SANDVIK

UNLEASH THE FULL POTENTIAL OF YOUR OPERATIONS

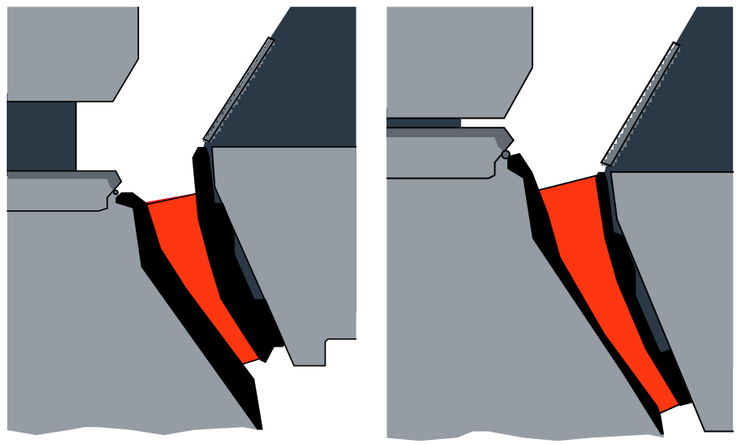
EXCELLENCE IN QUALITY AND PERFORMANCE

Sandvik in Svedala has been developing cone crushers for several generations. Today we have thousands of cone crushers in operation around the world. The knowledge and experience of cone crushing technology is unique and an important part of the Sandvik brand.

Our cone crushers are of advanced design with a small footprint and high capacity in relation to size. They have high reduction efficiency and give very good product shape. With hydraulically adjusted CSS, the option of automation, a choice of several different crushing chambers, and many other high-performance features, each model is versatile, user-friendly and highly productive.

The CS- and CH-series of cone crushers have a wide field of use as they can easily be matched to changes in production through the proper selection of crushing chamber and eccentric throw. Our cone crushers are ideal for secondary and tertiary crushing and the compact and easy-to-service design also makes them a perfect choice for mobile installations.

Our sophisticated HYDRO-CONE™ technique enables you to run your crusher at maximum performance levels under changing feed conditions without overloading the crusher. Together with our automatic control system you will have a crusher which safely maximizes operational uptime.



CLP crushing chamber. CLP stands for Constant Liner Performance. The almost vertical profile of the feed opening area means that the shape of the chamber remains virtually unchanged throughout the wearing life.

HIGH PERFORMANCE LOWEST TOTAL COST WITH CLP

The CLP crushing chambers in combination with high motor powers give these crushers capacities which are in most cases comparable with larger crushers.

THE CLP ADVANTAGES ARE:

- Constant feed acceptance capability
- Increased output
- High-quality products
- Increased liner life
- Lowest total cost

