

อุปกรณ์การวัด

Vernier Caliper – เวอร์เนียแคลิเปอร์

Mitutoyo



i Mitutoyo Series 530

Order Code	Range	Metric Graduation	Inch Graduation	Accuracy
04530-104	0 - 150mm	0.05mm	1/128"	±0.05mm
04530-114	0 - 200mm	0.05mm	1/128"	±0.05mm
04530-115	0 - 300mm	0.05mm	1/128"	±0.08mm
04530-312	0 - 150mm	0.02mm	.001"	±0.03mm
04530-118	0 - 200mm	0.02mm	.001"	±0.03mm
04530-119	0 - 300mm	0.02mm	.001"	±0.04mm

Dial Caliper – แคลิเปอร์ รูนไดอัล

Mitutoyo



i Mitutoyo Series 505

Order Code	Range	Accuracy	Dial Reading
04505-671	0 - 150mm	± 0.03mm	0.02mm, 2mm/rev
04505-672	0 - 200mm	± 0.03mm	0.02mm, 2mm/rev
04505-673	0 - 300mm	± 0.04mm	0.02mm, 2mm/rev
04505-681	0 - 150mm	± 0.02mm	0.01mm, 1mm/rev
04505-682	0 - 200mm	± 0.03mm	0.01mm, 1mm/rev

Digimatic Caliper – แคลิเปอร์ รูนดิจิตอล

Mitutoyo



i Mitutoyo Series 500

Order Code	Metric Range	Inch Range	Resolution	Accuracy
04500-196	0 - 150mm	6"	0.01mm / 0.0005"	±0.02mm
04500-197	0 - 200mm	8"	0.01mm / 0.0005"	±0.02mm
04500-193	0 - 300mm	12"	0.01mm / 0.0005"	±0.03mm
04500-505	0 - 450mm	18"	0.01mm / 0.0005"	±0.05mm
04500-506	0 - 600mm	24"	0.01mm / 0.0005"	±0.05mm
04500-507	0 - 1000mm	40"	0.01mm / 0.0005"	±0.07mm

Micrometer – ไมโครมิเตอร์วัดนอก

Mitutoyo



i Mitutoyo Series 103

Order Code	Range	Accuracy	Graduation
04103-137	0 - 25mm	± 2μm	0.01mm
04103-138	25 - 50mm	± 2μm	0.01mm
04103-139-10	50 - 75mm	± 2μm	0.01mm
04103-140-10	75 - 100mm	± 3μm	0.01mm
04103-141-10	100 - 125mm	± 3μm	0.01mm
04103-142-10	125 - 150mm	± 3μm	0.01mm

Micrometer Stand – แท่นยึดไมโครมิเตอร์

SRT



Order Code

04722-101

Precision Shim Gage – แผ่นชิมวัดความหนา



Shim Tape



Shim Box



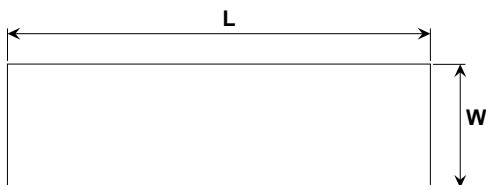
i Hasberg Shim Tape & Box

M ตัวอักษรดำ | Black Text : Carbon Steel (Shim Grade)
ตัวอักษรฟ้า | Blue Text : Stainless Steel (Shim Grade)

Thickness (mm)	Order Code						Tolerance
	Precision Shim Tape					Shim Box (10pc/box)	
	12.7mm x 2m	12.7mm x 5m	25mm x 5m	50mm x 5m	100mm x 5m	50mm x 300mm	
0.005	17R376-G5B						±0.001
0.01	17R376-01B					17R376-01K	
0.02	17R376-02B			17R376-02G		17R376-02K	±0.002
0.03	17R376-03B		17R376-03F	17R376-03G		17R376-03K	
0.04	17R376-04B					17R376-04K	
0.05	17R376-05B		17R376-05F	17R376-05G	17R376-05H	17R376-05K	±0.003
0.06	17R376-06B					17R376-06K	
0.07	17R376-07B					17R376-07K	
0.08	17R376-08B					17R376-08K	
0.09	17R376-09B					17R376-09K	±0.004
0.10	17R376-10B	17R376-10C	17R376-10F	17R376-10G	17R376-10H	17R376-10K	
0.12	17R376-12B						
0.15	17R376-15B						±0.005
0.18	17R376-18B						
0.20	17R376-20B		17R376-20F	17R376-20G	17R376-20H	17R376-20K	±0.006
0.25	17R376-25B						
0.30	17R376-30B		17R376-30F	17R376-30G	17R376-30H	17R376-30K	±0.007
0.35	17R376-35B						±0.008
0.40	17R376-40B			17R376-40G	17R376-40H	17R376-40K	
0.45	17R376-45B						±0.009
0.50	17R376-50B	17R376-50C	17R376-50F	17R376-50G	17R376-50H	17R376-50K	
0.60	17R376-60B					17R376-60K	±0.01
0.70	17R376-70B					17R376-70K	
0.80	17R376-80B					17R376-80K	±0.012
0.90	17R376-90B					17R376-90K	
1.00	17R376-A0B				17R376-A0H	17R376-A0K	±0.013

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Stainless & Brass Shim Plate – แผ่นชिमสแตนเลส และ ทองเหลือง



ORDER
EXAMPLE

Model Thickness x W x L
17ST0.05x300x2M

Model: 17ST สแตนเลสสตีล เกาต์แผ่นชิม
Stainless Steel (Shim Grade)

Thickness (mm)	W (mm)	L (M)	
0.01	100	1M	2M
0.02	150	1M	
	300	1M	2M
0.03	150	1M	
	300	1M	2M
0.04	150	1M	
	300	1M	2M
0.05	150 , 300	1M	2M
0.06	300	1M	2M
0.07	300	1M	2M
0.08	300	1M	2M
0.09	300	1M	2M
0.10	150 , 300	1M	2M
0.20	150 , 300	1M	2M
0.30	150 , 300	1M	2M
0.40	150 , 300	1M	2M
0.50	150 , 300	1M	2M
0.60	150	1M	
0.70	150 , 300	1M	2M
	150	1M	
0.80	300	1M	2M
	150	1M	
1.00	150 , 300	1M	2M
1.20	150	1M	
1.50	150	1M	
2.00	150 , 300	1M	2M
3.00	150	1M	
4.00	150	1M	
5.00	150	1M	

Model: 17BR ทองเหลือง เกาต์แผ่นชิม
Brass (Shim Grade)

Thickness (mm)	W (mm)	L (M)	
0.05	150 , 300	1M	2M
0.10	150 , 300	1M	2M
0.20	150 , 300	1M	2M
0.30	150 , 300	1M	2M
0.40	150 , 300	1M	2M
0.50	150 , 300	1M	2M
0.80	150	1.2M	
1.00	150	1M	

Customizable

แผ่นชิมสามารถตัดตามแบบได้ เพียงส่งแบบมาให้เรา
Shims can be cut to your drawing



Shim Dispenser Box – แผ่นชิมกล่อง

แผ่นชิมสแตนเลส ในกล่องใช้งานสะดวก จัดเก็บได้เป็นระเบียบขนาดต่างๆไม่ปนกัน และพกพาได้ง่ายขึ้น
Stainless steel shim in convenient shim dispenser box. Easy to store, organize, and move around.



