2019 版

我們的證書

香港總公司：
銀科工業(香港)有限公司
香港荃灣沙咀道66A號豪力中心2108室
電話：(852) 2499 9168 & (86)138-2917-9168香港專線
傳真：(852) 2417 9183
電郵：sales@silvertech.com.hk
網址：www.silvertech.com.hk

Hong Kong Headquarters:(For Import& Export Sales)
Silvertech Industrial (H.K.) Ltd.
Rm.2108, Ho Lik Centre, 66A Sha Tsui Road, Tsuen Wan, Hong Kong
Tel : (852) 2499 9168 & (86)138-2917-9168 HK Direct line
Fax: (852) 2417 9183
Email: sales@silvertech.com.hk
Web Site: www.silvertech.com.hk

東莞分公司：
銀科工業(廣東)有限公司
東莞市塘廈鎮橋隴橋興路23號銀科大樓
電話：(0769)-8209 3005
傳真：(0769)-8798 1313
電郵：dgoffice@silvertech.com.hk

China Guangdong Branch Office:
Silvertech Industrial (Guangdong) Ltd.
Silvertech Building, No.23 Qiaoxing Road, Tangxia, Dongguan
Tel : (0769)-8209 3005
Fax: (0769)-8798 1313
Email: dgoffice@silvertech.com.hk

上海分公司：
銀科商貿(上海)有限公司
上海市閔行區中春路8633弄41號26幢617室
電話：(021)-6296 8880
傳真：(021)-6220 8887
電郵：shoffice@silvertech.com.hk

China Shanghai Branch Office:
Silvertech Industrial (Shanghai) Ltd.
Rm.617, Blk 26, No.41 Lane 8633, Zhongchun Road, Minhang District, Shanghai
Tel : (021)-6296 8880
Fax: (021)-6220 8887
Email: shoffice@silvertech.com.hk

深圳工廠：
銀科鎂德傳動件製造(廣東)有限公司

China Shenzhen Factor ：
Madler-Silvertech Power Transmission Components (Guangdong) Ltd.

成都工廠：
成都銀科同步帶輪製造有限公司

China Chengdu Factory:
Chengdu Silvertech Timing Pulleys Manufacturing Ltd.

選銀科工業 • 做最好機械
Your choice for Industrial Products

客服熱線: 4008-618-120
網址: www.silvertech.com.hk

SILVERTECH 銀科工業
www.silvertech.com.hk
專業製造
STI®

SILVERTECH 銀科工業

®STI 高品質傳動件
High Quality Power Transmission Products

4008-618-120
www.silvertech.com.hk

關於我們

銀科工業(香港)有限公司，總部位於香港,分公司和工廠設於中國內地。公司的主要業務為生產和進出口銷售、銀科工業的產品被廣泛應用於鐵路、航空、船舶工業、能源、國防工業、石油化工、環保工業、食品加工和各類機械工業等領域。

・生產和銷售高品質工業傳動零部件，出口至世界各國

・進口德國、瑞士、意大利、美國、日本、台灣等地生產的高科技工業產品，並且是這些世界級著名品牌的大中華總代理。

累計超過20年以上服務海內外客戶的經驗，我們不斷進步，總結，發展，因此而奠定了堅實的基礎，在海內外業界均享有優質的口碑，在系統化培訓和員工對企業的歸屬感，大家分別工作於香港、東莞、上海、成都、深圳，今天的銀科工業已擁有一支非常專業的團隊，為海內外業界提供優質產品,為貼近客戶而盡我們所能。

Silvertech Industrial (HK) Ltd. with its headquarters in Hong Kong and branches as well as factories in mainland China. Our business focuses on the production/export and import of high quality power transmission parts. These products can be applied to railway, aerospace, marine industry, energy, defends industry, chemistry, food/beverage, environmental production and machinery industries, etc.

・ From our own production: our products are well known in the local market in China as well as in the global markets, such as European and North American countries.

・ From import: We are the sole authorised distributor in the Greater China area for many world-renowned high-tech industrial products from Germany, Switzerland, Italy, USA, Japan and Taiwan.

We are growing stronger with over twenty years experience of serving clients in overseas and Greater China Area. Silvertech Industrial has well developed world reputation and brand loyalty. Our company engages in systemic on the job training and invests in corporate human resource. We have developed an extremely competent and dedicated team working in Hong Kong, Dongguan, Shanghai, Chengdu, Shenzhen. We are known as the company providing the best products and service for our customers.

我們的地理位置分佈

上海分公司
Shanghai Office

東莞分公司
Dongguan Office

銀鎂德深圳工廠
Madler-Silvertech factory

銀科香港總公司
Silvertech Hong Kong

銀科森瑪SSA
Simatec-Silvertech

目錄 Directory

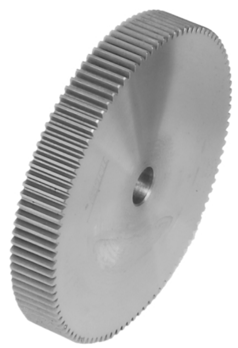
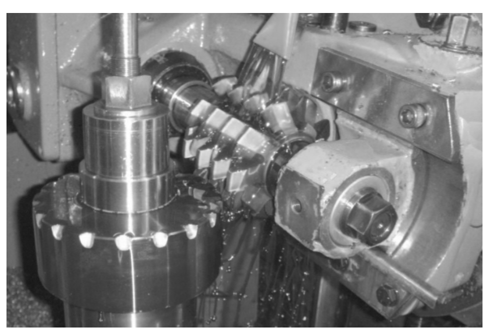
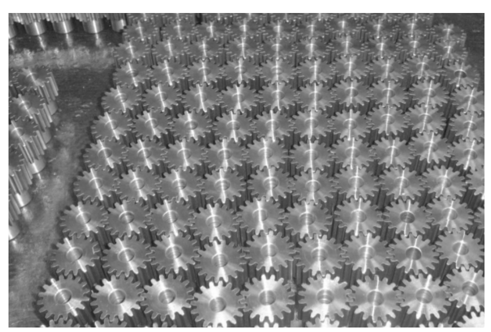
www.silvertech.com.hk

®STI 高品質正齒輪

HIGH QUALITY SPUR GEARS





正齒輪系列 SPUR GEAR

General Basics for Spur Gears

Spur gears enable a non-slip power transmission between two parallel-mounted shafts. The spur gears listed in the catalogue are involute gears with a pressure angle of 20°.

Please note that gears with a number of teeth < 17 are undercut for manufacturing reasons (one reason for this is the simple calculation of the centre distance). The centre distance tolerances depend on the tooth quality in line with DIN 3964. The modules for spur gears used in the catalogue were derived from DIN 780 Series 1.

The formulas below apply to straight and helical spur gears for the usual gear-cutting tools (see table) and for the addendum modification 0 for sprocket and wheel (the so-called reference centre distance tooth system).

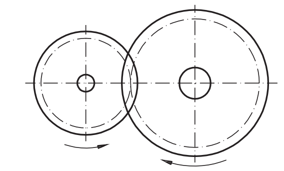
Module-Series 1

Module 0.3 Module 0.5 Module 0.7 Module 1.0 Module 1.25 Module 1.5
Module 2.0 Module 2.5 Module 3.0 Module 4.0 Module 5.0 Module 6.0
Module 8.0

Module-Series 2

Module 0.75 Module 3.5 Module 7.0

Rotational direction changes with every gear



Teeth straight

to be calculated	given unit	formula
No. of Teeth = z	Pitch Ø and Module	$\frac{d}{m}$
	Addendum-Circle Ø	$\frac{d_a - 2m}{m}$
Module = m in mm	Pitch	$\frac{t_o}{\pi}$
	Tip Ø and No. of Teeth	$\frac{d_a}{z + 2}$
	Pitch Ø and No. of Teeth	$\frac{d}{z}$
Pitch Ø = d in mm	No. of Teeth and Module	$z \cdot m$
	No. of Teeth and Tip Ø	$\frac{z \cdot d_a}{z + 2}$
	Tip Ø and Module	$d_a - 2m$
Tip Ø = d_a in mm	No. of Teeth and Module	$(z + 2) \cdot m$
	No. of Teeth and Pitch Ø	$d + \frac{2\,d}{z}$
	Pitch Ø and Module	$d + 2\,m$
Centre distance = a in mm	No. of Teeth and Module	$\left(\frac{z_1 + z_2}{2}\right) \cdot m$
	Pitch Ø and Pitch Ø	$\frac{d_1 + d_2}{2}$
Reduction Ratio = i	No. of Teeth and No. of Teeth	$\frac{z_2}{z_1}$
	Speed and Speed	$\frac{n_1}{n_2}$
Torque = Md in Nm	Power and Speed [kW] [min⁻¹]	$9550 \cdot \frac{P}{n}$
Peripheral Speed = V in m/sec.	Pitch Ø and Speed [mm] [min⁻¹]	$\frac{\pi \cdot d \cdot n}{60.000}$

Material quality: Information about the material quality can be found at each individual group of gears.

