

SKF Standard slides



The SKF Group

The SKF Group is an international industrial corporation of AB SKF Sweden, founded in 1907, operating in 130 countries. The company has some 45000 employees and more than 80 manufacturing facilities throughout the world.

Its international network is supported up by nearly 20000 distributors and retailers. SKF is the world leader in the rolling bearing business.

Bearings, seals and special steels are SKF's main product areas. In addition, they also manufacture and sell, other industrial precision components and products.

SKF Linear Motion

One of these industrial precision products assortment is manufactured and sold by the SKF Linear Motion Division.

This unit has some 700 employees, 6 manufacturing facilities, 3 product lines. One of the division's strengths is its ability to serve the market through its organization based on 11 specialized Sales Companies located in Europe and North America; however product availability and product application support is provided world-wide by the SKF international network.

The Linear Motion product range covers:

- High Efficiency Screws
- Linear Guiding Systems
- Electromechanical Actuators

CD-ROM "Designer"

All linear Motion products are available in this CD, in DWG and DXF files.

Thanks to "Designer", you can easily copy the drawing of the product you need into your own design drawing. If you are interested, please do not hesitate to contact your local SKF sales organization. It is free of charge.



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Earlier catalogues the data in which deviate from those given here, are rendered invalid.

The right is reserved to make changes necessitated by technological developments.

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Foreword

This catalogue presents the standard range of cross roller slides. They provide simple and economical solutions to guidance and support requirements in many branches of industry.

Typical applications include machine tools, processing equipment, special machines and appliances, as well as measuring and test equipment.

This catalogue contains a summary of the basic data.

For further technical details, please refer to catalogue 4211E "SKF Slides and Positioning Tables", which contains information on precision, bearing life, lubrication etc.

In certain cases where these standard slides may not be appropriate, other SKF slide systems are available, see pp 8–11 "Selection of suitable slide system" in Catalogue 4211E.

If you require information on any of the slides not included in this catalogue, please ask your supplier for a copy of the relevant publication or contact your local SKF office. We will then provide the relevant information or submit an appropriate proposal for the solution to your problem.

This catalogue is based on 1993 production standards.

Earlier publications, the data in which deviates from that given here, are rendered invalid.

The right is reserved to make changes necessitated by technical developments of the products.

In this catalogue the units used are in accordance with the international SI system (Système International d'Unités).

Conditions of delivery and payment are generally based on those ruling at the time of delivery.

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Technical data

Tolerances

For definitions see Catalogue 4211E pages 12–14

Slide straightness: height **Tz**
side **Ty**

GCL and RM Standard slides

Tolerance (P10)	Stroke [mm]						
	25	50	100	200	300	400	500
Straightness: height Tz [μm]	2	2	3	3	4	4	5
side Ty [μm]	2	2	2	3	3	4	4

GCLA Standard slides

Tolerance (P10)	Stroke [mm]				
	25	50	100	200	300
Straightness: height Tz [μm]	4	4	6	7	8
side Ty [μm]	4	4	5	6	7

Load carrying capacity and slide life

For definitions and calculation, see page 16 in Catalogue 4211E.

Specific features

The standard slides are fitted with limited-stroke rail guides, with cross roller units.

Permissible speed and acceleration

The rail guides can run at speeds up to **2 m/s** and accelerations up to **10 m/s²** are acceptable.

Preload

Preload is applied by set screws fitted along one side of the slide top. The standard slides are preloaded to approximately 10 % of the static load rating.

Materials

GCL Standard slides

- slide top and base: blackened steel or GG25 (cast iron), depending on size

GCLA Standard slides

- slide top and base: black anodised aluminium

RM Standard slides

- base: steel
- guide rails: tool steel 90MnCrV9 (1.4842) hardened
- rolling elements: carbon chromium steel 100Cr6 (1.3505) hardened
- cage: plastic PA12 or aluminium, depending on size

Permissible operating temperature

-30 °C to +80 °C

Friction

The slides are free from stickslip. With normal light lubrication they have a coefficient of friction of between 0,003 and 0,005.

Lubrication

Rail guides of standard slides are lightly greased on assembly with SKF LGMT2 grease, a multi-purpose lithium based grease which also serves as protection against corrosion. It can be used in all standard applications. For further information on lubrication please see Catalogue 4211E, page 20.

Design and characteristic features

General

The range of slides shown in this catalogue is standardised in terms of design, sizes and type of bearing. Slides differing from those included here, in design and drill hole pattern can only be produced economically in large batches. Reference should also be made to the range of **SKF slides and tables** in Catalogue 4211E.

GCL Standard slides

Slide top and base of blackened steel or GG25 (cast iron) depending on size.

These slides are provided with standard patterns of mounting holes. The slide top carries tapped holes and the base plate counterbored holes to DIN 74 Form K for cylindrical screws to DIN 912. Both the upper and lower surfaces of the slides are ground. The surface of the side opposite to the set screws is ground parallel to the slide axis and can therefore be used as a reference face. Internal stops serve as stroke limits. The slides are fitted with SKF precision rail guides type **LWR** with cross roller cage assemblies type **LWAK** (plastic) for **GCL 1 to 3** or type **LWAL** (aluminium) for **GCL 6 and 9**. The mounting orientation is optional.

