

**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
Calibration Fee						
Mechanical Metrology						
1	Mass Standard	1 kg	0.038 mg (Class E0)	18,750/piece	Comparison in air	10011 - 10001
2	Mass Standard	1 mg to 1 kg	Class E1	4,500/piece	Mass and Conventional mass	10011 - 10101
		2 kg		5,070/piece		10011 - 10102
		5 kg		5,630/piece		10011 - 10103
		10 kg		5,940/piece		10011 - 10104
		20 kg		6,250/piece		10011 - 10105
	Mass Standard set	1 mg to 10 mg		22,500/set		10011 - 10101
		20 mg to 100 mg		18,000/set		
		200 mg to 1 g		18,000/set		
		2 g to 10 g		18,000/set		
		20 g to 100 g		18,000/set		
		200 g to 1 kg		18,000/set		
		2 kg to 10 kg		21,710/set		
	Mass Standard or Mass Standard set	1 mg to 1 kg	Class E2	2,050/piece	Conventional mass	10011 - 10201
		2 kg		2,750/piece		10011 - 10202
		5 kg		2,750/piece		10011 - 10203
		10 kg		3,130/piece		10011 - 10204
		20 kg		3,940/piece		10011 - 10205
		50 kg		8,000/piece		10011 - 10206
		1 mg to 1 kg	Class F1 and lower	1,690/piece		10011 - 10301
		2 kg		2,250/piece		10011 - 10302
		5 kg		2,750/piece		10011 - 10303
		10 kg		2,750/piece		10011 - 10304
		20 kg		3,130/piece		10011 - 10305
		50 kg		6,250/piece		10011 - 10306
		100 kg		10,170/piece		10011 - 10307
		200 kg		15,000/piece		10011 - 10308
		500 kg		15,000/piece		10011 - 10401
		1000 kg	Class F2 and lower	16,250/piece		10011 - 10402
		2000 kg	Class M1 and lower	20,000/piece		10011 - 10501
4	Volume magnetic susceptibility of weight	1 g to 20 kg	In the range of 10% to 20% of magnetic polarization	2,820/piece	By the susceptometer method	10012 - 10101
5	Permanent magnetization of weight (including magnetic susceptibility)	0.005 μ T - 2.5 μ T	0.5 μ T	5,000/piece	By the susceptometer method (Nominal weight range 1 g to 20 kg)	10012 - 10102
		2.5 μ T - 120 μ T	In the range of 10% to 20% of magnetic polarization			

**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
6	Permanent magnetization of weight	0 μ T - 250 μ T	10 μ T + 0.03 μ ₀ M μ ₀ M = Permanent magnetization μ T	1,250/piece	By gaussmeter (Nominal weight range 1 g to 20 kg)	10012 - 10103
7	Surface roughness (Ra,Rz) of weight	Up to 50 μ m	$Ra = \sqrt{(7.490)^2 + (1.021 \cdot Z_m)^2}$ $Rz = \sqrt{(110.116)^2 + (1.422 \cdot Z_m)^2}$ where Z_m (unit nm) being measured value of weight	7,500/piece	Nominal weight range 1 g to 1 kg	10013 - 10101
8	Inter-laboratory comparison on mass measurement; - Non Automatic Weighing Instruments (NAWI), Electronic balance"	Single range, Resolution 0.001 mg, Maximum capacity 21 g, Number of scale interval 21,000,000	NIMT.M.M-09	5,000	-	10014-10101
9	Inter-laboratory comparison on mass measurement;	1000 kg	NIMT.M.M-12	20,250	Conventional mass	10014-10102
	- Mass Standard	200 g , 1 kg and 20 kg	NIMT.M.M-13	9,830	Conventional mass (200 g .1 kg- F2 Class and 20 kg- M1 Class)	10014-10103
	- Mass Standard	100 mg, 100 g, and 1 kg	NIMT.M.M-F1.01/2020	5,000	Conventional mass (100 mg, 100 g, and 1 kg- F1 Class)	10014-10104
10	Density and volume of weight (1 g to 20 kg)	1 g	120 kg m ⁻³ , 0.002 cm ³	3,920/piece	Any class which no cavity by hydrostatic weighing method	10021 - 10101
		2 g	60 kg m ⁻³ , 0.002 cm ³			
		5 g	20 kg m ⁻³ , 0.002 cm ³			
		10 g	15 kg m ⁻³ , 0.002 cm ³			
		20 g	10 kg m ⁻³ , 0.004 cm ³			
		50 g	5.6 kg m ⁻³ , 0.004 cm ³			
		100 g	4.4 kg m ⁻³ , 0.004 cm ³			
		200 g	3.8 kg m ⁻³ , 0.007 cm ³			
		500 g	2.7 kg m ⁻³ , 0.018 cm ³			
		1 kg	2.6 kg m ⁻³ , 0.036 cm ³			
		2 kg	6.8 kg m ⁻³ , 0.21 cm ³			
		5 kg	3.3 kg m ⁻³ , 0.25 cm ³			
		10 kg	2.4 kg m ⁻³ , 0.4 cm ³			
		20 kg	2 kg m ⁻³ , 0.7 cm ³			
11	Density and volume of solid artifact	2700 kg m ⁻³ to 9000 kg m ⁻³ 1.25 cm ³ to 110 cm ³	$6/\sqrt{2.8}$ kg m ⁻³ (0.04123V+0.4592) mm ³ V = volume cm ³	8,750/piece	Hydrostatic weighing method (Traceable to a solid density standard)	10021 - 10102
12	Hydrometer - Density	600 to 2000 kg m ⁻³	$3.22 \times 10^{-5} d + 0.0207$ kg m ⁻³ หรือเทียบเท่าในหน่วยอื่น d = density kg m ⁻³	7,040/3 points + 1250 next point	Hydrostatic weighing method (Cuckow method)	10021 - 10301