Teeth helical

to be calculated	given unit	formula
No. of Teeth	Pitch Ø, Standard Module and Spiral Angle	$\frac{d \cdot \cos \beta}{m_n}$
	Tip Ø, Standard Module and Spiral Angle	$\frac{(d_a - 2\,m_n) \cdot \cos \beta}{m_n}$
Normal Module	Standard Pitch	$\frac{t_{n0}}{\pi}$
	Pitch Ø, No. of Teeth and Spiral Angle	$\frac{d \cdot \cos \beta}{z}$
	Tip Ø, No. of Teeth and Spiral Angle	$\frac{d_a}{\frac{z}{\cos \beta} + 2}$
Real module	Reference Circle Pitch	$\frac{t_s}{\pi}$
	Standard Module and Spiral Angle	$\frac{m_n}{\cos \beta}$
	Pitch Ø and No. of Teeth	$\frac{d}{z}$
Pitch Ø	No. of Teeth, Standard Module and Spiral Angle	$\frac{z \cdot m_n}{\cos \beta}$
	No. of Teeth, Tip Ø and Spiral Angle	$\frac{z \cdot d_a}{z + 2 \cdot \cos \beta}$
	Tip Ø and Standard Module	$d_a - 2\,m_n$
Tip Ø	No. of Teeth, Standard Module and Spiral Angle	$\left(\frac{z}{\cos \beta} + 2\right) m_n$
	Pitch Ø and Standard Module	$d + 2m_n$
	Pitch Ø, No. of Teeth and Spiral Angle	$d + \frac{2\,d \cdot \cos \beta}{z}$
Centre distance	No. of Teeth, Standard Module and Spiral Angle	$\left(\frac{z_1 + z_2}{2}\right) \frac{m_n}{\cos \beta}$
	Pitch Ø and Pitch Ø	$\frac{d_1 + d_2}{2}$
Spiral Angle	Standard Module u. Real Module	$\frac{m_n}{m_s} = \cos \beta$
	Standard Module, No. of Teeth and Pitch Ø	$\frac{z \cdot m_n}{d} = \cos \beta$

Recommendations for the Lubrication of Spur Gear Units

Peripheral Speed	Lubrication	Lubricant
up to 1 m/s	Application of Lubricant	Adhesive Lubricant
up to 4 m/s	Splash Lubrication/Spray Lubrication	Grease or Adh. Lubricant
up to 15 m/s	Splash Lubrication	Oil
over 15 m/s	Pressure-Circulation or Spray Lubrication	Oil

正齒輪系列 SPUR GEAR

正齒輪的基本参數

正齒輪的傳動特點是不會使它們在兩個平行軸上打滑。
在本樣本目錄上所列的正齒輪全部是20° 壓力角。
因此請注意所有齒數＜17齒的均爲根切。
中心距的公差是以依賴于齒型精度等级，
具體要求數據按DIN 3964，
本樣本目錄中所詳列的正齒輪模數均源自DIN780 1–系列
以下列表使用于計算直齒輪和斜齒輪、
中心距和齒數等一些較爲常用的公式。

模數 - 系列1					
模數 0.3	模數 0.5	模數 0.7	模數 1.0	模數 1.25	模數 1.5
模數 2.0	模數 2.5	模數 3.0	模數 4.0	模數 5.0	模數 6.0	模數 8.0

模數 - 系列2		
模數 0.75	模數 3.5	模數 7.0

直齒

求參數	已知數	公式
齒數=Z	節經和模數	$\frac{d}{m}$
	外圓直徑	$\frac{d_a - 2m}{m}$
公制模數 = m	節距	$\frac{t_o}{\pi}$
	外圓直徑和齒數	$\frac{d_a}{z+2}$
	節經和齒數	$\frac{d}{z}$
節徑=d mm	齒數和模數	$z \cdot m$
	齒數和外圓	$\frac{z \cdot d_a}{z+2}$
	外圓和模數	$d_a - 2m$
外圓直徑 = d_a mm	齒數和模數	$(z+2) \cdot m$
	齒數和節經	$d + \frac{2d}{z}$
	節經和模數	$d + 2m$
中心距=a mm	齒數和模數	$\left(\frac{z_1 + z_2}{2}\right) \cdot m$
	節經和節經	$\frac{d_1 + d_2}{2}$
變速比率=i	齒數和齒數	$\frac{z_2}{z_1}$
	速度和速度	$\frac{n_1}{n_2}$
扭矩 = Md Nm	功率和速度 [kW] [min^{-1}]	$9550 \cdot \frac{P}{n}$
綫速度=V 米/秒	節經和速度 [mm] [min^{-1}]	$\frac{\pi \cdot d \cdot n}{60.000}$

材料：所使用的各類材料（牌號）
可以在相關的齒輪組別中查看

斜齒

求參數	已知數	公式
齒數	節經，標準模數和螺旋角	$\frac{d \cdot \cos\beta}{m_n}$
	外圓、標準模數和螺旋角	$\frac{(d_a - 2m_n) \cdot \cos\beta}{m_n}$
基本模數	標準節距	$\frac{t_{n0}}{\pi}$
	節經，齒數和螺旋角	$\frac{d \cdot \cos\beta}{z}$
	外圓、齒數和螺旋角	$\frac{d_a}{\frac{z}{\cos\beta} + 2}$
基本模數	節圓參數	$\frac{t_s}{\pi}$
	標準模數和螺旋角	$\frac{m_n}{\cos\beta}$
	節經和齒數	$\frac{d}{z}$
節徑 = d mm	齒數，標準模數和螺旋角	$\frac{z \cdot m_n}{\cos\beta}$
	齒數，外元和螺旋角	$\frac{z \cdot d_a}{z + 2 \cdot \cos\beta}$
	外圓和標準模數	$d_a - 2m_n$
外圓	齒數，標準模數和螺旋角	$\left(\frac{z}{\cos\beta} + 2\right) m_n$
	節經和標準模數	$d + 2m_n$
	節經，齒數和螺旋角	$d + \frac{2d \cdot \cos\beta}{z}$
中心距	齒數，標準模數和螺旋角	$\left(\frac{z_1 + z_2}{2}\right) \frac{m_n}{\cos\beta}$
	節經和節經	$\frac{d_1 + d_2}{2}$
螺旋角	標準模數，實際模數	$\frac{m_n}{m_s} = \cos\beta$
	標準模數，齒數和節數	$\frac{z \cdot m_n}{d} = \cos\beta$

建議正齒輪使用的潤滑方式

綫速度	潤滑方式	潤滑液類型
1米/秒 以下	塗抹	黄油等黏性油
4米/秒 以下	濺潑/噴灑	油脂或黏性油
15米/秒 以下	濺潑	液態油
15米/秒 以下	循環壓力注入或噴灑	液態油

注意有關目録中所標注的扭矩值
Note Regarding the Torque-Values Stated in the Catalogue

下列齒輪扭矩参數表衹與齒數有關（參數“perm,MT”爲Nm或Ncm）至于軸經和鍵槽的尺寸并無考慮在内

The torque values given for gears in the dimension tables (the value “perm. MT” stated in Nm or Ncm) only relate to the teeth, without considering the shaft diameter or key size.

計算負載能力需考慮切合實際運用場合如齒根和齒側在運轉時所受到外界因素的影響而額外增加阻尼下列計算準則是取自DIN3990(方式B)在計算時需按公式要求帶入合適的參數。

The load bearing capacity calculations are based on the basic principles regarding the pitting resistance of the tooth flanks and the occurring tooth root stress. The calculations are based on the DIN 3990 (Method B). For the calculation, the following assumptions were made:

Calcul. Factor/Determining Factor	Abbreviation	Value	Note
Calculation Method	-	-	DIN 3990, method B
DIN Quality	-	8	-
Tooth-Number Ratio	U	1	If U > 1, the flank safety for long and short addendum teeth increases while the tooth-root safety decreases For other tooth-number ratios please check both pinion and gear!
Manufacturing Tool: Addendum/Dedendum/ Tip Rounding	$h_{aP0}/h_{fP0}/rho_{aP0}$	1.25/1/0.25	Hob
Flank Safety	S_H	1.0	Endurance strength 10.000 h (for steel)
Tooth-Root Safety	S_F	1.5	Endurance strength 10.000 h (for steel)
Application Factor	K_A	1.25	Industrial gear mechanisms, uniform, light shocks.
Dynamics Factor	K_V	1.0	Usually without great influence
Load Distribution over Width	K_{Hbeta}	1	Idealised; requires precise, rigid and symmetric mounting
Lubricant/Surface Roughness Speed Factor	$Z_L * Z_V * Z_R$	1	• sufficient oil-lubrication • relative surface roughness R_{Z100} = 10 • peripheral speed 10 m/s
Lifetime Factor	Z_N	1	Endurance strength 10.000 h (for steel)
Operating temperature for plastic gears	T_{Betr}	up to 60°C	The material parametres of plastic gears largely depend on the temperature

齒輪實際的負載能力是根據多種不同的因素而變化，理論計算的數據是根據一般情況下推算出來的，因此僅部分參考，更重要的是需要依照每一個不同的工作現場，做出相應的微調。
根據實際工作環境，是否充足的潤滑油脂/油，將直接影響齒輪的使用壽命，請不要忽略齒側的潤滑是不可缺少的。

The load bearing capacity of a gear depends on various different factors. The stated torques are only reference values, serving to facilitate the selection process. If necessary, a specific calculation of strength and load bearing capacity must be carried out for each application.

