

# Linear Motors

**LMS DATA SHEETS**

***ETEL***

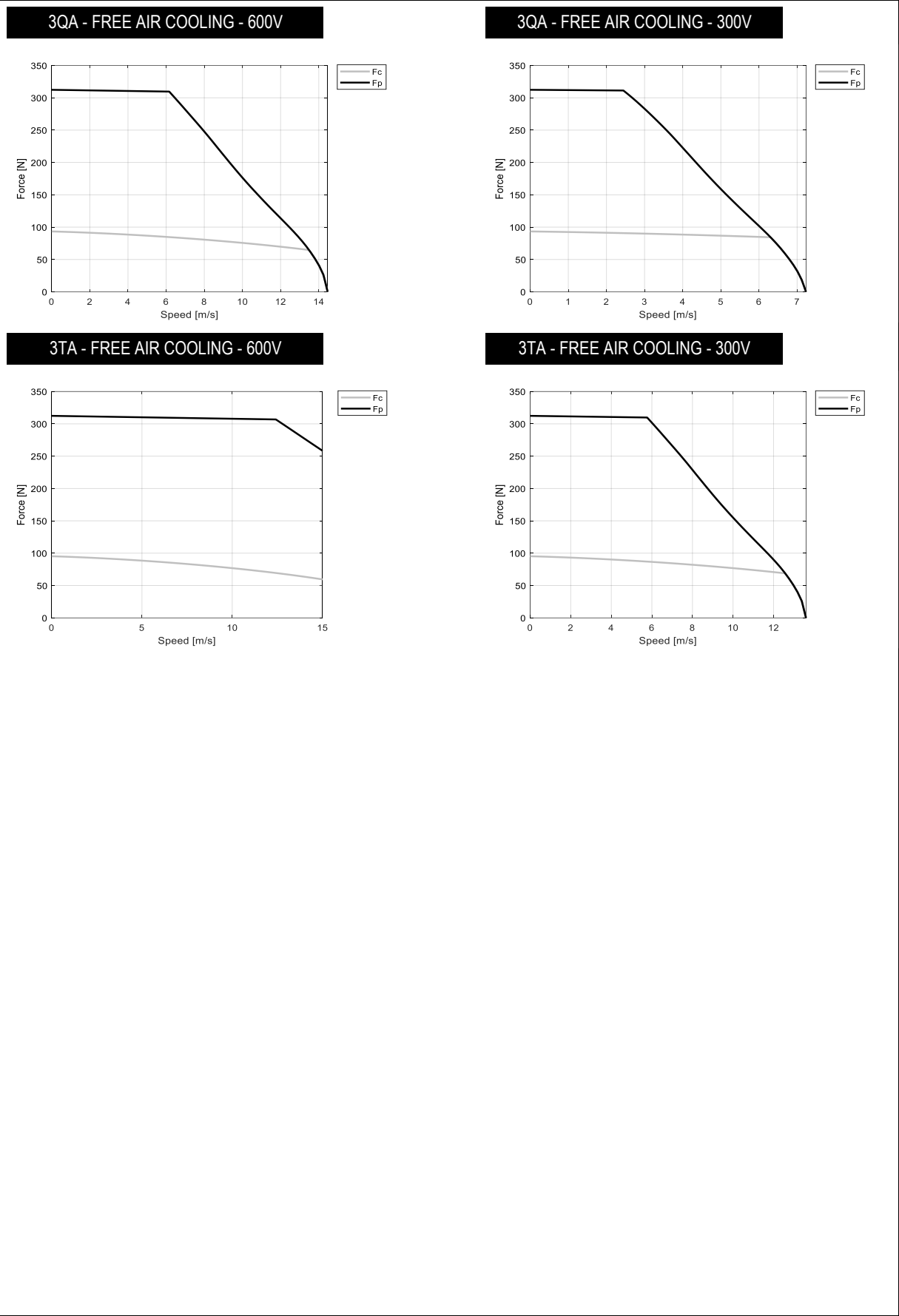
MOTOR PERFORMANCE		Winding codes	3QA	3TA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	312	312		
<b>Fc</b>	Continuous force	N	93.4	95.3		
<b>Fs</b>	Standstill force	N	72.6	74.2		
<b>Ip</b>	Peak current	Arms	16.3	30.6		
<b>Ic</b>	Continuous current	Arms	2.13	4.10		
<b>Is</b>	Standstill current	Arms	1.61	3.10		
<b>vs</b>	Rated low speed	mm/s	0.18	0.18		
<b>Pc</b>	Power dissipation @ Ic	W	51.4	51.8		
<b>Fd</b>	Max. detent force (average to peak)	N	9.9	9.9		
<b>Fa</b>	Attraction force	N	768	768		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	47.6	25.3		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	28.7	15.3		
<b>Km</b>	Motor constant	N/√W	16.9	17.3		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	5.29	1.44		
<b>L</b>	Electrical inductance (*)	mH	43.8	12.3		
<b>rth</b>	Thermal time constant	s	1770	1790		
<b>Rth</b>	Thermal resistance	K/W	2.13	2.11		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	3.51	3.51		
<b>mm</b>	Motor mass	kg	0.793	0.810		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.01	0.01		
<b>x</b>	Assumed stroke	m	0.29	0.29		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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

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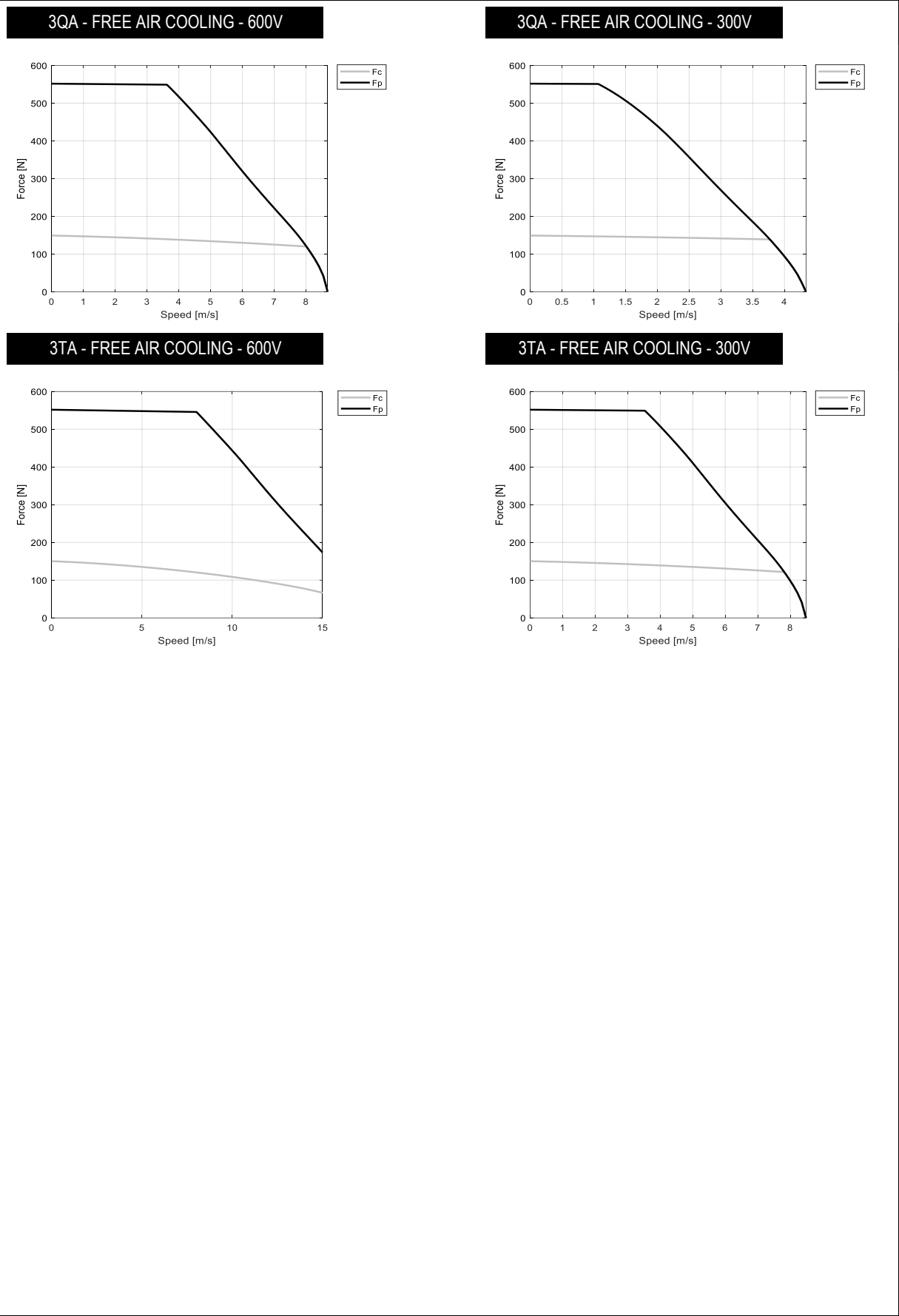