GCLA Standard slides

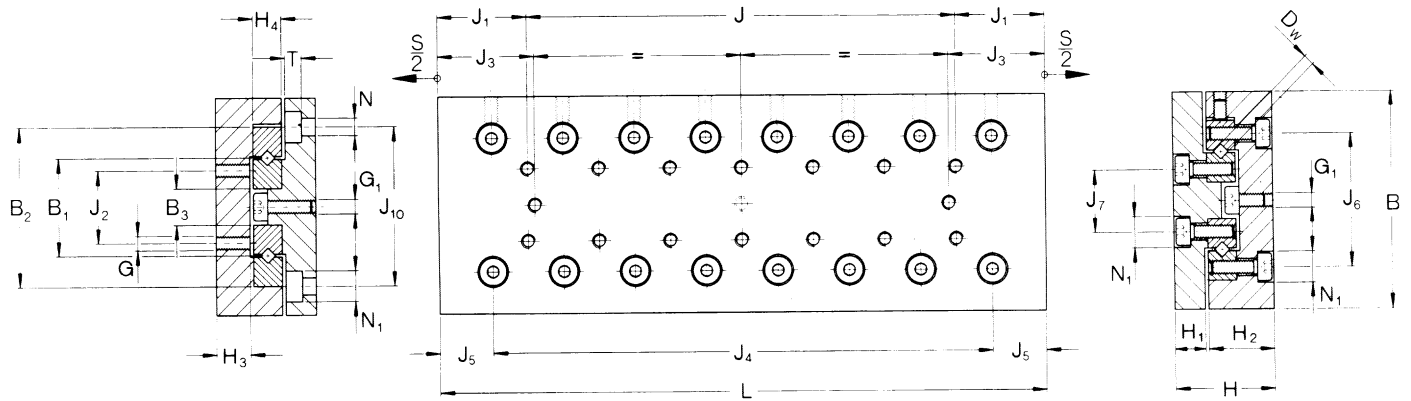
Slide top and base of black anodised aluminium.

In other respects the design is similar to that of the GCL slides except for the height which is slightly lower.

RM Standard slides

Fitted with either cross roller rail guides or V-guided ball cages. The slide body also acts as the slide top and bears parallel opposed V-guide profiles. The opposing V-rails are screwed to a steel base plate. Slide top and bottom carry a standard pattern of mounting holes. All external surfaces are ground parallel to the slide axis and may therefore be used as attachment faces. External stroke limits must be used. End stops are used to prevent the cage from driving out. The mounting orientation is optional.

