



Qlar

Processing solutions for **plastics and** **performance materials**

Precision in

- weighing
- feeding
- material handling



Driving **circular**
transformation



Our infographic illustrates the cycle - from polymer production to processing, use, and recycling.

The complete plastics journey - moving away from the linear "take-make-dispose" model toward a circular economy - Qlar supports the entire plastics value chain with precision metering, feeding, and material handling solutions.

Closing the loop: Smart solutions for plastics

Plastics are an essential part of modern life, but their production and disposal put immense pressure on the planet's resources. As demand grows, sustainability depends on moving away from the traditional "take-make-dispose" model. The key lies in a circular economy, where materials are continuously recycled, reused, and kept in the loop.

At Qlar, we support every step of the plastics value chain with precision metering, feeding, and handling solutions - from raw material production and

processing to collection and recycling. Our approach minimizes waste and maximizes efficiency, ensuring a smarter, more sustainable plastics industry.

Driving circular transformation

This vision drives our commitment to transformative technologies and services that power the shift towards circularity. With precision metering and advanced feeding technologies, we help minimize waste and maximize efficiency at every stage.

Precision solutions from polymer production to recycling

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Polymer production

The production of polymer is the foundation of the plastics value chain. From raw material intake to precision feeding and mixing, each step must be optimized for efficiency, quality, and sustainability.

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Polymer processing

Plastic compounding is a key step in material development, requiring both precision and expertise. Two factors are essential for optimal results: accurate metering systems as well as flexibility in production lines and recipe adjustments.

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Recycling

Recycling plastics - from PET bottles to polymers used in construction, automotive, and household appliances - is a complex process. The composition and quality of plastic waste vary greatly, making clean separation and efficient reuse a challenge.



Polymer production

Additive and polymer metering systems for polyolefin plants



When producing polyolefins maintaining a consistent material flow, accurately dosing additives, and ensuring reliable process control are critical. With expertise in polyolefin granulation, bioplastic compounding, and bulk material handling, Qlar helps optimize production plants and integrate modern, energy-efficient solutions. Our high-precision feeding and metering technologies ensure long-lasting, reliable performance in demanding production environments.

For bio-based polymers like PLA-starch blends or PBAT, accuracy in feeding is essential to achieving the right mechanical properties, transparency, and biodegradability. Qlar's Coriolis mass flow meters MULTICOR S measure bulk material flow, while our loss-in-weight feeders dose stabilizers, fillers, and other additives with an accuracy better than $\pm 0.5\%$ - ensuring the perfect mix every time.

Gravimetric feeders for polymer production

The Loss-In-Weight Feeder MET CS is used for continuous and batch gravimetric feeding of bulk solids such as powders, granulates, chips, flakes, and fibers.

Typical applications can be found across the board in all industries, though principally in the plastics, chemicals, foodstuffs, and detergents industries.

- Vertically arranged internal agitator
- Feeding and extension hopper made of stainless steel and acid-resistant steel
- Fast, easy disassembly for cleaning and changing products
- Integrated measurement, control and regulation electronics
- High feeding accuracy and consistency, below $\pm 0.5\%$



LIW Feeder MET CS	
Volumetric feed rate range	1-3,000 dm ³ /h
Bulk material	Moderate and poor flowing powders and granules
Bulk density	0.3-1.2 kg/dm ³
Accuracy	+/- 0.5 % (typically)
Feed unit	Single-screw or -helix, twin-screw or -helix
Agitation	Internal vertical agitator
Special features	Optional nitrogen blanketing
Material in contact with product	SS 316 L / SS 316 Ti

Gravimetric feeders for polymer production

The Loss-In-Weight Feeder MET CF is used for continuous or batch gravimetric feeding of bulk solids such as powders, granulates, chips, flakes, and fibers.

Typical applications can be found across the board in all industries, though principally in the plastics, chemicals, foodstuffs, and detergents industries.

