OMAX Digital NEEDLE DETECTOR USER TRAINING COURSE





Presented by

HCL Asia Ltd since 2001 in Hong Kong

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professionally focusing on research in "Needle Management" since 1998

 having conducted dozens of times of seminars and workshops for many worldwide renowned retailers or QA professionals.

continuously enhancing the code of practice and the knowledge in the area of needle control policy in clothing industry.



Workshops







Today you will learn...

- About all machine settings
 How to adjust threshold 0.8/1.0/1.2mm
- How to measure metal signal from garments and trims
- How to do 9-point test
- About double-detection

Ferrous Test Samples





 <u>1.0mm</u> ferrous test card will be used throughout the following video demo.

 QMAX <u>special</u> ferrous test sample block with different height (i.e., 10/20/30/40mm)



Touch Screen



Version: 1.1

Dual language interface: English / Chinese

Touch to select language

OMAX Main Function Menu

			_
New Task	Sensitivity	Threshold	Level study
	00	12	
Self Check	Reverse	Auto Start	Counter
	·		E
TouchScreen	Clock	Print	OtherSetting

New Task



Sensitivity



showing threshold at 18% level

• Allowing 82% product signal to pass through without triggering the alarm



Threshold (1/4)



Enter password to select sensitivity



Threshold (2/4)



selecting 0.8mm to set threshold at 92% level
Allowing 8% product signal to pass through without triggering the alarm



Threshold (3/4)

2007/0
SET NEW PASSWORD
SET SENSITIVITY
II

 selecting 1.0mm to set threshold at 76% level

 Allowing 24% product signal to pass through without triggering the alarm



Threshold (4/4)

PRESET Fe Ø0.8 MM	SET NEW PASSWORD
PRESET Fe ø 1.0 MM	SET SENSITIVITY
PRESET Fe ø 1.2 MM	EXIT

selecting 1.2mm to set threshold at 58% level
Allowing 42%

product signal to pass through without triggering the alarm



Threshold (VIDEO)

selecting different sensitivity to set threshold signal allowance



OMAX Level study (signal measuring)



Presenting garment / trims / ferrous test card to measure the metal signal (%)



Level study (VIDEO)

Different garment producing different signal level

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Hain Fi	Inction Hem Bensitionty	u Threshold	2021-10-18 Lovel study	
Selr Check	Reverse	Auto Start	Counter	
TouchScreen	Clock	Print	OtherSetting	
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Level study (product learn)





- If inherent product signal is relatively high, using "Product Learn" can set a new threshold.
- The garment will be scanned three times during the learning process.
- Ideal for stone-washed garment, denim, difficult accessories, or with relatively high inherent product signal.



Self Check



Press START to activate (1) Environment Test & (2) Conveyor Belt Test





Self Check



Self Check

step 1: Environment Test	
	7.
step 2: ConveyorBelt Test	
	7.
START	EXIT



- Self Test can be activated by user at anytime if needed
- Machine will carry out 2 tests:
- 1. Environment Test 2. Conveyor Belt Test

Main Function Menu 2027.03.21 Main Function Menu 2027.03.21 Main Function Menu 2027.03.21 Main Function Menu Image: Construction function funct

Reverse

Default reverse distance is 60cm





Auto Start

Default setting is YES [Y] Select NO [N] to deactivate auto start



Auto Start & Auto-Retract

Auto Restart 2007/03/31	Reverse Setting
Set Restart Automatically ?	$\begin{bmatrix} 0 & 1 & 2 & 3 & 4 \end{bmatrix}$
Y CONFIG N NOTE: If you select "Y", machine will restart after belt return. Or set	56789
"N" you should restart manually. Press button CONFIG to set the delay time.	NOTE: If you select numeric button 0, means non reversion. If you select numeric button 1 to 9, belt will reverse 10 to 90 cm.
OK	OK

- Conveyor belt can be set to auto-start and / or auto-retract
- Help increase the productivity
- Belt speed: 32 m / min (50Hz)
- Hourly throughput : 2,000 pieces of garments



Counter

Default setting is ON Select OFF to deactivate the counter. Photo sensor will be turned off





Counter

Sensitivity	2007/03/31
0 1 2 3 4 5	6 7 8 9
Counter	
ORIGErr ØPass	1 Sum 1
TASKErr ØPass	0 Sum 0
System State	
RESTART: ON REVERSE LU: 6	RUN EXIT



- No. of pieces PASSED (=PASS)
- No. of pieces DETECTED (=ERR)
- Total no. of pieces INSPECTED (= SUM)
- Record can be reset to zero at user's own choice
- Counter function can be switched OFF or ON at user's own choice



Clock

Press on the screen to select. Press UP / DOWN to adjust.

