

## ACCESSORIES AND MODIFICATIONS

A wide range of product variations and accessories are available for the X-Line product range:

### INSPECTION PORTS

Inspection ports can be modified to suit application requirements.

### AISI 316 STAINLESS STEEL MANUFACTURING

Virto specialises in making AISI 316 stainless steel screeners for the food and pharmaceutical industries and has provided the same machines for many other sectors.

### MIRROR POLISH FINISHING

All the circular models can be customized with a mirror polish finishing.

### STANDS

The X-Line equipment can be mounted on mobile or static stands, depending on size.

### SPIGOTS AND CONNECTIONS

A wide range of spigots and industry-standard connections are offered to accommodate existing installations.

### CIP SYSTEMS

A CIP (clean-in-place) system is offered for all circular models.

### GAS PURGING

This is offered for all circular models to enable inert atmosphere within the process line.

### PNEUMATIC LIFTING SYSTEM

This is offered for all circular models to automatically loading the cover.

### POLYURETHANE AND TEFLON COATING

The X-line equipment can be coated to protect the machine and the internal part from the corrosive effect of some materials or high temperatures.

### ATEX COMPLIANT

All of the Virto equipment can be built to be ATEX compliant, to meet all of the necessary regulatory requirements for the pharmaceutical, food, metal powder and many other industries.

## X-LINE CASE STUDIES

MATERIAL	MODEL SIZE	MESH SIZE (micron)	DENSITY (kg/lt)	CAPACITY (kg/h)
<b>For Powders</b>				
Aluminium	CS 095.1	30 µm	0,80	132
Ash	RS 2814.1	400 µm	1,1	3000
Crushed Limestone	RS 2310.1	800 µm	n/a	25000
Dolomite	RS 2310.1	1600 µm	0,9	40000
Foundry Slag	RS 1506.1	5000 µm	1,9	12500
Glass Powder	RS 2310.1	1000 µm	1,2	6000
Ground Pumice	RS 2310.1	70 µm	0,6	500
Gypsum	RS 2814.1	1000 µm	1	25200
Limestone	RS 2814.1	2000 µm	1,7	19600
Metal Powder Mix	CS 065.1	15 µm	4,8	55
Mica Powder	CS 120.1	100 µm	0,7	250
Silica Sand	RS 2310.0	1500 µm	1	9000
Silver	CS 095.1	15 µm	10	20
Synthetic Wax	CS 095.1	20 µm	0,35	45
Tin, Silver, Copper Powder Mix	CS 120.1	6 µm	7,4	143
Titanium	CS 095.1	15 µm	1,5	70
Tungsten	CS 120.1	25 µm	7	355
<b>For Liquids</b>				
Silica Slurry	RS 2010.1	250 µm	n/a	24,98 m3 /hour
Coal Dewatering	RS 2010.1	100 µm	n/a	30 m3 /hour

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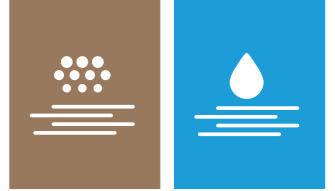
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## X-LINE

Multifrequency  
vibrating sieves for  
**Powders and Liquids**

# Multifrequency vibrating sieves for Powders and Liquids



## X-LINE TECHNOLOGY

The X-Line product range utilizes Multi-Frequency Vibration (MFV) sieving technology, which is patented. It consistently outperforms other screening equipment in its ability to significantly increase capacity and particle separation efficiency (over 99% purity in particle size) for problematic materials that are **wet or dry, ultra-fine (down to 5 µm), sticky, abrasive, agglomerative or prone to pegging**. It achieves unprecedented results on difficult materials without the need for mesh cleaning systems due to its MFV technology. This technology is based on accelerating the working mesh up to 500G - a 10000% increase on the mesh acceleration achieved with standard sieving equipment. X-Line sieves are available in rectangular and circular configuration.



## X-LINE CIRCULAR RANGE

The X-Line circular range is offered with a single deck (CS) or double deck (CD) for separating particles (3 mm down to 5 µm) in **difficult materials that are wet or dry, sticky, abrasive or agglomerative**. It can be used for classification, scalping, safety screening, de-dusting and solid/liquid separation. It has a proven track record in screening all forms of powders including metal powders, glass, chemicals, plastics, recycled/crushed/burnt waste, aggregates, food, agricultural and many more applications. Circular X-Line is tailored to suit your specific requirements and is offered in three distinct size models ranging from 650 mm diameter to 1200 mm diameter. Manufactured to high quality standards, is offered in stainless steel with many accessories such as motor covers, different types of connections, stands, pneumatic lifting system, clean-in-place systems and with gas purging. All contact parts can be customized with a mirror polish finishing.

TECHNICAL CHARACTERISTICS	CS 065.1	CS 095.1	CS 120.1	CD 095.2	CD 120.2
Motor nameplate data (kW)	0,5 + 0,5	0,52 + 0,52	0,52 + 0,52	0,52 + 0,52	0,85 + 0,85
Sieving decks	1	1	1	2	2
Mesh surface (m <sup>2</sup> )	0,33	0,68	1,1	0,68 x 2	1,1 x 2

\*(consumable items not included)

## SIZES AND CONFIGURATION

- Diameter sizes: 650 mm, 950 mm, 1200 mm
- Single deck: CS 065.1, CS 095.1, CS 120.1
- Double deck: CD 095.2, CD 120.2.

