



圓弧導軌

CURVED RAIL



Certificat

Certificate

N° 2017/73977.3

AFNOR Certification certifies that the management system implemented by:
AFNOR Certification certifie que le système de management mis en place par :

KAI HE MACHINERY CO., LTD
凱賀精密機械有限公司

for the following activities:
pour les activités suivantes :

MANUFACTURE OF MECHANICAL PARTS(RACK)
機械零件製造(齒條)

has been assessed and found to meet the requirements of:
a été évalué et jugé conforme aux exigences requises par :

ISO 9001 : 2015

and is developed on the following locations:
et est déployé sur les sites suivants :

NO. 327, GANXI RD., WUFENG DIST., TAICHUNG CITY 413 , TAIWAN (R.O.C.)
413 台中市霧峰區乾溪路 327 號

This certificate is valid from (year/month/day)
Ce certificat est valable à compter du (année/mois/jour)

2023-01-25

until
jusqu'au

2026-01-24



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Julien NIZRI
Managing Director of AFNOR Certification
Directeur Général d'AFNOR Certification



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the certificate

直線導軌優點

Advantage of the guide rail

導軌面精磨，精度高
All sides ground,high precision.

導軌基體無硬度，可機械加工。
The guide rail substrate has no hardness and can be machined.

直線導軌可拼接成任意長度。
The guide rails can be spliced into any length.

直線導軌單根長度可達 4000mm。
The length of a single linear guide rail can reach 4000mm.

導軌 V 面淬火處理，具有良好的耐磨性。
The V-surface of the guide rail has undergone quenching treatment and has good wear resistance.

圓弧導軌優點

Advantage of the curved rail

導軌面精磨，精度高。
all sides ground,high precision.

提供任意角度的圓弧節段。
Provide arc segments at any angle.

提供多個標準化尺寸。
Provide several standardized sizes.

直線導軌單根長度可達 4000mm。
The length of a single linear guide rail can reach 4000mm.

導軌 V 面淬火處理，具有良好的耐磨性。
The V-surface of the guide rail has undergone quenching treatment and has good wear resistance.

滾輪優點

Advantage of the roller

提供正心滾輪和偏心滾輪。
Provide concentric roller and eccentric roller.

導軌基體無硬度，可機械加工。
The guide rail substrate has no hardness and can be machined.

直線導軌可拼接成任意長度。
The guide rails can be spliced into any length.

直線導軌單根長度可達 4000mm。
The length of a single linear guide rail can reach 4000mm.

導軌 V 面淬火處理，具有良好的耐磨性。
The V-surface of the guide rail has undergone quenching treatment and has good wear resistance.

潤滑罩優點

Advantage of the lubricator

保護滾輪，防止灰塵碎屑進入。
Protect the roller to prevent dust and debris from entering.

潤滑毛氈擦拭導軌給導軌潤滑防鏽。
Provide arc segments at any angle.

提供標準化尺寸。
Provide the standardized size.

滑座 25

carriage 25

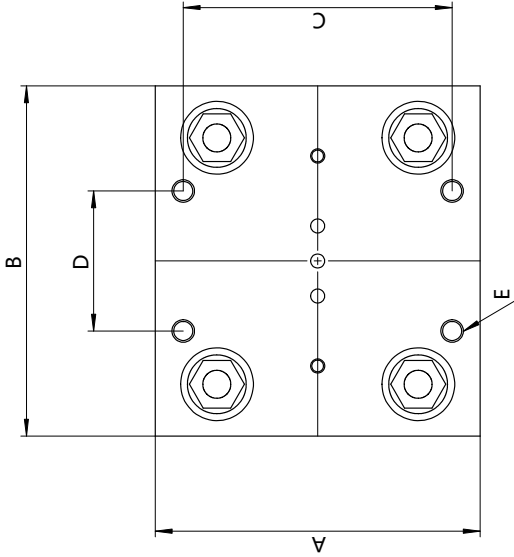


Fig.1

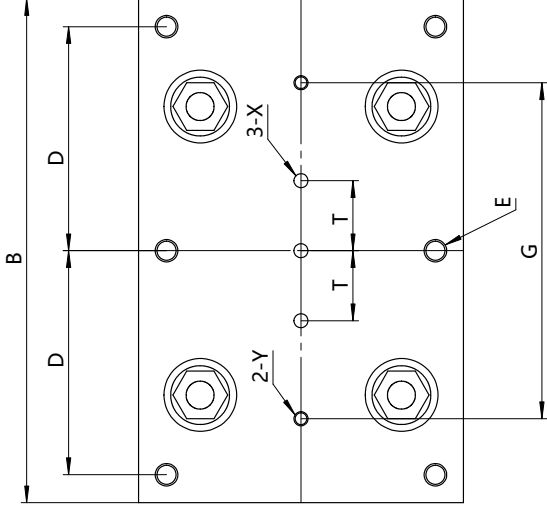
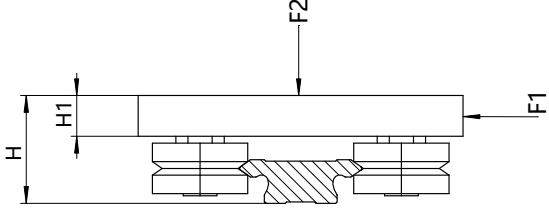


