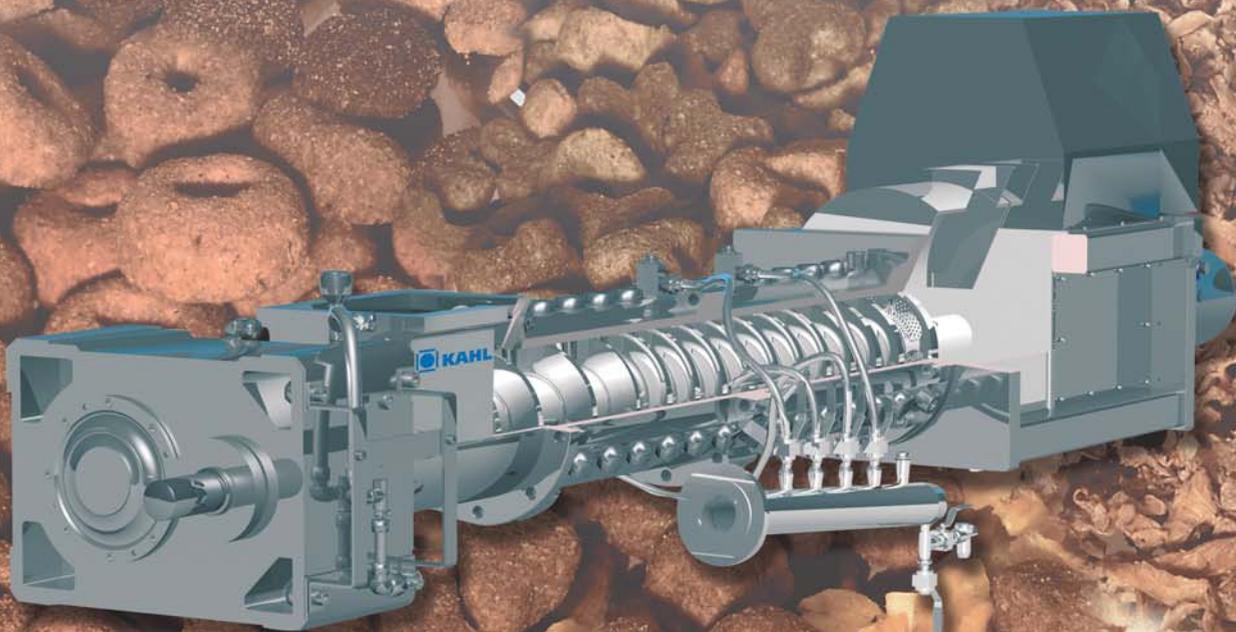


## Extruder OEE

Flexible shaping for different products

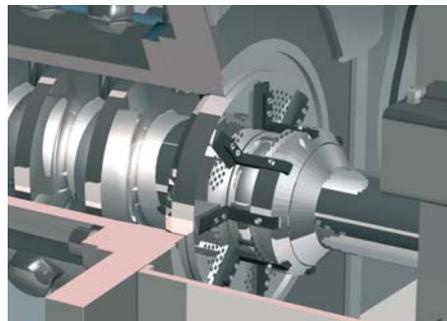
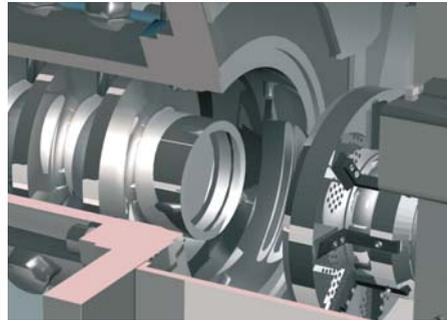


# KAHL Extruder OEE with hydraulically adjustable die

The KAHL extruder OEE is equipped at the outlet with a hydraulic ram. The die can be extended into and withdrawn from the outlet case by exact control of this ram. Machine power is regulated by extension of the hydraulic ram which can be quickly withdrawn in the event of overcurrent. The die change is carried out by means of hydraulic actuation thus is quick and efficient. The knife head is provided with a separate drive and remains in its position during the die change.

