

HEAVY-LINE

3

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3.1 SISTEMI GU

For medium-heavy loads

- Guide rails GU ... M, GU ... MT
- Guide rollers RKU
- Guide wheels FKU
- Floating guide rollers RKUL
- Lubricator LUBU
- Guide pins SAG
- Guide rollers combinations

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3.2 GP SYSTEM

For medium-heavy loads / dirty environment

- Guide rails GP ... MC
- Guide rails GP ... M
- Guide rollers PK
- Guide wheels FK
- Guide rollers GC
- Cam followers FG (needle) and FGU (roller)
- Lubricator LUBP

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3.3 GUIDE ROLLERS COMBINATIONS

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3.4 MOUNTING EXAMPLES

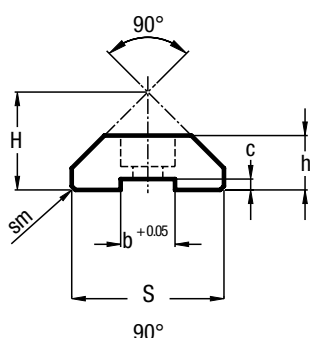
HEAVY-LINE – GU SYSTEM

GUIDE RAILS GU ... M, GU ... MT

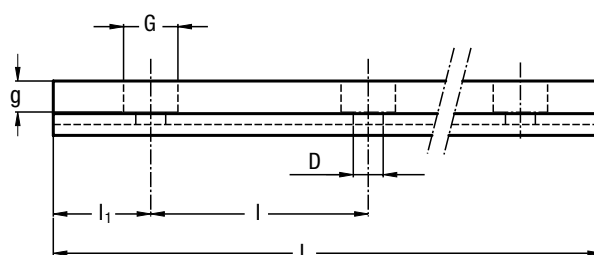
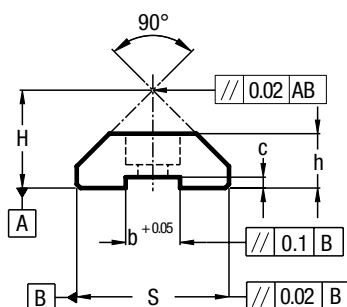
The longitudinal slot, made with + 0.05 tolerance, permits using reference elements SAG for guide positioning.



GU ... MT



GU ... M



Type	Dimensions (mm)											Weight ¹⁾ (kg/m)
	H ± 0.05	h ± 0.05	S ± 0.05	D + 0.1	G	g	b + 0.05	c ± 0.05	sm	l	l ₁	
GU 28 MT	19	11	28.8	5.5	10	5.7	10	2.5	0.7 x 45°	90	30	1.97
GU 35 MT	23.9	15.7	35.5	6.6	11	6.8	10	3.8	1 x 45°	90	30	3.35
GU 50 MT	35.5	21	50.8	11	18	11	16	4.3	1 x 45°	90	30	6.89

Max. length in single element L = 6000 mm.

Longer rails are made by juxtaposing several elements with ground end.

1) Weight without holes

Type	Dimensions (mm)										Weight ²⁾ (kg/m)
	H ± 0.05	h ± 0.05	S ± 0.05	D + 0.1	G	g	b + 0.05	c ± 0.05	l	l ₁	
GU 28 M	18	10	28	5.5	10	5.7	10	2	90	30	1.8
GU 35 M	23	15	35	6.6	11	6.8	10	3.3	90	30	3.2
GU 50 M	34.5	20	50	11	18	11	16	3.8	90	30	6.8

Max. length in single element L = 4020 mm.

Longer rails are made by juxtaposing several elements with ground end.

2) Weight without holes

RAILS FINISHING

- Drawn, induction hardened and sandblasted tracks (MT)
- Drawn, induction hardened and ground (M)
- Induction hardening on raceways only

OPTIONAL FEATURES

- Ground one end: side of the first hole (1R), side of the last hole (2R)
- Ground both ends (RR)
- Chemical nickel-plating (NW)

HOLE LAYOUT

- Holes according to catalogue (SB)
- Finishes to drawing (NZ)
- Without holes (NF)

Example of standard designation: GU 35 MT 4300 SB

GUIDE ROLLERS RKU

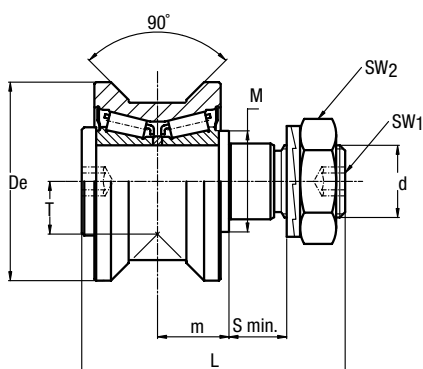
Guide rollers with tapered roller bearings.

The sides of the race are convex with radius $R = 400$.

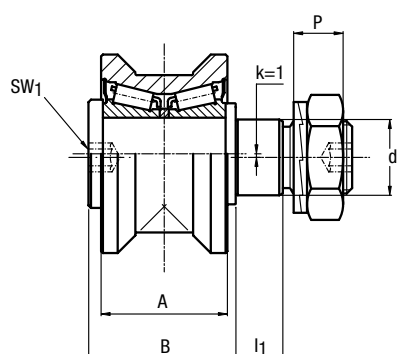
Available in stainless steel version.



CONCENTRIC



ECCENTRIC



Type		Dimensions (mm)														
concentric	eccentric	De	d ₁ ¹⁾	d	T	m	S min.	P	L	A	B	I ₁	M	SW ₁	SW ₂	k
RKU 55	RKUR 55	55	21	M20 x 1.5	14.6	19.8	15	13.4	73	35	41	14	28	8	30	1
RKU 65	RKUR 65	65	27	M24 x 1.5	18	20.8	19	15.4	83	37	44	18	35	10	36	1
RKU 75	RKUR 75	75	36	M30 x 1.5	23.7	27	19	21.6	100	45	55	18	44	12	46	1
RKU 95	RKUR 95	95	38	M36 x 1.5	25.5	30	24	24.6	115	53 56 ²⁾	62	23	50	14	55	1
RKU 115	RKUR 115	115	42	M36 x 1.5	33.5	34	33	24.6	135	60 63 ²⁾	70	32	56	14	55	1

1) Housing bore tolerance: H7

2) Dimensions relating to the stainless-steel rollers (suffix NX)

Type		Dynamic load (N)	Limit loads (N)		Life coefficients		Torque wrench settings ⁴⁾ (Nm)	Weight (kg)
		C _w ³⁾	Radial F _r	Axial F _a	X	Y		
RKU 55	RKUR 55	42000	11900	3900	1	4	80	0.6
RKU 65	RKUR 65	48000	17000	6900	1	3.7	160	0.9
RKU 75	RKUR 75	69000	28500	10200	1	3.4	300	1.6
RKU 95	RKUR 95	134000	29000	12700	1	4.5	450	2.8
RKU 115	RKUR 115	190000	45000	17900	1	4.4	450	4.9

3) C_w basic load for 100 km

4) The torque wrench settings are given for non-lubricated threads; for lubricated threads, multiply figure by 0.8

- Standard seals: material NBR, RS type
- On request, the guide rollers can be supplied with external parts in stainless steel (suffix NX) and with Viton seals for operating temperatures up to 120°C (suffix V, not available for RKU 115). Internal rolling elements in standard bearing steel
- The guide rollers include self-locking washers and hexagonal nut (DIN 439B) for fitting
- Pressure angle α for load calculation: 45°

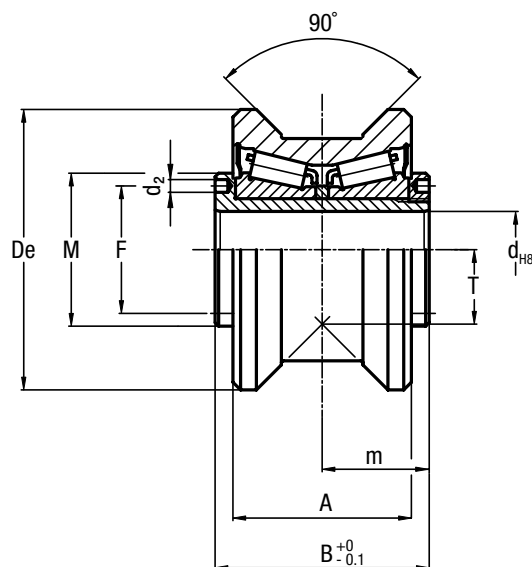
HEAVY-LINE – GU SYSTEM

GUIDE WHEELS FKU

Guide wheel with tapered roller bearings.

