GCI CPM2500

For dry cast concrete pipe making

The perfect solution for applications that require versatility, productivity and manufacturing flexibility.

The GCI 2500 machine utilizes the vibration production process, obviating the more expensive and labor intensive methods of other manufacturers.

Comprises of a comprehensive range of production stations and vibration systems that enable production capabilities up to 2500 mm diameter pipes and 1700 x 1700 box sections.

InnovateDesignAutomate

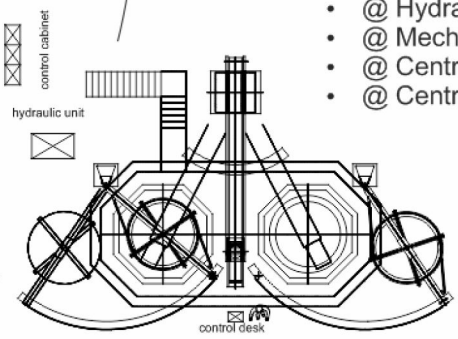
System benefits

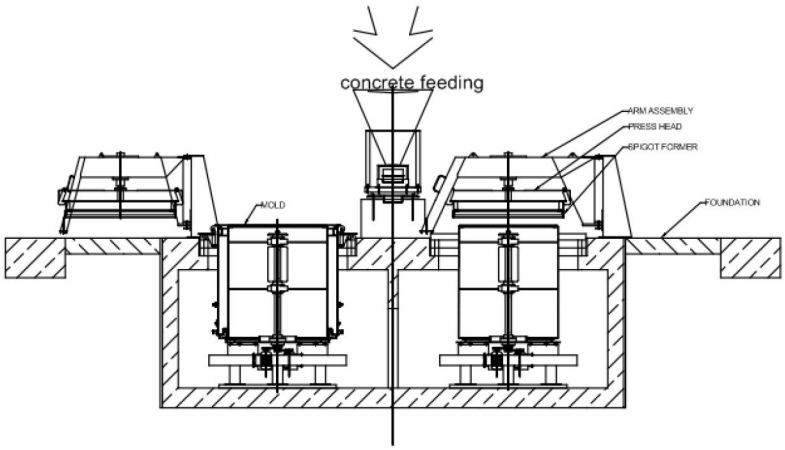
- @ A single station GCI CPM 2500 machine can produce a wide range of products.
- @ The machine utilizes the superior vibration production process as compared to the slower, more labour intensive methods such as the wet cast process and horizontal spinning process. Advanced feed, vibration and pressing technology makes the manufacture of efficient, high quality products smooth and easy
- @ Designed for easy operations and safety, form sets are recessed in production at the floor level itself
- @ The filling and press head operations are mechanized and controlled from a central operator's console
- @ Quick mold changeover is a simple hydraulic clamping method for core and vibrator. At the flip of a switch, both core and vibrator become independent; eliminates costly down time and needless increase in production
- @ An important feature of the vibrator: the central vibrator is connected to the core via a hydraulic clamping device. The design allows for a rapid mold change. The jacket, with a base pallet is rubber- buffed isolated and mounted separately from the other machine parts, to ensure proper induction of vibration in the product. The centrifugal force is also individually adjustable in accordance with product type and diameter

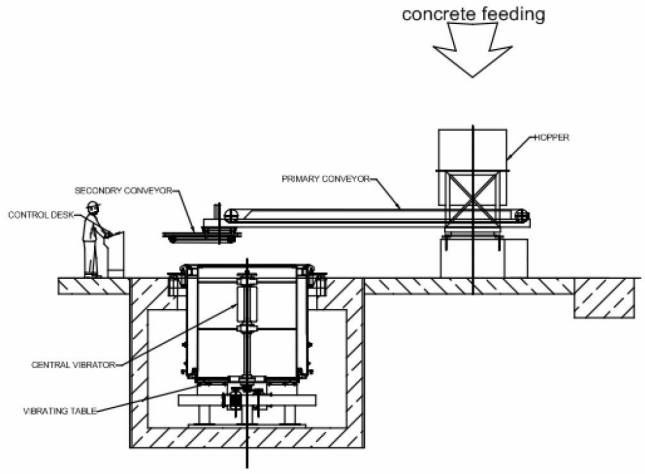
No downtimes; allows for quick mold changeover as core and vibrator are independent.