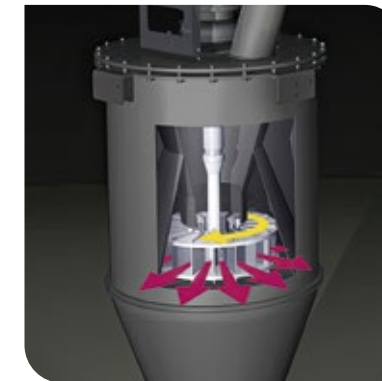
- Loss-in weight feeder for gravimetric feeding of bulk solids
- Feed hopper with flexible wall and external discharge aid
- Fast, easy disassembly for cleaning and changing products
- Integrated measurement, control and regulation electronics
- High feeding accuracy and consistency, below $\pm 0.5\%$

LIW Feeder MET CF	
Volumetric feed rate range	1-3,000 dm ³ /h
Bulk material	Free and moderate flowing powders and granules
Bulk density	0.3-2.0 kg/dm ³
Accuracy	+/- 0.5 % (typically)
Feed unit	Single-screw and -helix
Agitation	External agitation via massage paddles and flexible hopper
Special features	Optional nitrogen blanketing
Material in contact with product	SS 316 L / SS 316 Ti, PVC or Polyurethane

Polymer flow meter for polymer production

Designed as an enclosed measuring system for the acquisition of feed rate and totalized amounts, the Coriolis mass flow meter MULTICOR S is suited for throughput and consumption measurement. Suited for materials with good to slightly sluggish flow properties.

Equipped with controllable prefeeder (e.g. rotary valve or screw conveyor), the measuring system can also be used as dosing system. The Coriolis mass flow meter MULTICOR S series offers solutions for applications using gravity to feed material into processes.



- Continuous mass flow measurement according to the Coriolis principle
- Solution for accurate measurement of high throughput
- Rugged design
- Easily integration
- Dusttight housing