Depending on the operating conditions the wear lifespan may be influenced by adequate grease/oil lubrication. Please also note that insufficient lubrication may lead to scuffing of the gear flanks.

注意 IMPORTANT

請確認您需要經常檢查齒輪組中單獨的小齒輪和其它齒輪的額定扭矩!
由于他們是高彈性塑料齒輪是根據KH beta of 1 計算出來的。若是以黄銅和鋅合金壓鑄加工出來的齒輪，同樣是根據K H beta of 1 計算，而且這些材料具有較好的磨合特性。

Please make sure you always check the permissible torque separately for the pinion and the gear side!
Due to their higher elasticity plastic gears are calculated with a K_{Hbeta} of 1. Gears made from brass and zinc-die-cast are also calculated with a K_{Hbeta} of 1, as a good running-in characteristic is assumed for these materials.

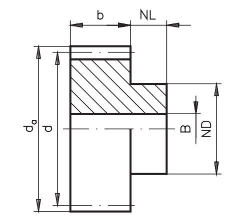
材料的選用，下列是需要基本考慮的特性參數
For the materials used, the following characteristic values were taken as basis:

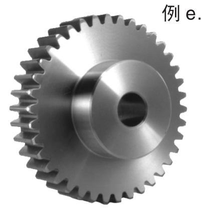
Material	Perm. Pulsating Fatigue Strength under Bending Stress σ_{bw} in N/mm²	Perm. Flank Pressure σ_{Hlim} in N/mm²
POM	28 (VDI-2545)	40 (VDI-2545)
Acetal Resin	28 (VDI-2545)	40 (VDI-2545)
PA12G	40	48
ZnAl4Cu1	60	150
Ms58 (2.0401)	100	250
11SMnPb30 (alt: 9SMn28K)	150	350
C45 heat treated	200	590
42CrMo4 hardened	350	1360
16MnCr5 case hardened	400	1630
X10CrNiS18 9 (1.4305, stainless, austenitic)	200	400

鋼件正齒輪，1模數，齒寬b=15mm，滾齒，直齒系列

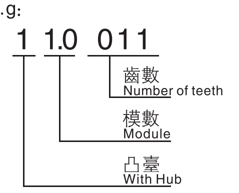
Spur Gears Made from Steel, Module 1.0, Tooth Width b = 15 mm, Milled Teeth, Straight Tooth System

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Gear-tooth quality 8d25 DIN 3967. Pressure angle 20°.





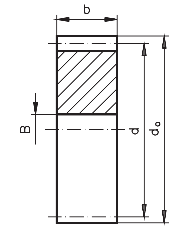
例 e.g:



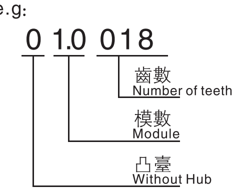
訂購指南：例如：產品代碼1 1.0 011，正齒輪，C45 鋼，1模數，11齒
Ordering Details: e.g.: Product No.1 1.0 011, Spur Gear, C45, Module 1.0, 11 Teeth

Product No. with Hub	Number of teeth	b mm	d_a mm	d mm	NL mm	ND mm	B^{H7} mm	perm. MT* Ncm	Weight g
1 1.0 011	11	15	13	11	10	8	5	30	12
1 1.0 012	12	15	14	12	10	9	6	35	13
1 1.0 013	13	15	15	13	10	10	6	40	16
1 1.0 014	14	15	16	14	10	11	6	45	20
1 1.0 015	15	15	17	15	10	12	6	49	24
1 1.0 016	16	15	18	16	10	13	6	53	28
1 1.0 017	17	15	19	17	10	14	6	55	33
1 1.0 018	18	15	20	18	10	15	8	62	33
1 1.0 019	19	15	21	19	10	15	8	72	37
1 1.0 020	20	15	22	20	10	16	8	81	42
1 1.0 021	21	15	23	21	10	16	8	91	46
1 1.0 022	22	15	24	22	10	16	8	101	50
1 1.0 023	23	15	25	23	10	18	8	112	58
1 1.0 024	24	15	26	24	10	20	10	125	61
1 1.0 025	25	15	27	25	10	20	10	136	66
1 1.0 026	26	15	28	26	10	20	10	150	70
1 1.0 027	27	15	29	27	10	20	10	164	75
1 1.0 028	28	15	30	28	10	20	10	177	80
1 1.0 029	29	15	31	29	10	20	10	195	85
1 1.0 030	30	15	32	30	10	20	10	209	90
1 1.0 031	31	15	33	31	10	25	10	224	110
1 1.0 032	32	15	34	32	10	25	10	243	120
1 1.0 033	33	15	35	33	10	25	10	262	120
1 1.0 034	34	15	36	34	10	25	10	279	130
1 1.0 035	35	15	37	35	10	25	10	299	135
1 1.0 036	36	15	38	36	10	25	10	318	140
1 1.0 037	37	15	39	37	10	25	10	329	145
1 1.0 038	38	15	40	38	10	25	10	364	155
1 1.0 039	39	15	41	39	10	25	10	385	160
1 1.0 040	40	15	42	40	10	25	10	409	170
1 1.0 041	41	15	43	41	10	30	10	436	190
1 1.0 042	42	15	44	42	10	30	10	459	200
1 1.0 043	43	15	45	43	10	30	10	486	210
1 1.0 044	44	15	46	44	10	30	10	511	215
1 1.0 045	45	15	47	45	10	30	10	538	225
1 1.0 046	46	15	48	46	10	30	10	566	230
1 1.0 047	47	15	49	47	10	30	10	602	240
1 1.0 048	48	15	50	48	10	30	10	642	250
1 1.0 049	49	15	51	49	10	30	10	682	260
1 1.0 050	50	15	52	50	10	30	12	725	260
1 1.0 051	51	15	53	51	10	40	12	769	310
1 1.0 052	52	15	54	52	10	40	12	818	320
1 1.0 053	53	15	55	53	10	40	12	843	330
1 1.0 054	54	15	56	54	10	40	12	893	340
1 1.0 055	55	15	57	55	10	40	12	934	350
1 1.0 056	56	15	58	56	10	40	12	972	360
1 1.0 057	57	15	59	57	10	40	12	1013	370
1 1.0 058	58	15	60	58	10	40	12	1054	380
1 1.0 059	59	15	61	59	10	40	12	1101	390
1 1.0 060	60	15	62	60	10	40	12	1146	400
1 1.0 061	61	15	63	61	10	50	12	1196	470
1 1.0 062	62	15	64	62	10	50	12	1265	480
1 1.0 063	63	15	65	63	10	50	12	1330	490
1 1.0 064	64	15	66	64	10	50	12	1395	500
1 1.0 065	65	15	67	65	10	50	12	1459	515
1 1.0 066	66	15	68	66	10	50	12	1503	525
1 1.0 067	67	15	69	67	10	50	12	1548	540
1 1.0 068	68	15	70	68	10	50	12	1592	550
1 1.0 069	69	15	71	69	10	50	12	1630	560
1 1.0 070	70	15	72	70	10	50	12	1665	575

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Gear-tooth quality 8d25 DIN 3967. Pressure angle 20°.



例 e.g:



訂購指南：例如：產品代碼0 1 .0 018，正齒輪，C45 鋼，1模數，18齒
Ordering Details: e.g.: Product No. 0 1.0 018, Spur Gear, C45, Module 1.0, 18 Teeth

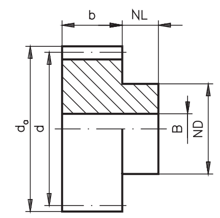
Product No. without Hub	Number of teeth	b mm	d_a mm	d mm	B^{H7} mm	perm. MT* Ncm	Weight g
0 1.0 018	18	15	20	18	8	62	24
0 1.0 020	20	15	22	20	8	81	30
0 1.0 024	24	15	26	24	10	125	43
0 1.0 025	25	15	27	25	10	136	48
0 1.0 030	30	15	32	30	10	209	72
0 1.0 035	35	15	37	35	10	299	102
0 1.0 036	36	15	38	36	10	318	108
0 1.0 040	40	15	42	40	10	409	136
0 1.0 045	45	15	47	45	10	538	174
0 1.0 048	48	15	50	48	10	642	200
0 1.0 050	50	15	52	50	12	725	214
0 1.0 052	52	15	54	52	12	818	232
0 1.0 060	60	15	62	60	12	1146	313
0 1.0 072	72	15	74	72	12	1729	460
0 1.0 075	75	15	77	75	12	1838	510
0 1.0 076	76	15	78	76	12	1872	520
0 1.0 080	80	15	82	80	12	2030	580
0 1.0 085	85	15	87	85	12	2230	650
0 1.0 090	90	15	92	90	12	2450	730
0 1.0 095	95	15	97	95	12	2660	820
0 1.0 100	100	15	102	100	12	2890	910
0 1.0 110	110	15	112	110	12	3710	1084
0 1.0 114	114	15	116	114	12	3820	1165
0 1.0 120	120	15	122	120	12	4000	1320
0 1.0 127	127	15	129	127	12	4200	1470

*基本計算公式見第95頁
*Basis of calculations see page 94.

