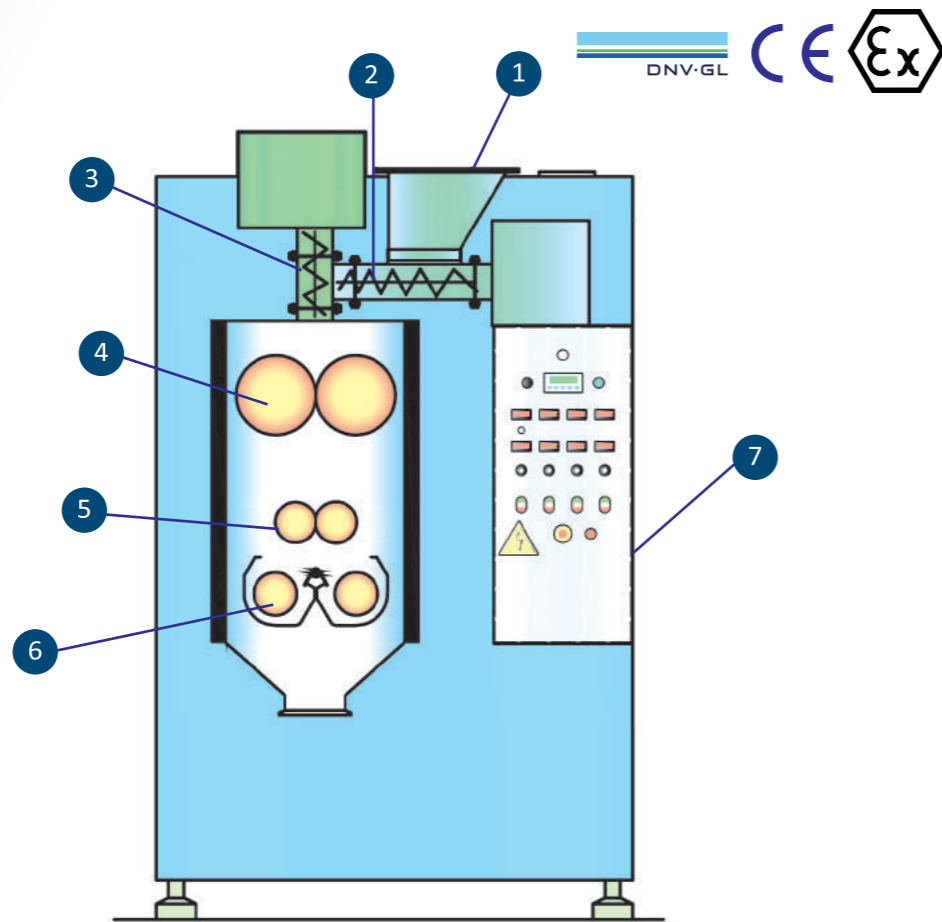


## System Introduction :

- ① Charge Hopper
- ② Feeder Screw
- ③ Pressure Screw
- ④ Roller
- ⑤ Cutting Roller
- ⑥ Dry Granulator
- ⑦ Control Panel



Model YC-RC	YC-RC-5	YC-RC-30	YC-RC-70	YC-RC-100	YC-RC-200	YC-RC-300	YC-RC-400
Capacity (Lactose)(kgs/hr)	5	30	70	100	200	300	400
Compacting Roller (mm)	Φ100 x w40	Φ150 x w60	Φ200 x w80	Φ250 x w120	Φ300 x w150	Φ350 x w150	Φ400 x w150
Roller Pressure (Max.)(Kg/cm <sup>2</sup> )	6000	7000	10000	13000	17000	35000	40000
Roller Motor (Kw * Unit)	2.2	3.7	3.7	5.5	12	15	17
Net Weight(kg)	1000	1100	1250	1300	2800	3000	3500
Dimensions (WxDxH mm)	800 x 1000 x 1750	800 x 1000 x 1660	850 x 1300 x 2200	1100 x 1600 x 2550	1100 x 1600 x 2550	1400 x 1900 x 2650	1600 x 2000 x 3000

BD=0.5g/c.c. The above information is for reference only, please contact the service personnel for detailed functional specifications.

Agent

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Since 1967

# Roller Compactor



[www.yench.com.tw](http://www.yench.com.tw)



Compactor

Granulation system

Cutting roller



### Application :

1. Pharmaceutical
2. Biotech products
3. Chemical Industry
4. Agricultural products
5. Food Industry
6. Electrical, Mechanical and other industry
7. Pigment

### Theory :

1. Dry granulation can provide a simple solution for drugs which are sensitive to water and products with poor flow ability or needed to increase in density. Since the water and solvent does not be required during production so that the drying process is not necessary. (Binder and lubricant can be added)
2. The powder is pushed downward into pressure screw by screw feeding system which then passes through the gap between two compacting rollers where pressure screw and hydraulic pressure squeeze the powder to form flakes. The flakes are then chopped into smaller sizes by cutting rollers. Lastly by dry granulation process, the amount of uniform size granules are made as required.

### Features :

1. **Regulatory compliance** : cGMP 、PIC/S 、21 CFR part11.
2. **Turnkey design** : The roller compactor is designed with 3 functions, which are “compression”, “cutting”, and “granulation”.
3. **Flexible adjustment** : Hydraulic pressure is adjustable to accommodate wide range of materials. Powder feeding screw and roller speed can be adjusted with variable speeds.
4. **Cooling function**: The connection of a cooling system to the bottom of the hopper can reduce the high temperature generated during operation to ensure product quality.
5. **Closed-system design** : Dust does not leak during production.
6. **Utility model patent** : Powder feeding screw, roller, cutting roller, granulation claw, granulation screen can be fast installed and removed. (Patent no. : M479160)
7. **Easy to clean**: Inside of machine can be washed directly with water to improve clean efficiency.
8. **Without water in the granulation process**: Products which are sensitive to water, light bulk density, or poor flow ability can reach a stable result by applying the dry granulation process.
9. **Process transparency**: Production process can be clearly inspected by the large sight windows.

### Calculation :

Three adjustable variables: screw speed, roller speed and roller pressure. The calculation of bulk density is related to adjusting of the roller gap, the screw speed and the roller speed. The capacity of the machine depends on the specific gravity, bulk density and types of material.

$$Q = \pi * D * W * t * \gamma * N * 60$$

D : Roller diameter , W : Roller width , t : Flake thickness ,

$\gamma$  : Bulk density , N : Roller speed

### Option :

1. Vibration sifter: placing a vibration sifter on the discharge port which can sieve out small and undersize granules for re-granulation.
2. Automatic suction conveyer :
  - (1) Powder level gauge installed for automatic feeding to achieve automatic procedure.
  - (2) Fine powder and under sized granules is vibration sieved and sucked back to the hopper by suction conveyer to reduce the inconvenience of manual operation.
3. Auto control flake thickness: The flake thickness can be controlled by controlling Hydraulic, Feeder screw or roller system.



Fine powder

Granules

Compacted flakes