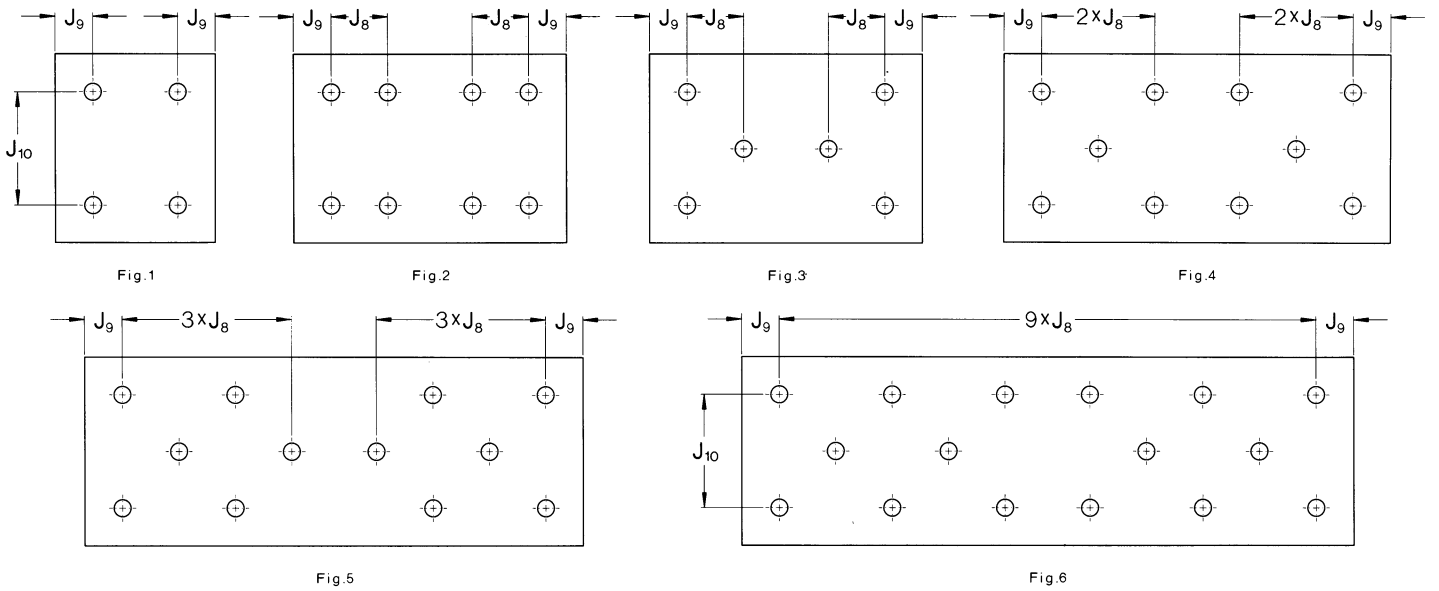
Drill hole pattern in top plate



Designations Dimensions

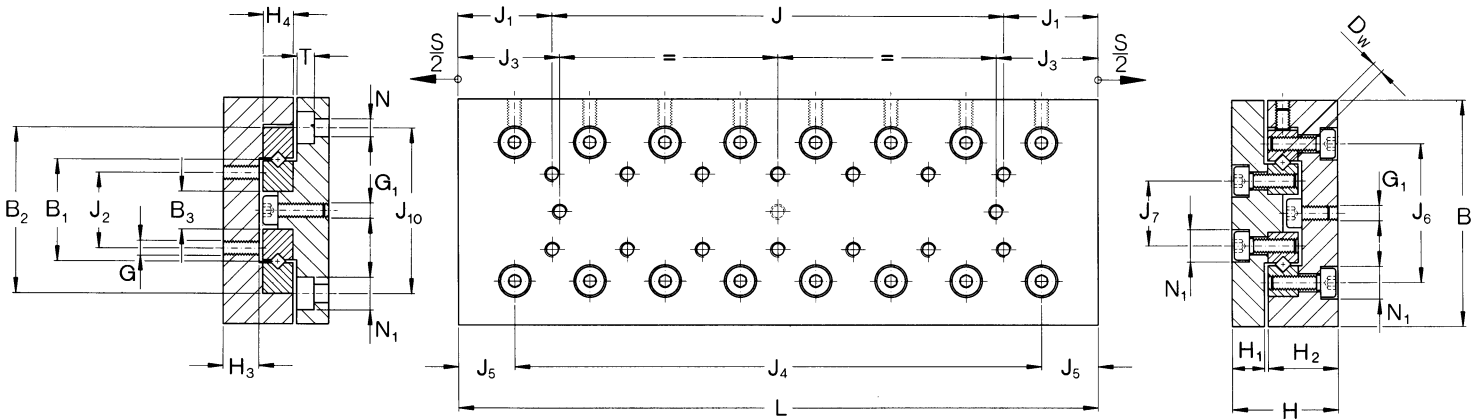
	B	H	L	Stroke S	Stroke												
					B ₁	B ₂	B ₃	D _w	G	G ₁	H ₁	H ₂	H ₃	H ₄	J	J ₁	J ₂
mm																	
GCL 1020			25	12												-	
GCL 1030			35	18												1x10	
GCL 1040			45	25												2x10	
GCL 1050	30	17	55	32	13,5	22	5	1,5	M2	M2	5,5	11	6,5	4	3x10	12,5 10	
GCL 1060			65	40												4x10	
GCL 1070			75	45												5x10	
GCL 1080			85	50												6x10	
GCL 2030			35	18												-	
GCL 2045			50	30												1x15	
GCL 2060			65	40												2x15	
GCL 2075	40	21	80	50	18	30	6	2	M3	M3	6,5	14	7,5	6	3x15	17,5 15	
GCL 2090			95	60												4x15	
GCL 2105			110	70												5x15	
GCL 2120			125	80												6x15	
GCL 3050			55	30												-	
GCL 3075			80	45												1x25	
GCL 3100			105	60												2x25	
GCL 3125	60	28	130	75	28	46	10	3	M4	M4	9	18,5	10	8	3x25	27,5 25	
GCL 3150			155	90												4x25	
GCL 3175			180	105												5x25	
GCL 3200			205	130												6x25	

GCL Standard slides
Drill hole pattern in base plate



J_3	J_4	J_5	J_6	J_7	J_8	J_9	J_{10}	Fig	N	N_1	T	Load carrying capacity C_{eff}	Mass capacity C_o	
									mm			N		kg
2,5	1x10							1				208	117	0,08
4,5	2x10							1				285	176	0,11
6	3x10							1				357	234	0,14
7,5	4x10	7,5	18,4	8,6	10	3,5	22	2	2,4	4,3	2,3	424	293	0,18
8,5	5x10							2				489	351	0,21
11	6x10							2				582	439	0,24
13,5	7x10							2				642	497	0,28
3	1x15							1				307	136	0,18
4,5	2x15							1				475	238	0,26
7	3x15							1				578	306	0,34
9,5	4x15	10	25	11	15	5	30	2	3,4	6	3,4	724	408	0,42
12	5x15							2				816	476	0,50
14,5	6x15							2				950	578	0,58
17	7x15							2				1036	646	0,68
5,5	1x25							1				1030	480	0,57
10,5	2x25							1				1535	800	0,80
15,5	3x25							1				1883	1040	1,0
20,5	4x25	15	39	17	25	10	40	1	4,5	8	4,6	2322	1360	1,3
25,5	5x25							3				2636	1600	1,5
30,5	6x25							3				3038	1920	1,7
30,5	7x25							4				3234	2080	2,0