Time&Date Setting

14:13 2021/01/12

2021/01/12 14:13:46







Print

Press PRINT to produce a paper report





Print

QMAX META	L DETECTOR REPORT
*****	* * * * * * * * * * * * * * * * * * * *
TASK COUNTER	
Passed :	285
Detected :	15
Total :	300
ORIGINAL COUNTER	
Passed :	1150
Detected :	50
Total :	1200
*****	* * * * * * * * * * * * * * * * * * * *
2005/12/02	13:18:14



Printer is included

- No driver installation needed
- Normal print paper roll
- Ideal for data management / QA monitoring



EX I 1

Print Samples of Print Reports

0M	X M	ETAL	DET	ECTOR
DETECT	ING	ANAL	YZE	REPORT

Normal Channel0: Unnormal Channel1: Normal Channel2: Normal Channel2: Normal Channel3: Normal Channel4: Normal Channel5: Normal Channel6: Normal Channel6: Normal Channel6: Normal Channel9: Normal Channel9: Normal Channel9:

OMAX METAL DETECTOR TASK REPORT

************	******	*******************
TASK COUNTER		
Passed	:	6
Detected	:	1
Total	:	7
ORIGINAL COUNTER		
Passed	:	6
Detected	:	2
Total	:	8
**************	******	******************
20	007/04/1	7 17:52:00

RWAX HETAL DETECTOR SELF-TEST REPORT

Environment Test : CM

Conveyor Belt Test : 000

2007/04/17 17:59:10

Other Settings



 Counter record to be cleared.
 Timer calibration setting from 0 to 4 hours interval (seldom used)





9 Point Test

9-point Position

CROSS SECTION OF NEEDLE DETECTOR TUNNEL				
ТОР	A7	A8	A9	
CENTRE	A4	A5	A6	
BOTTOM	A1	A2	A3	



9 Point Test

9-Point Position



Different position results in different metal signal

OMAX 9 Point Test (VIDEO)

Ferrous Test card & calibration block is used



9 Point Test (VIDEO)

Ferrous test block is used



OMAX Different metal signal (video) at different point

ALIBRATION BLOCK

60x60x80mm For Needle Detecto

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DUS VETU, STHO

Metal locator





- 10 detecting sensors (built-in from left to right naming from 0 to 9) across the aperture
- Needle fragment on the garment will be located
- LED indicator display (e.g., 3X = Sensor #3) shows the needle position
- Handheld needle detector can be a supplementary tool

OMA Deactivating Counter before calibration



OMAX Product too close to the detection head



OMAX Handheld detector limitations



Trims ferrous signal

Inherent Ferrous Signal on garments

- Metal Component of Various Trims: Zipper, Buttons, Buckles, etc.
- Heavy Metal Dye-Stuff (esp. in Black color, Dark Navy) on Fabrics or Plastics
- Shape or structure of metal trims (e.g. Loop effect)
- Mineral elements from Stonewash or Garment-wash
- Re-cycled papers



OMAX Trims ferrous signal (video)



Ferrous Metal Standard 0.8mm / 1.0mm / 1.2mm



Ferrous Metal Standard

How different in % are their signals?





Ferrous Metal Standard

Circumference

Metal Sphere Diameter (mm)	Sphere Volume* (mm ³)	Relative %**	⊢radius – — diameter ——
0.8mm	0.27mm ³	52%	
1.0mm	0.52mm ³	100%	
1.2mm	0.90mm ³	173%	
1.5mm	1.77mm ³	340%	
* Sphere volume **100% = 0.52mm ³	$= \frac{4}{3} \bullet \pi \bullet r^3$		

Aperture Size vs Sensitivity

Which aperture is more sensitive?

Tunnel [A] : 20cm H x 65cm W Tunnel [B] : 10cm H x 65cm W





OMAX Aperture Size vs Sensitivity

Which aperture is more sensitive?

Tunnel [A] : 20cm H x 65cm W Tunnel [B] : 10cm H x 65cm W



OMAX Needle Orientation

Which one produces higher signal?



OMAX Needle Orientation





Double-Detection

- 1st Check ✓
 - Standard Checking (minimum practice)
- 2nd Check ✓ ✓
 - Turn the garment 90° & "upside down", then check again (secure practice)

** Double-Detection can greatly reduce the risk of un-checked items **



Double-Detection





Double-Detection

2nd time



Double Detection



Double Detection



Questionnaires

Use your mobile phone to scan this QR code to fill in the questionnaires



Or click https://forms.gle/pG9vE879rf6VW2NT8

Download PDF

Use your mobile phone to scan this QR code to download the entire training PDF file



Or click http://www.hcl-asia.com.hk/catalog/QMAX_NF-1_Training_EN.pdf



YouTube

Use your mobile phone to scan this QR code to WATCH the entire operation training content



Or click https://www.youtube.com/watch?v=-UC1dYGIkzk&t=103s



Thank You!

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QMAX NF-1

Demo

Needle Detection Seminars



QMAX NF-1 world photo gallery



YouTube channel



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