At the start of the production, the KAHL extruder OEE does not require an increased water addition and can be started with an "open" die. It is less sensitive and the quantity of wasted product is reduced considerably compared to traditional extruders.

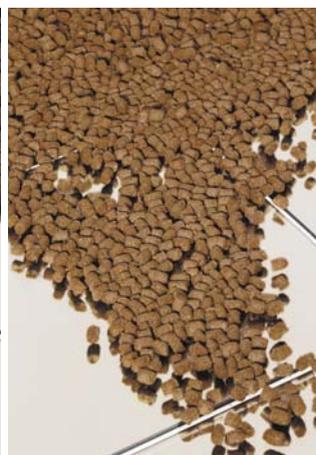
Depending on the product, the machine is equipped with heating and/or cooling jackets, pile-up disk as well as pressure and temperature measuring devices.



Due to the easy and rapid die change different products can be produced

The product quality can be essentially influenced by the following process parameters:

- Grinding degree of the raw material
- Conditioning
- Selection of additives
- Mechanical energy input (e.g. the starch gelatinization and thus the product quality can be influenced by means of the energy input)
- Die geometry (product design)
- Also for special applications



# KAHL Extruder OEE 8

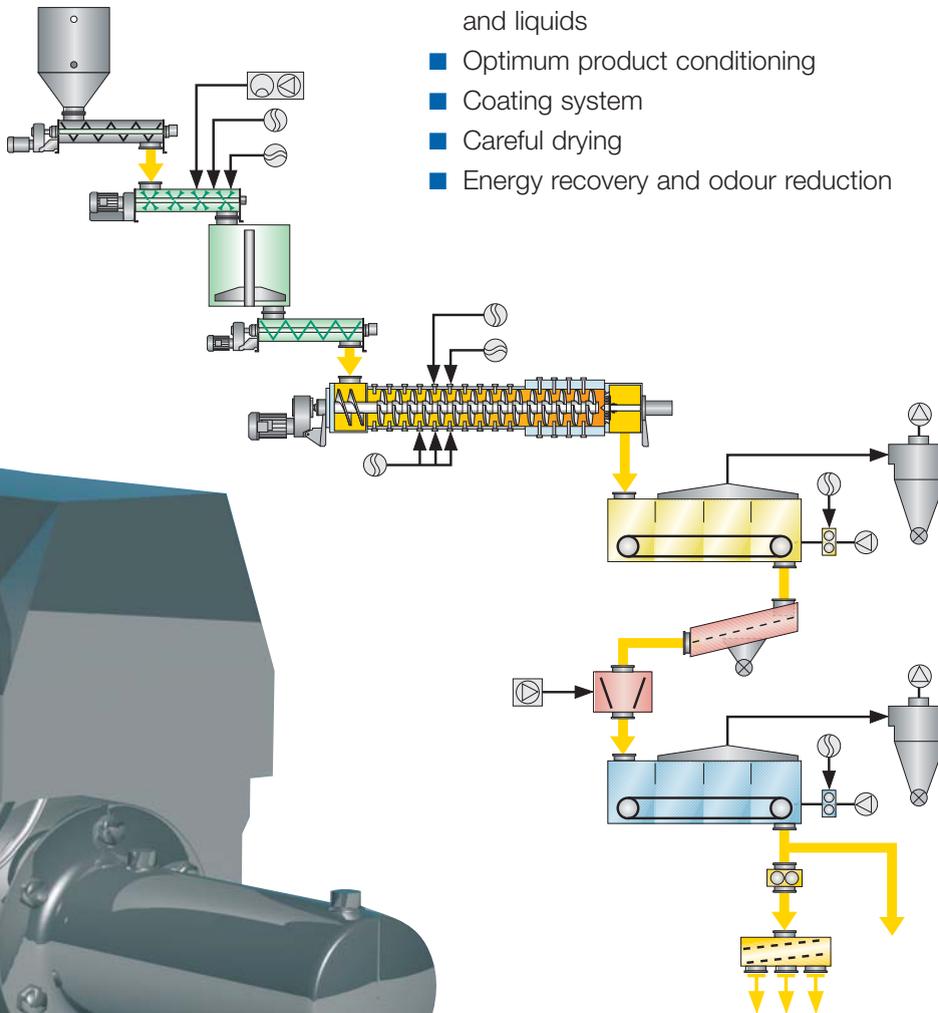
## The OEE range includes:

