25	-	60	11,050	814-060-032
35	222,0	210,0	-	25	-	60	13,270	814-060-035
38	240,0	228,0	-	25	-	60	15,690	814-060-038
40	252,0	240,0	-	25	-	60	17,420	814-060-040

圆柱齿轮 铣齿
Spur Gears with Milled Teeth



模数 | module8,0

直齿 | straight teeth

压力角 | pressure angle20°

25 齿以下带单侧轮毂

30 齿以上无轮毂

12 to 25 teeth with hub

30 to 60 teeth without hub

钢号 | steel1.0503 [C45]

b = 64 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	136,0	120,0	80	25	95	64	7,24	811-080-015
20	176,0	160,0	100	30	95	64	12,80	811-080-020
25	216,0	200,0	125	30	95	64	21,50	811-080-025
30	256,0	240,0	-	30	-	64	39,00	810-080-030
40	336,0	320,0	-	40	-	64	52,50	810-080-040
60	496,0	480,0	-	50	-	64	72,50	810-080-060

模数 | module8,0

直齿 | straight teeth

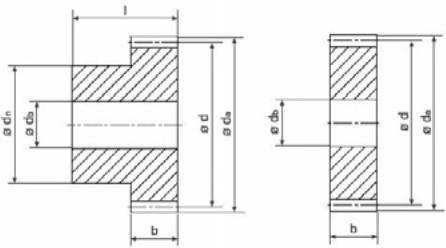
压力角 | pressure angle20°

钢号 | steel1.0503 [C45]

b = 80 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	136,00	120,00	90,00	40,00	120,00	80,00	7,70	816-080-015
20	176,00	160,00	120,00	40,00	120,00	80,00	12,20	816-080-020
25	216,00	200,00	150,00	40,00	120,00	80,00	23,80	816-080-025

圆柱齿轮 铣齿
Spur Gears with Milled Teeth



模数 | module

1,591

齿距 | Pitch

5 mm

直齿 | straight teeth

压力角 | pressure angle

20°

钢号 | steel

1.0503 [C45]

b = 12 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	22,3	19,1	14	6	25	12	0,03	811-016-012
15	27,0	23,9	18	6	25	12	0,06	811-016-015
18	31,8	28,6	20	8	25	12	0,07	811-016-018
20	35,0	31,8	20	8	25	12	0,10	811-016-020
24	41,4	38,2	25	8	25	12	0,14	811-016-024
25	43,0	39,8	25	8	25	12	0,14	811-016-025
30	50,9	47,7	30	10	25	12	0,20	811-016-030
36	60,5	57,3	40	10	25	12	0,32	811-016-036
40	66,8	63,6	40	10	25	12	0,36	811-016-040
45	74,8	71,6	45	10	25	12	0,45	811-016-045
50	82,7	79,6	50	12	25	12	0,56	811-016-050
60	98,6	95,5	60	12	25	12	0,82	811-016-060



模数 | module

3,183

齿距 | Pitch

10 mm

直齿 | straight teeth

压力角 | pressure angle

20°

40 齿以下带单侧轮毂
45 齿以上无轮毂
12 to 40 teeth with hub
45 to 60 teeth without hub

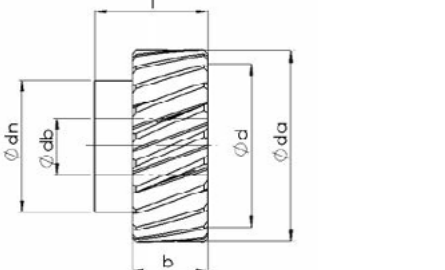
钢号 | steel

1.0503 [C45]

b = 25 mm

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
12	44,6	38,2	25	10	40	25	0,22	811-031-012
15	54,1	47,7	30	12	40	25	0,38	811-031-015
18	63,7	57,3	40	15	40	25	0,50	811-031-018
20	70,0	63,7	40	15	40	25	0,60	811-031-020
24	82,8	76,4	50	15	40	25	0,86	811-031-024
25	85,9	79,6	50	15	40	25	0,96	811-031-025
30	101,9	95,5	60	20	40	25	1,45	811-031-030
36	121,0	114,6	70	20	40	25	2,15	811-031-036
40	133,7	127,3	80	20	40	25	2,68	811-031-040
45	149,6	143,2	-	20	-	25	2,70	810-031-045
50	165,5	159,2	-	20	-	25	3,36	810-031-050
60	197,3	191,0	-	25	-	25	4,84	810-031-060

圆柱齿轮 斜齿 铣齿
Spur Gears,Helical with Milled Teeth



模数 | module

2,0

斜齿 左旋 | helical, left hand

螺旋角 | helix angle

19° 31' 42''

压力角 | pressure angle

20°

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
20	46,4	42,44	30	9	35	28	0.35	826-020-020
25	57,1	53,05	35	12	35	28	0.54	826-020-025
30	67,7	63,66	40	12	35	28	0.76	826-020-030



模数 | module

3,0

斜齿 左旋 | helical, left hand

螺旋角 | helix angle

19° 31' 42''

压力角 | pressure angle

20°

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
20	69,7	63,66	45	14	50	30	0,99	826-030-020
25	85,6	79,58	60	14	50	30	1,60	826-030-025



模数 | module

4,0

斜齿 左旋 | helical, left hand

螺旋角 | helix angle

19° 31' 42''

压力角 | pressure angle

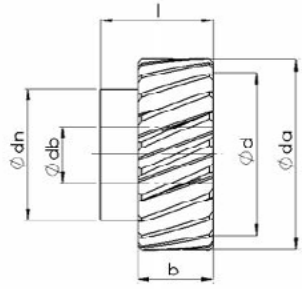
20°

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	71,7	63,66	50	16	60	40	1,10	826-040-015
20	92,9	84,88	60	16	60	40	2,21	826-040-020
25	114,1	106,10	75	16	60	40	3,45	826-040-025

圆柱齿轮 斜齿 铣齿
Spur Gears,Helical with Milled Teeth



模数 | module

5,0

斜齿 左旋 | helical, left hand

螺旋角 | helix angle

19° 31' 42''

