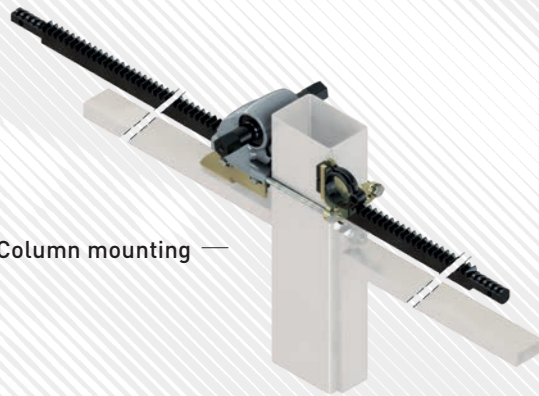


LZG 20 // Rack & pinion units

5500–10000 N

Column mounting —



Rail mounting —

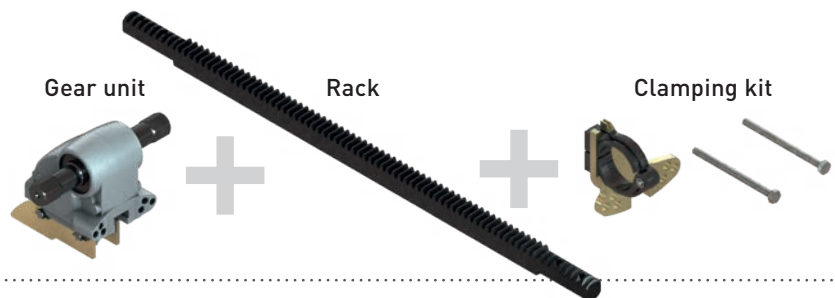


- Extremely robust top-quality universal rack & pinion units with a very compact design. When mounted to support, cause absolutely minimal shading because input shaft is below the gutter.
- Universal application for spacing of push-pull tube above beam of 40, 60 or 60/200 mm as well as C-section 11.5 mm.
- The support version is easy to install by clamping to the support – support dimensions 80, 100, 120 or 140 mm x 50, 60 or 80 mm are possible. Please indicate support dimensions on order!
- Stable cast housing with ball bearings for quiet operation. Gear components of high-tempered steel, 10000 N version with additional hardening.
- Hex shaft for ease of assembly of prefab tubes, low levels of torsion and clearance. Robust input shaft for the transmission of high torque levels. Securing on the beam with two bolts (by customer).
- Rack made of milled steel with integrated connection for push-pull tube.
- The rack is delivered pre-greased.

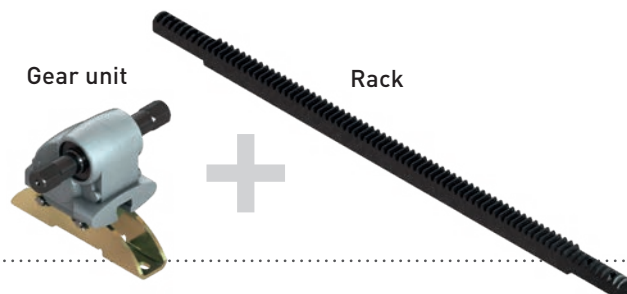
Note:

- Weld couplings SKS including bolts must be ordered separately.

