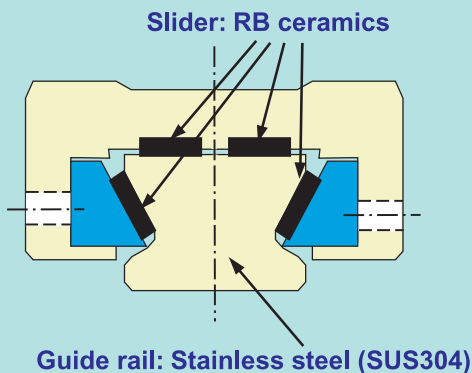


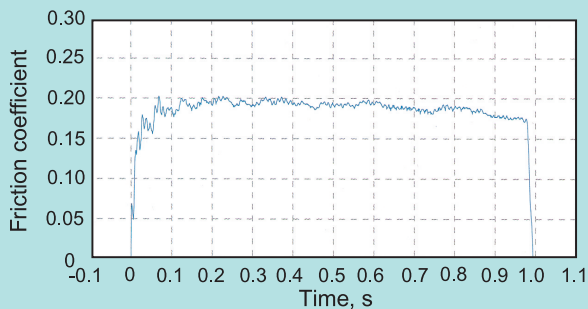
## Non-oil linear sliding bearing

# RB SKID

## LGS model



### ● Micro-feed property



RB SKID generates little stick-slip motion or friction vibration because the static friction coefficient shows almost the same value as the kinetic friction coefficient, which enables smooth motion during micro-feed.

### ■ Oil Free

RB SKID can be driven without lubricating oil or grease because of using RB ceramics (hard porous carbon materials made from rice bran) as sliders, which show low friction coefficient ( $\mu=0.1\sim0.15$ ) under dry condition.

### ■ Maintenance Free

It is not necessary to supply lubricating oil or grease because RB SKID shows low friction coefficient under dry condition.

### ■ Noise Free

The motion noise of RB SKID is extremely low, because friction vibration is not generated due to little difference between static and kinetic friction coefficient.

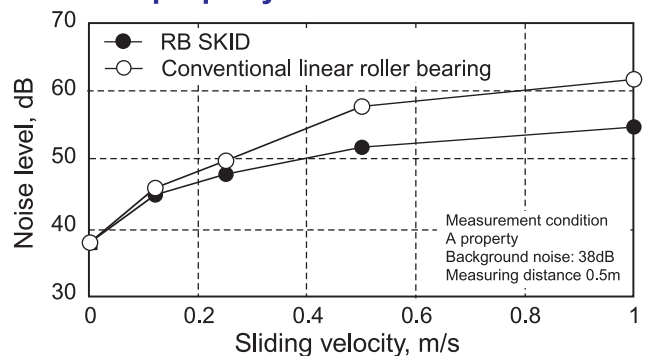
### ■ Availability in water

RB SKID can be driven in water because stainless steel (SUS304), which shows superior corrosion resistance, is used as guide rail.

### ■ Specification

Guide rail width [mm]	9 - 35
Maximum rail length [mm]	1,950 (depending on size)
Available temperature [°C]	- 20 - 90
Maximum allowable sliding velocity [m/s]	1.0
Maximum allowable load in operation [N]	26,000 (depending on size)

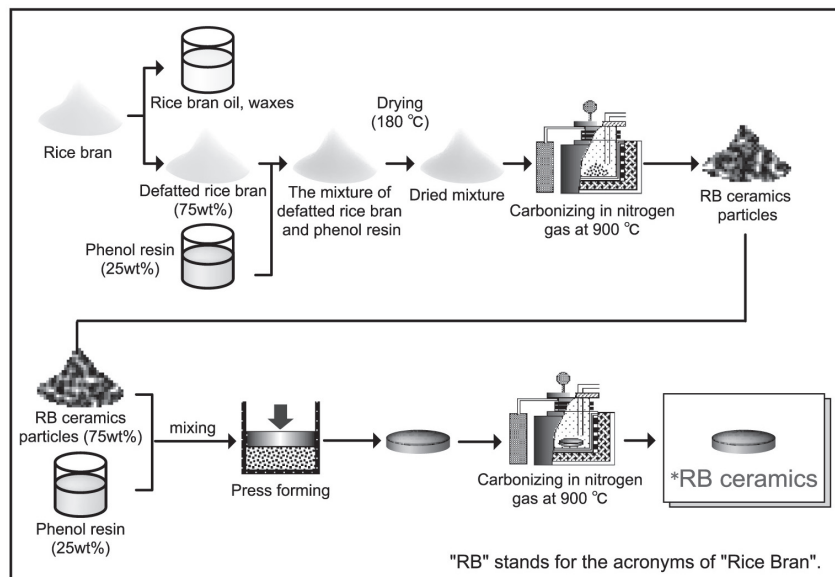
### ● Noise property



The motion noise of RB SKID LGS model in operation is lower than that of linear roller bearing.