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
	- Specific Gravity - API - Brix - Brumé - Alcoholometer		0.25 kg m ⁻³ 0.00010 sp/gr 0.030 °API 0.30 °Brix 0.030 Bé 0.10 %vol	4,230/3 points + 1250 next point		10021 - 10302
13	Density of liquid	600 to 1500 kg m ⁻³	0.1 to 2.0 kg m ⁻³	6,750/piece	By hydrostatic weighing method	10021 - 10401
14	Density of liquid	700 to 1600 kg m ⁻³	0.10 kg m ⁻³	1,250/piece	By oscillation-type density meter	10021 - 10402
15	Density Meter, Benchtop & Portable Oscillation Type	650 to 1000 kg m ⁻³	0.020 kg m ⁻³	22,000/piece	By direct comparison with reference fluids in accordance with ISO 15212	10021 - 10501
		1000 to 1600 kg m ⁻³	0.030 kg m ⁻³			
16	Inter-laboratory comparison on density measurement - Artifact: Hydrometer	9 - 81 °API 640 – 1320 kg m ⁻³	NIMT.M.D-01/2018	5,000		10021 - 10601
17	CRM - Density of Water : 20 Litres @ 20°C	998.20 kg m ⁻³	1.00 kg m ⁻³	500/piece		10021 - 10701
18	CRM - Density of Water : 20 ml @ 20°C	998.20 kg m ⁻³	1.00 kg m ⁻³	300/piece		10021 - 10702
19	Dynamic viscosity of liquid	100 to 15000 mPa·s	10%	750/sample	By rotational viscometer method	10022 - 10101
20	Force-proving instrument	1 kN to 110* kN	ISO 376:2011, 0.0020 %	16,250/direction	Calibrated by deadweight force standard machine. Digital indicator shall be provided by customer.	10030 - 10101
		0.1 kN to 1.5 kN	ISO 376:2011, 0.0050 %	13,500/direction		10030 - 10102
		0.2 kN to 5 kN	ISO 376:2011, 0.0050 %	13,500/direction		10030 - 10103
		16 kN to 500 kN	ISO 376:2011, 0.0080 %	23,000/direction		10030 - 10104
		50 N to 500 N	ISO 376:2011, 0.0040 %	8,500/direction		10030 - 10105
		10 N to 200 N	ISO 376:2011, 0.0040%	8,500/direction		10030 - 10106
		1 N to 50 N	ISO 376:2011, 0.010%	8,500/direction		10030 - 10107
		20 kN to 100 kN	Accroding to ISO 376:2011 Class 0.5 to 2	11,000/direction	Calibrated by force-comparator machine.	10030 - 10201
		> 100 kN to 500 kN		15,000/direction	Digital indicator shall be provided by customer.	10030 - 10202
21	Strain Amplifier (Digital Measurement Amplifier)	± 2.0 mV/V	2.5 x 10-5 mV/V	4,200/range	Calibrated by Bridge Calibration Unit	10030 - 10401
		± 5.0 mV/V	3.0 x 10-4 mV/V	4,200/range		
22	Bridge Calibration Unit	± 2.5 mV/V with carrier frequency 225 Hz	0.000070 nV/V	5,000/range	Calibrated by high precision digital measuring unit	10030-10402



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
		± 5.0 mV/V with carrier frequency 225 Hz	0.000070 nV/V	5,000/range		
23	Static Torque Measuring Devices (Torque Transducer)	0.1 N-m to 1 N-m 1 N-m to 10 N-m 10 N-m to 1,000 N-m	DIN 51309, 0.015% DIN 51309, 0.01%, 0.03% DIN 51309, 0.01%	13,100/range		10040 - 10101
		100 N-m to 5,000 N-m	DIN 51309, 0.01%	26,250/range		10040 - 10102
24	Static Torque Transfer Wrenches	1 N-m to 10 N-m 10 N-m to 2,000 N-m	DAkKS-DKD-R 3-7, 0.04% DAkKS-DKD-R 3-7, 0.03%	13,100/range		10040 - 10202
25	Static Torque Calibration Devices - Torque Wrench Calibration Devices	1 N-m to 2,000 N-m	DAkKS-DKD-R 3-8, 0.2%	6,550/range		10040 - 10303
		1 N-m to 1,000 N-m, Sensor and Connection profile rotatable, target uncertainty <0.5%	DKD-R 10-8, 0.2%	18,750/range		10040-10310
		1 N-m to 1,000 N-m, Sensor and Connection profile rotatable, target uncertainty $\geq 0.5\%$	DKD-R 10-8, 0.2%	12,650/range		10040-10311
		1 N-m to 1,000 N-m, Sensor rotatable and Connection profile fixed, target uncertainty <0.5%	DKD-R 10-8, 0.2%	12,650/range		10040-10312
		1 N-m to 1,000 N-m, Sensor rotatable and Connection profile fixed, target uncertainty $\geq 0.5\%$	DKD-R 10-8, 0.2%	6,550/range		10040-10313
		1 N-m to 1,000 N-m, Sensor fixed and Connection profile rotatable, target uncertainty <0.5%	DKD-R 10-8, 0.2%	18,750/range		10040-10314
		1 N-m to 1,000 N-m, Sensor fixed and Connection profile rotatable, target uncertainty $\geq 0.5\%$	DKD-R 10-8, 0.2%	12,650/range		10040-10315
		1 N-m to 1,000 N-m, Sensor and Connection profile fixed, target uncertainty <0.5%	DKD-R 10-8, 0.2%	12,650/range		10040-10316
		1 N-m to 1,000 N-m, Sensor and Connection profile fixed, target uncertainty $\geq 0.5\%$	DKD-R 10-8, 0.2%	6,550/range		10040-10317
			רגח. 1 - 2560 0.2%	5,250/range		10040 - 10304
	- Torque Screwdriver Calibration Devices	0.1 N-m to 1 N-m	Based on DAkKS-DKD-R 3-8, 0.3%	6,550/range		10040 - 10305
		1 N-m to 10 N-m	Based on DAkKS-DKD-R 3-8, 0.2%	6,550/range		10040 - 10302
	- Rotary torque transducer	1 N-m to 1,000 N-m, Sensor and Connection profile rotatable, target uncertainty < 0.5 %, For torque with cross force application	DKD-R 10-8, 0.25 %	18,750/range		10040-10318



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
		1 N-m to 1,000 N-m, Sensor and Connection profile rotatable, target uncertainty ≥ 0.5 %, For torque with cross force application		12,650/range		10040-10319
		1 N-m to 1,000 N-m, Sensor rotatable and Connection profile fixed, target uncertainty < 0.5 %, For torque with cross force application		12,650/range		10040-10320
		1 N-m to 1,000 N-m, Sensor rotatable and Connection profile fixed, target uncertainty ≥ 0.5 %, For torque with cross force application		6,550/range		10040-10321
		1 N-m to 10 N-m, For pure torque application	Base on DIN 51309, 0.25 %	6,550/range		10040-10322
		(0-360) degree, For angle	0.25 degree	6,550/range		10040-10323
26	Hand Torque Tools (Type I and Type II)					
	- Wrench	1 N-m to 1,000 N-m	ISO 6789, 1%	4,350/range		10040 - 10401
	- Screwdriver	0.1 N-m to 1 N-m 1 N-m to 10 N-m	ISO 6789, 1.5% ISO 6789, 1%	4,350/range 4,350/range		10040 - 10402
27	Torque multiplier	340 N-m to 2,700 N-m	Based on ISO 6789 : 2003(E), 1.5%	9,350/range		10040 - 10501
28	Adjustment charge of torque device for permanent laboratory calibration			100% of the calibration cost of each item and each range		10040 - 10601
29	Recalibration of Reference Block	20 HRA to 95 HRA	0.40 HRA	6,550/piece	Reference Block shall be provided by client.	10050 - 10101
	Rockwell Scale : HRA, HRB, HRC	10 HRBW to 100 HRBW	0.40 HRBW			
		20 HRC to 70 HRC	0.40 HRC			
	Rockwell Scale : HR30TW	29 HR30TW to 82 HR30TW	0.40 HR30TW	9,350/piece		
	Rockwell Scale : HR30N	42 HR30N to 86 HR30N	0.40 HR30N			
	Rockwell Scale : HR15N	70 HR15N to 94 HR15N	0.50 HR15N			
	Vickers : HV according to ISO 6507-3	HV 5, HV 10, HV 20, HV 30, HV 50, HV 100 Range 100 HV to 950 HV	$\left(2.1 + \frac{2600}{d^2}\right) \% \text{ of HV}$	7,250/piece		10050 - 10201
	Vickers : HV according to ISO 6507-3	HV 0.1	$\sqrt{6.5 + \frac{16500}{d^2}} \% \text{ of HV}$	7,250/piece		10050 - 10501


