

# ALTERO

recycling machinery

Plastic Pelletizing

**ALTERO Optima In-Line**

## QUOTE

Key account manager: **Marc Costa**

Dear customer,

Thank you very much for your interest in our products. Please see below our offer according to your individual application requirements.

We hope that our proposal is of interest to you, and we remain at your entire disposal for any question you may have.

### Application requirements:

Polymer: PE

Production: 10 - 150 kg/h

Shape of material: Film

Moisture max. [%]: < 0,3%

### Our solution

Model: **ALTERO Optima IN-LINE**

Description: Extrusion-pelletizing system designed to recycle post-industrial plastic waste coming directly from film production lines. The ALTERO OPTIMA IN-LINE produce top-quality pellets that are fully reusable in the same production line they are installed. Its ultra-compact design guarantees a highly efficient energy process while reducing footprint and material degradation.



## INDEX

<b>ALTERO Optima IN-LINE Pelletizing Lines</b> .....	<b>4</b>
Main benefits .....	4
Features .....	4
<b>Included components</b> .....	<b>5</b>
1. Technical specifications .....	5
2. Electric cabinet and control panel .....	6
3. ALTERO CONNECT communication's module .....	6
<b>Technical information</b> .....	<b>7</b>
<b>Terms and conditions</b> .....	<b>8</b>
<b>Quote</b> .....	<i>¡Error! Marcador no definido.</i>
GENERAL TERMS OF SALES AND DELIVERY .....	9

# ALTERO Optima IN-LINE Pelletizing Lines

## Main benefits

1. **Top quality** pellets fully reusable in injection and blowing processes.
2. **Ultra-compact design** that reduces material degradation due to the cutting effect of the screw while preserving the properties of the virgin material.
3. **Cost reduction.** The optima model incorporates just the components you need.
4. **Minimum energy consumption** thanks to the use of the latest generation motors and its ultra-compact design.
5. **Simple and intuitive.** Fully visual user interface and assisted starting system.

## Features

1. **Compact design:** In these applications, high plasticization power is not required. For this reason, compact screw designs (L/D 7 to 14) are used with the aim of minimizing material degradation and reducing energy consumption.
2. **Compactor** to pre-condition the material and increase extrusion efficiency
3. **Top brand components** (Lenze, WEG, Siemens, ABB, Knödler, etc.).
4. **Multiple feeding options:** conveyor belt, reel roller and air conveying system.
5. **Assisted start-up** process for greater comfort and safety.

### MARCAS DE PRESTIGIO UTILIZADAS

SIEMENS

ETTLINGER

ABB



ROBUSCH



Lenze

GEFRAN



**Knödler**  
YOUR PARTNER FOR DRIVES

## Included components

1. **Feeding bell** to capture edge trim IN-LINE, air-conveyed directly from your production line.
2. **Compactor** to pre-condition the material before the extrusion. Performs buffer functions.
3. **Roll feeder** with variable feeding speed.
4. Ultra compact **single-screw extruder**
5. **Turbine** for conveying and cooling of the pellets
6. Touch-screen **control panel**
7. **Hot air cutting**



### 1. Technical specifications

MODEL	IN-LINE 40	IN-LINE 50	IN-LINE 60
OUTPUT	10 - 50 Kg/h	50 - 100 Kg/h	100 - 150 Kg/h
SCREW DIAMETER	40 mm	50 mm	60 mm
SCREW MATERIAL	Nitrated (1.100 HV)		
BARREL MATERIAL	Nitrated (1.100 HV)		
L/D RELATION	7 - 14		
GEAR	Knoedler FZ		
SCREW HIGH	1.100 mm		
FEEDING OPTIONS	Reel and Blow feed. are included, Conveyor belt optional		
CUT	Air cutter and transportation system to silo included		
MOTOR POWER	7,5 kW	11 kW	20 kW
HEATING POWER	8,5 kW	12 kW	15 kW

**Additional information:**

- Maximum efficiency motor ac-weg
- Abb inverter
- Air-cutted to avoid water
- Auto-adjusting system linked to material input and motor power consumption to maintain performance under variable feeding rates
- Trim feeder with adjustable intake speed
- Option to work with multiple feeders simultaneously

