

NEW

# Optimal Lubricants for LM Systems

## THK Original Grease L Series

L100 Grease for low dust generation/high load  
L500 Grease for high load ball screws



# THK Original Grease

## L100 Grease for Low Dust Generation/High Load



L100 grease uses a lithium-based thickener and a high-grade synthetic base oil. It is suitable for clean environments and high loads, with low dust-generating characteristics and more extreme pressure additives than past clean room greases.

### [Features]

#### (1) Low dust generation

L100 generates as little dust as previous greases, making it an ideal grease for use in clean rooms.

#### (2) Extreme pressure

L100 has three times the extreme pressure resistance levels as the previous low dust-generation greases, due to the base oil and additives specifically geared for improvement in load-carrying capacity.

#### (3) Operating temperature range

The lubricating performance remains high over a wide range of temperatures: -40°C to +150°C.

### [Representative Physical Properties]

Item	Representative physical properties	Test method
Consistency enhancer	Lithium-complex type	-
Base oil	high-grade synthetic oil	-
Base oil kinematic viscosity: mm <sup>2</sup> /s (40°C)	198	JIS K2283
Worked penetration (25°C, 60W)	294	JIS K2220.7
Dropping point °C	260<	JIS K2220.8
Copper corrosion (B method, 100°C, 24 h)	Accepted	JIS K2220.9
Evaporation amount: mass% (99°C, 22h)	0.1	JIS K2220.10
Oil separation rate: mass% (100°C, 24h)	0.8	JIS K2220.11
Low temperature torque: N-m (-20°C)	94/29 (activation/rotation)	JIS K2220.18
Color	Yellow	-

### [Low dust generation]

Comparable to our past low dust generation greases

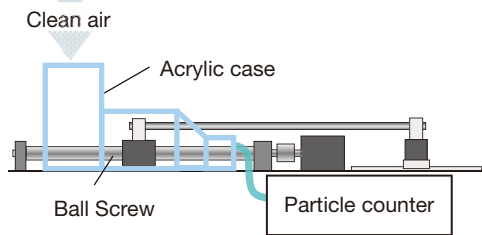
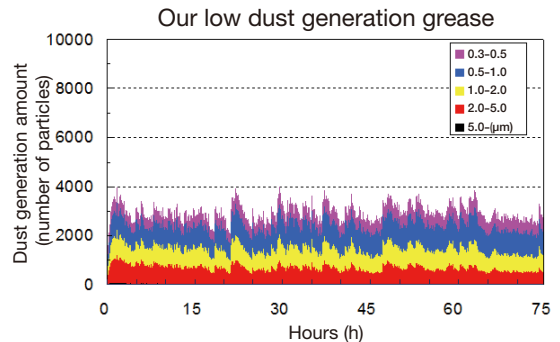
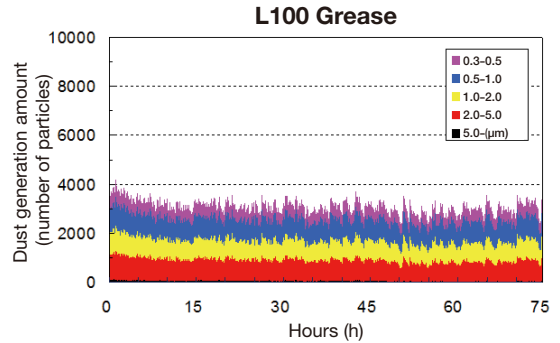


Figure 1 Test apparatus

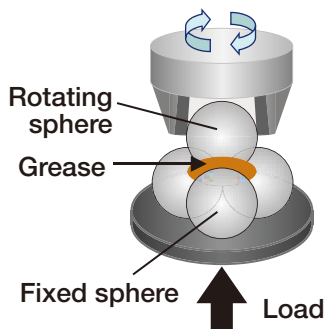
#### Test conditions

Item	Description
Model No.	DIK2505-6
Lubrication amount	6cm <sup>3</sup>
Sampling air amount	0.5ℓ/min
Diameter of particle measured	0.3μm or more
Feeding speed	300mm/s
Stroke	200mm



