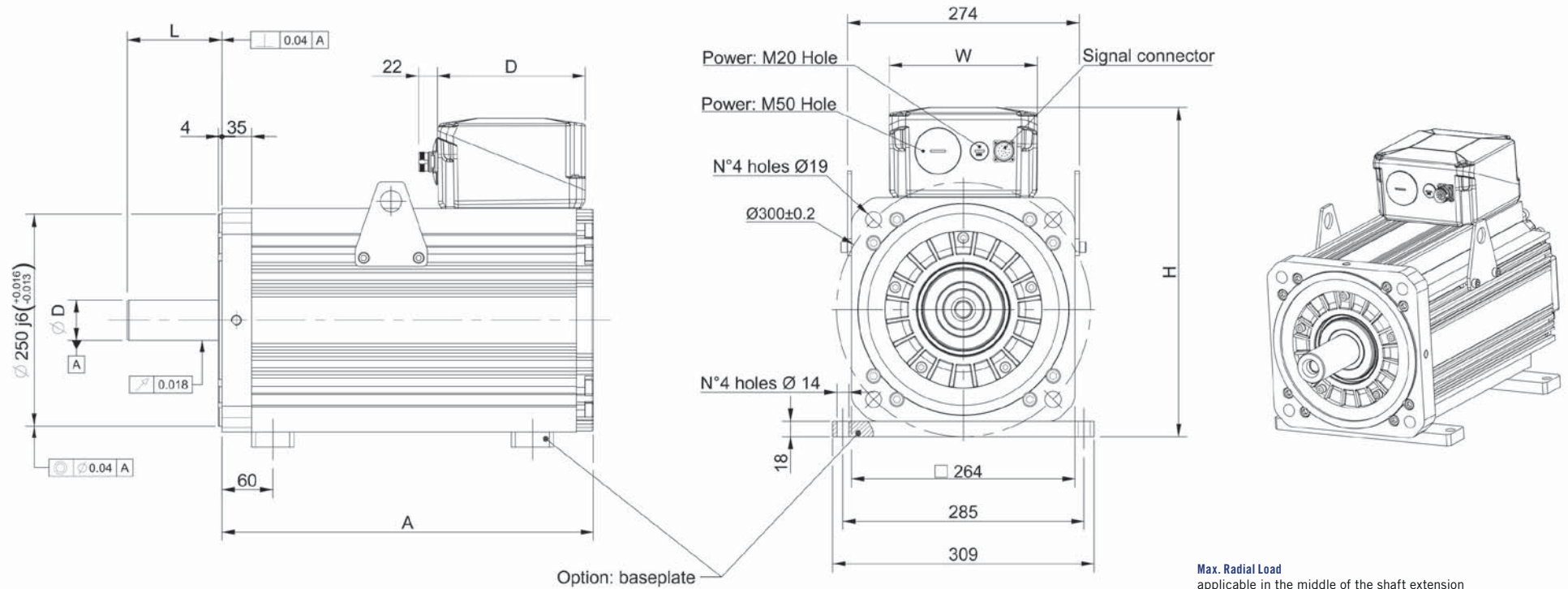


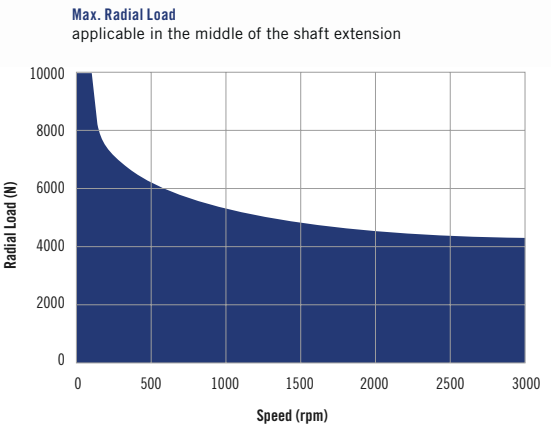
# U313N Models



**DIMENSIONS**

MOTOR TYPE	A	A (with brake or inertia)	Shaft Dimensions	
			Ø D*L <sup>(1)</sup>	Ø D*L with key
U313N10	332	412	48k6*110	48k6*110
U313N20	439	519	48k6*110	48k6*110
U313N30	546	626	48k6*110	48k6*110
U313N40	653	733	48k6*110	48k6*110

1) Shaft dimension according to DIN 748-1 column (b): simultaneous transmission of torque and a know bending moment.