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
	Vickers : HV **According to ASTM E92	HV10, HV 20	$\sqrt{7.9 + \frac{70000}{d^2}}$ % of HV for d > 180 μm $\sqrt{6.5 + \frac{16500}{d^2}}$ % of HV for d ≤ 180μm	17,500/piece		10050-10206
	Brinell Scale: HB	HBW 5/750	1.2% of HBW for Force 7.355 kN (750 kgf)	6,250/piece		10050 - 10401
		HBW 10/500	1.2% of HBW for Force 4.903 kN (500 kgf)	7,800/piece		
		HBW 10/3000	0.6% of HBW for Force 29.42 kN (3,000 kgf)			
30	Elastomer Hardness Testing Machine	IRHD-N IRHD Pocket IRHD-M Durometer Type A Durometer Type D Durometer Type AO	According to ISO48-9, ASTM D2240, JIS K6253, JIS K7215, JIS K6301, DIN 53505	8,550/machine		10050 - 10302
		Durometer Type C	ASTM D2240			
31	Testing the nanoindentation hardness of materials	Test force : 0.1 to 480 mN Depth (Dz) : 0 to 7.2 μm Loading rate : 0.1 mN/min to 10 N/min Testing cycle : 1 to 70 s	4.0 GPa of Indentation modulus; E _{IT}	8,500/piece	Indentation modulus; E _{IT} and Indentation Hardness; H _{IT}	10050-10601
32	Gas Pressure Balances	Up to 7 MPa	> 5x10 ⁻⁴ x Pe to 1x10 ⁻⁴ x Pe	50,000	1. Price per 1 piston & cylinder assembly 2. Calibration of weight set is included.	10060 - 10101
			< 1x10 ⁻⁴ x Pe	50,000		10060 - 10102
		>7 MPa to 40 MPa	> 5x10 ⁻⁴ x Pe	55,000		10060 - 10103
			5x10 ⁻⁴ x Pe to 1x10 ⁻⁴ x Pe	55,000		10060 - 10104
			< 1x10 ⁻⁴ x Pe	55,000		10060 - 10105
33	Hydraulic Pressure Balances	Up to 200 MPa	> 5x10 ⁻⁴ x Pe to 1x10 ⁻⁴ x Pe	50,000	1. Price per 1 piston & cylinder assembly 2. Calibration of weight set is included.	10060 - 10201
			< 1x10 ⁻⁴ x Pe	50,000		10060 - 10202
		> 200 MPa to 500 MPa	> 5x10 ⁻⁴ x Pe to 2x10 ⁻⁴ x Pe	60,000		10060 - 10203
			< 2x10 ⁻⁴ x Pe	60,000		10060 - 10204
34	Water Pressure Balances	Up to 400 MPa	> 5x10 ⁻⁴ x Pe to 1x10 ⁻⁴ x Pe	50,000	1. Price per 1 piston & cylinder assembly	10060 - 10205
35	Gas Pressure Measuring Instruments (gauge pressure, Pe)	0 kPa to ~100 kPa	Not smaller than 0.2 mbar	8,750/range		10060 - 10313
			Not smaller than 1 mbar	4,070/range		10060 - 10314
			Smaller than 0.2 mbar	11,250/range		10061 - 10319
		0 kPa to -15 kPa	> 1x10 ⁻³ x Pe	8,750/range		10060 - 10315
			≤1x10 ⁻³ x Pe	11,250/range		10060 - 10316



