ETEL

IRONLESS LINEAR MOTOR

ILM+ Standard

ILM+09-040

		Winding codes	RC	RC	UC	UC
MOTOR PERFORMANCE		UNIT	FREE AIR COOLING	FORCED AIR COOLING	FREE AIR COOLING	FORCED AIR COOLING
Fp	Peak force	N	1480	1480	1420	1420
Fc	Continuous force	N	236	253	228	244
Fs	Standstill force	N	178	191	172	184
Ip	Peak current	Arms	52.6	52.6	109	109
Ic	Continuous current	Arms	8.26	8.83	17.3	18.5
Is	Standstill current	Arms	6.25	6.67	13.1	13.9
vs	Rated low speed	mm/s	0.52	0.99	0.54	1.0
Pc	Power dissipation @ Ic	W	196	223	195	221
Fd	Max. detent force (average to peak)	N	0	0	0	0
Fa	Attraction force	N	0.0	0.0	0.0	0.0
MOTOR SETTING		UNIT				
Kt	Force constant	N/Arms	29.6	29.6	13.7	13.7
Ku	Back EMF constant (*)	Vrms/(m/s)	17.8	17.8	8.23	8.23
Km	Motor constant	N/√W	20.8	20.8	20.2	20.2
R20	Electrical resistance at 20°C (*)	Ohm	1.35	1.35	0.306	0.306
L	Electrical inductance (*)	mH	2.46	2.47	0.526	0.526
τth	Thermal time constant	s	1220	648	1200	626
Rth	Thermal resistance	K/W	0.559	0.491	0.564	0.495
2τp	Magnetic period	mm	64	64	64	64
mw	Magnetic way mass	kg/m	13.3	13.3	13.3	13.3
mm	Motor mass	kg	1.14	1.59	1.10	1.55
MOTOR ENVIRONMENT		UNIT				
Udc	Nominal DC bus voltage	VDC	600	600	600	600
Ss	Stator exchange surface	m²	0.19	0.19	0.19	0.19
x	Assumed stroke	m	0.89	0.89	0.89	0.89
θamb	Ambient temperature	°C	20	20	20	20
θmax	Maximum coil temperature	°C	130	130	130	130
θa	Inlet air temperature	°C	N/A	20	N/A	20
qa	Minimum air flow	l/min	N/A	66	N/A	66
Δpa	Minimum inlet air gauge pressure	bar	N/A	0.9	N/A	0.9

Notes: (*) terminal to terminal.
Hypotheses and tolerances are in ETEL Integration Manual.

Caution: Any use of the motor beyond speed/force limit could lead to hazardous voltage and serious injuries. Customer is responsible for setting safeties/limitations that will keep the motor in its safe operating area. ETEL cannot be held responsible if the motor is used in an improper way.

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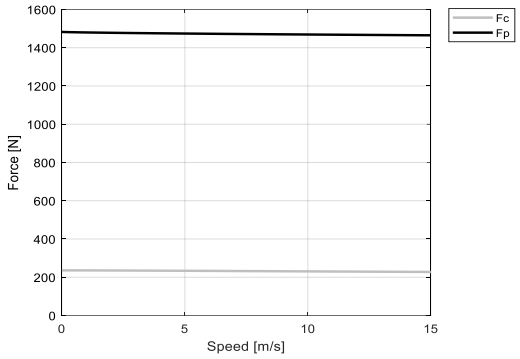
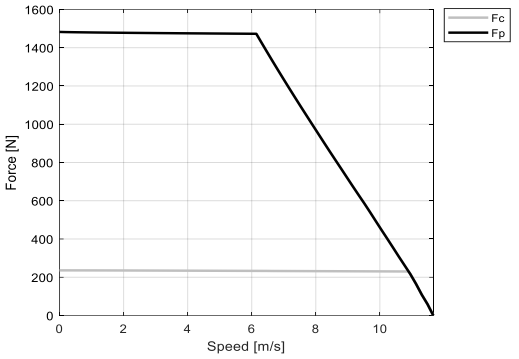
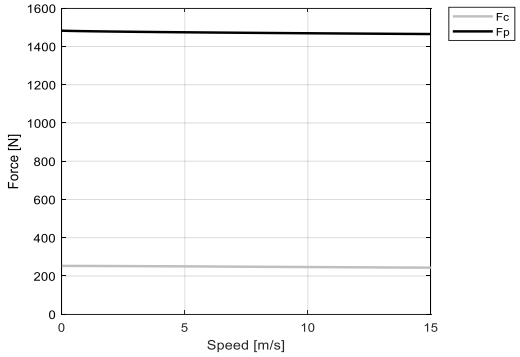
RC - FREE AIR COOLING - 600V



