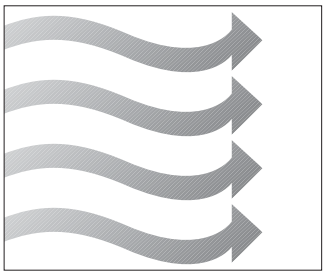
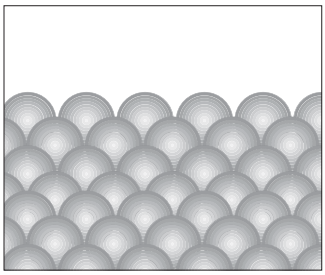
The New Class defines the performance limits of screw jacks



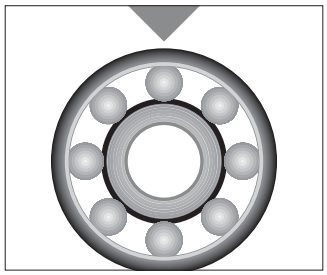
The design

The cubic shape with integrated cooling fins permits a longer duty cycle, as the heat is dissipated more effectively, thus extending the service life of the lubricant. The surface coating simultaneously protects the jack against corrosion.



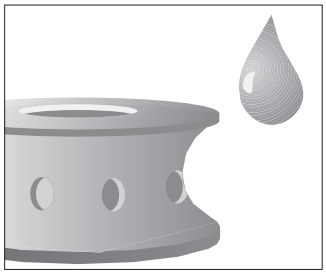
The housing material

The mechanical strength of the housing has been improved, particularly at high temperature, through the use of spheroidal graphite iron instead of the former cast iron. This ensures greater reliability, even in tough service conditions.



The bearings

Taper roller bearings on the worm shaft and heavy-duty ball bearings as the main thrust bearings make it possible to move higher loads, increase the safety reserve and extend the service life.

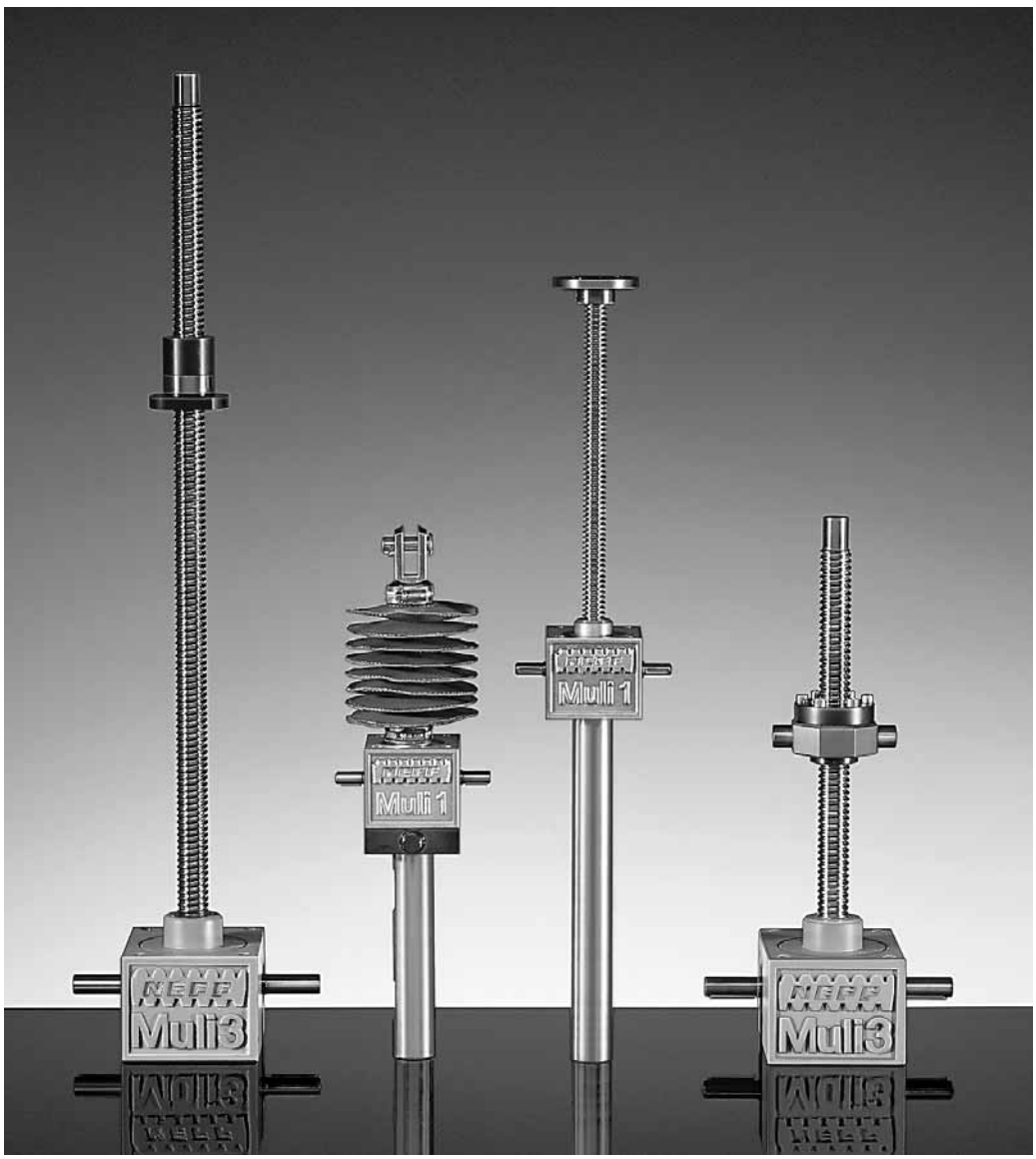


The lubrication

The trapezoidal screw (version N) is greased by radial lubrication holes on the worm wheel. The resultant lower friction and temperature extends the service life, particularly when operating with longer stroke lengths.

The range of NEFF worm gear screw jacks comprises ten models with lifting capacities from 5 to 500 kN. All versions are designed for both tensile and compressive loads and will operate in any orientation or mounting position.
They meet the most demanding technical standards:

- Wide range of load capacities
- High and low speeds
- Cubic shape of the housing with predrilled flange bores allows ideal attachment of a motor, gearbox or rotary encoder
- Standard mounting parts and end fittings
- Easy synchronization of several worm gear screw jack units
- With ball screw or trapezoidal screw, as required for the application concerned
- Extensive variations, also for special requirements (e.g. safety nut)
- Complete range of accessories



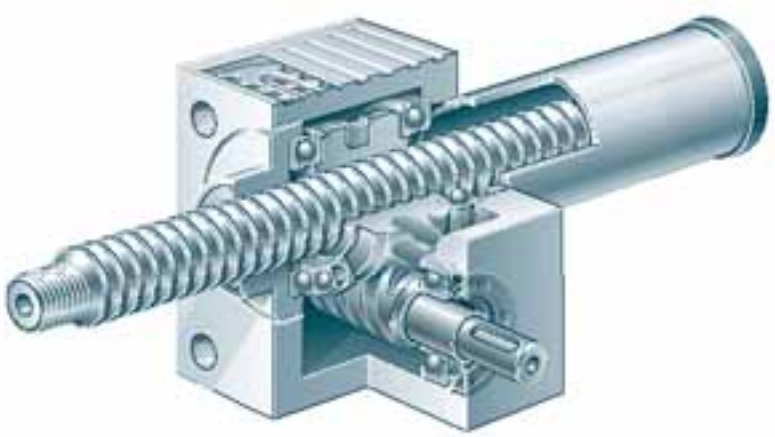
Worm gear screw jacks
Design versions

MULI® 1 to MULI® 5 (5–100 kN)

Axially translating screw

Version N or V

The rotary motion of precision worm gearing (worm shaft and internally threaded worm wheel) is converted into axial linear motion of the screw, which travels/translates through the gearbox housing.
The load is attached to the end of the screw.

