International Combustion

Manufactured under license from Omni Crushing & Screening Ltd, Brazil

OMNI CS

CRUSHING & SCREENING

S O L U T I O N S





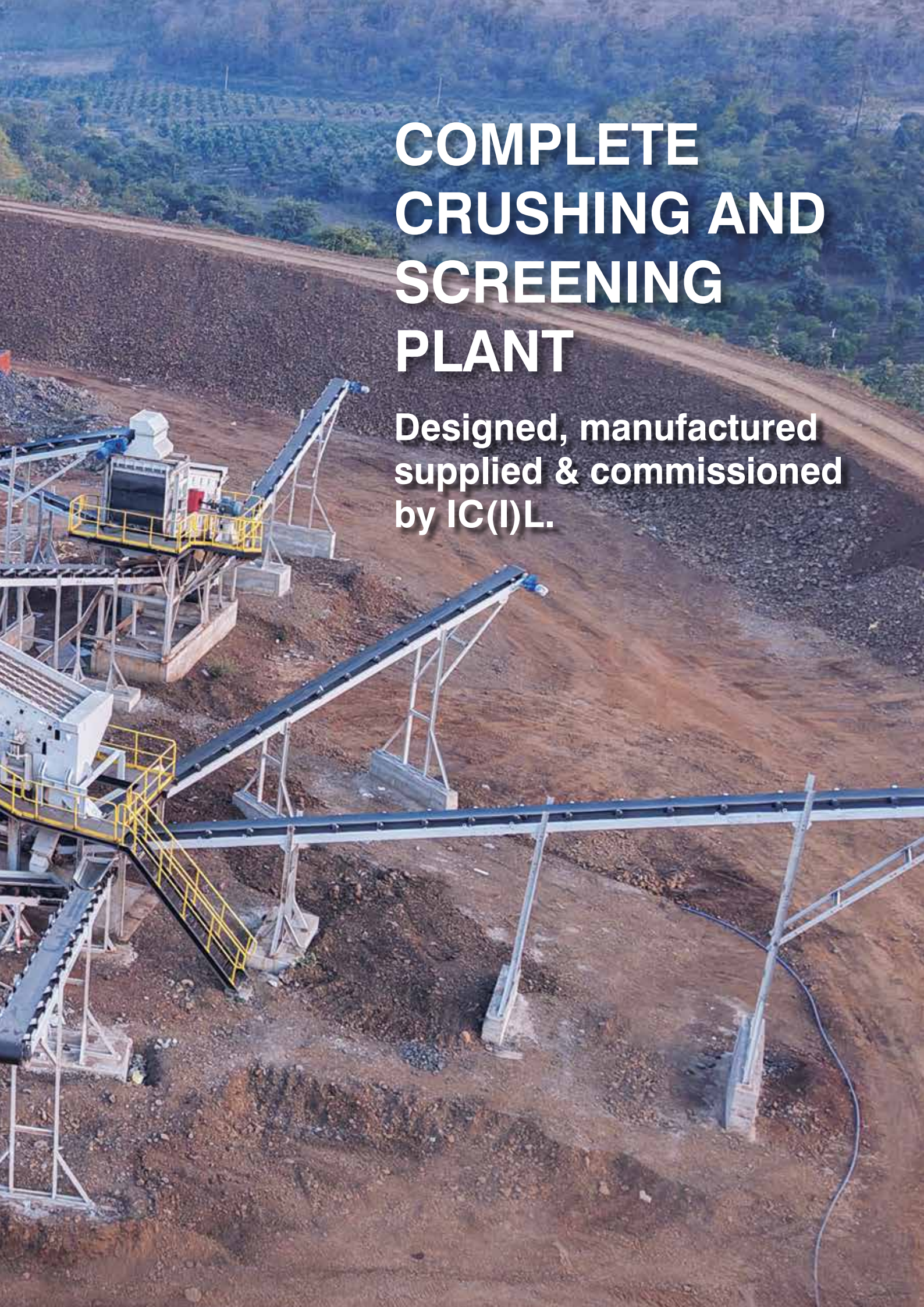




Acknowledged Leadership in Technology

CDR-0826





COMPLETE CRUSHING AND SCREENING PLANT

Designed, manufactured supplied & commissioned by IC(I)L.

JAW CRUSHER
TYPE OM





JAW CRUSHER TYPE OM

To crush large feed sizes with maximum reduction ratio

Manufactured under license from Omni Crushing & Screening Ltd, Brazil

OMNI CS

OM single toggle jaw crusher line represents the pinnacle of jaw crusher development. These modern and robust machines are engineered with state-of-art technology using 3D modelling and incorporating many innovative features.

The design & manufacture ensure maximum production and efficiency, as well as a significant reduction in operating costs and maintenance.

The crusher frames are manufactured using highest quality steels - sure to provide unrivalled durability. The crusher body is manufactured in ASTM-A36, electrically welded and stress relieved by heat treatment.

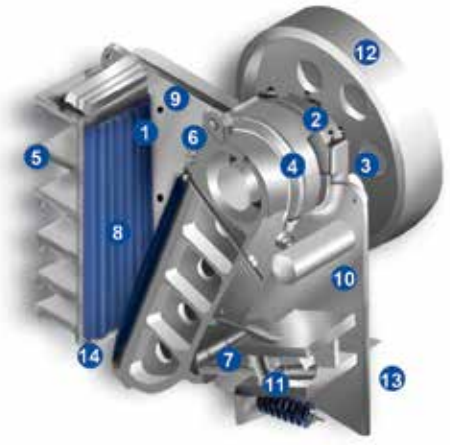




The balanced high inertia flywheels are of cast steel - one plain and one grooved for 'V' belts. The crushing chambers are symmetrical with identical manganese steel fixed and swing jaw plates to minimise inventory - both plates are also reversible end-on-end to minimise waste.

Main Features

1. **Deep symmetrical crushing chamber with optimized Nip Angle**.
2. Split bearing housing.
3. Ringfeder securing flywheels to shaft.
4. Extreme duty oversized bearings and shaft.
5. Fully enclosed profile for maximum strength.
6. Rugged pitman/shaft/ protection plate.
7. Dry type toggle plate/seat.
8. Reversible and interchangeable Jaw Plates.
9. Interchangeable side liners.
10. Cast housings welded to steel body, remote from rounded corners to prevent cracking.
11. Safe & easy operation and maintenance.
12. Cast steel flywheels (one plain, one grooved).
13. Drive motor mounted on crusher body.
14. Replaceable bolted jaw supports.



Technical Characteristics

Model	Opening Size (mm)	Machine RPM	Motor Power (kW)	Weight (Kg)
OM 9070	900 X 700	270	75	18000
OM 10080	1000 X 800	240	110	26000
OM 11090	1100 X 900	240	160	34000
OM 125100	1250 X 1000	220	200	46000
OM 140120	1400 X 1200	220	250	62000

Ultimate Reliability

IC Jaw Crushers are equipped with a heavy-duty designed structure built to withstand the most arduous duties and extreme rock types for extreme mining and quarrying duties. All cast parts are manufactured from ASTM A216 steel that, combined with steel side plates, Jaw and liners of high manganese content, heavy-duty eccentric shaft and four identical super-size bearings, results in superior durability and reliability. The absence of stress inducers created by welding lines, due to the high strength one-piece side plate design, guarantees resistance to fatigue and ensures longevity. Any welded joints are distant from stress points and corners rounded to eliminate fatigue cracking.

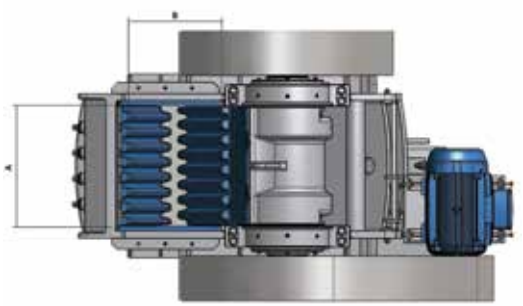
Average Production in Ton/hr

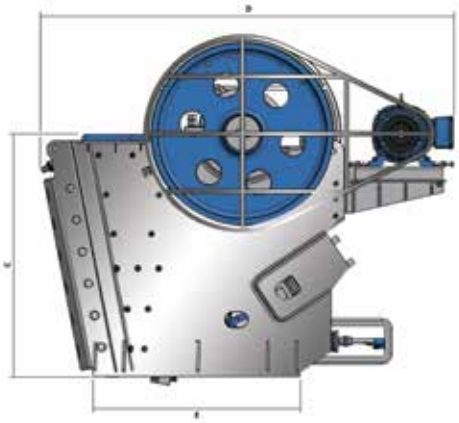
Model	Estimated Capacity for "CSS" (mm)									
	75	100	125	150	175	200	225	250	275	300
OM 9070	95-150	115-180	140-210	160-250	180-285	210-310				
OM 10080	135-175	175-235	220-290	265-350	305-400	345-450	385-500			
OM 11090	165-220	220-290	270-355	325-430	385-505	445-580	495-650	550-720	605-790	
OM 125100		245-335	295-400	345-475	395-545	465-615	505-685	570-755	620-810	
OM 140120			335-465	390-545	455-625	510-710	570-790	630-870	690-950	730-1020