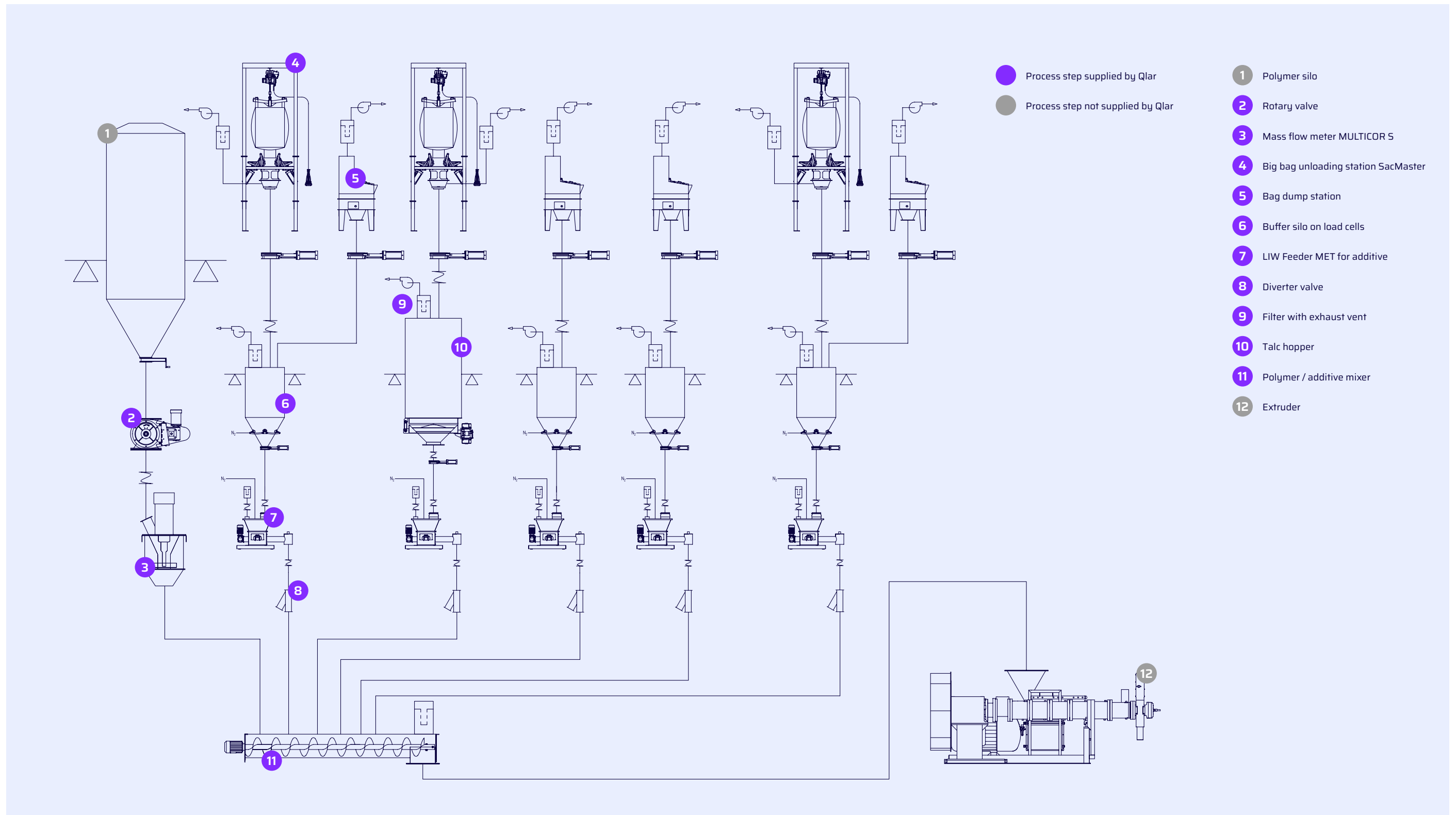


Coriolis mass flow meter MULTICOR S	
Volumetric feed rate range	0.5-260 m ³ /h
Bulk material	Polymer powders or granules
Bulk density	≥ 0.3 kg/dm ³
Measuring principle	Coriolisforce by means of measuring wheel
Accuracy	+/- 0.5 % (typically)
Metering	Combined with additional equipment with VFD, it can be used as a feeding system
Special features	Different measuring wheels available depending on product properties
Material in contact with product	SS 316 L / SS 316 Ti

Polymer production flowchart

After the polymerization and drying of the virgin polymer it has to be stabilized to avoid decomposition by means of exposure to atmosphere, heat and UV-radiation. Therefore the virgin polymer is melted

and blended with different additives in an extrusion process. To protect the polymer during the process, nitrogen blanketing has to be applied.



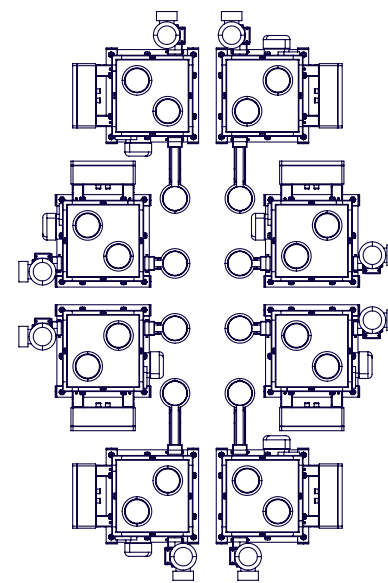
Polymer processing

Accurate gravimetric metering for compounding plants



As functional additives continue to evolve, material handling remains the foundation of successful compounding. When introducing new colors or innovative additives, precise dosing and metering systems are essential for uniform material distribution. Challenging additives like carbon black, titanium dioxide, and calcium carbonate require a highly accurate and robust feeding system when they are fed into the extruder.

Qlar's integrated solutions provide precision dosing for all material types while guaranteeing constancy, accuracy and fast formulation changes through a modular design. This makes them ideal for dynamic, high-performance production environments.



Small footprint due to asymmetric design in combination with extended discharges.

Gravimetric feeders for polymer processing – applications in compounding plants

The Loss-In-Weight Feeder ProFlex C range consists of four different feeder sizes to cover a broad feed rate range of the plastic compound and masterbatch industries. The feed system is used for accurate, continuous volumetric and gravimetric feeding of bulk materials such as powders and granulate materials.



- Space-saving design
- Simple maintenance
- Easy operation
- Easy change of discharge / drive side

LIW Feeder ProFlex C

Volumetric feed rate range ProFlex C100	0.1-100 dm ³ /h
Volumetric feed rate range ProFlex C500	1-500 dm ³ /h
Volumetric feed rate range ProFlex C3000	10-3,000 dm ³ /h
Volumetric feed rate range ProFlex C6000	20-6,000 dm ³ /h
Bulk material	Powder, granules, fibers, flakes
Bulk density	0.1-1.2 kg/dm ³
Accuracy	+/- 0.5 % (typically)
Agitation	Sophisticated external 8-point-agitation via flexible hopper
Special features	- Small footprint due to asymmetric design and optional extended discharge - Minimized discharge pulsation by angular cut
Material in contact with product	SS 304, EPDM/PUR

Gravimetric feeders for polymer processing

The Loss-In-Weight Feeder MET CS VB is used for continuous volumetric and gravimetric feeding of bulk solids such as powders, granulates, chips, flakes, and fibers.

