

Motor Parameters		Symbols	Units	WTRM-290-L-035		WTRM-290-L-070		WTRM-290-L-140	
PERFORMANCE	DC Bus Voltage	V_{DC}	V	24	48	24	48	24	48
	Rated Torque	T_r	Nm	91.2		180.2		271.6	
	Peak Torque	T_{peak}	Nm	134.2		265.2		393	
	Rated Speed	N_r	rpm	65	175	40	120	25	75
	No-Load Speed	$N_{no-load}$	rpm	130	260	85	175	50	105
	Torque Constant	K_t	Nm/A	1.85		2.77		4.64	
	Voltage Constant	K_v	V/rpm	0.16		0.239		0.399	
	Max. Cogging Torque	T_{cog}	%			<1			
	Torque Ripple	T_{ripple}	%			<1			
ELECTRICAL	Number of Pole	$2p$	--			40			
	Rated Current	I_r	A_{rms}	49.4		65		58.5	
	Peak Current	I_{peak}	A_{rms}	74.1		97.5		78	
	Line Resistance	$R_{LL}@25^{\circ}C$	Ohm	0.15 ($\pm 20\%$)		0.12 ($\pm 20\%$)		0.14 ($\pm 20\%$)	
	Line Inductance	$L_{LL}@60Hz$	mH	0.85 ($\pm 30\%$)		0.88 ($\pm 30\%$)		1.18 ($\pm 30\%$)	
MECHANICAL & THERMAL	Total Weight	W_{total}	kg	11.48		20.42		37.59	
	Mech. Time Constant	K_{mech}	ms	2.27		1.63		1.36	
	Thermal Resistance ⁽²⁾	R_{th}	$^{\circ}C/W$	0.068		0.037		0.020	
	Inertia	J	$kg.m^2$	0.0424		0.0852		0.1708	
	Water Inlet Temp.	T_w	$^{\circ}C$			20			
	Water Temp. Diff. Between Inlet-Outlet	ΔT_w	$^{\circ}C$	2.4		2.6		1.6	
	Min. Water Volumetric Flow Rate	q_w	l/min	5.2		6.8		10.6	
	Pressure Drop for q_w	ΔP_w	bar	0.1190		0.1322		0.0889	
	Environment Temp.	T_{env}	$^{\circ}C$			20			
Rotor ID	R_{ID}	mm			200				

Motor Parameters		Symbols	Units	WTRM-290-H-035		WTRM-290-H-070		WTRM-290-H-140	
PERFORMANCE	DC Bus Voltage	V_{DC}	V	310	560	310	560	310	560
	Rated Torque	T_r	Nm	112.7		224.6		449.2	
	Peak Torque	T_{peak}	Nm	190.6		379.1		758.1	
	Rated Speed	N_r	rpm	170	350	155	310	105	215
	No-Load Speed	$N_{no-load}$	rpm	280	505	240	435	170	305
	Torque Constant	K_t	Nm/A	11		12.83		18.33	
	Voltage Constant	K_v	V/rpm	0.956		1.116		1.594	
	Max. Cogging Torque	T_{cog}	%			<1			
	Torque Ripple	T_{ripple}	%			<1			
ELECTRICAL	Number of Pole	$2p$	--			40			
	Rated Current	I_r	A_{rms}	10.3		17.5		24.5	
	Peak Current	I_{peak}	A_{rms}	18.5		31.5		44.1	
	Line Resistance	$R_{LL}@25^{\circ}C$	Ohm	5.64 ($\pm 20\%$)		2.62 ($\pm 20\%$)		2.24 ($\pm 20\%$)	
	Line Inductance	$L_{LL}@60Hz$	mH	29.7 ($\pm 30\%$)		19.3 ($\pm 30\%$)		18.9 ($\pm 30\%$)	
MECHANICAL & THERMAL	Total Weight	W_{total}	kg	11.48		20.42		37.59	
	Mech. Time Constant	K_{mech}	ms	2.238		1.63		1.37	
	Thermal Resistance ⁽²⁾	R_{th}	$^{\circ}C/W$	0.068		0.037		0.020	
	Inertia	J	$kg.m^2$	0.0424		0.0852		0.1708	
	Water Inlet Temp.	T_w	$^{\circ}C$			20			
	Water Temp. Diff. Between Inlet-Outlet	ΔT_w	$^{\circ}C$	3.8		4.1		4.4	
	Min. Water Volumetric Flow Rate	q_w	l/min	5.2		6.8		10.6	
	Pressure Drop for q_w	ΔP_w	bar	0.1190		0.1322		0.0889	
	Environment Temp.	T_{env}	$^{\circ}C$			20			
Rotor ID	R_{ID}	mm			200				

