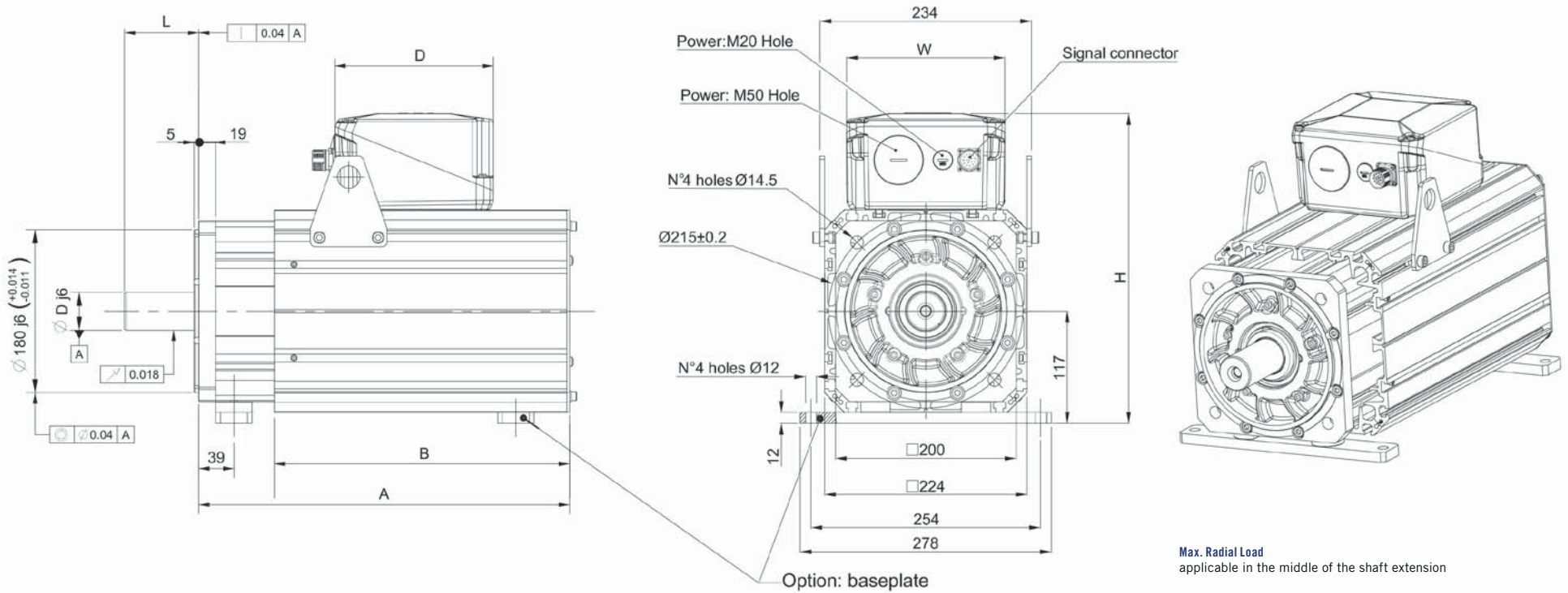


# U310F Models

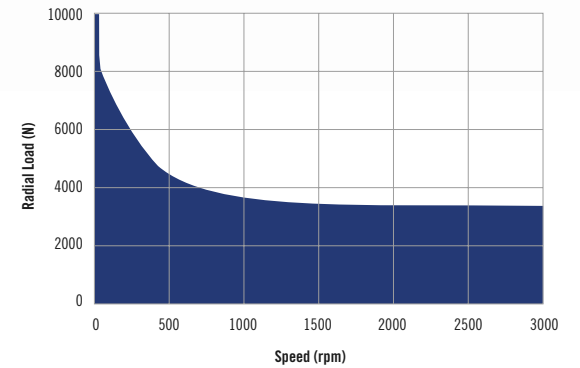


**DIMENSIONS**

MOTOR TYPE	A	A (with brake or inertia)	B	Shaft Dimensions	
				Ø D*L <sup>(1)</sup>	Ø D*L with key
U310F04	399	404	255	42*82	42*82
U310F07	411	476	327	42*82	42*82
U310F10	483	548	399	42*82	42*82
U310F13	555	620	471	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



