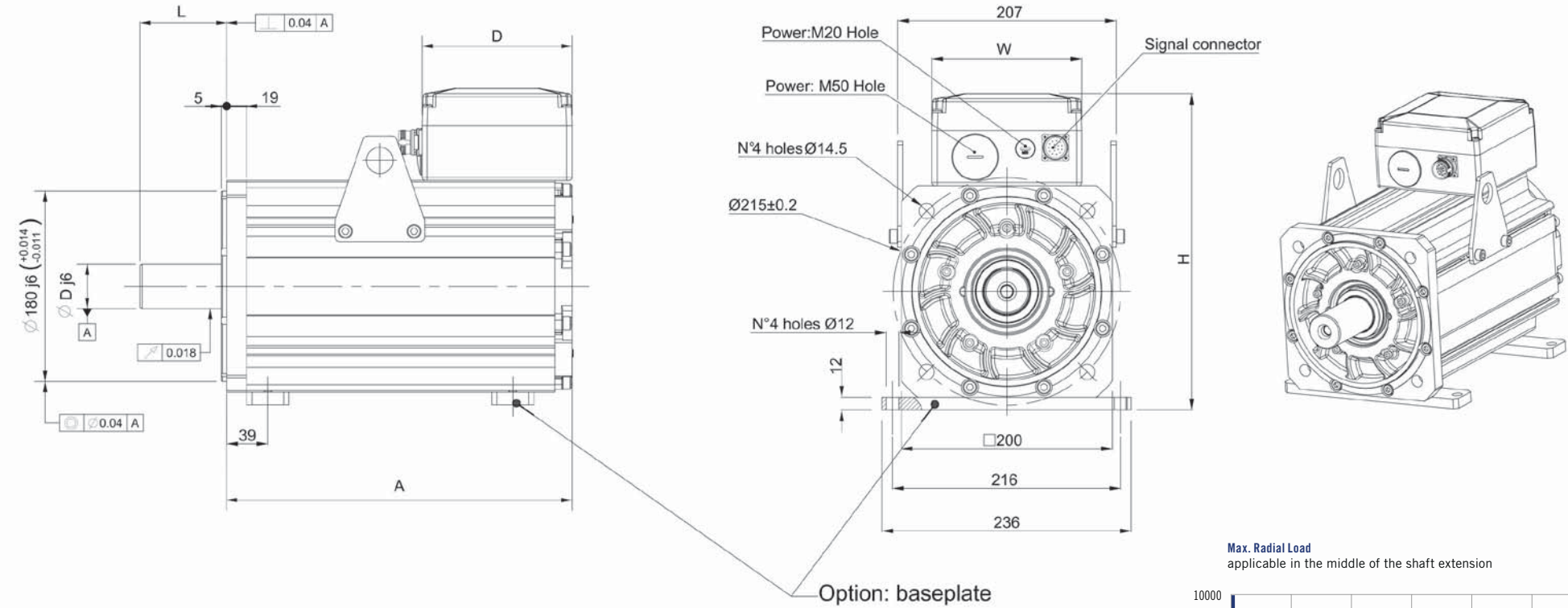


U310N Models

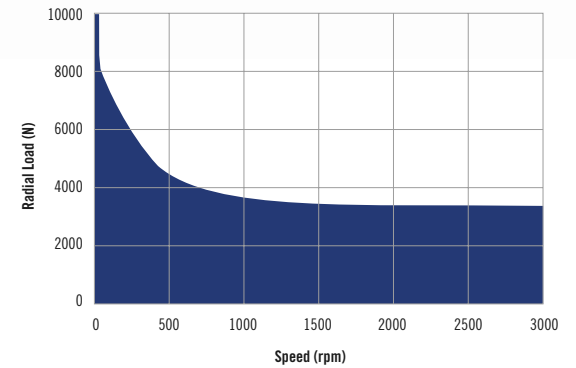


DIMENSIONS

MOTOR TYPE	A	A (with brake or inertia)	Shaft Dimensions	
			Ø D*L ⁽¹⁾	Ø D*L with key
U310N04	255	320	42*82	42*82
U310N07	327	329	42*82	42*82
U310N10	399	464	42*82	42*82
U310N13	471	536	42*82	42*82

