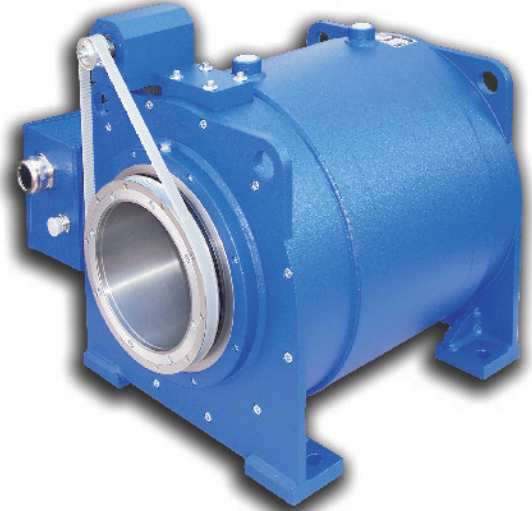


SM SERIES SYNCHRONOUS MOTORS

The SM series motors are synchronous multipolar motors excited by permanent magnets on inner rotor. To reach a high specific torque (rated torque relating to the machine's inner cubage), they are designed with water cooling providing the optimum discharge of motor losses at a high degree of protection. Owing to their high specific torque value, the SM series motors are suitable, in particular, for applications in the field of low and medium speeds and, especially, for direct drives without using gearbox in various industrial sectors.



GENERAL TECHNICAL DATA

Axis height	H = 250, 355, 400 a 560 mm
Degree of protection of motors	IP54
Cooling of motors	ICW37
Ambient temperature	0 to +40°C
Input cooling water temperature	10°C to 35°C
Motor shape	IM1001
.	or IM1009 with hollow shaft
Insulation class	"H"

Type	Torque
H = 250 mm	700 - 2600 Nm
H = 355 mm	2200 - 8000 Nm
H = 400 mm	4500 - 14000 Nm
H = 560 mm	9000 - 28000 Nm

HLAVNÍ PARAMETRY

$U_{dc} = 560 V$

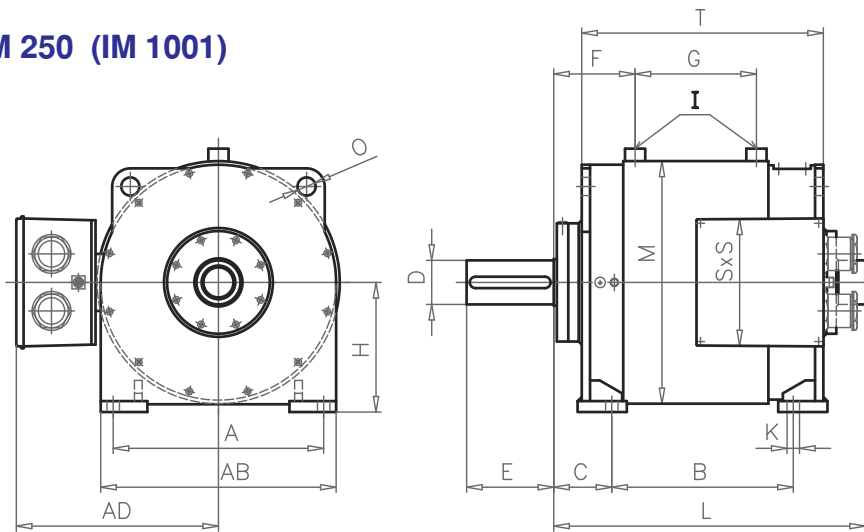
Motor type	2p	Weight [kg]		n_n [min ⁻¹]	M_{max} [Nm]	I_{max} [A]	M_n [Nm]	I_n [A]	Eta [%]	n_n [min ⁻¹]	M_{max} [Nm]	I_{max} [A]	M_n [Nm]	I_n [A]	Eta [%]
		IM1001	IM1009												
SM 250-06	12	315	302	500	1310	176	780	97	89,8	1000	1310	313	690	153	93,8
SM 250-08		370	350		1750	239	1040	131	90,4		1750	332	925	200	94,5
SM 250-10		425	398		2185	281	1300	154	91,4		2185	563	1150	274	94,8
SM 250-12		480	446		2620	312	1560	171	91,9		2620	625	1380	304	95,0
SM 250-14		535	494		3060	402	1820	220	92,4		3060	703	1610	342	95,3
SM 250-16		590	542		3500	402	2080	220	92,6		3500	804	1840	390	95,4
SM 250-18		645	590		3950	471	2340	257	92,8		3950	941	2070	455	95,5
SM 250-20		700	638		4400	566	2600	308	92,7		4400	1132	2300	546	95,5
SM 355-08	12	1090		250	2660	167	1900	113	88,7	500	2660	335	1900	226	93,1
SM 355-10		1210			3300	212	2400	142	89,6		3300	425	2400	284	93,8
SM 355-12		1330			4000	260	2900	173	90,5		4000	482	2900	321	94,1
SM 355-14		1450			4650	306	3400	205	91,0		4650	560	3400	376	94,5
SM 355-16		1570			5300	335	3900	226	91,2		5300	670	3900	453	94,6
SM 355-18		1690			6000	375	4400	252	91,2		6000	750	4400	505	94,7
SM 355-22		1930			7300	480	5400	326	91,6		7300	959	5400	652	94,8
SM 355-26		2170			8650	561	6400	381	92,1		8650	1122	6400	762	95,0
SM 400-10	20	1455		250	6800	403	4500	246	92,0	500	6800	807	4500	492	94,9
SM 400-12		1605			8150	518	5400	316	91,9		8150	906	5400	553	95,1
SM 400-14		1755			9500	557	6350	342	92,4		9500	1034	6350	636	95,1
SM 400-16		1905			11000	667	7300	407	92,6		11000	1222	7300	747	95,2
SM 400-18		2055			12400	735	8250	449	92,9		12400	1469	8250	900	95,4
SM 400-20		2205			14000	829	9300	506	93,0		14000	1659	9300	1014	95,5
SM 400-24		2505			17000	1079	11250	656	92,8		17000	1888	11250	1149	95,5
SM 400-28		2805			20000	1269	13200	770	93,3		20000	2175	13200	1321	95,5

