



Formula for calculating the PCD:

$$d_0 = \frac{p}{\sin(180^\circ/z)}$$

Formula for calculating the permissible torque:

$$M_{zul.} = \frac{F_B [N] \cdot \frac{d_0 [mm]}{2}}{10 \cdot 1000} [Nm]$$

In all cases where the chain does not wrap around the sprocket, but only contacts it tangentially, the sprocket must be a lantern gear version, because only one tooth at a time meshes with the chain. Therefore the teeth of the sprocket are tempered to reduce wear. Thus roller chains are frequently used as a rack and pinion arrangement.

Rack and pinion arrangements with chains are inexpensive and easy to assemble. A spring clip connecting link or a connecting link with cottered pin is attached to both ends of a pre-stretched chain with an uneven number of links. By means of the connecting links the chain is then mounted to a clamping device. The chain must be supported over the whole length.

Lantern gear	Number of teeth	PCD	Tip circle Ø	Tooth width	Pre-drilled bore	Hub		Roller chain	Pitch	Inner width	Roller Ø
						Ø	length				
⚙	z	d <sub>0</sub>	d <sub>k</sub> max.	B <sub>1</sub>	d	D	L	⚙	p	b <sub>1</sub> min.	d <sub>1</sub> max.
No.		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
TRB 15462	15	61,08	69,1	6,3	10	30,5	25	462	12,700	7,75	8,51
TRB 17462	17	69,12	77,2	6,3	12	38,5	25	462	12,700	7,75	8,51
TRB 19462	19	77,16	85,3	6,3	12	46,5	25	462	12,700	7,75	8,51
TRB 21462	21	85,21	93,4	6,3	16	54,5	25	462	12,700	7,75	8,51
TRB 23462	23	93,27	101,4	6,3	16	63,0	25	462	12,700	7,75	8,51
TRB 15501	15	76,35	85,9	8,0	12	45,5	25	501	15,875	9,65	10,16
TRB 17501	17	86,39	96,0	8,0	16	55,5	25	501	15,875	9,65	10,16
TRB 19501	19	96,45	106,1	8,0	16	66,0	25	501	15,875	9,65	10,16
TRB 21501	21	106,51	116,2	8,0	16	76,0	25	501	15,875	9,65	10,16
TRB 23501	23	116,59	126,3	8,0	16	86,0	25	501	15,875	9,65	10,16
TRB 15513	15	91,63	103,0	9,5	16	45,0	35	513	19,050	11,68	12,07
TRB 17513	17	103,67	115,1	9,5	20	57,0	35	513	19,050	11,68	12,07
TRB 19513	19	115,74	127,3	9,5	20	69,0	35	513	19,050	11,68	12,07
TRB 21513	21	127,82	139,4	9,5	20	81,0	35	513	19,050	11,68	12,07
TRB 23513	23	139,90	151,5	9,5	20	93,0	35	513	19,050	11,68	12,07
TRB 15548	15	122,17	137,1	14,0	20	75,0	40	548	25,400	17,02	15,88
TRB 17548	17	138,23	153,3	14,0	20	91,0	40	548	25,400	17,02	15,88
TRB 19548	19	154,32	169,5	14,0	20	107,0	40	548	25,400	17,02	15,88
TRB 21548	21	170,42	185,6	14,0	25	123,0	40	548	25,400	17,02	15,88
TRB 23548	23	186,54	201,8	14,0	25	140,0	40	548	25,400	17,02	15,88