

Synchronous servo motors

IndraDyn S

MSK for all requirements



Synchronous servo motors

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- Project planning manual
- Application description for potentially explosive areas

**Compact and powerful**

- Maximum torques up to 495 Nm
- Maximum speeds up to 9,000 rpm
- Encoder systems for a wide and diverse range of applications
- High degree of protection IP65
- Choice of cooling systems

The particularly outstanding features of the MSK range of motors are its wide power spectrum and narrow size increments. The high torque density of these synchronous servo motors allows a particularly compact design with maximum torques of up to 495 Nm.

Depending on the level of precision required, we can supply the motors with encoder systems for standard or high-precision requirements. Both encoder versions are available in a single-turn and multi-turn configuration. A number of further options, such as the shaft keyway, holding brake, reduced runout and the high protection class IP65 mean that they can be used with fan, liquid cooling and ATEX.

On applications with high levels of continuous power, blower units for axial or radial mounting are available for retrofit. Intrinsically safe IP65 blower motors (UL thermally protected F) ensure the reliability of the single-phase blower units, eliminating the need for an external circuit breaker. Optional liquid cooling is available for very high power applications.

Technical data**Electrical data**

Type	Maximum speed	Standstill torque	Maximum torque	Standstill current	Maximum current	Moment of inertia
	n_{Max} [1/min]	M_0 [Nm]	M_{Max} [Nm]	I_0 [A]	I_{Max} [A]	J [kgm ²]
MSK030B-0900	9000	0.4	1.8	1.5	6.8	0.00013
MSK030C-0900		0.8	4			0.00003
MSK040B-0450	6000	1.7	5.1	2	8	0.0001
MSK040B-0600	7500					
MSK040C-0450	6000	2.7	8.1	2.4	9.6	0.00014
MSK040C-0600	7500					
MSK043C-0600			12.5	3.6	18.5	0.000083
MSK050B-0300	4300	3	9	1.8	7.2	0.00028
MSK050B-0450	6000			2.8	11.2	
MSK050B-0600				3.7	14.8	
MSK050C-0300	4700	5	15	3.1	12.4	0.00033
MSK050C-0450	6000			4.7	18.8	
MSK050C-0600				6.2	24.8	
MSK060B-0300	4800			3	12	0.00048
MSK060B-0600	6000			6.1	24.4	

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Type	Maximum speed	Standstill torque	Maximum torque	Standstill current	Maximum current	Moment of inertia
	n_{Max}	M_0	M_{Max}	I_0	I_{Max}	J
	[1/min]	[Nm]	[Nm]	[A]	[A]	[kgm ²]
MSK060C-0300	4900	8	24	4.8	19.2	0.0008
MSK060C-0600	6000			9.5	38	
MSK061B-0300	4200	3.5	14	1.9	8.6	0.00044
MSK061C-0200	3100	8	32	3.2	14.4	0.000752
MSK061C-0300	4200			4.3	19.4	
MSK061C-0600	6000			7.7	34.7	
MSK070C-0150	2500	13	33	4.1	16.4	0.00291
MSK070C-0300	5500			8.2	32.8	
MSK070C-0450	6000			12.3	36.9	
MSK070D-0150	2700	17.5	52.5	6.2	24.8	0.00375
MSK070D-0300	4900			11	33	
MSK070D-0450	6000			16.6	49.8	
MSK070E-0150	2200	23	70	6.4	25.6	0.00458
MSK070E-0300	5300		65	15.4	49.3	
MSK070E-0450	6000		60	19.3	57.9	
MSK071C-0200	3500	12	44	5.2	23.4	0.00173
MSK071C-0300	5000			7.3	32.9	
MSK071C-0450	5800			8.9	40.1	
MSK071D-0200	3200	17.5	66	7.3	32.8	0.00255
MSK071D-0300	3800			9.1	40.5	
MSK071D-0450	6000			15.4	69.3	
MSK071E-0200	3400	23	84	10.1	45.5	0.0029
MSK071E-0300	4200			12.5	56.3	
MSK071E-0450	6000			20	90.1	
MSK075C-0200	4100	12	44	6.3	28.4	0.00352
MSK075C-0300	5000			8.4	37.8	
MSK075C-0450	6000			12.6	56.7	
MSK075D-0200	3800	17	64	8.3	37.4	0.0049
MSK075D-0300	4800		66	11.7	52.7	
MSK075D-0450	6000		64	16.5	74.3	
MSK075E-0200	3850	21	88	10.2	45.9	0.00613
MSK075E-0300	5200			14.2	63.9	
MSK075E-0450	6000			86	86	
MSK076C-0300	4700	12	43.5	7.2	32.4	0.0043
MSK076C-0450	5000			12.2	54.9	
MSK100A-0200	4400	15	54	9.2	41.4	0.011
MSK100A-0300	5200			10.2	45.9	
MSK100A-0450	6000			12	54	

