

4. PU-Lubrication Pinion

Lubrication of open spur gear drives and racks

For tooth systems in open drives, an automatic lubrication supply should be preferred. Exceptions are possible, in case of very small modules, slow speed $<1\text{m/s}$ and little proceeding movements; one-time manual lubrication is adequate here. Therefore, we offer an adhering grease - F01 - as well as the lubricant F02 (for applications in the food industry (with H1-approval)).

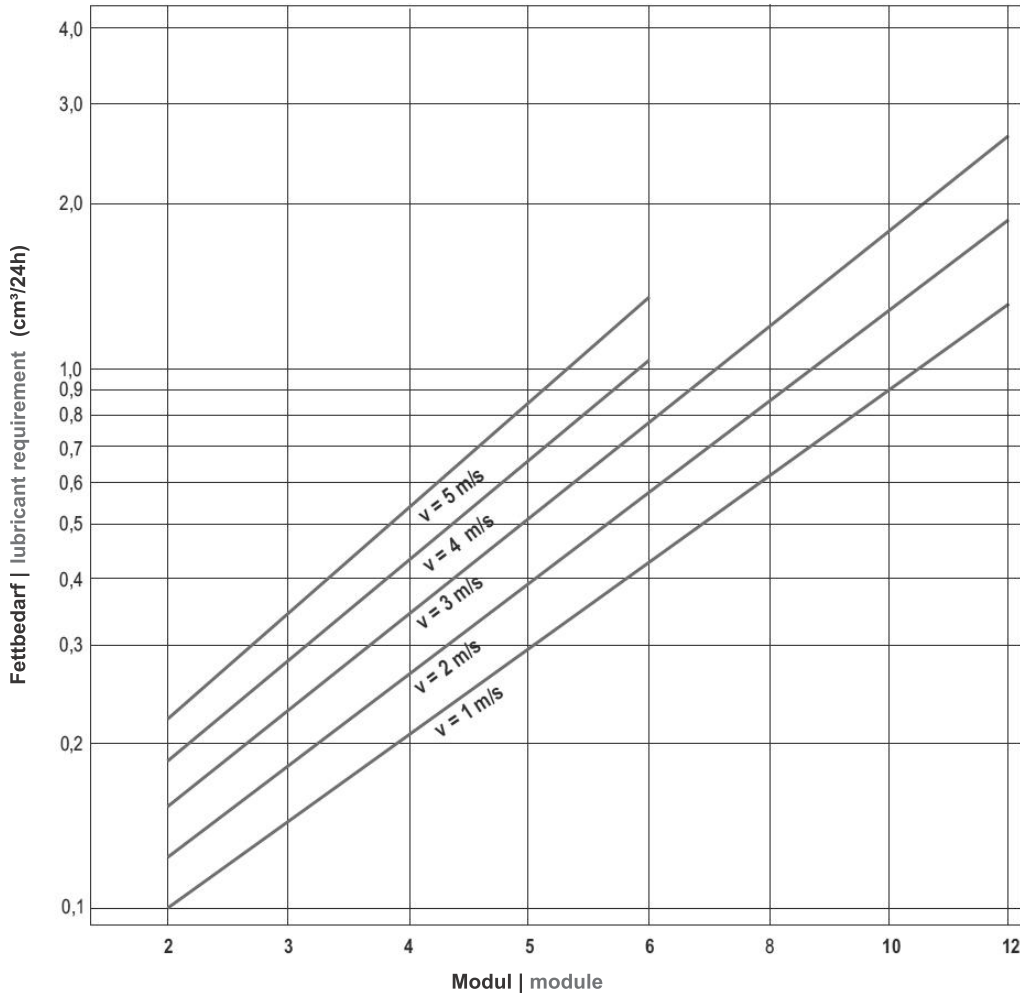
Automatic relubrication with polyurethane foamed pinions

A far better technical solution to relubricate the tooth system is an automatic and continuous spreading of the lubricant with polyurethane foamed pinions, which is brought into contact with the drive gear or rack. The lubrication pinion does not transmit torque. It only transfers grease to the tooth flank.

The necessary relubrication quantities for different tooth systems with different running conditions is shown in the diagram below. Conditions for the validity of the values shown in the table below are the use of a suitable polyurethane foamed pinion and a proper lubricant like F01 or F02.

Initial operation: PU-Pinions has to be pre-filled with lubricant.

