



SANDVIK CS550 CONE CRUSHER

TECHNICAL SPECIFICATION

Sandvik CS550 is the latest high capacity cone crusher that gives you the best operational and cost performance. It is a tough, uncompromising machine with a large intake and a new chamber design to match the jaw crusher in the primary stage. With up to 50% higher capacity, 25% increased reduction ratio and a reduced recirculation by up to 50%, with the same amount of high-value end product compared to similar crushers in its class, the CS550 is a true super producer.

The wide range when it comes to Closed Side Settings, (CSS), together with more and bigger throws, gives you extreme flexibility as the CS550 can be set to fit a huge variety of capacity needs. Each crusher is supplied as a complete package with all functions working in harmony and with a motor designed for exacting requirements. The crusher comes with the latest automation system as standard, enabling real-time performance management, for maximized crusher performance and productivity.

Sandvik CS550 is designed for easy access to inspection points, safer lifting and minimized welding. The result is a better, safer, less stressed working environment for operators, and less wear on equipment, extending the machine lifetime.



KEY FEATURES

Hydroset™ system	Provides safety and setting adjustment functions
ASRi™ coupled with Hydroset™	Automatically adapts the crusher to varying feed conditions ensuring maximum performance
Mainframe is built as a unibody without moving parts	For optimal strength and less components requiring maintenance
Top serviceability	Lifting from above minimizes risks, and allows for quicker and safer maintenance
Adjustable eccentric throw	To exactly balance capacity to the process thus harmonizing the crushing stages
Constant liner profile	Maintains the feed opening and performance during the entire service life of the liners
Two standard crushing chambers are available for the CS550 and the crusher can easily be matched to changes in production by selecting the right chamber and eccentric throw.	The chambers available are: (C) Coarse; (EC) Extra coarse
PLC controlled mechanical dump valve for tramp iron protection	Reduces pressure peaks and mechanical stress on the crusher, greatly improving reliability

GENERAL INFORMATION

GENERAL DESIGN CRITERIA

Crusher type	Cone crusher, hydraulically adjusted
Application	Minerals processing
Crushing stage	Secondary
Max. feed size	431 mm
CSS range	22-72 mm
Nominal capacity*	212-659 mtph
Ambient temperature	-20°C to +40°C (Contact Sandvik if outside range)
Altitude of site	≤ 2000 m (Contact Sandvik if outside range)

* Capacity is dependent on the crushing chamber, the eccentric throw, the crusher's setting and the feed material's bulk density, crushability, size analysis, moisture content, etc.

GENERAL CRUSHER DATA

Weight	24,650 kg
Main frame	Three-part unibody structure without moving parts Cast steel
Top shell	Two-arm design
Bottom shell	Five-arm design. Two inspection hatches
Feed hopper	Rubber / steel lined steel hopper Two inspection doors Capacity 3,433 kg (Bulk density 1,600 kg/m ³)
Feed level sensor	UC400-30GM-IUR2-V15
Main shaft	Supported at both ends Top spider bearing and eccentric bearing
Eccentric bushings (Throws – mm)	• 24, 28, 32 • 32, 36, 40 • 40, 44, 48
Eccentric speed	285 rpm (4.8 Hz)
Max. motor power	330 kW
Drive	V-Belt / Direct
Safety coupling	Omega
Pinion shaft speed	1,325 rpm (50 Hz) 1,325 rpm (60 Hz)
Subframe	With rubber dampers
Maintenance tool box	Extractor for eccentric bushing Extractor for bottom shell bushing Extractor for step bearing Additional lifting and maintenance tools included

CRUSHING CHAMBERS

Mantle alternatives	A, B, S
Concave alternatives	EC, C
Alloys for mantles and concaves	M1, M2, M7, M9
Mantle and concave backing material	Plastic free, metallic contact
Lifting tool for mantle	Available as option

CRUSHER DRIVE SYSTEM

MOTOR CHARACTERISTICS

Manufacturer	WEG
Model	W22
Type	Three-phase, squirrel cage
Weight	1,878 kg
Rated power	330 kW
Frequency	50/60 Hz
Poles	4
Vibration resistance	Motor is supplied with special winding that is reinforced in order to support the vibration levels
Insulation class	F
Protection class	IP55