压力角 | pressure angle

20°

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
20	116,1	106,10	70	20	70	50	4,0	826-050-020
25	142,6	132,60	80	20	70	50	6,2	826-050-025

模数 | module

6,0

斜齿 左旋 | helical, left hand

螺旋角 | helix angle

19° 31' 42''

压力角 | pressure angle

20°

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
20	139,3	127,30	90	20	80	60	7,0	826-060-020
25	171,2	159,20	110	20	80	60	10,8	826-060-025

模数 | module

8,0

斜齿 左旋 | helical, left hand

螺旋角 | helix angle

19° 31' 42''

压力角 | pressure angle

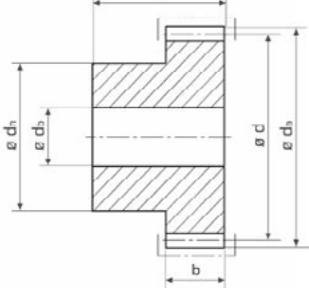
20°

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
20	182,0	166,08	120	40	120	80	15,8	826-080-020

圆柱齿轮 铣齿 高频淬火
Spur Gears with Milled Teeth Induction Hardened



模数 | module

1,0

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	17,0	15,0	12	5	18	8	0,02	811-010-415
20	22,0	20,0	15	6	18	8	0,03	811-010-420
25	27,0	25,0	18	6	18	8	0,05	811-010-425
30	32,0	30,0	20	8	18	8	0,06	811-010-430
40	42,0	40,0	25	8	18	8	0,11	811-010-440
60	62,0	60,0	40	10	18	8	0,26	811-010-460

模数 | module

1,5

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	25,5	22,5	18	6	25	12	0,06	811-015-415
20	33,0	30,0	20	8	25	12	0,10	811-015-420
25	40,5	37,5	25	8	25	12	0,14	811-015-425
30	48,0	45,0	30	10	25	12	0,20	811-015-430
40	63,0	60,0	40	10	25	12	0,36	811-015-440
60	93,0	90,0	60	12	25	12	0,82	811-015-460

模数 | module

1,591

齿距 | Pitch

5 mm

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

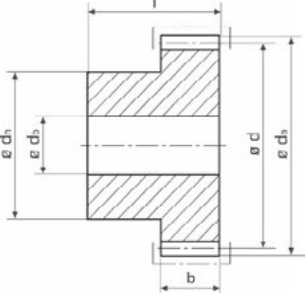
钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	27,0	23,9	18	6	25	12	0,06	811-016-415
20	35,0	31,8	20	8	25	12	0,10	811-016-420
25	43,0	39,8	25	8	25	12	0,14	811-016-425
30	50,9	47,7	30	10	25	12	0,20	811-016-430
40	66,8	63,6	40	10	25	12	0,36	811-016-440
60	98,6	95,5	60	12	25	12	0,82	811-016-460

圆柱齿轮 铣齿 高频淬火

Spur Gears with Milled Teeth Induction Hardened



模数 | module

2,0

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	34,0	30,0	24	8	30	16	0,12	811-020-415
20	44,0	40,0	28	10	30	16	0,20	811-020-420
25	54,0	50,0	30	10	30	16	0,29	811-020-425
30	64,0	60,0	40	12	30	16	0,45	811-020-430
40	84,0	80,0	50	12	30	16	0,76	811-020-440
60	124,0	120,0	80	15	30	16	1,91	811-020-460

模数 | module

2,5

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	42,5	37,5	25	10	35	20	0,20	811-025-415
20	55,0	50,0	30	12	35	20	0,34	811-025-420
25	67,5	62,5	40	12	35	20	0,55	811-025-425
30	80,0	75,0	50	15	35	20	0,86	811-025-430
40	105,0	100,0	60	15	35	20	1,50	811-025-440
60	155,0	150,0	90	20	35	20	3,41	811-025-460

模数 | module

3,0

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

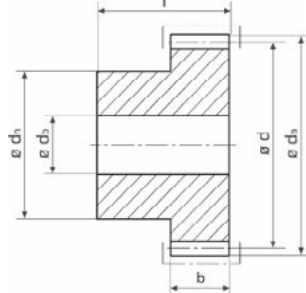
钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	51,0	45,0	30	12	40	25	0,38	811-030-415
20	66,0	60,0	40	15	40	25	0,60	811-030-420
25	81,0	75,0	50	15	40	25	0,96	811-030-425
30	96,0	90,0	60	20	40	25	1,45	811-030-430
40	126,0	120,0	80	20	40	25	2,68	811-030-440
60	186,0	180,0	-	25	-	25	4,84	810-030-460

圆柱齿轮 铣齿 高频淬火

Spur Gears with Milled Teeth Induction Hardened



模数 | module

3,183

齿距 | Pitch

10mm

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	54,1	47,7	30	12	40	25	0,38	811-031-415
20	70,0	63,7	40	15	40	25	0,60	811-031-420
25	85,9	79,6	50	15	40	25	0,95	811-031-425
30	101,9	95,5	60	20	40	25	1,45	811-031-430
40	133,7	127,3	80	20	40	25	2,68	811-031-440
60	197,3	191,0	-	25	-	25	4,84	810-031-460

模数 | module

4,0

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	68,0	60,0	45	15	50	32	0,80	811-040-415
20	88,0	80,0	50	20	50	32	1,39	811-040-420
25	108,0	100,0	60	20	50	32	2,22	811-040-425
30	128,0	120,0	80	25	50	32	3,29	811-040-430
40	168,0	160,0	-	25	-	32	4,92	810-040-440
60	248,0	240,0	-	30	-	32	11,06	810-040-460

