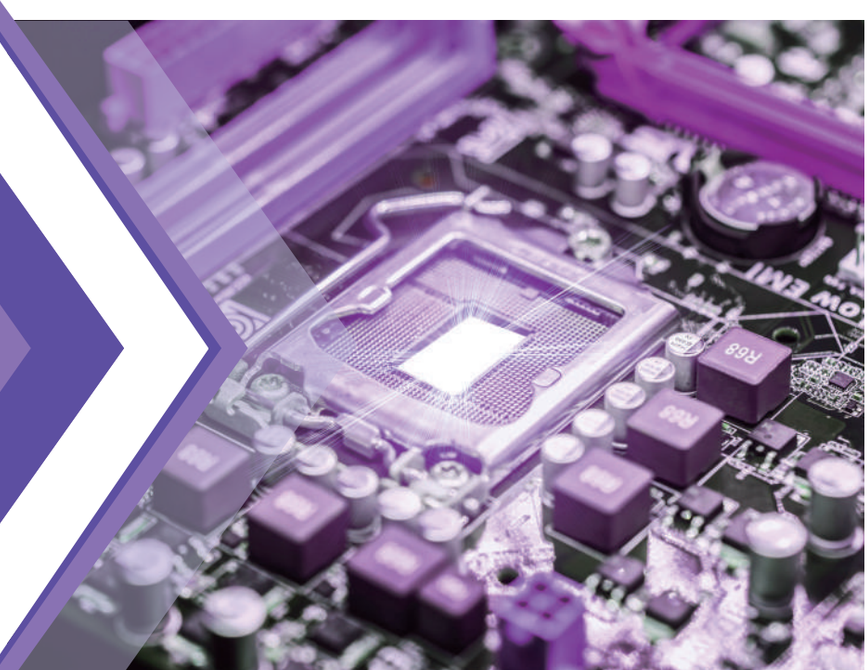
The 5th –Axis Direct-Drive

Tilting and Rotary Table

DTT Series

HPB MOTION
CONTROL CO., LTD.



Compact Size, High Precision
Reliable Quality

www.hpb-industry.com

HPB MOTION CONTROL CO., LTD.

HPB has been a professional manufacturer of AC/DC Drive, AC Servo Drive, AC Servomotor and AC Vector motor/Spindle motor in Taiwan for more than 28 years.

Based on cumulating leading edge technology and experiences, we are capable to supply good reliable products with excellent quality performance and competitive price level.

We have been receiving good positive response from market and successfully exporting through an extensive sales channel worldwide including of Europe, Asia, U.S.A., South America, South Africa, more than 30 countries.

All HPB products are CE certificate available and UL approval for AC servomotor/AC spindle motor.

All products are designed and produced in Taiwan with high strict quality control and management.

The manufacturing facility including of substantial machine-workshop, UL approval dynamic testing bench available for output torque 200Nm, 1000Nm to maximum 3000Nm.

Except of existing products range are competent to apply on various different industry applications, we continue to watch the new needs from market and launch fast innovative research and development of new products to comply matching of new marketing demand.

Quality, Innovative, Service are our principle foundation to keep company growing and bring satisfactory to all our customers.



