

Specification for Mixer

Sr No.	Description	Requirement
1.	General Description	A vertical mixer with planetary action. It should be suitable for vacuum operation and explosion proof class. The discharge of mixed material should be from bottom and mixing vessel bottom should be equipped with appropriate valve type. The mixing vessel bottom ensures complete discharge of mixed material from bottom. The agitator motion allows no dead end for mixing. The clearance between vessel walls (side & Bottom) & agitator blades should be appropriate (at least 10mm). The mixer is to be used to mix solid and liquid components.
2.	Vertical planetary mixer with mixing vessel & vacuum system	Qty = 01
3.	Mixing vessel working capacity:	20-150 Gallons (approx: 550 litre)
4.	Model	Ross /Nauta Mixer/ equivalent
5.	Mixing material	Mainly polyurethanes binder contents & Energetic material. (Max viscosity = 20,000 Poise)
6.	Heating & Cooling	Jacket to be provided in vessel for heating & cooling purpose (10-90 Celsius).
7.	Gauge	Temperature & vacuum gauge
8.	Ports at vessel's top	Charge port, vacuum port & sight glass
9.	Agitator	Agitator of variable speed.
10.	Mixing vessel design & material of construction	Vessel design is to ensure no contamination of material occurs in it. Vessel inside body finish aids in easy discharge of material through its bottom. Material of construction of all wetted parts should be S.S 304/316 L. The vessel should be detachable from mixer when required and should be equipped with Polyurethane wheels with locking mechanism.
11.	Motor	Motors and all electrical connections should be compatible for ATEX zone EExdIICT4 and IP66.
12.	Vacuum system	Vacuum system including vacuum pump (compatible with ATEX zone EExdIICT4 and IP66) and SS 316/304 buffer tank is required.
13.	Mixer lid & seal	Suitable for under vacuum operation. Isolation between process and gear area is required.



14.	Blade type	Suitable for specified mixing material. The method of blade attachment should not use pins/keys.
15.	Parts Finishing	All parts in contact with mixing material should be smooth & polish finish. No sharp edges are acceptable.
16.	Scraper (If required)	Scraper with replaceable Teflon blade.
17.	Bottom Discharge Valve type	Mixing vessel should be equipped with bottom discharge valve of 2 inch size. Bottom discharge valve should be suitable for hazardous, sticky and viscous material. Valve orientation should not allow dead end for mixing & easy for disassembling and cleaning. It should directly fit the discharge opening at vessel's bottom.
18.	Control system/Safety interlock	Safety limit switches to ensure safe operation. Control panel with push buttons for operation, Emergency stop, voltmeter, ammeter & RPM meter. All electrical components should be of EExDICT4 and IP66.

Note

- Technical literature, product details, manufacturing drawing specific to quoted product and detail of origin are to be provided with quotation.
- Construction drawings for mixer including mixing vessel, agitator & bottom discharge valve are to be provided with quotation

Documentation

- The supplier will provide the following documents/drawing in original with soft copy.
 1. Mechanical operation and maintenance manuals.
 2. Electrical operation and maintenance manuals along with electrical and instrumentation/control drawings and procedures.
 3. Any other document which deemed necessary for the operation and maintenance of the mixer.

Pre-Shipment Inspection/Training

The supplier will arrange the inspection of two engineers at manufacturer's premises for one week. Traveling/boarding/lodging will be borne by the purchaser.