Kerke 科尔克
Extrusion equipment

EXTRUDER INTRODUCTION

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Contents

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Electrical Distribution

1.Inverter: Extruder motor speed control;

2.Breaker: Electric cabinet power supply;

3.Air Switch: Motro power supply for feeder,pelletizer etc;

4.Air Switch: Power supply for transformer;

5.Fuse: Current overload protection;

6.Air Switch: Power supply for barrel heater

7.Contactor: Control feeder, pelletizer etc. working

8.PLC: Machine running program control;

9.Relay: Signal for inverter;

10.Temperature Control: Control barrel heating and cooling;

11.Solid State Relay: Control barrel heating;

12. Transformer: Conversion voltage.

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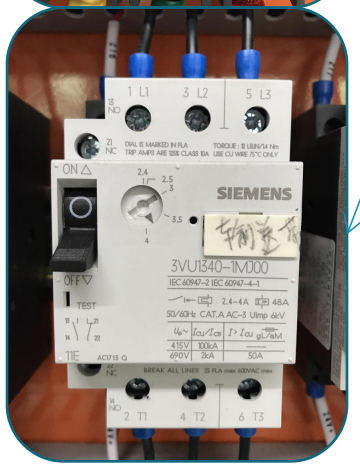
Function Introduction

1. Inverter: DELTA/SIEMENS. By adjusting the motor operating frequency to change the motor running speed.
2. Breaker: SCHNEIDER/CHNT. Cabinet power supply for all of the elctrical.
3. Air Switch: SIEMENS/SCHNEIDER. Power supply for the contactor, contactor control the feeder, pelletizer etc. working. Including overload alarm.



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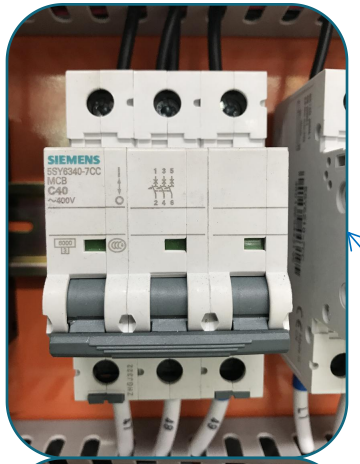
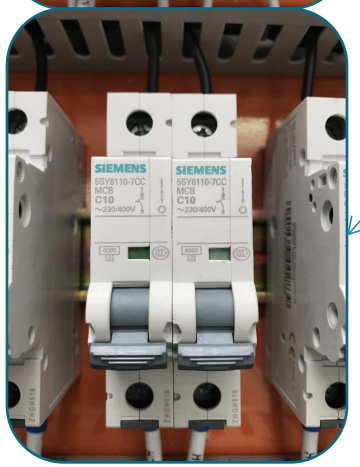
Function Introduction

4. Air Switch: SCHNEIDER/SIEMENS. Power supply for the transformer. Including overload alarm.

5. Fuse: CHNT. Motor overload protection.

6. Air Switch: SIEMENS/SCHNEIDER. Power supply for the Omron temperature control system. Including overload alarm.





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7. Contactor: SCHNEIDER/SIEMENS. Operating the feeder, pelletizer etc. by switching on and off.

8. PLC: SIEMENS. Connected each electric component and touch screen, operating extruder on the screen by program.

9. Relay: OMRON. Output signal for the inverter.

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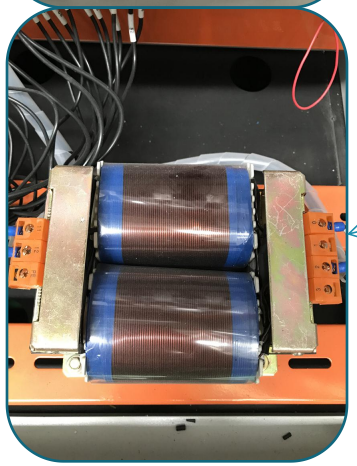
10. Temperature Control: OMRON. According to the signal from thermocouple to control the barrel heating and cooling.