## 2. Electric cabinet and control panel

**Characteristics:**

- Siemens components
- Solid state relays
- Plc siemens s7/1500
- Independent touchscreen tp1500 siemens 15,4"
- Abb inverters
- Electric cabinet climatization
- Dynisco pressure transducer

**Hmi control panel**

- Assisted start and stop
- Emergency stop
- Temperature control
- Screw rotary speed
- Alarm management
- Log files
- Manual control of different devices
- Compactor load control
- Video camera in compactor

## 3. ALTERO CONNECT communication's module

ALTERO CONNECT is the communication's platform for your ALTERO machine. Our industrial network technology brings you a 360° solution to the management and control of your machinery.



- Monitor your machinery from any device at any time
- Speed up issue resolutions and improve first time fix rate
- Fast reactivity thanks to KPIs and alarms
- Maximize machine uptime
- Leverage data for visualization, reporting and analytics
- Troubleshoot your PLC remotely
- Augmented-reality remote assistance to assist your operators in real time during problem solving situations.
- Secure data encryption and connexion protocol to remotely gather quality data from your PLC



Screenshot samples of ALTERO CONECTA for a ALTERO VELOX

## Technical information

### **Power Supply**

- Supply voltage: according to customer needs
- Control voltage: 24VDC + 220VAC
- Frequency: according to customer needs
- Option to centralize electric control on multiple-machine installations

### **Wire/cables:**

- Wires/cables from power supply to electric cabinet (provided by Buyer)
- Wires/cables from electric cabinet to every single device (provided by Buyer)
- Wires/cables in the electric cabinet are provided by Seller.

### **Compressed air**

- Consumption: 0.6M<sup>3</sup>/min, 0.4-0.7Mpa

### **Lubrication oil**

- Acquired in the local market on the recommendation of Seller (provided by Buyer).

## Terms and conditions

### Start-up

Commissioning by two engineers authorized by Altero

1 week = 5 working days (8 – 10 hours/day)

### Services included:

- A maximum of 2 contractually agreed materials will be processed in the course of commissioning
- Training certificate for machine operators
- Acceptance of system in accordance with handover certificate by customer

Precondition for dispatching a technician is that the buyer ensures/provides the following:

- Recycling system is fully connected to utilities and all connections/cables are in working order
- All utilities are available and ready for use
- Contractual material is available in sufficient quantities

### Services not included:

Travel costs including flights, accommodation, transportation, and daily food allowances are not included and will be charged 1:1

### Floor space

- Basic construction, earthwork, wall work should be well finished by Buyer. Buyer also should supply crane, forklift or other lifting equipment, mounting materials and tools.

### Financing

ALTERO has a "preauthorized partner" status with different financial organizations specialized in industrial machinery operations. If you are considering the funding this operation with an external agent, please do not hesitate to ask more information about our partners. Our status allows most financial institutions to accelerate the vetting and risk management process.



### Payment terms

45% down payment upon placing of order

50% before ex Works delivery date

5% 30 days after commissioning (with letter of credit)

### Delivery

Delivery approx. 6 months EXWORKS Spain Dates expressed in weeks according to ISO 8601

ALTERO project start is triggered on the day of receipt of the countersigned contract and full down-payment on our account. Depending on the date of receipt of the mutually signed contract and down-payment delivery time may vary by +/- 2 weeks according to production capacity.

### Warranty

The period of implied warranty shall be 12 months from date of delivery (B/L). Three months guarantee for electric elements if power supply in client's factory is not stable.



## GENERAL TERMS OF SALES AND DELIVERY

### 1. SITE EVALUATION.

ALTERO shall furnish the Buyer with site preparation requirements and recommendations, which shall include, but not be limited to, room configuration, power, piping for compressed air supply and connections, manpower (Technicians and every other worker needed), as well as operational considerations with respect to the Equipment.

### 2. SITE PREPARATION.

The Buyer shall be responsible for preparing a site suitable for the installation and operation of the Equipment (hereinafter "Installation Site").

Requirements needed for a proper installation and commissioning are duly stated and are considered as crucial for the completion of the Equipment installation and fine tuning, as well as the correct execution of the SAT (SITE ACCEPTANCE TEST).

