

Motor Parameters		Symbols	Units	WTRM-310-L-034		WTRM-310-L-070		WTRM-310-L-140	
PERFORMANCE	DC Bus Voltage	$V_{DC}$	V	24	48	24	48	24	48
	Rated Torque	$T_r$	Nm	109		218		329.4	
	Peak Torque	$T_{peak}$	Nm	160.2		320.4		437.4	
	Rated Speed	$N_r$	rpm	70	180	50	125	30	85
	No-Load Speed	$N_{no-load}$	rpm	130	265	90	180	55	115
	Torque Constant	$K_t$	Nm/A	2.02		2.88		4.63	
	Voltage Constant	$K_v$	V/rpm	0.174		0.249		0.398	
	Max. Cogging Torque	$T_{cog}$	%			<1			
ELECTRICAL	Torque Ripple	$T_{ripple}$	%			<1			
	Number of Pole	$2p$	--			48			
	Rated Current	$I_r$	$A_{rms}$	54		75.6		71.1	
	Peak Current	$I_{peak}$	$A_{rms}$	81		113.4		94.8	
MECHANICAL & THERMAL	Line Resistance	$R_{LL}@25^{\circ}C$	Ohm	0.15 ( $\pm 20\%$ )		0.11 ( $\pm 20\%$ )		0.12 ( $\pm 20\%$ )	
	Line Inductance	$L_{LL}@60Hz$	mH	0.74 ( $\pm 30\%$ )		0.7 ( $\pm 30\%$ )		0.85 ( $\pm 30\%$ )	
	Total Weight	$W_{total}$	kg	11.92		21.45		40.36	
	Mech. Time Constant	$K_{mech}$	ms	2.35		1.74		1.45	
	Thermal Resistance <sup>(2)</sup>	$R_{th}$	$^{\circ}C/W$	0.063		0.034		0.018	
	Inertia	$J$	$kg.m^2$	0.0544		0.1106		0.2212	
	Water Inlet Temp.	$T_w$	$^{\circ}C$			20			
	Water Temp. Diff. Between Inlet-Outlet	$\Delta T_w$	$^{\circ}C$	2.4		2.3		1.3	
	Min. Water Volumetric Flow Rate	$q_w$	l/min	6.2		9.3		15.2	
	Pressure Drop for $q_w$	$\Delta P_w$	bar	0.11		0.16		0.23	
Environment Temp.	$T_{env}$	$^{\circ}C$			20				
Rotor ID	$R_{ID}$	mm			220				

Motor Parameters		Symbols	Units	WTRM-310-H-035		WTRM-310-H-070		WTRM-310-H-140	
PERFORMANCE	DC Bus Voltage	$V_{DC}$	V	310	560	310	560	310	560
	Rated Torque	$T_r$	Nm	135.2		271.7		540.7	
	Peak Torque	$T_{peak}$	Nm	226.8		455.5		907.3	
	Rated Speed	$N_r$	rpm	175	350	155	305	100	210
	No-Load Speed	$N_{no-load}$	rpm	285	525	240	440	160	300
	Torque Constant	$K_t$	Nm/A	12.02		14.3		20.6	
	Voltage Constant	$K_v$	V/rpm	1.044		1.243		1.789	
	Max. Cogging Torque	$T_{cog}$	%			<1			
ELECTRICAL	Torque Ripple	$T_{ripple}$	%			<1			
	Number of Pole	$2p$	--			48			
	Rated Current	$I_r$	$A_{rms}$	11.3		19		26.3	
	Peak Current	$I_{peak}$	$A_{rms}$	20.3		34.2		47.3	
MECHANICAL & THERMAL	Line Resistance	$R_{LL}@25^{\circ}C$	Ohm	5.2 ( $\pm 20\%$ )		2.8 ( $\pm 20\%$ )		2.4 ( $\pm 20\%$ )	
	Line Inductance	$L_{LL}@60Hz$	mH	26.8 ( $\pm 30\%$ )		17.5 ( $\pm 30\%$ )		17.4 ( $\pm 30\%$ )	
	Total Weight	$W_{total}$	kg	11.92		21.45		40.36	
	Mech. Time Constant	$K_{mech}$	ms	2.36		1.82		1.51	
	Thermal Resistance <sup>(2)</sup>	$R_{th}$	$^{\circ}C/W$	0.063		0.034		0.018	
	Inertia	$J$	$kg.m^2$	0.0544		0.1106		0.2212	
	Water Inlet Temp.	$T_w$	$^{\circ}C$			20			
	Water Temp. Diff. Between Inlet-Outlet	$\Delta T_w$	$^{\circ}C$	3.8		3.8		3.8	
	Min. Water Volumetric Flow Rate	$q_w$	l/min	6.2		9.3		15.2	
	Pressure Drop for $q_w$	$\Delta P_w$	bar	0.11		0.16		0.23	
Environment Temp.	$T_{env}$	$^{\circ}C$			20				
Rotor ID	$R_{ID}$	mm			220				

