

SANDVIK SS & SF FREE-FALL SCREENS

TECHNICAL SPECIFICATION

SS and SF Free-Fall Screens are compact and high-capacity screens designed to handle large loads of material despite their modest size. Due to these features' screens are very suitable for mobile and portable crushing plants. Screens have steeply inclined decks and a linear stroke.

SS screens are often used in scalping, closed circuit screening and final product screening of gravel – applications. SF screens for instance screening crushed stone to asphalt fractions and to railway ballast as well as screening of natural gravel into short concrete fractions i.e. in classification screening applications.

The principle of free-fall screening is a free flow of material, through and over the decks. The opposite is a conventional screen, which in fact is designed to operate with a certain bed thickness for optimal performance. In contrast to the conventional screens, the optimal performance is achieved when at least 70% of the feed to the separating deck is smaller than the separation size. This allows for small stones to pass the screen deck in an early stage, which consequently results in a limited or even negligible bed thickness.

A free-fall screen can be designed considerably short and more compact compared to the conventional screens. The principle of free-fall screening enables a quick removal of large amounts of fines, by using a steep deck inclination and an effective linear stroke, almost perpendicular to the deck. The heavy-duty version of the Free-Fall is normally used after larger crushers, giving a maximum feed size over 150 mm. The Free-Fall SF screen originates from the design and basic principles of the Free-Fall SS screen. The SF screen incorporates two different screening sections on each deck. This allow for the free-fall principle to act at the first section, while a more accurate stratification is conducted at the second section. Consequently, resulting in a combination of the high capacity associated with free-fall screening



and the good separation accuracy of horizontal screening. In fact, a third positive side effect is achieved by this screening method, maintaining a compact design.

FEATURES

Compact size (small foot print, low weight, low dynamic loads) allows light support structure design and easy installation

Economical to use because of the low power consumption

High capacity due to the free-fall principle enabling a quick removal of large amounts of fines

Low operating and maintenance costs due to simple drive system by two unbalanced self-synchronizing vibrating motors, no gears

Maintenance friendly due to good accessibility (vibrator drive, end tensioned screening medias)



MODEL	NOTE! (BELOW)	INSIDE WIDTH (MM)	MAX. FEED SIZE (MM)*	NUMBER OF DECKS	INSTALLED POWER (KW INPUT @ 50 HZ)	INSTALLED POWER (KW INPUT @ 60 HZ)	ACC. (G)	WEIGHT (KG)
SS1012	1)	1,020	120	2	2 x 2.0	2 x 2.1	5.0	1,000
SS1013H	3)	1,020	300	3	2 x 2.6	2 x 3.0	5.0	1,300
SS1223	1)	1,240	150	3	2 x 3.0	2 x 3.0	5.0	1,950
SS1233	2)	1,240	225	3	2 x 3.0	2 x 3.0	5.0	1,950
SS1233H	3)	1,240	350	3	2 x 5.5	2 x 5.0	4.5	2,700
SS1433	2)	1,430	225	3	2 x 5.5	2 x 5.0	4.7	2,600
SS1633H	3)	1,618	350	3	2 x 9.8	2 x 8.5	4.5	4,450
SS1823	1)	1,818	150	3	2 x 8.5	2 x 7.0	4.5	3,650
SS1833	2)	1,818	225	3	2 x 8.5	2 x 7.0	4.5	3,850

- 1) Standard duty, length tensioned media on all decks (separation range: 2–80 mm)
- 2) Heavy duty, self-supporting media on the top deck, length tensioned media on second and third deck (separation range 2–100 mm)
- 3) Extra heavy duty, self-supporting media on the top deck, length tensioned media on second and third deck (separation range 2–100 mm)

* Refers to material with bulk density 1.6 t/m³ (note: also depending on the feed size distribution)

The Free-Fall screens usually require additional screening decks compared to the conventional screens, in order to perform at its impressive capacities. If not all screening decks are being used, a special protection cloth can be supplied in order to cover and protect the open support frames from excessive wear.

