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# PRODUCT INTRODUCTION

## TTF-520AF

FULL-AUTOMATIC FOUR-STATION
PLASTIC THERMOFORMING MACHINE







# 1、APPLICATIONS

TTF series full-automatic thermoforming machine is our latest developed core product. The machine combines forming, cutting, and stacking into process. widely used and suitable for most of the customer requested, it can produce plastic trays, containers, boxes, lids, etc. The machine is completely driven by servo motor. stable operation, low noise, high efficiency, high quality.

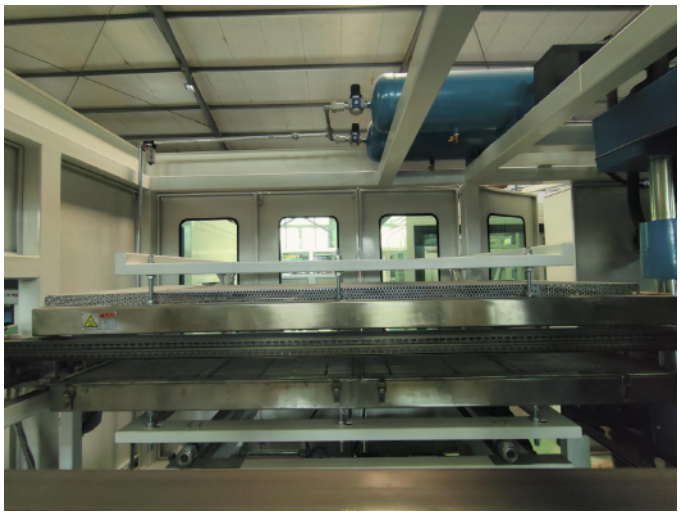
# 2、PRODUCT PARAMETER

| | |
|---|---|
| Model | TTF-520AF |
| Forming Area | 520mm x 400 mm |
| Forming Depth (Max.) | 100mm |
| Sheet thickness | 0.2-2.0mm |
| Forming Speed (Max.) | 30times/min |
| Air pressure | 0.6-0.8mpa |
| Air consumption | 3.0 $m^3$/min |
| Water consumption | 0.7 $m^3$/h |
| Sheet width (Max.) | 550mm |
| Suitable Sheet | PP, PS, HIPS, PET, PVC, PLA etc. |
| Power supply | AC 380V, 50Hz, Three-phase, Four-wire |
| Used power | 55Kw |
| Rated power | 110Kw |
| Heating power | 75Kw |
| Procedure | Forming-cutting-stacking |
| Dimension | L11000*W4600*H2700mm |
| Weight | About 11.0T |

| MAIN PARTS | |
|---|---|
| Filter | CKD (Japan) |
| Forming valve | MAC (USA) |
| Temperature control module | WEST (UK) |
| Proximity switch | ROCKWELL (USA) |
| AC contactor\Circuit breaker\Button | SCHNEIDER (France) |
| Intermediate relay | IDEC (Japan) |
| Intermediate Relay Base | OMRON (Japan) |
| PLC\Touch screen\Servo moto | Detla (Taiwan) |

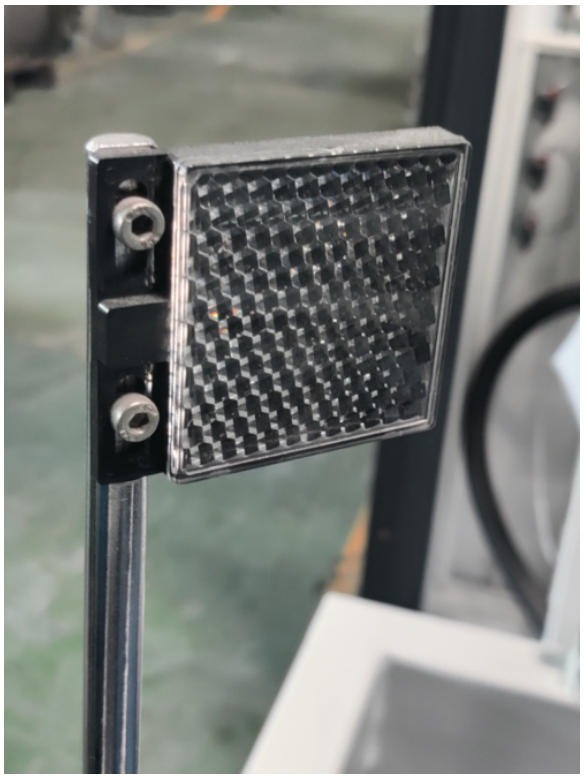
## 3、ELECTRIC FURNACE SYSTEM

1. After heating the starting point, four sections (four times the molding length). More suitable for PP sheet, heating speed faster, higher production efficiency.