The 5th –Axis Direct-Drive

Tilting and Rotary Table

DTT Series





Compact Size

High Precision

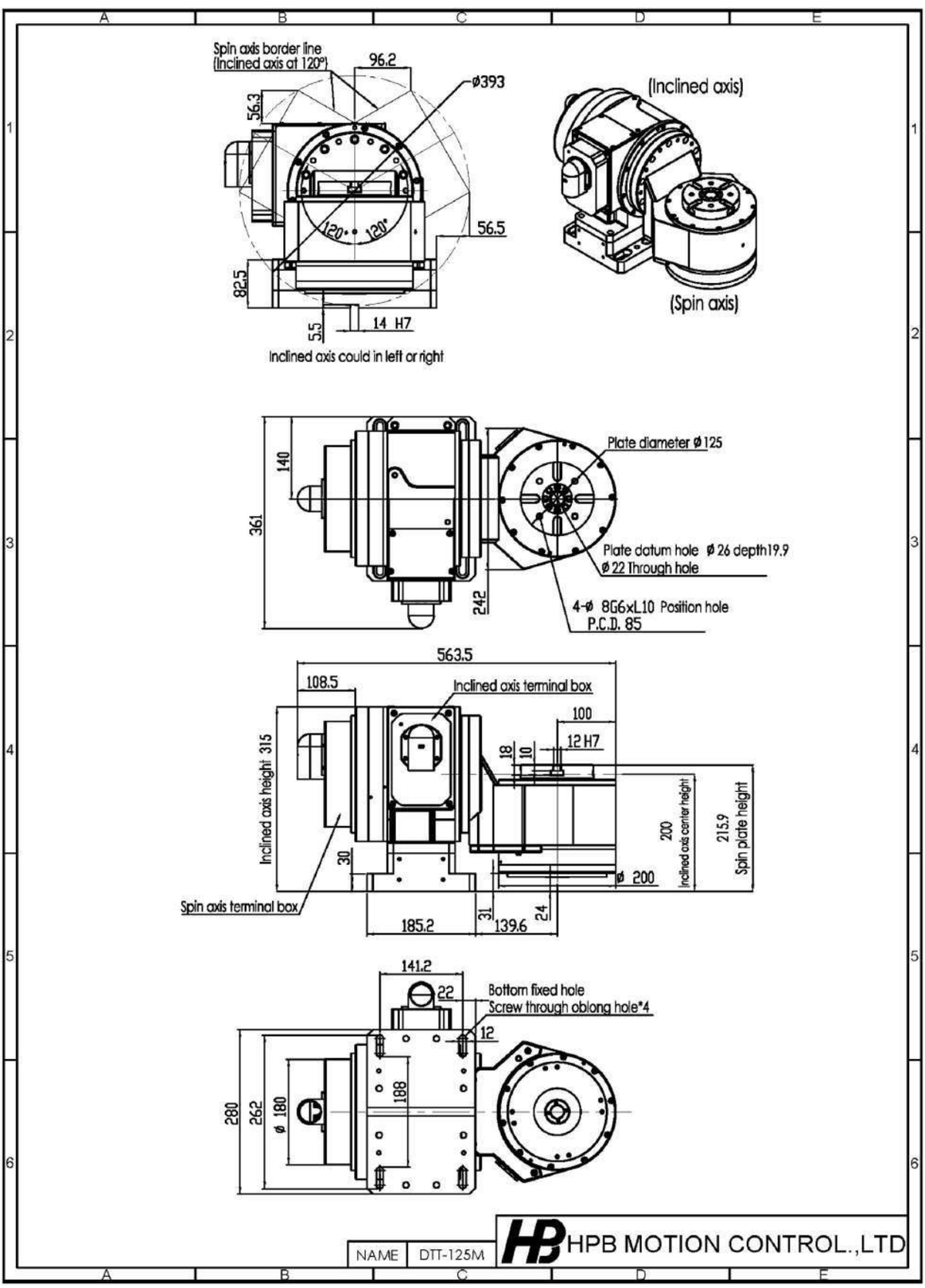
Reliable Quality

Description	Data Position of the order No.								
Direct Drive Rotary Table	DTT	125	M	A	N	-	E01	-	1
End Plate No.	125	Dia.125mm							
	130	Dia. 130mm							
	175	Dia. 175mm							
	250	Dia. 250mm							
Type	Single Arm		M						
	Double Arm		L						
Speed	Standard			blank					
	High speed			A					
Cooling	Enclosed, self-cooled (default)				N				
	Enclosed with Water Jacket, Water cooled				C				
Fix-number									
Absolute Encoder	SICK SRM50						E01		
	SICK SEK90						E04		
	SICK SEK160						E05		
	RENISHAW-SIEMENS						E06		
	RENISHAW-Mitsubishi						E07		
	RENISHAW-Fanuc						E08		
	RENISHAW-Biss-C						E09		
	HEIDENHAIN-ECA EnDat2.2						E13		
	Customer supply						E00		
Fix-number									
Design version									1-Z

