



Eagle Test Report

Cargill's Chicken Meat

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Cargill

eagle
QUALITY. ASSURED.

Product Test Report

Date: 19 Jun 2015

Package Type: Bulk

Eagle XR: Pack 430PRO – Hi Ray 9 – 0.8mm Detector

Product Description: Chicken Meat

Objective: Chicken Bone Detection

Test Conditions

- The tests are conducted in an exhibition environment using actual x-ray inspection equipment, which is representative to those used in an actual production environment. A limited sample size is used, thereby placing limitations on the possible variations that will be present in the actual production environment.

Method

- The system utilizes multiple algorithms simultaneously to determine the presence of contaminants within the product. Each one of these are individually tuned to determine the presence of various densities and sizes i.e. metals, glass, stones, mass, etc...

Tested Bone

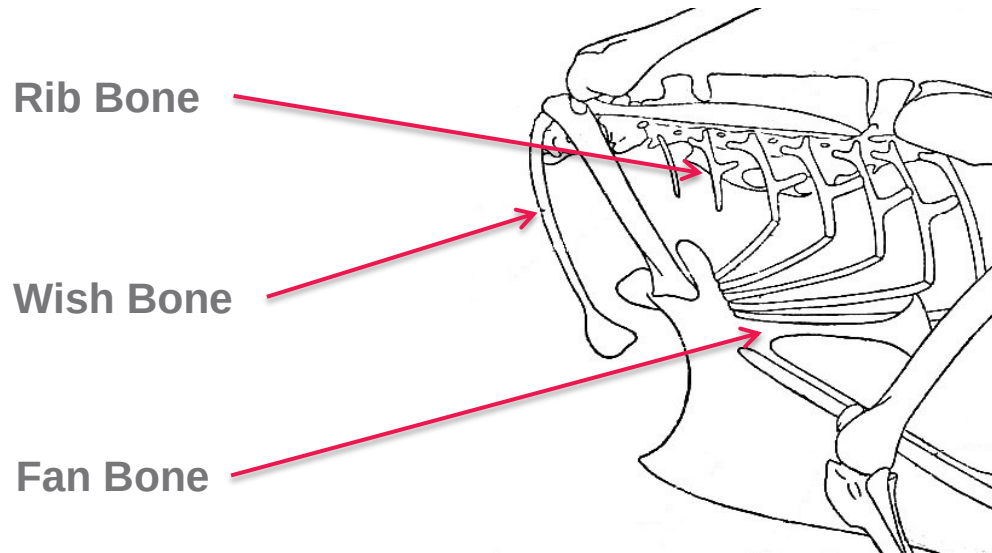
Date: 19 Jun 2015

Package Type: Bulk

Eagle XR: Pack 430PRO – Hi Ray 9 – 0.8mm Detector

Product Description: Chicken Meat

Objective: Chicken Bone Detection



Product- Chicken Meat 1/3