Note: Capacities above based on apparent density 1.6 T/Cu M

Product size distribution

Size of the Rock (mm)	Opening at "CSS" (mm)									
	75	100	125	150	175	200	225	250	275	300
550										100
500									100	98
450								100	98	95
400						100	100	97	93	89
350						99	96	92	87	82
300					100	94	89	83	77	72
275				100	96	90	84	78	81	65
250				98	92	85	78	71	64	58
225			100	94	87	79	71	63	57	52
200		100	97	89	80	70	62	55	50	46
175		99	91	81	70	60	53	47	43	40
150	100	94	83	75	58	50	44	40	36	33
125	98	85	67	56	47	40	36	31	29	26
100	89	70	53	43	35	30	27	23	21	19
75	70	49	38	30	25	21	19	17	15	13
63	57	40	31	25	20	17	15	13	12	11
50	43	30	23	19	15	13	12	10	9	8
40	33	23	18	14	12	10	9	8	7	6
28	21	15	12	9	8	7	6	5	4.5	4
20	14	10	8	6	5	4.5	4	3.5	3	2.5
13	9	7	5	4	3.5	3	3	2.5	2	1.5
10	6	4.5	3.5	3	2.5	2.5	2	2	1.5	1







Models	Dimensions (mm)							
	A	B	C	D	E	F	G	H
OM 9070	900	700	1740	3270	1850	1071	1452	1995
OM 10080	1000	800	2065	3510	2080	1197	1617	2150
OM 11090	1100	900	2325	3950	1985	1230	1650	2420
OM 125100	1250	1000	2580	4390	2205	1365	1835	2690
OM 140120	1400	1200	3100	5265	2645	1640	2200	3225

Note: Above format and information are subject to change without prior notice

CONE CRUSHER TYPE OC





CONE CRUSHER TYPE OC

Fixed shaft- Medium & Fine Cone crushers for secondary & tertiary crushing

Manufactured under license from Omni Crushing & Screening Ltd, Brazil

Series OC Crushers are robust equipments which ensure high productivity, low operation cost and longer useful life than other similar Crushers.

The body of the cone crusher is constructed of ASTM A216. It's crushing chamber consists of two basic elements; the concave linings and mantle (wear parts) - fabricated with austenitic manganese steel and mounted in a simple way keeping in mind easy replacement when required.

These OC Series Cone Crushers are very efficient for size reduction of Basalt, Granite, Quartzite, Feldspar, Glass, BF/LD Slag, Limestone and many more.





The overload system for non-crushable materials works through hydraulic cylinders and hydro-pneumatic pressure accumulators. Due to ample space within the chamber the cleaning of the equipment is simple (to remove obstructions) thus reducing stoppage time and increasing the productivity and dependability.

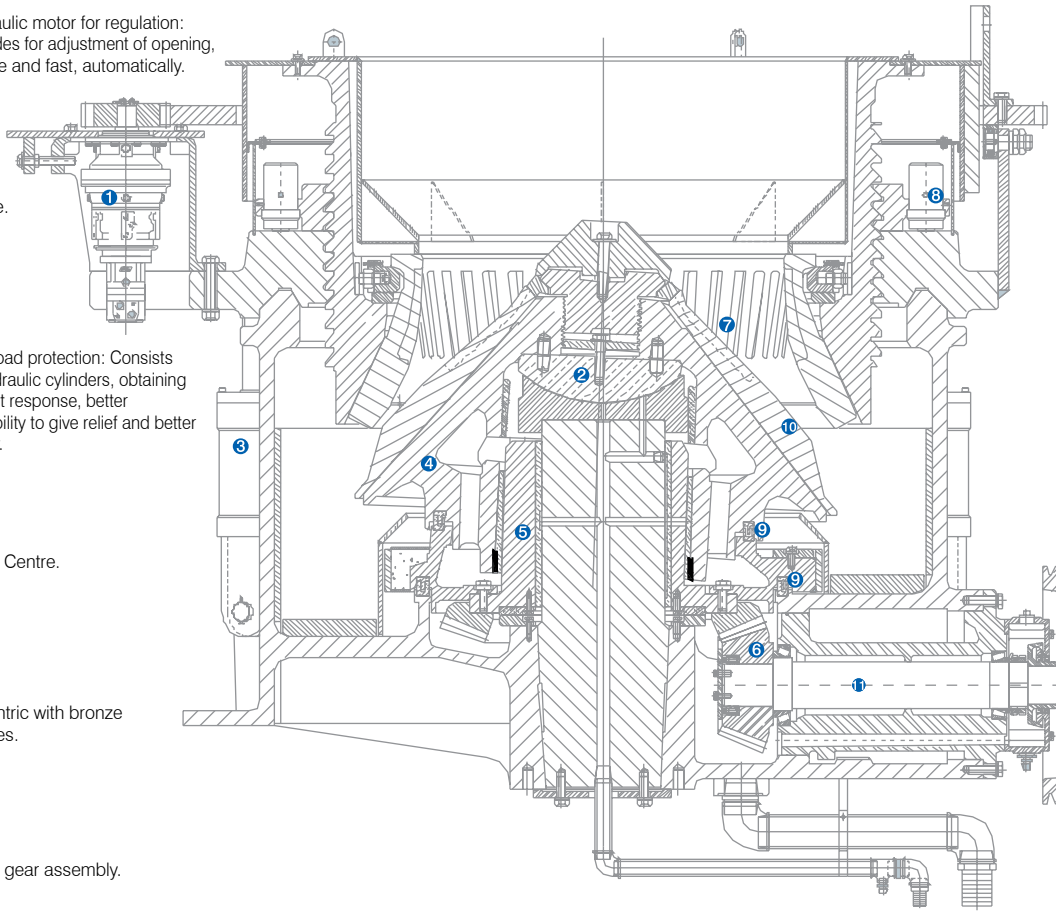
Regulation of opening of the equipment is done through an automatic hydraulic motor, making it possible to make fast regulation through electrical buttons in the control panel.

The crushers are provided with two hydraulic units, one for lubrication and the other for commands.

An electrical control panel operates the entire hydraulic system for lubrication and assures safety against abnormality of the system. Whenever there is some abnormality in the system, there is an alarm signal and the equipment is disconnected automatically.

Principal Characteristics

- **Fixed Shaft Cone Crusher for better production and product quality.**
- Simple and compact design.
- Entry area totally free of obstruction.
- Capacity to accommodate larger sizes of feed material.
- High productive capacity.
- Easy access to internal components.
- Simple and rapid regulation through hydraulic system, minimizing stoppage time.
- Low operating cost.
- Ideal for production of material for VSI.



❶ Hydraulic motor for regulation: Provides for adjustment of opening, simple and fast, automatically.

❷ Dome.

❸ Overload protection: Consists of hydraulic cylinders, obtaining instant response, better capability to give relief and better safety.

❹ Head Centre.

❺ Eccentric with bronze bushes.

❻ Bevel gear assembly.

❼ Crusher chamber: Offered with different cavities, with mantle and concave lining with ribs, increasing efficiency of crushing and reducing excessive force on the equipment.

❽ Locking cylinder: Responsible for locking the upper Shell when the equipment is in operation and unlocking the same at the moment of regulation.

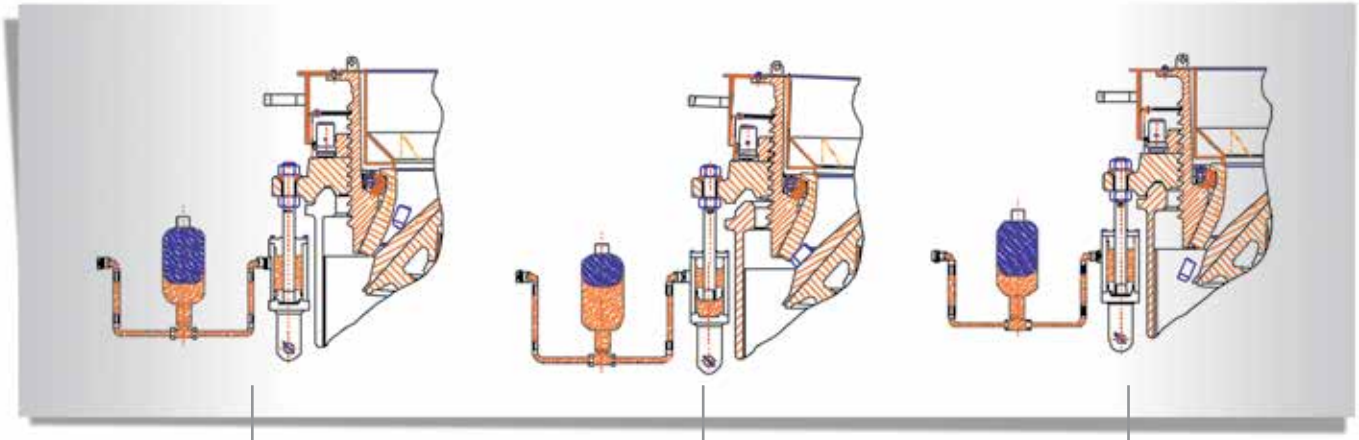
❾ Prevention of dust: Simple and efficient system to prevent entry of dust into the internal mechanism of the equipment.

❿ Mantle.

⓫ Drive shaft: Installed in an independent assembly, thus affording a smooth drive.

