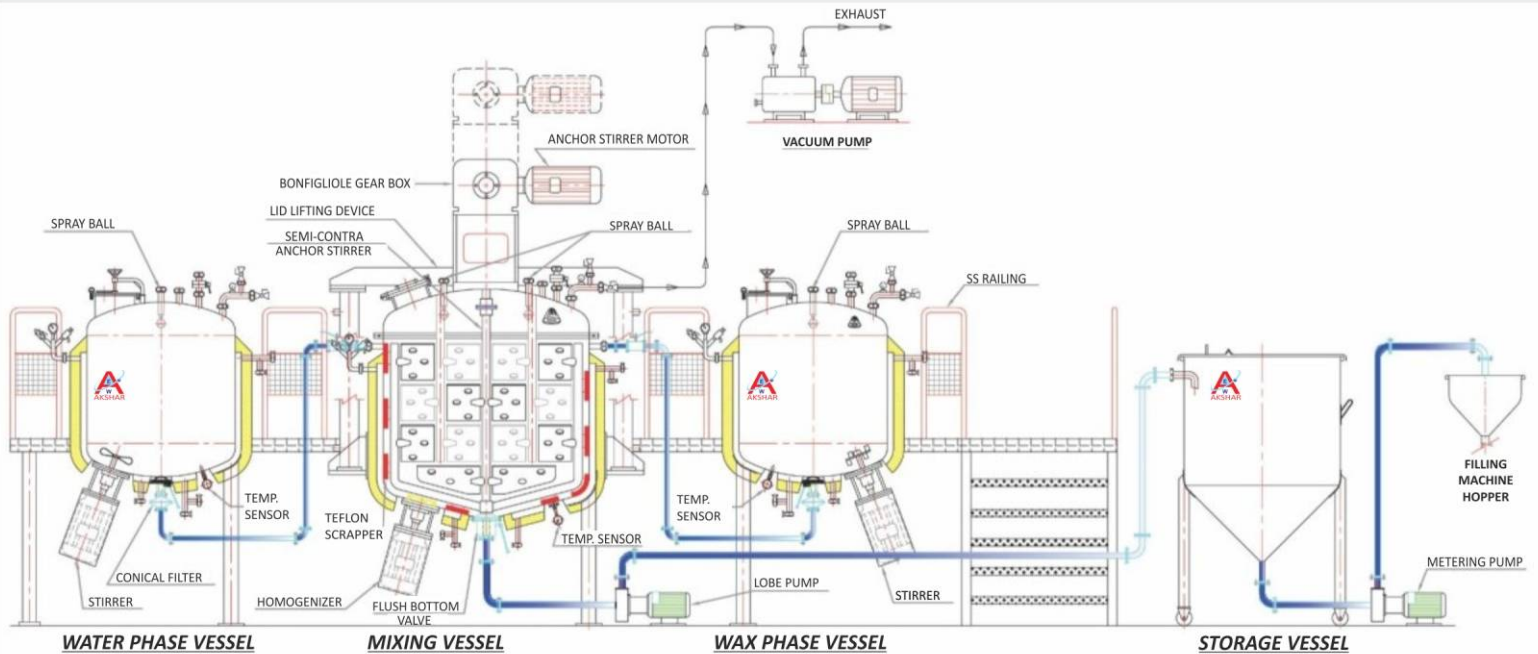




Akshar Engineering Works

Mfg. & Exp. of Filtration Equipments Pharmaceuticals Machinery, S.S.Vessels, Chemicals, Distillery, Food & Brewery Industries



www.oointmentmfgplant.com





Ointment / Toothpaste Cream Manufacturing Plant



AKSHAR ENGINEERING WORKS has a sophisticated modular system for the manufacturing emulsions in a wide viscosity range. Advanced processing technology offers consistently high product quality, shorter batch cycles, minimal operating costs, low space requirements and simple operation. The principal applications for the system are in the pharmaceutical and premium cosmetics sectors.

It is specially designed to take care of two critical factors which directly affects the quality of the Ointment / Creams.

- Minimum man handling of Ointment.
- Negligible vacuum drop during mixing & blending.

Needless to say, it also provides the benefits of the effective manpower utilization.