11. Solid State Relay: CLION. According to the signal from Omron meter to control heater working.

12. Transformer: CHNT. Conversion the voltage into 220V for electric component working.



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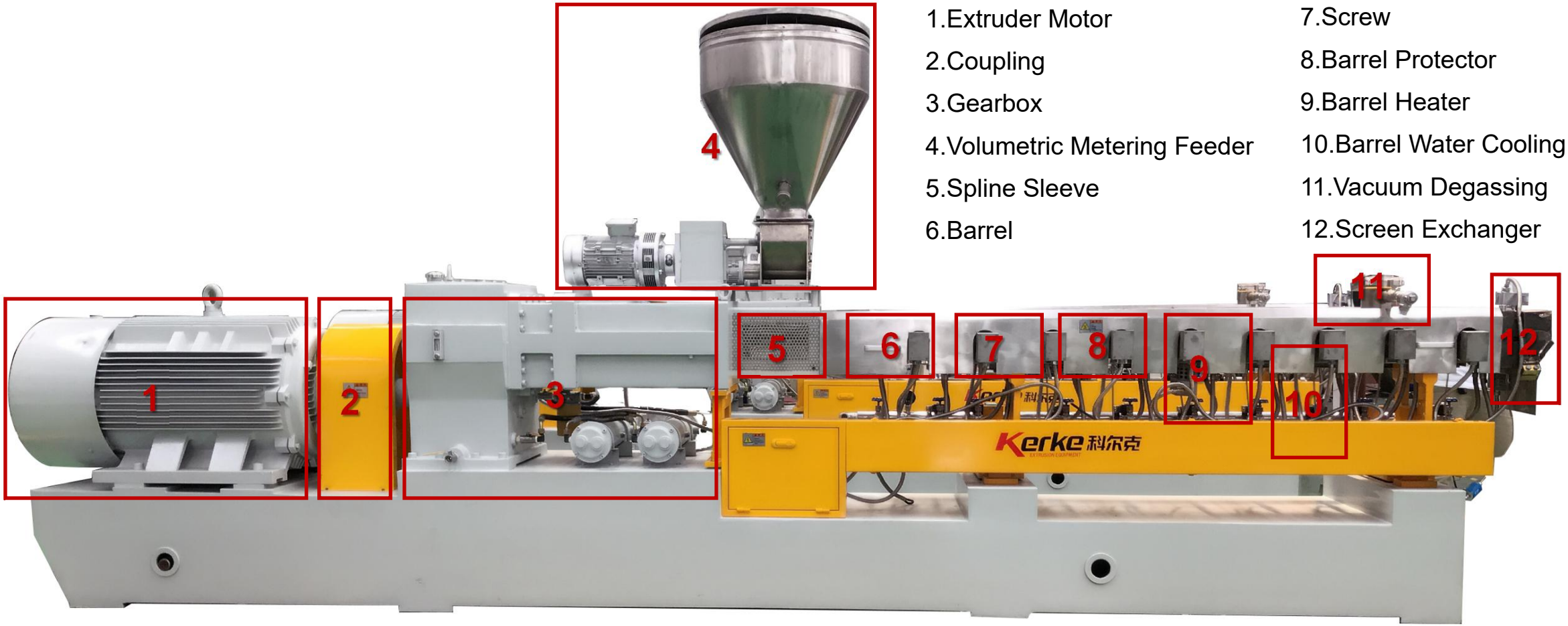
Extruder Preview



1.Extruder Motor
2.Coupling
3.Gearbox
4.Volumetric Metering Feeder
5.Spline Sleeve
6.Barrel
7.Screw
8.Barrel Protector
9.Barrel Heater
10.Barrel Water Cooling
11.Vacuum Degassing
12.Screen Exchanger

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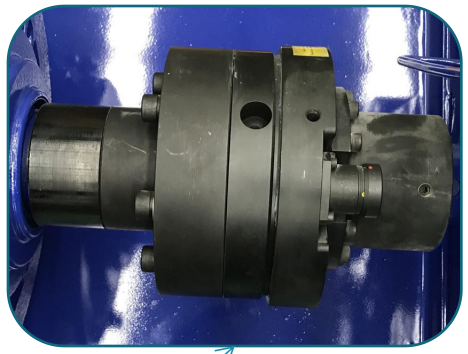
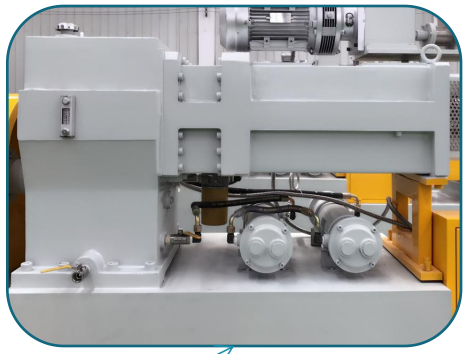
Core Parts Introduction





1. Motor: SIEMENS(AC)/XIANFENG(DC). Power supply for the gearbox.
2. Coupling: VMTT(Option). Connect the motor and gearbox. By Limiting the max torque to protect the motor and gearbox.
3. Gearbox: A/B(high torque)/D(high torque,high speed) type gearbox. SHELL medium extreme / heavy-pole pressure Industrial gear oil(L-CK220/L-CK320). Every 6 month(first time 3 month) replace gear oil.

