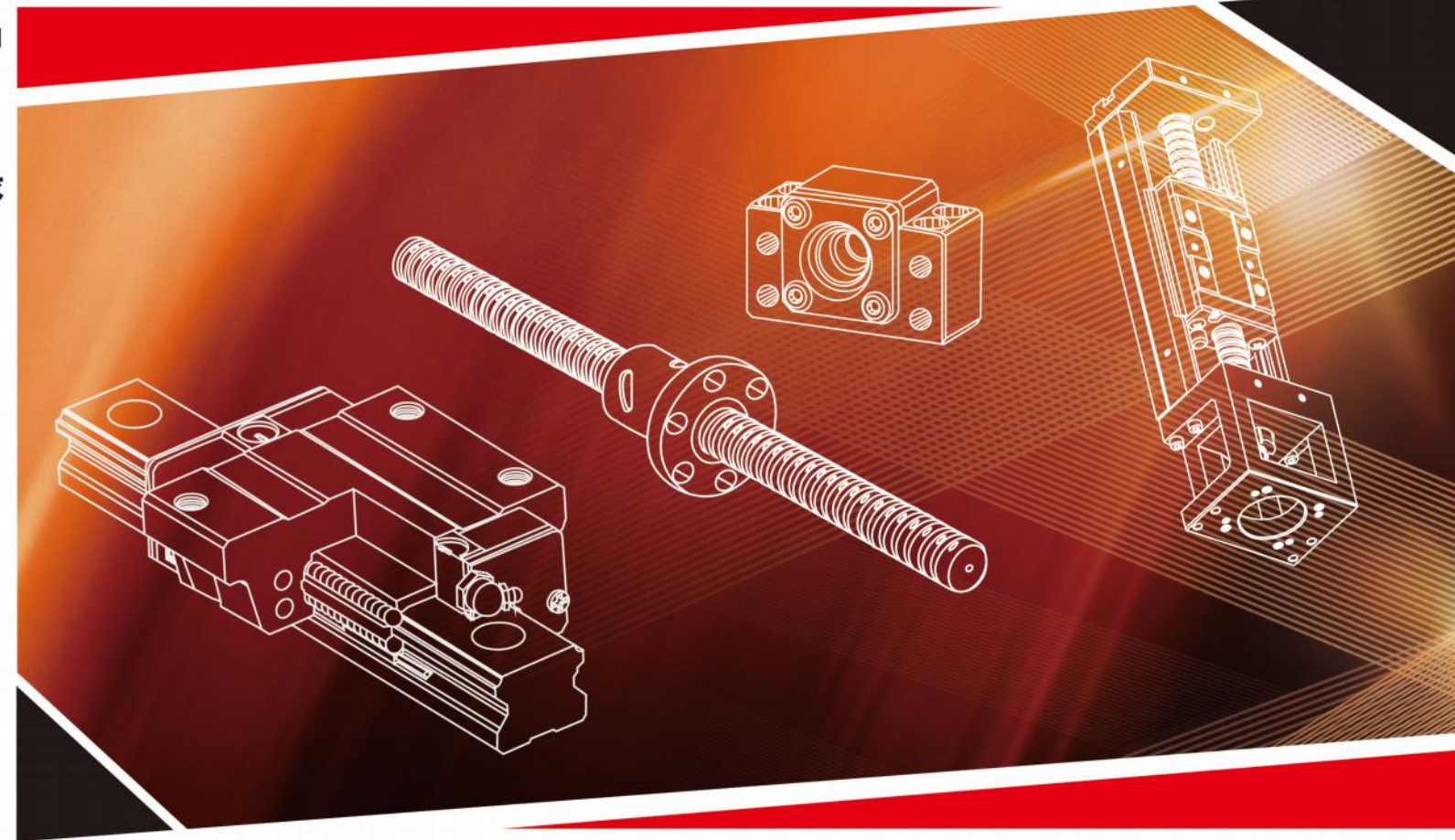




綜合產品目錄

**LINEAR GUIDEWAYS BALL SCREWS**

**SUPPORT UNIT OF BALL SCREW LINEAR MODULE**



線性導軌·滾珠螺桿·螺桿支撐座·線性模組

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本型录内容仅供参考，如与实物不符，请以实物为准。本公司保留产品尺寸变更或停用之权利。

Note:the appearance and specification may be changed without prior notice only if the requirement improves performance.

