

# Spur Gearheads

## 0,03 Nm

For combination with (overview on page 14-15)

DC-Micromotors:  
1319, 1331, 1516, 1524, 1624

Brushless DC-Servomotors:  
1524, 1536

DC-Motor-Tacho Combinations:  
1841

### Series 15/3, 16/3

	15/3 and 16/3	15/3 K and 16/3 K
Housing material	metal	metal
Geartrain material	steel <sup>1)</sup>	steel <sup>1)</sup>
Recommended max. input speed for:		
– continuous operation	5 000 rpm	5 000 rpm
Backlash, at no-load	≤ 3°	≤ 3°
Bearings on output shaft	sintered sleeve bearings	preloaded ball bearings
Shaft load, max.:		
– radial (6,5 mm from mounting face)	≤ 1,3 N	≤ 20 N
– axial	≤ 2 N	≤ 5 N <sup>2)</sup>
Shaft press fit force, max.	≤ 30 N	≤ 5 N <sup>2)</sup>
Shaft play (on bearing output):		
– radial	≤ 0,03 mm	≤ 0,02 mm
– axial	≤ 0,20 mm	= 0 mm <sup>2)</sup>
Operating temperature range	– 30 ... + 100 °C	– 30 ... + 100 °C

### Specifications

reduction ratio (nominal)	weight without motor	length without motor	length with motor				output torque		direction of rotation (reversible)	efficiency
			1319 E	1331 E	1516 E	1524 E 1624 E	continuous operation	intermittent operation		
	g	mm	L1 mm	L1 mm	L1 mm	L1 mm	M max. mNm	M max. mNm		%
6,3 :1	14	23,6	29,9	41,9	26,5	34,5	7	100	=	81
11,8 :1	14	23,6	29,9	41,9	26,5	34,5	10	100	=	81
22 :1	16	25,7	32,0	44,0	28,6	36,6	10	100	≠	73
41 :1	16	25,7	32,0	44,0	28,6	36,6	20	100	≠	73
76 :1	18	27,8	34,1	46,1	30,7	38,7	20	100	=	66
141 :1	18	27,8	34,1	46,1	30,7	38,7	30	100	=	66
262 :1	19	29,9	36,2	48,2	32,8	40,8	30	100	≠	59
485 :1	19	29,9	36,2	48,2	32,8	40,8	30	100	≠	59
900 :1	20	32,0	38,3	50,3	34,9	42,9	30	100	=	53
1 670 :1	20	32,0	38,3	50,3	34,9	42,9	30	100	=	53
3 101 :1	22	34,1	40,4	52,4	37,0	45,0	30	100	≠	48
5 752 :1	22	34,1	40,4	52,4	37,0	45,0	30	100	≠	48
10 683 :1	23	36,2	42,5	54,5	39,1	47,1	30	100	=	43
19 813 :1	23	36,2	42,5	54,5	39,1	47,1	30	100	=	43
36 796 :1	24	38,3	44,6	56,6	41,2	49,2	30	100	≠	39
68 245 :1	24	38,3	44,6	56,6	41,2	49,2	30	100	≠	39
126 741 :1	26	40,4	46,7	58,7	43,3	51,3	30	100	=	35
235 067 :1	26	40,4	46,7	58,7	43,3	51,3	30	100	=	35

<sup>1)</sup> Gearheads with ratio ≥ 262:1 have plastic gears in the input stage.  
For extended life performance, the gearheads are available with all steel gears and heavy duty lubricant: type 15/3 S and 16/3 S.

<sup>2)</sup> Limited by the preloaded ball bearings.  
A higher axial load negates the preload

**Note:** The reduction ratios are rounded, the exact values are available on request.