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
		0 kPa to 3 kPa	$> 6 \times 10^{-3} \times \text{Pe}$	3,750/range		10060 - 10304
			$6 \times 10^{-3} \times \text{Pe}$ to $1 \times 10^{-3} \times \text{Pe}$	5,000/range		10060 - 10305
			$< 1 \times 10^{-3} \times \text{Pe}$, but not smaller than 0.003 mbar	6,300/range		10060 - 10306
		- 4 kPa to 4 kPa	$> 6 \times 10^{-3} \times \text{Pe}$	3,750/range		10060 - 10323
			$6 \times 10^{-3} \times \text{Pe}$ to $1 \times 10^{-3} \times \text{Pe}$	5,000/range		10060 - 10324
			$< 1 \times 10^{-3} \times \text{Pe}$, but not smaller than 0.003 mbar	6,300/range		10060 - 10325
		0 kPa to 15 kPa	$> 1 \times 10^{-3} \times \text{Pe}$	8,750/range		10060 - 10317
			$\leq 1 \times 10^{-3} \times \text{Pe}$	11,250/range		10060 - 10318
		10 kPa to 7 MPa	$> 6 \times 10^{-3} \times \text{Pe}$	4,070/range		10060 - 10307
		1,5 kPa to 7 MPa	$6 \times 10^{-3} \times \text{Pe}$ to $1 \times 10^{-3} \times \text{Pe}$	6,250/range		10060 - 10308
			$< 1 \times 10^{-3} \times \text{Pe}$	7,500/range		10060 - 10309
		$> 7 \text{ MPa}$ to 100 MPa	$> 6 \times 10^{-3} \times \text{Pe}$	7,040/range		10060 - 10310
			$6 \times 10^{-3} \times \text{Pe}$ to $1 \times 10^{-3} \times \text{Pe}$	9,850/range		10060 - 10311
			$< 1 \times 10^{-3} \times \text{Pe}$	12,670/range		10060 - 10312
36	Gas Pressure Measuring Instruments (absolute pressure, Pabs)	80 kPa to 115 kPa	$< 1 \times 10^{-3} \times \text{Pabs}$	8,750/range		10060 - 10401
			Not smaller than 0.35 mbar	4,230/range		10060 - 10402
		0 kPa to 15 kPa	$> 1 \times 10^{-3} \times \text{Pabs}$	10,000/range		10060 - 10405
			$\leq 1 \times 10^{-3} \times \text{Pabs}$	12,500/range		10060 - 10406
		2 kPa to 7 MPa	Not smaller than 0.35 mbar	4,230/range		10060 - 10403
		1,5 kPa to 7 MPa	$\geq 1 \times 10^{-4} \times \text{Pabs}$	8,750/range		10060 - 10407
		$> 7 \text{ MPa}$ to 40 MPa	$\geq 1 \times 10^{-4} \times \text{Pabs}$	14,000/range		10060 - 10408
37	Mercury Barometers	85 kPa to 105 kPa	Not smaller than 0.35 mbar	6,250/range	Cistern type	10060 - 10501
				7,500/range	Fortin type	10060 - 10502
38	Hydraulic Pressure Measuring Instruments (gauge pressure, Pe)	up to 200 MPa	$> 6 \times 10^{-3} \times \text{Pe}$	5,000/range		10060 - 10601
			$6 \times 10^{-3} \times \text{Pe}$ to $1 \times 10^{-3} \times \text{Pe}$	7,500/range		10060 - 10602
			$< 1 \times 10^{-3} \times \text{Pe}$	10,000/range		10060 - 10603
		$> 200 \text{ MPa}$ to 500 MPa	$\geq 1 \times 10^{-3} \times \text{Pe}$	8,750/range		10060 - 10604
			$< 1 \times 10^{-3} \times \text{Pe}$	11,250/range		10060 - 10605
39	Hydraulic Pressure Measuring Instruments (absolute pressure, Pabs)	0,1 MPa to 200 MPa	$> 6 \times 10^{-3} \times \text{Pabs}$	6,250/range		10060 - 10801
			$6 \times 10^{-3} \times \text{Pabs}$ to $1 \times 10^{-3} \times \text{Pabs}$	8,750/range		10060 - 10802
			$< 1 \times 10^{-3} \times \text{Pabs}$	11,250/range		10060 - 10803
		$> 200 \text{ MPa}$ to 500 MPa	$\geq 1 \times 10^{-3} \times \text{Pabs}$	10,000/range		10060 - 10804
			$< 1 \times 10^{-3} \times \text{Pabs}$	12,500/range		10060 - 10805


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
40	Gas Differential Pressure at High Static Line ressure (not higher than 40 MPa), ΔP	350 kPa maximum differential pressure	$3.5 \times 10^{-5} \times \Delta P$, but not less than 2.9 Pa	16,250/sensor head	Price per 1 range of differential pressure and 1 range of high static line pressure	10060 - 10701
41	Pressure Measuring Device	0 to 3500 kPa	0.01%rdg but not less than 0.1 kPa	6,500/range	Media: Water	10060-10901
42	Vacuum Gauges (absolute pressure : pirani gauge, thermal conductivity gauge)	10^5 Pa to 10^{-1} Pa	0.3% rdg to 1% rdg	7,040/sensor head	Calibration 10 points minimum	10070 - 10101
43	Vacuum Gauges (absolute pressure : capacitance diaphragm gauge)	10^5 Pa to 10^{-1} Pa	0.2% rdg to 0.45% rdg	12,670/sensor head	Calibration 3 decades for the head range (1000, 100,10, 1) torr Calibration 2 decades for the head range 0.1 torr	10070 - 10201
44	Vacuum Gauges (absolute pressure : hot cathode ion gauge, cold cathode ion gauge)	10^{-1} Pa to 10^{-5} Pa	0.5% rdg to 6% rdg	11,090/for first decade +2,250 for next decade		10070 - 10301
45	Adjustment charge of pressure and vacuum devices for permanent laboratory calibration			100% of the calibration cost of each range		10070 - 10502
46	Measurement audit report			1,000 Baht/report + 1,000 Baht/only for artifact provided + Calibration fee		10070 - 10503
47	Vacuum Gauges by Static Expansion Method (absolute pressure : capacitance diaphragm)	0.13 Pa to 1.3 kPa	0.50% rdg to 0.25% rdg	26,400/sensor head		10070 - 10601
48	Liquid Flowmeter (Turbine Flowmeter)	0.19 L/min to 150* L/min	0.075%**	13,750/ 5 points	Calibration Fluid : Water	10080 - 10101
	Liquid Flowmeter (Turbine Flowmeter)	20 L/min to 1300 L/min	0.075%	13,750		10080 - 10108
	Liquid Flowmeter (with indicator)	0.19 L/min to 150* L/min	2%	7,880/ 5 points		10080 - 10102
	Coriolis Flowmeter (Volumetric method)	0.2 L/min to 150 L/min	0.075%	13,750/5 points		10080 - 10103
	Ultrasonic flow meter (Clamp-on)	20 L/min to 1300 L/min	1.0%	8,750		10080 - 10109
49	Small Water Flow Meter (Volumetric Mode)	10 mL/h to 50 mL/h 50 mL/h to 1000 mL/h	0.35% 0.24%	16,875/range	Calibration Fluid : Water Gravimetric Method	10080-10104
50	Small Water Flow Meter (Mass Mode)	10 g/h to 50 g/h 50 g/h to 1000 g/h	0.35% 0.24%	16,875/range	Calibration Fluid : Water Gravimetric Method	10080 - 10301
51	Medium Liquid Flow Meter (Gravimetric Method)	0.036 kg/min to 0.32 kg/min	0.30%	12,500/5 points	Calibration Fluid : Water Gravimetric Method	10080 - 10302
52	Gas Flowmeter with display in standard flow (molbloc-L)	100 cm ³ /min to 24000 cm ³ /min	0.25%	30,000/range	Calibration Gas: Dry Air Reference Conditions @ 0°C, 101.325 kPa	10080 - 10202
53	Gas Flowmeter with display in standard flow (molbloc-S)	1 m ³ /h to 65 m ³ /h	0.23%	30,000/range	Calibration Gas: Dry Air Reference Conditions @ 0°C, 101.325 kPa	10080 - 10204
54	Sonic Nozzle at ambient pressure	1 m ³ /h to 100 m ³ /h	0.22%	25,000/range	Calibration Gas: Ambient Air	10080 - 10205