Overload System

The crusher is designed with a hydraulic system as an integral part of the machine. The hydraulic unit of the equipment incorporates lubrication function, regulation and safety against overload, the last being also used for cleaning and removing obstructions in the crushing chamber. The following series of illustrations explain the working principles of the system:

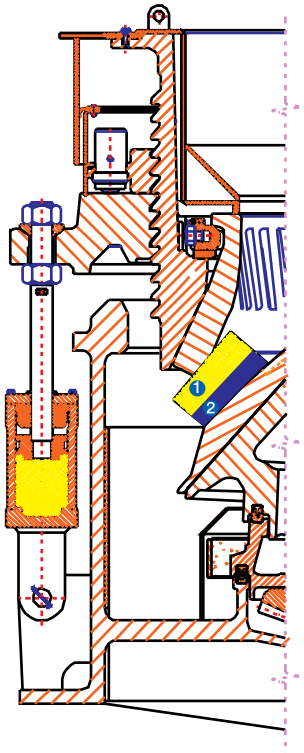


1st stage: When in normal condition, pressure of the oil in the cylinder is equal to the pressure of gas in the accumulator; the safety system against overload is totally balanced so that the adjusting ring sits perfectly on the principal shell of the equipment.

2nd stage: When there is presence of overload, the adjusting ring, along with the upper part of the shell and concave lining, are lifted and part of the hydraulic oil of the cylinder is transferred to the pressure accumulator, thus compressing the nitrogen balloon.

3rd stage: When the non-crushable material passes through the crushing chamber, the hydraulic oil, which was earlier transferred to the accumulator, instantly returns to the overload cylinder, leaving the equipment in correct operating position, with the system balanced again.

Cleaning and removal of obstruction in the crushing chamber



When excessive feed material is there or sudden power failure occurs, causing obstruction to the equipment, the problem can be corrected very conveniently as follows:

Through the command panel, it is possible with a simple touch of button, to lift the overload cylinders, which in turn, will lift the assembly of adjusting ring and upper shell so that removal of obstruction in the chamber will be achieved. After the chamber is empty, the cylinders will return to normal working position. This obstruction removal procedure does not require the opening of regulation equipment.

❶ Additional opening through the overload cylinders (for removal of obstruction).

❷ Normal opening of the equipment.

Technical Specifications

Product Size Distribution

% passing through square aperture as function of “CSS” (mm)

Size of the rock (mm)	Opening of the Crusher (closed side) - mm										
	10	12	15	20	22	25	32	38	45	50	55
100										100	100
75								100	100	98	97
63							100	99	95	90	84
51						100	98	93	83	68	48
38					100	98	92	78	61	50	39
32			100	100	94	92	70	52	44	36	28
25			96	93	86	75	48	41	32	28	24
22	100	100	94	87	74	63	42	35	28	24	20
19	98	96	90	82	70	56	38	30	26	23	17
16	96	90	82	70	54	47	30	24	20	18	16
13	90	76	67	57	42	36	22	17	16	13	10
10	80	65	54	45	33	30	19	16	13	12	9
8	68	55	44	37	27	24	16	14	10	10	8
6	52	40	35	30	20	18	14	10	8	8	7
4	37	30	25	20	15	15	10	7	5	4	3

Production Capacity Ton/h

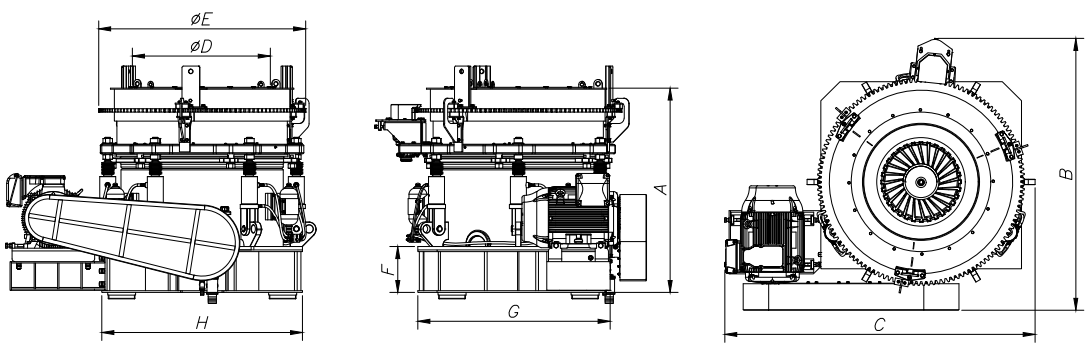
(Open circuit)

Model	Crushing Chamber	Maximum Feed Opening	Minimum CSS	Estimated Capacity (tph) in relation to CSS							
		(mm)	(mm)	15 mm	20 mm	22 mm	25 mm	32 mm	38 mm	45 mm	55 mm
OC 1000	Coarse	270	25	-	-		180-230	200-245	215-265	230-290	-
	Medium	220	20	-	175-210	175-210	180-230	200-245	215-265	-	-
OC 1350	Coarse	320	28	-	-	-	-	255-325	310-385	350-440	390-470
	Medium	280	25	-	-	-	230-290	255-325	310-385	350-440	-
OC 1500	Coarse	400	32	-	-	-		460-610	510-715	580-790	650-860
	Medium	350	25	-	-		420-545	460-610	510-715	580-790	-
OC 1000 - Fine		180	15	145-190	165-200	175-210	180-230	200-245	215-265	-	-
OC 1350 - Fine		210	22	-	-	220-265	230-290	255-325	310-385	-	-
OC 1500 - Fine		235	25	-	-	350-445	380-475	420-545	460-610	510-715	580-790

Note: Apparent density considered: 1.6 t/m³. The established capacities are assisting tools for application of the equipment. For this, it is necessary to consult the manufacturer for correct application. Actual production depends on the physical characteristics and adequate analysis of the feed material.

Model	General dimensions of equipment (mm)								Power	Weight of Crusher in kg
	A	B	C	D	E	F	G	H		
OC 1000	1960	2545	2750	1075	1975	420	1980	1870	110 - 160 KW	15400
OC 1350	2340	3035	3280	1280	2355	500	2360	2230	187 - 225 KW	21300
OC 1500	2910	3775	4080	1594	2930	600	2940	2775	260 - 300 KW	36000

Note: The above dimensions are just for information. For study of layouts, establish contact with IC.



Crushing Chamber

Up to date technology for concave lining was designed for this equipment, where ribs are there in the mantle and the concave lining for the entire available cavity for crushing. This shape of concave lining permits a better grip on the material to be crushed, this being possible with an opening for the feed material, different from that of our competitors, resulting in an equipment with better capacity in the size of feed material for the market, permitting that the same works in a comfortable condition as a secondary unit in a crusher installation, not being necessary that the primary crusher works in severe and very much closed condition.

Apart from the advantages described, this type of concave lining permits a better production capacity and there is a significant reduction in the forces of the crusher. In this way, the installed power is better utilized for increased production.





Hydraulic and Lubrication Unit

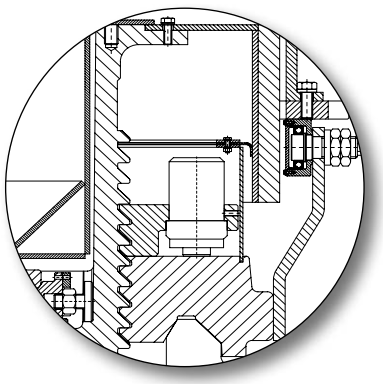
The classic dual function hydraulic unit has been redesigned and replaced with dedicated and independent lubrication and hydraulic loops to eliminate cross contamination risks. Paired with a next-gen PLC control panel and intuitive HMI touchscreen display, you get precision control, real-time diagnostics and unmatched system reliability.





Hydraulic locking system

Whenever, due to any reason, there is a possibility for a drop in system pressure, a monitoring system automatically detects and maintains constant pressure during crushing, through pressure transmitters which activates an oil pump.



OMNI VERTICAL SHAFT IMPACTOR - VSI





OMNI VERTICAL SHAFT IMPACTOR - VSI

Excellence in production of manufactured sand

The Omni Vertical Shaft Impactors (VSI) are designed for **crushing and shaping** of diversified materials such as: quarry material, minerals, and industrial products, to produce high quality products of high value. The cubical product is obtained by the impact technology called **"Rock on Rock"**, with possibility of change of quantity of fines by variation of rotor speed, this is possible by changing the diameter of pulleys or more practical by introducing of variable speed invertors on the motor drives.

Principles of Operation

Feed material drops through the feed tube onto the impeller table or enclosed rotor, which throws the material against stationary anvils made up of composite alloys, due to centrifugal force.

When the rock impacts the anvils at a 90° angle, it shatters along natural stress lines, creating a uniform, cubical product. This method of crushing is simple and economical to operate.