模数 | module

5,0

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

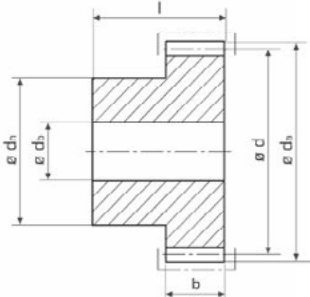
钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	85,0	75,0	50	20	60	40	1,50	811-050-415
20	110,0	100,0	70	25	60	40	2,61	811-050-420
25	135,0	125,0	80	25	60	40	4,30	811-050-425
30	160,0	150,0	-	30	-	40	5,25	810-050-430
40	210,0	200,0	-	30	-	40	9,58	810-050-440
60	310,0	300,0	-	40	-	40	21,60	810-050-460

圆柱齿轮 铣齿 高频淬火

Spur Gears with Milled Teeth Induction Hardened



模数 | module

6,0

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	102,0	90,0	60	25	70	48	2,56	811-060-415
20	132,0	120,0	70	25	70	48	4,60	811-060-420
25	162,0	150,0	80	30	70	48	7,02	811-060-425
30	192,0	180,0	-	30	-	48	9,23	810-060-430
40	252,0	240,0	-	30	-	48	16,61	810-060-440
60	372,0	360,0	-	40	-	48	37,70	810-060-460

模数 | module

8,0

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	136,0	120,0	80	25	95	64	7,24	811-080-415
20	176,0	160,0	100	30	95	64	12,80	811-080-420
25	216,0	200,0	125	30	95	64	21,50	811-080-425
30	256,0	240,0	-	30	-	64	39,00	810-080-430
40	336,0	320,0	-	40	-	64	52,50	810-080-440
60	496,0	480,0	-	50	-	64	72,50	810-080-460

模数 | module

8,0

直齿 | straight teeth

压力角 | pressure angle

20°

高频淬火 | induction hardened

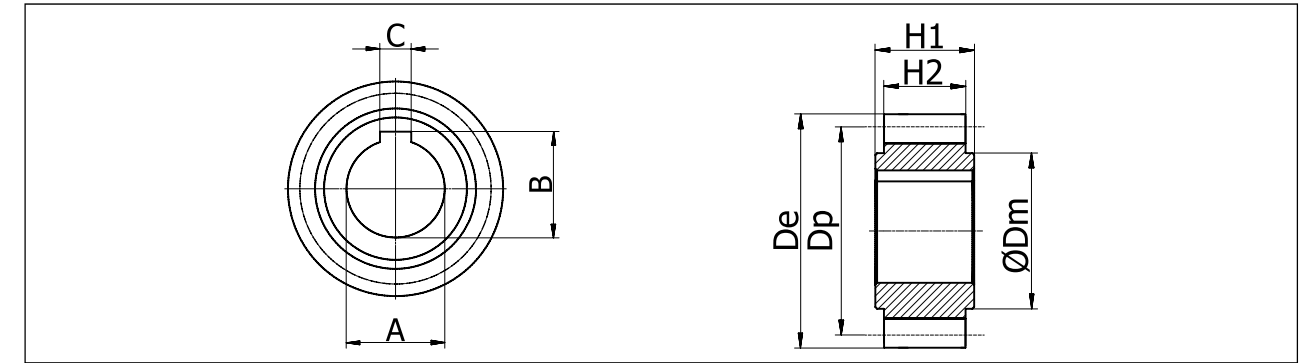
钢号 | steel

1.0503 [C45]

齿数 No. teeth	d _a	d	d _n	d _b	l	b	[kg]	订购编号 Part No.
15	136,00	120,00	90,00	40,00	120,00	80,00	7,70	816-080-415
20	176,00	160,00	120,00	40,00	120,00	80,00	12,20	816-080-420
25	216,00	200,00	150,00	40,00	120,00	80,00	23,80	816-080-425

斜齿轮

Helical tooth system



品质: 6h25 材质: 16MnCr5
Heat-treatment:case-hardening 60 HRC
热处理: 表面硬化 硬度 60

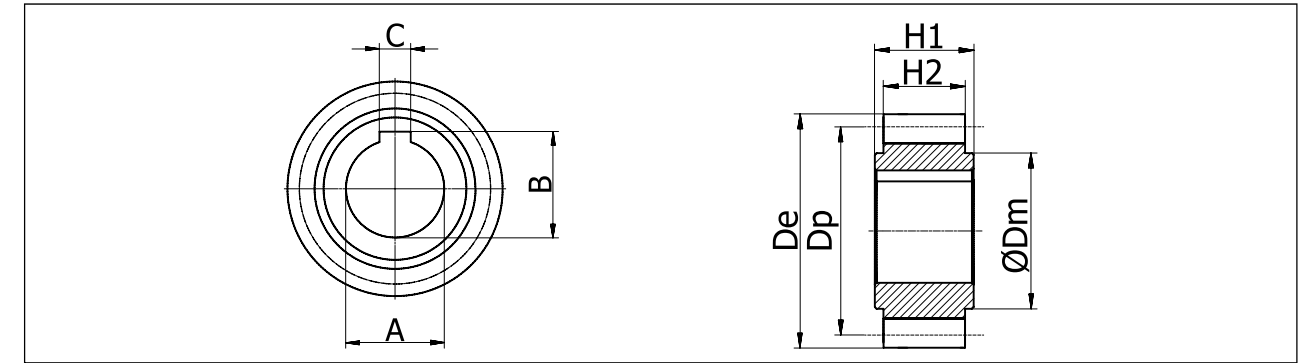
斜齿角度: 19°31’ 42” 左旋
Helical tooth system :19°31’ 42” Left-hand
表面: 研磨