**Jiangsu Zcf Precision Technology Co.,Ltd**



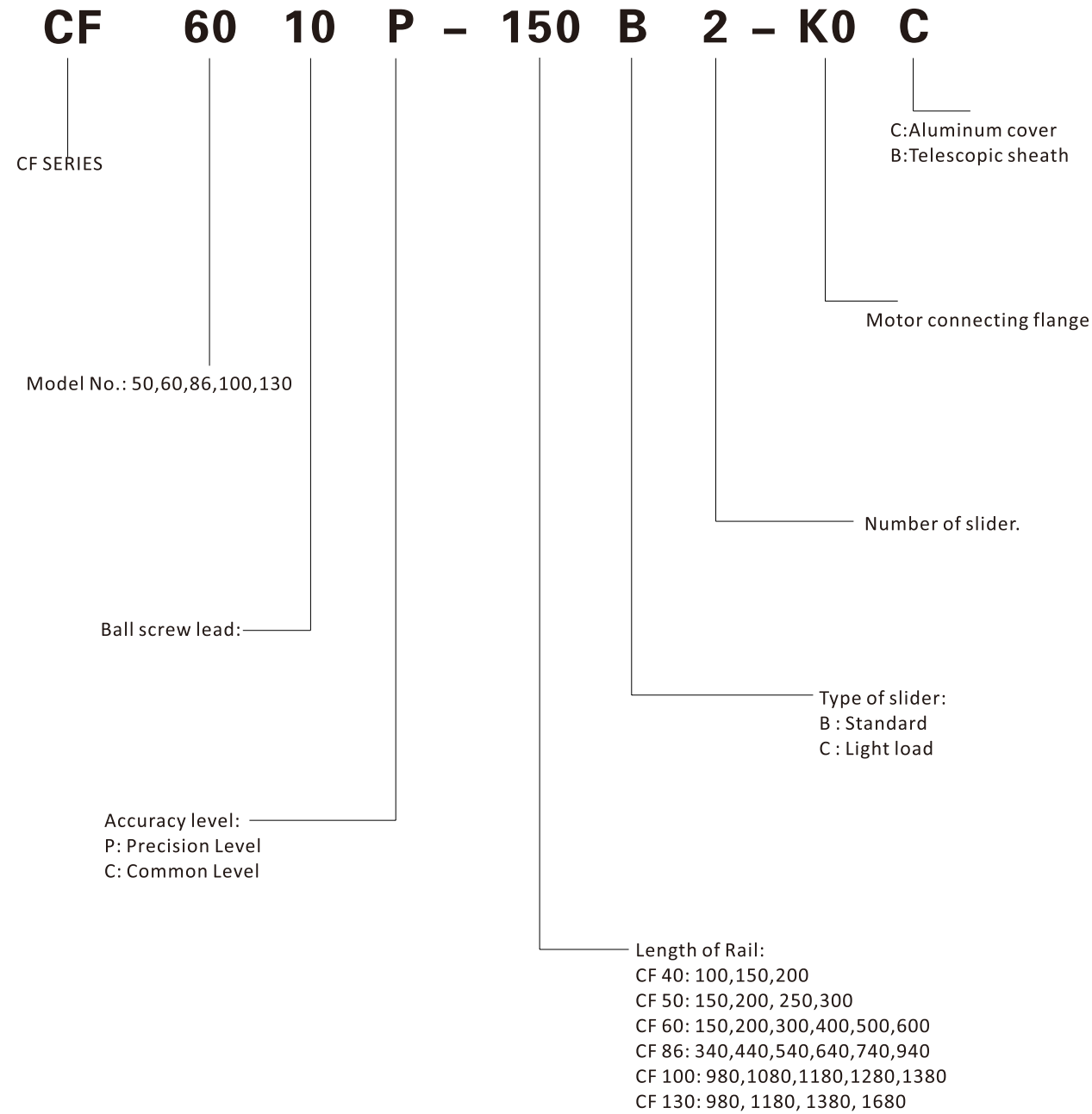
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# 導軌模組