Typical applications can be found across the board in all industries, though principally in the plastics, chemicals, foodstuffs, and detergents industries.



- Dosing equipment for volumetric and gravimetric feeding of bulk solids
- Maintenance-free
- Fast, easy disassembly for cleaning and changing bulk solids
- High feeding accuracy and consistency, below $\pm 0.5\%$

Gravimetric feeders for polymer processing

The Loss-In-Weight Feeder MET LQ is used for continuous gravimetric feeding of liquids such as oils, acids, water, etc. Typical applications can be found in the plastics and chemicals industries.

The actual feed rate is calculated from the weight loss per unit of time. A controller compares the actual feed rate with the set target feed rate and adjusts the pump's dosing performance accordingly. The pump is detached from the weighed section in order to increase measuring accuracy. The advantage is that the Loss-In-Weight Feeder MET LQ can also operate seamlessly under back pressure without affecting measurement accuracy.



- System for the gravimetric feeding of liquids
- High feed constancy and accuracy (typically $\pm 0.5\%$)

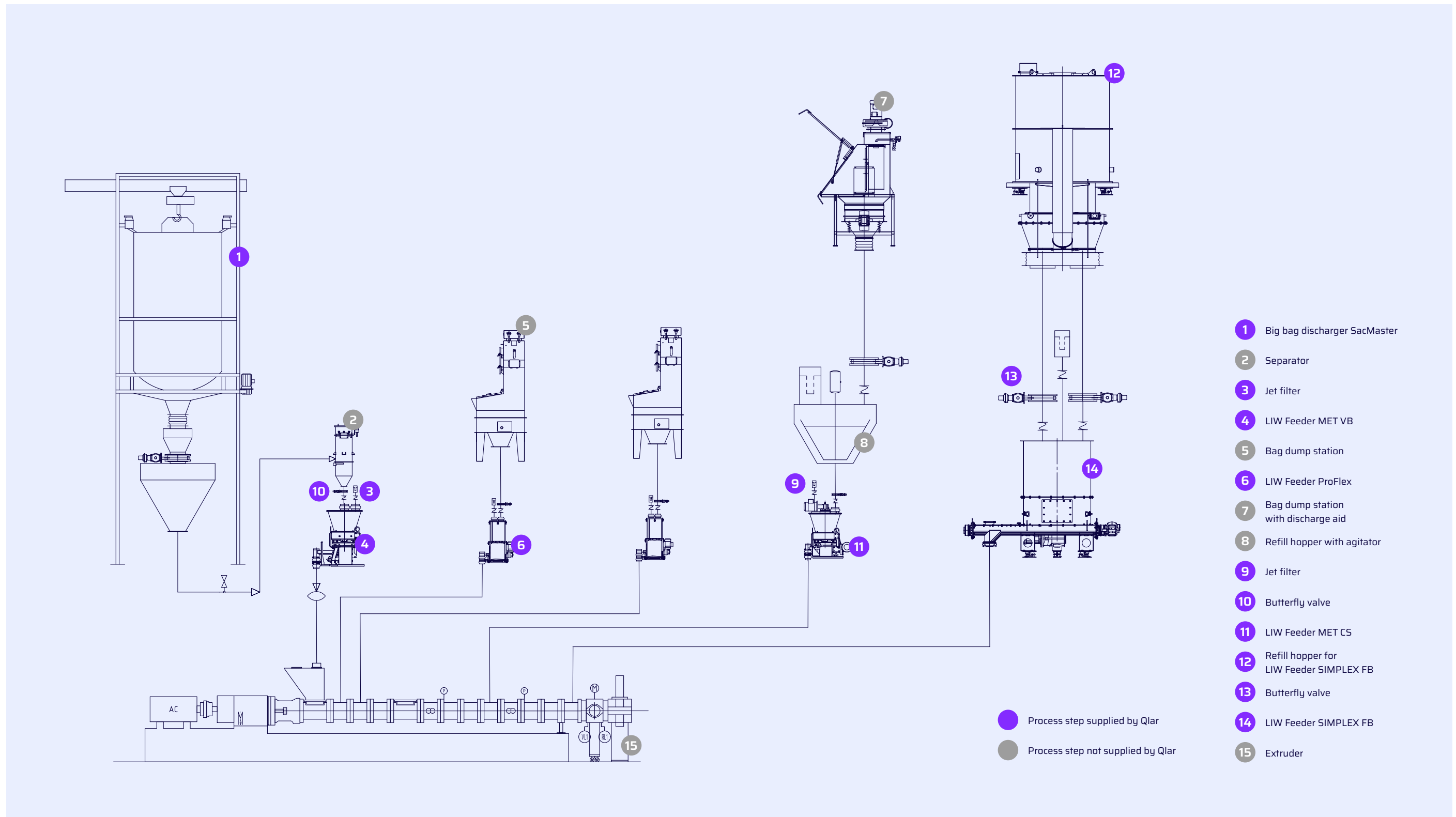
LIW Feeder MET CS VB	
Volumetric feed rate range	1-20,000 dm ³ /h
Bulk material	Free flowing powders, granulates, chips, flakes, and fibers
Bulk density	0.3-1.0 kg/dm ³
Accuracy	+/- 0.5 % (typically)
Feed unit	Vibrating chute
Agitation	Optional internal agitation
Special features	Maintenance-free, high turn down ratio
Material in contact with product	SS 316 L / SS 316 Ti