SS FREE-FALL SCREENS

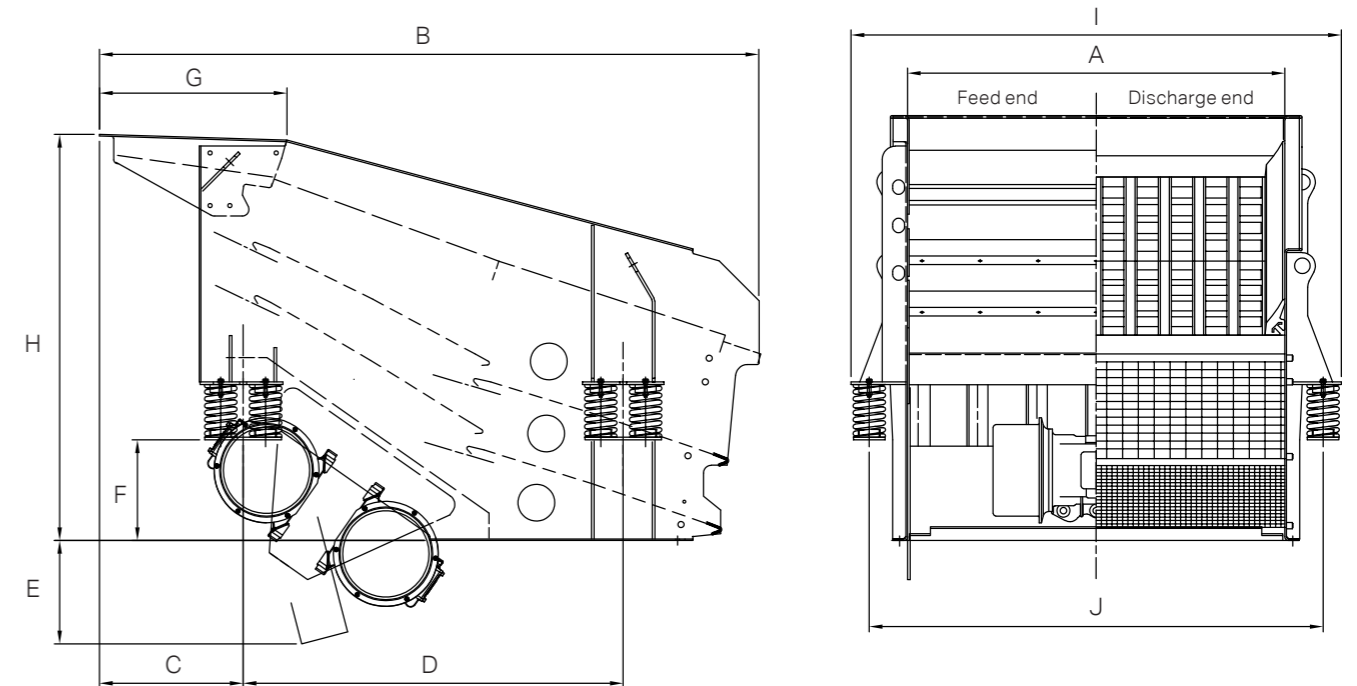
STANDARD DELIVERY INCLUDES

- Bolted screen body with rubber lined feed box and wear protected side plates for all decks
- Back wall designed of heavy rubber sheets
- Two electrical motors, self-synchronizing and unbalanced (as standard 6-pole/1,000 rpm, 50 Hz/400 V, protection class IP 65)
- Suspension with steel coil springs and spring supports
- Screening elements and clamping arrangements
- SS - for standard applications: Longitudinally tensioned wire mesh (any hole size) for all decks
- SS - for heavy duty applications and SS-H for extra heavy duty applications: The top deck has self-supporting rubber elements (100 mm square holes) and the second and third deck is delivered with wire mesh (any hole size)
- Surface treatment according to Sandvik S&F standard painting procedure
- Installation, operating and maintenance manuals