The sides of the race are convex with radius $R = 400$.

Available in stainless steel version.



Type	Dimensions (mm)								
	De	d	T	m	A	B	F	d ₂ ²⁾	M
FKU 55	55	15	14.6	21	35	42	25	2.5	30
FKU 65	65	20	18	22.5	37	45	29	3	35
FKU 75	75	25	23.7	28	45	56	37	4	44
FKU 95	95	28	25.5	32	53 56 ¹⁾	64	42	4	49
FKU 115	115	35	33.5	36	60 63 ¹⁾	72	52	4	59

1) Dimensions relating to the stainless-steel rollers (suffix NX)

2) To prevent rotation between roller and shaft a pin can be fitted in one of the holes "d2" positioned in the side flange

Type	Dynamic load (N)	Limit loads (N)		Life coefficients		Weight (kg)
	C _w ³⁾	Radial F _r	Axial F _a	X	Y	
FKU 55	42000	11900	3900	1	4	0.5
FKU 65	48000	17000	6900	1	3.7	0.6
FKU 75	69000	28500	10200	1	3.4	1.2
FKU 95	134000	29000	12700	1	4.5	2.3
FKU 115	190000	45000	17900	1	4.4	3.9

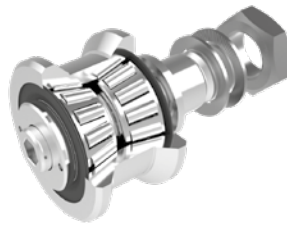
3) C_w = Basic load for 100 Km

- Viton seals for operating temperatures up to 120°C (suffix V) on request, not available for FKU 115.
- On request the guide rollers can be supplied with external parts in stainless steel (suffix NX). Internal rolling elements in standard bearing steel
- Pressure angle α for load calculation: 45°
- Standard seals: material NBR, RS type

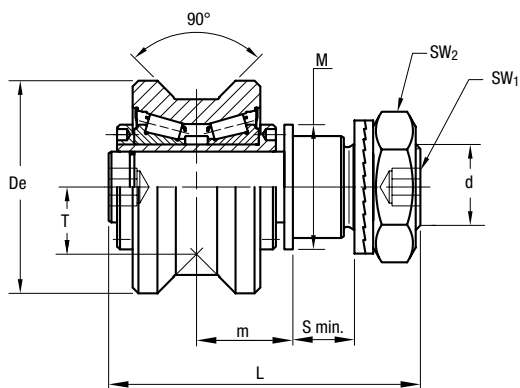
FLOATING GUIDE ROLLERS RKUL

Floating guide rollers with tapered roller bearings.

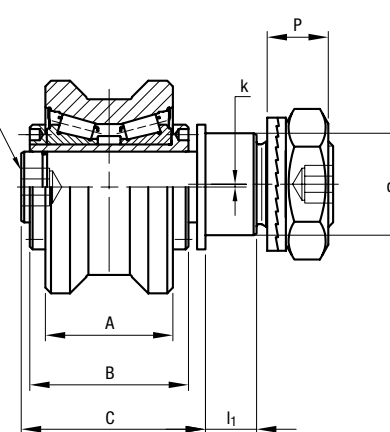
Available in stainless steel version.



CONCENTRIC



ECCENTRIC



Type		Dimensions (mm)																
concentric	eccentric	De	d ₁ ¹⁾	d	T	m ²⁾ min.	m ²⁾ max.	S min.	P	L	A	B	C	I ₁	M	SW ₁	SW ₂	k
RKUL 55	RKULR 55	55	21	M20 x 1.5	14.6	24	30	15	13.4	83	35	42	51	14	30	8	30	1
RKUL 65	RKULR 65	65	27	M24 x 1.5	18	25.5	31.5	19	15.4	93	37	45	54	18	35	10	36	1
RKUL 75	RKULR 75	75	36	M30 x 1.5	23.7	31	37	19	21.6	110	45	56	65	18	44	12	46	1
RKUL 95	RKULR 95	95	38	M36 x 1.5	25.5	36	43	24	24.6	128	53 56 ³⁾	64	75	23	49	14	55	1
RKUL 115	RKULR 115	115	42	M36 x 1.5	33.5	40	47	33	24.6	148	60 63 ³⁾	72	83	32	59	14	55	1

1) Housing bore tolerance: H7

2) To ensure a safe and proper functioning the dimension m must not be higher than m max.

3) Dimensions for stainless steel (NX) version

Type		Dynamic load (N)	Limit loads (N)	Torque wrench settings ⁵⁾ (Nm)	Weight (kg)
		C _w ⁴⁾	Radial F _r		
RKUL 55	RKULR 55	42000	3050	80	0.8
RKUL 65	RKULR 65	48000	6850	160	1.1
RKUL 75	RKULR 75	69000	11200	300	1.8
RKUL 95	RKULR 95	134000	13800	450	3.0
RKUL 115	RKULR 115	190000	24000	450	5.1

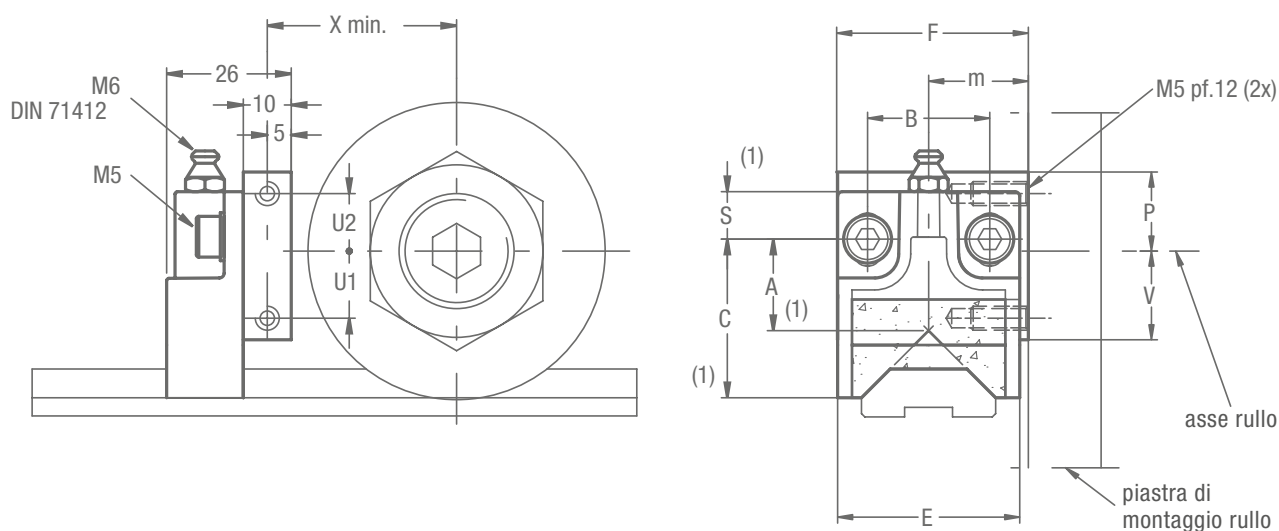
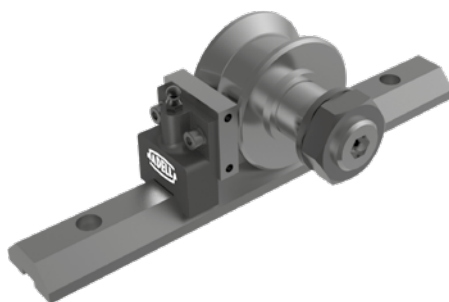
4) C_w = Basic load for 100 km

