

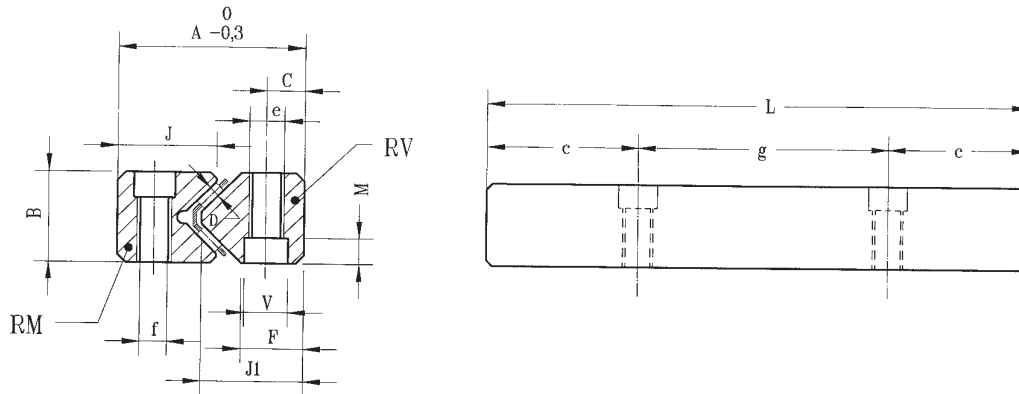
RAILS "RM" & "RV"

The same calculation criteria used for GR rails is valid for the rails RM/RV. However, the different cage designs (plastic for horizontal application and brass for both horizontal & vertical applications) should be accounted for.

- 1) Higher load ratings
- 2) Higher rigidity
- 3) Better overlapping of the rollers, especially in case of short stroke
- 4) Higher sensibility to mounting errors and impurities.



Rails "RM/RV"



Designation	Rail Type	Type RM weight (g)	Type RV weight (g)	L	g	c	D	A	B	F	J ₁	J	C	e	f	V	M	
RM/RV	92025- 200	685	695	200	1x100													
	92025- 300	1020	1030	300	2x100													
	92025- 400	1355	1365	400	3x100													
	92025- 500	1690	1700	500	4x100													
	92025- 600	2025	2035	600	5x100													
	92025- 700	2360	2370	700	6x100	50	2	44	22	15	24,5	24	9	M8	6,8	10,5	6,2	
	92025- 800	2695	2705	800	7x100													
	92025- 900	3030	3040	900	8x100													
	92025-1000	3365	3375	1000	9x100													
	92025-1100	3700	3710	1100	10x100													
92025-1200	4035	4045	1200	11x100														
RM/RV	2025- 200	900	900	200	1x100													
	2025- 300	1365	1350	300	2x100													
	2025- 400	1830	1800	400	3x100													
	2025- 500	2295	2250	500	4x100													
	2025- 600	2760	2700	600	5x100													
	2025- 700	3225	3150	700	6x100	50	2	52	25	18	29	28	10	M10	8,5	13,5	8,2	
	2025- 800	3690	3600	800	7x100													
	2025- 900	4155	4050	900	8x100													
	2025-1000	4620	4500	1000	9x100													
	2025-1100	5085	4950	1100	10x100													
2025-1200	5550	5400	1200	11x100														
RM/RV	2535- 300	1905	1965	300	2x100													
	2535- 400	2540	2620	400	3x100													
	2535- 500	3175	3275	500	4x100													
	2535- 600	3810	3930	600	5x100													
	2535- 700	4445	4585	700	6x100													
	2535- 800	5080	5240	800	7x100	50	2,5	62	30	22	35	34	12	M12	10,5	16,5	10,2	
	2535- 900	5715	5895	900	8x100													
	2535-1000	6350	6650	1000	9x100													
	2535-1100	6985	7205	1100	10x100													
	2535-1200	7620	7860	1200	11x100													
RM/RV	3045- 400	3660	3460	400	3x100													
	3045- 500	4575	4325	500	4x100													
	3045- 600	5490	5190	600	5x100													
	3045- 700	6405	6055	700	6x100													
	3045- 800	7320	6920	800	7x100													
	3045- 900	8235	7785	900	8x100	50	3	74	35	25	40	42,5	14	M14	12,5	18,5	12,2	
	3045-1000	9150	8650	1000	9x100													
	3045-1100	10065	9515	1100	10x100													
	3045-1200	10980	10380	1200	11x100													
	RM/RV	3555- 500	6170	6100	500	4x100												
3555- 600		7410	7320	600	5x100													
3555- 700		8650	8540	700	6x100													
3555- 800		9890	9760	800	7x100													
3555- 900		11130	10980	900	8x100	50	3,5	78	45	25	45	45	14	M14	12,5	18,5	12,2	
3555-1000		12370	12200	1000	9x100													
3555-1100		13610	13420	1100	10x100													
3555-1200		14850	14640	1200	11x100													

The supply of RM and RV rails as one single piece up to a maximum length of 1600 mm is also available.

Description of needle cages

Rails type RM/RV can be equipped with needle cages. The cages are made of plastic and brass. The plastic cages are molded in single elements which can be assembled by means of dovetail snap in ends.

They are indicated for use in horizontal applications. This type of cage is supplied in the flat state. The angle necessary during assembly can be obtained by submerging the cage in oil at 80°C and cooling it.