OPTIONS

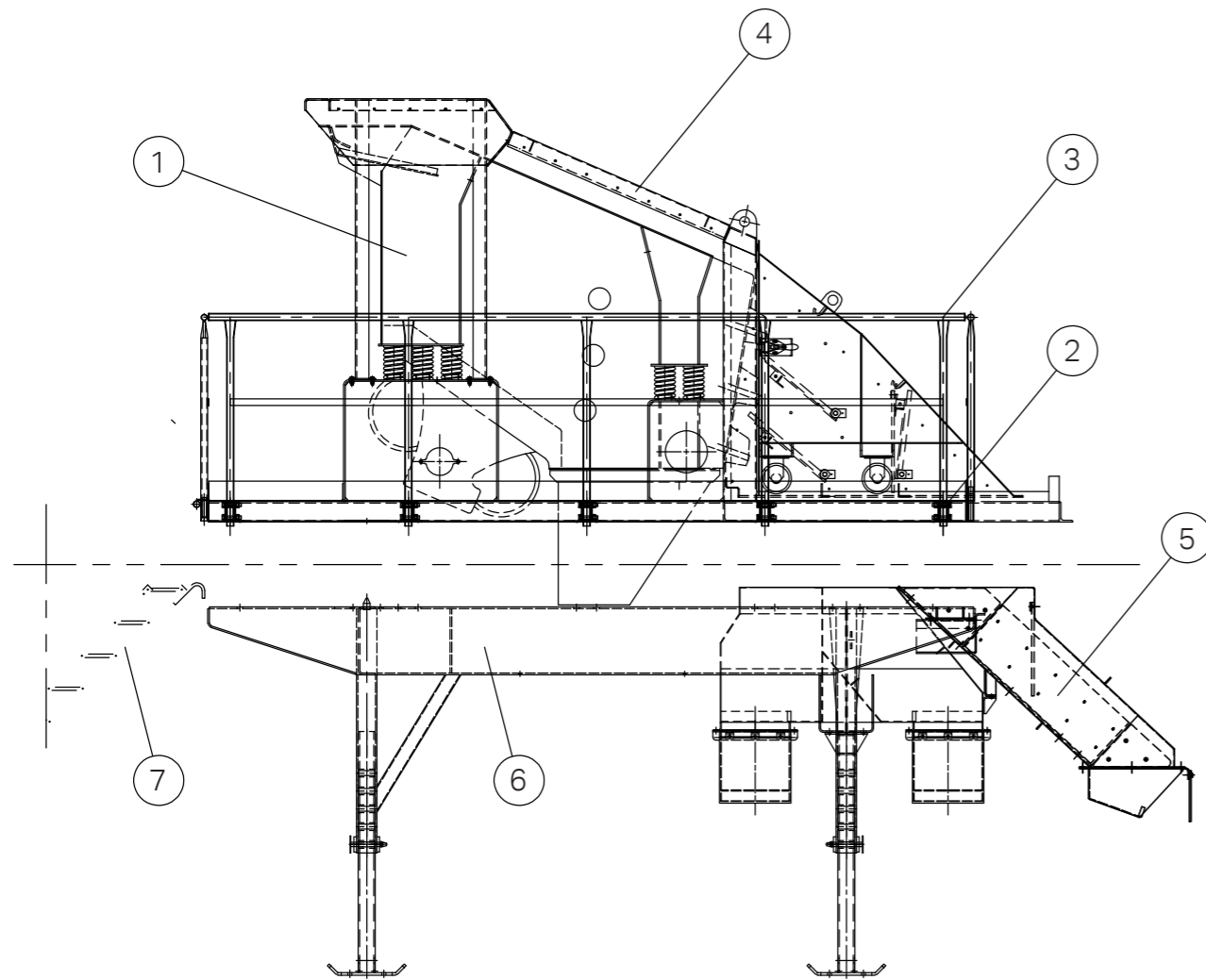
- Vibrating discharge chute for fines (i.e. chute and screen are bolted together, and the chute is made of rubber, steel or a combination of both)
- Electrical motors with other voltage alternatives
- SS... for heavy duty applications and SS...H for extra heavy duty applications: Alternative hole sizes up to 120 mm (i.e. for the self-supporting rubber elements at the top deck)
- Screen Unit (Note: detailed specification can be reviewed in the following pages)
- Screen Station (Note: detailed specification can be reviewed in the following pages)