Date: 19 Jun 2015

Package Type: Bulk

Eagle XR: Pack 430PRO – Hi Ray 9 – 0.8mm Detector

Product Description: Chicken Meat

Objective: Chicken Bone Detection

1. SBB Whole



Product- Chicken Meat 2/3

Date: 19 Jun 2015

Package Type: Bulk

Eagle XR: Pack 430PRO – Hi Ray 9 – 0.8mm Detector

Product Description: Chicken Meat

Objective: Chicken Bone Detection

2. BB Skin



Product- Chicken Meat 3/3

Date: 19 Jun 2015

Package Type: Bulk

Eagle XR: Pack 430PRO – Hi Ray 9 – 0.8mm Detector

Product Description: Chicken Meat

Objective: Chicken Bone Detection

3. SBL Trim



Product- Chicken Meat

Date: 19 Jun 2015

Package Type: Bulk

Eagle XR: Pack 430PRO – Hi Ray 9 – 0.8mm Detector

Product Description: Chicken Meat

Objective: Chicken Bone Detection

1. SBB Whole



2. BB Skin

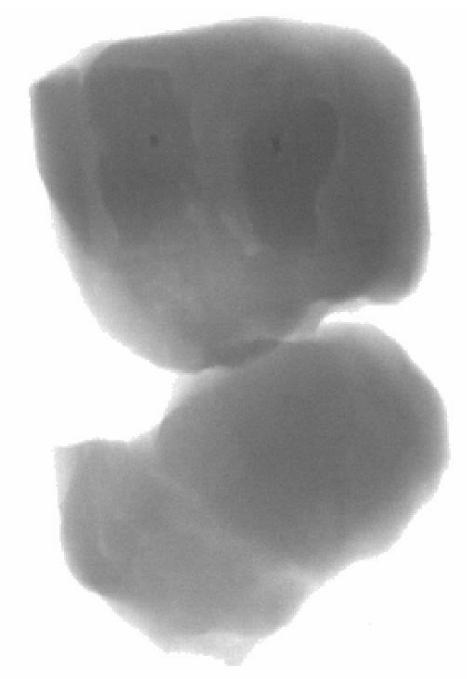


3. SBL Trim

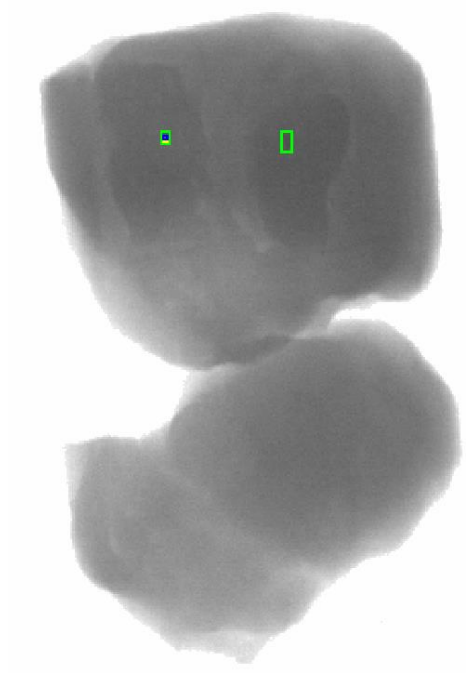


Test Result- SBB Whole

Untagged Image



Tagged Image



Wish Bone

1.1 Size 2.25 x 2.75 x 1.99 mm

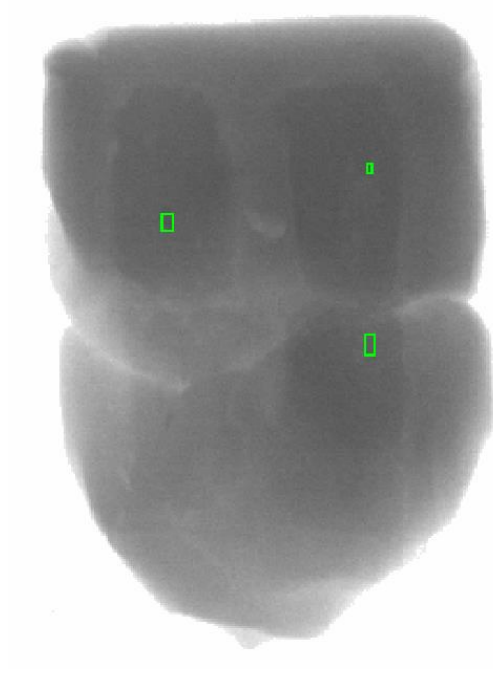
1.2 Size 2.52 x 4.20 x 2.00 mm

Test Result- SBB Whole

Untagged Image



Tagged Image



Rib Bone

3.1 Size 2.55 x 3.46 x 2.24 mm