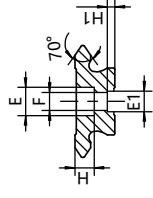
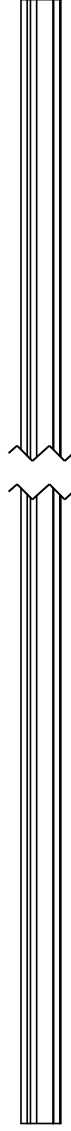
Fig.2



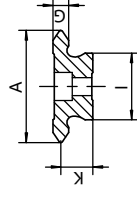
零件型號		尺寸 (mm)													最大承載力 (N)		
直導軌	圓弧導軌	導軌滑座	A	B	H	H1	C	D	T	G	X	Y	E	Fig	軸向 F2	徑向 F1	
PV25	-	SCR25A	80	80	30.5	11.5	65	24	12.5	60			4×M6	1			
	-	SCR25B	135	135			65	60	12.5	75			6×M6	2			
	-	SCR25C	180	180			65	82	25	120			6×M6	2			
		PV25 159	SCR25 159	80	95	30.5	11.5	50	85	12.5	75	M6	5	4×M6	1	1200	1280
		PV25 255	SCR25 255	80	100			50	80	12.5	75			4×M6	1		
		PV25 300	SCR25 300	80	100			50	80	12.5	75			4×M6	1		
	PV25 351	SCR25 351		105			50	85	12.5	75			4×M6	1			
	PV25 400	SCR25 400		120			50	100	12.5	75			4×M6	1			

直線導軌 25

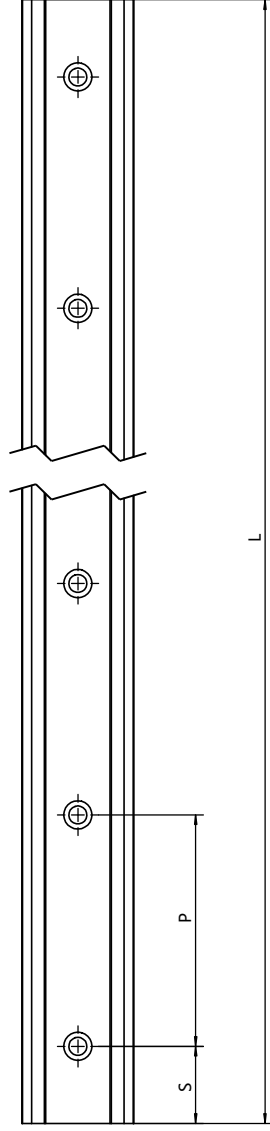
linear guide 25



PV25T



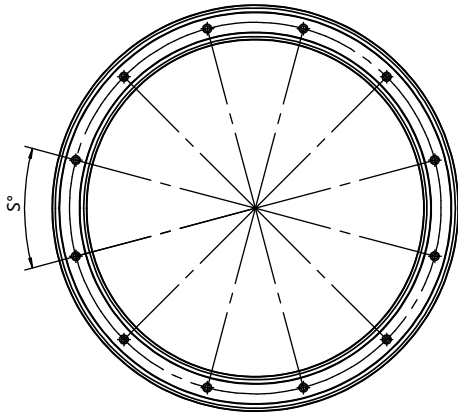
PV25



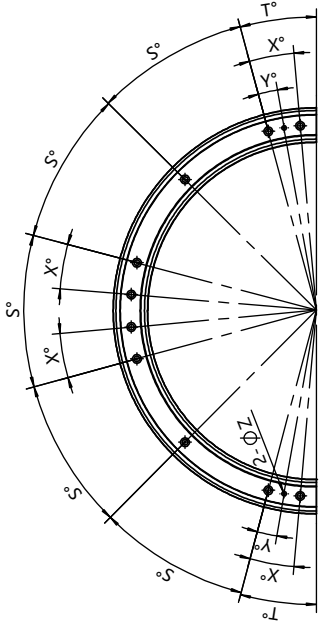
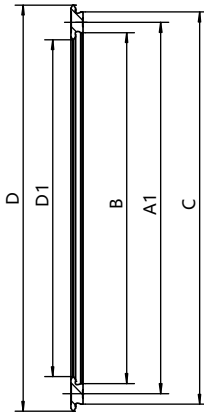
型號	A	I	K	G	E	F	H	E1	H1	S	P	Lmax
PV25	24.6	15	10	4.71	10	6	6	-	-	30	90	4020
PV25T	24.6	15	10	4.71	10	6	6	6	2.5	30	90	4020