Drill hole pattern in top plate



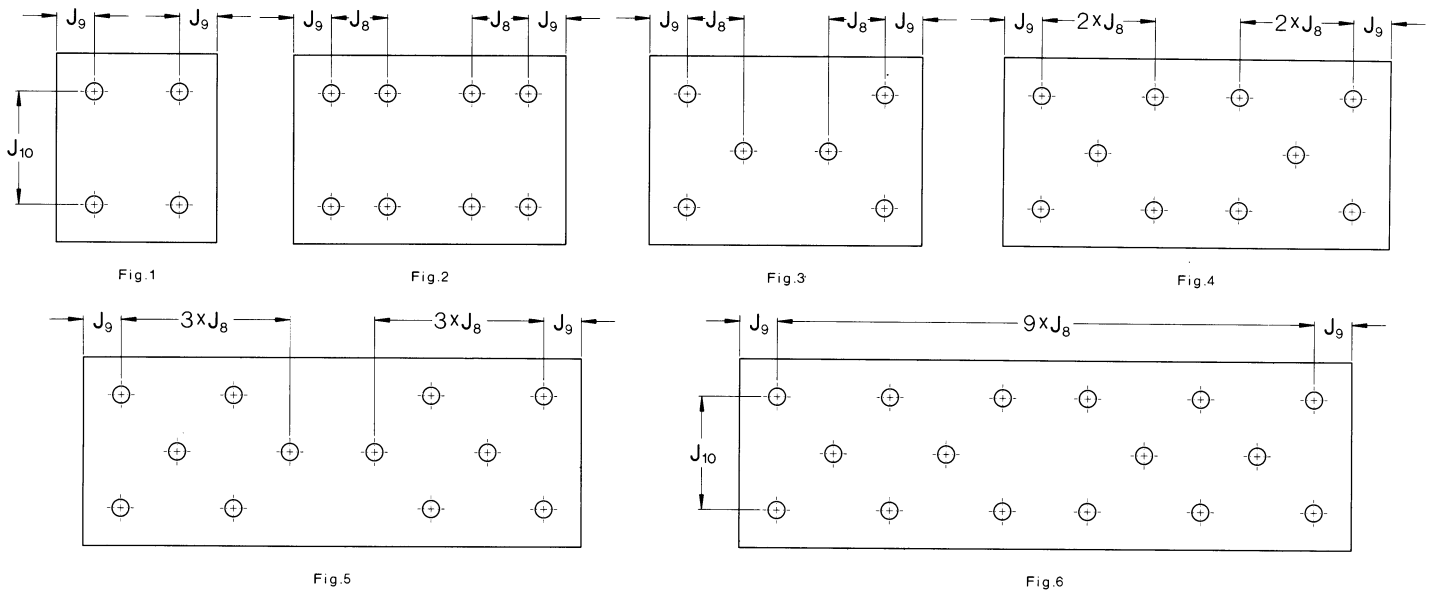
Designations Dimensions

Designation	Dimensions		Stroke		B ₁	B ₂	B ₃	D _w	G	G ₁	H ₁	H ₂	H ₃	H ₄	J	J ₁	J ₂
	B	H	L	S													

mm

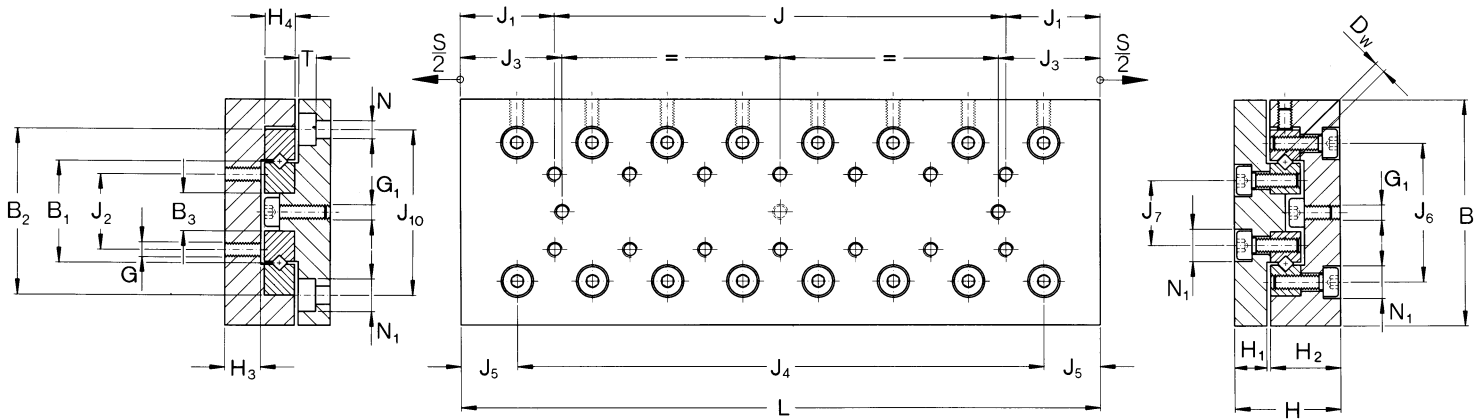
GCL 6100			110	60											-		
GCL 6150			160	95											1x50		
GCL 6200	100	45	210	130	45	76	14	6	M6	M5	13	31	15,5	15	2x50	55	50
GCL 6250			260	165											3x50		
GCL 6300			310	200											4x50		
GCL 6400			410	280											6x50		
GCL 9200			210	130											-		
GCL 9300	145	60	310	180	72	116	28	9	M8	M8	16	43	20,5	22	1x100	105	80
GCL 9400			410	350											2x100		
GCL 9500			510	450											3x100		

GCL Standard slides
Drill hole pattern in base plate



J_3	J_4	J_5	J_6	J_7	J_8	J_9	J_{10}	Fig	N	N_1	T	Load carrying capacity C_{eff}	Mass capacity C_o	
									-	mm			N	kg
16	1x50							1				5150	2380	3,1
23,5	2x50							1				7327	3740	4,5
31	3x50	30	64	26	50	10	60	3	6,6	11	6,8	8844	4760	5,9
38,5	4x50							3				10759	6120	7,2
46	5x50							3				12134	7140	8,6
56	7x50							4				15186	9520	11,4
27	1x100							1				18208	8235	11,8
52	2x100	55	98	46	100	55	90	1	9	15	9	25700	12810	17,3
17	3x100							3				27121	13725	22,8
17	4x100							3				32612	17385	28,3