## Natural Convection Cooling - For inverter rated Voltage 380Vac to 480Vac

Motor Type			10			20			30			40		
Rated Speed	nM	[rpm]	1000	2000	3000	1000	2000	3000	1000	2000	3000 2)	1000	2000	3000 2)
Stall Torque 1)	Md0	[Nm]	100			190			260			350		
Current @ Stall Torque 1)	Id0	[A]	20	40	60	39	69	103	54	107	161	57	142	216
Number of Poles	2p		8											

Nominal Rating			10			20			30			40		
Rated Torque 1)	MdN	[Nm]	95	87	70	170	100	50	240	180	n.a. 2)	270	130	n.a. 2)
Rated Current 1)	IdN	[A]	19	35	42	35	43	28	50	74	n.a. 2)	45	52	n.a. 2)
Rated Power	PdN	[kW]	10	18	22	18	21.6	16	25	38	n.a. 2)	29	28	n.a. 2)
Voltage Constant (+/- 10%)	Ke20°C	[Vrms/1000rpm]	343	172	114	333	179	119	333	166	111	397	159	111
Torque Constant (+/- 10%)	Kt20°C	[Nm/A]	5,68	2,84	1,89	5,50	2,96	1,97	5,50	2,75	1,84	6,55	2,62	1,84
Winding Resistance (+/- 10%)	Ru-v	[Ω]	0,800	0,200	0,090	0,300	0,076	0,339	0,196	0,049	0,022	0,160	0,026	0,015
Winding Inductance (+/- 10%)	Lu-v	[mH]	18,00	4,50	2,00	9,10	2,33	1,03	6,00	1,50	0,73	5,70	0,90	0,52
Derating Temp. Coeff. Of Back EMF	Dke/Dt	[%/°C]	-0,11											
Nominal Voltage	Vn	[V]	378	367	358	361	350	357	358	345	n.a. 2)	413	310	n.a. 2)
Minimum Flow Rate	Flow	[L/min]	n.a.											
Losses	Loss	[kW]	0,69	0,69	0,70	1,00	1,00	1,00	1,22	1,22	1,23	1,50	1,50	1,51
Efficiency	Eff	[%]	93	96	97	95	96	97	96	97	n.a. 2)	95	97	n.a. 2)
Knee Speed @ 380Vac	nknee1	[rpm]	1007	2069	3186	1055	2181	3175	1064	2203	n.a. 2)	961	2460	n.a. 2)
Knee Speed @ 480Vac	nknee2	[rpm]	1281	2622	4031	1339	3000	4030	1350	2787	n.a. 2)	1230	3211	n.a. 2)
Knee Speed 380Vac and Mmax	nknee3	[rpm]	666	1384	2101	679	1410	2140	681	1400	2006	613	1600	2083
Knee Speed 480Vac and Mmax	nknee4	[rpm]	855	1762	2668	867	1700	2720	870	1779	2543	788	2040	2640

Maximum Values			10			20			30			40		
Max. Torque	Mmax	[Nm]	280			550			830			1100		
Max. Current (peak value)	Imax	[A]	62	123	185	125	232	349	189	377	564	210	524	747
Max. Saturation Speed @ 380Vac	nmax1	[rpm]	1107	2213	3325	1143	2250	3400	1143	2286	3416	1030	2576	3416
Max. Saturation Speed @ 480Vac	nmax2	[rpm]	1398	2795	4201	1443	3100	4100	1443	2887	4315	1301	3254	4315
Max. Mechanical Speed	nmax	[rpm]	6000											

Mechanical Data (+/- 10%)			10			20			30			40		
Inertia	Jm	[kgcm <sup>2</sup> ]	200			390			590			780		
Mass	M	[kg]	82			116			150			183		

Technical Data of the holding brake			10			20			30			40		
Holding Torque	MBr	[Nm]	300											
Rated Voltage (±10%)	UBr	[Vdc]	24											
Rated Current 1)	IBr	[A]	1,74											
Mass	MBr	[kg]	18											
Inertia	JBr	[kgcm <sup>2</sup> ]	200											
Additional motor length	Length	[mm]	80											

Box connection	type	A	B	B	C	B	C	B	C	D

For Box dimensions see page 8-9

## Test Condition

- 1) Motor flanged (Tflange = 30°C), to use on baseplate derate -30% of the Md0; Chopper frequency minimum required 4kHz
- 2) Not available in S1 duty and DT100°C