DIMENSIONS - SS FREE-FALL SCREENS



MODEL	NUMBER OF DECKS	A	B	C	D	E	F	G	H	I	J
SS1012	2	1,020	1,330	100	1,050	70	450	440	1,450	1,400	1,300
SS1013H	3	1,020	1,460	310	960	250	490	N/A	1,400	1,400	1,300
SS1223	3	1,240	2,435	540	1,440	370	380	710	1,540	1,670	1,530
SS1233	3	1,240	2,435	540	1,440	370	380	710	1,540	1,670	1,530
SS1233H	3	1,240	2,990	805	1,710	245	573	710	1,917	1,724	1,500
SS1433	3	1,430	2,500	547	1,440	390	375	710	1,540	1,858	1,720
SS1633H	3	1,618	2,920	510	1,840	328	717	835	2,150	1,950	1,900
SS1823	3	1,818	2,645	616	1,511	510	517	695	2,025	1,818	2,120
SS1833	3	1,818	2,645	616	1,511	510	517	695	2,025	1,818	2,120

SCOPE OF SUPPLY – SS FREE-FALL SCREEN UNIT/SCREEN STATION



Note: •

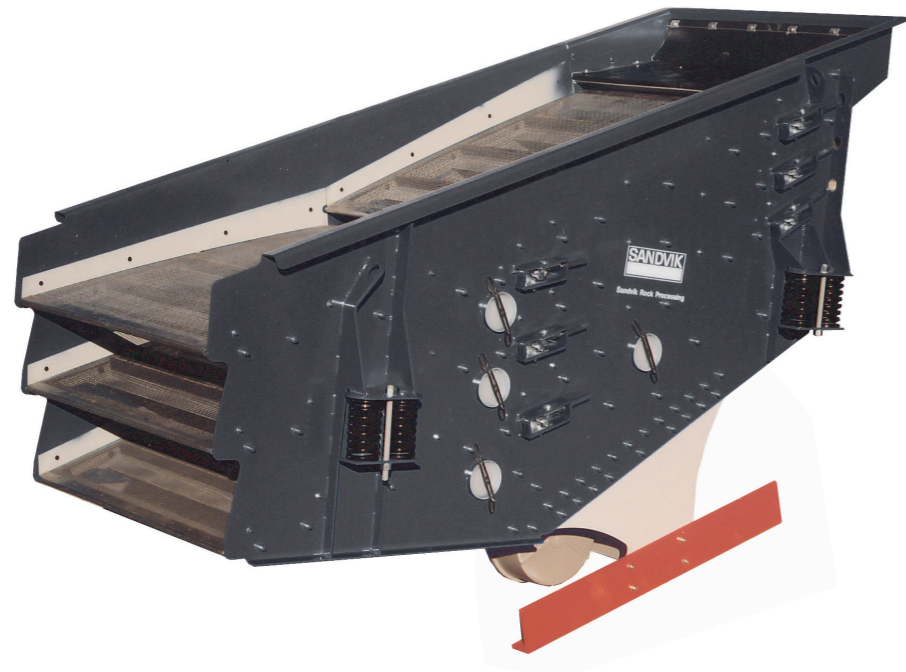
- Item no. 1-7 corresponds to the modules required for a complete screen station and item no. 1-4 to a complete screen unit. Some modules offer more than one alternative, of which only one of them can be selected.
- Screen unit and screen station are not available for models SS1012 and SS1013H.

SCREEN UNIT (ITEM NO. 1-4)

ITEM NO. 1	REQUIRED QUANTITY	DESCRIPTION
Free-Fall SS Screen	1	See first page (i.e. standard delivery includes)
ITEM NO. 2	REQUIRED QUANTITY	DESCRIPTION
Basic Screen Unit Assembly	1	Includes: base frame, feed chute support and roll away chute
ITEM NO. 3	REQUIRED QUANTITY	DESCRIPTION
Folding Platform Assembly	1	Service platform for both sides
ITEM NO. 4	REQUIRED QUANTITY	DESCRIPTION
Dust Seal Assembly	1	Dust encapsulation on top of the screen as well as at the discharge end

SCREEN STATION (ITEM NO. 1-7)

