

## Servo reducers 2SC-212/2 - 2SC-222/2

AKIM gear technology – Swiss Made.

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A high dynamic and very precise cycloid gear that can be combined with almost all AC and DC servomotors. The motor- gear shaft connection is done with a torsionally rigid and flexible clamp coupling. The ratios of 14 : 1 to 87 : 1 achievable in single stage, are all integer and mathematic precise. In the servo mode, drive speeds of up to 4'500 min<sup>-1</sup> are permissible.

### General informations.

- Minimum backlash < 1 min can be adjusted to “backlash-free”
- Minimum mass moment of inertia through ingenious construction
- Maximum position accuracy
- Maximum efficiency through special toothed system
- Maximum overload safety
- High torsional rigidity through compact design
- High concentricity
- High ratio range through optimal utilization of space
- High level of quietness during operation
- High input speeds

### Technical data.

- Makes use of all the advantages of the toothed system for driving
- Low backlash: The backlash can be adjusted to “backlash free” from outside with the machine is running
- With its special toothed system and highly precise, solid bearings and components operates with low noise and very quietly even at speeds over 4'500 min<sup>-1</sup>
- Achieve efficiencies over 90%
- Very good starting up performance with low motor torques via initial breakaway torque up to 72%
- With its high precision standard has excellent concentricity and constant true-running
- Excellent weight / performance ratio
- The compact design and the optimally dimensioned bearings result in high overload safety and torsional rigidity
- Used for servo applications where maximum accelerations and decelerations are required and maximum position accuracy is one of the specifications of the drive unit
- Lifetime lubricated
- No oil fittings
- Maintenance free

### Standard program.

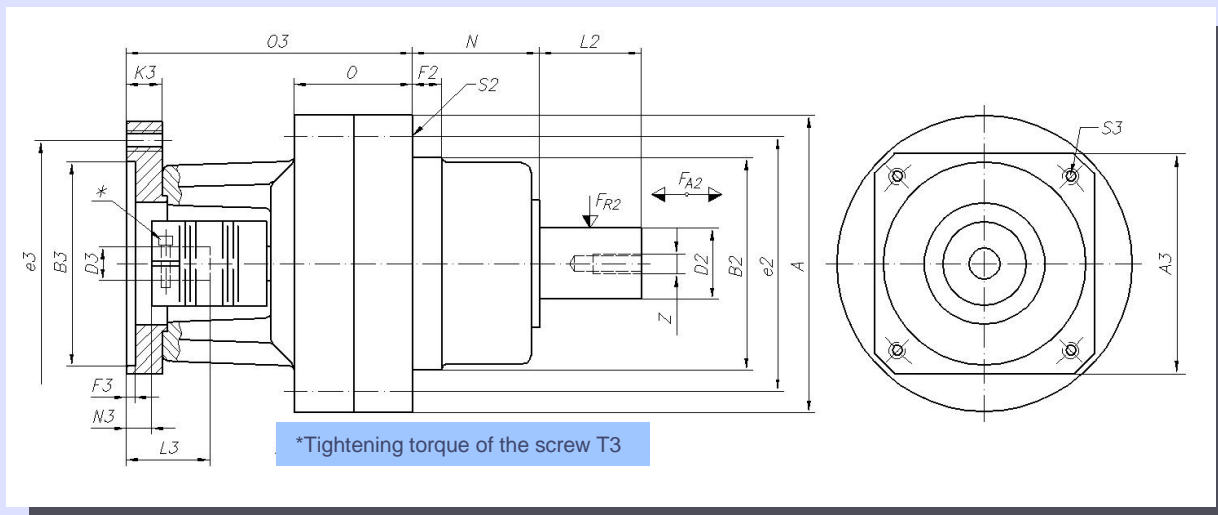
Type	2SC-212/2	2SC-216/2	2SC-220/2	2SC-222/2
Reduction ratio	14 19 24 29 36 48 60	16 19 24 30 38 48 65	17 21 26 29 36 43 55 66 87	14 17 21 26 29 36 43 59 87
Max. starting torque T <sub>2A</sub> [Nm]	50	115	315	750
Mass moment of inertia J [kgcm <sup>2</sup> ]	0.12	0.4	1.3	3.7
Weight [Kg]	3	8	17	30

Output nominal torque  $T_{2n}$  [Nm] at drive speed  $n_1$ .

Type	2SC-212/2	2SC-216/2	2SC-220/2	2SC-222/2
Drive speed $n_1$ [min <sup>-1</sup> ]				
*4500	30	70		
*3000	35	80	215	510
*2000	40	90	250	600
1500	40	90	250	600
1000	40	90	250	600
≥ 600	40	90	250	600

\* Max. 20% of permissible power on time

Drawing.



