cpc 直得科技股份有限公司
CHIEFTEK PRECISION CO., LTD.

ARC/HRC/ERC series

Linear motion technology

ARC/HRC/ERC Ball Type Linear Guide Series

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cpc CHIEFTEK PRECISION CO., LTD.

ARC-04-O71-EN

Product Overview

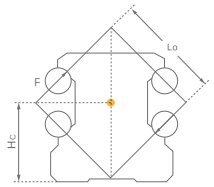
ARC/HRC/ERC Product Characteristics

The **cpc** ARC/HRC/ERC Linear Guide Series uses the O-type arrangement for the four row ball circulation design. The contact angle between the rail and ball is 45 degrees, and can realize the 4 directional load effects. **cpc** places special emphasis on strengthening the Arm length(Lo), so when sustaining external force F, will have even higher Mr value to increase the rigidity and static moment capability.
In addition, the runner block for the same size uses larger and more balls, so will outperform competitor's models by 10% to 30% regarding load capabilities. The products have characteristics of high load, high moment, and high stiffness.

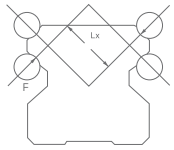
Unit:mm

Mode Code	Lo	Hc
15	12.4	9.35
20	16.4	12.5
25	19.5	14.5
30	24.0	17
35	30.4	19.5
45	38.2	24
55	43.1	28.5

F = Mr/Lo (Lx)



O-Type Arrangement



X-Type Arrangement

Inner Lubrication storage Pad (Upper)
- Length of the Runner Block will not be increased
- Full lubrication contact with balls, suitable for short stroke movement.

End Cap
- All-Round lubrication holes system

High abrasion materials end seal
- Standard high dust proof seal
- Low friction seal

Inner Lubrication storage Pad (Bottom)

Ball chain
- Patented design of reverse operations
- Quiet and prolong the service life

Stainless steel reinforcement plate
- Total scraping of objects above 0.3mm
- Increase X-axis direction force capacity

- High Dynamic Load and High Load capabilities
- Excellent dynamic performance: Reach Vmax 10 m/s Reach amax 450 m/s²
- Can provide counterbored holes from the top and tapped mounting holes from the bottom rail
- Can provide special surface treatment

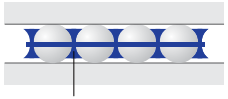
Product Design

Low noise, high quality and high speed design ball chain

Traditional Ball type linear guide, producing double the speed of slide contact with neighboring balls in different directions for spinning effects. Extremely high friction greatly reduce service life; also, the contact point between balls produce high pressure and noise, and increase the possibility of damagers of film cladding.

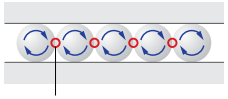


Low noise ball chain



The contact point is between balls and ball chain, so the surface pressure is low.

Traditional Ball type linear guide



The Ball type linear guide's contact point is only between balls, thus the surface pressure is high.

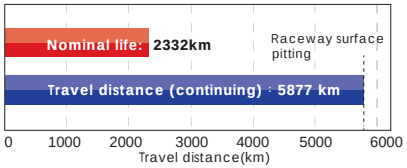
* **cpc** Ball Chain can provide greater contact area between ball and ball chain, so film cladding will eliminate damage and lower noise volume. Balls can move at higher speed and extend its service life.
* The size of the ball chain design block is as the same as the normal type, and therefore it can use thesame rail.

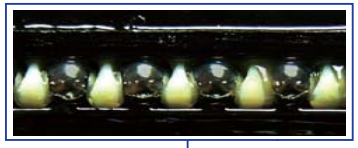
Heavy load test

Condition

Model：ARC25MN SZC V1H
Velocity：1m/sec
Load capacities：7.44kN(0.3C)
Dynamic load rating C_{100}：24.8kN
Stroke：960mm
Preload：0.05C

Rating Life $\left(\frac{C}{P}\right)^3 \times 100km = \left(\frac{C}{0.05C+0.3C}\right)^3 \times 100km = 2332km$



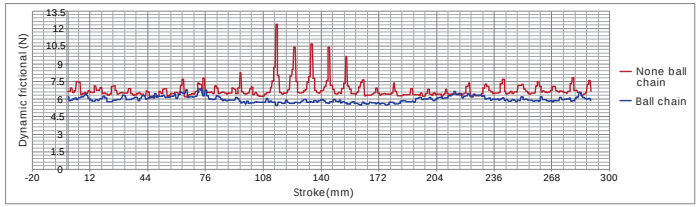




After testing, grease remains and no anomaly in the balls and grease.

Smoothness test

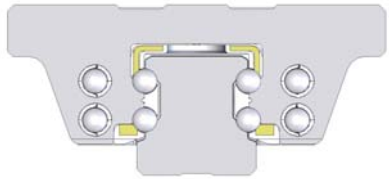
Model code：ARC25MNSV1N
Velocity：10 mm/sec



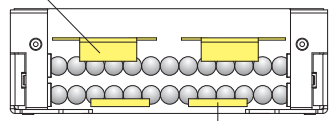
Lubrication Design

Inner oil storage and oil supply system design

Inner PU Lubrication Storage Pad design does not increase length of runner block and can contact directly with all balls. Customer can inject lubrication oil through lubrication holes and can save enough lubrication oil within the PU Lubrication storage pad to ensure long term lubrication effects, conforming to environment protection needs and lowering maintenance costs. Excellent performance when used in short stroke.



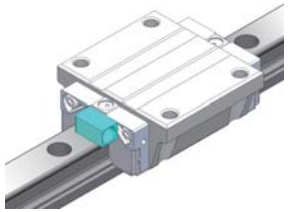
Upper Lubrication Storage Pad



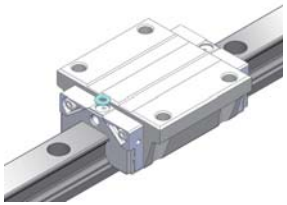
Bottom Lubrication Storage Pad

All-direction Lubrication Nozzles

On the top, bottom, and sides, there are oil injection nozzles designed, the upper runner block comes with O-ring seal, and easily complete the oiling from top. Diversified comprehensive oil injection methods, suitable for installation axial and oil injection methods.





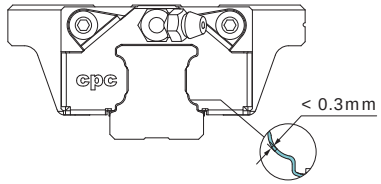


Product Design

Dustproof design

Stainless Steel Reinforcement Plate

With clearance between rail profile of no more than 0.3mm, the plate can scrape large items such as iron filings to protect the end seals

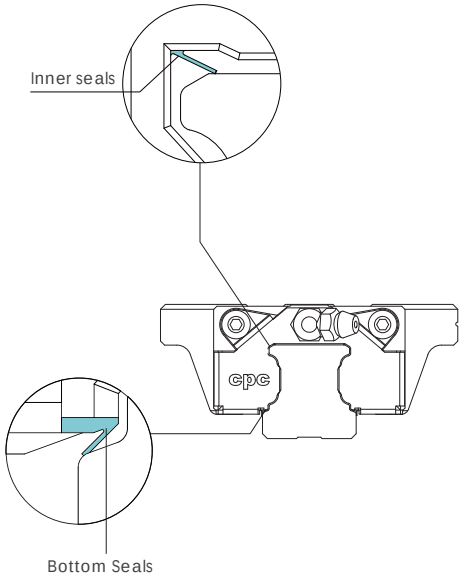


Inner seals

The newly designed inner seals, can protect foreign objects from sliding into the rails while maintaining low friction. It can also allow the lubrication oil to be maintained inside the runner block and prolong the re-lubrication interval.

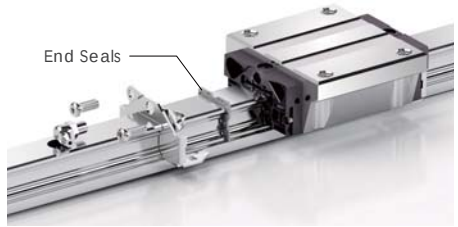
Bottom Seals

The bottom seals can prevent foreign objects from entering the bottom and prevent lubrication from leaking out. With full sealing design, it reduces the amount of oil usage, prolong the re-lubrication interval, and prolong the service life.



End Seals

The **cpc** double lips type end seals can prevent foreign objects from entering from the side and preventing lubrication oil and grease from leaking. The flexibility of the engineering plastic material has better friction resistance ability and better prevents cracking characteristics than typical NBR plastic.

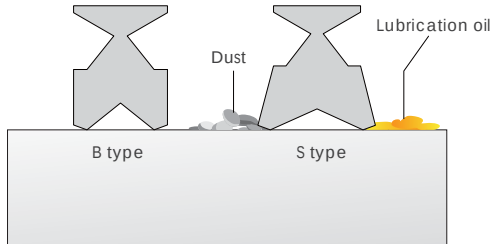


Standard seals (S)

Directly in contact with the rail surface, having better dustproof and lubrication holding capabilities. **cpc** recommends using this type of seals in environments that is exposed for long durations to high dusts and Saw wood dust, etc. The friction will be higher than standard seals

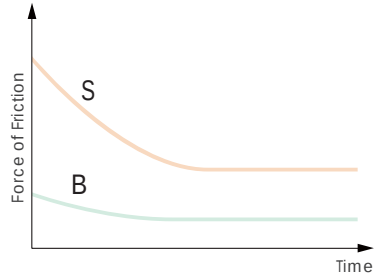
Low friction seals (B)

Suitable for most conditions, with slight contact with the rail, and having both scraping function with low friction.