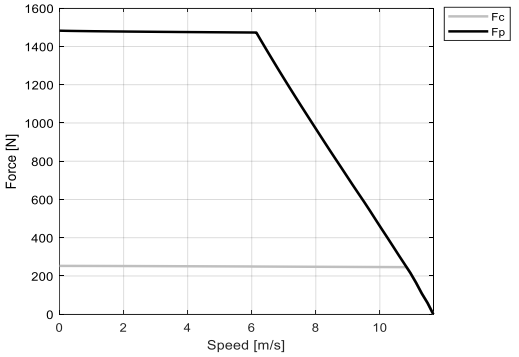
RC - FREE AIR COOLING - 300V



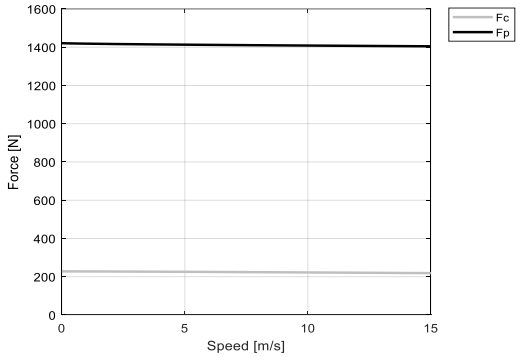
RC - FORCED AIR COOLING - 600V



RC - FORCED AIR COOLING - 300V



UC - FREE AIR COOLING - 600V



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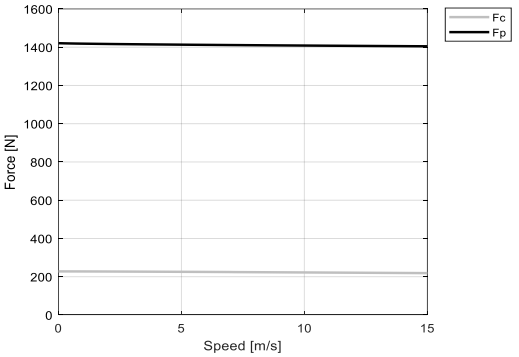

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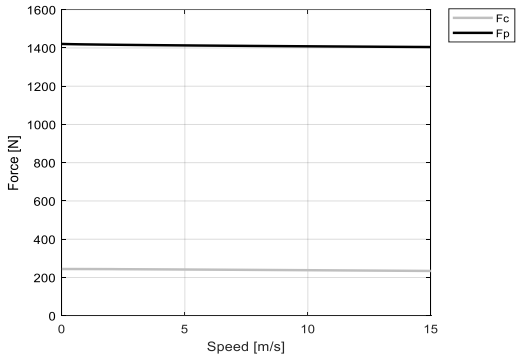
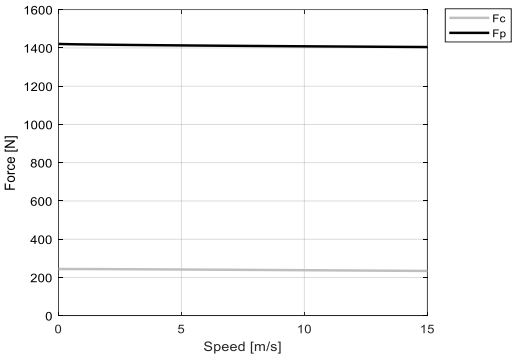


UC - FORCED AIR COOLING - 300V



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