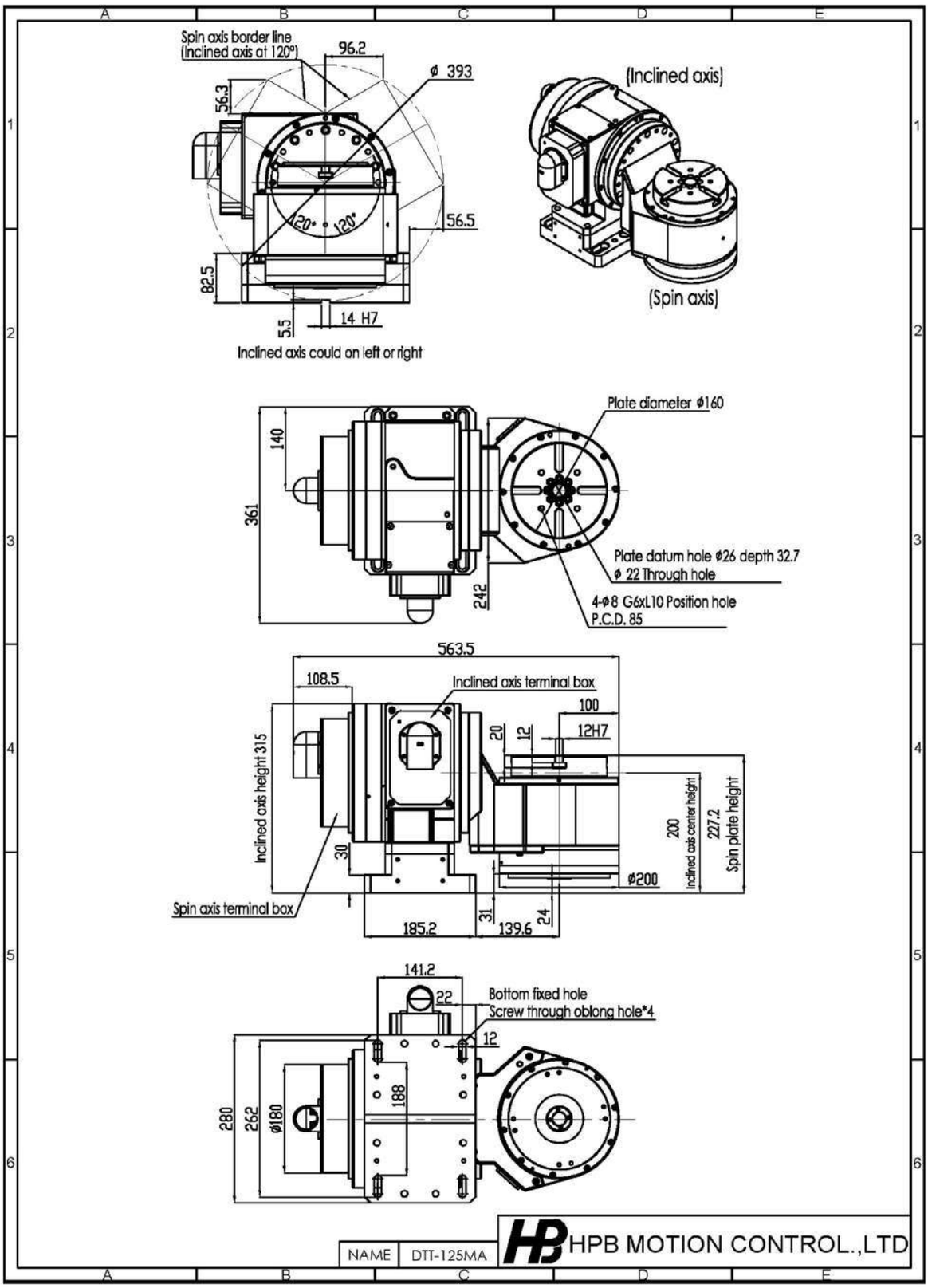
5th-Axis DTT Series

ITEM	UNIT	DTT-125M		DTT-125MA	
Torque motor DPM a)		R:DPM198-100 / T:DPM230-090		R:DPM198-100S-8pole / T:DPM230-090	
Axis		Rotary. R	Tilting. T	Rotary. R	Tilting. T
Mechanical Specification					
End Plate diameter	PD	mm		125	160
Diameter of center/through hole		mm		ø26H7 x L19.9 /ø22	ø26H7 x L32.7 /ø22
End Plate height	PH	mm		215.9	227.2
Tilting axis center height	TH	mm		200	200
End Plate T-slot width / Key way Width	TW/KW	mm		12H7 / 14H7	12H7 / 14H7
Total Weight (including Torque Motor)	W	Kg		90	90
Allowable load inertia	Ja	kgm2		0.14	0.14
Clamping Pressure	Pc	Kg/cm^2		5	5
Clamping Torque	Tc	Nm		150 / 400	150 / 400
Capacity of workpiece mass	Horizontal	Kg		30	30
	Tilting	Kg		15	15
Allowable load when clamped	F	Kg		200	200
	FxL Axial	kg.m		15	15
	FxL Radial	kg.m		15	15
Cooling method	--	--		self-cooled	self-cooled
Protection	--	--		IP67	IP67
Electrical Specification					
Drive Input Voltage	V_D	Vrms		220	
Poles	P			22	44	8	44
Rated Power Output	Pr	W		420	722	1570	722
Rated Torque	Tr	Nm		20	46	15	46
Max. Torque	Tm	Nm		80	184	25	184
Rated Speed	Vr	rpm		200	150	1000	150
Max. Speed	Vm	rpm		400	250	1500	250
Rated Current	Ir	Arms		3.8	4.6	9	4.6
Max. Current	Im	Arms		18	22	16	22
Back EMF	Ke	vrms/1000rpm		360	660	1440	660
Torque Constant	Kt	Nm/Arms		5.3	10	1.67	10
Least input increment	--	degree		0.001	0.001	0.001	0.001
Absolute accuracy of orientation	P	arc-seconds		20	40	20	40
Absolute accuracy of Repeat	Ps	arc-seconds		4	8	4	8
Backlash	U	arc-seconds		4	8	4	8