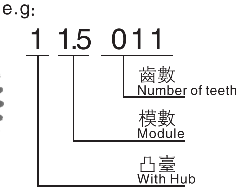
鋼件正齒輪，1.5模數，齒寬b=17mm，滾齒，直齒系列

Spur Gears Made from Steel, Module 1.5, Tooth Width b = 17 mm, Milled Teeth, Straight Tooth System

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.



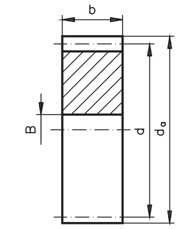
例 e.g:



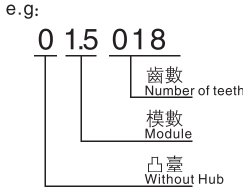
訂購指南：例如：產品代碼1 1.5 018，正齒輪，C45 鋼，1.5模數，18齒
Ordering Details: e.g.: Product No. 1 1.5 011, Spur Gear, C45, Module 1.5, 11 Teeth

Product No. with Hub	Number of teeth	b mm	d_a mm	d mm	NL mm	ND mm	B^{H7} mm	perm. MT* Ncm	Weight g
1 1.5 011	11	17	19.5	16.5	13	12	6	99	33
1 1.5 012	12	17	21	18	13	14	8	114	40
1 1.5 013	13	17	22.5	19.5	13	15	8	130	50
1 1.5 014	14	17	24	21	13	17	8	146	60
1 1.5 015	15	17	25.5	22.5	13	18	8	158	70
1 1.5 016	16	17	27	24	13	19	8	171	80
1 1.5 017	17	17	28.5	25.5	13	20	8	179	90
1 1.5 018	18	17	30	27	13	20	8	199	100
1 1.5 019	19	17	31.5	28.5	13	20	8	231	100
1 1.5 020	20	17	33	30	13	25	8	260	130
1 1.5 021	21	17	34.5	31.5	13	25	10	292	130
1 1.5 022	22	17	36	33	13	25	10	325	140
1 1.5 023	23	17	37.5	34.5	13	25	10	361	160
1 1.5 024	24	17	39	36	13	25	10	402	170
1 1.5 025	25	17	40.5	37.5	13	25	10	438	180
1 1.5 026	26	17	42	39	13	30	12	483	200
1 1.5 027	27	17	43.5	40.5	13	30	12	528	220
1 1.5 028	28	17	45	42	13	30	12	572	230
1 1.5 029	29	17	46.5	43.5	13	30	12	629	240
1 1.5 030	30	17	48	45	13	30	12	674	260
1 1.5 031	31	17	49.5	46.5	13	35	12	723	300
1 1.5 032	32	17	51	48	13	35	12	784	310
1 1.5 033	33	17	52.5	49.5	13	35	12	844	330
1 1.5 034	34	17	54	51	13	35	12	901	340
1 1.5 035	35	17	55.5	52.5	13	35	12	966	360
1 1.5 036	36	17	57	54	13	35	12	1027	370
1 1.5 037	37	17	58.5	55.5	13	40	12	1060	420
1 1.5 038	38	17	60	57	13	40	12	1173	440
1 1.5 039	39	17	61.5	58.5	13	40	12	1242	460
1 1.5 040	40	17	63	60	13	40	12	1320	480
1 1.5 041	41	17	64.5	61.5	13	40	12	1405	500
1 1.5 042	42	17	66	63	13	50	12	1482	590
1 1.5 043	43	17	67.5	64.5	13	50	12	1567	610
1 1.5 044	44	17	69	66	13	50	12	1648	630
1 1.5 045	45	17	70.5	67.5	13	50	12	1734	650
1 1.5 046	46	17	72	69	13	50	14	1827	660
1 1.5 047	47	17	73.5	70.5	13	50	14	1941	700
1 1.5 048	48	17	75	72	13	50	14	2071	700
1 1.5 049	49	17	76.5	73.5	13	50	14	2200	730
1 1.5 050	50	17	78	75	13	50	14	2339	760
1 1.5 051	51	17	79.5	76.5	13	60	14	2480	860
1 1.5 052	52	17	81	78	13	60	14	2640	890
1 1.5 053	53	17	82.5	79.5	13	60	14	2720	910
1 1.5 054	54	17	84	81	13	60	14	2882	940
1 1.5 055	55	17	85.5	82.5	13	60	14	3014	960
1 1.5 056	56	17	87	84	13	60	16	3135	980
1 1.5 059	59	17	91.5	88.5	13	60	16	3551	1060
1 1.5 060	60	17	93	90	13	60	16	3696	1090
1 1.5 064	64	17	99	96	13	70	16	4499	1310
1 1.5 065	65	17	100.5	97.5	13	70	16	4708	1340
1 1.5 066	66	17	102	99	13	70	16	4848	1370
1 1.5 068	68	17	105	102	13	70	16	5137	1430
1 1.5 069	69	17	106.5	103.5	13	70	16	5257	1460
1 1.5 070	70	17	108	105	13	70	16	5370	1500
1 1.5 072	72	17	111	108	13	80	16	5577	1660
1 1.5 075	75	17	115.5	112.5	13	80	16	5929	1760
1 1.5 080	80	17	123	120	13	80	16	6512	1940
1 1.5 090	90	17	138	135	13	80	16	8481	2330
1 1.5 100	100	17	153	150	13	80	16	9218	2770
1 1.5 120	120	17	183	180	13	80	16	10076	3790

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.



例 e.g:



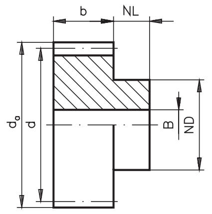
訂購指南：例如：產品代碼1 1.5 018，正齒輪，C45 鋼，1.5模數，18齒
Ordering Details: e.g.: Product No. 0 1.5 018, Spur Gear, C45, Module 1.5, 18 Teeth

Product No. without Hub	Number of teeth	b mm	d_a mm	d mm	B^{H7} mm	perm. MT* Ncm	Weight g
0 1.5 018	18	17	30	27	8	199	68
0 1.5 020	20	17	33	30	8	260	86
0 1.5 024	24	17	39	36	10	402	123
0 1.5 025	25	17	40.5	37.5	10	438	135
0 1.5 030	30	17	48	45	12	674	195
0 1.5 035	35	17	55.5	52.5	12	966	270
0 1.5 036	36	17	57	54	12	1027	285
0 1.5 040	40	17	63	60	12	1320	355
0 1.5 045	45	17	70.5	67.5	12	1734	455
0 1.5 048	48	17	75	72	14	2071	510
0 1.5 050	50	17	78	75	14	2339	560
0 1.5 060	60	17	93	90	16	3696	810
0 1.5 072	72	17	111	108	16	5577	1190
0 1.5 075	75	17	115.5	112.5	16	5929	1300
0 1.5 076	76	17	117	114	16	6039	1330
0 1.5 080	80	17	123	120	16	6512	1480
0 1.5 085	85	17	130.5	127.5	16	8063	1670
0 1.5 090	90	17	138	135	16	8481	1880
0 1.5 095	95	17	145.5	142.5	16	8888	2090
0 1.5 100	100	17	153	150	16	9218	2320
0 1.5 110	110	17	168	165	16	9416	2820
0 1.5 114	114	17	174	171	16	9620	3030
0 1.5 120	120	17	183	180	16	10076	3360
0 1.5 127	127	17	193.5	190.5	16	10705	3770

*基本計算公式見第95頁
*Basis of calculations see page 94.

鋼件正齒輪，2模數，齒寬b=20mm，滾齒，直齒系列
Spur Gears Made from Steel, Module 2.0, Tooth Width b = 20 mm, Milled Teeth, Straight Tooth System

材料：C45鋼，齒形精度等级8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.