M	Z	De	Dp	C	B	Ah6	H2	H1	Dmh8	订购编号 Part No.
1,5	16	28,46	25,46	5	18,3	15	28	30	20	1GB36L015016
1,5	18	31,64	28,64	5	18,3	20	28	30	22	1GB36L015018
1,5	20	34,83	31,83	6	22,8	20	28	30	25	1GB36L015020
1,5	24	41,19	38,19	8	28,3	25	28	30	32	1GB36L015024
1,5	30	50,74	47,74	8	28,3	25	28	30	40	1GB36L015030
1,5	40	66,66	63,66	12	43,3	40	28	30	58	1GB36L015040
2	16	37,952	33,952	5	18,3	15	28	30	25	1GB36L020016
2	18	42,197	38,197	5	22,8	20	28	30	30	1GB36L020018
2	20	46,441	42,441	6	23,3	20	28	30	30	1GB36L020020
2	22	50,685	46,685	8	28,3	25	28	30	36	1GB36L020022
2	24	54,929	50,929	8	28,3	25	28	30	36	1GB36L020024
2	30	67,661	63,661	8	28,3	25	28	30	36	1GB36L020030
2	40	88,882	84,882	12	43,3	40	28	30	62	1GB36L020040
2,5	24	68,661	63,661	8	28,3	25	28	30	36	1GB36L025024
3	20	69,661	63,661	6	22,8	20	28	30	30	1GB36L030020
3	22	75,027	70,027	8	28,3	25	28	30	36	1GB36L030022
3	24	82,394	76,394	8	28,3	25	28	30	36	1GB36L030024
3	40	133,323	127,323	12	43,3	40	28	30	62	1GB36L030040
3,183	20	73,911	67,545	6	22,8	20	28	30	30	1GB36L031020
3,183	22	80,665	74,299	8	28,3	25	28	30	36	1GB36L031022
3,183	24	87,42	81,054	8	28,3	25	28	30	36	1GB36L031024
3,183	30	107,683	101,317	8	28,3	25	28	30	36	1GB36L031030
4	20	92,882	84,882	10	38,3	35	40	50	55	1GB36L040020
4	25	114,102	106,102	10	38,3	35	40	50	55	1GB36L040025
4	30	135,323	127,323	10	38,3	35	40	50	55	1GB36L040030
4	32	143,811	135,811	10	38,3	35	40	50	55	1GB36L040032
5	20	116,102	106,102	14	48,3	45	50	60	68	1GB36L050020
5	24	137,323	127,323	14	48,3	45	50	60	68	1GB36L050024
5	25	142,628	132,628	14	48,3	45	50	60	68	1GB36L050025
5	30	169,154	159,154	14	48,3	45	50	60	68	1GB36L050030
6	20	139,323	127,323	16	59,3	55	60	70	80	1GB36L060020
6	21	145,689	133,689	16	59,3	55	60	70	80	1GB36L060021
6	24	164,788	152,788	16	59,3	55	60	70	80	1GB36L060024
6	25	171,154	159,154	16	59,3	55	60	70	80	1GB36L060025
6	30	202,985	190,985	16	59,3	55	60	70	80	1GB36L060030
8	20	185,764	169,764	20	79,9	75	80	100	110	1GB36L080020
10	20	232,205	212,205	22	90,4	85	100	120	125	1GB36L100020



斜齿轮

Helical tooth system

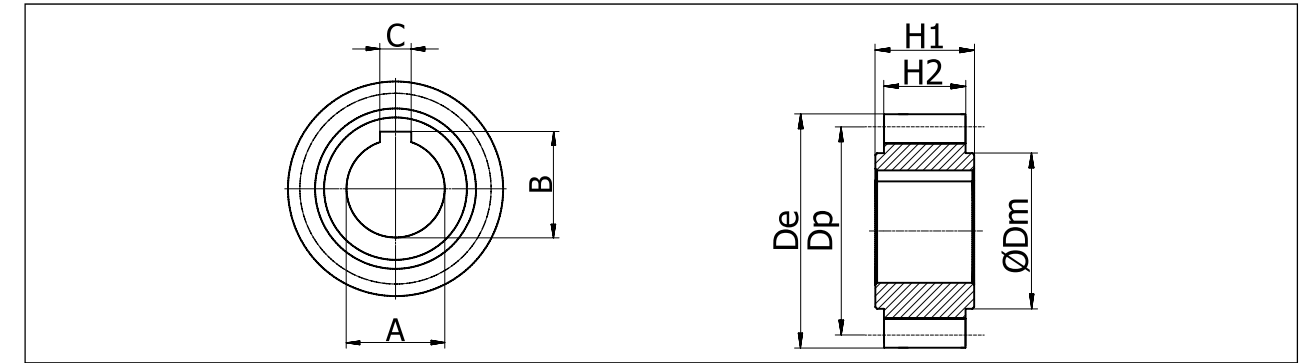


品质: 6h25 材质: 20CrMnTi
Heat-treatment:case-hardening 55-58 HRC
斜齿角度: 19°31′ 42″ 左旋
Helical tooth system :19°31′ 42″ Left-hand
表面: 研磨

M	Z	De	Dp	C	B	Ah6	H2	H1	Dmh8	订购编号 Part No.
1,5	16	28,46	25,46	5	18,3	15	28	30	20	1GB16L015016
1,5	18	31,64	28,64	5	18,3	20	28	30	22	1GB16L015018
1,5	20	34,83	31,83	6	22,8	20	28	30	25	1GB16L015020
1,5	24	41,19	38,19	8	28,3	25	28	30	32	1GB16L015024
1,5	30	50,74	47,74	8	28,3	25	28	30	40	1GB16L015030
1,5	40	66,66	63,66	12	43,3	40	28	30	58	1GB16L015040
2	16	37,952	33,952	5	18,3	15	28	30	25	1GB16L020016
2	18	42,197	38,197	5	22,8	20	28	30	30	1GB16L020018
2	20	46,441	42,441	6	23,3	20	28	30	30	1GB16L020020
2	22	50,685	46,685	8	28,3	25	28	30	36	1GB16L020022
2	24	54,929	50,929	8	28,3	25	28	30	36	1GB16L020024
2	30	67,661	63,661	8	28,3	25	28	30	36	1GB16L020030
2	40	88,882	84,882	12	43,3	40	28	30	62	1GB16L020040
2,5	24	68,661	63,661	8	28,3	25	28	30	36	1GB16L025024
3	20	69,661	63,661	6	22,8	20	28	30	30	1GB16L030020
3	22	75,027	70,027	8	28,3	25	28	30	36	1GB16L030022
3	24	82,394	76,394	8	28,3	25	28	30	36	1GB16L030024
3	40	133,323	127,323	12	43,3	40	28	30	62	1GB16L030040
3,183	20	73,911	67,545	6	22,8	20	28	30	30	1GB16L031020
3,183	22	80,665	74,299	8	28,3	25	28	30	36	1GB16L031022
3,183	24	87,42	81,054	8	28,3	25	28	30	36	1GB16L031024
3,183	30	107,683	101,317	8	28,3	25	28	30	36	1GB16L031030
4	20	92,882	84,882	10	38,3	35	40	50	55	1GB16L040020
4	25	114,102	106,102	10	38,3	35	40	50	55	1GB16L040025
4	30	135,323	127,323	10	38,3	35	40	50	55	1GB16L040030
4	32	143,811	135,811	10	38,3	35	40	50	55	1GB16L040032
5	20	116,102	106,102	14	48,3	45	50	60	68	1GB16L050020
5	24	137,323	127,323	14	48,3	45	50	60	68	1GB16L050024
5	25	142,628	132,628	14	48,3	45	50	60	68	1GB16L050025
5	30	169,154	159,154	14	48,3	45	50	60	68	1GB16L050030
6	20	139,323	127,323	16	59,3	55	60	70	80	1GB16L060020
6	21	145,689	133,689	16	59,3	55	60	70	80	1GB16L060021
6	24	164,788	152,788	16	59,3	55	60	70	80	1GB16L060024
6	25	171,154	159,154	16	59,3	55	60	70	80	1GB16L060025
6	30	202,985	190,985	16	59,3	55	60	70	80	1GB16L060030
8	20	185,764	169,764	20	79,9	75	80	100	110	1GB16L080020
10	20	232,205	212,205	22	90,4	85	100	120	125	1GB16L100020