圓弧導軌 25

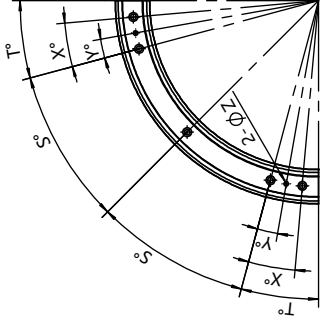
curved rail 25



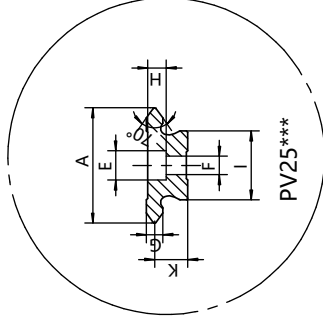
R360



R180



R90



圓弧導軌											R									
	A1	B	C	D	D1	A	I	G	K	E	F	H	Z	S	T	X	Y	R		
PV25 159	159	144	174	183.6	134.4	24.6	15	4.71	10	10	6	6	5.7	45	22.5	15	7.5	180	90	
PV25 255	255	240	270	279.6	230.4	24.6	15	4.71	10	10	6	6	5.7	45	22.5	15	7.5			
PV25 300	300	285	315	324.6	275.4	24.6	15	4.71	10	10	6	6	5.7	45	22.5	15	7.5			360
PV25 351	351	336	366	375.6	326.4	24.6	15	4.71	10	10	6	6	5.7	45	15	10	5			180
PV25 400	400	385	415	424.6	375.4	24.6	15	4.71	10	10	6	6	5.7	45	15	10	5	180	90	

滑座 44

carriage 44

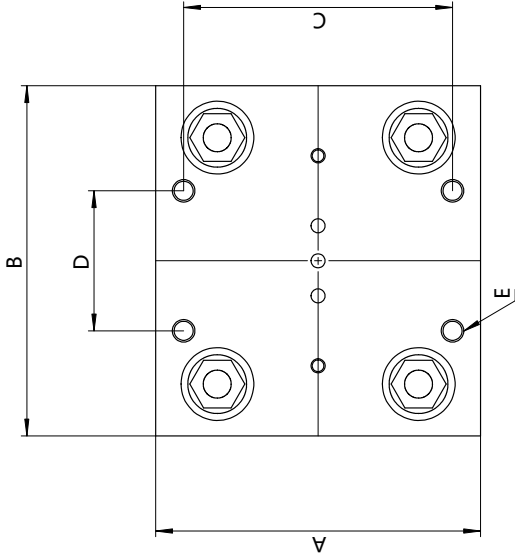


Fig.1

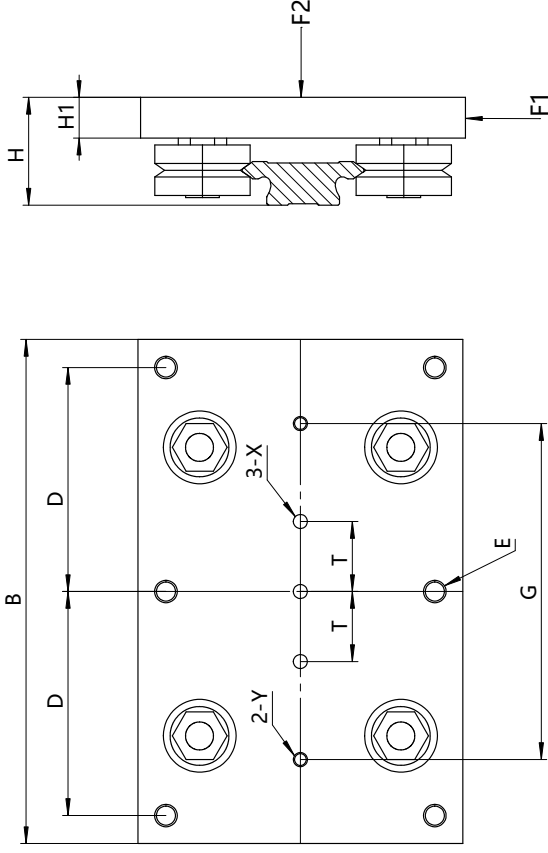
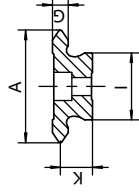
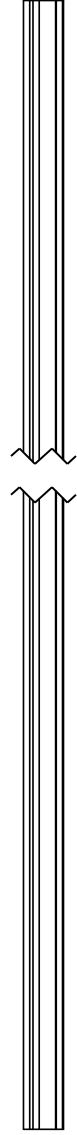