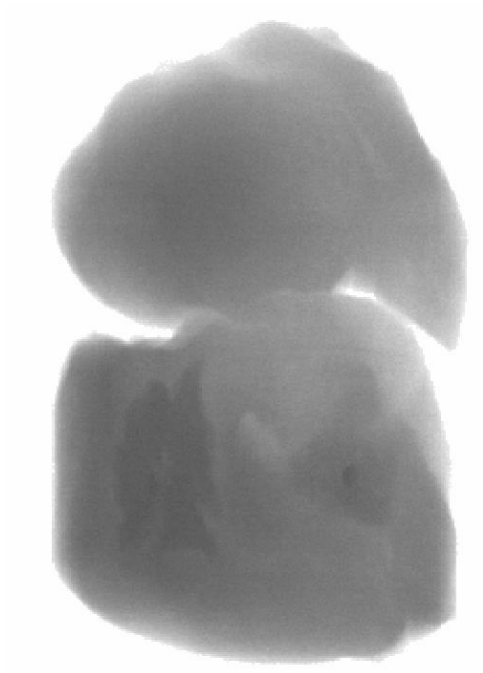
Neck Bone

4.1 Size 3.19 x 3.23 x 2.08 mm

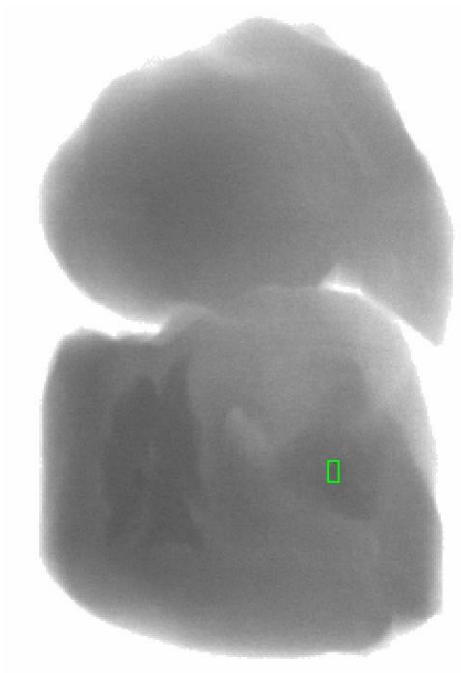
4.2 Size 3.33 x 4.71 x 2.23 mm

Test Result- SBB Whole

Untagged Image



Tagged Image



Hard Bone Inside Joint
5.2 Size 4.70 x 4.49 x 3.02 mm

Test Result- SBB Whole



BB Type		Bone Size		SBB Whole												
		WxLxT (mm)		Test	1	2	3	4	5	6	7	8	9	10	%	
1	Wish Bone	1.1	2.25 x 2.75 x 1.99	D	x		x	x	x	x	x	x	x	x	90%	
				N		x										
		1.2	2.52 x 4.20 x 2.00	D	x	x	x	x		x	x	x	x	x	90%	
				N					x							
2	Fan Bone	2.1	10.73 x 14.11 x 1.65	D											0%	
				N	x	x	x	x	x	x	x	x	x	x		
		2.2	5.19 x 5.66 x 2.05	D				x	x			x			30%	
				N	x	x	x			x	x		x	x		
3	Rib Bone	3.1	2.55 x 3.46 x 2.24	D	x	x		x			x	x			50%	
				N			x		x	x			x	x		
		3.2	2.45 x 5.06 x 1.93	D											0%	
				N	x	x	x	x	x	x	x	x	x	x		
4	Neck Bone	4.1	3.19 x 3.23 x 2.08	D	x	x		x	x	x		x	x	x	80%	
				N			x				x					
		4.2	3.33 x 4.71 x 2.23	D	x	x	x			x	x	x	x	x	80%	
				N				x	x							
5	Hard Bone Inside Joint	5.1	3.98 x 4.73 x 1.46	D											0%	
				N	x	x	x	x	x	x	x	x	x	x		
		5.2	4.70 x 4.49 x 3.02	D	x	x		x	x	x	x	x	x	x	90%	
				N			x									