Note:

1. Technical parameters of motors at axis heights H = 560 and 630 mm and for other rated speeds at request with the manufacturer

SYNCHRONOUS MOTORS SM 250 (IM 1001)

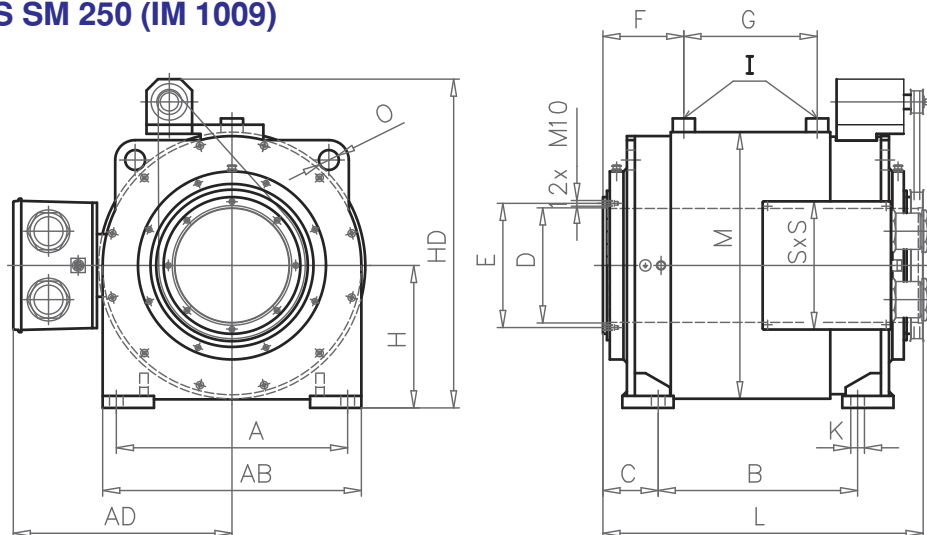
BASIC DIMENSIONS



TYPE	DIMENSIONS [mm]																	
	H	A	AB	AD	B	C	D	E	F	G	I	K	L	M	O	S	T	
SM 250-06	250	406	454	390	250	110	85	170	153	138	G3/4"	24	500	468	35	240	240	366
SM 250-08					300				154	186			550					416
SM 250-10					350				155	234			600					466
SM 250-12					400				156	282			650					516
SM 250-14					450				157	330			700					566
SM 250-16					500				158	378			750					616
SM 250-18					550				159	426			800					666
SM 250-20					600				160	474			850					716

SYNCHRONOUS MOTORS SM 250 (IM 1009)