LIW Feeder MET LQ	
Volumetric feed rate range	1-300 dm ³ /h
Bulk material	Liquid additives, lubricants, etc.
Viscosity	1-7,500 mPas
Accuracy	+/- 0.5 % (typically)
Counter pressure	Up to 70 bar
Agitation	Optional internal agitation
Special features	Optional heating system
Material in contact with product	SS 316 L / SS 316 Ti

Polymer processing flowchart

To achieve the desired properties such as color, thermal and/or mechanical properties (tensile strength etc.) the Polymer granules coming from

the petrochemical plant are melted and then blended with additives, fibers, pigments and fillers in an extrusion process.



Recycling

Feedstock handling and metering in a chemical recycling plant for post-consumer plastic wastes



Plastics can be mechanically or chemically recycled or used as an alternative fuel. While mechanical recycling is only suitable for unmixed plastic waste such as industrial packaging or plastic bottles, chemical recycling is considered when plastics cannot be sufficiently sorted or cleaned. In this process, polymers are broken down using thermal energy, producing synthetic oils and gases that can replace fossil feedstocks in new plastic production.

However, plastic waste poses significant material handling challenges. Its low bulk density makes dosing and transport difficult, while irregular flow

properties can lead to backups and blockages. The high volume of plastics further complicates logistics and processing. Precise and continuous feeding is crucial to ensure smooth operation and high processing efficiency.

To overcome these challenges, Qlar provides advanced feeding solutions tailored to recycled materials. The Loss-In-Weight Feeder SIMPLEX FB and gravimetric weighfeeder MultiFlex, for example, is designed for handling shredded plastic film, fibers, and postconsumer waste, ensuring efficient material feeding and uninterrupted processing.