Drill hole pattern in top plate



Designations Dimensions

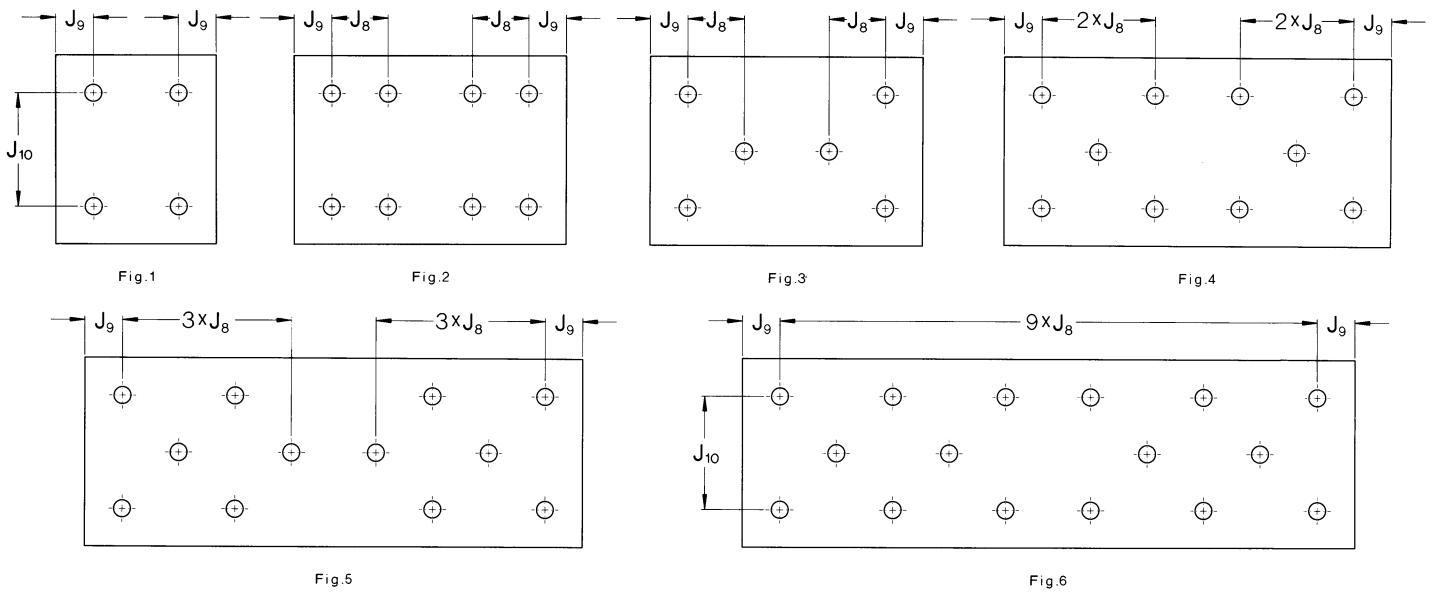
Stroke

B	H	L	S	B ₁	B ₂	B ₃	D _w	G	G ₁	H ₁	H ₂	H ₃	H ₄	J	J ₁	J ₂
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mm

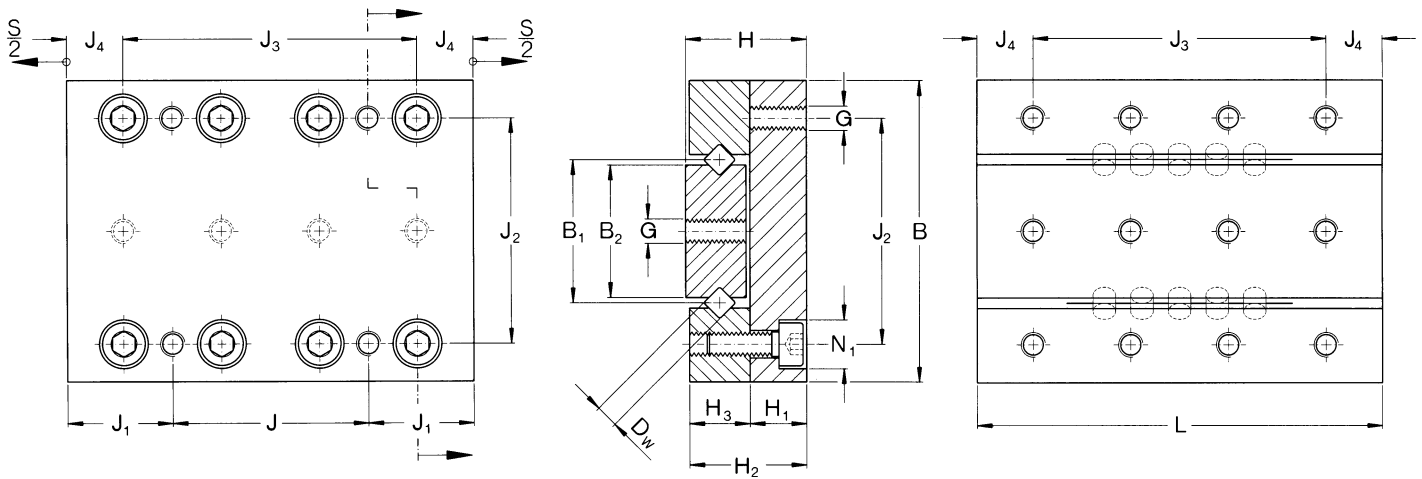
GCLA 1020			25	12										-			
GCLA 1030			35	18										1x10			
GCLA 1040			45	25										2x10			
GCLA 1050	30	13	55	32	13,5	22	5	1,5	M2	M2	4,1	8,5	6,5	4	3x10	12,5	10
GCLA 1060			65	40										4x10			
GCLA 1070			75	45										5x10			
GCLA 1080			85	50										6x10			
GCLA 2030			35	18										-			
GCLA 2045			50	30										1x15			
GCLA 2060			65	40										2x15			
GCLA 2075	40	21	80	50	18	30	6	2	M3	M3	6,7	14	7,5	6	3x15	17,5	15
GCLA 2090			95	60										4x15			
GCLA 2105			110	70										5x15			
GCLA 2120			125	80										6x15			
GCLA 3050			55	30										-			
GCLA 3075			80	45										1x25			
GCLA 3100			105	60										2x25			
GCLA 3125	60	25	130	75	28	46	10	3	M4	M4	8,2	16,5	10	8	3x25	27,5	25
GCLA 3150			155	90										4x25			
GCLA 3175			180	105										5x25			
GCLA 3200			205	130										6x25			
GCLA 6100			110	60										-			
GCLA 6150			160	95										1x50			
GCLA 6200	100	40	210	130	45	76	14	6	M6	M5	11,5	28	15,5	15	2x50	55	60
GCLA 6250			260	165										3x50			
GCLA 6300			310	200										4x50			
GCLA 6400			410	280										6x50			