Column mounting module



Rail mounting module

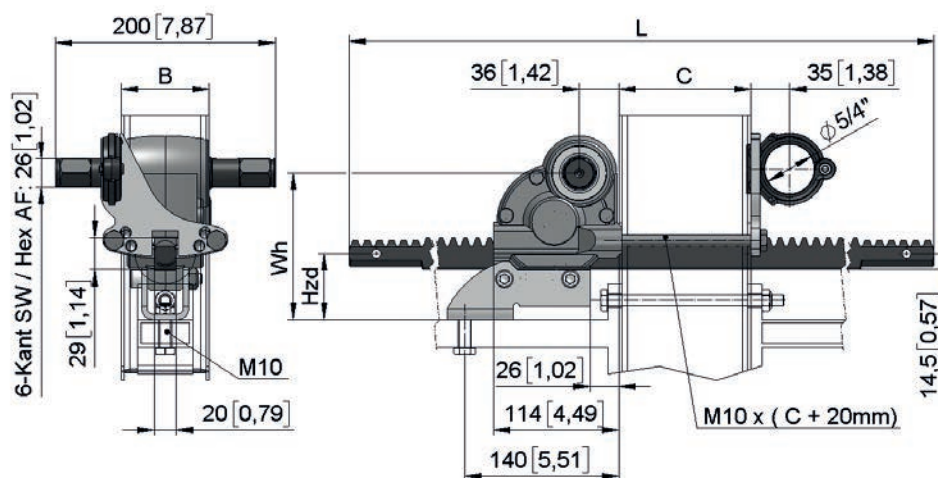


LZG 20 → Column mounting

LZG 20.10 / 20.30

Column mounting

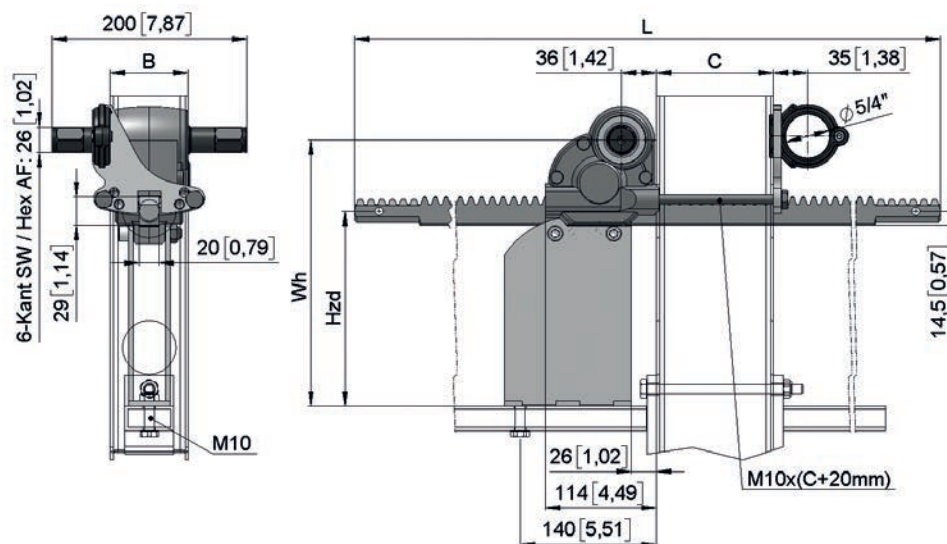
Height to hole 60 mm, 40 mm



LZG 20.70

Column mounting

C-section 200 mm



mm [inch]

LZG 20 // Gear unit

Column mounting



LZG 20.10



LZG 20.30



LZG 20.70

Version	5500 N	10000 N	v [mm/n]	Hzd [mm]	Wh [mm]	5500 N	10000 N	m [kg]
	Type no.	Type no.				T1 [Nm]		
LZG 20.10	61420.1B05.00	61420.1B10.00	33	60	133	37	64	5,3
LZG 20.30	61420.3B05.00	61420.3B10.00	33	40	113	37	64	5,3
LZG 20.70	61420.7B05.00	61420.7B10.00	33	200	273	37	64	6,9

→ **Note:** B = column width
To determine B, please refer to page 15.

Clamping kit

Column mounting



LZZ 20.9802
Tube guide



LZZ 20.9862
Retaining screws

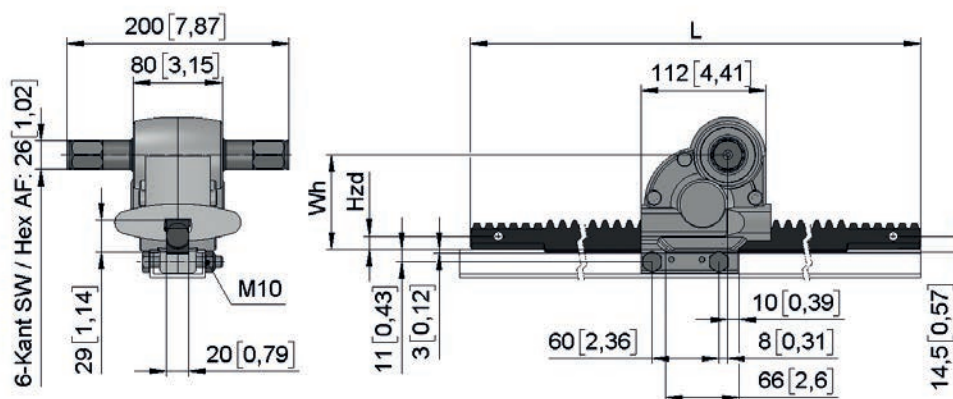
Version	Type no.	C [mm]	L [mm]	D [mm]	m [kg]
LZZ 20.9802	61420.9802.01	–	–	5/4"	0,3
LZZ 20.9862	61420.9862.1002	80	100	M 10	0,2
LZZ 20.9862	61420.9862.1202	100	120	M 10	0,2
LZZ 20.9862	61420.9862.1402	120	140	M 10	0,2
LZZ 20.9862	61420.9862.1602	140	160	M 10	0,2
LZZ 20.9862	61420.9862.1802	160	180	M 10	0,2
LZZ 20.9862	61420.9862.2002	180	200	M 10	0,2

