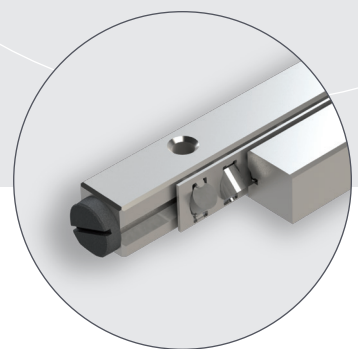
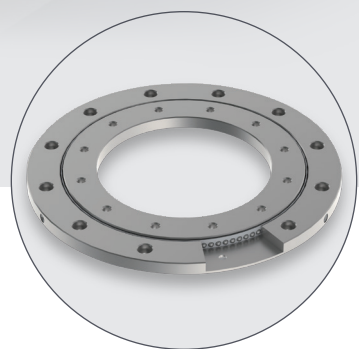
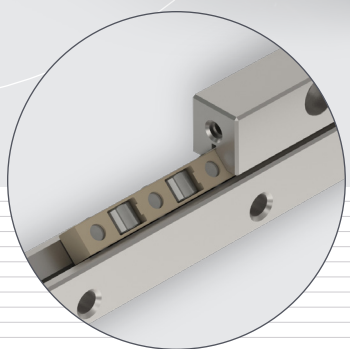
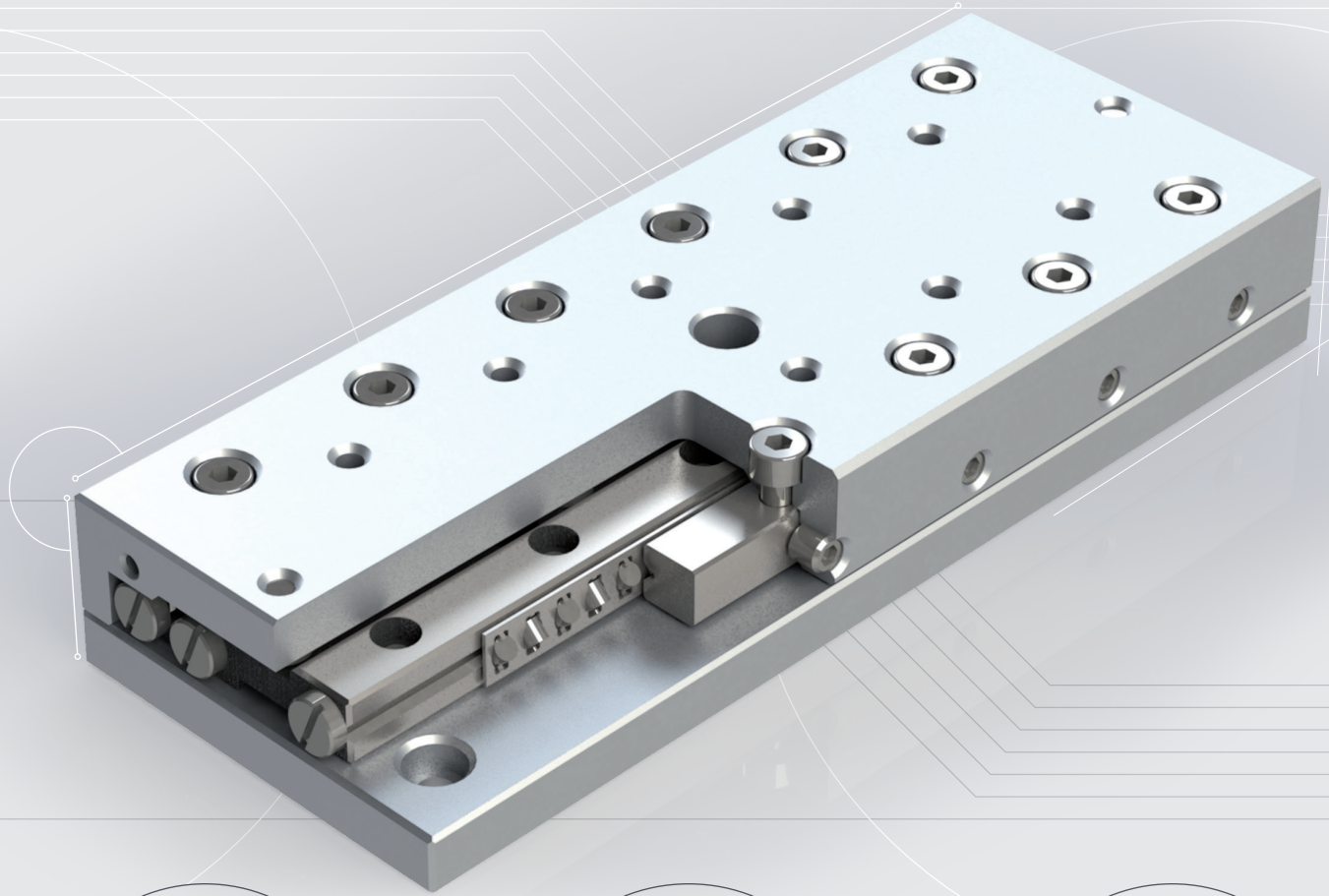