CRUSHER DUST EXCLUSION

SYSTEM CHARACTERISTICS

Type	Over-pressure air system
Air input	Blower (standard) or air regulator (option)
Air quality	Filtered
Air flow	> 0.3 m ³ /min
Air pressure	> 600 Pa when crusher is operating
Weight (blower, hoses)	25 kg
Motor power	0.75 kW
Motor speed	2,800 rpm (50Hz) 3,350 rpm (60Hz)
Phases	3
Insulation class	F
Protection class	IP55

OVER-PRESSURE AIR SYSTEM

Type	Over-pressure air system
Air input	Blower (standard) or air regulator (option)
Air quality	Filtered
Air flow	20 m ³ /h
Air pressure	~ 1 kPa
Weight (blower, hoses)	25 kg
Motor power	0.37 kW (50 Hz) 0.46 kW (60 Hz)
Motor speed	2,800 rpm (50Hz) 3,350 rpm (60Hz)
Phases	3
Insulation class	F
Protection class	IP55

CRUSHER TRAMP IRON PROTECTION

HYDRAULIC PRESSURE RELIEF VALVE

System description	Mechanical spring loaded hydraulic valve
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CRUSHER WEAR PROTECTION

UPPER FEED HOPPER

No. of rubber liners	16
Max. weight	8 kg
Material	Sandvik WT6000 rubber
Fastening method	Bolted

LOWER FEED HOPPER

No. of rubber liners	4
Max. weight	114 kg
Material	Manganese steel
Fastening method	Bolted

TOP SHELL SPIDER CAP

Max. weight	293 kg
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TOP SHELL ARM SHIELDS

No. of shields	2
Max. weight	205 kg
Material	Manganese steel
Fastening method	Bolted

BOTTOM SHELL BODY LINERS

No. of liners	8
Max. weight	23 kg
Material	Wear-resistant hardened steel
Fastening method	Bolted

BOTTOM SHELL ARM LINERS

No. of liners	5
Max. weight	84 kg
Material	Manganese steel
Fastening method	Bolted (welding*)

* No main frame welding.

AUTOMATIC SETTING REGULATION - INTELLIGENT (ASRiT[™])

ASRiT is the cone crusher's setting and regulation system.

MONITORING FUNCTIONS

Power draw (kW or hp)
Hydroset hydraulic pressure (MPa or psi)
Main shaft position
Calculated CSS (based on main shaft position)
Lubrication oil temperature
Liner wear
Historical data log

REGULATION FUNCTIONS (CRUSHING PROGRAMS)

Auto-CSS	The ASRiT aims to maintain the desired CSS
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20 customized programs can be stored

OTHER FUNCTIONS

Automatic liner wear compensation

SAFETY FUNCTIONS

Protects the crusher from overload by automatically regulating the crusher based on preset operational values

Alarm severity levels: A, B or C.

Alarm log

OPERATOR'S PANEL

	Wall mounted	Panel mounted (option)
Dimensions (LxHxD)	358x290x70 mm	350x290x88 mm
Weight	6.5 kg	5.6 kg
Operational temperature	-20°C to +50°C	-20°C to +50°C
Protection class	IP65 (front)	IP65 (front) IP30 (rear)
Power supply	18-32 VDC	18-32 VDC

ELECTRICAL HARDWARE

Hydroset drive unit

Power measurement unit

Power supply unit

Cable kit

SOFTWARE PACKAGE (OPTIONAL)

OPC Server

- Enables a seamless integration with control systems such as SCADA and DCS
- Allows total access to all the parameters in the ASRiT
- Possibility to make ASRiT adjustments remotely during operation

WINi

- Simultaneously control up to 9 different ASRiT 2.x systems from a PC via an Ethernet network
- Control the ASRiT remotely using the same graphical user interface

ASRiT Reporter

- Export ASRiT data to a PC for analysis and storage

Operating system compability:

- Windows 7, Windows Vista, Windows XP, Windows 2000

CM550 TANK UNIT

GENERAL CT86 DATA

Purpose	Supplies oil to the crusher and pinionshaft lubrication systems and to the Hydroset system
No. of doors	2
No. of inspection hatches	2 located on top of unit
Cabinet material	Metal
Dimensions (LxWxH)	1,680 x 1,050 x 1,830 mm
Dry weight	710 kg
Control System	Option: The crusher lubrication system is monitored by SanRemo Service Power

HYDROSET SYSTEM

Oil tank reservoir capacity	85 liters
Pump design	Gear pump
Pump capacity	10.4 l/min (50 Hz) 12.6 l/min (60 Hz)

