



Elica ASM presents
VISION
The flexible sorting solution



www.elica-asm.com

Elica ASM – Presentation VISION – EN – V.01
18/03/2021

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ASM – The Italian Optical Sorting Machines from Bologna



For over 30 years, we have specialized in optical sorting, being at the forefront of sorting technology and meeting the highest standards of precision and quality in a wide number of applications

Brief history of ASM

Mr. Giovannini was a young and brilliant engineer when initially got exposed to optical-electronic sorting technologies since the 70's. In the following decades, while working at different companies, he successfully designed new generations of optical sorters, that unceasingly achieved a leap forward in innovation and quality.

He eventually met Mr. Mantovani and **in 2006** they started **a new company called ASM Advanced Sorting Machines**, producing together the first sorters series: the Futura Hybrid.

ASM has presently over 30 years of experience in the sorting technology.

At the beginning of 2015, ASM has been acquired by Sesotec GmbH, one of the world leaders in manufacturing inspection equipment. At the end of September 2017, Sesotec Italia has been merged into ASM with the name of Sesotec ASM S.r.l.

At November 2020, ASM finally joined ELICA GROUP, a leading supplier of installations for sunflower dehulling, grain cleaning, seed processing and equipment for handling of bulk materials. The new company name is now **Elica ASM S.r.l.**



Product Timeline



1996

RS (CSM company)



2006

Futura Hybrid



2009

Futura



2012

Vision



2014

Labseed



2018

Tigerbelt



2019

Quasar



2020

EUREKA



2021

PowTest

Our Products Portfolio



Quasar series

Vision series

The MULTIPLE-CHUTES



EUREKA

Labseed

The COMPACT ones



Tigerbelt

Belt Application

Sorters working principle

FEEDING:

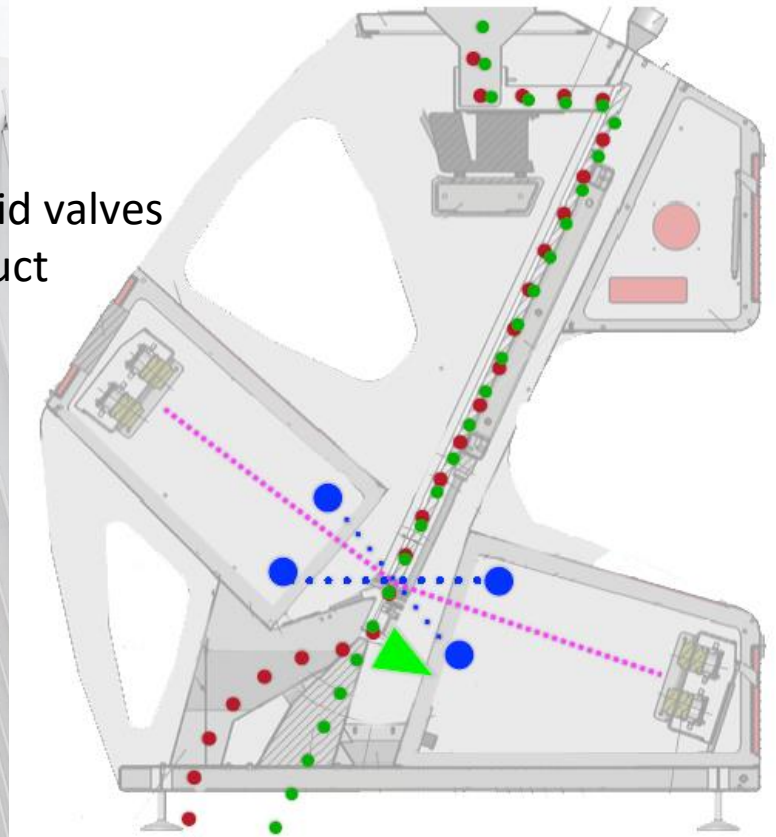
The product enters the machine at the top and is distributed by the vibrating plate on the chute, where it falls by gravity

DETECTION:

At the end of the chute the product is in free-fall. LED lights illuminate the particles and the imaging sensors scan them as they pass through the reading line

SEPARATION:

Defects are rejected by one or more of the solenoid valves
And deviated away from the main stream of product
into the reject hopper



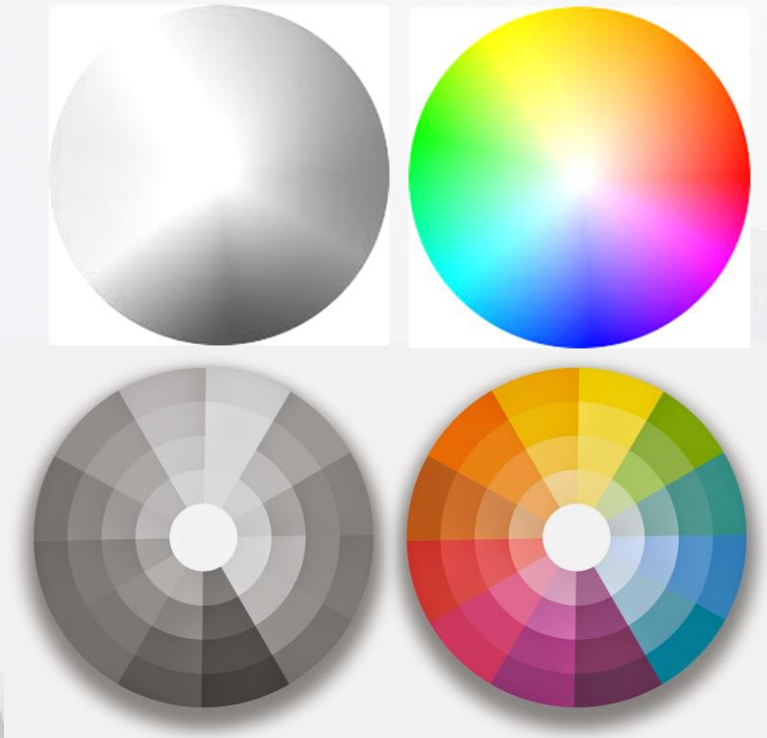
Sensor types

Visible spectrum can be detected via two different sensor types:

- MONOCHROMATIC
- RGB-FULL COLOUR

A Monochromatic sensor works on a greyscale colours representation, still very performant in dark/light selections