OVER
50
YEARS
of success



LINEAR BEARING SETS TYPE RSDE



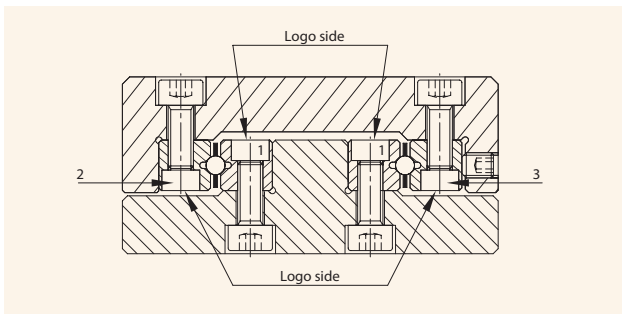
ASSEMBLY PROCEDURE

BEFORE START ASSEMBLY

PM linear bearings are precision components; they have to be handled with meticulous care. To achieve a perfect linear bearing, please pay due attention to the following notes:

- Be careful in handling the components. Do not drop it or hit it with anything like a hammer. Damages on the rail surface will have his impact on the running performance and operation life.
- Keep out any foreign material when mounting the rails.
- During assembly, all linear bearing components must have the same room temperature.
- For an uniform tightening of the bolts the use of a torque screw driver is recommended. Various models and bits are available. Please consult PM.

ASSEMBLY LINEAR BEARINGS



For a satisfying installation of all types of linear bearings in this catalog, the following should be observed:

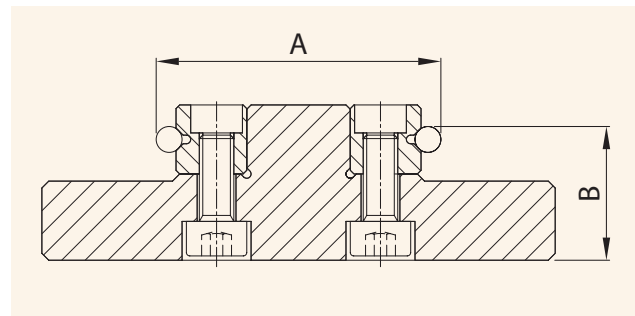
- 1) Fixing holes in the support structure (slide-base) should be "spotted through" from the holes in the rails. This is highly desirable as the original pitch of individual holes may have altered during hardening by as much as 0.4 mm. To compensate this, in part at least, special attachment screws type GD or GDN can be supplied. The dimensions of these are listed in the tables under the relative linear bearings for sizes.
- 2) Carefully de-burr and clean all constructional elements, to ensure a flat surface and a perfect seating of the rails.
- 3) The inner rail-pair (1), mounted "shoulder-to-shoulder" should be bolted down first, as follows: The base and reference face¹ of the linear bearing rails should be lightly oiled before they are clamped

against the mounting and reference shoulder.

They should then be bolted down by tightening up progressively, starting from one end and working to the other.

- 4) Parallelism of the V-tracks of the rails (A and B) should be checked. The tolerance must be within the tolerance of the linear bearings (page 14). When this has been done, the slide element in question is now ready for assembly.

