











BATCHING PLANT SOLUTIONS



More than 50 years in business The high level of know-how of our have taught us that only by forging demands.

workforce ensures complete control a firm link between the client's of all processes, from design to the experience and dynamic design and after-sales service. That is why we are manufacturing can produce quality a reliable partner in the development products that fully meet market of batching plant solutions - before, during and after the sale.

<u>OUR</u> <u>COMMITMENT</u>

MISSION **& VALUES**

From the design onwards, all our products aim to combine maximum usability with minimal environmental impact. We believe by doing our best work we can contribute to making a better world.



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A passion for quality, transparency and ethical conduct that guarantees total respect for the dignity of work, people and the environment, these are the values that guide our actions.



Our solutions:

They are attained by striving to raise standards of efficiency, safety and the utmost respect for the environment.

They are created by "listening" carefully to market needs.

They draw strength from being part of a major Industrial Group.





IMER GROUP MIXERS





RELIABILITY AND PERFECT MIXING

Mixing is the most important phase in the concrete production process.

In fact, concrete **quality** and **costs** depend on **mixing** quality.

IMER GROUP mixers are the result of the meticulous and systematic analysis of problems inherent to mixing materials of different sizes, shapes, consistency and specific weight.

Extremely **sturdy**, **reliable** and **versatile**, mixers are built with non-wear materials able to reduce maintenance and be applied in multiple production fields.



ORU MD Horizontal mixers.



MIXERS



ORU MS Planetary mixers.



High quality produced concrete

STRENGTHS & MAIN FEATURES





Le Officine Riunite-Udine Spa

is ISO 9001 certified, stringently controlling incoming materials, industrial processes (design, production and shipping, the finished product and installation on the customer's premises.

Le Officine Riunite - Udine S.p.A.: ISO certified since 1996.



MIXERS

Ideal mixing arm and blade design resulting from extensive sector experience



Non-wear material linings





PLANETARY MIXERS



ORU MS planetary vertical mixers with coaxial motor can quickly mix any type of concrete with excellent results: dry, semi-dry or plastic. They are used in the readymix, pre-cast sectors and in the production of materials such as glass, ceramics, refractory material, cold asphalt, etc. 0











THE GEAR BOX

Specifically designed to equally distribute power to the various mixing parts, the gear box rotates on an **over-dimensioned thrust** bearing which, moving on the rollers, ensures silent operations without slips.

The kinematics are encased on a **special steel container** and all gears, made of 18NiCrMo5 cemented steel, are subject to heat treatments and hardening processes (tempering + air hardening) to obtain a high level of hardness that extends to the hear of the gear.

The gears are oil bathed and constantly lubricated to guarantee maximum operating efficiency.

Oil is continuously mixed from the bottom up by a specific blade and cover all parts when falling.

Oil is self-cooled thanks to the gaps in the gear box and its level is kept low (from 4 to 10 cm) thanks to the ample gear box container diameter.

Gear box bearings, specifically sturdy and long-lasting, are tested to guarantee maximum reliability in heavy-duty work cycles.











MIXING TANK, BASE AND CASE

The mixing tank is made of highly thick steel plate, suitably dimensioned and set to house various types of accessories. The base and case are divided into easy to move and interchangeable sectors. If suitably rotated, they guarantee even wear and lasting durability. The base and case covers are supplied with minimum HB500 hardness (standard version) and, upon request, sintered or polyurethane.



THE ELECTRIC MOTOR

The electric motor is coupled with the gear box by a mechanical joint or hydrodynamic joint* which protect transmission parts against overloads and shock, permitting "soft" and gradual machine start even at full load, further guaranteeing significant energy savings. High yield and reduced power absorption are the main features of the motors we use.

An inverter can be installed as an alternative to joints to control torque and drive speed during the mixing process (optional).

only with a mechanical joint.







*For ORU MS 500/330 - ORU MS 750/500 and 3750/2500 132 kW models the coupling takes place









The blade angles of incidence and profiles were carefully designed to best exploit available power, reducing mixing and discharge times to a minimum.

The entire material mass is involved thanks to ideal angling, guaranteeing high mix homogeneity. The blades are reversible to extend their working lives. Significant time savings and less wear are due to such an efficient mixing system.

Each mixing star holds two or three special steel arms with high elasticity, according to the model.



