CONCRETE BATCHING PLANTS AND CONCRETE MIXERS

more than 40 years
quality
trust
experience

PROMETAL

THREE DIFFERENT TYPES OF CONCRETE MIXERS

TURBINE TYPE MIXER TM

Turbine Type Mixer comes in 8 different sizes from 175-1500 liters output. Tank walls and floor are lined in wear resistant steel plates. Rotating drive system with spring shock absorbers protects drive gearbox in case of mix blades hit any obstruction. Mixer has features like robust and space-saving drive system, multiple discharge gates, easy access to areas inside of mixer and low overall height.

PLANETARY TAPE MIXER PM

Planetary Type Mixer has three arms per star and can have one to two stars depending on model size. This system generates counter-current flow of the batch materials, this type of mixing action results in a more efficient and agressive shuffling of aggregates, which gives shorter cycle times as well as less wear. Identical floor tiles are low cost and can be individually replaced.

TWIN-SHAFT MIXER TS

Twin-Shaft mixer is ideal for precasting ready-mix concrete. Mixer has a large horizontal discharge gate and two counter-rotating mixing shafts. Its central lubrication system means low maintenance. The large number of blades, their position and their orientation guarantee the right combination between the effects of rolling and circulation of the material during the mixing action.

Prometal mixers provide wide range of opportunities to its clients for upgrading their products with accessories as skip hoists, water weighing systems, cement weigh hoppers, dust reducing airbags, high pressure wash systems, accelerated discharge blades and multiple discharge doors. Customers can modify and choose equipment that can satisfy their needs as every product is customizable so it can fit to different needments.

CONCRETE TURBINE TYPE MIXERS

The main advantages and features of TM series of mixers:

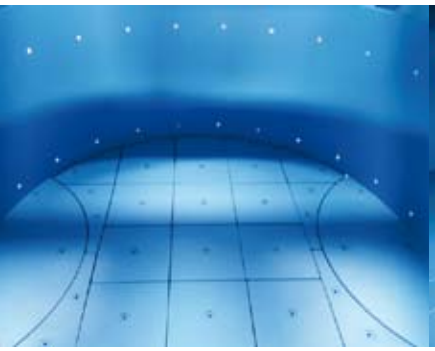
- High speed turbine concrete mixer, like the others in the family has been carefully designed and perfected over many years to be fast, rugged and reliable. The TM turbine mixer is a world class performer in the production of both wet and dry cast concrete.
- The TM's mixing action comes from the rotating blades, which are scientifically designed to push the material from the inside to the outside of the chamber and back again, whilst lifting and folding it, mixing the concrete fully in a few revolutions.
- As previously mentioned the TM's mixing arms are suspended from spring-action mounts, allowing them to ride up and over any possible obstructions without damage. The large, cool running epicyclical reduction gear is direct driven so there is no belts to wear and break.
- This type of mixer does not require extra cleanout mechanisms so cleanout can be thorough, fast and easy.
- Turbine type of mixers has best cost to profit ratio.

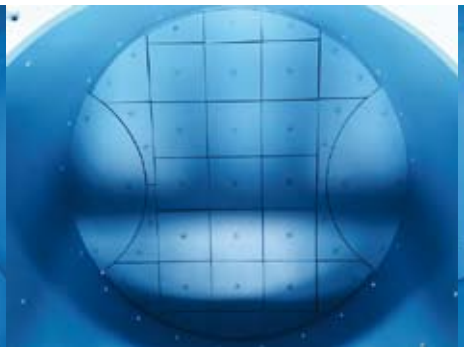
Turbine type mixers	Units	TM 250/175	TM 375/250	TM 560/375	TM 750/500	TM 1125/750	TM 1500/1000	TM 1875/1250	TM 2250/1500
Dry filling capacity	l	250	375	560	750	1125	1500	1875	2250
Concrete output per cycle (fresh concrete)	l	220	300	450	600	900	1200	1500	1800
Concrete output per cycle (compacted concrete)	l	175	250	375	500	750	1000	1250	1500
Mixing motor power	kW	7,5	9	15	18,5	30	37	45	55
Skip motor power	kW	1,5	1,5	3	5,5	5,5	10	7,5	15
Hydraulic power pack motor	kW	1,5	1,5	1,5	1,5	2,2	4	4	4
Skip volumetric capacity	l	285	410	615	825	1240	1650	2060	2475
Maximum skip load capacity	kg	350	500	750	1000	1500	2000	2500	3000
Mixing shafts speed	rpm	35	37	29	26,5	26	21	21	21
Mixing blades	N°	3	4	4	5	7	7	8	8
Scraping paddles	N°	1	1	1	2	2	2	2	2
Maximum aggregate size	mm	50	50	50	80	80	80	80	80
Weight/empty mixer (without skip)	kg	630	890	1500	2670	3240	3800	4400	4800
Weight/empty mixer (with skip)	kg	1020	1340	2040	3500	4350	5200	6600	7200

CONCRETE PLANETARY TYPE MIXERS




The planetary (or countercurrent) design has from one to two mixing stars that rotate themselves while also rotating around a central point, allowing each arm to cover the whole mixer floor in a number of revolutions. This powerful mixing action is both fast and thorough, resulting in a mixing time, after water is added, of 30 seconds or less for most types of concrete. The result is greater throughput, giving more concrete per hour for the same size plant, as well as better consistency and greater strength or, on the other hand, a saving on cement.