直齿轮

Straight tooth system

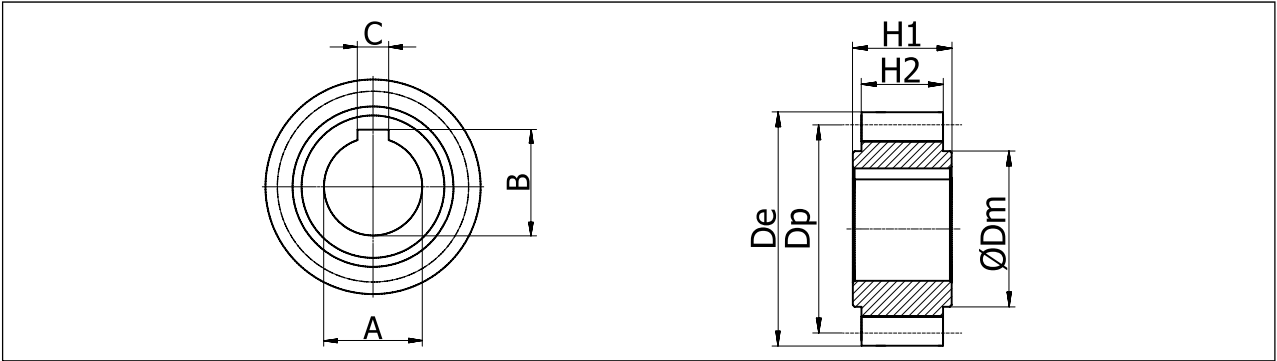


品质: 6h25
材质: 16MnCr5
压力角度: 20°
热处理: 表面硬化 硬度 60
Heat-treatment:case-hardening 60 HRC
表面: 研磨

M	Z	De	Dp	C	B	Ah6	H2	H1	Dmh8	订购编号 Part No.
1,5	16	27	24	5	18,3	15	28	30	20	1GB36S015016
1,5	18	30	27	5	18,3	20	28	30	22	1GB36S015018
1,5	20	33	30	6	22,8	20	28	30	25	1GB36S015020
1,5	24	39	36	8	28,3	25	28	30	32	1GB36S015024
1,5	30	48	45	8	28,3	25	28	30	40	1GB36S015030
1,5	40	63	60	12	43,3	40	28	30	58	1GB36S015040
2	16	36	32	5	18,3	15	28	30	25	1GB36S020016
2	18	40	36	5	18,3	20	28	30	30	1GB36S020018
2	20	44	40	6	22,8	20	28	30	30	1GB36S020020
2	22	48	44	8	28,3	25	28	30	36	1GB36S020022
2	24	52	48	8	28,3	25	28	30	36	1GB36S020024
2	30	64	60	8	28,3	25	28	30	36	1GB36S020030
2	40	84	80	12	43,3	40	28	30	62	1GB36S020040
3	20	66	60	6	22,8	20	28	30	36	1GB36S030020
3	22	72	66	8	28,3	25	28	30	30	1GB36S030022
3	24	78	72	8	28,3	25	28	30	36	1GB36S030024
3	40	126	120	12	43,3	40	28	30	36	1GB36S030040
3,183	20	70,02	63,66	6	22,8	20	28	30	30	1GB36S031020
3,183	22	76,39	70,02	8	28,3	25	28	30	36	1GB36S031022
3,183	24	82,75	76,39	8	28,3	25	28	30	36	1GB36S031024
3,183	30	101,85	95,49	8	28,3	25	28	30	36	1GB36S031030
4	20	88	80	10	38,3	35	40	50	55	1GB36S040020
4	25	108	100	10	38,3	35	40	50	55	1GB36S040025
4	30	128	120	10	38,3	35	40	50	55	1GB36S040030
4	32	136	128	10	38,3	35	40	50	55	1GB36S040032
5	20	110	100	14	48,3	45	50	60	68	1GB36S050020
5	24	130	120	14	48,3	45	50	60	68	1GB36S050024
5	25	135	125	14	48,3	45	50	60	68	1GB36S050025
5	30	160	150	14	48,3	45	50	60	68	1GB36S050030
6	20	132	120	16	59,3	55	60	70	80	1GB36S060020
6	21	138	126	16	59,3	55	60	70	80	1GB36S060021
6	24	156	144	16	59,3	55	60	70	80	1GB36S060024
6	25	162	150	16	59,3	55	60	70	80	1GB36S060025
6	30	192	180	16	59,3	55	60	70	80	1GB36S060030
8	20	176	160	20	79,9	75	80	100	110	1GB36S080020
10	20	220	200	22	90,4	85	100	120	125	1GB36S100020