Features of the CPM 2500

- @ Hydraulic press head system
- @ Mechanized variable speed of concrete feeding system
- @ Central operator control console
- @ Central vibrator with hydraulic clamping system







Optional features

The GCI-CPM 2500 Double Pipe machine's two arms can produce two station pipes- twice the number of pipes in the same shift/ cycle.

Automated operations controls; perfect for a variety of dry cast products in several shapes and sizes.

- @ Adjustable central vibrator (frequency and centrifugal force)
- @ Contour controls and secondary conveyor for producing a wide variety of odd shape products
- @ Additional equipment for the production of lined concrete pipe
- @ Hydraulic strip assists, cylinders and solenoid valves for de-molding aids to reduce crane load
- @ Hydraulically- operated cage centering units at the mold
- @ Automatic laser fill control
- @ Form turnover system for manhole base production
- @ Provision for lifting cast in anchors
- @ Accessories for stay- in- place header instead of the spigot former
- @ Automated operations controls

Production flexibility

This machine is perfect for producing a wide variety of dry cast products in several shapes such as elliptical pipe, arch pipe, U drains, box culvert, jacking pipe, HDPE lined pipe, tongue and groove, joint, single offset and confined joint manhole.

Parts of GCI-CPM 2500 Dry cast machine arm

The slewing arms support a spigot former and is mechanically locked. The spigot is formed by the oscillating motions of the hydraulic cylinders located on the arms. Simultaneously, the press head is forced down by the hydraulic cylinder. The spigot length is controlled by the press head. The movement of the arm/s is hydro motored and position- controlled by the PLC.

Feeding equipment

Heavy duty steel pedestal; main and feeder conveyor have heavy- duty vulcanized belts.

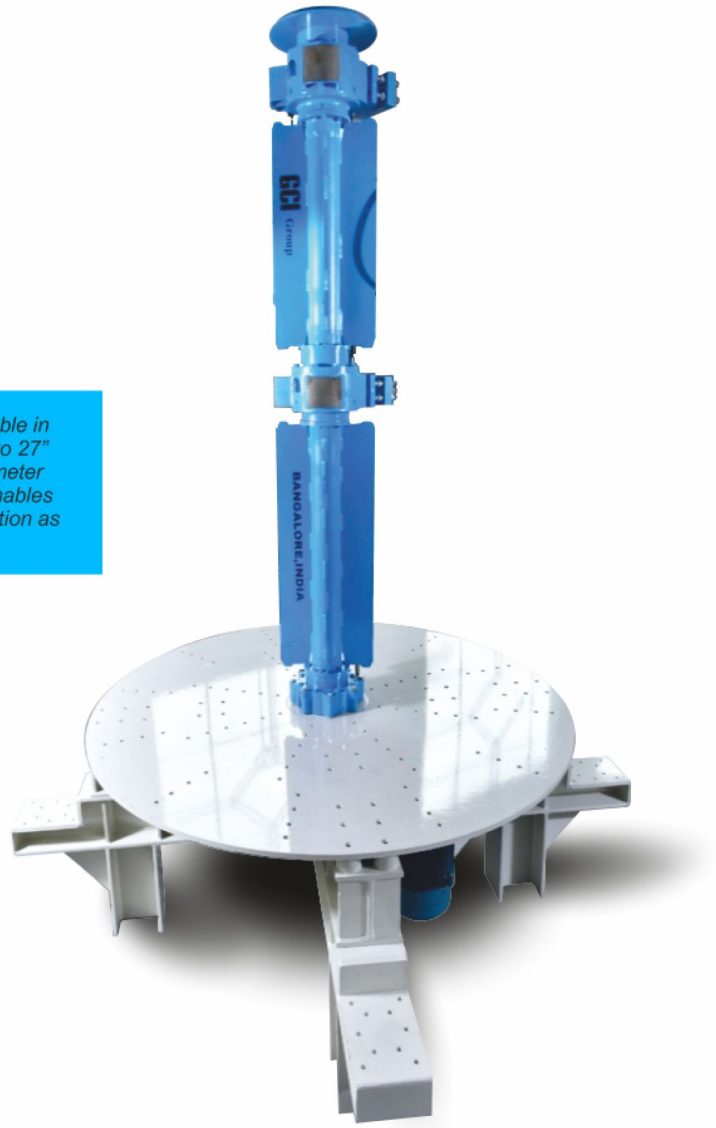
The main and feeder conveyors have vulcanized, heavy-duty conveyor belts. Proximity sensors indicate the position of the feeder conveyor index and pivot.