→ Select support mounting rack on p. 20

LZG 20 → Endgable mounting

LZG 20.60

Gable mounting // Height to hole 11 mm



mm [inch]



LZG 20 // Gear unit

Gable mounting



LZG 20.60

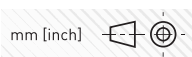
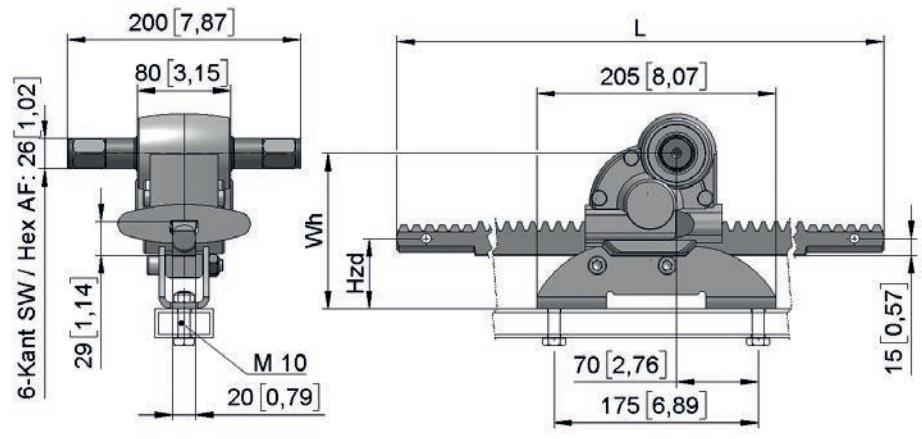
Version	5500 N		v [mm/n]	Hzd [mm]	Wh [mm]	5500 N		m [kg]
	Type no.	Type no.				T1 [Nm]		
LZG 20.60	61420.6005.00	61420.6010.00	33	11	85	37	64	5,0

→ Select rack for complete endgable mounting on p. 20

LZG 20 → rail mounting

LZG 20.20 // LZG 20.40

Rail mounting // 60 mm, 40 m



LZG 20 // Gear unit

rail mounting



Version	5500 N		10000 N		v [mm/n]	Hzd [mm]	Wh [mm]	5500 N		m [kg]
	Type no.	Type no.	Type no.	Type no.				T1 [Nm]	T1 [Nm]	
LZG 20.20	61420.2005.00	61420.2010.00			33	60	133	37	64	5,0
LZG 20.40	61420.4005.00	61420.4010.00			33	40	113	37	64	5,0

→ Select rack for complete rail mounting on p. 20

LZZ 20 // Rack

Support and rail mounting



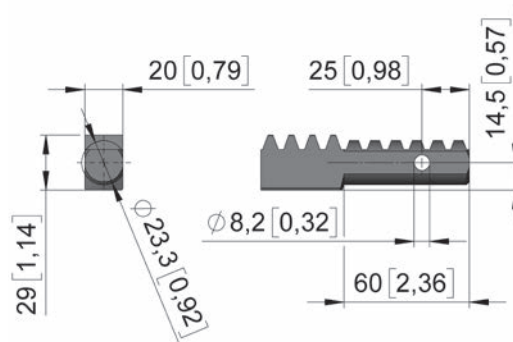
	1 horizontal bore	2 vertical bores				
Version	Type no.	Type no.	F [N]	H [mm]	L [mm]	m [kg]
Head ø 23,3 mm						
LZZ 20.0511	61420.8005.1113	61420.8005.1143	5500	800	1100	4,2
LZZ 20.0512	61420.8005.1213	61420.8005.1243	5500	950	1250	4,8
LZZ 20.0514	61420.8005.1413	61420.8005.1443	5500	1100	1400	5,4
LZZ 20.0515	61420.8005.1513	61420.8005.1543	5500	1250	1550	5,9
LZZ 20.1011	61420.8010.1113	61420.8010.1143	10000	800	1100	4,2
LZZ 20.1012	61420.8010.1213	61420.8010.1243	10000	950	1250	4,8
LZZ 20.1014	61420.8010.1413	61420.8010.1443	10000	1100	1400	5,4
LZZ 20.1015	61420.8010.1513	61420.8010.1543	10000	1250	1550	5,9
Head ø 27,5 mm						
LZZ 20.0511	61420.8005.1117	61420.8005.1147	5500	800	1100	4,2
LZZ 20.0512	61420.8005.1217	61420.8005.1247	5500	950	1250	4,8
LZZ 20.0514	61420.8005.1417	61420.8005.1447	5500	1100	1400	5,4
LZZ 20.0515	61420.8005.1517	61420.8005.1547	5500	1250	1550	5,9
LZZ 20.1011	61420.8010.1117	61420.8010.1147	10000	800	1100	4,2
LZZ 20.1012	61420.8010.1217	61420.8010.1247	10000	950	1250	4,8
LZZ 20.1014	61420.8010.1417	61420.8010.1447	10000	1100	1400	5,4
LZZ 20.1015	61420.8010.1517	61420.8010.1547	10000	1250	1550	5,9
Head ø 28,3 mm						
LZZ 20.0511	61420.8005.1118	61420.8005.1148	5500	800	1100	4,2
LZZ 20.0512	61420.8005.1218	61420.8005.1248	5500	950	1250	4,8
LZZ 20.0514	61420.8005.1418	61420.8005.1448	5500	1100	1400	5,4
LZZ 20.0515	61420.8005.1518	61420.8005.1548	5500	1250	1550	5,9
LZZ 20.1011	61420.8010.1118	61420.8010.1148	10000	800	1100	4,2
LZZ 20.1012	61420.8010.1218	61420.8010.1248	10000	950	1250	4,8
LZZ 20.1014	61420.8010.1418	61420.8010.1448	10000	1100	1400	5,4
LZZ 20.1015	61420.8010.1518	61420.8010.1548	10000	1250	1550	5,9