Extruder OEE 8*	abt. 200 kg/h	11 kW
Extruder OEE 15.2*	1 - 1.5 t/h	55 - 75 kW
Extruder OEE 23.3	2 - 4 t/h	132 - 315 kW
Extruder OEE 30.2	5 - 8 t/h	250 - 315 kW

\*These extruders are also available in the Kahl pilot plant

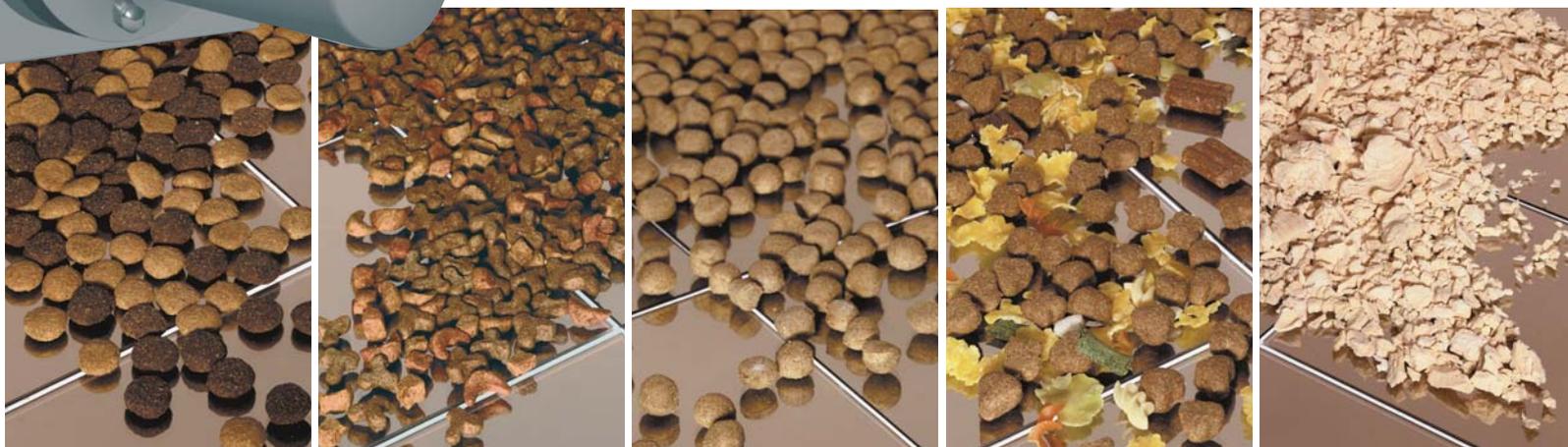
## Plant properties and options:

- Exact proportioning of solid matter, steam, and liquids
- Optimum product conditioning
- Coating system
- Careful drying
- Energy recovery and odour reduction



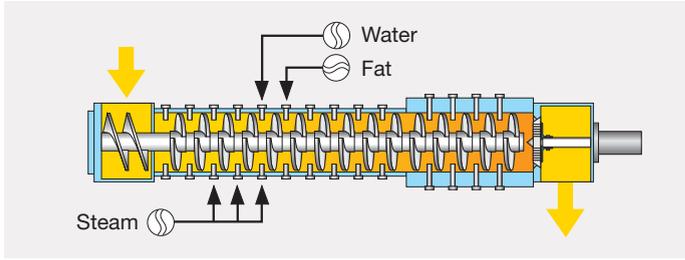
KAHL Extruder OEE 8 for laboratory use or for small-scale productions