PROCESS NEEDS

Through – homogeneous Mixing of wax phase & aqueous phase material in Ointment manufacturing Vessel by means specially designed W shaped anchor.

Wax phase vessel for malting of Wax & Oil base, Water Phase vessel for aqueous phase material processing.

Inline high speed emulsifier for proper emulsification for finer particle size , better skin penetration.

Charging Hopper to charge Active Ingredients for Ointment Manufacturing Vessel.

Ointment / Cream storage vessels – Jacketed/ non Jacketed.

Vacuum Transfer of water & wax phases into Ointment manufacturing Vessel.

Transfer pumps for transferring finished product into Batch Storage/Staging Vessel.

Transfer pumps to transfer product to filling station etc.

Ergonomic anti skid Working platform for fatigue Free plant operation & minimal operator movements.

lotions/creams/ointment/toothpaste/gel
processing systems





Ointment / Toothpaste Lotion Manufacturing Plant

HIGH SHEAR BOTTOM MIXERS

The viscosity of some creams is such that they cannot be manufactured by a rotor/stator mixer alone.

These can be processed with a Bottom Mixer in conjunction with a stirrer/scrapper unit

Also suitable for products that increase in viscosity or solidify on cooling.

The stirrer/scrapper unit ensures that the output of the mixer is uniformly distributed throughout the vessel and prevents a localized heat build up on the walls of the jacketed vessel.

Two-speed units available. Variable speed can be obtained with an inverter.



Heating/cooling and insulated jackets complete with temperature control and safety equipments.

Semi Contra Rotary Agitator with open slot scraper design.

Short Loop product Re-circulation for smaller batch sizes.

Hydraulic lifting of manufacturing vessel top dish to facilitate product recovery.

Separate Pre-mix vessels for wax and water phase.

Process piping with transfer panel design for automated plants.

Cleaning In Place cycles with validations protocols.



EQUIPMENTS & ACCESSORIES

Manufacturing Vessel.

Wax Phase Vessel.

Water Phase Vessel.

Storage Vessel.

Vacuum Pump.

Control Panel.

Product Piping.

Working Platform.

**100 kg
to
10000 kg**



processing systems

EQUIPMENTS DETAILS

Ointment Manufacturing Plant

The Ointment Manufacturing Plant consists of a set of equipments designed for ointments, gels, creams and lotions for capacities ranging from 100 kg to 10000 kg.

Water Phase Vessel:

The Water Phase Vessel is a jacketed cylindrical tank with torrispherical dish ends.

Jacket for heating & cooling.

Heating Jacket Pressure (4 bar).

Heating by steam or hot water circulation.

Propeller stirring with top mounting.

Temperature controller & safety pressure Valve.

Bottom discharge with valve.



Wax Phase Vessel:

The Wax Phase Vessel is a jacketed cylindrical tank with torrispherical dish ends.

A propeller type stirrer is provided for agitating the wax or oil.

A conical filter filters out impurities before the wax is transferred to the manufacturing vessel.

Jacket for heating & cooling.

Heating Jacket Pressure (4 bar).

Heating by steam or hot water circulation.

Propeller stirring with top mounting.

Temperature controller & safety pressure Valve.

Bottom discharge with valve.



Ointment / Toothpaste / Gel Lotion Manufacturing Plant

Manufacturing Vessel:

The Manufacturing Vessel is a jacketed cylindrical vessel with a conical bottom and anchor type agitator.

It is used to mix the viscous product from the Water and wax phase vessels.

Jacket for heating & cooling.

Vacuumized process.

Vessel Inside Pressure (-1 /+2 Bar)

Heating Jacket Pressure (-1 /+6 bar)

Heating by steam or hot water circulation.

Agitator mixer with self pressure Teflon scrapper.

Scrapper cleanly working on both side.

High speed Homogenizer with toothed Rotor - stator type.

RPM sleeplessly with variable speed drive for agitator & Homogenizer.

High shear & pressurization of the homogenizer.

Thus homogenization of high viscosities up to 400.000 mPas.

Homogenizer mounted on lower position in the side of vessel.

Top lid with motorized top lid for lifting & lowering.