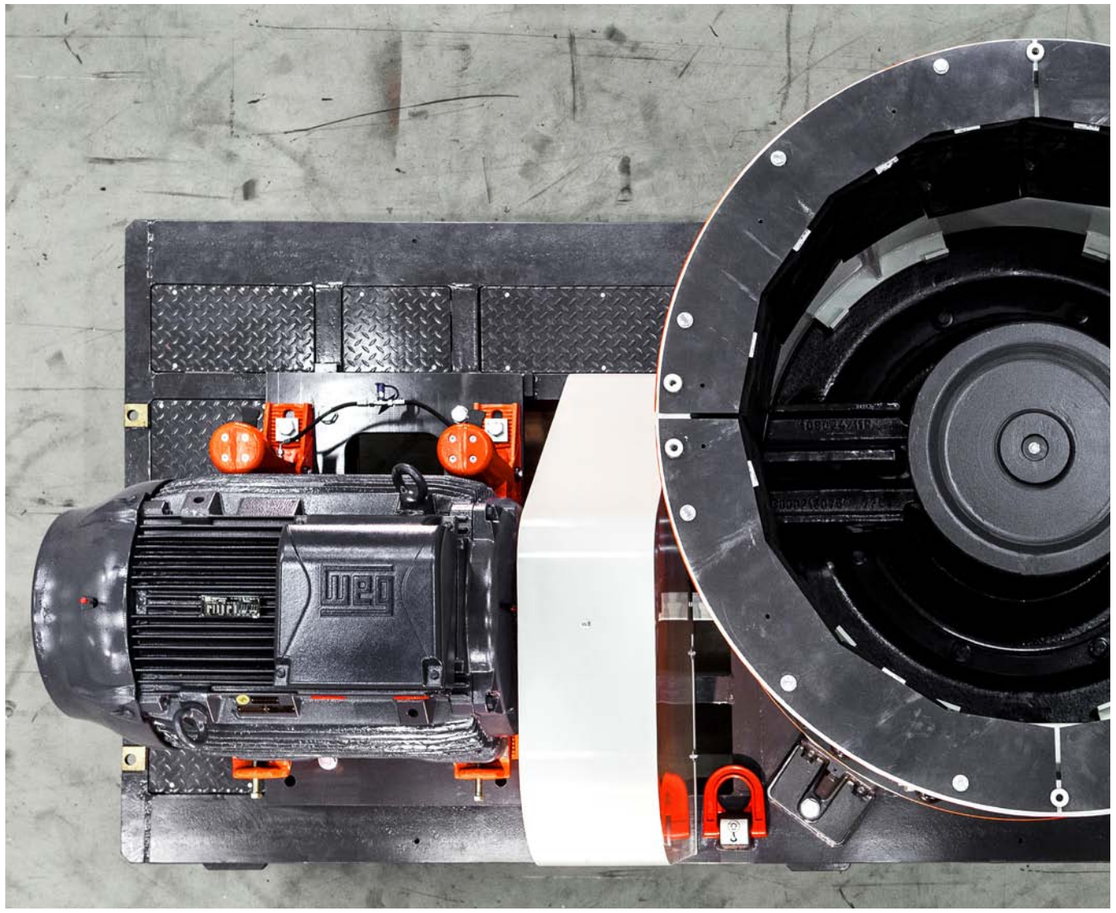
EXCELLENT VERSATILITY

Our cone crushers have a wide field of use. Several standard crushing chambers are available for each model.

The crushers can easily be matched to changes in production through the proper selection of crushing chamber and eccentric throw.

Our cone crushers are an excellent choice as secondary crushers in combination with a jaw or a primary gyratory crusher or in the third or fourth crushing stage. Thanks to their built-in versatility, these crushers will enable you to cope with most production requirements in a changing future.

Several standard crushing chambers are available. The crushers can easily be matched to changes in production by the proper selection of crushing chamber and eccentric throw.



FULL CONTROL OF THE PROCESS

HYDROSET SYSTEM

The Hydroset system provides safety and setting adjustment functions, and incorporates a heavy-duty hydraulic cylinder which supports the mainshaft and adjusts its position.

The Hydroset system provides automatic overload protection to permit the passage of tramp iron or other uncrushable material. The system then automatically returns the main-shaft smoothly to its original position.

The crushers can be equipped with an automatic setting system, which monitors the load on the crusher. This gives considerably improved results and optimum crusher utilization.

AUTOMATIC CONTROL SYSTEM

When the cone crusher is equipped with our automatic setting system it automatically adapts the crusher to variations in feed conditions.

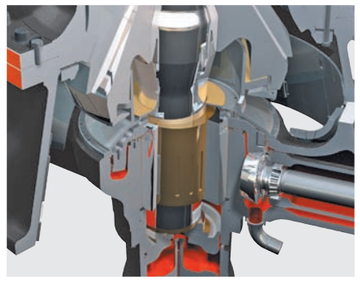
By continuously measuring and compensating for crusher liner wear, the automation system allows you to fully utilize crusher liners and schedule liner replacements to coincide with planned maintenance stops. It also assists in keeping your crusher choke fed.

This maximizes rock-on-rock crushing, which helps to optimize the quality of your final product. The new CH540 and CH550 crushers comes with the control system as standard equipment.

EASY TO HANDLE AND MAINTAIN

Much attention has been paid to making our crushers as easy to operate and maintain as possible. All service and inspection is carried out from above, which makes the work easier and the maintenance costs lower.

Robust sealing to the inner crusher mechanics provides more effective protection against dust and other unwanted particles – reducing maintenance and increasing the life of the crusher.



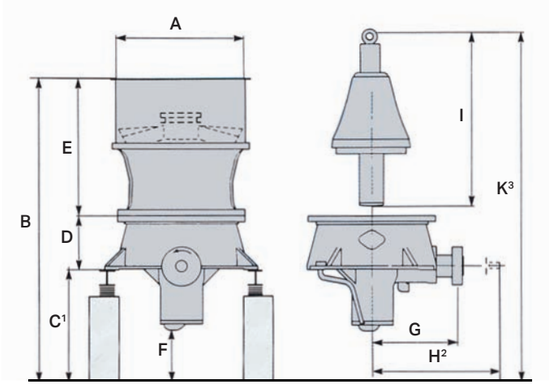
Robust sealing to the inner crusher mechanics provides more effective protection against dust and other unwanted particles – reducing maintenance and increasing the life of the crusher.

The automatic setting system not only optimizes production, it also keeps track of liner wear. This makes it easy to plan liner changes and minimize interruptions in production.