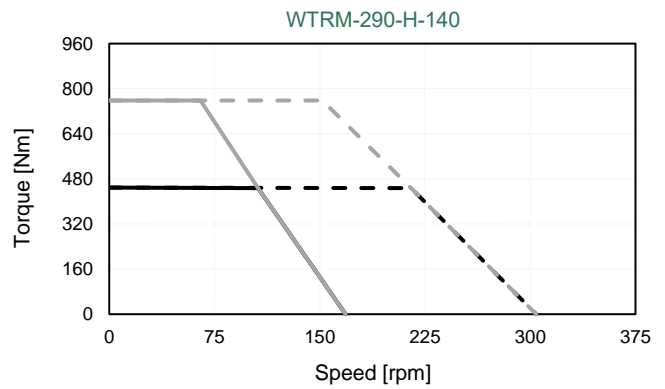
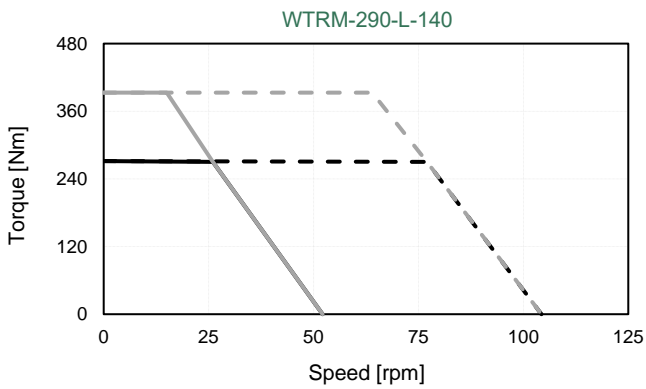
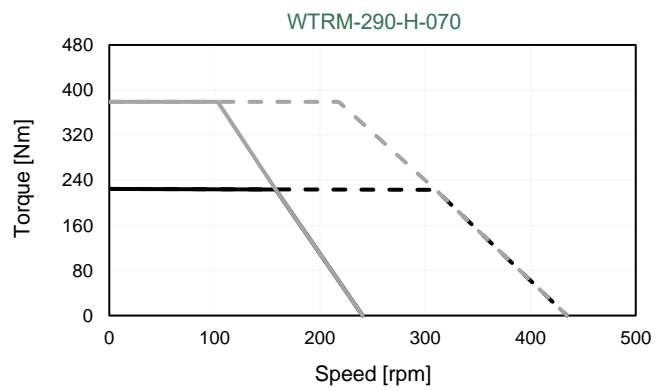
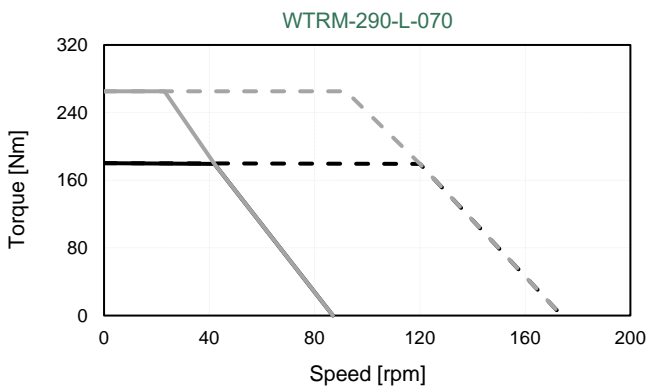
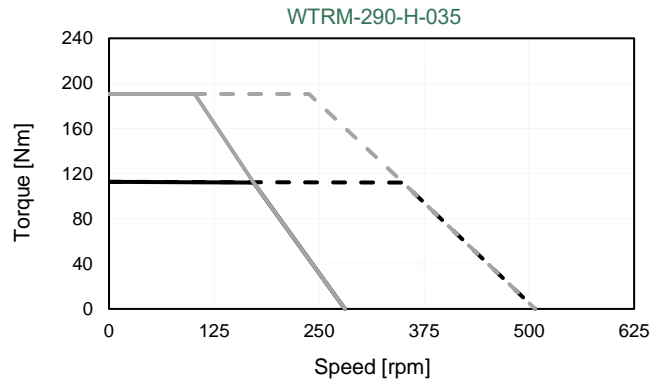
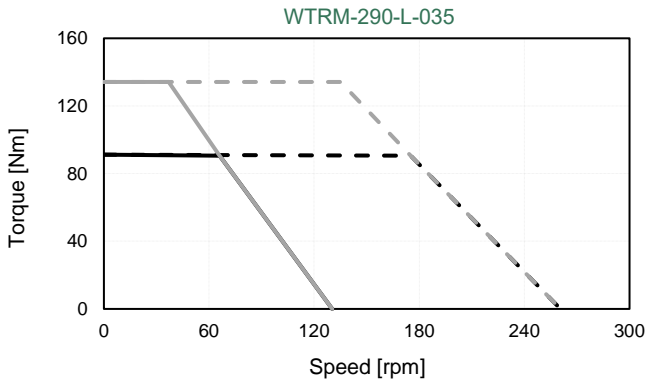
1. All performance and electrical specifications are obtained at 25°C ambient and may change $\pm 10\%$. 2. Maximum coil temperature is 130°C. 3. All data referenced to sinusoidal commutation. 4. Higher torque and speed values as well as dimensions on request.

