



caleva

OPTIONS

PRODUCTION

CALEVA

HIGH DENSITY PELLET PRODUCTION SYSTEM

Enhance the utility of your equipment by considering these options

OPTIONS AND COMPANION EQUIPMENT



THE SYSTEM

The High Density Pellet Production System is made up of two pieces of equipment. The Caleva Gear Extruder 40 and the Caleva Spheronizer 500. Several options are available to enhance your use of this system.

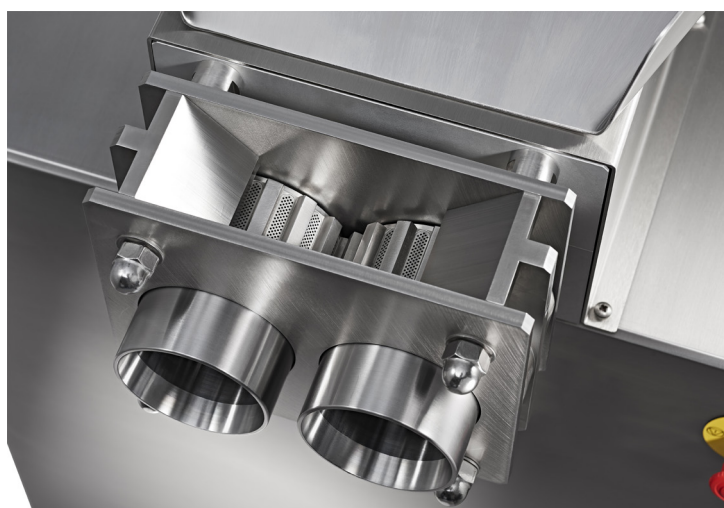
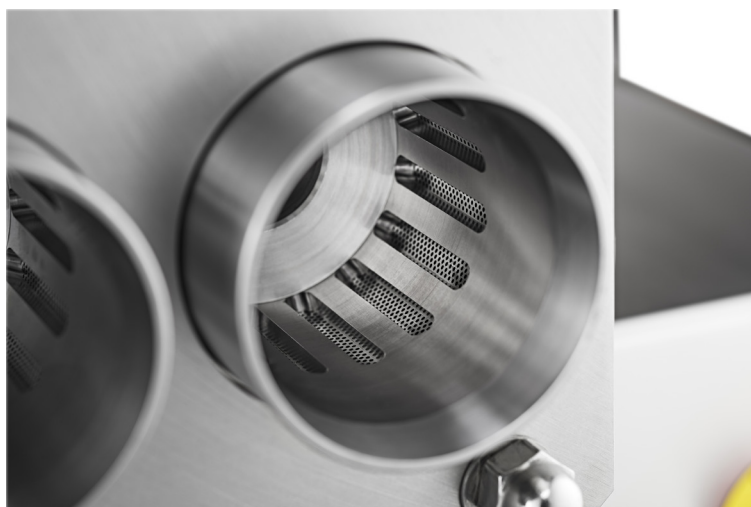
THE CALEVA GEAR EXTRUDER 40

OPTIONS

All machines are supplied with a single set of gears with holes normally 1mm diameter and 4mm deep. Additional gears with different hole diameters and depths are available as extras. There are no required options. The Caleva Gear Extruder 40 is fully functional as supplied.

○ **Additional gears**

Gears with apertures from 0.5 mm to 2.0 mm at various depths can be supplied. Contact us for further details.



OPTIONS FOR THE PRODUCTION SPHERONIZER 500

When supplied all Caleva machines are fully operational and there are no required options. Some options are available to enhance the utility of the spheronizer. These are shown below.