5) The torque wrench settings are given for non-lubricated threads; for lubricated threads multiply figure by 0.8

- On request the guide rollers can be supplied with external parts in stainless steel (suffix NX). Internal rolling elements in standard bearing steel
- Standard seals: material NBR, RS type
- Pressure angle α for load calculation: 45°
- On request guide rollers can be supplied with Viton seals for operating temperatures up to 120°C (suffix V, not available for RKUL 115)
- The guide rollers include self-locking washers and hexagonal nut (DIN 439B) for fitting

HEAVY-LINE – GU SYSTEM

LUBRICATOR LUBU



Type	Dimensions (mm)												Weight (g)	Suggested combinations
	X	U1	U2	F	m	B	S ¹⁾	C ¹⁾	A ¹⁾	E	V	P		
LUBU 55	35	12	14	40	19.8	25.5	10	34	20	38	16.5	18.5	65	RKU 55, RKUR 55, FKU 55
LUBU 65	40	14	12	40	20.8	25.5	10	34	20	38	18.5	16.5	65	RKU 65, RKUR 65, FKU 65
LUBU 75	45	19	11	50	27	25.5	10	43	25.4	44	24	16	85	RKU 75, RKUR 75, FKU 75
LUBU 95	55	21	9	60	30	30	16.5	50	24.9	58	31	19	140	RKU 95, RKUR 95, FKU 95
LUBU 115	65	30	0	63	34	30	16.5	50	24.9	58	40	10	140	RKU 115, RKUR 115, FKU 115

1) The dimension of the plastic part refers to the centre of the regulation-slot. Allows a translation of +/- 3 mm

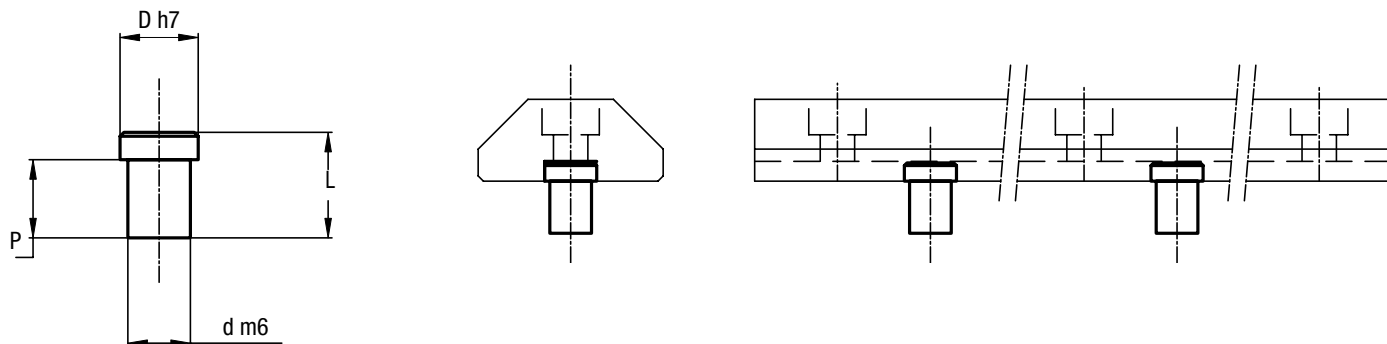
- The lubricator is supplied with the felt already lubricated. The lubricant has a mineral oil base
- During the mounting fix the aluminium support to the rollers plate, adjust the height of the plastic part in order to put it in contact with the raceways and then block it in that position with the M5 screws

OPTIONAL FEATURES

- Felt without lubricant (D)

GUIDE PINS SAG

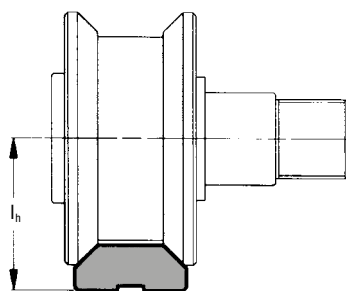
Guide pins for mounting alignment.



Pin type	Guide type	Dimensions (mm)			
		D	d ¹⁾	P	L
SAG 28	GU 28 MT	10	8	10	12.3
SAG 35	GU 35 MT	10	8	10	13.5
SAG 50	GU 50 MT	16	10	11.2	15

1) Housing bore tolerance: H7

GUIDE ROLLER COMBINATIONS (RKU, FKU, RKUL)

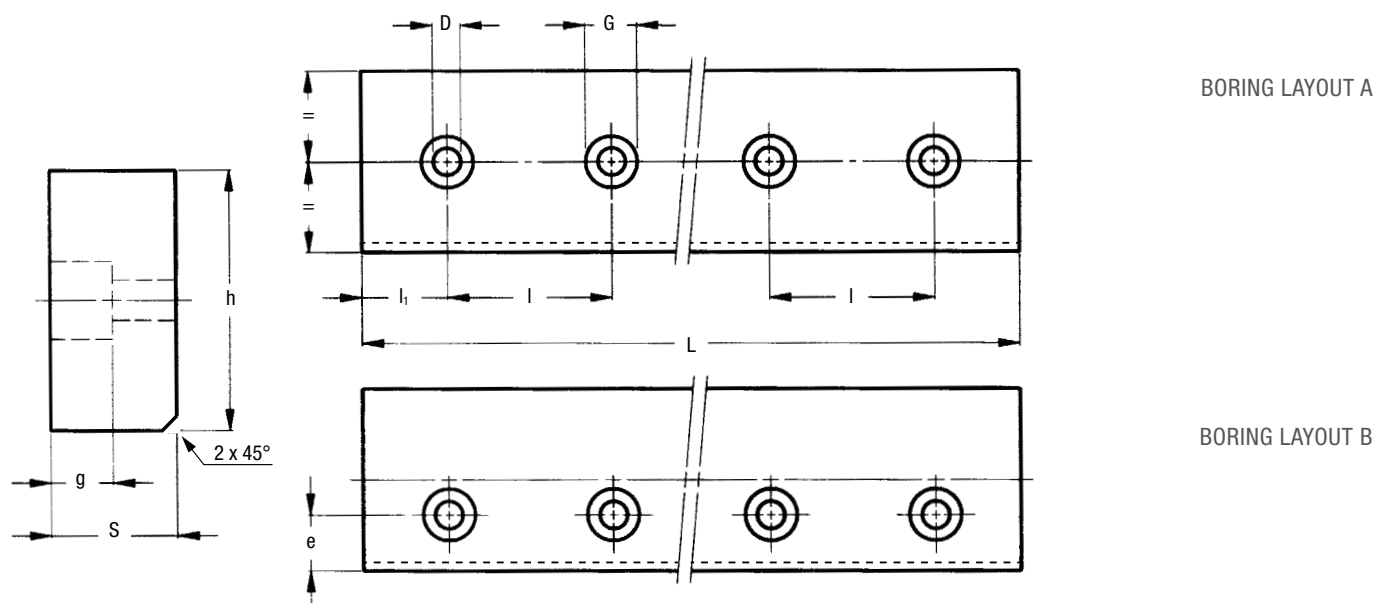
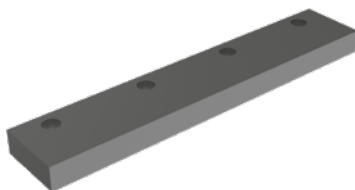


Guide	Type	Roller				
		l _h (mm)				
		RKU, FKU, RKUL 55	RKU, FKU, RKUL 65	RKU, FKU, RKUL 75	RKU, FKU, RKUL 95	RKU, FKU, RKUL 115
	GU 28 MT	33.6	37	—	—	—
	GU 28 M	32.6	36	—	—	—
	GU 35 MT	—	41.9	47.6	—	—
	GU 35 M	—	41	46.7	—	—
	GU 50 MT	—	—	—	61	69
	GU 50 M	—	—	—	60	68

HEAVY-LINE – GP SYSTEM

GUIDE RAIL GP ... MC

Rail in steel, rough ground raceways.



