

**GENERAL SPECIFICATION**

**OF**

**NV-40mm**

**SINGLE SCREW EXTRUDER**

**FREESIA MACROSS CORPORATION**

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1. Specification of extruder

- 1-1. Type :General purpose single screw extruder
- 1-2. Capacity : 50~150kg/h(ABS pellet)
- 1-3. Dimension
  - Centre height : 1,000mm
  - Length : 2,400mm
  - Width : 700mm
  - Height : 1,700mm
  - Weight : 900kg
- 1-4. Voltage and capacity of power supply
  - Voltage : 380~440V, 50~60Hz, 3phase (standard)
  - : 200~220V, 50~60Hz, 3phase (option)
  - Capacity : 31kVA(the capacity varies by option)

2. Component of machine

- 2.1. Cylinder
  - 2-1-1. Content and material of cylinder
    - Material :Nitride steel(SACM645) (standard)
    - nitride
    - L/D : 36(One vent) (standard)
    - : 36(non vent) (option)
    - : 24(for PVC non vent) (option)
    - Inside shape : Wholly round shape (standard)
  - 2-1-2. Heating and cooling of the cylinder
    - Control :PID temperature control
    - Temperature Control zone : 5 zone
    - Heater : Band heater
    - Capacity of heaters : 7.8kw
    - Cooling method : Air cooling by blower (standard)
    - Blower : 0.09kw x 4 (standard)
    - Control of cooling : Control by upper temperature alarm (standard)
    - of temperature controller
    - Feed Zone : Equipped with water jacket for (standard)
    - cooling

2-2.	Screw Type	:Dulmage type(L/D=36, vent type) :The "Ohtake" super mixing type : Full flight type(L/D=36, non vent) : For PVC (L/D=24 non vent)	(standard) (option) (option) (option)
	L/D	: 36 : 24	(standard) (option)
	Material	: SACM645 (nitride steel) nitride treatment	(standard)
	Compression ratio	: 2.5	(standard)
	RPM	: 320rpm	(standard)
2-3.	Hopper Type	: Round type with a gate shutter : Square type(for feeding film)	(standard) (option)
	Capacity	: 100 liter	
	Material	: SUS304	
2-4.	Die (standard type) Type	: Square flange, 2 eye bolts (right & left) : Strand die	
	Q'ty of strand line	: 2 lines	
	Diameter of nozzle	: $\phi$ 4.5mm	
	Heater	: Band heater, space heater, pipe heater	
	Capacity of heater	: 0.7kw	
	Q'ty of temp.controlled zone	: one zone	
	Temp. Control	: PID controlled	
	Voltage of power supply in heater	: 380~440V	(standard)
		: Voltage down to 200V	(option)
	Breaker	: Breaker plate or Breaker ring (select one from them)	
2-5.	Main Motor		
	Capacity	: 22kw	(standard)
	Voltage of power supply	: 380~440V : 200~220V	(standard) (option)
	Type	: AC motor, fixed speed : AC motor controlled by inverter, variable speed	(standard) (option)
	Insulation	: Class F	
	Index of protection (IP)	: IP22	

## 2-6. Control Panel

### 2-6-1. Equipment

Temperature control	: 6 zone
For barrel	: 5 zone
For die	: 1 zone
Control	: PID control
Switches	: Main motor ON/OFF
Indicator	: Main motor ammeter
Display	: Power ON, Main motor ON

\*When inverter is selected as option, speed controllers, screw tachometer, alarm indicator are included.

2-6-2. All inverter and thyristor unit for motor are equipped in.

2-6-3. All breaker and magnet switches are equipped.

2-6-4. Index of protection (IP) : IP22

2-6-5. Distributing power

Main motor circuit
Heater circuit 1
Heater circuit 2
Blower circuit
Control circuit (AC 200V)

### 2-7. Standard accessories

Screw removing tools	: one set
Special tool set	: one set

### 2-8. Other options

#### 2-8-1. Resin pressure gauge

Display	: Digital display on the control panel
Alarm	: Displayed on the control panel
Sensor	: On the square flange
Range	: 0~500kg f/cm <sup>2</sup> (0~5MPa)

#### 2-8-2. Resin thermometer

Display	: Digital display on the control panel
Alarm	: Capable output to alarm
Sensor	: On the square flange
Range	: 0~500° C

2-8-3. Calendar timer  
Display and control : Digital display on the control panel

\*Time of start up of heating is set every day automatically.