### [Extreme pressure]

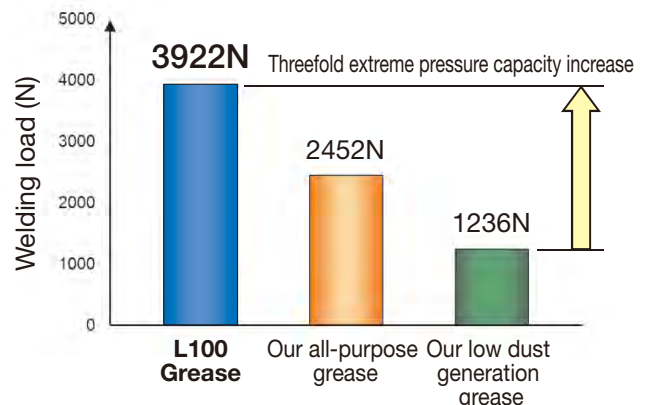
Four-ball welding load test (ASTM D2596)



#### Test conditions

Item	Description
Test sphere	12.7mm steel sphere
Rotational Speed	1770min <sup>-1</sup>
Time	10s

Figure 2 Test apparatus



# THK Original Grease

## L500 Grease for High-Load Ball Screws



L500 grease is a long-life grease with high load capacity and pumpability, using a lithium-based thickener, refined mineral oil base oil, and special additives.

### [Features]

#### (1) Extreme pressure

L500 has high extreme pressure resistance levels due to the special additives.

#### (2) Long service life

Lubrication life is longer than general high-load greases. As a result, it lowers maintenance workload.

#### (3) Pumpability

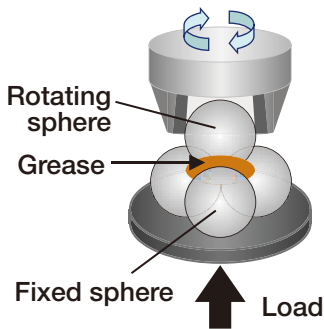
High pumpability allows for use in automatic lubrication systems.

### [Representative Physical Properties]

Item	Representative physical properties	Test method
Consistency enhancer	Lithium-complex type	-
Base oil	Mineral oil	-
Base oil kinematic viscosity: mm <sup>2</sup> /s (40°C)	120	JIS K2283
Worked penetration (25°C, 60W)	327	JIS K2220.7
Dropping point °C	250<	JIS K2220.8
Copper corrosion (B method, 100°C, 24 h)	Accepted	JIS K2220.9
Evaporation amount: mass% (99°C, 22h)	0.4	JIS K2220.10
Oil separation rate: mass% (100°C, 24h)	2.5	JIS K2220.11
Low temperature torque: mN·m (-20°C)	110/50 (activation/rotation)	JIS K2220.18
Service Temperature Range °C	-20 to +175°C	-
Color	Yellow	-

### [Extreme pressure]

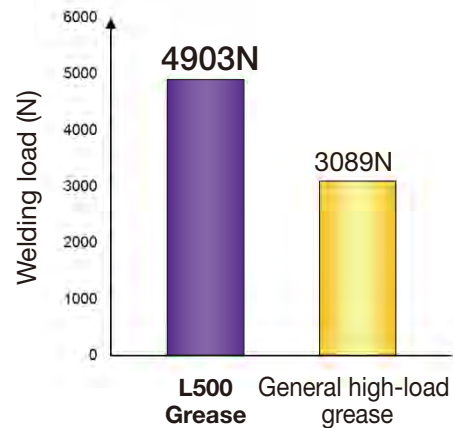
#### Four-ball welding load test (ASTM D2596)



#### Test conditions

Item	Description
Test sphere	12.7mm steel sphere
Rotational Speed	1770min <sup>-1</sup>
Time	10s