Planetary design is superior to turbine and twin-shaft designs for production of all types of dry-cast concrete. The reason for this is its intense mixing action, which breaks up zero-slump mix like nothing else can. Mixing blades performance is increased through thickened outer edges which equalize wear and the angle of attack to be optimized to push aggregates as it is better than just slicing material. Floor tiles and mixing blades can be made of 15 mm Ni-Hard cast iron which can result in longer life of wear parts. Floor tiles can be individually replaced.

Over 40 years of experience of producing mixers led us to path of creating virtually indestructible gearbox. Massive double horizontal design is powerful and shock resistant. Optimum lubrication is reached through the oil bath which gives cool running to every single gear. Ventilated space inside of gearbox prevent overheating and eventual breakdowns.

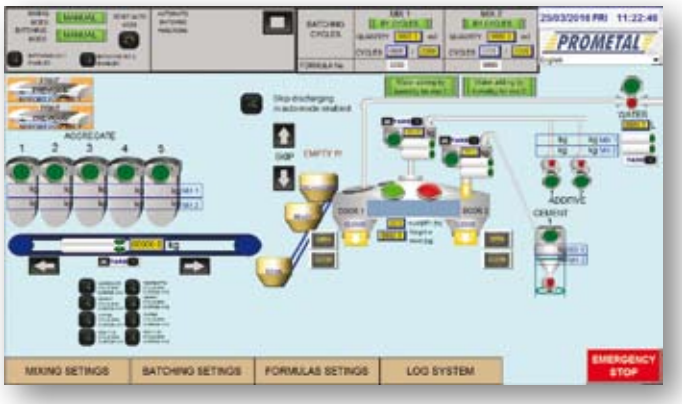
In comparison to turbine and twin-shaft mixers, planetary mixer lowers cement consumption up to 15%, because of countercurrent mixing action. Three-armed stars last longer then just two-armed stars, also provide much better mixing action. Water leaking is impossible owing to rubber sealed discharge doors which also have powerful hydraulic open and close action.

Planetary type mixers	Units	PM 375/250	PM 560/375	PM 750/500	PM 1125/750	PM 1500/1000	PM 1875/1250	PM 2250/1500
Dry filling capacity	l	375	560	750	1125	1500	1875	2250
Concrete output per cycle (fresh concrete)	l	300	450	600	900	1200	1500	1800
Concrete output per cycle (compacted concrete)	l	250	375	500	750	1000	1250	1500
Maximum load capacity	kg	600	900	1200	1800	2400	3000	3600
Skip volumetric capacity	l	412	616	825	1237	1650	2060	2475
Maximum skip load capacity	kg	500	750	1000	1500	2000	2500	3000
Inner pan diameter	mm	1260	1580	1820	2000	2200	2400	2600
Mixing motor power	kW	7,5	11	18,5	30	37	45	30+30
Skip motor power	kW	1,5	2,2	4	5,5	7,5	7,5	11
Hydraulic power pack motor	kW	1,5	1,5	1,5	2,2	4	4	4
Planetary speed	rpm	19	19	21	20	21	15	15
Spider speed	rpm	39	40	44	41	44	43+43	30+30
Skip speed	m/s.	0,25	0,25	0,25	0,25	0,25	0,25	0,25
Mixing arm	N°	3	3	3	3	3	6	6
Number of long mixing arms	N°	1	1	1	1	1	1	1
Number of short mixing arms	N°	-	-	1	1	1	1	1
Superior peripheric blade BPC	N°	1	1	1	1	1	1	1
Number of rectangular peripheral blades	N°	-	1	2	2	2	2	2
Number of peripherical blades with tail	N°	1	1	1	1	1	1	1
Number of mixing blades	N°	3	3	3	3	3	3+3	3+3
Weight of mixer without skip	kg	900	1400	2000	2700	3700	4700	6300
Weight of mixer with skip	kg	1400	2000	2700	3700	4900	5900	8400

FROM SMALL TO BIG CAPACITY CONCRETE BATCHING PLANTS

From small through medium to big concrete batching plants Prometal presents most efficient ways of production of concrete with great results of high quality concrete. Our customers can choose between 15 cubic meters per hour to 120 cubic meters per hour concrete batching plants. Long lasting structures and stable design provides our customers long term profitable investment with no regrets.