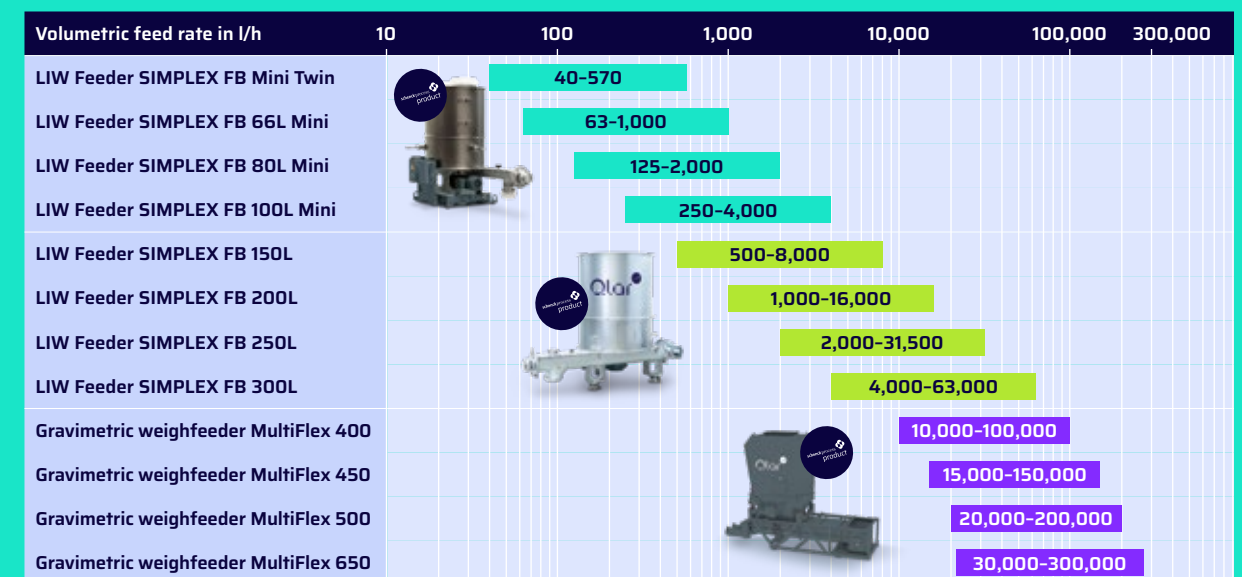
Precise metering technology and smart solutions for efficient recycling

Qlar is your trusted global partner for precise metering in recycling processes, delivering reliable solutions for even the most challenging feedstock characteristics. Our advanced feeding technology ensures seamless, uninterrupted operation, while Qlar's digital applications – such as intelligent feeding and CONiQ Cloud – provide real-time process

monitoring, predictive maintenance, and enhanced system efficiency. By combining cutting-edge hardware with smart digital integration, we help manufacturers maximize productivity, minimize downtime, and optimize material flow in every stage of the recycling process.

Feed rate & screw comparison of LIW Feeder SIMPLEX FB and gravimetric weighfeeder MultiFlex NG

Screw size in mm	47	66	80	100	150	200	250	300	400	450	500	650
LIW Feeder SIMPLEX FB Mini Twin	✓											
LIW Feeder SIMPLEX FB Mini		✓	✓	✓								
LIW Feeder SIMPLEX FB					✓	✓	✓	✓				
Gravimetric weighfeeder MultiFlex NG									✓	✓	✓	✓

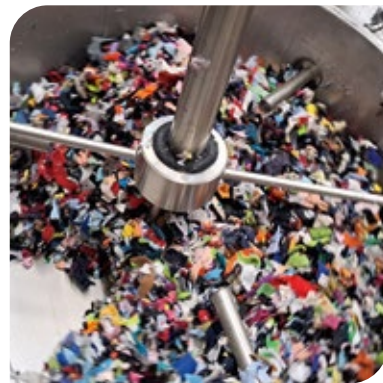


Gravimetric feeders for recycling processes

The Loss-In-Weigh Feeder SIMPLEX FB is a medium to high capacity, stainless steel, LIW feeder platform for light, fluffy materials like plastic flakes, cellulose-, hemp-, glass- or carbon fibers, or other virgin or recycled materials.

It is mainly used in plastic film extrusion and recycling applications.

The volumetric version of the feeder can be used as refill system or surge bin for smaller loss-in-weight feeders.



- Full stainless steel construction with internal agitation
- Modular system with various screw and hopper options
- Volumetric version to be used as refill feeder / surge bin
- For application optimized refill system available

LIW Feeder SIMPLEX FB	
Volumetric feed rate range	40-63,000 dm ³ /h
Bulk material	Shredded postconsumer or postindustrial plastics wastes, poor flowing regrinds, shredded films, cellulose, hemp, glass or carbon fibres
Bulk density	0.03-0.8 kg/dm ³
Accuracy	+/- 0.5 % (typically)
Feed unit	Screw
Agitation	Sophisticated internal agitation
Material in contact with product	SS 304

Gravimetric feeders for recycling processes

The gravimetric weighfeeder MultiFlex NG is used for stable and accurate weighing and feeding of recycled feedstocks.