→ Determining the optimum length of rack, see p. 22

LZG 20 → Rack head

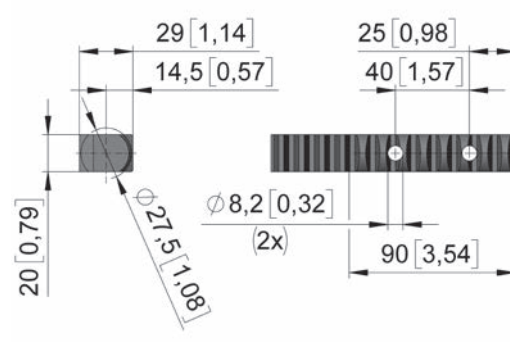
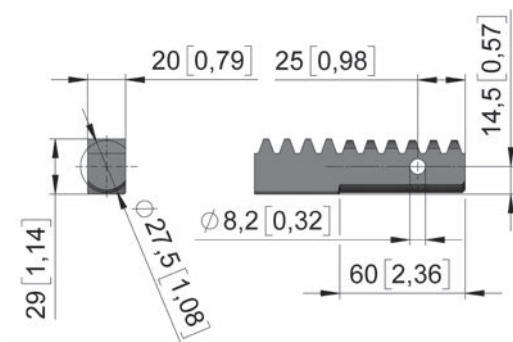
1 horizontal bore

ø 23,3 mm

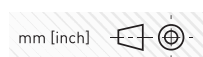
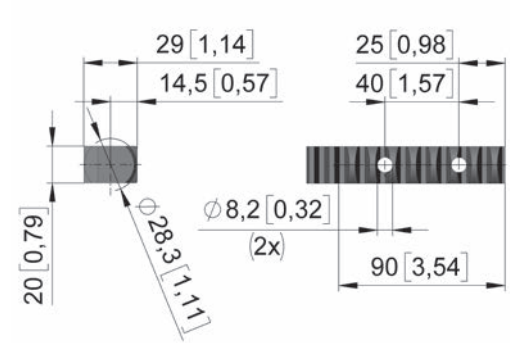
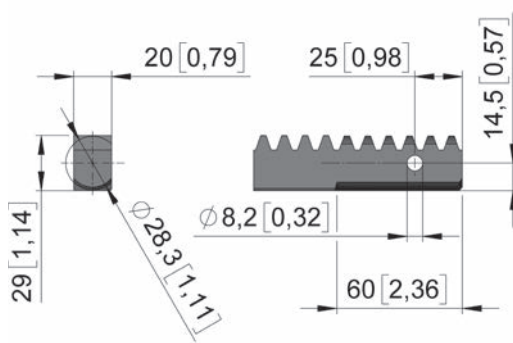