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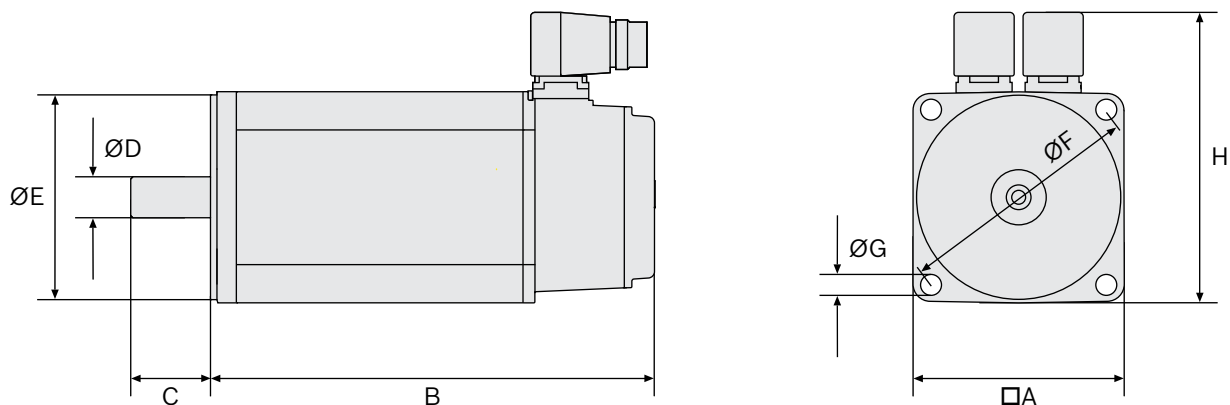
IndraDyn S ■ MSK for all requirements**Electrical data**

Type	Maximum speed	Standstill torque	Maximum torque	Standstill current	Maximum current	Moment of inertia
	n_{Max}	M_0	M_{Max}	I_0	I_{Max}	J
	[1/min]	[Nm]	[Nm]	[A]	[A]	[kgm ²]
MSK100B-0200	4100	28	102	14.7	66.2	0.0192
MSK100B-0300	4500			17.4	78.3	
MSK100B-0400				24.5	106.7	
MSK100B-0450				28.5	110.7	
MSK100C-0200	3500	38	148	17.7	79.7	0.0273
MSK100C-0300	4500			21.6	97.2	
MSK100C-0450	4000			35.4	159.3	
MSK100D-0200	2000	48	187	13	58.5	0.035
MSK100D-0300	3000			20.7	93.2	
MSK100D-0350				185	29.9	
MSK101C-0200	3300	32	110	14.9	67.1	0.0065
MSK101C-0300	4500			18.7	84.2	
MSK101C-0450	5800			25.1	113	
MSK101D-0200	3400	50	160	22.2	99.9	0.00932
MSK101D-0300	4600			30.6	137.7	
MSK101D-0450	6000			41.7	187.7	
MSK101E-0200	3500	70	231	32.1	144.5	0.0138
MSK101E-0300	4600			41.6	187.4	
MSK101E-0450	6000			58.3	262.4	
MSK103A-0300	5200	21	54	12.5	40	0.00442
MSK103B-0300	4700	28	85	17	63	0.00594
MSK103D-0300	4600	46	138	26.3	94.7	0.00894
MSK131B-0200	3200	85	250	36.7	165	0.0232
MSK131D-0200	3000	160	495	65.2	293.4	0.0382