Parallelism of rails V-track: ΔA und ΔB



- 4.1) The slide top can now be assembled. The fixed bearing rail (2) should be mounted as described at 3.1 above, but the adjustable rail (3) should only be screwed down lightly, to leave a gap between V-tracks for the insertion of ball-, roller- or needle cages.
- 5) This point only in cases where end stops are already inserted in the rail ends. Remove the end stop screws.
- 6) Carefully insert the cages. When the cages are exact in position, bolt down the adjustable V-rail lightly, until the screws are finger-tight.
- 7) Fit the end stop screws or end pieces.
- 8) The linear bearing set can now be play-free adjusted using the lateral preload setscrews. (chapter Preload Setting Linear Bearings, page 18).
- 9) Secure the attachment screws on the adjusting rail.
- 10) When assembly is finished, the linear bearings must be inspected for absence of play and for running the accuracy.



TABLES

RECOMMENDED PRELOAD SETTINGS

Table 1 Linear bearings RSD with roller cages

Roller size (mm)	Pitch cage (mm)	Setscrew	Pitch* (mm)	Preload (Ncm)
1.5	3	M 2.5	10	0.75
2	4	M3	15	1.50
3	5	M5	25	4.50
4	7	M5	40	11.50
6	12	M6	100	18.50
9	14	M8	100	105.50
12	22	M10	100	176.50
15	20	M12	100	370.00

Table 2 Linear bearings RSD with ball cages

Roller size (mm)	Pitch cage (mm)	Setscrew	Pitch* (mm)	Preload (Ncm)
1.5	3	M 2.5	10	0.20
2	4	M3	15	0.40
3	5	M5	25	1.10
4	7	M5	40	2.70
6	9	M6	50	4.00
9	14	M8	100	11.70
12	15.5	M10	100	25.00
15	20	M12	100	34.50

Table 3 Linear bearings RSDE with roller cages

Roller size (mm)	Pitch cage (mm)	Setscrew	Pitch* (mm)	Preload (Ncm)
3	3.3	M5	25	16
4	4.4	M5	40	41
6	6.6	M6	50	86
9	On request			

Table 4 Linear bearings RNG with roller cages

Roller size (mm)	Pitch cage (mm)	Setscrew	Pitch* (mm)	Preload (Ncm)
4	4.4	M3	25	14
6	6.6	M4	25	25

Table 5 Linear Bearings N/O and M/V with needle cages

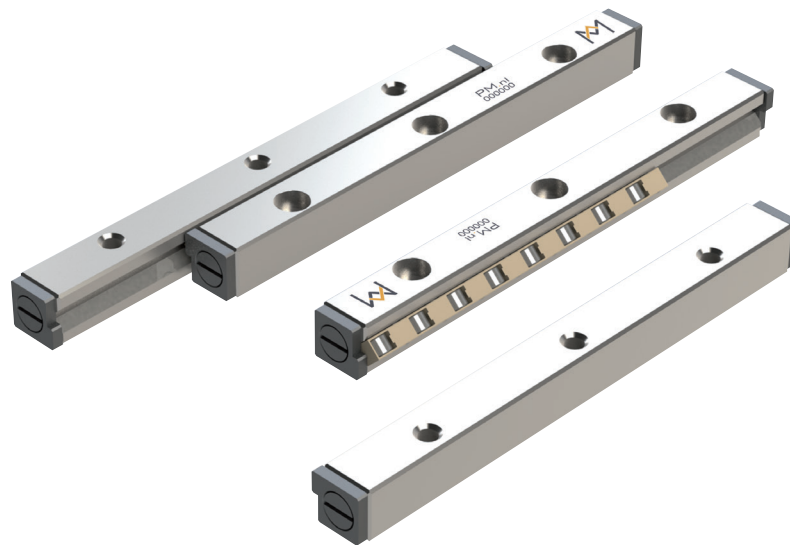
Roller size (mm)	Pitch cage (mm)	Setscrew	Pitch* (mm)	Preload (Ncm)
2	4.5	M6	50	1.05
2	4.5	M8	100	1.30
2.5	5	M8	100	2.70
2.5	5.5	M8	100	2.90
3	6	M12	100	5.70
3.5	7	M14	100	7.70

RECOMMENDED TIGHTENING TORQUE FOR ATTACHMENT SCREWS

Table 6 Tightening torque strength grade 12.9

Max. Tightening torques (Ncm)		
Size	Tightening Torque DIN 912	Attachment screws GD and GDN
M2	0.60	0.48
M3	2.00	1.60
M4	4.90	3.92
M5	9.60	7.68
M6	17.00	13.60
M8	41.00	32.80
M10	79.00	63.20
M12	140.00	112.00
M14	220.00	176.00

*pitch between the preload setscrews



LINEAR BEARINGS SET

Advantages for users

- Packing per set
- Standardized stroke lengths*
- Ready for installation, lowering costs
- Roller cages are straightened
- Available at short notice
- Worldwide standardized
- All parts preselected with stroke and load ratings

*In need of longer stroke lengths? Roller cage are easy to shorten. We advise that the cage length should be at least 70% of the rail length.