2. Sheet overtemperature detection, under the furnace protection device, can make the sheet in excessive heating, prevent the sheet melting in the furnace, so that the furnace quickly moved out, leaving the sheet to protect the furnace.





## 4、FORMING STATION

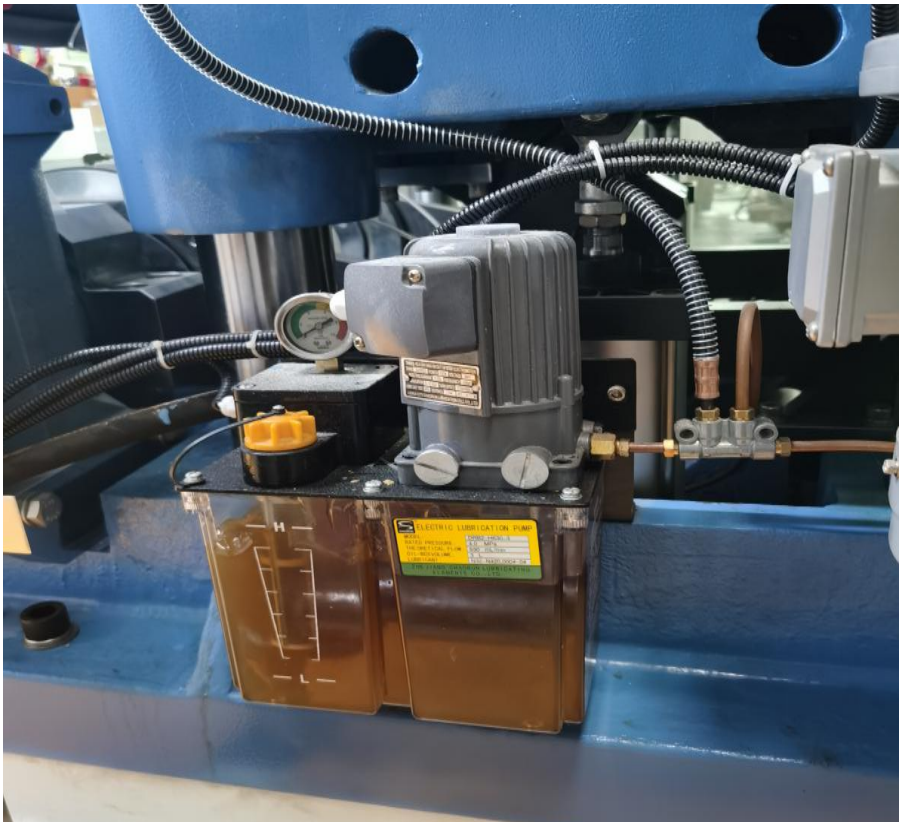
1. Positive and negative pressure molding, positive and negative pressure molding (the maximum 0.7Mpa, approximately equal to 7 times the vacuum suction), the bottom negative pressure suction, so that the molding exhaust more quickly, forming more in place, suitable for PP material, molding difficult product production, depending on the product demand, can choose to use.

2. Can be concave or punch mode, suitable for the use of reverse side, punch products production.

3. Mold quick locking device: when installing the mold, align the T-shaped groove and position it in place quickly, and use the locking device to quickly lock it, effectively shorten the fixed time of the mold. When unloading the mold, the locking device loosens and the mold exits quickly. With the supporting arm of unloading the mold, it is pulled into the loading and unloading truck.



4. Automatic joint lubrication system: joint sliding point, are equipped with pressurized lubricating oil inflow point and oil pipe, oil embellishing system automatic timing and quantitative (adjustable setting) filling, with no oil pressure alarm.



5. Shut down safety device: When shutting down for maintenance and mold change, the operation involving personal safety must use this protection device. It cannot be opened if not in use.