Fig.2

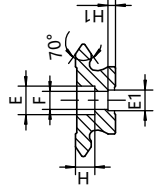
零件型號		尺寸 (mm)													最大承載力 (N)	
直導軌	圓弧導軌	導軌滑座	A	B	H	H1	C	D	T	G	X	Y	E	Fig	軸向 F2	徑向 F1
PV44	-	SCR44A	116	125	38.5	14.5	96	50	12.5	75			4×M8	1		
	-	SCR44B		180			96	80	25	120			6×M8	2		
	-	SCR44C		225			96	103	25	120	M8	8	6×M8	2	2800	3200
	PV44 468	SCR44 468		145			75	120	25	125			4×M8	1		
PV44 612	SCR44 612		150			75	125	25	130			4×M8	1			

直線導軌 44

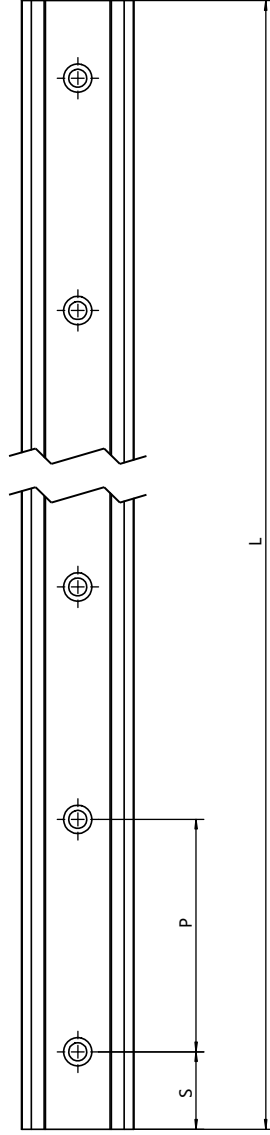
linear guide 44



PV44



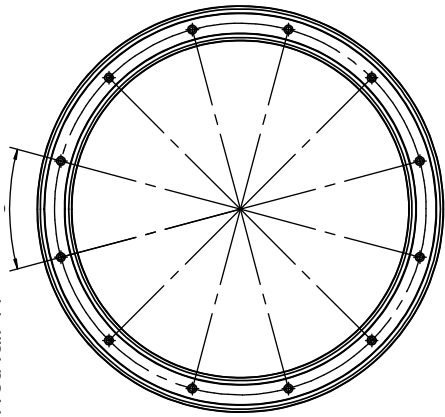
PV44T



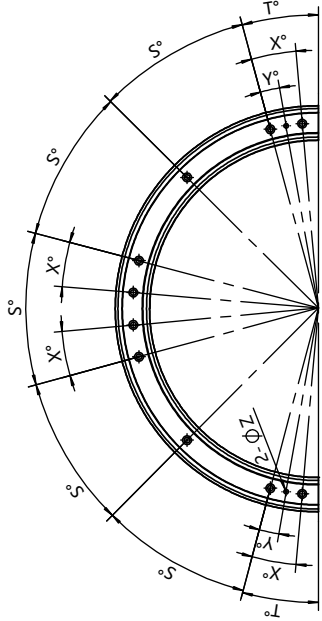
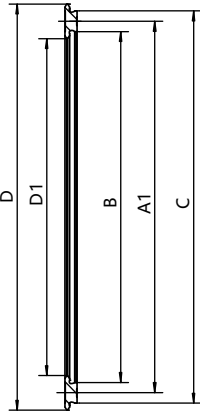
型號	A	I	K	G	E	F	H	E1	H1	S	P	Lmax
PV44	43.6	26	12.5	6.21	11	7	7	-	-	30	90	4020
PV44T	43.6	26	12.5	6.21	11	7	7	8	3	30	90	4020

圆弧导轨 44

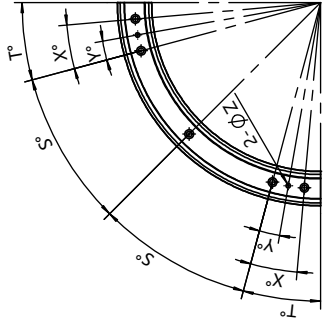
curved rail 44



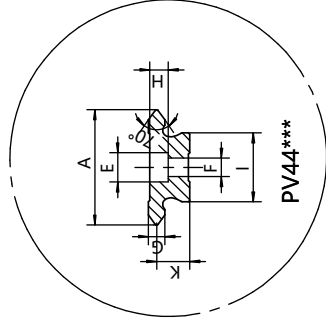
R360



R180



R90



PV44***

圆弧导轨	A1	B	C	D	D1	A	I	G	K	E	F	H	Z	S	T	X	Y	R	
																		360	180
PV44 468	468	442	494	511.6	424.4	43.6	26	6.21	12.5	11	7	7	5.7	30	15	10	5	360	180
PV44 612	612	586	638	655.6	568.4	43.6	26	6.21	12.5	11	7	7	5.7	22.5	11.25	7.25	3.5		90