Comparison of friction of seals

The friction will be highest on new linear rails. After short period of operation, friction will be reduced to a constant level.



Product Design

Average Friction of Block

Below is the friction table for Block Body and End Seal under the condition of without any grease

Unit：N

ARC/HRC/ERC							
Block Type	Friction caused from ball bearing				Bottom Seals + Inner Seals	End Seals (2 sides)	
	Preload Class					S-Type Standard	B-Type Low friction
	VC	V0	V1	V2			
15MN/FN	0.30	0.65	0.85	1.10	1.5	2.0	0.5
20MN/FN	0.40	0.75	1.40	1.60	2.0	2.5	1.0
25MN/FN	0.60	0.95	1.30	1.95	2.5	3.0	1.5
30MN/FN	0.55	1.10	2.00	3.10	3.0	5.0	2.0
35MN/FN	0.65	1.25	2.50	3.25	3.0	8.0	3.0
45MN/FN	0.85	2.10	2.80	4.00	4.0	11.0	4.0

Unit：N

ARC/HRC/ERC							
Block Type	Friction caused from ball bearing				Bottom Seals + Inner Seals	End Seals (2 sides)	
	Preload Class					S-Type Standard	B-Type Low friction
	VC	V0	V1	V2			
15MS/FS	0.30	0.60	0.80	1.00	1.5	2.0	0.5
20MS/FS	0.40	0.70	1.10	1.40	2.0	2.5	1.0
25MS/FS	0.50	0.90	1.20	1.80	2.5	3.0	1.5
30MS/FS	0.50	1.00	1.80	2.30	3.0	5.0	2.0

Unit：N

ARC/HRC/ERC							
Block Type	Friction caused from ball bearing				Bottom Seals + Inner Seals	End Seals (2 sides)	
	Preload Class					S-Type Standard	B-Type Low friction
	VC	V0	V1	V2			
15ML/FL	0.40	0.70	0.90	1.40	1.5	2.0	0.5
20ML/FL	0.50	0.80	1.60	1.80	2.0	2.5	1.0
25ML/FL	0.70	1.20	1.80	2.00	2.5	3.0	1.5
30ML/FL	0.80	1.40	2.20	2.80	3.0	5.0	2.0
35ML/FL	0.90	1.60	2.70	3.50	3.0	8.0	3.0
45ML/FL	1.00	2.30	3.50	4.55	4.0	11.0	4.0

Applied example

①. ARC25MN SZ V1N

Block friction = 1.3+2.5+3 = 6.8N

②. HRC30FL BZ V0P

Block friction= 1.4+3+2 = 6.4N

Friction caused from ball bearing

Bottom Seals + Inner Seals

+) End Seals (2 sides)

Block friction

Saw wood dust Test

Test content

This test uses a total of 4 groups of products (using 2 rails match with 2 lubrications methods) by putting in saw wood dust and moving them within.

Rail

1. Tapped from top rail plus hole plugs (AR)
2. Tapped from bottom rail (ARU)

Runner Block

1. Installation of standard seals (S), using grease
2. Installation of lubrication storage Pad and standard seals (SZ), using grease



Testing conditions

1. Stroke = 600mm
2. Total testing stroke = 30m

Test items

1. If Saw wood dust enters the inner parts of the runner block
2. If Saw wood dust enters the ball raceway

Test results



Tapped from bottom (oil)



Tapped from bottom (grease)

Checked Item / Installation status	Saw wood dust enter inner part of runner block	Saw wood dust enter ball bearing runner area
ARU Rail SZ Type Runner Block (Grease oil)	No	No
ARU Rail S Type Runner Block (Grease lubrication)	No	No
AR Rail SZ Type Runner Block (Grease Oil)	Yes (belly area)	No
AR Rail S Type Runner Block (Grease Lubrication)	Yes (belly area)	No

Test result

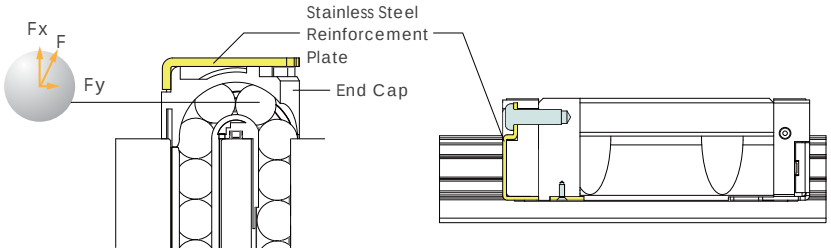
- The Tapped from top rail has hole plugs, leading to unevenness of rail, allowing some saw wood dust to enter the runner block belly area. The 2 sides of the runner block belly area is protected by stainless steel reinforcement plates and end seals that completely protect the ball bearing, so the ball bearing runner area is fully protected from Saw wood dust.
- The tapped from bottom rail has even rail surface, so the ball bearing runner area is fully protected from Saw wood dust.

Installation Notice

Reinforcement plate patent design

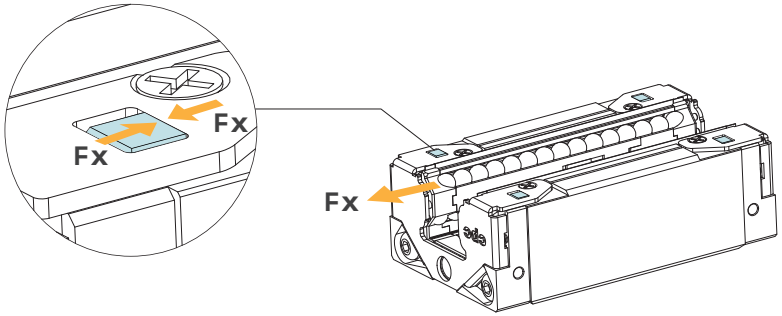
Using 2 stainless steel reinforcement plates, the L type design can fasten the screws onto the top and bottom of the runner block, reinforcing the rigidity of the end caps and cladding.

The clearance between the rail profile with the seal design is below 0.3mm, reinforcing the steel plates while having scraper functions.



The ARC/HRC/ERC type uses the stainless steel reinforcement plates to strengthen the bottom latches, while increasing X-axis direction force capacity, and increasing operation speed.

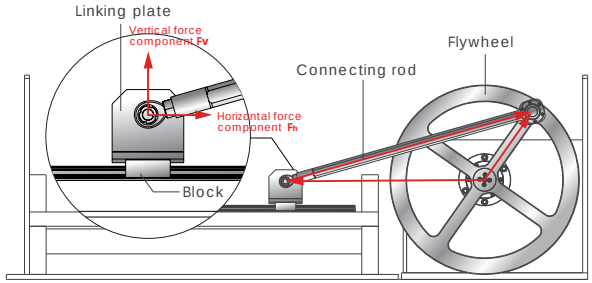
Vmax >10 m/s amax >450m/s²



Acceleration testing machine

The Acceleration testing machine is a slide-crank mechanism and it uses flywheel as the crank. Working under a limited stroke, it helps block to reach higher acceleration and velocity. Moreover with rotation velocity of the motor, it can be tested the service life under different acceleration and velocity.

The introduction of High-Speed Testing Machine



Rail
AR-Rail

Block
1. Stainless steel reinforcement plate
2. S-Type Standard Seal
3. Environmental Lubrication Pad

Condition

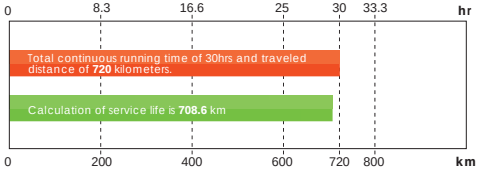


Block Model：ARC25MN
Dynamic load capacities：24.8 KN
(Rated life of load capacity is based on 100 km)
Stat load capacities：42.5 KN
Preload：V2 (0.08C)
Max velocity：10.47 m/s
Max acceleration：438.2 m/s²
Stroke：0.5 m
Equivalent Load：10928 N (0.44C)
Service life：708.6 km

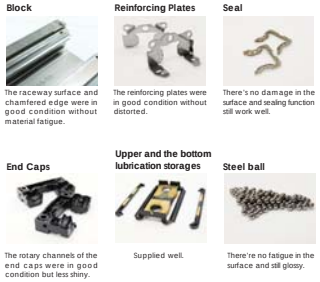
Inspected Item

1. The accessories are defected or not
2. Whether the Rail profile surface is damaged
3. Whether the Block Body profile surface is worn or is in material fatigue situation

Testing record



Testing Result



Testing summary

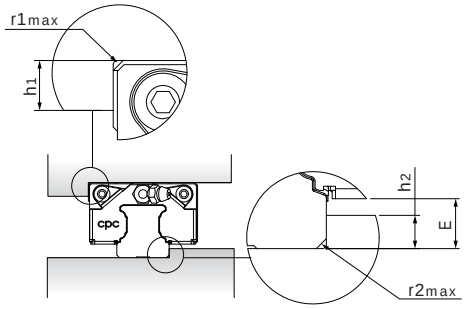
According to ARC25MN V2 its basic load capacities, preload and equivalent dynamic load, the calculation of the service life can be 708.6 km.

This test after running 30 hrs =720 km, the appearance of the block and the plastic parts without damage, the upper and the bottom lubrication storage pads were in good condition and supplied well, the raceway surfaces were also in good condition which means it can continue running with high velocity.

Installation Notice

Dimension of reference edge

To ensure the linear guide is precisely assembled with machine table, cpc machines a recess in the reference edge corner. The corner of the machine table must be smaller than the chamfer of the linear guide to avoid interference.



