National Institute of Metrology (Thailand)
3/4-5 Moo 3, Klong 5, Klong Luang, Pathumthani, 12120, Thailand
Tel. +66 2577 5100 (Please contact : Customer Service Section Ext. 3101, 3102) Fax. +66 2577 3659 E-mail : cs@nimt.or.th Website : http://www.nimt.or.th

Price List

Calibration Fee

Thermometry Metrology

Item No.	Description	Range	Accuracy / Uncertainty	Price (THB)	Remark	Code
1	Fixed point cells (Primary and Secondary fixed points)	- 38.8344 °C	0.5 mK	25,000/point	Comparison against NIMT's Fixed Points	11010 - 11111
		0.01 °C	0.2 mK			
		29.7646 °C	0.5 mK			
		231.928 °C	1 mK			
		419.527 °C	1.5 mK			
		660.323 °C	3.5 mK			
		961.78 °C	5 mK			
2	Standard Platinum Resistance Thermometer (SPRTs)	-189.3442 °C	1 mK	8,000 / point	By ITS-90 Fixed Point Cells, Quartz sheath for temperature above Zn. Minimum sheath length 450 mm	11010 - 11321
		- 38.8344 °C	0.8 mK			
		0.01 °C	0.5 mK			
		29.7646 °C	0.8 mK			
		231.928 °C	1.5 mK			
		419.527 °C	2 mK			
		660.323 °C	8 mK			
		961.78 °C	10 mK			
3	Semi-Standard Platinum Resistance Thermometer or Platinum Resistance Thermometer	-189.3442 °C	1 mK	8,000 / point	By ITS-90 Fixed Point Cells, Quartz sheath for temperature above Zn. Minimum sheath length 450 mm	11010 - 11322
		- 38.8344 °C	0.8 mK			
		0.01 °C	0.5 mK			
		29.7646 °C	0.8 mK			
		231.928 °C	1.5 mK			
		419.527 °C	2 mK			
		660.323 °C	8 mK			
		961.78 °C	10 mK			

National Institute of Metrology (Thailand)
3/4-5 Moo 3, Klong 5, Klong Luang, Pathumthani, 12120, Thailand
Tel. +66 2577 5100 (Please contact : Customer Service Section Ext. 3101, 3102) Fax. +66 2577 3659 E-mail : cs@nimt.or.th Website : http://www.nimt.or.th

Price List

Item No.	Description	Range	Accuracy / Uncertainty	Price (THB)	Remark	Code
4	Standard Platinum Resistance Thermometer (SPRTs)	-189.3442 °C to 0.01 °C	1 mK	8,000 / point	By ITS-90 Fixed Point Cells, Quartz sheath for temperature above Zn. Minimum sheath length 450 mm	11010 - 11323
		-38.8344 °C to 0.01°C	1 mK			
		0.01 °C to 29.7646 °C	1 mK			
		0.01 °C to 231.928 °C	2 mK			
		0.01 °C to 419.527 °C	3 mK			
		0.01 °C to 660.323 °C	8 mK			
		0.01 °C to 961.78 °C	15 mK			
5	Semi-Standard Platinum Resistance Thermometer or Platinum Resistance Thermometer	-189.3442 °C to 0.01 °C	1 mK	8,000 / point	By ITS-90 Fixed Point Cells, Quartz sheath for temperature above Zn. Minimum sheath length 450 mm	11010 - 11324
		-38.8344 °C to 0.01°C	1 mK			
		0.01 °C to 29.7646 °C	1 mK			
		0.01 °C to 419.527 °C	3 mK			
		0.01 °C to 660.323 °C	8 mK			
		0.01 °C to 961.78 °C	15 mK			
6	Standard Platinum Resistance Thermometer (SPRTs)	-196°C	0.15 K	5,000 first point + 1,500/next point At least 6 points	By Comparison with SPRTs in stirred liquid bath Minimum sheath length 300 mm	11020 - 12221
		-80°C to -60°C	40 mK			
		>-60°C to -40°C	10 mK			
		- 40 °C to 0 °C	10 mK			
		> 0 °C to 50 °C	10 mK			
		> 50 °C to 250 °C	20 mK			
		> 250 °C to 420 °C	30 mK			
		> 420 °C to 550 °C	50 mK			
		>550°C to 650°C	50 mK			