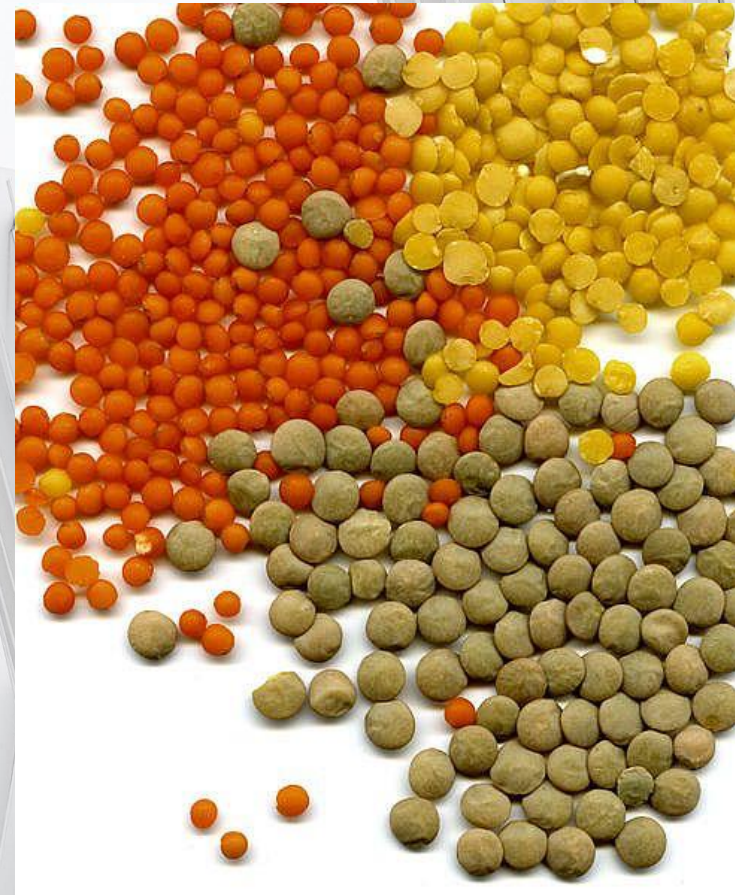
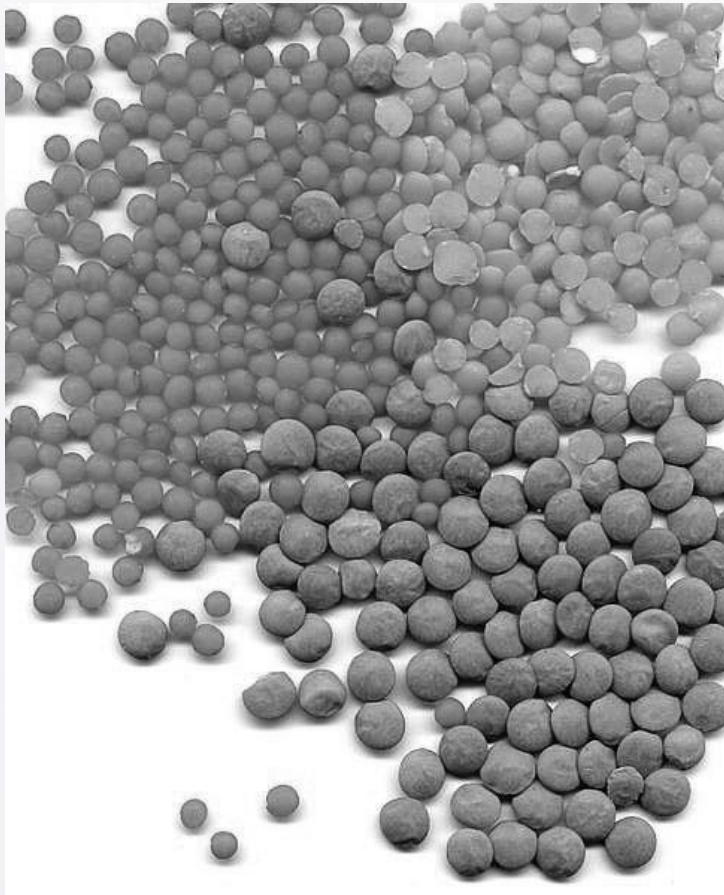
An RGB-Full Colour sensor maps objects with all the colours present in the visible spectrum



Sensors are able to discern **defects as small as 0.09mm**

Pictures as seen by sensors

In this example, a monochromatic camera would have a hard time finding differences between some green and orange lentils, while the yellow lentils would give no issues





VISION

Proven performance, maximum flexibility

Serie **VISION** arguments



- ✓ The Vision sorters series is a proven, flexible and high-performance model
- ✓ Maximize price-performance ratio with a choice of possible configurations to tailor the machine to the client's needs
- ✓ The software interface guarantees the greatest ease of use thanks to different functions of self-checking, auto adjustment and remote management
- ✓ The LED lighting system and dust proof construction guarantee reliability and low operational costs
- ✓ High capacity thanks to the 360mm chute

The Vision series comes in 6 models, from 1 up to 6 chutes, to meet all production needs



FULL STAINLESS STEEL VERSION

VISION series sizes

Model	Width	Height	Depth	Weight
Vision V100	896 mm	1910 mm	1703 mm	750 kg
Vision V200	1368 mm	1910 mm	1703 mm	960 kg
Vision V300	1670 mm	1910 mm	1703 mm	1150 kg
Vision V400	2068 mm	1910 mm	1703 mm	1250 kg
Vision V500	2414 mm	1910 mm	1703 mm	1400 kg
Vision V600	2820 mm	1910 mm	1703 mm	1750 kg

Camera configuration (per chute)

Monochromatic (2 cameras: 1 front + 1 back)

Mono (1 front + 1 back) + InGaAs (1 front + 1 back, or 1 front)

Mono (1 front + 1 back) + Low-NIR(1 front + 1 back, or 1 front)

Full-Color (2 cameras: 1 front + 1 back)

Full-Color (1 front + 1 back)) + InGaAs (1 front)

Full-Color (1 front + 1 back) + Low-NIR (1 front + 1 back, or 1 front)

Features

➤ Maximum throughput per chute

ASM uses the widest chutes on the market:

- ✓ 360 mm width
- ✓ 20% - 30% wider than competitors
- ✓ 72 ejector per chute (5mm pitch)

Key benefit:

fewer chutes are needed to achieve the required throughput

- ✓ Many types of flat, partitioned and channelized chutes, coated with a patented **anti-bacterial and food-safe polymer**

Key benefit:

Optimal product flow is ensured for a wide range of products



Features

➤ EASY TO USE INTERFACE

The user interface has been designed to provide easy setup and operation, as well as access to a myriad of advanced features, including **graphs and statistics**.

