

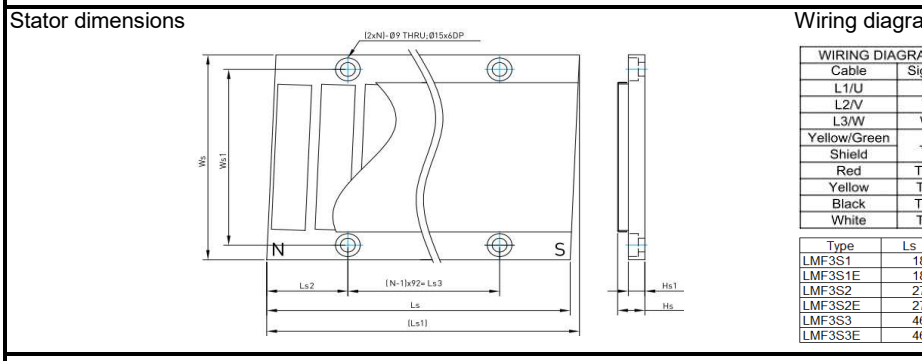
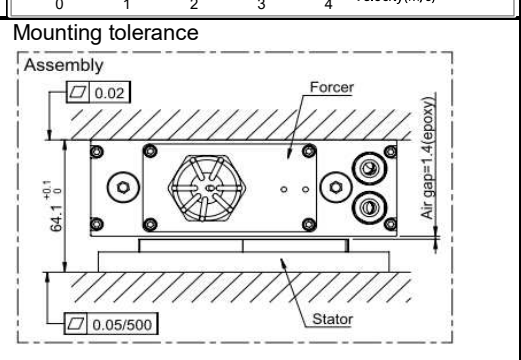
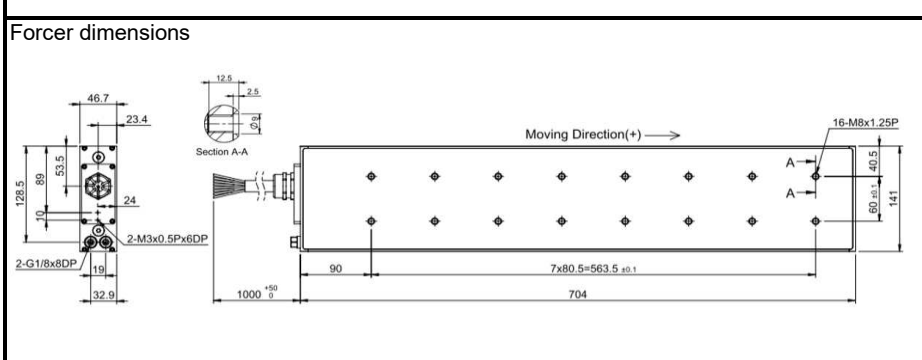
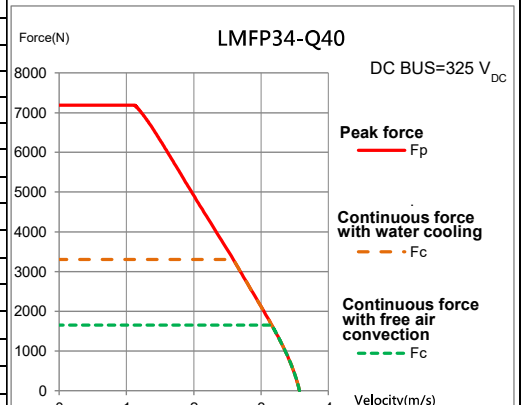
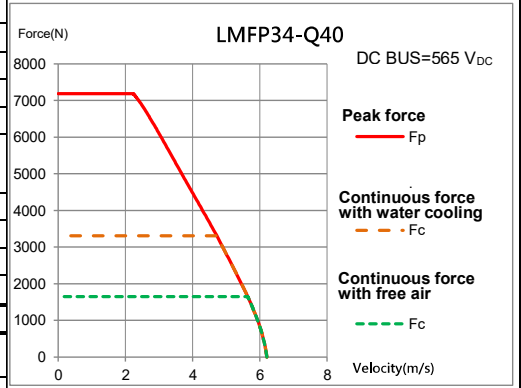
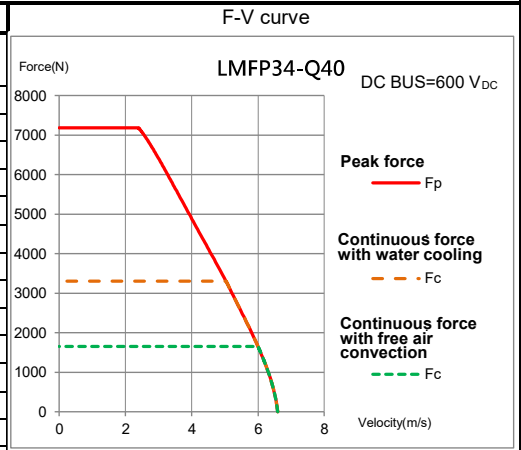
LMFP34-Q40