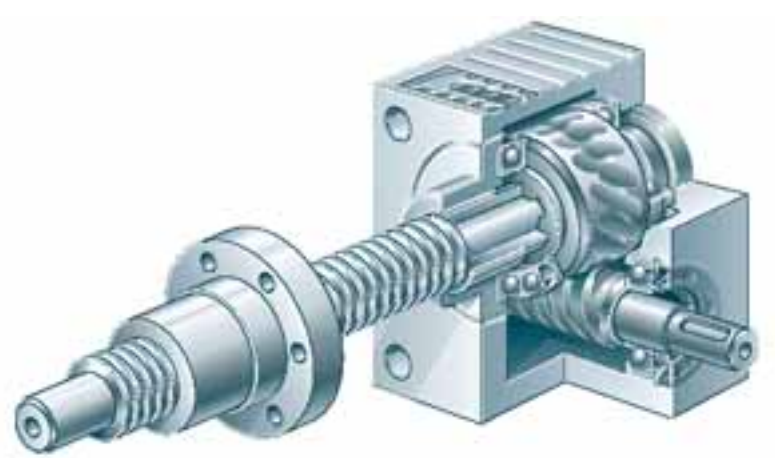


JUMBO® 1 to JUMBO® 5 (150–500 kN)

Rotating screw

Version R

Driven by a precision worm gearing (screw keyed to the worm wheel), the rotary motion of the screw is translated into linear motion of the travelling nut on the screw.



Version N

Rotation of the screw is prevented by its permanent attachment to the guided load.

Version V

Version V with anti-rotation device is recommended if the screw cannot be secured externally to prevent rotation.

Version R

Note:
The travelling nut must be ordered separately.

Gear ratio H

One full turn of the worm shaft produces a stroke of 1 mm (see page 10/11).

Gear ratio L

One full turn of the worm shaft produces a stroke of 0.25 mm (see page 10/11).

Trapeziodal screw

For tough conditions, good price/performance ratio.

Ball screw

For longer duty cycles, with higher efficiency, high positional accuracy.

Technical data
Worm gear screw jacks

The range includes a total of ten worm gear screw jack models in two series: MULI® 1 to MULI® 5 with lifting capacities up to 100 kN and JUMBO® 1 to JUMBO® 5 with lifting capacities from 150 kN to 500 kN statically.

Speed of travel

Gear ratio H (high speed)
For worm gear screw jacks fitted with standard trapezoidal screws, one full turn of the worm shaft produces a stroke of 1 mm and therefore a **linear speed of 1500 mm/minute at 1500 rpm.** The figures for units fitted with ball screws range from 1071 mm/minute to 2142 mm/minute depending on size and pitch.

Gear ratio L (low speed)
For worm gear screw jacks fitted with standard trapezoidal screws, one full turn of the worm shaft produces a stroke of 0.25 mm and therefore a linear speed of 375 mm/minute at 1500 rpm. The figures for units fitted with ball screws range from 312 mm/minute to 535 mm/minute depending on size and pitch.

Please note that higher speeds of travel can be achieved with larger screw pitches or multiple start screws. **The worm gear screw jack's maximum drive revs of 1500 rpm must not be exceeded.**
The higher efficiency of the ball screw drive also permits a longer duty cycle.

Tolerances and backlash

- The gearbox housings are machined on the four mounting sides. The tolerances conform to DIN ISO 2768-mH. The sides that are not machined (the cooling ribs) conform to DIN 1685, GTB 18.
- The axial backlash of the jack screw under alternating load is as follows:
  - Trapezoidal screws: up to 0.4 mm
  - Ball screws: 0.2 mm
- The lateral play between the outside diameter of the screw and the guide diameter is 0.2 mm.
- The backlash in the worm gears is ±4° of the input shaft. A predetermined axial float is built into the input shaft bearing assembly of all models from MULI® 4 upwards to accommodate thermal expansion during operation.
- Trapezoidal screws are manufactured to a straightness of 0.3-1.5 mm/m, ball screws to a straightness of 0.08 mm/m over a length of 1000 mm and to the following pitch accuracies:
  MULI® 1–MULI® 5:
  0.05 mm/300 mm length
  JUMBO® 1–JUMBO® 5:
  0.2 mm/300 mm length

Lateral forces on the jack screw.
Any lateral forces that may occur should be taken by an external guide rail.

Stop collar A

Prevents the screw from being removed from the jack gearbox. Fitted as standard on ball screw versions N and V. Optionally available for screw jacks with trapezoidal screws.
The stop collar cannot be used as a fixed stop.

Self-locking

The self-locking function depends on a variety of parameters:
- Large pitches
- Different gear ratios
- Lubrication
- Friction parameters
- Ambient influences, such as high or low temperatures, vibrations, etc.
- The mounting position

Versions with ball screw and large pitches are consequently **not self-locking.** Suitable brakes or braking motors (on request) must therefore be considered in such cases. **Limited self-locking** is available for smaller pitches (single-start).

Special versions

In addition to the extensive standard range, NEFF can also supply anticlockwise, multi-start and special material worm gear screw jacks on request.

Technical data
Trapezoidal screws and ball screws

Trapezoidal srews

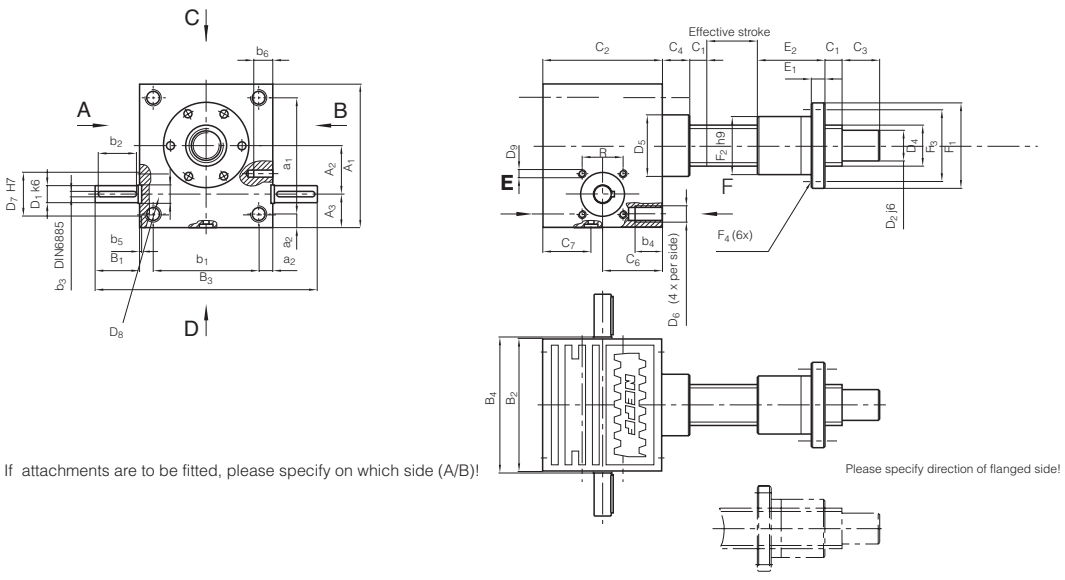
		MULI 1	MULI 2	MULI 3	MULI 4	MULI 5	JUMBO 1	JUMBO 2	JUMBO 3	JUMBO 4	JUMBO 5
Maximum lifting capacity [kN][2)]		5	10	25	50	100	150	200	250	350	500
Screw diameter and pitch [mm]		18 x 4	20 x 4	30 x 6	40 x 7	55 x 9	60 x 9	70 x 10	80 x 10	100 x 10	120 x 14
Stroke in mm per full turn	Ratio H[1)]	1	1	1	1	1	1	1	1	1	1
of the worm shaft [mm]	Ratio L[1)]	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Gear ratio	Ratio H[1)]	4:1	4:1	6:1	7:1	9:1	9:1	10:1	10:1	10:1	14:1
	Ratio L[1)]	16:1	16:1	24:1	28:1	36:1	36:1	40:1	40:1	40:1	56:1
Efficiency [%[2)]]	Ratio H[1)]	31	29	29	26	24	23	22	20	19	19
	Ratio L[1)]	25	23	23	21	19	18	17	15	15	15
Weight [kg] (zero stroke)		1.2	2.1	6	17	32	41	57	57	85	160
Weight [kg per 100 mm stroke]		0.26	0.42	1.14	1.67	3.04	3.1	4.45	6.13	7.9	11.5
Idling torque [Nm]	H	0.04	0.11	0.15	0.35	0.84	0.88	1.28	1.32	1.62	1.98
	L	0.03	0.10	0.12	0.25	0.51	0.57	0.92	0.97	1.10	1.42