The Vision is truly one of the most user friendly pieces of equipment on the market today.

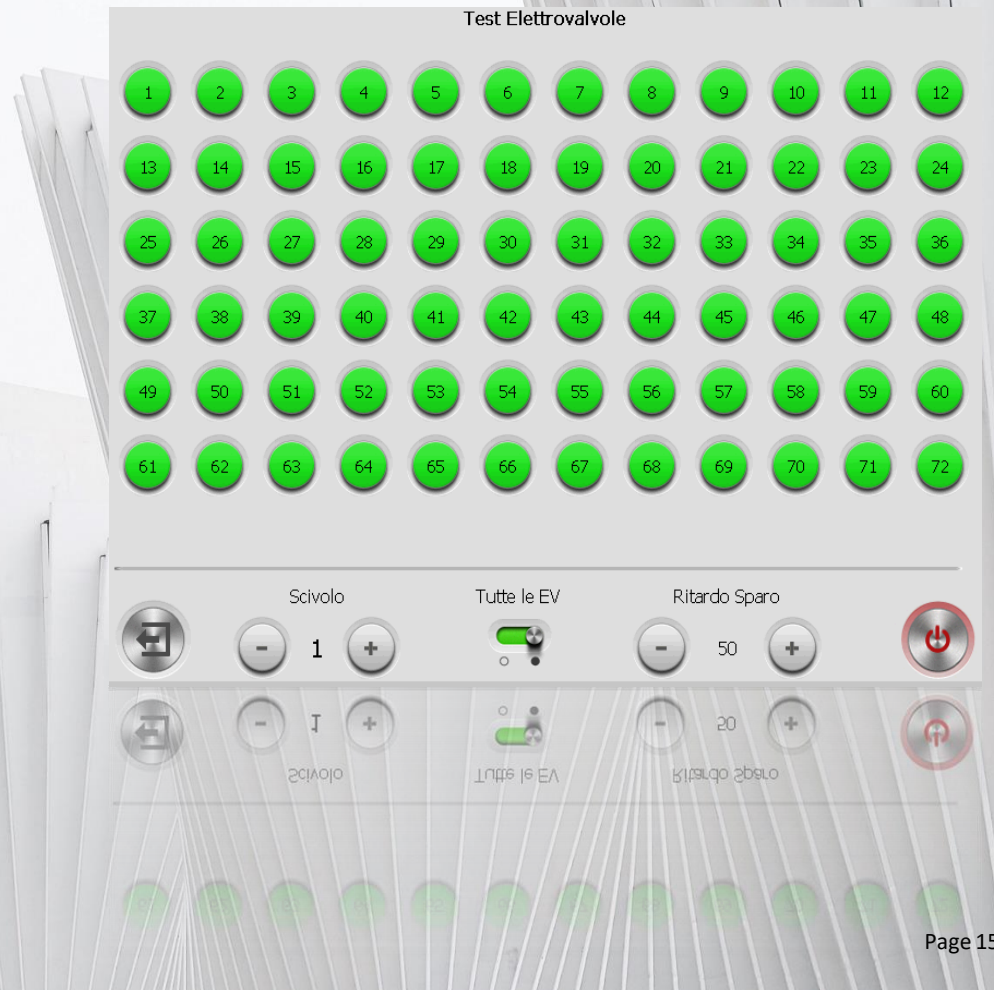


Features

➤ INTEGRATED DIAGNOSTICS

the Vision keeps track of the good functioning of all of its systems, including a test for each solenoid valve.

Vibrating feeders are automatically calibrated in order to work in unison, ensuring even product flow on all chutes.



Features

➤ HIGH PERFORMANCE

Precision and rock-solid reliability are guaranteed thanks to special DSP microprocessors, the same kind used in “Super Computers”.

➤ HIGHLY ADAPTABLE

Many types of flat and channelized chutes, coated with a patented polymer, make it possible to sort different types of product, all with the same chute configuration.

➤ SMART LIGHTING, INCREASED RELIABILITY

Our “Laser LEDs” create a collimated, polarised beam of high intensity light, just where needed. This way, the Vision uses far less power, which in turn means **less heat and longer service life** for both LEDs and electric boards.

➤ INTELLIGENT DESIGN

All optical and electronic components are thoroughly protected inside the machine. The whole system is sealed and temperature controlled, while positive air pressure ensures that no external contaminants get inside.

All electronic boards are mounted in special racks and are easily swappable by hand.

➤ INTELLIGENT ANALYSIS

Real-time defect acquisition and analysis. The “Blob Analysis” function lets you analyze new defects and tells you the exact parameters to input in order to reject them.

Vision serie Design elements

360mm chute

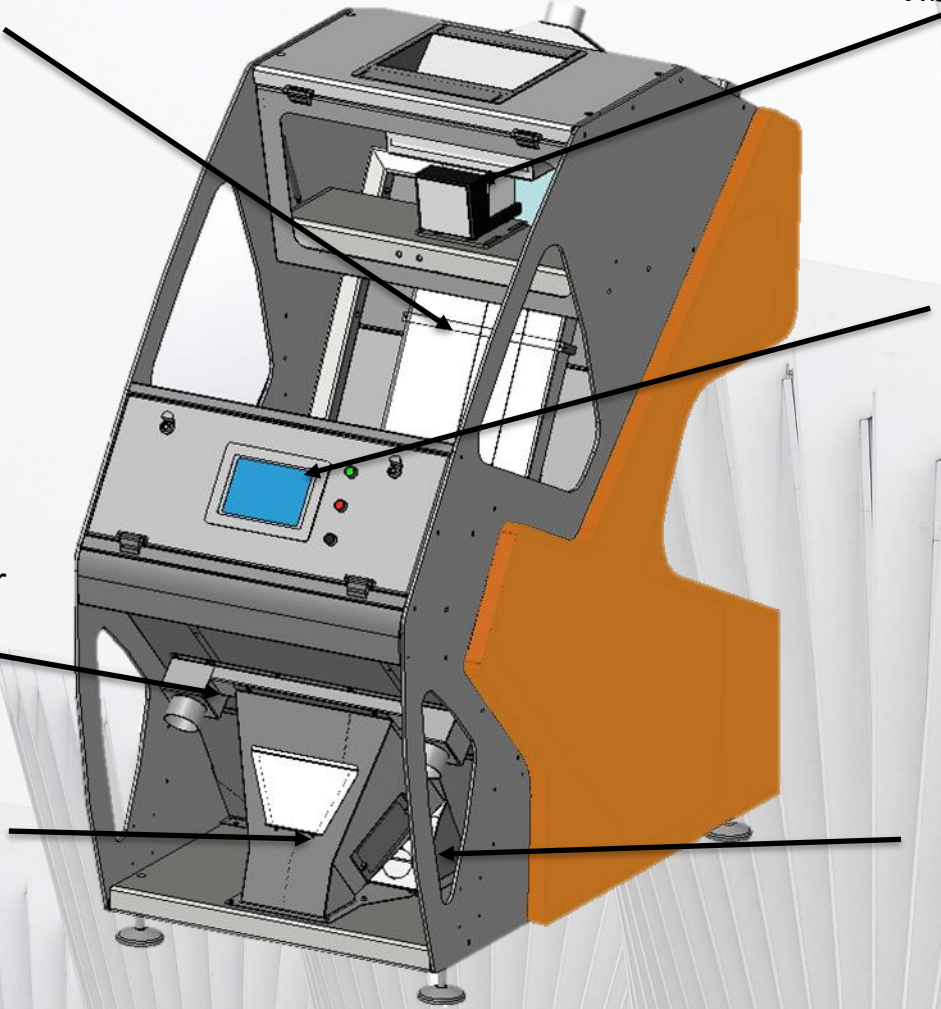
Internal Input hopper & vibrating-feeder