Linear Motor

DB100200-V1.00

Electrical specifications				
	Symbol	Unit	Free air convection	Water cooling
Continuous force	F_c	N	1653	3307
Continuous current	I_c	A_{rms}	16.5	33
Stall force	F_0	N	-	2314
Stall current	I_0	A_{rms}	-	23.1
Peak force (1s)	F_p	N		7187
Peak current (1s)	I_p	A_{rms}		102.4
Force constant	K_f	N/A_{rms}		100.3
Attraction force	F_a	N		12485
Max. winding temperature	T_{max}	$^{\circ}C$		120
Electrical time constant	K_e	ms		12
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		10.8
Pole pair pitch	2τ	mm		46
Back emf constant(line to line)	K_v	$V_{rms}/(m/s)$		57.9
Motor constant (25 $^{\circ}C$)	K_m	$N/A_{rms}/W$		86.2
Thermal resistance	R_{th}	$^{\circ}C/W$	0.19	0.05
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		2.4
Maximum electric power input	$P_{EL,MAX}$	W	-	36123
Maximum dissipated heat output	$Q_{P,H,MAX}$	W	-	1960
Max. DC bus voltage		V_{DC}		750

Mechanical specifications				
	Symbol	Unit	Free air convection	Water cooling
Mass of forcer	M_f	kg		23.1
Unit mass of stator	M_s	kg		16.2
Total installation height	H	mm		64.1
Minimum flow rate		L/min	-	6.2
Temperature of cooling water		$^{\circ}C$	-	20
Pressure drop	ΔP	bar	-	1.28
Water temperature difference	$\Delta\theta_{P,H}$	K	-	4.5
Forcer precision cooler				
Maximum dissipated thermal output	$Q_{FC,Max}$	W	-	130
Pressure drop	ΔP_{FC}	bar	-	2.16
Stator precision cooler				
Maximum dissipated thermal output	$Q_{SC,Max}$	W	-	390
Pressure drop per meter of cooling pipe	ΔP_s	bar	-	0.16
Pressure drop per combi distributor	ΔP_{sd}	bar	-	0.35
Pressure drop per coupling point	ΔP_{sp}	bar	-	0.17



Wiring diagram

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

Type	Ls	Ls1	Ls2	Ls3	Hs	Hs1	Ws	Ws1	N
LMF3S1	184	189.62	49.2	92	16.5	10	134	115	2
LMF3S1E	184	189.62	49.2	92	16	9.8	134	115	2
LMF3S2	276	281.62	49.2	184	16.5	10	134	115	3
LMF3S2E	276	281.62	49.2	184	16	9.8	134	115	3
LMF3S3	460	465.62	49.2	368	16.5	10	134	115	5
LMF3S3E	460	465.62	49.2	368	16	9.8	134	115	5

Except dimensions, all the specifications in the table are in $\pm 10\%$ of tolerance

Version: 1.00

Date: 2021/1/29