2 vertical bores

ø 27,5 mm

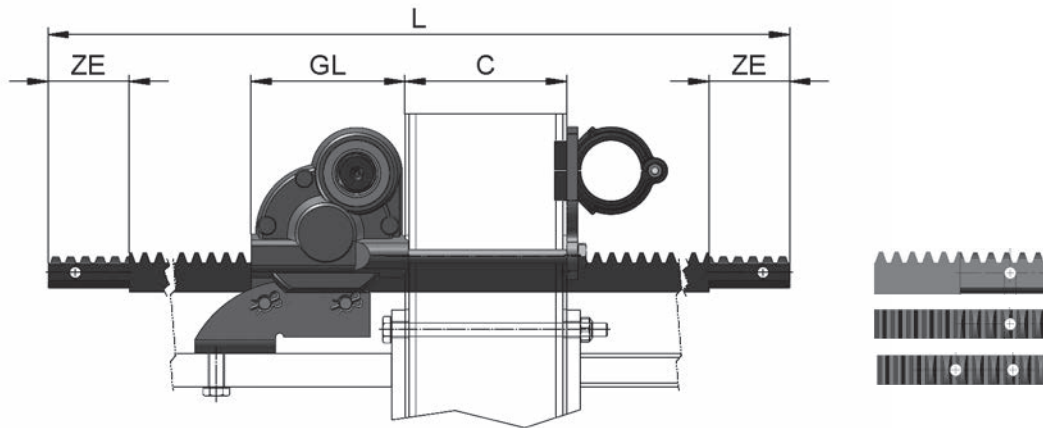


ø 28,3 mm



Determining length of rack on LZG 20/LZG 24 rail ventilation

Column mounting:



→ Selection procedure and sample calculation:

Use this procedure to determine the input values for the calculation formula.

Own input values
Result on the table

Use own values

Required stroke H [mm]: 900

Support dimension C [mm]: 140

Use own values

Required force F [N]: 10000

Rack head, number of bores: 2

Support dimension C [mm]	Installation space C_E [mm]
Determining installation space of support:	
100	120
120	140
140	160
160	180

→ With rail mounting, installation space $C_E = 0$

F [N]	Gear unit	GL [mm]
Determining installation space for gear unit:		
5500	LZG 20	114
10000	LZG 20	114
13000	LZG 24	245
16000	LZG 24	245

Bores [number]	2 x ZE [mm]
Rack installation space:	
1	120
2	180

Installation space C_E [mm] = 160

Gear unit width GL [mm] = 114

2 x ZE [mm] = 180

→ Calculation formula and sample calculation:

Use this formula to calculate the required rack length, then select a rack that is just slightly longer than and closest to that dimension. You can also reduce the stroke and then take a slightly shorter rack. Select the item no. depending on the head diameter of the rack (23,3 mm, 27,5 mm oder 28,3 mm).

$$H \text{ [mm]} + C_E \text{ [mm]} + GL \text{ [mm]} + 2 \times ZE \text{ [mm]} = L \text{ [mm]}$$

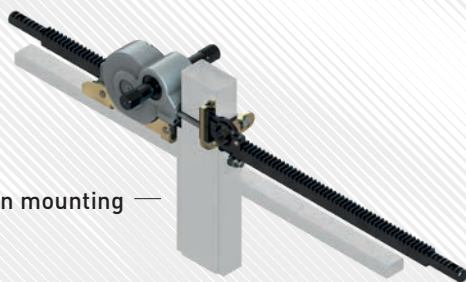
$$900 \text{ mm} + 160 \text{ mm} + 114 \text{ mm} + 180 \text{ mm} = 1354 \text{ mm}$$

→ Head diameter 23.3 mm // Length 1400 mm
= Rack LZZ 61420.8010.1443

LZG 24 // Rack & pinion units

13000–16000 N

Column mounting —



Rail mounting —

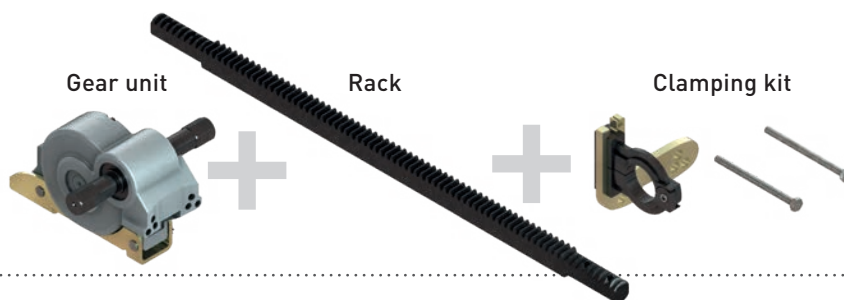


- Extremely robust top-quality universal rack & pinion units with a very compact design. When mounted to support, cause absolutely minimal shading because input shaft is below the gutter.
- Universal application for spacing of push-pull tube above beam of 40, 60 or 60/200 mm.
- The support version is easy to install by clamping to the support – support dimensions 80, 100, 120 or 140 mm x 50, 60 or 80 mm are possible. Please indicate support dimensions on order!
- Stable cast housing with ball bearings for quiet operation. Gear components made of highly tempered, hardened steel.
- 30 mm hex shaft for ease of assembly of prefab tubes, low levels of torsion and clearance. Robust input shaft (up to 750 Nm) for the transmission of high torque levels. Securing on the beam with two bolts (by customer) with strength 8.8.
- Rack made of milled steel (13000 N with 25 x 35 mm / 16000 N with 30x40 mm) with integrated connection for push-pull tube.
- The rack is delivered pre-greased.