Dimension : DTT-125M



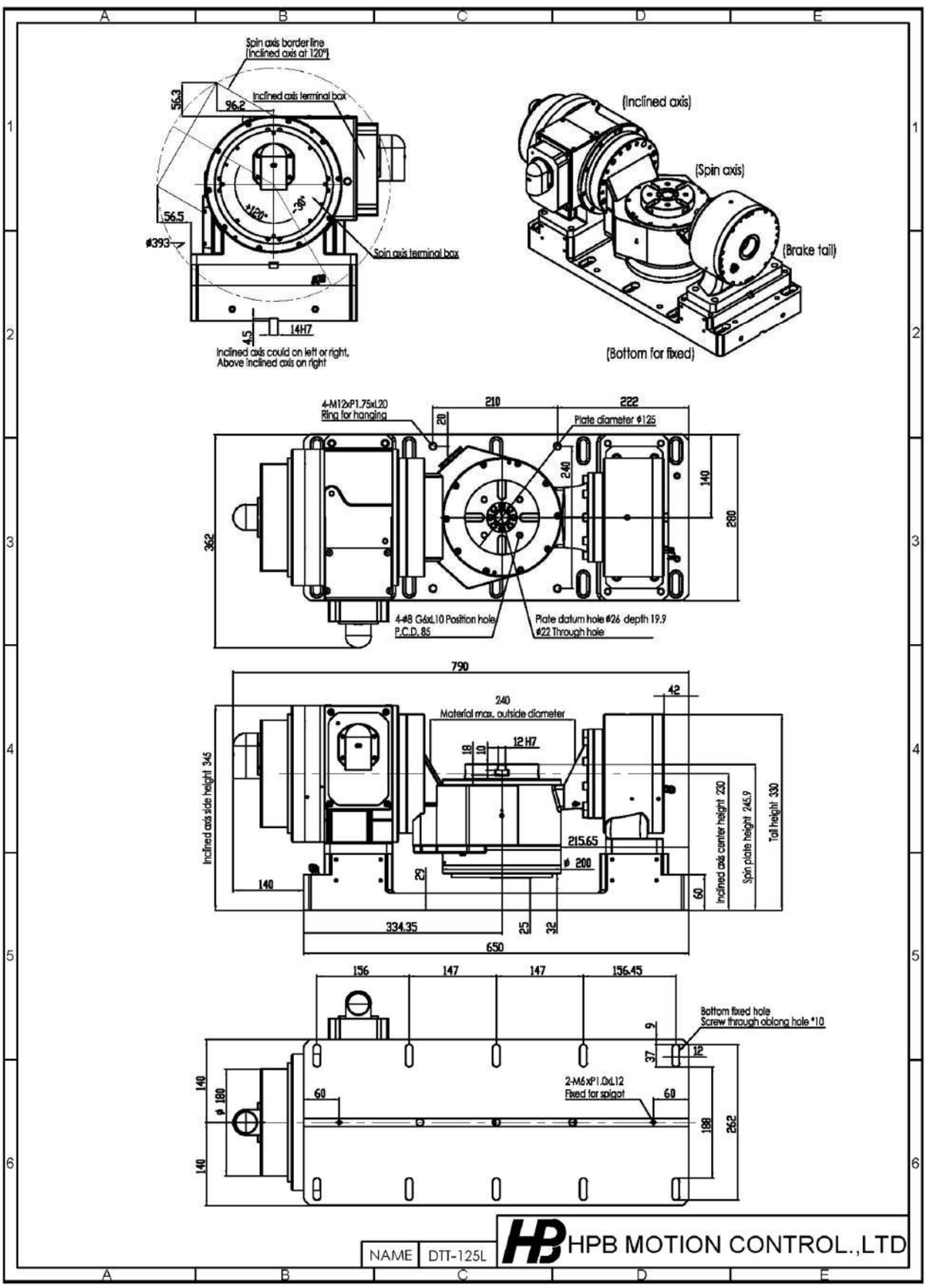
Dimension : DTT-125MA



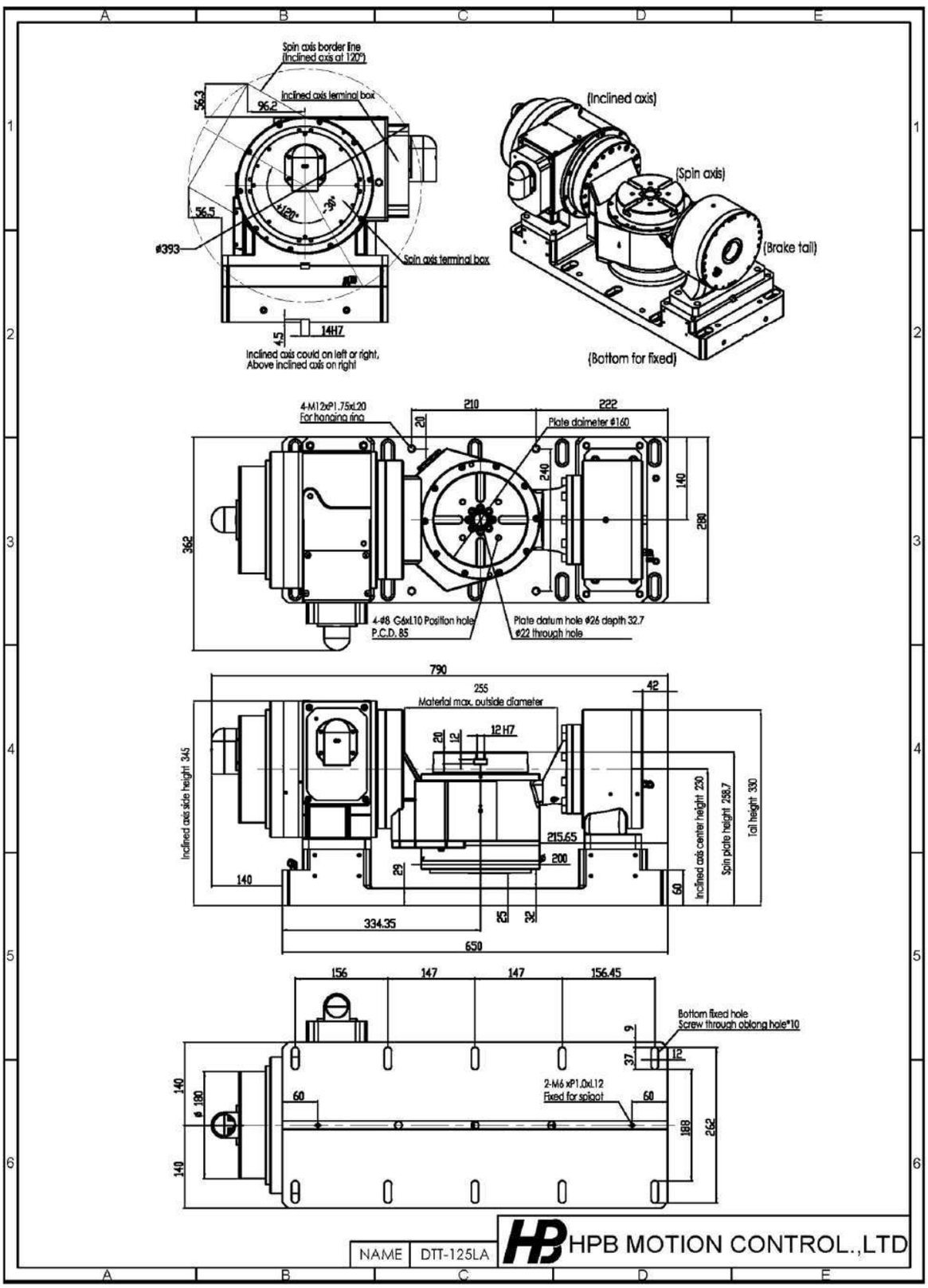
5th-Axis DTT Series

ITEM		UNIT	DTT-125L		DTT-125LA	
Torque motor DPM a)			R:DPM198-100S / T:DPM230-090		R:DPM198-100S-8pole / T:DPM230-090	
Axis			Rotary. R	Tilting. T	Rotary. R	Tilting. T
Mechanical Specification						
End Plate diameter	PD	mm	125		160	
Diameter of center/through hole		mm	ø26H7 x L19.9 /ø22		ø26H7 x L32.7 /ø22	
End Plate height	PH	mm	245.9		257.2	
Tilting axis center height	TH	mm	230		230	
End Plate T-slot width / Key way Width	TW/KW	mm	12H7 / 14H7		12H7 / 14H7	
Total Weight (including Torque Motor)	W	Kg	90		180	
Allowable load inertia	Ja	kgm2	0.14		0.14	
Clamping Pressure	Pc	Kg/cm^2	5		5	
Clamping Torque	Tc	Nm	150	500	150	500
Capacity of workpiece mass	Horizontal	Kg	40		40	
	Tilting	Kg	20		20	
Allowable load when clamped	F	Kg	300		300	
	FxL Axial	kg.m	15		15	
	FxL Radial	kg.m	20		20	
Cooling method	--	--	self-cooled		self-cooled	
Protection	--	--	IP67		IP67	
Electrical Specification						
Drive Input Voltage	V_D	Vrms	220			
Poles	P		22	44	8	44
Rated Power Output	Pr	W	420	722	1570	722
Rated Torque	Tr	Nm	20	46	15	46
Max. Torque	Tm	Nm	80	184	25	184
Rated Speed	Vr	rpm	200	150	1000	150
Max. Speed	Vm	rpm	400	250	1500	250
Rated Current	Ir	Arms	3.8	4.6	9	4.6
Max. Current	Im	Arms	18	22	16	22
Back EMF	Ke	vrms/1000rpm	360	660	1440	660
Torque Constant	Kt	Nm/Arms	5.3	10	1.67	10
Least input increment	--	degree	0.001	0.001	0.001	0.001
Absolute accuracy of orientation	P	arc-seconds	20	40	20	40
Absolute accuracy of Repeat	Ps	arc-seconds	4	8	4	8
Backlash	U	arc-seconds	4	8	4	8