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
55	Gas Flow rate (Gas meter with impulse output)	1 m ³ /h to 100 m ³ /h	0.20%	30,000/piece (5 points)	Comparison Method	10080 - 10203
56	Orifice flow device (Volumetric method)	(1 to 100) m ³ /h	1.00%	7,500/piece (5-7 points)	Comparison Method	10080 - 10208
57	Gas Flow rate (Gas meter with flow rate output)	1.2 kg/h to 117 kg/h	0.20%	30,000/piece (5 points)	Comparison Method	10080 - 10403
58	Liquid Volume (Proving tank: Neck scale type, Weir neck type)	1 L to 10 L	0.02% to 0.03%	6,250/piece	Gravimetric Method	10080 - 10501
		<10 L to 20 L	0.02% to 0.03%	10,000/piece	Gravimetric Method	10080 - 10502
		> 2 L to 50 L	0.09%	8,750 / piece	Gravimetric Method	10080 - 10503
		> 50 L to 200 L	0.09%	13,750/piece	Gravimetric Method	10080 - 10504
59	Gas Flowmeter	2 (cm ³ /min) to 24000 (cm ³ /min)	0.23%	17,250/range	Calibration Fluid : Nitrogen	10081 - 10101
60	(Volume gas flow rate)	2 (cm ³ /min) to 1 (m ³ /min)	0.23%	17,250/range	Reference Conditions @ 0 degree C, 101.325 kPa Calibration Fluid : Dry Air Reference Conditions @ 0 degree C, 101.325 kPa	10081 - 10102
61	Diaphragm Gas Meter	(0.06 to 10) m ³ /h	1%	5,000 / 3 points (0.06, 2, 10) m ³ /h / 1 meter +1250/next point	Comparison Method	10081-10103
62	Gas Flowmeter	0.043 (mg/s) to 500 (mg/s)	0.23%	17,250/range	Calibration Fluid : Nitrogen	10080 - 10201
63	(Mass gas flow rate)	0.043 (mg/s) to 21545 (mg/s)	0.23%	17,250/range	Calibration Fluid : Dry Air	10080 - 10202
64	Flow speed device	(0.1-40) m/s	0.50%	12,500/5 points+2,500/next point	Wind tunnel Calibration Fluid : Air	10080 - 10701
65	Laser Doppler Anemometer	2 m/s to 20 m/s	0.40%	30,000/piece	Wind tunnel Calibration Fluid : Air	10080-10702
66	Wind direction	0° to 360°	0.9°	12,500/5 points +2,500/next point	Wind tunnel Calibration Fluid : Air	10080-10703
67	Air speed anemometers (Cup and Vane anemometer)	(1-30) m/s	1% of reading	12,500/15 points +2,500/next point	Wind tunnel Calibration Fluid : Air	10080-10704
68	Air speed anemometers	(0.1-40) m/s	0.80%	10,000/5 points	Wind tunnel Calibration Fluid : Air	10080-10705

**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
69	Type S Pitot Static tube	(5-30) m/s	1.00%	10,000/5 points	Wind tunnel Calibration Fluid : Air	10080-10706
70	Ultrasonic Thickness Measurement (Thickness calibration block)	(2.54 - 12.70) mm and 100 mm	0.3% of reading	2,500/5 points +500/next point	Direct measurement by ultrasonic thickness system	10080-10601
71	Ultrasonic Thickness Gauge	(2.54 - 100) mm	0.5% of reading	4,500/5 points +600/next point	Direct measurement by ultrasonic thickness system and comparison	10080-10602
72	Flaw Detector	X-axis (25.25 to 170) mm Y-axis (10 to 100) %dB	0.5% of reading	10,000/5 points/1 probe +1500/next probe	Direct measurement by ultrasonic system	10080-10603
73	Inter-laboratory comparison on liquid volume flow rate measurement; Artifact : Coriolis flow meter	25 L/min to 120 L/min	NIMT.MW-L1/2017	20,333/range (N = 3)	Calibration Fluid : Water	10080 - 10105
74		25 L/min to 120 L/min	NIMT.MW-L1/2019	15,750/range (N = 2)	Calibration Fluid : Water	10080 - 10106
75	Inter-laboratory comparison on water flow meter and pressure of infusion pump analyzer	(20 - 200) mL/h ((0 - 1200) mmHg)	0.35% 0.35 mbar	12,552.50/range	Infusion device analyzer	10080 - 10107
76	PM _{2.5} portable device	(0 - 500) µg/m ³	10%	10,000/4 points +2,500/next point	Particle: PSL	10080 - 10801

Reference Materials For Sale

77	Standard Torque Transducer	≤ 2,000 N·m	DIN 51309 Class 0.2, 0.1, 0.05	233,500/piece		10040 - 20501
		≤ 1,000 N·m		196,150/piece		10040 - 20502
		≤ 500 N·m		186,400/piece		
		≤ 200 N·m		174,250/piece		
		≤ 50 N·m		163,000/piece		
		≤ 20 N·m		158,650/piece		10040 - 20503
78	Standard Torque Transfer Wrench	≤ 2,000 N·m	DAkkS-DKD-R 3-7 Class 0.2	249,450/piece		10040 - 20601
		≤ 1,000 N·m		206,750/piece		10040 - 20602
		≤ 500 N·m		195,600/piece		
		≤ 200 N·m		181,750/piece		
		≤ 50 N·m		168,850/piece		



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
		≤ 20 N·m		163,900/piece		10040 - 20603
79	Standard Torque Transfer Wrench Model: TW-MCS01	≤ 2,000 N·m	DAkS-DKD-R 3-7 Class 0.2	281,350/piece	<u>Standard Option</u> 1. Temperature compensation on zero signal 2. Temperature compensation on span signal 3. Zero balance 4. Measurement and check signals	10040-20604
		≤ 1,000 N·m		228,000/piece		
		≤ 500 N·m		214,050/piece		
		≤ 200 N·m		196,750/piece		
		≤ 50 N·m		180,600/piece		
		≤ 20 N·m		174,400/piece		
80	V-notch Charpy Impact CRM	30 J ± 10 J	According to ISO148-3	18,530/set		10050 - 20301
		100 J ± 10 J		18,530/set		10050 - 20302
	Calibration of metellic -charpy pendulum Testing Machine	Low(<40J) and high (≥40J)energy	According to ISO148-2	81,250		10050 - 20303
	81	Certified Reference Block	20 HRA to 95 HRA	0.40 HRA	13,670/piece	
Rockwell Scale : HRA, HRB, HRC		10 HRBW to 100 HRBW	0.40 HRBW			
		20 HRC to 65 HRC	0.40 HRC			
Rockwell Scale : HR30TW		29 HR30TW to 82 HR30TW	0.40 HR30TW	17,500/piece		
Rockwell Scale : HR30N		42 HR30N to 86 HR30N	0.40 HR30N			
Rockwell Scale : HR15N		70 HR15N to 94 HR15N	0.40 HR15N			
Vickers : HV According to ISO6507-3		HV 5, HV 10, HV 20, HV 30, HV 50, HV 100 Range 100 HV to 950 HV	$\left(2.1 + \frac{2600}{d^2}\right) \% \text{ of HV}$	25,400/piece		10050 - 20201
Vickers : HV According to ISO6507-3		HV 0.1	$\sqrt{6.5 + \frac{16500}{d^2}} \% \text{ of HV}$	32,800/piece		10050 - 20501
Vickers : HV According to ASTM E92		HV10, HV 20	$\sqrt{7.9 + \frac{70000}{d^2}} \% \text{ of HV for } d > 180 \mu\text{m}$ $\sqrt{6.5 + \frac{16500}{d^2}} \% \text{ of HV for } d \leq 180 \mu\text{m}$	26,250/piece		10050-20206