Within 1 month from the order confirmation, ALTERO shall deliver a technical documentation set necessary for the site preparation and containing namely, a technical description of the Equipment, Layouts with clear indications of all utility connections, their consumptions and any other needed information for a proper adequate preparation of the Buyer's facilities.

### 3. FACTORY ACCEPTANCE TEST (FAT)

Once the equipment is fully assembled in ALTERO'S factory, a FACTORY ACCEPTANCE TEST shall be conducted to determine if the requirements and specifications of the equipment stated in the quotation, layouts, and agreed performance parameters, are met, by means of a production simulation.

The fulfillment of all equipment requirements during the FAT, demand production conditions as similar as possible as those of the Buyer's production site. Therefore, it is necessary to carry out the test specially with an amount and quality of material that allow to develop the needed tests to ensure the optimal performance of the Equipment.

For this reason, 2 weeks prior to the FAT, ALTERO shall confirm to the Buyer the amounts and types of materials needed to properly carry out the FAT. The Buyer shall supply these goods at his own cost on DPP Incoterms, free of taxes for ALTERO.

The non-fulfillment of the mentioned requirements shall lead to changes in delivery time and, eventually, to additional charges (not included in this contract) and derived from the need of a longer commission period, due to the lack of integrity of the FAT

### 4. DELIVERY.

Delivery of the Equipment to the Buyer by ALTERO shall be made approximately within 6 months after receipt of the down payment made according to agreed payment terms and no longer than 8 months from the effective receipt of the down payment.

The Equipment shall be packaged appropriately according to the relevant international standards, suitable to protect goods during transport, and duly marked to facilitate a proper loading and unloading tasks.

Equipment containers/cases shall be clearly stamped with the Consignee's name and address, item number of the total amount of items shipped, gross and net weight.

A packing list shall be attached to the exterior of one of the containers/cases in each shipment in a conspicuous manner.

Original + 2 copies of

- Equipment Invoice
- Packing list
- Delivery note

Shall be issued by the seller and dispatched with the equipment

Risk of loss or damage during transit shall be regulated upon the INCOTERMS agreed between both parties.

- 4.1 If a delivery is delayed on account of a circumstance on Sellers part that constitutes a reason for relief according to a force majeure, a reasonable extension of the period of delivery shall be granted.
- 4.2 If Seller has caused a delay in delivery, Buyer may either demand the performance of the contract or withdraw from the contract, granting a reasonable respite, if there are no other express agreements made for delay in delivery.
- 4.3 If the respite is not used, due to Sellers's negligence, Buyer may withdraw from the contract by means of a written notice. Moreover, in the event that the delay in delivery is due to a gross negligence on Sellers's part, Buyer shall be entitled to a refund of any justified expenses that Buyer has had to incur up to the dissolution of the contract and which cannot be used for any further purpose.
- 4.4 If Buyer does not accept the goods supplied under the contract in the contractually agreed place or at the contractually agreed time, and if the delay is not due to any action or omission on Sellers's part, Seller may either demand the performance of the contract or withdraw from the contract, granting a respite. When the goods are ready for delivery, but Buyer refrains from taking them over, Seller may store the goods at Buyers cost and risk. Seller shall also be entitled to claim a refund of any justified expenses that Seller had to incur in connection with performing the contract and that are not covered by the payments received.

### 5. INSTALLATION & COMMISSION

ALTERO shall install the Equipment at the Installation and connect the same to the safety switches power outlets, steam devices etc. to be provided and installed by the Buyer. Due to the very special conditions offered by ALTERO in the approved quotation, Seller shall bear the costs associated with delivery and installation of the Equipment.

If ALTERO wouldn't be able to install the machine according to the agreed terms, the Buyer and ALTERO shall analyse origins and accountability for the issues appeared. If it is concluded that the responsible is ALTERO, the Buyer will be entitled to make a claim (amounting max. 3% of machine value). In case that the responsible is the Buyer due to lack of product, reels, or other Buyer responsibilities, ALTERO shall propose quotation for the additional costs, works etc., the amount of which shall be paid prior to delivery of the materials and/or technician travel.