MOTOR PERFORMANCE		Winding codes	3QA	3TA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	552	552		
<b>Fc</b>	Continuous force	N	149	150		
<b>Fs</b>	Standstill force	N	114	115		
<b>Ip</b>	Peak current	Arms	16.3	31.9		
<b>Ic</b>	Continuous current	Arms	2.00	3.94		
<b>Is</b>	Standstill current	Arms	1.52	2.99		
<b>vs</b>	Rated low speed	mm/s	0.16	0.16		
<b>Pc</b>	Power dissipation @ Ic	W	63.6	63.8		
<b>Fd</b>	Max. detent force (average to peak)	N	16	16		
<b>Fa</b>	Attraction force	N	1290	1290		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	79.8	40.8		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	47.9	24.5		
<b>Km</b>	Motor constant	N/√W	23.9	24.1		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	7.41	1.92		
<b>L</b>	Electrical inductance (*)	mH	68.4	17.9		
<b>rth</b>	Thermal time constant	s	2020	2030		
<b>Rth</b>	Thermal resistance	K/W	1.72	1.71		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	6.19	6.19		
<b>mm</b>	Motor mass	kg	1.18	1.19		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.01	0.01		
<b>x</b>	Assumed stroke	m	0.29	0.29		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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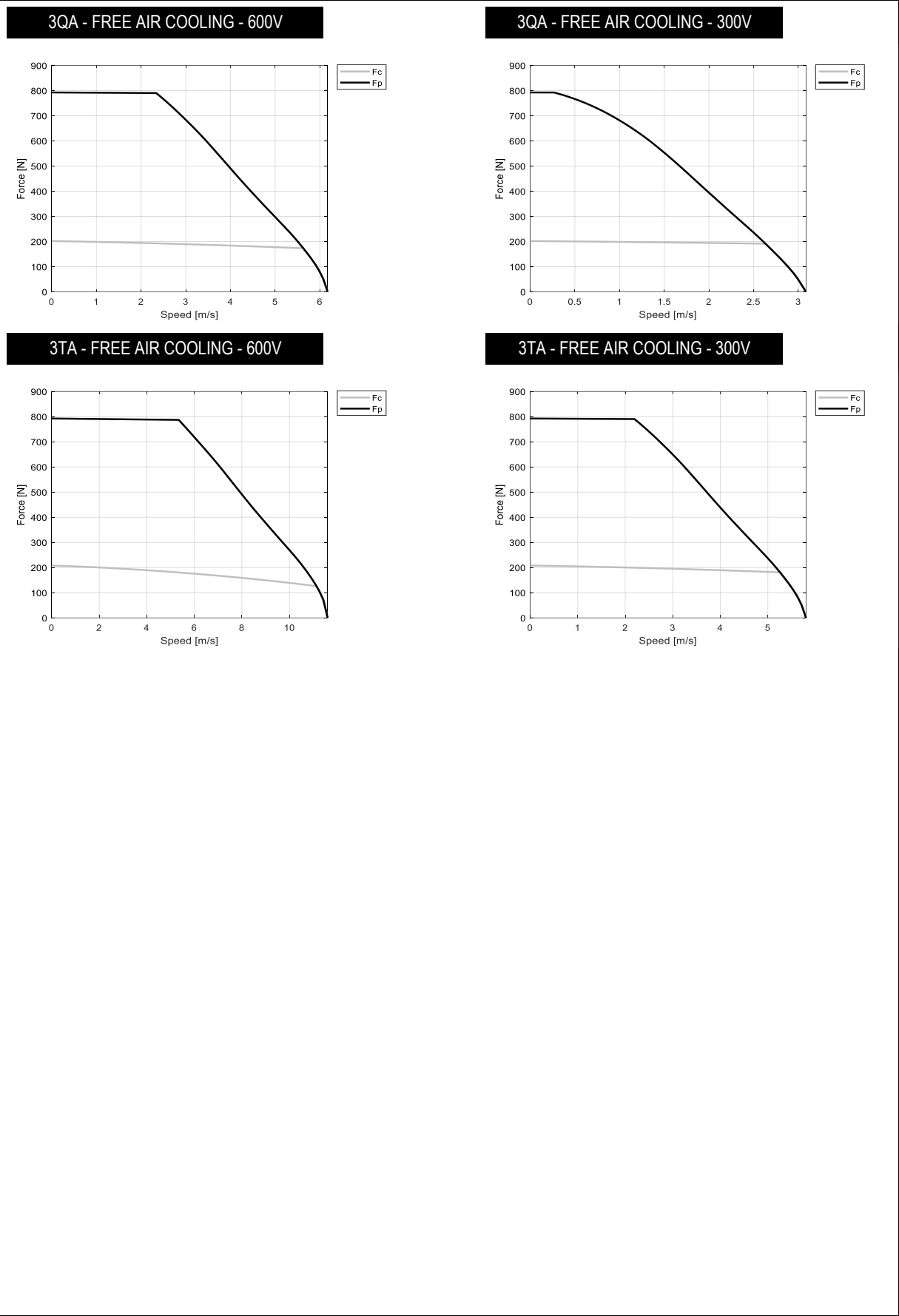


