

# TECHNICAL DATA SHEET

## SK1MIX

Laboratory and industrial planetary mixers

PHARMACEUTICAL



COSMETICS



FOOD INDUSTRY



PAINT INDUSTRY



ADHESIVES



CERAMICS



## Laboratory mixers PL(D)-8, PL(D)-15

### ► DESCRIPTION

Universal kneader-mixer with two blades with planetary rotation for laboratory use. It is perfect for the paste preparation, mastic of high viscosity and thixotropy with dispersion of solids, crumbs or lumps.

### ► COMPONENTS

#### Frame

It is built in carbon steel mechano-welded. It consists of support base to special table, an anchoring zone to the process tank, a head lifting column of hydraulic operation with 0,5 Hp station mounted on the bedplate.

#### Planetary box

Planetary box consists of a set of precious gears, a drive input shaft and two output shafts for agitators.

Planetary box has sealed with agitating shaft with special gasket to work under vacuum. Inside it is lubricated with synthetic oil of high performance under friction and high temperature.

#### Planetary mixer

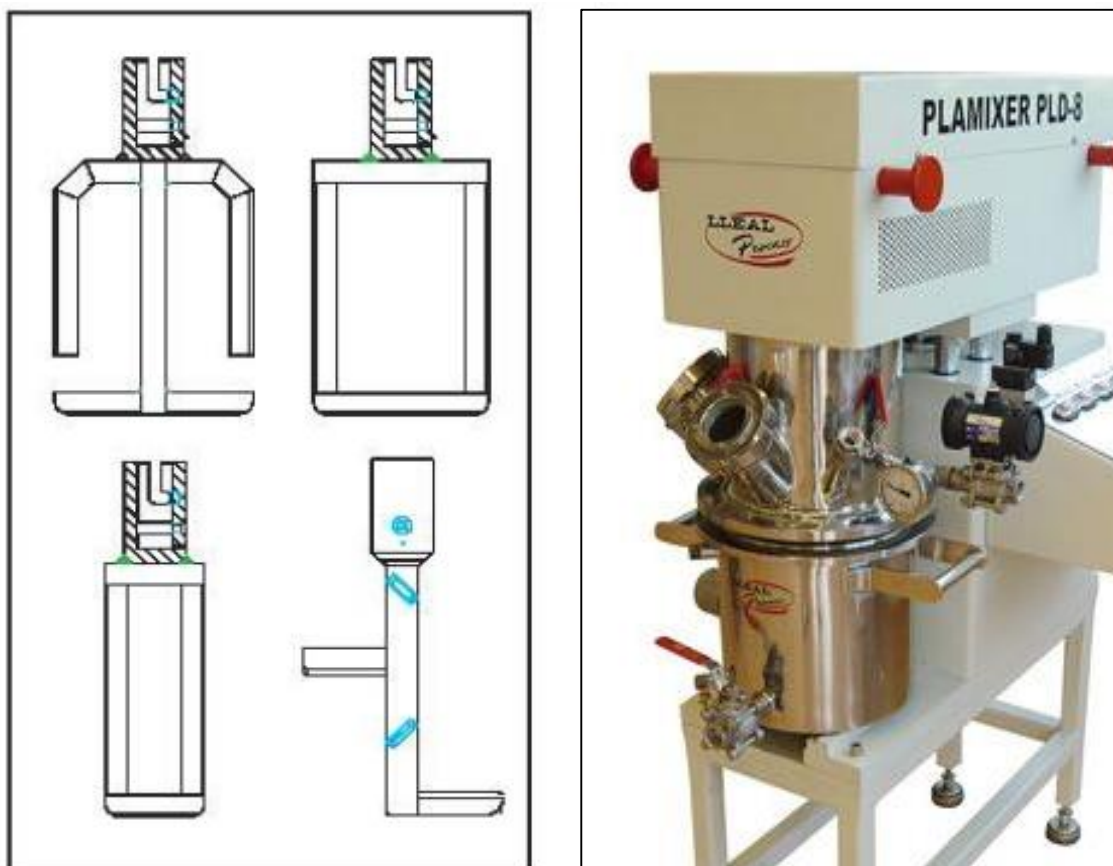
It consists of two blades with vertical and parallel shaft oppositely-rotating and at the same time they are moved together with the planetary box in circular way. The result is a planetary movement.