GCLA Standard slides
Drill hole pattern in base plate



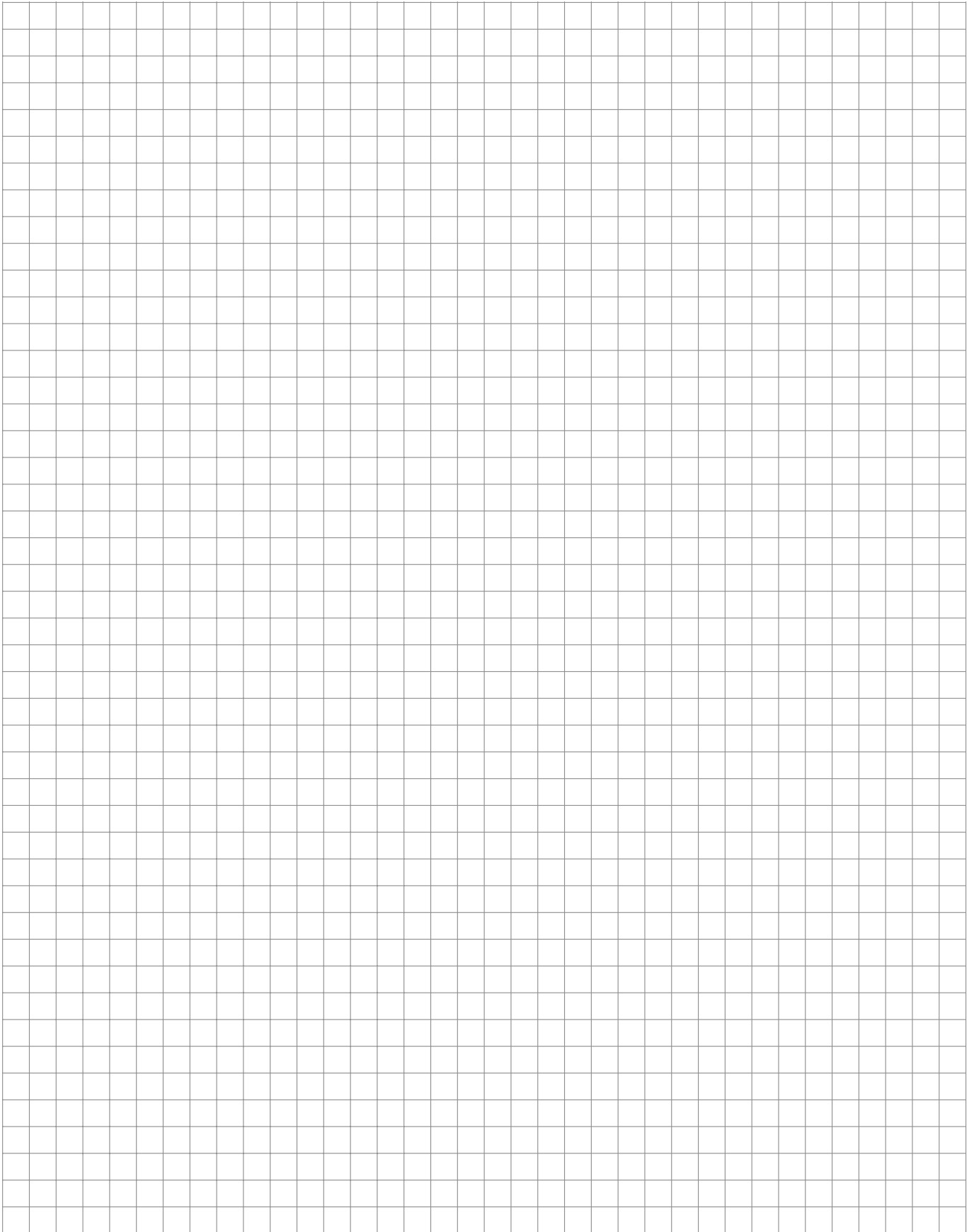
J_3	J_4	J_5	J_6	J_7	J_8	J_9	J_{10}	Fig	N	N_1	T	Load carrying capacity C_{eff}	Mass capacity C_o	
									mm			N		kg
2,5	1x10							1				208	117	0,04
4,5	2x10							1				285	176	0,05
6	3x10							1				357	234	0,06
7,5	4x10	7,5	18,4	8,6	10	3,5	22	2	2,4	4,3	2,3	424	293	0,08
8,5	5x10							2				489	351	0,09
11	6x10							2				582	439	0,11
13,5	7x10							2				642	497	0,12
3	1x15							1				307	136	0,11
4,5	2x15							1				475	238	0,15
7	3x15							1				578	306	0,19
9,5	4x15	10	25	11	15	5	30	2	3,4	6	3,4	724	408	0,23
12	5x15							2				816	476	0,27
14,5	6x15							2				950	578	0,31
17	7x15							2				1036	646	0,35
5,5	1x25							1				1030	480	0,29
10,5	2x25							1				1535	800	0,42
15,5	3x25							1				1883	1040	0,55
20,5	4x25	15	39	17	25	10	40	1	4,5	8	4,6	2322	1360	0,68
25,5	5x25							3				2636	1600	0,81
30,5	6x25							3				3038	1920	0,94
30,5	7x25							4				3234	2080	1,1
16	1x50							1				5150	2380	1,5
23,5	2x50							1				7327	3740	2,3
31	3x50	30	64	26	50	10	60	3	6,6	11	6,8	8844	4760	3,0
38,5	4x50							3				10759	6120	3,8
46	5x50							3				12134	7140	4,5
56	7x50							4				15186	9520	6,0

