



**Load Rating & Running Life**

The running life of TSK ball slide unit can be calculated by using the following formula:

$$L = \left( \frac{C \cdot f_t}{f_s \cdot f_p \cdot P} \right)^3 \times 50 \text{ km}$$

L=Rated Running Life (km)  
 C=Basic Dynamic Load Rating (N)  
 P=Working Load (N)  
 f<sub>t</sub>=Working Temperature Factor  
 f<sub>s</sub>=Shock & Vibration Factor  
 f<sub>p</sub>=Load Factor

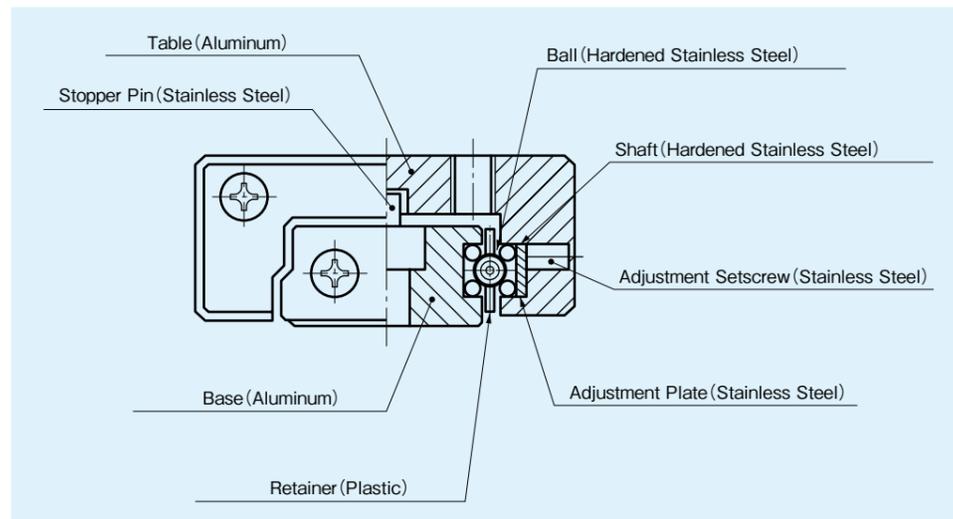
When the stroke length and the frequency are constant, the life span is obtained according to the following equation:

$$L_h = \left( \frac{L \cdot 10^6}{2 \cdot \ell_s \cdot n \cdot 60} \right)$$

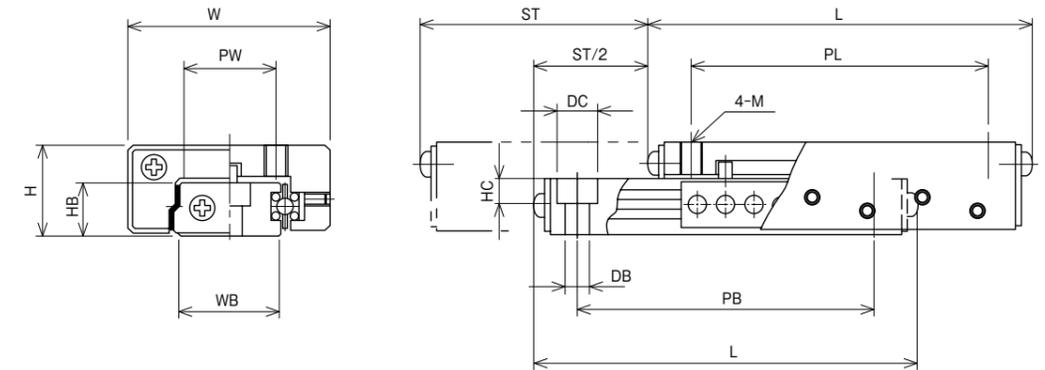
L<sub>h</sub>=Running Life Hours (hr)  
 L=Rated Running Life (km)  
 ℓ<sub>s</sub>=Stroke Length (mm)  
 n=Reciprocal Numbers per Minute

The same basic loads from above, below or the sides. This value is somewhat lower, however, for loads from an oblique 45° angle direction.

**Structure**



**TSK Ball Slide Unit TBS Series**



Type	Code #	ST	H	W	L	PW	PL	M×深	WB	HB	DB×DC×HC	PB	Basic Load Rating	
													C (N)	C <sub>0</sub> (N)
TBS	827	13	8	14.2	28.6	5.5	16	M2×2.8	6.2	4.8	2.2×4×1.6	19	29	58
	852	25			53.6		41						49	117
	877	50			78.6		66						58	166
	1027	13	10	19	28.6	8.5	16	M3×3.5	9.6	6	3.3×6×3	35	49	88
	1052	25			53.6		41						68	166
	1077	50			78.6		66						88	254
	1340	15	20	44	42.4	20	30	M5×7	22.3	12	5.3×9×5.3	30	117	246
	1365	25			67.4		55						166	441
	1390	50			92.4		80						196	568
	2050	25	25	66	54.2	35	35	M5×7.8	38	16	5.3×9×5.3	75	205	421
	2080	50			84.2		65						254	598
	20100	75			104.2		85						303	764
	25100	50	75	66	105.6	35	75	M5×7.8	38	16	5.3×9×5.3	75	460	1127
	25125	75			130.6		100						499	1274
	25150	100			156.5		125						578	1558

As Basic Dynamic Load Rating is the basis for calculating the running life time, it is recommended, if smooth and high precision motion is necessary, to use the unit with the load under the half of the value designated in the list above.  
 Basic Static Load Rating is the value in the case of load put on the middle when the center of the table comes above that of base.