Aggregate bunker is designed and manufactured to operate under heavy working conditions for a long time. There are 2 electro-pneumatically controlled discharge gates, which provide easiness and choice in the discharge together with suitable elevation. Aggregates are weighed by 4 units of load cells.



Electric installation of concrete batching plant includes all electrical connections of voltage, controlling and part for measuring of the plant. All installations and safety devices are made by EC regulations, protection IP 67, both way of work, manual or automatic. Controlling of whole plant is done by PLC Siemens controller which gives returning connections of the system which are part of safety demands.

The cement silo is an integral piece of equipment of any concrete batching plant. Large variety of cement silo sizes provides to our customers right equipment that can suit small to big production of concrete. Cement screw conveyors are manufactured by WAM Italy as well as other cement silo equipment.



Equipment which composes concrete batching plant:

- Concrete mixer (turbine, planetary or twin-shaft)
- Platform steel structure (made and designed by customer needs)
- Mixer feeding conveyor
- Aggregate bunkers with weighing belt conveyor adapted to size of concrete batching plant
- Cement weighing hopper
- Water weighing hopper
- Additive system for dosing additives
- Cement silos with silo-top filter and cement screw conveyors
- Electric installations and controlling of batching plant with PLC Siemens controller
- Insulated control room
- Insulation construction from sandwich panels with sub construction for winter execution
- Many more equipment per customers demand.

Concrete batching plants	Units	BP 15	BP 20	BP 30	BP 40	BP 60	BP 80	BP 100	BP 110	BP 120
Capacity	m³/h	15	20	30	40	60	80	100	110	120
Batch Count	cycle /hr	60	60	60	60	60	53	50	45	40
Mixer Capacity (compacted)	m³	0,25	0,375	0,5	0,75	1	1,5	2	2,5	3
Mixer Motor Power	kW	9	15	18,5	30	37	55	2x37	2x45	2x55
Aggregate Compartments	N°	2	2-3	3-4	3-4	3-4	3-4	3-4	4-6	4-6
Aggregate Compartment Capacity	m³	8	10-15	10-15	15-20	15-20	20-30	20-30	30-50	30-50
Mixer Feeding Conveyor	mm	Skip Hoist	Skip Hoist	Skip Hoist	Skip Hoist	Skip Hoist	Skip Hoist/ 800x16000	Skip Hoist/ 800x29000	Skip Hoist/ 1000x29000	1000x31500
Cement Weigher	kg	150	170	300	400	500	750	1000	1000	1750
Water Weigher	l	70	70	160	200	250	500	700	700	1000
Additives Weigher	kg	20	20	20	20	20	20	20	20	40
Cement Screw Conveyor Diameter	mm	168	168	168	193	193	219	219	273	273
Cement Silo	t	1x30	1x30	1x60	1x60	1x60	2x60	2x60	2x100	2x100
Total Installed Power	kW	22,5	30	44	65	87	113-120	130	160	190

LAYOUT SAMPLES

Concrete batching plant
BP 20

Concrete batching plant
BP 40

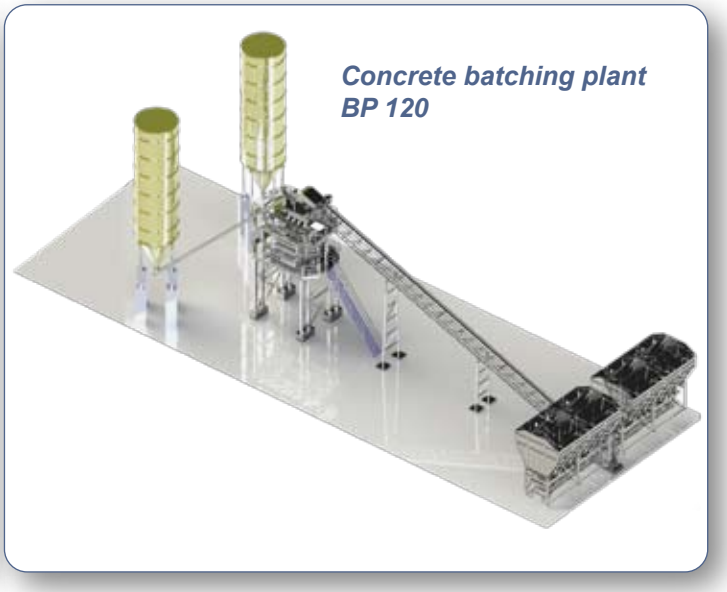
Through various types and sizes of PROMETAL concrete batching plants we provide our clients with multiple choices when it comes to building customizable concrete batching plants.

After been made and assembled by professionals, future operators are trained to be experts in operating and maintenance equipment which will bring long prosperity to owners and employees.

We are available 365 days in year in case of a problem or a question occurring. Our technical support will give you all necessary attention so we can help you in a case of any issue and give you best possible soultion.

Concrete batching plant
BP 60

Concrete batching plant
BP 120



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