Lubricant need for Lubrication with PU lubrication pinion

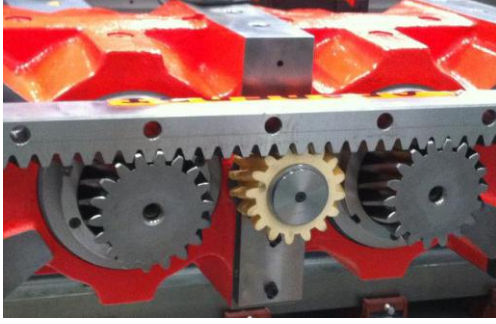


Achsen und Schmierritzel
werden nicht vormontiert, sondern getrennt von einander geliefert.



- Wenn die Achse nicht vormontiert bestellt wird, bitte **unbedingt** die Stirnseitige Befestigungsschraube **verkleben**!



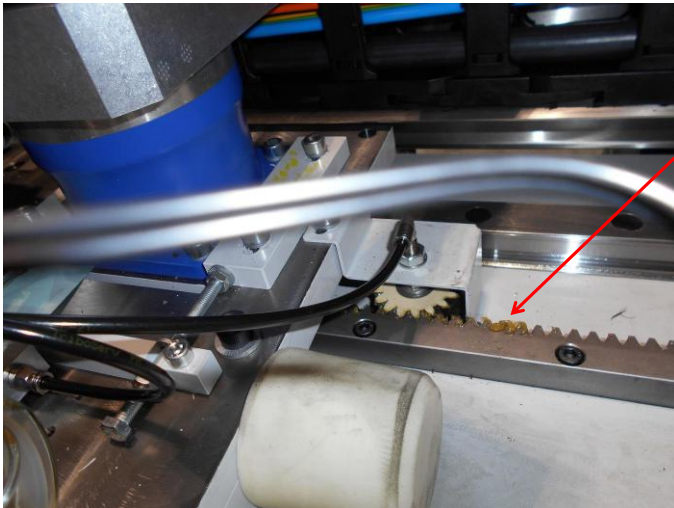
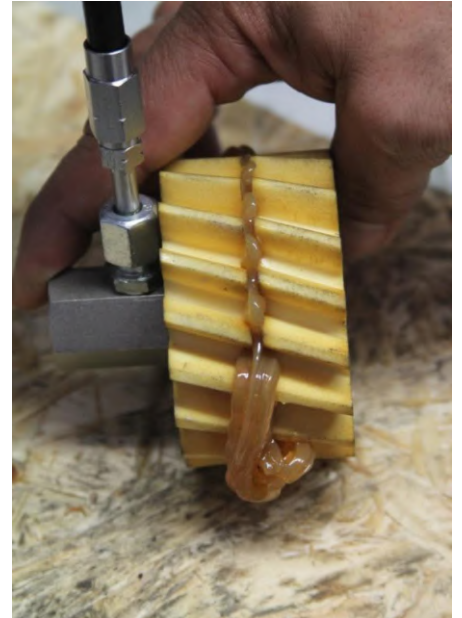


- **Einbauhinweise:**
 - 1) Das Schmierzahnrad muss **genau im rechten Winkel** zur Verfahrriichtung montiert werden.
 - 2) Das Schmierzahnrad **darf nicht** angedrückt werden!



Es sollte zwischen Zahnkopf des Zahnrades und dem Zahnfuß der zu schmierenden Verzahnung immer ein kleiner Spalt (ca. 1mm) vorhanden sein!

FALSCH!



Mit dem Pinsel
aufgetragenes
Fett



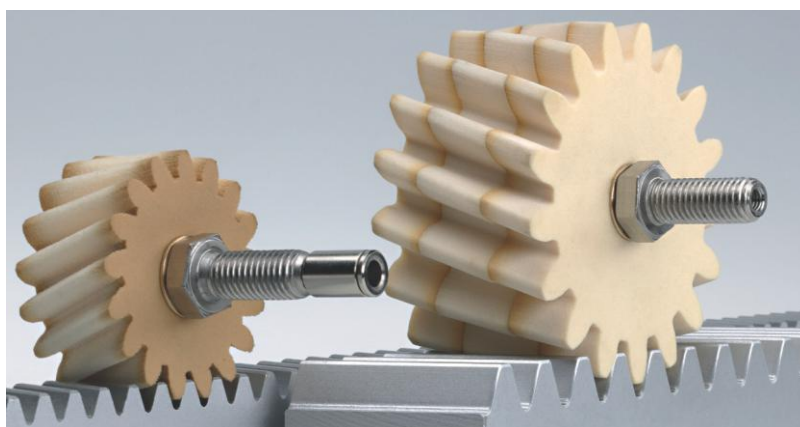
4. PU-Lubrication Pinion

Technical specification lubrication pinion


The lubrication pinions are made of open cellular polyurethane foam (temperature range $-30^{\circ}\text{C} \dots +150^{\circ}\text{C}$). Pinions consisting of segments.