NEW



Model: 17BTST
1ม้วนต่อกล่อง
1 roll per box

NEW

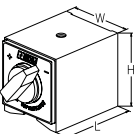
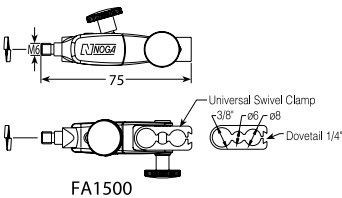
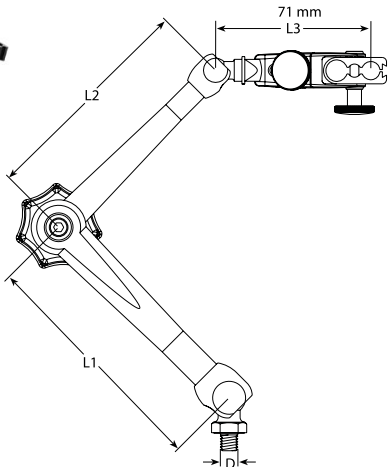


Model: 17BSST
4แผ่นต่อกล่อง
4 sheets per box

สแตนเลสสตีล เกรดแผ่นชิม
Stainless Steel (Shim Grade)

Order Code	Thickness (mm)	W (mm)	L (mm)	Pcs / Box
17BTST150-005	0.05	150	2000	1
17BTST150-010	0.10			
17BTST150-020	0.20			
17BSST150-030	0.30	150	500	4
17BSST150-040	0.40			
17BSST150-050	0.50			
17BSST150-100	1.00			

Articulated Holder (FAT) Fine Adjustment Top – ขาแม่เหล็กจับไดอัล

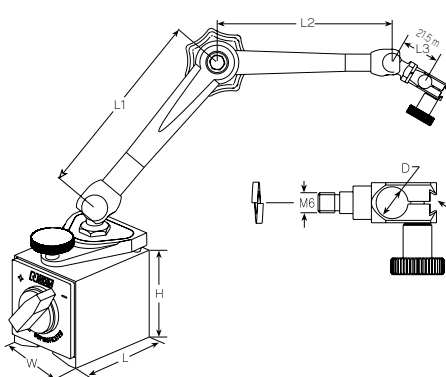


Order Code	Arm				Weight Kg	Magnet		Arm Only Order Code
	Bottom Arm (L1)	Top Arm (L2)	Applicable Holding	Bottom Thread (D)		Force N	Dimension (WxLxH)	
08NF61003	56	51	$\phi 6\text{mm}$ / $\phi 8\text{mm}$ $\phi 3/8"$ / Dovetail	M5	0.52	320	30x40x35mm	08NF60103
08DG61003	110	101		M8	1.35	800	50x60x55mm	08DG60103
08MG61003	133	113		M8	1.9	800	50x60x55mm	08MG60103
08MG71003	163.5	113		M8	1.95	800	50x60x55mm	-
08MA61003	326	242		M10 x 1.25	5.1	1300	50x120x55mm	08MA60103

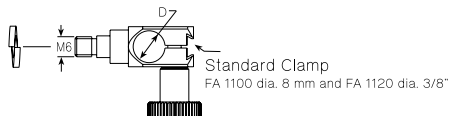
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Articulated Holder (FAB) Fine Adjustment Bottom – ขาแม่เหล็กจับไดอัล

NOGA
SIMPLY SOPHISTICATED



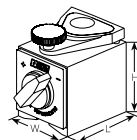
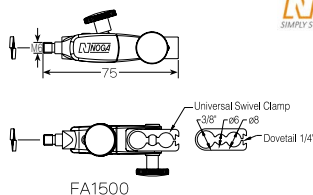
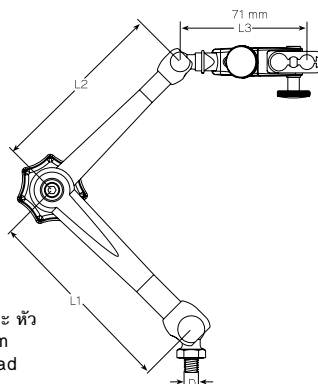
i ปรับองศาหัวได้จากที่ฐาน
Adjust clamp angle from the base



Order Code	Arm				Weight Kg	Magnet	
	Bottom Arm (L1)	Top Arm (L2)	Applicable Holding	Clamp Code		Force N	Dimension (WxLxH)
08NF10403	56	51	8	FA1100	0.520	320	30x40x35
08NF10433	56	51	3/8"	FA1120	0.520	320	30x40x35
08DG10503	110	101	8	FA1100	1.400	800	50x60x55
08DG10533	110	101	3/8"	FA1120	1.400	800	50x60x55
08MG10503	133	113	8	FA1100	1.900	800	50x60x55
08MG10533	133	113	3/8"	FA1120	1.900	800	50x60x55

(FAT & FAB) Fine Adjustment Top & Bottom – ขาแม่เหล็กจับไดอัล

NOGA
SIMPLY SOPHISTICATED



i ปรับองศาหัวได้จากที่ฐาน และ หัว
Adjust clamp angle from the base and clamp head

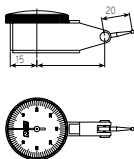
Order Code	Arm				Weight Kg	Magnet	
	Bottom Arm (L1)	Top Arm (L2)	Applicable Holding	Bottom Thread (D)		Force N	Dimension (WxLxH)
08NF6160	56	51	ø6mm / ø8mm. ø3/8" / Dovetail	Ext. M5	0.550	320	30x40x35
08DG6160	110	101		Ext. M8	1.450	800	50x60x55
08MG6161	133	113		Ext. M8	2.000	800	50x60x55

Articulated Holder Set – ชุดขาแม่เหล็ก พร้อมไดอัล



Heavy Duty Set 08NF6150

Holder: 08NF61003
Dial Indicator: 08NF1000



08NF1000

Dial diameter 39 mm.
Measuring range 0.8 mm.
Graduations 0.01 mm.
Contact point 2 mm. dia.
20.9 mm length.



