

General Specification

OF

NV—65mmSG (Mod.1)

Single Screw Extruder

Freesia Macross Corporation

March 2009

1. Type General purpose single screw extruder

2. Capacity 160 - 400 kg/h (ABS pellet)

3. Dimension

Length	: 3,300mm
Width	: 1,750mm
Height	: 1,500mm
Center height	: 800mm
Weight	: 2,000kg

4. Voltage & Capacity Of Power Supply

Voltage	380~440v, 50/60 Hz, 3 phase (Standard)
	200~220v, 50/60 Hz, 3 phase (Option)
Capacity	114 kw (Approximately) (The capacity varies by option.)

5. Component Of Machine

	Q'ty
5.1 Extruder with one vent port	pc(s)
5.2 Hopper	set(s)
5.3 Hopper screw (Option)	set(s)
5.4 Screw feeder (Option)	set(s)
5.5 Main motor	pc(s)
5.6 Strand die (Standard)	set(s)
5.7 Control panel (Standard)	set(s)
5.8 Other option	
5.9 Spare parts for the extruder	
5.10 Colling water tank	pc(s)
5.11 Dryer	pc(s)
5.12 Pelletizer	
5.13 Spare parts for the pelletizer	
5.14 Classifier · pneumatic blower	pc(s)
5.15 Catcher tank	pc(s)
5.16 Accessory	

6. Detailed Specification

6.1 Extruder

6.1.1 Barrel

Material	: SACM 645 (Nitrided steel)	Nitrided
L/D	: 36 (One vent port)	(Standard)
	: 24 (No vent port, for hard PVC)	(Option)
Shape of inside	: Wholly round shape	(Standard)
	: Eccentric shape of feed zone	(Option)

6.1.2 Heating & Cooling of the barrel

Control of heating	: PID temperature control
Temperature control zones	: 5 zones
Heater	: Band heater
Capacity of heaters	: Approximately 22.4kw
Cooling method	: Air cooling by blower (Standard)
Blower	: 0.37 kw * 4pcs (Standard)
Control of cooling	: Controlled by upper temperature alarm of temperature controller (Standard)
Feed zone	: Equipped with water jacket for cooling

6.1.3 Screw

Type	: Dalmage type (Standard, L/D=36)
	The "Ohtake" super mixing type (Option)
L/D	: 36 (Standard)
	: 24 (Option)
Material	: SACM645 (Nitrided Steel) Nitrided treatment (Standard)
Compression Ratio	: 2.5 (Standard)
RPM	: 430 RPM (Standard)
Water cooling inside the screw	: (Option, for sheeting, hard PVC)

6.2 Hopper (Standard)

Type	: Round type with a gate shutter (Standard)
	: Square type (Option, for feeding film)

Capacity : 100 liter (Standard)
Material : SUS 304

6.3 Hopper Screw (Option)

Type : Supplied by force with vertical screw in a hopper
Capacity of motor : 5.5kw
Screw RPM : 30 - 87 RPM controlled by inverter
(No-step variable speed motor)
Up and down by air cylinder and turned easily for cleaning

6.4 Screw Feeder (Option)

Type : Horizontal twin screw between a hopper and a
extruder
Capacity of motor : 1.5 Kw
Screw RPM : 30 - 180 RPM controlled by inverter

6.5 Main Motor

Capacity : 90 kw
Voltage of power supply : 380 - 440 V (Standard)
: 200 - 220 V (Option)
Type : AC motor, fixed speed (Standard)
: DC motor, variable speed (Option)
Insulation : Class F
Index of protection (IP) : IP22

6.6 Die

Type : Strand die
Shape : Square flange type (Standard)
Diameter of nozzle hole : 5mm
Quantity of strand : 15
Heater : Space heater, pipe heater
Quantity of temp controlled zone : 1
Temp control : PID control
Capacity of the heater : 1.3kw

Voltage of power supply to heater : 380-440V (Standard)
: transform down to 200V from
380-440V (Option)

6.7 Control Panel

6.7.1 Followings are equipped with for operation.

Temperature controllers : 6pcs of PID (Standard, air cooling, L/D=36)
: 5pcs of them for barrels
: 1pc of them for die

All switches : Main motor on/off, thyristor error reset etc.