ITEM NO. 1	REQUIRED QUANTITY	DESCRIPTION
Free-Fall SS Screen	1	See first page (i.e. standard delivery includes)
ITEM NO. 2	REQUIRED QUANTITY	DESCRIPTION
Basic Screen Unit Assembly	1	Includes: base frame, feed chute support and roll away chute
ITEM NO. 3	REQUIRED QUANTITY	DESCRIPTION
Folding Platform Assembly	1	Service platform for both sides
ITEM NO. 4	REQUIRED QUANTITY	DESCRIPTION
Dust Seal Assembly	1	Dust encapsulation on top of the screen as well as at the discharge end
ITEM NO. 5	REQUIRED QUANTITY	DESCRIPTION
Discharge chute	1	Extension chute for discharge of the oversize fraction (i.e. extra discharge chute for the top deck) Note: this item is not shown in the above drawing due to deficient space
ITEM NO. 6	REQUIRED QUANTITY	DESCRIPTION
Support Assembly, G1	1	Support structure, single discharge chute (top deck) and extension stands to obtain different height alternatives
Support Assembly, G2	1	Support structure, single discharge chute (top deck) and extension stands to obtain different height alternatives
ITEM NO. 7	REQUIRED QUANTITY	DESCRIPTION
Staircase (12 steps)	1	Standard design which allows for different height alternatives, horizontal and adjustable steps



SF FREE-FALL SCREENS

STANDARD DELIVERY INCLUDES

- Bolted screen body with rubber lined feed box and wear protected side plates
- Two electrical motors, self-synchronizing and unbalanced (as standard 6-pole 1,000 rpm, 50 Hz/400 V, protection class IP 65)
- Suspension with steel coil springs and spring supports
- Length tensioned wire mesh (any hole size) for all decks
- Rubber covered discharge lips (SF1843 and SF1844)
- Transport plane under the bottom deck collecting fine material towards discharge end
- Back wall made of rubber for dust retention
- Friction checks integrated into spring base mounts (SF1843 and SF1844)
- Surface treatment according to Sandvik S&F standard.