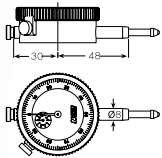
Heavy Duty Set 08MG6150

Holder: 08MG61003
Dial Indicator: 08DG1000



Heavy Duty Set 08DG6150

Holder: 08DG61003
Dial Indicator: 08DG1000



08DG1000

Dial diameter 58 mm.
Stem diameter 8 mm.
Measuring range 10 mm.
Graduations 0.01 mm.

Holder			Arm		Indicators Code	Magnet	
Order Code	Bottom Thread	Weight (Kg)	Bottom Arm (L1)	Top Arm (L2)		Force N	Dimension (WxLxH)
08NF6150	Ext. M5	0.600	56	51	NF1000	320	30x40x35
08DG6150	Ext. M8	1.600	110	101	DG1000	800	50x60x55
08MG6150	Ext. M8	2.100	113	113	DG1000	800	50x60x55

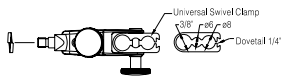
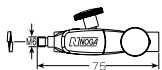
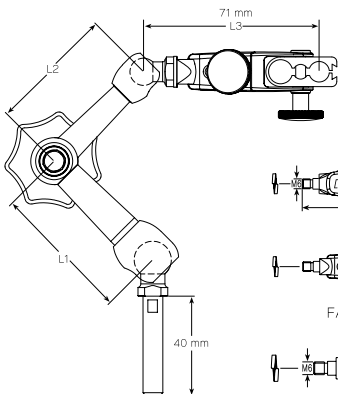
Centering Holders – แขนเซ็นเตอร์



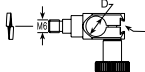
08NF1015
08NF1018

08NF1022

08DG1022



FA1500

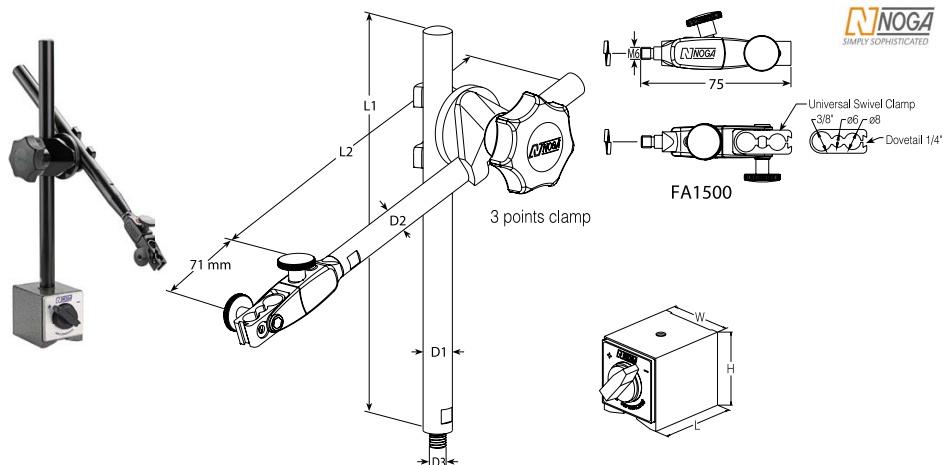


Standard Clamp
FA1100 d.a. 8 mm
FA1120 d.a. 3/8"

Holder			Arm			
Order Code	Bottom Thread	Weight (Kg)	Bottom Arm (L1)	Top Arm (L2)	Applicable Holding	Clamp Code
08NF1015	Ø8 x 40	0.271	56	51	8	FA1100
08NF1018	Ø8 x 40	0.271	56	51	3/8"	FA1120
08NF1022	Ø8 x 40	0.314	56	51	6, 8, 3/8"	FA1500
08DG1022	Ø8 x 40	0.350	110	101	6, 8, 3/8"	FA1500

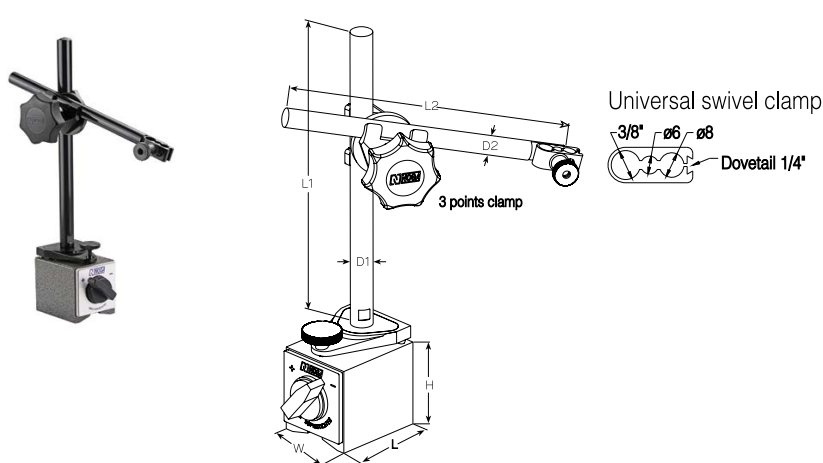
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Magnetic Stand (FAT) Fine Adjustment Top – ขาแม่เหล็กจับไดอัล แบบเสา



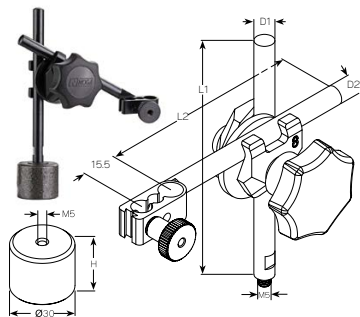
Order Code	Arm			Bottom Thread (D3)	Weight Kg	Magnet		Arm Only Order Code
	Post (D1 x L1)	Arm (D2 x L2)	Applicable Holding			Force N	Dimension (WxLxH)	
08PH6400	Ø14 x 203	Ø12 x 185	Ø6mm / Ø8mm Ø3/8" / Dovetail	M8	1.7	800	50x60x55mm	08PH6410
08PH6600	Ø16 x 260	Ø16 x 225		M8	2.3	1000	50x75x55mm	08PH6610
08PH6800	Ø18 x 350	Ø16 x 225		M10	3.45	1300	50x120x55mm	08PH6810