Type	Dimensions (mm)								Weight ¹⁾ (kg/m)
	h ± 0.05	S ± 0.05	D	G	g	e	l	l ₁	
GP 2626 MC	26	26	9	15	9	²⁾	120	50	5.3
GP 3232 MC	32	32	9	15	9	²⁾	150	60	8.1
GP 3617 MC	36	17	6.5	11	6.8	12.5	120	50	4.8
GP 4321 MC	43	21	9	15	9	11.5	150	60	7
GP 5050 MC	50	50	18	26	17	²⁾	180	60	19.6
GP 6222 MC	62	22	9	15	9	21	150	60	10.7
GP 7232 MC	72	32	13.5	20	13	24	180	70	18.1
GP 8222 MC	82	22	13.5	20	13	20	180	70	14.2
GP 12050 MC	120	50	18	26	17	30	180	70	47

Max. length in single element L = 5800 mm.

Longer rails are made by juxtaposing several elements with ground end.

¹⁾ Weight without holes

²⁾ For boring layout A only

RAILS FINISHING

- Material: C60 or C45
- Induction hardened on four sides
- Surface finished by a rough grinding (MC)

HOLE LAYOUT

- Holes according to catalogue (A or B)
- Finishes to drawing (NZ)
- Without holes (NF)

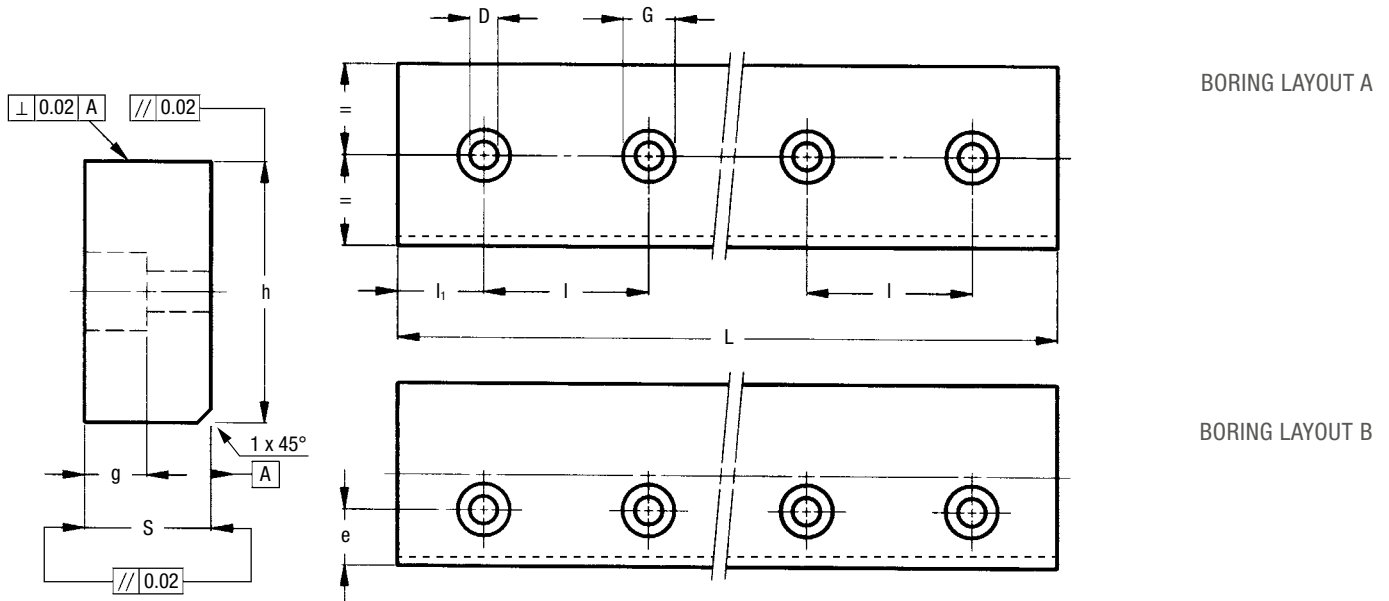
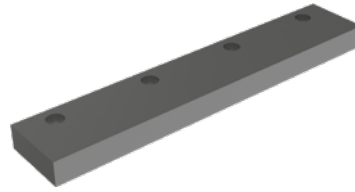
OPTIONAL FEATURES

- Ground one end: side of the first hole (1R), side of the last hole (2R)
- Ground both ends (RR)
- Chemical nickel plating (NW)

Example of standard designation: GP 6222 MC 4320 ASB, GP 6222 MC 4300 B

GUIDE GP ... M

Rail in steel, ground raceways.



Type	Dimensions (mm)								Weight ¹⁾ (kg/m)
	h ± 0.05	S ± 0.05	D	G	g	e	l	l_1	
GP 2525 M	25	25	9	15	8.5	²⁾	120	50	4.9
GP 3131 M	31	31	9	15	8.5	²⁾	150	60	7.5
GP 3516 M	35	16	6.5	11	6.8	12	120	50	4.4
GP 4220 M	42	20	9	15	9	11	150	60	6.5
GP 6121 M	61	21	9	15	9	20.5	150	60	10
GP 7131 M	71	31	13.5	20	12.5	23.5	180	70	17.3
GP 8121 M	81	21	13.5	20	13	19.5	180	70	13.4

Max. length in single element $L = 4020$ mm.

Longer rails are made by juxtaposing several elements with ground end.

Maximum length with NW treatment on request

¹⁾ Weight without holes

²⁾ For boring layout A only

RAILS FINISHING

- Material: C60 or C45
- Induction hardened on four sides
- Surface finished by a rough grinding (MC)

HOLE LAYOUT

- Holes according to catalogue (A or B)
- Finishes to drawing (NZ)
- Without holes (NF)

OPTIONAL FEATURES

- Ground one end: side of the first hole (1R), side of the last hole (2R)
- Ground both ends (RR)
- Chemical nickel plating (NW)

Example of standard designation: GP 6222 MC 4320 ASB, GP 6222 MC 4300 B

HEAVY-LINE – GP SYSTEM

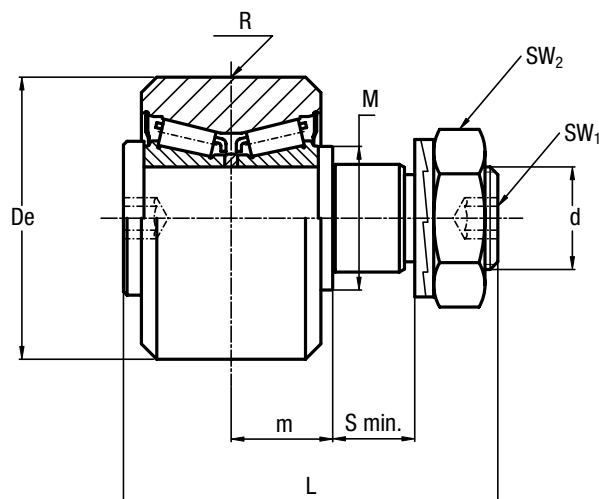
GUIDE ROLLERS PK

Guide roller with tapered roller bearings.

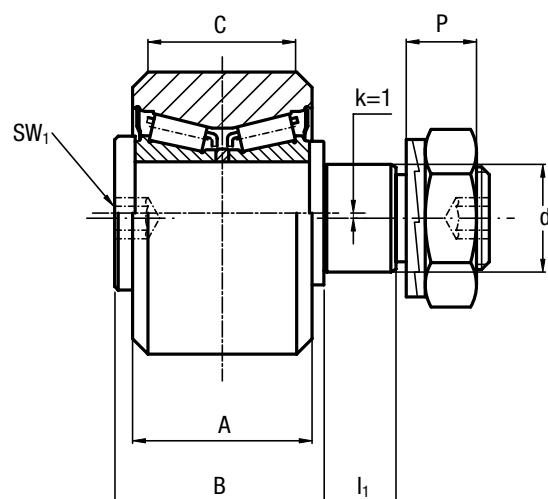
Available in stainless steel version.