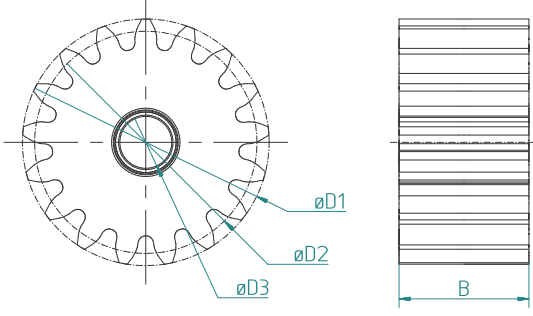
To choose the correct lubrication pinion it has to be decided by design, if the lubrication pinion should be mounted on a rack or drive pinion. Lubrication of drive-pinion should be preferred.

Using lubrication pinions of an open-cell polyurethane foam material ensures an optimal supply of the tooth system over long term distances. The material stores the lubricant and abrasive it in smallest quantities. This avoids over-lubrication as well as wear (as a consequence of insufficient lubrication).



4.1 PU-Lubrication Pinion - straight teeth





Version:
PU-Pinion; straight teeth; incl . bushing and sleeve-bearing; toothing acc. DIN 867

Material :
Open cell linear PU-Foam; steel

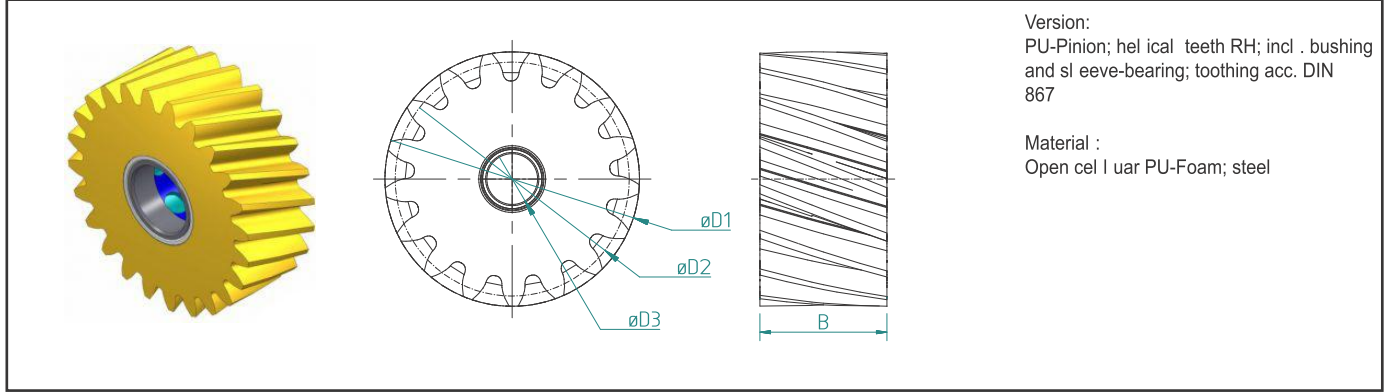
Modul Modul e	z	D1	D2	D3	B	α	Fl ankenrichtung	Artikel-Nr.
							Fl ank direction	Part-No.
1,5	24	39	36	12	15	20°	straight	130-015-024
2	17	38	34	12	20	20°	straight	130-020-017
3	17	57	51	12	30	20°	straight	130-030-017
4	17	76	68	12	40	20°	straight	130-040-017
5	17	95	85	20	50	20°	straight	130-050-017
6	17	114	102	20	60	20°	straight	130-060-017
8	17	152	136	20	80	20°	straight	130-080-017
10	17	190	170	20	100	20°	straight	130-100-017

On demand: Special design up to modul e 60 and all parameters disposable !