Oil filter

No. of cartridges	1
Blocked filter sensor	No

Pump motor

Type	Three-phase, squirrel cage
Power	3 kW
Speed	1,500 rpm (50 Hz) 1,800 rpm (60 Hz)
Poles	4
Insulation class	F
Protection class	IP55

MAIN CRUSHER LUBRICATION SYSTEM

System design	Closed circuit, single pump, gravity return.
Oil tank reservoir capacity	400 liters
Pump design	Gear pump
Standby pump	N/A
Pump capacity	70 l/min (50 Hz) 80 l/min (60 Hz)

Pump motor

Type	Three-phase, squirrel cage
Power	4 kW
Speed	1,500 rpm (50 Hz) 1,800 rpm (60 Hz)
Insulation class	F
Protection class	IP55

Oil filters

No. of filters	1
Blocked filter sensor	Differential pressure sensor (Filter can either have digital maintenance indicator or analog pressure measurement depending on instrument setup)

Oil heaters

No. of heaters	2 (Optional 3)
Type	Electrical immersion
Rating	1.65 kW
Method	Indirect heating
Phases	3

PINIONSHAFT LUBRICATION SYSTEM

System design	Closed circuit, bleed off line from main lubrication, Gravity return
Oil tank reservoir capacity	See main lubrication

Oil filter

No. of cartridges	1
Blocked filter sensor	Pressure switch or analog pressure measurement

OIL COOLING SYSTEMS (FOR MAIN CRUSHER LUBRICATION)

AIR/OIL COOLERS

No. of units	1
Dry weight (incl. stand)	150 kg
Material	Aluminum
Oil volume	24 litres
Oil pressure drop	0.15 MPa
Oil flow rate	75 l/min (50 Hz) 85 l/min (60 Hz)
Motor power	2.2 kW
Motor speed	1,500 rpm (50 Hz) 1,800 rpm (60 Hz)
Max. air flow	2.8 g/s (50 Hz) 3.4 g/s (60Hz)

OFFLINE FILTER UNIT FOR MAIN LUBRICATION (OPTION)

Purpose	Removes particles, degrading particles, and water from the main lubrication system in a continuous slow offline filtration process
Model	27/54
Oil capacity	40 litres
Dimensions (LxWxH)	650x450x1055 mm
Weight	100 kg
Filter housing material	Cast iron
Filter type	B 27/27
No. of filter inserts	2
Blocked filter sensor	Pressure switch
Filter insert material	Cellulose
Filtration grade	3 µm absolute ($\beta_3 \geq 75$)
Pump design	Gear wheel
Pump capacity	200 l/h (50 Hz) 240 l/h (60 Hz)
Pump motor	Three phase, squirrel cage
Protection class	IP55

MANUALS

Operator's manual	CS550 ASRi	Any language
Installation manual	CS550 ASRi	Any language
Installation manual appendix	CS550 ASRi	Any language
Maintenance manual	CS550	Any language
Spare parts catalogue	CS550	English only

CS550 PERFORMANCE – NOMINAL CAPACITY* (MTPH)

