UK

TURBINE MIXER SAM

DISA

Concept and features

The concept of the DISA Turbine Mixer SAM is based on extensive experience and systematic trials. It considers all the aspects of modern sand preparation techniques and it creates the conditions for a perfect mix with uniform properties: by full homogenization of the sand and effective integration of water, bonding clay and additives.

Fast, accurate and uniform sand preparation

The design fulfils all the requirements for excellent sand quality, which is essential for the consistent production of high quality castings. Turbine mixers from DISA make quick and intensive preparation possible. Further they offer technical advantages, which are reflected in reduced preparation costs.

The important features are:

- Low maintenance, ease of access to all wear parts for quick replacement.
- Particularly economical operation due to high throughput rate and high energy efficiency.
- Homogeneous moulding sand of consistently high quality.
- High throughput rate and short mixing cycles due to controlled material feed and intensive preparation.
- High processing efficiency and low bentonite requirement.
- Optimum integration into any sand circulation system.
- High degree of operational safety.
- Environment-friendly operation, no dust leakage or loss of fines.
- Rugged design allows direct installation; no need for underpinning with vibration mounts.

Integrated mixer solutions

Dosing, mixing and moistening can take place in an integrated form when the sand mixer is equipped with a Sand Multicontroller. Important sand properties such as compactability and mould strength are automatically controlled and regulated to the desired value.

Effective mixing time

Effective mixing time is increased by using a generously sized charging system in combination with a large discharge opening in the mixer bottom.

Short cycle times

Short cycle times result in high output rates, coupled with a limited temperature increase. The design of the mixer is compact, which favourably influences price and installation cost.

Mixing intensity/uniformity

High-intensity mixing is achieved, but each ingredient is treated carefully. This results in minimal degradation of sand grains.

Uniform covering of all sand grains with bentonite and other additives ensures maximum bonding forces, thereby reducing costs for excess bentonite and additives.

Design and function

Energy efficiency

By reducing the mass of moving parts, effectiveness of the supplied energy is improved. This increases energy efficiency or, stated differently, the required energy per ton of prepared sand decreases.

Easy maintenance

Good accessibility, easy parts exchange and reduced maintenance requirements mean more uptime and faster service.

Design and function

The mixer housing with stationary wall and bottom is a rigid, self-supporting unit. Mixer wall and bottom are equipped with wear plates to minimize the abrasive effect of the sand. Sampling devices for the control of sand properties can easily be added.

The mixing turbine and the wall scraper are equipped with wear-resistant blades. The specially designed blades are easily changed. The wall scraper and plough direct the sand into the operating area of the turbine to ensure intensive mixing. Water is sprayed into aerated sand and uniformly and rapidly dispersed throughout the sand-bentonite mix. This ensures consistent sand quality from batch to batch with minimal variations.

