

TECHNICAL SPECIFICATION

1.0 Cooking and Mixing

1.1 1 Twin screw cooker extruder

Technical data:

Screw diameter:	102 mm
Screw length:	3600
Screw speed:	4 - 30 rpm
Rated drive power:	48 kW
Permissible axial thrust:	150 bar
Number of barrel sections:	2
Rated electrical heating power:	80 kW

Consisting of:

- Barrel made of bi-metallic cylinders highly protected against abrasion and corrosion with feed port for slurry, borings for feeding color and flavor, vent port and dome for vacuum.
- Slurry-feed and vacuum section are cooled with water, cooking section is electrically heated, mixing and metering section are tempered in 3 individual zones with circulating water from a closed system consisting of heat exchanger, pump, tank, sensors, valves.
- One pair of counter rotating, intermeshing screws consisting of individual elements slipped on splined shafts and axially fixed with screw tips. The screw elements are made of stainless steel with welded crests of stellite 6.
- Drive with AC motor with fan and filter, gear box with integrated thrust bearings, oil lubrication system, two drive shafts with couplings to the screw shafts.
- Drive unit and process part are mounted on a frame made of stainless steel

1.2 1 Metering system

Technical data

Product:	Color
Density approx:	1,00 kg/dm ³
Viscosity approx:	1 - 10 cP at RT
Feed rate:	2 - 8 l/h
Permissible back pressure:	60 bar
Volume of storage tank:	2 x 20 l
Kind of feeding:	volumetrically

Consisting of:

- 2 Storage tanks with lid and lateral graduated glass tube
- 1 Piston pump with AC gear motor
- Manually driven stroke adjustment
- Pipe work between storage tank and extruder complete with drain valve, test cock, stop valve, elbows, joints, tees

All parts coming into contact with the product are made of stainless steel.

Completely assembled and mounted on the extruder frame.

1.3 1 Metering system

Technical data:

Product:	Flavor
Density approx.:	0,90 - 0,95 kg/dm ³
Viscosity approx.:	10 - 400 cP at RT

Specification as per item 1.2

1.4 1 Vacuum plant

Technical data:

Suction capacity:	150 m ³ /h
Intake pressure:	200 mbar
Exhaust vapor:	air and steam at 120°C
Rated drive power:	4 kW

Consisting of:

- Suction pipe jacketed for water cooling with snifting valve, compensator, back pressure valve
- Vacuum gauge
- Vessel jacketed for water cooling as separator and pre-condensor with collecting tank for draining the condensate.
- Waterring pump with AC motor

Piping, vessel, pompe are made of stainless steel

Completely assembled and mounted on the extruder frame.

2.0 Extrusion

2.1 1 Screen changer with start-up valve

flanged onto the last barrel section of the extruder with 2 nests and start-up position; made of stainless steel, hydraulically operated complete with hydraulic pumping set; with internal channels for heating and cooling with circulating water; with breaker plate and sieves; with sensors for melt temperature and pressure

2.2 1 Extrusion die

2.2.1 1 Coextrusion die for 16 ropes center filled including 2 meltpressureprobes

2.2.2 1 Exchangeable dieplate for 16 round ropes outer diameter ca. 12 mm

2.3 1 Heating und cooling unit

Technical data:

Heat carrier : Water
Heating capacity : 3 kW
Cooling capacity : 11.600 Watt
Max. temp. of the heat: 95 °C

Consisting of:

- Electrical heating
- Indirect water cooler
- Pump
- Temperature sensor
- Storage tank with float switch, feed pipe, pipe work, magnet valves

Completely assembled. Built into the frame of the extruder.

3.0 1 Coextruder unit

Consisting of:

3.1 1 Forming extruder

Typ FE 2-126

Twin screw intermeshing corotating extruder, process part made of stainless steel, heatable and coolable. Equipped with hopper and feed rollers, mounted on movable frame.

Screw diameter : 126 mm
Screw length : 720 mm
Screw speed : 3 – 20 Rpm
Motor power : 9,2 kW

3.2 1 Heating and cooling unit

Technical data:

Heat carrier : Water
Heating capacity : 3 kW
Cooling capacity : 23.200 Watt
Max. temp. of the heat: 95 °C

Consisting of:

- Electrical heating
- Indirect water cooler
- Pump
- Temperature sensor
- Storage tank with float switch, feed pipe, pipe work, magnet valves

Completely assembled. Built into the frame of the extruder.

3.3 1 Melt pipe

between cooker and forming extruder for a distance of max. 2 m with elbows and fittings; heatable with hot water, including flexible part.

4.0 1 Electrical control system

4.1 1 Control cabinet

Complete for item 1.0 to 3.1 wired to terminal strips

Housing made of mild steel painted, free standing, with front doors with following built-in units:

- Three phase current supply
- Main circuit breaker
- Control voltage supply
- Working hours counter
- Frequency converter for main drive
- **Frequency converter for slurry pump**
- Alarm system for disturbances
- Signal lamp
- PLC Alan Bradley

4.2 1 Control panel

For the operation and supervision of the plant

- Display of process parameters
- Status of metering system
- Values of heating and cooling system

Complete wired to terminal boards

Not included are:

- Preparation of site
- Ingredient handling system
- Supply of compressed air and connection to buyer's network
- Supply of washing water and connection to buyer's network
- Assembly, installation, commissioning, which will be carried out by experience personnel against separate contract

Current data

Voltage:	480 V
Control voltage:	220 V AC
Control voltage:	24 V DC
Frequency:	60 Hz
Protection class motors:	IP 55

Documentation

In the English and Spanish language both in two-fold

- Layout and installation drawings
- Wiring diagrams
- Manual with operating-, assembly, maintenance-, lubrication instructions, spare parts lists.

Painting

Mild steel parts will be painted in a color to be agreed upon. Stainless steel remains bright.