Unit：mm

Type	r1max	r2max	h1	h2	E
15	0.5	0.5	4.0	2.5	3.3
20	0.5	0.5	5.0	4.0	5.0
25	1.0	1.0	5.0	5.0	6.0
30	1.0	1.0	6.0	5.5	6.6
35	1.0	1.0	6.0	6.5	7.6
45	1.0	1.0	8.0	8.0	9.3
55	1.5	1.5	10.0	10.0	12.0

Rail Joint

The standard length of rail is 4 meter, cpc provides rail joint solution. The joint number will be laser mark on the rail.

1. Follow the joint number to assemble. (Shown in figure A)

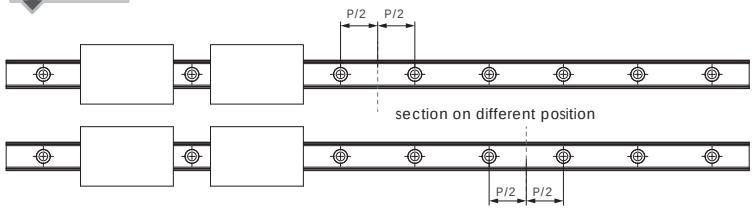
2. In the case of two more numbers of rail on the same moving axis, cpc suggests to set the joint in different position to avoid the change in accuracy. (Shown in figure B)

3. Follow the recommend tightening torques to fasten the screws from inside to outside.

Figure A



Figure B



Technical information

Screw tightening torque (Nm)

Screw grade 12.9 Alloy Steel Screw	Steel	Cast Iron	Non Iron Metal
M3	2.0	1.3	1.0
M4	4.1	2.7	2.1
M5	8.8	5.9	4.4
M6	13.7	9.2	6.9
M8	30	20	15
M10	68	45	33
M12	118	78	59
M14	157	105	78
M16	196	131	98

Preload and clerance

The ARC/HRC/ERC linear guides provide 4 different preload class VC, V0, V1, V2.

ARC										
Class	Description	Preload Value	Clearance (μm)							Application
			15	20	25	30	35	45	55	
VC	Clearance	0	+5~+0	+5~+0	+5~+0	+5~+0	+5~+0	+5~+0	+5~+0	Smooth motion, low friction
V0	Light Preload	0.02C	+0~-4	+0~-5	+0~-6	+0~-7	+0~-8	+0~-10	+0~-12	For precision situations, smooth motion
V1	Medium Preload	0.05C	-4~-10	-5~-12	-6~-15	-7~-18	-8~-20	-10~-24	-12~-28	High stiffness, precision, high load situations
V2	Heavy Preload	0.08C	-10~-16	-12~-18	-15~-23	-18~-27	-20~-31	-24~-36	-28~-45	Super high stiffness, precision, super high load situations

HRC/ERC										
Class	Description	Preload Value	Clearance (μm)							Application
			15	20	25	30	35	45	55	
VC	Clearance	0	+5~+0	+5~+0	+5~+0	+5~+0	+5~+0	+5~+0	+5~+0	Smooth motion, low friction
V0	Light Preload	0.02C	+0~-4	+0~-5	+0~-6	+0~-7	+0~-8	+0~-10	+0~-12	For precision situations, smooth motion
V1	Medium Preload	0.08C	-4~-12	-5~-14	-6~-16	-7~-19	-8~-22	-10~-25	-12~-29	High stiffness, precision, high load situations
V2	Heavy Preload	0.13C	-11~-19	-14~-23	-16~-26	-19~-31	-22~-35	-25~-40	-29~-46	Super high stiffness, precision, super high load situations

Technical information

Accuracy

The ARC/HRC/ERC linear guides provide 5 different grades of precision : N, H, P, SP, and UP, Engineers can choose different grades depend on the machine applications.

Accuracy

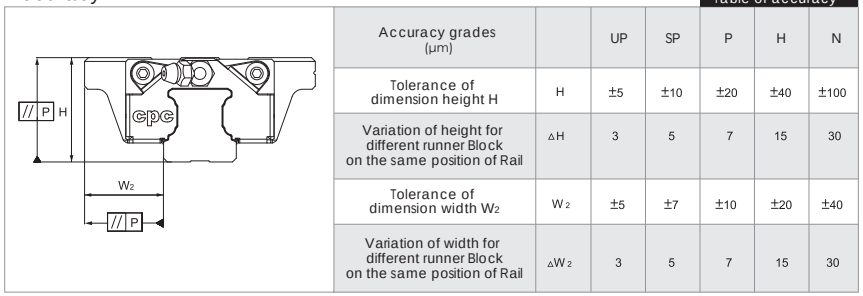
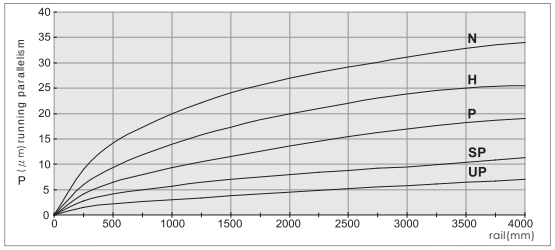


Table of accuracy

Accuracy grades (μm)		UP	SP	P	H	N
Tolerance of dimension height H	H	±5	±10	±20	±40	±100
Variation of height for different runner Block on the same position of Rail	ΔH	3	5	7	15	30
Tolerance of dimension width W_2	W_2	±5	±7	±10	±20	±40
Variation of width for different runner Block on the same position of Rail	ΔW_2	3	5	7	15	30

Accuracy of the running parallelism



Application

class	Movement, Conveyance	Manufacturing Equipment	High Precision Manufacturing Equipment	Measuring Equipment
N	●	●		
H	●	●	●	
P		●	●	●
SP			●	●
UP				●
Examples	1. Conveyance system 2. Industrial robots 3. Office Machinery	1. Woodworking machine 2. Punching press 3. Injection Molding machine	1. Lathe/milling machine/ grinding machine 2. Electrical discharge machining (EDM) 3. CNC machining center	1. Three dimensional measuring instrument 2. Detection mirror/ head shaft 3. X-Y Table

Ordering information

Model code

ARC	U	15	M	N	B	2	Z	C	V1	P	-1480L	-20	-20	II	/J

/J : Customization code

II : Number of rails on the same moving axis

-20 : End hole pitch (mm)

-20 : Starting hole pitch (mm)

-1480L : Rail length (mm)

P : Accuracy grade : UP, SP, P, H, N

V1 : Preload class : VC, V0, V1, V2

C : C: with ball chain

Z : Z: with lubrication storage pad

2 : Block quantity

B : Seal type : B: Low friction S: Standard N: Internal NBR seal

N : Block length : L: long N: standard S: short

M : Block width : M: standard F: flanged

15 : Block type : 15, 20, 25, 30, 35, 45, 55

U : U: rail (tapped from the botton)

ARC : Product type : ARC: automation series HRC/ERC: heavy load series

Customization code(The meaning of suffix characters)

J : Butt-jointing track rail

G : Customer designated lubricant

I : With Inspection report

S : Special straightness for rail

B : Special process for block

BL : With bellow for the rail

SN : External NBR seal with Metal Scraper

R : Special process for rail

VD : Customized designated preload

OA : Block install with grease nipple by cpc
(Please contact cpc for direction of grease nipple installation)

DE : Reference edges of block and rail on opposite sides

SG : Getting through the side grease holes and installed with the set screws

MC : With metal caps for counter holes on the rail

MPC : With Metal-Plastic Caps for rail mounting holes.

PC : With plastic caps for counter holes on the rail

BR : Black chrome coating treatment on the rail

BB : Black chrome coating treatment on the block

BRB : Black chrome coating treatment on the block and rail

SB : With stainless steel ball bearings

NRB : Nickel coating treatment on the block and rail

CR : Clear chrome coating treatment on the rail

CB : Clear chrome coating treatment on the block

CRB : Clear chrome coating treatment on the block and rail

NR : Nickel coating treatment onthe rail

RR : Raydent coating treatment on the rail

RB : Raydent coating treatment on the block

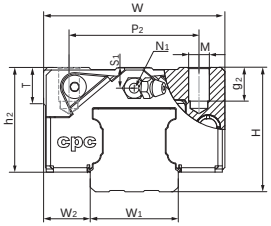
RRB : Raydent coating treatment on the block and rail

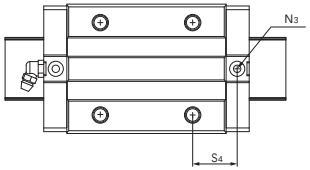
NB : Nickel coating treatment onthe block

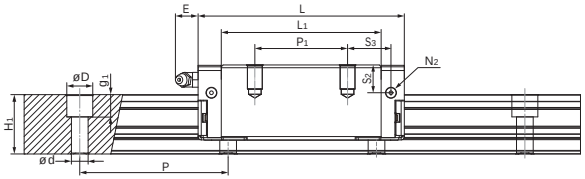
Note: If there is any customization need, please contact cpc for more information.

