

Motor Parameters		Symbols	Units	WTRM-390-L-034		WTRM-390-L-070		WTRM-390-L-140	
PERFORMANCE	DC Bus Voltage	V_{DC}	V	24	48	24	48	24	48
	Rated Torque	T_r	Nm	179.3		359.6		541.1	
	Peak Torque	T_{peak}	Nm	262.4		527.1		717.4	
	Rated Speed	N_r	rpm	60	150	30	90	25	65
	No-Load Speed	$N_{no-load}$	rpm	105	215	70	140	40	90
	Torque Constant	K_t	Nm/A	2.39		3.83		5.77	
	Voltage Constant	K_v	V/rpm	0.207		0.331		0.496	
	Max. Cogging Torque	T_{cog}	%			<1			
	Torque Ripple	T_{ripple}	%			<1			
	Number of Pole	$2p$	--			64			
ELECTRICAL	Rated Current	I_r	A_{rms}	75		94		93.8	
	Peak Current	I_{peak}	A_{rms}	112.5		141		125	
	Line Resistance	$R_{LL}@25^{\circ}C$	Ohm	0.1 ($\pm 20\%$)		0.11 ($\pm 20\%$)		0.08 ($\pm 20\%$)	
	Line Inductance	$L_{LL}@60Hz$	mH	0.48 ($\pm 30\%$)		0.55 ($\pm 30\%$)		0.59 ($\pm 30\%$)	
MECHANICAL & THERMAL	Total Weight	W_{total}	kg	16.93		30.25		57.17	
	Mech. Time Constant	K_{mech}	ms	2.49		2.11		1.48	
	Thermal Resistance ⁽²⁾	R_{th}	$^{\circ}C/W$	0.051		0.027		0.015	
	Inertia	J	$kg.m^2$	0.12		0.2406		0.4818	
	Water Inlet Temp.	T_w	$^{\circ}C$			20			
	Water Temp. Diff. Between Inlet-Outlet	ΔT_w	$^{\circ}C$	2.4		3.1		1.6	
	Min. Water Volumetric Flow Rate	q_w	l/min	7.8		10.4		16.2	
	Pressure Drop for q_w	ΔP_w	bar	0.1984		0.1873		0.2790	
	Environment Temp.	T_{env}	$^{\circ}C$			20			
	Rotor ID	R_{ID}	mm			290			

Motor Parameters		Symbols	Units	WTRM-390-H-035		WTRM-390-H-070		WTRM-390-H-140	
PERFORMANCE	DC Bus Voltage	V_{DC}	V	310	560	310	560	310	560
	Rated Torque	T_r	Nm	226.7		447.4		886.9	
	Peak Torque	T_{peak}	Nm	378.3		747.5		1483	
	Rated Speed	N_r	rpm	165	330	130	260	95	195
	No-Load Speed	$N_{no-load}$	rpm	265	490	200	370	150	275
	Torque Constant	K_t	Nm/A	12.77		17.04		22.74	
	Voltage Constant	K_v	V/rpm	1.116		1.488		1.985	
	Max. Cogging Torque	T_{cog}	%			<1			
	Torque Ripple	T_{ripple}	%			<1			
	Number of Pole	$2p$	--			64			
ELECTRICAL	Rated Current	I_r	A_{rms}	17.8		26.3		39	
	Peak Current	I_{peak}	A_{rms}	32		47.3		70.2	
	Line Resistance	$R_{LL}@25^{\circ}C$	Ohm	2.8 ($\pm 20\%$)		1.82 ($\pm 20\%$)		1.35 ($\pm 20\%$)	
	Line Inductance	$L_{LL}@60Hz$	mH	13.7 ($\pm 30\%$)		11.2 ($\pm 30\%$)		9.4 ($\pm 30\%$)	
MECHANICAL & THERMAL	Total Weight	W_{total}	kg	16.93		30.25		57.17	
	Mech. Time Constant	K_{mech}	ms	2.47		1.81		1.50	
	Thermal Resistance ⁽²⁾	R_{th}	$^{\circ}C/W$	0.051		0.027		0.015	
	Inertia	J	$kg.m^2$	0.12		0.2406		0.4818	
	Water Inlet Temp.	T_w	$^{\circ}C$			20			
	Water Temp. Diff. Between Inlet-Outlet	ΔT_w	$^{\circ}C$	4.0		4.2		4.4	
	Min. Water Volumetric Flow Rate	q_w	l/min	7.8		10.4		16.2	
	Pressure Drop for q_w	ΔP_w	bar	0.1984		0.1873		0.2790	
	Environment Temp.	T_{env}	$^{\circ}C$			20			
	Rotor ID	R_{ID}	mm			290			

