Design and manufacturing
of machine vision and sensor-based sorting equipment

On-site and remote technical support

Spare parts

Training

Equipment and software updates / upgrades

Second-hand equipment

Renting / leasing service

PICVISA Test Centre

PICVISA
OPTICAL SORTING

Sistema de Gestión
ISO 9001:2015
ISO 14001:2015
OHSAS 18001:2007

TÜVRheinland
CERTIFICADO

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PICVISA
OPTICAL SORTING

ECO**GLASS**

Optical sorting equipment
*for glass sorting and a wide range of material sorting*

Wide spectrum **machine-vision**.

Versatility. speed and precision *when identifying and separating materials according to their chemical composition, shapes and colours.*

Industry 4.0: *self-monitoring and connectivity. data management and computer control.*

Machine vision *technology and fast data processing.*

① Vibratory feeder
② Machine-vision and sensors
③ Separation with compressed air
④ Separation chamber
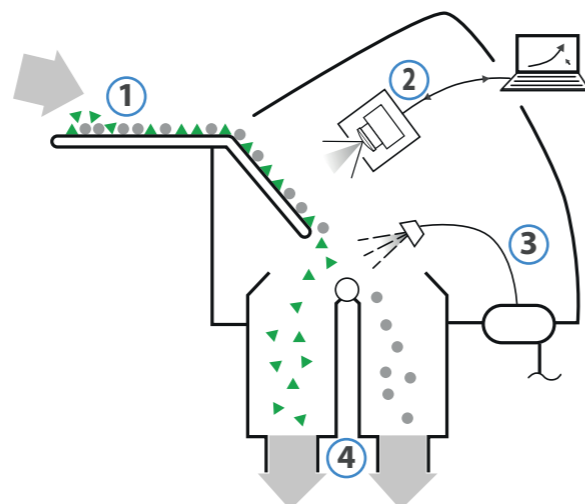
High resolution for:

- *Machine vision and/or sensor identification*
- *Ejection separation with compressed air.*

Wide variety of equipment configurations *depending on separation objectives and materials to be processed.*

Applications and materials		Technologies*			
		NIR	VIS	EM	UV
Glass	Removal of impurities (CSP) and sorting of glass by colour	√			√
Municipal solid waste (MSW)	Glass recovery from compost or the rejects of compost refining	√			
Slags. incineration bottom-ash	Glass and metals recovery	√		√	√
End-of-Life vehicles (ELV). post-shredding residues (PST)	Glass, plastics and metals recovery	√	√	√	
Combustible Sólido Recuperado (CSR)	Withdrawal of PVC and other impurities	√	√		
Construction and Demolition waste (C&D)	Recovery of glass, metals, aggregates, etc.	√	√	√	
Minerals, ores, mining by-products	Purification and colour separation	√		√	√
Metal recycling	Removal of impurities	√	√		
Other applications	Please check with PICVISA	√	√	√	√

(*)Technologies applied individually or in combination: NIR = Near-Infrared spectrometry ; VIS = Visual light and colours ; EM = Electromagnetic sensors / induction: UV = Ultraviolet Light.

- High production capacity and availability under demanding industrial conditions.
- High recovery (efficiency) and purity rates of targeted materials.
- Short payback period.
- Versatility and flexibility when separating different materials with the same optical sorter. Easy programming and reprogramming.
- Computer-aided calibration for high reliability and production stability.
- Easy maintenance and cheap spare parts.
- Direct online customer support service with remote connection.
- Real-time access to sorted material statistics (dedicated interface. online accessibility).
- Testing capacity with Customer materials at PICVISA's own test centre.**

(**) PICVISA provides its Customers. in Calaf (Barcelona. Spain). with 800 sqm test centre. fully equipped with mechanical and machine vision means. for a wide range of material sorting.

Industry 4.0 :

Computer-aided calibration and control.
Local and remote connectivity.