The material processed include all kinds of organic and post consumer plastic wastes: shredded film, flakes, fibers, fluff, wood chips, paper pulp.

Gravimetric weighfeeder MultiFlex NG	
Volumetric feed rate range	10-300 m ³ /h
Bulk material	Shredded postconsumer or postindustrial plastics wastes, poor flowing regrinds
Bulk density	0.03-0.8 kg/dm ³
Accuracy	+/- 1 % (typically)
Feed unit	Twinscrew
Agitation	Internal agitation (3 agitators)
Material in contact with product	Mild steel coated, optional stainless steel



- Highly stable feeding - deviation under 1%
- Extra coarse material feeding
- Highest feed rate up to 300 m³/h
- Dust tight construction
- ATEX compliant design
- Synchronized screws
- Heavy duty option

Reliable and accurate feeding solutions for poor flowing, low bulk density and fluffy recycling materials

The gravimetric weighfeeder MultiFlex BIN is used for stable and accurate weighing and feeding of bulky solid secondary fuels.

The material processed include all kinds of alternative fuels typically: RDF, fluff, biomass, sludge, granulates and any mixture of above mentioned.



- Highly stable feeding - deviation 2-3 % due to online calibration
- Overfill & blockage protection integrated
- Highest feed rate up to 2 x 200 m³/h
- Dust tight construction
- ATEX compliant design
- Synchronized screws



Handling and metering for polymer recycling processes

Intra Bulk EcoDock

The Intra Bulk EcoDock is used for smooth discharging of the various kind of walking floor trucks.

The material processed include all kinds of organic and post consumer plastic wastes: shredded film, flakes, fibers, fluff, wood chips, paper pulp.

- Unit for wide range of Walking floor truck discharging application
- Overfeeding protection
- Discharge capacity up to 150 m³/h
- Steady material discharge
- Wide range of material to be handled
- Smooth sealing system
- Easy to install
- Maintenance friendly design



Intra Bulk MultiDock

The Intra Bulk MultiDock is used to discharging of bulk materials and granulates brought by walking floor (WF) trailers or dump trucks (DT).

The MultiDock is designed to transport all kinds of recycled feedstock.

- For wide range of organic and post consumer plastic wastes
- Overfeeding protection
- Discharge capacity up to 500 m³/h
- Discharging various trailer types
- Steady material discharge
- ATEX compliant design
- Maintenance friendly design



