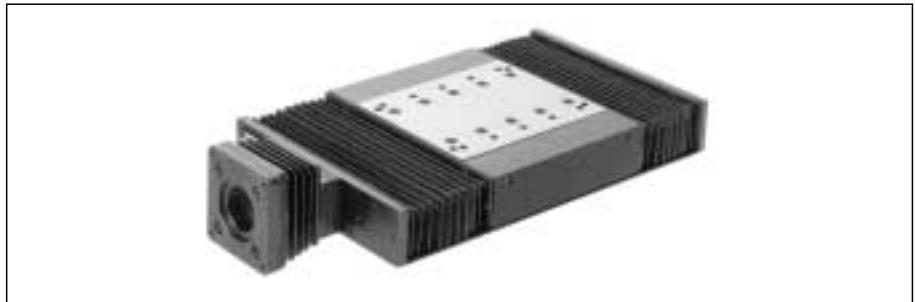


7.1 Frictionless Tables Type NCF



- 1 to multi-axis models; table components in cast-iron
- Low and light design
- 2 Sizes
- Lengths from 212 to 470 mm
- Strokes from 25 to 150 mm
- With roller cages AC
- With protective bellows

7.2 Material

Cast-iron

7.3 Standard Model

Type NCF frictionless tables are designed on the modular construction principle and can, therefore, be joined to form 2 or multi-axis systems. Within the series all models can be joined to form any desirable combination. Thus care must be taken with multi-axis systems that the lower frictionless table is at least as large as the upper axes, in order to avoid overloading.

Connection to a frictionless table is with an intermediate plate; with a 3-axis system by means of an intermediate plate and assembly bracket. These additional parts need not be quoted when ordering 2 or 3 axis systems, they will be supplied automatically. All sizes can be used in two ways ie, with the short table section at the top (Form 22), or the long table section at the top (Form 11), whereby with the second option the space requirement is greater.

Design features of NCF models:

- Low and light construction
- Upper and lower sections of unequal length
- Type R linear bearings with type AC protruding roller cages
- Roller spindle with playfree, preloaded nut; various pitches; lead accuracy 0.03 mm over 300 mm thread length
- Protective bellows
- Threaded attaching holes in both table sections to mount the table or for the attachment of customer's components
- Lateral guards to protect accessories such as linear encoders or endswitches

The mature design of these SCHNEEBERGER frictionless tables permits the highest degree of accuracy; long operational life; economical prices and flexible solutions.

7.4 Overview Options

Limit switches (-N)

inductive (PNP normally closed)

Reference and limit switches (-N1)

inductive (PNP normally closed) and safety endswitch

Linear Encoder (-Q)

measuring steps 0.001 mm

Motor Flange (-L)

Motor Flange and coupling for (-LS)