Linear bearings set type RSDE

Used worldwide in high precision linear motion, providing high accuracy and an outstanding reliability. Standard linear bearings sets consists of:

- 4 pcs. rails type RSDE
- 2 pcs. roller cages type KRE
- 8 pcs. end pieces + screws type GB inserted in the rail ends packed and delivered as set

Example RSDE-4120x24KRE

One set consists of:

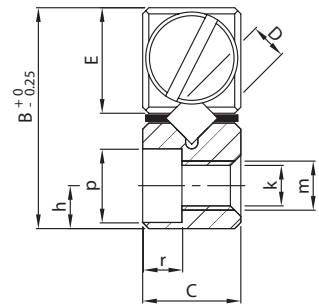
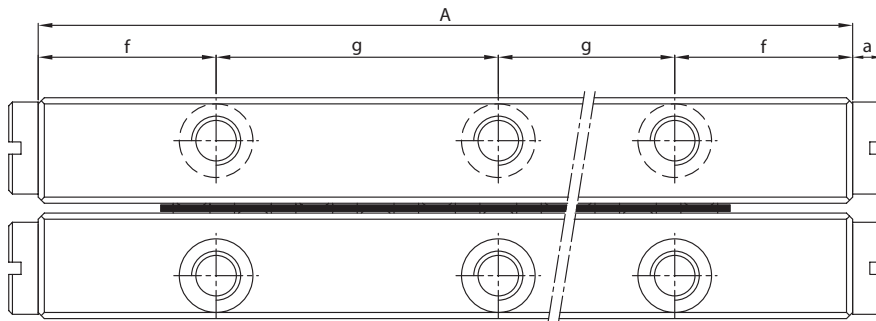
- 4 pcs. rails RSDE-4120
- 2 pcs. roller cages R4x24KRE
- 8 pcs. end pieces + screws type GB-4

SET NUMBER STRUCTURE

If changes are required please check the type number structure.

Type + Size	Rail length	Number of rollers	Cage type (Suffix KRE, KREV...)	Stainless steel (Suffix SS)	Higher quality grade (Suffix Q4, SF...)
RSDE- 4	200	30	KRE		

Ordering example: 1 set RSDE-4200x30KRE
 Stainless steel: 1 set RSDE-4200x30KRE-SS

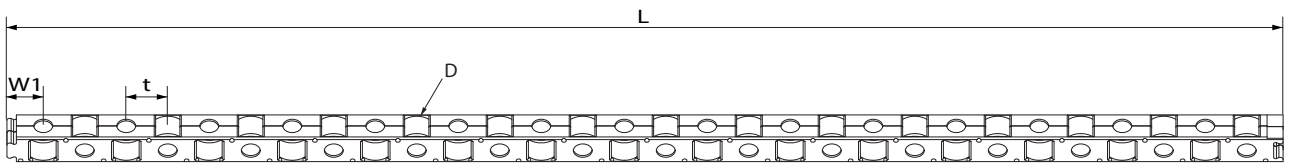
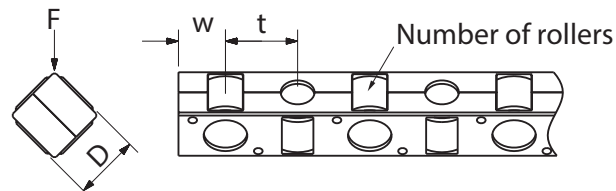


