

NEW

GREASE

**Hiwin G01-
Grease for Heavy Load Condition**

**Hiwin G02-
Grease with low dust generation**

**Hiwin G03-
Grease with low dust generation for
High Speed Condition**

**Hiwin G04-
Grease for High Speed Condition**



HIWIN G01 Grease for Heavy Load Condition

Features

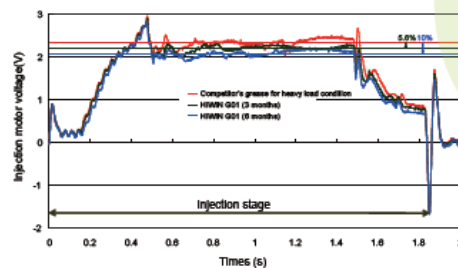
1. Excellent wear resistance and extreme pressure resistance under heavy load conditions
2. Low friction in low temperatures
3. Water resistant
4. Can be applied by a central lubrication system
5. Suitable for all-electric injection molding machine, die-stamping machines, semi-conductor manufacturing equipment, heavy load actuator, industry machine and forging machine

Basic properties

		HIWIN G01
Color		Light yellow
Base oil		Mineral oil
Consistency Enhancer		Polyurea
Additive		Solid lubricant
Service Temperature Range(°C)		-15~115
NLGI-grade (0.1mm)		310-340
Viscosity (cSt)	40°C	500
	100°C	30
Drop Point (°C)		>170
4-ball test	Load on boundary lubrication when 900rpm (N)	>1700
	Load on boundary lubrication when 1770rpm (N)	>1300

	HIWIN G01	other	Note	
Property of anti extreme pressure	●	▲	4-ball test	900rpm 42%more 1770rpm 30%more
			4-ball test	80kgf 23%more 30rpm
Low friction	●	▲	Injection motor votage	10%more
Water resistance	●	●		
Rust proof	●	●	Corrosion on copper test	
Service temperature range	-15~115	-20~130		

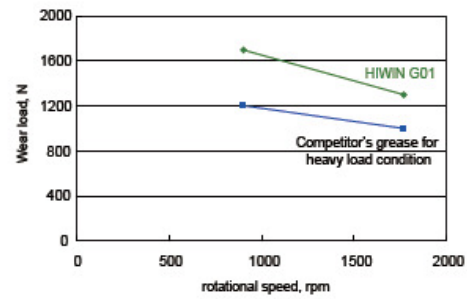
All-electric injection molding machine(80ton) – motor driving voltage of injection unit BS



Test of Resistance to Extreme Pressure

Test Condition and Measurement

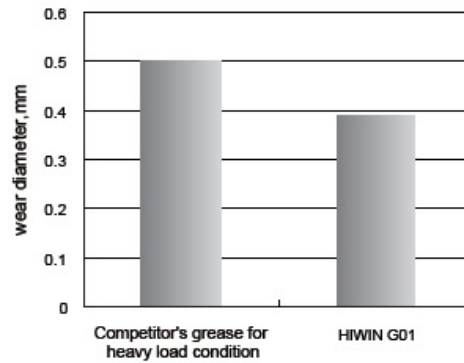
Ball diameter	1/2 in
Temperature	27°C
Test time	10 sec
Rotational speed	900 - 1770 rpm
measurement	Load when ball wear diameter become 500µm



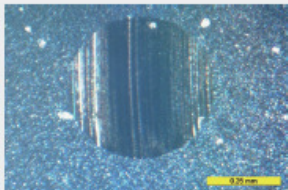
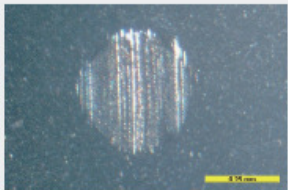
Test of Anti-wear

Test condition and measurement

Ball diameter	1/2 in
Temperature	75°C
Test time	60 min
Rotational speed	30 rpm
load	80 kgf
measurement	Wear diameter of ball contact point



Comparison of wear diameter

	Competitor's grease for heavy load condition	HIWIN G01
Wear Scar		

Comparison of wear scar

HIWIN G02 Grease with low dust generation

Features

- 1.Low dust generation, suitable for clean room environment
- 2.Wear resistant
- 3.Long term grease, suitable for wide temperature range
- 4.Consists of synthetic hydrocarbon oil and special calcium soap. resistant to oxidation and ageing
- 5.Can be used in plastic/steel and plastic/plastic components, compatible with elastomers and plastic materials