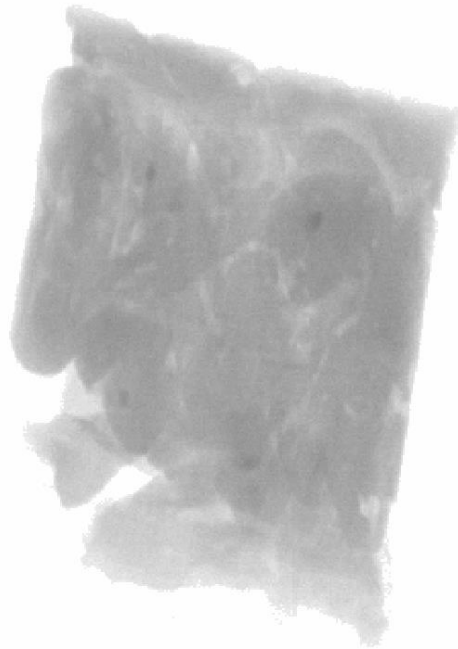
Test Result- SBB Whole



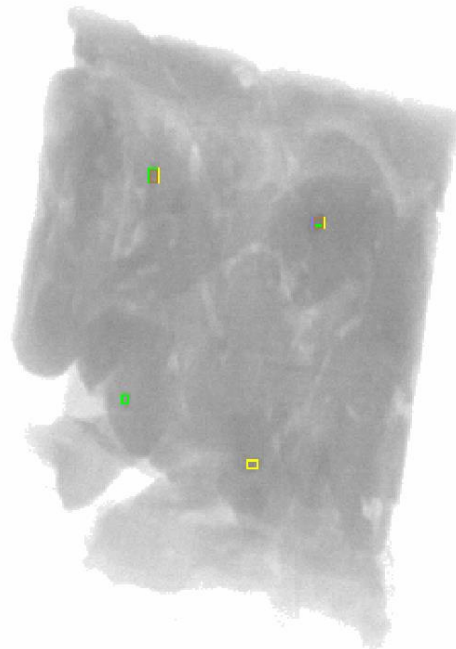
Foreign Material Contaminants	Size		SBB Whole						
	WxLxT (mm)		Test	1	2	3	4	5	%
1 Staple's Max	1.1	9.90 x 0.48	D	x	x	x	x	x	100%
			N						
2 Stone	2.1	3.91 x 4.58 x 2.20	D	x	x	x	x	x	100%
			N						
	2.2	4.1 x 5.24 x 2.45	D	x	x	x	x	x	100%
			N						
3 Stone	3.1	2.77 x 3.36 x 2.49	D	x	x	x	x	x	100%
			N						
	3.2	2.46 x 3.01 x 1.36	D	x	x	x	x	x	100%
			N						
4 Stone	4.1	1.65 x 2.17 x 1.50	D	x	x	x	x	x	100%
			N						
	4.2	1.50 x 2.37 x 1.44	D	x	x	x	x	x	100%
			N						
5 Rice Husk			D						0%
			N	x	x	x	x	x	
6 Hair			D						0%
			N	x	x	x	x	x	