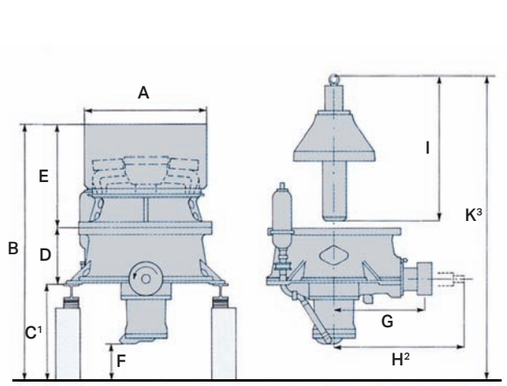
In addition to the high capacity, Our CS & CH crushers are compact, which makes them easy to move and to install.

DIMENSIONS

CS-TYPE



CH-TYPE



Note: Reference line (not floor level) giving minimal dimensions for removal of: 1. Hydroset cylinder, 2. Pinion shaft, 3. Main shaft

	CS-Type				CH-Type								
Dimension (mm)	CS420	CS430	CS440	CS660	CH420	CH430	CH440	CH540	CH550	CH660	CH870	CH890	CH895
A	Ø 1285	Ø 1635	Ø 2000	Ø 2800	Ø 1078	Ø 1360	Ø 1540	Ø 1549	Ø 1890	Ø 2104	Ø 2660	Ø 2900	Ø 2900
B	2902	3485	4075	5100	2560	2992	3410	3296	3410	4215	5475	6450	6450
C¹	1020	1125	1300	1600	1020	1125	1300	1160	1300	1600	2200	2870	2870
D	540	655	745	860	540	655	745	800	910	860	1228	1190	1190
E	1342	1705	2030	2640	1000	1212	1365	1336	1462	1755	2045	2400	2400
F	400	422	452	631	400	422	452	406	430	631	998	1150	1150
G	843	1061	1280	1497	843	1061	1280	1136	1276	1497	1824	1960	1960
H²	1270	1705	1900	2156	1270	1705	1900	1706	1885	2156	2850	3100	3100
I	1703	2050	2420	2895	1425	1688	1985	1844	2087	2344	3095	3500	3500
K³	3600	4250	4930	5355	3000	3570	4000	3904	4352	4835	6600	7700	7700

Dimensions are intended only as a guide for preliminary planning of the installation and should not be used for the construction of foundations, etc.

APPROXIMATE WEIGHTS

	CS-Type				CH-Type								
	CS420	CS430	CS440	CS660	CH42	CH430	CH440	CH540	CH550	CH660	CH870	CH890	CH895
Heaviest lift during maintenance	2300	5100	8100	16500*	1400**	2900**	4700**	4000	6000**	8500**	13200**	21600	24900
Total weight	6800	12000	19300	35700	5300**	9200**	14300**	12500	18400**	26800**	49800**	76100	79100

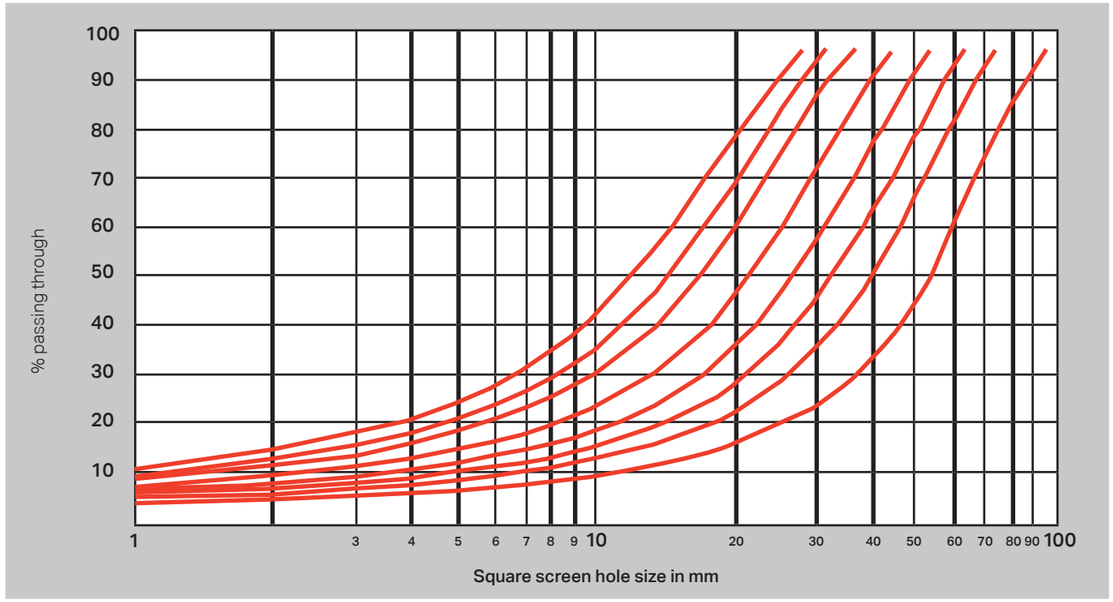
* 16500 kg = topshell assembly + spider assembly. 9700 kg = topshell assembly only.