Magnetic Stand (FAB) Fine Adjustment Bottom – ขาแม่เหล็กจับไดอัล แบบเสา

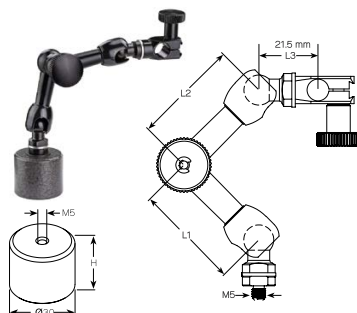


Order Code	Arm			Weight Kg	Magnet	
	Post (D1 x L1)	Arm (D2 x L2)	Applicable Holding		Force N	Dimension (WxLxH)
08PH3100	Ø10 x 120	Ø8 x 110	Ø6mm / Ø8mm Ø3/8" / Dovetail	0.500	320	30x40x35mm
08PH2040	Ø14 x 203	Ø12 x 185		1.700	800	50x60x55mm
08PH4016	Ø16 x 260	Ø16 x 225		2.450	1000	50x75x55mm

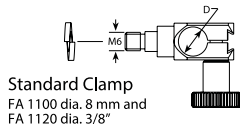
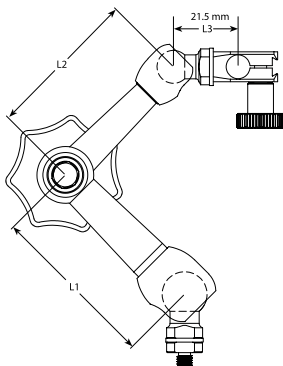
Mini Holders – ชุดขานแม่เหล็กขนาดเล็ก



Order Code	Arm			Weight Kg	Magnet	
	Post (D1 x L1)	Arm (D2 x L2)	Applicable Holding		Force N	Dimension (ØxH)
08PH5000	Ø8 x 110	Ø8 x 110	Ø6 Ø8 Ø3/8" Dovetail	0.360	200	Ø30x25



Order Code	Arm			Weight Kg	Magnet	
	Bottom Arm (L1)	Top Arm (L2)	Applicable Holding		Force N	Dimension (ØxH)
08LC6200	38	38	Ø8	0.280	200	Ø30x25
08LC6210	38	38	Ø3/8"	0.280	200	Ø30x25



Order Code	Arm			Weight Kg	Magnet	
	Bottom Arm (L1)	Top Arm (L2)	Applicable Holding		Force N	Dimension (WxLxH)
08NF1021	56	51	Ø8	0.575	320	30x40x35
08NF1024	56	51	Ø3/8"	0.575	320	30x40x35
08NF1030	56	51	Ø8	0.575	280	16x60x32
08NF1033	56	51	Ø3/8"	0.575	280	16x60x32

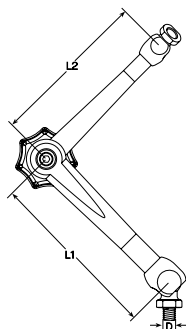
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Special Articulated Holders – ชุดขาแม่เหล็ก แบบพิเศษ



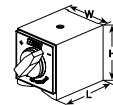
Vacuum Base Set
08DG1044

i ฐานตัววัด ใช้ได้กับพื้นผิวเรียบ
Vacuum base for flat surface



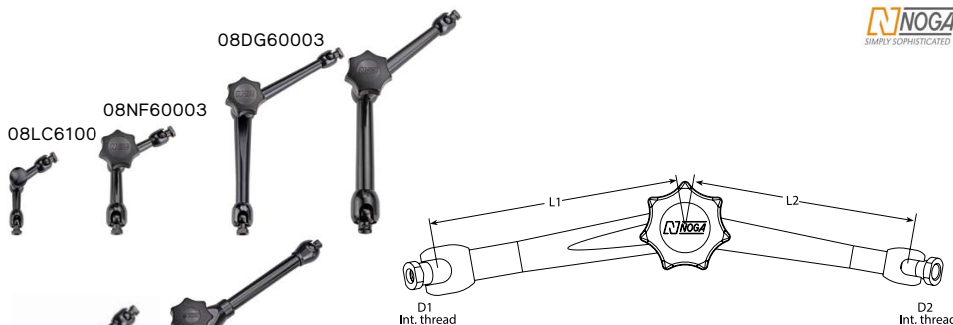
EDM Set
08DG1030
08DG1033
08MG1030
08MG1033

i หัวจับทำจากพลาสติก
สำหรับงาน EDM
Plastic dial holder
ideal for EDM



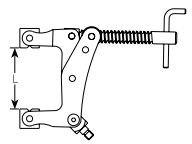
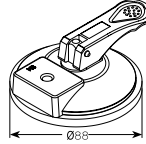
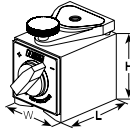
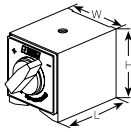
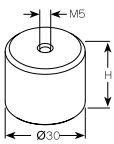
Order Code	Arm			Weight Kg	Base	
	Bottom Arm (L1)	Top Arm (L2)	Applicable Holding		Force N	Dimension (WxLxH)
08DG1044	110	101	6mm, 8mm, 3/8"	0.740	350	Ø88
08DG1030	110	101	8mm	1.350	800	50x60x55
08DG1033	110	101	3/8"	1.350	800	50x60x55
08MG1030	133	113	8mm	1.850	800	50x60x55
08MG1033	133	113	3/8"	1.850	800	50x60x55

Modular Holders – แขนจับอเนกประสงค์



Order Code	Internal Thread		Arm Length		Weight (kg)
	D1	D2	L1	L2	
08LC6100	M6	M6	38	38	0.121
08NF60003	M6	M6	56	51	0.210
08DG60003	M6	M6	110	101	0.250
08MG60003	M8	M6	133	113	0.750
08MG70003	M8	M6	163	113	0.800
08MA60003	M10x1.25	M6	326	242	3.00