RM Standard slides

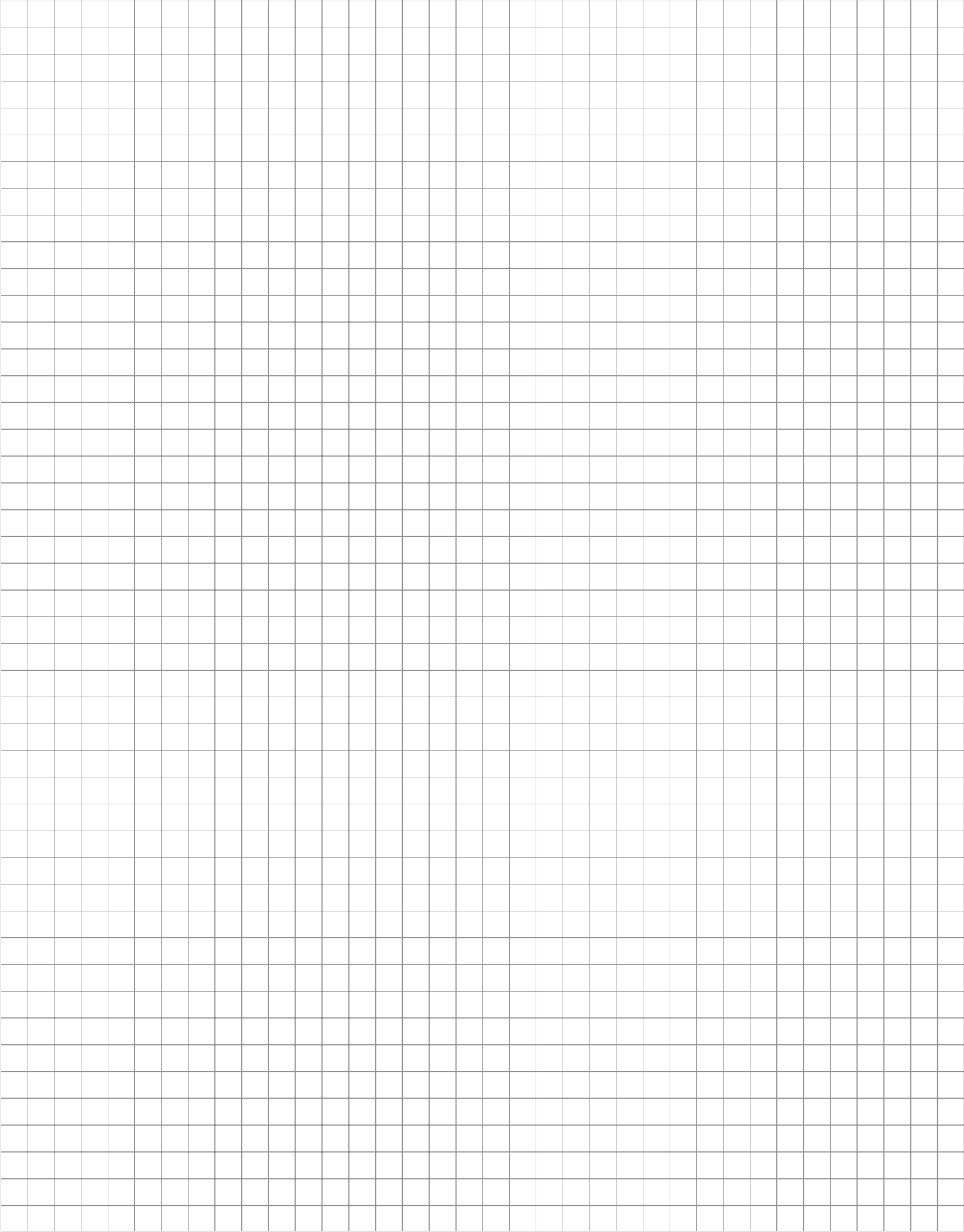


De-signations	Dimensions										Stroke				Load carrying capacity				Mass		
	B	H	L	S	B ₁	B ₂	D _w	G	N ₁	H ₁	H ₂	H ₃	J	J ₁	J ₂	J ₃	J ₄	C _{eff}	C ₀	GS	
	mm																			N	kg
RM 1020			25	12									1x18	3,5		1x10		208	117	0,02	
RM 1030	20	8	35	18	7,7	7	1,5	M2,5	4,1	3,5	7,5	4	1x28	3,5	14	2x10	7,5	285	176	0,03	
RM 1040			45	25									1x20	12,5		3x10		357	234	0,04	
RM 1050			55	32									1x30	12,5		4x10		424	293	0,05	
RM 2060			65	40									1x30			3x15		578	306	0,16	
RM 2075	30	12	80	50	13	12	2	M3	6	5,5	11,5	6	1x45	17,5	22	4x15	10	724	408	0,19	
RM 2090			95	60									2x30			5x15		816	476	0,24	
RM 3100			105	60									1x50			3x25		1883	1040	0,47	
RM 3125	40	16	130	75	17,5	16	3	M4	7,5	7,5	15,5	8	1x75	27,5	30	4x25	15	2322	1360	0,58	
RM 3150			155	90									2x50			5x25		2636	1600	0,69	