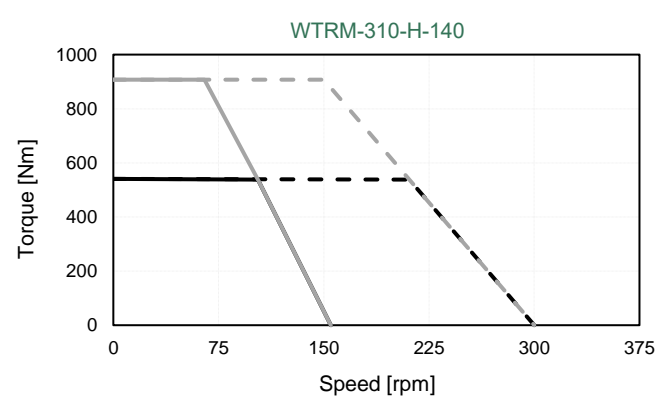
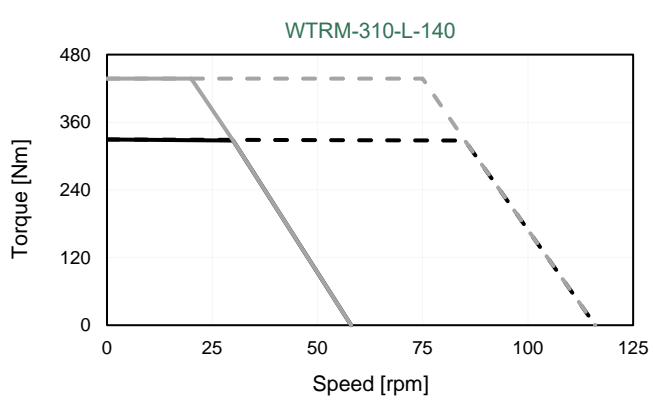
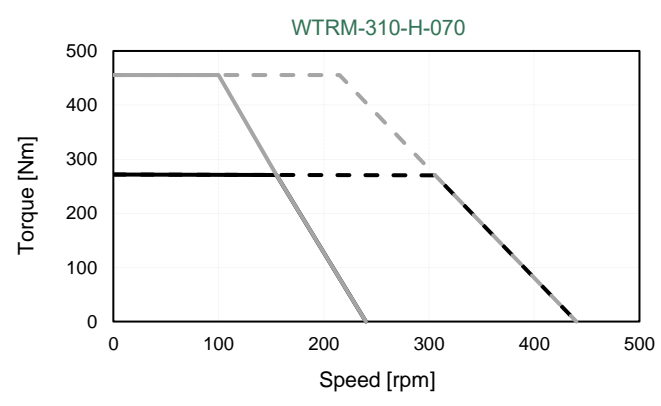
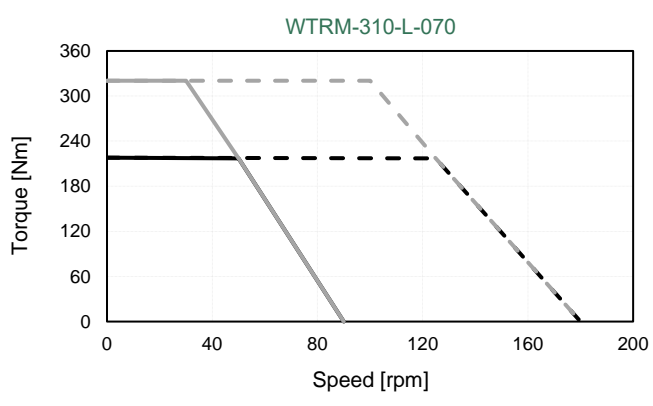
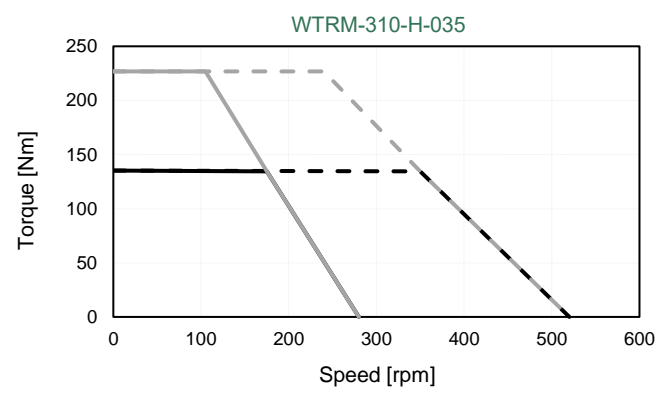
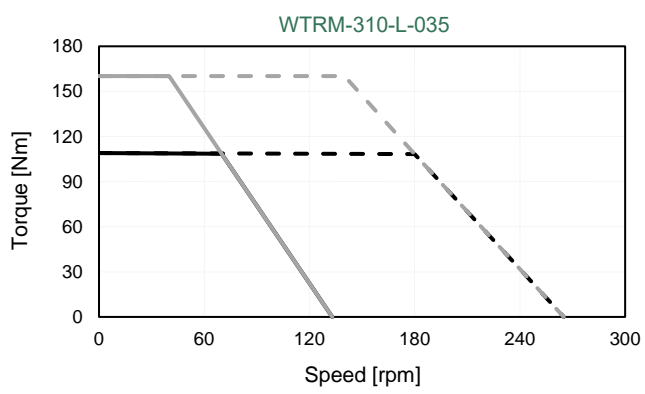
1. All performance and electrical specifications are obtained at 25°C ambient and may change  $\pm 10\%$ . 2. Maximum coil temperature is 130°C. 3. Higher torque and speed values as well as dimensions on request.