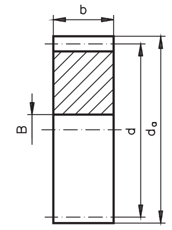


例 e.g:
1 2.0 012
齒數 Number of teeth
模數 Module
凸毫 With Hub

訂購指南：例如：產品代碼1 2.0 012，正齒輪，C45 鋼，2模數，12齒
Ordering Details: e.g.: Product No. 1 2.0 012, Spur Gear, C45, Module 2.0, 12 Teeth

Product No. with Hub	Number of teeth	b mm	d_a mm	d mm	NL mm	ND mm	B^{H7} mm	perm. MT* Ncm	Weight g
1 2.0 012	12	20	28	24	15	18	10	2.8	80
1 2.0 013	13	20	30	26	15	20	10	3.2	100
1 2.0 014	14	20	32	28	15	22	10	3.6	120
1 2.0 015	15	20	34	30	15	24	10	3.9	140
1 2.0 016	16	20	36	32	15	25	10	4.2	160
1 2.0 017	17	20	38	34	15	25	10	4.4	180
1 2.0 018	18	20	40	36	15	25	10	4.9	190
1 2.0 019	19	20	42	38	15	25	10	5.7	210
1 2.0 020	20	20	44	40	15	30	10	6.4	260
1 2.0 021	21	20	46	42	15	30	12	7.2	270
1 2.0 022	22	20	48	44	15	30	12	8.0	290
1 2.0 023	23	20	50	46	15	30	12	8.9	310
1 2.0 024	24	20	52	48	15	35	12	9.9	360
1 2.0 025	25	20	54	50	15	35	12	10.8	390
1 2.0 026	26	20	56	52	15	40	12	11.9	450
1 2.0 027	27	20	58	54	15	40	12	13.0	470
1 2.0 028	28	20	60	56	15	40	12	14.1	500
1 2.0 029	29	20	62	58	15	40	14	15.5	520
1 2.0 030	30	20	64	60	15	40	14	16.6	550
1 2.0 031	31	20	66	62	15	45	14	17.8	610
1 2.0 032	32	20	68	64	15	45	14	19.3	650
1 2.0 033	33	20	70	66	15	45	14	20.8	680
1 2.0 034	34	20	72	68	15	45	14	22.2	710
1 2.0 035	35	20	74	70	15	45	14	23.8	740
1 2.0 036	36	20	76	72	15	45	14	25.3	780
1 2.0 037	37	20	78	74	15	50	14	26.1	860
1 2.0 038	38	20	80	76	15	50	14	28.9	900
1 2.0 039	39	20	82	78	15	50	14	30.6	930
1 2.0 040	40	20	84	80	15	50	14	32.5	970
1 2.0 041	41	20	86	82	15	55	16	34.6	1050
1 2.0 042	42	20	88	84	15	55	16	36.5	1090
1 2.0 043	43	20	90	86	15	55	16	38.6	1130
1 2.0 044	44	20	92	88	15	60	16	40.6	1230
1 2.0 045	45	20	94	90	15	60	16	42.7	1270
1 2.0 046	46	20	96	92	15	60	16	45	1310
1 2.0 047	47	20	98	94	15	70	16	47.8	1480
1 2.0 048	48	20	100	96	15	70	16	51	1530
1 2.0 049	49	20	102	98	15	70	16	54.2	1570
1 2.0 050	50	20	104	100	15	70	16	57.6	1620
1 2.0 051	51	20	106	102	15	70	16	61.1	1670
1 2.0 052	52	20	108	104	15	70	16	64.8	1720
1 2.0 053	53	20	110	106	15	70	16	68.5	1780
1 2.0 054	54	20	112	108	15	70	16	72.4	1830
1 2.0 055	55	20	114	110	15	70	16	76.3	1880
1 2.0 056	56	20	116	112	15	70	16	80.5	1940
1 2.0 057	57	20	118	114	15	70	16	84.7	1990
1 2.0 058	58	20	120	116	15	70	16	89	2050
1 2.0 060	60	20	124	120	15	70	16	97.3	2160
1 2.0 062	62	20	128	124	15	80	16	107	2420
1 2.0 063	63	20	130	126	15	80	16	111	2480
1 2.0 065	65	20	134	130	15	80	16	117	2610
1 2.0 066	66	20	136	132	15	80	16	120	2670
1 2.0 067	67	20	138	134	15	80	16	122	2740
1 2.0 069	69	20	142	138	15	80	16	127	2870
1 2.0 070	70	20	144	140	15	80	16	130	2940
1 2.0 075	75	20	154	150	15	80	16	166	3250
1 2.0 080	80	20	164	160	15	80	20	175	3600
1 2.0 090	90	20	184	180	15	90	20	180	4570
1 2.0 100	100	20	204	200	15	100	20	185	5670
1 2.0 120	120	20	244	240	15	100	20	217	7790

材料：C45鋼，齒形精度等级8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.



例 e.g:
0 2.0 018
齒數 Number of teeth
模數 Module
凸毫 Without Hub

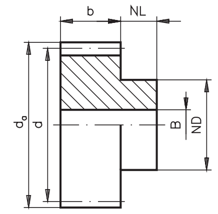
訂購指南：例如：產品代碼0 2.0 018，正齒輪，C45 鋼，2模數，18齒
Ordering Details: e.g.: Product No. 0 2.0 018, Spur Gear, C45 Module 2.0, 18 Teeth

Product No. without Hub	Number of teeth	b mm	d_a mm	d mm	B^{H7} mm	perm. MT* Ncm	Weight g
0 2.0 018	18	20	40	36	10	4.9	145
0 2.0 020	20	20	44	40	10	6.4	180
0 2.0 024	24	20	52	48	12	9.9	260
0 2.0 025	25	20	54	50	12	10.8	285
0 2.0 030	30	20	64	60	14	16.6	410
0 2.0 035	35	20	74	70	14	23.8	570
0 2.0 036	36	20	76	72	14	25.3	600
0 2.0 040	40	20	84	80	14	32.5	750
0 2.0 045	45	20	94	90	16	42.7	950
0 2.0 048	48	20	100	96	16	51	1080
0 2.0 050	50	20	104	100	16	57.6	1180
0 2.0 072	72	20	148	144	16	135	2500
0 2.0 075	75	20	154	150	20	166	2710
0 2.0 076	76	20	156	152	20	168	2790
0 2.0 080	80	20	164	160	20	175	3090
0 2.0 085	85	20	174	170	20	179	3500
0 2.0 090	90	20	184	180	20	180	3930
0 2.0 095	95	20	194	190	20	181	4390
0 2.0 100	100	20	204	200	20	185	4870
0 2.0 110	110	20	224	220	20	201	5900
0 2.0 114	114	20	232	228	20	208	6340
0 2.0 120	120	20	244	240	20	217	7030
0 2.0 127	127	20	258	254	20	235	7890

*基本計算公式見第95頁
*Basis of calculations see page 94.

鋼件正齒輪，2.5模數，齒寬b=25mm，滾齒，直齒系列
Spur Gears Made from Steel, Module 2.5, Tooth Width b = 25 mm, Milled Teeth, Straight Tooth System

材料：C45鋼，齒形精度等级8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.



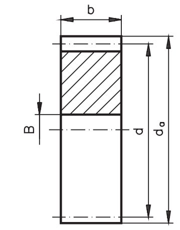
例 e.g:
1 2.5 012
齒數 Number of teeth
模數 Module
凸毫 With Hub

訂購指南：例如：產品代碼1 2.5 012，正齒輪，C45 鋼，2.5模數，12齒
Ordering Details: e.g.: Product No. 1 2.5 012, Spur Gear, C45, Module 2.5, 12 Teeth