Dimension : DTT-125L



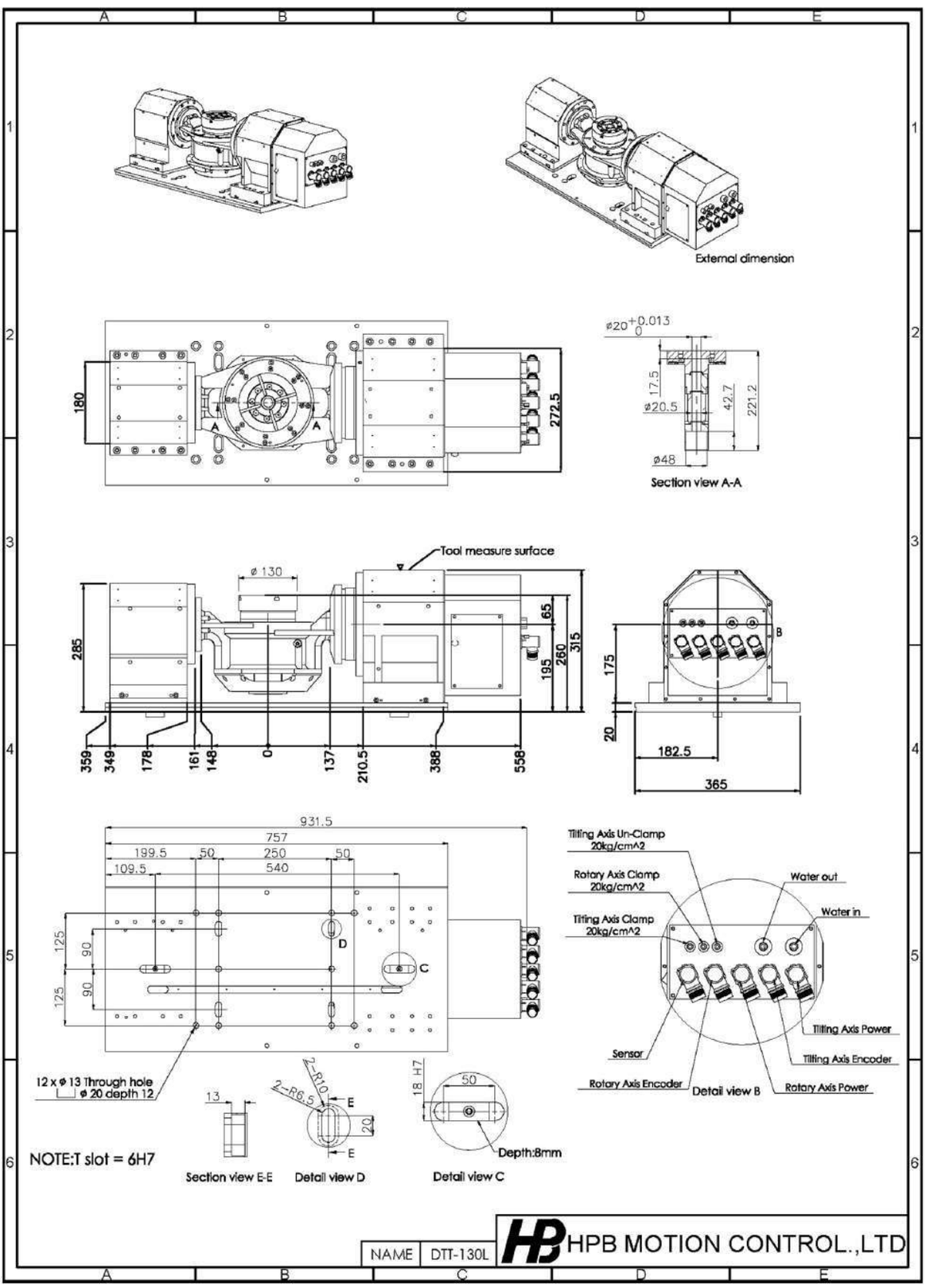
Dimension : DTT-125LA



5th-Axis DTT Series

ITEM	UNIT	DTT-130L			
Torque motor DPM a)		R:DPM160-100S / T:DPM198-150			
Axis		Rotary. R	Tilting. T		
Mechanical Specification					
End Plate diameter	PD	mm	130		
Diameter of center		mm	ø20H7		
End Plate height	PH	mm	260		
Tilting axis center height	TH	mm	195		
End Plate T-slot width / Key way Width	TW/KW	mm	6H7 / 18H7		
Allowable load inertia	Ja	kgm2	0.056		
Clamping Pressure	Pc	Kg/cm^2	20		
Clamping Torque	Tc	Nm	150	250	
Capacity of workpiece mass	Horizontal	Kg	50		
	Tilting	Kg	35		
Allowable load when clamped	F	Kg	400		
	FxL Axial	kg.m	15		
	FxL Radial	kg.m	30		
Cooling method	--	--	self-cooled		
Protection	--	--	IP67		
Electrical Specification					
Drive Input Voltage	V_D	Vrms	220		
Poles	P		22	22	
Rated Power Output	Pr	W	879	1758	
Rated Torque	Tr	Nm	28	84	
Max. Torque	Tm	Nm	56	168	
Rated Speed	Vr	rpm	300	200	
Max. Speed	Vm	rpm	500	300	
Rated Current	Ir	Arms	7.5	14	
Max. Current	Im	Arms	16.5	30.8	
Back EMF	Ke	vrms/1000rpm	312	502	
Torque Constant	Kt	Nm/Arms	4.7	7.5	
Least input increment	--	degree	0.001	0.001	
Absolute accuracy of orientation	P	arc-seconds	20	40	
Absolute accuracy of Repeat	Ps	arc-seconds	4	8	
Backlash	U	arc-seconds	4	8	