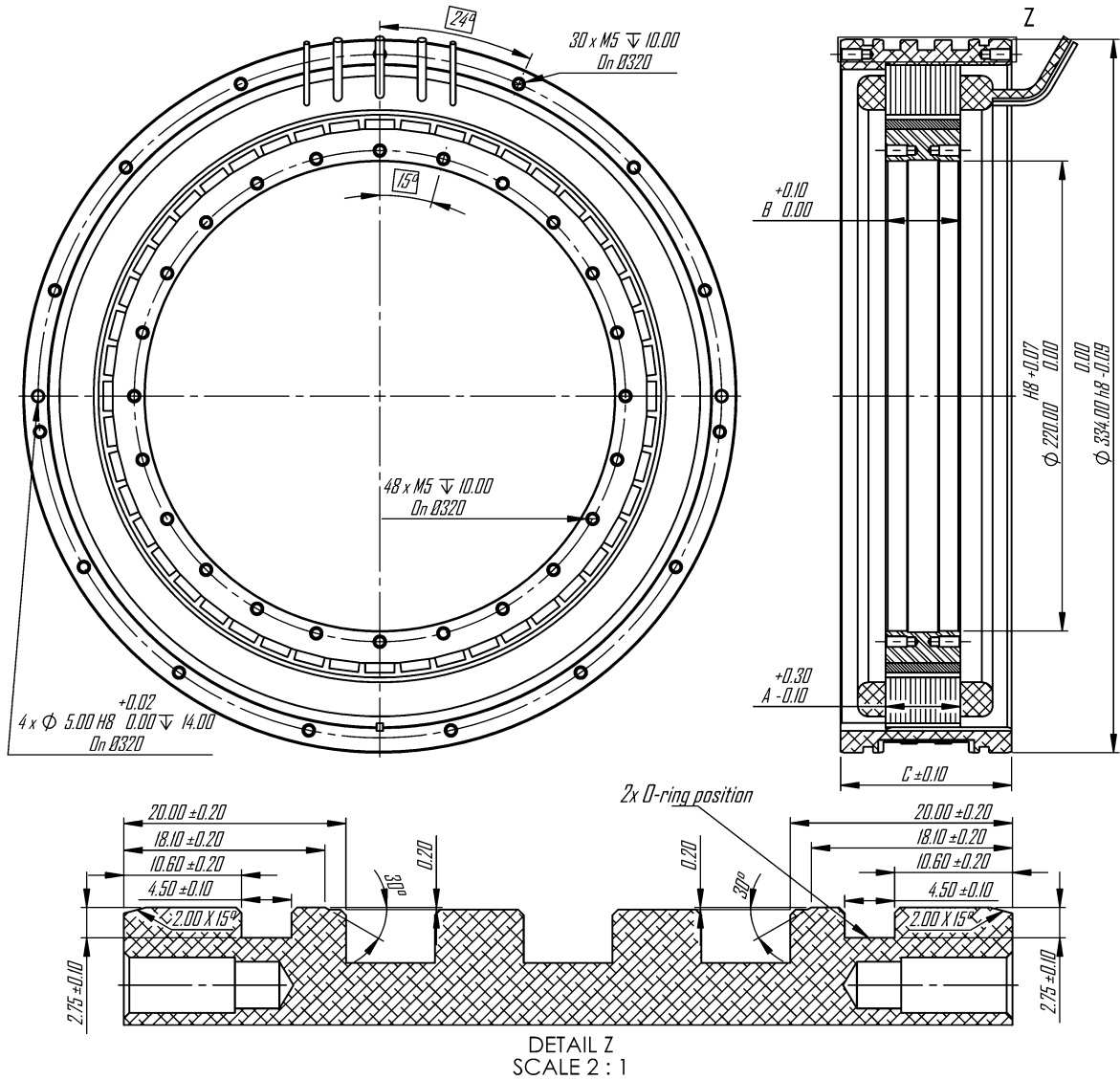
# WTRM-310-(L/H)-Torque-Speed Curves

Tr: Rated Torque  
Tp: Peak Torque

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

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





Model	A (mm)	B (mm)	C (mm)
WTRM-(L/H)-310-035	35	35.1	80
WTRM-(L/H)-310-070	70	70.2	115
WTRM-(L/H)-310-140	140	140.4	185

All dimensions in mm

**Notes:**

**MOTOR LEADS:**

WTRM-310-L: #6 AWG Teflon® insulated, 500 mm (optional) length, 1-Red, 1-White, 1-Black.  
 WTRM-310-H: #10 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.