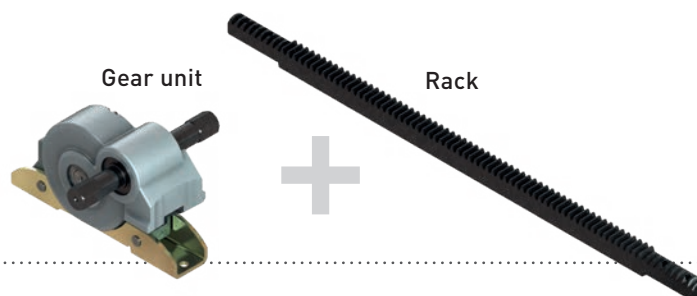
Note:

- Weld couplings SKS including bolts must be ordered separately.

Column mounting module



Rail mounting module

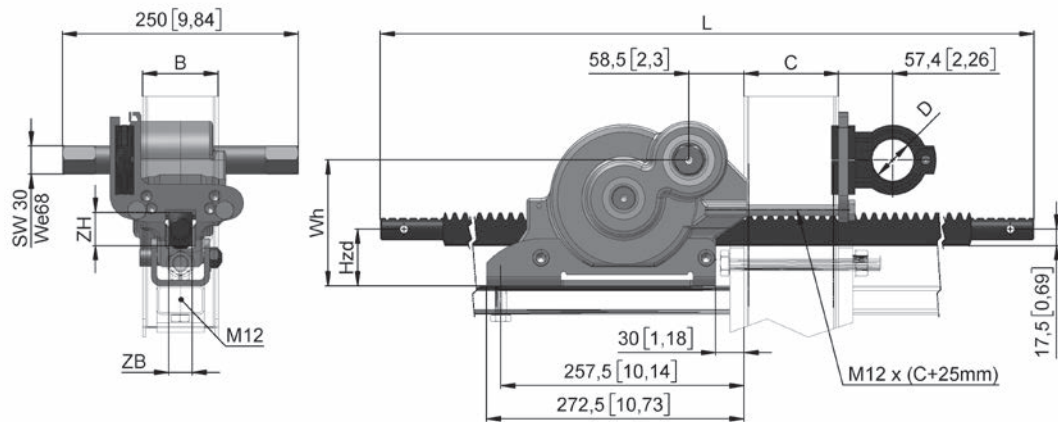


LZG 24 → Support mounting

LZG 24.10 // 24.30

Support mounting

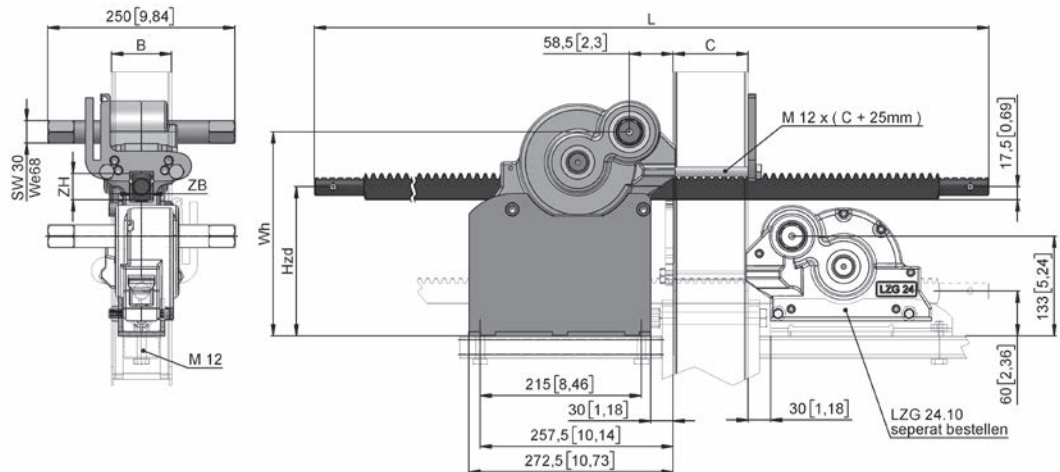
Height to hole
60 mm, 40 mm



LZG 24.70

Support mounting

Height to hole 200 mm



mm [inch]