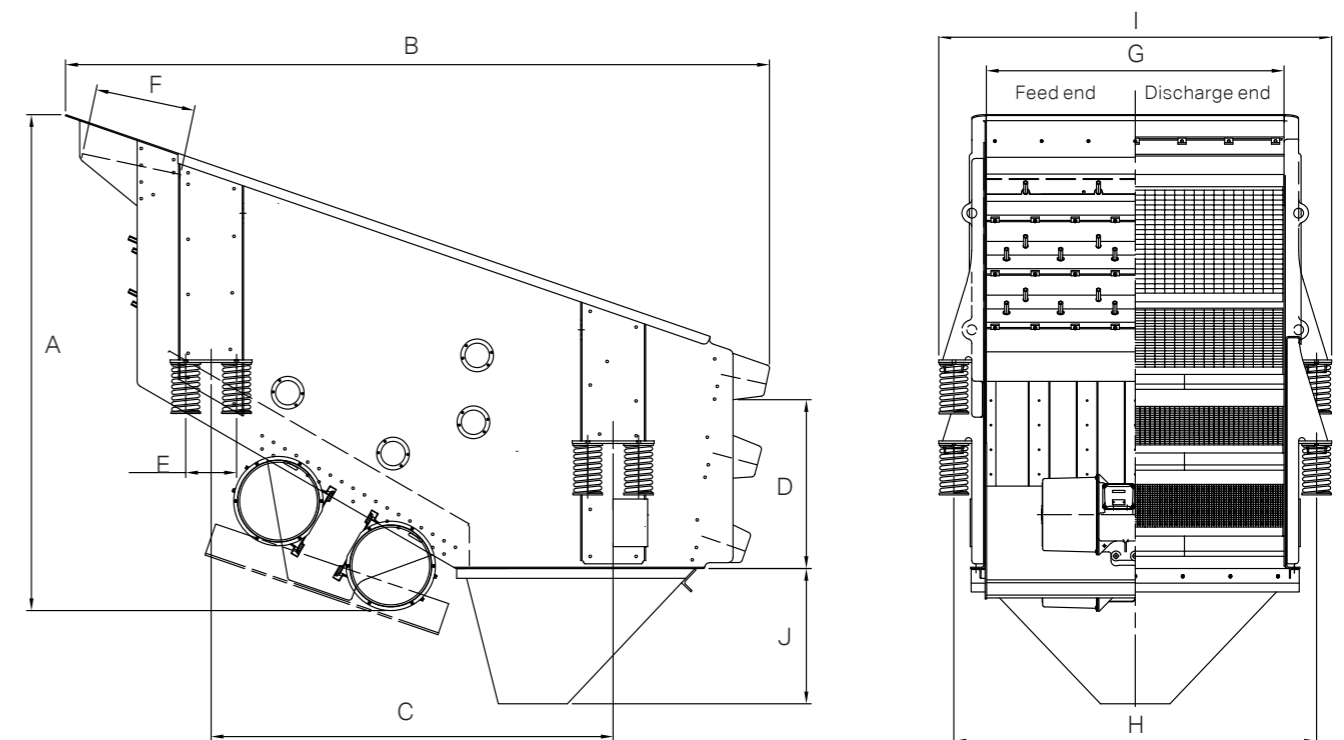
OPTIONS

- Vibrating discharge chute for fines (i.e. chute and screen are bolted together)
- Electrical motors with other voltage alternatives
- Ball deck (i.e. including rubber balls, support mesh and required clamping devices, available for the two lower decks in the SF1843 and SF1844)
- Screen Unit (Note: detailed specification can be reviewed in the following pages)
- Screen Station (Note: detailed specification can be reviewed in the following pages)
- Extension chute for discharge of the oversize fraction (i.e. extra discharge chute for the top deck, including 10 mm thick side and bottom liners, HB 400)

MODEL	INSIDE WIDTH (MM)	SEPARATION RANGE* (MM)	MAX. FEED SIZE (MM)*	NUMBER OF DECKS	INSTALLED POWER (KW INPUT @ 50 HZ)	INSTALLED POWER (KW INPUT @ 60 HZ)	ACC. (G)	WEIGHT (KG)
SF1443	1,400	2-64	120	3	2 x 8.5	2 x 7.0	5.0	3,200
SF1843	1,800	2-64	120	3	2 x 11.5	2 x 9.7	4.5	5,900
SF1844	1,800	2-64	120	4	2 x 14.5	2 x 11.5	5.0	7,700

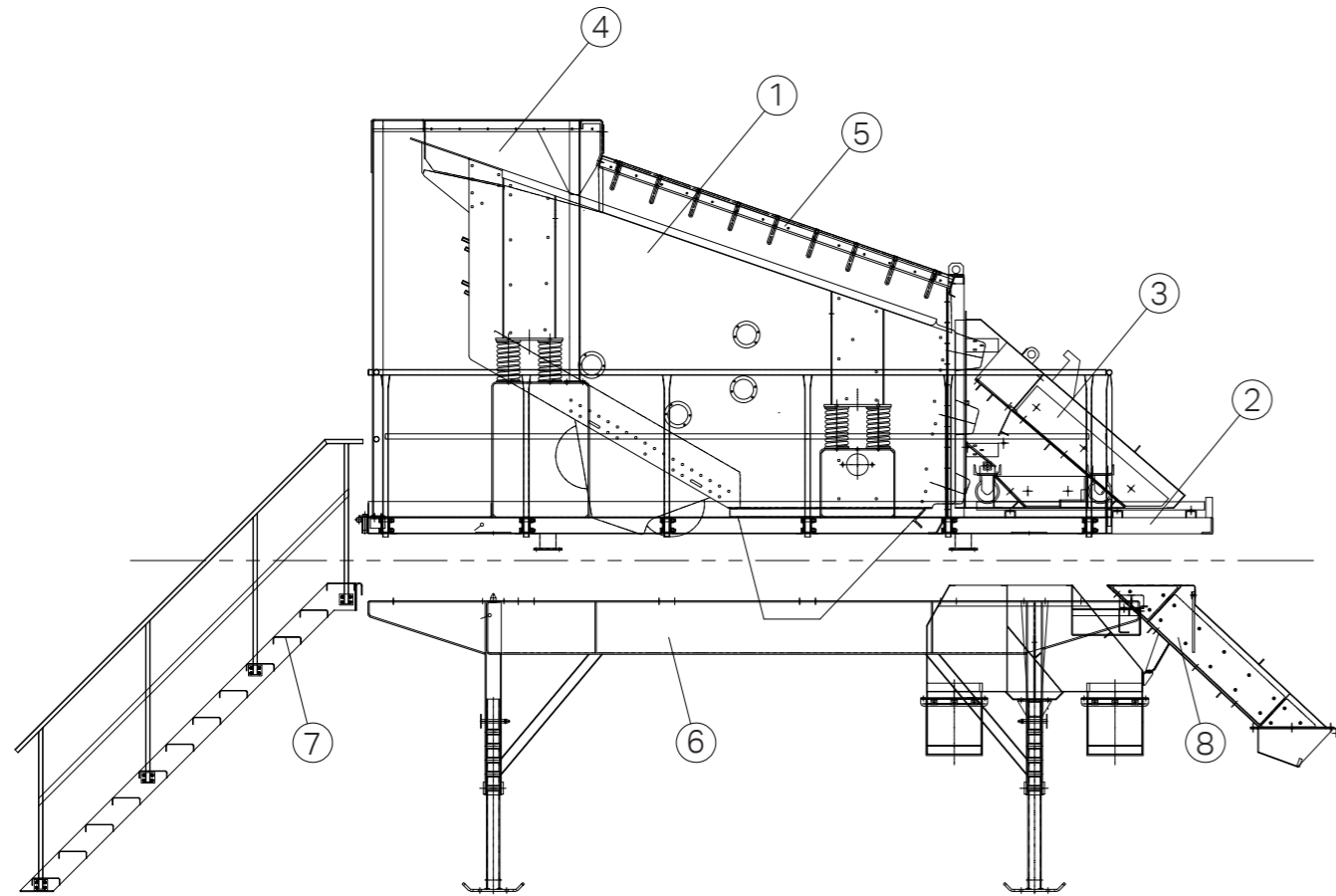
* Refers to material with bulk density 1.6 t/m³ (note: also depending on the feed size distribution)