A: Speed<500RPM, $T/A^3<6$

B: Speed<600RPM, $7<T/A^3<9$

D: 600RPM<Speed<900RPM, $11<T/A^3<13$

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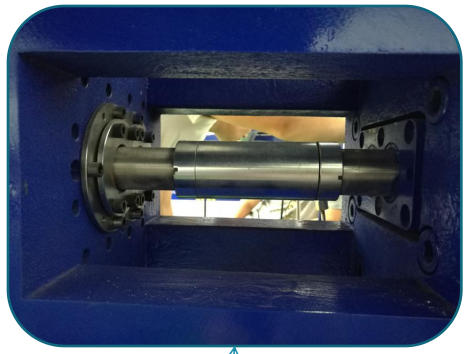

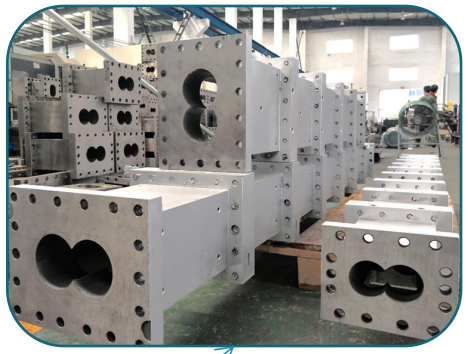

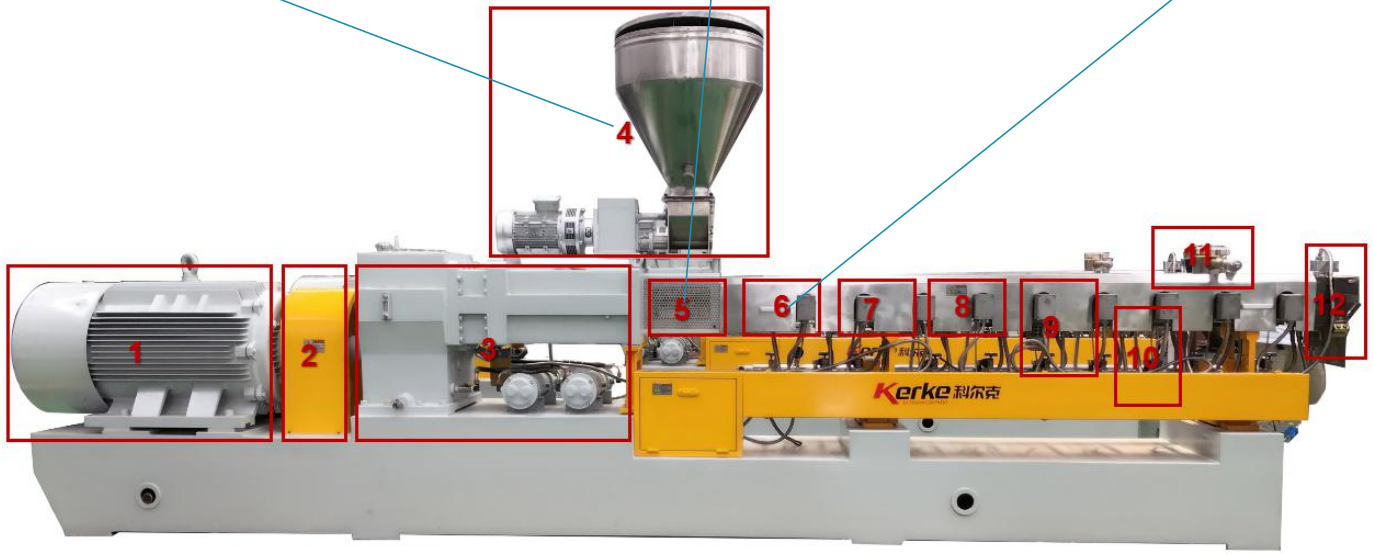

4. Metering Feeder: Twin screw metering feeder suitable for pellets/powder material. Single screw metering feeder suitable for flake material.
5. Spline Sleeve: Connect the extruder screw and gearbox.
6. Barrel: Modular structure, made of #45 steel matrix (Bimetallic bushing α101). Each barrel has a separate waterway for the barrel cooling.