National Institute of Metrology (Thailand)
3/4-5 Moo 3, Klong 5, Klong Luang, Pathumthani, 12120, Thailand
Tel. +66 2577 5100 (Please contact : Customer Service Section Ext. 3101, 3102) Fax. +66 2577 3659 E-mail : cs@nimt.or.th Website : http://www.nimt.or.th

Price List

Item No.	Description	Range	Accuracy / Uncertainty	Price (THB)	Remark	Code
7	Industrial Platinum Resistance Thermometers (IPRTs)	-196°C	0.15 K	5,000 first point + 1,500/next point At least 6 points	By Comparison with SPRTs in stirred liquid bath Minimum sheath length 300 mm	11020 - 12222
		-100°C to -80°C	20 mK			
		-80°C to -60°C	20 mK			
		>-60°C to -40°C	10 mK			
		- 40 °C to 0 °C	10 mK			
		> 0 °C to 50 °C	10 mK			
		> 50 °C to 250 °C	20 mK			
		> 250 °C to 420 °C	30 mK			
		> 420 °C to 550 °C	50 mK			
		>550°C to 660°C	50 mK			
8	Noble metal Thermocouples (Type S, Type R, Type B, Au/Pt)	231.928 °C	0.1 K	7500 bath/point	By ITS-90 Fixed Point Cells Minimum sheath length 500 mm	11020 - 12311
		419.527 °C	0.1 K			
		660.323 °C	0.2 K			
		961.78 °C	0.2 K			
		1084.62 °C	0.3 K			
		1324.0 °C	0.6 K	9500 bath/point	By Co-C fixed point cell Minimum sheath length 700 mm	
		1064.18 °C	1.0 K	7500 bath/point	By Au wire bridge calibration	
		1553.5 °C	1.2 K	7500 bath/point	By Pd wire bridge calibration	
		0 °C to 660 °C	0.2 K	7500 bath/point and Co-C 9500 bath/point	By ITS-90 Fixed Point Cells / Co-C fixed point cell / wire bridge (At least 3 points)	
		> 660 °C to 1100 °C	0.3 K			
		> 1100 °C to 1325 °C	0.6 K			
		> 1325 °C to 1554 °C	1.2 K			

National Institute of Metrology (Thailand)
3/4-5 Moo 3, Klong 5, Klong Luang, Pathumthani, 12120, Thailand
Tel. +66 2577 5100 (Please contact : Customer Service Section Ext. 3101, 3102) Fax. +66 2577 3659 E-mail : cs@nimt.or.th Website : http://www.nimt.or.th

Price List

Item No.	Description	Range	Accuracy / Uncertainty	Price (THB)	Remark	Code
9	Noble metal Thermocouples (Type S, Type R, Type B, Au/Pt)	-40 °C to 0 °C	0.2 K	4,000 first point + 1,200/next point	By comparison with standard TC or SPRT in comparison furnace Minimum sheath length 450 mm	11020 - 12312
		0 °C to 250 °C	0.1 K			
		>250 °C to 650 °C	0.2 K			
		>650 °C to 1100 °C	0.8 K			
		>700 °C to 1100 °C	1.0 K			
		>1100 °C to 1320 °C	1.2 K			
		>1320 °C to 1500 °C	2.0 K			
10	Base Metal Thermocouples	-40 °C to 1100 °C	0.1 - 1.5 K	3,750 first point + 1,000/next point	By comparison with standard TC or SPRT in comparison furnace	11020 - 12321
11	Liquid-in-glass Thermometer	-40 °C to 90 °C	15 mK	4,000 first point + 1,000/next point	By Comparison with SPRTs in stirred liquid bath	11020 - 12411
		> 90 °C to 110 °C	20 mK			
		> 110 °C to 250 °C	50 mK			
12	Digital Thermometer (with probe) (resolution<0.2K)	-80oC to -40°C (Resolution < 0.01°C)	15 mK	4,000 first point + 1,000/next point	By Comparison with SPRTs in stirred liquid bath	11020 - 12711
		- 40 °C to 90 °C	15 mK			
		> 90 °C to 250 °C	20 mK			
		> 250 °C to 450 °C	50 mK			
	Digital Thermometer (with probe) (resolution>0.2K)	-80oC to -40°C (Resolution > 0.1°C)	0.1 K	4,000 first point + 1,000/next point	By Comparison with SPRTs in stirred liquid bath	11020 - 12712
		- 40 °C to 450 °C	0.1 K			
13	Supply of Thermocouple Type S with fixed point calibration	0 °C to 1100 °C	0.3 °C	99,000	Supply of thermocouple with calibration certificate by ITS-90 Fixed Point Cells.	11020 - 22311