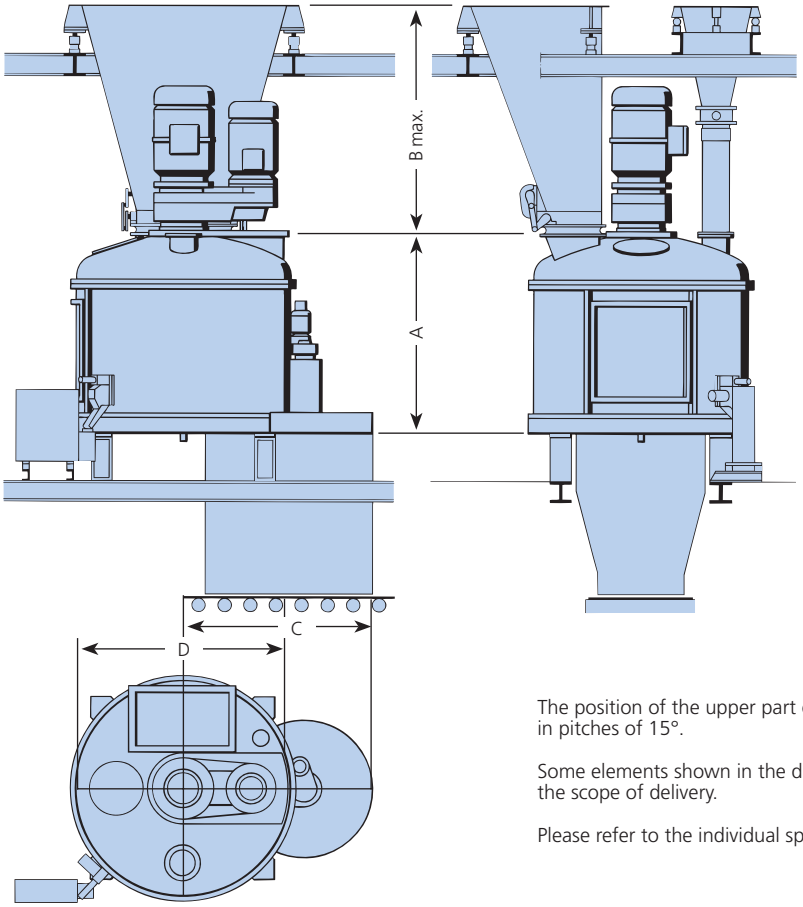
4 sizes (a total of 13 mixer types) ensure that the different capacity requirements can be ideally covered for throughput quantities of 15 to 150 t/hr with batch weights from 500 to 5000 kg.

Optional ceramic lining

The mixing chamber is available with ceramic lining (walls and bottom) which reduces the wear considerably. The ceramic lining increases the utilization of the mixing energy as the frictional resistance is also reduced.

SAM turbine mixer
with Sand Multicontroller

Technical Data



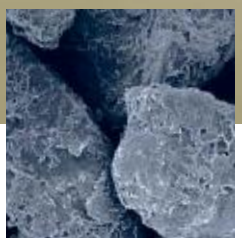
The position of the upper part of the mixer can be fixed in pitches of 15°.

Some elements shown in the drawing may not be part of the scope of delivery.