** Applies to crusher with fine crushing chamber. With coarse crushing chamber, these weights are reduced by approximately 380 kg for the CH430, by 600 kg for the CH440, CH550, CH660 and CH870 and by 3800 kg for the CH880 model.

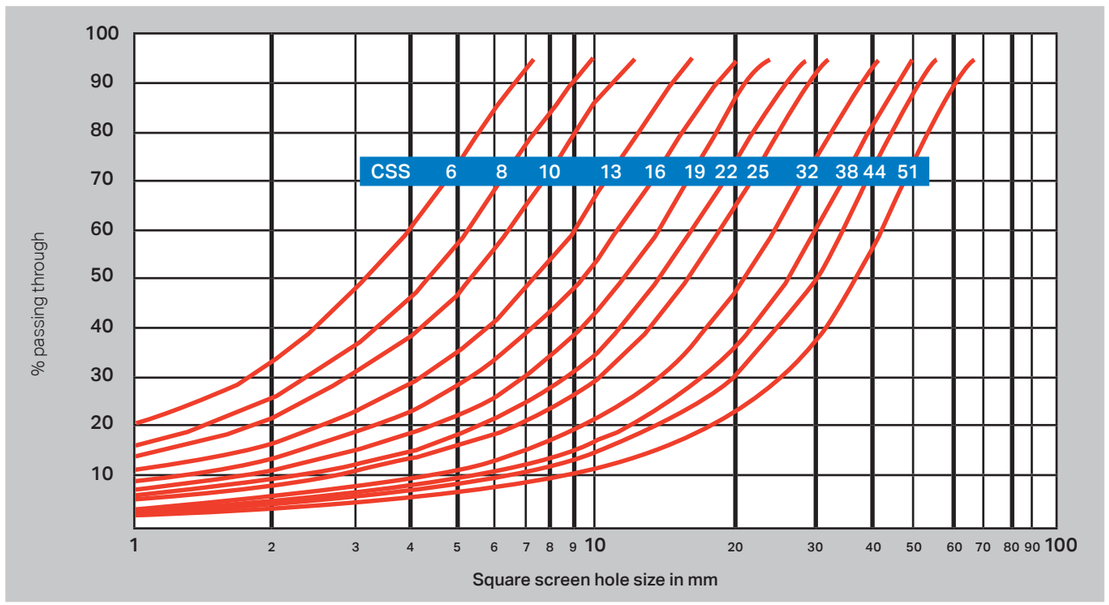
PRODUCT CURVES

The product curve and the percentage of the crusher product that is smaller than the closed side setting (square hole, mm) is dependant on the crushability (Wi) of the material, the size distribution of the feed and other factors.

CS-CRUSHERS



CH-CRUSHERS



CRUSHING CHAMBERS

CS-CRUSHERS

Three standard crushing chambers are available:

MC = Medium Coarse
C = Coarse
EC = Extra coarse

CH-CRUSHERS

Several standard crushing chambers are available:

EEF = Extra Extra Fine
EF = Extra Fine
EFX = Extra Fine Xtra
F = Fine
MF = Medium Fine
M = Medium
MC = Medium Coarse
C = Coarse
CX = Coarse Xtra
EC = Extra Coarse

CAPACITY, MTPH

Performance figures are approximate and give an indication of what the crusher can produce.

They apply to open circuit crushing of dry material with a bulk density of 1600 kg/m^3. It is assumed that material much finer than the crusher's closed side setting (CSS) is removed from the feed.

Consult us regarding the application of the crusher since the chosen eccentric throw, degree of reduction, the material´s crushability (Wi), the size analysis of the feed, the design of any recrushing circuit and the moisture content in the feed all affect performance of the crusher.

CS-CRUSHERS

	Max motor-size kW		Max feed size mm	16	19	22	25	29	32	35	38	41	44	48	51	54	57	60	64	70	76	83
CS420	90	EC	240	–	–	102-118	108-144	115-154	121-162	127-145	132	–	–	–	–	–	–	–	–	–	–	–
		C	200	77	82-110	87-116	92-123	98-113	103	–	–	–	–	–	–	–	–	–	–	–	–	–
CS430	132	EC	360	–	–	–	151	161–245	169-257	176-269	184-281	192-292	200-304	210-281	218-250	225	–	–	–	–	–	–
		C	300	–	–	–	170-196	182-277	191-290	199-304	208-217	217-330	226-302	237	–	–	–	–	–	–	–	–
		MC	235	–	–	130	137-209	147-224	154-235	161-245	168-256	175-267	182-244	192	–	–	–	–	–	–	–	–
CS440	220	EC	450	–	–	–	–	–	–	273-318	285-434	297-452	309-470	325-495	337-447	349-406	–	–	–	–	–	–
		C	400	–	–	–	–	–	291	304-463	317-483	331-503	344-456	362-421	375	–	–	–	–	–	–	–
		MC	300	–	–	–	–	245	257-391	269-409	281-427	292-445	304-403	320-372	332	–	–	–	–	–	–	–
CS660	315	EC	560	–	–	–	–	–	–	–	331-385	345-514	359-593	378-624	392-647	406-670	420-693	433-716	452-746	480-792	508-756	540
		C	500	–	–	–	–	–	–	335	350-464	364-602	379-626	399-658	413-683	428-707	443-731	458-755	477-710	507-589	–	–