Dimensions Table









ARC MS Series

Model Code	Mounting Dimensions		Rail Dimensions(mm)				Block Dimensions(mm)										Block Dimensions(mm)							Load Capacities (KN)		Static Moment (Nm)			Weight		Model Code
	H	W2	W1	H1	P	Dxdxg1	W	L	L1	h2	P1	P2	Mxg2	M1	T	N1	N2	N3	E	S1	S2	S3	S4	C	C0	Mr0	Mp0	My0	Block(g)	Rail(g/m)	
ARC 15 MS	24	9.5	15	15	60	7.5x4.5x5.3	34	41.2	26	20.7	-	26	M4x7	-	6	M3x6.5	M3x6	P3	3.5	4.5	7.5	15.6	16.7	7.7	12.1	100	50	50	106	1290	ARC 15 MS
ARC 20 MS	28	11	20	20	60	9.5x6x8.5	42	49.2	32.2	23	-	32	M5x7	-	8	M3x7.5	M3x5.5	P4	10	4	7.4	19.1	19.8	12.5	19.3	205	100	100	170	2280	ARC 20 MS
ARC 25 MS	33	12.5	23	23	60	11x7x9	48	57.4	38.4	27	-	35	M6x9	-	8	M6x7.5	M3x6.5	P4	12	5	9.3	22.2	23.2	18.2	27.3	350	160	160	300	3020	ARC 25 MS
ARC 30 MS	42	16	28	27	80	14x9x12	60	68	44	35.2	-	40	M8x10	-	12	M6x8.5	M6x5	P5	12	7.5	12	27	26.7	23.3	33.1	520	230	230	560	4380	ARC 30 MS

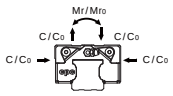
ARC MN Series

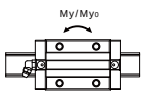
ARC 15 MN	24	9.5	15	15	60	7.5x4.5x5.3	34	55.5	40.3	20.7	26	26	M4x7	-	6	M3x6.5	M3x6	P3	3.5	4.5	7.5	9.8	10.9	9.9	17.5	140	105	105	158	1290	ARC 15 MN
ARC 20 MN	28	11	20	20	60	9.5x6x8.5	42	69	52	23	32	32	M5x7	-	8	M3x7.5	M3x5.5	P4	10	4	7.4	13	13.7	17.1	30.0	325	230	230	266	2280	ARC 20 MN
ARC 25 MN	33	12.5	23	23	60	11x7x9	48	81.2	62.2	27	35	35	M6x9	-	8	M6x7.5	M3x6.5	P4	12	5	9.3	16.6	17.6	24.8	42.5	540	385	385	420	3020	ARC 25 MN
ARC 30 MN	42	16	28	27	80	14x9x12	60	95.5	71.5	35.2	40	40	M8x10	-	12	M6x8.5	M6x5	P5	12	7.5	12	20.8	20.5	32.8	53.7	845	565	565	800	4380	ARC 30 MN
ARC 35 MN	48	18	34	32	80	14x9x12	70	111.2	86.2	40.4	50	50	M8x13	-	14	M6x10	M6x7	P5	12	8	15	23.4	24.1	45.9	82.9	1700	1080	1080	1120	6790	ARC 35 MN
ARC 45 MN	60	20.5	45	39	105	20x14x17	86	135.5	102.5	50.7	60	60	M10x17	-	14	PT1/8x12.5	M6x10.5	P5	14	11.1	18.1	27.3	27.2	71.3	122.1	3200	1910	1910	2120	10530	ARC 45 MN
* ARC 55 MN	70	23.5	53	46	120	20x16x18	100	155.6	118.6	58	75	75	M12x20	-	16	PT1/8x14.5	M6x12.5	P5	14	12	19.5	28.5	29.5	103.4	173.1	5030	3120	3120	3880	14060	ARC 55 MN

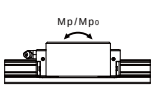
ARC ML Series

ARC 15 ML	24	9.5	15	15	60	7.5x4.5x5.3	34	76.2	61	20.7	34	26	M4x7	-	6	M3x6.5	M3x6	P3	3.5	4.5	7.5	16.1	17.2	13.4	26.9	215	235	235	240	1290	ARC 15 ML
ARC 20 ML	28	11	20	20	60	9.5x6x8.5	42	87.2	70.2	23	45	32	M5x7	-	8	M3x7.5	M3x5.5	P4	10	4	7.4	15.6	16.3	20.4	38.5	415	390	390	330	2280	ARC 20 ML
ARC 30 ML	42	16	28	27	80	14x9x12	60	118	94	35.2	60	40	M8x10	-	12	M6x8.5	M6x5	P5	12	8.7	12	21.7	21.7	39.6	70.2	1105	950	950	1138	4380	ARC 30 ML
ARC 35 ML	48	18	34	32	80	14x9x12	70	136.6	111.6	40.4	72	50	M8x13	-	14	M6x10	M6x7	P5	12	8	15	25.1	25.8	54.7	106.5	2185	1755	1755	1536	6790	ARC 35 ML
ARC 45 ML	60	20.5	45	39	105	20x14x17	86	171.5	138.5	50.7	80	60	M10x17	-	14	PT1/8x12.5	M6x10.5	P5	14	11.1	18.1	35	35	89.5	169.1	4430	3460	3460	3160	10530	ARC 45 ML
* ARC 55 ML	70	23.5	53	46	120	20x16x18	100	202.5	165.5	58	95	75	M12x20	-	16	PT1/8x14.5	M6x12.5	P5	14	12	19.5	42	43	129.9	239.7	6965	5855	5855	4800	14060	ARC 55 ML

1. The model is in design
2. The load capacities is for full-ball type (without ball chain)
3. N_2 = Injecting holes
4. N_3 = O-ring size for lubrication from above
5. N_2 .N_3 will be seal before shipmant, open it when using product.



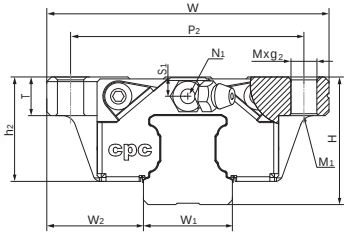


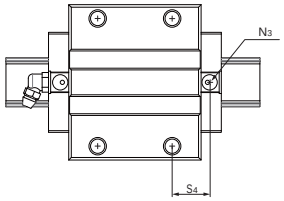


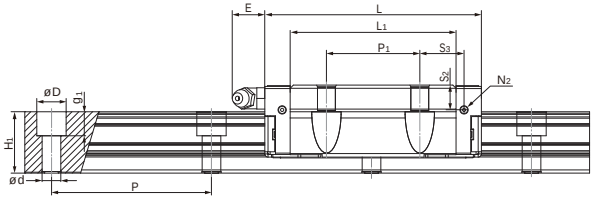
The above rating load capacities and static moment are calculated according to ISO14728 standard. The rating life for basic dynamic load rating is defined as the total 100km travel distance that 90% of a group of identical linear guides can be operated individually under the same conditions free from any material damage caused by rolling fatigue. When the standard of 50km travel distance is applied, the above basic dynamic load rating C of ISO 14728 should be multiplied by 1.26 for conversion.

Dimensions Table









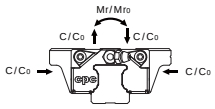
ARC FS Series

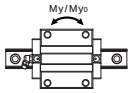
Model Code	Mounting Dimensions		Rail Dimensions(mm)				Block Dimensions(mm)										Block Dimensions(mm)							Load Capacities (KN)		Static Moment (Nm)			Weight		Model Code
	H	W2	W1	H1	P	Dxdxg1	W	L	L1	h2	P1	P2	Mxg2	M1	T	N1	N2	N3	E	S1	S2	S3	S4	C	C0	Mr0	Mp0	My0	Block(g)	Rail(g/m)	
ARC 15 FS	24	18.5	15	15	60	7.5x4.5x5.3	52	41.2	26	20.7	-	41	M5x7	M4	7	M3x6.5	M3x6	P3	3.5	4.5	7.5	15.6	16.7	7.7	12.1	100	50	50	132	1290	ARC 15 FS
ARC 20 FS	28	19.5	20	20	60	9.5x6x8.5	59	49.2	32.2	23	-	49	M6x10	M5	10	M3x7.5	M3x5.5	P4	10	4	7.4	19.1	19.8	12.5	19.3	205	100	100	210	2280	ARC 20 FS
ARC 25 FS	33	25	23	23	60	11x7x9	73	57.4	38.4	27	-	60	M8x12	M6	12	M6x7.5	M3x6.5	P4	12	5	9.3	22.2	23.2	18.2	27.3	350	160	160	345	3020	ARC 25 FS
* ARC 30 FS	42	31	28	27	80	14x9x12	90	68	44	35.2	-	72	M10x15	M8	15	M6x8.5	M6x5	P5	12	7.5	12	27	26.8	23.3	33.1	520	230	230	750	4380	ARC 30 FS

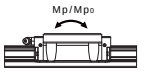
ARC FN Series

ARC 15 FN	24	18.5	15	15	60	7.5x4.5x5.3	52	55.5	40.3	20.7	26	41	M5x7	M4	7	M3x6.5	M3x6	P3	3.5	4.5	7.5	8.9	10.9	9.9	17.5	140	105	105	200	1290	ARC 15 FN
ARC 20 FN	28	19.5	20	20	60	9.5x6x8.5	59	69	52	23	32	49	M6x10	M5	10	M3x7.5	M3x5.5	P4	10	4	7.4	13	13.7	17.1	30.0	325	230	230	336	2280	ARC 20 FN
ARC 25 FN	33	25	23	23	60	11x7x9	73	81.2	62.2	27	35	60	M8x12	M6	12	M6x7.5	M3x6.5	P4	12	5	9.3	16.6	17.6	24.8	42.5	540	385	385	524	3020	ARC 25 FN
ARC 30 FN	42	31	28	27	80	14x9x12	90	95.5	71.5	35.2	40	72	M10x15	M8	15	M6x8.5	M6x5	P5	12	7.5	12	20.8	20.5	32.8	53.7	845	565	565	1200	4380	ARC 30 FN
ARC 35 FN	48	33	34	32	80	14x9x12	100	111.2	86.2	40.4	50	82	M10x15	M8	15	M6x10	M6x7	P5	12	8	15	23.4	24.1	45.9	82.9	1700	1080	1080	1580	6790	ARC 35 FN

1. The model is in design
2. The load capacities is for full-ball type (without ball chain)
3. N_2 = Injecting holes
4. N_3 = O-ring size for lubrication from above
5. N_2.N_3 will be seal before shipmant, open it when using product.