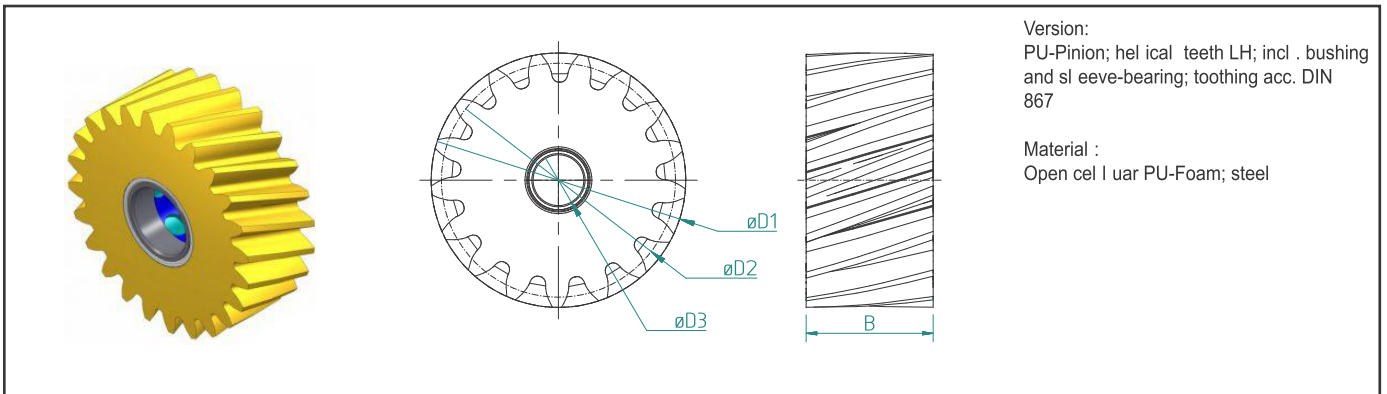
4.2 PU-Lubrication Pinion - helical teeth

PU-Lubrication Pinion - helical RH



Modul Module	z	D1	D2	D3	B	α	β	Fl ankerichtung	Artikel -Nr.
								Flank direction	Part-No.
1,5	24	41,2	38,2	12	15	20°	19°31'42"	RH	131-015-024
2	17	40,1	36,1	12	20	20°	19°31'42"	RH	131-020-017
3	17	60,1	54,1	12	30	20°	19°31'42"	RH	131-030-017
4	17	80,2	72,2	12	40	20°	19°31'42"	RH	131-040-017
5	17	100,2	90,2	20	50	20°	19°31'42"	RH	131-050-017
6	17	120,2	108,2	20	60	20°	19°31'42"	RH	131-060-017
8	17	160,3	144,3	20	80	20°	19°31'42"	RH	131-080-017
10	17	200,4	180,4	20	100	20°	19°31'42"	RH	131-100-017

PU-Lubrication Pinion - helical LH



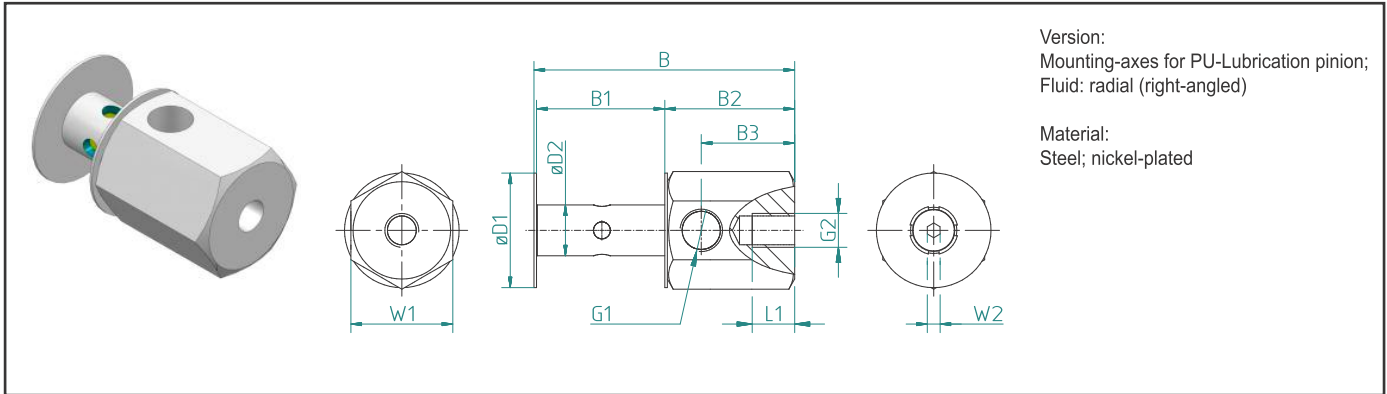
Modul Module	z	D1	D2	D3	B	α	β	Fl ankerichtung	Artikel -Nr.
								Flank direction	Part-No.
1,5	24	41,2	38,2	12	15	20°	19°31'42"	LH	132-015-024
2	17	40,1	36,1	12	20	20°	19°31'42"	LH	132-020-017
3	17	60,1	54,1	12	30	20°	19°31'42"	LH	132-030-017
4	17	80,2	72,2	12	40	20°	19°31'42"	LH	132-040-017
5	17	100,2	90,2	20	50	20°	19°31'42"	LH	132-050-017
6	17	120,2	108,2	20	60	20°	19°31'42"	LH	132-060-017
8	17	160,3	144,3	20	80	20°	19°31'42"	LH	132-080-017
10	17	200,4	180,4	20	100	20°	19°31'42"	LH	132-100-017