National Institute of Metrology (Thailand)
3/4-5 Moo 3, Klong 5, Klong Luang, Pathumthani, 12120, Thailand
Tel. +66 2577 5100 (Please contact : Customer Service Section Ext. 3101, 3102) Fax. +66 2577 3659 E-mail : cs@nimt.or.th Website : http://www.nimt.or.th

Price List

Item No.	Description	Range	Accuracy / Uncertainty	Price (THB)	Remark	Code
14	Supply of Thermocouple Type R with fixed point calibration	0 °C to 1100 °C	0.3 °C	102,500	Supply of thermocouple with calibration certificate by ITS-90 Fixed Point Cells.	11020 - 22312
15	Supply of Thermocouple Type B with fixed point calibration	0 °C to 1100 °C	0.3 °C	102,500	Supply of thermocouple with calibration certificate by ITS-90 Fixed Point Cells.	11020 - 22313
16	Fabrication of Standard Thermocouples Type R, Type S, Type B with fixed point calibration (wires not included)	0 °C to 1100 °C	0.3 °C	36,500	Electrical Annealing and re-fabrication thermocouple with calibration certificate by ITS-90 Fixed Point Cells.	11020 - 22314
17	Temperature Bath	-80°C to 25°C (Alcohol)	20 mK	4,000 first point + 1,000/next point	By Comparison with SPRTs	11020 - 12861
		>5 °C to 50 °C (Water)	15 mK			
		>40 °C to 250 °C (Oil)	30 mK			
		>300°C to 500°C (Salt)	50 mK			
18	Dry Block and Furnace	- 40 °C to 420 °C	0.1 K	4,000 first point + 1,000/next point	By Comparison with SPRTs	11020 - 12862
		>420°C to 660°C	0.1 K			
19	Fixed-point Blackbody (Primary and Secondary Fixed-point Black body)	1084.62°C	0.20 K	24,000 / point	Comparison to Standard Fixed-point Blackbody using 0.65 µm standard radiation thermometer	11030 - 11121
20	Fixed-point Blackbody (Primary and Secondary Fixed-point Black body)	1 084.62°C	0.25 K	24,000 / point	Comparison to Standard Fixed-point Blackbody using 0.9 µm standard radiation thermometer	11030 - 11122
		961.78°C				
		660.323°C				
		419.527°C				

National Institute of Metrology (Thailand)
3/4-5 Moo 3, Klong 5, Klong Luang, Pathumthani, 12120, Thailand
Tel. +66 2577 5100 (Please contact : Customer Service Section Ext. 3101, 3102) Fax. +66 2577 3659 E-mail : cs@nimt.or.th Website : http://www.nimt.or.th