customized motor

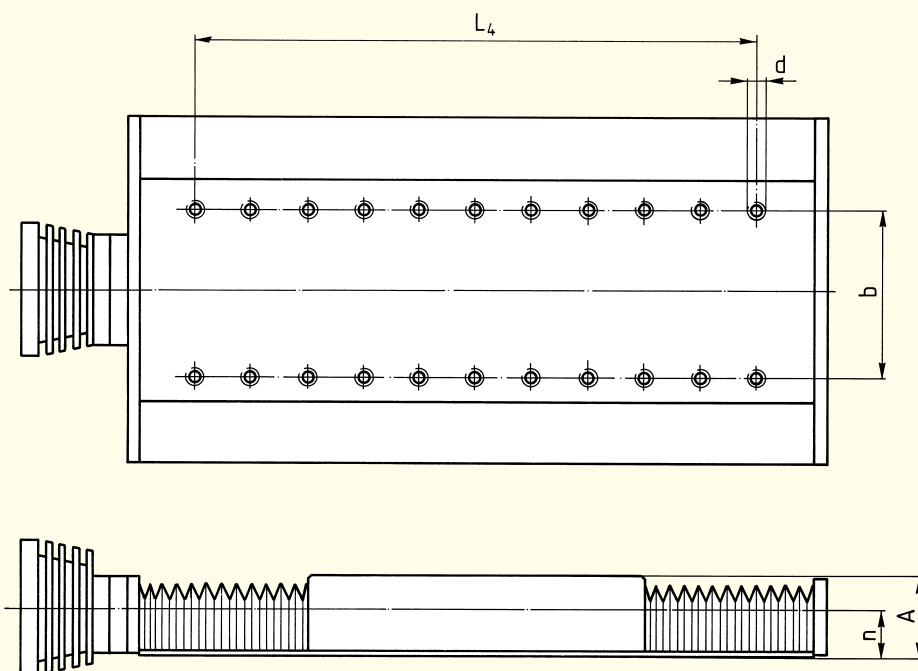
Base Plate Type GPF

Assembly Bracket Type MWF

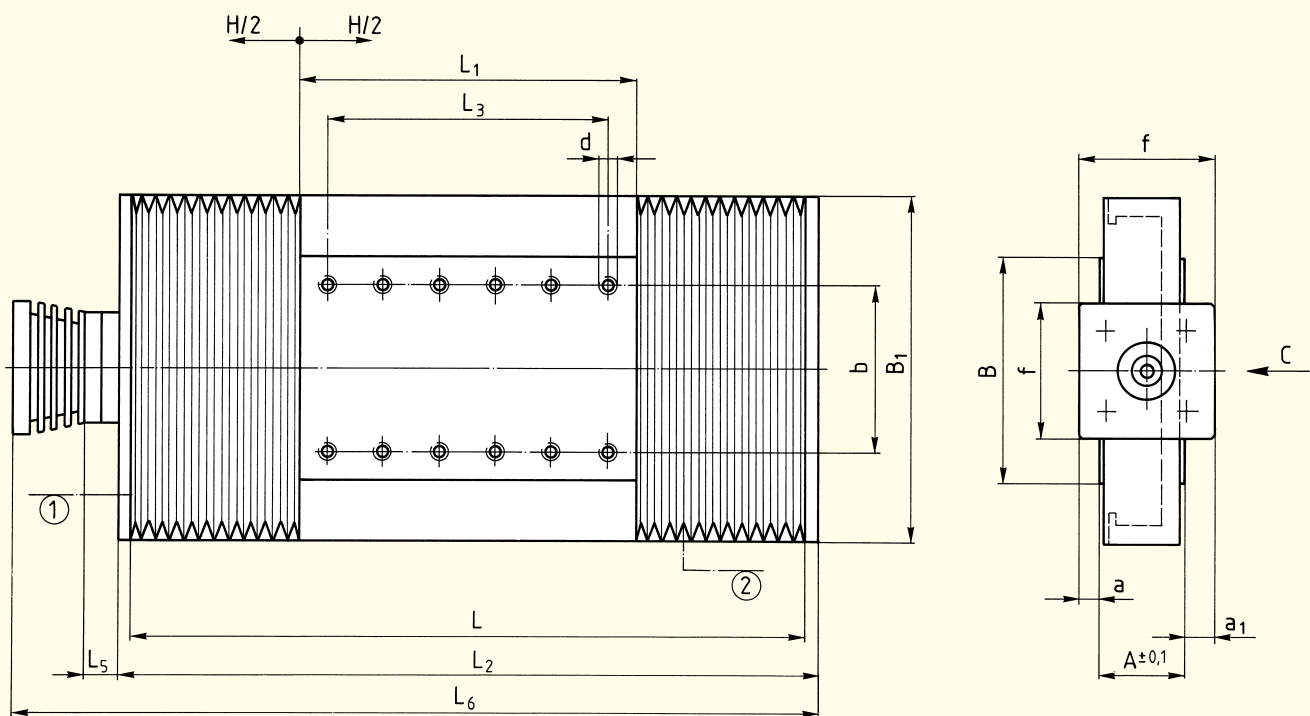
7.5 Special Model

On request

7.6 Dimensions



Order No.	A	B	B ₁	H	H _{max}	L	L ₁	L ₂	L ₃	L ₄	L ₅
NCF 33-200/125-K1				25	35	200	125	212	4 × 25	6 × 25	
NCF 33-250/125-K1	36	100	155	50	65	250	125	262	4 × 25	8 × 25	15
NCF 33-300/150-K1				75	90	300	150	312	5 × 25	10 × 25	
NCF 33-350/150-K1				100	115	350	150	362	5 × 25	11 × 25	
NCF 46-250/150-K1				50	60	250	150	270		7 × 25	
NCF 46-350/150-K1	50	150	230	100	130	350	150	370	5 × 25	9 × 25	25
NCF 46-450/150-K1				150	190	450	150	470		11 × 25	



