

# Spur Gearheads

## 0,03 Nm

For combination with  
DC-Micromotors  
Brushless DC-Motors  
Stepper Motors

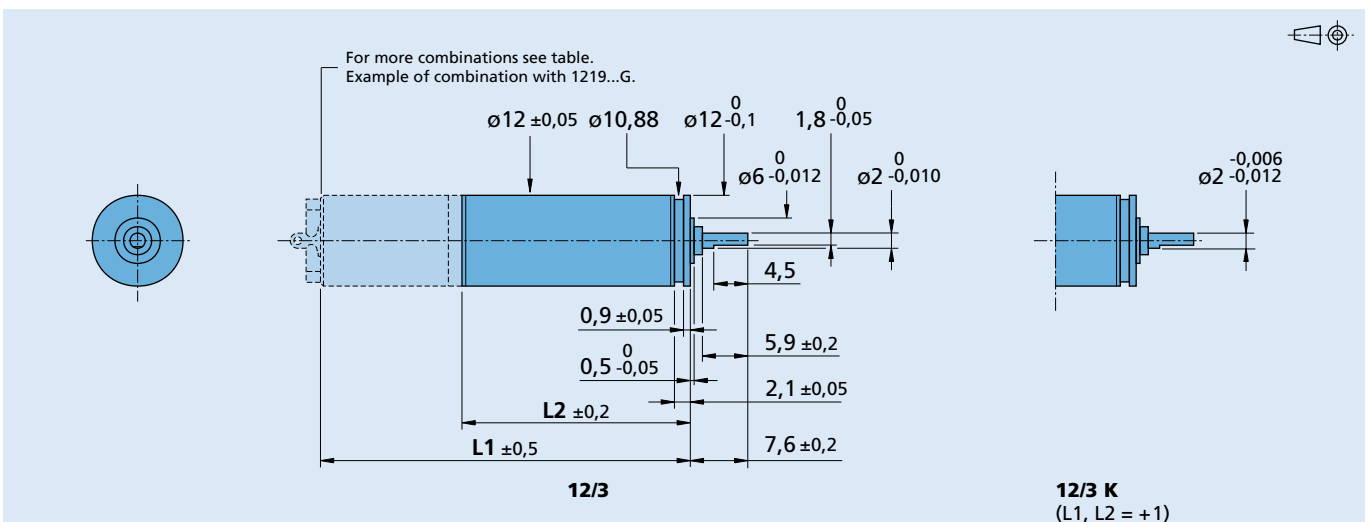
### Series 12/3

	12/3	12/3K
Housing material	metal	metal
Geartrain material	metal	metal
Recommended max. input speed for:		
– continuous operation	5 000 rpm	5 000 rpm
Backlash, at no-load	≤ 3 °	≤ 3 °
Bearings on output shaft	sintered bearings	ball bearings
Shaft load, max.:		
– radial (4,5 mm from mounting face)	≤ 3 N	≤ 5 N
– axial	≤ 2 N	≤ 10 N
Shaft press fit force, max.	≤ 10 N	≤ 10 N
Shaft play		
– radial (4,5 mm from mounting face)	≤ 0,04 mm	≤ 0,07 mm
– axial	≤ 0,1 mm	≤ 0,05 mm
Operating temperature range	- 30 ... + 100 °C	- 30 ... + 100 °C