One set include: 4 guideways, 2 roller cages and 8 end pieces

RSDE kit		Main dimensions					Mounting holes					
Standard	Stainless steel	A	B	C	E	D	f	g	h	k	m	p
RSDE-3050x10KRE	RSDE-3050x10KRE-SS	50						1x25				
RSDE-3075x15KRE	RSDE-3075x15KRE-SS	75						2x25				
RSDE-3100x21KRE	RSDE-3100x21KRE-SS	100						3x25				
RSDE-3125x25KRE	RSDE-3125x25KRE-SS	125						4x25				
RSDE-3150x31KRE	RSDE-3150x31KRE-SS	150						5x25				
RSDE-3175x36KRE	RSDE-3175x36KRE-SS	175	18	8	8.6	3	12.5	6x25	3.5 ^{±0.2}	3.2	M4	6
RSDE-3200x42KRE	RSDE-3200x42KRE-SS	200						7x25				
RSDE-3225x46KRE	RSDE-3225x46KRE-SS	225						8x25				
RSDE-3250x53KRE	RSDE-3250x53KRE-SS	250						9x25				
RSDE-3275x57KRE	RSDE-3275x57KRE-SS	275						10x25				
RSDE-3300x63KRE	RSDE-3300x63KRE-SS	300						11x25				
RSDE-4080x11KRE	RSDE-4080x11KRE-SS	80						1x40				
RSDE-4120x17KRE	RSDE-4120x17KRE-SS	120						2x40				
RSDE-4160x23KRE	RSDE-4160x23KRE-SS	160						3x40				
RSDE-4200x30KRE	RSDE-4200x30KRE-SS	200						4x40				
RSDE-4240x36KRE	RSDE-4240x36KRE-SS	240						5x40				
RSDE-4280x42KRE	RSDE-4280x42KRE-SS	280	22	11	10.6	4	20	6x40	4.5 ^{±0.2}	4.3	M5	7.5
RSDE-4320x49KRE	RSDE-4320x49KRE-SS	320						7x40				
RSDE-4360x54KRE	RSDE-4360x54KRE-SS	360						8x40				
RSDE-4400x62KRE	RSDE-4400x62KRE-SS	400						9x40				
RSDE-4440x68KRE	RSDE-4440x68KRE-SS	440						10x40				
RSDE-4480x74KRE	RSDE-4480x74KRE-SS	480						11x40				

Bold = Short lead time item

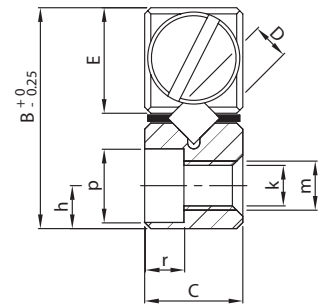
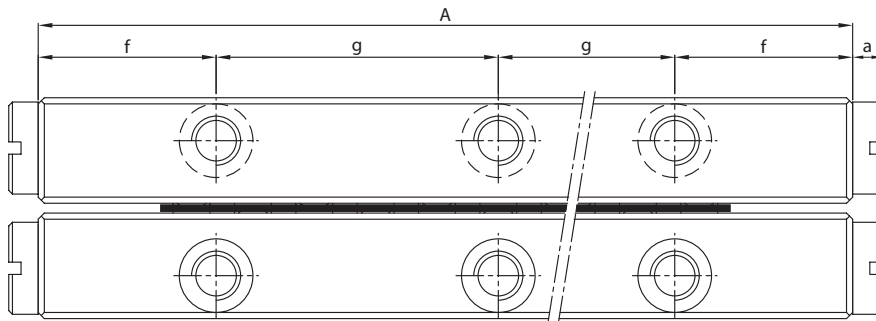
Regular = Long lead time item - please request for price and delivery time