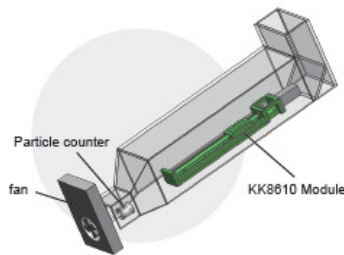
Basic Properties

		HIWIN G02		
Color		Beige		
Base Oil		Synthetic hydrocarbon oil		
Viscosity Enhancer		Special calcium soap		
Service Temperature Range (°C)		-30~140		
NLGI-grade (0.1mm)		265-295		
Viscosity (cSt)	40°C	100		
	100°C	15		
Drop point (°C)		>180		
4-ball test (ASTM D2266)		474µm		

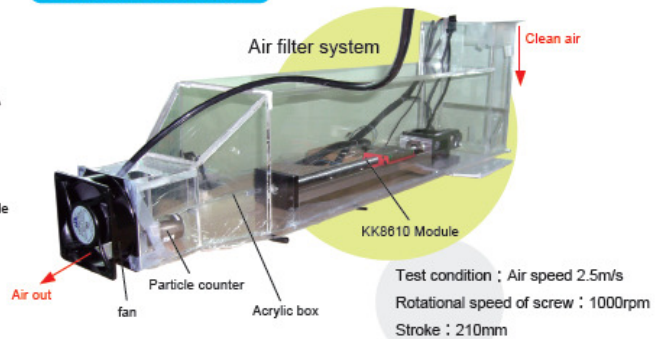
	HIWIN G02	other	note	
Anti wear	●	▲	4-ball test (ASTM D2266)	46%more
Dust generation	●	▲	Dust generation of KK in clean room	
Anti-Corrosion	●	●		
Service Temperature Range	-30~140	-30~120		

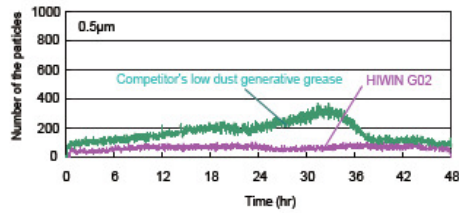
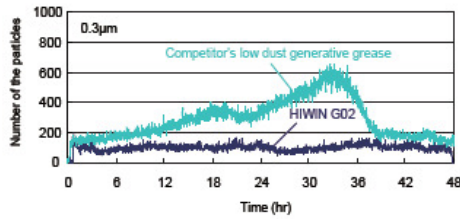
Dust generation

test model of dust generation



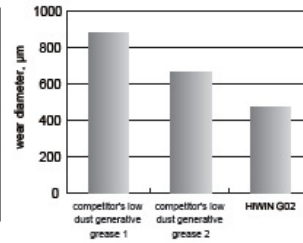
Dust generation test of grease





4-ball test(ASTM D2266)

	Competitor's grease-1	Competitor's grease-2	HIWIN G02
Wear Scar			
Diameter (µm)	879	669	474



HIWIN G03 Grease with low dust generation for High Speed Condition

Features

- 1.Low dust generation characteristics and suitable for clean room environment
- 2.Wear resistant under high speed conditions
- 3.Long term grease, well wear resistance under high speed conditions
- 4.Low starting and running torques particularly at low temperatures, to ensure high efficiency and conserve energy
- 5.compatible with plastic components

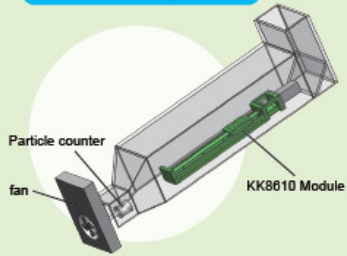
Basic properties

	HIWIN G03	
Color	Beige	
Base oil	Synthetic hydrocarbon oil	
Consistency enhancer	Special calcium soap	
Service temperature range (°C)	-45~125	
NLGI grade (0.1mm)	265-295	
Viscosity(cSt)	40°C	30
	100°C	5.9
Drop point(°C)	>210	
4-ball test (ASTM D2266)	366µm	