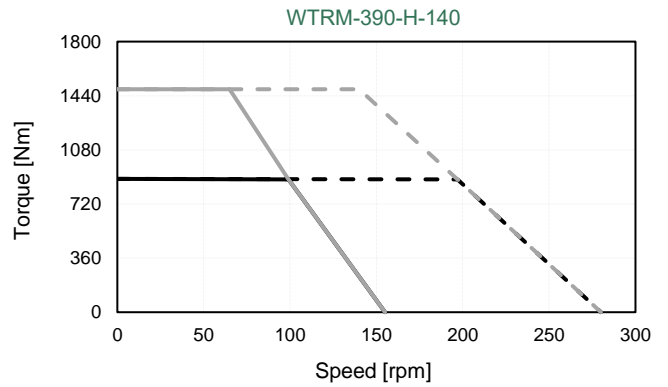
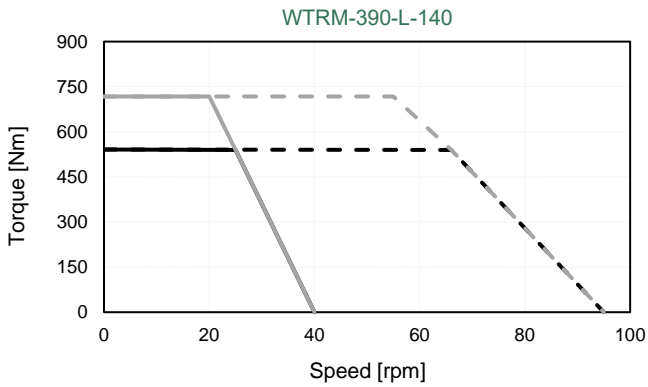
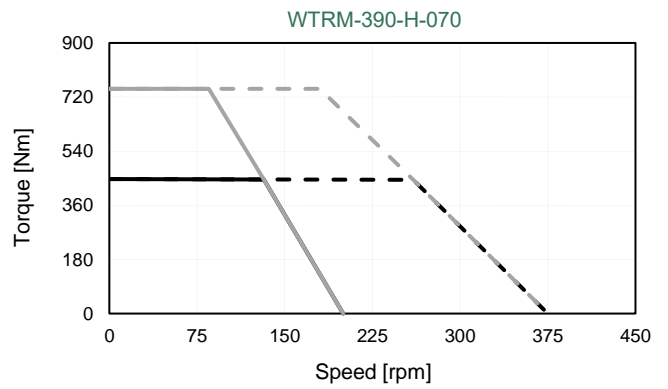
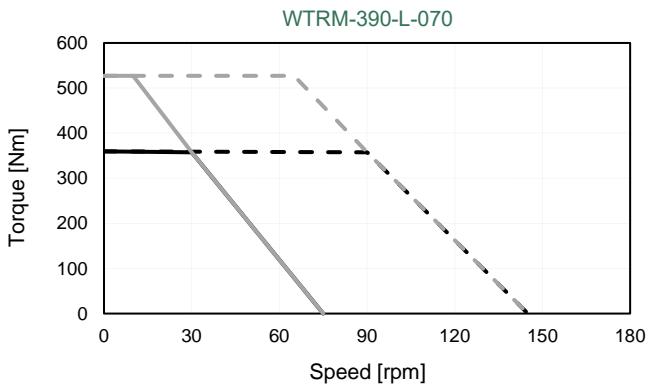
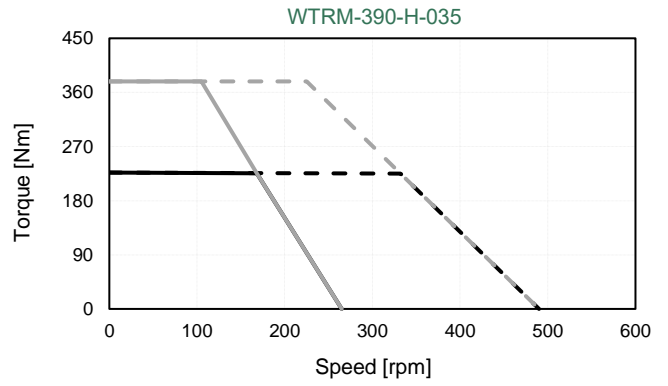
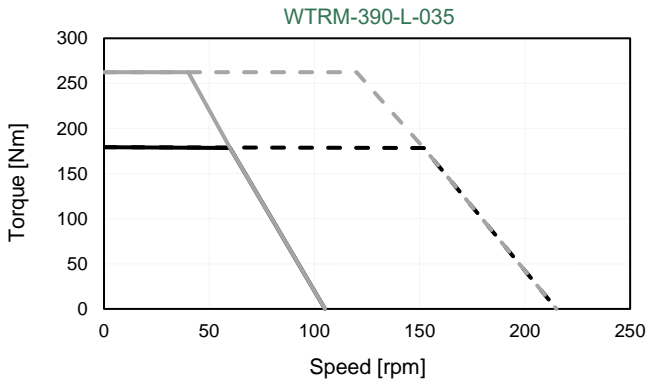
1. All performance and electrical specifications are obtained at 25°C ambient and may change $\pm 10\%$. 2. Maximum coil temperature is 130°C. 3. Higher torque and speed values as well as dimensions on request.