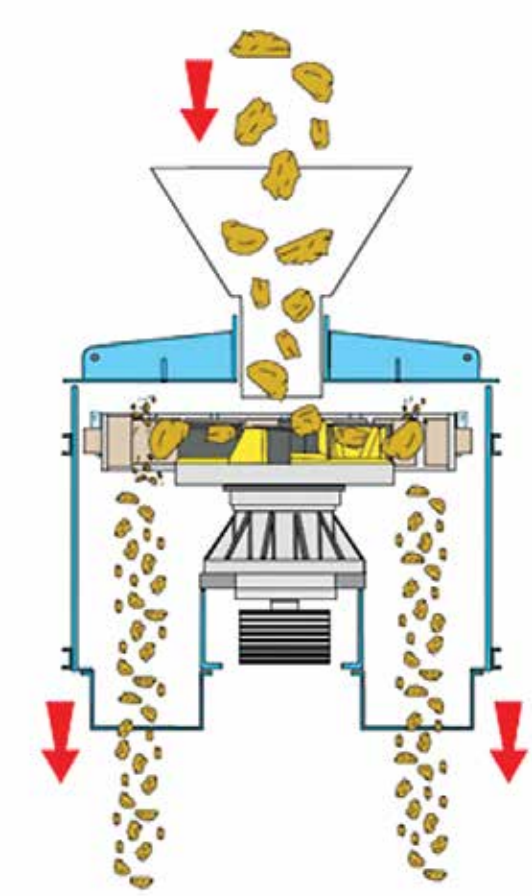
Manufactured under license from Omni Crushing & Screening Ltd, Brazil

OMNI CS



VSI Benefits

- Ideal for M & P sand production
- High throughput capacity
- Optimal energy cost
- Cubical shaped product
- Reduces “flaky” or slivered material in product
- Meets coarse & fine grades as per IS 383 : 2016
- High product yield, low wastage
- Consistently produces all gradations as per standard
- Simple & fast maintenance
- Low wear cost per ton
- ICIL VSI is very efficient for shaping and crushing of Basalt, Granite, Quartzite, Feldspar, Glass, BF/LD Slag, Limestone and many more.



The Technology Behind VSI Crushing

In order to provide the most energy efficient crusher and shaper on the market, ICIL considers the complexity of three dimensional collision forces on the material:

1. Free fall of material with variable mass and geometrical configuration.
2. Conversion of energy and momentum.
3. Internal and external ballistic properties including the projectile’s initial velocity and impact force over time.
4. Conversion of electrical energy to kinetic energy by means of centrifugal force.
5. Friction of the material under centrifugal action during transfer of material within crushing chamber.

The five major physical components of the VSI are employed into a three dimensional real time mathematical model representing functional logic relationships. A mathematical model is then utilized to observe the collision process and forces to reveal solutions for a better final product, higher energy efficiency and a lower wear cost.

- Material bed in the intake chute.
- Air transfer area.
- Material bed in the crushing chamber.
- Chamber discharge area.
- Material bed on spider arms and hub.
- Machine discharge area.

The reduction is obtained by transfer of kinetic energy which occurs in the rotor where the crushed material shall be accelerated. The material leaves the rotor through lateral ports. It leaves the rotor with high speed and impacts the side surface of crusher wall, suffering impact reduction, while being hit by more high-speed material coming from the rotor. In other words, the material is reduced by impact on the side walls of the crusher and impact with other particles coming from the rotor. The described crushing action is a turbulence of interacting particles with various types of reduction actions such as milling, impact and shear. After the described crushing action, the crushed material falls by gravity through the inferior discharge opening.





Advantages of OMNI VSI

- The product is almost 100% cubical. This guarantees reduction of cement content in the concrete made with VSI product. The same reduction occurs with asphalt consumption in asphalt concrete.
- Can vary product distribution by changing of rotor speed and rotor type.
- **Can manufacture excellent crushed sand. Produces bigger quantity of fines in crushing plant. Has high ratio of reduction.**
- Hydraulic opening of top cover permits easy access and quick exchange of any wear part. Parts disassembly is top serviced.
- Range of sizes is fit for any application.
- Proven product with several hundreds of installation all over the world.
- **Rotors of 4 and 5 port design,** up to 40% more efficient in comparison to the traditional 3 port rotors. Extra heavy construction is adequate to suit even most difficult crushing application.
- Totally balanced, permits the installation on light structures with no need of sophisticated foundations.
- Mounted on rubber snubbers and isolated from the drive motors, guarantees a long life for the motors.
- Vibration protection switch provides for safety against accidental tip breakage or other event that creates vibration, may damage the cartridge bearings.
- With recommended fed, it does not generate atmospheric dust.
- Assembly of tungsten tips and central distribution plate are of “drop in” type easy and quick to replace.

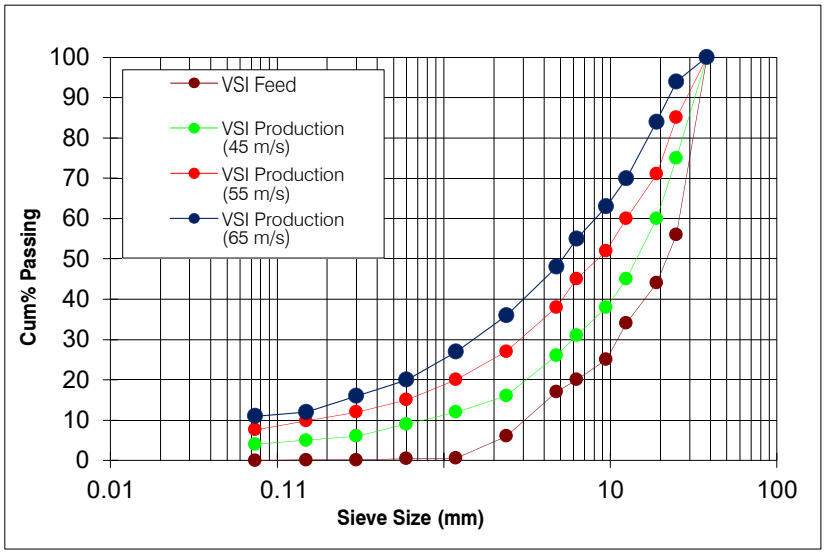


4/5 Port Rotor

Technical Specification

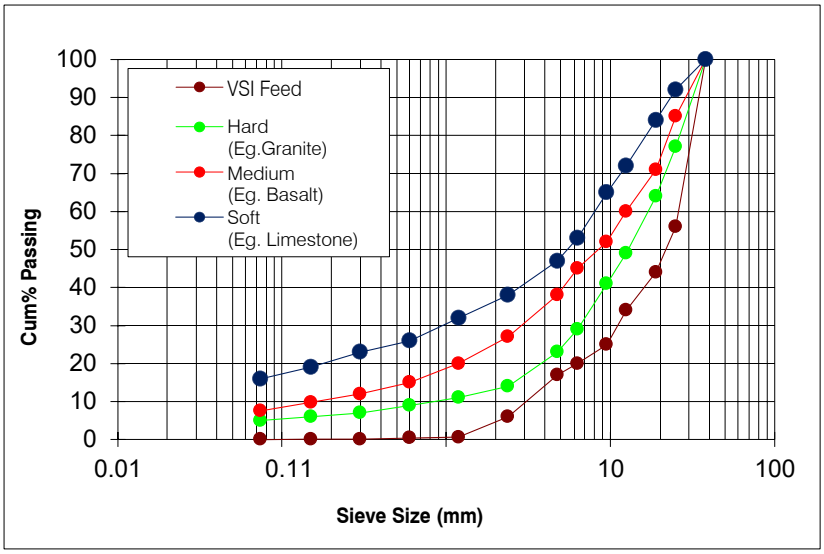
Model	Weight (kg)	Drive Power	Rotor Model	Maximum Feed Size	Capacity (TPH)
VSI 200	7,000	1 X 200 hp	25" (635 mm) - 4 Ports	32 mm	130-180
VSI 250	8,000	1 X 250 hp	25" (635 mm) - 4 Ports	32 mm	140-190
VSI 300	14,000	1 X 300 hp 2 X 150 hp	32" (800 mm) - 4 Ports	45 mm	150-200
VSI 350	15,000	1 X 350 hp	32" (800 mm) - 4 Ports	45 mm	180-230
VSI 400	16,500	1 X 400 hp 2 X 200 hp	32" (800 mm) - 4 Ports	50 mm	215-265
VSI 500	20,500	1 X 500 hp 2 X 250 hp	37" (940 mm) - 5 Ports	55 mm	280-320
VSI 600	22,500	2 X 300 hp	37" (940 mm) - 5 Ports	55 mm	340-390
VSI 800	27,500	2 X 400 hp	37" (940 mm) - 5 Ports	60 mm	455-505

- Capacity table in ton/h measured as machine feed, in closed circuit. The capacities shown in this table are to rock appropriately sized feed and bulk density of 1.6 ton/m³ and values are approximate and can change in accordance with composition of the feed material.



Sieve	Size	Cumulative % Passing			
(Inch)	(mm)	VSI Feed	"VSI Production (45 m/s)"	"VSI Production (55 m/s)"	"VSI Production (65 m/s)"
2"	51				
1 1/2"	38	100.0	100.0	100.0	100.0
1"	25	56.0	75.0	85.0	94.0
3/4"	19	44.0	60.0	71.0	84.0
1/2"	12.5	34.0	45.0	60.0	70.0
3/8"	9.5	25.0	38.0	52.0	63.0
1/4"	6.3	20.0	31.0	45.0	55.0
4#	4.76	17.0	26.0	38.0	48.0
8#	2.38	6.0	16.0	27.0	36.0
16#	1.19	0.6	12.0	20.0	27.0
30#	0.6	0.4	9.0	15.0	20.0
50#	0.3	0.1	6.0	12.0	16.0
100#	0.15	0.1	5.0	9.8	12.0
200#	0.074	0.0	4.0	7.6	11.0

Theoretical product curves for same feed with different peripheral rotor speed.