The rounded arm shape contributes to the lack of material accumulation during the mixing and discharge phases. The arms are coated with **non-wear lining** that guarantees "almost eternal" durability. Thanks to the fall stop system, arm regulation is simple, fast, perfect and safe. The scraper blades actively contribute to mixing, preventing material accumulation on the walls.

All blades can be made of cast iron or, upon request, elastomer with surface coating. Blade rotation and revolution speeds were designed to provide high productivity without creating material segregations with different specific sizes and weights.

gradual and continuous.

The graphic representation of a computerized technical analysis indicates how, after just one gear box revolution, the blades fully cover the entire mixing tank surface in their movement.





MIXERS

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Material movement in the tanks is gentle,



WATER EMISSION

The machine is set to be equipped with almost any automatic water dosing system (by weight or volume). Water is emitted by a series of adjustable nozzles that distribute water over the entire mix surface. Recycle water is directly emitted by a blade sprayer using a timed dosing system

(upon request).





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The wide opening angle on the covers permits easy access to the mixer interior. The lack of sharp corners and the rounded shape of the arms permit easy and fast cleaning.

DISCHARGE

The mixer **discharges** through a circular sector door driven by an oil hydraulic cylinder. The door seal is made up of polyurethane gaskets. The door can be manually opened by a hydraulic pump in the event of emergency.













<u>ORU MS P</u>

(ORU MS 500/330P AND 750/500P)

These two machine models are dimensionally and external the same as standard mixers of the same size, but have a different internal layout.

The standard planetary mixer mainly mixes concrete with two principles:
Evolution from the outside in and vice versa;
Overturning material from the bottom up.

In addition to these two principles, "**P**" version machines apply a centrifugal action able to move material from the top down.

Thanks to a whisk, the **"P" version** is able to obtain a **very homogeneous mix** with lightweight inert substances, especially suited for bi-component objects and, specifically, finishing mixes for prestigious or visible surfaces.

Installed power and mixing times do not vary from the standard range.

INSPECTION DOOR

At cover level.

SAFETY SYSTEM WITH KEY CODE

Safe access door opening device.





CONCRETE PICKING DEVICE

For laboratory tests and special products (optional).











COMPLETE LIST OF ACCESSORIES FOR ORU MS MIXER

- AUTOMATIC HIGH PRESSURE MIXER CLEANING SYSTEMS
- <u>AUTOMATIC MICROWAVE HUMIDITY DETECTION SYSTEMS</u>
- HOT WATER OR STEAM HEATING SYSTEMS
- COOLED WATER OR ICE COOLING SYSTEMS
- INERT/SKIP/CONVEYOR BACKUP HOPPER
- CONCRETE BACKUP HOPPER
- ADDITIVE SYSTEM BY WEIGHT, VOLUME OR TIMED
- LIQUID OR POWDER COLOUR DOSING SYSTEM
- DUST VACUUM AND RECOVERY SYSTEM

- UP TO TWO ADDITIONAL CIRCULAR SECTION DISCHARGE DOORS DRIVEN
- BY OIL HYDRAULIC CYLINDER WITH PARTIAL OR FULL OPENING
- <u>AIRBAG</u>
- <u>CONCRETE SAMPLING DEVICE</u>
- HARD SINTERED METAL BASES AND CASE
- MIXING BLADES WITH ELASTOMER OR VIDIA METAL SURFACE COATINGS
- METALLIC FIBRE DOSING SYSTEM
- PLASTIC FIBRE DOSING SYSTEM
- <u>TEMPERATURE PROBES</u>
- <u>1 OR 2 COMPARTMENT CEMENT SCALE</u>