A heavy-duty steel pedestal, with a mount for slewing bearing supports the main conveyor and hopper. A hydraulic drive pivots the main conveyor between stations. Proportional hydraulic control valves are supplied for the main conveyor drive and pivot, in addition to the feeder conveyor drive, pivot and index. Directional valves are supplied for all other machine functions.

The frequency controlled drive feature automates the feed equipment. Feeder can manufacture circular products. The secondary feeder is programmable and can deliver concrete to non-circular shapes such as elliptical, arch and box culverts.

Central vibrator

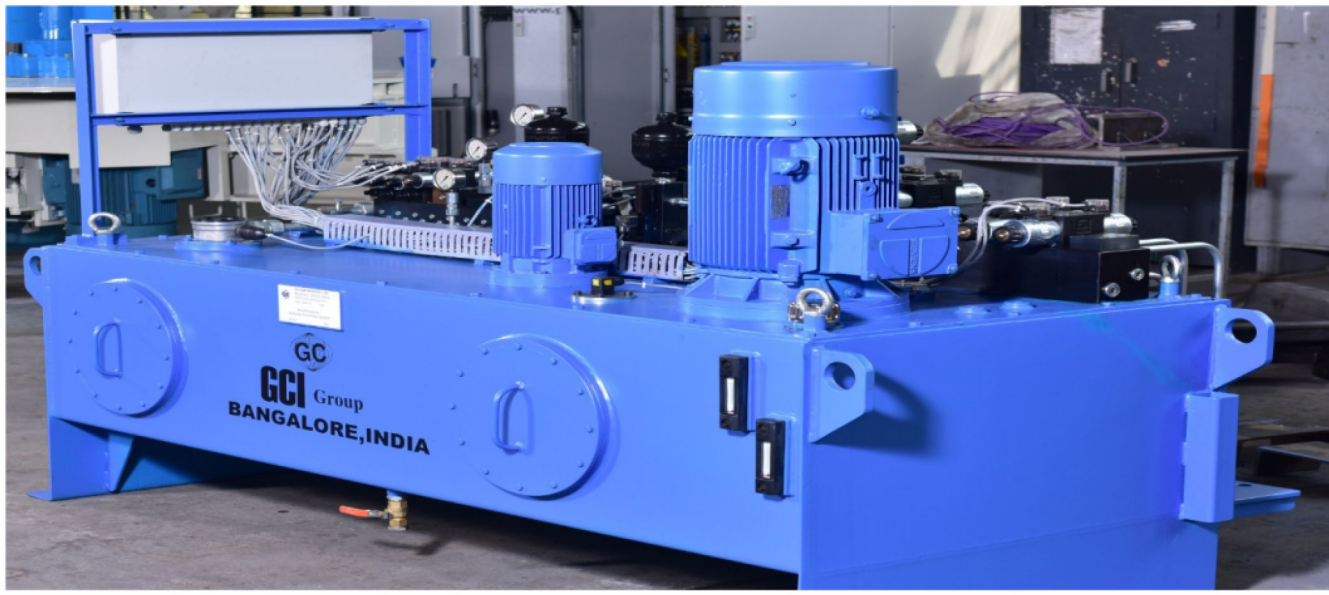
The central vibrator is available in two sizes for producing 12" to 27" diameter and 30" to 96" diameter pipes. Hydraulic pressure enables the vibrator and core to function as a single unit.