The system is equipped with the scraper for the cleaning of inner wall of the mixing vessel.



The blades, the scraper and the protection of the planetarian box are made of AISI-316L stainless steel. All the parts can be easily removed for cleaning.

The driving is carried out by means of gear-motor group fitted with a frequency variator.



#### Disperser

Vertical stirrer of high speed placed on the center, fitted with cowles impeller, easily removable for cleaning or replacement.

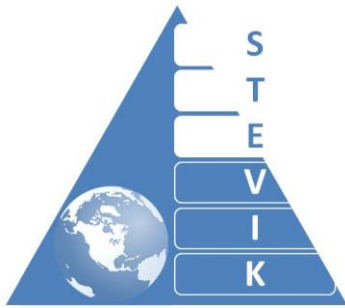
It is driven by a direct motor of adjustable speed by means of a frequency inverter.

The shaft and the cowles are made of AISI-316L stainless steel.

#### Hood cover

Cylindrical hood cover is made of AISI-316L stainless steel. It rests on the upper edge of the mixing vessel hermetically including a tightening joint, ready to work under vacuum conditions. Upper part includes:

- unloading outlet with the cover
- vacuum intake with cock and release valve



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- inlet with sight-glass
- input for liquids
- lamp

### Mixing vessel

Mobile mixing vessel with total capacity of 8-15 lts and working volume of 2,5 -12 lts, made of AISI-316L stainless steel, consists of:

- cylindrical vessel with the flat bottom
- unloading outlet with screw plug
- Handles for transportation
- wheels

### Finishing

Stainless steel parts: inside and outside mirror polish

Steel parts: painted with a two-component polyurethane painting of the color RAL 7001

### Safety

Micro switch is installed in the equipment to avoid the mixing system operation, if the mixing vessel and the head are not in the correct position. Equipment corresponds to safety standards CEE.

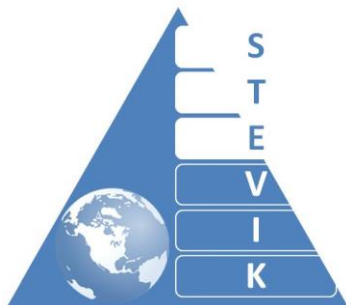
### Control Panel, IP-55 protection

Control panel protection installed on the equipment wall and includes the following elements:

- Two sets of buttons to stop and start the two motors of the mixer
- 2 ammeter for the control of consumption
- 2 tachometers for rotation frequency control (rpm)
- 2 frequency inverter for mixer motor
- emergency stop
- main switch

### ► TECHNICAL DATA

Total capacity of mixing tank	8 - 15 lts.
Working capacity	2,5 - 12 lts.
Planetary mixer motor power	3 Hp



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Central disperser capacity	3 Hp
Planetary Gearbox speed	10-80 rpm
Blade speed	10-162 rpm
Speed of central disperser	1500-4100 rpm
Diameter of cowles impeller	80 mm
Type of mixing blades	Transversals
Motor protection	IP-55

#### ► OPTIONAL ITEMS

##### Hydraulic press, model PH-40:

###### **Description**

Special equipment designed to unload high viscosity products, such as putty, plastisol, grease, inks and so on, from cylindrical movable tanks through the unloading spout placed at the bottom.

The press is basically composed of a structural support framework to support the reaction of the force produced.

At the upper part there is a hydraulic cylinder with the shaft joined to the press disc made of carbon steel. Press disc has a radial joint, which provides the sealing union with the inner rim of the tank.

Tank lifting system with the mechanical blocking of the position, enabling the unloading operations.

###### **Hydraulic Unit**

It is placed in the same framework of the press and it is driven by a hydraulic pump, that is operated with an electric motor. An oil tank, a filter and a pressure regulator are included.