L ₆	a	a ₁	b	d	f	n	C in N	M _L in Nm	M _Q in Nm	Weight in kg
267							2860	27.3	91.52	5
317	9	15	75	M5	60	21	2860	27.3	91.52	6
367							3510	33.8	112.32	7
417							3510	33.8	112.32	8
361							7950	133.56	393.53	12
461	13.5	21.5	125	M6	85	29	7950	133.56	393.53	14.5
561							7950	133.56	393.53	17

- ① Socket to connect limit switches
② Cables outlet for measuring system

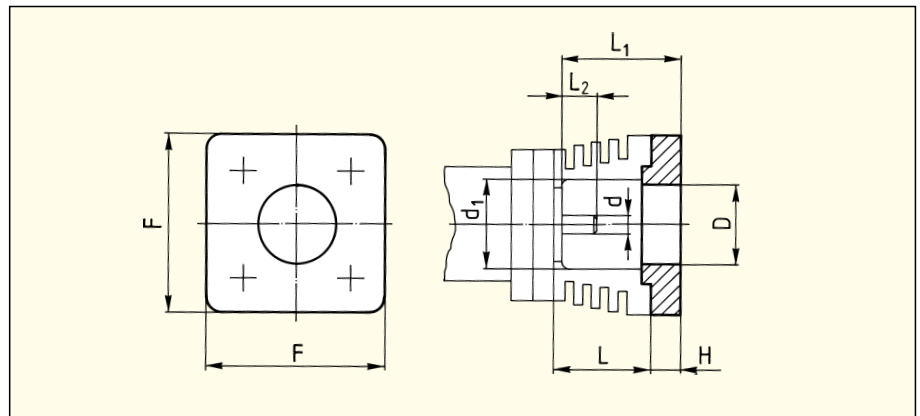
7.7 Options

Spindle Pitches

Type	Suffix	Pitch in mm	Spindle- Ø	¹⁾ Dyn. Load Carrying Capacity in N	²⁾ Minimum Torque in Ncm
NCF 33	-V1	1	8	3 100	7
	-V2	2		6 200	8
	-V5	5		15 200	10
NCF 46	-V2	2	12	4 900	13
	-V4	4		9 700	14
	-V5	5		12 100	15

Motor Flange (-L)

Semi-finished; holes for motor attachment can be drilled by customer



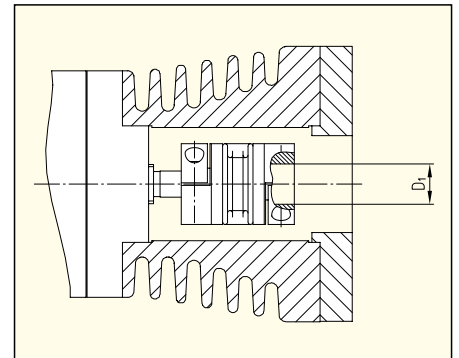
Type	Suffix	D	F	H	L	L ₁	L ₂	d	d ₁
NCF 33	-L	30	60	8	36	41	8.5	5 h6	28
NCF 46	-L	30	85	10	61	61	14	8 h6	35

¹⁾ Dynamic load carrying capacity of the spindle with a calculated operational life of 10⁶ revolutions

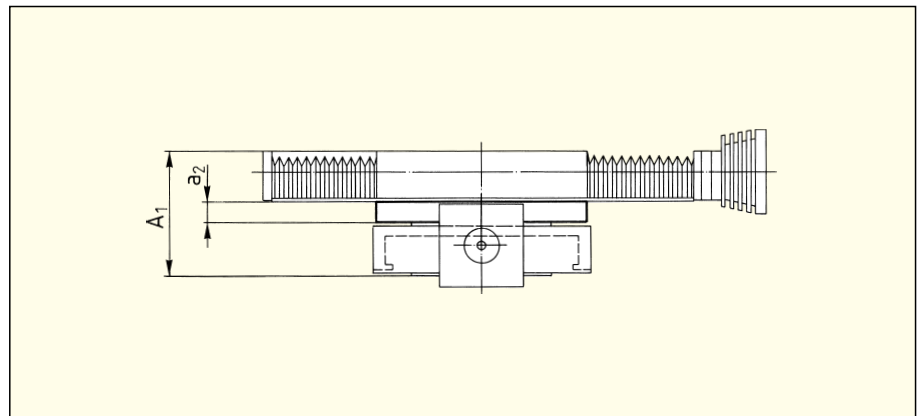
²⁾ Minimum spindle torque needed with the table unloaded and with a horizontal, uniform motion