CH-CRUSHERS

	Max motor-size kW		Max feed size mm	Nominal capacity in t/h with crusher running at CSS mm																
				4	6	8	10	13	16	19	22	25	32	38	44	51	57	64	70	
CH420	90	EC	135	–		–	46	50-85	54-92	85-99	62-105	66-112	76-128	–	–	–	–	–	–	
		C	90	–		–	43-53	46-89	50-96	54-103	57-110	61-118	70	–	–	–	–	–	–	
		M	65	–		36-44	38-74	41-80	45-76	48-59	–	–	–	–	–	–	–	–	–	
		MF	50	–	36	38-67	40-71	44-68	47-53	–	–	–	–	–	–	–	–	–	–	
		F	38	27-34	29-50	31-54	32-57	35-48	38	–	–	–	–	–	–	–	–	–	–	
		EF	29	**30-40 with 80 % finer than 4.5-5.5 mm**																
CH430	132	EC	185	–		–		69-108	75-150	80-161	86-171	91-182	104-208	115-208	–	–	–	–	–	
		C	145	–		–		66-131	71-142	76-152	81-162	86-173	98-197	109-150	–	–	–	–	–	
		MC	115	–		–	57	62-140	67-151	72-162	77-173	82-184	93-145	–	–	–	–	–	–	
		M	90	–		–	64-84	69-131	75-142	80-152	86-162	91-154	104	–	–	–	–	–	–	
		MF	75	–		61	65-106	70-115	76-124	81-126	87-114	92	–	–	–	–	–	–	–	
		F	50	–	48-78	51-83	54-88	59-96	63-103	68-105	72-95	77	–	–	–	–	–	–	–	
		EF	35	**70-90 with 80 % finer than 5-5.6 mm**																
CH440	220	EC	215	–	–	–	–	–	114-200	122-276	131-294	139-313	159-357	175-395	192-384	–	–	–	–	
		C	175	–	–	–	–	101	109-218	117-292	125-312	133-332	151-378	167-335	183-229	–	–	–	–	
		MC	140	–	–	–	–	97-122	105-262	113-282	120-301	128-320	146-328	161-242	–	–	–	–	–	
		M	110	–	–	–	–	117-187	126-278	136-298	145-318	154-339	175-281	194	–	–	–	–	–	
		MF	85	–	–	–	114	124-227	134-245	144-263	153-281	163-299	186-248	–	–	–	–	–	–	
		F	70	–	–	90-135	96-176	104-191	112-206	120-221	129-236	137-251	156-208	–	–	–	–	–	–	
		EF	38	**100-125 with 80 % finer than 6-7.5 mm**																
CH540	250	EC	185	–	–	–	91	98-181	106-230	114-247	122-264	130-281	148-295	163-245	–	–	–	–	–	
		C	135	–	–	–	89-119	97-209	104-226	112-243	120-259	127-276	145-242	160-187	–	–	–	–	–	
		M	85	–	–	70-116	74-160	80-174	87-188	93-201	99-215	106-194	120-161	–	–	–	–	–	–	
		F	55	45-59	48-103	51-110	54-116	58-126	63-126	68-124	72-108	77-102	–	–	–	–	–	–	–	
		EF	44	39-84	42-90	44-96	47-94	51-94	55-83	59-79	63									
CH550	330	EC	215	–	–	–	–	153-197	165-307	177-329	190-352	202-374	230-427	254-400	278-318	–	–	–	–	
		C	175	–	–	–	–	157-202	170-316	182-339	195-362	207-385	236-405	261-336	–	–	–	–	–	
		MC	140	–	–	–	–	166-261	179-333	192-357	205-381	218-406	249-462	275-432	301-344	–	–	–	–	
		M	110	–	–	–	141	153-285	165-307	177-329	190-325	202-288	230	–	–	–	–	–	–	
		MF	85	–	–	115-131	122-226	132-245	182-264	153-284	163-280	174-273	198	–	–	–	–	–	–	