Test Result- BB Skin

Untagged Image



Tagged Image



Wish Bone

1.1 Size 2.15 x 2.63 x 1.95 mm

1.2 Size 2.58 x 4.24 x 2.32 mm

Rib Bone

3.1 Size 2.87 x 3.77 x 2.14 mm

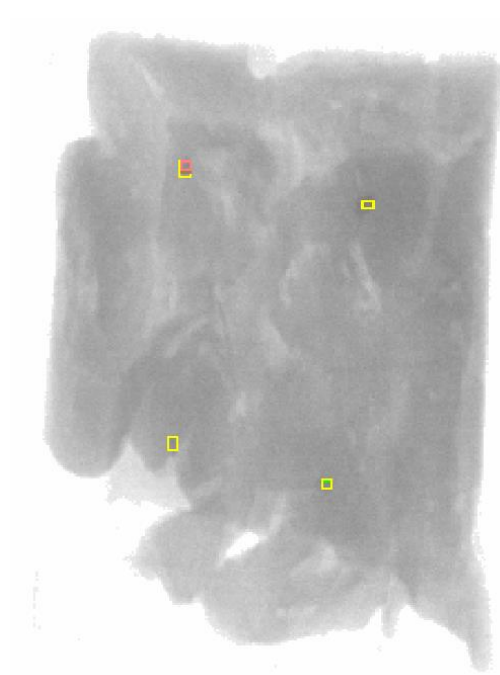
3.2 Size 2.52 x 5.30 x 1.92 mm

Test Result- BB Skin

Untagged Image



Tagged Image



Neck Bone

4.1 Size 2.23 x 2.69 x 2.14 mm

4.2 Size 3.80 x 4.78 x 2.00 mm

Hard Bone Inside Joint

5.1 Size 3.03 x 3.49 x 2.50 mm

5.2 Size 4.95 x 5.76 x 2.80 mm

Test Result- BB Skin



BB Type		Bone Size		SBB Skin												
		WxLxT (mm)		Test	1	2	3	4	5	6	7	8	9	10	%	
1	Wish Bone	1.1	2.15 x 2.63 x 1.95	D	x	x		x	x			x	x	x	70%	
				N			x			x	x					
		1.2	2.58 x 4.24 x 2.32	D	x	x	x	x	x	x	x	x	x	x	100%	
				N												
2	Fan Bone	2.1	11.41 x 13.34 x 1.79	D										0%		
				N	x	x	x	x	x	x	x	x	x			
		2.2	5.09 x 5.18 x 1.84	D										0%		
				N	x	x	x	x	x	x	x	x	x	x		
3	Rib Bone	3.1	2.87 x 3.77 x 2.14	D	x			x	x	x		x	x	x	70%	
				N		x	x				x					
		3.2	2.52 x 5.30 x 1.92	D	x				x			x			30%	
				N		x	x	x		x	x		x	x		
4	Neck Bone	4.1	2.23 x 2.69 x 2.14	D	x	x	x	x	x	x	x	x	x	x	100%	
				N												
		4.2	3.80 x 4.78 x 2.00	D	x	x	x	x	x	x	x	x	x	x	100%	
				N												
5	Hard Bone Inside Joint	5.1	3.03 x 3.49 x 2.50	D	x	x	x	x	x	x	x		x	x	90%	
				N								x				
		5.2	4.95 x 5.76 x 2.80	D	x	x	x	x	x	x	x	x	x	x	100%	
				N												

Test Result- BB Skin



Foreign Material Contaminants	Size		SBB Skin						
	WxLxT (mm)		Test	1	2	3	4	5	%
1 Staple's Max	1.1	9.90 x 0.48	D	x	x	x	x	x	100%
			N						
2 Stone	2.1	3.91 x 4.58 x 2.20	D	x	x	x	x	x	100%
			N						
	2.2	4.1 x 5.24 x 2.45	D	x	x	x	x	x	100%
			N						
3 Stone	3.1	2.77 x 3.36 x 2.49	D	x	x	x	x	x	100%
			N						
	3.2	2.46 x 3.01 x 1.36	D	x	x	x	x	x	100%
			N						
4 Stone	4.1	1.65 x 2.17 x 1.50	D	x	x	x	x	x	100%
			N						
	4.2	1.50 x 2.37 x 1.44	D	x	x	x	x	x	100%
			N						
5 Rice Husk			D						0%
			N	x	x	x	x	x	
6 Hair			D						0%
			N	x	x	x	x	x	