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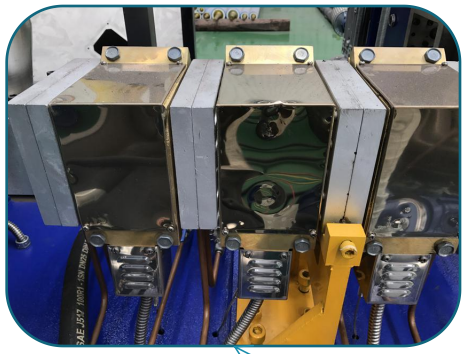

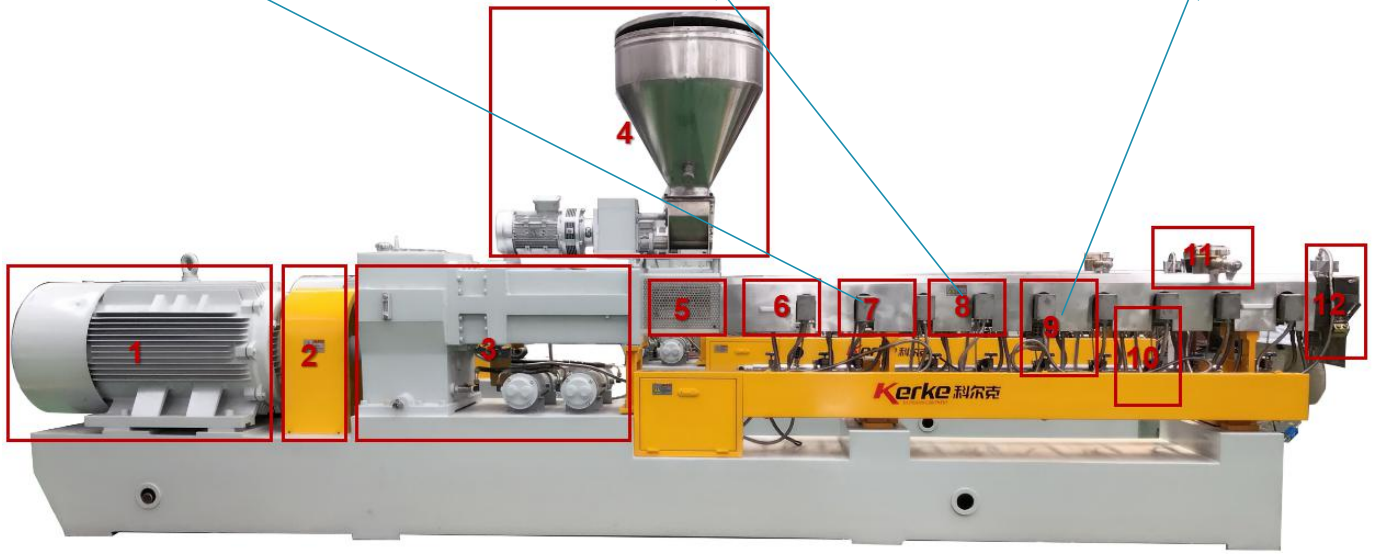

7. Heater: Cast Aluminum/Copper heater. Cast copper heating fast, max temperature can reach 600 degree. Cast aluminum can reach 400 degree.

8. Screw: Segmented type, Screw shaft is made of 40CrNiMoA, screw elements are made of W6Mo5Cr4V2, including conveying unit and kneading unit.