Price List

Item No.	Description	Range	Accuracy / Uncertainty	Price (THB)	Remark	Code
21	Fixed-point Blackbody (Primary and Secondary Fixed-point Black body)	961.78°C	0.30 K	24,000 / point	Comparison to Standard Fixed-point Blackbody using 1.6 µm standard radiation thermometer	11030 - 11123
		660.323°C				
		419.527°C				
22	Optical Pyrometer	156.5985 °C to 1084.60 °C	0.3 K to 0.5 K	12,000/point	By Comparison with Black Body Fixed Points	11030 - 11411
	0.9 µm radiation thermometer	960 °C to 2000 °C	0.39 K to 2.4 K	48,000/point	Direct realisation by measurement of spectral responsivity	11030 - 11412
	0.65 µm radiation thermometer	960 °C to 2500 °C	0.28 K to 1.6 K	48,000/point	Direct realisation by measurement of spectral responsivity	11030 - 11413
23	Variable Temperature Blackbody Radiation Sources	0 ºC to < 15 ºC	0.4 K	7,500 /point	Comparison with reference blackbodies through infrared thermometer spectral wavelength 8 µm to 13 µm	11030-12521
		15 ºC to 500 ºC	0.4 K to 2.1 K	8,500 first point + 3,750/next point		11030-12525
		-20 ºC to < 15 ºC	0.4 K to 0.2 K	7,500 /point	Comparison with reference blackbodies through infrared thermometer spectral wavelength 8 µm to 14 µm	11030-12526
		15 ºC to 500 ºC	0.2 K to 2.1 K	8,500 first point + 3,750/next point		11030-12527
		150 ºC to 1 100 ºC	0.7 K to 1.6 K	8,500 first point + 3,750/next point	Comparison with 1.6 µm standard radiation thermometer	11030-12522
		1 000 ºC to 2 500 ºC	1.6 K to 2.8 K	8,500 first point + 3,750/next point	Comparison with 650 nm standard radiation thermometer	11030-12523
		420 ºC to 1 600 ºC	0.8 K to 2.0 K	8,500 first point + 3,750/next point	Comparison with 900 nm standard radiation thermometer	11030-12528
		400 ºC to 600 ºC	1.5 K to 1.8 K	8,500 first point + 3,750/next point	Comparison with 8 µm to 14 µm standard radiation thermometer	11030-12529
24	Blackbody sources for infrared ear thermometers	35 ° C to 42 ºC	55 mK	7,500 first point + 2,500/next point	Comparison with standard liquid bath blackbodies through infrared ear thermometers	11030 - 12524
25	Radiation Thermometer/Infrared Thermometer/Thermal imaging Camera	-40 °C to 15 °C	0.15 K to 0.30 K	5,000 /point*	By Comparison with PRT or Transfer Standard Radiation Thermometer	11030 - 12541
26	Radiation Thermometer/Infrared Thermometer/Thermal imaging Camera	>15 °C to < 1100 °C	0.15 K to 5.0 K	7,500 /point +2,000/next point	By Comparison with Transfer Standard Radiation Thermometer or	11030 - 12542

National Institute of Metrology (Thailand)
3/4-5 Moo 3, Klong 5, Klong Luang, Pathumthani, 12120, Thailand
Tel. +66 2577 5100 (Please contact : Customer Service Section Ext. 3101, 3102) Fax. +66 2577 3659 E-mail : cs@nimt.or.th Website : http://www.nimt.or.th

Price List

Item No.	Description	Range	Accuracy / Uncertainty	Price (THB)	Remark	Code
27	Radiation Thermometer/Infrared Thermometer/Thermal imaging Camera	1100 °C to 2500 °C	2 K to 5 K	8,500 first point + 3,000/next point	By Comparison with Transfer Standard Radiation Thermometer	11030 - 12543
28	Infrared ear thermometer (Resolution ≥ 0.1 K)	35 ºC to 42 ºC	0.2 K	3,750 first point + 1,000/next point	Comparison with PRT in liquid bath blackbody	11030 - 12544
	Infrared ear thermometer (Resolution < 0.1 K)		0.10 K			11030 - 12545
29	Dew Point Hygrometer	- 75 °C to -25 °C	0.3 K	8,000/point*	Comparison with two temperature two pressure Humidity Generator	11040 - 13111
		>- 25 °C to -10 °C	0.2 K	8,000/point*	Comparison with two temperature two pressure Humidity Generator	11040 - 13112
		>-10 °C to 1 °C	0.07 K	5,630/point	Comparison with two pressure Humidity Generator	11040 - 13113
		>1 °C to 30 °C	0.06 K	5,630/point	Comparison with two pressure Humidity Generator	11040 - 13114
30	Dew-Point Hygrometer	>30 °C to 60 °C	0.07 K	6,300/point	Comparison with two temperature two pressure Humidity Generator	11040 - 13115
31	Relative Hygrometer (At chamber temperature : 15 °C to 60 °C)	15 % to 50 %	0.4 %	6,300/point	Comparison with two temperature two pressure Humidity Generator	11040 - 13311
		> 50 % to 80 %	0.7 %	5,630/point	Comparison with two temperature two pressure Humidity Generator	11040 - 13312
		> 80 % to 98 %	0.9 %	5,630/point	Comparison with two temperature two pressure Humidity Generator	11040 - 13313
32	Thermo-Hygrograph Thermo-Hygrometer	Temperature 15 °C to 50 °C Humidity (35 to 95)%RH	(0.5 to 1) °C (1.5 to 3) %RH	3,130 first point + 500/next point	Comparison with PRT and Chilled Mirror Hygrometer in Controlled Chamber	11040 - 13411