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
	Brinell Scale: HB	HBW 5/750	1.2% of HBW for Force 7.355 kN (750 kgf)	18,750/piece		10050 - 20401
		HBW 10/500	1.2% of HBW for Force 4.903 kN (500 kgf)	21,100/piece		
		HBW 10/3000	0.6% of HBW for Force 29.42 kN (3,000 kgf)			

On-site Calibration

82	Non Automatic Weighing Instruments (NAWI), Electronic balance	Up to 65 kg		5,200	Based on the EURAMET calibration guide No.18 version 4.0 (11/2015)	10015-30101
		Up to 5 g	$0.03 \text{ mg} + (7.22 \times 10^{-10}) \times W$			
		> 5g to 100 g	$0.04 \text{ mg} + (4.62 \times 10^{-7}) \times W$			
		> 100 g to 500 g	$0.04 \text{ mg} + (4.87 \times 10^{-7}) \times W$			
		> 500 g to 10 kg	$0.45 \text{ mg} + (2.49 \times 10^{-7}) \times W$			
		> 10 kg to 20 kg	$0.64 \text{ mg} + (1.59 \times 10^{-7}) \times W$			
		> 20 kg to 65 kg	$0.86 \text{ mg} + (1.32 \times 10^{-7}) \times W$			
		Note : W is any test load (g)		5,200/3 test loads + 1,250 next test load	1. Test loads shall be provided by client 2. In-house method based on the EURAMET - Publishable Summary for 14RPT02 AWICal	10015-30102
		(0.2 to 100.0) g	0.78 g			
		> 100.0 g to 1000.0 g	1.05 g			
		> 1000.0 g to 1500.0 g	1.12 g			
	Universal Testing Machine	Note : CMC is for the belt speed between 15-60 m/min		11,000/force scale /mode	Calibrated by force-measuring device and accessories shall be	10030 - 30201
		5 N to 500 kN (Tension with increasing force only)	ISO 7500-1 : 2018, 0.17 %			
		5 N to 500 kN (Tension with increasing and decreasing force)	ISO 7500-1 : 2018, 0.24%			



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
		5 N to 2 MN (Compression with increasing force only)	ISO 7500-1 : 2018, 0.047 %		provided by customer	
		5 N to 2 MN (Compression with increasing and decreasing force)	ISO 7500-1 : 2018, 0.35 %			
85	Static Torque Calibration devices					
	- Torque Wrench Calibration Devices	1 N-m to 2,000 N-m	DAkKS-DKD-R 3-8, 0.2%	6,550/range		10040 - 30303
		1 N-m to 1,000 N-m, Sensor and Connection profile rotatable, target uncertainty <0.5%	DKD-R 10-8, 0.2%	18,750/range		10040-30310
		1 N-m to 1,000 N-m, Sensor and Connection profile rotatable, target uncertainty ≥0.5%	DKD-R 10-8, 0.2%	12,650/range		10040-30311
		1 N-m to 1,000 N-m, Sensor rotatable and Connection profile fixed, target uncertainty <0.5%	DKD-R 10-8, 0.2%	12,650/range		10040-30312
		1 N-m to 1,000 N-m, Sensor rotatable and Connection profile fixed, target uncertainty ≥0.5%	DKD-R 10-8, 0.2%	6,550/range		10040-30313
		1 N-m to 1,000 N-m, Sensor fixed and Connection profile rotatable, target uncertainty <0.5%	DKD-R 10-8, 0.2%	18,750/range		10040-30314
		1 N-m to 1,000 N-m, Sensor fixed and Connection profile rotatable, target uncertainty ≥0.5%	DKD-R 10-8, 0.2%	12,650/range		10040-30315
		1 N-m to 1,000 N-m, Sensor and Connection profile fixed, target uncertainty <0.5%	DKD-R 10-8, 0.2%	12,650/range		10040-30316
		1 N-m to 1,000 N-m, Sensor and Connection profile fixed, target uncertainty ≥0.5%	DKD-R 10-8, 0.2%	6,550/range		10040-30317
			רגח 1 - 2560 0.2%	5,250/range		10040 - 30304
	- Torque Screwdriver Calibration Devices	0.1 N-m to 1 N-m	Based on DAkKS-DKD-R 3-8, 0.3%	6,550/range		10040 - 30305
		1 N-m to 10 N-m	Based on DAkKS-DKD-R 3-8, 0.2%	6,550/range		10040 - 30302



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
	- Torque Testing Machine	1 N-m to 10 N-m	Based on DAkkS-DKD-R 3-8, 1.1%	6,550/range		10040 - 30306
		10 N-m to 100 N-m	Based on DAkkS-DKD-R 3-8, 0.75%	6,550/range		10040 - 30307
		500 N-m to 5000 N-m	Based on DIN 51309, 1.8 %	8,000/range		10040 - 30309
		0 degree to 360 degree	0.55 degree	6,550/range		10040 - 30308
86	Adjustment charge of torque device for on-site calibration			100% of the calibration cost of each item and each range		10040 - 30601
87	Inter-laboratory comparison on torque measurement					
	- Artifact: Torque wrench	40 N-m to 400 N-m	MT 01/2550	12,150		10040 - 30501
	- Artifact: Torque wrench	8 N-m to 40 N-m	MT 01.1/2551	12,150		10040 - 30502
	- Artifact: Torque wrench calibrator	10 N-m to 200 N-m	MT 02/2551	12,150		10040 - 30503
	- Artifact: Setting torque wrench	20 N-m to 330 N-m	MT 03/2553	9,750		10040 - 30504
	- Artifact: Torque wrench	400 N-m to 1000 N-m	MT 01.2/2563	9,750		10040 - 30505
	- Artifact: Torque wrench calibrator	200 N-m to 1000 N-m	MT 02.1/2564	12,150		10040 - 30506
	- Artifact: Indicating torque screwdriver	0.1 N-m to 1 N-m	MT 04/2565	9,750		10040 - 30507
	- Artifact: Indicating torque screwdriver	1 N-m to 10 N-m	MT 04.1/2565	9,750		10040 - 30508
	- Artifact: Indicating Torque Wrench	1 N-m to 50 N-m	MT 05/2566	12,150		10040 - 30509
	- Artifact: Indicating Torque Wrench	50 N-m to 200 N-m	MT 05.1/2566	12,150		10040 - 30510
	- Artifact: Indicating Torque Wrench	200 N-m to 1000 N-m	MT 05.2/2566	12,150		10040 - 30511
	- Artifact: Torque Transducer	10 N-m to 200 N-m	MT 06/2566	12,150		10040 - 30512
	- Artifact: Torque Transducer	200 N-m to 1000 N-m	MT 06.1/2566	12,150		10040 - 30513
	- Artifact: Setting Torque Wrench	20 N-m to 330 N-m	MT 07/2566	9,750		10040 - 30514
88	Extensometer	Gauge length up to 200 mm	According to ISO 9513	3,910	/scale	10050 - 30001
89	Calibration of Testing Machine Rockwell Hardness Testing Machine	20 HRA to 95 HRA	According to ISO 6508-2			10050 - 30102