Magnetic-Base and Clamp-Base – ฐานแม่เหล็ก และ แคลมป์

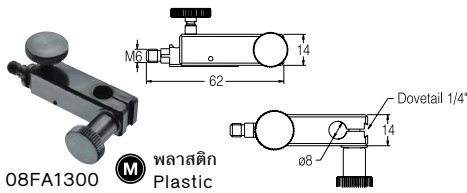


Order Code	Type	W	L	H	Force (N)	Thread
08HS1100	Round magnet	-	Ø30	25	200	M5
08NF0037	On/Off magnet	30	40	35	320	M5
08NF3778	On/Off magnet with fine adjustment	30	40	35	320	M5
08DG0036	On/Off magnet	50	60	55	800	M8
08DG3678	On/Off magnet with fine adjustment	50	60	55	800	M8
08DG0038	On/Off magnet	50	75	55	1000	M8
08DG0118	On/Off magnet with fine adjustment	50	75	55	1000	M8
08DG0039	On/Off magnet	50	120	55	1300	M10 x 1.25
08DG1003	On/Off magnet with multi threads	50	75	55	1000	M6/8/10/12 10 x 1.25
08DG0040	Vacuum base	-	Ø88	23	350	M8
08MA0322	4" clamp	-	100	-	-	Ext. M10 x 1.25
08MA0320	4" clamp	-	100	-	-	Int. M10 x 1.25
08MG1006	3" clamp	-	75	-	-	Ext. M8
08MG1003	3" clamp	-	75	-	-	Int. M8
08MG0125	3" clamp with plastic cover	-	75	-	-	Int. M8

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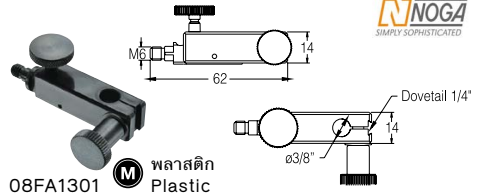
Top Attachments – ที่จับไดอัล และจับงานนอกประกอบสังค์

NOGA
SIMPLY SOPHISTICATED



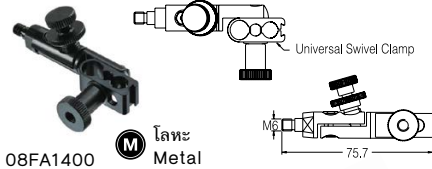
08FA1300

พลาสติก
Plastic



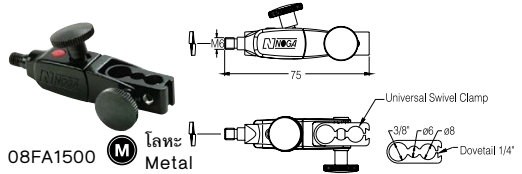
08FA1301

พลาสติก
Plastic



08FA1400

โลหะ
Metal



08FA1500

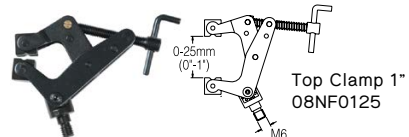
โลหะ
Metal



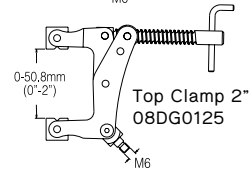
Quick Release
08AD4000



Universal Jaw Clamp
Range 45mm
08CS4550



Top Clamp 1"
08NF0125



Top Clamp 2"
08DG0125

M6 Adaptors

08AD6010		
08AD6015		
08AD6030		
08AD6060		
08AD6080		
08MA0125		

M8 Adaptors

08AD8030		
08AD8080		

M10 x 1.25 Adaptors

08AD1000		
08AD1030		
08AD1080		

Measuring

Precision Universal Magnetic Stand – ขาแม่เหล็กจับไดอัล รุ่นพรีเมียม



Mechanical
Type



03ECE-330AL



03ECE-330A



03ECE-330B



03ECE-330BS

Hydraulic
Type



03ECE-300ALL



03ECE-300AL



03ECE-300A



03ECE-300B



03ECE-300BS

Order Code	Type	Holding Power	Arm Length	Base Dimension			Net Weight
				L	W	H	
03ECE-330AL	Mechanical	100 kgf	426 mm	80 mm	50 mm	55 mm	2.2 kg
03ECE-330A		100 kgf	345 mm	80 mm	50 mm	55 mm	2.0 kg
03ECE-330B		80 kgf	345 mm	60 mm	50 mm	55 mm	1.7 kg
03ECE-330BS		80 kgf	278 mm	60 mm	50 mm	55 mm	1.5 kg
03ECE-300ALL	Hydraulic	160 kgf	667 mm	120 mm	50 mm	55 mm	3.3 kg
03ECE-300AL		100 kgf	434 mm	80 mm	50 mm	55 mm	1.9 kg
03ECE-300A		100 kgf	336 mm	80 mm	50 mm	55 mm	1.9 kg
03ECE-300B		80 kgf	336 mm	60 mm	50 mm	55 mm	1.6 kg
03ECE-300BS		80 kgf	257 mm	60 mm	50 mm	55 mm	1.4 kg

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Universal Magnetic Stand – ขาแม่เหล็กจับได้อัล



03ECE-340



03ECE-310



03ECE-320



03ECE-400



03ECE-500



03ECE-550



03ECE-600



Order Code	Holding Power	Arm Length	Base Dimension			Net Weight
			L	W	H	
03ECE-340	80 kgf	335	60	50	55	1.6 kg
03ECE-310	80 kgf	347	60	50	55	1.4 kg
03ECE-320	80 kgf	300	60	50	55	1.3 kg
03ECE-400	35 kgf	178	49	42	50	0.8 kg
03ECE-500	17 kgf	178	30	30	30	0.4 kg
03ECE-550	30 kgf	178	ø40 x 30			0.4 kg
03ECE-600	25 kgf	178	35	30	35	0.4 kg

Universal Magnetic Stand – ขาแม่เหล็กจับได้อัล



03ECE-302BA



03ECE-314



03ECE-302B



03ECE-302BV



Order Code	Holding Power	Main Pole		Sub Pole		Base Dimension			Net Weight
		Dia	L	Dia	L	L	W	H	
03ECE-302BA	80 kgf	12	176	10	230	60	50	55	1.70 kg
03ECE-314	80 kgf	-	315	-	-	60	50	55	1.60 kg
03ECE-302B	80 kgf	12	176	10	165	60	50	55	1.60 kg
03ECE-302BV	80 kgf	12	176	10	150	60	50	55	1.62 kg