直齿轮

Straight tooth system



品质: 6h25
材质: 20CrMnTi
压力角度: 20°

热处理: 表面硬化 硬度 55-58
Heat-treatment: case-hardening 55-58 HRC
表面: 研磨

M	Z	De	Dp	C	B	Ah6	H2	H1	Dmh8	订购编号 Part No.
1,5	16	27	24	5	18,3	15	28	30	20	1GB16S015016
1,5	18	30	27	5	18,3	20	28	30	22	1GB16S015018
1,5	20	33	30	6	22,8	20	28	30	25	1GB16S015020
1,5	24	39	36	8	28,3	25	28	30	32	1GB16S015024
1,5	30	48	45	8	28,3	25	28	30	40	1GB16S015030
1,5	40	63	60	12	43,3	40	28	30	58	1GB16S015040
2	16	36	32	5	18,3	15	28	30	25	1GB16S020016
2	18	40	36	5	18,3	20	28	30	30	1GB16S020018
2	20	44	40	6	22,8	20	28	30	30	1GB16S020020
2	22	48	44	8	28,3	25	28	30	36	1GB16S020022
2	24	52	48	8	28,3	25	28	30	36	1GB16S020024
2	30	64	60	8	28,3	25	28	30	36	1GB16S020030
2	40	84	80	12	43,3	40	28	30	62	1GB16S020040
3	20	66	60	6	22,8	20	28	30	36	1GB16S030020
3	22	72	66	8	28,3	25	28	30	30	1GB16S030022
3	24	78	72	8	28,3	25	28	30	36	1GB16S030024
3	40	126	120	12	43,3	40	28	30	36	1GB16S030040
3,183	20	70,02	63,66	6	22,8	20	28	30	30	1GB16S031020
3,183	22	76,39	70,02	8	28,3	25	28	30	36	1GB16S031022
3,183	24	82,75	76,39	8	28,3	25	28	30	36	1GB16S031024
3,183	30	101,85	95,49	8	28,3	25	28	30	36	1GB16S031030
4	20	88	80	10	38,3	35	40	50	55	1GB16S040020
4	25	108	100	10	38,3	35	40	50	55	1GB16S040025
4	30	128	120	10	38,3	35	40	50	55	1GB16S040030
4	32	136	128	10	38,3	35	40	50	55	1GB16S040032
5	20	110	100	14	48,3	45	50	60	68	1GB16S050020
5	24	130	120	14	48,3	45	50	60	68	1GB16S050024
5	25	135	125	14	48,3	45	50	60	68	1GB16S050025
5	30	160	150	14	48,3	45	50	60	68	1GB16S050030
6	20	132	120	16	59,3	55	60	70	80	1GB16S060020
6	21	138	126	16	59,3	55	60	70	80	1GB16S060021
6	24	156	144	16	59,3	55	60	70	80	1GB16S060024
6	25	162	150	16	59,3	55	60	70	80	1GB16S060025
6	30	192	180	16	59,3	55	60	70	80	1GB16S060030
8	20	176	160	20	79,9	75	80	100	110	1GB16S080020
10	20	220	200	22	90,4	85	100	120	125	1GB16S100020

零背隙

滚轮齿条的新系列产品

零背隙 /Non-backlash

齿（滚销）时常有 2-3 处保持接触，正反方向切不发生齿背间隙
Trochoidal profiled tooth enables us to make a plurality of mutual teeth mesh at one time. The teeth always mesh via two or three portions and eliminate backlash when rotated in one or another direction.

高精度 /High accuracy

进给精度（回转－直线比）和定位精度逼近精密滚珠丝杆。
Instead of gears,a combination of cam and roller makes a positioning accuracy and feeding accuracy(rotation-linearity ratio) as nearly as that of the ball-screw structure.

低噪音 . 低振动 /Low noise and low vibration

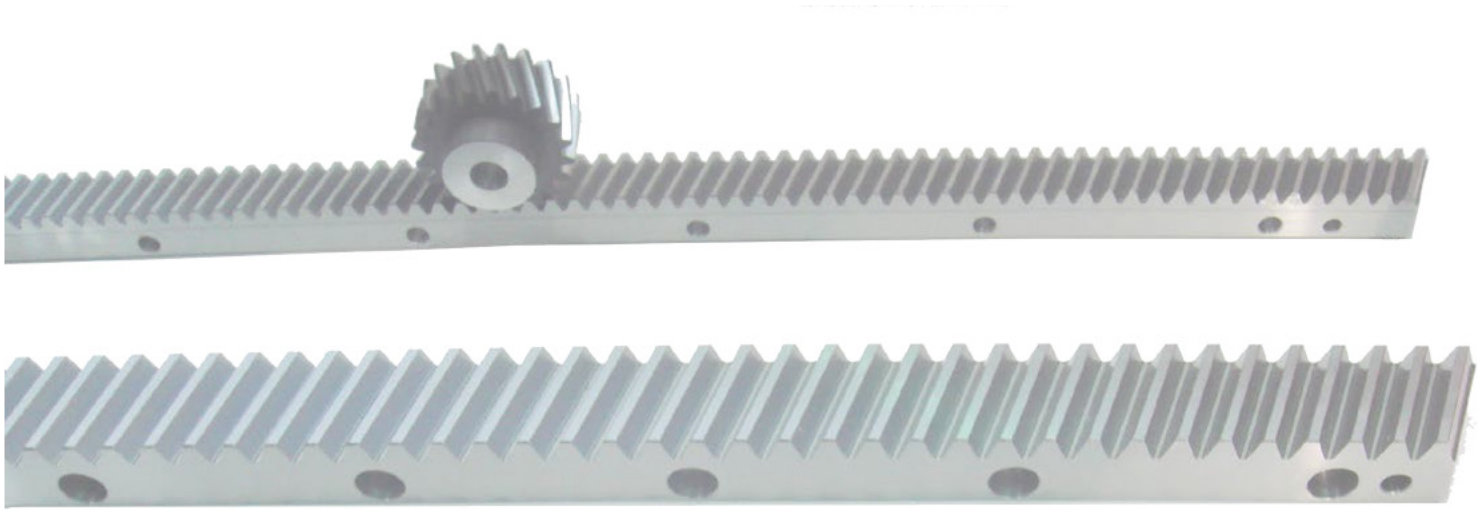
轴承支撑的滚销在次摆线齿轮上圆滑滚动。不会产生令不悦的敲齿音和滚动声。同时也减少了振动。
Rollers smoothly mesh with the optimized trochoidal tooth surface so as to avoid rattling noise,tooth striking noise and roating noise from being induced together with the least amount of vibration.