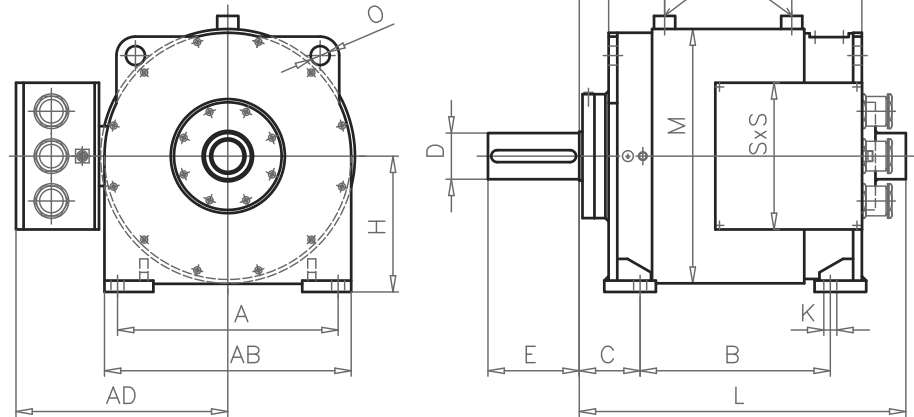
BASIC DIMENSIONS



TYPE	DIMENSIONS [mm]																	
	H	HD	A	AB	AD	B	C	D	E	F	G	I	K	L	M	O	S	
SM 250-06	250	577	406	454	390	250	97	202H7	218	140	138	G3/4"	24	462	468	35	240	462
SM 250-08						300				141	186			512				
SM 250-10						350				142	234			562				
SM 250-12						400				143	282			612				
SM 250-14						450				144	330			662				
SM 250-16						500				145	378			712				
SM 250-18						550				146	426			762				
SM 250-20						600				147	474			812				

SYNCHRONOUS MOTORS SM 355 (IM 1001)

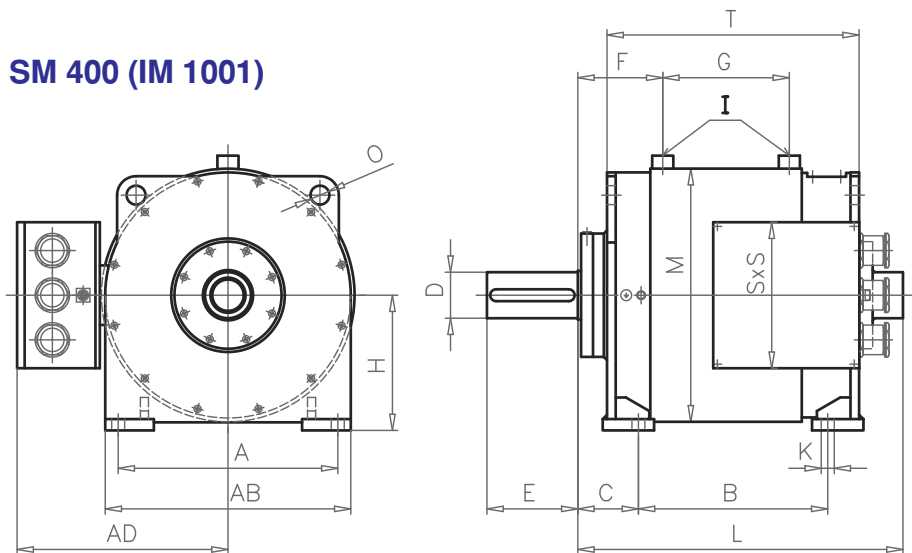
BASIC DIMENSIONS



TYPE	DIMENSIONS [mm]																
	H	A	AB	AD	B	C	D	E	F	G	I	K	L	M	O	S	T
SM 355-08	355	610	664	530	400	130	100	210	196	182	G1"	28	780	678	50	340	552
SM 355-10					450				195	234			830				602
SM 355-12					500				194	286			880				652
SM 355-14					550				193	338			930				702
SM 355-16					600				192	390			980				752
SM 355-18					650				191	442			1030				802
SM 355-22					750				189	546			1130				902
SM 355-26					850				187	650			1230				1002

SYNCHRONOUS MOTORS SM 400 (IM 1001)