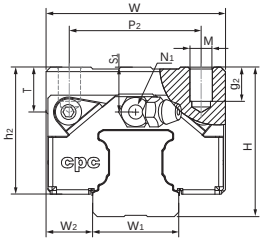


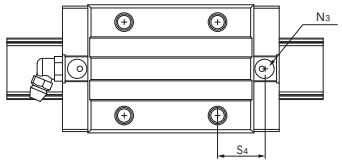


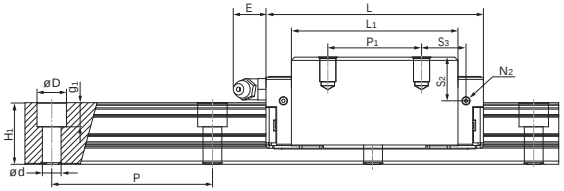
The above rating load capacities and static moment are calculated according to ISO14728 standard. The rating life for basic dynamic load rating is defined as the total 100km travel distance that 90% of a group of identical linear guides can be operated individually under the same conditions free from any material damage caused by rolling fatigue. When the standard of 50km travel distance is applied, the above basic dynamic load rating C of ISO 14728 should be multiplied by 1.26 for conversion.

Dimensions Table









HRC MN Series

Model Code	Mounting Dimensions		Rail Dimensions(mm)				Block Dimensions(mm)										Block Dimensions(mm)							Load Capacities (KN)		Static Moment (Nm)			Weight		Model Code
	H	W2	W1	H1	P	Dxdxg1	W	L	L1	h2	P1	P2	Mxg2	M1	T	N1	N2	N3	E	S1	S2	S3	S4	C	C0	Mr0	Mp0	My0	Block(g)	Rail(g/m)	
HRC 15 MN	28	9.5	15	15	60	7.5x4.5x5.3	34	55.5	40.3	24.7	26	26	M4x7	-	6	M3x6.5	M3x6	P3	3.5	8.5	11.5	9.8	10.9	9.9	17.5	140	105	105	200	1290	HRC 15 MN
HRC 20 MN	30	12	20	20	60	9.5x6x8.5	44	69	52	25	36	32	M5x8.5	-	8	M3x7.5	M3x5.5	P4	10	6	9.4	11	11.7	17.1	30.0	325	230	230	318	2280	HRC 20 MN
HRC 25 MN	40	12.5	23	23	60	11x7x9	48	81.2	62.2	34	35	35	M6x9	-	12	M6x7.5	M3x6.5	P4	12	12	16.3	16.6	17.6	24.8	42.5	540	385	385	578	3020	HRC 25 MN
HRC 30 MN	45	16	28	27	80	14x9x12	60	95.5	71.5	38.4	40	40	M8x12	-	12	M6x8.5	M6x5	P5	12	10.5	15	20.8	20.5	32.8	53.7	845	565	565	896	4380	HRC 30 MN
HRC 35 MN	55	18	34	32	80	14x9x12	70	111.2	86.2	47.4	50	50	M8x13	-	14	M6x10	M6x7	P5	12	15	22	23.4	24.1	45.9	82.9	1700	1080	1080	1430	6790	HRC 35 MN
HRC 45 MN	70	20.5	45	39	105	20x14x17	86	135.5	102.5	60.7	60	60	M10x20	-	14	PT1/8x12.5	M6x10.5	P5	14	21.1	28.1	27.3	27.3	71.3	122.1	3200	1910	1910	2794	10530	HRC 45 MN
* HRC 55 MN	80	23.5	53	46	120	24x16x18	100	155.6	118.6	68	75	75	M12x24	-	16	PT1/8x14.5	M6x12.5	P5	14	22	29.5	28.5	29.5	103.4	173.1	5030	3120	3120	4780	14060	HRC 55 MN

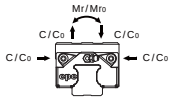
HRC ML Series

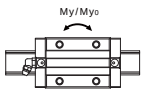
HRC 15 ML	28	9.5	15	15	60	7.5x4.5x5.3	34	76.2	61	24.7	26	26	M4x7	-	6	M3x6.5	M3x6	P3	3.5	8.5	11.5	20.1	21.2	13.4	26.9	215	235	235	300	1290	HRC 15 ML
HRC 20 ML	30	12	20	20	60	9.5x6x8.5	44	87.2	70.2	25	50	32	M5x8.5	-	8	M3x7.5	M3x5.5	P4	10	6	9.4	13.1	13.8	20.4	38.5	415	390	390	400	2280	HRC 20 ML
HRC 25 ML	40	12.5	23	23	60	11x7x9	48	105	86	34	50	35	M6x9	-	12	M6x7.5	M3x6.5	P4	12	12	16.3	21	22	30.7	57.7	735	710	710	685	3020	HRC 25 ML
HRC 30 ML	45	16	28	27	80	14x9x12	60	118	94	38.4	60	40	M8x12	-	12	M6x8.5	M6x5	P5	12	10.5	15	21.7	21.8	39.6	70.2	1105	950	950	1150	4380	HRC 30 ML
HRC 35 ML	55	18	34	32	80	14x9x12	70	136.6	111.6	47.4	72	50	M8x13	-	14	M6x10	M6x7	P5	12	15	22	25.1	25.8	54.7	106.5	2185	1755	1755	1953	6790	HRC 35 ML
HRC 45 ML	70	20.5	45	39	105	20x14x17	86	171.5	138.5	60.7	80	60	M10x20	-	14	PT1/8x12.5	M6x10.5	P5	14	21.1	28.1	35	35	89.5	169.1	4430	3460	3460	4060	10530	HRC 45 ML
* HRC 55 ML	80	23.5	53	46	120	24x16x18	100	202.5	165.5	68	95	75	M12x24	-	16	PT1/8x14.5	M6x12.5	P5	14	22	29.5	42	43	129.9	239.7	6965	5855	5855	6060	14060	HRC 55 ML

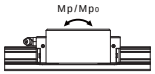
ERC Series

ERC 25 MS	36	12.5	23	23	60	11x7x9	48	57.4	38.4	30	-	35	M6x9	-	8	M6x7.5	M3x6.5	P4	12	8	12.3	22.2	23.2	18.2	27.3	350	160	160	315	3020	ERC 25 MS
ERC 25 MN	36	12.5	23	23	60	11x7x9	48	81.2	62.2	30	35	35	M6x9	-	8	M6x7.5	M3x6.5	P4	12	8	12.3	16.6	17.6	24.8	42.5	540	385	385	470	3020	ERC 25 MN
ERC 25 ML	36	12.5	23	23	60	11x7x9	48	105	86	30	50	35	M6x9	-	8	M6x7.5	M3x6.5	P4	12	8	12.3	21	22	30.7	57.7	735	710	710	610	3020	ERC 25 ML

1. The model is in design
2. The load capacities is for full-ball type (without ball chain)
3. N_2 = Injecting holes
4. N_3 = O-ring size for lubrication from above
5. N_2 .N_3 will be seal before shipmant, open it when using product.



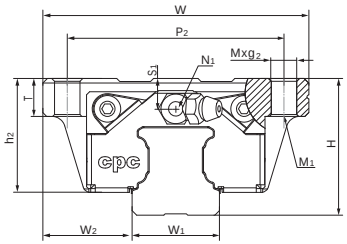


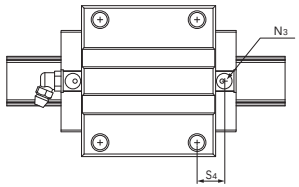


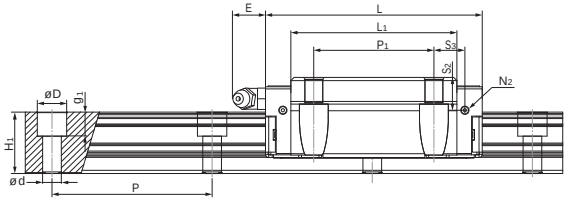
The above rating load capacities and static moment are calculated according to ISO14728 standard. The rating life for basic dynamic load rating is defined as the total 100km travel distance that 90% of a group of identical linear guides can be operated individually under the same conditions free from any material damage caused by rolling fatigue. When the standard of 50km travel distance is applied, the above basic dynamic load rating C of ISO 14728 should be multiplied by 1.26 for conversion.