		F	70	–	95-123	102-189	108-200	117-217	126-235	136-232	145-227	154-198	–	–	–	–	–	–	–	
CH660	315	EC	275	–	–	–	–	–	177	190-338	203-436	216-464	246-547	272-605	298-662	328-511	–	–	–	
		CX	245	–	–	–	–	–	174-194	187-374	200-488	212-519	242-592	268-654	293-521	323-359	–	–	–	
		C	215	–	–	–	–	–	171-190	184-367	196-480	209-510	238-582	263-643	288-512	317-353	–	–	–	
		MC	175	–	–	–	–	–	162-253	174-426	186-455	198-484	226-552	249-499	273-364	–	–	–	–	
		M	135	–	–	–	–	–	197-295	211-440	226-470	240-500	274-502	302-403	–	–	–	–	–	
		MF	115	–	–	–	–	192	207-369	222-396	237-423	252-450	287-451	318-363	–	–	–	–	–	
		F	85	–	–	–	–	195-304	210-328	225-352	241-376	256-400	292-401	323	–	–	–	–	–	
		EF	65	–	–	–	–	211-293	227-316	244-298	261-290	–	–	–	–	–	–	–	–	
CH870	500	EC	300	–	–	–	–	–	–	–	448-588	477-849	544-968	601-1070	658-1172	725-1291	782-1393	849-1512	906-1331	
		C	240	–	–	–	–	–	–	406	433-636	461-893	525-1018	581-1125	636-1232	700-1357	756-1464	820-1461	876-1286	
		MC	195	–	–	–	–	–	–	380-440	406-723	432-837	492-954	544-1055	596-1155	657-1272	708-1373	769-1370	821-1206	
		M	155	–	–	–	–	–	–	400-563	428-786	455-836	519-953	573-1054	628-1154	692-1271	746-1372	810-1248	865-1098	
		MF	100	–	–	–	–	–	379-424	407-716	434-765	462-814	527-928	852-942	638-789	702	–	–	–	
		F	90	–	–	–	–	357-395	385-656	414-704	442-752	470-800	535-912	592-857	649-718	–	–	–	–	
		EF	80	–	–	–	280-405	304-517	328-558	352-598	376-639	400-680	455-775	503-128	551-669	–	–	–	–	
CH890	750	EC	370	–	–	–	–	–	–	–	–	394-459	449-1309	496-1446	543-1584	598-1745	646-1883	701-2043	748-2181	
		C	330	–	–	–	–	–	–	–	397	422-774	482-1404	532-1552	583-1700	642-1873	693-2020	752-2193	803-2140	
		MC	300	–	–	–	–	–	–	342-513	365-852	389-1232	443-1404	490-1552	536-1700	591-1873	637-2020	692-2005	803-1739	
		M	230	–	–	–	–	–	267-312	287-670	307-951	326-1106	372-1261	411-1394	450-1526	496-1681	535-1814	580-1800	720-1564	
		MF	160	–	–	–	–	204	220-514	237-690	253-921	269-980	306-1117	339-1235	371-1352	409-1490	441-1607	598-1396	638-1170	
		F	120	–	–	–	–	248-289	268-669	287-838	307-895	326-952	372-1085	411-1165	450-1051	496-827	535-625	–	–	
CH895	750	EFX	100	–	–	–	–	212-423	228-666	245-715	262-763	278-812	317-926	351-994	384-896	423-705	457-533	–	–	
		EF	85	–	–	–	185-246	201-585	216-631	232-678	248-724	264-770	301-878	333-970	364-1063	401-1170	433-1010	470-862	502-669	
		EEF	75	–	–	–	178-475	193-564	209-608	224-653	239-697	254-742	290-846	321-855	351-761	387-580	417	–	–	