Technical specifications

DRU MS RANGE		oru ms 500/330	ORU MS 500/330P	ORU MS 750/500	ORU MS 750/500P	ORU MS 1200/800	ORU MS 1500/1000	ORU MS 2250/1500	ORUMS 2250/1500S	ORUMS 3000/2000	ORUMS 3750/2500
oad capacity	Ι	500	500	750	750	1200	1500	2250	2250	3000	3750
.oad capacity	kg	790	790	1200	1200	1900	2400	3600	3600	4800	6000
Soft yield	I	478	478	725	725	1160	1450	2175	2175	2900	3625
/ibrated yield	l/kg	330	330	500	500	800	1000	1500	1500	2000	2500
1 Nixing and discharge time	sec.	45	45	45	45	46	45	60	45	60	60
Stars and blades	n.	1x3	1x2	1x3	1x2	1x3	2x2	2x2	2x2	3x2	3x2
Scraper blades	n.	1	1	1	1	1	1	1	1	1	1
langent blades	n.	-	-	-	-	-	1	1	1	2	2
Differential case	r.p.m.	16	16	16	16	14.7	12.4	10.4	12.4	10.4	10.4
Star	r.p.m.	46	46	46	46	44.5	42	35.4	42	35.4	35.4
1ixing power	kW	15	15	18.5	18.5	30	45	55	75	110	110/132*
)il hydraulic unit power	kW	2.2	2.2	2.2	2.2	3	3	3	3	3	3
deight	kg	1800	1900	2000	2100	3500	4800	5500	5600	8800	8800
dhisk (r.p.m.)	r.pm.	-	150	-	150	-	-	-	-	-	-

* 110 kW S3 - S4 concrete / 132 kW with inverter S1 - S2 concrete









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Dimensions (mm)

	ORU MS 500/330	ORU MS 500/330P	ORU MS 750/500	ORU MS 750/500P	ORU MS 1200/800	ORUMS 1500/1000	ORU MS 2250/1500	ORU MS 2250/1500S	ORU MS 3000/2000	ORUMS 3750/2500
Α	1600	1600	1850	1850	2200	2450	2750	2750	3300	3300
В	1540	1540	1705	1705	1995	2240	2350	2350	2550	2860
С	650	650	700	700	760	805	805	805	835	835
D	390	390	520	520	590	580	730	730	860	860
E	900	900	1025	1025	1220	1350	1495	1495	1770	1770
F	565	565	615	615	695	795	795	795	910	910
G	120	120	120	120	140	140	160	160	200	200
Н	2480	2480	2490	2490	3045	3330	3360	3360	3825	4170
К	1190	1190	1500	1500	1540	1650	2050	2050	2120	2400
M	1035	1035	1195	1195	1385	1555	1820	1820	2020	2020
Р	1200	1200	1200	1200	1400	1700	1700	1700	1900	1900
Q	550	550	600	600	725	850	850	850	1290	1290











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HORIZONTAL DUAL AXIS MIXERS

ORUMD

The horizontal dual axis mixing line, due to our experience in the pre-mixing sector and introduced technological innovations, is able to package any type of concrete (civil and industrial constructions, dams, lightweight concrete with low specific weight additives, mixes for foundations and stabilisers).

The ORU MD mixer line is in opposite directions.

It is mainly characterised by:

- over-dimensioned tank
- maximum durability
- highly reliable seal systems
- above-average durability for parts



equipped with two horizontal mixing axes rotating in in-sync



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MIXING <u>TANK</u>



The mixing tank is expanded in relation to the amounts to be mixed to quickly obtain a high quality mix.

The mixing tank is made with larger press-bent edges to simultaneously provide the structure with sturdiness and elasticity.

The tank lining is made up of small bolted and interchangeable elements, made of **special** non-wear steel. Their rotation in the various positions significantly lengthens working life.







<u>SEAL</u> <u>SYSTEMS</u>

The seal systems installed on our machines' mixing axes are fully reliable.

The automatic and centralised lubrication system, equipped with 4 independent pumps, is highly efficient and its action, combined with our seal system, significantly reduces maintenance.





MIXING BLADES AND ARMS

The **arms** are protected by easy to replace **non-wear plates** that help to improve mixing, thanks to the larger contact area, while they avoid arm wear during the premixing process.

The blades, installed on the arms, are made of **non-wear high resistance steel** with a profile designed to **optimise performance** and reduce mixing time. The **blade and arm tilt** causes the mix to move according to to two counter-rotating propellers, partially overlapping, to obtain completely forced mixing, both horizontal and vertical.

Any lightweight material centrifuge and floating separation phenomenon is excluded.

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GEAR BOXES

Gear boxes are equipped with infeed pinion set with an expanded service factor to eliminate any possible overheating even in heavy-duty work conditions.

DISCHARGE DOOR

The discharge door is equipped with interchangeable lining, adjustable contrast blades and a gasket system able to guarantee an excellent seal even with very fluid mixes. The door extends over the entire length of the mixing tank and permits full and fast discharge. The door can be manually opened by a hydraulic pump in the event of emergency.