MOTOR PERFORMANCE		Winding codes	3QA	3TA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	793	793		
<b>Fc</b>	Continuous force	N	202	208		
<b>Fs</b>	Standstill force	N	153	158		
<b>Ip</b>	Peak current	Arms	16.3	30.6		
<b>Ic</b>	Continuous current	Arms	1.92	3.73		
<b>Is</b>	Standstill current	Arms	1.46	2.83		
<b>vs</b>	Rated low speed	mm/s	0.15	0.14		
<b>Pc</b>	Power dissipation @ Ic	W	75.6	75.9		
<b>Fd</b>	Max. detent force (average to peak)	N	23	23		
<b>Fa</b>	Attraction force	N	1720	1720		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	112	59.7		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	67.3	35.8		
<b>Km</b>	Motor constant	N/√W	29.7	30.6		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	9.53	2.54		
<b>L</b>	Electrical inductance (*)	mH	96.2	27.1		
<b>rth</b>	Thermal time constant	s	2190	2210		
<b>Rth</b>	Thermal resistance	K/W	1.44	1.44		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	7.96	7.96		
<b>mm</b>	Motor mass	kg	1.56	1.59		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.02	0.02		
<b>x</b>	Assumed stroke	m	0.29	0.29		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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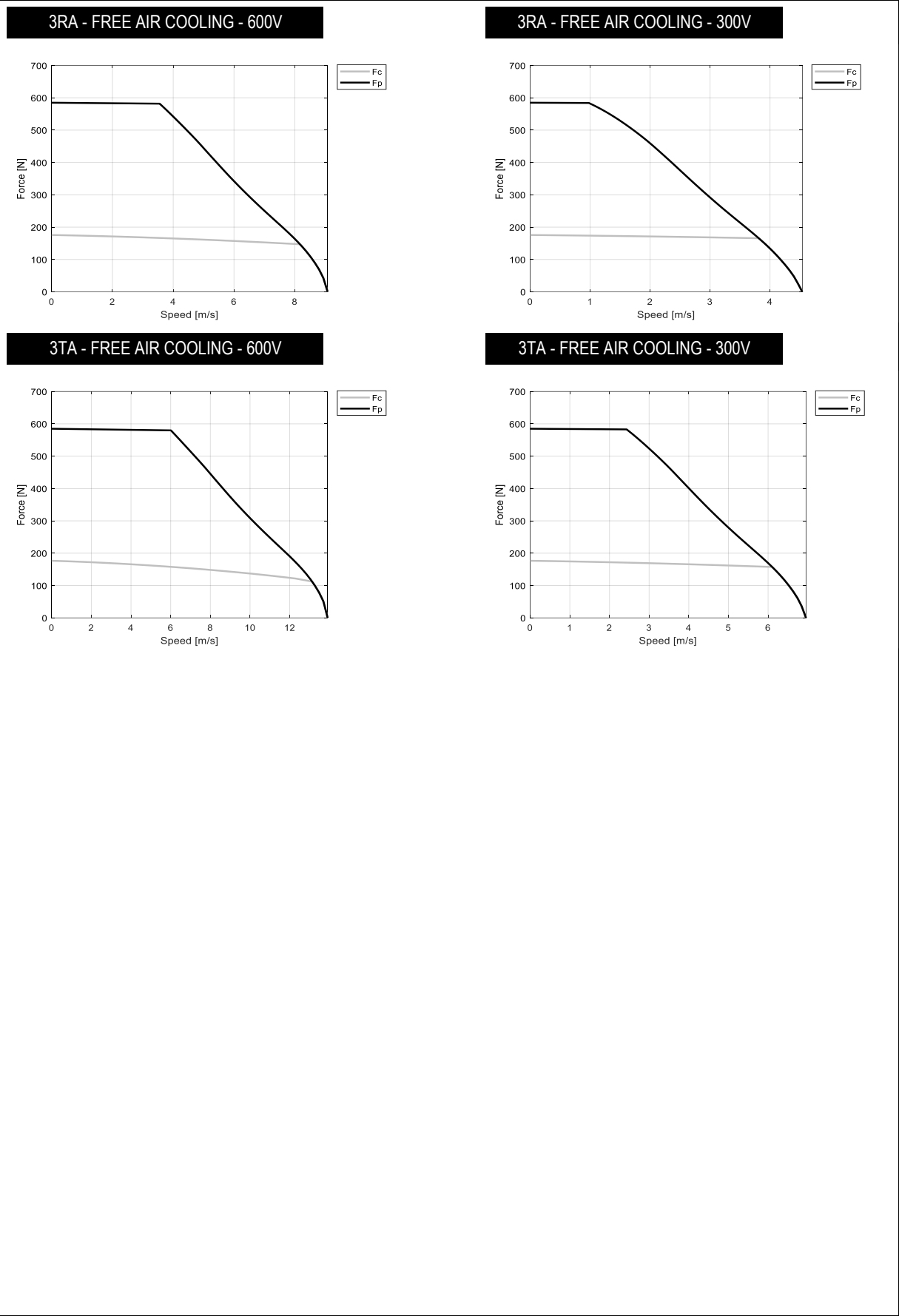
MOTOR PERFORMANCE		Winding codes	3RA	3TA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	585	585		
<b>Fc</b>	Continuous force	N	176	177		
<b>Fs</b>	Standstill force	N	137	138		
<b>Ip</b>	Peak current	Arms	18.6	28.5		
<b>Ic</b>	Continuous current	Arms	2.48	3.82		
<b>Is</b>	Standstill current	Arms	1.88	2.89		
<b>vs</b>	Rated low speed	mm/s	0.16	0.16		
<b>Pc</b>	Power dissipation @ Ic	W	89.9	90.0		
<b>Fd</b>	Max. detent force (average to peak)	N	11	11		
<b>Fa</b>	Attraction force	N	1320	1320		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	76.7	50.1		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	45.7	29.9		
<b>Km</b>	Motor constant	N/√W	24.0	24.1		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	6.81	2.88		
<b>L</b>	Electrical inductance (*)	mH	58.6	24.9		
<b>rth</b>	Thermal time constant	s	1990	2000		
<b>Rth</b>	Thermal resistance	K/W	1.22	1.22		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	3.51	3.51		
<b>mm</b>	Motor mass	kg	1.50	1.52		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.02	0.02		
<b>x</b>	Assumed stroke	m	0.47	0.47		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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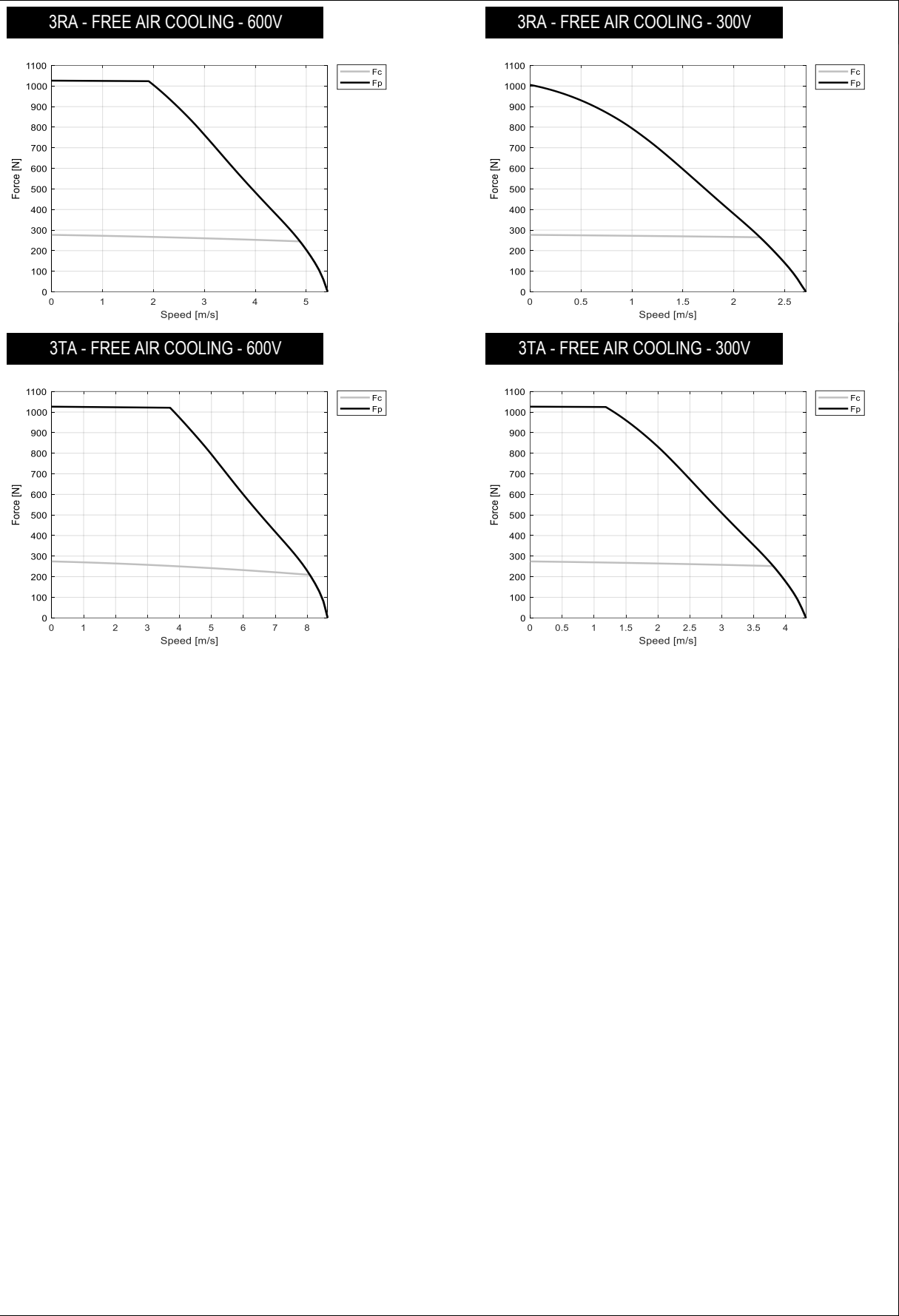
MOTOR PERFORMANCE		Winding codes	3RA	3TA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	1030	1030		
<b>Fc</b>	Continuous force	N	277	274		
<b>Fs</b>	Standstill force	N	212	210		
<b>Ip</b>	Peak current	Arms	18.6	29.6		
<b>Ic</b>	Continuous current	Arms	2.30	3.62		
<b>Is</b>	Standstill current	Arms	1.74	2.74		
<b>vs</b>	Rated low speed	mm/s	0.14	0.14		
<b>Pc</b>	Power dissipation @ Ic	W	108	108		
<b>Fd</b>	Max. detent force (average to peak)	N	18	18		
<b>Fa</b>	Attraction force	N	2380	2380		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	128	80.4		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	76.6	48.1		
<b>Km</b>	Motor constant	N/√W	33.9	33.5		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	9.54	3.83		
<b>L</b>	Electrical inductance (*)	mH	91.6	36.1		
<b>rth</b>	Thermal time constant	s	2300	2300		
<b>Rth</b>	Thermal resistance	K/W	1.02	1.02		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	6.19	6.19		
<b>mm</b>	Motor mass	kg	2.22	2.23		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.03	0.03		
<b>x</b>	Assumed stroke	m	0.47	0.47		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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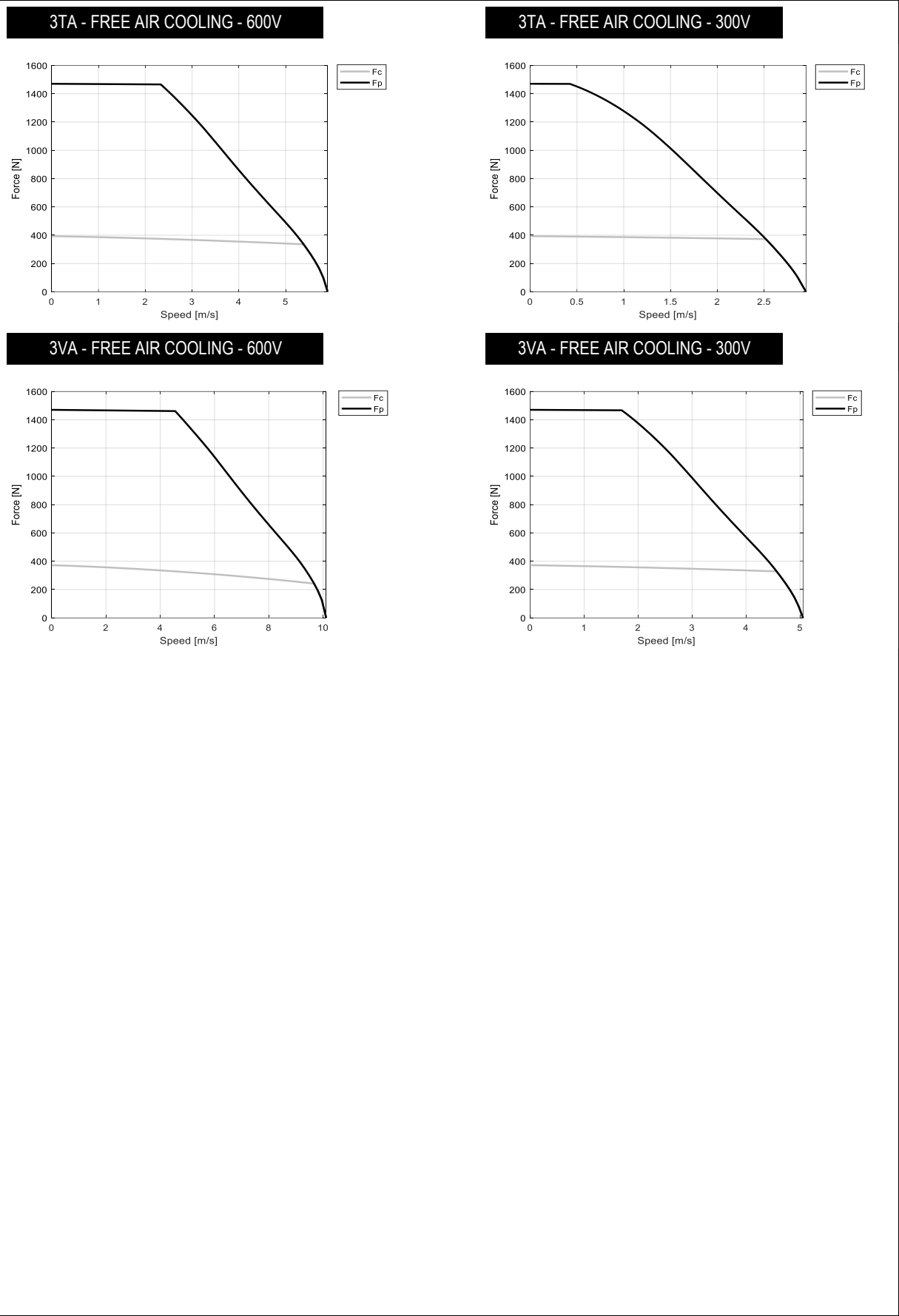