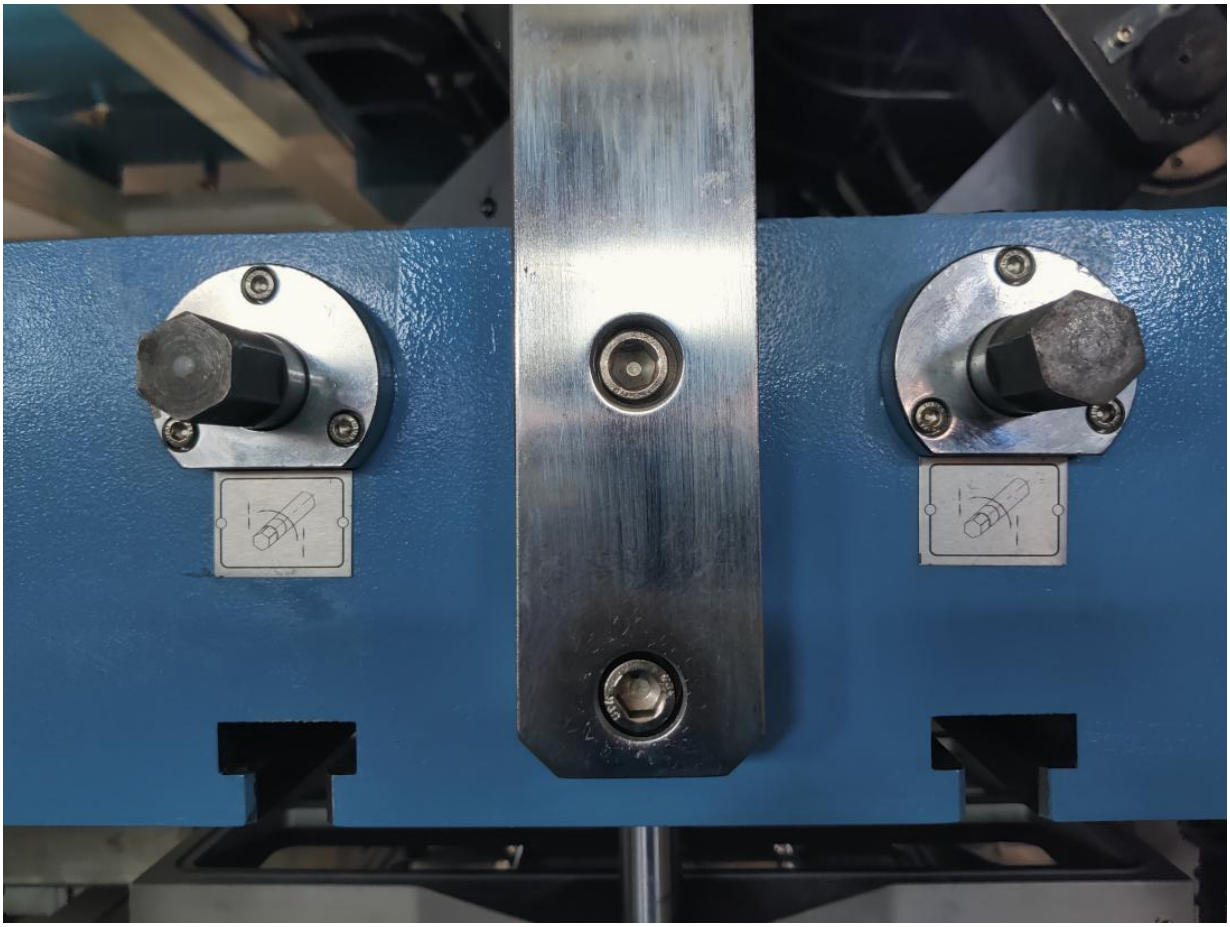
6. Stretch device: this device can be used to make the product more uniform and save materials.

7. Electric adjustment of forming height: when different molds need to adjust the upper part of the position, you can use the adjusting part to automatically adjust, the adjustment is finished, automatic locking.

# 5、CUTTING STATION

1. Cutting knife adjustment and heating device: in order to ensure more beautiful cutting products, you can use cutting shear heating, less burr after cutting, cutting position before and after or diagonally adjusted, effectively complete the adjustment of knife.