CONCENTRIC



ECCENTRIC



Type		Dimensions (mm)															
concentric	eccentric	D _e	d ₁ ¹⁾	d	m	S min.	P	L	A	B	C	R	I ₁	M	SW ₁	SW ₂	k
PK 52 C	PKR 52 C	52	21	M20 x 1.5	19.8	15	13.4	73	35	41	29	800	14	28	8	30	1
PK 62 C	PKR 62 C	62	27	M24 x 1.5	20.8	19	15.4	83	37	44	29	800	18	35	10	36	1
PK 72 C	PKR 72 C	72	36	M30 x 1.5	27	19	21.6	100	45	55	33	1200	18	44	12	46	1
PK 90 C	PKR 90 C	90	38	M36 x 1.5	30	24	24.6	115	53 56 ²⁾	62	45	1200	23	50	14	55	1
PK 110 C	PKR 110 C	110	42	M36 x 1.5	34	33	24.6	135	60 63 ²⁾	70	48	1200	32	56	14	55	1

1) Housing bore tolerance: H7

2) Dimensions relating to the stainless-steel rollers (suffix NX)

Type		Dynamic load (N)	Limit loads (N)	Torque wrench settings ⁴⁾ (Nm)	Weight (kg)
		C _w ³⁾	Radial F _r		
PK 52 C	PKR 52 C	42000	11900	80	0.6
PK 62 C	PKR 62 C	48000	22100	160	0.9
PK 72 C	PKR 72 C	69000	31300	300	1.6
PK 90 C	PKR 90 C	134000	43800	450	2.8
PK 110 C	PKR 110 C	190000	55600	450	4.9

3) C_w = basic load for 100 km

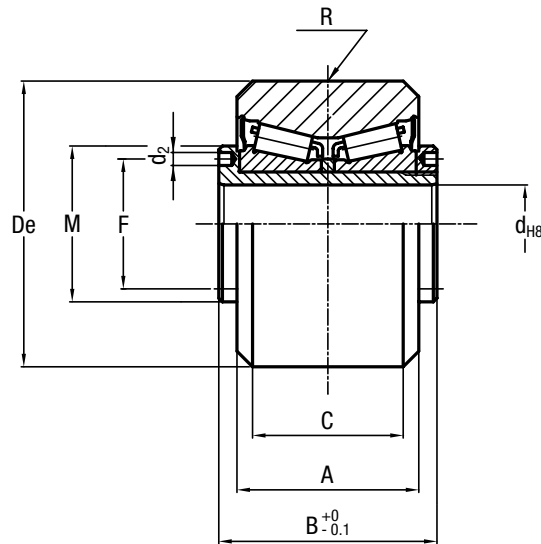
4) The torque wrench settings are given for non-lubricated threads; for lubricated threads, multiply figure by 0.8

- On request, the guide rollers can be supplied with external parts in stainless steel (suffix NX) and with Viton seals for operating temperatures up to 120°C (suffix V, not available for dimension PK 110 C). Internal rolling elements in standard bearing steel
- The guide rollers are complete with self-locking washers and hexagonal nut (DIN 439B) for fitting
- Standard seals: material NBR, RS type

GUIDE WHEELS FK

Guide wheel with tapered roller bearings.

Available in stainless steel version.



Type	Dimensions (mm)								
	D _e	d	A	B	C	R	F	d ₂	M
FK 52 C	52	15	35	42	29	800	25	2.5	30
FK 62 C	62	20	37	45	29	800	29	3	35
FK 72 C	72	25	45	56	33	1200	37	4	44
FK 90 C	90	28	53 56 ¹⁾	64	45	1200	42	4	49
FK 110 C	110	35	60 63 ¹⁾	72	48	1200	52	4	59

1) Dimensions relating to the stainless-steel rollers (suffix NX)

Type	Dynamic load (N)	Limit loads (N)	Weight (kg)
	C _w ²⁾	Radial F _r	
FK 52 C	42000	11900	0.5
FK 62 C	48000	22100	0.6
FK 72 C	69000	31300	1.2
FK 90 C	134000	43800	2.3
FK 110 C	190000	55600	3.9

2) C_w = basic load for 100 km

- On request, the guide rollers can be supplied with external parts in stainless steel (suffix NX) and with Viton seals for operating temperatures up to 120°C (suffix V, not available for dimension FK 110 C). Internal rolling elements in standard bearing steel
- To prevent rotation between roller and shaft a pin can be fitted in one of the holes "d2" positioned in the side flange
- Standard seals: material NBR, RS type

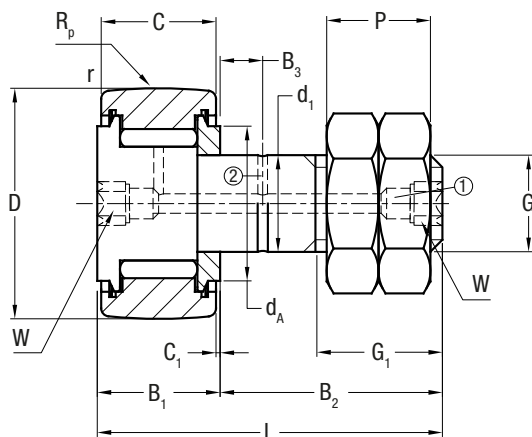
HEAVY-LINE – GP SYSTEM

CAM FOLLOWERS GC..SW

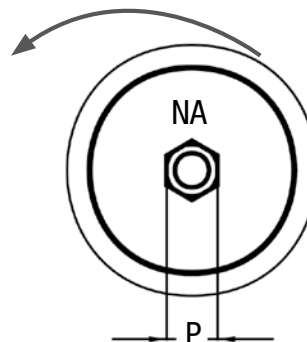
Cam followers with full complement of rollers with external diameter from 16 mm to 90 mm.



Available in stainless steel version.



Hole 1 starting from D=22 mm
Hole 2 starting from D=30 mm



DIRECTION FOR ADJUSTMENT OF THE EXCENTER

Ø outer D mm	Designation ¹⁾	d ₁ ²⁾ mm	L mm	B ₁ mm	B ₂ mm	Threading G mm	G ₁ mm	C mm	C ₁ mm	d _A mm	B ₃ mm	r mm	R _p ³⁾ mm
	GC .. SW												
16	16	6	28,2	12,2	16,5	M6x1	8	11	0,6	13,3		0,3	500
19	19	8	32,2	12,2	20,5	M8x1.25	10	11	0,6	15,3		0,3	500
22	22	10	36,2	13,2	23,5	M10x1.25	12	12	0,6	18,2		0,3	600
24	24	10	36,2	13,2	23,5	M10x1.25	12	12	0,6	18,2		0,3	600
26	26	10	36,2	13,2	23,5	M10x1.25	12	12	0,6	20,8		0,3	600
28	28	10	36,2	13,2	23,5	M10x1.25	12	12	0,6	20,8		0,3	600
30	30	12	40,2	15,2	25,5	M12x1.5	13	14	0,6	24,8	6	0,6	700
32	32	12	40,2	15,2	25,5	M12x1.5	13	14	0,6	24,8	6	0,6	700
35	35	16	52,2	19,6	33	M16x1.5	17	18	0,8	28,8	8	0,6	800
40	40	18	58,1	21,6	37	M18x1.5	19	20	0,8	33,8	8	1	1000
47	47	20	66,1	25,6	41	M20x1.5	21	24	0,8	38,7	9	1	1200
52	52	20	66,1	25,6	41	M20x1.5	21	24	0,8	38,7	9	1	1200
62	62	24	80,1	30,6	50	M24x1.5	25	29	0,8	52	11	1	1500
72	72	24	80,1	30,6	50	M24x1.5	25	29	0,8	52	11	1	1500
80	80	30	100	37	63,5	M30x1.5	32	35	1	68	15	1	1700
85	85 ⁹⁾	30	100	37	63,5	M30x1.5	32	35	1	68	15	1	1700
90	90	30	100	37	63,5	M30x1.5	32	35	1	68	15	1	1700

