

General Specification
OF
NV – 100mmSG (Mod.2)
Single Screw Extruder

Freesia Macross Corporation

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1. Type General purpose single screw extruder

2. Capacity 300 - 500 kg/h (ABS pellet)

3. Dimension

Length	: 4,300mm
Width	: 1,900mm
Height	: 1,900mm
Center height	: 820mm
Weight	: 3,500kg

4. Voltage & Capacity Of Power Supply

Voltage 380~440v, 50/60 Hz, 3 phase (Standard)

200~220v, 50/60 Hz, 3 phase (Option)

Capacity 131 kw (Approximately) (The capacity varies by option.)

5. Component Of Machine

		Q'ty
5.1	Extruder with one vent port (Standard)	pc(s)
5.2	Hopper (Standard)	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	Cooling 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	: 32 (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	: 4 zones	
Heater	: Band heater	
Capacity of heaters	: Approximately 38kw	
Cooling method	: Air cooling by blower	(Standard)
Blower	: 0.37 kw * 3pcs	(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=32)
	: The “ Ohtake “ super mixing type	(Option)
L/D	: 32	(Standard)
	: 24	(Option)
Material	: SACM645 (Nitrided Steel)	Nitrided (Standard)
Compression Ratio	: 2.9	(Standard)
RPM	: 160 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	: 200 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 , continuous variable speed
(Option)
Insulation : Class F
Index of protection (IP) : IP22

6.6 Die

Type : Strand die
Shape : Round screw type ,attached to the extruder by
screwing itself (Standard)
: Square flange type ,quick and easy attachment
to the extruder (Option)
Diameter of nozzle hole : 4.5mm
Quantity of strand : 25
Heater : Band heater

Quantity of temp controlled zone	: 1
Temp. control	: PID control
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 : 5pcs of PID (Standard, air cooling, L/D=32)
: 4pcs 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 controller 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 : only attachable to square flange type die

Display	: Digital display on the control panel
Sensor	: On the square flange

Range : 0 - 500 Kgf/cm²

7.2 Resin thermometer : Only attachable to square flange type die

Display : Digital display on the control panel

Sensor : On the square flange

Range : 0 – 400°C

7.3 Calendar timer

Timer 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. Spare Parts (All Spare Parts Are Option)

8.1 Screw pc(s)

Standard type : L/D=32

The “ Ohtake” Super mixing type : L/D=32

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	Q'ty
Each (1pc) of all types	set(s)
8.8 Bearings & oil seals set	set(s)
Complete (1set) for one gear box	
8.9 Each spare parts for DC90kw 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
9.2	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
10.2	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 : MAX83m/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 tips
11.6 Fixed blade : Stainless steel base with cemented carbide tips
(for both sides)

12. 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 window 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