

MIXERS

RELIABILITY AND PERFECT MIXING

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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 MS
Planetary mixers.



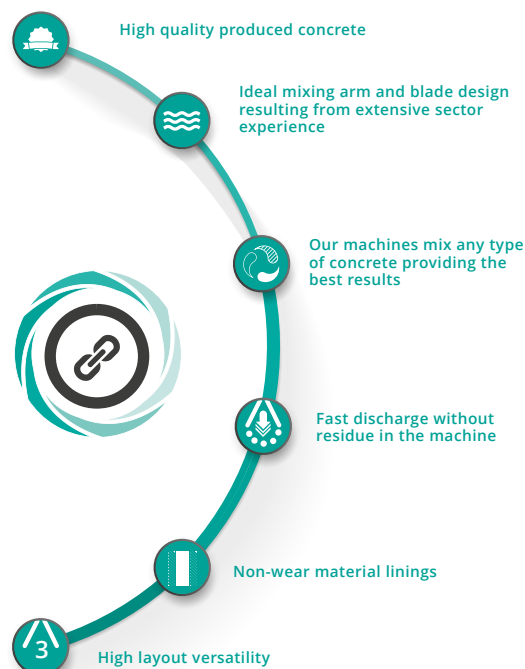
ORU MD
Horizontal mixers.

STRENGTHS & MAIN FEATURES

All **IMER Group** mixers are made in full compliance with European directives and UNI EN 1088 European regulations on the health and safety of workers, and the safety of construction sites.

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.



PLANETARY MIXERS

ORU MS

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 ready-mix, pre-cast sectors and in the production of materials such as glass, ceramics, refractory material, cold asphalt, etc.



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 heart 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).

*For ORU MS 500/330 - ORU MS 750/500 and 3750/2500 132 kW models the coupling takes place only with a mechanical joint.



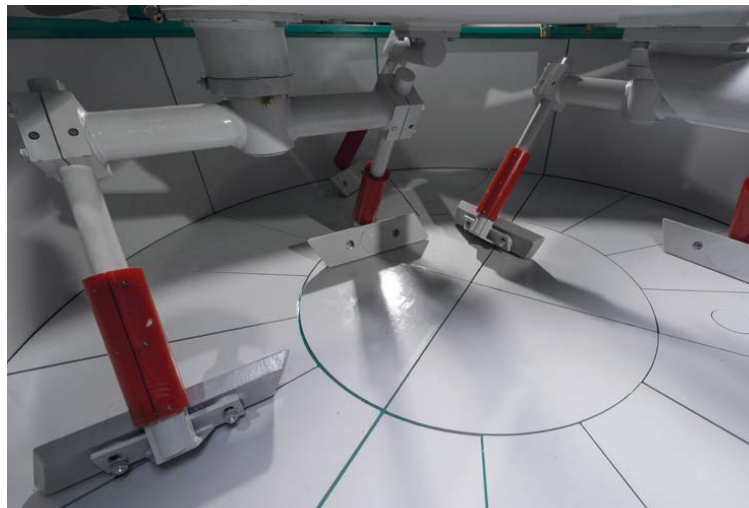
MIXERS

SCRAPER AND MIXER BLADES



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.

Material movement in the tanks is gentle, 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.

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

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.

CLEANING AND MAINTENANCE EASE



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.

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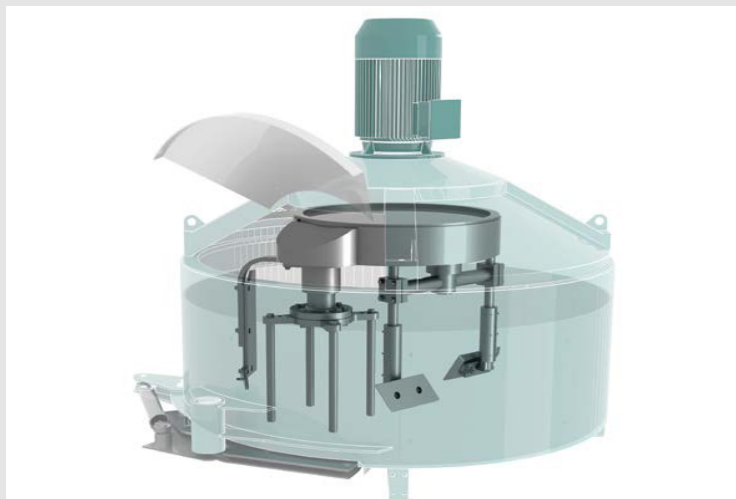
ORU MS P