WTRM-390-(L/H)-Torque-Speed Curves

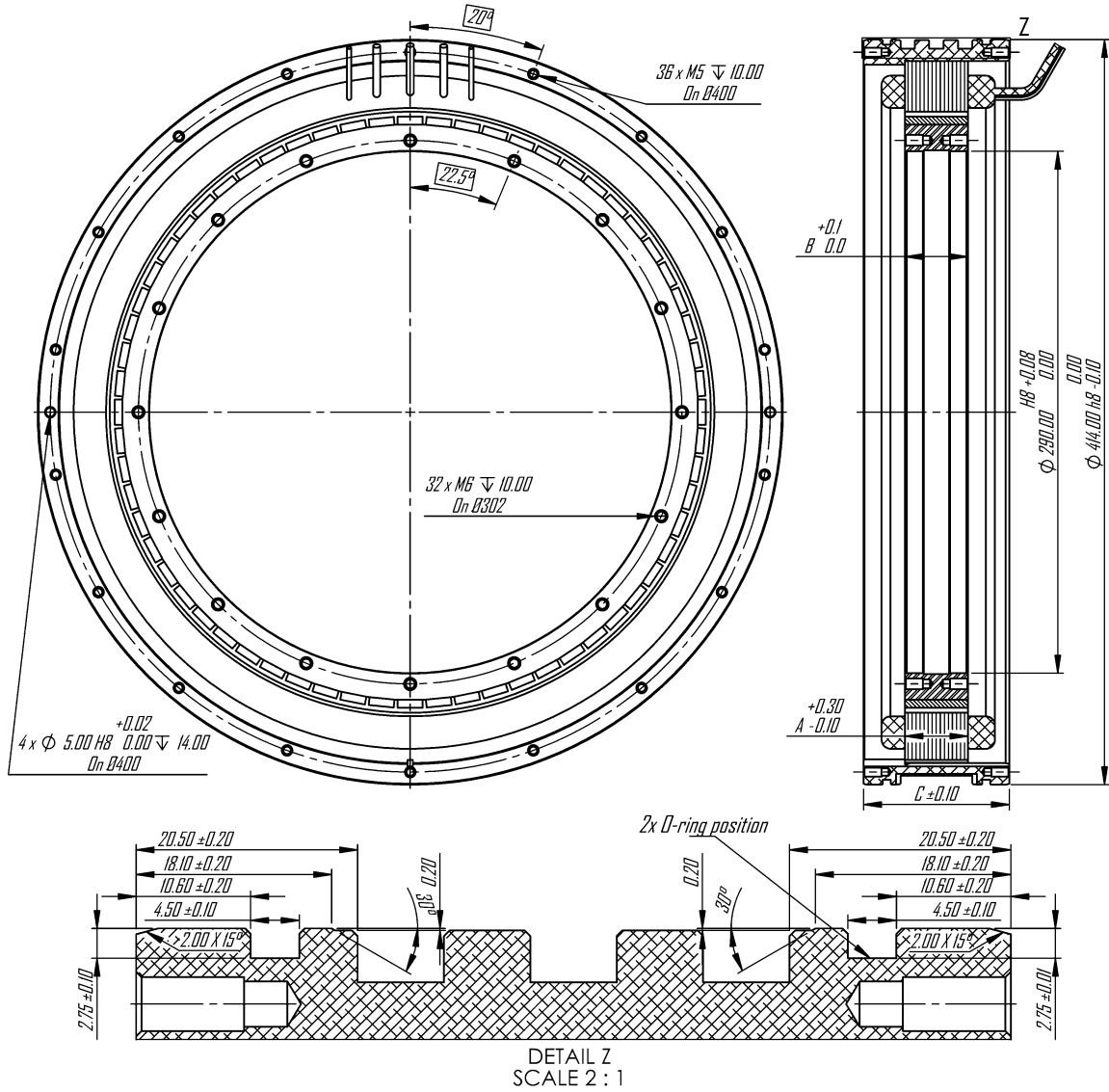
Tr: Rated Torque
Tp: Peak Torque

— @Tr 24V - - - @Tr 48V
— @Tp 24V - - - @Tp 48V

— @Tr 310V - - - @Tr 560V
— @Tp 310V - - - @Tp 560V



WTRM-390-(L/H) Outline Drawing



Model	A (mm)	B (mm)	C (mm)
WTRM-(L/H)-390-035	35	35.1	81
WTRM-(L/H)-390-070	70	70.2	116
WTRM-(L/H)-390-140	140	140.4	186

All dimensions in mm

Notes:

MOTOR LEADS:

WTRM-390-L: #5 AWG Teflon® insulated, 500 mm (optional) length, 1-Red, 1-White, 1-Black.
WTRM-390-H: #9 AWG Teflon® insulated, 500 mm (optional) length, 1-Red, 1-White, 1-Black.

THERMISTOR LEADS:

#26 AWG Teflon® insulated, 500 mm (optional) length, 2-Brown or Blue.