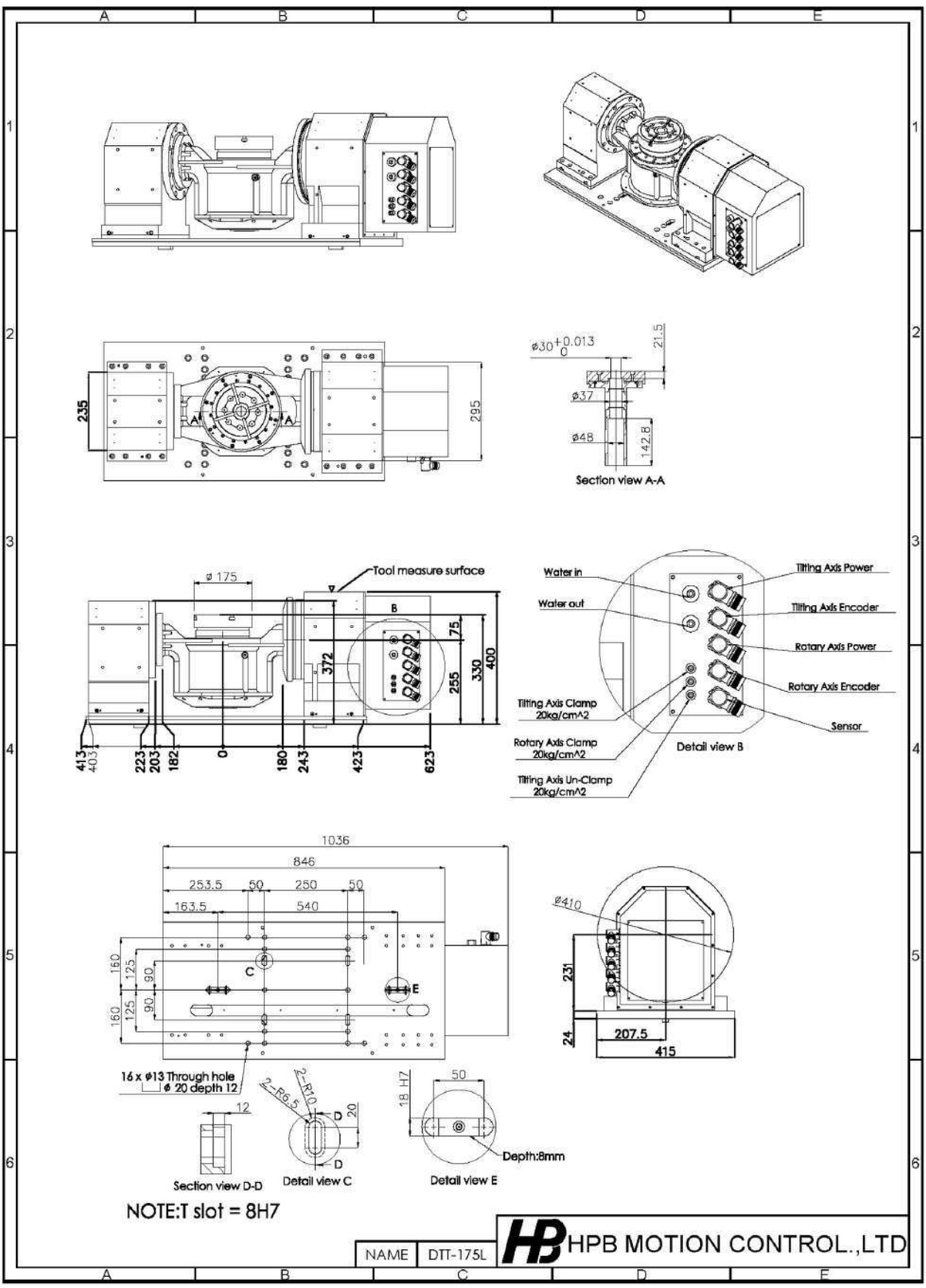
Dimension : DTT-130L



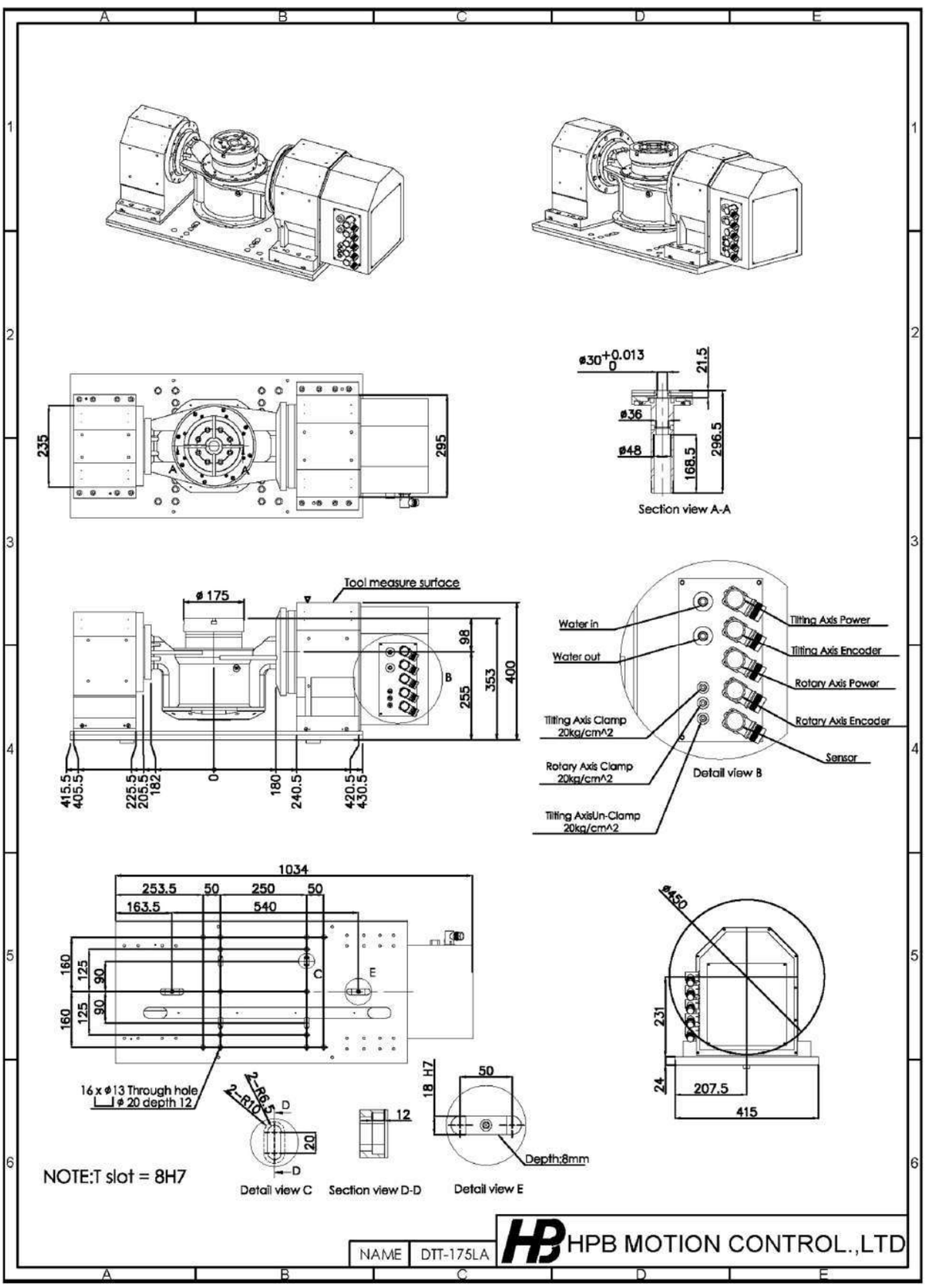
5th-Axis DTT Series

ITEM	UNIT	DTT-175L		DTT-175LA	
Torque motor DPM a)		R:DPM198-150 / T:DPM230-110		R:DPM198-100S-8pole / T:DPM230-110	
Axis		Rotary. R	Tilting. T	Rotary. R	Tilting. T
Mechanical Specification					
End Plate diameter	PD	mm		175	175
Diameter of center		mm		ø30H7	ø30H7
End Plate height	PH	mm		330	353
Tilting axis center height	TH	mm		255	255
End Plate T-slot width / Key way Width	TW/KW	mm		8H7 / 18H7	8H7 /18H7
Allowable load inertia	Ja	kgm2		0.23	0.2
Clamping Pressure	Pc	Kg/cm^2		20	20
Clamping Torque	Tc	Nm		250 / 600	150 / 600
Capacity of workpiece mass	Horizontal	Kg		75	60
	Tilting	Kg		50	30
Allowable load when clamped	F	Kg		600	300
	FxL Axial	kg.m		25	15
	FxL Radial	kg.m		60	25
Cooling method	--	--		self-cooled	self-cooled
Protection	--	--		IP67	IP67
Electrical Specification					
Drive Input Voltage	V_D	Vrms		220	
Poles	P			22 / 44	8 / 44
Rated Power Output	Pr	W		1758 / 1884	1570 / 1884
Rated Torque	Tr	Nm		84 / 120	15 / 120
Max. Torque	Tm	Nm		168 / 240	25 / 240
Rated Speed	Vr	rpm		200 / 150	1000 / 150
Max. Speed	Vm	rpm		300 / 200	1500 / 200
Rated Current	Ir	Arms		14 / 11	9 / 11
Max. Current	Im	Arms		30.8 / 24.2	16 / 24.2
Back EMF	Ke	vrms/1000rpm		502 / 920	1440 / 920
Torque Constant	Kt	Nm/Arms		7.5 / 13.6	1.67 / 13.6
Least input increment	--	degree		0.001 / 0.001	0.001 / 0.001
Absolute accuracy of orientation	P	arc-seconds		20 / 40	20 / 40
Absolute accuracy of Repeat	Ps	arc-seconds		4 / 8	4 / 8
Backlash	U	arc-seconds		4 / 8	4 / 8