滑座 76

carriage 76

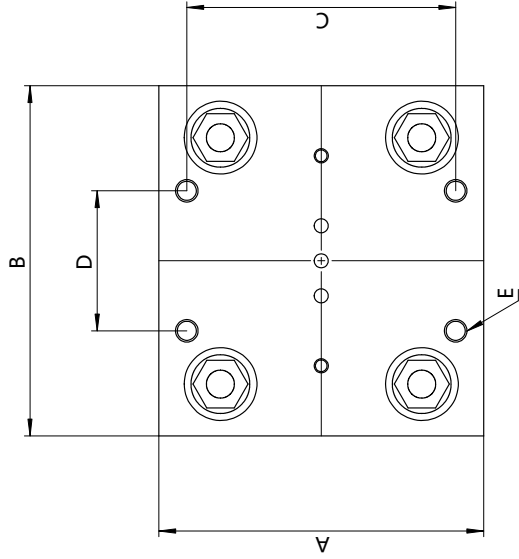


Fig.1

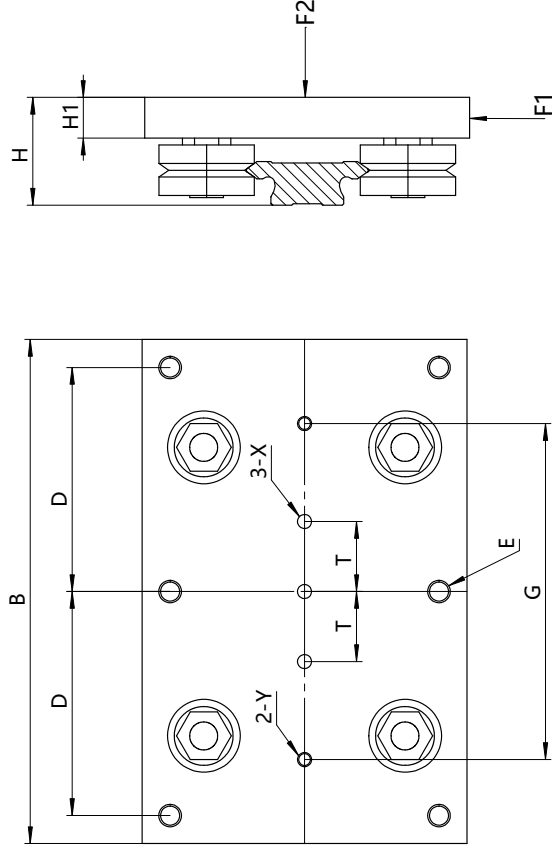
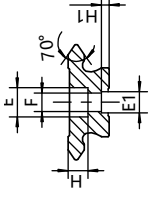
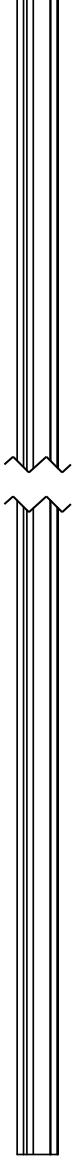


Fig.2

零件型號		尺寸 (mm)											最大承載力 (N)		
直導軌	圓弧導軌	A	B	H	H1	C	D	T	G	X	Y	E	Fig	軸向 F2	徑向 F1
PV76	導軌滑座		200			160	90	25	120			4×M10	1		
	-		300			160	135	25	120			6×M10	2		
	-		400			160	185	25	120			6×M10	2		
	PV76 799	185	190	58.5	20	100	160	25	120	M8	8	4×M10	1	6400	7200
	PV76 1033		210			100	180	25	120			4×M10	1		
	PV76 1267		250			100	205	25	120			4×M10	1		
	PV76 1501		275			100	225	25	120			4×M10	1		

