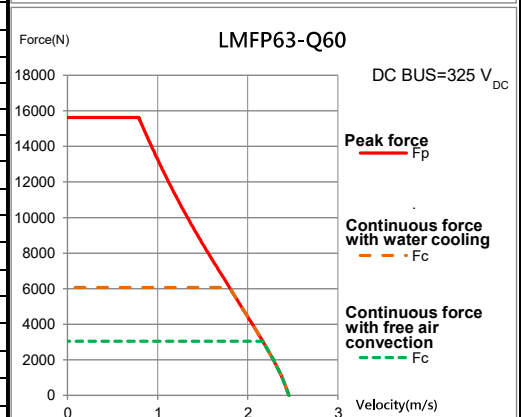
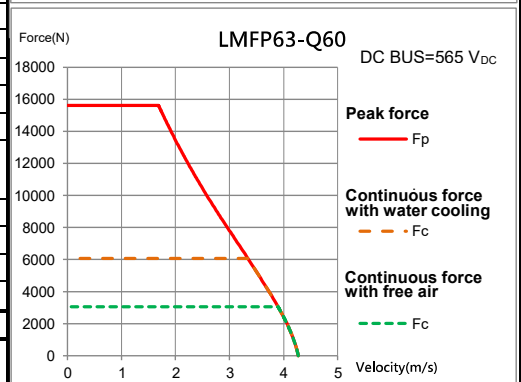
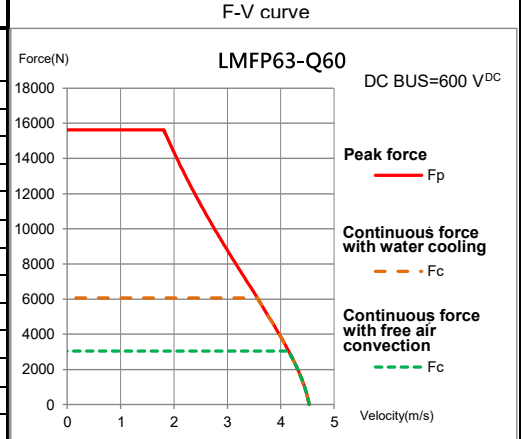
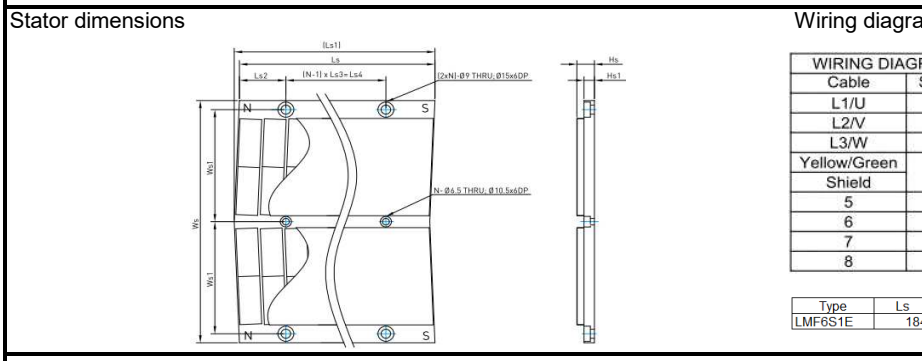
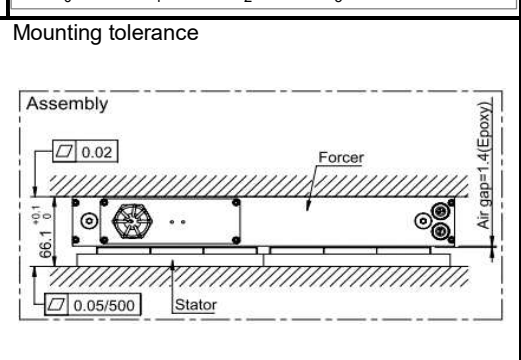
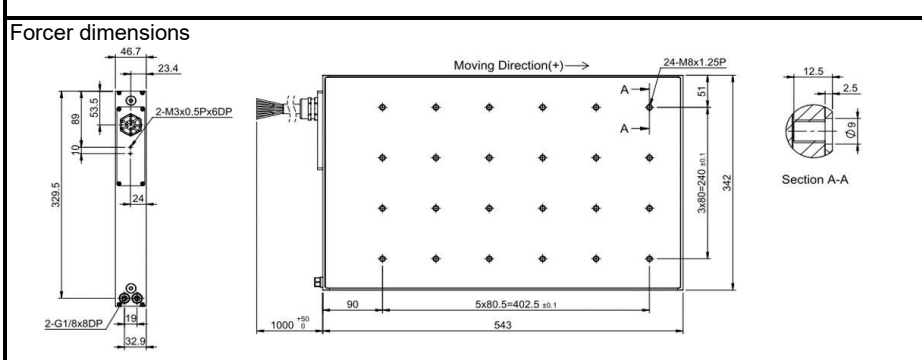