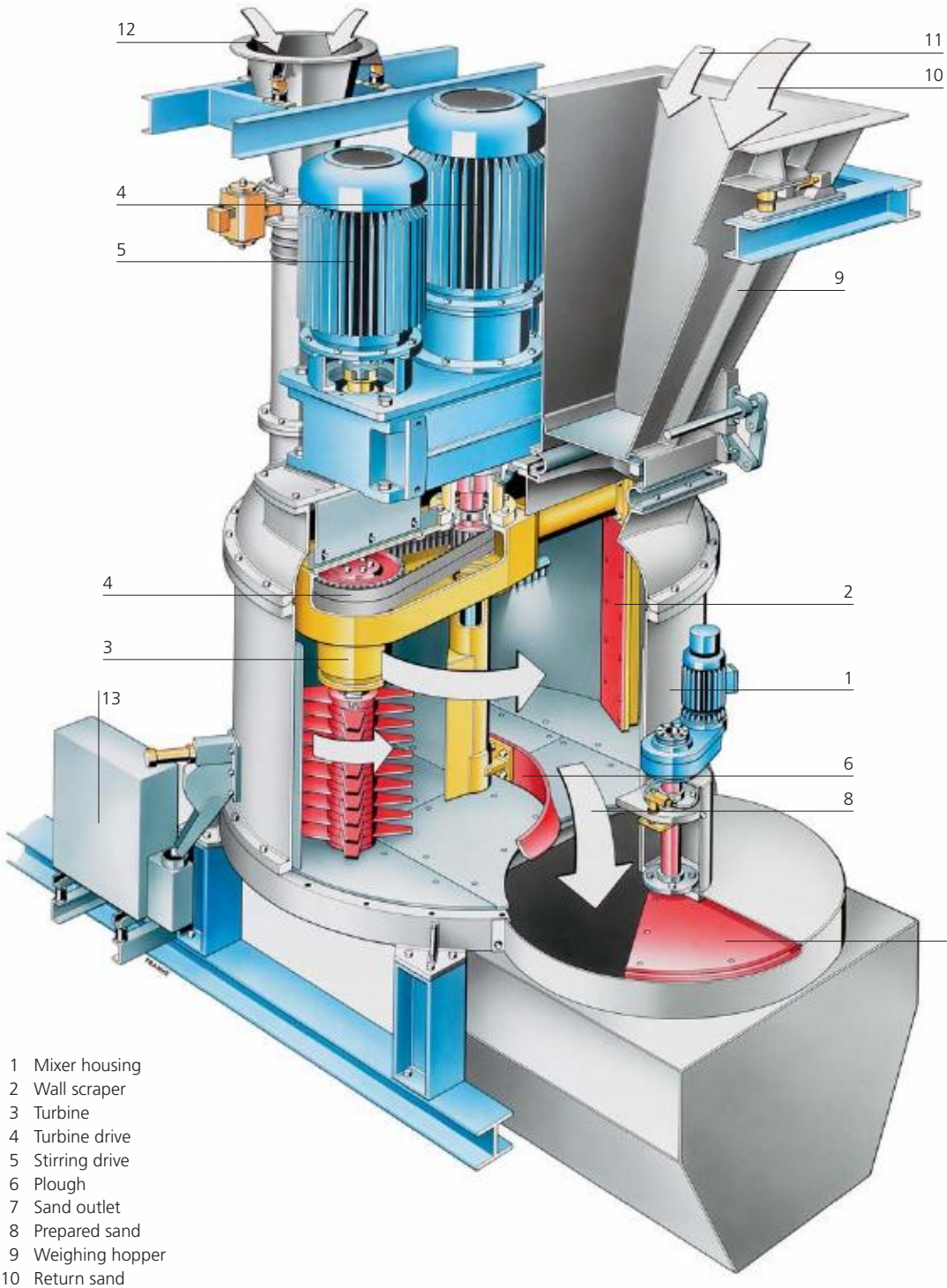
Please refer to the individual specifications.

Type	Mixing* Throughput t/h	Charge kg	Motor power (kW) Turbine	Motor power (kW) Stirring	Dimensions (mm) A	B	C	D	Weight kg
SAM-3-20	15	500	30	18.5					5000
SAM-3-30	22.5	750	45	22	1650	1900	1500	1600	5000
SAM-3-40	30	1000	55	30					5000
SAM-6-50	38	1250	75	37					8000
SAM-6-60	45	1500	90	45	1850	2125	1850	2000	8000
SAM-6-70	53	1750	110	55					8000
SAM-10-85	64	2125	110	55					11000
SAM-10-100	75	2500	132	75	2225	2320	2200	2400	11000
SAM-10-120	90	3000	160	90					11000
SAM-16-140	105	3500	200	110					18000
SAM-16-160	120	4000	200	132	2475	2515	2500	2700	18000
SAM-16-180	135	4500	250	200					18000
SAM-16-180S	150	5000	250	200	2580	2620	2500	2700	18000

* Depending on water content and sand properties.



Uniform Sand Preparation



1 Mixer housing
2 Wall scraper
3 Turbine
4 Turbine drive
5 Stirring drive
6 Plough
7 Sand outlet
8 Prepared sand
9 Weighing hopper
10 Return sand
11 New sand
12 Additives, weighing hopper
13 Sand Multicontroller

DISA Group

Founded in 1900, DISA is the world's leading supplier of foundry equipment and metal surface finishing systems.

With factories, sales and service offices in three continents and an extensive agent network, DISA serves international industrial manufacturers, foundries and metalworking industries with leading edge technology and service solutions tailored to their specific needs.

For more information please visit
www.disagroup.com

DISA

DISA Industries A/S
Herlev Hovedgade 17
DK-2730 Herlev
Denmark

Tel +45 44 50 50 50
Fax +45 44 94 52 25
www.disagroup.com

06.07 · kogp.dk · 10180