✓ **ADDITIONAL SPHERONIZER DISCS WITH DIFFERENT PATTERNS**

○ **Standard cross hatch pitches are:**

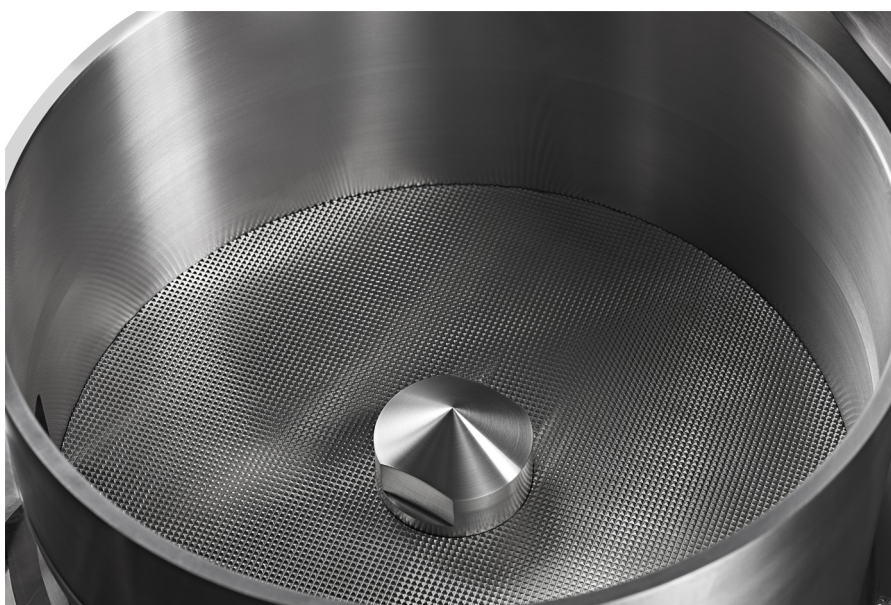
Large: 6 mm x 6 mm x 2 mm deep

Standard: 3 mm x 3 mm x 1 mm deep

Fine: 2 mm x 2 mm x 0.67 mm deep

Extra Fine: 1 mm x 1 mm x 0.33 mm deep

The cross hatch serrations are described by parallel cuts with a 90° included angle to a depth equal to 1/3rd of the pitch. Tolerance on pitch is ± 0.010 mm. Tolerance on depth of cut is ± 0.20 mm.

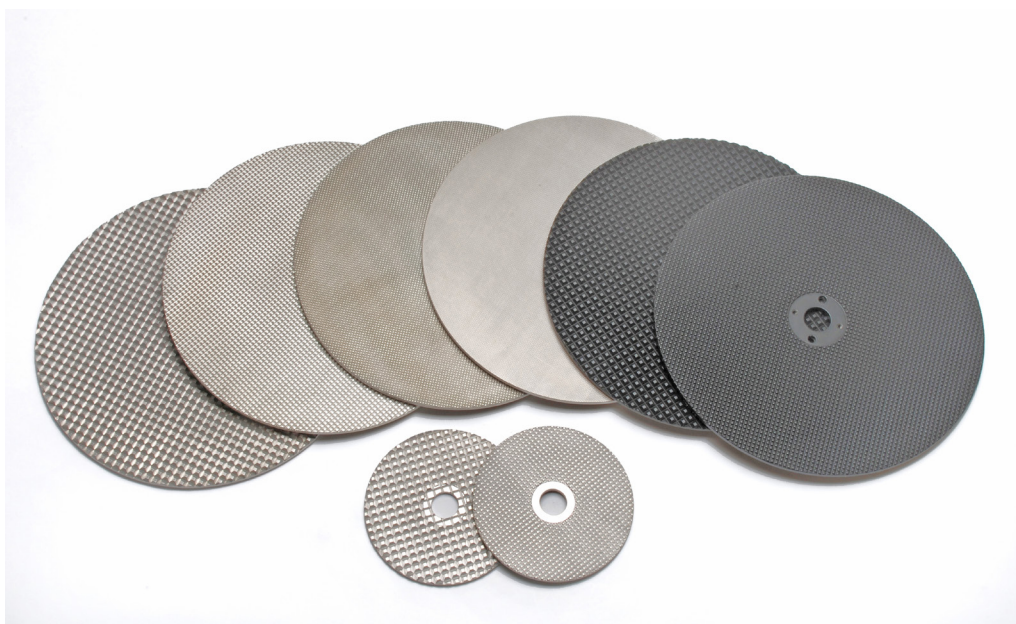


○ **Radial groove disc**

Radial patterned discs are available if required. A radial groove disc provides gentler processing and is somewhat easier to clean in case of products that stick to the crosshatch discs. Generally not required for most standard applications and can be purchased later if needed for special products.

✓ **NON STICK COATING ON THE DISCS**

A US-FDA food use approved PTFE/FEP coating on the discs can be provided if it is foreseen that sticky products might be used at some time in the future. For most products this is not essential but having the disc coated may allow more flexibility in use. If discs are not coated at time of initial purchase then additional discs can be purchased later. Subsequent coating of the discs is possible but not recommended.