Test Result- SBL Trim

Untagged Image

Tagged Image



Pin Bone

2.1 Size 3.41 x 10.52 x 2.90 mm

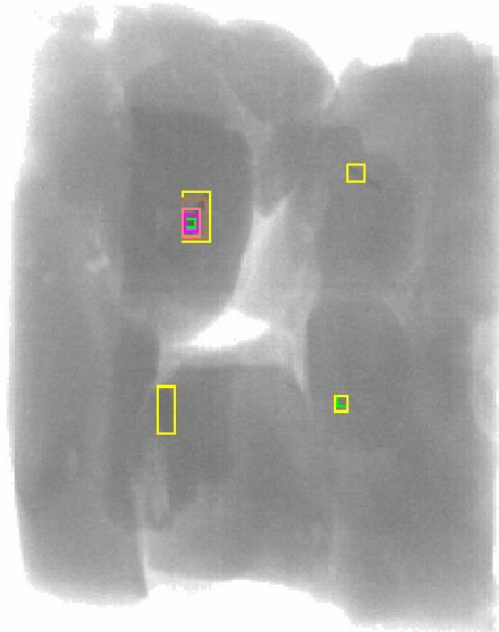
2.2 Size 2.04 x 9.80 x 1.69 mm

Test Result- SBL Trim

Untagged Image



Tagged Image



Bone Post Contaminant

3.1 Size 2.76 x 3.80 x 1.47 mm

3.2 Size 3.92 x 4.88 x 1.95 mm

Hard Bone Inside Joint

4.1 Size 2.60 x 2.92 x 2.67 mm

4.2 Size 4.26 x 9.34 x 3.83 mm

Test Result- SBL Trim



BB Type		Bone Size		SBL Trim												
		WxLxT (mm)		Test	1	2	3	4	5	6	7	8	9	10	%	
1	Oyster Bone	1.1	3.35 x 3.90 x 2.25	D	x		x	x	x		x	x		x	70%	
				N		x				x			x			
		1.2	3.83 x 4.02 x 2.43	D	x	x		x	x	x	x		x	x	80%	
				N			x					x				
2	Pin Bone	2.1	3.41 x 10.52 x 2.90	D		x	x	x		x		x	x	x	70%	
				N	x				x		x					
		2.2	2.04 x 9.80 x 1.69	D	x			x	x	x		x	x	x	70%	
				N		x	x				x					
3	Bone Post Contaminant	3.1	2.76 x 3.80 x 1.47	D	x	x	x	x	x	x	x	x	x	x	100%	
				N												
		3.2	3.92 x 4.88 x 1.95	D	x	x	x	x	x	x	x	x	x	x	100%	
				N												
4	Hard Bone Inside Joint	4.1	2.60 x 2.92 x 2.67	D	x	x	x	x	x	x	x	x	x	x	100%	
				N												
		4.2	4.26 x 9.34 x 3.83	D	x	x	x	x	x	x	x	x	x	x	100%	
				N												

Test Result- SBL Trim



Foreign Material Contaminants	Size		SBL Trim						
	WxLxT (mm)		Test	1	2	3	4	5	%
1 Staple's Max	1.1	9.90 x 0.48	D	x	x	x	x	x	100%
			N						
2 Stone	2.1	3.91 x 4.58 x 2.20	D	x	x	x	x	x	100%
			N						
	2.2	4.1 x 5.24 x 2.45	D	x	x	x	x	x	100%
			N						
3 Stone	3.1	2.77 x 3.36 x 2.49	D	x	x	x	x	x	100%
			N						
	3.2	2.46 x 3.01 x 1.36	D	x	x	x	x	x	100%
			N						
4 Stone	4.1	1.65 x 2.17 x 1.50	D	x	x	x	x	x	100%
			N						
	4.2	1.50 x 2.37 x 1.44	D	x	x	x	x	x	100%
			N						
5 Rice Husk			D	x		x			40%
			N		x		x	x	
6 Hair			D						0%
			N	x	x	x	x	x	