### 6. ACCEPTANCE.

If not expressly agreed in a different way, an acceptance test of the goods will take place before ex works delivery.

The Buyer will be expressly invited to join this test. Furthermore, after startup, a performance test will take place at the sites where the machine shall be in operation. In this connection also the plant operators will be trained by an ALTERO start up technician.

If the goods are proved to be contrary to the contract during the acceptance test Seller shall remedy any defect immediately and

produce the contractual condition of the delivery item. Buyer may ask to repeat the test only in case of a relevant defect.

If it has been demonstrated in the procedure mentioned above, that the goods have been manufactured according to the contract and operate properly, Parties shall confirm this in written.

Unless otherwise agreed. Seller shall bear the costs for the acceptance test at ALTERO. Buyer shall bear the costs for the start up at sites of operation. Buyer shall, however, bear any costs incurred by Buyer or Buyer's representatives in connection with the acceptance test, such as for example travel expenses, costs for food and lodging or similar expenses.

"Acceptance" of the Equipment shall be deemed to occur on the date when, in the Equipment conforms to the specifications, and has continuously operated in compliance with the specifications for a reasonable period of production time. Final acceptance occurs when The Buyer executes and returns to ALTERO the signed Final acceptance document.

One (1) copy of e instruction manuals are to be provided to The Buyer by ALTERO, including electrical and mechanical schematics, and parts.

**7. START-UP AND TRAINING.**

Prior to Acceptance of the Equipment or during the installation period, ALTERO shall provide, at no cost or expense to The Buyer, training in operation of the Equipment for employees designated by The Buyer.

Commissioning by a commissioning engineer authorized by ALTERO:

1 week = 5 working days (8 – 10 hrs/day)

Services included:

- A maximum of 2 contractually agreed materials will be processed in the course of commissioning
- Training certificate for machine operators
- Acceptance of system in accordance with handover certificate by customer

**12. EQUIPMENT WARRANTY.**

The Seller is obliged, to supply the Buyer With a delivery and in general with performance, which is suitable for the contractually agreed target. Is Seller in default of its performance, the Buyer has the rights of implied Warranty especially agreed as described hereafter:

- 7.1 In general ALTERO grants Implied Warranty for 12 months from startup of the plant, when the plant is working in one-shift operation, but not longer than 24 months from ex works delivery. If a defect, not depending on its relevance, applies at the time of physical hand over of goods, or, if it does come up within the term Implied Warranty, which defect in this case has to be at least already indicated at the time of physical hand over of goods. the Buyer has the right within the term of Implied Warranty, to claim for remedy of this defect.
- 7.2 Rights of Implied Warranty will lapse, if the plant will be started up before the start up was completed by an ALTERO Technician or another, by ALTERO authorized person, as well as, if not contractual input material has been processed. The Buyer has to notify the defect to the Seller in written, in accordance with a smooth remedy process kept in mind. Within the legally stated or within the contractually agreed term, which notification has to explain the single defect technically in a way, depending on the particular case, that the service department of the Seller is capable to carry out the remedy work required.

Implied Warranty is referring to the scope of supply itself. Attainable quality of end products (for example granulates) and output to be achieved depend on the input material and the frame- conditions of the recycling process at the sites of User. The quality of samples, as made in a test run, as well as the promised output refer to the contractually agreed Input material only and can be compulsory promised only for this.

The Seller shall, after having been informed of defects In the mentioned way, if the defects have to be remedied according to the provisions of the present article, at his choice either a) rework the defective goods on site, or b) have the defective goods or, the defective parts shipped back for reworking, or c) replace the defective parts, or d) replace the defective goods.