✓ **NON STICK COATING ON THE DRUM**

Specification as with the discs above, it is sometimes recommended to have drums coated as well as the discs.

OPTIONS RELEVANT TO BOTH PARTS OF THE SPHERONIZATION KIT

COMPANION EQUIPMENT

✓ SPHERONIZER 380

The Spheronizer 380 is designed to work with the Extruder 40 and forms a part of the High Density Spheronization System but the suitability depends on the production requirement. If the spheronization time is very short then the Spheronizer 380 might be a preferred option at lower cost.

The Caleva Spheronizer 380 is in many ways similar to the Spheronizer 500. The main difference being the smaller drum size which may offer you a lower cost option to achieve the levels of production you require. The best decision needs some discussion about your production needs and your plans for the future. Please talk to us for additional advice.



✓ CALEVA MIXER TORQUE RHEOMETER

The ability to quantitatively measure the consistency of the granulation produced for extrusion and spheronization will offer additional quality control options. Some potential advantages already demonstrated using the Caleva Mixer Torque Rheometer can be seen from available case studies. Contact us for more information.



VALIDATION AND TRAINING

INSTALLATION AND TRAINING AT THE CUSTOMER SITE

Training within the UK

Including one day installation and training and two days travelling.

Training in any other European country

Including one day installation and training and two days travelling. All travel and subsistence costs are included in the cost

Training outside Europe

Including one day installation and training and up to four days travelling depending on the location.

Includes installation, commissioning and training at customer site of up to one day, but does not include IQ/OQ which is separately chargeable. The customer will assist with local transport for the Caleva technician if required. The customer will supply the consumable products required. Trained electricians will be provided by the customer if required (generally not required). Installation does not include any alteration to the customer site and does not include installation or connection of any electrical (or other) services.

The customer will be responsible for the unpacking and location of the machines at the user site. This is not included in any quotation or offer.

If more than one item is purchased then training can be done together for other equipment with considerable savings in cost. Contact us for details.

FACTORY ACCEPTANCE TEST AT THE CALEVA SITE

We make our own quality check before the equipment is shipped (a copy is supplied to the customer) and thus a separate FAT is not normally necessary but can be completed with the customer if required. The customer will be responsible for all his or her expenses incurred in getting to and from the Caleva site.

CUSTOMER TRAINING AT THE CALEVA SITE (OVERSEAS CUSTOMERS)

Training is recommended if extrusion and spherization is a relatively new technique to the company or if new staff would benefit from it. Contact us for details.

Customers from outside the UK will be collected at any London main airport and transferred to suitable accommodation . All meals for one trainee whilst with Caleva and transport to and from the Caleva site are included. Any extras (such

HIGH DENSITY PELLET PRODUCTION SYSTEM OPTIONS AND CONSUMABLE ITEMS

as phone calls etc.) at hotel are for guest's account. One night bed & breakfast in London hotel before return flight to home country can be included if requested. Up to two days training (as required) at the Caleva site on customer's own equipment prior to shipment.

Transport to and from the customer's own country to London main airport is not included and is for the customer's account.

If more than one item is purchased then training can be done together with considerable savings in cost. Contact us for details.

VALIDATION AND IQ/OQ DOCUMENTATION PACKAGE

Recommended if required for regulatory purposes.

At Caleva site

The IQ/OQ package can be completed at the Caleva site by us as far as this is possible. The customer can attend if he or she wishes to do so at their own cost. An additional set of blank documents will be provided to allow the customer to re-do the IQ/OQ in their own facility.

At customer site

IQ/OQ and installation completed at the customer site at the same time as installation and training (the training will be charged separately). The cost is in addition to the costs for installation and training.

Note: there may be additional country-specific charges depending on location. Contact us for details.

MATERIAL CERTIFICATES (INCLUDED IN IQ/OQ)

In line with current standards Caleva does not automatically supply copies of material certificates for product contact parts. Caleva can provide free of charge a certificate naming the product contact parts and confirming that we or our suppliers can provide full traceability to original certificates if this is requested.

If certified copies of material certificates are required then these can be provided at an additional cost.

TALK TO US

Please call us without obligation

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info@caleva.com



Cert No. 1503
ISO 9001