All indicator : Main motor ammeter etc.

All display lights : Power on, main motor on etc.

When DC motor selected as option, all speed controllers for motors, screw speed setter,
all alarm lights are included.

6.7.2 All inverter and thyristor unit for motors are equipped in.

6.7.3 All breakers and magnet switches are equipped in.

6.7.4 Index of protection (IP) : IP22

6.7.5 Distributing power : Main motor circuit
: Heater circuit 1
: Heater circuit 2
: Blower circuit
: Control circuit (AC200V)

7. Other Options

7.1 Resin pressure gauge

Display : Digital display on the control panel
Sensor : On the square flange part
Range : 0 - 500 Kgf/cm²

7.2 Resin Thermometer

Display : digital display on the control panel
Sensor : on the square flange
Range : 0 – 400°C

14.1 Calendar Timer

Time of start up of heating is set by hourly unit.
After starting up, temperature is controlled automatically.
Display : Digital display on the control panel

7.4 Screen Changer

Hydraulic cylinder type : 1.5Kw
Breaker : 2 packs type

	Q'ty
8. <u>Spare Parts (All Spare Parts Are Option)</u>	
8.1 Screw	pc(s)
Standard type	: L/D=36
The "Ohtake" Super mixing type	: L/D=36
Special type for PVC	: L/D=24
8.2 Heater set (Each 1pc of all types)	set(s)
8.3 Breaker plate	pc(s)
8.4 Temperature controller	pc(s)
8.5 Each thermocouple	pc(s)
8.6 Magnet switch set	set(s)
Each (1pc) of all types for circuit of heaters	
8.7 Control relays & timers set	set(s)
Each (1p) of all types	
8.8 Bearings & oil seals set	set(s)
Complete (1set) for one gear box	

	Q'ty
8.9 Each spare parts for DC 90kw motor	
Filter	pc(s)
Brush	pc(s)
200V Class Thyristor	pc(s)
400V Class Thyristor	pc(s)
200V Class Fuse	pc(s)
400V Class Fuse	pc(s)
8.10 Resin pressure sensor	pc(s)
8.11 Resin thermo sensor	pc(s)
8.12 Solenoid valve(For water cooling)	pc(s)

9. Cooling Water Tank

9.1 Dimension

Length	: 4500mm
Width	: 350mm
Depth	: 220mm

14.1 Material

Water tank	: SUS304
Stand	: SS41(Angle)
Guide roll	: MC Nylon

6pcs (4pcs Downward, 2pcs Upward)

10. Dryer

10.1 Type	: MWS-III
Sucking nozzle	: 31slits * 2-Towers
14.1 Sucking blower	
Type	: Turbo blower
Wind volume	: 30.2m ³ /min (60Hz)
Static pressure	: 325mmAq
Motor	: 1.5kw-2P

11. Pelletizer

11.1 Type	: G-SG7.5
11.2 Length of the pellet	: 3mm
11.3 Take-up speed	: Max 83m/min

- 11.4 Motor : 5.5Kw-4P
No-step variable speed controlled by inverter
- 11.5 Rotary blade : Stainless steel base (All in one piece)
with cemented carbide tip
 ϕ 120*Width200mm 20pcs of blades
- 11.6 Fixed blade : Stainless steel base with cemented carbide tip
(for both sides)

14 Classifier Pneumatic Blower Unit

- 12.1 Type : MSB600
- 12.2 Vibration type classifier
 - Classifier screen : ϕ 7mm round hole (Pellet)
: 1.5*1.25 slit (Powder)
 - Material : SUS304(where contacted with the pellet)
: SS41(frame)
 - Vibrator motor : 0.25Kw
- 12.3 Pneumatic blower : 2.3/3.4kw-2p
- 12.4 Dust box, Filter element, Ejector included

13. Catcher Tank

- 13.1 Capacity : Approximately 1,000liter (Approximately 500kg)
- 13.2 Material : SUS304 (Tank)
: SS41 (Leg)

13.3 With door for cleaning, SUS butterfly valve, castor

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

14. Accessory

- 14.1 Screw removing tools : 1 set
- 14.2 Standard tool set : 1 set