LZG 24 // Gear unit

Support mounting



LZG 24.10



LZG 24.30



LZG 24.70

Version	13000 N	16000 N	v [mm/n]	Hzd [mm]	Wh [mm]	13000 N	16000 N	m [kg]
	Type no.	Type no.				T1 [Nm]		
LZG 24.10	61424.1B13.00	61424.1B16.00	33	60	133	77	95	12,0
LZG 24.30	61424.3B13.00	61424.3B16.00	33	40	113	77	95	12,0
LZG 24.70	61424.7B13.00	61424.7B16.00	33	200	273	77	95	14,5

→ **Note:** B = column width

To determine B, please refer to page 15.

Clamping kit

Support mounting



LZZ 24.9802
Tube guide



LZZ 24.9862
Retaining screws

Version	Type no.	C [mm]	D [mm]	L [mm]	m [kg]
LZZ 24.9802	61424.9802.01	–	5/4"	–	0,5
LZZ 24.9802	61424.9802.02	–	2"	–	0,5
LZZ 24.9862	61424.9862.1102	80	M 12	110	0,2
LZZ 24.9862	61424.9862.1302	100	M 12	130	0,2
LZZ 24.9862	61424.9862.1502	120	M 12	150	0,4
LZZ 24.9862	61424.9862.1702	140	M 12	170	0,4
LZZ 24.9862	61424.9862.1902	160	M 12	190	0,4

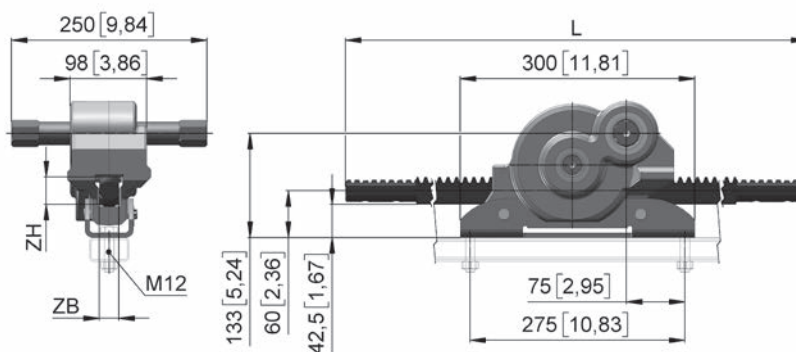
→ Select support mounting rack on p. 27

LZG 24 → Rail mounting

LZG 24.20

Rail mounting

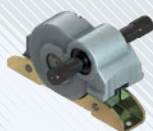
Height to hole 60 mm



mm [inch]

LZG 24

Rail mounting



LZG 24.20

Version	13000 N		v [mm/n]	Hzd [mm]	Wh [mm]	13000 N		m [kg]
	Type no.	Type no.				T1 [Nm]	16000 N	
LZG 24.20	61424.2013.00	61424.2016.00	33	60	133	77	95	12,0