Dimensions Table









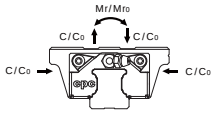
HRC FN Series

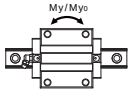
Model Code	Mounting Dimensions		Rail Dimensions(mm)				Block Dimensions(mm)										Block Dimensions(mm)							Load Capacities (KN)		Static Moment (Nm)			Weight		Model Code
	H	W2	W1	H1	P	Dxdxg1	W	L	L1	h2	P1	P2	Mxg2	M1	T	N1	N2	N3	E	S1	S2	S3	S4	C	C0	Mr0	Mp0	My0	Block(g)	Rail(g/m)	
HRC 15 FN	24	16	15	15	60	7.5x4.5x5.3	47	55.5	40.3	20.7	30	38	M5x7	M4	7	M3x6.5	M3x6	P3	3.5	4.5	7.5	7.8	8.9	9.9	17.5	140	105	105	190	1290	HRC 15 FN
HRC 20 FN	30	21.5	20	20	60	9.5x6x8.5	63	69	52	25	40	53	M6x10	M5	10	M3x7.5	M3x5.5	P4	10	6	9.4	9	9.7	17.1	30.0	325	230	230	396	2280	HRC 20 FN
HRC 25 FN	36	23.5	23	23	60	11x7x9	70	81.2	62.2	30	45	57	M8x12	M6	12	M6x7.5	M3x6.5	P4	12	8	12.3	11.6	12.6	24.8	42.5	540	385	385	626	3020	HRC 25 FN
HRC 30 FN	42	31	28	27	80	14x9x12	90	95.5	71.5	35.2	52	72	M10x15	M8	16	M6x8.5	M6x5	P5	12	7.5	12	14.8	14.5	32.8	53.7	845	565	565	1110	4380	HRC 30 FN
HRC 35 FN	48	33	34	32	80	14x9x12	100	111.2	86.2	40.4	62	82	M10x15	M8	16	M6x10	M6x7	P5	12	8	15	17.4	18.1	45.9	82.9	1700	1080	1080	1550	6790	HRC 35 FN
HRC 45 FN	60	37.5	45	39	105	20x14x17	120	135.5	102.5	50.7	80	100	M12x18	M10	19	PT1/8x12.5	M6x10.5	P5	14	11.1	18.1	17.3	17.3	71.3	122.1	3200	1910	1910	2747	10530	HRC 45 FN
* HRC 55 FN	70	43.5	53	46	120	24x16x18	140	155.6	118.6	58	95	116	M14x20	M12	20	PT1/8x14.5	M6x12.5	P5	14	12	19.5	28.5	29.5	103.4	173.1	5030	3120	3120	5260	14060	HRC 55 FN

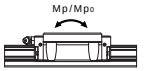
HRC FL Series

HRC 20 FL	30	21.5	20	20	60	9.5x6x8.5	63	87.2	70.2	25	40	53	M6x10	M5	10	M3x7.5	M3x5.5	P4	10	6	9.4	18.1	18.8	20.4	38.5	415	390	390	504	2280	HRC 20 FL
HRC 25 FL	36	23.5	23	23	60	11x7x9	70	105	86	30	45	57	M8x12	M6	12	M6x7.5	M3x6.5	P4	12	8	12.3	23.5	24.5	30.7	57.7	735	710	710	870	3020	HRC 25 FL
HRC 30 FL	42	31	28	27	80	14x9x12	90	118	94	35.2	52	72	M10x15	M8	16	M6x8.5	M6x5	P5	12	7.5	12	25.7	25.8	39.6	70.2	1105	950	950	1385	4380	HRC 30 FL
HRC 35 FL	48	33	34	32	80	14x9x12	100	136.6	111.6	40.4	62	82	M10x15	M8	16	M6x10	M6x7	P5	12	8	15	30.1	30.8	54.7	106.5	2185	1755	1755	2000	6790	HRC 35 FL
HRC 45 FL	60	37.5	45	39	105	20x14x17	120	171.5	138.5	50.7	80	100	M12x18	M10	19	PT1/8x12.5	M6x10.5	P5	14	11.1	18.1	35	35	89.5	169.1	4430	3460	3460	4280	10530	HRC 45 FL
* HRC 55 FL	70	43.5	53	46	120	24x16x18	140	202.5	165.5	58	95	116	M14x20	M12	20	PT1/8x14.5	M6x12.5	P5	14	12	19.5	42	43	129.9	239.7	6965	5855	5855	7480	14060	HRC 55 FL

1. The model is in design
2. The load capacities is for full-ball type (without ball chain)
3. N_2 = Injecting holes
4. N_3 = O-ring size for lubrication from above
5. N_2 .N_3 will be seal before shipmant, open it when using product.







The above rating load capacities and static moment are calculated according to ISO14728 standard. The rating life for basic dynamic load rating is defined as the total 100km travel distance that 90% of a group of identical linear guides can be operated individually under the same conditions free from any material damage caused by rolling fatigue. When the standard of 50km travel distance is applied, the above basic dynamic load rating C of ISO 14728 should be multiplied by 1.26 for conversion.

Product Overview

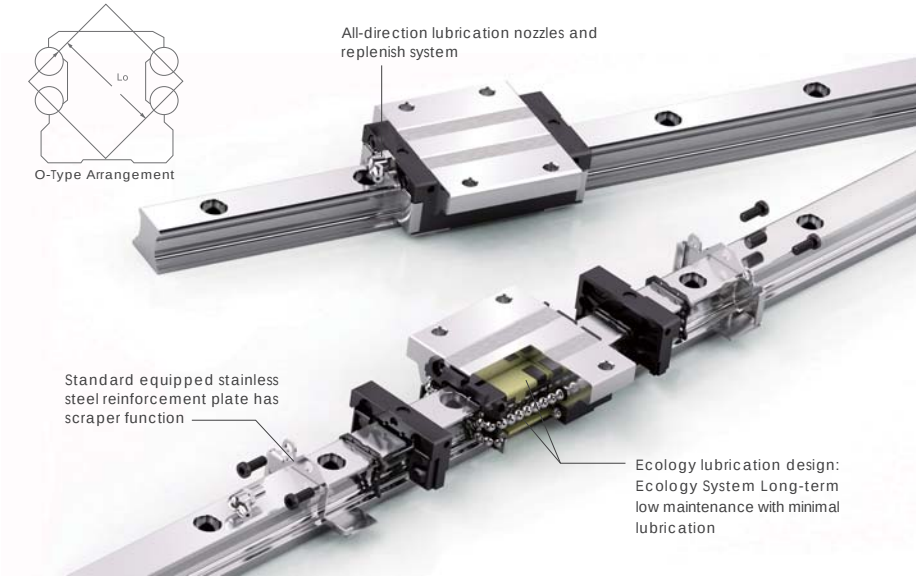
AR/HR/ER Lightweight Linear Guide Product Characteristics

cpc lightweight Ball Type Linear Guide Series adopt the O-type arrangement for the four row ball circulation design featuring high load and high stiffness. The contact angle between the rail and the ball is 45 degrees and realizes the 4 directions equal load capacity.

Among the AR/HR/ER Lightweight Linear Guide, two of the four circulation channels are positioned within the plastic accessories, reducing 10~20% of the block weight.

Stainless steel reinforcement plate has scraper function and the L design fastens the screws onto the top and bottom of the runner block, which reinforces the rigidity of end caps and cladding; further enables the high speed movement of products. AR/HR/ER Lightweight Linear Guide mainly provide the preload class VC and V0 etc. to enhance the tolerance of dimension and convenience of customers' processed components and even reduce the cost of manufacturing work.

- Tolerance of velocity
- Four directions equal load capacity
- Adopting the same rail with ARC/HRC/ERC
- Lightweight block rotary hole design
- Processed accessories match tolerance of dimension
- Available for vertical (downward) and reverse (upward) bolting track rail



- Available for special surface treatment
- Excellent dynamic performance: Reach Vmax > 5m/s Reach amax > 300m/s²
- Dust protection of double wipe blade design in the end seal; have Standard type and reinforcement type

Technical information

Accuracy

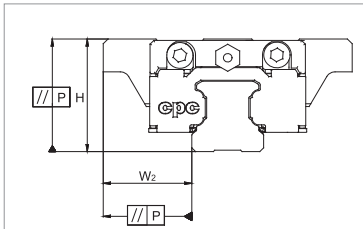


Table of accuracy

Accuracy grades (μm)		H	N
Tolerance of dimension height H	H	±40	±100
Variation of height for different runner Block on the same position of Rail	ΔH	15	30
Tolerance of dimension width W2	W2	±20	±40
Variation of width for different runner Block on the same position of Rail	ΔW2	15	30

Please refer to P13 : Accuracy of the running parallelism graph

Preload and clerance

AR/HR/ER						
Class	Description	Preload Value	Clearance (μm)			Application
			15	20	25	
VC	Clearance	0	+10~+2	+10~+2	+11~+3	Smooth motion, low friction
V0	Light preload	0.02C	+2~-4	+2~-5	+3~-6	For precision situations, smooth motion

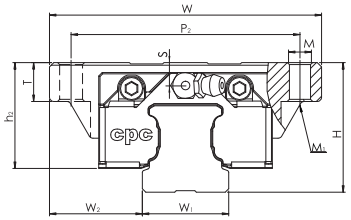
Ordering information

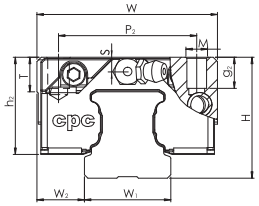
AR	U	15	M	N	B	2	Z	V0	H	-1480L	-20	-20	II	/J

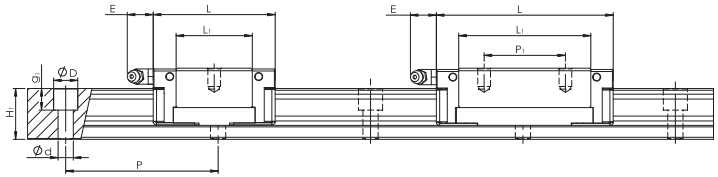
- /J: Customization code (Please refer to P14)
- II: Number of rails on the same moving axis
- -20: End hole pitch (mm)
- -20: Starting hole pitch (mm)
- -1480L: Rail length (mm)
- H: Accuracy grade : H, N
- V0: Preload class : VC, V0
- Z: with lubrication storage pad
- 2: Block quantity
- B: Seal type : B: Low friction S: Standard
- N: Block length : L: long N: standard S: short
- M: Block width : M: standard F: flanged
- 15: Block type : 15, 20, 25
- U: rail (tapped from the botton)
- AR: Product type : AR: automation series HR/ER: heavy load series