2. Cutting die quick locking device: when the cutting die is installed, it can be in place quickly, and the locking device is used to fast lock, shorten the time of changing the die. When the die is unloaded, the locking device is loosened, and the cutting die is pushed out quickly.



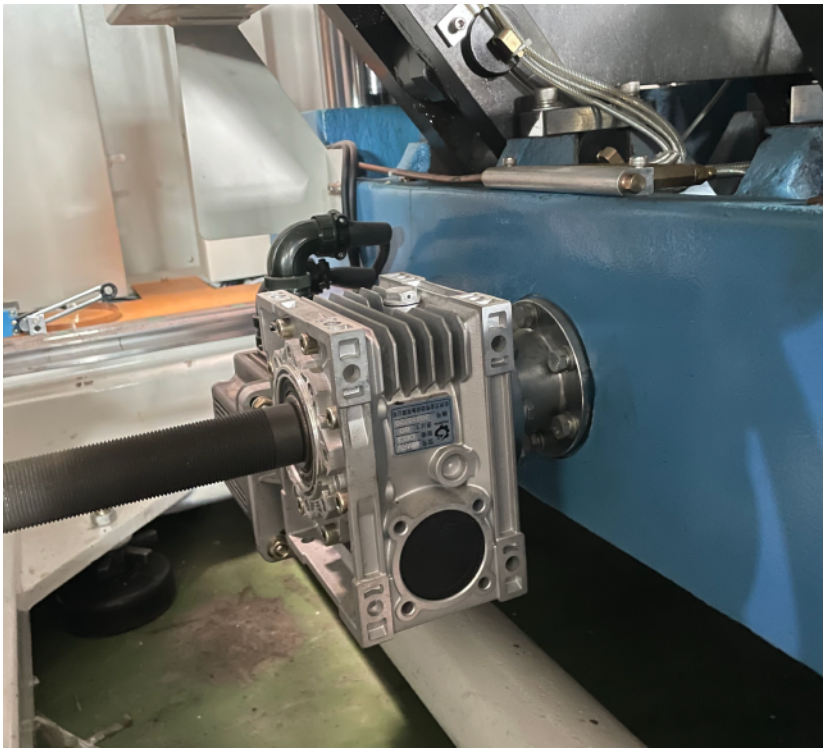
3. High reliability, high precision joint: selection of special alloy materials, finishing, grinding according to the standard process.



## 6、SAFETY DOOR ARRANGEMENT

When the protective door is closed, the machine will work normally. When it is working, open the protective door and it will alarm or stop the machine.

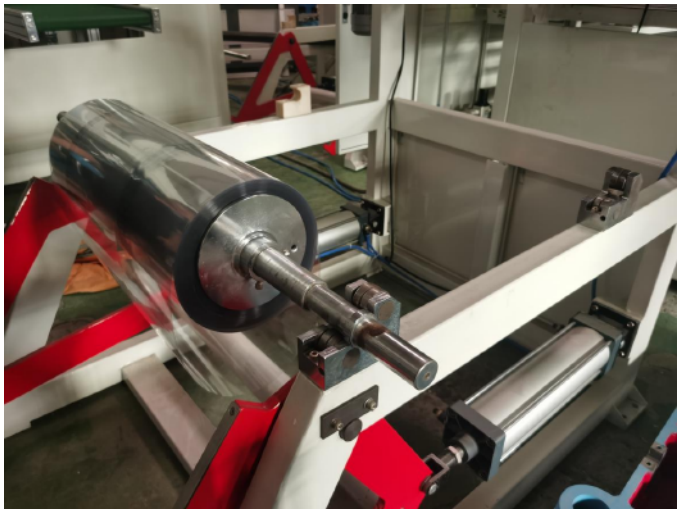
## 7、LOCATION ADJUSTMENT



Electric adjustable station distance, fast and convenient.

## 8、SHEET FEED

Double station coil material supply device, the maximum diameter of the coil is 900mm.





**PHOTOELECTRIC CONTROL FEEDING DEVICE**

# 9、OPERATION INTERFACE

The operation interface is convenient and fast.




# 10、PRODUCT DESCRIPTION

1.Every station is driven by the eccentric crank linkage structure.