MOTOR PERFORMANCE		Winding codes	3TA	3VA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	1470	1470		
<b>Fc</b>	Continuous force	N	394	372		
<b>Fs</b>	Standstill force	N	300	283		
<b>Ip</b>	Peak current	Arms	28.5	48.9		
<b>Ic</b>	Continuous current	Arms	3.55	5.75		
<b>Is</b>	Standstill current	Arms	2.69	4.35		
<b>vs</b>	Rated low speed	mm/s	0.13	0.13		
<b>Pc</b>	Power dissipation @ Ic	W	138	137		
<b>Fd</b>	Max. detent force (average to peak)	N	25	25		
<b>Fa</b>	Attraction force	N	3300	3300		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	118	68.7		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	70.4	41.1		
<b>Km</b>	Motor constant	N/√W	42.7	40.3		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	5.08	1.94		
<b>L</b>	Electrical inductance (*)	mH	54.6	18.7		
<b>rth</b>	Thermal time constant	s	2430	2410		
<b>Rth</b>	Thermal resistance	K/W	0.794	0.796		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	7.96	7.96		
<b>mm</b>	Motor mass	kg	2.98	2.91		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.04	0.04		
<b>x</b>	Assumed stroke	m	0.47	0.47		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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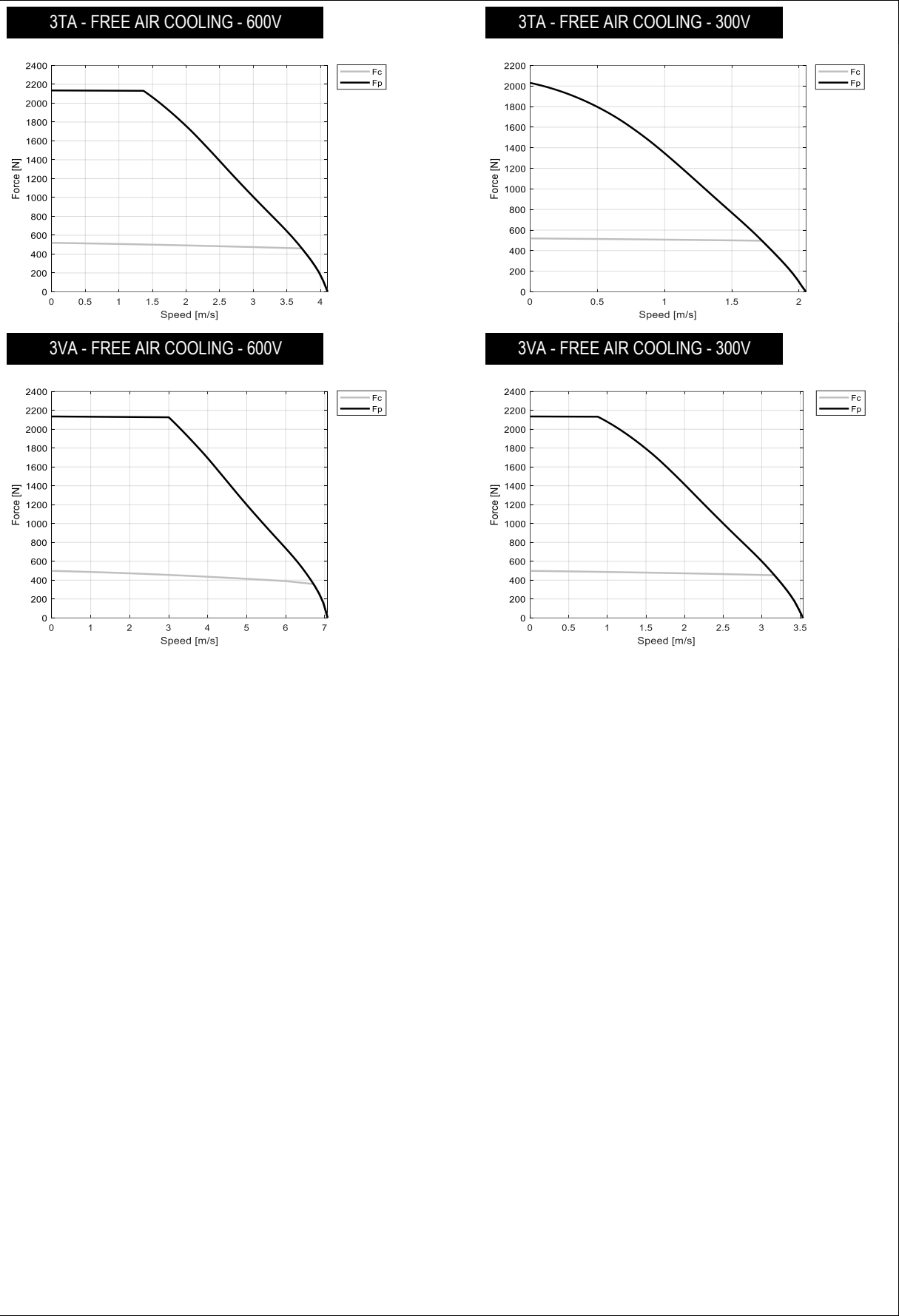