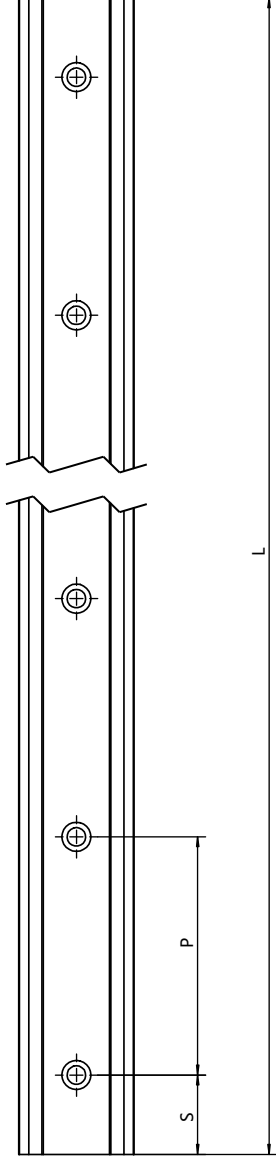
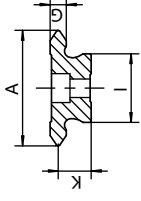
直線導軌 76

linear guide 76



PV76

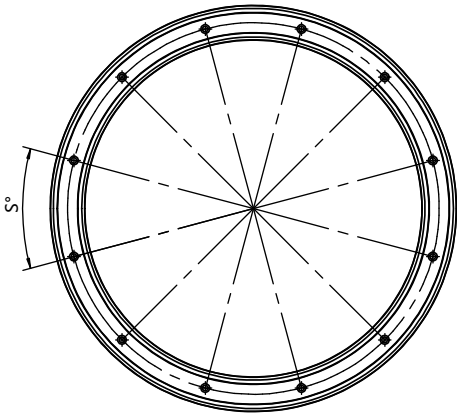
PV76T



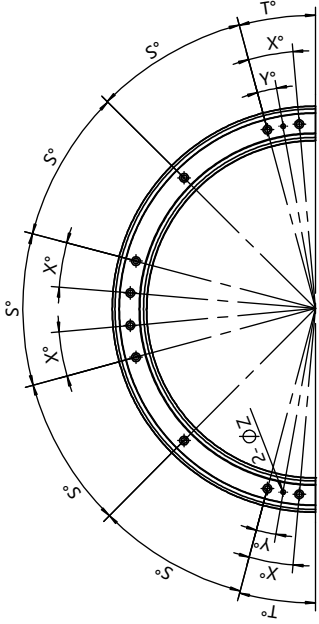
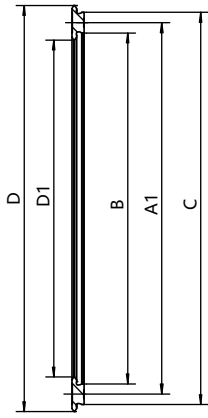
型號	A	I	K	G	E	F	H	E1	H1	S	P	Lmax
PV76	76	50	19.5	9.21	20	14	12	-	-	30	90	4020
PV76T	76	50	19.5	9.21	20	14	12	15	5	30	90	4020

