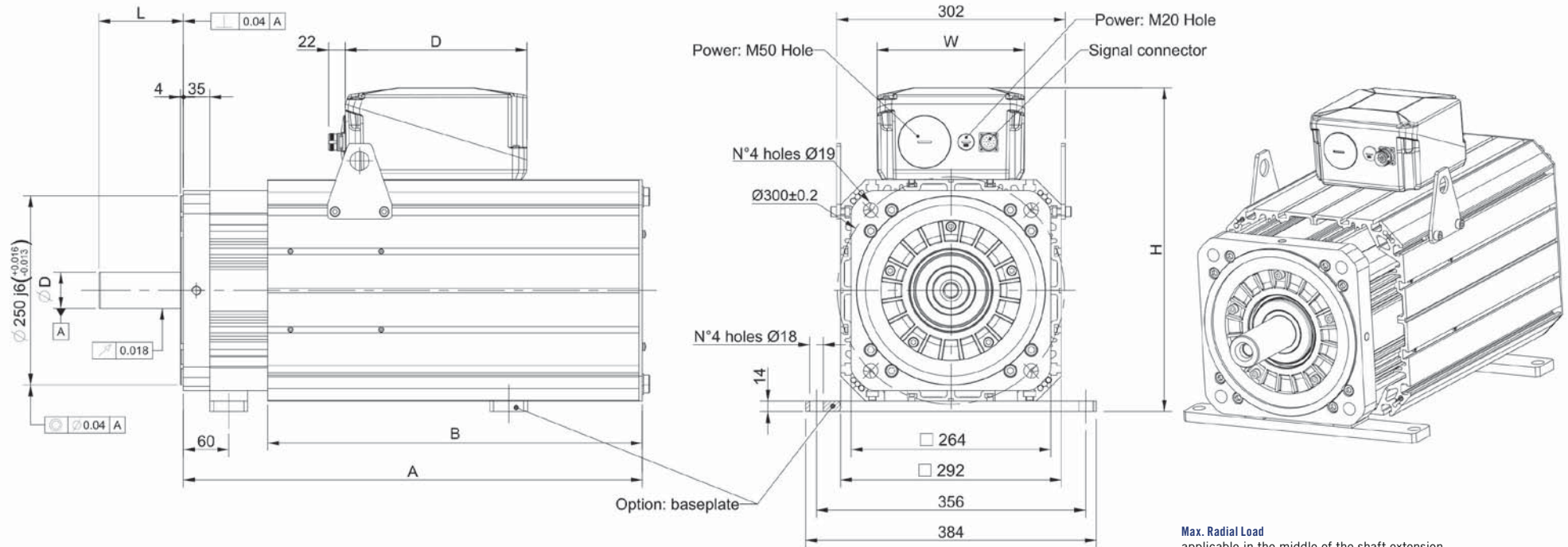


U313F Models

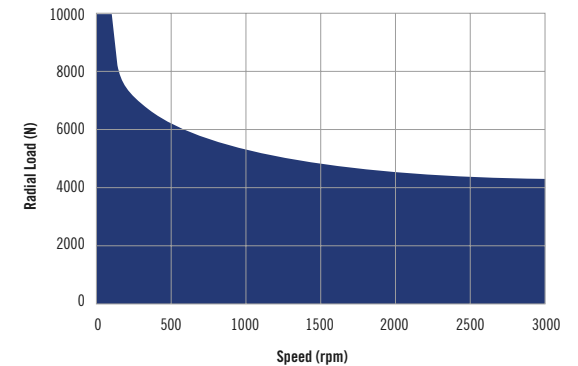


DIMENSIONS

MOTOR TYPE	A ⁽¹⁾	A ⁽¹⁾ (with brake or inertia)	B	Shaft Dimensions	
				Ø D * L ⁽²⁾	Ø D * L with key
U313F10	460	540	348	48k6*110	48k6*110
U313F20	567	647	455	48k6*110	48k6*110
U313F30	674	654	562	55m6*140	55m6*140
U313F40	781	861	669	55m6*140	55m6*140