FEATURES WHICH MAKE OUR CONE CRUSHERS THE BEST ON THE MARKET

An easy-to-maintain crusher. Maintenance and inspection from above.

The crusher has a CLP crushing chamber as standard. One topshell is used for all crushing chambers.

The robust design provides the strength and stability necessary for the crushing of extra-hard materials. The design also results in low maintenance costs.

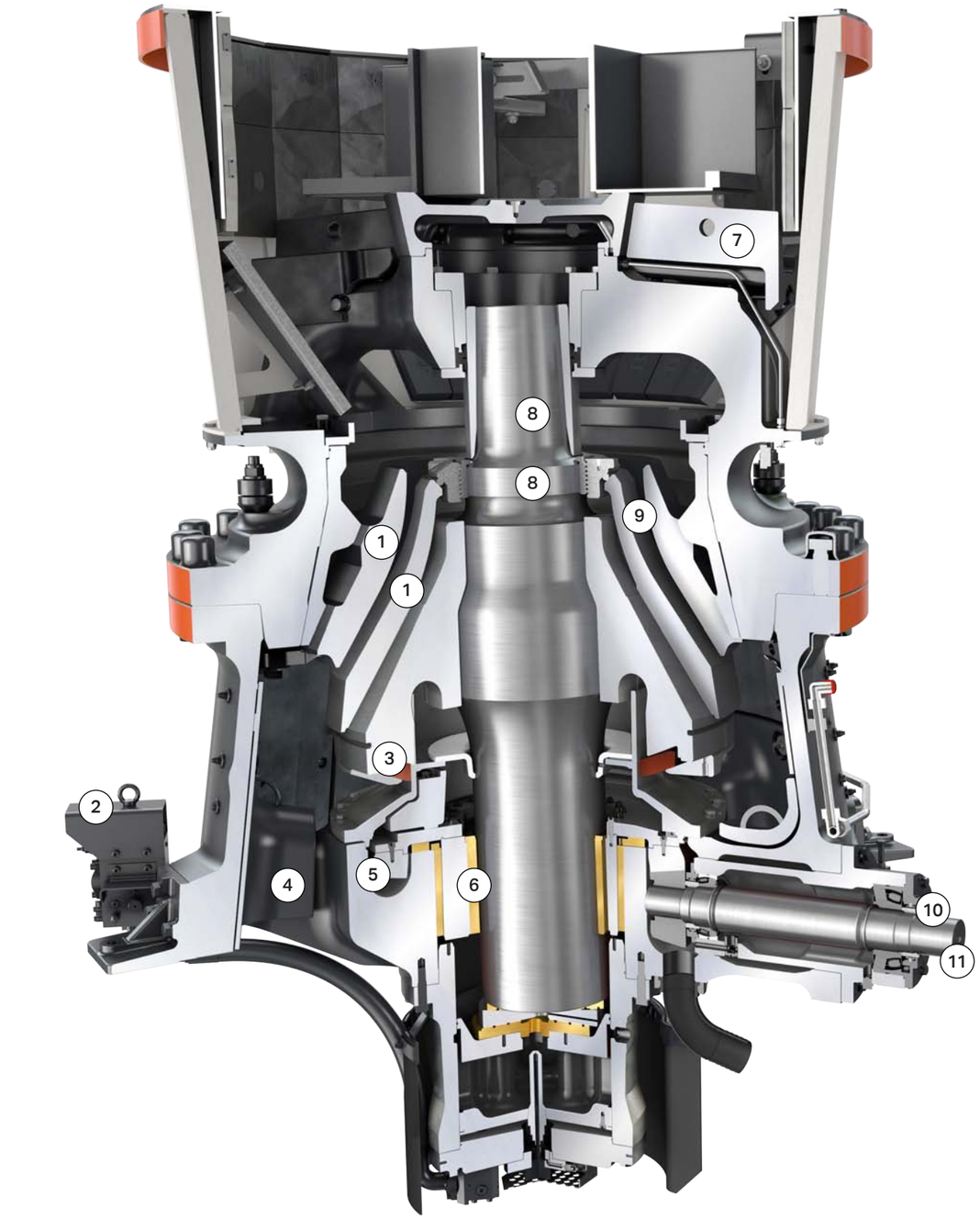
Inspection holes are provided in the bottomshell.

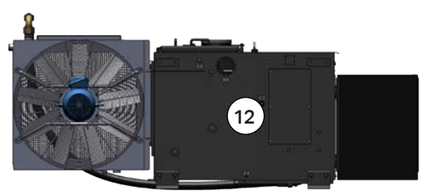
Prepared for the installation of the control system.

1. Long life from liners of special alloy manganese steel.
2. CH crushers have automatic overload protection system as standard (accumulator or dump valve). The CH540, CH550, CH870, CH890 and CH895 have a pressure limiting valve. Other models have an accumulator.
3. The interior of the crusher is protected from dust by a self-lubricating seal ring.
4. The bottomshell arms have liners of special alloy steel.
5. Quiet operation and long life thanks to bevel gears with hardened, spiral-cut teeth.
6. Product curve and capacity can be optimized by adjusting the eccentric bushing supplied with the crusher.
7. Large feed opening. The two top-shell arms are protected against wear by robust liners of special alloy steel.
8. Mainshaft protected by replace able sleeve and inner headnut.
9. CLP crushing chamber design maintains feed opening throughout the entire life of the liners.
10. Easy adjustment of gear back lash.
11. Robust design of the pinion-shaft assembly. The pinion-shaft and its bearings are built as a single unit which can be removed without taking the crusher apart.
12. Oil tank unit
    - filtration
    - cooling and heating
    - circulation pump
    - monitors for temperature and flow rate
    - interlocks

LUBRICATION

- Separate lubrication (grease) for the spider bearing.
- The oil tank unit automatically maintains oil flow to the various bearings. This system permits full lubrication even before the crusher itself is started since the pump is independent of the crusher. The oil is filtered and cooled auto-matically. The oil tank for the lubrication and Hydroset systems is a self-contained unit incorporating filters, heating and cooling equipment, pumps, tempera ture and flow rate monitors and electrical interlocks.
- The pinionshaft unit has separate lubrication.