低灰尘 /Low dust

由于是圆滑的滚动接触、同时旋转部分是小径低速，低摩擦只产生微笑的发热和灰尘。
Due to the smooth rotation,the structure dispenses with a least amount of heat and dust gener-ated and cope with a clean room operation.

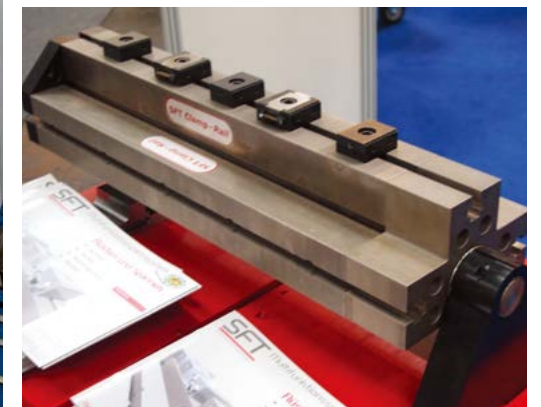
实现长距离 . 高速化 /Extended length line and high speed rolling

使用接续夹具可以实现长距离传动。另外，可以进行 180m/min 以上的高速地行走。
Extendable with use of addition jig,Capable of high speed rolling of 180m/minute or more.

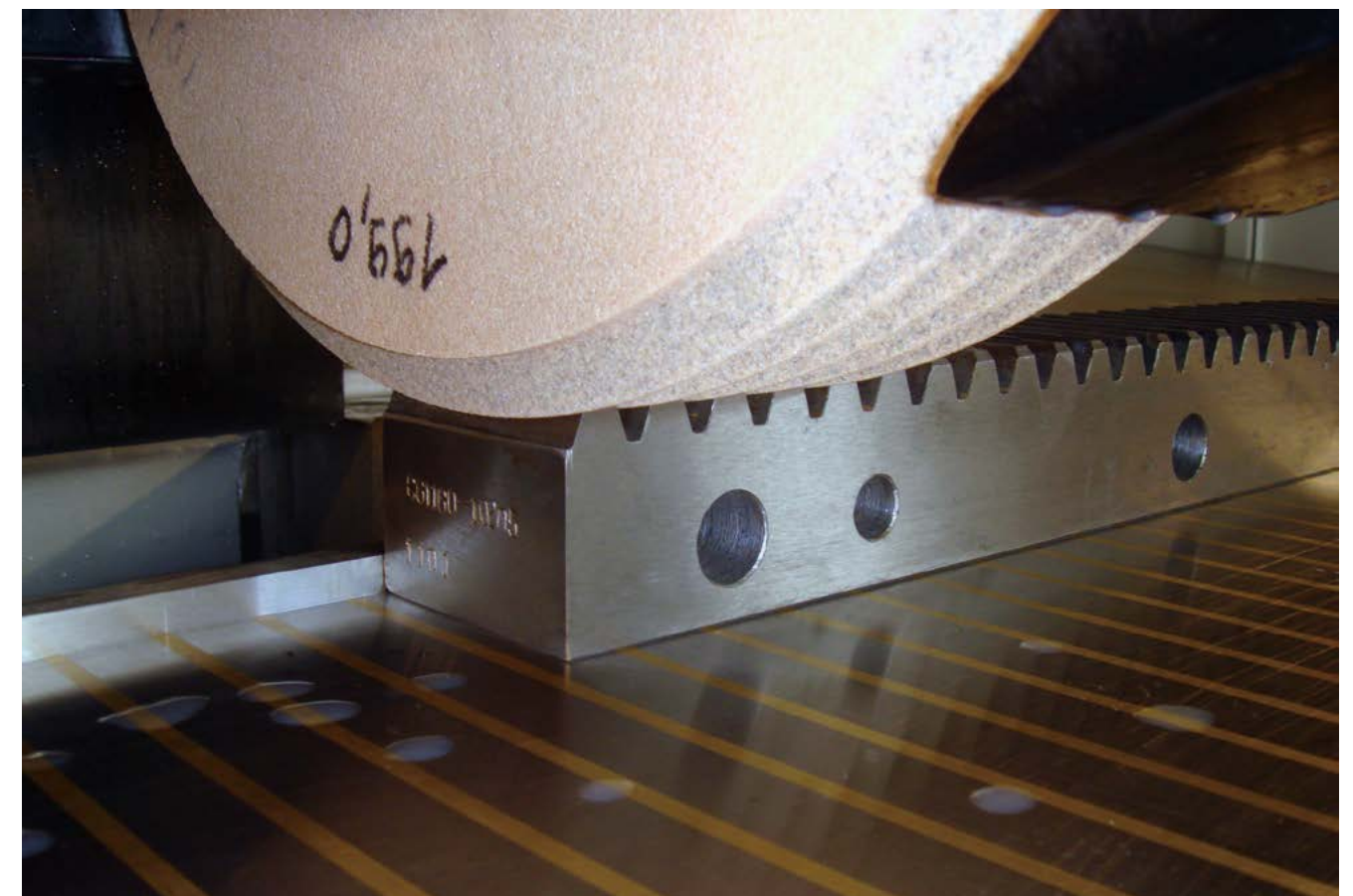
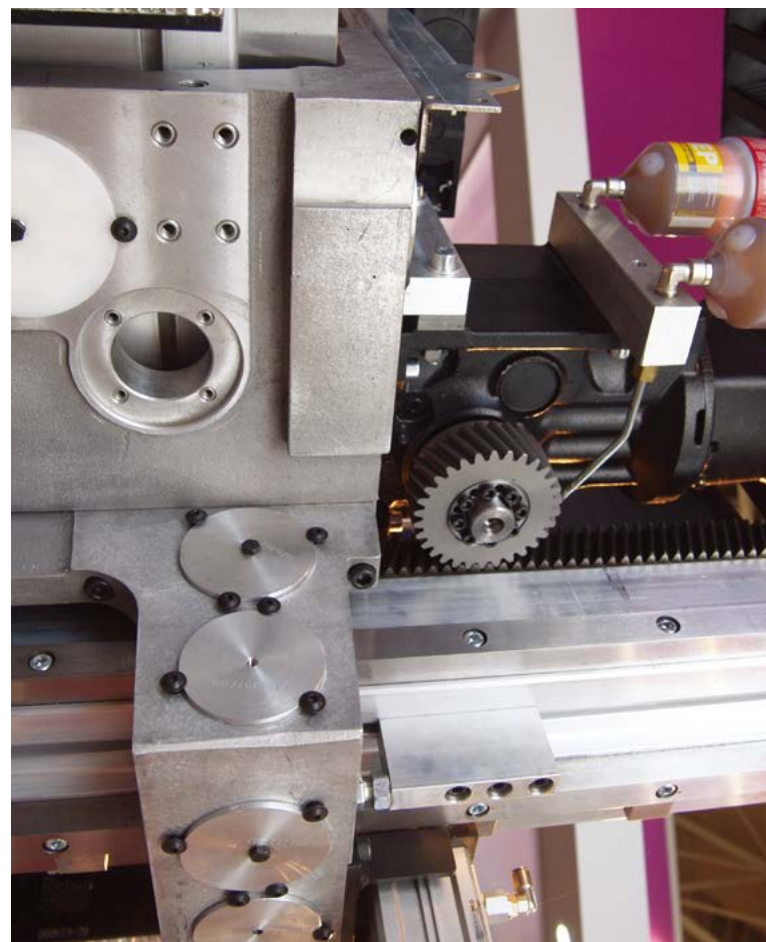