Vibrator and core function as a single unit; all functions are PLC controlled.

Hydraulic power pack

Hydraulic power pack valves are supplied for main conveyor and feed conveyor pivots and index. Directional valves are supplied for all other machine functions- arm moving and making the spigot, clamping of the vibrator with core. All functions are controlled by the PLC.



Electrical panel

PLC is housed inside the electrical control panel. This has a programmable logic control and supervises pipe production for automatic operations.

Pipe production is monitored via display units. De- molding of the final product is enabled.

Operating panel

Used for monitoring pipe production with display units. Operating panel is wired to the electrical control panel.

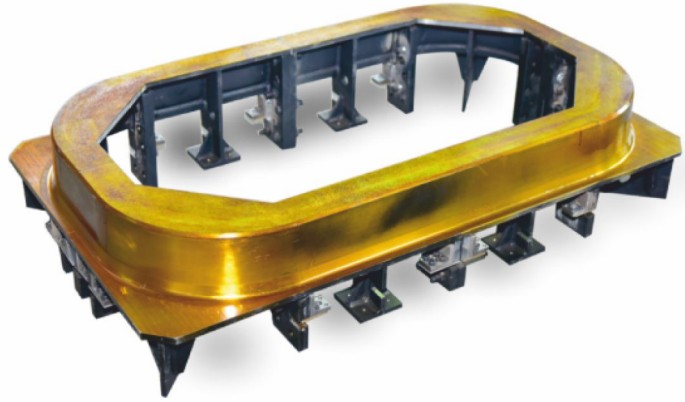
Transporting device 10pt

Mold Transporting Device: used to strip jacket off the core; enables de-molding of the final product (represented here in a client- specified color)

Formsets

Formset is well isolated from vibrations. Joint rings are available in any shape or size, depending on customer needs.

Joint rings



GCI's joint rings are put through stringent quality checks to ensure that your products will never deviate from the tolerances and specifications required.

In addition to high-quality, joint rings are available in any shape and size. They are manufactured through fabrication, or casting (ductile iron/ cast iron/ steel/ aluminium) – depending on customer needs and application.
In applications in which stay-in-place headers are not employed, spigot forming set rings are also available in fiberglass, enabling easy handling by workers, while still maintaining their dimensional integrity.
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GCI offers a complete ID range from 12″ – 160″ (250 mm – 4000 mm) with round, arch and elliptical shapes. Joint designs available include O-ring, double O-ring, single and double offset joints .

Production quantities on all CPM Machines per shift for Reinforced Concrete Pipes 2.5 m long				
	7 Hour shift		10 Hour shift	
Pipe diameter	Single machine	Double machine	Single machine	Double machine
300	45	90	64	128
350	43	86	61	122
400	42	84	60	120
450	41	82	58	116
500	40	80	57	114
600	38	76	54	108
700	36	72	51	102
800	35	70	50	100
900	34	68	48	96
1000	34	68	48	96
1100	32	64	46	92
1200	30	60	42	84
1300	28	56	40	80
1400	27	54	39	78
1500	26	52	37	74
1600	25	50	35	70
1700	24	48	34	68
1800	23	46	32	64
2000	21	42	30	60
2200	18	36	26	52
2400	16	32	22	44
2500	15	30	21	42

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