LMFP63-Q60 Linear Motor DB100214-V2.00

Electrical specifications				
	Symbol	Unit	Free air convection	Water cooling
Continuous force	F_c	N	3043	6086
Continuous current	I_c	A_{rms}	20.9	41.7
Stall force	F_0	N	-	4251
Stall current	I_0	A_{rms}	-	29.2
Peak force (1s)	F_p	N	15620	
Peak current (1s)	I_p	A_{rms}	125.7	
Force constant	K_f	N/A_{rms}	145.8	
Attraction force	F_a	N	28091	
Max. winding temperature	T_{max}	$^{\circ}C$	120	
Electrical time constant	K_e	ms	11.9	
Resistance (line to line · 25 $^{\circ}C$)	R_{25}	Ω	0.9	
Resistance (line to line · 120 $^{\circ}C$)	R_{120}	Ω	1.2	
Inductance (line to line)	L	mH	10.7	
Pole pair pitch	2τ	mm	46	
Back emf constant(line to line)	K_v	$V_{rms}/(m/s)$	84.2	
Motor constant (25 $^{\circ}C$)	K_m	$N/A_{rms}/W$	125.3	
Thermal resistance	R_{th}	$^{\circ}C/W$	0.12	0.03
Thermal time constant	t_{th}	s	150	
Thermal switch			1 x Pt1000 + 1 x (3 PTC SNM 120 In Series)	
Maximum velocity at maximum force	$V_{MAX,FP}$	m/s	1.8	
Maximum electric power input	$P_{EL,MAX}$	W	-	56557
Maximum dissipated heat output	$Q_{P,H,MAX}$	W	-	3130
Max. DC bus voltage	V_{DC}	V	750	



Mechanical specifications				
	Symbol	Unit	Free air convection	Water cooling
Mass of forcer	M_f	kg	46.7	
Unit mass of stator	M_s	kg	40.1	
Total installation height	H	mm	66.1	
Minimum flow rate		L/min	-	7.3
Temperature of cooling water		$^{\circ}C$	-	20
Pressure drop	ΔP	bar	-	2.25
Water temperature difference	$\Delta\theta_{P,H}$	K	-	6.1
Forcer precision cooler				
Maximum dissipated thermal output	$Q_{FC,Max}$	W	-	153
Pressure drop	ΔP_{FC}	bar	-	5.99
Stator precision cooler				
Maximum dissipated thermal output	$Q_{SC,Max}$	W	-	459
Pressure drop per meter of cooling pipe	ΔP_s	bar	-	0.09
Pressure drop per combi distributor	ΔP_{sd}	bar	-	0.4
Pressure drop per coupling point	ΔP_{sp}	bar	-	0.09



Wiring diagram

Cable	Signal
L1/U	U
L2/V	V
L3/W	W
Yellow/Green Shield	\perp
5	T1+
6	T1-
7	T2+
8	T2-

PTC SNM120
Pt1000

Type	Ls	Ls1	Ls2	Ls3	Ls4	Hs	Hs1	Ws	Ws1	N
LMF631E	184	188.66	20.97	46	138	18	11.8	334	158	4

Except dimensions, all the specifications in the table are in $\pm 10\%$ of tolerance. Version: 2.00
This drawing is only for reference, detail dimensions please refer to approval drawing. Date: 2021/6/28