Dimension : DTT-175L



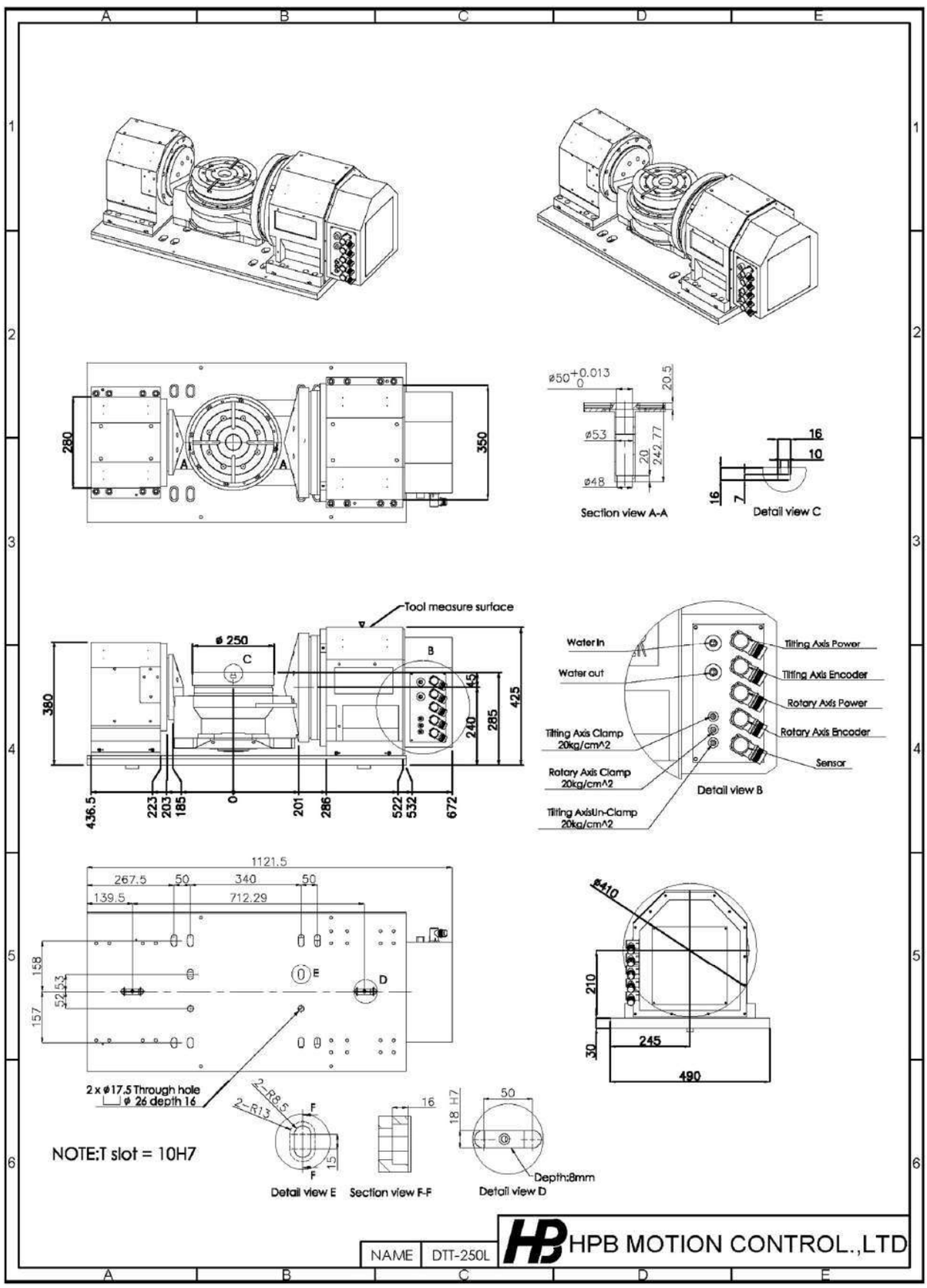
Dimension : DTT-175LA



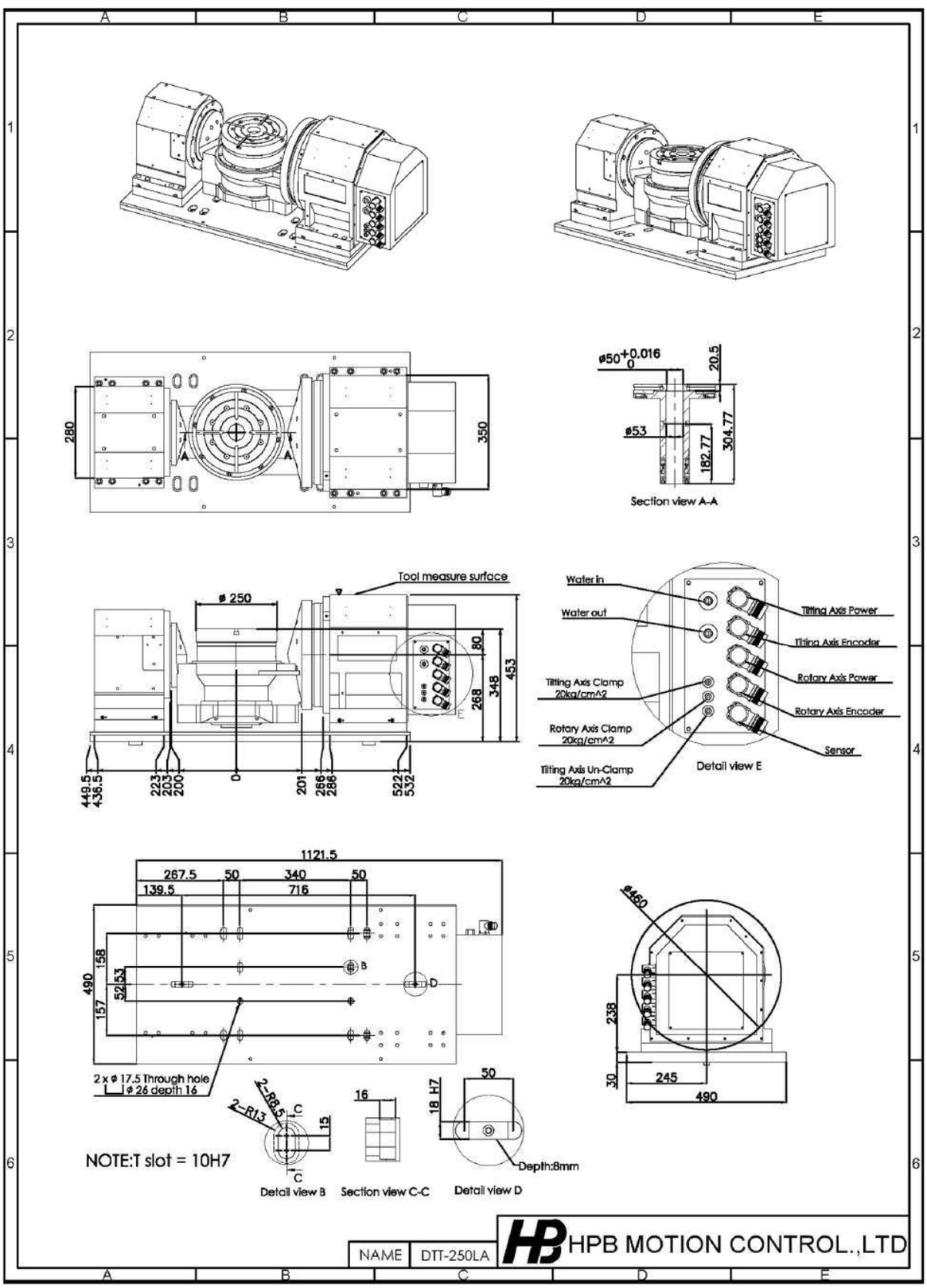
5th-Axis DTT Series

ITEM	UNIT	DTT-250L		DTT-250LA	
Torque motor DPM a)		R:DPM230-110 / T:DPM310-200		R:DPM230-090S-16pole / T:DPM310-200	
Axis		Rotary. R	Tilting. T	Rotary. R	Tilting. T
Mechanical Specification					
End Plate diameter	PD	mm	250	250	
Diameter of center		mm	ø50H7	ø50H7	
End Plate height	PH	mm	285	348	
Tilting axis center height	TH	mm	240	268	
End Plate T-slot width / Key way Width	TW/KW	mm	10H7 / 18H7	10H7 /18H7	
Allowable load inertia	Ja	kgm2	0.86	0.86	
Clamping Pressure	Pc	Kg/cm^2	20	20	
Clamping Torque	Tc	Nm	600 / 1000	400 / 1000	
Capacity of workpiece mass	Horizontal	Kg	100	100	
	Tilting	Kg	75	50	
Allowable load when clamped	F	Kg	1400	700	
	FxL Axial	kg.m	60	40	
	FxL Radial	kg.m	100	60	
Cooling method	--	--	self-cooled	self-cooled	