MOTOR PERFORMANCE		Winding codes	3TA	3VA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	2130	2130		
<b>Fc</b>	Continuous force	N	519	498		
<b>Fs</b>	Standstill force	N	394	378		
<b>Ip</b>	Peak current	Arms	28.5	49.1		
<b>Ic</b>	Continuous current	Arms	3.28	5.41		
<b>Is</b>	Standstill current	Arms	2.48	4.10		
<b>vs</b>	Rated low speed	mm/s	0.12	0.12		
<b>Pc</b>	Power dissipation @ Ic	W	155	155		
<b>Fd</b>	Max. detent force (average to peak)	N	35	35		
<b>Fa</b>	Attraction force	N	4760	4760		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	169	98.2		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	101	58.7		
<b>Km</b>	Motor constant	N/√W	53.2	51.0		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	6.74	2.47		
<b>L</b>	Electrical inductance (*)	mH	78.7	26.7		
<b>rth</b>	Thermal time constant	s	2760	2740		
<b>Rth</b>	Thermal resistance	K/W	0.704	0.705		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	12.6	12.6		
<b>mm</b>	Motor mass	kg	4.08	3.98		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.04	0.04		
<b>x</b>	Assumed stroke	m	0.47	0.47		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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MOTOR PERFORMANCE		Winding codes	3RA	3TA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	857	857		
<b>Fc</b>	Continuous force	N	249	250		
<b>Fs</b>	Standstill force	N	194	195		
<b>Ip</b>	Peak current	Arms	17.7	27.1		
<b>Ic</b>	Continuous current	Arms	2.34	3.61		
<b>Is</b>	Standstill current	Arms	1.77	2.73		
<b>vs</b>	Rated low speed	mm/s	0.15	0.15		
<b>Pc</b>	Power dissipation @ Ic	W	120	120		
<b>Fd</b>	Max. detent force (average to peak)	N	13	13		
<b>Fa</b>	Attraction force	N	2110	2110		

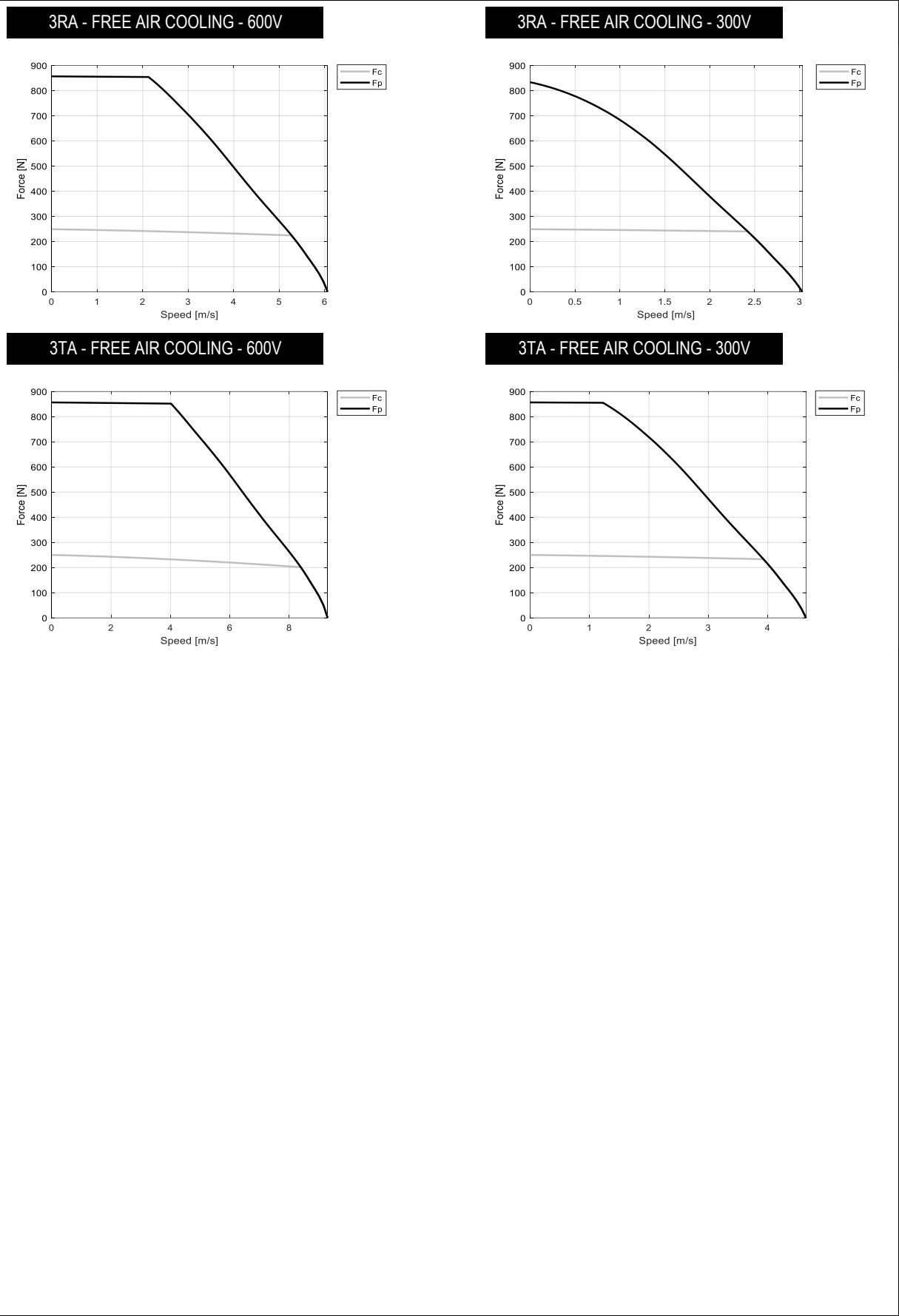
MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	115	74.9		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	68.5	44.7		
<b>Km</b>	Motor constant	N/√W	29.3	29.4		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	10.2	4.31		
<b>L</b>	Electrical inductance (*)	mH	83.4	35.5		
<b>rth</b>	Thermal time constant	s	2130	2140		
<b>Rth</b>	Thermal resistance	K/W	0.913	0.912		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	3.51	3.51		
<b>mm</b>	Motor mass	kg	2.19	2.23		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.03	0.03		
<b>x</b>	Assumed stroke	m	0.51	0.51		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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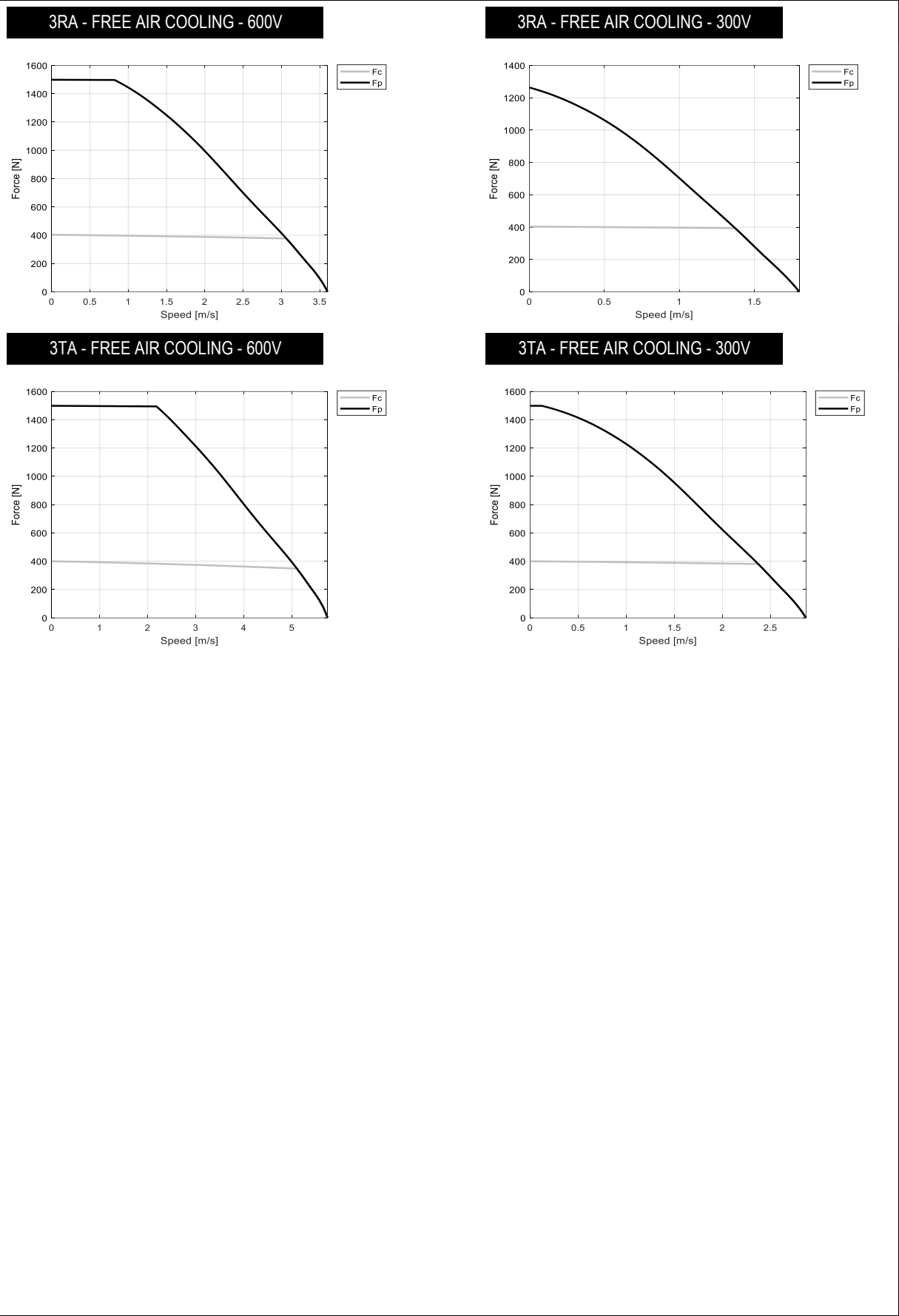