NCF 33/46 Motor Flange and Coupling for Customized Motor (-LS)

Type	D ₁ (motor side)
NCF 33	∅ 3-12.5H7
NCF 46	∅ 5-16 H7

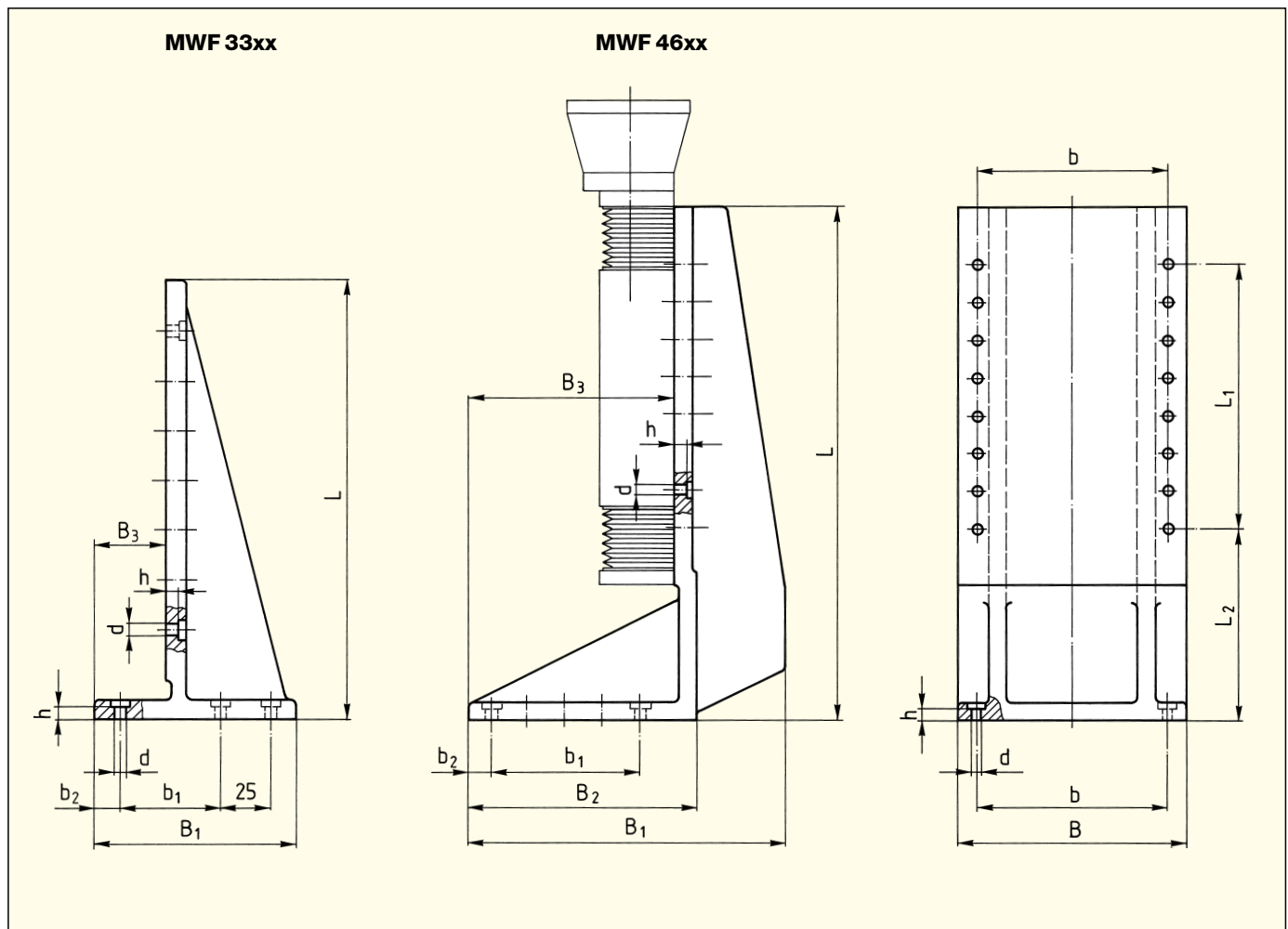


Intermediate Plate



Type	a ₂	A ₁
NCF 33	8	80
NCF 46	10	110

Assembly Bracket



Type	Order No.	B	B ₁	B ₂	B ₃	L	L ₁	L ₂	b	b ₁	b ₂	d	h
NCF 33	MWF 3301					220	6 × 25	45					
	MWF 3302	100	100	–	35	270	8 × 25	45	75	50	12.5	6	6.5
	MWF 3303					320	10 × 25	45					
	MWF 3304					370	11 × 25	56					
NCF 46	MWF 4601	150	210	150	135	340	7 × 25	128	125	4 × 25	13	7	10.5
	MWF 4602					415	9 × 25	153					