Figure 3 Test apparatus



### [Long service life]

#### Measure the lubrication life in a ball screw

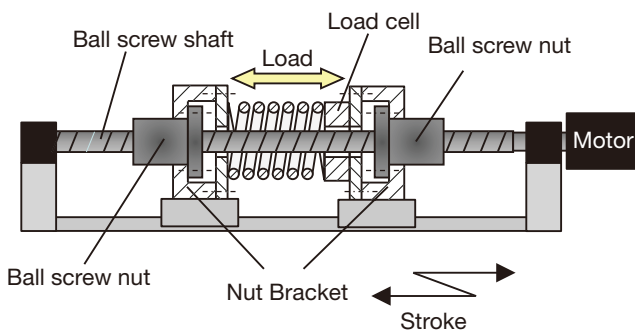
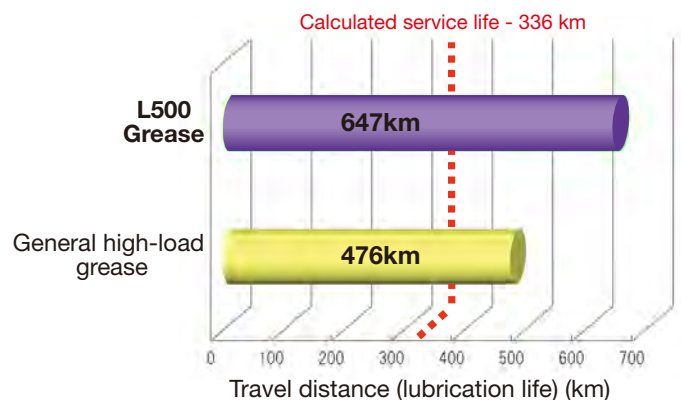


Figure 4 Test apparatus



#### Test conditions

Item	Description
Tested model	HBN3210-5RR
Applied load	31.9kN
Maximum rotational speed	1500min <sup>-1</sup>
Stroke	300mm
Lubrication amount	35cm <sup>3</sup> (Initial lubrication only)

# THK THK Original Grease L Series L100/L500

## Model Number Coding

**L100 GREASE + 80G**

Cartridge capacity (80 g/400 g)  
Grease type

**L500 GREASE + 400G**

Cartridge capacity (80 g/400 g/630 g)  
Grease type

● Style of packing - Bellows cartridge

## Precautions for Use

### ● Handling

- If the grease enters your eye or touches your skin, it may cause an injury such as inflammation, so use protective glasses and protective gloves when handling the grease.
- When applying the grease to the LM system, do not apply any different lubricants. Even lubricants containing the same type of thickening agent may, if mixed, interact in an adverse manner due to disparate additives or other ingredients.
- Lubricant viscosity can vary depending on the temperature. Please keep in mind that the LM system's sliding resistance and torque may be affected by changes in viscosity.
- Following lubrication, stirring-resistance within the lubricant can cause the LM system to exhibit increased sliding resistance and torque. Before commencing operations, make sure to run the unit through several warm-up cycles to ensure that the lubricant is adequately integrated and dispersed.
- The property of the grease deteriorates over time, which degrades the lubricity. It is necessary to inspect and apply the grease in accordance with the usage frequency.

### ● Emergency measure

In the following cases, take the emergency measures immediately.

- If the grease enters your eye, clean your eye with clean water for 15 minutes and get a diagnosis by a doctor.
- If the grease is attached to your skin, wipe it off well and then clean your skin with water and soap sufficiently.
- If you inspire the gas from the grease, move to a place with fresh air, cover your body with a blanket, etc. to keep your body warm, and get a diagnosis by a doctor.
- If anyone happens to eat the grease, do not make him/her throw it up forcibly but get a diagnosis by a doctor immediately.

### ● Storage

- Avoid direct sunlight and keep the grease away from any fire and heat sources.
- Seal the grease after taking off the seal to prevent the entry of dust, water, etc.

### ● Safety data sheet (SDS)

- Each THK original grease L series has its own "Safety data sheet (SDS)," so contact THK.

● The photo may differ slightly in appearance from the actual product.

● The appearance and specifications of the product are subject to change without notice. Contact THK before placing an order.

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# THK CO., LTD.

Head Office 3-11-6 Nishigotanda, Shinagawa-ku, Tokyo 141-8503 JAPAN  
International Sales Department Phone:+81-3-5434-0351 Fax:+81-3-5434-0353

Global site : <http://www.thk.com/>

### NORTH AMERICA

THK America, Inc.

#### ● HEADQUARTERS

Phone:+1-847-310-1111 Fax:+1-847-310-1271

#### ● CHICAGO OFFICE

Phone:+1-847-310-1111 Fax:+1-847-310-1182

#### ● NORTH EAST OFFICE

Phone:+1-631-244-1565 Fax:+1-631-244-1565

#### ● ATLANTA OFFICE

Phone:+1-770-840-7990 Fax:+1-770-840-7897

#### ● LOS ANGELES OFFICE

Phone:+1-949-955-3145 Fax:+1-949-955-3149

#### ● SAN FRANCISCO OFFICE

Phone:+1-925-455-8948 Fax:+1-925-455-8965

#### ● DETROIT OFFICE

Phone:+1-248-858-9330 Fax:+1-248-858-9455

#### ● TORONTO OFFICE

Phone:+1-905-820-7800 Fax:+1-905-820-7811

### SOUTH AMERICA

THK BRAZIL INDUSTRIA E COMERCIO LTDA.