All information is based on the basic version of the motor with encoder S1, without holding brake.
Values at 750 V intermediate circuit voltage

Dimensions

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Type	A	B	C	Ø D	Ø E	Ø F	Ø G	H	Earth							
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]							
MSK030B-0900	54	152.5	20	9	40	63	4.5	98.5	1.3							
MSK030C-0900		188							1.9							
MSK040B-0450	82	155.5	30	14	50	95	6.6	124.5	2.8							
MSK040B-0600									185.5	3.6						
MSK040C-0450		185.5								3.6						
MSK040C-0600									185.5		3.6					
MSK050B-0300	98	173	40	19	95	115	9	134.5	4							
MSK050B-0450									203	5.4						
MSK050B-0600		203									5.4					
MSK050C-0300												203	5.4			
MSK050C-0450		203							5.4							
MSK050C-0600	203		5.4													
MSK060B-0300	116	181	50	24	95	130	9	156	5.7							
MSK060B-0600									226	8.4						
MSK060C-0300		226									8.4					
MSK060C-0600			226	8.4												
MSK061B-0300		223							5.7							
MSK061C-0200		264	40	19					19	130	9	156	8.3			
MSK061C-0300														264	40	19
MSK061C-0600	264				40	19	19	130								

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Type	A [mm]	B [mm]	C [mm]	Ø D [mm]	Ø E [mm]	Ø F [mm]	Ø G [mm]	H [mm]	Earth [kg]
MSK070C-0150	140	238	58	32	130	165	11	202	11.7
MSK070C-0300									
MSK070C-0450									
MSK070D-0150		268							14
MSK070D-0300									
MSK070D-0450									
MSK070E-0150		298							16.2
MSK070E-0300									
MSK070E-0450									
MSK071C-0200		272							13.9
MSK071C-0300									
MSK071C-0450									
MSK071D-0200		312							18
MSK071D-0300									
MSK071D-0450									
MSK071E-0200		352							23.5
MSK071E-0300									
MSK071E-0450									
MSK075C-0200		307							14.8
MSK075C-0300									
MSK075C-0450									
MSK075D-0200		347							19
MSK075D-0300									
MSK075D-0450									
MSK075E-0200		387							22.5
MSK075E-0300									
MSK075E-0450									
MSK076C-0300		292.5							50
MSK076C-0450									

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Type	A [mm]	B [mm]	C [mm]	Ø D [mm]	Ø E [mm]	Ø F [mm]	Ø G [mm]	H [mm]	Earth [kg]												
MSK100A-0200	192	302	60	32	130	215	14	262	23												
MSK100A-0300																					
MSK100A-0450																					
MSK100B-0200		368							80	38	180	300	18	255	34						
MSK100B-0300																					
MSK100B-0400																					
MSK100B-0450		434													110	48	250	300	18	337	45.1
MSK100C-0200																					
MSK100C-0300																					
MSK100C-0450		502																			110
MSK100D-0200																					
MSK100D-0300																					
MSK100D-0350		350	110	48	250	300	18	337													
MSK101C-0200																					
MSK101C-0300																					
MSK101C-0450		410							110	48	250	300	18	337							
MSK101D-0200																					
MSK101D-0300																					
MSK101D-0450		501													110	48	250	300	18	337	
MSK101E-0200																					
MSK101E-0300																					
MSK101E-0450	186	110																			48
MSK103A-0300																					
MSK103B-0300																					
MSK103D-0300	265		110	48	250	300	18	337													
MSK131B-0200																					
MSK131D-0200																					
MSK131D-0200	260								470	110	48	250	300	18							
MSK131D-0200									610						116						

All information is based on the basic version of the motor with encoder S1, without holding brake.

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It must be remembered that our products are subject to a natural process of wear and aging.