(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
- Automatic microwave humidity detection systems
- 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

- Airbag
- Concrete sampling device
- Hard sintered metal bases and case
- Mixing blades with elastomer or vidia metal surface coatings
- Metallic fibre dosing system
- Plastic fibre dosing system
- Temperature probes
- 1 or 2 compartment cement scale



Technical specifications

ORU MS RANGE		ORUMS 500/330	ORUMS 500/330P	ORUMS 750/500	ORUMS 750/500P	ORUMS 1200/800	ORUMS 1500/1000	ORUMS 2250/1500	ORUMS 2250/1500S	ORUMS 3000/2000	ORUMS 3750/2500
Load capacity	l	500	500	750	750	1200	1500	2250	2250	3000	3750
Load capacity	kg	790	790	1200	1200	1900	2400	3600	3600	4800	6000
Soft yield	l	478	478	725	725	1160	1450	2175	2175	2900	3625
Vibrated yield	l/kg	330	330	500	500	800	1000	1500	1500	2000	2500
Mixing 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
Tangent 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
Mixing power	kW	15	15	18.5	18.5	30	45	55	75	110	110/132*
Oil hydraulic unit power	kW	2.2	2.2	2.2	2.2	3	3	3	3	3	3
Weight	kg	1800	1900	2000	2100	3500	4800	5500	5600	8800	8800
Whisk (r.p.m.)	r.p.m.	-	150	-	150	-	-	-	-	-	-

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

Dimensions (mm)

	ORUMS 500/330	ORUMS 500/330P	ORUMS 750/500	ORUMS 750/500P	ORUMS 1200/800	ORUMS 1500/1000	ORUMS 2250/1500	ORUMS 2250/1500S	ORUMS 3000/2000	ORUMS 3750/2500
A	1600	1600	1850	1850	2200	2450	2750	2750	3300	3300
B	1540	1540	1705	1705	1995	2240	2350	2350	2550	2860
C	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
H	2480	2480	2490	2490	3045	3330	3360	3360	3825	4170
K	1190	1190	1500	1500	1540	1650	2050	2050	2120	2400
M	1035	1035	1195	1195	1385	1555	1820	1820	2020	2020
P	1200	1200	1200	1200	1400	1700	1700	1700	1900	1900
Q	550	550	600	600	725	850	850	850	1290	1290

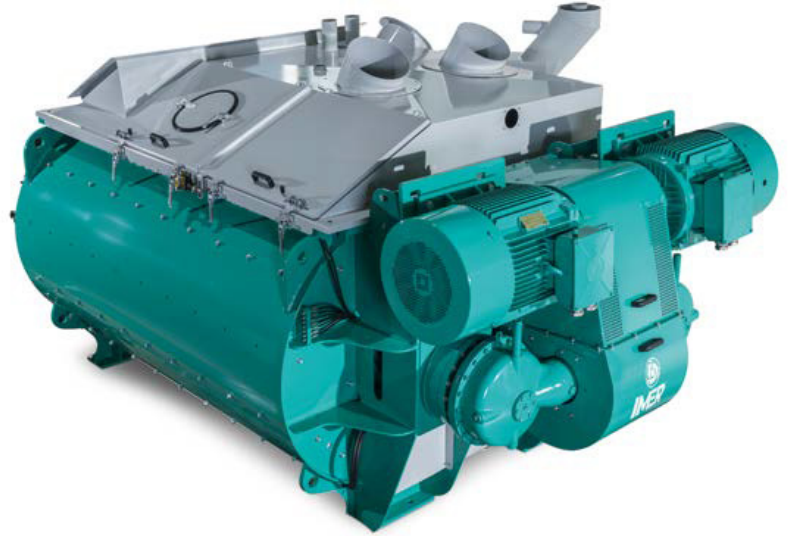


HORIZONTAL DUAL AXIS MIXERS

ORU MD

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 equipped with two horizontal mixing axes rotating in in-sync in opposite directions.



