

Motors and gearboxes

# Torque motors

## IndraDyn T for maximum torque



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**Torque motors ■ IndraDyn T for maximum torque****Documentation**

- Project planning manual

**Powerful and direct**

- Maximum torques up to 13,800 Nm
- Full torque even at standstill
- Extremely high overload capacity
- Liquid cooling with thermal encapsulation
- Easy assembly

The IndraDyn T torque motors are liquid-cooled kit motors which have been optimized for high torques of up to 13,800 Nm. They consist of a stator with three-phase winding and a rotor with permanent magnets.

Typical areas of application for these motors mainly include direct drives in rotary tables or swivel axes in machining centers or printing units. However, they also offer innovative new approaches to solutions in machine design using robots, plastics processing machines, woodworking machines, lathes and special purpose machines.

The "cooling jacket" option on the MST stators consists of a closed-circuit cooling jacket, mounting flange and electrical connection via terminal box or plug. The rear side of the cooling jacket is open, and the rotor is connected to the machine shaft and bearing. This features an optimal mix of standard solution and design freedom for integrating direct-drive technology. Reduced design effort and service-friendly installation offer substantial additional cost advantages.

**Technical data****Electrical data**

Type	Rated speed	Maximum speed	Rated torque	Maximum torque	Rated power	Rated current	Maximum current	Moment of inertia
	$n_N$	$n_{Max}$	$M_N$	$M_{Max}$	$P_N$	$I_N$	$I_{Max}$	J
	[1/min]	[1/min]	[Nm]	[Nm]	[kW]	[A]	[A]	[kgm <sup>2</sup> ]
MST130A-0200	2,000	4,000	9	15	1.88	7.5	16	0.0008
MST130C-0050	500	1,200	25	40	1.31		12	
MST130C-0200	2,000	3,500			5.24	15.2	38	
MST130E-0020	200	700	42	65	0.88	7.5	12	0.0029
MST160A-0050	500	1,000	35	90	1.83	6.5	20	0.0059
MST160C-0050			70	180	3.67	13	40	0.0108
MST160E-0050			105	270	5.5	19.5	60	0.0158
MST210A-0027	270	600	50	100	1.4	7	25	0.012
MST210C-0027			120	250	3.4	13	50	0.023
MST210C-0050	500	1,200			6.9	25	100	
MST210D-0070	700		150	300	11	32	120	0.027
MST210E-0027	270	600	240	500	6.8	24	90	0.042
MST290B-0018	180	350	220	460	4.1	14.8	60	0.08

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	$n_N$	$n_{Max}$	$M_N$	$M_{Max}$	$P_N$	$I_N$	$I_{Max}$	$J$
	[1/min]	[1/min]	[Nm]	[Nm]	[kW]	[A]	[A]	[kgm <sup>2</sup> ]
MST290D-0002	25	90	350	700	0.9	6.3	25	0.11
MST290D-0004	45	150			1.65	10.4	30	
MST290D-0018	180	350			6.6	26	100	
MST290E-0004	40	130	575	1,150	2.4	12.5	50	0.17
MST290E-0018	180	350			10.8	35	125	
MST360B-0006	60	145	375	760	2.4	8.8	20	0.19
MST360B-0018	180	330		900	7.1	20	70	
MST360D-0009	90	180	525	1,150	4.9	12	31	0.27
MST360D-0012	120	250			6.6	16.5	60	
MST360D-0018	180	300			9.9	28	100	
MST360E-0018			875	1,900	16.5	42	141	0.44
MST450B-0012	120	250	540	1,200	6.8	22	70	0.45
MST450D-0006	60	130	810	1,800	5.1	18.8	50	0.64
MST450D-0012	120	250			10.2	33	100	
MST450E-0006	60	120	1,400	3,250	8.8	32	88	1.01
MST450E-0012	120	220			17.6	46	125	
MST530B-0010	100	200	800	1,800	8.4	28.6	71	0.92
MST530C-0010		150	1,200	2,700	12.6	31.2	88	1.25
MST530E-0010		200	2,100	4,700	22	64	212	1.92
MST530G-0006	60	120	4,200	9,200	26.4	76	240	3.84
MST530G-0007	70	130			31	96	305	
MST530G-0010	100				44	116.8	350	
MST530L-0003	30	68	6,300	11,000	19.8	57.8	120	5.76
MST530L-0006	60	100		13,800	39.6	120	380	
MST530L-0007	70				46.2	133	420	

All specifications are based on operation with liquid cooling and 540 V DC bus voltage.

Stator/rotor weight with open cooling jacket

Weight depending on rotor version

**Dimensions**

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Type	Ø A	B	Ø C	D	E	Earth	
	[mm]	[mm]	[mm]	[mm]	[mm]	Stator [kg]	Rotor [kg]
MST130A-0200	150	63	60			2.4	0.65
MST130C-0050		103				5.1	1.5
MST130C-0200		143				7.7	2.21
MST130E-0020		95				5.6	2.4
MST160A-0050	180	145	80			9.6	4.3
MST160C-0050		195				13.9	6.2
MST160E-0050		75				7.2	3
MST210A-0027	230	120	120	260	140	11.5	4.8
MST210C-0027		185					
MST210C-0050		215					
MST210D-0070		185			13.8	5.8	
MST210E-0027		195			260	18.8	7.8
MST290B-0018	310	105	200	385	172	13.5	6.2
MST290D-0002		135			202	20	9
MST290D-0004							
MST290D-0018		195			262	25.1	11.6
MST290E-0004							
MST290E-0018							
MST360B-0006	385	120	260	450	195	23	9.8
MST360B-0018		150			225	28.8	13.5
MST360D-0009							
MST360D-0012							
MST360D-0018		210			285	40.3	20.9
MST360E-0018							
MST450B-0012	480	120	350	570	200	31	13
MST450D-0006		150			230	38.7	17.9
MST450D-0012							
MST450E-0006		210			290	54.2	27.7
MST450E-0012							
MST530B-0010	565	120	410	645	200	36	22
MST530C-0010		150			230	45	27.5
MST530E-0010		210			290	63	38.5
MST530G-0006		370			455	144	77
MST530G-0007							
MST530G-0010							
MST530L-0003		520			605	205	115
MST530L-0006							
MST530L-0007							
MST530L-0007							

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