**LINEAR MODULE**

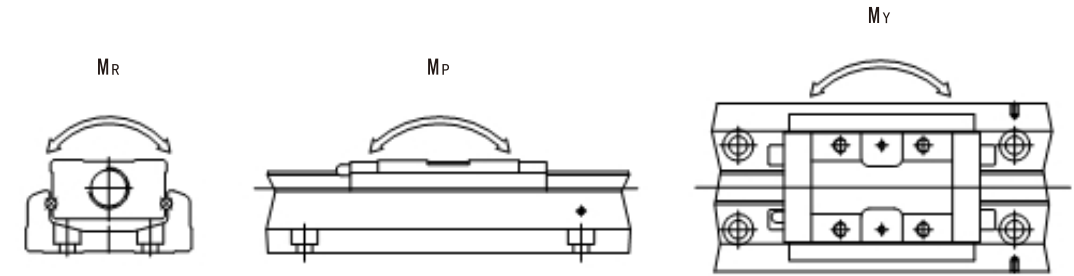


### 1.3 MODEL NO.



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### 1.4 Specification



MODEL NO.	BALL SCREW				LINEAR SLIDE RAIL																
	OUTER DIA (mm)	Lead (mm)	Basic dynamic rated load (N)	Basic static rated load (N)	Basic dynamic rated load (N)		Basic static rated load (N)		Pitching $M_p$ (N-m)				Swinging $M_y$ (N-m)				Rolling $M_r$ (N-m)				
					SLIDING BLOCK B	SLIDING BLOCK C	SLIDING BLOCK B	SLIDING BLOCK C	SLIDING BLOCK B1	SLIDING BLOCK B2	SLIDING BLOCK C1	SLIDING BLOCK C2	SLIDING BLOCK B1	SLIDING BLOCK B2	SLIDING BLOCK C1	SLIDING BLOCK C2	SLIDING BLOCK B1	SLIDING BLOCK B2	SLIDING BLOCK C1	SLIDING BLOCK C2	
CF 4001	P	8	1	735	1538	3920	-	6468	-	33	182	-	-	33	182	-	-	81	162	-	-
	C	8	1	676	1284	3920	-	6468	-	33	182	-	-	33	182	-	-	81	162	-	-
CF 5002	P	8	2	2136	3489	8007	-	12916	-	116	545	-	-	116	545	-	-	222	444	-	-
	C	8	2	1813	2910	8007	-	12916	-	116	545	-	-	116	545	-	-	222	444	-	-
CF 6005	P	12	5	3744	6243	13230	7173	21462	11574	152	760	72	367	152	760	72	367	419	838	241	482
	C	12	5	3377	5625	13230	7173	21462	11574	152	760	72	367	152	760	72	367	419	838	241	482
CF 6010	P	12	10	2410	3743	13230	7173	21462	11574	152	760	72	367	152	760	72	367	419	838	241	482
	C	12	10	2107	3234	13230	7173	21462	11574	152	760	72	367	152	760	72	367	419	838	241	482
CF 8610	P	16	10	7144	12642	31458	21051	50764	29475	622	3050	166	1309	622	3050	166	1309	1507	3014	847	1694
	C	16	10	6429	11387	31458	21051	50764	29475	622	3050	166	1309	622	3050	166	1309	1507	3014	847	1694
CF 8620	P	16	20	4645	7655	31458	21051	50764	29475	622	3050	166	1309	622	3050	166	1309	1507	3014	847	1694
	C	16	20	4175	6889	31458	21051	50764	29475	622	3050	166	1309	622	3050	166	1309	1507	3014	847	1694
CF 10020	P	20	20	7046	12544	39200	-	63406	-	960	4763	-	-	960	4763	-	-	2205	4410	-	-
	C	20	20	4782	9163	39200	-	63406	-	960	4763	-	-	960	4763	-	-	2205	4410	-	-
CF 13025	P	25	25	7897	15931	48101	-	84829	-	1536	7350	-	-	1536	7350	-	-	3885	7770	-	-
	C	25	25	7092	14352	48101	-	84829	-	1536	7350	-	-	1536	7350	-	-	3885	7770	-	-

### 1.5 Level of Accuracy

Model no.	Rail Length	Repeat positioning		Positioning		Walking parallelism		Max start power(N-cm)	
		Precision	Common	Precision	Common	Precision	Common	Precision	Common
CF 40	100	±0.003	±0.01	0.020	-	0.010	-	1.2	0.8
	150								
	200								
CF 50	150	±0.003	±0.01	0.020	-	0.010	-	4	2
	200								
	250								
	300								
CF 60	150	±0.003	±0.01	0.020	-	0.010	-	15	7
	200								
	300								
	400	±0.003	±0.01	0.025	-	0.015	-	15	7
	500								
	600								
CF 86	340	±0.003	±0.01	0.025	-	0.015	-	15	10
	440								
	540								
	640	±0.003	±0.01	0.030	-	0.020	-	17	10
	740								
	940								
CF 100	980	±0.005	±0.01	0.035	-	0.025	-	17	12
	1080								
	1180	±0.005	±0.01	0.040	-	0.030	-	20	12
	1280								
	1380								
CF 130	980	±0.005	±0.01	0.035	-	0.025	-	25	15
	1180								
	1380	±0.007	±0.012	0.040	-	0.030	-	25	15
	1680								