Magnetic Base – ฐานแม่เหล็ก



03ECE-322PB

03ECE-318PB

03ECE-311PB

03ECE-411PB

03ECE-511PB

03ECE-611PB

Order Code	Holding Power	Tapped Hole	Base Dimension			Net Weight
			L	W	H	
03ECE-322PB	160 kgf	M8 x 1.25	120	50	55	2.00 kg
03ECE-318PB	100 kgf	M8 x 1.25	80	50	55	1.40 kg
03ECE-311PB	80 kgf	M8 x 1.25	60	50	55	1.00 kg
03ECE-411PB	35 kgf	M8 x 1.25	49	41	51	0.61 kg
03ECE-511PB	20 kgf	M8 x 1.25	30	30	30	0.2 kg
03ECE-611PB	25 kgf	M8 x 1.25	35	30	35	1.2 kg

Dial Indicator – ไดอัลอินดิเคเตอร์

Mitutoyo



042046S



042050S
042052S



042109S

Order Code	Range (range / rev)	Graduation	Accuracy	Dial Reading	Measuring Force
042046S	10mm (1mm)	0.01mm	±13μm	0-100	1.4N or less
042050S	20mm (1mm)	0.01mm	±20μm	0-100	2.0N or less
042052S	30mm (1mm)	0.01mm	±25μm	0-100	2.5N or less
042109S	1mm (0.2mm)	0.001mm	±5μm	0-100	1.5N or less

Dial Test Indicator – ไดอัลเทสอินดิเคเตอร์

Mitutoyo



04513-404E



04513-405E



04513-401E

Order Code	Graduation	Range	Accuracy	Dial Reading	Measuring Force
04513-404E	0.01mm	0.8mm	0.008mm	0-40-0	0.3N or less
04513-405E	0.002mm	0.2mm	0.003mm	0-100-0	0.3N or less
04513-401E	0.001mm	0.14mm	0.003mm	0-70-0	0.3N or less

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Pin Gage Box – ชุดกล่องพินเกจ



สามารถสั่งเป็นกล่องหรือแยกชิ้น พินเกจขนาดมาตรฐาน Class ZZ
Class ZZ Pin Gage can be ordered in box set or individually



M Tool Steel HRC60-62 **i** Overall Length: 50mm
Class ZZ Tolerance

Box Range (0.02 step)	Example	No. of pins	Order Code		Class ZZ Tolerance
			Minus / NoGo (-)	Plus / GO (+)	
0.20 - 1.28	0.20-0.22-0.24....1.28	55	04102200100	04102100100	(0.00508mm)
0.21 - 1.29	0.21-0.23-0.25....1.29	55	04102400100	04102300100	
1.30 - 4.98	1.30-1.32-0.34....4.88	185	04102200200	04102100200	
1.31 - 4.99	1.31-1.33-0.35....4.89	185	04102400200	04102300200	
5.00 - 9.98	5.00-5.02-5.04....9.98	250	04102200300	04102100300	
5.01 - 9.99	5.01-5.03-5.05....9.99	250	04102400300	04102300300	
10.00 - 13.98	10.00-10.02-10.04....13.98	200	04102200400	04102100400	
10.01 - 13.99	10.01-10.03-10.05....13.99	200	04102400400	04102300400	
14.00 - 16.48	14.00-14.02-14.04....16.48	125	04102200500	04102100500	
14.01 - 16.49	14.01-14.03-14.05....16.49	125	04102400500	04102300500	
16.50 - 18.98	16.50-16.52-16.54....18.98	125	04102200600	04102100600	
16.51 - 18.99	16.51-16.53-16.55....18.99	125	04102400600	04102300600	
19.00 - 20.98	19.00-19.02-19.04....20.98	100	04102200700	04102100700	19.00 - 20.96 (0.00508mm)
19.01 - 20.99	19.01-19.03-19.05....20.99	100	04102400700	04102300700	
21.00 - 22.48	21.00-21.02-21.04....22.48	75	04102200800	04102100800	20.96 - 25.49 (0.00610mm)
21.01 - 22.49	21.01-21.03-21.05....22.49	75	04102400800	04102300800	
22.50 - 23.98	22.50-22.52-22.54....23.98	75	04102200900	04102100900	
22.51 - 23.99	22.51-22.53-22.55....23.99	75	04102400900	04102300900	
24.00 - 25.48	24.00-24.02-24.04....25.48	75	04102201000	04102101000	
24.01 - 25.49	24.01-24.03-24.05....25.49	75	04102401000	04102301000	

Individual Pin Gage – พินเกจจำหน่ายแยกชิ้น



i การสั่งซื้อ โปรดระบุขนาดของพินเกจที่ต้องการ
Please specify pin gage sizes you need with ordering



Range (step 0.01)	Example	No. of pins	Class ZZ (Tolerance)
0.20 - 25.49	0.20-0.21-0.22....25.49	1	Range 00.20 - 20.96 (0.00508mm) Range 20.96 - 25.49 (0.00610mm)

Plain Plug Gage – ปลั๊กเกจ

GO Gage (+)



Large Size > 25.4



NOGO Gage (-)



Ⓜ Tool Steel : HRC60 ~ 62
Chrome Plated : HRC70 ~ 72
Carbide : HRA90 ~ 92

GO/NOGO Gage (+) (-)



1.ระบุคลาสที่ต้องการ
Specify gage class

2.ระบุว่าการเกจ GO, NOGO, GO/NOGO, หรือ Master
Specify the type GO, NOGO, GO/NOGO, or Master

3.ระบุวัสดุที่ต้องการ
Specify material

Size (0.001mm step)	Class	Tolerance GO(+) • NoGo(-) • Master(±)	Tool Steel	Chrome Plated	Carbide
0.101 - 20.960	XX	0.00051	○	○	○
	X	0.00102	○	○	○
	Y	0.00178	○	○	○
	Z	0.00254	○	○	○
20.961 - 25.400	XX	0.00076	○	○	○
	X	0.00152	○	○	○
	Y	0.00229	○	○	○
	Z	0.00305	○	○	○
25.401 - 38.350	XX	0.00076	○	X	X
	X	0.00152	○		
	Y	0.00229	○		
	Z	0.00305	○		
38.35 - 63.75	XX	0.00102	○		
	X	0.00203	○		
	Y	0.00305	○		
	Z	0.00406	○		
63.75 - 114.55	XX	0.00127	○		
	X	0.00254	○		
	Y	0.00381	○		
	Z	0.00508	○		
114.55 - 152.65	XX	0.00165	○		
	X	0.00330	○		
	Y	0.00483	○		
	Z	0.00635	○		

