PQMex®

GEL ANALYZER FOR RECYCLING

R.A.M. Realtime Application Measurement GmbH



ONLINE QUALITY MEASUREMENT FOR PCR MATERIALS

The PQMex® (Parallel Quality Measurement Extruder) detects, evaluates and records contamination in PE regranulates (LDPE, MDPE, LLDPE, HDPE). Gels, specks, holes and other defects are captured, classified and condensed into a quality grade – an objective basis for releasing and sorting recyclates.

Key Features

- **Comprehensive defect detection:** A high-resolution line-scan camera identifies defects such as gels, specks, soot particles, fish-eyes, holes, haze, and dust.
- **Real-time analysis (Online Quality Grade)**: Continuous measurement and classification of defects directly during the process.
- **Smart Classifier:** Detects and classifies defects by type, size, area, and their suitability for further processing in film production.
- **User-friendliness:** Automatic operation and easy handling thanks to recipe control for quick material changes.
- **Data Management:** Local storage of historical data in an internal SQL database, and customizable reports via the vSTAT module.
- **Automation:** Automatic granulate feeding via an optional Venturi into the PQMex® hopper.

TECHNICAL SPECIFICATIONS

Category	Property	Specifications
General	Machine dimensions (L × W × H)	1850 × 700 × 2000 mm
	Weight	300 kg
	Hopper volume	2 l
	Heating zones	6 (Barrel 1–3, Feedblock, Mould 1–2)
	Max. process temperature	240 °C
Drive	Max. screw speed (mechanical)	57 rpm
	Screw motor	1440 rpm · 2.2 kW · 50 Hz
	Screw gear ratio	1:25
	Max. haul-off speed	6 m/min
	Haul-off / winder motor	1200 rpm · 40 W · 50 Hz
	Haul-off / winder gear ratio	1:50
Software	CAMEN	Version 12
	vSTAT	Version 1 (internal SQL database)
Camera	Resolution	4096 px · 25 µm
	Line rate	25 kHz
	Viewing width	Max. 100 mm
LED	Length	300 mm
	Illuminance	500 000 lx
Sensor accuracy	Fill-level sensor	± 2 mm
	Bubble diameter sensor	± 0.3 mm
	Thickness sensor (option)	± 1 µm
IPC	Main memory (RAM)	32 GB
	SSD	1 TB
Environment & installation site	Operating temperature	0–45 °C
	Humidity	5–95 % (non-condensing)
	Site requirements	Flat, load-bearing, clean and dry; no foundation required; indoor installation only.
Electrical supply	Voltage & frequency	400 V · 50 Hz · 3~
	Power consumption	Max. 7.5 kW | average 4.0 kW
	Connection type	CEE plug 400 V / 16 A / 3~ industrial socket outlet
Compressed air supply	Air pressure	7–10 bar
	Flow rate	Without Venturi: 10 l/min Per Venturi: 420 l/min
	Quality & connection	Oil-free and dry | quick-connect coupling NW 7.2

Communication	Network	RJ45 Ethernet connection (industrial network, segregated segment recommended)
	Data storage	Stored locally in an internal SQL database; reports via the vSTAT module

Conformity and documentation

The PQMex® bears the CE marking and conforms to Directive 2006/42/EC (machinery), Directive 2014/30/EU (electromagnetic compatibility), Directive 2011/65/EU (RoHS) and Directive 2012/19/EU (WEEE).

The machine is Class A equipment in accordance with EN 55011 and EN IEC 61000-6-4. It is intended for industrial electromagnetic environments and is not intended for use in residential environments.

Supplied documentation: operating manual MAN-PQMEX-EN-001, calibration manual MAN-PQMEX-EN-002 with calibration record MAN-PQMEX-EN-002-F01, and cleaning and routine maintenance manual MAN-PQMEX-EN-003. The vSTAT software is described in the user manual MAN-VSTAT-EN-001.

All data refer to the standard configuration. Values are nominal unless a tolerance is stated. Subject to technical change without notice; this datasheet is not a guarantee of properties.

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