PICVISA OPTICAL SORTING

High-resolution *valve-block for pneumatic ejection: Standard (EG /SG) and Fines (SGF)*

ECOGLASS (EG and SG) product range	Model	Width	Amount of air jets	Air jet pitch
STANDARD	EG600	600 mm	118	5.2 mm
STANDARD	EG1000	1000 mm	192	5.2 mm
STANDARD	SG1500	1500 mm	240	6.2 mm
FINES	SGF600	600 mm	144	4.2 mm
FINES	SGF1000	1000 mm	240	4.2 mm
FINES	SGF1500	1500 mm	360	4.2 mm

Examples of air consumption *and power of equipment*
ECOGLASS Glass sorting: hollow and container glass, cullet, flat glass, MSW glass, etc.

Optical sorter	Material's features			Nominal throughput	Air consumption per valve-bloc		Power			
Width	Infeed glass	Target material	Density		Standard (EG / SG)	Fines (SGF)	EG: 1 v.-block	EG: 2 v.-blocks	SGF: 1 v.-block	Vibratory feeder
(mm)			(kg/m³)	(t/h)	(lpm/block.)	(lpm/block.)	(kW)	(kW)	(kW)	(kW)
EG 600 (118 air-jets) / SGF 600 (144 air-jets)	Container	CSP	1000	5.0	1000	1200	1.1	1.4	2.3	0.9
	Container	Colour (<30 %)	1000	4.0	2000	2300	1.1	1.4	2.3	0.9
	Flat glass	CSP	1500	5.0	1000	1200	1.1	1.4	2.3	0.9
	MSW: 1st	Glass	750	2.0	2000	2300	1.1	1.4	4.5	0.9
	MSW: 2nd	CSP	900	3.0	1000	1200	1.1	1.4	4.5	0.9
	Fine glass	CSP	500	1.5	N/A	1200	N/A	N/A	2.3	0.9
EG 1000 (192 air-jets) / SGF 1000 (240 air-jets)	Container	CSP	1000	10.0	1500	1900	1.2	2.1	3.8	4.2
	Container	Colour (<30 %)	1000	8.0	3000	3800	1.2	2.1	3.8	4.2
	Flat glass	CSP	1500	10.0	1500	1900	1.2	2.1	3.8	4.2
	MSW: 1st	Glass	750	4.0	3000	3800	1.2	2.1	7.5	4.2
	MSW: 2nd	CSP	900	6.0	1500	1900	1.2	2.1	7.5	4.2
	Fine glass	CSP	500	3.0	N/A	1900	N/A	N/A	3.8	4.2
SG 1500 (240 air-jets) / SGF 1500 (360 air-jets)	Container	CSP	1000	15.0	2300	2800	1.6	3.1	5.7	3.8
	Container	Colour (<30 %)	1000	12.0	4600	5800	1.6	3.1	5.7	3.8
	Flat glass	CSP	1500	15.0	2300	2800	1.6	3.1	5.7	3.8
	MSW: 1st	Glass	750	6.0	4600	5800	1.6	3.1	11.3	3.8
	MSW: 2nd	CSP	900	9.0	2300	2800	1.6	3.1	11.3	3.8
	Fine glass	CSP	500	5.0	N/A	2800	N/A	N/A	5.7	3.8

- Moisture is limited to 1% of the infeed material.
- Container glass or hollow glass includes bottles & jars, flaconnage and tableware.
- Flat glass may be issued from building & demolition waste, as well as car manufacturing & end-of-life vehicles (ELV) wastes..
- Glass issued from MSW may be treated by two optical sorters: 1st sorter ejects glass and 2nd sorter ejects CSP.
- CSP impurities: ceramics, stones and porcelain.
- Colour sorting considers 30% maximum content of the target colour.
- The "EG" model includes 1 electro-valve for every 2 air-jets (air-jet pitch of 5.2 mm) and the "SG" model includes 1 electro-valve per air-jet (air-jet pitch of 4.2 mm or 6.2mm).