



# McNALLY SAYAJI ENGINEERING LIMITED

(A Member of the Williamson Magor Group)



## SMOOTH ROLL CRUSHER

At MSEL we believe in constantly reinventing ourselves. And in line with this we are always on the lookout for new avenues and opportunities.

McNally Sayaji Engineering Limited (MSEL), with factories in Kumardhubi, Asansol, Bangalore and Baroda, is one of the country's leading manufacturer of Crushing, Screening, Milling, Material Handling and mineral processing and other heavy equipment, serving the core sectors of the economy. These sectors include Coal, Mining, Power, Steel, Ports, Cement, Aluminium and Non-Ferrous Metals.

All manufacturing units of MSEL are ISO 9001-2008 certified with well established quality assurance department supported by modern testing facilities and

managed by a team of highly experienced professionals.

MSEL has branch offices at Kolkata, Bangalore, Chennai, Delhi, Mumbai, Hyderabad, Nagpur, Vishakhapatnam, Kochi, Vijaywada, Coimbatore. This makes MSEL capable to render comprehensive customer support.

MSEL has inducted technology over the years through strategic alliances and developed focused R&D and Design & Development teams, who offer optimum and cost effective solutions to meet customer needs.



# APPLICATION

Smooth Double Roll Crusher is used for medium and fine crushing of soft to medium hard material like coal, fertilizer, chalk, clay, limestone, coke, glass etc. It can be also used for tertiary crushing of hard material like iron ore, refractory material. For better nipping of crushing material, the feed size is limited to 45/50 mm(max).

# OPERATING PRINCIPLE

Due to opposite in ward rotation of the rolls, the feed material is nipped between the rolls and crushed by compression. The movement of the floating roll is effected by turning a spindle or through hydraulic cylinders. To control the product size, the gap between the rolls is adjusted by threaded spindle (horizontal or vertical) or cylinders. When a piece of un-crushable material enters the crushing zone, the gap increases automatically by compressing the springs, thereby releasing the same and the floating roll comes back to its original position once the material is released.

Smooth Roll Crusher is fed uniformly across the entire width by suitable feeder to achieve proper performance and uniform wearing of rolls to maintain consistency of product granulometry.

# CONSTRUCTIONAL FEATURES

It consists of two counter rotating rolls which are mounted horizontally on a rigid frame. The crushing area of the rolls are totally enclosed in a fabricated housing. One of the rolls is fixed in position while the other is a floating roll which can move relative to fixed roll to control product size and release un-crushable material by spring action. Both vertical spindle and horizontal spindle type gap adjustment system are available in MSEL range. In horizontal spindle system the roll shifts horizontally during gap adjustment as well as spring actuation. In vertical spindle system the floating roll also moves horizontally being mounted on a spring loaded hinged “yoke beam”. The hinged yoke beam is supported on a set of Helical Coiled Spring having differential stiffness. The roll surface can be smooth or beaded depending on the type and size of the feed material. The crushing

element is a single piece steel casting Roll mounted on taper hubs at both ends. Two rolls rotate in opposite direction by means of individual motor and vee belts with or without gear box. Smooth Roll Crusher can be provided with spring loaded roll scraper for removing sticky material from roll surface. Roll grinding arrangement can be supplied as an optional item for grinding the roll surface without removing the rolls from the crusher frame. Motorized or hand operated centralized grease lubrication system can be provided on request.

# SALIENT FEATURES

- MSEL unique “yoke beam” design for vertical spindle arrangement enables floating roll to shift parallel to the fixed roll even during operating condition saving down time.
- Roll grinding arrangement working in-situ, when required, ensures consistency of product granulometry.

# AVAILABLE SIZES

AVAILABLE SIZES		MOTOR POWER (kW)
ROLL DIAMETE (mm)	ROLL LENGTH (mm)	
400	250 to 400	2 x 5.5 to 2 x 7.5
600	400 to 600	2 x 11 to 2 x 15
800	400 to 1200	2 x 15 to 2 x 45
1000	800 to 1200	2 x 37 to 2 x 55
1200	1200	2 x 75 to 2 x 90

NOTE: As improvements are made from time to time, specifications and other details are subject to change without notice.

# McNally Sayaji Engineering Limited

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Crusher | Screen | Grinding Mill | Feeder | Conveyor | Wagon Tippler | Pulley & Idler | Port Crane | Stacker Reclaimer | Mobile/Skid Mounted Crushing & Screening Plant | Slurry Pump | Thickener | Flotation Cell | Pressure Vessel | Equipment for Iron Ore, Steel, Cement, Power, Coal & Other Non-Ferrous Metal Processing Plants