Ball screws

		MULI 1	MULI 2	MULI 3	MULI 4		MULI 5	JUMBO 3
Maximum lifting capacity [kN][2)]		5	10	12.5	22	42	65	78
Screw diameter and pitch [mm]		1605	2005	2505	4005	4010	5010	8010
Stroke in mm per full turn	Ratio H[1)]	1.25	1.25	0.83	0.71	1.43	1.1	1
of the worm shaft [mm]	Ratio L[1)]	0.31	0.31	0.21	0.18	0.36	0.28	0.25
Gear ratio	Ratio H[1)]	4:1	4:1	6:1	7:1		9:1	10 : 1
	Ratio L[1)]	16:1	16:1	24:1	28:1		36:1	40 : 1
Efficiency [%][3)]	Ratio H[1)]	57	56	55	53	56	47	45
	Ratio L[1)]	46	44	43	43	45	37	34
Weight [kg] (zero stroke)		1.3	2.3	7	19		35	63
Weight [kg per 100 mm stroke]		0.26	0.42	1.14	1.67		3.04	6.13
Idling torque [Nm]	H	0.04	0.11	0.15	0.35		0.84	1.32
	L	0.03	0.10	0.12	0.25		0.51	0.97

1) H = High speed, L = Low speed.
2) Depending on speed of travel, operating hours etc..
3) The specified efficiencies are average values.

Technical data
Dimensions, version R



Size	Dimensions [mm]																			
	A_1[4]	A_2	A_3	a_1	a_2	B_1	B_2	B_3	B_4	b_1	b_2	b_3	b_4	b_5	C_1	C_2	C_3	C_4	C_6	C_7
MULI 1	80	25	24	60	10	24	72	120	77	52	18	3	13	1.5	12	62	15	12	31	22
MULI 2	100	32	28	78	11	27.5	85	140	90	63	20	5	15	1.5	15	75	20	18	37.5	27
MULI 3	130	45	31	106	12	45	105	195	110	81	36	5	15	2	20	82	25	23	41	29
MULI 4	180	63	39	150	15	47.5	145	240	150	115	36	6	16	2	25	117	30	32	58.5	42.5
MULI 5	200	71	46	166	17	67.5	165	300	170	131	56	8	30	2.5	25	160	45	40	80	53
JUMBO 1	210	71	49	170	20	65	195	325	200	155	56	8	40	8	25	175	55	40	87.5	60
JUMBO 2	240	80	60	190	25	67.5	220	355	225	170	56	8	45	8	25	165	70	40	82.5	60
JUMBO 3	240	80	60	190	25	67.5	220	355	225	170	56	8	45	8	25	165	75	40	82.5	60
JUMBO 4	290	100	65	230	30	65	250	380	255	190	56	10	54	8	25	220	100	50	110	86
JUMBO 5	360	135	75	290	35	100	300	500	305	230	90	14	80	8	30	266	120	60	133	109

Size	Dimensions [mm]														
	D_{1k6}[3]	D_2	D_4TR	D_4KGT	D_5[2]	D_6	D_{7H7}	D_8	D9xb6	□R (TK)	E_1[1]	E_2[1]	F_1[1] [2]	F_2[1] [2]	F_3[1] [2]	F_4[1] [2]
MULI 1	10 x 21.5	12	Tr18 x 4	1605	29.6/48	M8	28	12	M5x10	32 (45.25)	12/12	44/44	48/48	28/28	38/38	6/5.5
MULI 2	14 x 25	15	Tr20 x 4	2005	38.7/61	M8	35	15	M6x12	35 (49.5)	12/12	44/44	55/55	32/32	45/45	7/7
MULI 3	16 x 42.5	20	Tr30 x 6	2505	46	M10	35	17	M8x12	44 (62.2)	14/14	46/46	62/62	38/38	50/50	7/7
MULI 4	20 x 45	25	Tr40 x 7	4005/4010	60	M12	52	25	M10x15	55 (77.8)	16/16	73/59	95/80	63/53	78/68	9/7
MULI 5	25 x 65	40	Tr55 x 9	5010	85	M20	52	28	M12x18	60 (84.85)	18/18	97/97	110/110	72/72	90/90	11/11
JUMBO 1	25 x 62.5	45	Tr60x9	–	90	M24	52	28	M12x18	60 (84.85)	20	99	125	85	105	11
JUMBO 2	30 x 65	55	Tr70x10	–	105	M30	58	32	M12x18	(80)	30	100	180	95	140	17
JUMBO 3	30 x 65	60	Tr80x10	8010	120	M30	58	32	M12x18	(80)	30/22	110/101	190/145	105/105	150/125	17/14
JUMBO 4	35 x 62.5	80	Tr100x10	–	145	M36	72	40	M16x30	(100)	35	130	240	130	185	25
JUMBO 5	48 x 97.5	95	Tr120x14	–	170	M42	80	50	M16x40	(115)	40	160	300	160	230	28

1) The first values in the table apply to the trapezoidal screw nut EFM. For dimension 4010 the first values in the table are valid.

2) The second values in the table apply to the ball screw nut KGF.

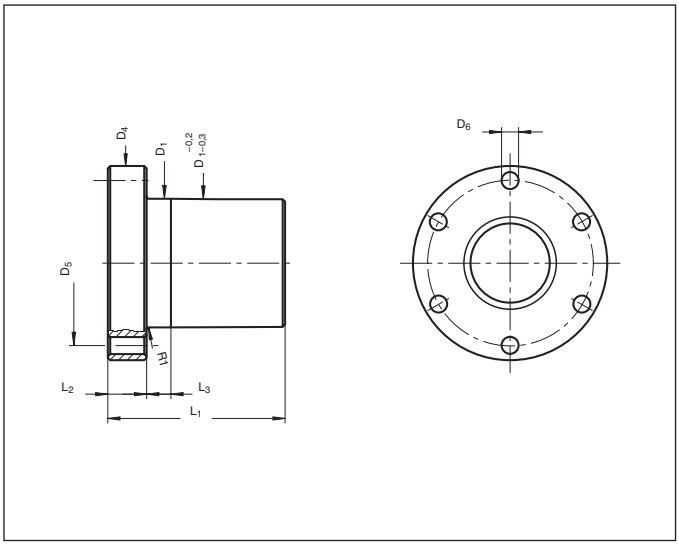
3) Diameter and length to shoulder.

4) Dimension A_1 in accordance with DIN 1685 GTB 18.