- 7.3 If Seller asks for the defective goods or parts to be returned for the purpose of reworking, replacement or investigation, Buyer shall bear the costs and the risk of the transport. The transportation of the exchanged or repaired parts to the Buyer shall be at Sellers costs (except customs duties and national administrative expenses) and risk. These parts will be invoiced first. As soon as the service department confirmed the existing of a warranty claim, a credit note will be issued for this Invoice and the costs for sending the defective parts to ALTERO will be reimbursed.
- 7.4 The defective goods or parts, which are replaced according to the present article, shall be at Sellers' disposal.
- 7.5 Costs for repair work, if a defect was not remedied by the Seller, are only borne by the same, if he had In advance agreed to that in written.
- 7.6 Seller's warranty obligation shall not apply to defects due to a) processing or non-contractual input material, b) improper operation or service not in accordance with the regulations as stated in the documents, like the owner's manual, or which have been communicated by the ALTERO startup, or service personnel ,e) inadequate installation on the part of the Buyer or Buyer's representatives, inadequate maintenance, inadequate repairs or modifications undertaken by other persons than Seller o, Sellers representative without the written agreement of Seller, or due to defects caused by normal wear and tear. A certain lifetime for parts, in direct contact with the material to be processed, cannot be promised, because the lifetime is predominantly depending on the kind of Input material, but a certain quality, for example certain hardness of parts can be promised.
- 7.7 If the Seller produces items on the basis of Buyer's design data, drawings or models, Seller shall not be responsible for the accuracy of the design, but he is owing that the workmanship complies with Buyer's instructions. Should repair work or reworking or modifying old as wet as third-party goods be agreed, or when Seller was delivering second-hand goods, implied warranty therefore shall be herewith expressly excluded.

**12. RESERVATION OF TITLE AND OWNERSHIP**

The Seller herewith reserves title and ownership to the sold goods until the Buyer has fully paid the purchase price. Seller is entitled to label its title and ownership on the goods. Buyer shall comply with the required local formal regulations to safeguard the reservation of ownership. In case of an attachment or seizure or any other recourse, Buyer shall be obliged to assert Seller's ownership and to inform the latter without delay.

**13. PARTS**

For a five-years period from the date hereof, ALTERO agrees to make available and sell to the Buyer such parts as to maintain the Equipment in good working order and to offer a maintenance program, not included in the framework of this contract.

**14. DISPUTES AND JURISDICTION**

Each of the parties to this Agreement hereby irrevocably and unconditionally consents to submit to the exclusive jurisdiction of the Arbitration Court of Barcelona any proceeding arising in connection with this Agreement and each such party agrees not to commence any such proceeding except in this Court.

Notwithstanding the foregoing, the parts agree to strive to achieve agreements on any eventual dispute through dialog and negotiation.

**15. FORCE MAJEURE**

The Parties will be released from their responsibility for total or partial non-fulfillment of their liability under the present contract in case of force-majeure circumstances, such as: fire, flood, earthquake, organs or other circumstances being out of control of the Parties, arise after the contract's signature.

The Party unable to fulfill its obligations due to Force Majeure circumstances, is committed to immediately inform the other Party when these circumstances arise and shall also state the duration of the mentioned situation by means of providing a certificate issued by the Chamber of Commerce of the respective Party's country. This shall be carried out in any circumstance no later than 10 working days after the events causing the Force Majeure issues.

Should the duration of Force-Majeure circumstances be more than 5 months, each Party will be entitled to refuse further fulfillment of the contract and neither Party will have the right to request any compensation on losses from the other.

**16. CONFIDENTIALITY & INTELLECTUAL PROPERTY RIGHTS**

The parties shall hold in strictest confidence any information and material which is related to the Equipment itself, either The Buyer's or ALTERO's business, or any other knowledge which is designated by either The Buyer or ALTERO as proprietary and confidential, herein or otherwise.

It is understood that this confidentiality clause does not include information which:

- Is now or hereafter in the public domain through no fault of the party being provided the confidential information.
- Prior to disclosure hereunder, is property within the rightful possession of the party being provided the confidential information
- After disclosure hereunder, is lawfully received from a third party with no restriction on further disclosure
- Is obligated to be produced under order of a court of competent jurisdiction.

The Buyer and ALTERO hereby covenant that each shall not disclose such information to any third party without prior written authorization of the other. ALTERO further covenants not to disclose or otherwise make known to any party nor to issue or release any articles or advertising matter relating to this Agreement in which the name of The Buyer or any of its affiliates is mentioned or used, directly or indirectly, unless prior written consent is granted by The Buyer.

Additionally, it specifically forbidden the replication of the equipment by the Buyer or any kind of reverse engineering with the whole or a part of the Equipment subject of this contract