Dimensions Table



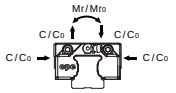


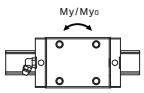


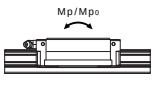


AR Series

Model Code	Mounting Dimensions		Rail Dimensions(mm)				Block Dimensions(mm)							Block Dimensions(mm)				Load Capacities (KN)		Static Moment (Nm)			Weight		Model Code
	H	W2	W1	H1	P	Dxdxg1	W	L	L1	h2	P1	P2	E	Mxg2	M1	S	T	C	C0	Mr0	Mp0	My0	Block(g)	Rail(g/m)	
AR 15 MS	24	9.5	15	15	60	7.5x4.5x5.3	34	40.8	24.2	20.1	-	26	4.5	M4x7	-	4	6	6.40	10.8	80	40	40	95	1290	AR 15 MS
AR 15 MN	24	9.5	15	15	60		34	56.1	39.5	20.1	26	26	4.5	M4x7	-	4	6	9.0	17.5	140	100	100	140		AR 15 MN
AR 15 FS	24	18.5	15	15	60		52	40.8	24.2	20.1	-	41	4.5	M5x7	M4	4	7	6.4	10.8	80	40	40	120		AR 15 FS
AR 15 FN	24	18.5	15	15	60		52	56.1	39.5	20.1	26	41	4.5	M5x7	M4	4	7	9.0	17.5	140	100	100	180		AR 15 FN
AR 20 MS	28	11	20	20	60	9.5x6x8.5	42	48.2	30	22.5	-	32	12	M5x7	-	3.5	8	10.9	16.3	170	80	80	148	2280	AR 20 MS
AR 20 MN	28	11	20	20	60		42	70.2	52	22.5	32	32	12	M5x7	-	3.5	8	15.6	29.8	310	220	220	260		AR 20 MN
AR 20 FS	28	19.5	20	20	60		59	48.2	30	22.5	-	49	12	M6x9	M5	3.5	9	10.9	16.3	170	80	80	185		AR 20 FS
AR 20 FN	28	19.5	20	20	60		59	70.2	52	22.5	32	49	12	M6x9	M5	3.5	9	15.6	29.8	310	220	220	299		AR 20 FN
AR 25 MS	33	12.5	23	23	60	11x7x9	48	57.2	37	26.6	-	35	12	M6x9	-	5	8	12.3	21.2	220	110	110	285	3020	AR 25 MS
AR 25 MN	33	12.5	23	23	60		48	80.2	60	26.6	35	35	12	M6x9	-	5	8	18.8	36.4	410	300	300	380		AR 25 MN
AR 25 FS	33	25	23	23	60		73	57.2	37	26.6	-	60	12	M8x10	M6	5	10	12.3	21.2	220	110	110	325		AR 25 FS
AR 25 FN	33	25	23	23	60		73	80.2	60	26.6	35	60	12	M8x10	M6	5	10	18.8	36.4	410	300	300	440		AR 25 FN



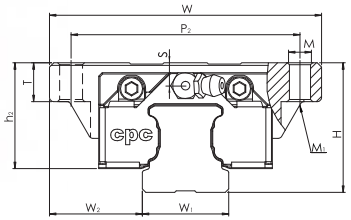


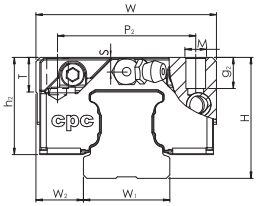


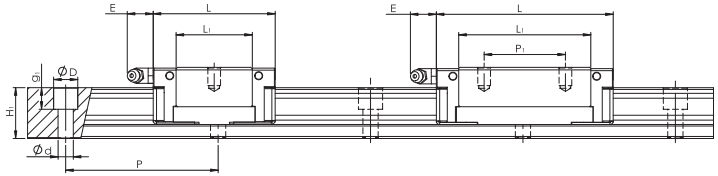
The above rating load capacities and static moment are calculated according to ISO14728 standard. The rating life for basic dynamic load rating is defined as the total 100km travel distance that 90% of a group of identical linear guides can be operated individually under the same conditions free from any material damage caused by rolling fatigue. When the standard of 50km travel distance is applied, the above basic dynamic load rating C of ISO 14728 should be multiplied by 1.26 for conversion.

Dimensions Table







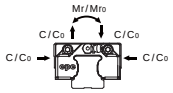


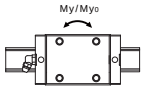
HR Series

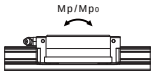
Model Code	Mounting Dimensions		Rail Dimensions(mm)				Block Dimensions(mm)							Block Dimensions(mm)				Load Capacities (KN)		Static Moment (Nm)			Weight		Model Code
	H	W2	W1	H1	P	D x d x g1	W	L	L1	h2	P1	P2	E	M x g2	M1	S	T	C	C0	Mr0	Mp0	My0	Block(g)	Rail(g/m)	
HR 15 FN	24	16	15	15	60	7.5x4.5x5.3	47	56.1	39.5	20.1	30	38	4.5	M5x7	-	4	7	9.0	17.5	140	100	100	180	1290	HR 15 FN
HR 20 MN	30	12	20	20	60	9.5x6x8.5	44	70.2	52	24.5	36	32	12	M5x8.5	-	5.5	10	15.6	29.8	310	220	220	310	2280	HR 20 MN
HR 20 ML	30	12	20	20	60		44	90.2	72	24.5	50	32	12	M5x8.5	-	5.5	10	20.8	43.3	430	420	420	383		HR 20 ML
HR 20 FN	30	21.5	20	20	60		63	70.2	52	24.5	40	53	12	M6x9	M5	5.5	9	15.6	29.8	310	220	220	385		HR 20 FN
HR 20 FL	30	21.5	20	20	60		63	90.2	72	24.5	40	53	12	M6x9	M5	5.5	9	20.8	43.3	430	420	420	496		HR 20 FL
HR 25 MN	40	12.5	23	23	60	11x7x9	48	80.2	60	33.6	35	35	12	M6x9	-	12	12	18.8	36.4	410	300	300	530	3020	HR 25 MN
HR 25 ML	40	12.5	23	23	60		48	100.2	80	33.6	50	35	12	M6x9	-	12	12	23.4	48.5	560	520	520	665		HR 25 ML
HR 25 FN	36	23.5	23	23	60		70	80.2	60	29.6	45	57	12	M8x10	M6	8	10	18.8	36.4	410	300	300	470		HR 25 FN
HR 25 FL	36	23.5	23	23	60		70	100.2	80	29.6	45	57	12	M8x10	M6	8	10	23.4	48.5	560	520	520	585		HR 25 FL

ER Series

ER 25 MN	36	12.5	23	23	60	11x7x9	48	80.2	60	29.6	35	35	12	M6x9	-	8	8	18.8	36.4	410	300	300	432	3020	ER 25 MN
ER 25 ML	36	12.5	23	23	60		48	100.2	80	29.6	50	35	12	M6x9	-	8	8	23.4	48.5	560	520	520	550		ER 25 ML

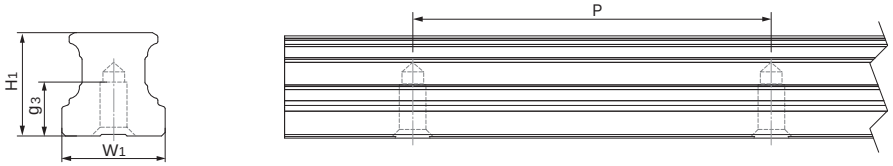






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Dimensions Table



Rail (tapped from the bottom)

Model Code	W1	H1	P	Mxg3	Lmax	Rail(g/m)
ARU 15	15	15	60	M5x8	4000	1290
ARU 20	20	20	60	M6x10	4000	2280
ARU 25	23	23	60	M6x12	4000	3020
ARU 30	28	27	80	M8x15	4000	4380
ARU 35	34	32	80	M8x15	4000	6790
ARU 45	45	39	105	M12x19	4000	10530
* ARU 55	53	46	120	M14x22	4000	14060

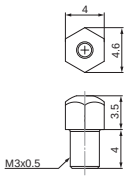
The model is in design

Nipple Option

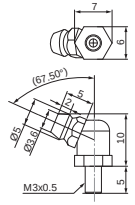
Type			Nipple size		Grease nipple	Optional			
			Section	Side	Standard	Straight adapter	Tube diameter	L-Type adapter	Tube diameter
ARC15	HRC15	-	M3	M3	A-M3	OA-M3-D4	-	OB-M3-M6	-
ARC20	HRC20	-	M3	M3	B-M3	OA-M3-D4	-	OB-M3-M6	-
ARC25	HRC25	ERC25	M6	M3	B-M6	OA-M6-M8	Ø4	OB-M6-M8	Ø4
ARC30	HRC30	-	M6	M6	B-M6	OA-M6-M8	Ø4	OB-M6-M8	Ø4
						OA-M6-PT1/8	-	OB-M6-PT1/8	-
						OA-M6-G1/8	Ø6		
ARC35	HRC35	-	M6	M6	B-M6	OA-M6-M8	Ø4	OB-M6-M8	-
						OA-M6-PT1/8	-	OB-M6-PT1/8	-
						OA-M6-G1/8	Ø6		
ARC45	HRC45	-	PT1/8	M6	B-PT1/8	OA-PT1/8-M8	Ø4	OB-PT1/8-M8	Ø4
						OA-PT1/8-PT1/8	-	OB-PT1/8-PT1/8	-
						OA-PT1/8-G1/8	Ø6		
ARC55	HRC55	-	PT1/8	M6	B-PT1/8	OA-PT1/8-M8	Ø4	OB-PT1/8-M8	Ø4
						OA-PT1/8-PT1/8	-	OB-PT1/8-PT1/8	-
						OA-PT1/8-G1/8	Ø6		