Accessories
Trapezoidal screw nuts

Preassembled bronze nut EFM

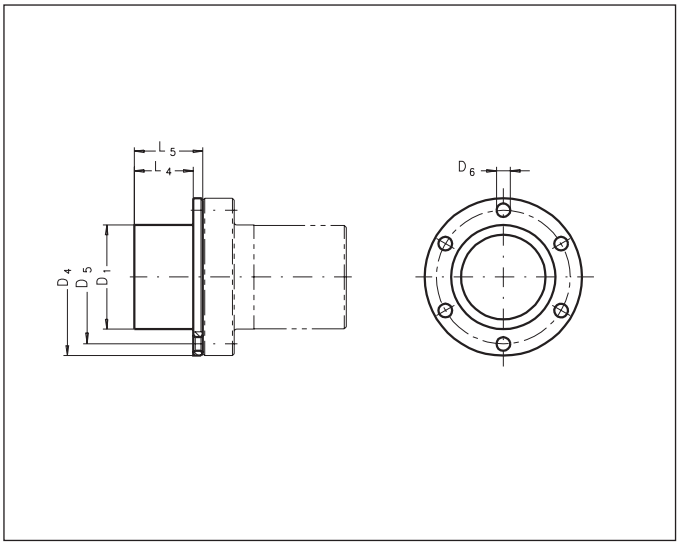
For drive units in continuous operation with particularly good wear properties. Can be used as safety nut; „sea water resistant" in combination with stainless screws. EFM nuts have the same dimensions as ball screw nuts KGF-N and can therefore be fitted together with the nut mountings KON-N and KAR-N (see Accessories).
Material:
G-CuSn 7 ZnPg (Rg 7)
∂B = 269 N/mm²; HB 10 = 75



Size	Product/Size	Dimensions [mm]								
		D_1	D_4	D_5	6xD_6	L_1	L_2	L_3	L_4	L_5
MULI 1	EFM Tr 18 x 4	28	48	38	6	44	12	8	15	20
MULI 2	EFM Tr 20 x 4	32	55	45	7	44	12	8	15	20
MULI 3	EFM Tr 30 x 6	38	62	50	7	46	14	8	20	25
MULI 4	EFM Tr 40 x 7	63	95	78	9	73	16	10	20	25
MULI 5	EFM Tr 55 x 9	72	110	90	11	97	18	10	20	25
JUMBO 1	EFM Tr 60 x 9	85	125	105	11	99	20	10	20	25
JUMBO 2	EFM Tr 70 x 10	95	180	140	17	100	30	16	20	25
JUMBO 3	EFM Tr 80 x 10	105	190	150	17	110	30	16	20	25
JUMBO 4	EFM Tr 100 x 10	130	240	185	25	130	35	16	20	30
JUMBO 5	EFM Tr 120 x 14	160	300	230	28	160	40	20	20	35

Adapter for attachment of the second bellows

Version R only



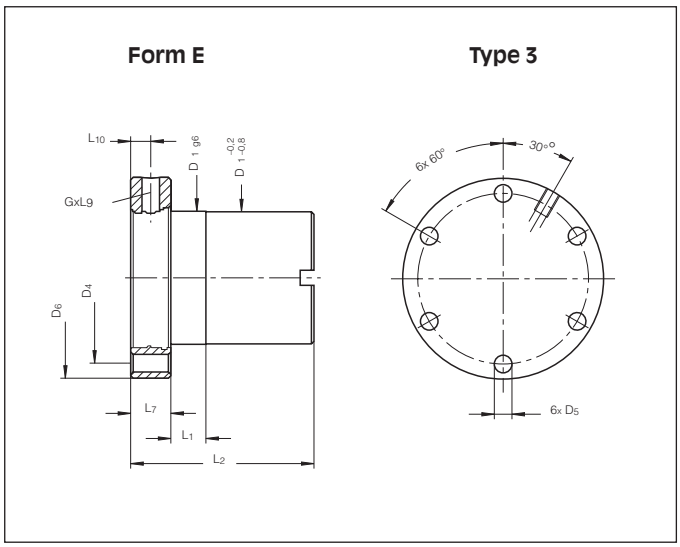
Accessories
Ball screw nuts

Flanged ball screw nut KGF

Flanged ball screw nut with mounting and lubrication holes and with profiled gaskets (reduces lubricant leakage and prevents ingress of dirt particles) for ball screw KGS.
Material:
16 MnCr 5.

Zero-backlash units KGT-FF/KGT-MM/KGT-FM

Factory adjusted and assembled combinations of two cylindrical nuts (MM), two flanged nuts (FF) or one flanged and one cylindrical nut (FM). Only available as screw mechanism, i.e. nut preassembled on the corresponding ball screw.



Size	Product/ Diameter [mm]/ Pitch [mm]/	Dimensions [mm]												Max.- axial backlash [mm]	Number of reversals	Load rating [kN][1]		
		D_1	D_4	D_5	D_6	L_1	L_2	L_4	L_5	L_7	L_9	L_{10}	G			$C^{1)}$	$C^{2)}$	$C_o = C_{oa}$
MULI 1	KGF 1605 RH-EE[3]	28	38	5.5	48	8	44	15	20	12	8	6	M6	0.08	3	12.0	7.0	12.7
MULI 2	KGF 2005 RH-EE[3]	32	45	7	55	8	44	15	20	12	8	6	M6	0.08	3	14.0	8.0	17.0
MULI 3	KGF 2505 RH-EE[3]	38	50	7	62	8	46	20	25	14	8	7	M6	0.08	3	15.0	9.5	22.4
MULI 4	KGF 4005 RH-EE[3]	53	68	7	80	10	59	20	25	16	8	8	M6	0.08	5	26.0	19.0	63.5
MULI 4	KGF 4010 RH-EE[3]	63	78	9	95	10	73	20	25	16	8	8	M8x1	0.08	3	50.0	30.0	70.0
MULI 5	KGF 5010 RH-EE[3]	72	90	11	110	10	97	20	25	18	8	9	M8x1	0.08	5	78.0	55.0	153.0
JUMBO 3	KGF 8010 RH-EE[3]	105	125	14	145	10	101	20	25	22	8	11	M8x1	0.08	5	93.0	69.0	260.0

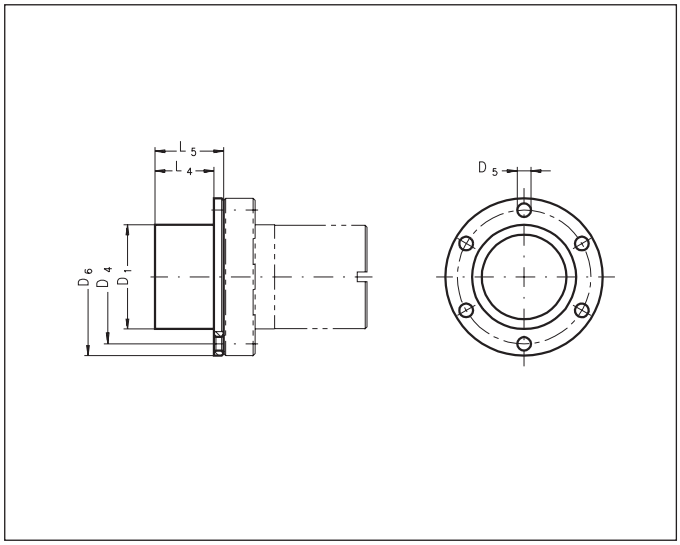
1) Dynamic load rating to DIN 69051 Part 4, draft version 1978.

2) Dynamic load rating to DIN 69051 Part 4, draft version 1989.

3) EE = rubber wiper

Adapter for attachment of the second bellows

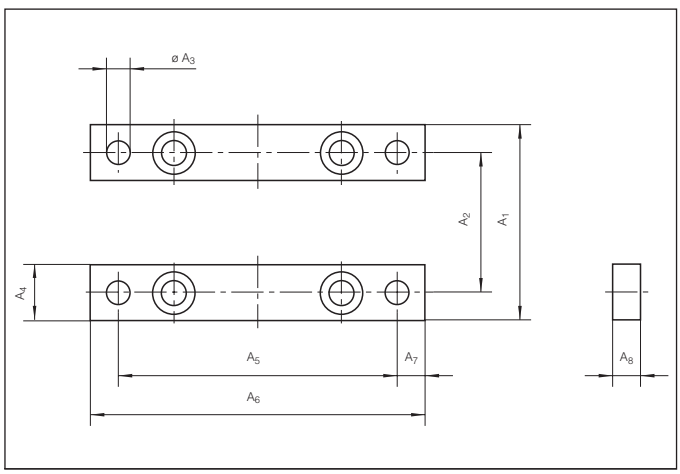
Version R only



Accessories
Mountings

Mounting feet L

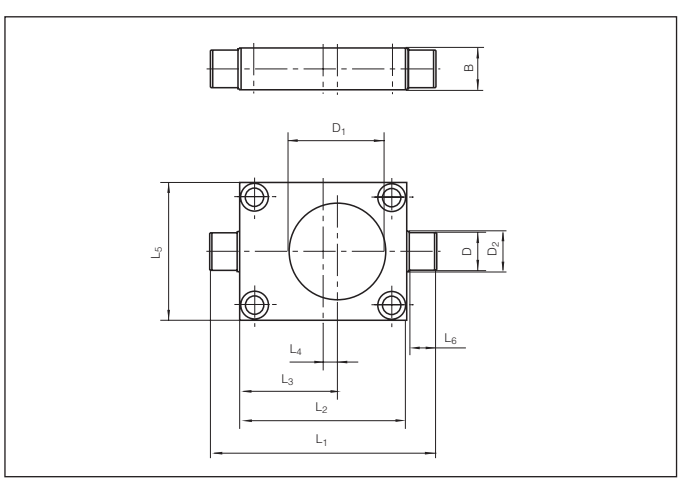
Supplied loose with mounting bolts for jack. Burnished.