Touch-screen

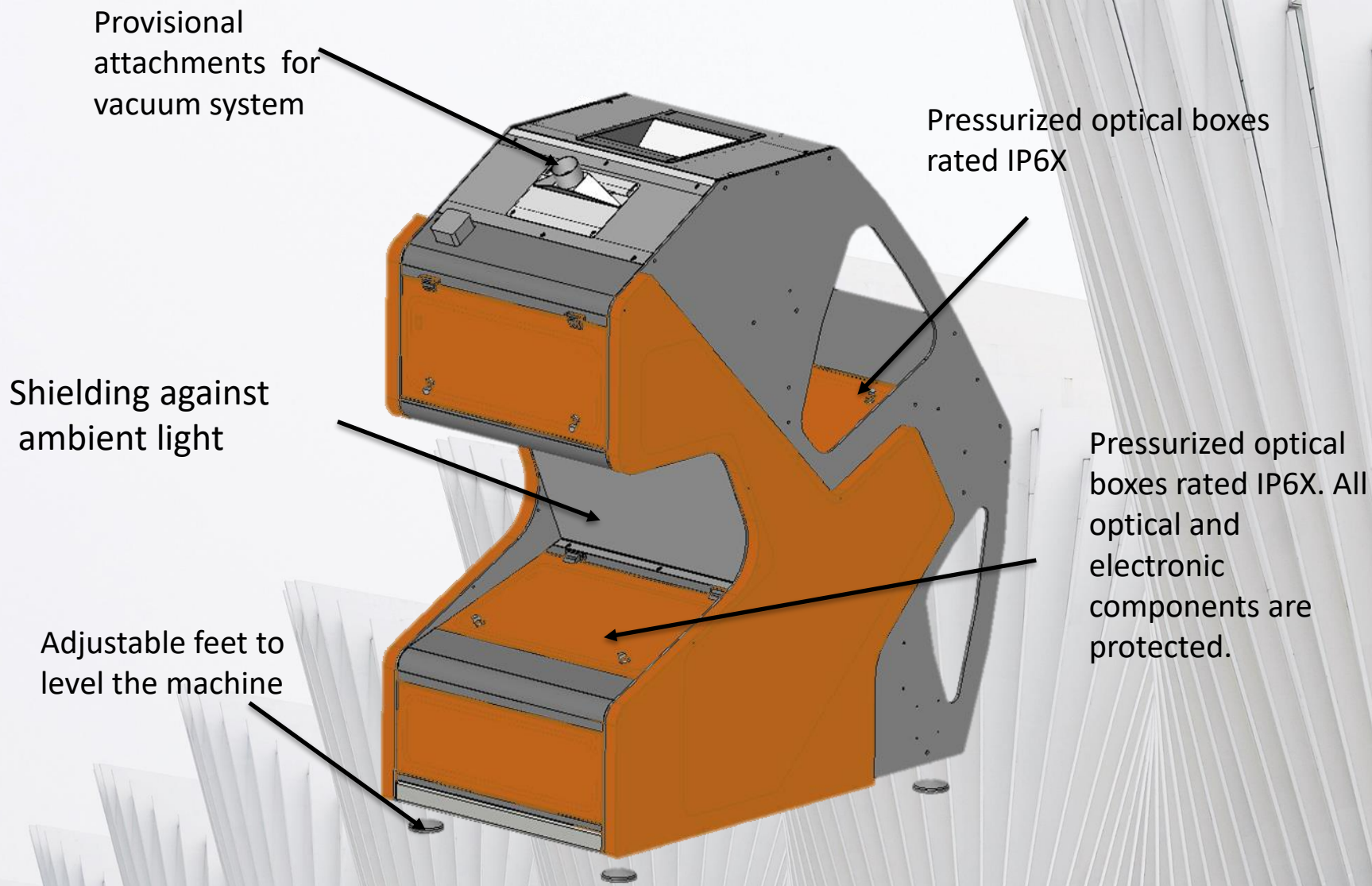
Provisional attachments for vacuum system (for dusty products)