1) Be carefully if IdO>150A + 40mm of additional length.
 2) 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	10					20			30			40		
Rated Speed	nM	[rpm]	1000	2000	3000	1000	2000	3000	1000	2000	3000	1000	2000	3000
Stall Torque 1)	Md0	[Nm]	150			280			410			540		
Current @ Stall Torque 1) 2)	Id0	[A]	32	63	95	61	137	182	89	178	267	132	265	351
Number of Poles	2p		8											

Nominal Rating														
Rated Torque 1)	MdN	[Nm]	145	135	130	270	260	240	400	380	350	510	480	460
Rated Current 1)	IdN	[A]	31	57	82	59	127	156	87	165	228	124	235	299
Rated Power	PdN	[kW]	15	28	41	28	54	75	42	80	110	53	100	144
Voltage Constant (+/- 10%)	Ke20°C	[Vrms/1000rpm]	343	172	114	333	148	111	333	166	111	296	148	111
Torque Constant (+/- 10%)	Kt20°C	[Nm/A]	5,68	2,84	1,89	5,50	2,44	1,84	5,50	2,75	1,84	4,90	2,44	1,84
Winding Resistance (+/- 10%)	Ru-v	[Ω]	0,800	0,200	0,090	0,300	0,058	0,033	0,196	0,049	0,022	0,105	0,026	0,015
Winding Inductance (+/- 10%)	Lu-v	[mH]	18,00	4,90	2,00	9,10	1,94	1,09	6,00	1,50	0,73	3,87	0,97	0,52
Derating Temp. Coeff. Of Back EMF	Dke/Dt	[%/°C]	-0,11											
Nominal Voltage	Vn	[V]	416	407	392	398	351	386	396	384	383	354	343	378
Minimum Flow Rate	Flow	[L/min]	n.a.											
Losses	Loss	[kW]	1,72	1,72	1,75	2,40	2,36	2,36	3,37	3,37	3,38	3,94	3,94	3,86
Efficiency	Eff	[%]	91	95	95	92	95	96	93	95	96	93	96	97
Knee Speed @ 380Vac	nknee1	[rpm]	911	1865	2903	953	2169	2957	960	1978	2973	1076	2219	3020
Knee Speed @ 480Vac	nknee2	[rpm]	1163	2367	3679	1213	2748	3743	1221	2507	3764	1367	2810	3821
Knee Speed 380Vac and Mmax	nknee3	[rpm]	666	1318	2101	679	1503	2020	681	1400	2006	740	1507	2084
Knee Speed 480Vac and Mmax	nknee4	[rpm]	855	1677	2668	867	1908	2561	870	1779	2543	943	1912	2641

Maximum Values														
Max. Torque	Mmax	[Nm]	280			550			830			1100		
Max. Current (peak value)	Imax	[A]	62	123	185	125	282	374	189	377	564	281	564	747
Max. Saturation Speed @ 380Vac	nmax1	[rpm]	1107	2213	3325	1143	2576	3416	1143	2286	3416	1283	2576	3416
Max. Saturation Speed @ 480Vac	nmax2	[rpm]	1398	2795	4201	1443	3254	4315	1443	2887	4315	1620	3254	4315
Max. Mechanical Speed	nmax	[rpm]	6000											

Mechanical Data (+/- 10%)														
Inertia	Jm	[kgcm ²]	200			390			590			780		
Mass	M	[kg]	99			138			177			211		

Technical Data of the holding brake														
Holding Torque	MBr	[Nm]	300											
Rated Voltage	UBr	[Vdc]	24											
Rated Current 1)	IBr	[A]	1,74											
Mass	MBr	[kg]	18											
Inertia	JBr	[kgcm ²]	200											
Additional motor length	Length	[mm]	80											

Box connection	type	B	B	C	B	C	C	D

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
- 2) If Id0 >= 150A: + 40mm of additional length