Ordering example: 1 Assembly bracket MWF 3301

7.8 Ordering information

Ordering example:

- 1 Frictionless table NCF 33-250/150-K1-V2-N1 or
- 1 Frictionless table comprising:
 - 1 Frictionless table NCF 46-350/150-K1-V4-N-L-Form 22
 - 1 Frictionless table NCF 46-250/150-K1-V4-N-L-Form 22

7.9 Acceptance Tolerances

All SCHNEEBERGER frictionless tables are manufactured as standard with the accuracies indicated in the tables. Measurement is in the unloaded state on a flat surface.

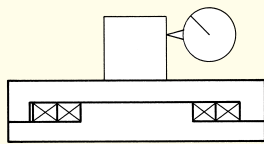
The tolerance values are shown in the table as mentioned before. We can supply, as an extra cost option, tables with **acceptance certificates** with regard to angular deviation in the individual axes (ROLL, PITCH, YAW).

All SCHNEEBERGER tables are also available in higher accuracy, special quality executions or in customer specific acceptance tolerances.

Type	Size
NCF	33-200/125-K1
	33-250/125-K1
	33-300/150-K1
	33-350/150-K1
NCF	46-250/150-K1
	46-350/150-K1
	46-450/150-K1

Type	Size
NCF	33-200/125-K1
	33-250/125-K1
	33-300/150-K1
	33-350/150-K1
NCF	46-250/150-K1
	46-350/150-K1
	46-450/150-K1

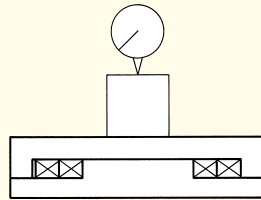
Straightness of Travel in μm
over Stroke Length; Laterally



Form 11

Form 22

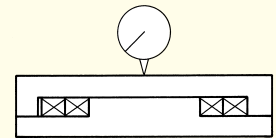
Flatness of Travel in μm
over Stroke Length; at Top



Form 11

Form 22

Parallelism in μm of Table Surfaces;
frictionless Table in Middle Position



Form 11

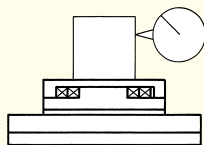
Form 22

3	3
3	3
3	3
4	4
3	3
4	4
4	4

3	2
3	2
3	2
4	3
3	2
4	3
4	3

20	15
20	15
20	15
25	15
20	15
25	15
25	15

Straightness of Travel in μm
over Stroke Length; Laterally



Form 11

Form 22

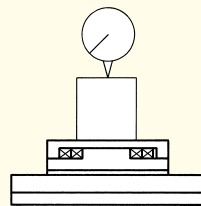
Axis

Axis

X Y

X Y

Straightness of Travel in μm
over Stroke Length; at Top



Form 11

Form 22

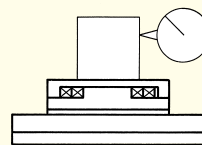
Axis

Axis

X Y

X Y

Squareness in μm
of both Motions;
over Stroke Length



Form 11

Form 22

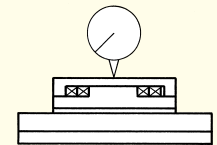
Axis

Axis

X and Y

X and Y

Parallelism in μm
of Table Surfaces;
in Middle Position



Form 11

Form 22

4	3	4	3
4	3	4	3
4	3	4	3
5	4	5	4
4	3	4	3
5	4	5	4
5	4	5	4

5	4	3	2
5	4	3	2
5	4	3	2
6	5	3	3
5	4	3	2
6	5	3	3
6	5	3	3

5	5
5	5
5	5
10	10
10	10
10	10
10	10

30	22
30	22
30	22
35	22
30	22
35	22
35	22