Safety Interlock process with limit switch.

Connection for Vacuum, Charging, Eye glass window, Light glass, CIP, SIP, Pressure gauge & safety valve.

Temperature controller & safety pressure Valve.

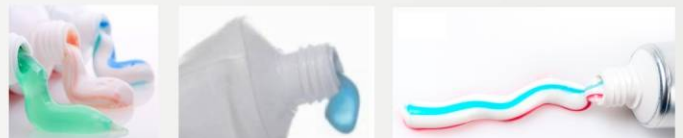
Bottom discharge with valve.



Bottom Mounted Homogenizer

Homogenizer:

The Homogenizer Tank or Online is used with the manufacturing vessel to reduce particle size and promote uniform mixing.



Storage Vessel:

The Storage Vessel is a tank with a conical bottom in which the product is collected and stored until it has to be transferred to the filling line.

It can be provided with an anchor type stirrer and a jacket as per requirement.

Transfer Pump:

The Transfer Pump (twin lobe) is used to transfer the product from the manufacturing vessel to the storage vessel.

Metering Pump:

The Metering Pump is a positive displacement pump through which the product can be transferred to the filling line at a controlled flow rate.

Inter-Connecting Pipeline:

The Inter-Connecting Pipeline is provided for the plant as per the layout.

All pipes are electro-polished from the inside.

Inter connecting Pipe line of all vessel for transfer Water, Wax & products.

Re-circulation in manufacturing vessels.

Vacuum connecting pipe.



Working Platform:

A suitable Working Platform is provided to help in the maintenance and operation of the plant.

Rigid structure with anti slipping embossed plat.

Made from SS 304.

Control Panel:

The electrical control panel houses the necessary electrical components and controls needed to operate the plant.

Custom built automation can be incorporated to improve efficiency and reduce errors.

Electric Controls with digital display.

Optional PLC Controls with HMI Touch screen.

RPM and Process time entries.

Temperature controls- Heat/cool.

Vacuum start- Stop.

Integrated Data Recording for batch.

Safety Features

Emergency stop button

Safety vacuum relief valve & Indicator Gauge.

Safety Pressure Valve.

Limit switch at top lid



Teflon Floating Scrapper to scrape off product from the wall of vessel, Thus Reducing Cleaning time & Product wastage.



Contra Rotary Type Agitator based for toothpaste.



Intensive mixing by Special Semi-Contra Design Anchor, Stirrer with Variable Speed Drive. Avoiding Dead Zones.



**Ointment / Toothpaste / Gel
Lotion Manufacturing Plant**



Ointment / Toothpaste / Gel Cream Manufacturing Plant

SALIENT FEATURES.

The Plant is designed to be operated only by one operator and one helper.

All material transfers are done by vacuum or by transfer pumps.

All the vessels are CGMP (paint free construction)

The gaskets used are of silicon (food grade).

All contact parts are of S.S. 304 quality material (SS316 provided on demand) & finished to class 4B (Mirror) finish and are crevice free.

The entries of all agitators are from top & High Speed Emulsifier from bottom or In-line Emulsifier (as per customer choice).

All vessels are suitable for internal pressure of 1 Kg. / Sq. cm. and hence can be sterilized.

All pipes, pipe fittings and valves are of SS304 / SS316 (as per customer requirement) seamless quality, internally electro polished, with tri-clover ended joints.

The entire plant is equipped with CIP & SIP connections, so that customer can use these facilities, if have CIP & SIP equipment.

All values of temperature & time of the plant are indicated digitally on the control panel. Ampere indicates on Ampere meters.

A micro processor based automatic operating plant can be designed as per requirement.

All the inlet & outlet connections are provided with tri clover joints, which are very easy for cleaning & replacement.



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AKSHAR ENGINEERING WORKS

“ AKSHAR HOUSE”

Plot no: 3312/8 Phase-4 Chhatral, GIDC, Opp. V.K.Vikram Gali, Chhatral - 382729, Gujarat, India.

Mo: 91-99982 52299 , Email:- ointmentmfgplant@gmail.com, aksharpharmamachinery@gmail.com.

Web: www.aksharengg.com, www.ointmentmfgplant.com.