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### 1.6 Maximum Speed

Model no.	Lead(mm)	Rail lengthL2(mm)	Speed(mm/sec)	
			Precision	Common
CF 40	01	100	190	190
		150	190	190
		200	190	190
CF 50	02	150	270	270
		200	270	270
		250	270	270
		300	270	270
CF 60	05	150	550	390
		200	550	390
		300	550	390
		400	550	390
		500	550	390
		600	340	340
	10	150	1100	790
		200	1100	790
		300	1100	790
		400	1100	790
		500	1100	790
		600	670	670
CF 86	10	340	740	520
		440	740	520
		540	740	520
		640	740	520
		740	740	520
	20	940	610	430
		340	1480	1050
		440	1480	1050
		540	1480	1050
		640	1480	1050
CF 100	20	740	1480	1050
		940	1220	870
		980	1120	800
		1080	980	800
		1180	750	750
		1280	510	630
CF 130	25	1380	440	530
		980	1120	800
		1180	1120	800
		1380	830	800
		1680	550	550



### 1.7 Life Calculations

When the linear sliding track bears the load and moves, the surface of the ballast track and the steel beads are continuously subjected to cyclic stress. Once the critical value of rolling fatigue is reached, the contact surface will begin to suffer fatigue damage, and the scaly flakes will peel off on some surfaces. This phenomenon is called surface peeling. The service life is defined as the total operating distance of the ballast surface and the steel balls when the surface peels off due to material fatigue.

#### 1.7.1 Linear slide rail

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

L: rated life (km)      C: basic dynamic rated load (N)  
 Ft: Contact Factor (Reference Table 1)      Pn: Workload (N)  
 Fw: Load factor (Reference Table 2)

Type of slide carriage	Contact factor ft
B1, C1	1.0
B1, C2	0.81

Working environment		Load factor (Ft)
Load condition	Speed (V)	
Non-impact & smooth	Low speed V<15m/min	1.0 ~ 1.5
Common load	Medium speed 15<V<60m/min	1.5 ~ 2.0
Impact and vibration	High speed V>60m/min	2.0 ~ 3.5

#### 1.7.2 Ball screw and bearing

$$L = \left( \frac{1}{f_w} \cdot \frac{Ca^3}{Pa, n} \right) \times 10^6 \text{ rev}$$

L: Rated life(rotation number)      Ca:Basic dynamic rated load (N)  
 Fw: Load factor (reference table 2)      Pa,n: Working load(N)

#### 1.8 Lubrication

If CF industrial robots are not properly lubricated, the friction of rolling parts will increase, and long-term use will become the main reason for shortening life. Lubricants provide the following functions:

- Reduce friction of rolling parts, prevent burns and reduce wear.
- Forming oil film between rolling surface and rolling surface can prolong rolling fatigue life.
- Prevention of rust.

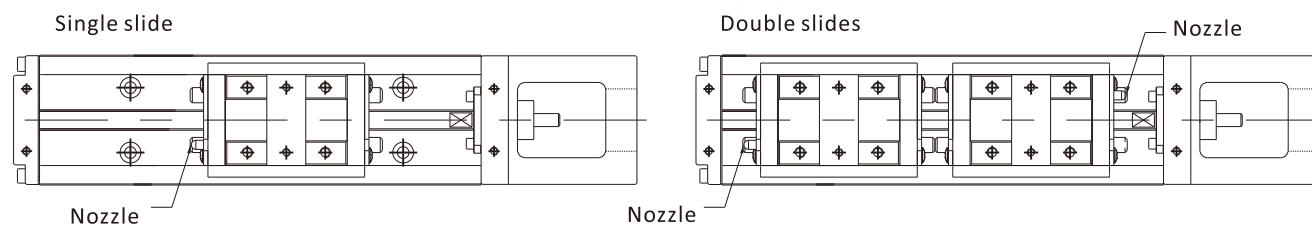
##### 1.8.1 Lubricating grease

Although lubricating grease is not easy to lose, in order to avoid insufficient lubrication caused by lubrication loss, it is suggested that customers should supplement lubricating grease once more when their use distance reaches 100 km. At this time, grease can be injected into the slider by means of the oil nozzle attached to the slider. Lubricating grease is suitable for applications where the speed is not more than 60 m/min and the cooling effect is not required.