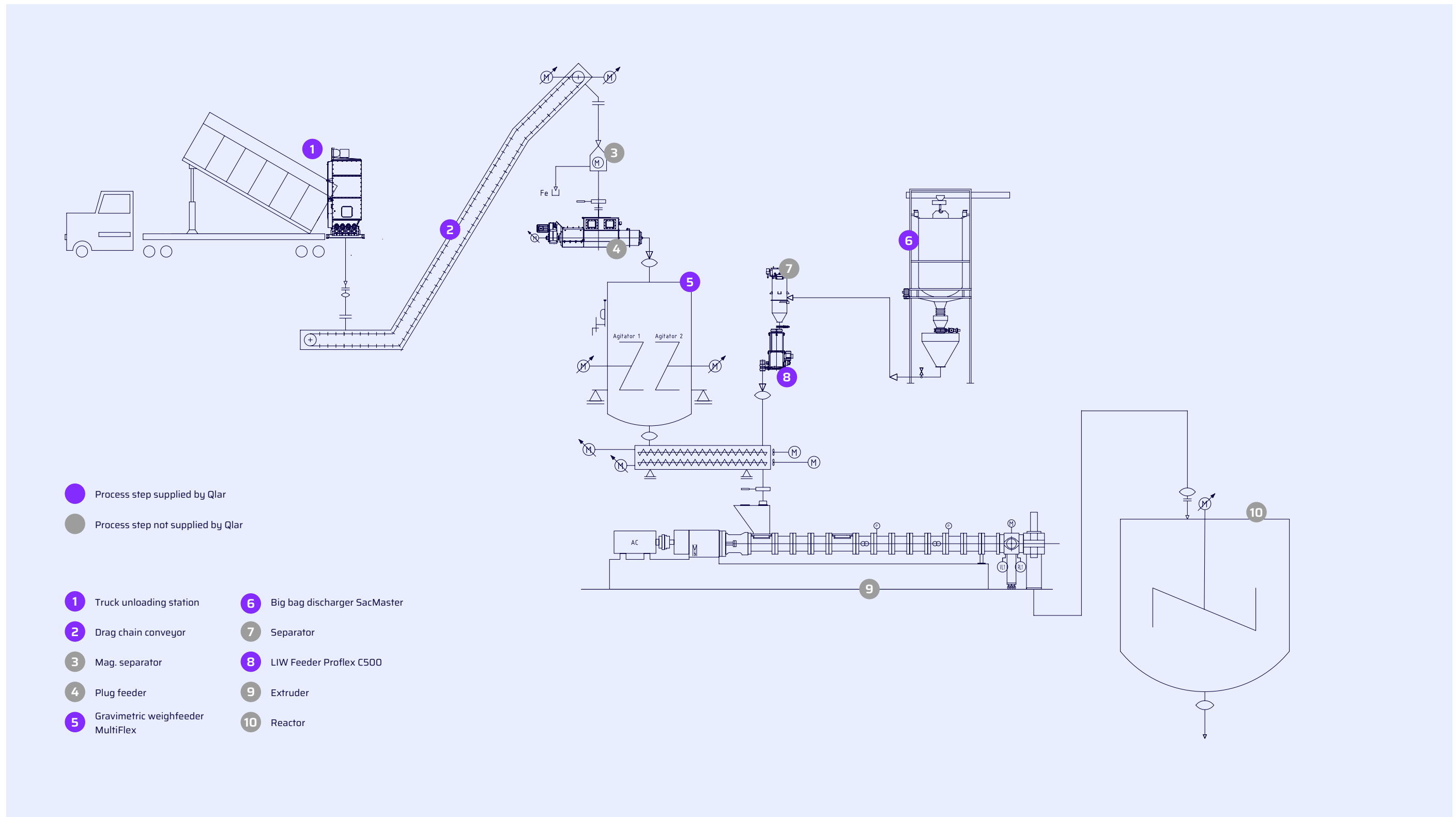
Bulkreception unit Ecodock/Multidock

Volumetric feed rate range	150-500 m³/h
Bulk material	Postconsumer plasticwastes, pellets, flakes
Bulk density	50-1,000 kg/m³
Special features	Optional dedusting system
Material in contact with product	Mild steel coated

Recycling flowchart

In chemical recycling processes typically post-consumer plastic waste is metered into an extrusion process in which remaining moisture and solid contaminants are removed. The polymer melt is then

depolymerized in a reactor resulting in waxes, pyrolysis-gas and oil which then can be used as a recycled feedstock.



Spares and components for long-life performance

For all our core systems, we offer plastics and performance materials processors readily available spare parts and components for long-life performance.

Our tailor-made, reliable solutions are backed by a global service network to ensure quick response times for service requests and short spare part delivery times.

Our service contracts are designed to meet your exact needs in the most cost-effective way, with original spare parts, timely upgrades and extended warranties.

Examples include

- Refurbishment and third-party spare parts
- Wear & tear parts such as screws, bearings, sealings
- Critical spares such as load cells

We partner with you
to keep your plant
productive, profitable
and safe



Service for your complete peace of mind

We design everything with long-term stability and maximum operational reliability in mind.

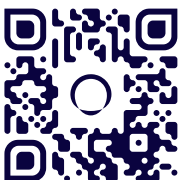
Whether we're doing a simple engineering study or a complete design-build project, at Qlar, everything we do is centered on customer satisfaction.

When it comes to your mission-critical processes, you need a partner you can rely on 100 % to keep your business operating optimally. At Qlar, we support our customers with fully tailored service concepts to guarantee complete peace of mind.

Our services, your advantages

- Industry experts with decades of experience
- Global test and innovation centers for feeding, weighing and conveying
- Dedicated application support
- Product engineering design
- Global manufacturing & engineering
- Installation and commissioning
- Global product & operation training
- Remote, digital support services for testing and aftersales

Qlar



Still questions? Contact us:
www.qlar.com/contact

04.25 · All information is given without obligation.
All specifications are subject to change.

Brochure number BV-P 10034 EN
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