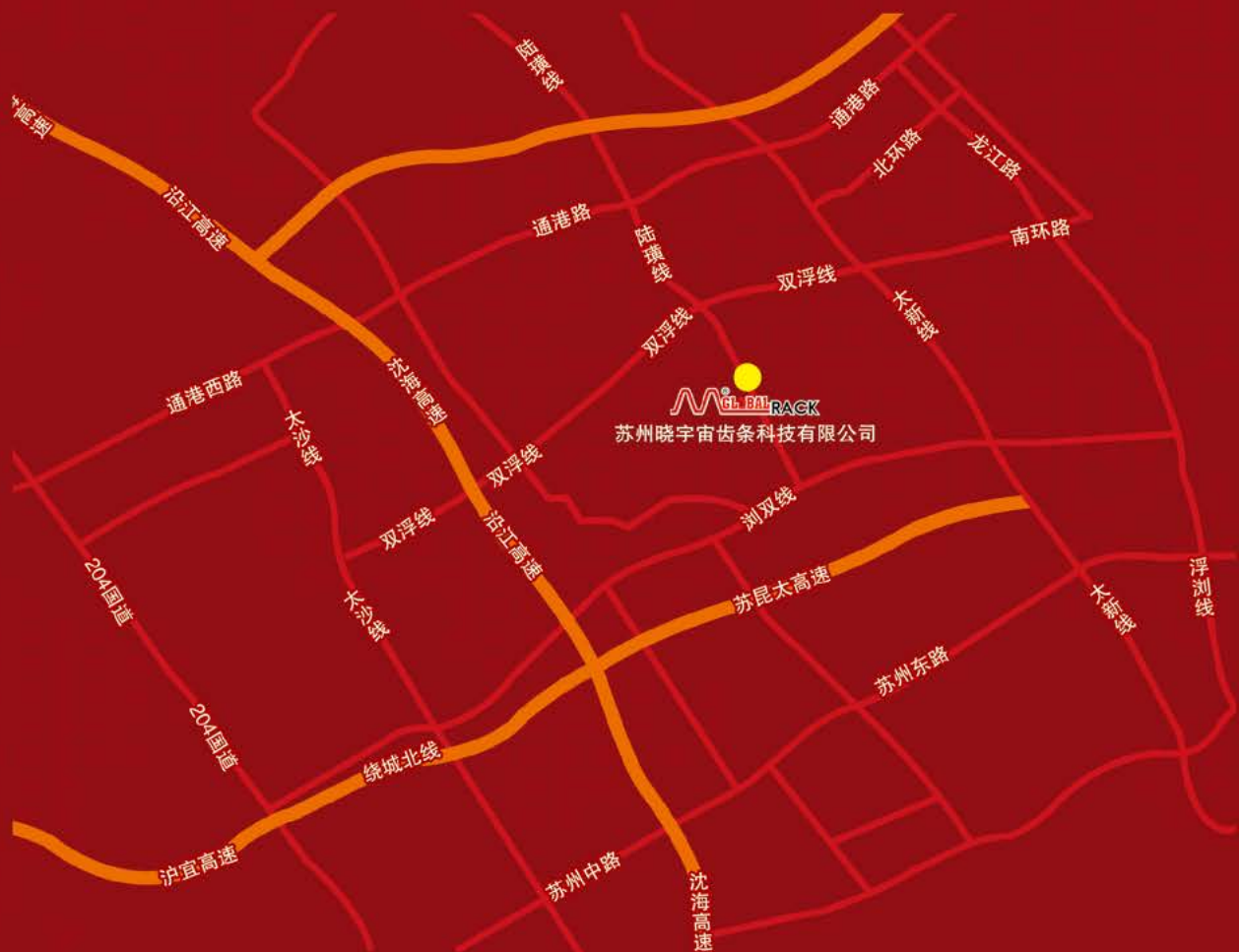


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