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
	- direct and indirect verification	10 HRBW to 100 HRBW		10,550	/machine/scale	
	- indirect verification	20 HRC to 70 HRC		4,370	/scale	
	- diamond indenter verification	70 HR15N to 94 HR15N		6,100		
	- ball indenter verification	42 HR30N to 86 HR30N 67 HR15TW to 93 HR15TW 29 HR30TW to 82 HR30TW 70 HREW to 100 HREW		1,250		
90	Calibration of Testing Machine Vickers Hardness Testing Machine	HV 0.2, HV 0.3, HV 0.5, HV 1, HV 5, HV 10, HV 20, HV 30, HV 50	According to ISO 6507-2	10,550	/machine/scale	10050 - 30202
	- direct and indirect verification			4,370	/scale	
	- indirect verification			12,500		
	- Vickers Indenter	Tip angle 0°, 90°, 136° Line of conjunction 0 to 5 µm	± 0.15° ± 0.2 µm			
91	Calibration of Testing Machine Brinell Hardness testing machine	HBW 10/3000, HBW 10/500, HBW 10/100	According to ISO 6506-2	10,550	/machine/scale	10050 - 30402
	- direct and indirect verification	HBW 5/750, HBW 5/125, HBW 5/62.5			/scale	
	- indirect verification	HBW 2.5/62.5, HBW 2.5/31.25, HBW 2.5/15.625		4,370		
	- ball indenter verification	HBW 1/30		1,250		
92	Inter-laboratory comparison on hardness measurement					
	- Artifact hardness specimen	Scale B	MH01.1	12,150		10050 - 30103
	- Artifact hardness specimen	Scale C	MH01.2	12,150		10050 - 30203
	- Artifact hardness specimen	Scale R	MH01.3	12,250	Plastic artifacts shall be provided by client	10050 - 30803
	- Artifact hardness specimen	Scale A	MH01.4	34,000		10050 - 31803
	- Artifact hardness specimen	Scale 30N	MH01.5	34,000		10050 - 31903
	- Artifact hardness specimen	Scale 30TW	MH01.6	34,000		10050 - 32003
	- Artifact hardness specimen	HV 5	MH02.1	10,300		10050 - 30403
	- Artifact hardness specimen	HV 10	MH02.2	10,300		10050 - 31403
	- Artifact hardness specimen	HV 30	MH02.3	10,300		10050 - 31503
	- Artifact hardness testing machine	Rockwell Scale A, B and C	MH03	12,150		10050 - 30303



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	
	- Artifact hardness testing machine	Rockwell Scale A	MH03.1	6,850		10050 - 32303	
	- Artifact hardness testing machine	Rockwell Scale B	MH03.2	6,850		10050 - 32403	
	- Artifact hardness testing machine	Rockwell Scale C	MH03.3	6,850		10050 - 32503	
	- Artifact hardness testing machine	Rockwell Scale 15N	MH03.4	10,950		10050 - 32103	
	- Artifact hardness testing machine	Rockwell Scale 30N	MH03.5	10,950		10050 - 32203	
	- Artifact hardness testing machine	Rockwell Scale 15TW	MH03.6	10,950		10050 - 32603	
	- Artifact hardness testing machine	Rockwell Scale 30TW	MH03.7	10,950		10050 - 32703	
	- Artifact hardness testing machine	Vickers HV 0.3	MH04.1	6,850		10050 - 31203	
	- Artifact hardness testing machine	Vickers HV 1	MH04.2	6,850		10050 - 31603	
	- Artifact hardness testing machine	Vickers HV 5	MH04.3	6,850		10050 - 31703	
	- Artifact hardness testing machine	Vickers HV 10	MH04.4	6,850		10050 - 31103	
	- Artifact hardness testing machine	Vickers HV 0.1	MH04.5	16,700		10050 - 32803	
	- Artifact hardness testing machine	Vickers HV 0.2	MH04.6	16,700		10050 - 32903	
	- Artifact hardness testing machine	Vickers HV 0.5	MH04.7	16,700		10050 - 33003	
	- Artifact hardness testing machine	Brinell HBW 10/3000	MH05.1	6,850		10050 - 30903	
	93	Absolute Gravity	9.75 m/s ² to 9.85 m/s ²	Not smaller than 10 μGal (0.01 ppm)	240,000	for the first measurement location	10060 - 30101
					120,000	for each additional location	
94	Local Gravity	9.75 m/s ² to 9.85 m/s ²	Not smaller than 180 μGal (0.18 ppm)	40,000	Using relative method	10060 - 30102	
95	Mooney Viscometer	All range	According to	25,000	/machine	10050 - 30602	
			ISO 289				
96	Melt flow index tester (Extrusion plastometer)	All range	According to ASTM D1238	15,000	/machine	10050-30702	
97	Gas Pressure Measuring Instruments (on-site)				Differential against ambient pressure	10060 - 30103	
	- (differential gauge pressure,Pe)	0.1 kPa to 130 kPa	2.6E-4P _e but not less than 0.03 kPa	6,250 baht/range			
	- (absolute pressure, Pabs)	10 kPa to 700 kPa	2.0E-4P _{abs} but not less than 0.03 kPa				
98	Displacement Measuring Systems and Devices Used in Material Testing Machines	Displacement length up to 2,000 mm.	According to ASTM E2309/E2309M-16	6,250	/machine	10050-30802	