圓弧導軌 76

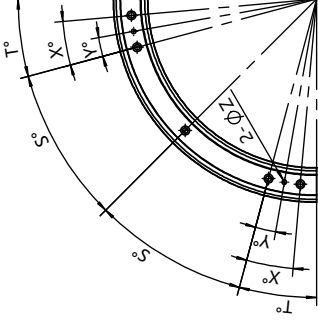
curved rail 76



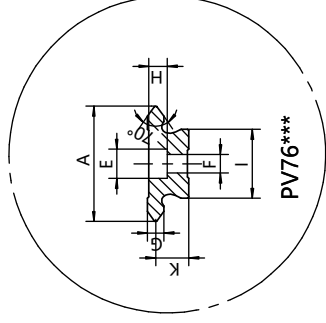
R360



R180



R90

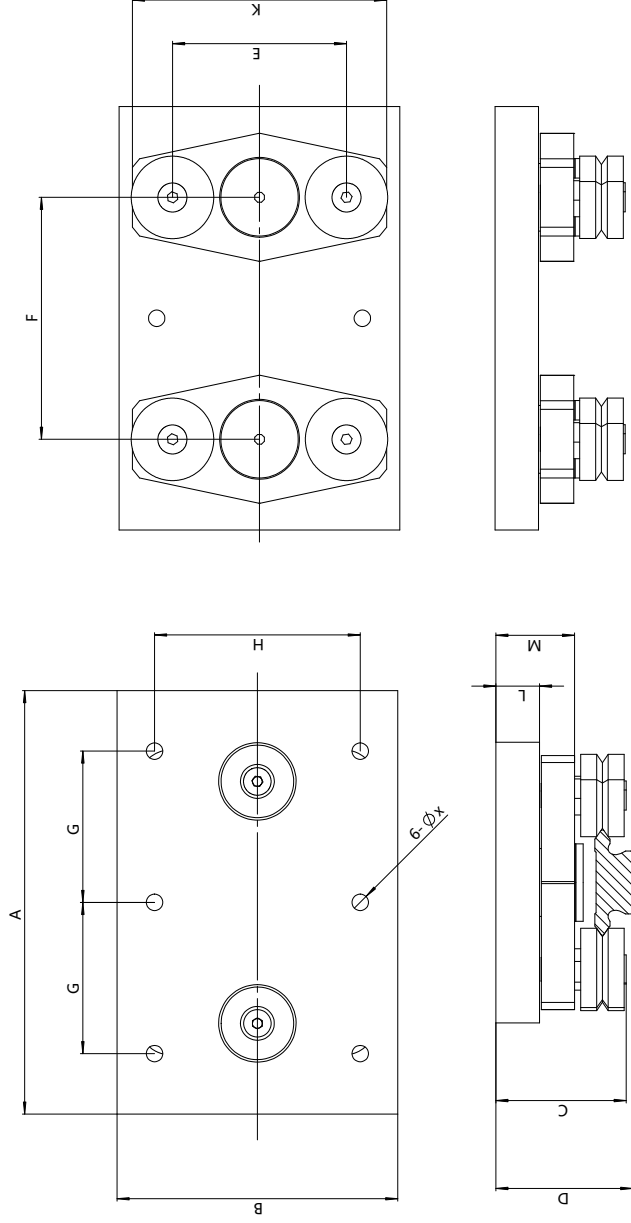


PV76***

圓弧導軌	A1	B	C	D	D1	A	I	G	K	E	F	H	Z	S	T	X	Y	R		
																		360	180	90
PV76 799	799	749	849	875	723	76	50	9.21	19.5	20	14	12	11.7	22.5	11.25	7.25	3.5			
PV76 1033	1033	983	1083	1109	957	76	50	9.21	19.5	20	14	12	11.7	18	9	6	3			
PV76 1267	1267	1217	1317	1343	1191	76	50	9.21	19.5	20	14	12	11.7	18	9	6	3			
PV76 1501	1501	1451	1551	1577	1425	76	50	9.21	19.5	20	14	12	11.7	18	9	6	3			

转向车承载滑座

self adjusting carriage



型号	A	B	C	D	E	F	K	L	M	G	H	X
SCP25	130	80	42.1	44.5	46.1	75	75	15	25.5	45	60	M6
SCP44	175	116	53.8	56.5	71.9	100	105	18	32.5	62.5	85	M8
SCP76	240	185	77.2	81	118.7	130	170	24	42.5	87.5	125	M10

載重 / 壽命計算

load/life calculation

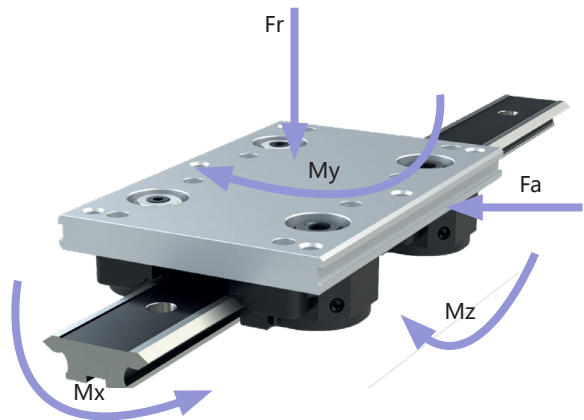
影響載重能力和壽命的因素
factors affecting the load capacity and life

1. 滾輪和導軌的尺寸
1. Dimensions of rollers and guide rails
2. 軸承類型
2. rollers types
3. 是否潤滑
3. lubrication
4. 載荷大小和方向
4. Load size and direction
5. 運行速度
5. Operating speed

計算 4 輪滑座載重因素

calculating 4-roller carriage load factors

計算 4 輪滑座的載重和壽命時，先將載重分解成 F_r 和 F_a ，以及彎矩載重 M_x, M_y 和 M_z 。
When calculating the load and lifes of the four-roller carriage, first decompose the load into F_r and F_a , as well as the bending moment loads M_x, M_y , and M_z .



$$LF = \frac{F_y}{F_{y\max}} + \frac{F_z}{F_{z\max}} + \frac{M_x}{M_{x\max}} + \frac{M_y}{M_{y\max}} + \frac{M_z}{M_{z\max}}$$

LF: 載重係數 load factor (N)

Fr: 徑向負荷 radical load (N)

Fa 軸向載重 axial load (N.m)

Mx X向彎矩載重 X-direction bending moment load (N.m)

My Y向彎矩載重 Y-direction bending moment load (N.m)

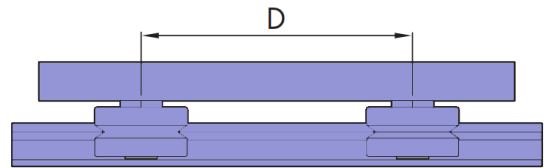
Mz Z向彎矩載重 Z-direction bending moment load (N.m)