Reject hopper

Accept hopper



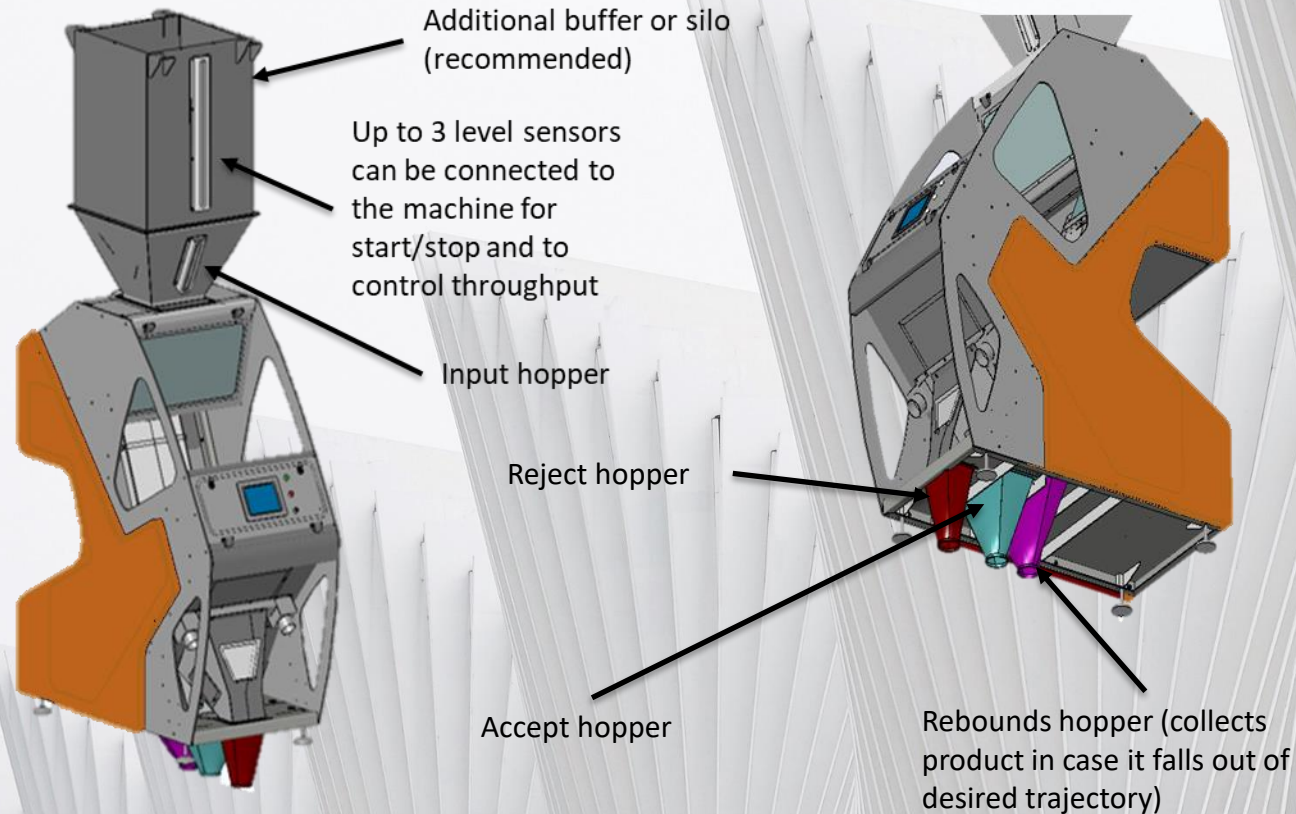
Vision serie Design elements



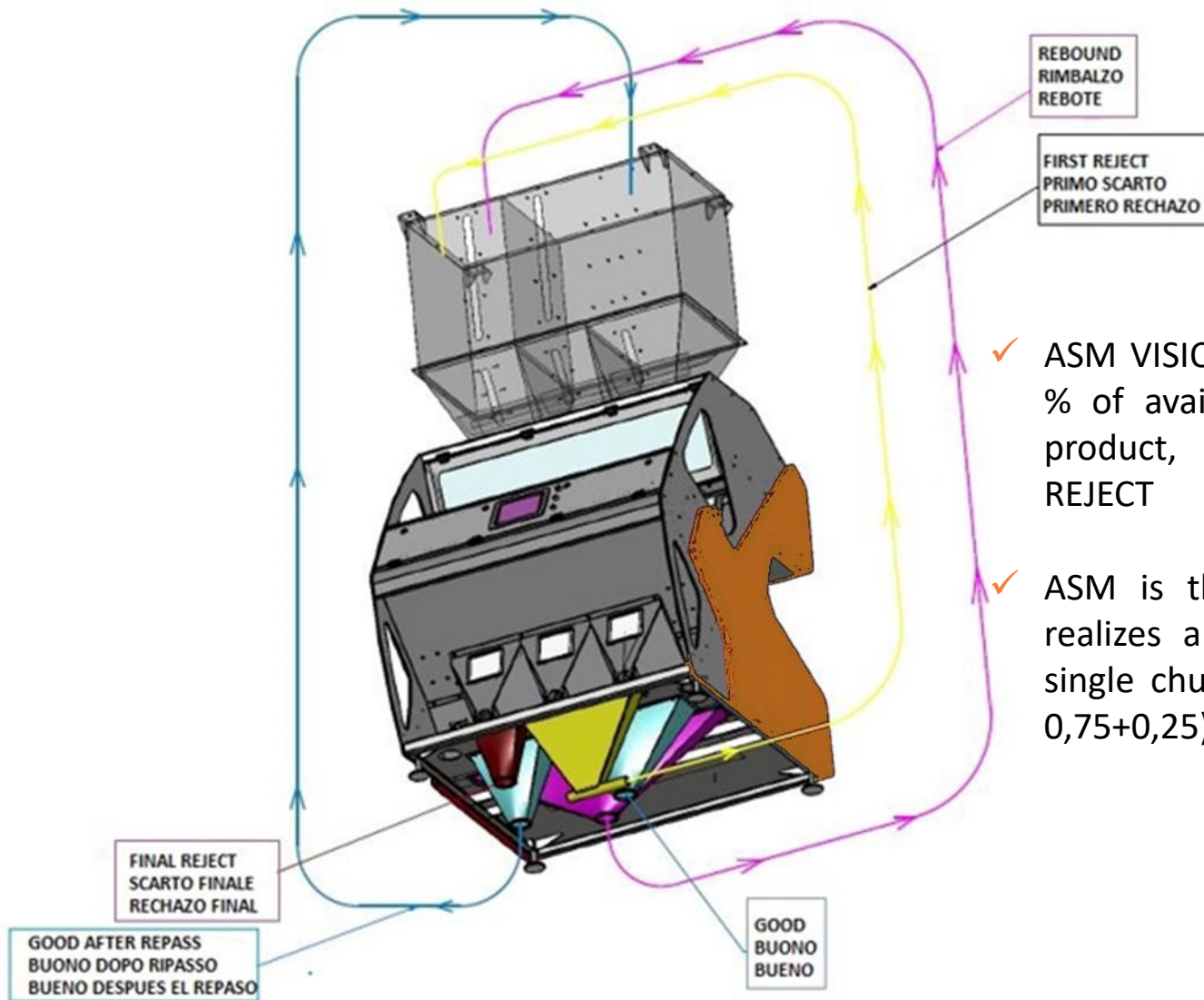
Vision serie Installation requirements

The client must connect an input hopper to the top of the machine, and output hoppers to the bottom.

There are no strict requirements regarding size and shape of these hoppers, so the client can adapt them to fit their installation.