Sieve	Size	Cumulative % Passing			
(Inch)	(mm)	VSI Feed	"Hard (Eg. Granite)"	"Medium (Eg. Basalt)"	"Soft (Eg. Limestone)"
2"	51				
1 1/2"	38	100.0	100.0	100.0	100.0
1"	25	56.0	77.0	85.0	92.0
3/4"	19	44.0	64.0	71.0	84.0
1/2"	12.5	34.0	49.0	60.0	72.0
3/8"	9.5	25.0	41.0	52.0	65.0
1/4"	6.3	20.0	29.0	45.0	53.0
4#	4.76	17.0	23.0	38.0	47.0
8#	2.38	6.0	14.0	27.0	38.0
16#	1.19	0.6	11.0	20.0	32.0
30#	0.6	0.4	9.0	15.0	26.0
50#	0.3	0.1	7.0	12.0	23.0
100#	0.15	0.1	6.0	9.8	19.0
200#	0.074	0.0	5.0	7.6	16.0

Theoretical product curves for different rocks with same feed & same peripheral rotor speed (55 m/s).



VIBRATING SCREENS



VIBRATING SCREENS

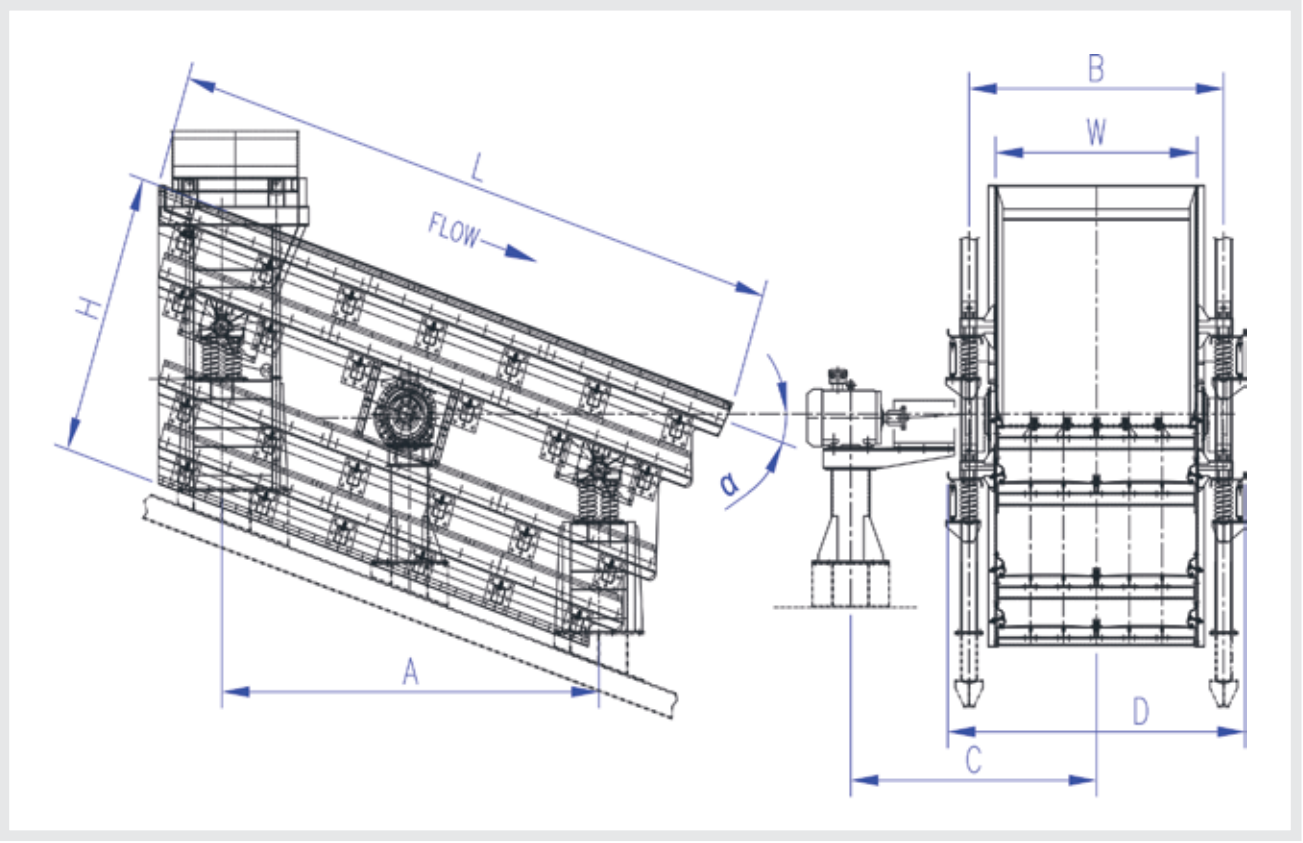
Specially Designed for Aggregate Plants

The various versions of new generation, virtually noiseless Vibratory screens permit their use for screening aggregates at various stages of crushing for coarse and fine separations.

These are also widely used for screening iron ore, coal, limestone in steel mills, mineral beneficiation plants, chemical, mining, food and fertilizer industries, coal preparation plants and many others.

Performance Highlights

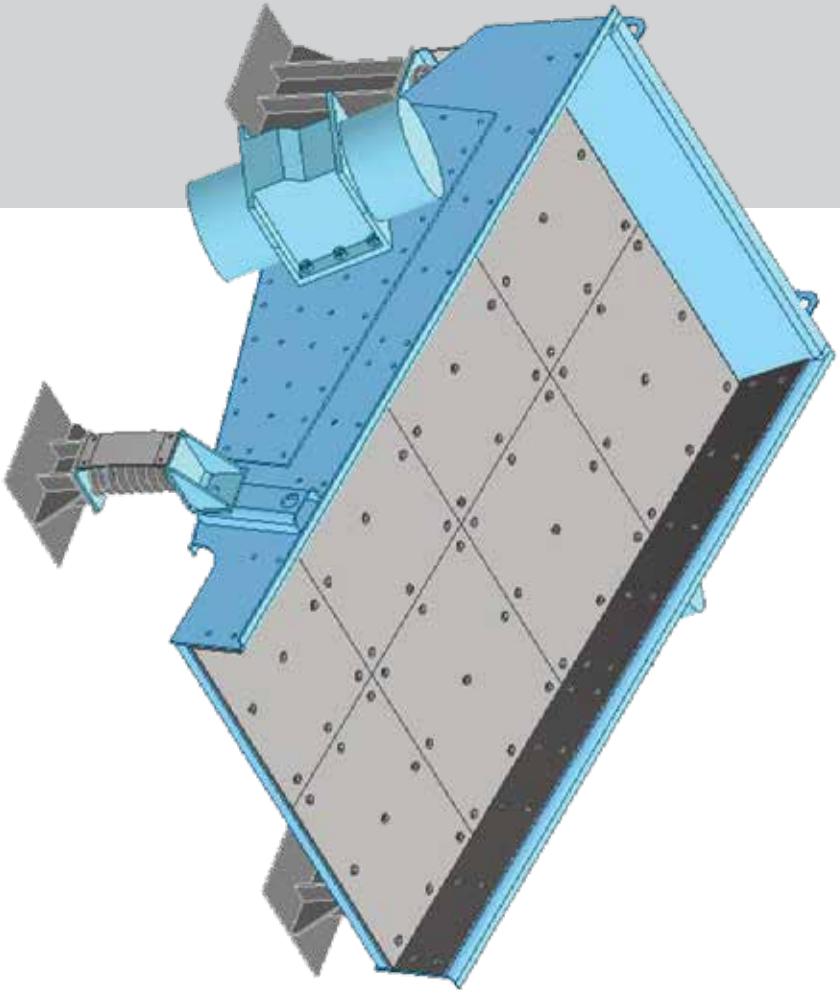
- High machine availability and operational reliability are the result of a highly developed design and quality standard.
- Efficient, economical and flexible configuration due to the use of standarized components.
- The machine is equipped to customers' requirements with screen decks made of spring steel wire, perforated sheet metal, rubber or polyurethane.
- Optimum utilization of the screening area by a deck arrangement which is adapted to suit the grain size concerned, namely longitudinal, transverse, inserted and laid linings.
- Quick changing of screen mats and of the specially developed removable frames, to allow lengthwise tensioning using simple screw connections.
- Low noise level with grease lubricated circular drive units which run extremely quietly and are of a stable design with low harmonic oscillation.
- Generously dimensioned bearings give long service life.
- Low maintenance costs resulting from a direct drive using a normal commercial motor and a maintenance-free cardan shaft.
- Easy, quick installation and removal of worn and replacement parts using screw connections.



Model		Length	Width	Height	Exciter Details		Weight	Overall Dimensions				Inclination
		L	W	H	Speed	Power	(Approx.)	A	B	C	D	α
		mm	mm	mm	rpm	kW	kg.	mm	mm	mm	mm	degree (°)
ICVS 1542	**4D**	4200	1500	2230	1000	15	4500	2250	2000	2110	2390	18
ICVS 1855	**3D**	5500	1820	1670	1000	22	7000	2900	2320	2240	2710	18
ICVS 1855	**4D**	5500	1820	2230	1000	30	8000	3430	2320	2240	2710	18
ICVS 2060	**3D**	6000	2000	1720	750	30	9000	4570	2520	2360	2920	16
ICVS 2060	**4D**	6000	2000	2180	750	30	9500	4570	2550	2360	2920	16

- The maximum weight of the screen can be more than the mentioned in case of special screening media.
- Apart from the list, various tailor-made models are available as per requirements.

MECHANICAL VIBRATING FEEDERS







MECHANICAL VIBRATING FEEDERS

Specially Designed for Aggregate Plants

Controlled Feeding of Bulk Materials with Absolute Reliability.