1) Cam follower with stud designation

GC..SW Concentric cam follower with stud optimised profile outer ring

GCL..SW Concentric cam follower with stud cylindrical outer ring (product available on request)

GCR.. Cam follower with stud with eccentric collar

No suffix Without seal

Suffix ..EE With plastic seal, ex. GC40EESW

Suffix ..EEM With metal seal, ex. GC40EEMSW

2) Hole diameter for assembly of concentric cam follower without stud: d₁ H7

3) Convex radius in the central part to contact pressure calculation

HEAVY-LINE – GP SYSTEM

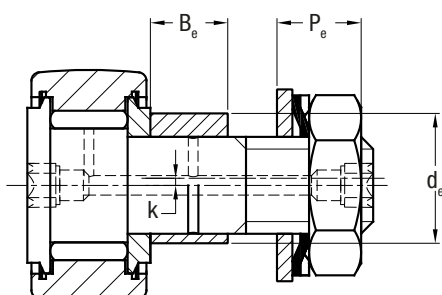
CAM FOLLOWERS GC..SW

3.2

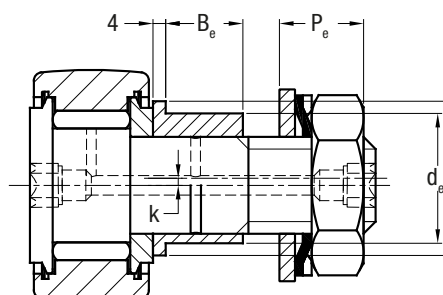
Cam followers with full complement of rollers with external diameter from 16 mm to 90 mm.



Available in stainless steel version.



from GCR16SW to GCR52SW



from GCR62SW to GCR90SW

W mm	P 7) mm	Eccentric bearing					Load coefficients (N) 6)				Greasing speed limit with grease (min ⁻¹)	Weight of nut and washers Kg	Clamping torque Nm	Ø outer D mm
		d _e 4) 5) mm	k 5) mm	M 5) mm	B _e 5) mm	P _e 8) mm	Din. C _{w1} 10)	Din. C _{w2} 11)	Din. F _r	Stat. For.				
4	6,4	9	0,5		8	5,6	4900	4000	1200	2300	5000	0,024	3	16
4	8	11	0,5		10	6,4	5600	4800	2900	5400	4100	0,039	8	19
4	10	14	1		11	7,9	6900	6200	5300	9400	3400	0,057	20	22
4	10	14	1		11	7,9	7600	7000	5300	9800	3400	0,072	20	24
4	10	14	1		11	7,9	8600	8100	5300	9800	3000	0,08	20	26
4	10	14	1		11	7,9	9200	8900	5300	9800	3000	0,088	20	28
6	12	16	1		11	9,5	13000	12800	7900	15000	2600	0,118	26	30
6	12	16	1		11	9,5	13000	13000	7900	15000	2600	0,126	26	32
10	16	21	1,5		14	12,2	18000	18500	14000	23000	2100	0,22	64	35
12	18	24	1,5		16	13,4	22000	23600	19000	34000	1800	0,321	90	40
14	20	27	2		17,5	14,4	27000	30300	22000	35000	1500	0,5	120	47
14	20	27	2		17,5	14,4	33000	38200	22000	40000	1500	0,568	120	52
12	24	36	3	44	18	17,5	42000	51300	31000	58000	1200	1,035	220	62
12	24	36	3	44	18	17,5	46000	58800	31000	58000	1200	1,278	220	72
14	30	42	3	50	27	20,6	58000	76500	50000	93000	900	2,074	450	80
14	30	42	3	50	27	20,6	61000	81900	50000	93000	900	2,235	450	85
14	30	42	3	50	27	20,6	63000	86100	50000	93000	900	2,435	450	90

4) Hole diameter for assembly of the eccentric cam follower without stud: d_e H7

5) Dimensions of the eccentric bearing.

6) Fr and For load for cam follower without stud, with no eccentric collar.

7) The GC concentric cam followers with stud are supplied with two clamping nuts.

8) GCR eccentric cam followers with stud are supplied with eccentric bearing already fitted, clamping nut, cogged washer and support surface washer.

9) Product available on request

10) C_{w1}: Calculation coefficient for service life with 1 million rpm base

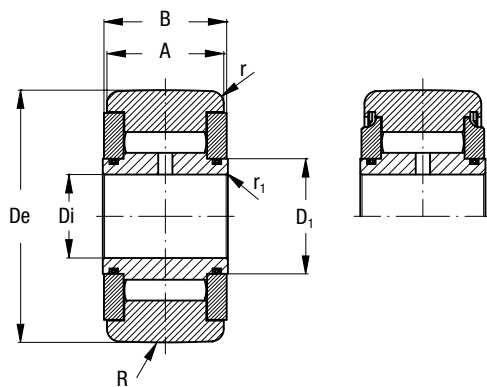
11) C_{w2}: Calculation coefficient for the duration with base 100 km

HEAVY-LINE – GP SYSTEM

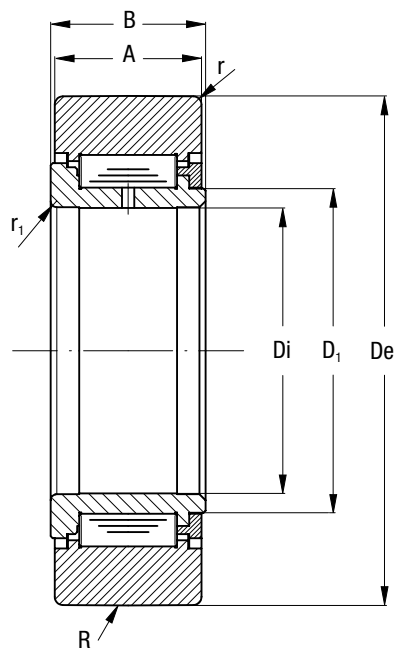
CAM FOLLOWERS FG NEEDLE AND FGU ROLLER



FG series without seals
FG ... EEM series with metal shields



FGU
FGU ... MM series: with metal shields



3.2

Type	Dimensions (mm)								
	D _e	D _i	A	B max.	D ₁	M min. ¹⁾	r min.	r ₁ min.	R
FG 6 19 SW	19	6	11	12	8.5	12	0.3	0.3	160
FG 10 30 SW	30	10	14	15	13.8	19.5	0.6	0.3	250
FG 12 32 SW	32	12	14	15	16	21.5	0.6	0.3	250
FG 15 35 SW	35	15	18	19	18.7	24	0.6	0.3	320
FG 17 40 SW	40	17	20	21	22	28	0.6	0.3	400
FG 20 47 SW	47	20	24	25	25.7	32.5	1	0.3	500
FG 25 52 SW	52	25	24	25	30.5	37	1	0.3	500
FG 30 62 SW	62	30	28	29	35.2	44	1	0.3	640
FG 35 72 SW	72	35	28	29	41	50	1	0.6	640
FG 40 80 SW	80	40	30	32	46.7	56	1	0.6	800
FG 50 90 SW	90	50	30	32	59.1	69	1	0.6	800
FGU 55 100	100	55	34	36	64	75.8	1.5	0.6	800
FGU 60 110	110	60	34	36	69.5	81.5	1.5	0.6	800
FGU 65 120	120	65	40	42	74.5	86.7	1.5	0.6	900
FGU 75 130	130	75	40	42	84	97	1.5	0.6	900

1) Minimum abutment diameter recommended in case of heavy axial load or vibration

Type	Dynamic load ²⁾ (N)		Limit loads ³⁾ (N)		Speed limit grease lubrication ⁴⁾ r.p.m.
	C _{w1} ⁵⁾	C _{w2} ⁶⁾	Dyn. F	Sta. Fo	min-1
FG 6 19 SW	5600	4800	4050	6700	7600
FG 10 30 SW	13000	12800	8500	15500	4800
FG 12 32 SW	12000	12000	8300	16200	4200
FG 15 35 SW	17000	17500	12200	25600	3750
FG 17 40 SW	22000	23600	14200	31000	3150
FG 20 47 SW	27000	30300	21400	44500	2700
FG 25 52 SW	29000	33600	23600	48000	2330
FG 30 62 SW	38000	46400	38000	73000	2050
FG 35 72 SW	43000	54900	49000	90000	1800
FG 40 80 SW	52000	68600	66000	123000	1620
FG 50 90 SW	49000	66900	74000	123000	1300
FGU 55 100	72000	101500	53400	109000	1900
FGU 60 110	90000	130600	64000	129000	1770
FGU 65 120	110000	163800	89000	174000	1650
FGU 75 130	110000	167800	97000	185000	1480

2) These capacities are to be used for all types when the convex outer ring rotates directly on a cam.