The OEE 8 has been designed for laboratory-scale tests, i.e. for throughputs of max. 200 kg/h. The geometrical design of the process section corresponds to the annular gap expander, the jacket can be cooled or heated respectively. At the product outlet either a cone or a die can be installed, both of which are hydraulically movable. The speeds can be varied in a range of 150 to 450 rpm. This makes the defined input of specific mechanical energy possible, so that a specific influence can be exerted on the material parameters such as density, starch modification, or protein denaturation.

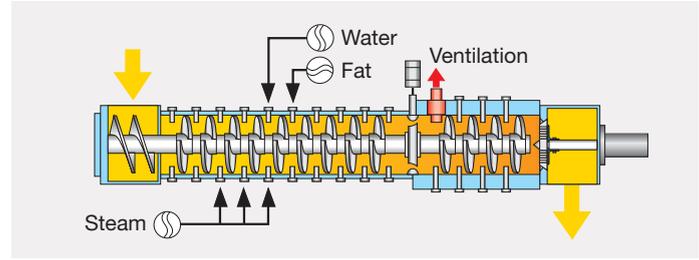


# Extruder

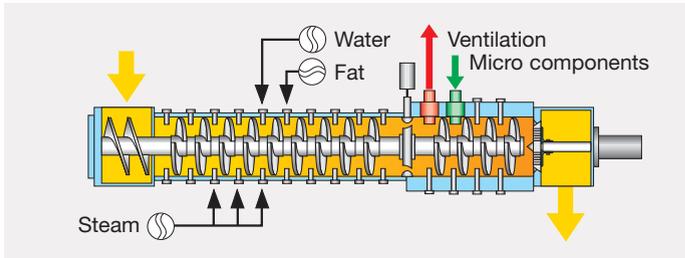
## Variants and possibilities



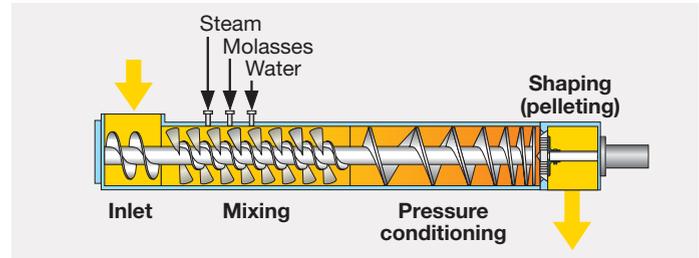
**Extruder OEE** standard equipment with heating and cooling jacket



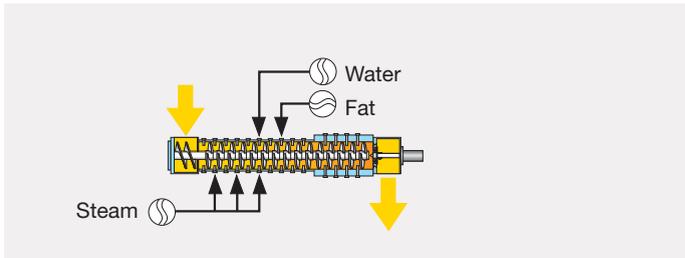
**Extruder OEE** with variable pressure build-up system, pile-up weir, and degasification



**Extruder OEE** with variable pressure build-up system, pile-up weir, degasification, and micro-component addition



**Extruder MPS** with mixing and pressure build-up system



**Extruder OEE 8** for laboratory use and for small-scale productions

## The KAHL pilot plant

- A proven technology is available to our customers and prospective buyers for tests with their products
- Product tests ensure a reliable production



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