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Plain Ring Gage - รিংเกจ



(M) Tool Steel : HRC60 ~ 62
 Chrome Plated : HRC70 ~ 72
 Carbide : HRA90 ~ 92

(!) จำหน่ายเป็นชิ้น
 Sold individually



1.ระบุคลาสที่ต้องการ
 Specify gage class

2.ระบุความต้องการเกจ GO, NOGO, หรือ Master
 Specify the type GO, NOGO, or Master

3.ระบุวัสดุที่ต้องการ
 Specify material type

Size (0.01mm step)	Class	Tolerance GO(-) • No/Go(+) • Master(±)	Tool Steel / Chrome Plated	Carbide
1.520 - 20.960	XX	0.00051	O	O
	X	0.00102	O	O
	Y	0.00178	O	O
	Z	0.00254	O	O
20.961 - 25.400	XX	0.00076	O	O
	X	0.00152	O	O
	Y	0.00229	O	O
	Z	0.00305	O	O
25.401 - 38.350	XX	0.00076	O	O
	X	0.00152	O	O
	Y	0.00229	O	O
	Z	0.00305	O	O
38.35 - 63.75	XX	0.00102	O	X
	X	0.00203	O	
	Y	0.00305	O	
	Z	0.00406	O	
63.75 - 114.55	XX	0.00127	O	
	X	0.00254	O	
	Y	0.00381	O	
	Z	0.00508	O	
114.55 - 165.35	XX	0.00165	O	
	X	0.00330	O	
	Y	0.00483	O	
	Z	0.00635	O	
165.35 - 228.85	XX	0.00203	O	x
	X	0.00406	O	
	Y	0.00610	O	
	Z	0.00813	O	
228.85 - 305.05	XX	0.00254	O	
	X	0.00508	O	
	Y	0.00762	O	
	Z	0.01016	O	

Measuring

Thread Gage – เกจวัดเกลียว



Thread Plug Gage 6H
GO /NOGO (GPIP)



Thread Ring Gage 6g
GO /NOGO (GRIR)

จำหน่ายเป็นชุด GO/NOGO
Sold in set of GO/NOGO

Size	Order Code	
	Plug Gage 6H GO/NOGO (GPIP)	Ring Gage 6g GO/NOGO (GRIR)
M1.6 x 0.35	04302101030	04362101030
M1.8 x 0.35	04302102530	04362102530
M2.0 x 0.40	04302104030	04362104030
M2.2 x 0.45	04302105530	04362105530
M2.5 x 0.35	04302106030	04362106030
M2.5 x 0.45	04302107030	04362107030
M3.0 x 0.35	04302108030	04362108030
M3.0 x 0.50	04302108530	04362108530
M3.5 x 0.35	04302109030	04362109030
M3.5 x 0.60	04302110030	04362110030
M4.0 x 0.50	04302111030	04362111030
M4.0 x 0.70	04302111530	04362111530
M4.5 x 0.50	04302112030	04362112030
M4.5 x 0.75	04302113030	04362113030
M5.0 x 0.50	04302113530	04362113530
M5.0 x 0.80	04302114530	04362114530
M5.5 x 0.50	04302115030	04362115030
M5.5 x 0.75	04302116030	04362116030
M6.0 x 0.75	04302117030	04362117030
M6.0 x 1.00	04302117530	04362117530
M7.0 x 0.75	04302118030	04362118030
M7.0 x 1.00	04302119030	04362119030
M8.0 x 0.75	04302119530	04362119530
M8.0 x 1.00	04302120030	04362120030
M8.0 x 1.25	04302120530	04362120530

Size	Order Code	
	Plug Gage 6H GO/NOGO (GPIP)	Ring Gage 6g GO/NOGO (GRIR)
M9.0 x 0.75	04302120730	04362120730
M9.0 x 1.00	04302121030	04362121030
M9.0 x 1.25	04302122030	04362122030
M10.0 x 0.75	04302123030	04362123030
M10.0 x 1.00	04302124030	04362124030
M10.0 x 1.25	04302124530	04362124530
M10.0 x 1.50	04302125530	04362125530
M11.0 x 0.75	04302126030	04362126030
M11.0 x 1.00	04302126530	04362126530
M11.0 x 1.50	04302127030	04362127030
M12.0 x 1.00	04302128030	04362128030
M12.0 x 1.25	04302128530	04362128530
M12.0 x 1.50	04302129530	04362129530
M12.0 x 1.75	04302130530	04362130530
M14.0 x 1.00	04302131030	04362131030
M14.0 x 1.25	04302131530	04362131530
M14.0 x 1.50	04302132030	04362132030
M14.0 x 2.00	04302133030	04362133030
M15.0 x 1.00	04302134530	04362134530
M15.0 x 1.50	04302135530	04362135530
M16.0 x 1.00	04302136030	04362136030
M16.0 x 1.50	04302137030	04362137030
M16.0 x 2.00	04302138030	04362138030
M17.0 x 1.00	04302139530	04362139530

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Thread Gage – เกจวัดเกลียว



Thread Plug Gage 6H
GO /NOGO (GPIP)



Thread Ring Gage 6g
GO /NOGO (GRIR)

i จำหน่ายเป็นชุด GO/NOGO
Sold in set of GO/NOGO

Size	Order Code	
	Thread Plug 6H GO/NOGO (GPIP)	Ring 6g GO/NOGO (GRIR)
M17.0 x 1.50	04302140530	04362140530
M18.0 x 1.00	04302141030	04362141030
M18.0 x 1.50	04302142030	04362142030
M18.0 x 2.00	04302142530	04362142530
M18.0 x 2.50	04302143030	04362143030
M20.0 x 1.00	04302144530	04362144530
M20.0 x 1.50	04302145530	04362145530
M20.0 x 2.00	04302146030	04362146030
M20.0 x 2.50	04302146530	04362146530
M22.0 x 1.00	04302147030	04362147030
M22.0 x 1.50	04302148030	04362148030
M22.0 x 2.00	04302148530	04362148530
M22.0 x 2.50	04302149030	04362149030
M24.0 x 1.00	04302149530	04362149530
M24.0 x 1.50	04302150030	04362150030
M24.0 x 2.00	04302150530	04362150530
M24.0 x 3.00	04302151530	04362151530
M25.0 x 1.00	04302152030	04362152030
M25.0 x 1.50	04302153030	04362153030
M25.0 x 2.00	04302154030	04362154030
M26.0 x 1.00	04302155530	04362155530
M26.0 x 1.50	04302156530	04362156530
M27.0 x 1.00	04302157030	04362157030
M27.0 x 1.50	04302157530	04362157530
M27.0 x 2.00	04302158030	04362158030