任何載荷係數不能超過 1

下表給出標準滑座的最大載重和彎矩載重。包含無潤滑和潤滑兩種情況。潤滑是指 V 型導軌接觸面的潤滑，所有滾輪內部都有潤滑。

直線導軌滑座
guide rail carriage

滑座型號 carriage item	無潤滑 / 配對軸承 & 雙列軸承 dry system/twin&/DR roller					潤滑 / 配對軸承 lubricated system/twin					潤滑 / 雙列軸承 lubricated system/DR roller				
	Fr	Fa	Mx	My	Mz	Fr	Fa	Mx	My	Mz	Fr	Fa	Mx	My	Mz
	N	N	Nm	Nm	Nm	N	N	Nm	Nm	Nm	N	N	Nm	Nm	Nm
SCR25	400	400	4.5	200×D	200×D	1280	1200	14	600×D	600×D	1600	3000	18	1500×D	800×D
SCR44	800	800	16	400×D	400×D	3200	2800	65	1400×D	1600×D	3600	6000	73	3000×D	1800×D
SCR76	1800	1800	64	900×D	900×D	7200	6400	250	3200×D	3600×D	10000	10000	360	5000×D	5000×D



圓弧導軌滑座
curved rail carriage

滑座型號 carriage item	無潤滑 / 配對軸承 & 雙列軸承 dry system/twin&/DR roller					潤滑 / 配對軸承 lubricated system/twin					潤滑 / 雙列軸承 lubricated system/DR roller				
	Fr	Fa	Mx	My	Mz	Fr	Fa	Mx	My	Mz	Fr	Fa	Mx	My	Mz
	N	N	Nm	Nm	Nm	N	N	Nm	Nm	Nm	N	N	Nm	Nm	Nm
SCR25-159	400	400	4.5	8.5	8.5	1280	1200	14	25	27	1600	3000	18	64	33
SCR25-255	400	400	4.5	8	8	1280	1200	14	23	25	1600	3000	18	60	31
SCR25-351	400	400	4.5	8.5	8.5	1280	1200	14	24	27	1600	3000	18	63	33
SCR44-468	800	800	16	28	28	3200	2800	64	95	110	3600	6000	73	210	120
SCR44-612	800	800	16	29	29	3200	2800	64	100	115	3600	6000	73	220	130
SCR76-799	1800	1800	64	105	105	7200	6400	250	360	410	10000	10000	360	570	570
SCR76-1033	1800	1800	64	120	120	7200	6400	250	420	480	10000	10000	360	670	670
SCR76-1267	1800	1800	64	140	140	7200	6400	250	480	550	10000	10000	360	770	770
SCR76-1501	1800	1800	64	115	115	7200	6400	250	415	460	10000	10000	360	650	650

Frmax:Y 向的最大承載力 radical max load (N)

Famax:Z 向的最大承載力 axial max load (N)

Mxmax:X 向扭力的最大承載能力 X-direction max bending moment load (N.m)

Mymax: Y 向扭矩的最大承載能力 Y-direction max bending moment load (N.m)

Mzmax: Z 向扭矩的最大承載能力 Z-direction max bending moment load (N.m)

安装说明

Installation Instructions

1. 滾輪和滑座的安裝方法

The installation between roller and carriage

沿著直線導軌的方向，滑座的一邊裝正心輪，另一邊裝偏心輪。圓弧導軌的正心滾輪安裝在兩個間距小的孔中，間距大的孔安裝偏心輪。

Along the direction of the linear guide rail, the concentric rollers are installed on one side of the carriage, while the eccentric rollers are installed on the other side. the concentric rollers for the curved rail are mounted in two closely spaced holes, and the eccentric rollers are installed in the widely spaced holes.

2. 滑座和導軌的安裝方法

The installation between roller and the linear guide.

滑座與直線導軌安裝時，滑座應該會從導軌的一端慢慢滑上去，安裝不能設定過大的間隙。

When installing the carriage and linear guide, the carriage should slowly slide up from one end of the guide rail, and the installation should not set too large a gap.

3. 調節滾輪與導軌間隙的方法

Method of adjusting the gap between the roller and the linear guide.

- 旋緊正心輪螺母。

Tighten the concentric roller nut.

- 用內六角扳手旋轉偏心螺栓，調整滾輪和導軌的間隙。

Rotate the eccentric bolt with an Allen wrench to adjust the gap between the roller and the linear guide.

- 調節到間隙為 0。

Adjust the gap to 0.

- 輕輕滑動滑座，感覺有輕輕的阻力，這個阻力在滑動的過程中不變。如果條件允許，可以使用拉力儀依照表格建議值來設定預載阻力。

Gently slide the carriage and feel a slight resistance, which remains unchanged during the sliding process. If conditions permit, a tensile tester can be used to set the preload resistance according to the recommended values in the table

推荐预载阻力值

滑座尺寸	预载阻力值 (N)
25	4
44	8
76	12

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