2-8-4. Screen Changer  
Auto screen changer attached to the die  
Hydraulic cylinder, with hydraulic unit  
Manual operation to valve  
Breaker : two packs type  
Hydraulic unit : 1.5kw-4P

Down stream equipment

3-1 2.25m cooling tank  
3 Dimension : L2,250 x W360 x D220mm  
Material : SUS304  
Guide roller : MC nylon  
Stand : 3pcs(2pcs downward, 1pc upward)  
: Angle

3-2 Drier  
Type : NV-40SG1  
Q'ty of sucking nozzle : 18 x 1 tower  
Sucking blower  
Type : Turbo blower  
Motor : 200/220V, 380V,  
400/440V-0.18kw-2P

3-3 Pelletizer  
Type : ST-SG 3.0  
Main Motor : 200/220V, 380V,  
400/440V-2.2kw-4P  
Length of pellet : 3mm  
Stand : Made from angle, with caster  
Rotary Blade  
Material :SUS base with cemented carbide  
tips  
Diameter of the blade :  $\phi$  100mm  
Width of the blade : 150mm  
Q'ty of the blade : 18pcs, single helical  
Fixed Blade  
Material :SUS base with cemented carbide  
(both side)  
Take-up Roller : Rubber lining roller: one pc  
: Knurling roller : one pc  
Take-up speed : Max 62m/min.

\*This machine is made from stainless steel, or hard chromium-plated where the resin moving.

\*This machine is low noise type.

3-4 Classifier Pneumatic blower unit

Type	: MSB600
Vibrator	: 200/220V, 380V, 400/440V-0.2kw
Classifier Screen	: $\phi$ 7mm round holed(pellet) : 1.5 x 12.5mm Slit (powder)
Material	: SUS 304(Where contacting the pellet) : SUS 400 (stand)
Pneumatic blower	: 200/220V, 380V, 400/440V-2.2/3.0kw-2P

Including dust box, filter element, ejector

3-5 Catcher Tank

Capacity	: approximately 1,000 liter(1m <sup>3</sup> )(about 500kg)
Material	: SUS 304 (tank) : SS 400 (stand)

With the door for cleaning, SUS butterfly valve, caster

Note: The hose between pneumatic blower and catcher tank is not included.  
Usually 4~5m hose is necessary.  
Please prepare it at your side when installing.

3-6 Vacuum Pump

Type	: SW-150B, water proof type
Motor	: 200/220V, 400/440V-5.5kw-4P
RPM	: 1,450/1,750 rpm
Max pumping speed	: 2,100/2,500 L/min
Cooling Water	: 12L/min
Ultimate pressure	: 2.3kPa(17 Torr)
Dimension	: 1453 x 713 x 625

#### 4 Spare Parts

4-1 Spare parts of extruder

4-1-1. Screw		
Standard type screw	: L/D=36, vent	set(s)
The "OHTAKE" high mixing type	: L/D=36	set(s)
Full flight type	: L/D=36, non vent	set(s)
Special type for PVC	: L/D=24, non vent	set(s)
4-1-2. Heater set (each one pc all types)		set(s)

4-1-3.	Breaker plate or breaking ring		pc(s)
4-1-4.	Temperature controller	* TTM-14A	pc(s)
4-1-5.	Thermo couple		pc(s)
4-1-6.	Magnet switch (each one pc of all type for heater circuit)		set(s)
4-1-7.	Control relay and timer set ( each one pc of all type)		set(s)
4-1-8.	Bearing & Oil seal set (complete set for one thrust box)		set(s)
4-1-9	Resin Pressure sensor		pc(s)
4-1-10	Resin thermo sensor		pc(s)
4-1-11	Solenoid valve		pc(s)
4-2	Spare parts of down stream equipment		
	ST-SG 3.0 Pelletizer		
	Rotary Blade		pc(s)
	Fixed Blade		pc(s)
	Rubber Roller		pc(s)
	Bearing set for rubber roller		pc(s)
	Nylon gear		pc(s)
	Knurling roller		pc(s)
	Bearing set for knurling roller		pc(s)