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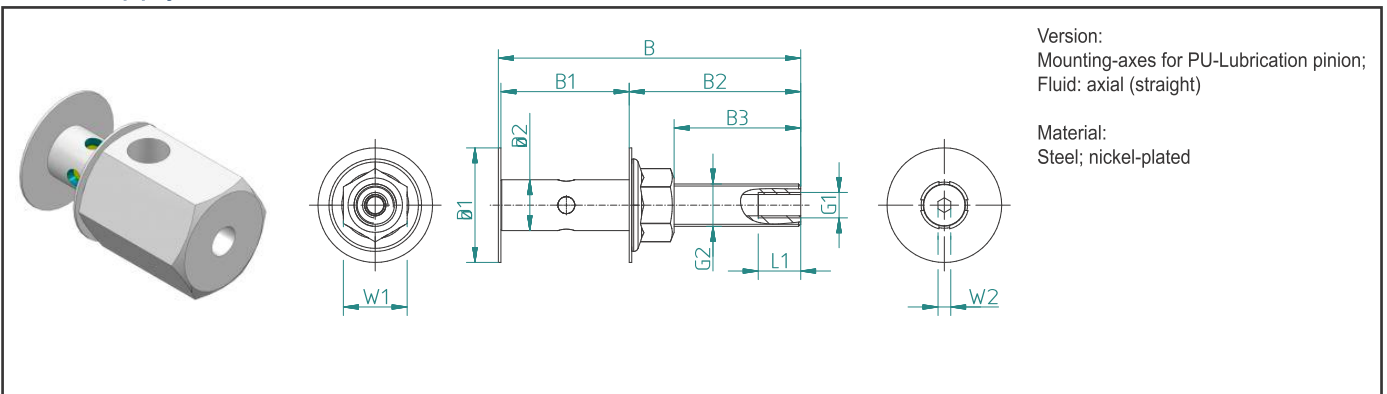
4.3 Mounting-axes for PU-Lubrication Pinion

Radial supply



für Modul for Module	W1	B	B1	B2	B3	D1	D2	G1	G2	L1	W2	Artikel -Nr. Part-No.
1,5	24	46,4	15,2	30,6	22	27	12	G1/8x10mm tief deep	M8	10	3	133-015-001
2	24	54,4	20,2	30,6	22	27	12	G1/8x10mm tief deep	M8	10	3	133-020-001
3	24	61,4	30,2	30,6	22	27	12	G1/8x10mm tief deep	M8	10	3	133-030-001
4	24	71,4	40,2	30,6	22	27	12	G1/8x10mm tief deep	M8	10	3	133-040-001
5	24	81,4	50,2	30,6	22	60	20	G1/8x10mm tief deep	M8	10	4	133-050-001
6	24	91,4	60,2	30,6	22	60	20	G1/8x10mm tief deep	M8	10	4	133-060-001
8	24	111,4	80,2	30,6	22	60	20	G1/8x10mm tief deep	M8	10	4	133-080-001
10	24	131,4	100,2	30,6	22	100	20	G1/8x10mm tief deep	M8	10	4	133-100-001

Axial supply



für Modul for Module	W1	B	B1	B2	B3	D1	D2	G1	L1	G2	W2	Artikel -Nr. Part-No.
1,5	15	60,2	15,2	44,6	34,2	27	12	M6	10	M10	3	133-015-002
2	15	61,2	20,2	41,2	30,6	27	12	M6	10	M10	3	133-020-002
3	15	71,2	30,2	40,4	30	27	12	M6	10	M10	3	133-030-002
4	15	81,2	40,2	40,4	30	27	12	M6	10	M10	3	133-040-002
5	24	116,4	50,2	65,6	49,1	60	20	G1/8	10	M16	4	133-050-002
6	24	126,4	60,2	65,6	49,1	60	20	G1/8	10	M16	4	133-060-002
8	24	146,4	80,2	65,6	49,1	60	20	G1/8	10	M16	4	133-080-002
10	24	166,4	100,2	65,6	49,1	100	20	G1/8	10	M16	4	133-100-002

On demand: Special design up to module 60 and all parameters disposabel!