They take account of the repetitive loads on the follower and consequent deformation of the outer ring

3) The load shown is limited by the strength of the outer ring when mounted in a housing

4) With oil lubrication of followers without seals FG, FGL types, these speeds can be increased by 30% for continuous rotation or up to 50% for intermittent rotation

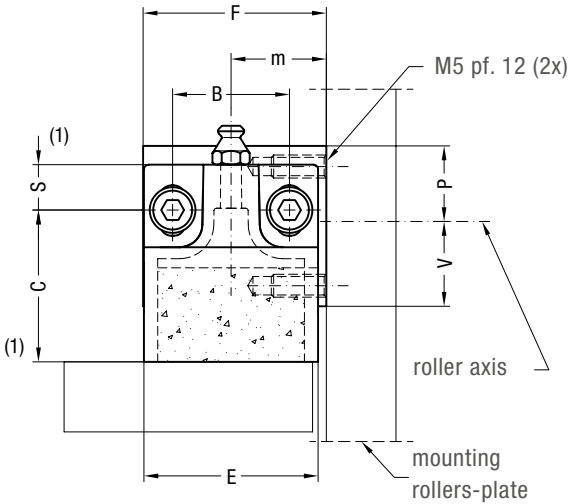
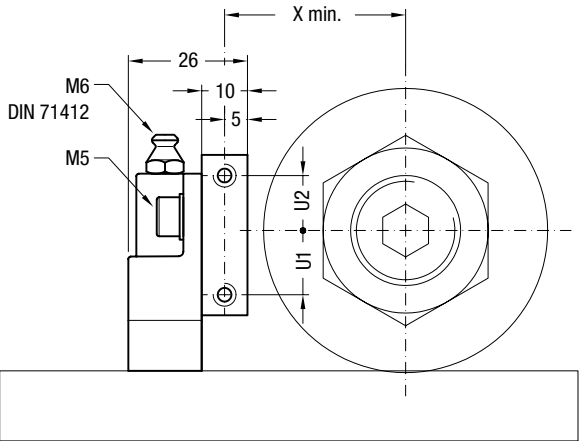
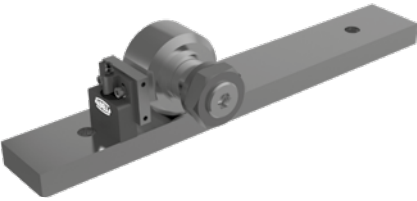
5) C_{w1}: Coefficient to calculate the basic rating life based on one million revolutions

6) C_{w2}: Coefficient to calculate the basic rating life based on 100 km

HEAVY-LINE – GP SYSTEM

LUBRICATOR LUBP

Lubrication unit for GP rails



Type	Dimensions (mm)											Weight (g)	Suggested combinations
	X	U1	U2	F	m	B	S ¹⁾	C ¹⁾	E	V	P		
LUBP 52	33.5	12	14	40	19.8	25.5	10	32.5	38	16.5	18.5	65	PK 52 C, PKR 52 C, FK 52 C
LUBP 62	38.5	14	12	40	20.8	25.5	10	32.5	38	18.5	16.5	65	PK 62 C, PKR 62 C, FK 62 C
LUBP 72	43.5	19	11	50	27	25.5	10	40	44	24	16	85	PK 72 C, PKR 72 C, FK 72C
LUBP 90	52.5	21	9	60	30	30	16.5	43.5	58	31	19	140	PK 90 C, PKR 90 C, FK 90 C
LUBP 110	62.5	30	0	63	34	30	16.5	43.5	58	40	10	140	PK 110 C, PKR 110 C, FK 110 C

1) The dimension of the plastic part refers to the centre of the regulation slot. The regulation slot allows a translation of +/- 3 mm

- The lubricator is supplied with the felt already lubricated. The lubricant has a mineral oil base
- During the mounting fix the aluminium support to the rollers plate, adjust the height of the plastic part in order to put it in contact with the raceways and then block it in that position with the M5 screws

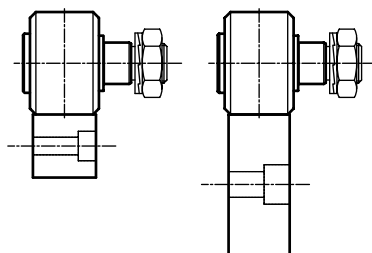
OPTIONAL FEATURES

- Felt without lubricant (D)

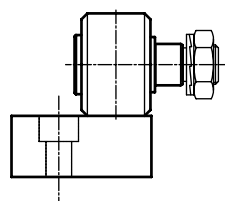
GUIDE ROLLERS COMBINATIONS

3.3

LAYOUT 1
HOLE PATTERN A AND B



LAYOUT 2
ONLY HOLE PATTERN B



Layout 1	GC												PK / FK				
	19	22	24	26	28	30	32	35	40	47	52	62	52	62	72	90	110
GP 2626 MC / GP 2525 M	•	•	•	•	•	•	•	•	•								
GP 3232 MC / GP 3131 M										•	•	•	•	•			
GP 3617 MC / GP 3516 M	•	•	•	•	•	•	•										
GP 4321 MC / GP 4220 M						•	•	•									
GP 5050 MC															•	•	•
GP 6222 MC / GP 6121 M								•	•								
GP 7232 MC / GP 7131 M										•	•	•	•	•			
GP 8222 MC / GP 8121 M								•	•								
GP 12050 MC																•	•

Layout 1	FG / FGU													
	6 19	10 30	12 32	15 35	17 40	20 47	25 52	30 62	35 72	40 80	50 90	55 100	65 120	75 130
GP 2626 MC / GP 2525 M	•	•	•	•	•									
GP 3232 MC / GP 3131 M						•	•	•	•	•	•			
GP 3617 MC / GP 3516 M	•	•	•											
GP 4321 MC / GP 4220 M		•	•	•										
GP 5050 MC												•	•	•
GP 6222 MC / GP 6121 M				•	•									
GP 7232 MC / GP 7131 M						•	•	•	•	•	•			
GP 8222 MC / GP 8121 M				•	•									
GP 12050 MC												•	•	•

