

Spur Gearheads

0,1 Nm

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

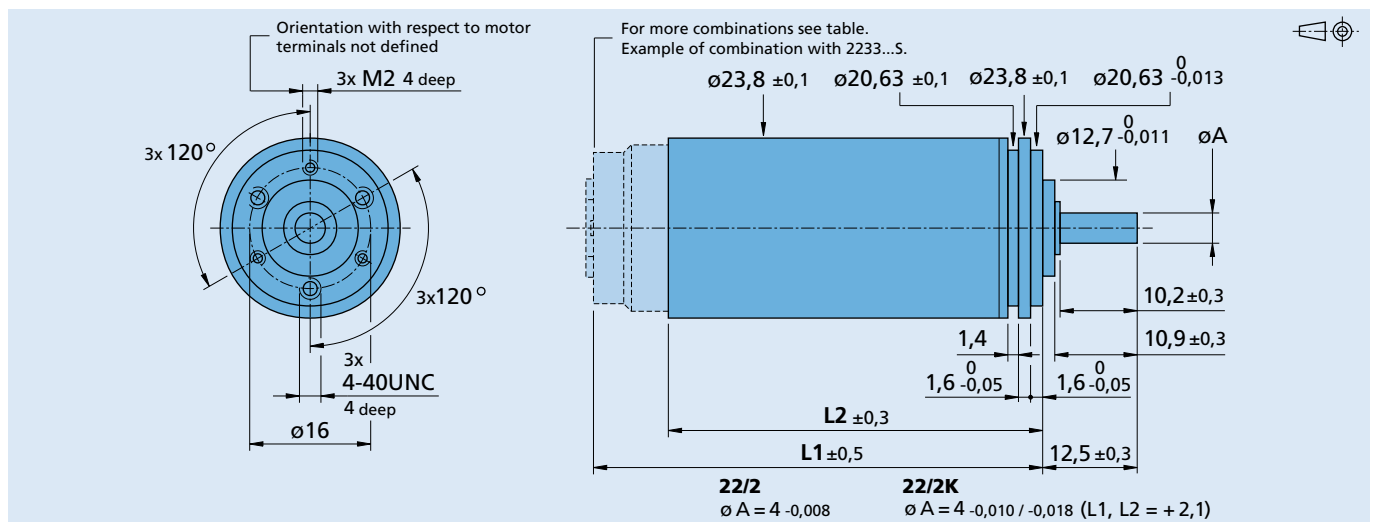
Series 22/2

	22/2	22/2K
Housing material	metal	metal
Geartrain material	metal	metal
Recommended max. input speed for:		
– continuous operation	4 000 rpm	4 000 rpm
Backlash, at no-load	≤ 3 °	≤ 3 °
Bearings on output shaft	sintered bearings	ball bearings, preloaded
Shaft load, max.:		
– radial (6 mm from mounting face)	≤ 3 N	≤ 100 N
– axial	≤ 5 N	≤ 5 N
Shaft press fit force, max.	≤ 50 N	≤ 5 N
Shaft play		
– radial (6 mm from mounting face)	≤ 0,04 mm	≤ 0,03 mm
– axial	≤ 0,2 mm	= 0 mm
Operating temperature range	- 30 ... + 100 °C	- 30 ... + 100 °C

Specifications

	2	3	4	5	6	7	8	9	10	
Number of gear stages										
Continuous torque	mNm	100	100	100	100	100	100	100	100	
Intermittent torque	mNm	400	400	400	400	400	400	400	400	
Weight without motor, ca.	g	58	68	72	77	82	88	93	103	
Efficiency, max.	%	90	86	81	73	66	59	53	48	
Direction of rotation, drive to output		=	≠	=	≠	=	≠	=	≠	
Reduction ratio ¹⁾ (rounded)		3,1:1 5,4:1	9,7:1	17,2:1 30,7:1	54,6:1 97,3:1	173:1 308:1	548:1 975:1	1 734:1 3 088:1	5 490:1 9 780:1	17 386:1 30 969:1
L2 [mm] = length without motor		40,8	46,6	49,5	52,4	55,3	58,2	61,1	64,0	66,9
L1 [mm] = length with motor										
	2224R...SR	45,4	50,0	53,6	56,5	59,4	62,3	65,2	68,1	71,0
	2230F/R...S	51,2	55,8	59,4	62,3	65,2	68,1	71,0	73,9	76,8
	2232U...SR	53,4	58,0	61,6	64,5	67,4	70,3	73,2	76,1	79,0
	2233F/R...S	54,0	58,6	62,2	65,1	68,0	70,9	73,8	76,7	79,6
	2232U...BSL	57,3	61,9	65,5	68,4	71,3	74,2	77,1	80,0	82,9
	2248U...BSL	72,9	77,5	81,1	84,0	86,9	89,8	92,7	95,6	98,5
	AM2224...-14	48,9	53,5	57,1	60,0	62,9	65,8	68,7	71,6	74,5

¹⁾ The reduction ratios are rounded, the exact values are available on request or at www.faulhaber.com.



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Geartrain material	metal	metal
Recommended max. input speed for:		
– continuous operation	4 000 rpm	4 000 rpm
Backlash, at no-load	$\leq 3^\circ$	$\leq 3^\circ$
Bearings on output shaft	sintered bearings	ball bearings, preloaded
Shaft load, max.:		
– radial (6 mm from mounting face)	≤ 3 N	≤ 100 N
– axial	≤ 5 N	≤ 5 N
Shaft press fit force, max.	≤ 50 N	≤ 5 N
Shaft play		
– radial (6 mm from mounting face)	$\leq 0,04$ mm	$\leq 0,03$ mm
– axial	$\leq 0,2$ mm	$= 0$ mm
Operating temperature range	$-30 \dots +100^\circ\text{C}$	$-30 \dots +100^\circ\text{C}$

Specifications

	11	12	13
Number of gear stages			
Continuous torque	mNm 100	100	100
Intermittent torque	mNm 400	400	400
Weight without motor, ca.	g 108	113	118
Efficiency, max.	% 39	35	31
Direction of rotation, drive to output	\neq	$=$	\neq
Reduction ratio ¹⁾ (rounded)	55 057:1 98 070:1	174 350:1 310 560:1	552 113:1 983 447:1
L2 [mm] = length without motor	69,8	72,7	75,6
L1 [mm] = length with motor	2224R...SR 73,9	2230F/R...S 76,8	2232U...SR 79,7
	2230F/R...S 79,7	2232U...SR 82,6	2233F/R...S 85,5
	2232U...SR 81,9	2233F/R...S 84,8	2232U...BSL 87,7
	2233F/R...S 82,5	2232U...BSL 85,4	2248U...BSL 88,3
	2232U...BSL 85,8	AM2224...-14 88,7	2248U...BSL 91,6
	2248U...BSL 101,4		AM2224...-14 104,3
	AM2224...-14 77,4		AM2224...-14 80,3

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