

# Technical specification of equipment

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## 1. Equipment description

**Co-rotating twin screw extruder** suitable for polymer processing with main applications such as reactive extrusion and devolatilization.

## 2. Technical specifications

The equipment must meet the following specifications:

- Output range 10kg/h-30kg/h.
- Maximum screw speed 1200 rpm.
- Maximum processing temperature 350°C (or similar).

Equipment description:

- Extruder:
  - Easily exchangeable configuration to process materials with range between 40D to 60D length.
  - materials of construction used on the barrels and other wear parts prepared against corrosion and abrasion
  - Equipped with at least three ports for side feeding.
  - Equipped with at least three ports for liquid feeding.
  - Equipped with at least three venting ports, and at least one port for vacuum system.
  - Strand die head with breaker plate.
- Screws:
  - One pair of completed screw set for length 60D (screw elements + shafts + tips)
  - One pair of completed screw set for length 40D (screw elements + shafts + tips)
  - Screw diameter proposed 26 mm (or similar)
  - Materials of construction used on the screws prepared against corrosion and abrasion
- Barrel heating/cooling system.
- Melt temperature measuring device.
- Melt pressure measuring device.
- Feeding systems:

- Twin screw side feeder for the introduction of fillers and additives in powder or pellet form into the processing section of the twin screw extruder.
- Gravimetric feeders:
  - Gravimetric feeder for pellets (10-100kg/h)
  - Gravimetric feeder for powder with twin screw and stirring agitator (0.5-2.5kg/h)
  - Gravimetric feeder for powder with twin screw and stirring agitator (0.05-0.5kg/h)
  - Gravimetric feeder for liquids (0.5-5kg/h)
- Degassing/Vacuum system
  - Twin screw side degassing unit to remove evolved gases.
  - Vacuum system: according to the expected requirements, a vacuum system with high capacity is required.
- Strand pelletizing system
  - Water bath with water cooling system
  - Air knife (or similar) to remove excess of water.
  - Strand pelletizer

### **3. Other features**

Positive value will be given to:

- Barrel liner option.
- Spare parts availability for at least 10 years.
- Technical support.
- Operation training and commissioning.
- Process Technology training at our facilities