LZZ 24 // Rack



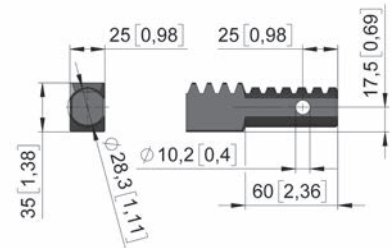
	1 horizontal bores	2 vertical				
Version	Art.Nr.	Art.Nr.	F [N]	H [mm]	L [mm]	m [kg]
Head ø 23,3 mm						
LZZ 24.1312	–	61424.8013.1243	13000	800	1250	6,7
LZZ 24.1314	–	61424.8013.1443	13000	1000	1450	7,8
LZZ 24.1316	–	61424.8013.1643	13000	1200	1650	9,7
LZZ 24.1318	–	61424.8013.1843	13000	1400	1850	11,0
LZZ 24.1320	–	61424.8013.2043	13000	1600	2050	12,2
LZZ 24.1322	–	61424.8013.2243	13000	1800	2250	13,4
LZZ 24.1324	–	61424.8013.2443	13000	2000	2450	14,6
LZZ 24.1612	–	61424.8016.1243	16000	800	1250	9,9
LZZ 24.1614	–	61424.8016.1443	16000	1000	1450	11,5
LZZ 24.1616	–	61424.8016.1643	16000	1200	1650	13,9
LZZ 24.1618	–	61424.8016.1843	16000	1400	1850	15,7
LZZ 24.1620	–	61424.8016.2043	16000	1600	2050	17,4
LZZ 24.1622	–	61424.8016.2243	16000	1800	2250	17,8
LZZ 24.1624	–	61424.8016.2443	16000	2000	2450	19,5
Head ø 27,5 mm						
LZZ 24.1312	–	61424.8013.1247	13000	800	1250	6,7
LZZ 24.1314	–	61424.8013.1447	13000	1000	1450	7,8
LZZ 24.1316	–	61424.8013.1647	13000	1200	1650	9,7
LZZ 24.1318	–	61424.8013.1847	13000	1400	1850	11,0
LZZ 24.1320	–	61424.8013.2047	13000	1600	2050	12,2
LZZ 24.1322	–	61424.8013.2247	13000	1800	2250	13,4
LZZ 24.1324	–	61424.8013.2447	13000	2000	2450	14,6
LZZ 24.1612	–	61424.8016.1247	16000	800	1250	9,9
LZZ 24.1614	–	61424.8016.1447	16000	1000	1450	11,5
LZZ 24.1616	–	61424.8016.1647	16000	1200	1650	13,9
LZZ 24.1618	–	61424.8016.1847	16000	1400	1850	15,7
LZZ 24.1620	–	61424.8016.2047	16000	1600	2050	17,4
LZZ 24.1622	–	61424.8016.2247	16000	1800	2250	17,8
LZZ 24.1624	–	61424.8016.2447	16000	2000	2450	19,5
Head ø 28,3 mm						
LZZ 24.1312	61424.8013.1218	61424.8013.1248	13000	800	1250	6,7
LZZ 24.1314	61424.8013.1418	61424.8013.1448	13000	1000	1450	7,8
LZZ 24.1316	61424.8013.1618	61424.8013.1648	13000	1200	1650	9,7
LZZ 24.1318	61424.8013.1818	61424.8013.1848	13000	1400	1850	11,0
LZZ 24.1320	61424.8013.2018	61424.8013.2048	13000	1600	2050	12,2
LZZ 24.1322	61424.8013.2218	61424.8013.2248	13000	1800	2250	13,4
LZZ 24.1324	61424.8013.2418	61424.8013.2448	13000	2000	2450	14,6
LZZ 24.1612	61424.8016.1218	61424.8016.1248	16000	800	1250	9,9
LZZ 24.1614	61424.8016.1418	61424.8016.1448	16000	1000	1450	11,5
LZZ 24.1616	61424.8016.1618	61424.8016.1648	16000	1200	1650	13,9
LZZ 24.1618	61424.8016.1818	61424.8016.1848	16000	1400	1850	15,7
LZZ 24.1620	61424.8016.2018	61424.8016.2048	16000	1600	2050	17,4
LZZ 24.1622	61424.8016.2218	61424.8016.2248	16000	1800	2250	17,8
LZZ 24.1624	61424.8016.2418	61424.8016.2448	16000	2000	2450	19,5

LZG 24 → Rack head

13.000 N

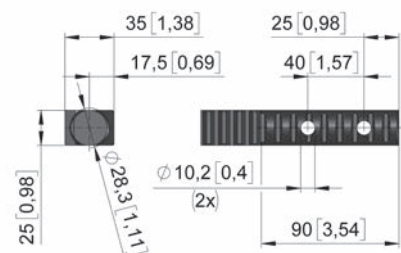
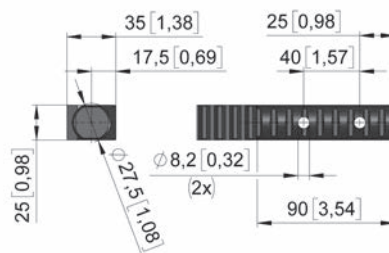
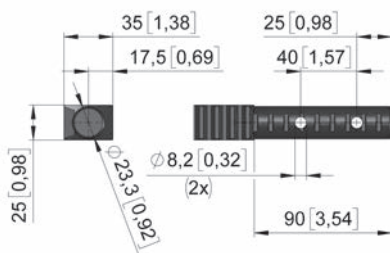
Ø 28,3 mm

1 horizontal bore



Ø23,3 mm // 27,5 mm // 28,3 mm

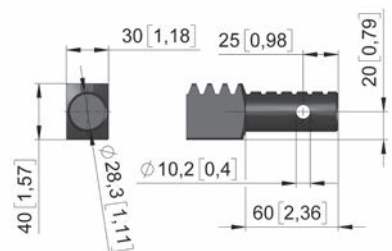
2 vertical bores



16.000 N

Ø 28,3 mm

1 horizontal bore



Ø23,3 mm // 27,5 mm // 28,3 mm

2 vertical bores