Size	Order Code	
	Thread Plug 6H GO/NOGO (GPIP)	Ring 6g GO/NOGO (GRIR)
M27.0 x 3.00	04302159030	04362159030
M28.0 x 1.00	04302160530	04362160530
M28.0 x 1.50	04302161530	04362161530
M28.0 x 2.00	04302162530	04362162530
M30.0 x 1.00	04302163030	04362163030
M30.0 x 1.50	04302164030	04362164030
M30.0 x 2.00	04302165030	04362165030
M30.0 x 3.50	04302166030	04362166030
M32.0 x 1.50	04302167530	04362167530
M32.0 x 2.00	04302168530	04362168530
M33.0 x 1.50	04302169030	04362169030
M33.0 x 2.00	04302170030	04362170030
M33.0 x 3.50	04302171030	04362171030
M35.0 x 1.50	04302172530	04362172530
M36.0 x 1.50	04302173030	04362173030
M36.0 x 2.00	04302174030	04362174030
M36.0 x 3.00	04302175030	04362175030
M36.0 x 4.00	04302176030	04362176030
M38.0 x 1.50	04302177530	04362177530
M39.0 x 1.50	04302178030	04362178030
M39.0 x 2.00	04302179030	04362179030
M39.0 x 3.00	04302180030	04362180030
M39.0 x 4.00	04302181030	04362181030

Measuring

Precision Flat Level – ระดับน้ำ



Order Code	Size	Precision (per/m)	V-Groove : Flat Face
04542-1502	150	0.02mm / 4Sec	0.01
04542-2002	200	0.02mm / 4Sec	0.01
04542-2502	250	0.02mm / 4Sec	0.01
04542-3002	300	0.02mm / 4Sec	0.01

Hardness Tester Files – ตะไบตรวจสอบความแข็ง



Order Code	Set Included		
	Color	HRC Hardness	HV Hardness
04SRT-HTF-6S	Red	HRC 40-42	HV 392-412
	Yellow	HRC 45-47	HV 446-471
	Light-Green	HRC 50-52	HV 513-544
	Green	HRC 55-57	HV 595-633
	Blue	HRC 60-62	HV 697-746
	Black	HRC 65-67	HV 800-865

สำหรับการตรวจสอบความแข็งอย่างง่าย

วิธีการใช้ นำตะไบที่แข็งที่สุดไปถูกับชิ้นงานที่จะวัด ถ้าหากเป็นรอย ให้ลดความแข็งแรงลง 1 เบอร์ ลดตะไบลงจนกว่าจะไม่เกิดรอยบนผิวโลหะ ความแข็งแรงของโลหะจะอยู่ระหว่างตะไบที่ไม่ทำให้เกิดรอย และเบอร์สุดท้ายที่ทำให้มีรอย

A simple experimental tools for measuring hardness

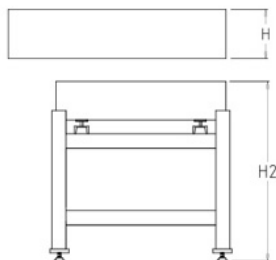
Using direction : pick the hardest file and scratch onto testing surface, if scratch line appear then use softer file until no scratch line appear. The hardness of the testing object then should be between the non-scratching file and the scratching file.

อุปกรณ์การวัด

Granite Surface Plate – โต๊ะระดับหินแกรนิต



(M) Surface Plate : Granite
Stand : Steel



i สามารถสั่งพร้อมขาตั้ง หรือสั่งเฉพาะโต๊ะระดับได้
Can be ordered with stand or surface plate only

Order Code		Surface Plate			Plate + Stand	Surface Flatness Grade 0
Surface Plate + Stand	Surface Plate Only	W	L	H	H2	
04STS25-30-ST	04STS25-30	250	300	60	800 - 950 Height adjustable	±0.003
04STS30-45-ST	04STS30-45	300	450	75		±0.003
04STS45-45-ST	04STS45-45	450	450	75		±0.004
04STS45-60-ST	04STS45-60	450	600	100		±0.005
04STS60-60-ST	04STS60-60	600	600	130		±0.005
04STS60-90-ST	04STS60-90	600	900	130		±0.005
04STS75-100-ST	04STS75-100	750	1000	150		±0.006
04STS90-100-ST	04STS90-100	900	1000	150		±0.007
04STS90-120-ST	04STS90-120	900	1200	150		±0.007
04STS100-100-ST	04STS100-100	1000	1000	150		±0.007
04STS100-150-ST	04STS100-150	1000	1500	200		±0.008
04STS100-200-ST	04STS100-200	1000	2000	250		±0.009

Granite Cleaner – น้ำยาทำความสะอาดหินแกรนิต



น้ำยาทำความสะอาดหินแกรนิต และหินอ่อน ไม่ทำลายผิวหิน และขีด
ฝุ่นออกอย่างหมดจด

For cleaning of granite and marble surface.

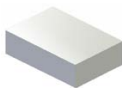
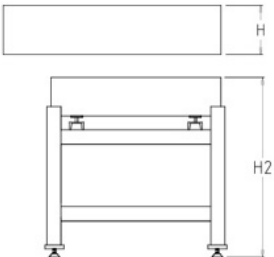
Won't damage the stone, and leave no dust behind.

Order Code	Volume
04GC-0300	300cc

Cast Iron Surface Plate – โต๊ะระดับเหล็กหล่อ



Surface Plate : Cast Iron
Scraped Surface
Stand : Steel



สามารถสั่งพร้อมขาตั้ง หรือสั่งเฉพาะโต๊ะระดับได้
Can be ordered with stand or surface plate only

Order Code		Surface Plate			Plate + Stand
Surface Plate + Stand	Surface Plate Only	W	L	H	H2
04AI30-30-ST	04AI30-30	300	300	60	800 - 880 Height adjustable
04AI30-45-ST	04AI30-45	300	450	75	
04AI45-45-ST	04AI45-45	450	450	75	
04AI45-60-ST	04AI45-60	450	600	100	
04AI60-60-ST	04AI60-60	600	600	100	
04AI60-90-ST	04AI60-90	600	900	110	
04AI90-90-ST	04AI90-90	900	900	125	
04AI90-120-ST	04AI90-120	900	1200	150	
04AI100-100-ST	04AI100-100	1000	1000	135	
04AI100-150-ST	04AI100-150	1000	1500	150	
04AI100-200-ST	04AI100-200	1000	2000	170	