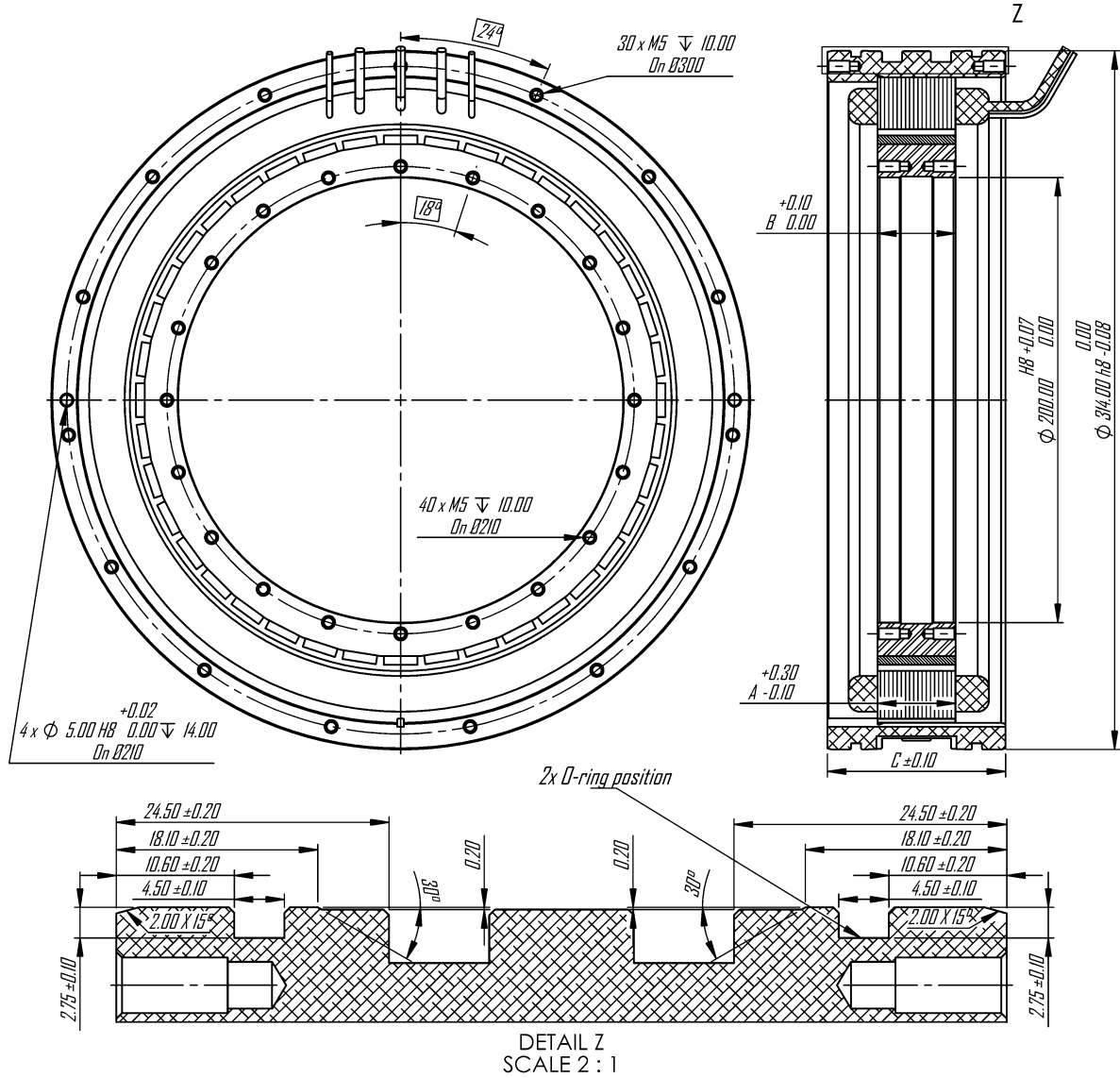
WTRM-290-(L/H)-Torque-Speed Curves

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)-290-035	35	35.1	80
WTRM-(L/H)-290-070	70	70.2	115
WTRM-(L/H)-290-140	140	140.4	185

All dimensions in mm

Notes:

MOTOR LEADS:

WTRM-290-L: #6 AWG Teflon® insulated, 500 mm (optional) length, 1-Red, 1-White, 1-Black.
 WTRM-290-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.

(For detailed mounting information, including tolerances, please contact MDS Motor or refer to the MDS Motor mounting document)