Re-sort configuration



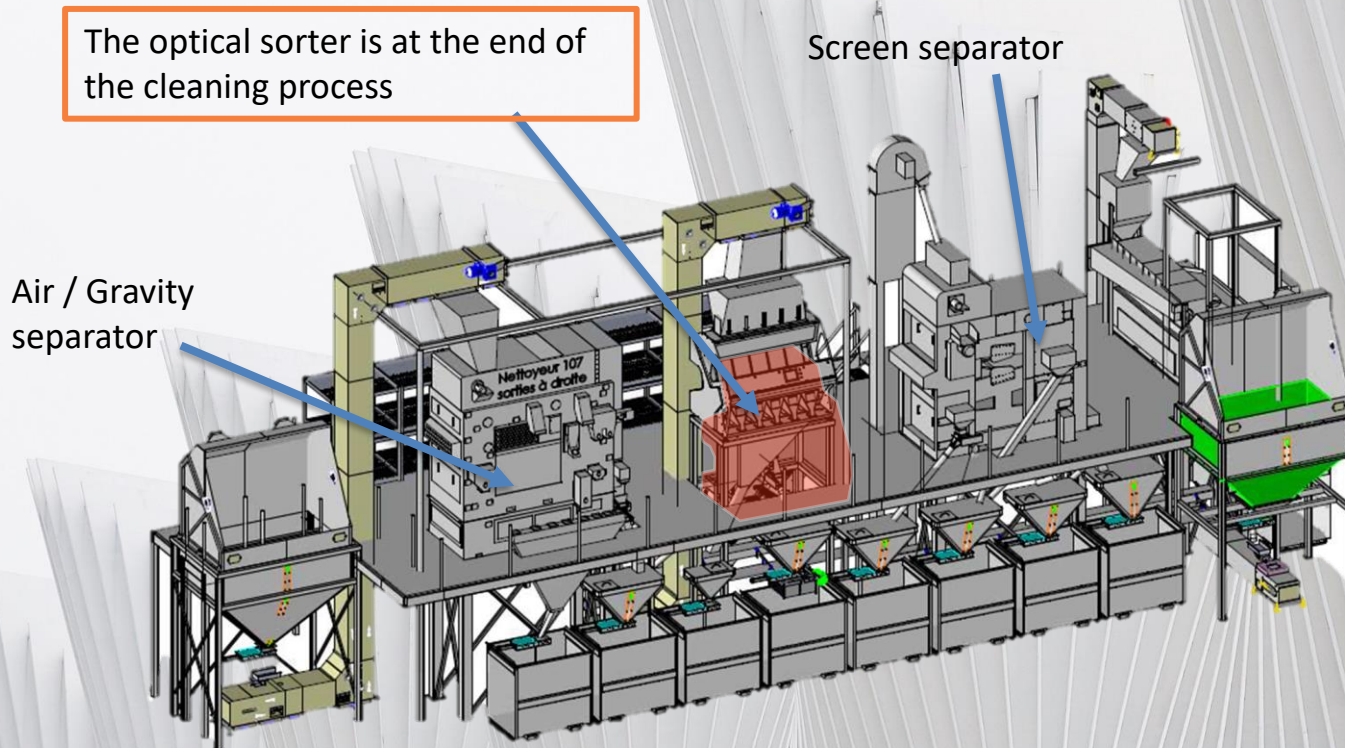
- ✓ ASM VISION is so flexible to reserve a % of available chutes to re-sort the product, both for ACCEPT and for REJECT
- ✓ ASM is the only manufacturer who realizes a re-sort fraction even in a single chute (configuration 0,5+0,5 or 0,75+0,25)

Example of installation in a seed cleaning plant

This is an “End of Line” machine, so pre-cleaning steps such as de-dusting and de-stoning are necessary before the product enters the optical sorter.

Installation situation:

The machine is installed at the end of a cleaning process. Can be fed by screw conveyors, conveyor belts, pneumatic or bucket elevators, or directly from a big-bag or silo. The output can be collected by the same methods and requires elevators in case of reject re-sort.



Conditions of use

Environmental conditions:

0°C to + 40°C without extra cooling / heating

Required power and air connections:

220V/50Hz – 1.5-3.0 Kw

4-8 Bar air supply. The compressed air must be filtered according to the standards specified in the pre-installation and user manuals. If the compressed air does not comply with the Standards above, the solenoid valve warranty will be automatically void.

ASM machines are the only ones certified IP6X and are fully dust proof.

Cleaning conditions:

Use only the air gun (provided) and damp cloths with mild detergent.

The machine has an automatic cleaning system for the optical parts, while all internal compartments do not require cleaning as they are dust proof.

Do not use water under pressure to clean.

Applications

Dedicated to a wide range of applications, from food to plastic material, The Vision machines can be easily configured to sort more than 100 different products.



A selection of Test Reports

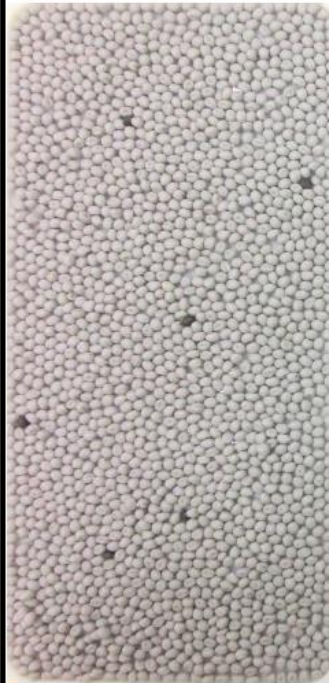


PP GRANULES

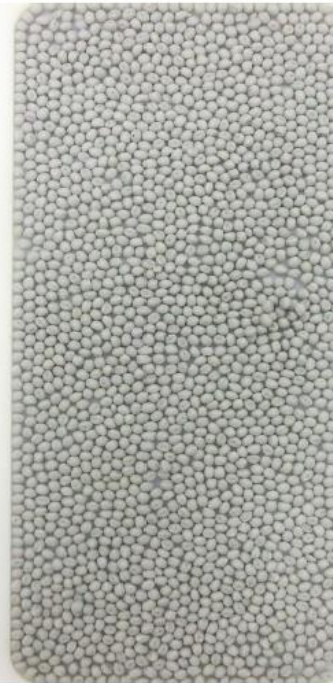


MODEL: Vision
PRODUCT: PP granules
TEST N° : 232-2020 A
DATE: 04/12/2020

INPUT



ACCEPT



REJECT



SORTING RESULT

INPUT		ACCEPT		REJECT
Capacity Kg/h chute	% Input Contamination	% Accept as % of Throughput	% Accept Purity	% Reject as % of Throughput
1000	0,44	98,98	99,99	1,02