IC manufactures a comprehensive range of Mechanical Vibrating Feeders, incorporating modern technology in terms of design, material specifications, manufacturing and testing. The entire scope of services includes the following:

- Engineering, including planning and, if desired, installation and commissioning.
- Instruction and training in customers' operation personnel.
- Comprehensive customer services, including spare parts and repair service.

Performance Highlights

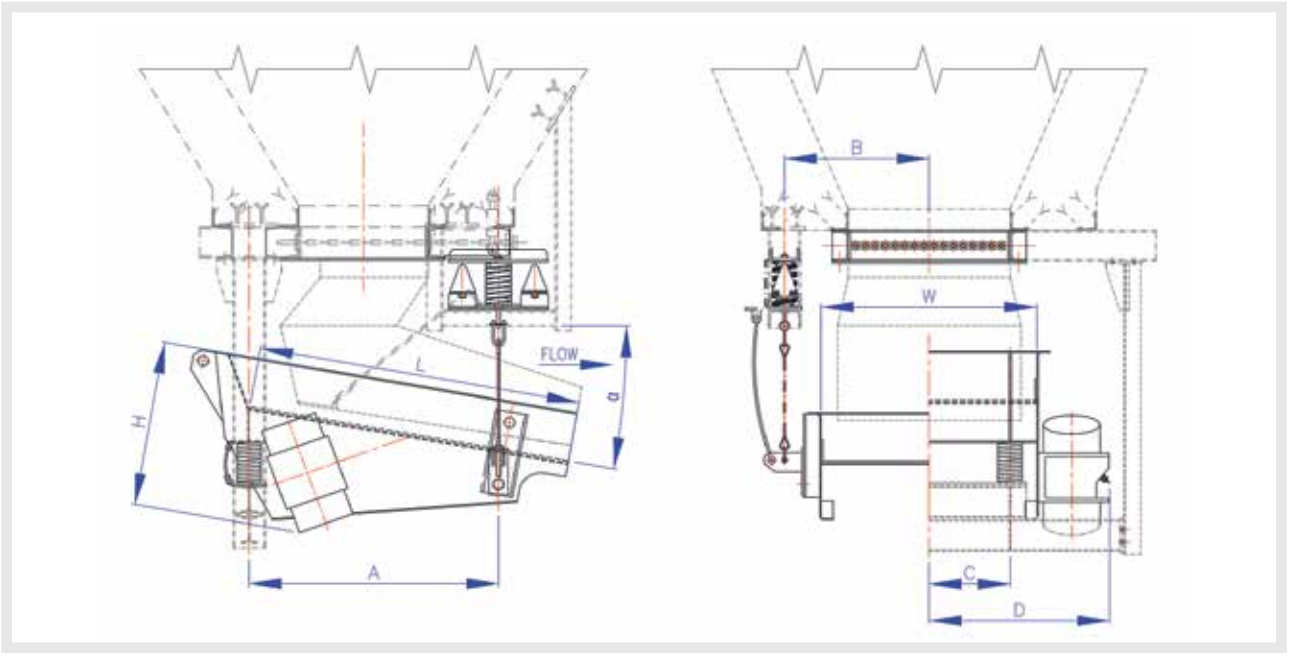
IC Vibrating feeders are characterized by high availability, low operating costs, low energy consumption and protection of environment.

A strong technological know-how has enabled IC to successfully manufacture and supply vibrating feeders to capacities even over 3000 TPH, handling lumps going up to 1500 mm, to withstand high impact and high bunker loads and for equipment to operate under the most difficult environmental and operating conditions, with complete reliability.

In metallurgical plants, in coking plants, in cement, lime and gypsum plants, in quarries and crushed stone plants, in ore mining, in the fertilizer industry and recycling operations, IC Mechanical Vibrating Feeders and Conveyers handle all types of bulk solids, from very large lumps to fine grains, wet or dry.

In addition to Feeders/Conveyors IC also supplies various designs of inlet chutes, gates, skirt arrangements. Replaceable liners are offered manufactured from wear-resistant steel, rubber, plastic or ceramic.

IC Vibrating Feeders are offered with either Direct Force Exciters or Unbalance Motor Exciters, depending upon the type and duty requirements.



Model	Length	Width	Height	Exciter Power	Approx. Weight	Overall Dimensions				Inclination
	L	W	H			A	B	C	D	α
	mm	mm	mm	kW	kg.	mm	mm	mm	mm	degree
ICVF 600X1250	1250	600	700	1.5	500	950	475	175	625	6
ICVF 800X1250	1250	800	700	1.5	550	900	575	275	725	8
ICVF 800X1500	1500	800	800	3.4	850	1200	600	275	750	8
ICVF 800X1800	1800	800	800	3.4	900	1300	600	275	725	10
ICVF 1000X1500	1500	1000	800	3.4	950	1150	675	375	850	10
ICVF 1250X2000	2000	1250	900	4.2	1250	1600	850	500	1000	12
ICVF 1600X2500	2500	1600	1000	8.0	2500	1900	1000	650	1300	12

- The maximum weight of the Feeders can be more than the ones mentioned in the case of special applications.
- Apart from the list, various tailor-made models are available as per requirements.



VIBRATING GRIZZLY FEEDERS



VIBRATING GRIZZLY FEEDERS

Specially Designed for Aggregate Plants

A wide range of Vibrating Grizzly Screen/Feeders are available to suit almost any scalping operation - particularly for handling difficult and aggressive materials.

- Capacities up to 2500 tons per hour.
- Handling single particles lumps up to 2.5 m edge length.
- To withstand high impact loads when installed directly under dump hopper.
- Sizes up to 3.5 m wide and 8.5 m long - larger sizes available on request.

Typical Applications

- Include crusher relief operations handling **ROM Aggregate (Basalt, Gravel, Granite, etc.)**, Limestone in Cement Plants, Iron Ore crushing operations, ROM Coal in Coal handling plants, other Mining and Quarrying applications.
- Another major area of application is for screening trash and tramp material such as highcapacity screening of moist Coal in Power Plants - without material blockage.
- Increasing use in Road Building and Civil Construction Projects for screening of Basalt Rock, various types of stones and gravel.

Design and Operation

IC Vibrating Grizzly Screen Feeders are fully floating, linear motion units supported on compression springs, and are driven by highly reliable Unbalanced Motor Exciters pair (UBM Exciters) or Direct Force Exciters (DF Exciters).

Deep side plates, connected by huck bolted cross beams, ensure high rigidity. Wear surface is provided with abrasion resistant liners. Upon request, a separate isolation frame can be provided, for mounting the Grizzly unit, which is also spring floated and fitted with hydraulic shock absorbers to facilitate smooth start/stop without excessive resonance vibrations.

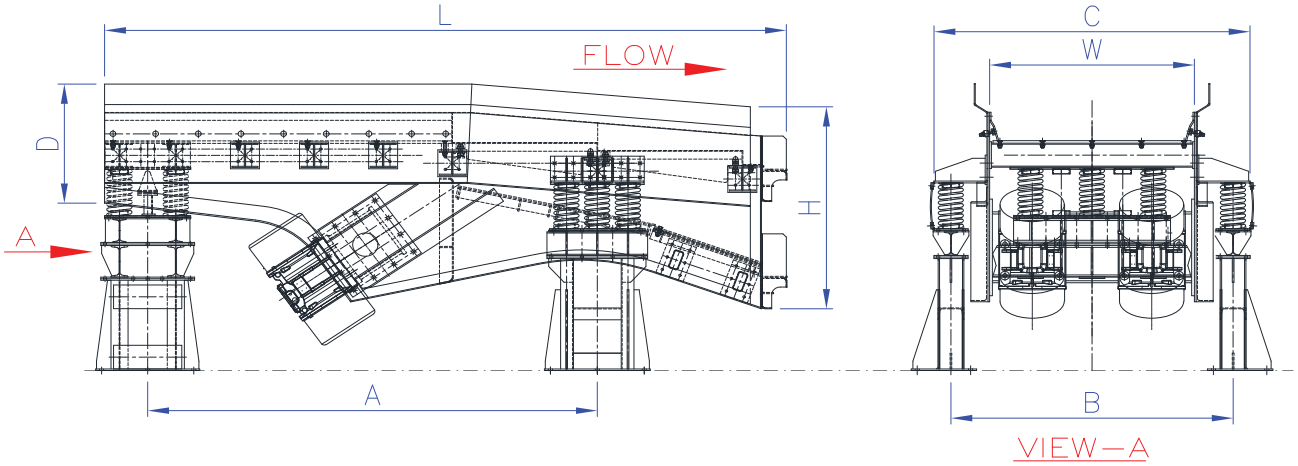
Correct adjustment of the Unbalanced Motor Exciters or the Direct Force Exciters provides optimum combination of amplitude and speed to suit each application requirement.

Optimum lubrication ensures trouble-free operation even in hot and dusty atmosphere.

Electronic Vibration Monitoring System can also be offered for on-line condition monitoring of a Grizzly unit in actual operation.

Technology and Service

IC Grizzly Screen Feeders are made-to-measure solutions which employ the highest level of vibration technology from world renowned leaders in these areas. Each proposal comes with the comprehensive IC range: advising and planning through assembly, commissioning and customer services.



Model	Length	Width	Height	Exciter	Details	Weight	Overall Dimensions			
	L	W	H	Speed	Power	(Approx.)	A	B	C	D
	mm	mm	mm	rpm	kW	kg.	mm	mm	mm	mm
ICGF 1040	4000	1000	1280	1000	8.6	3300	2635	1450	1650	750
ICGF 1240	4000	1200	1280	1000	12.4	3800	2635	1650	1850	750

*Higher sizes and tailor-made models are available as per request.