Size	Dimensions [mm]								Weight [kg]	Ident No.
	A1	A2	A3	A4	A5	A6	A7	A8		
L MULI 1	72	52	8.5	20	100	120	10	10	0.3	8910030041
L MULI 2	85	63	8.5	20	120	140	10	10	0.4	8910030042
L MULI 3	105	81	11	24	150	170	10	12	0.8	8910030043
L MULI 4	145	115	13.5	30	204	230	13	16	1.7	8910030044
L MULI 5	171	131	22	40	236	270	17	25	3.9	8910030045
L JUMBO 1	205	155	26	50	250	290	20	30	5.8	9203010706
L JUMBO 2	230	170	32	65	290	340	25	40	10	9203010707
L JUMBO 3	230	170	32	65	290	340	25	40	10	9203010707
L JUMBO 4	270	190	39	80	350	410	30	50	20.8	9203010709
L JUMBO 5	330	230	45	100	430	500	35	60	34.4	9203010710

Trunnion mountings K

Supplied loose with mounting bolts for jack. Burnished.

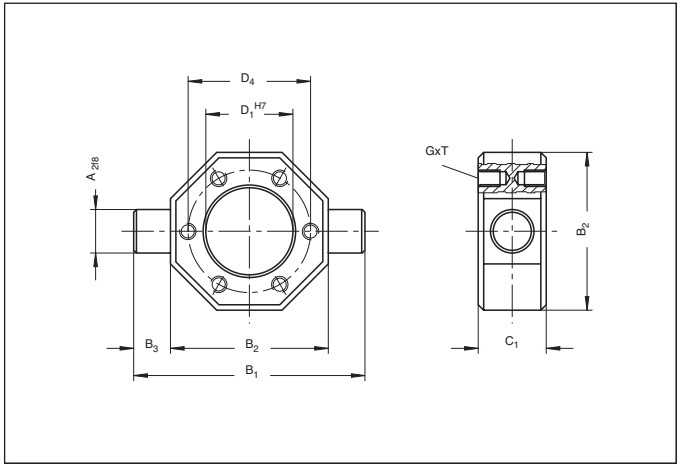


Size	Dimensions [mm]										Weight [kg]	Ident No.
	L1	L2	L3	L4	L5	L6	Df8	D1	D2	B		
K MULI 1	110	80	49	9	72	13	15	44	18	20	0.76	9204050007
K MULI 2	140	100	60	10	85	18	20	58	23	25	1.44	9204050008
K MULI 3	170	130	76	11	105	18	25	72	28	30	2.80	9204050009
K MULI 4	240	180	102	12	145	28	35	86	38	40	7.40	9204050010
K MULI 5	270	200	117	17	165	33	45	115	48	50	10.72	9204050011
K JUMBO 1	290	210	120	15	195	38	50	130	56	60	11.8	9204050023
K JUMBO 2	330	240	140	20	220	43	70	170	76	80	26.1	9204050030
K JUMBO 3	330	240	140	20	220	43	70	170	76	80	26.1	9204050030
K JUMBO 4	410	290	165	20	250	58	80	160	88	90	40.2	9204050031
K JUMBO 5	520	360	210	30	300	78	90	175	96	100	67.7	9204050032

Accessories
Mountings

Trunnion nut mountings KAR

Trunnion nut mounting for trunnion mounting of the flanged ball screw nut KGF and flanged trapezoidal screw nut EFM.

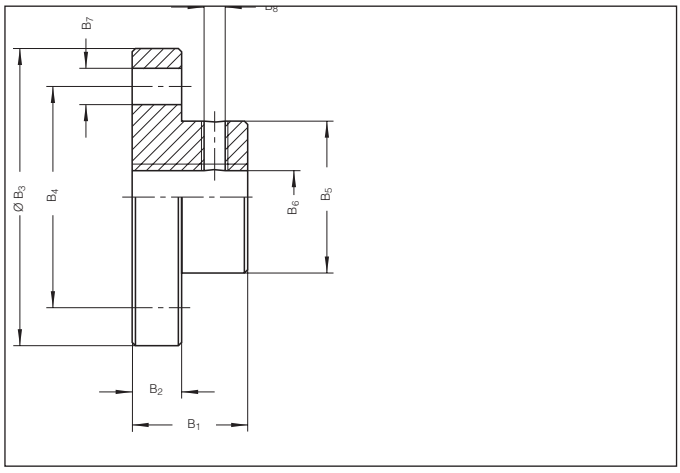


Size	Type		Dimensions [mm]								Weight	Ident.-No.
	for KGF	for EFM	A_2	B_1	B_2	B_3	C_1	D_1	D_4	G x T	[kg]	
KAR MULI 1	KAR 1605	Tr 16x4/Tr 18x4	12	70	50	10	20	28	38	M 5x10	0.20	89022013
KAR MULI 2	KAR 2005	Tr 20x4/Tr 24x4	16	85	58	13.5	25	32	45	M 6x12	0.30	89022014
KAR MULI 3	KAR 2505	Tr 30x6	18	95	65	15	25	38	50	M 6x12	0.50	89022016
KAR MULI 4	KAR 4005		25	125	85	20	30	53	68	M 6x12	1.20	89022018
	KAR 4010	Tr 40x7	30	140	100	20	40	63	78	M 8x14	2.50	89022019
KAR MULI 5	KAR 5010	Tr 55x9	40	165	115	25	50	72	90	M10x16	2.80	89022020
KAR JUMBO 1	KAR 6310	Tr 60x9	40	180	130	25	50	85	105	M10x16	3.30	89022021
KAR JUMBO 3	KAR 8010		50	200	150	25	60	105	125	M12x18	4.80	89022022

Accessories
Attachments

Top plate BP

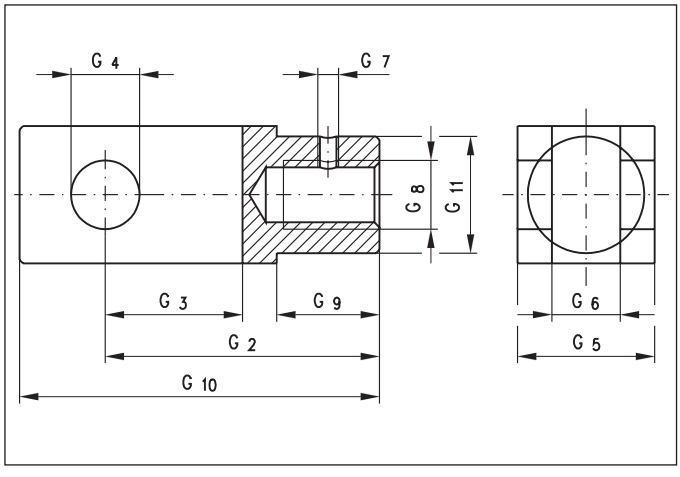
Screwed onto the mounting thread of the jack screw and protected against rotation.