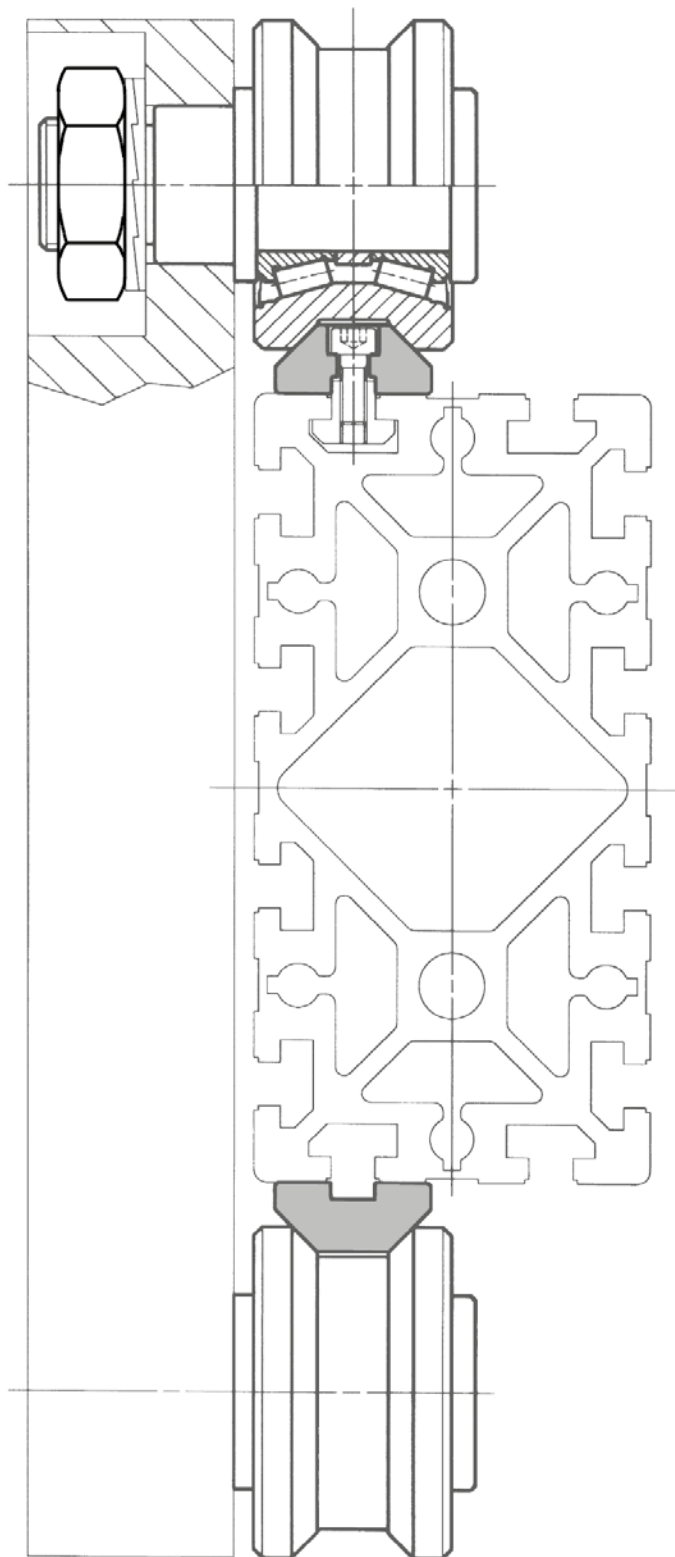
Layout 2	GC												PK / FK				
	19	22	24	26	28	30	32	35	40	47	52	62	52	62	72	90	110
GP 3617 MC / GP 3516 M	•	•	•	•	•	•	•										
GP 4321 MC / GP 4220 M							•	•	•								
GP 6222 MC / GP 6121 M								•	•	•	•	•	•	•			
GP 7232 MC / GP 7131 M										•	•	•	•	•	•		
GP 8222 MC / GP 8121 M															•	•	•
GP 12050 MC																•	•

Layout 2	FG / FGU														
	6 19	10 30	12 32	15 35	17 40	20 47	25 52	30 62	35 72	40 80	50 90	55 100	60 110	65 120	75 130
GP 3617 MC / GP 3516 M	•	•	•												
GP 4321 MC / GP 4220 M			•	•	•										
GP 6222 MC / GP 6121 M				•	•	•	•	•	•						
GP 7232 MC / GP 7131 M						•	•	•	•	•	•	•	•		
GP 8222 MC / GP 8121 M												•	•	•	•
GP 12050 MC												•	•	•	•

In the tables above the suggested combinations. Other combinations are possible but guide rollers must not run over the mounting holes.

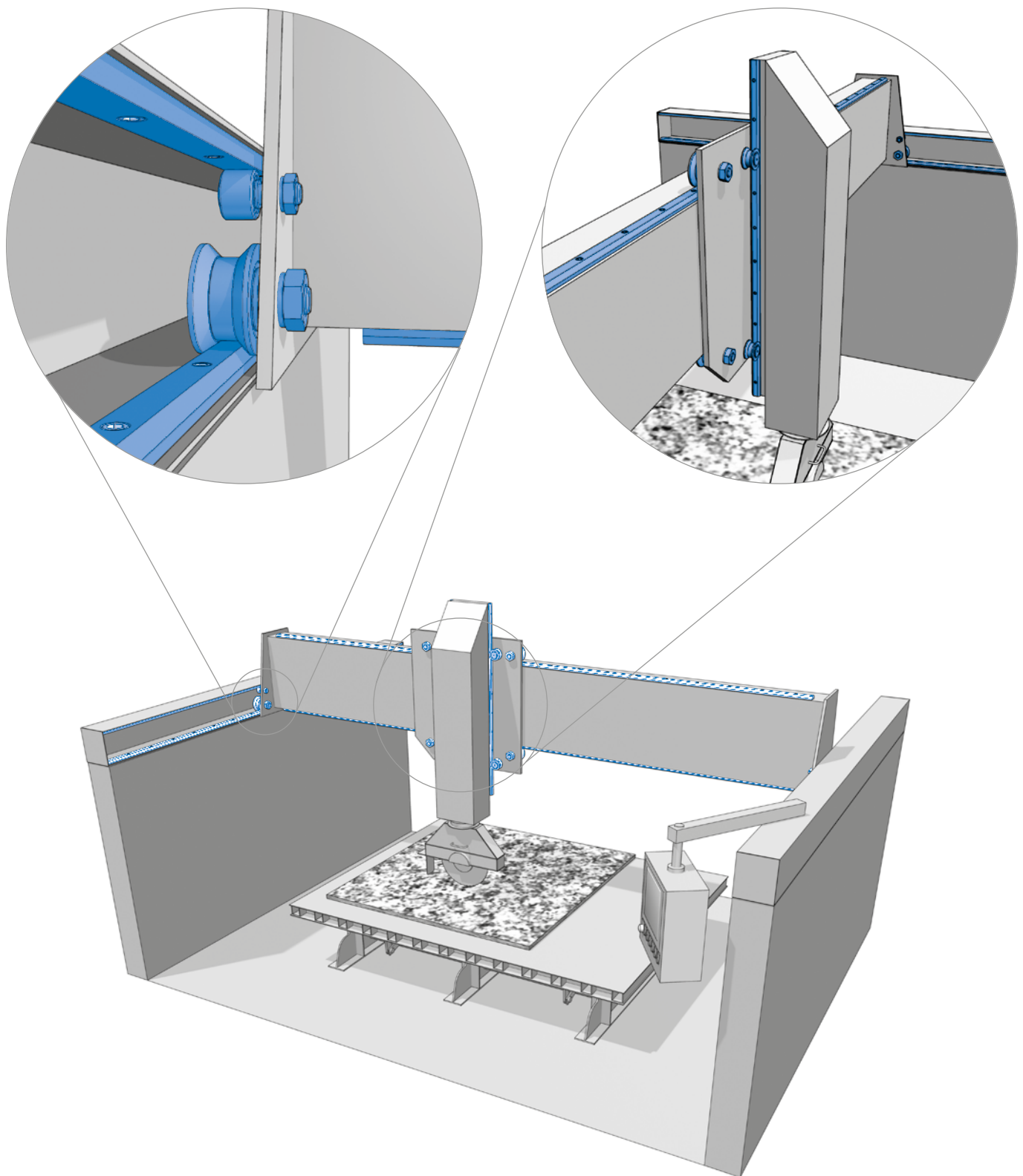
HEAVY-LINE MOUNTING EXAMPLES

Guide rails type GU 35 MT and rollers type RKU 75 operated on light-alloy structure.



3.4

MARBLE MACHINERY Heavy-Line systems GU and GP.



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