PTFE FLAKES

ASM
advanced sorting machines
A Company of **clicca**

MODELLO: Vision MC
PRODOTTO: PTFE
TEST N° : 19-2022 A
DATA: 28/02/2022

INPUT BUONO SCARTO



RISULTATO SELEZIONE

INPUT		BUONO		SCARTO
Capacità Kg/h scivolo	% Contaminazione iniziale	% Buono	% Purezza buono	% Scarto
800	0,1	97,5	99,995	2,5

PMMA



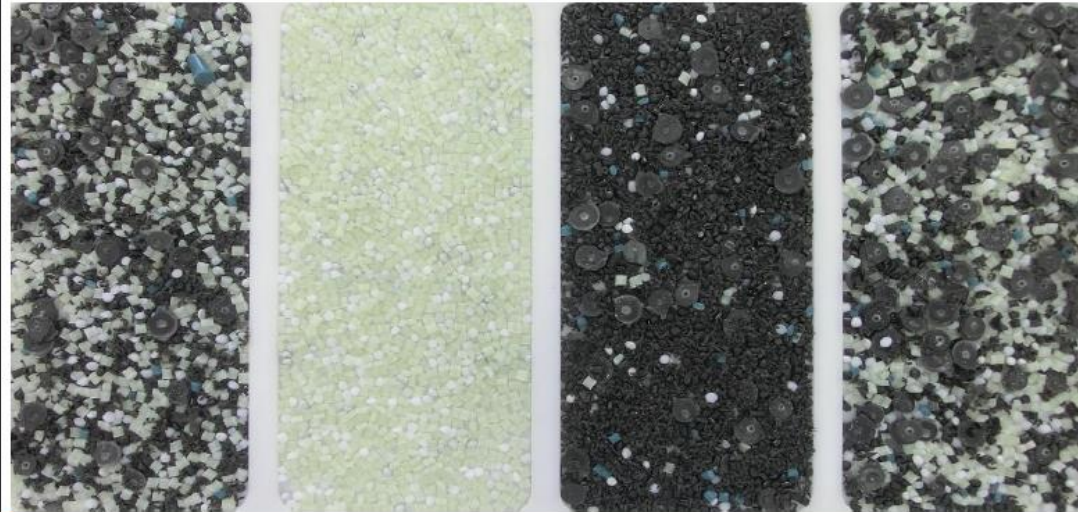
MODEL: VISION FC
PRODUCT: Granules PC/PMMA
TEST N° : 15-2020
DATE: 21/02/2020

INPUT

FINAL ACCEPT*

1st REJECT

2nd REJECT



SORTING EXAMPLE

INPUT		FINAL ACCEPT*		1 st REJECT	2 nd REJECT
Capacity Kg/h chute	% Input Contamination	% Accept as % of Throughput	% Accept Quality	% Reject as % of Throughput	% Reject as % of Throughput
300	41,00	58,56	99,50	36,00	5,44

* AFTER RE-SORT

PINK SALT



MODEL: Vision MC
PRODUCT: Pink salt 4-6 mm
TEST N° : 112-2021
DATE: 21/01/2022

INPUT

ACCEPT

REJECT



SORTING RESULT

INPUT		ACCEPT		REJECT
Capacity Kg/h chute	% Input Contamination	% Accept as % of Throughput	% Accept Purity	% Reject as % of Throughput
2000	0,9	97,25	99,95	2,75

SALT



MODEL: Vision
PRODUCT: Salt
TEST N° : 16-2021
DATE: 22/02/2021

INPUT

ACCEPT

REJECT



SORTING RESULT

INPUT		ACCEPT		REJECT
Capacity Kg/h chute	% Input Contamination	% Accept as % of Throughput	% Accept Purity	% Reject as % of Throughput
5000	8,9	89	99,9	11