Size	Dimensions [mm]								Weight [kg]	Ident No.
	B1	B2	Ø B3	B4	B5	B6	B7x4	B8		
BP MULI 1	20	7	65	48	29.3	M12	9	M5	0.2	9204400008
BP MULI 2	21	8	80	60	38.7	M14	11	M6	0.3	9204400009
BP MULI 3	23	10	90	67	46	M20	11	M8	0.6	9204400010
BP MULI 4	30	15	110	85	60	M30	13	M8	1.2	9204400011
BP MULI 5	50	20	150	117	85	M36	17	M10	4.8	9204400012
BP JUMBO 1	50	25	170	130	90	M48x2	21	M10	5	9204400013
BP JUMBO 2	60	30	200	155	105	M56x2	25	M12	7.7	9204400014
BP JUMBO 3	60	30	220	170	120	M64x3	25	M12	9.8	9204400015
BP JUMBO 4	80	40	260	205	145	M72x3	32	M12	18.4	9204400016
BP JUMBO 5	120	40	310	240	170	M100x3	38	M12	29.6	9204400017

Fork end GA

Screwed onto the mounting thread of the jack screw and protected against rotation. Supplied with split pins and collar pins. Galvanized.

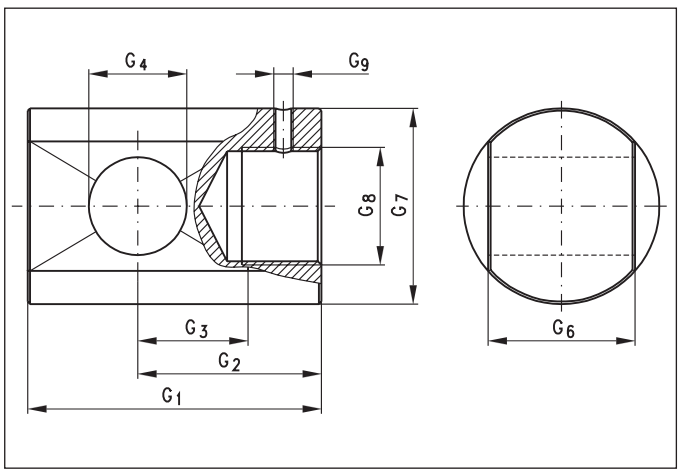


Size	Dimensions [mm]										Weight [kg]	Ident No.
	G2	G3	G4H9	G5□	G6B12	G7	G8	G9	G10	G11		
GA MULI 1	48	24	12	24	12	115	M12	18	62	20	0,15	9204350023
GA MULI 2	56	28	14	28	14	116	M14	22	72	24,5	0,2	9204350024
GA MULI 3	80	40	20	40	20	118	M20	30	105	34	0,8	9204350025
GA MULI 4	120	60	30	60	30	118	M30	43	160	52	2,5	9204350026
GA MULI 5	144	72	35	70	35	1110	M36	40	188	60	3,8	9204350027

Accessories
Attachments

Clevis end GK

Screwed onto the mounting thread of the jack screw and protected against rotation.



Size	Dimensions [mm]								Weight [kg]	Ident.-No.
	G1	G2	G3	G4H8	G6H10	G7	G8	G9		
GK MULI 1	55	40	15	10	15	30	M12	115	0,2	9204350016
GK MULI 2	63	45	18	12	20	39	M14	116	0,3	9204350017
GK MULI 3	78	53	20	16	30	45	M20	118	0,6	9204350018
GK MULI 4	100	70	30	20	35	60	M30	118	1,2	9204350019
GK MULI 5	130	97	33	22	40	85	M36	1110	2,5	9204350020
GK JUMBO 1	120	75	45	40	60	90	M48x2	1110	4,8	9204350028
GK JUMBO 2	130	90	50	50	70	105	M56x2	1112	4,8	9204350029
GK JUMBO 3	155	105	60	60	80	120	M64x3	1112	8,0	9204350030
GK JUMBO 4	220	135	85	80	110	145	M72x3	1112	22,5	9204350031
GK JUMBO 5	300	200	100	90	120	170	M100x3	1112	31,5	9204350032

Accessories
Protection

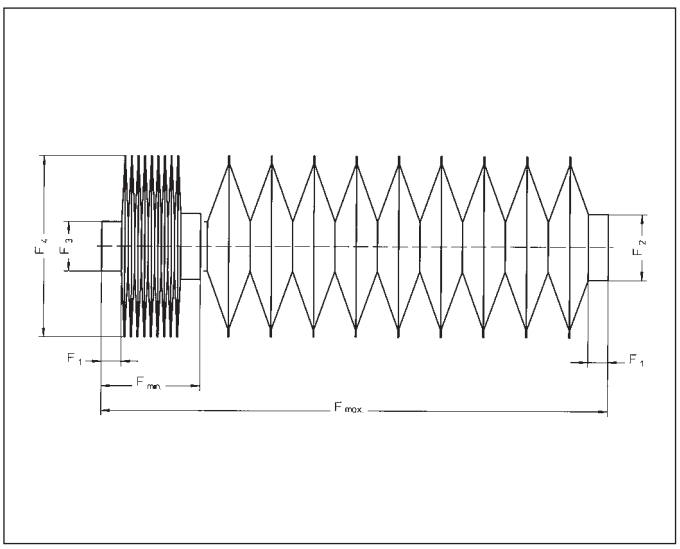
Bellows F

Length: For each 150 mm of open length up to 1.80 m, allow 8 mm when calculating the closed length. Allow 10 mm for each 150 mm over 1.80 m. The calculated length is added to value C_3 (see page 12) as screw extension.
Diameter F_2 may differ on the opposite side, depending on the attachment fitted.

Important: The installation position must be specified, as internal support rings must be fitted when the jack is operated in a horizontal position. When installed vertically, bellows over 2 meters have textile tapes.
The same information is also required for the second bellows when ordering version R (rotating screw).
Material: PVC-coated polyester, stitched construction.
Temperature range -30 °C to 70 °C. Secured in position by clamping rings. Special versions on request.

Flat spiral spring covers SF

Available on request (refer also to the catalog Screw drives GT, KOKON.



Size		Dimensions [mm]			
		F_1	F_2	F_3	F_4
F MULI 1	N/V TGS[1)]	12	30	30	101
	N/V KGS[1)]	12	48	30	101
	R	12	30	28	101
F MULI 2	N/V TGS[1)]	12	39	39	113
	N/V KGS[1)]	12	61	39	113
	R	12	39	32	113
F MULI 3	N/V	20	46	46	127
	R	20	46	38	127
F MULI 4	N/V	20	60	60	140
	R TGS/KGS-4010	20	60	63	140
	R KGS-4005	20	60	53	140
F MULI 5	N/V	20	85	85	152
	R	20	85	72	152
F JUMBO 1	N/V	20	90	90	165
	R	20	90	85	165
F JUMBO 2	N/V	20	105	105	175
	R	20	105	95	175
F JUMBO 3	N/V	20	120	120	191
	R	20	120	105	191
F JUMBO 4	N/V	20	145	145	201
	R	20	145	130	201
F JUMBO 5	N/V	20	170	170	245
	R	20	170	160	245