DIMENSIONS - SF FREE-FALL SCREENS



MODEL	NUMBER OF DECKS	A	B	C	D	E	F	G	H	I	J	LENGTH OF SCREENING MEDIA (MM)
SF1443	3	2,580	3,540	2,300	740	170	610	1,430	1,720	1,860	860	2x1,600
SF1843	3	2,977	4,290	2,450	1,029	310	610	1,830	2,210	2,394	825	2x1,900
SF1844	4	3,350	4,290	2,450	1,360	310	610	1,830	2,210	2,390	825	2x1,900

SCOPE OF SUPPLY – SF FREE-FALL SCREEN UNIT/SCREEN STATION



Note: •

- Item no. 1-8 corresponds to the modules required for a complet screen station and item no. 1-5 to a screen unit. Some modules offer more than one alte native, of which only one of them can be selected.
- The screen units and stations according to the table below are available for the screen models SF1443 and SF1843.

SCREEN UNIT (ITEM NO. 1-5)

ITEM NO. 1	REQUIRED QUANTITY	DESCRIPTION
Free-Fall SF Screen	1	See first page (i.e. standard delivery includes)

ITEM NO. 2	REQUIRED QUANTITY	DESCRIPTION
Screen Unit Assembly 1	1	Basic screen unit frame with platforms
Screen Unit Assembly 2	1	Shortened screen unit frame without platform

ITEM NO. 3	REQUIRED QUANTITY	DESCRIPTION
Roll Away Chute	1	Basic roll away chute

ITEM NO. 4	REQUIRED QUANTITY	DESCRIPTION
Feed Chute Support	1	Basic feed chute support

ITEM NO. 5	REQUIRED QUANTITY	DESCRIPTION
Dust Encapsulation	1	Rubber curtain style

SCREEN STATION (ITEM NO. 1-8)

ITEM NO. 1	REQUIRED QUANTITY	DESCRIPTION
Free-Fall SF Screen	1	See first page (i.e. standard delivery includes)

ITEM NO. 2	REQUIRED QUANTITY	DESCRIPTION
Screen Unit Assembly 1	1	Basic screen unit frame with platforms
Screen Unit Assembly 2	1	Shortened screen unit frame without platform