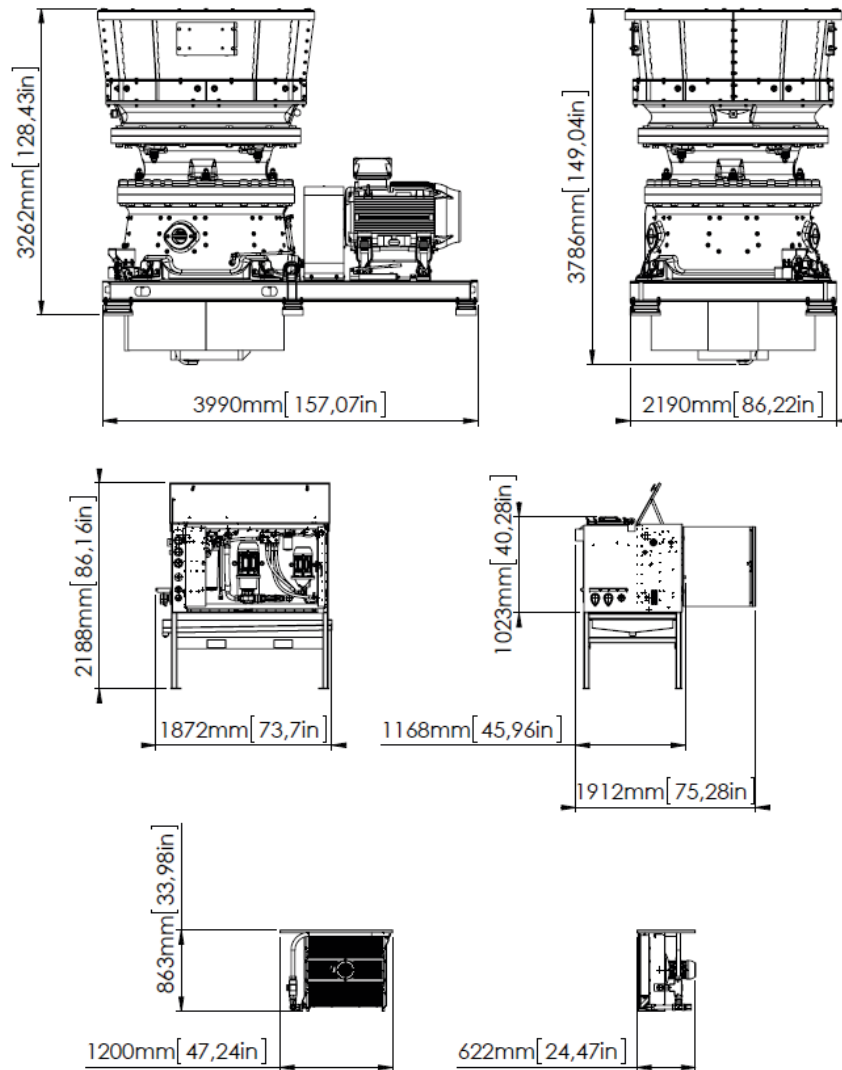
	Concave	EC	C
Max. feed size (mm)	Closed side setting (CSS)	165-190	145-170
	F90	286	229
	F100	431	345
Max. motor power (kW)		330	330
Eccentric throw (mm)		24-48	24-48
CSS (mm)	22	–	212-260
	25	230	225-380
	29	248-391	243-410
	32	262-442	257-433
	35	276-466	270-456
	38	290-489	284-478
	41	304-512	297-501
	44	317-535	311-524
	48	336-566	329-554
	51	350-590	342-577
	54	363-613	356-600
	57	377-636	369-623
	60	391-659	383-645
	64	409-697	401-684
	70	437-487	428-477
	Mantle	A/B/S	A/B/S

* based on material with bulk density of 1,600 kg/m³

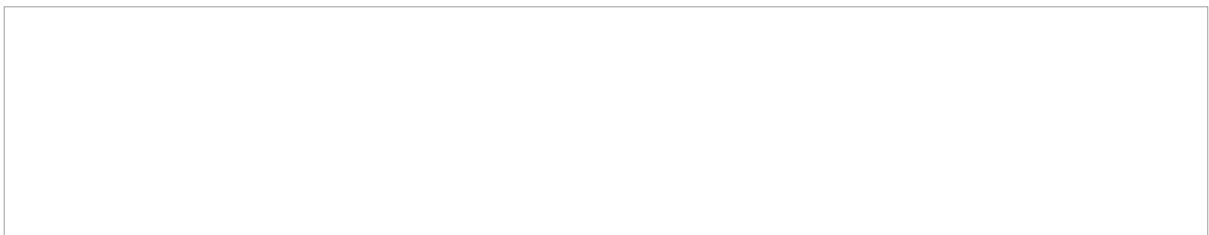
WEIGHT (KG)

	Kg	Lbs
Spider assembly	4,300	9,500
Top shell assembly	6,275	13,850
Bottom shell assembly	5,700	12,565
Main shaft assembly	5,295	11,675
Pinion shaft housing assembly	255	560
Hydroset cylinder assembly	2,380	2,380
Feed hopper assembly	981	2,165
Eccentric assembly	695	1,535
Dust collar assembly	252	555
Hoses and adapters	54	119
Crusher weight	24,650	54,344
Subframe	1,441	3,177
Electric motor (max.)	1,878	4,140
Coupling and shaft	283	624
Total weight (incl. subframe and drive)	28,675	63,162

DIMENSIONS*



* Always refer to the installation manuals



Sandvik Mining and Rock Technology reserves the right to make changes to the information on this data sheet without prior notification to users. Please contact a Sandvik representative for clarification on specifications and options.