MULTI-DECK SIZER



Technology
Mogensen GmbH & Co. KG
Germany



MULTI-DECK SIZER

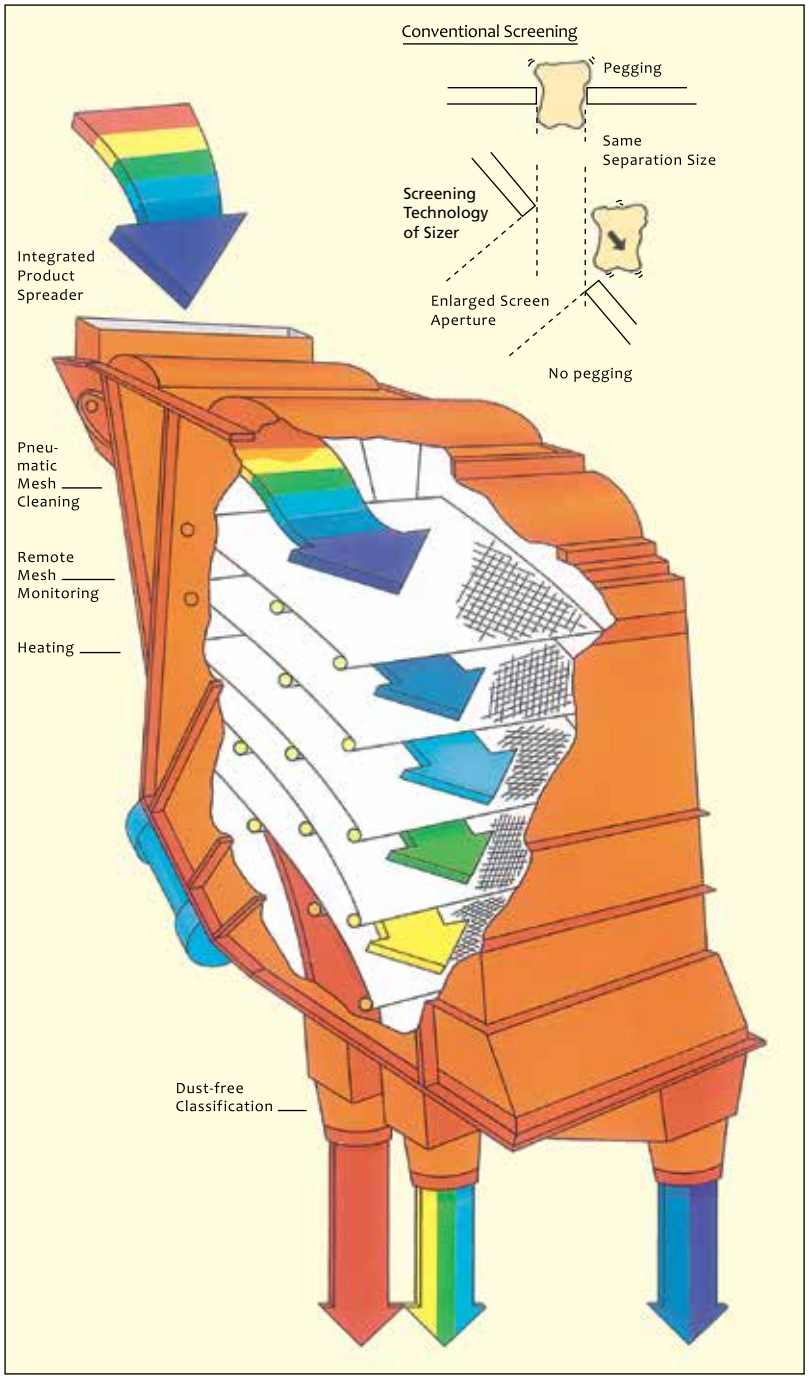
Precision Classification. Multiple Outputs. One Compact Solution

The Multi-Deck Principle

3 to 6 inclined screen decks with progressively finer mesh apertures are arranged in a functional and compact manner in the vibrating screen frame.

Because of the inclination in the meshes the screening effect and thereby the separation size are appreciably smaller than the apertures in the mesh panels. This drastically reduces the risk of pegging and increases the capacity considerably because the coarsemesh system Induces a dispersed materelal flow without the build-up of a bed of material.Residence time in the machine is short. The processed material falls vertically and rapidly through the Sizer whereby coarse particles are removed early in the screening process from the required product stream. Wear and tear on the finer lower decks is greatly reduced.





Facts & Data

- Separation range 0.1 to 50 mm
- Copacities 0.1 to 1000 t.p.h. for all types of materials and slurries
- 2 to 6 fractions per machine
- 3 to 6 sieve decks per machine
- Blockage-free screening
- Compact construction
- Low weight (minimum dynamic loading)
- dust-proof and quiet operation
- automatic sieve cleaning
- heating or spraying options
- Integrated feeding and product chutes
- Automatic remote mesh tension monitoring
- Modular construction system
- Machine widths from 0.5 to 3 metres
- construction in carbon steel, stainless-steel and special steels
- Temperature range from 50° to +500° C
- Easy to install
- Adjustable for inclination, amplitude and frequency

The MULTI-DECK Sizer Principle Means High Capacity

The problems of conventional screening system lie in their old-fashioned concept “mesh aperture equals size of separation.” This results in failings such as slow moving thick material beds, risk of pegging by closed-sized particles, low specific capacity, large screen deck areas and thereby heavy machines, which use a lot of energy and require heavy steel supports.

The Multi-Deck technique, with progressively inclined and stepped mesh apertures, is a prime example of creative problem solving.

More class than mass

Automatic Sieve Cleaning

A new method, by which sieve meshes are self cleaning as a result of controlled tension reduction by means of tensioning cylinders. The mesh panels clean themselves by fluttering against the mesh support bars without any break in the screening process. Both the cleaning cycle and the length of each cleaning period are adjustable according to process requirements. This method has already been proved in many practical applications.

Integrated Feeding and Feed Distribution System

Pre-segregation (material stratification) inside the machine to achieve an increase in screen capacity. Flexible and adaptable for differing material streams and properties. Cost savings in space and expense compared with separate feeding and feed distribution equipment.

Dust-proofing and Optimised Product Chute System

Dust-proofing has been optimised in all aspects to facilitate minimal maintenance and long life. Integrated feed and product chutes, functional in their arrangement, are combined with a new dust sealing technique.

Mesh-Tension Monitoring

Correct, even tensioning of the sieve meshes is essential forfunctional correctness and durability.Sizers can be fitted with sensors for the monitoring of the meshes. A broken mesh or an inadequately tensioned mesh will produce a signal. This makes regular visual inspections unnecessary.

Mesh Tension Pneumatic Cylinder



Assuring Quality

Comprehensive checks and tests at ali stages - from raw material, in-process manufacture and, functional tests and evaluation of the finished product, assure quality through use of modem technology.

Computer aided design and application simulation, along with modem production methods, ensure equipment performance and reliability.

Our integrated quality assurance system contributes to the production of machines and installations that meet the required standards of technical performance as well as safety of equipment and the environment.



Consultation and Service

Our service starts “before-sales” through communication and contInuous Interaction with customers. The service concept leaves no gaps- erection and commissioning, customer training on operation and preventive maintenance followed by our efficient spare parts service - all contribute to keep your plant in shape and trim.

HIGH FREQUENCY SIZER 2000



Technology
Mogensen GmbH & Co. KG
Germany





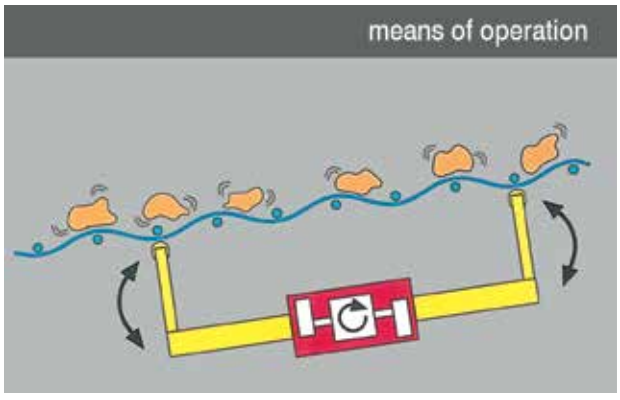
HIGH FREQUENCY SIZER 2000

Ultra-Fine Screening with Maximum Efficiency and Minimal Load

Operating Principle and Features

The Sizer 2000 is a fine grain screening machine designed for a separation range of 0.1 to 5.0 mm, including difficult-to-screen materials.

The system comprises a maximum of three screen mats arranged one above the other and vibrated by the impact bars. The impact of beating keeps the screen mats free from sticky materials and also helps transport bulk materials. Each beater arrangement is driven by two Unbalance Motors. The Unbalance Motors generate an oscillating motion in the beater shaft and the screen mat is vibrated from the bottom.





Type NE with stainless steel feed and discharge chutes

The impact of beating at very high acceleration results in rapid stratification of the material bed and screening of the fines. This also prevents blinding of screen mats while handling sticky material and ensures optimum screening operation.

As part of standard supply, the machine is provided with a frequency converter in order to adjust the required beating frequency for a particular application.