BASIC DIMENSIONS

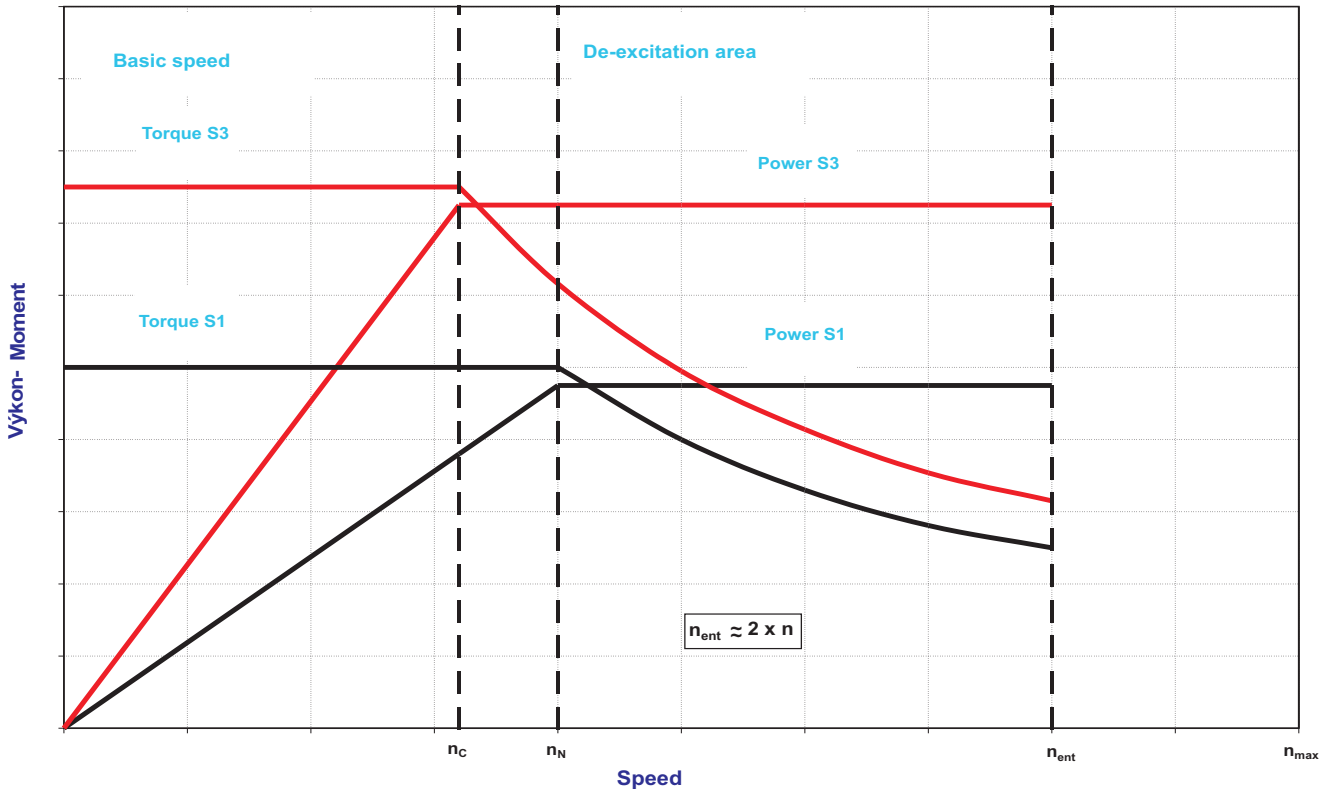


TYPE	DIMENSIONS [mm]																
	H	A	AB	AD	B	C	D	E	F	G	I	K	L	M	O	S	T
SM 400-10	400	686	772	620	450	130	140	250	191	234	G1"	35	800	790	60	420	600
SM 400-12					500				190	286			850				650
SM 400-14					550				189	338			900				700
SM 400-16					600				188	390			950				750
SM 400-18					650				187	442			1000				800
SM 400-20					700				186	494			1050				850
SM 400-24					800				184	598			1150				950
SM 400-28					900				182	702			1250				1050

WORKING AREA OF SM SERIES MOTORS

The motor torque and power characteristics depending on speed are shown in the following graph. The constant torque area is in the range of speed 0 to rated speed (basic range), while in the range of rated speed to n_{otb} the motor operates in de-excited state with constant power. The amount of speed n_{ent} is dependent on the motor size and it does not exceed the value of double rated speed.

Power and torque characteristics



TYPE KEY

S M **2 5 0** - **1 0** . **5 0** - **W 3 1 1**

Series designation

Axis height

H= 250, 355, 400, 560 mm

Stator packet length code

Winding type code (for example 50 = 500 min⁻¹)

Motor cooling

W - Water cooling ICW37
4 - IC410
6 - IC06
8 - IC416

A different type of cooling upon inquiry with the manufacturer

Sensor design and location

- 0 - Delivery without sensor
- 1 - Sensor located outside axis
- 2 - Sensor located in motor axis
(only upon inquiry with the manufacturer)

Mechanical design

- 1 - Hollow shaft, IM 1009
- 2 - Solid shaft , IM 1001
- 3 - Solid shaft , IM 3011
- 4 - Hollow shaft, IM 3601

Thermal protection

- 1 - Thermo switch
- 2 - KTY 84
- 3 - PT100
- 4 - PTC
- 5 - Other