[1)] TGS = Trapezoidal screw
KGS = Ball screw

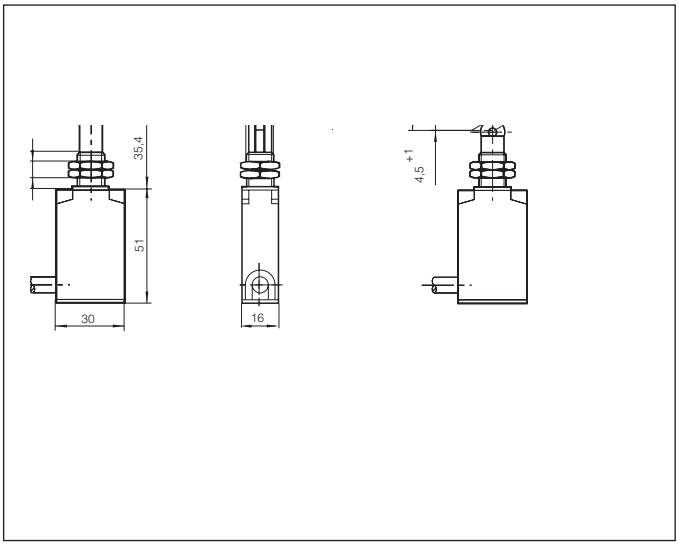
Accessories
Protection

Limit switches with roller lever

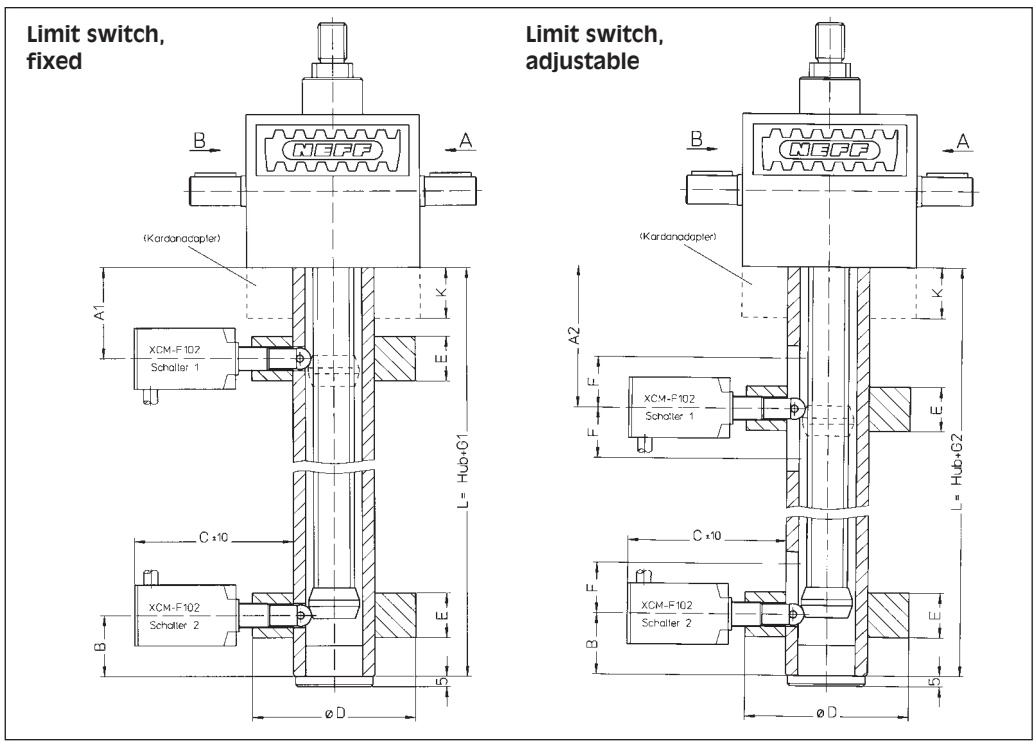
Particularly suitable for end-position shutoff (also available in explosion-proof design).

Actuating cam 30° in accordance with DIN 69 639:
A (Minimum actuating stroke): 2.6 ± 0.5 mm
B (Differential stroke): 0.85 ± 0.25 mm
FO (Minimum switch-on force): 1 N
Ve (Approach velocity): 0.001 to 0.1 m/s

Connection:
5-core cable with PVC sheath, 1 m long
Conductor cross-section 0.75 mm²
Brown/blue: NO contact
Black/black: NC contact
Green/yellow: PE conductor
Switching capacity: NF C 63 146 (IEC 947-5-1)
Ident No. 92203259



Limit switch installation position



Size	Dimensions [mm]									
	A1	A2	B	C	ø D	E	F	G1	G2	K
MULI 1	40	65	30	80	80	20	25	82	107	20
MULI 2	45	70	30	80	80	20	25	87	112	25
MULI 3	50	75	30	80	90	20	25	92	117	30
MULI 4	60	85	30	80	100	20	25	102	127	40
MULI 5	70	95	30	80	120	20	25	112	137	50
JUMBO 1	80	105	30	80	140	20	25	122	147	60
JUMBO 2	100	125	30	80	160	20	25	142	167	80
JUMBO 3	100	125	30	80	160	20	25	142	167	80
JUMBO 4	110	135	30	80	170	20	25	152	177	90
JUMBO 5	120	145	30	80	190	20	25	162	187	100

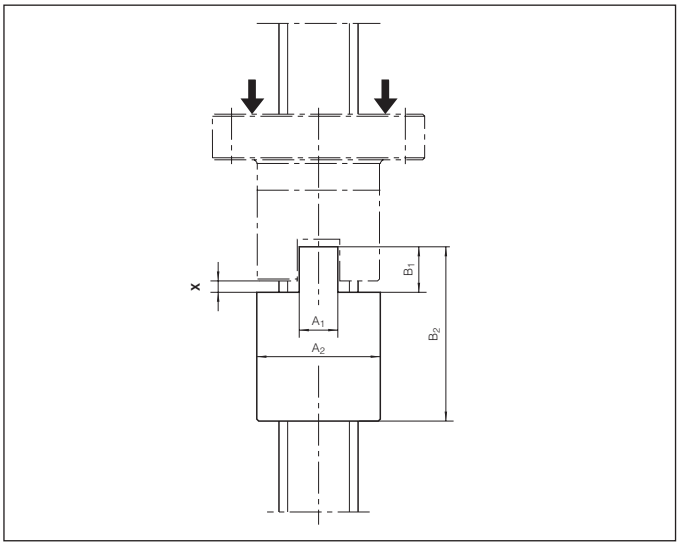
Drives and drive components
Safety nuts

Safety nuts SFM-TGS/ KGS[1)]

For version R: The safety nut is positioned below the travelling nut without axial load and is therefore not subjected to wear The functioning of the safety nuts is guaranteed only when installation and applied forces are as shown in the illustration (see right). As the travelling nut wears, the distance "x" between the two nuts decreases, which provides a visual check of wear without the need for dismantling.
The travelling nut must be replaced when the axial play on a single-thread screw is more that 1/4 of the lead of the thread (= dimension X). Otherwise, safety cannot be guaranteed.
Wear greater than 1/4 of the lead of the thread can endanger persons and property.
Dimension X must be checked regularly.

The safety nut supports the load if the thread form of the travelling nut fails as a result of excessive wear (dirt, lubrication starvation, overheating, etc.).
The safety nut can only be ordered together with the flanged nut (we reserve the right to make design changes).

For version N: The design is similar to that for version R. A visual check for wear is also possible in this case. **Please specify the load direction when ordering.**



Size	Dimensions [mm] (see pages 13 and 16 for dimensions of travelling nut)					Weight [kg]
	A_1	$A_{2\ -0.5}$	B_1	B_2	X	
SFM MULI 1	10	28	10	44	1	0.45
SFM MULI 2	10	32	10	44	1	0.55
SFM MULI 3	12	38	10	46	1.5	0.70
SFM MULI 4	16	63	15	73	1.75	3.10
SFM MULI 5	20	72	16	97	2.25	4.30
SFM JUMBO 1	20	85	16	99	2.25	5.70
SFM JUMBO 2	25	95	20	100	2.5	11.30
SFM JUMBO 3	25	105	20	110	2.5	13.70
SFM JUMBO 4	30	130	25	130	2.5	23.30
SFM JUMBO 5	40	160	25	160	3.5	45.70

1) KGS on request.