EAGLE™ Pack 430 PRO

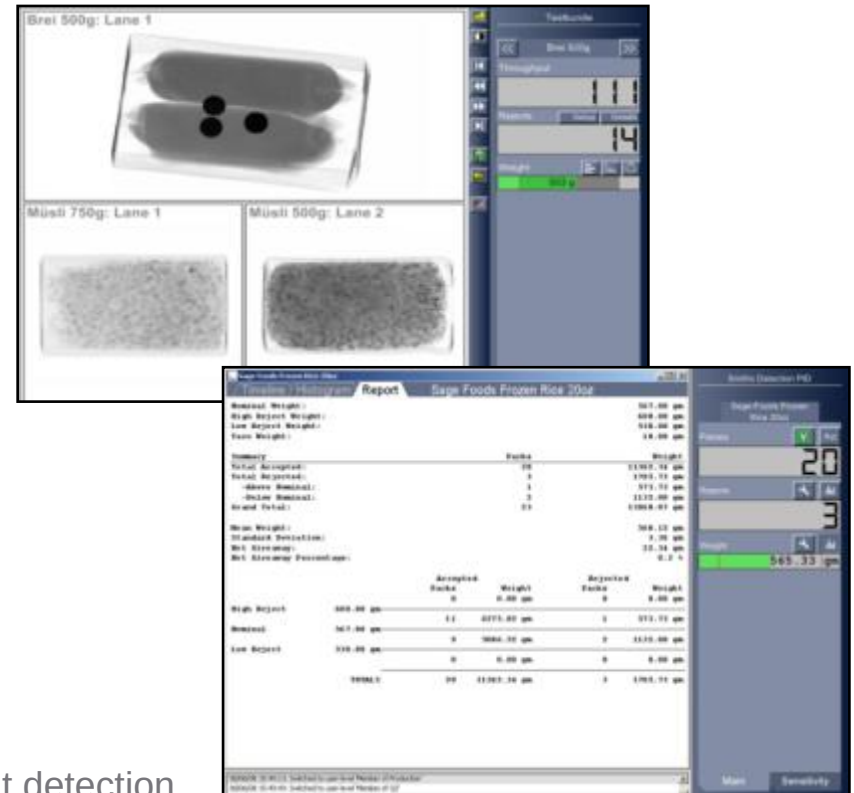
- Designed as the most versatile option for mid-size packaged products
- Applications include: breads, bakery, bag salads, bagged meat products, larger retail packages, cereal, crackers and ready meals
- Detection coverage at the belt: 430mm (16.9")
- High speed imaging up to 400FPM (120MPM)
- Optional features include MDX technology, multi-lane inspection with rejection options for each lane
- Available equipment ratings: IP65 and IP69k
- Features roll-out conveyor for easy maintenance and cleaning

Optional capabilities include MDX technology which discriminates materials by their chemical composition and allows detection and rejection of inorganic contaminants such as glass shards, rocks, rubber and plastic



SimulTask™ Eagle PRO

- Dynamic processing of different products on same/different lanes
- Full definable image processing network
- Fully customizable User Interface
- Selective Area Weight
- Multiple Views
- Touch-Screen
- Total Weight
- Count
- Filler Feedback
- Inkjet Printer Interface
- Auto Contaminant Setup
- World Wide Check Weight Modes
- Auto Learn for foreign materials and weight detection



Eagle™ TraceServer®

- The SimulTask Eagle Trace Server® package allows you to optimize the efficiency of production by collecting data from several Eagle machines storing it in a database. This allows the Production Manager or QA to monitor and report on reject trends as well as the status of each machine.

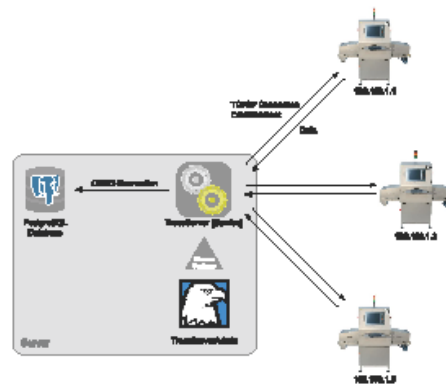


Figure 1: TraceServer Components