OPENINGS AND INSPECTION DOORS

Inspections and maintenance are made easy by the large openings and doors with protection grates. All elements meet the most stringent international safety regulations.

<u>4-PUMP LUBRICATION SYSTEM</u>



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WATER SYSTEM

The system permits even water distribution over the entire surface, guaranteeing fast mix homogenisation.







COMPLETE LIST OF ACCESSORIES FOR ORU MD MIXER

- AUTOMATIC HIGH PRESSURE MIXER CLEANING SYSTEMS
- <u>AUTOMATIC MICROWAVE HUMIDITY DETECTION SYSTEMS</u>
- HOT WATER OR STEAM HEATING SYSTEMS
- <u>COOLED WATER OR ICE COOLING SYSTEMS</u>
- INERT/SKIP/CONVEYOR BACKUP HOPPER
- <u>CONCRETE BACKUP HOPPER</u>
- ADDITIVE SYSTEM BY WEIGHT, VOLUME OR TIMED
- LIQUID OR POWDER COLOUR DOSING SYSTEM

- DUST VACUUM AND RECOVERY SYSTEM
- BLADES THICKENED WITH 500 HB OR HIGH RESISTANCE CHROME CAST IRON
- <u>AIRBAG</u>
- <u>AUTOMATIC AND CENTRALISED LUBRICATION SYSTEM</u>
- TEMPERED STEEL TANK LINING
- <u>CLEANING RINGS</u>
- SECOND DOOR INSTALLATION UPON REQUEST





Technical specifications

ORU MD RANGE		ORU MD 3000/2000	ORU MD 3750/2500	ORU MD 4500/3000	ORU MD 5000/3350
Load capacity	Ι	3000	3750	4500	5000
Load capacity	kg	4740	5930	7100	7900
Vibrated yield		2000	2500	3000	3350
Cycle time	sec.	55	60	65	70
Max inert size	mm	0-150	0-150	0-150	0-150
Mixing power	kW	2x37	2x45	2x55	2x65
Mixing blades	n.	12	16	20	20
Oil hydraulic unit	kW	1.5	1,5	1,5	1,5
Skip load capacity	1	3000	3750	4500	5000
Standard skip speed	m/min	35	35	37	37
Skip power	kW	30	37	45	55
Weight (without Skip)	kg	7100	8200	9300	9500











Dimensions (mm)

	ORU MD 3000/2000	ORU MD 3750/2500	ORU MD 4500/3000	ORU MD 5000/3350
A	2800	3280	3780	3830
В	1580	1580	1580	1580
C	2460	2460	2460	2460
D	1800	1800	1800	1800
Е	1650	2120	2590	2590
Ι	1120	1120	1120	1120
R	660	660	660	660



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<u>SKIP</u>

Our mixing machines can be feed by conveyor belt or **skip**.

The **skip** is designed according to the type of system and mix can be discharged by gravity through the specific door or by **skip** tipping.

The skip is driven by two cables wrapped on a grooved drums and slides on **tracks** thanks to 4 internal and 2 external wheels made of special steel.

The stroke is extremely **fluid and** stable. Skip drive can also be at different speeds according to system configuration.

A tested fall.stop system holds the **skip** and thus prevents serious damages to the system even when inappropriately used or negligent maintenance causes the lifting cable to break.



A mechanical and electronic device system guarantees cable safety and durability, indicating any faults during operations.

Upon request, the **skip** can be supplied with a vibrator and non-wear or non-stick lining (special steel or polyurethane).















Technical specificat	ions -	Skip
SKIP ORU MS RANGE		500 /330
Max Skip loading	kg	725

Standard ascent/descent speed

m/sec kW

33 7,5

SKIP ORU MD RANGE		3000 /2000
Max Skip loading	kg	4000
Standard ascent/descent speed	m/sec	35,5
Standard power	kW	30

* with inverter

Standard power





750 /500	1200 /800	1500 /1000	2250 /1500	3000 /2000	3750 /2500*
1100	1650	2200	3300	4400	5000
33	33	33	33	33	35,5
9	15	18,5	22	30	37

3750 /2500*	5000 /3350*
5000	6700
35,5	37
37	55



Concept & design: Emporio ADV Photo: Gabriele De Nardo; Le Officine Riunite - Udine S.p.A. Archive

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