9. Barrel Cooling: JORC solenoid valve, Connect with cycle soft water tank, full copper inlet and outlet pipe.

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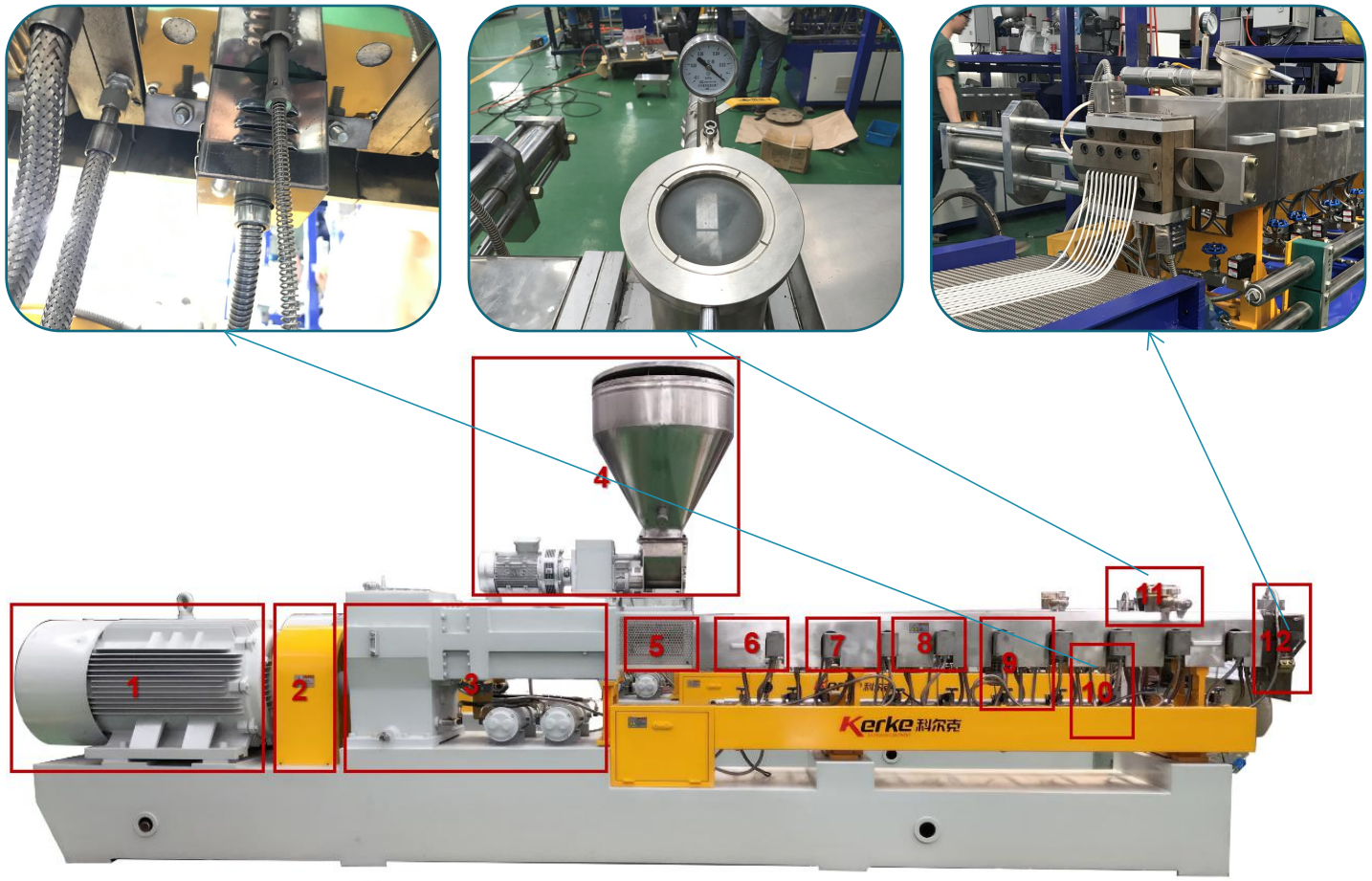

10. Thermocouple: Detect the barrel temperature and feedback signal to Omron temperature control system.

11. Vacuum Degassing: Removal of exhaust gas and steam in extruder by vacuum negative pressure.

12. Screen Exchanger: Extruder filter system, HENENG pressure detector. When the pressure reach the setted value, changing the screen by hydraulic.

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Operating Step

1. Turn on the breaker, power the cabinet
2. Turn on all of the air switch in the cabinet, power all of the extruder parts
3. Check all of the machine component state, preparing for machine running
4. Set barrel heating temperature, waiting for each of heater working to setted temperature
5. Running all of water pump, oil pump, air dryer and pelletizer
6. Hot extruder motor working, extruder screw running
7. Main metering feeding hopper working, feeding material
8. After material plasticizing and extrusion, pelletizing into granules

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Thanks For Your Time

Kerke Extrusion Equipment Co.,Ltd

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