EGYPTIAN QUARRY BENEFITS FROM SANDVIK'S CH430 & CH440 AND FLEXIFEED™ MANTLE

Sandvik Construction's authorized distributor for crushing and screening products in Egypt, Stallion for Investment, has improved aggregate quality, operational productivity and efficiency, at a customers site through the use of CH430 and CH440 cones used in conjunction with Sandvik's Flexifeed™ mantle. The mantle has been fitted to the customer's cone crushers in order to more effectively process abrasive aggregate, playing a key role increasing capacity, as well as reducing the cost per ton of production.

Egypt´s Stallion for Investment Co, a company part of the renown Rodan Group of companies, founded in 1976 by Ashraf L. Youssef, specifically to meet the growing demands of the road construction and quarry industry in Egypt for high end equipment and spare parts, all backed by the very best in aftermarket service.

Today the Rodan Group is one of Egypt's leading road construction and quarry equipment distributors, with the group specifically aiming to offer their customers access to equipment from some of the leading equipment manufacturers. This has proved to be particularly pertinent to the road construction and quarrying industries, with the Rodan Group now representing a wide-ranging portfolio of manufacturers through the group's locally developed, but rapidly expanding, network of affiliated companies. These companies have been strategically positioned so as to support the specific requirements of the customers through catering to their exacting requirements, and supporting them through the highest levels of aftermarket support and customer service.

The hard work and professionalism of the Rodan Group in general, and the Stallion for Investment Company specifically, was recently shown when a longstanding quarry customer, who also acts as a distributor for a Chinese crusher manufacturer, sought help and advice in maximizing productivity whilst improving end product quality. The customer, producers of aggregates for the burgeoning Egyptian construction industry, is a contented user of both Sandvik CH430 and CH440 stationary cone crushers, which have performed superbly since their installation.

Stallion for Investment customers' quarry possesses a very 99% Silica rock, which due to its abrasive nature, proved to be particularly hard wearing on the liners of the Sandvik cones. Although performance was exceptional, and well within the parameters established by the customer providing production of over 150mtph, the liners were only lasting an average of twelve days of continuous fifteen hours daily operation. Thus a new solution was required: the Flexifeed™ mantle from Sandvik Construction. As Mr. Tarek Youssef explains the results; "On the CH440 the liners lasted a great deal longer, even though the Flexifeed™ is a heavier mantle with more material in it. Based on our advice the customer used to operate their jaw and a cone at any given time so we were able to switch between the CH430 and the CH440 whenever the liners wore down, thereby giving us time to change the liners of one cone while the other was operating, thereby providing almost continuous production."

FLEXIFEED™ MANTLE IMPROVES CRUSHING EFFICIENCY.

The Sandvik-developed and patented Flexifeed™ mantle optimizes the crushing process, producing a finer product and greater reduction through the crusher. This is accomplished as the mantle is able to achieve a more efficient crushing operation due to the latest chamber design. Thus through the use of the Flexifeed™ mantle the crusher is able to accept over-sized material in part of the chamber, whilst simultaneously reducing the chamber profile in the opposing part of the chamber, thereby permitting operation at a tighter setting. This results in a finer product being produced on a "first pass basis", but also a superior shape which is essential when the equipment is set up to produce single-size products. Of Stallions customers' use of Flexifeed™ mantle Mr. Tarek Youssef explains, "The difference the mantle makes is essentially improved crushing efficiency. That means, in simple terms, we get better productivity and lower cost per ton. Furthermore as our customer is keen to minimize its carbon footprint, improved crushing efficiency means not only better production, but also lower emissions."

> "It is well known in Egypt that when there is a tough job at hand Sandvik crushers are the ones to go to." Stated Mr. Tarek Youssef from Stallion for Investment, who continued – "Sandvik is seen as the premier crusher manufacturer for the aggregates industry here, so when our customer required a hard wearing costeffective solution, he had little hesitation in choosing the Sandvik CH430 & CH440 cones we recommended."

PERFORMANCE THROUGH INNOVATION

Sandvik Construction is justifiably proud of its cone crushing technology, with high productivity and low cost of ownership being key features. The development and use of the Flexifeed™ mantle shows that even the best equipment can be improved upon. Sandvik cone crushers, such as the CH 430, are of advanced design, with high capacity and high reduction efficiency. With hydraulically adjusted CSS and automatic wear compensation, a choice of different crushing chambers and eccentric throws, and many other high-performance features, each model is versatile, user-friendly and highly productive. Every Sandvik cone crusher is a product of know-how and experience optimized by 3D CAD and Finite Element Analysis (FEA). Each model is tested virtually for stress, strain, shock, deformation, thermal loading, vibration and noise under a wide range of load conditions. The result in reality is exceptional reliability.

The Flexifeed™ mantle has proved to be a highly cost effective solution for Stallions customer; how much, and to what extent, is still under evaluation. As well as demonstrating Sandvik Construction's advanced crushing solutions it also demonstrates the knowledge base and professionalism of the Rodan Group, in providing real solutions that are focused on maximizing their customers operations, efficiency and profitability.