###### **Electric equipment, IP-55 protection**

Complete equipment, including all connecting material, safety switches, and control panel.

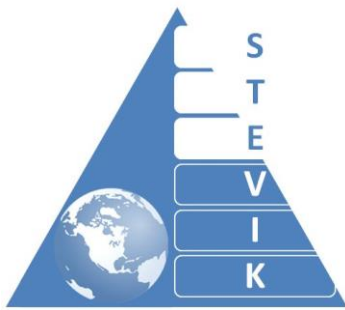
##### Heat tracing:

Double jacket for the mixing vessel. Consists in the attachment of stainless steel AISI-304 shields onto the upper and lower edges and insulating Rockwool fabric fitted around the entire chamber with an outer covering of stainless steel welded to the shields to form a triple air-tight jacket. External surface satin finish.

##### Vacuum pump with capacity of 2 lts

#### ► DOCUMENTATION AND REGULATIONS

Operating and maintenance manual including dimensions and arrangement drawings, electric and pneumatic diagrams, list of spare parts, etc.



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### ► WARRANTY

Equipment warranty is 2 years. Possibility of extended warranty concluding maintenance service contract from manufacturer.



Please contact us to get further information, as well as to make an equipment design according to your technical specification.

## INDUSTRIAL MIXERS PL(D)-50, PL(D)-100

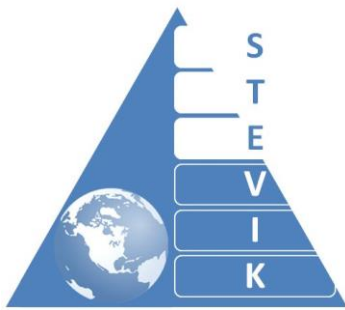
### ► DESCRIPTION

Universal kneader mixer for industrial use. Perfect for the paste preparation, mastic of high viscosity and thixotropy with dispersion of solids, crumbs or lumps. These model scan operate under vacuum, with inert gas, heating or cooling, etc.

### ► COMPONENTS

#### Frame

It is built in mechano-welded carbon steel. The frame consists of a support and an anchoring base, lifting column, as well as hydraulic lifting cylinder, driven by means of hydraulic unit, backed to the frame. The frame is also equipped with the fixing (pitchfork) and centering system for the vessel.



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The construction is perfectly guided and dimensioned to support the efforts during the equipment operation.

#### Mechanism-holder head

It is constructed of carbon steel, fixed to the column in transversal position, in one of its ends two motors are assembled. One motor is with direct transmission (speed agitation) and other with gear motor (slow agitation). Both agitators are equipped with frequency inverters, placed into the electric panel.

#### Planetary box

It is a set of precision gears, a drive input shaft and two exit shafts for the blades.

The planetary box has sealed the agitating shaft with special gasket to work under vacuum and inside, it is lubricated with synthetic oil of high performance under friction and high temperature.

#### Kneader mixer

It consists of two blades with vertical and parallel shafts, placed at 180°, revolving on their axis and the same time they moved together with the planetary box in circular way, giving as a result a planetary movement.



The system is equipped with the scraper for the cleaning of inner wall of the mixing vessel.

The blades and the protection of the planetary box are made of AISI-304 stainless steel. All the parts can be easily removed for cleaning.

The driving is carried out by means of a geared motor.

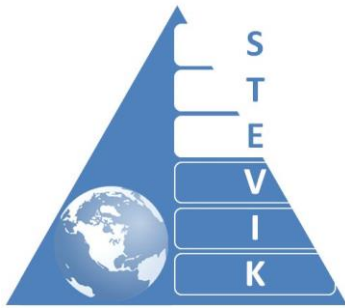
#### Disperser

Vertical stirrer of high speed placed on the center, fitted with cowles impeller, easily removable for cleaning or replacement.

It is driven by a direct motor of adjustable speed by means of a frequency inverter.

The shaft and the cowles are made of AISI-316L stainless steel.