For vertical applications the brass cage HW is recommended. The rollers in the cages are selected within 0.001 mm.

Determination of cage length & load rating with protruding cages

The type in exam is RM/RV 2025-500. The stroke is 200 mm and the load 15.000 N. For the calculation of the cage length, the formula $L_g = L - C/2$ is valid.

Thus, $L_g = 500 - 200/2 = 400$ mm.

As we previously state, the cage FF is supplied as single elements thus, each element length is assumed as the pitch which yields:

NE (number of elements) = $L_g/t = 400/32$ thus 12.5.

Therefore, if the rating for each element is 8680 N the system rating will be 104.160 N.

The condition $P > F$: $104.160 > 15.000$ N should also be verified.

If the table was mounted vertically, the cage type HW should have been chosen.



Fig. 16

Rail type	Cage	Ø D	b ₁	S	t	a	N° rollers x t	P/t (N)
9 2025-2025	FF2025 zw	2	6,8	15	32	2	7	8680
2535	FF2535 zw	2,5	9,8	20,5	45	2,4	8	17920
3045	FF3045 zw	3	13,8	26	60	3	9	33750
3555	FF3555 zw	3,5	17,8	31,5	75	3,2	10	55000

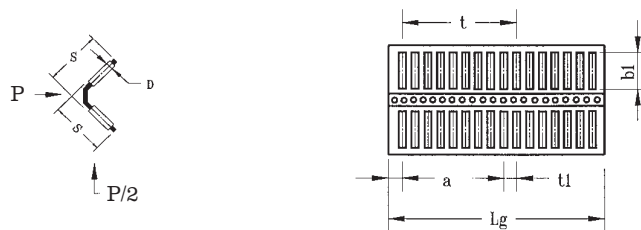


Fig. 17

Rail type	Cage	Ø D	b ₁	S	t	t ₁	a	N° rollers x t	P/t (N)
9 2025-2025	HW15	2	6,8	15	32	4,5	2	7	8680
2535	HW20	2,5	9,8	20,5	45	5,5	2,4	8	17920
3045	HW25	3	13,8	26	60	6	3	9	33750
3555	HW30	3,5	17,8	31,5	75	7	3,2	10	55000

End pieces with or without wiper for horizontal & vertical stroke

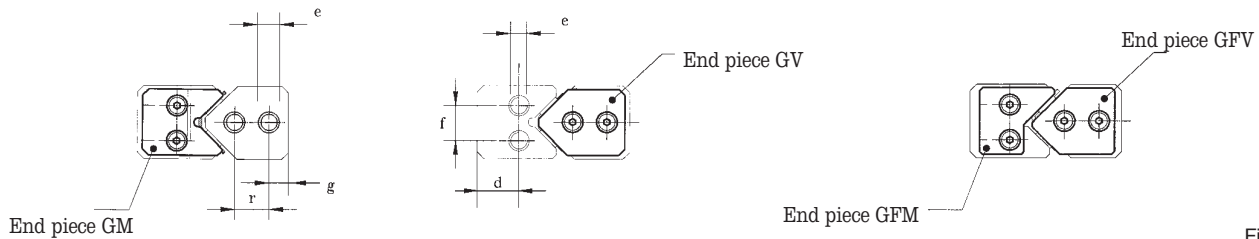
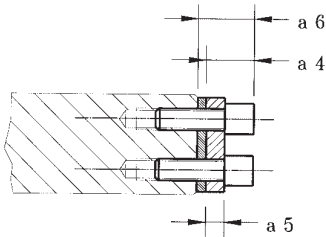


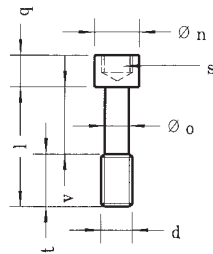
Fig. 18

* GM and GV endpieces cannot be mounted together



	RM/RV 9-2025	RM/RV 2025	RM/RV 2535	RM/RV 3045	RM/RV 3555
a4	8	9	11	11	11
a5	4	3	3	3	3
a6	10	11	13	13	13
e	M4	M6	M6	M6	M6
f	10	14	18	19	29
r	10	11	12	16	20
d	11	12	15	18	18
g	6	7	8	10	12

Fixing screws



	RM/RV 9 2025	RM/RV 2025	RM/RV 2535	RM/RV 3045	RM/RV 3555
l	30	40	40	50	60
Ø n	8,5	11,3	13,9	15,8	15,8
Ø o	4,6	6,25	7,9	9,5	9,5
d	M6	M8	M10	M12	M12
q	6	8	10	12	12
v	18	23	22	25	35
t	12	17	18	25	25
s	5	6	8	10	10
Code	VM6	VM8	VM10	VM12	VM12/L

Ordering example

For vertical movement rails type RM/RV 2535-700 stroke = 480 mm.
 2 rails type RM 2535-700
 2 rails type RV 2535-700
 2 cages type HW 20 LG = 460 mm
 4 end pieces type GM 2535

For horizontal & vertical movement - rails of different length type RM 3045-400 match
 with rails type RV 3045-800 stroke = 400 mm.
 2 rails type RM 3045-400 chamfered
 2 rails type RV 3045-800
 2 cages type HW 25 Lg = 600 mm
 4 end pieces type GV 3045