Phone:+55-11-3767-0100 Fax:+55-11-3767-0101

### EUROPE

THK GmbH

#### ● EUROPEAN HEADQUARTERS

Phone:+49-2102-7425-555 Fax:+49-2102-7425-556

#### ● DÜSSELDORF OFFICE

Phone:+49-2102-7425-0 Fax:+49-2102-7425-299

#### ● STUTTGART OFFICE

Phone:+49-7141-4988-500 Fax:+49-7141-4988-888

#### ● U.K. OFFICE

Phone:+44-1384-47-1550 Fax:+44-1384-47-1551

#### ● ITALY OFFICE

Phone:+39-02-9901-1801 Fax:+39-02-9901-1881

### ● SWEDEN OFFICE

Phone:+46-8-445-7630 Fax:+46-8-445-7639

### ● AUSTRIA OFFICE

Phone:+43-7229-51400 Fax:+43-7229-51400-79

### ● SPAIN OFFICE

Phone:+34-93-652-5740 Fax:+34-93-652-5746

### ● TURKEY OFFICE

Phone:+90-216-362-4050 Fax:+90-216-569-7150

### ● PRAGUE OFFICE

Phone:+420-2-41025-100 Fax:+420-2-41025-199

### ● MOSCOW OFFICE

Phone:+7-495-649-80-47 Fax:+7-495-649-80-44

THK Europe B.V.

### ● EINDHOVEN OFFICE

Phone:+31-040-290-9500 Fax:+31-040-290-9599

THK France S.A.S.

### ● PARIS OFFICE

Phone:+33-1-7425-3800 Fax:+33-1-7425-3799

### CHINA

THK (CHINA) CO., LTD.

#### ● HEADQUARTERS

Phone:+86-411-8733-7111 Fax:+86-411-8733-7000

#### ● SHANGHAI OFFICE

Phone:+86-21-6219-3000 Fax:+86-21-6219-9890

#### ● BEIJING OFFICE

Phone:+86-10-8441-7277 Fax:+86-10-6590-3557

#### ● CHENGDU OFFICE

Phone:+86-28-8526-8025 Fax:+86-28-8525-6357

#### ● GUANGZHOU OFFICE

Phone:+86-20-8523-8418 Fax:+86-20-3801-0456

#### ● SHENZHEN OFFICE

Phone:+86-755-2642-9587 Fax:+86-755-2642-9604

### ● XIAN OFFICE

Phone:+86-29-8834-1712 Fax:+86-29-8834-1710

THK (SHANGHAI) CO., LTD.

Phone:+86-21-6275-5280 Fax:+86-21-6219-9890

### TAIWAN

THK TAIWAN CO., LTD.

#### ● TAIPEI HEAD OFFICE

Phone:+886-2-2888-3818 Fax:+886-2-2888-3819

#### ● TAICHUNG OFFICE

Phone:+886-4-2359-1505 Fax:+886-4-2359-1506

#### ● TAINAN OFFICE

Phone:+886-6-289-7668 Fax:+886-6-289-7669

### KOREA

SEOUL REPRESENTATIVE OFFICE

Phone:+82-2-3468-4351 Fax:+82-2-3468-4353

### SINGAPORE

THK LM System Pte. Ltd.

Phone:+65-6884-5500 Fax:+65-6884-5550

### THAILAND

THK RHYTHM (THAILAND) CO., LTD. LM System Division

#### ● Bangkok Branch

Phone:+66-2751-3001 Fax:+66-2751-3003

### INDIA

THK India Pvt. Ltd.

#### ● HEADQUARTERS & Bangalore Branch

Phone:+91-80-2340-9934 Fax:+91-80-2340-9937

#### ● Pune Branch

Phone:+91-20-4120-8742

#### ● Chennai Branch

Phone:+91-44-4042-3132

#### ● Ahmedabad Branch

Phone:+91-79-6134-4444