r	End pieces a	Weight (g)	C _{dyn} in (N)	Roller cage						Stroke	Type
				D	t	w	w1	L	Z		
3.2	2.4	112	3920	3	3.3	2.2	2.95	34.2	10	28	RSDE-3050x10KRE
		161	5880					50.7	15	48	RSDE-3075x15KRE
		206	8232					70.5	21	58	RSDE-3100x21KRE
		256	9800					83.7	25	78	RSDE-3125x25KRE
		310	12152					105.3	31	88	RSDE-3150x31KRE
		360	14112					121.8	36	105	RSDE-3175x36KRE
		404	16464					141.6	42	115	RSDE-3200x42KRE
		454	18032					154.8	46	135	RSDE-3225x46KRE
		505	20776					177.9	53	140	RSDE-3250x53KRE
		551	22344					191.1	57	165	RSDE-3275x57KRE
		601	24696					212.7	63	174	RSDE-3300x63KRE
4.1	2.7	314	8635	4	4.4	2.8	3.85	49.6	11	58	RSDE-4080x11KRE
		471	13345					76	17	82	RSDE-4120x17KRE
		628	18055					102.4	23	105	RSDE-4160x23KRE
		785	23550					133.2	30	130	RSDE-4200x30KRE
		942	28260					161.9	36	150	RSDE-4240x36KRE
		1099	32970					188.3	42	175	RSDE-4280x42KRE
		1256	38465					219.1	49	200	RSDE-4320x49KRE
		1413	42390					241.1	54	225	RSDE-4360x54KRE
		1570	49455					278.6	62	240	RSDE-4400x62KRE
		1727	53380					305	68	270	RSDE-4440x68KRE
		1884	58090					331.4	74	295	RSDE-4480x74KRE

F = Load direction according to picture.

Units: mm

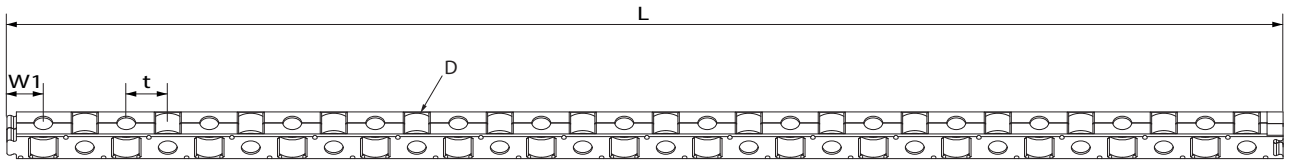
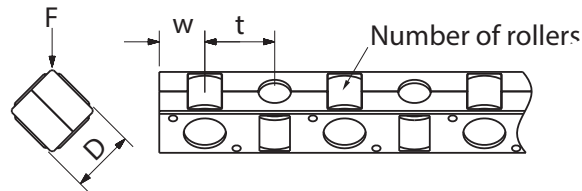


One set include: 4 rails + 2 roller cages and 8 end pieces

RSDE kit		Main dimensions					Mounting holes					
Standard	Stainless steel	A	B	C	E	D	f	g	h	k	m	p
RSDE-6100x10KRE	RSDE-6100x10KRE-SS	100						1x50				
RSDE-6150x16KRE	RSDE-6150x16KRE-SS	150						2x50				
RSDE-6200x20KRE	RSDE-6200x20KRE-SS	200						3x50				
RSDE-6250x25KRE	RSDE-6250x25KRE-SS	250						4x50				
RSDE-6300x31KRE	RSDE-6300x31KRE-SS	300						5x50				
RSDE-6350x36KRE	RSDE-6350x36KRE-SS	350	31	15	14.9	6	25	6x50	6 ^{+0.2}	5.2	M6	9.5
RSDE-6400x40KRE	RSDE-6400x40KRE-SS	400						7x50				
RSDE-6450x46KRE	RSDE-6450x46KRE-SS	450						8x50				
RSDE-6500x51KRE	RSDE-6500x51KRE-SS	500						9x50				
RSDE-6600x62KRE	RSDE-6600x62KRE-SS	600						11x50				

Bold = Short lead time item

Regular = Long lead time item - please request for price and delivery time



r	End pieces a	Weight (g)	C _{dyn} in (N)	Roller cage						Stroke	Type
				D	t	w	w1	L	Z		
5.2	3.7	646	17650	6	6.6	4.3	6.3	68	10	55	RSDE-6100x10KRE
		964	28240					107.6	16	84	RSDE-6150x16KRE
		1287	35300					134	20	120	RSDE-6200x20KRE
		1606	44125					167	25	150	RSDE-6250x25KRE
		1933	54715					210.6	31	175	RSDE-6300x31KRE
		2252	63540					243.6	36	210	RSDE-6350x36KRE
		2575	70600					270	40	245	RSDE-6400x40KRE
		2906	81190					309.6	46	280	RSDE-6450x46KRE
		3216	90015					342.6	51	310	RSDE-6500x51KRE
		3853	109430					419.2	62	360	RSDE-6600x62KRE

F = Load direction according to picture.

Units: mm

PM RESEARCH AND PRODUCTION FACILITY



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