ITEM NO. 3	REQUIRED QUANTITY	DESCRIPTION
Roll Away Chute	1	Basic roll away chute

ITEM NO. 4	REQUIRED QUANTITY	DESCRIPTION
Feed Chute Support	1	Basic feed chute support

ITEM NO. 5	REQUIRED QUANTITY	DESCRIPTION
Dust Encapsulation	1	Rubber curtain style

ITEM NO. 6	REQUIRED QUANTITY	DESCRIPTION
Support Assembly	1	Support structure with dual discharge chutes (i.e. midsize fractions)

ITEM NO. 7	REQUIRED QUANTITY	DESCRIPTION
Staircase (12 steps)	1	Horizontal and adjustable staircase with hooks

ITEM NO. 8	REQUIRED QUANTITY	DESCRIPTION
Discharge Chute	1	Extension chute for discharge of the oversize fraction (i.e. for the top deck)

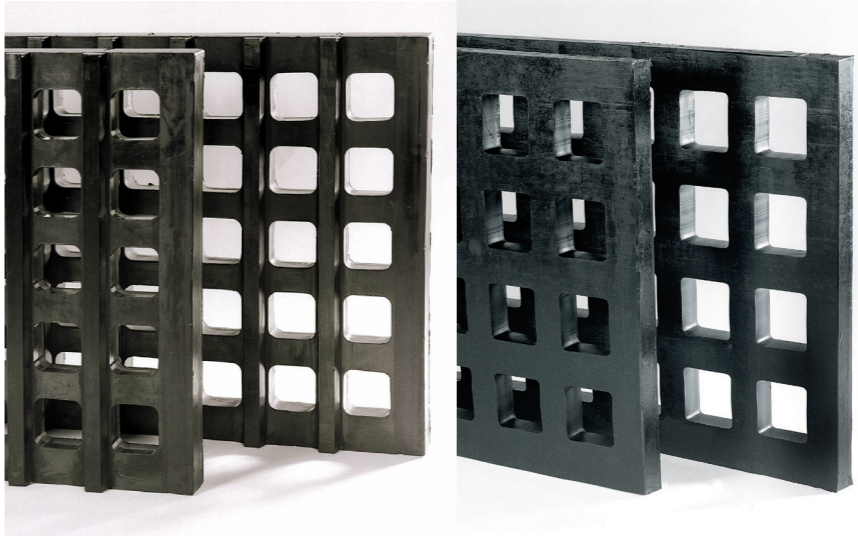


THE RIGHT MEDIA FOR THE RIGHT OUTCOME

Your screening media is just as important to your operation as choosing the right chamber for your crusher. But it doesn't stop at screens alone. When your setup is optimized for your unique needs, then you really start maximizing your productivity.

Screening media is not one size fits all. Unlike many other suppliers of screen panels, we intimately understand the challenges you face and can work with you to analyze your classification objectives and challenges to create a screening media solution that will maximize your operation – and your output.

With Sandvik, you get an OEM partner with more than a century of experience in crushing and screening. Bringing all of our deep expertise and process knowledge to your operation, we not only provide you with the right screening media. We also have an array of service offerings to optimize your entire crushing and screening circuit, helping you solve problems, and raise your profits.



Our Sandvik WS6000 and WS6000H steel-reinforced, self-supporting panels are built to take a heavy beating in your primary scalping applications. These panels are made of hardwearing rubber that has been designed to withstand your heavy-duty needs, giving you a long life, long servicing intervals and reduced maintenance requirements.

The WS6000 and WS6000H screen panels are both designed for medium-coarse to coarse screening in the quarrying and mining industries and can be made to measure in a number of different lengths, widths, thicknesses and hole sizes. This is a strong and reliable self-supporting screening element designed for coarse screening with separations from 45 mm and up with a max feed lump size up to 300 mm. The WS6000H, however, comes with skid bars that keep larger 300-400mm boulders off the panel surface, guiding fine material toward the holes and preventing excessive wear.

Distributed in the Benelux by



Lutze Process Belux BV
Preflexbaan 153
BE-1740 Ternat

cns@lutze-group.com
+32 2 481 09 60

Lutze Process Netherlands BV
Tasveld 23
NL-3417 XS Montfoort

cns@lutze-group.com
+32 2 481 09 60

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