Grease nipple/ Oil piping joint

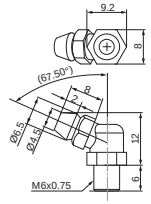
A-M3



B-M3

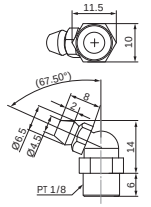


B-M6



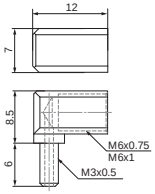
JIS B 1517
DIN 71 412
ISO 6392-1
ISO 7824

B-PT1/8

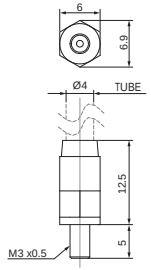


JIS B 1517
DIN 71 412
ISO 6392-1
ISO 7824

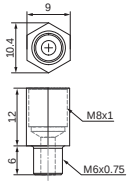
OB-M3-M6



OA-M3-D4

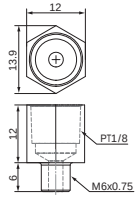


OA-M6-M8

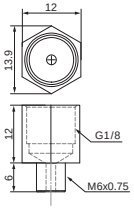


* Ø 4Oil holegrease injector is available

OA-M6-PT1/8

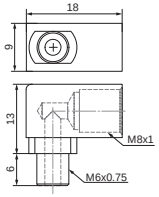


OA-M6-G1/8



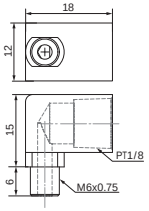
* Ø 6Oil holegrease injector is available

OB-M6-M8

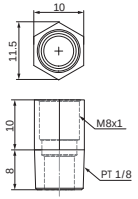


* Ø 4Oil holegrease injector is available

OB-M6-PT1/8

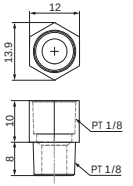


OA-PT1/8-M8

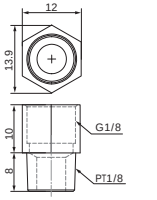


* Ø 4Oil holegrease injector is available

OA-PT1/8-PT1/8

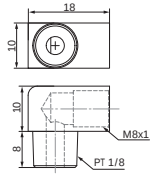


OA-PT1/8-G1/8



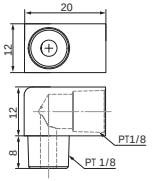
Ø 6Oil holegrease injector is available

OB-PT1/8-M8



Ø 4Oil holegrease injector is available

OB-PT1/8-PT1/8



Lubrication Kit and Grease Gun

cpc Lubrication Unit is a supply nozzle with 3 different sizes of nozzle adaptors. These nozzle adaptors are suitable for different size of grease nipple on different size of linear blocks.

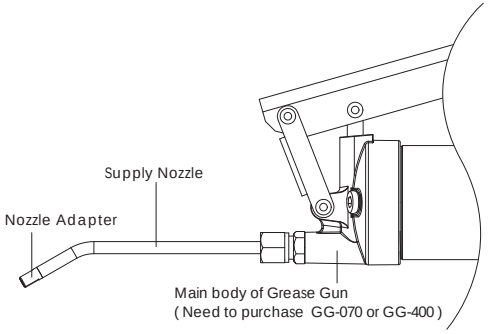


Nipple Option

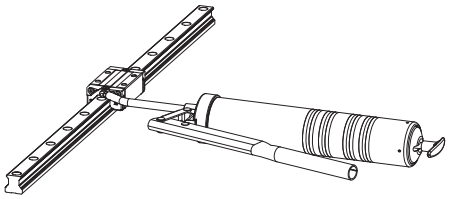
Type			Nipple Size		Nipple Type
			Section	Side	Standard
ARC15	HRC15	-	M3	M3	A-M3
ARC20	HRC20	-	M3	M3	B-M3
ARC25	HRC25	ERC25	M6	M3	B-M6
ARC30	HRC30	-	M6	M6	B-M6
ARC35	HRC35	-	M6	M6	B-M6
ARC45	HRC45	-	PT1/8	M6	B-PT1/8
ARC55	HRC55	-	PT1/8	M6	B-PT1/8

GP-PT1/8-01 Lubrication Kit

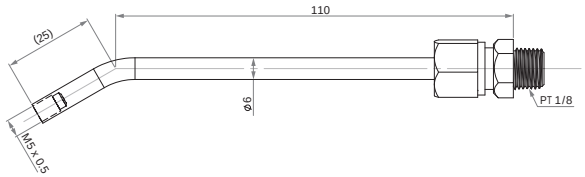
The Lubrication Kit is with a supply nozzle (GT-1/8-M5) and three kinds of different nozzle adaptors (GH-M5-MR, GH-M5-06, GH-M5-08).
The supply nozzle can be mount on the main body of common manual or pneumatic grease gun with PT1/8 tapped connector available on the market.



Greasing Diagram

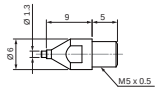
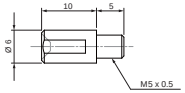
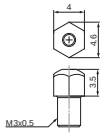
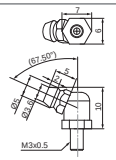
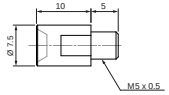
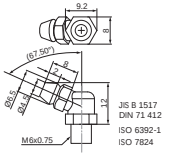
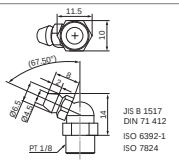


Supply Nozzle

Type	Dimension
GT-PT1/8-M5	

Nozzle Adapter

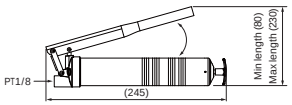
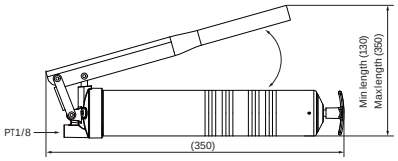
Unit: mm

Type	Dimension	Grease Nipple	
GH-M5-MR		MR series Minature linear guide size MR-15M、MR-15W MR-12M、MR-12W	
GH-M5-06		A-M3 A-M3X	
		B-M3 B-M3X	
GH-M5-08		B-M6 B-M6X	
		B-PT1/8 B-PT1/8X	

Main body of Grease Gun

Option for Main body of Grease Gun: GG-070 for 70g volume grease pack and GG-400 for 400g volume grease pack.

Unit: mm

Type	Dimension	Feature
GG-070		1. Pressure: 27Mpa 2. Output Volume: 0.5~0.7 c.c/stroke 3. Grease: Suitable for 70g volume grease pack or bulk loading
GG-400		1. Pressure: 62Mpa 2. Output Volume: 1.0~1.2 c.c/stroke 3. Grease: Suitable for 400g volume grease pack or bulk loading

cpc AR/HR Z Series Lubrication Storages Pad Testing Report

A linear guide is a category of rolling guidance, by using unlimited re-circulating stainless steel balls operate between the raceways of the rail and the block, result in the moving table achieving high precision and low friction linear movement.
If the linear guide do not have sufficient lubrication, rolling friction will increase, cause wear and shortened linear guide life span in long term operation.

cpc has added and embedded PU lubricant storage pads to lengthen linear guide operational life; the pads directly contact and lubricate the rolling balls. This design supplies sufficient lubrication even during short-stroke operations.

cpc's design, due to the embedded pad's absorption and retention capabilities, results in a product that features a long operational life and long-term lubrication.

The following is the cpc in-house life test results:

AR15 Lubrication Storage Pad Testing Data

Testing products : AR15-Blocks with Lubrication Storages Pad 8pcs,
AR15-Rail-N-class-L1500mm 4pcs

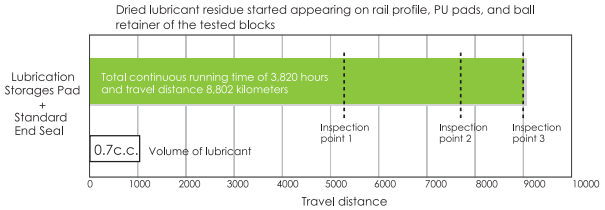
Testing condition

Rating load capacities(each Block)	1.8KN(C=9KN、C0=17.5KN)
Stroke	0.96m
Max running speed	1m/s
Lubricant	DAPHNE SUPER MULTI 68 (Viscosity64.32 CST 40OC)
Lubrication period	No lubrication added during testing period

Testing equipment

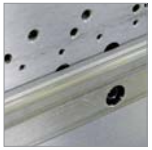


Testing result



Testing result of inspection point

Inspection point 1 and 2



No wear on rail profile

Inspection point 3



some rail profiles have dried lubricant residue present

Inspection point 1 and 2 : Lubrication result

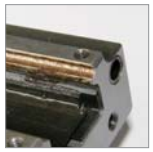


- Upward Lubrication Storages Pad in good condition
- lubricant supply in good condition
- Running profile of rail no wear out



- Downward Lubrication Storages Pad in good condition
- lubricant supply in good condition

Inspection point 3 : Lubrication result



Dried lubricant residue started appearing broken on upward Lubrication Storages pad of the tested blocks



Dried lubricant residue started appearing broken on downward Lubrication Storages pad of the tested blocks

Plastic parts and end seal in good condition



Plastic parts in good condition



End seal in good condition

Test Summary

Total continuous running time of 3820 hours and travel distance 8802 kilometers.
Out of eight test blocks, dried lubricant residue appeared on 2 blocks and 1 rail. Dried lubricant residue is indicative of a need for re-lubrication.
The test results indicated that the lubrication pad design effectively extends re-lubrication requirement and thus lengthens linear operational life.