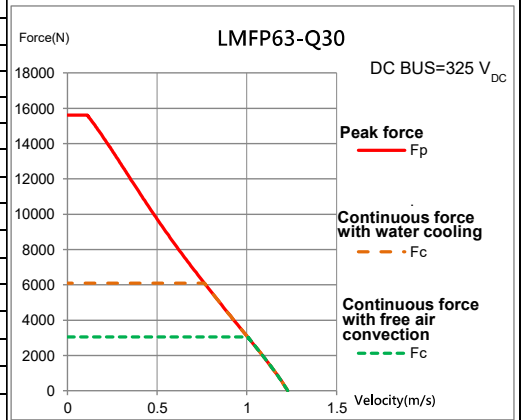
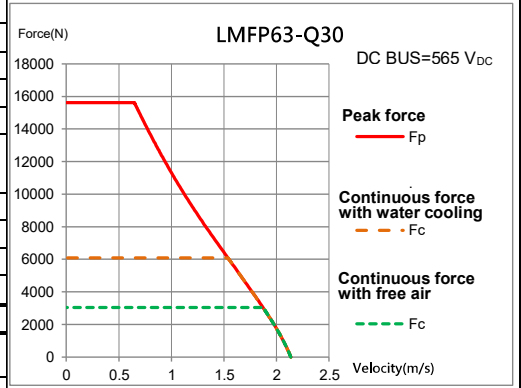
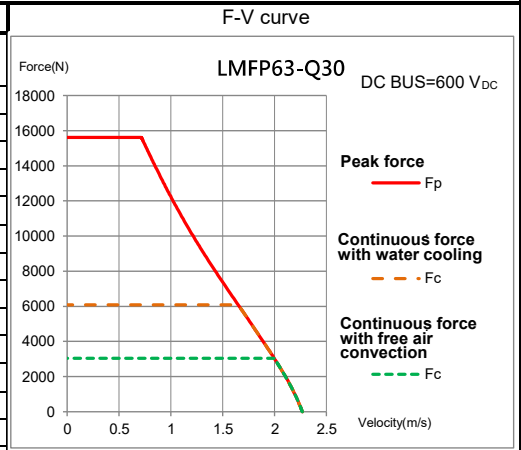


LMFP63-Q30

Linear Motor

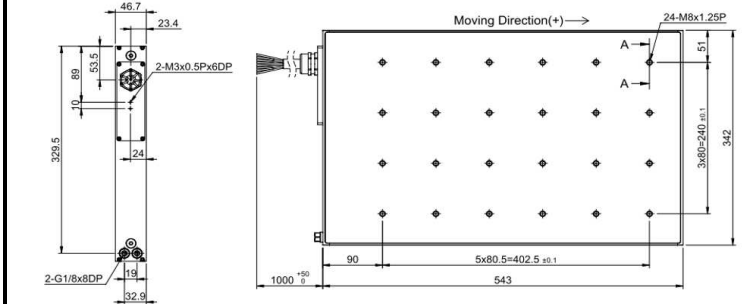
DB100213-V1.00

Electrical specifications				
	Symbol	Unit	Free air convection	Water cooling
Continuous force	$F_c$	N	3043	6086
Continuous current	$I_c$	$A_{rms}$	10.4	20.9
Stall force	$F_0$	N	-	4272
Stall current	$I_0$	$A_{rms}$	-	14.6
Peak force (1s)	$F_p$	N	15620	
Peak current (1s)	$I_p$	$A_{rms}$	62.9	
Force constant	$K_f$	$N/A_{rms}$	291.7	
Attraction force	$F_a$	N	28091	
Max. winding temperature	$T_{max}$	$^{\circ}C$	120	
Electrical time constant	$K_e$	ms	12.6	
Resistance (line to line · 25 $^{\circ}C$ )	$R_{25}$	$\Omega$	3.4	
Resistance (line to line · 120 $^{\circ}C$ )	$R_{120}$	$\Omega$	4.7	
Inductance (line to line)	L	mH	42.9	
Pole pair pitch	$2\tau$	mm	46	
Back emf constant(line to line)	$K_v$	$V_{rms}/(m/s)$	168.4	
Motor constant (25 $^{\circ}C$ )	$K_m$	$N/A_{rms}/W$	129.6	
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	0.7	
Maximum electric power input	$P_{EL,MAX}$	W	-	38827
Maximum dissipated heat output	$Q_{P,H,MAX}$	W	-	3080
Max. DC bus voltage	$V_{DC}$	V	750	

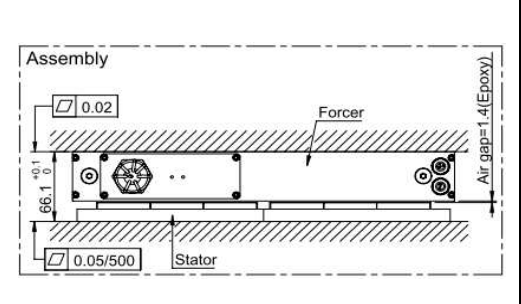


Mechanical specifications				
	Symbol	Unit	Free air convection	Water cooling
Mass of forcer	$M_f$	kg	46.7	
Unit mass of stator	$M_s$	kg	40.1	
Total installation height	H	mm	66.1	
Minimum flow rate		L/min	-	7.3
Temperature of cooling water		$^{\circ}C$	-	20
Pressure drop	$\Delta P$	bar	-	2.25
Water temperature difference	$\Delta\theta_{P,H}$	K	-	6
<b>Forcer precision cooler</b>				
Maximum dissipated thermal output	$Q_{FC,Max}$	W	-	153
Pressure drop	$\Delta P_{FC}$	bar	-	5.99
<b>Stator precision cooler</b>				
Maximum dissipated thermal output	$Q_{SC,Max}$	W	-	459
Pressure drop per meter of cooling pipe	$\Delta P_s$	bar	-	0.09
Pressure drop per combi distributor	$\Delta P_{sd}$	bar	-	0.4
Pressure drop per coupling point	$\Delta P_{sp}$	bar	-	0.09

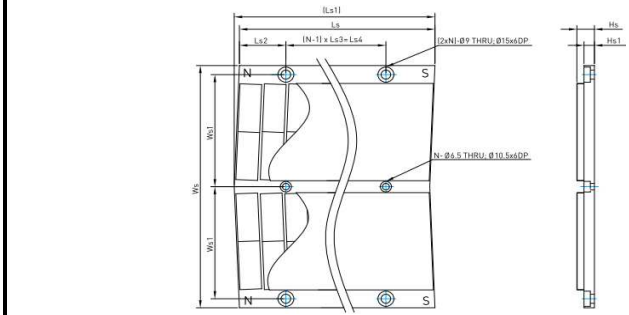
Forcer dimensions



Mounting tolerance



Stator dimensions



Wiring diagram

WIRING DIAGRAM	
Cable	Signal
L1/U	U
L2/V	V
L3/W	W
Yellow/Green Shield	$\perp$
Red	T1+
Yellow	T1-
Black	T2+
White	T2-

PTC SNM120  
Pt1000

Type	Ls	Ls1	Ls2	Ls3	Ls4	Hs	Hs1	Ws	Ws1	N
LMF6S1E	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: 1.00

Date: 2021/1/29