It is mainly characterised by:

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



MIXING TANK

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

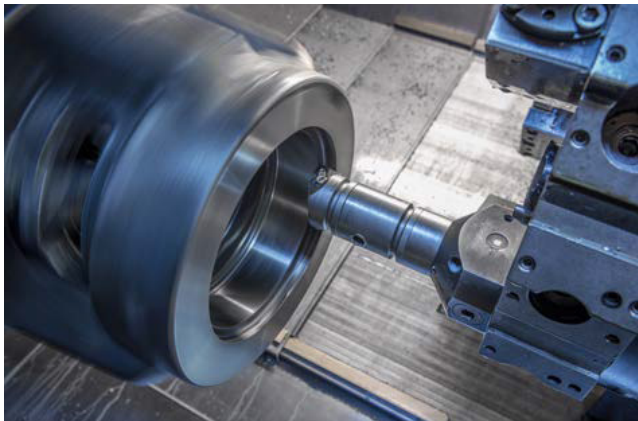
The mixing tank is made with larger press-bent edges to simultaneously provide the structure with sturdiness and elasticity.

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.

SEAL SYSTEMS

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.



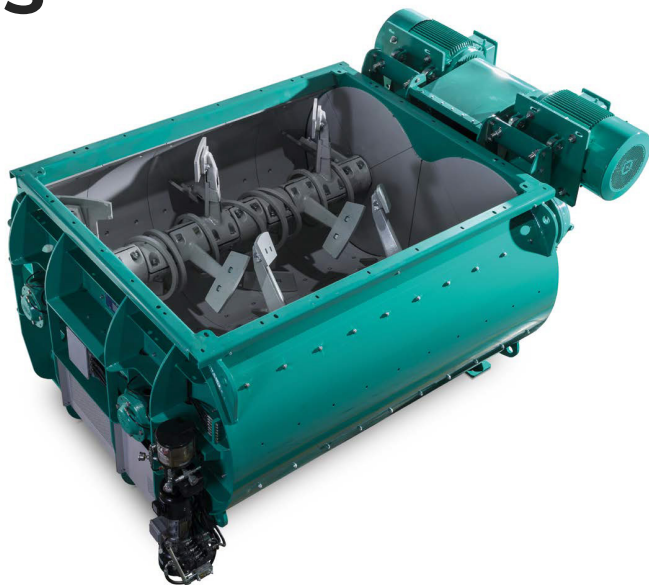
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MIXING BLADES AND ARMS

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 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.



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.



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.



4-PUMP LUBRICATION SYSTEM



WATER SYSTEM

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



MIXERS

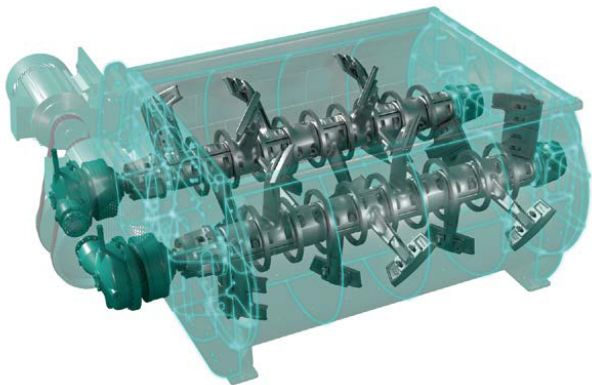
COMPLETE LIST OF ACCESSORIES FOR ORU MD MIXER

- Automatic high pressure mixer cleaning systems
- Automatic microwave humidity detection systems
- 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
- Blades thickened with 500 hb or high resistance chrome cast iron
- Airbag
- Automatic and centralised lubrication system
- Tempered steel tank lining
- Cleaning rings
- Second door installation upon request



Technical specifications

ORU MD RANGE		ORUMD 3000/2000	ORUMD 3750/2500	ORUMD 4500/3000	ORUMD 5000/3350
Load capacity	l	3000	3750	4500	5000
Load capacity	kg	4740	5930	7100	7900
Vibrated yield	l	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	l	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)

	ORUMD 3000/2000	ORUMD 3750/2500	ORUMD 4500/3000	ORUMD 5000/3350
A	2800	3280	3780	3830
B	1580	1580	1580	1580
C	2460	2460	2460	2460
D	1800	1800	1800	1800
E	1650	2120	2590	2590
I	1120	1120	1120	1120
R	660	660	660	660

