GUANGZHOU FITTING CIRCLE TECHNOLOGY CO., LTD

Cable Gravimetric Measurement & Control System — Technical Specifications

Closed-loop weight-per-meter control system · Product specifications and configuration

Item	Description
Version	V1.0
Models	NHY-M-7L / NHY-M-22L / NHY-M-48L / NHY-M-52L / NHY-M-60L
Date	October 2026
Application	Extrusion lines for optical fiber cable, submarine cable, power cable, UHV cable, automotive cable, etc.

±0.25%	≤0.001% FS	7–60 L	1%–5%
Control accuracy	Weighing accuracy	Hopper capacity	Material saving

1 Product Overview

Installed above the extruder feed port, the system uses PID closed-loop control to hold the weight per meter and to adjust screw speed, haul-off speed and feed rate in real time. It is equipped with a Siemens S7-1200 PLC and touch screen for intuitive operation and easy service.

Full inspection instead of sampling Real-time monitoring of weight per meter, outer diameter and output, with full traceability.

1%–5% material saving Precise extrusion control and less scrap from weight deviation.

Fits new and existing lines Compatible with all extruders, haul-off and take-up units, with no major modification.

2 Technical Specifications

2.1 Models and dimensions

Model	NHY-M-7L	NHY-M-22L	NHY-M-48L	NHY-M-52L	NHY-M-60L
Hopper capacity	7 L	22 L	48 L	52 L	60 L
Sensor range	10 kg	20 kg	30 kg	50 kg	50 kg
Overall height	730 mm	880 mm	1020 mm	1080 mm	1150 mm
Width × length	355 × 280 mm	355 × 280 mm	355 × 280 mm	355 × 280 mm	355 × 280 mm

Note: width × length is the floor footprint and height is the overall height; the data above applies to standard models — customised models follow the approved drawing.

2.2 General data

Item	Value	Item	Value
Power supply	AC 220 V	**Power consumption**	Approx. 50 W
Operating temperature	−10 to +50 °C	**Operating humidity**	≤ 90% R.H., non-condensing
Control mode	Single / dual	**Control accuracy**	±0.25%
Weighing accuracy	≤ 0.001% FS	**Input sensitivity**	0.5 V/d
Controller	Siemens S7-1200	**Speed acquisition**	SICK proximity switch
Total weight	60 kg	**Installation position**	Above extruder feed port
Remote control	Mobile APP / PC	**Display**	Colour touch screen, Chinese interface

3 Standard Configuration

No.	Component	Qty.	Specification
1	Frame structure	1 set	All-aluminium alloy, anodised
2	Power cabinet	1 set	Stainless steel, painted
3	Hopper	1 set	Stainless steel
4	Alarm beacon	1 set	Tri-colour beacon
5	PLC controller	1 set	Siemens S7-1200
6	Weighing system	1 set	Dynamic weighing, accuracy ≤ 0.001% FS
7	Speed acquisition	1 set	SICK proximity switch, Germany

4 Key Functions

Real-time display Weight per meter, outer diameter, hourly output, screw speed, haul-off speed.

Multiple alarms Material shortage, weight fluctuation, screw or haul-off fault.

Output statistics Graphical production statistics by year / month / day.

Remote operation Mobile APP or PC at another site (can be disabled).

Traceability 24-hour monitoring; full-year records of operation, alarms, shifts and orders.



Fig. 1 Touch-screen operator interface (1024 × 600)

5 Performance and Benefits

Parameter	Value	Parameter	Value
Weight-per-meter accuracy	±0.25%	**Weighing accuracy**	≤ 0.001% FS
Material saving	1% – 5%	**Dynamic response**	Millisecond-level
Diameter / weight	Stable; unaffected by bare wire	**Continuous operation**	24 hours a day

Return on investment (conservative: 2.5% saving, RMB 9.00/kg):

Production line	Calculation	Annual saving
650 kg/h	650 × 16 h/d × 200 d/y × 2.5% × RMB 9.00/kg	RMB 468,000
350 kg/h	350 × 12 h/d × 200 d/y × 2.5% × RMB 9.00/kg	RMB 189,000
250 kg/h	250 × 12 h/d × 180 d/y × 2.5% × RMB 9.00/kg	RMB 121,500

Note: saving rates and ROI vary with product, material and operating conditions; for reference only.

6 Service and Notes

Service and support Free tailored solution · on-site installation and commissioning · one-to-one training · 7×12 online support · lifetime maintenance and free software upgrades.

1. The data above describes the standard configuration; actual supply is subject to the contract and technical agreement. Special conditions can be customised.

2. The manufacturer reserves the right to improve product structure, data and configuration.