National Institute of Metrology (Thailand)
3/4-5 Moo 3, Klong 5, Klong Luang, Pathumthani, 12120, Thailand
Tel. +66 2577 5100 (Please contact : Customer Service Section Ext. 3101, 3102) Fax. +66 2577 3659 E-mail : cs@nimt.or.th Website : http://www.nimt.or.th

Price List

Item No.	Description	Range	Accuracy / Uncertainty	Price (THB)	Remark	Code
33	Data Logger (Air Type)	Temperature 15 °C to 50 °C Humidity (35 to 95)%RH	(0.5 to 1) °C (1.5 to 3) %RH	3,130 first point + 500/next point	Comparison with PRT and Chilled Mirror Hygrometer in Controlled Chamber	11040 - 13412
34	Air temperature sensor	10 °C to 50 °C	0.1 °C	5,000/First point +1,250 Next point	Comparison to reference thermometer in 2P generator	11040 - 12611
35	Dew-Point Generator	(-10 °C to 30 °C) dew-point	0.1 °C to 0.12 °C	17,500/First point +4,000 Next point	Comparison with dew-point hygrometer	11040 - 14411
36	Thermistors	0 ° C to 100 ° C	10 mK	3,000 first point + 1,500/next point	Comparison with SPRTs in stirred liquid baths	11020-12231
37	Surface Thermomter	35 ° C to 400 ° C	2.0 K	4,000 first point + 1,500/next point	Comparison with IPRTs in Surface Calibrator	11020-12713
38	Relative humidity generator	12 % to 92 % (at the air temperature from 10 °C to 40 °C)	0.1 % to 0.6 %	17,500/First point +4,000 Next point	Comparison to dew-point hygrometer and reference thermometer	11040-14421

National Institute of Metrology (Thailand)
3/4-5 Moo 3, Klong 5, Klong Luang, Pathumthani, 12120, Thailand
Tel. +66 2577 5100 (Please contact : Customer Service Section Ext. 3101, 3102) Fax. +66 2577 3659 E-mail : cs@nimt.or.th Website : http://www.nimt.or.th

Price List

Item No.	Description	Range	Accuracy / Uncertainty	Price (THB)	Remark	Code
Measurement Equipment for Sale						
Thermometry Metrology						
1	Reference temperature source for testing / calibration of clinical thermometers	35.0 °C to 42.0 °C (up to 150 °C)	40 mK (uniformity and stability)	75,000	Model: NIMT-TM-B-01	11030-32861
2	Reference temperature source for testing / calibration of clinical	35.0 °C to 42.0 °C (up to 150 °C)	40 mK (uniformity and stability)	49,000	Model: NIMT-TM-B-02	11030-32862
3	Blackbody cavity (En-type)	35.0 °C to 42.0 °C	Emissivity : 0.9995 ± 0.0005	10,200	Model: NIMT-TM-BC-01En	11030-32521
4	Reference thermometer	-50 °C to 70 °C	20 mK	6,500	Model: NIMT-TM-DTM-01	11030-32711