2.Feeding and heating part have optoelectronic switch in order to prevent error operating from production process.

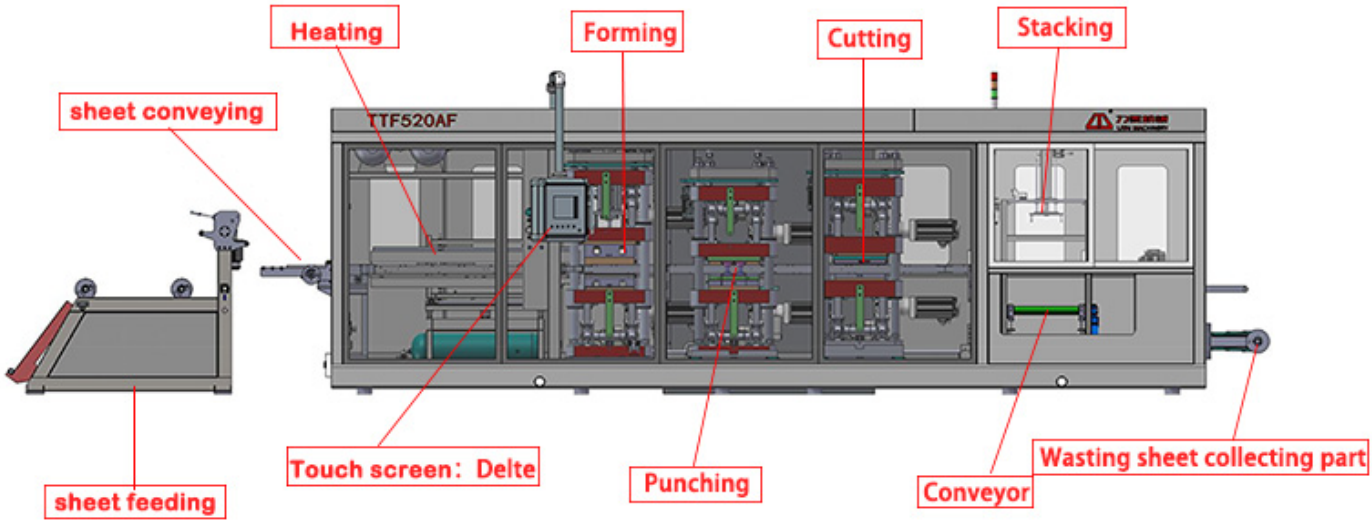
3.The toothed chain made of 65#Mn, helping convey sheet. Aluminum rails with water cooling, save water.