Dimensions.

Type		2SC-212/2	2SC-216/2	2S-220/2	2SC-222/2
	Dimensions				
Input	A	90	118	160	210
	O	50	60	70	80
	N	33	48	72	87
Output	B2	60-j6	85-j6	115-j6	160-j6
	E2	Ø75	Ø100	Ø138	Ø185
	F2	6	6	8	8
	D2	Ø16-k6	Ø25-k6	Ø35-k6	Ø45-k6
	L2	25	40	60	80
	S2	6 x Ø5.5	6 x Ø7	8 x Ø9	8 x Ø11
	Z	M4x10	M8x19	M10x22	M12x28

**Radial / Axial load output shaft.**

Type		2SC-212/2	2SC-216/2	2S-220/2	2SC-222/2
Drive speed		Max. permissible radial load $F_{r2}$ [N] related to the centre of the output shaft			
N <sub>2</sub>	10	2800	5900	10110	14380
	15	2450	5130	8780	12400
	25	2020	4370	7470	10500
	40	1760	3650	6250	9000
	65	1490	3155	5395	7670
	100	1300	2790	4775	6735
	160	1120	2360	3980	5610
	250	930	2085	3570	5000
Drive speed		Max. permissible axial load $F_{a2}$ [N] related to max. permissible radial load $F_{r2}$			
N <sub>2</sub>	10	2000	5900	3880	9020
	15	2000	5900	3250	7640
	25	2000	5900	2620	6300
	40	2000	4840	1890	5250
	65	2000	3870	1630	4320
	100	1620	3200	1330	3660
	160	1290	2530	950	2880
	250	970	2000	755	2450

**Motor flange dimensions.**

Dimensions											Type			
A3	B3	D3	E3	F3	K3	L3	N3	O3	S3	T3	212/2	216/2	220/2	222/2
70x70	60-H7	11-H7	75	3	13	23	10	107	4xM5	3.8	01			
70x70	60-H7	14-H7	75	3	13	30	10	107	4xM5	3.8	02			
80x80	70-H7	14-H7	85	3	13	30	10	107	4xM6	3.8	03			
90x90	80-H7	14-H7	100	3	13	30	10	107	4xM6	3.8	04			
100x100	95-H7	14-H7	115	3	13	30	10	107	4xM8	3.8	05			
90x90	60-H7	11-H7	75	4	15	23	17	140	4xM5	8		01		
90x90	60-H7	14-H7	75	4	15	30	17	140	4xM5	8		02		
90x90	70-H7	14-H7	85	4	15	30	17	140	4xM6	8		03		
90x90	80-H7	14-H7	100	4	15	30	17	140	4xM6	8		04		
100x100	95-H7	14-H7	115	4	15	30	17	140	4xM8	8		05		
140x140	95-H7	14-H7	165	4	15	30	17	140	4xM10	8		06		
100x100	80-H7	19-H7	100	4	15	40	17	140	4xM6	8		07		
120x120	95-H7	19-H7	115	4	15	40	17	140	4xM8	8		08		
120x120	110-H7	24-H7	130	4	25	50	27	150	4xM8	13		09		
80x80	50-H7	14-H7	95	4	15	30	17	140	4xM6	8		10		
120x120	70-H7	14-H7	85	5	23	30	18	171	4xM6	8			01	
120x120	80-H7	14-H7	100	5	23	30	18	171	4xM6	8			02	
120x120	95-H7	14-H7	115	5	23	30	18	171	4xM8	8			03	
120x120	70-H7	19-H7	85	5	23	40	18	171	4xM6	13			04	
120x120	80-H7	19-H7	100	5	23	40	18	171	4xM6	13			05	
120x120	95-H7	19-H7	115	5	23	40	18	171	4xM8	13			06	
120x120	110-H7	24-H7	130	5	23	50	18	171	4xM8	13			07	
140x140	110-H7	24-H7	165	5	23	50	18	171	4xM10	13			08	
140x140	130-H7	24-H7	165	5	23	50	18	171	4xM10	13			09	
140x140	80-H7	19-H7	100	5	23	40	24	200	4xM6	32				01
140x140	95-H7	19-H7	115	5	23	40	24	200	4xM8	32				02
140x140	110-H7	24-H7	130	5	23	50	24	200	4xM8	32				03
140x140	110-H7	24-H7	165	5	23	50	24	200	4xM10	32				04
140x140	130-H7	24-H7	165	5	23	50	24	200	4xM10	32				05
155x155	130-H7	28-H7	165	5	23	60	24	200	4xM10	32				06
155x155	130-H7	32-H7	165	5	23	60	24	200	4xM10	32				07
190x190	180-H7	32-H7	215	5	23	60	24	200	4xM12	32				08