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

Max. Radial Load applicable in the middle of the shaft extension



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

Motor Type	04					07			10			13		
Rated Speed	nM	[rpm]	1000	2000	3000	1000	2000	3000	1000	2000	3000	1000	2000	3000
Stall Torque 1)	Md0	[Nm]	35			60			88			105		
Current @ Stall Torque 1)	Id0	[A]	9	14	20	15	24	35	20	36	55	25	49	64
Number of Poles	2p		8											

Nominal Rating														
Rated Torque 1)	MdN	[Nm]	32,0	31,0	27,0	57,0	50,0	31,0	84,0	73,0	32,0	95,0	80,0	45,0
Rated Current 1)	IdN	[A]	7,9	12,8	16,0	14,3	19,8	29,5	19,0	30,3	27,0	22,3	37,6	27,6
Rated Power	PdN	[kW]	3,3	6,5	8,8	6,0	10,7	9,8	8,8	15,3	10,0	9,9	16,7	14,1
Voltage Constant (+/- 10%)	Ke20°C	[Vrms/1000rpm]	276,9	166,3	113,0	274,5	165,0	110,3	303,5	165,7	110,0	293,2	146,3	111,9
Torque Constant (+/- 10%)	Kt20°C	[Nm/A]	4,580	2,750	1,860	4,540	2,730	1,800	5,020	2,740	1,820	4,850	2,420	1,850
Winding Resistance (+/- 10%)	Ru-v	[Ω]	3,400	1,220	0,554	1,290	0,468	0,208	0,908	0,270	0,120	0,620	0,154	0,090
Winding Inductance (+/- 10%)	Lu-v	[mH]	34,0	8,0	6,0	16,0	6,3	2,8	13,9	4,1	1,8	9,1	2,3	1,28
Derating Temp. Coeff. Of Back EMF	Dke/Dt	[%/°C]	-0,11											
Nominal Voltage	Vn	[V]	316	354	345	302	335	332	333	350	335	314	304	340
Minimum Flow Rate	Flow	[L/min]	n.a.											
Losses	Loss	[kW]	0,55			0,63			0,78			0,81		
Efficiency	Eff	[%]	86	92	93,00	90	94	96	92	95	93	92	95	95
Knee Speed @ 380Vac	nknee1	[rpm]	1219	2153	3300	1272	2269	3450	1149	2174	3410	1219	2507	3356
Knee Speed @ 480Vac	nknee2	[rpm]	1559	2740	4217	1621	2912	4397	1463	2756	4312	1549	3175	4244
Knee Speed 380Vac and Mmax	nknee3	[rpm]	730	1577	1876	782	1278	1985	694	1343	2039	754	1578	2146
Knee Speed 480Vac and Mmax	nknee4	[rpm]	953	2039	2141	1013	1650	2540	897	1716	2595	973	2014	2733

Maximum Values														
Max. Torque	Mmax	[Nm]	105			210			310			410		
Max. Current (peak value)	Imax	[A]	29	48	70	58	96	144	77	141	213	106	212	277
Max. Saturation Speed @ 380Vac	nmax1	[rpm]	1372	2286	3560	1384	2430	3645	1252	2294	3453	1296	2597	3397
Max. Saturation Speed @ 480Vac	nmax2	[rpm]	1733	2887	4500	1749	3200	4600	1582	2897	4362	1637	3281	4291
Max. Mechanical Speed	nmax	[rpm]	6000											

Mechanical Data (+/- 10%)														
Inertia	Jm	[kgcm ²]	50			90			130			170		
Mass	M	[kg]	35			49			57			70		

Technical Data of the holding brake														
Holding Torque	MBr	[Nm]	143											
Rated Voltage (±10%)	UBr	[Vdc]	24											
Rated Current 1)	IBr	[A]	1,78											
Mass	MBr	[kg]	11											
Inertia	JBr	[kgcm ²]	48,6											
Additional motor length	Length	[mm]	65											

Box connection	type	A	A	B	A	B	A	B

For Box dimensions see page 8-9

Test Condition

1) Test Conditions: Motor flanged (Tflange = 30°C), to use on baseplate derate -30%; Chopper frequency minimum required 4kHz