Product No. with Hub	Number of teeth	b mm	d_a mm	d mm	NL mm	ND mm	B^{H7} mm	perm. MT* Ncm	Weight g
1 2.5 012	12	25	35	30	20	22	10	5.9	0.17
1 2.5 013	13	25	37.5	32.5	20	25	10	6.7	0.21
1 2.5 014	14	25	40	35	20	28	10	7.6	0.25
1 2.5 015	15	25	42.5	37.5	20	30	10	8.3	0.30
1 2.5 016	16	25	45	40	20	32	12	8.9	0.33
1 2.5 017	17	25	47.5	42.5	20	35	12	9.2	0.38
1 2.5 018	18	25	50	45	20	35	12	10.4	0.42
1 2.5 019	19	25	52.5	47.5	20	35	12	11.9	0.45
1 2.5 020	20	25	55	50	20	40	12	13.4	0.54
1 2.5 021	21	25	57.5	52.5	20	40	14	15.1	0.56
1 2.5 022	22	25	60	55	20	45	14	16.9	0.66
1 2.5 023	23	25	62.5	57.5	20	45	14	18.7	0.70
1 2.5 024	24	25	65	60	20	45	14	20.8	0.74
1 2.5 025	25	25	67.5	62.5	20	50	14	22.8	0.85
1 2.5 026	26	25	70	65	20	50	14	25	0.90
1 2.5 027	27	25	72.5	67.5	20	50	14	27.3	0.95
1 2.5 028	28	25	75	70	20	50	14	29.6	1.00
1 2.5 029	29	25	77.5	72.5	20	50	14	32.7	1.06
1 2.5 030	30	25	80	75	20	55	14	34.9	1.18
1 2.5 031	31	25	82.5	77.5	20	55	16	37.5	1.22
1 2.5 032	32	25	85	80	20	55	16	40.6	1.28
1 2.5 033	33	25	87.5	82.5	20	55	16	43.8	1.34
1 2.5 034	34	25	90	85	20	55	16	46.7	1.41
1 2.5 035	35	25	92.5	87.5	20	60	16	50.2	1.54
1 2.5 036	36	25	95	90	20	60	16	53.3	1.61
1 2.5 037	37	25	97.5	92.5	20	60	16	54.9	1.68
1 2.5 038	38	25	100	95	20	60	16	60.8	1.75
1 2.5 039	39	25	102.5	97.5	20	60	16	65.3	1.83
1 2.5 040	40	25	105	100	20	70	16	71.2	2.06
1 2.5 041	41	25	107.5	102.5	20	70	16	77.4	2.14
1 2.5 042	42	25	110	105	20	70	16	82.2	2.22
1 2.5 043	43	25	112.5	107.5	20	70	16	92.4	2.30
1 2.5 044	44	25	115	110	20	70	16	96.6	2.38
1 2.5 045	45	25	117.5	112.5	20	70	16	100	2.47
1 2.5 046	46	25	120	115	20	70	20	107	2.52
1 2.5 047	47	25	122.5	117.5	20	80	20	114	2.80
1 2.5 048	48	25	125	120	20	80	20	120	2.88
1 2.5 049	49	25	127.5	122.5	20	80	20	128	2.98
1 2.5 050	50	25	130	125	20	80	20	135	3.07
1 2.5 051	51	25	132.5	127.5	20	80	20	143	3.17
1 2.5 052	52	25	135	130	20	90	20	149	3.48
1 2.5 053	53	25	137.5	132.5	20	90	20	156	3.58
1 2.5 054	54	25	140	135	20	90	20	165	3.68
1 2.5 055	55	25	142.5	137.5	20	90	20	173	3.78
1 2.5 056	56	25	145	140	20	100	20	181	4.13
1 2.5 057	57	25	147.5	142.5	20	100	20	190	4.23
1 2.5 058	58	25	150	145	20	100	20	199	4.34
1 2.5 059	59	25	152.5	145.5	20	100	20	208	4.46
1 2.5 060	60	25	155	150	20	100	20	217	4.57
1 2.5 070	70	25	180	175	20	100	20	324	5.74
1 2.5 090	90	25	230	225	20	120	25	348	9.24
1 2.5 120	120	25	305	300	20	120	25	438	15.19

*基本計算公式見第95頁
*Basis of calculations see page 94.

材料：C45鋼，齒形精度等级8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.



例 e.g:
0 2.5 018
齒數 Number of teeth
模數 Module
凸毫 Without Hub

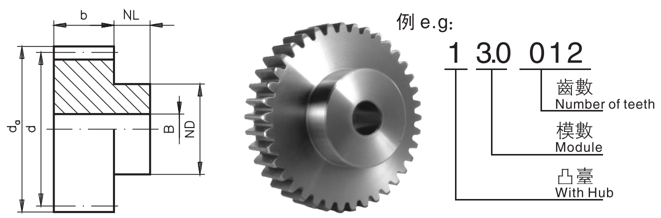
訂購指南：例如：產品代碼0 2.5 018，正齒輪，C45 鋼，2.5模數，18齒
Ordering Details: e.g.: Product No. 0 2.5 018, Spur Gear, C45, Module 2.5, 18 Teeth

Product No. without Hub	Number of teeth	b mm	d_a mm	d mm	B^{H7} mm	perm. MT* Ncm	Weight g
0 2.5 018	18	25	50	45	12	10.4	0.28
0 2.5 020	20	25	55	50	12	13.4	0.36
0 2.5 022	22	25	60	55	14	16.9	0.43
0 2.5 024	24	25	65	60	14	20.8	0.51
0 2.5 025	25	25	67.5	62.5	14	22.8	0.56
0 2.5 030	30	25	80	75	14	34.9	0.82
0 2.5 040	40	25	105	100	16	71.2	1.47
0 2.5 048	48	25	125	120	20	120	2.12
0 2.5 050	50	25	130	125	20	135	2.30
0 2.5 060	60	25	155	150	20	217	3.34
0 2.5 065	65	25	167.5	162.5	20	286	3.99
0 2.5 070	70	25	180	175	20	324	4.64
0 2.5 072	72	25	185	180	20	332	4.91
0 2.5 075	75	25	192.5	187.5	20	338	5.33
0 2.5 076	76	25	195	190	20	340	5.48
0 2.5 080	80	25	205	200	25	342	6.04
0 2.5 085	85	25	217.5	212.5	25	346	6.84
0 2.5 090	90	25	230	225	25	348	7.68
0 2.5 095	95	25	242.5	237.5	25	361	8.57
0 2.5 100	100	25	255	250	25	378	9.51
0 2.5 110	110	25	280	275	25	408	11.53
0 2.5 114	114	25	290	285	25	419	12.39
0 2.5 120	120	25	305	300	25	438	13.74
0 2.5 127	127	25	322.5	317.5	25	453	15.40

鋼件正齒輪，3模數，齒寬b=30mm，滾齒，直齒系列

Spur Gears Made from Steel, Module 3.0, Tooth Width b = 30 mm, Milled Teeth, Straight Tooth System

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.



訂購指南：例如：產品代碼1 3.0 012，正齒輪，C45 鋼，3模數，12齒
Ordering Details: e.g.: Product No. 1 3.0 012, Spur Gear, C45, Module 3.0, 12 Teeth

Product No. with Hub	Number of teeth	b mm	d_a mm	d mm	NL mm	ND mm	B^{H7} mm	perm. MT* Ncm	Weight g
1 3.0 012	12	30	42	36	20	27	12	10.7	0.28
1 3.0 013	13	30	45	39	20	30	12	12.1	0.34
1 3.0 014	14	30	48	42	20	33	12	13.6	0.41
1 3.0 015	15	30	51	45	20	35	12	15	0.47
1 3.0 016	16	30	54	48	20	38	14	16.1	0.54
1 3.0 017	17	30	57	51	20	42	14	17	0.63
1 3.0 018	18	30	60	54	20	45	14	19	0.72
1 3.0 019	19	30	63	57	20	45	14	21.6	0.78
1 3.0 020	20	30	66	60	20	45	14	24.5	0.84
1 3.0 021	21	30	69	63	20	45	16	27.5	0.89
1 3.0 022	22	30	72	66	20	50	16	30.7	1.02
1 3.0 023	23	30	75	69	20	50	16	34	1.10
1 3.0 024	24	30	78	72	20	50	16	37.6	1.18
1 3.0 025	25	30	81	75	20	60	16	41.4	1.39
1 3.0 026	26	30	84	78	20	60	16	45.4	1.48
1 3.0 027	27	30	87	81	20	60	16	49.7	1.56
1 3.0 028	28	30	90	84	20	60	16	54.1	1.66
1 3.0 029	29	30	93	87	20	60	16	59.2	1.75
1 3.0 030	30	30	96	90	20	60	16	63.5	1.85
1 3.0 031	31	30	99	93	20	60	16	69.2	1.95
1 3.0 032	32	30	102	96	20	70	16	74.6	2.21
1 3.0 033	33	30	105	99	20	70	16	82.8	2.32
1 3.0 034	34	30	108	102	20	70	16	88.6	2.43
1 3.0 035	35	30	111	105	20	70	16	97.8	2.55
1 3.0 036	36	30	114	108	20	70	20	106	2.62
1 3.0 037	37	30	117	111	20	70	20	115	2.74
1 3.0 038	38	30	120	114	20	80	20	124	3.05
1 3.0 039	39	30	123	117	20	80	20	135	3.18
1 3.0 040	40	30	126	120	20	80	20	143	3.31
1 3.0 041	41	30	129	123	20	80	20	155	3.44
1 3.0 042	42	30	132	126	20	80	20	164	3.58
1 3.0 043	43	30	135	129	20	80	20	175	3.72
1 3.0 044	44	30	138	132	20	90	20	186	4.07
1 3.0 045	45	30	141	135	20	90	20	196	4.22
1 3.0 046	46	30	144	138	20	90	20	207	4.37
1 3.0 047	47	30	147	141	20	100	20	220	4.76
1 3.0 048	48	30	150	144	20	100	20	232	4.92
1 3.0 050	50	30	156	150	20	100	20	258	5.18
1 3.0 060	60	30	186	180	20	100	20	437	6.97
1 3.0 065	65	30	201	195	20	100	20	531	7.99
1 3.0 070	70	30	216	210	20	100	25	552	9.03
1 3.0 075	75	30	231	225	20	120	25	557	10.75
1 3.0 090	90	30	276	270	20	120	25	610	14.79
1 3.0 120	120	30	366	360	20	120	30	774	24.98

*基本計算公式見第95頁
*Basis of calculations see page 94.

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.