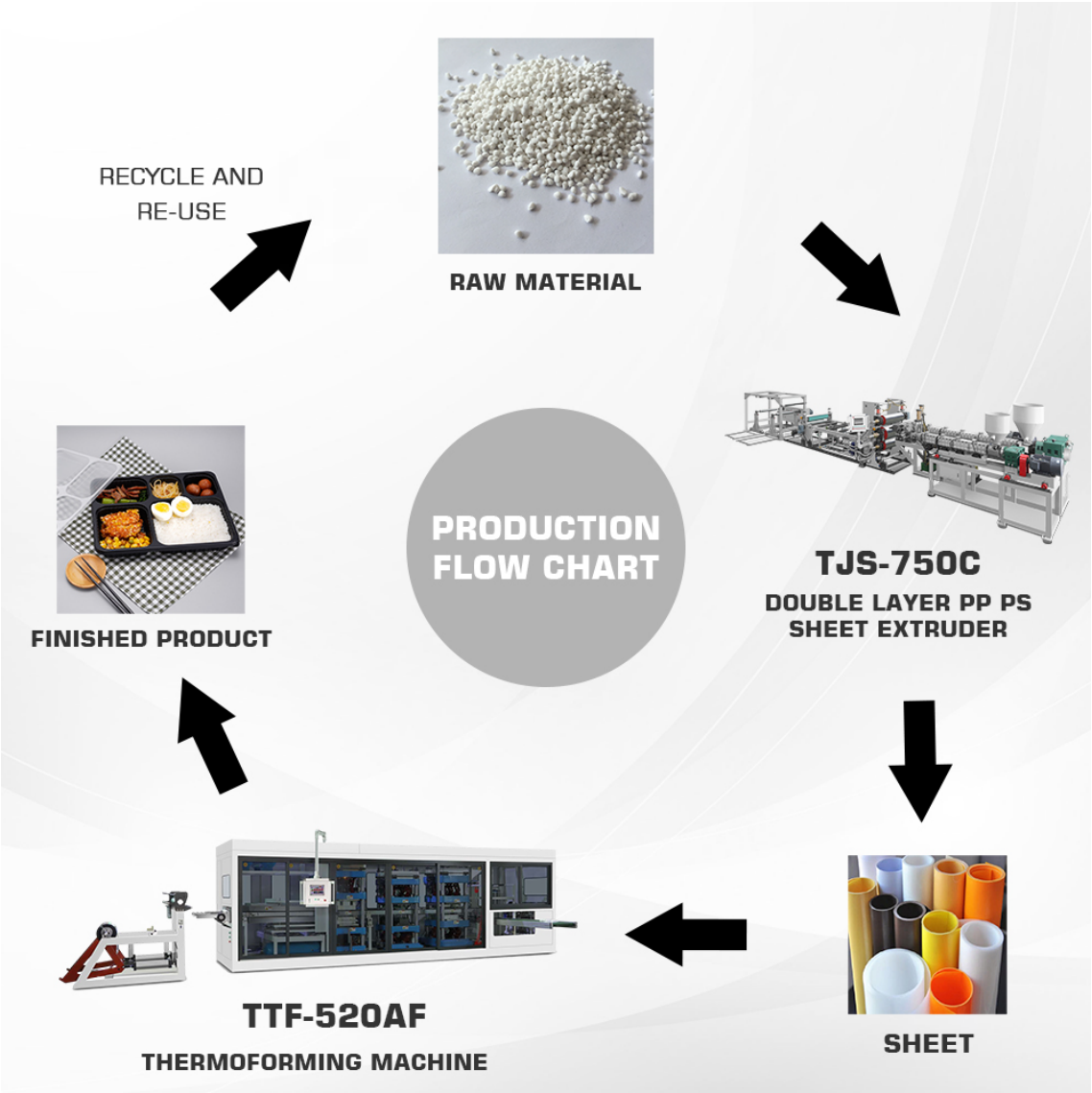
4.The machine adopts PID temperature system, it shows high precision, and temperature control tolerance ＜1℃.

5.Each servo motor has overload protection for machine’s overworking.

6.Low barycenter and height of finished products as well as steady running ensures easy operation and friendly viewing.

7.There is an alarm function of the sliding doors.


Heating
Forming
Cutting
Stacking
sheet conveying
TTF520AF
Touch screen: Delte
Punching
Conveyor
Wasting sheet collecting part
sheet feeding


RECYCLE AND
RE-USE
RAW MATERIAL
PRODUCTION
FLOW CHART
TJS-750C
DOUBLE LAYER PP PS
SHEET EXTRUDER
FINISHED PRODUCT
SHEET
TTF-520AF
THERMOFORMING MACHINE

# 11、AUXILIARY EQUIPMENT




## Chiller

Cool down molds, rails and hydraulic systems while the machine is running.

| | | | |
|---|---|---|---|
| Model | 15F | Motor Power | 13.6kw |
| Refrigerant | R22 | Power supply | AC 380V, 50Hz, Three-phase, Four-wire |
| Cooling fan | 0.55kw x 2 | | |
| Volume of water tank | 150L | Dimension | L1500 x W850 x H1450mm |
| | | Weight | about 750kg |



## Air Compressor

Get enough air during molding.

| | | | |
|---|---|---|---|
| Model | TK-3.6 | Dimension | L1150 x W900 x H1350mm |
| Air displacement | 3.6m³/分 | Power supply | AC 380V, 50Hz, Three-phase, Four-wire |
| Working pressure | 0.8Mpa | | |
| Motor power | 22kw | Weight | about 580kg |



## Air Tank

The auxiliary part of the air compression system keeps the air pressure stable.

| | | | |
|---|---|---|---|
| Volume | 1.0m³ | Inner diameter | 800mm |
| Pressure | 0.8Mpa | Relief valve interface | Rp11/2 |
| Design temperature | 150℃ | Drain valve interface | R1/2 |
| Total height | 2400mm | | |