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#### Mixing vessel

Mixing vessel model PLM-50 with total capacity of 55 lts and working capacity of 41 lts, made of AISI-304 steel consists of:

- unloading outlet with ball valve
- outlet of 2" on the bottom, with ball valve, to connect the vacuum solid loading
- Heating/cooling double jacket
- Lateral pivots to anchor the vessel with plamixer
- 4-x nylon wheels (two are fixed, the others are rotating)
- handles for transportation

#### Hood cover

Cylindrical cover made of AISI-304 stainless steel. It rests on the upper edge of the mixing vessel including a tightening joint, ready to work under vacuum conditions. The upper part includes:

- loading hopper that allows the addition of charges to the mixtures without lifting the machine's head nor stopping the equipment
- Protecting lamp to illuminate the inner of the mixing vessel
- Sight-glassed hole

#### Hydraulic unit for lifting head

The head lifting is realized by means of hydraulic central with pump motor of 2 Hp, circuit selector to be operated from the control panel. The central is installed on the frame of the equipment including the whole hydraulic installation up to the two hydraulic cylinders.

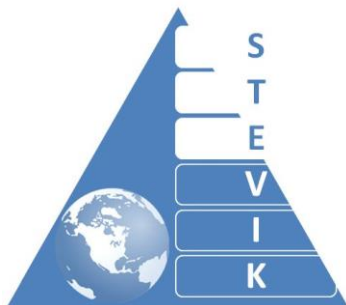
#### Safety measures

Micro-switch installed in the equipment to avoid the mixing system operation if the mixing vessel and the head are not in a correct position. The equipment meets the security norms of EC.

#### Electrical panel, IP-55 protection

Electric panel for equipment control and protection of electric motors includes switches for both main motors, contactors totally wired and marked to the connecting grid. The following is also included:





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- two sets of buttons to stop and start the motors
- 2 ammeters to control consumption of the motors
- 2 frequency inverters for mixer motor
- one push-button to control the lifting head system
- temperature display
- emergency stop
- main switch

The panel can be installed next to the equipment.

#### Finishing

Parts from stainless steel: inside and outside surfaces are mirror polished  
Steel parts: coated with 2 layers of polyurethane enamel RAL 7001.

#### ► TECHNICAL DATA

Max. capacity of mixing vessel	55 lts
Working capacity of mixing vessel	41 lts
Planetary motor power	5,5 Hp
Disperser motor power	7,5 Hp
Driven type	Mechanical
Planetarian box speed	20 – 80 r.p.m.
Blades rotation speed	48 – 162 r.p.m.
Agitator rotation speed	600 – 3600 r.p.m.
Mixing blades type	Transversals (E)
Electrical protection	IP-55
Electrical panel	IP-55
Mixing vessel	PLM-50
Material in contact with product	AISI-304 stainless steel
Construction material	steel

#### ► OPTIONS

##### Heating of mixing tank:

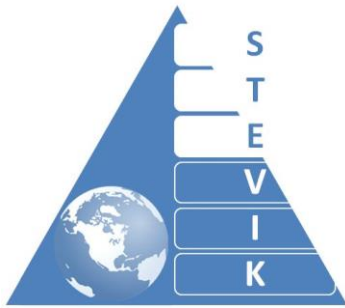
Double jacket for mixing tank. Consists in the attachment of stainless steel AISI-304 shields onto the upper and lower edges and insulating Rockwool fabric around the entire chamber with an outer covering of stainless steel riveted to the shields to form a triple air-tight jacket. External surface finish: polished.

##### Hydraulic press, model PH-40:

Special equipment designed to unload high viscosity products, such as putty, plastisol, grease, inks, and so on, from cylindrical movable tanks through the unloading spout placed at the tank bottom. It is hydraulically driven and it is controlled by an electric panel.

##### Vacuum pump with the capacity of 2 Hp





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### ► DOCUMENTATION AND REGULATIONS

Operating and maintenance manual including dimensions and arrangement drawings, electric and pneumatic diagrams, list of spare parts, etc.

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