CHICKPEAS



MODEL: Vision FC + NIR
PRODUCT: Chickpeas
TEST N° : 98-2021
DATE: 26/11/2021

INPUT

ACCEPT

FINAL REJECT*

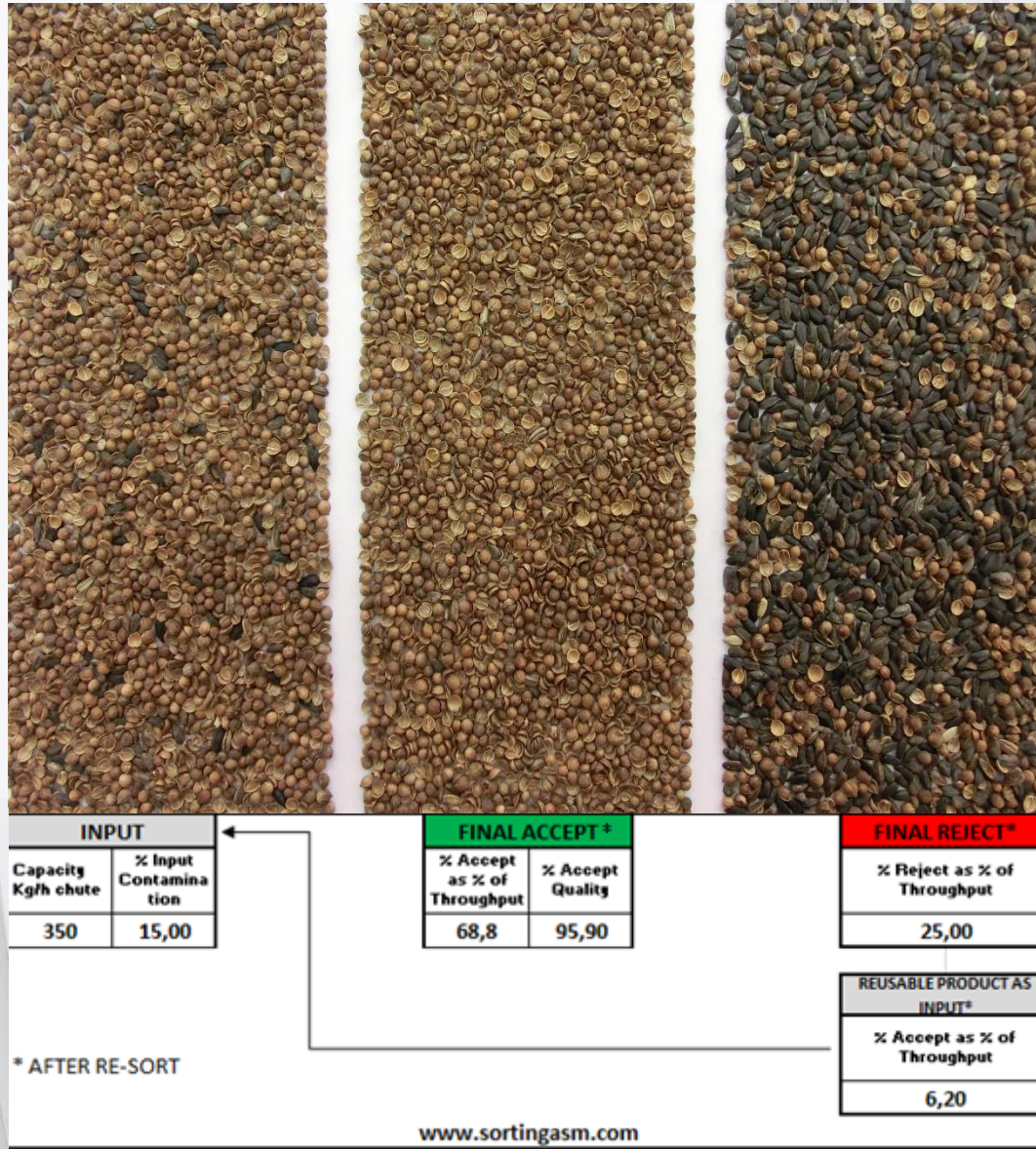


SORTING RESULT

INPUT		ACCEPT		FINAL REJECT*
Capacity Kg/h chute	% Input Contamination	% Accept as % of Throughput	% Accept Quality	% Reject as % of Throughput
1000	2,1	94,4	99,9	2,83

* After re-sort

CORIANDER SEED



RADISH SEEDS



MODEL: Vision MC
PRODUCT: Radish seeds
TEST N° : 70-2021
DATE: 21/09/2021

INPUT



ACCEPT



FINAL REJECT*



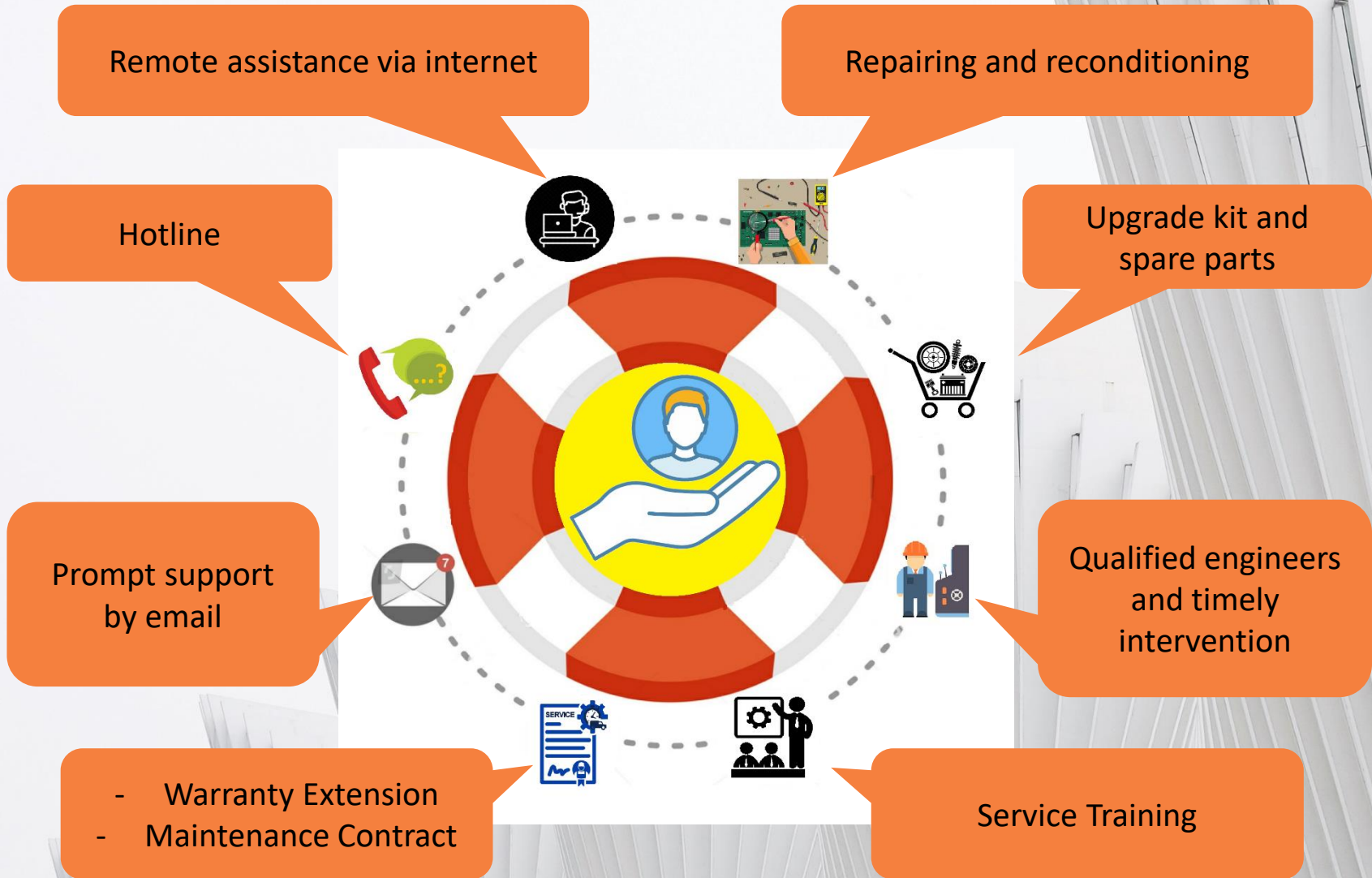
SORTING RESULT

INPUT		ACCEPT		FINAL REJECT*
Capacity Kg/h chute	% Input Contamination	% Accept as % of Throughput	% Accept Quality	% Reject as % of Throughput
1000	4,7	80	99,5	6
				REUSABLE PRODUCT AS INPUT*
				% Accept as % of Throughput
				14

* AFTER RE-SORT

ASM Customer Service

Customer at the centre of our Service



Thanks for your attention



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