MOTOR PERFORMANCE		Winding codes	3RA	3TA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	1500	1500		
<b>Fc</b>	Continuous force	N	404	400		
<b>Fs</b>	Standstill force	N	309	306		
<b>Ip</b>	Peak current	Arms	17.7	28.2		
<b>Ic</b>	Continuous current	Arms	2.24	3.53		
<b>Is</b>	Standstill current	Arms	1.69	2.67		
<b>vs</b>	Rated low speed	mm/s	0.13	0.13		
<b>Pc</b>	Power dissipation @ Ic	W	154	153		
<b>Fd</b>	Max. detent force (average to peak)	N	22	22		
<b>Fa</b>	Attraction force	N	3440	3440		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	194	122		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	115	72.3		
<b>Km</b>	Motor constant	N/√W	41.8	41.4		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	14.3	5.75		
<b>L</b>	Electrical inductance (*)	mH	140	55.1		
<b>rth</b>	Thermal time constant	s	2420	2420		
<b>Rth</b>	Thermal resistance	K/W	0.713	0.713		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	6.19	6.19		
<b>mm</b>	Motor mass	kg	3.25	3.26		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.04	0.04		
<b>x</b>	Assumed stroke	m	0.51	0.51		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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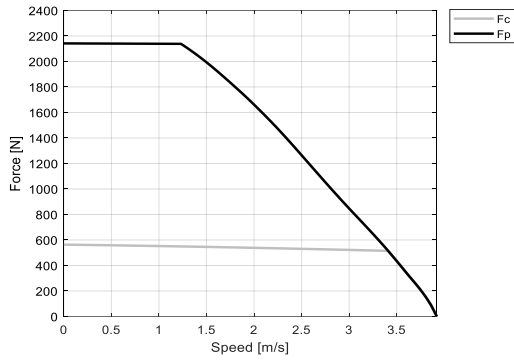
MOTOR PERFORMANCE		Winding codes	3TA	3VA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	2140	2140		
<b>Fc</b>	Continuous force	N	564	533		
<b>Fs</b>	Standstill force	N	429	405		
<b>Ip</b>	Peak current	Arms	27.1	46.5		
<b>Ic</b>	Continuous current	Arms	3.38	5.47		
<b>Is</b>	Standstill current	Arms	2.56	4.15		
<b>vs</b>	Rated low speed	mm/s	0.12	0.12		
<b>Pc</b>	Power dissipation @ Ic	W	187	187		
<b>Fd</b>	Max. detent force (average to peak)	N	31	31		
<b>Fa</b>	Attraction force	N	4760	4760		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	178	104		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	106	61.8		
<b>Km</b>	Motor constant	N/√W	52.7	49.8		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	7.63	2.91		
<b>L</b>	Electrical inductance (*)	mH	83.4	28.5		
<b>rth</b>	Thermal time constant	s	2590	2570		
<b>Rth</b>	Thermal resistance	K/W	0.584	0.585		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	7.96	7.96		
<b>mm</b>	Motor mass	kg	4.36	4.26		

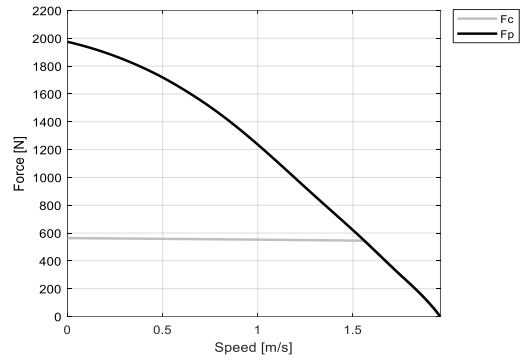
MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.05	0.05		
<b>x</b>	Assumed stroke	m	0.51	0.51		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

**Notes:** (\*) terminal to terminal.  
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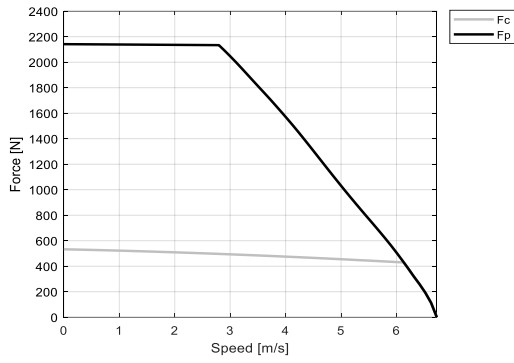
3TA - FREE AIR COOLING - 600V