**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
99	Speed for material testing machines	Speed 0.05 mm/Min to 2,500 mm/Min.	According to ASTM E2658-15	6,250	/speed	10050 - 30902
100	Rolling resistance testing machine (Force method)					
	- Run-out (Radial run-out and Lateral run-out)	Nominal section width, RN from 95 mm to 315 mm	Radial run-out = 0.02 mm	5,000.00	UN Regulation No. 117 and 2721-2560	10040 - 30701
			Lateral run-out = 0.02 mm	5,000.00		10040 - 30702
	- Load application (Deviation angular from wheel center)	At Load index, LI = 0 to 121 (TLCC = 46 kgf to 1,450 kgf) and At Load index, LI = 122 to 279 (TLCC = 1,500 kgf to 136,000 kgf)	0.002°	7,500.00		10040 - 30703
	- Tyre alignment (Camber angle and Slip angle)		Camber angle = 0.035°	7,500.00		10040 - 30704
			Slip angle = 0.030°	7,500.00		10040 - 30705
	- Tyre load		0.037% for increasing only 0.11% for increasing and decreasing	10,000.00		10040 - 30706
	- Spindle force		0.037% for increasing only 0.11% for increasing and decreasing	10,000.00 / Direction		10040 - 30707
	- Surface speed	0 km/h to 300 km/h	0.20 km/h	5,000.00 / Direction		10040 - 30708
	- Drum diameter	1,700 mm and 2,000 mm	0.15 mm	7,500.00		10040 - 30709
101	Rolling resistance testing machine (Torque method)					
	- Run-out (Radial run-out and Lateral run-out)	Nominal section width, RN from 95 mm to 315 mm	Radial run-out = 0.02 mm	5,000.00	UN Regulation No. 117 and 2721-2560	10040 - 30801
			Lateral run-out = 0.02 mm	5,000.00		10040 - 30802
	- Load application (Deviation angular from wheel center)	At Load index, LI = 0 to 121 (TLCC = 46 kgf to 1,450 kgf) and At Load index, LI = 122 to 279 (TLCC = 1,500 kgf to 136,000 kgf)	0.001°	7,500.00		10040 - 30803
	- Tyre alignment (Camber angle and Slip angle)		Camber angle = 0.035°	7,500.00		10040 - 30804
			Slip angle = 0.030°	7,500.00		10040 - 30805
	- Tyre load	0.1 N·m to 5 kN·m	0.037% for increasing only 0.11% for increasing and decreasing	10,000.00		10040 - 30806
	- Torque input		0.015% (0.1 N·m to 1 N·m) 0.010% (1 N·m to 5 kN·m)	20,000.00 / Range		10040 - 30807
	- Surface speed	0 km/h to 300 km/h	0.20 km/h	5,000.00 / Direction		10040 - 30808
	- Drum diameter	1,700 mm and 2,000 mm	0.15 mm	7,500.00		10040 - 30809
102	Calibration of Rockwell standard machine.	Scale A, B, C, E, 30N, 30T, 15N, 15T	According to ISO6508-3	32,000 5,620	/machine/scale /additional scale	10050-30105
103	Calibration of Vickers standard machine.	scale HV 0.2, HV 0.3, HV 0.5 and HV 1	According to ISO6507-3 0.08 % for test force 0.1 s for testing cycle 0.4 µm for measuring system	32,000	/machine/scale	10050-30505



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
		scale HV 5, HV 10, HV 20, HV 30 and HV 50	According to ISO6507-3 0.08 % for test force 0.1 s for testing cycle 0.4 µm for measuring system	7,100	/additional scale	
				32,000	/machine/scale	10050-30205
				6,250	/additional scale	
104	Calibration of Brinell standard machine.	HBW 10/3000, HBW 10/1500, HBW 10/1000, HBW 10/500, HBW 10/250, HBW 10/100, HBW 5/750, HBW 5/250, HBW 5/125, HBW 5/62.5, HBW 5/25, HBW 2.5/187.5, HBW 2.5/62.5, HBW 2.5/31.25, HBW 2.5/15.625, HBW 2.5/6.25, HBW 1/30, HBW 1/10, HBW 1/5, HBW 1/2.5, HBW 1/1	According to ISO6506-3	33,000	/machine/scale	10050-30305
				5,750	/additional scale	
105	Dynamic growth of tyre testing machine					
	- Run-out (Radial run-out and Lateral run-out)	Nominal rim diameter, d from 102 mm to 584 mm	Radial run-out = 0.02 mm	6,250	UN Regulation No. 117 and 2721-2560	10040 - 30901
			Lateral run-out = 0.02 mm	6,250		10040 - 30902
	- Tyre speed	0 km/h to 300 km/h	0.20 km/h	6,250 / Direction		10040 - 30903
	- Centrifugal radius	127 mm to 434 mm (254 mm to 868 mm diameter)	0.11 mm	9,350		10040 - 30904
106	Endurance testing machine					
	- Tyre load	At Load index, LI = 0 to 121 (TLCC = 46 kgf to 1,450 kgf) and At Load index, LI = 122 to 279 (TLCC = 1,500 kgf to 136,000 kgf)	0.047 % for increasing force only 0.35 % for increasing and decreasing force	12,500/range/direction	UN Regulation No. 30, UN Regulation No. 54, UN Regulation No. 75 and 2718-2560, 2719-2560, 2720-2560	10040-30905
	- Surface speed	0 km/h to 300 km/h	0.20 km/h	6,250 / Direction		10040-30906
	- Drum diameter	1,700 mm and 2,000 mm	0.15 mm	9,350		10040-30907
107	Volume of Liquid	(1 to 20) L	0.15%	6,250	/ piece / range	10080-10505
		(>20 to 50) L	0.15%	10,000	/ piece / range	10080-10506
		(>50 to 100) L	0.15%	5,000	/ piece / range	10080-10507
		(>100 to 500) L	0.15%	6,875	/ piece / range	10080-10508
		(>500 to 1000) L	0.15%	10,000	/ piece / range	10080-10509
		(>1000 to 2000) L	0.15%	13,750	/ piece / range	10080-10510
		(>2000 to 3000) L	0.15%	16,250	/ piece / range	10080-10511
		(>3000 to 4000) L	0.15%	21,250	/ piece / range	10080-10512
108	Wheel deviation measurement system					
	- Run-out (vertical run-out and horizontal run-out)	0 mm to ± 2.5 mm	Vertical run-out = 0.50 mm	5,000.00	2207-2562	10040-31001
			Horizontal run-out = 0.50 mm	5,000.00		
109	Straight drive characteristic tester					

**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
	- Test angle	0° to 10°	0.20°	5,000.00	ตาม 2207-2562	10040-31002
	- Displacement	0 mm to ± 150 mm	2.0 mm	5,000.00		
110	Motor testing machine (mechanical)				DIN 51309 and IEC 60034-2-1	10040-31101
	- Machine torque	0.1 N·m to 1 N·m	0.010%	13,100.00 / Range		
		1 N·m to 1 kN·m	0.015%			
	- Rotational speed	100 RPM to 10,000 RPM	0.60 RPM	6,250.00 / Direction		