## USES OF CIRCULAR X-LINE

Fine and ultra-fine (3 mm down to 5 µm) particle size separation of materials that are difficult to screen due to them being wet/dry, humid, irregular shaped, sticky or abrasive. The circular X-Line has a proven track record in screening all forms of powders including metal powders, glass, chemicals, plastics, recycled/crushed/ burnt waste, aggregates, food, agricultural and many other applications. The CS or CD machines can be used for classification, scalping, safety screening, de-dusting and solid/liquid separation.

## DESIGN CHARACTERISTICS

- Single or double deck circular machines ranging in size from 650 to 1200 mm in diameter;
- Multi-frequency vibration (MFV);
- Up to 500G of acceleration passed directly into the mesh, eliminating pegging and blinding;
- ATEX compliant (upon request);
- Fitted with two vibrating motors;
- Contact parts in AISI 304 stainless steel;
- Mirror polish finishing (upon request).



## X-LINE RECTANGULAR RANGE

The X-Line rectangular equipment provides high volume separation (25 mm down to 20 µm) for **difficult materials that are slurry based, wet, dry, sticky, abrasive or agglomerative**. The rectangular machines can be manufactured in either carbon or stainless steel, provided with covers, flexible connections, stands, varying spigots and different coatings. There are three types of rectangular sieves:

- RS (single deck) with one vibrating motor for screening powders: Perfect for screening difficult materials for powder applications requiring screening/separation at large volumes. Its uses cover heavy dry or liquid based industrial applications for chemicals, mining, petroleum, aggregates, fertilizers, recycled/crushed/ burnt waste and lighter or more delicate materials such as metal powders.
- RD (double deck) with one vibrating motor for screening powders: This screener is used for grading powders for the same industries as the RS (see above) at high efficiency and throughput.
- RS (single deck) with two vibrating motors for screening liquids: This product line has been designed for screening liquids/slurries and dewatering materials (down to 20 µm) in a high dilution state.

TECHNICAL CHARACTERISTICS	RS 1506.1	RS 2010.1	RS 2310.1	RS 2814.1	RD 2814.2	RS 3514.1
Motor nameplate data (kW)	1,1	1,3 + 1,3	3,4	4,1	4,1	4,3
Sieving decks	1	1	1	1	2	1
Mesh surface (m <sup>2</sup> )	0,9	2	2,2	3,6	2 x 3,4	5

\*(consumable items not included)

## SIZES AND CONFIGURATION

### FOR POWDERS:

- Single deck: RS 1506.1, RS 2310.1, RS 2814.1 and RS 3514.1;
- Double deck: RD 2814.2.

### FOR LIQUIDS:

- RS 1506.1 and RS 2010.1

## USES OF RECTANGULAR X-LINE

High volume particle separation of coarse, fine and ultra-fine (25 mm – 20 µm) materials that are difficult to screen due to them being in a liquid/slurry, humid, sticky, abrasive or agglomerative.

The rectangular X-Line has a proven track record in screening all forms of powders and liquids including mining and petroleum applications, metal powders, glass, plastics, recycled/crushed/burnt waste, aggregates, agricultural and many other applications.

The RS and RD machines can be used for classification, scalping, safety screening, de-dusting, solid/liquid separation, de-sliming and dewatering and are particularly well known for classification and scalping of all quarry and mining products.

## DESIGN CHARACTERISTICS

- Single and double deck rectangular machines ranging in size from 1,500 x 600 mm to 3,500 x 1,400 mm;
- Multi-frequency vibration (MFV);
- Up to 500G of acceleration passed to mesh eliminating pegging and blinding;
- Carbon-steel structure, also available in stainless steel on request;
- Fitted with one or two vibrating motors, depending on size and application.

## X-LINE BENEFITS

1. **Unprecedented results in coarse, fine and ultra-fine screening:** X-Line separates at a cut point range from 25 mm to as small as 5 µm (on circular machines) for difficult materials that are wet or dry, sticky, abrasive, agglomerative or prone to pegging.
2. **Eliminates mesh pegging and blinding:** Due to the high acceleration generated by the X-Line equipment, the mesh is able to eliminate pegging and blinding of the mesh.
3. **High capacity:** With the mesh pegging and blinding eliminated, the X-Line equipment is able to utilize all of the opened surface area of the mesh, delivering increased capacity in the range of 20% to 400% as compared with standard screeners.
4. **Cut size precision:** X-Line's 500G of MFV acceleration improves the purity level of the oversize/undersize material removing contamination with an efficiency greater than 99%.
5. **User friendly:** X-Line machines are designed for quick and effective cleaning, maintenance and mesh changing.
6. **Creates valuable products from waste:** X-Line equipment screens ultrafine and difficult materials with high efficiency and specialises in turning low margin/ waste products in to valuable products.
7. **Reduction of energy consumption:** X-Line machines create an increase in capacity and efficiency which equates to a greater output, less screening time and less energy consumption.

## X-LINE MFV TECHNOLOGY VS TRADITIONAL SIEVES

Traditional vibrating sieves use single frequency systems to vibrate the machine frame applying to it up to 5G of acceleration: the mesh is subsequently excited by the sheer movement of the machine. Instead, **the X-Line equipment uses multi-frequency vibration (MFV) with a very high amplitude: this delivers multi vibrational frequencies directly into the mesh, while avoiding energy waste by minimising the limited vibrational forces offered by the machine frame**. The X-Line's MFV technology vibrates the mesh utilizing an acceleration of up to 500G (10000% increase over standard sieves) which enables it to eliminate mesh blinding and maximise capacity at cut points down to 5 micron.