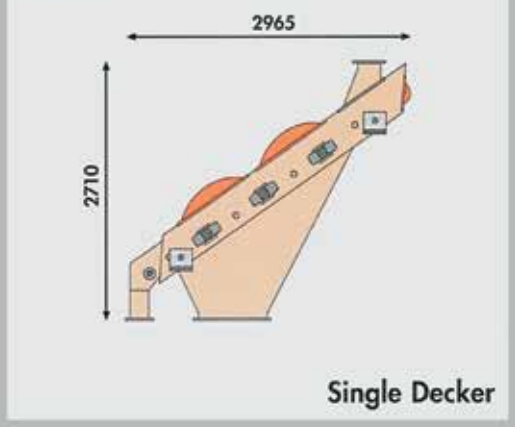
The screening machine is absolutely flexible and can be adjusted to suit the feed material whereby accelerating forces can reach upto 20g.The screen frame itself remains almost static, thereby avoiding transmission of dynamic forces to the support structure. The machine is provided with dust covers, requiring minimum suction air for dedusting.

The Sizer 2000 is conceived in such a fashion that it is absolutely maintenance friendly. The power required for each Unbalance Motor is 0.19 KW, for example, the total power requirement of a double deck screening machine of size 1500 x 4800 is only 4.56 KW.

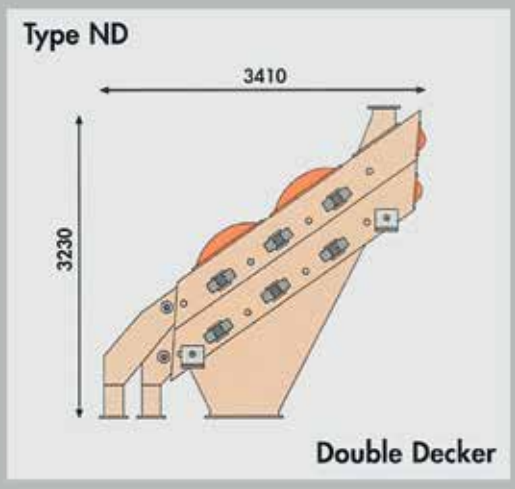
The Sizer 2000 combines high material throughput, minimum power consumption and substantial price economy.

Model Variety

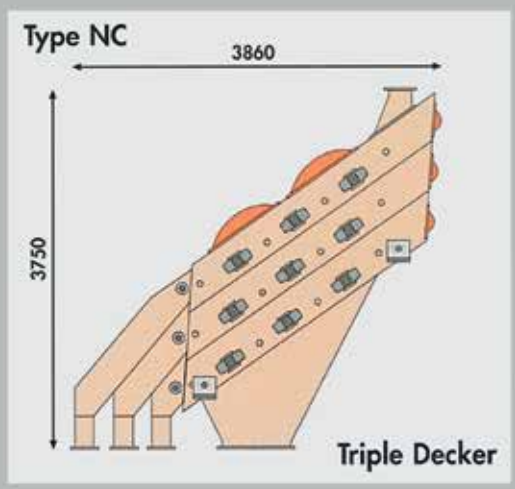
Type NE



Type ND



Type NC



Available in screen lenghts of literally 2.4 to 4.8.

Easy to Maintain

The conceptual design of the Sizer 2000 is very “low maintenance”. Large inspection openings enable easy exchange of the screen mats and a surveillance of the screening process.

Options

Various proven options, like screen heating, screen break surveillance, stainless-steel constructions, interior heating, etc. are available from the established SIZER technique.



Examples of Application

Sizer Type	Material	Feed Rate t/h	Fraction 1	Fraction 2	Fraction 3	Fraction 4
NE 1524	Anode remains	28	0 - 0.5	0.5 - 3.5		
NE 1524	Cool	20	0 - 0.4	0.4 - 3.0		
NC 1524	Dolomite	17.5	0 - 0.3	0.3 - 0.5	0.5 - 0.9	0.9 - X
ND 1524	Fine salt	30	0 - 0.2	0.15 - X		
NE 1024	Gypsum	35	0 - 1.5	15.5 - X		
NE 2024	Kaolin	9	0 - 0.25	0.25 - X		
NE 1548	Sand	30	0 - 1.0	1.0 - X		
NE 2548 (H)	Sand	50	0 - 1.0	1.0 - X		
NC 1024	Limestone	15	0 - 0.2	0.2 - 0.6	0.6 - 2.0	2.0 - X
ND 1024	Limestone	12	0 - 0.5	0.5 - 4.0		
NE 1548	NPK/Urea	200	0 - 4.0	4.0 - X		
NC 2548	Potash	75	0 - 0.25	0.25 - 2.0	2.0 - X	
NC 1024	Quartz sand	8.5	0 - 0.1	0.1 - 0.3	0.3 - X	
NC 2524	Rack salt	50	0 - 1.12	1.12 - 2.0	2.0 - 10.0	
NC 1524	Salt resin	22.5	0 - 0.25	0.25 - X		
ND 1024	Sand	20	0 - 0.26	0.26 - X		
NE 1024	Scrap metal	10	0 - 1.5	1.5 - X		
ND 2530	Shell limestone	165	0 0.6	0.6 - 1.2		

NE = Single Decker - ND = Double Decker - NC = Triple Decker - (H) = Screen Deck Heating

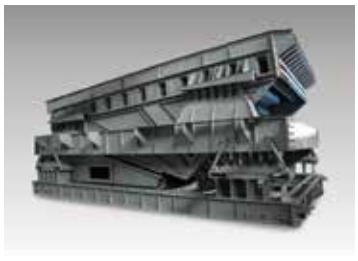
ICIL range of Products



Flip Flow Screen MK II



Omni Screen



Linear Motion Vibrating Screens



Vibro Bar Sizer



Rotary Drum Dryer

REGIONAL SALES & SERVICE OFFICES

AJMER
International Combustion (India) Limited
Plot No. B 300, Ajaymeru Palra RIICO Industrial Area
Ajmer - 305025, Rajasthan
Phone: (0145) 2970337
e-mail: info@capaindia.in

AURANGABAD
International Combustion (India) Limited
B-74/1 WALUJ INDL. Area
P.O. Bajaj Nagar, Aurangabad-431 136, Maharashtra
Phone : (0240) 2554327 / 2553099
e-mail : abadworks@internationalcombustion.in

BAIDYABATI
International Combustion (India) Limited
156 (371) G.T. Road, Baidyabati
Dist - Hoogly 712222, West Bengal
Phone : (033) 26323094 / 26320065

BANGALORE
International Combustion (India) Limited
No. 548/51, 2nd Floor, Andal Temple Street
(Behind R.V.Teacher's College)
R.V. Road, Basavanagudi, Bangalore - 560 004, Karnataka
Phone : (080) 26575258
e-mail : bangaloreoffice@internationalcombustion.in

CHENNAI
International Combustion (India) Limited
The Polygon, 2nd Floor
Door No. 56/142, Anna Salai
Saidapet, Chennai - 600 032,Tamil Nadu
Phone : (044) 2230 5368 / 2230 5370
e-mail : chennaioffice@internationalcombustion.in

NOIDA
International Combustion (India) Limited
Room No.: 1011, Gulshan One29,
Plot No.: C3-E1, Sector-129
Noida-Greater Noida Expressway, Noida-201304, (U.P.)
Phone : 0120-5109228
Email : delhioffice@internationalcombustion.in

HYDERABAD
International Combustion (India) Limited
3rd Floor, "Delta House",
Door No: 1-121/DT/26, 33/A & 34B/D
Alwyn Jn., Miyapur, AP-500049
Phone : (040) 2381 0546 / 2371 4311
e-mail : hyderabadoffice@internationalcombustion.in

JAMSHEDPUR
International Combustion (India) Limited
4th Floor, Office No. 4, H. No. - 5, Line No. 2,
S.B Shop Area, Meghdeep Building, Q. Road
Bistupur, Jamshedpur - 831 001, Jharkhand
Mobile : 7633980541

THANE
International Combustion (India) Limited
A-703, Centrum Business Square,
Plot No. D-1, Road No. 16,
Wagle Industrial Estate,
Thane (West) – 400604, Maharashtra
Phone : 022-47838620 / 49702008
Email : mumbaioffice@internationalcombustion.in

NAGPUR
International Combustion (India) Limited
L-7, Hingna Industrial Estate, MIDC
Nagpur - 440 016, Maharashtra
Phone : (07104) 237613
e-mail: nagpuroffice@internationalcombustion.in

PUNE
International Combustion (India) Limited
D, 407, Business Court
Mukund Nagar,
Pune - 411 037, Maharashtra
Phone : (020) 2426 4257 / 2426 4116
e-mail : puneoffice@internationalcombustion.in

RAIPUR
International Combustion (India) Limited
Office No. - 508, 5th Floor, Magneto
The Mall (Offizo), Labhandi N.H.06
G.E. Road, Raipur (C.G.) - 492 001, Chhattisgarh
Mobile : 91 9823185095

VADODARA
International Combustion (India) Limited
301, Opal Square Building, 3rd floor
(Behind Express Hotel)
R.C. Dutt Road, Alkapuri,
Vadodara - 390 007, Gujarat
Phone : (0265) 232 1626
e-mail : vadodaraoffice@internationalcombustion.in

CDR-0826

REGISTERED & CORPORATE OFFICE

International Combustion (India) Limited

INFINITY BENCHMARK, 11th Floor, Plot-G1, Block-EP & GP, Sector – V, Salt Lake Electronics Complex, Kolkata – 700 091
Ph: (033) 4080 3000, e-mail: info@internationalcombustion.in, Website: www.internationalcombustion.in