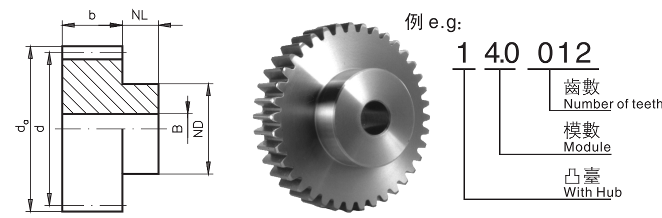
訂購指南：例如：產品代碼0 3.0 018，正齒輪，C45 鋼，3模數，18齒
Ordering Details: e.g.: Product No. 0 3.0 018, Spur Gear, C45, Module 3.0, 18 Teeth

Product No. without Hub	Number of teeth	b mm	d_a mm	d mm	B^{H7} mm	perm. MT* Ncm	Weight g
0 3.0 018	18	30	60	54	14	19	0.49
0 3.0 020	20	30	66	60	14	24.5	0.62
0 3.0 024	24	30	78	72	16	37.6	0.89
0 3.0 025	25	30	81	75	16	41.4	0.97
0 3.0 030	30	30	96	90	16	63.5	1.42
0 3.0 040	40	30	126	120	20	143	2.54
0 3.0 048	48	30	150	144	20	232	3.69
0 3.0 050	50	30	156	150	20	258	4.06
0 3.0 052	52	30	162	156	20	286	4.40
0 3.0 055	55	30	171	165	20	331	4.93
0 3.0 057	57	30	177	171	20	364	5.30
0 3.0 060	60	30	186	180	20	437	5.89
0 3.0 065	65	30	201	195	20	531	6.92
0 3.0 070	70	30	216	210	25	552	8.00
0 3.0 072	72	30	222	216	25	554	8.47
0 3.0 075	75	30	231	225	25	557	9.21
0 3.0 076	76	30	234	228	25	559	9.46
0 3.0 080	80	30	246	240	25	564	10.49
0 3.0 085	85	30	261	255	25	580	11.86
0 3.0 090	90	30	276	270	25	610	13.32
0 3.0 095	95	30	291	285	25	640	14.86
0 3.0 100	100	30	306	300	25	667	16.48
0 3.0 110	110	30	336	330	25	705	19.97
0 3.0 114	114	30	348	342	30	740	21.40
0 3.0 120	120	30	366	360	30	774	23.74
0 3.0 127	127	30	387	381	30	800	26.61

鋼件正齒輪，4模數，齒寬b=40mm，滾齒，直齒系列

Spur Gears Made from Steel, Module 4.0, Tooth Width b = 40 mm, Milled Teeth, Straight Tooth System

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.



訂購指南：例如：產品代碼1 4.0 012，正齒輪，C45 鋼，4模數，12齒
Ordering Details: e.g.: Product No. 1 4.0 012, Spur Gear, C45, Module 4.0, 12 Teeth

Product No. with Hub	Number of teeth	b mm	d_a mm	d mm	NL mm	ND mm	B^{H7} mm	perm. MT* Ncm	Weight g
1 4.0 012	12	40	56	48	20	35	14	26	0.63
1 4.0 013	13	40	60	52	20	40	14	30	0.78
1 4.0 014	14	40	64	56	20	45	14	34	0.93
1 4.0 015	15	40	68	60	20	45	14	38	1.05
1 4.0 016	16	40	72	64	20	50	16	40	1.20
1 4.0 017	17	40	76	68	20	50	16	43	1.33
1 4.0 018	18	40	80	72	20	50	16	48	1.47
1 4.0 019	19	40	84	76	20	60	16	54	1.75
1 4.0 020	20	40	88	80	20	60	16	61	1.90
1 4.0 021	21	40	92	84	20	70	16	69	2.22
1 4.0 022	22	40	96	88	20	70	16	78	2.39
1 4.0 023	23	40	100	92	20	75	20	86	2.60
1 4.0 024	24	40	104	96	20	75	20	95	2.79
1 4.0 025	25	40	108	100	20	75	20	109	2.98
1 4.0 026	26	40	112	104	20	75	20	121	3.18
1 4.0 027	27	40	116	108	20	75	20	136	3.39
1 4.0 028	28	40	120	112	20	75	20	153	3.60
1 4.0 029	29	40	124	116	20	75	20	171	3.83
1 4.0 030	30	40	128	120	20	75	20	185	4.06
1 4.0 031	31	40	132	124	20	80	20	205	4.39
1 4.0 032	32	40	136	128	20	80	20	220	4.64
1 4.0 033	33	40	140	132	20	80	20	248	4.90
1 4.0 034	34	40	144	136	20	80	20	264	5.16
1 4.0 035	35	40	148	140	20	80	20	278	5.43
1 4.0 036	36	40	152	144	20	80	25	299	5.63
1 4.0 038	38	40	160	152	20	80	25	344	6.14
1 4.0 040	40	40	168	160	20	80	25	394	6.74
1 4.0 050	50	40	208	200	20	100	25	710	10.66
1 4.0 060	60	40	248	240	20	100	25	1131	14.92
1 4.0 090	90	40	368	368	20	120	30	1500	32.76

*基本計算公式見第95頁
*Basis of calculations see page 94.

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.

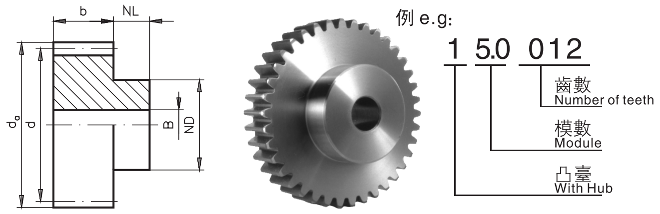
訂購指南：例如：產品代碼0 4.0 020，正齒輪，C45 鋼，4模數，20齒
Ordering Details: e.g.: Product No. 0 4.0 020, Spur Gear, C45, Module 4.0, 20 Teeth

Product No. without Hub	Number of teeth	b mm	d_a mm	d mm	B^{H7} mm	perm. MT* Ncm	Weight g
0 4.0 020	20	40	88	80	16	61	1.49
0 4.0 024	24	40	104	96	20	95	2.13
0 4.0 025	25	40	108	100	20	109	2.32
0 4.0 030	30	40	128	120	20	185	3.38
0 4.0 035	35	40	148	140	20	278	4.64
0 4.0 036	36	40	152	144	25	299	4.86
0 4.0 038	38	40	160	152	25	344	5.20
0 4.0 040	40	40	168	160	25	394	6.11
0 4.0 045	45	40	188	180	25	536	7.78
0 4.0 048	48	40	200	192	25	638	8.87
0 4.0 050	50	40	208	200	25	710	9.65
0 4.0 052	52	40	216	208	25	795	10.45
0 4.0 055	55	40	228	220	25	913	11.71
0 4.0 057	57	40	236	228	25	1020	12.59
0 4.0 060	60	40	248	240	25	1131	13.97
0 4.0 065	65	40	268	260	25	1220	16.43
0 4.0 070	70	40	288	280	25	1231	19.09
0 4.0 075	75	40	308	300	25	1288	21.94
0 4.0 076	76	40	312	304	30	1303	22.47
0 4.0 080	80	40	328	320	30	1354	24.93
0 4.0 085	85	40	348	340	30	1430	28.18
0 4.0 090	90	40	368	360	30	1500	31.62
0 4.0 095	95	40	388	380	30	1580	35.26
0 4.0 100	100	40	408	400	30	1650	39.11
0 4.0 110	110	40	448	440	30	1744	47.38
0 4.0 114	114	40	464	456	30	1830	50.91

鋼件正齒輪，5模數，齒寬b=50mm，滾齒，直齒系列

Spur Gears Made from Steel, Module 5.0, Tooth Width b = 50 mm, Milled Teeth, Straight Tooth System

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.