Protection	--	--	IP67	IP67	
Electrical Specification					
Drive Input Voltage	V_D	Vrms	220		
Poles	P		44	44	16	44
Rated Power Output	Pr	W	1884	1256	3140	1256
Rated Torque	Tr	Nm	120	480	30	480
Max. Torque	Tm	Nm	240	600	50	600
Rated Speed	Vr	rpm	150	25	1000	25
Max. Speed	Vm	rpm	200	50	1500	50
Rated Current	Ir	Arms	11	25	18	25
Max. Current	Im	Arms	24.2	55	32	55
Back EMF	Ke	vrms/1000rpm	920	1620	1440	1620
Torque Constant	Kt	Nm/Arms	13.6	24	1.67	24
Least input increment	--	degree	0.001	0.001	0.001	0.001
Absolute accuracy of orientation	P	arc-seconds	20	40	20	40
Absolute accuracy of Repeat	Ps	arc-seconds	4	8	4	8
Backlash	U	arc-seconds	4	8	4	8

Dimension : DTT-250L



Dimension : DTT-250LA



HPB MOTION CONTROL CO., LTD.

4F, No.120, Sec.1,
San Min Rd., Ban Qiao Dist.,
New Taipei City, Taiwan

TEL : + 886 2 8964 5666
FAX: + 886 2 8964 1537
Email:hpb.motion@msa.hinet.net
www.hpb-industry.com