Accessories
Protection

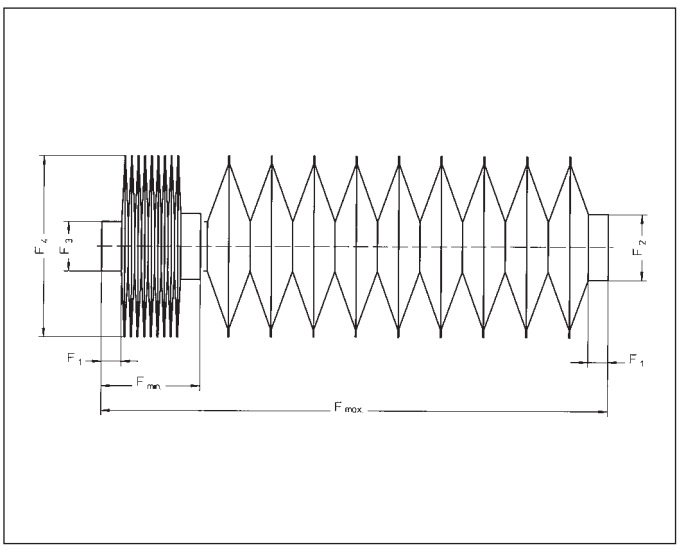
Bellows F

Length: For each 150 mm of open length up to 1.80 m, allow 8 mm when calculating the closed length. Allow 10 mm for each 150 mm over 1.80 m. The calculated length is added to value C_3 (see page 12) as screw extension.
Diameter F_2 may differ on the opposite side, depending on the attachment fitted.

Important: The installation position must be specified, as internal support rings must be fitted when the jack is operated in a horizontal position. When installed vertically, bellows over 2 meters have textile tapes.
The same information is also required for the second bellows when ordering version R (rotating screw).
Material: PVC-coated polyester, stitched construction.
Temperature range -30 °C to 70 °C. Secured in position by clamping rings. Special versions on request.

Flat spiral spring covers SF

Available on request (refer also to the catalog Screw drives GT, KOKON.



Size		Dimensions [mm]			
		F_1	F_2	F_3	F_4
F MULI 1	N/V TGS[1)]	12	30	30	101
	N/V KGS[1)]	12	48	30	101
	R	12	30	28	101
F MULI 2	N/V TGS[1)]	12	39	39	113
	N/V KGS[1)]	12	61	39	113
	R	12	39	32	113
F MULI 3	N/V	20	46	46	127
	R	20	46	38	127
F MULI 4	N/V	20	60	60	140
	R TGS/KGS-4010	20	60	63	140
	R KGS-4005	20	60	53	140
F MULI 5	N/V	20	85	85	152
	R	20	85	72	152
F JUMBO 1	N/V	20	90	90	165
	R	20	90	85	165
F JUMBO 2	N/V	20	105	105	175
	R	20	105	95	175
F JUMBO 3	N/V	20	120	120	191
	R	20	120	105	191
F JUMBO 4	N/V	20	145	145	201
	R	20	145	130	201
F JUMBO 5	N/V	20	170	170	245
	R	20	170	160	245

[1)] TGS = Trapezoidal screw
KGS = Ball screw

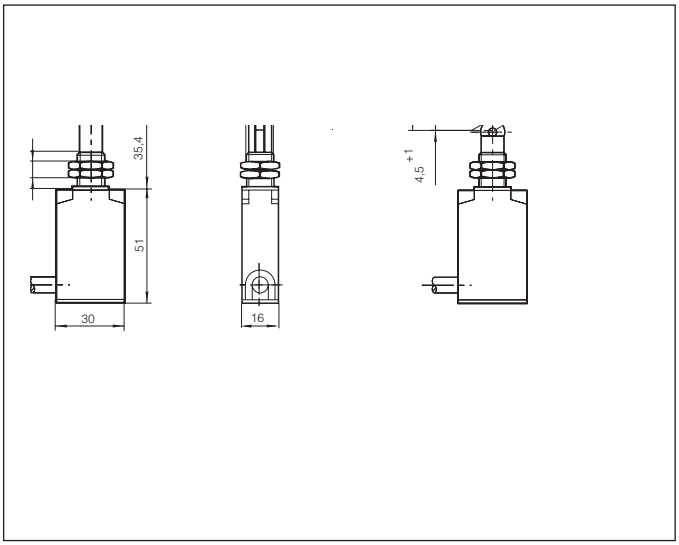
Accessories
Protection

Limit switches with roller lever

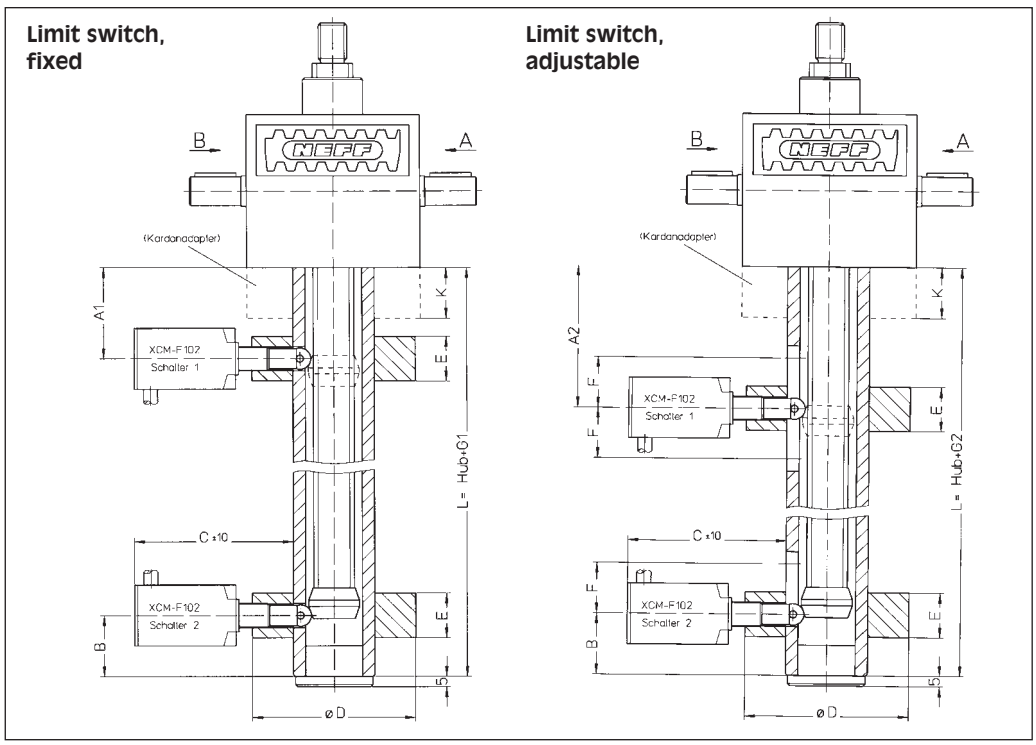
Particularly suitable for end-position shutoff (also available in explosion-proof design).

Actuating cam 30° in accordance with DIN 69 639:
A (Minimum actuating stroke): 2.6 ± 0.5 mm
B (Differential stroke): 0.85 ± 0.25 mm
FO (Minimum switch-on force): 1 N
Ve (Approach velocity): 0.001 to 0.1 m/s

Connection:
5-core cable with PVC sheath, 1 m long
Conductor cross-section 0.75 mm²
Brown/blue: NO contact
Black/black: NC contact
Green/yellow: PE conductor
Switching capacity: NF C 63 146 (IEC 947-5-1)
Ident No. 92203259



Limit switch installation position



Size	Dimensions [mm]									
	A1	A2	B	C	ø D	E	F	G1	G2	K
MULI 1	40	65	30	80	80	20	25	82	107	20
MULI 2	45	70	30	80	80	20	25	87	112	25
MULI 3	50	75	30	80	90	20	25	92	117	30
MULI 4	60	85	30	80	100	20	25	102	127	40
MULI 5	70	95	30	80	120	20	25	112	137	50
JUMBO 1	80	105	30	80	140	20	25	122	147	60
JUMBO 2	100	125	30	80	160	20	25	142	167	80
JUMBO 3	100	125	30	80	160	20	25	142	167	80
JUMBO 4	110	135	30	80	170	20	25	152	177	90
JUMBO 5	120	145	30	80	190	20	25	162	187	100