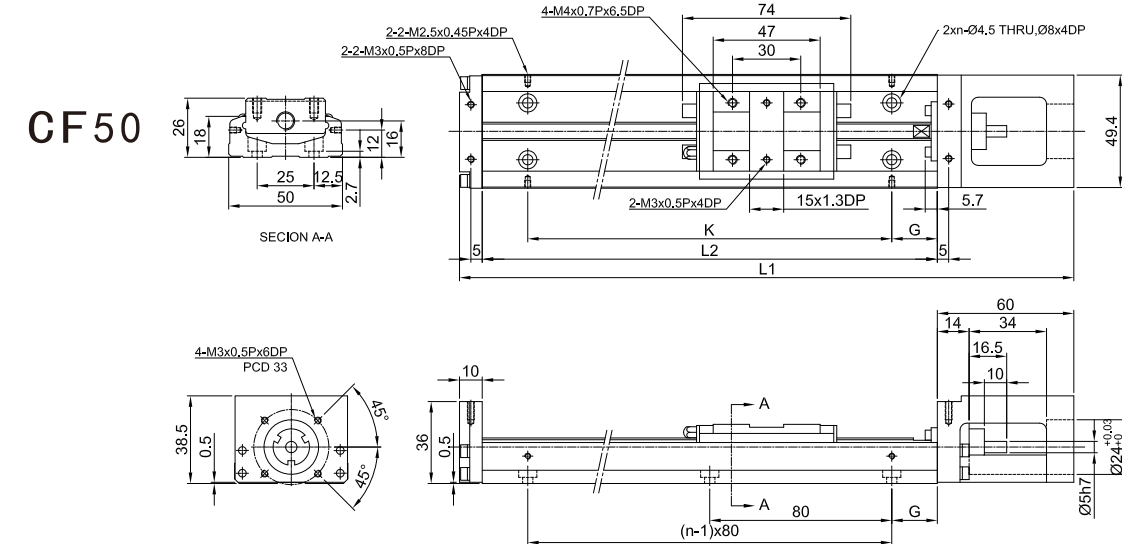
##### 1.8.2 Nozzle structure diagram

$$T = \frac{100 \times 1000}{V_e \times 60}$$

T: Oil injection frequency (hour)  
 Ve: speed (m/min)

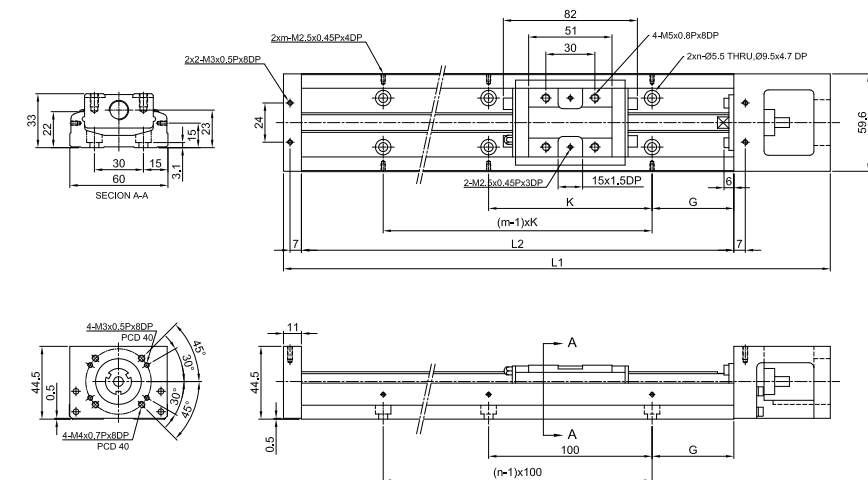


### 1.9 Products of CF series:



Rail length L	Total length L1	Max travel range		G	K	n	Total weight(Kg)	
		Slide B1	Slide B2				Slide B1	Slide B2
150	220	70	-	35	80	2	1	-
200	270	120	55	20	160	3	1.2	1.4
250	320	170	105	45	160	3	1.4	1.6
300	370	220	155	30	240	4	1.6	1.8

#### CF60



Rail length L	Total length L1	Max travel range		G	K	n	m	Total weight(Kg)	
		Slide B1	Slide B2					Slide B1	Slide B2
150	220	60	-	25	100	2	2	1.5	-
200	270	110	-	50	100	2	2	1.8	-
300	370	210	135	50	200	3	2	2.4	2.7
400	470	310	235	50	100	4	4	3	3.3
500	570	410	335	50	200	5	3	3.6	3.9
600	670	510	435	50	100	6	6	4.2	4.6

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