### Specifications

	3	4	5	6	7	8	9	10	11
Number of gear stages	3	4	5	6	7	8	9	10	11
Continuous torque	mNm 6	8	10	20	30	30	30	30	30
Intermittent torque	mNm 100	100	100	100	100	100	100	100	100
Weight without motor, ca.	g 9	10	11	12	13	14	15	16	17
Efficiency, max.	% 90	86	81	77	74	70	66	63	60
Direction of rotation, drive to output	≠	=	≠	=	≠	=	≠	=	≠
Reduction ratio <sup>1)</sup> (rounded)	9,17:1	20,6:1	46,4:1	104,4:1	235:1	529:1	1 190:1	2 677:1	6 023:1
L2 [mm] = length without motor	15,4	17,5	19,6	21,7	23,8	25,9	28,0	30,1	32,2
L1 [mm] = length with motor	1016E...G 31,1	1016E...G 33,2	1016E...G 35,3	1016E...G 37,4	1016E...G 39,5	1016E...G 41,6	1016E...G 43,7	1016E...G 45,8	1016E...G 47,9
	1024E...S 39,1	1024E...S 41,2	1024E...S 43,3	1024E...S 45,4	1024E...S 47,5	1024E...S 49,6	1024E...S 51,7	1024E...S 53,8	1024E...S 55,9
	1219E...G 34,1	1219E...G 36,2	1219E...G 38,3	1219E...G 40,4	1219E...G 42,5	1219E...G 44,6	1219E...G 46,7	1219E...G 48,8	1219E...G 50,9
	1224E...S 39,6	1224E...S 41,7	1224E...S 43,8	1224E...S 45,9	1224E...S 48,0	1224E...S 50,1	1224E...S 52,2	1224E...S 54,3	1224E...S 56,4
	1224E...SR 39,6	1224E...SR 41,7	1224E...SR 43,8	1224E...SR 45,9	1224E...SR 48,0	1224E...SR 50,1	1224E...SR 52,2	1224E...SR 54,3	1224E...SR 56,4
	1226E...B 41,4	1226E...B 43,5	1226E...B 45,6	1226E...B 47,7	1226E...B 49,8	1226E...B 51,9	1226E...B 54,0	1226E...B 56,1	1226E...B 58,2
	ADM1220...-07 32,9	ADM1220...-07 35,0	ADM1220...-07 37,1	ADM1220...-07 39,2	ADM1220...-07 41,3	ADM1220...-07 43,4	ADM1220...-07 45,5	ADM1220...-07 47,6	ADM1220...-07 49,7
	ADM1220S...-57 32,9	ADM1220S...-57 35,0	ADM1220S...-57 37,1	ADM1220S...-57 39,2	ADM1220S...-57 41,3	ADM1220S...-57 43,4	ADM1220S...-57 45,5	ADM1220S...-57 47,6	ADM1220S...-57 49,7

<sup>1)</sup> The reduction ratios are rounded, the exact values are available on request or at [www.faulhaber.com](http://www.faulhaber.com).



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Housing material	metal	metal
Geartrain material	metal	metal
Recommended max. input speed for:		
– continuous operation	5 000 rpm	5 000 rpm
Backlash, at no-load	$\leq 3^\circ$	$\leq 3^\circ$
Bearings on output shaft	sintered bearings	ball bearings
Shaft load, max.:		
– radial (4,5 mm from mounting face)	$\leq 3$ N	$\leq 5$ N
– axial	$\leq 2$ N	$\leq 10$ N
Shaft press fit force, max.	$\leq 10$ N	$\leq 10$ N
Shaft play		
– radial (4,5 mm from mounting face)	$\leq 0,04$ mm	$\leq 0,07$ mm
– axial	$\leq 0,1$ mm	$\leq 0,05$ mm
Operating temperature range	- 30 ... + 100 °C	- 30 ... + 100 °C

### Specifications

	12	13	14	15
Number of gear stages				
Continuous torque	mNm 30	30	30	30
Intermittent torque	mNm 100	100	100	100
Weight without motor, ca.	g 18	19	20	22
Efficiency, max.	% 57	54	51	49
Direction of rotation, drive to output	=	≠	=	≠
Reduction ratio <sup>1)</sup> (rounded)	13 552:1	30 492:1	68 608:1	154 368:1
L2 [mm] = length without motor	34,3	36,4	38,5	40,6
L1 [mm] = length with motor				
1016E...G	50,0	52,1	54,2	56,3
1024E...S	58,0	60,1	62,2	64,3
1219E...G	53,0	55,1	57,2	59,3
1224E...S	58,5	60,6	62,7	64,8
1224E...SR	58,5	60,6	62,7	64,8
1226E...B	60,3	62,4	64,5	66,6
ADM1220...-07	51,8	53,9	56,0	58,1
ADM12205...-57	51,8	53,9	56,0	58,1

<sup>1)</sup> The reduction ratios are rounded, the exact values are available on request or at [www.faulhaber.com](http://www.faulhaber.com).