## Servo Fan 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]	45			90			130			170		
Current @ Stall Torque 1)	Id0	[A]	11,0	18,5	26,5	22,3	36,0	54,0	29,2	49,0	80,3	39,4	72,0	103,2
Number of Poles	2p		8											

Nominal Rating														
Rated Torque 1)	MdN	[Nm]	42,0	42,0	38,0	74,0	72,0	70,0	100,0	97,0	95,0	149,0	142,0	135,0
Rated Current 1)	IdN	[A]	10,3	17,0	22,3	18,3	33,0	48,0	22,5	42,5	58,6	34,5	61,0	82,0
Rated Power	PdN	[kW]	4,4	8,7	12,1	7,7	15,0	22,3	10,5	20,3	29,8	15,6	30,5	42,4
Voltage Constant (+/- 10%)	Ke20°C	[Vrms/1000rpm]	276,9	160,0	113,0	274,5	165,0	110,3	302,3	173,0	110,0	293,2	154,0	111,9
Torque Constant (+/- 10%)	Kt20°C	[Nm/A]	4,58	2,64	1,86	4,54	2,73	1,82	5,00	2,86	1,82	4,85	2,55	1,85
Winding Resistance (+/- 10%)	Ru-v	[Ω]	3,40	1,12	0,56	1,29	0,47	0,21	0,91	0,26	0,12	0,62	0,15	0,09
Winding Inductance (+/- 10%)	Lu-v	[mH]	34,00	12,00	6,00	16,00	6,32	2,80	13,90	4,06	1,84	9,10	2,40	1,28
Derating Temp. Coeff. Of Back EMF	Dke/Dt	[%/°C]	-0,11											
Nominal Voltage	Vn	[V]	332	352	360	314	359	352	339	359	356	332	318	361
Minimum Flow Rate	Flow	[L/min]	n.a.											
Losses	Loss	[kW]	0,90			1,38			1,68	1,67	1,67	2,08	2,06	2,07
Efficiency	Eff	[%]	83	88	89	85	91	94	86	93	95	88	93	95
Knee Speed @ 380Vac	nknee1	[rpm]	1157	2130	3126	1226	2085	3199	1126	2096	3204	1153	2380	3165
Knee Speed @ 480Vac	nknee2	[rpm]	1485	2754	4062	1566	2687	4135	1435	2699	4061	1471	3081	4011
Knee Speed 380Vac and Mmax	nknee3	[rpm]	730	1271	1874	782	1276	1985	693	1359	2039	754	1552	2146
Knee Speed 480Vac and Mmax	nknee4	[rpm]	953	1652	2412	1013	1650	2543	896	1748	2595	973	1992	2733

Maximum Values														
Max. Torque	Mmax	[Nm]	105			210			310			410		
Max. Current (peak value)	Imax	[A]	29	50	70	58	96	144	78	135	213	106	201	277
Max. Saturation Speed @ 380Vac	nmax1	[rpm]	1372	2520	3560	1384	2430	3650	1257	2320	3453	1296	2620	3397
Max. Saturation Speed @ 480Vac	nmax2	[rpm]	1733	3150	4500	1749	3100	4600	1588	2960	4362	1637	3300	4291
Max. Mechanical Speed	nmax	[rpm]	6000											

Mechanical Data (+/- 10%)														
Inertia	Jm	[kgcm <sup>2</sup> ]	50			90			130			170		
Mass	M	[kg]	46			56			70			78		

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

Box connection	type	A	B	B	B	B

For Box dimensions see page 8-9

## Test Condition

1) Motor tested in horizontal position in free still air, ambient temperature 30°C; Chopper frequency minimum required 4kHz