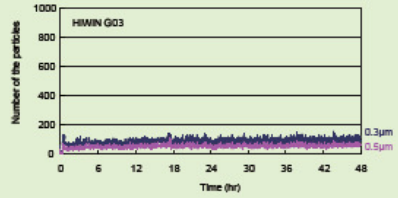
	HIWIN G03	other	note
Anti wear	●	●	4-ball test (ASTM D2266) 15%more
Dust generation	●	●	Dust generation of KK in clean room
Friction torque at low speed	●	▲	7~15 % lower less than 500rpm
Friction resistance at high speed	●	▲	Motor voltage 1.2~2.6% lower
Service temperature range	-45~125	-10~80	

Dust generation

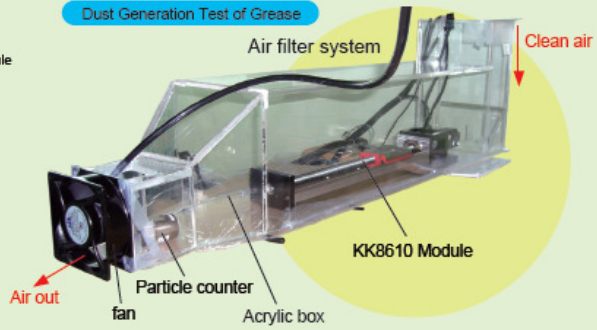
test model of dust generation



Test Condition : Air speed 2.5m/s
 Rotational Speed of Screw : 1000rpm
 Stroke : 210mm

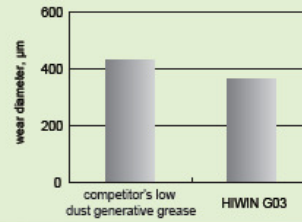


Dust Generation Test of Grease

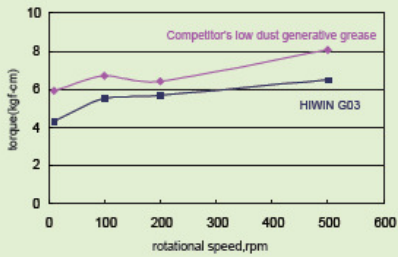


4-ball test (ASTM D2266)

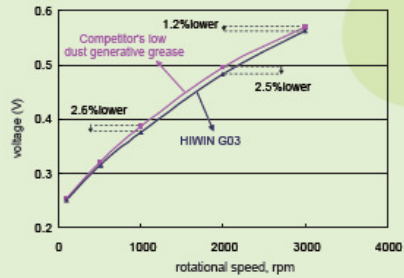
	Competitor's grease	HIWIN G03
Wear Scar		
Diameter (µm)	432	366



Wear resistance



Friction torque of ball screw under different rotational speed



Motor Driven Voltage Under Different Rotational Speed

HIWIN G04 Grease for High Speed Condition

Features

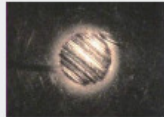

1. Wear resistant under high speed conditions
2. Low friction force under high speed conditions
3. Water resistant

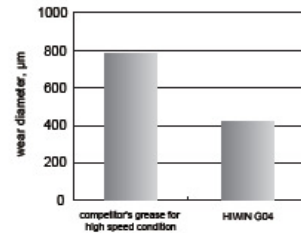
Basic Properties

		HIWIN G04
Color		Beige
Base Oil		Ester/PAO
Consistency enhancer		Lithium soap
Service temperature range (°C)		-35 to 120
NLGI grade (0.1mm)		260 – 280
Viscosity (cSt)	40°C	25
	100°C	6
Drop Point (°C)		>225
4-ball test (ASTM D-2266)		418µm

	HIWIN G04	other	note	
Anti-wear	●	▲	4-ball test (ASTM D2266)	46 %more
Low Friction	●	▲	motor voltage 4.6% lower at 3000rpm	
Service temperature range	-35 to 120	-50 to 150		

4-ball test(ASTM D2266)

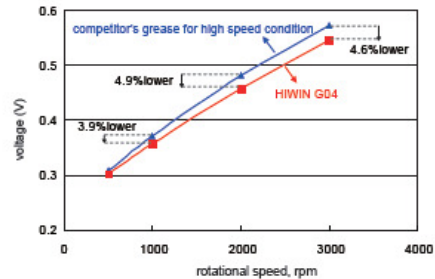
	Competitor's grease	HIWIN G04
Wear Scar		
Diameter (µm)	781	418



Wear Resistance

Screw Type : 40-10

Test Condition : motor driven voltage by different grease and rotational speed





HIWIN Grease Capacity



70g Tube

G01 / G02 / G03



400g Pipe

G01 / G02 / G03 / G04



1kg Cans

G01 / G02 / G03 / G04

HIWIN®

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