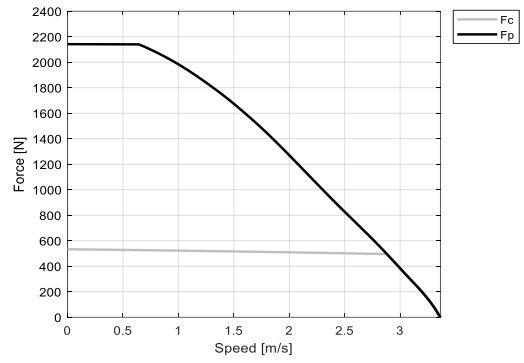
3TA - FREE AIR COOLING - 300V



3VA - FREE AIR COOLING - 600V



3VA - FREE AIR COOLING - 300V

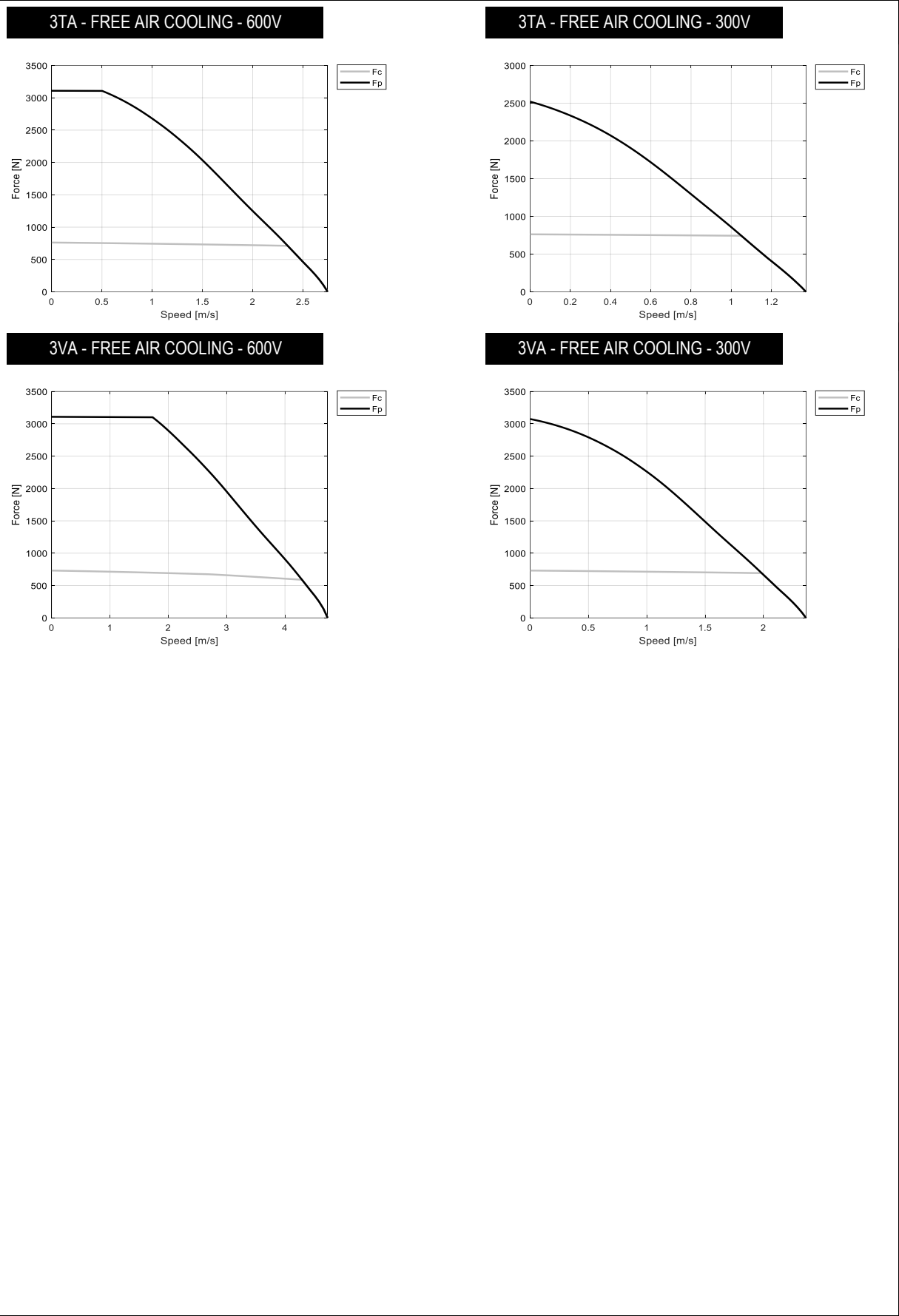


MOTOR PERFORMANCE		Winding codes	3TA	3VA		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	3110	3110		
<b>Fc</b>	Continuous force	N	762	731		
<b>Fs</b>	Standstill force	N	578	555		
<b>Ip</b>	Peak current	Arms	27.1	46.7		
<b>Ic</b>	Continuous current	Arms	3.23	5.33		
<b>Is</b>	Standstill current	Arms	2.44	4.04		
<b>vs</b>	Rated low speed	mm/s	0.11	0.11		
<b>Pc</b>	Power dissipation @ Ic	W	226	225		
<b>Fd</b>	Max. detent force (average to peak)	N	44	44		
<b>Fa</b>	Attraction force	N	6870	6870		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	255	148		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	151	87.8		
<b>Km</b>	Motor constant	N/√W	65.6	62.9		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	10.1	3.70		
<b>L</b>	Electrical inductance (*)	mH	120	40.5		
<b>rth</b>	Thermal time constant	s	2900	2880		
<b>Rth</b>	Thermal resistance	K/W	0.484	0.485		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	12.6	12.6		
<b>mm</b>	Motor mass	kg	5.97	5.83		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.06	0.06		
<b>x</b>	Assumed stroke	m	0.51	0.51		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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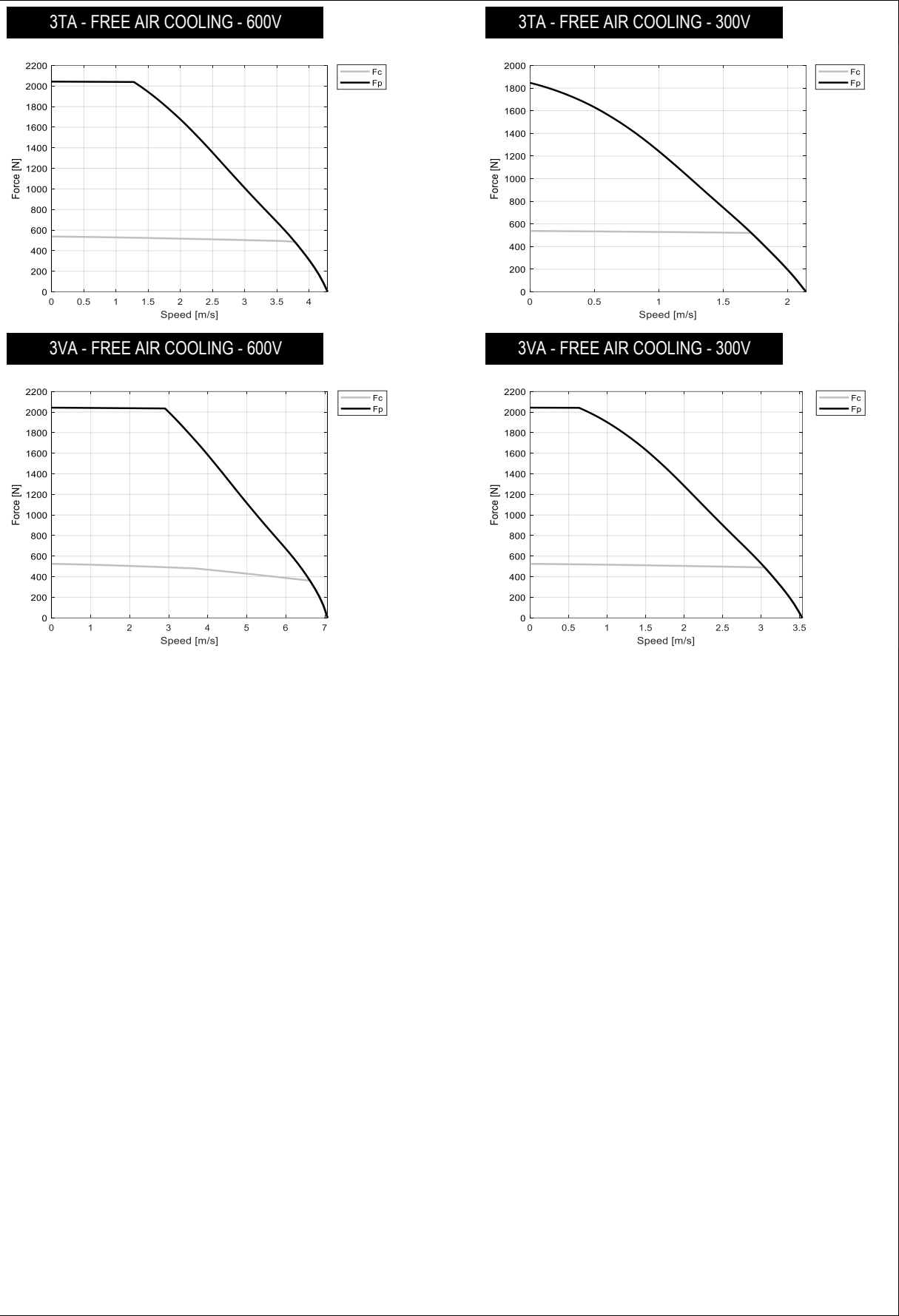
		Winding codes	3TA	3VA		
MOTOR PERFORMANCE		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	2040	2040		
<b>Fc</b>	Continuous force	N	538	525		
<b>Fs</b>	Standstill force	N	410	400		
<b>Ip</b>	Peak current	Arms	28.2	46.5		
<b>Ic</b>	Continuous current	Arms	3.58	5.75		
<b>Is</b>	Standstill current	Arms	2.71	4.36		
<b>vs</b>	Rated low speed	mm/s	0.13	0.13		
<b>Pc</b>	Power dissipation @ Ic	W	210	210		
<b>Fd</b>	Max. detent force (average to peak)	N	27	27		
<b>Fa</b>	Attraction force	N	4500	4500		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	162	98.1		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	96.9	58.7		
<b>Km</b>	Motor constant	N/√W	47.7	46.5		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	7.66	2.96		
<b>L</b>	Electrical inductance (*)	mH	72.7	26.8		
<b>rth</b>	Thermal time constant	s	2440	2430		
<b>Rth</b>	Thermal resistance	K/W	0.520	0.520		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	6.19	6.19		
<b>mm</b>	Motor mass	kg	4.30	4.24		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.06	0.06		
<b>x</b>	Assumed stroke	m	0.69	0.69		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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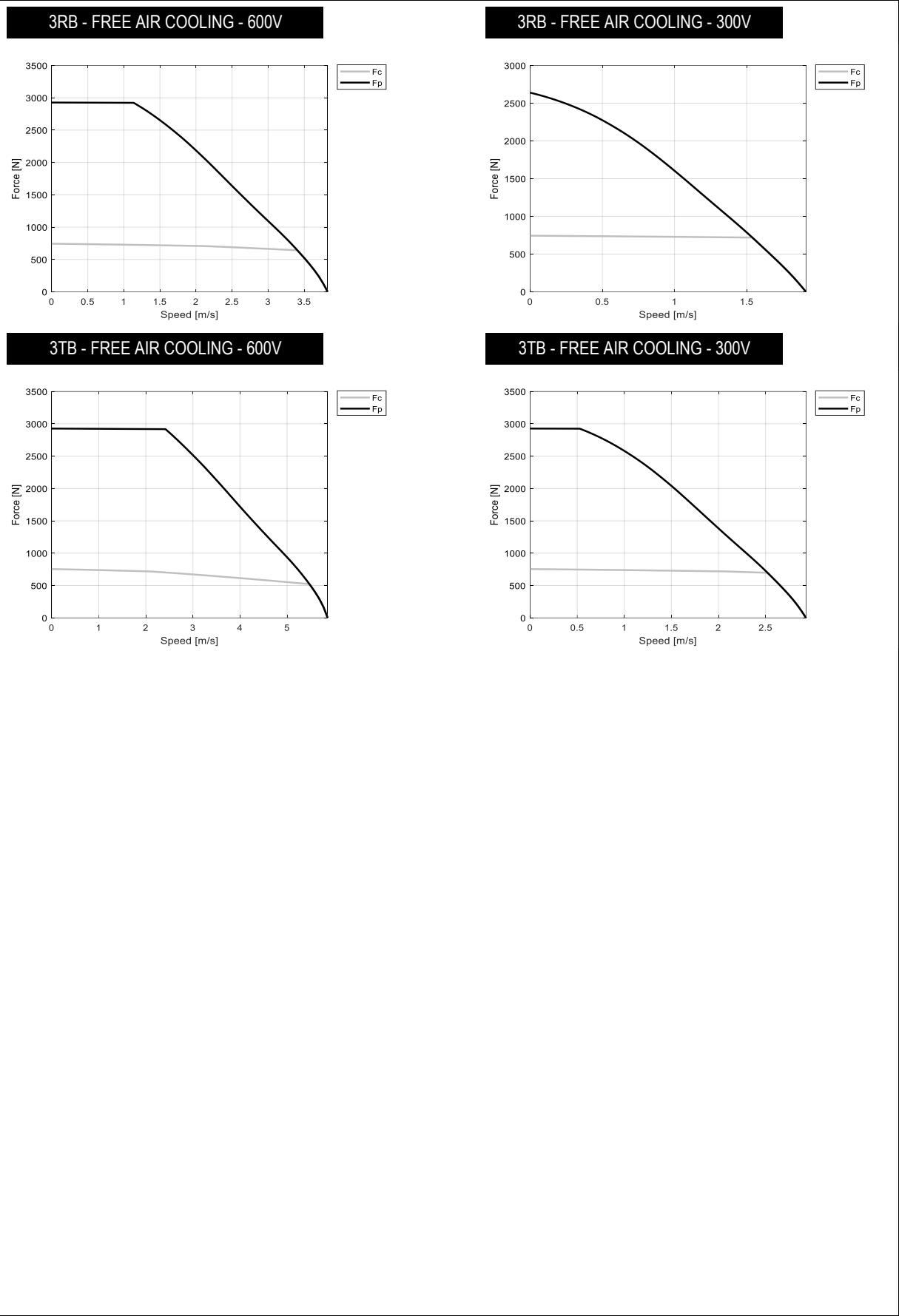