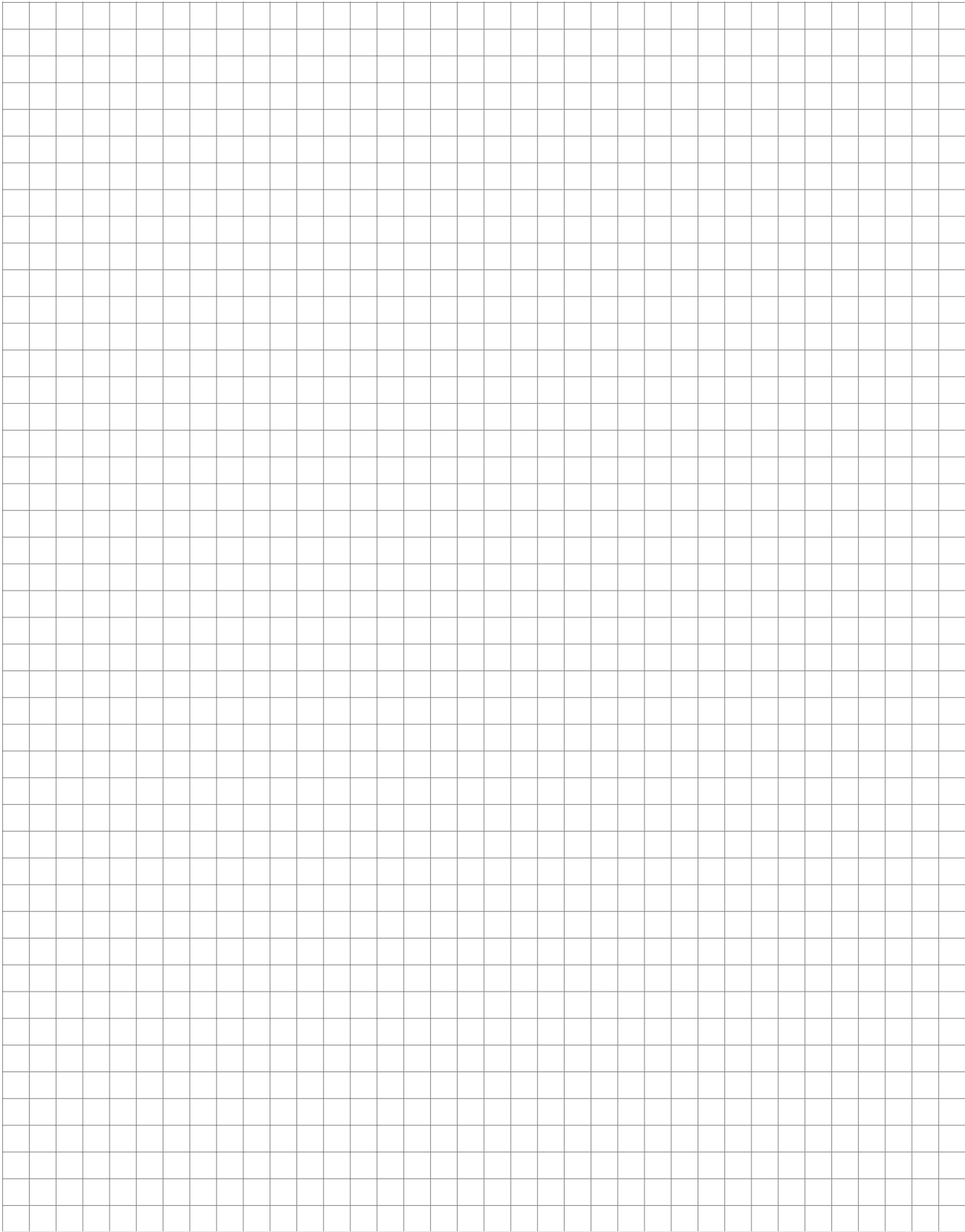
Notizen



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SKF Guiding Systems



SKF Ball & Roller Screws



SKF Actuators

SKF Linear Motion offers a wide range of precision engineered linear motion components, units and systems. In addition to comprehensive product literature and software, SKF offers assistance from experienced linear motion engineers.

Linear Motion has **3 product lines** and a sales organisation based on **11 specialized sales companies** located in Europe and in the USA.

However the product availability as well as the product application is **world-wide granted by the SKF Bearing international network**. To get any other SKF address all over the world, please contact one of the companies below.

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