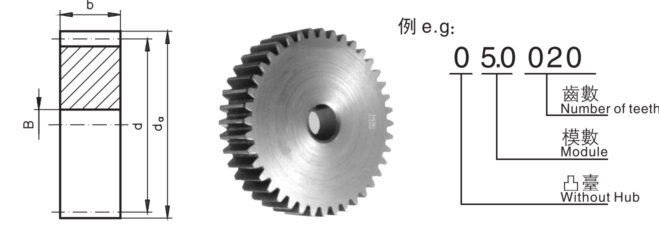


訂購指南：例如：產品代碼1 5.0 012，正齒輪，C45鋼，5模數，12齒
Ordering Details: e.g.: Product No. 1 5.0 012, Spur Gear, C45, Module 5.0, 12 Teeth

Product No. with Hub	Number of teeth	b mm	d_a mm	d mm	NL mm	ND mm	B^{H7} mm	perm. MT* Ncm	Weight g
1 5.0 012	12	50	70	60	25	45	20	58	1.21
1 5.0 013	13	50	75	65	25	50	20	64	1.47
1 5.0 014	14	50	80	70	25	55	20	71	1.76
1 5.0 015	15	50	85	75	25	60	20	79	2.07
1 5.0 016	16	50	90	80	25	65	20	86	2.40
1 5.0 017	17	50	95	85	25	70	20	88	2.75
1 5.0 018	18	50	100	90	25	70	20	100	3.02
1 5.0 019	19	50	105	95	25	70	20	115	3.30
1 5.0 020	20	50	110	100	25	80	20	134	3.83
1 5.0 021	21	50	115	105	25	80	20	157	4.15
1 5.0 022	22	50	120	110	25	80	20	181	4.48
1 5.0 023	23	50	125	115	25	90	20	206	5.08
1 5.0 024	24	50	130	120	25	90	20	232	5.44
1 5.0 025	25	50	135	125	25	90	20	261	5.82
1 5.0 026	26	50	140	130	25	100	20	288	6.50
1 5.0 027	27	50	145	135	25	100	20	318	6.91
1 5.0 028	28	50	150	140	25	100	25	349	7.22
1 5.0 029	29	50	155	145	25	110	25	385	7.98
1 5.0 030	30	50	160	150	25	110	25	418	8.44
1 5.0 032	32	50	170	160	25	110	25	495	9.30
1 5.0 050	50	50	260	250	25	120	30	1561	20.67
1 5.0 060	60	50	310	300	25	160	30	2202	30.69

*基本計算公式見第95頁
*Basis of calculations see page 94.

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.



訂購指南：例如：產品代碼0 5.0 020，正齒輪，C45鋼，5模數，20齒
Ordering Details: e.g.: Product No. 0 5.0 020, Spur Gear, C45, Module 5.0, 20 Teeth

Product No. without Hub	Number of teeth	b mm	d_a mm	d mm	B^{H7} mm	perm. MT* Ncm	Weight g
0 5.0 020	20	50	110	100	20	134	2.90
0 5.0 024	24	50	130	120	20	232	4.23
0 5.0 025	25	50	135	125	20	261	4.60
0 5.0 030	30	50	160	150	25	418	6.61
0 5.0 032	32	50	170	160	25	495	7.62
0 5.0 035	35	50	185	175	25	626	9.16
0 5.0 038	38	50	200	190	25	781	10.84
0 5.0 040	40	50	210	200	25	893	12.04
0 5.0 045	45	50	235	225	25	1202	15.30
0 5.0 048	48	50	250	240	25	1411	17.44
0 5.0 050	50	50	260	250	30	1561	18.86
0 5.0 052	52	50	270	260	30	1721	20.43
0 5.0 055	55	50	285	275	30	1978	22.89
0 5.0 057	57	50	295	285	30	2030	24.62
0 5.0 060	60	50	310	300	30	2202	27.31
0 5.0 065	65	50	335	325	30	2324	32.12
0 5.0 070	70	50	360	350	30	2482	37.31
0 5.0 075	75	50	385	375	30	2576	42.88
0 5.0 076	76	50	390	380	30	2606	44.04
0 5.0 080	80	50	410	400	30	2708	48.84
0 5.0 085	85	50	435	425	30	2860	55.19
0 5.0 090	90	50	460	450	30	3000	61.92
0 5.0 095	95	50	485	475	30	3160	69.03
0 5.0 100	100	50	510	500	30	3300	76.53
0 5.0 110	110	50	560	550	30	3450	92.69
0 5.0 114	114	50	580	570	30	3600	99.59

鋼件正齒輪，6模數，齒寬b=60mm，滾齒，直齒系列

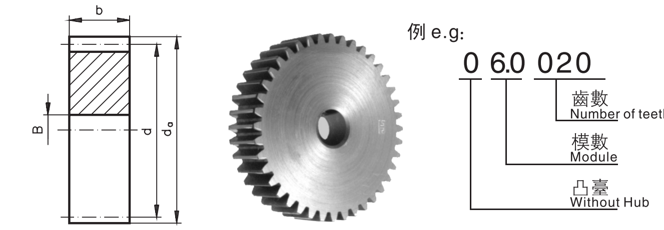
Spur Gears Made from Steel, Module 6.0, Tooth Width b = 60 mm, Milled Teeth, Straight Tooth System

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.

訂購指南：例如：產品代碼1 6.0 012，正齒輪，C45鋼，6模數，12齒
Ordering Details: e.g.: Product No. 1 6.0 012, Spur Gear, C45, Module 6.0, 12 Teeth

Product No. with Hub	Number of teeth	b mm	d_a mm	d mm	NL mm	ND mm	B^{H7} mm	perm. MT* Nm	Weight kg
1 6.0 012	12	60	84	72	20	54	20	110	1.82
1 6.0 013	13	60	90	78	20	60	20	129	2.20
1 6.0 014	14	60	96	84	20	65	20	147	2.88
1 6.0 015	15	60	102	90	20	70	20	161	3.01
1 6.0 016	16	60	108	95	20	75	20	167	3.46
1 6.0 017	17	60	114	102	20	75	20	172	4.26
1 6.0 018	18	60	120	108	20	80	20	201	4.33
1 6.0 020	20	60	132	120	20	90	20	277	5.43
1 6.0 021	21	60	138	126	20	90	25	317	6.44
1 6.0 022	22	60	144	132	20	100	25	358	7.23
1 6.0 024	24	60	156	144	20	110	25	450	7.88
1 6.0 025	25	60	162	150	20	110	25	500	8.42
1 6.0 030	30	60	192	180	20	120	25	808	13.20
1 6.0 036	36	60	228	216	20	130	25	1284	18.68
1 6.0 050	50	60	312	300	20	140	30	2924	34.59
1 6.0 060	60	60	372	360	20	150	40	3842	48.97

材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°
Material: C45. Tooth quality 8d25 DIN 3967. Pressure angle 20°.



訂購指南：例如：產品代碼0 6.0 021，正齒輪，C45鋼，6模數，20齒
Ordering Details: e.g.: Product No. 0 6.0 020, Spur Gear, C45, Module 6.0, 20 Teeth

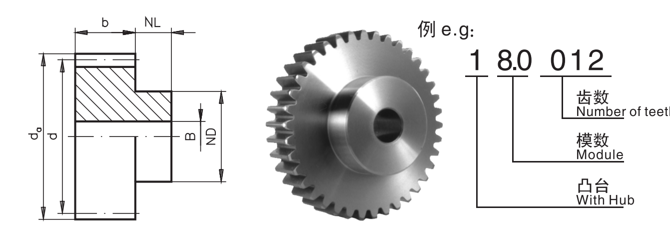
Product No. without Hub	Number of teeth	b mm	d_a mm	d mm	B^{H7} mm	perm. MT* Nm	Weight kg
0 6.0 020	20	60	132	120	20	277	5.08
0 6.0 024	24	60	156	144	25	450	7.29
0 6.0 025	25	60	162	150	25	500	7.93
0 6.0 028	28	60	180	168	25	675	10.00
0 6.0 030	30	60	192	180	25	808	11.52
0 6.0 032	32	60	204	192	25	960	13.14
0 6.0 035	35	60	222	210	25	1200	15.77
0 6.0 036	36	60	228	216	25	1284	16.69
0 6.0 038	38	60	240	228	25	1470	18.63
0 6.0 040	40	60	252	240	25	1680	20.66
0 6.0 050	50	60	312	300	30	2924	32.31
0 6.0 060	60	60	372	360	40	3842	46.42

鋼件正齒輪，8模數，單邊凸臺，滾齒，直齒系列

Spur Gears Made from Steel, Module 8, with One-Sided Hub, Milled Teeth, Straight Tooth System

Material: C45.

Tooth quality 8d25 DIN 3967.
Pressure angle 20°.
材料：C45鋼，齒形精度等級8d25 DIN 3967,壓力角20°



訂購指南：例如：產品代碼1 8.0 012，正齒輪，C45鋼，8模數，12齒
Ordering Details: e.g.: Product No. 1 8.0 012, Spur Gear, Steel, C45, Module 8.0, 12 Teeth

8模數，齿宽 b=65mm

Module 8.0 Tooth Width b = 65 mm

Product No. with Hub	Number of teeth	b mm	d_a mm	d mm	NL mm	ND mm	B^{H7} mm	perm. MT* Nm	Weight kg
1 8.0 012	12	65	112	96	30	70	25	240	4.20
1 8.0 015	15	65	136	120	30	80	25	370	6.50
1 8.0 018	18	65	160	144	30	80	25	495	9.00
1 8.0 020	20	65	176	160	30	100	30	655	11.50
1 8.0 024	24	65	208	192	30	120	30	1045	16.90
1 8.0 025	25	65	216	200	30	120	30	1160	18.10
1 8.0 030	30	65	256	240	30	150	30	1834	26.60
1 8.0 036	36	65	304	288	30	160	40	2900	36.90
1 8.0 040**	40	65	336	320	30	180	40	3790	46.00

*Basis of calculations see page 94. *基本計算公式見第95頁
** Welded hub. **焊接凸臺

正齒輪系列 SPUR GEAR