MOTOR PERFORMANCE		Winding codes	3RB	3TB		
		UNIT	FREE AIR COOLING	FREE AIR COOLING		
<b>Fp</b>	Peak force	N	2930	2930		
<b>Fc</b>	Continuous force	N	744	754		
<b>Fs</b>	Standstill force	N	565	573		
<b>Ip</b>	Peak current	Arms	35.4	54.2		
<b>Ic</b>	Continuous current	Arms	4.43	6.89		
<b>Is</b>	Standstill current	Arms	3.36	5.22		
<b>vs</b>	Rated low speed	mm/s	0.12	0.12		
<b>Pc</b>	Power dissipation @ Ic	W	258	258		
<b>Fd</b>	Max. detent force (average to peak)	N	37	37		
<b>Fa</b>	Attraction force	N	6310	6310		

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	182	119		
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	109	70.9		
<b>Km</b>	Motor constant	N/√W	59.9	60.7		
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	6.13	2.54		
<b>L</b>	Electrical inductance (*)	mH	64.7	27.5		
<b>rth</b>	Thermal time constant	s	2630	2640		
<b>Rth</b>	Thermal resistance	K/W	0.424	0.423		
<b>2tp</b>	Magnetic period	mm	32	32		
<b>mw</b>	Magnetic way mass	kg/m	7.96	7.96		
<b>mm</b>	Motor mass	kg	5.67	5.75		

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600	600		
<b>Gm</b>	Mechanical gap	mm	0.90	0.90		
<b>Ss</b>	Stator exchange surface	m²	0.08	0.08		
<b>x</b>	Assumed stroke	m	0.69	0.69		
<b>θamb</b>	Ambient temperature	°C	20	20		
<b>θmax</b>	Maximum coil temperature	°C	130	130		

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MOTOR PERFORMANCE		Winding codes	3TB			
		UNIT	FREE AIR COOLING			
<b>Fp</b>	Peak force	N	4170			
<b>Fc</b>	Continuous force	N	1030			
<b>Fs</b>	Standstill force	N	782			
<b>Ip</b>	Peak current	Arms	54.2			
<b>Ic</b>	Continuous current	Arms	6.58			
<b>Is</b>	Standstill current	Arms	4.98			
<b>vs</b>	Rated low speed	mm/s	0.11			
<b>Pc</b>	Power dissipation @ Ic	W	312			
<b>Fd</b>	Max. detent force (average to peak)	N	53			
<b>Fa</b>	Attraction force	N	9010			

MOTOR SETTING		UNIT				
<b>Kt</b>	Force constant	N/Arms	169			
<b>Ku</b>	Back EMF constant (*)	Vrms/(m/s)	101			
<b>Km</b>	Motor constant	N/√W	75.3			
<b>R20</b>	Electrical resistance at 20°C (*)	Ohm	3.37			
<b>L</b>	Electrical inductance (*)	mH	39.6			
<b>rth</b>	Thermal time constant	s	2910			
<b>Rth</b>	Thermal resistance	K/W	0.349			
<b>2tp</b>	Magnetic period	mm	32			
<b>mw</b>	Magnetic way mass	kg/m	12.6			
<b>mm</b>	Motor mass	kg	7.86			

MOTOR ENVIRONMENT		UNIT				
<b>Udc</b>	Nominal DC bus voltage	VDC	600			
<b>Gm</b>	Mechanical gap	mm	0.90			
<b>Ss</b>	Stator exchange surface	m²	0.09			
<b>x</b>	Assumed stroke	m	0.69			
<b>θamb</b>	Ambient temperature	°C	20			
<b>θmax</b>	Maximum coil temperature	°C	130			

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