# New hard porous carbon materials **RB Ceramics**

## ● Manufacturing process of RB ceramics



\*RB ceramics were co-developed by Prof. Hokkirigawa (Tohoku Univ., Japan) and Sanwa Yushi Co., LTD, Japan.

## ● Characteristics of RB ceramics

### Eco-materials

1. Recycling of natural resources
2. Effective use of rice bran
3. No environmental pollution caused by wastes

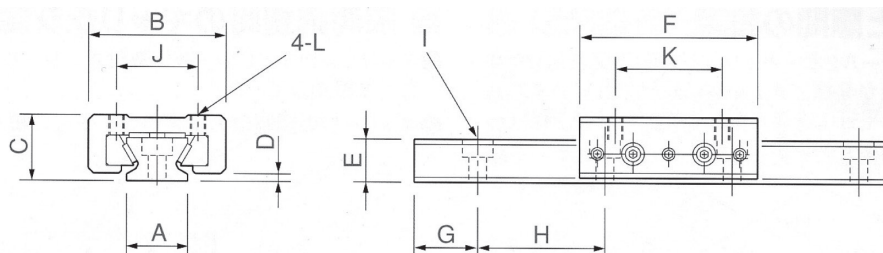
### Engineering materials

1. High hardness ( $H_v$ , mean= 4GPa)
2. Low elastic modulus ( $E = 3 - 15$  GPa)
3. Low density ( $\rho = 1.0 - 1.5$  Mg/m<sup>3</sup>)
4. High strength ( $\sigma_c = 70 - 260$ MPa)
5. Fewer variation in strength

### Tribo-materials

1. Low friction coefficient  
 $\mu = 0.13 - 0.2$  under dry condition  
 $\mu = 0.03 - 0.1$  in water
2. High wear resistance (1,000 times higher wear resistance than that of carbon-steels)
3. Little stick-slip motion or friction vibration is generated.

## ● Dimension



Unit [mm]

Type	A	B	C	D	E	F	G	H	I	J	K	L
LGS009	9	23	10	1.2	6.5	30	5	20	$\phi 2.4 \cdot \phi 4.2 \times 2.3$	12	16	M3 $\times$ 0.5 depth: 3
LGS012	12	27	13	1.5	8.5	35	7.5	25	$\phi 3.5 \cdot \phi 6 \times 3.5$	16	21	M3 $\times$ 0.5 depth: 4
LGS015	15	32	16	2	11	45	10	40	$\phi 3.5 \cdot \phi 8 \times 3.5$	19	25	M4 $\times$ 0.7 depth: 4.5
LGS020	20	44	22	4	15	60	15	60	$\phi 5.8 \cdot \phi 9.5 \times 5.5$	25	40	M5 $\times$ 0.8 depth: 6
LGS025	25	52	27	5	18	75	15	60	$\phi 6.8 \cdot \phi 11 \times 6.5$	31	50	M6 $\times$ 1 depth: 8
LGS030	30	88	33	4.5	22	90	15	80	$\phi 6.8 \cdot \phi 11 \times 6.5$	38	60	M8 $\times$ 1.25 depth: 9.5
LGS035	35	74	38	6.5	26	110	15	80	$\phi 8.8 \cdot \phi 14.5 \times 8.5$	44	70	M8 $\times$ 1.25 depth: 10.5

## ■ Standard length of the guide rail

Unit [mm]

Type	Length of the guide rail											
LGS009	50	90	130	170	210	250	290					
LGS012	65	115	165	215	265	315	365	415	465			
LGS015	100	180	260	340	420	500	580	660	740	820		
LGS020	210	330	450	570	690	810	930	1050	1170	1290	1410	1530
LGS025	210	330	450	570	690	810	930	1050	1170	1290	1410	1530
LGS030	190	350	510	670	830	990	1150	1310	1470	1630	1790	1950
LGS035	190	350	510	670	830	990	1150	1310	1470	1630	1790	1950

## ● Contact

### Manufacturer & Developer



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