



Comex

JMX- 50
jet mill

ACX- 50
air classifier

Small scale system for
laboratory applications

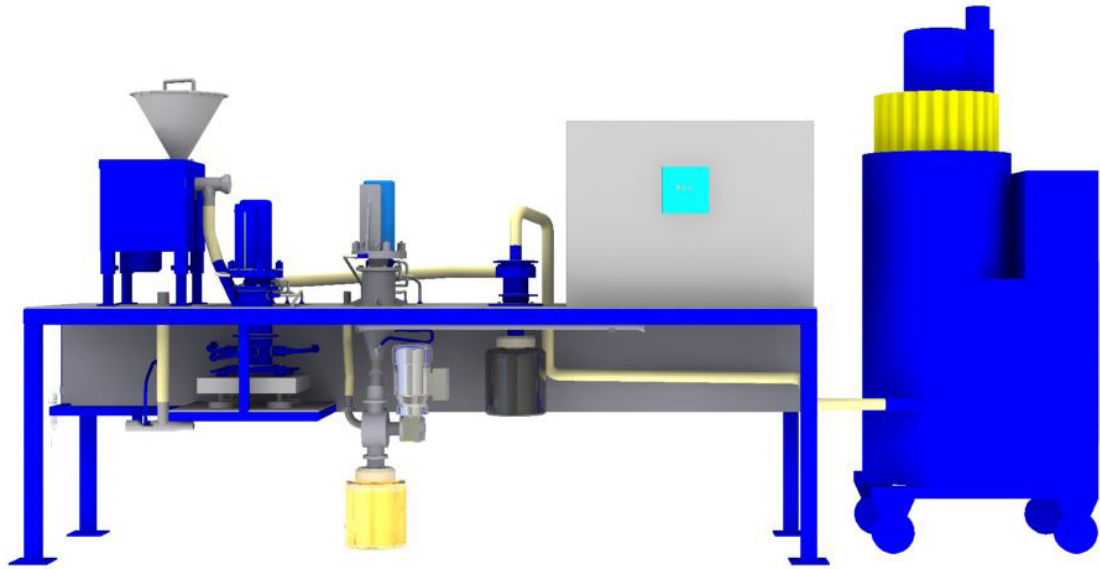
Oslo - Norway Jun 2016

JMX- 50

jet mill

ACX- 50

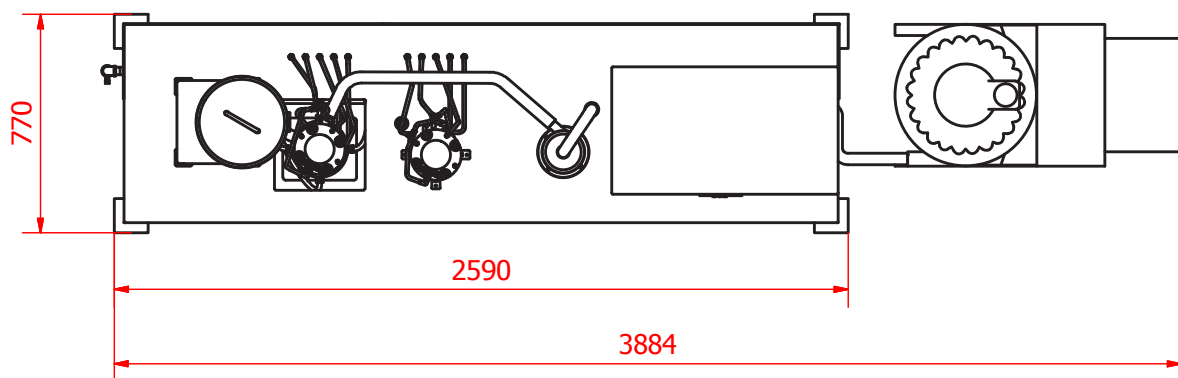
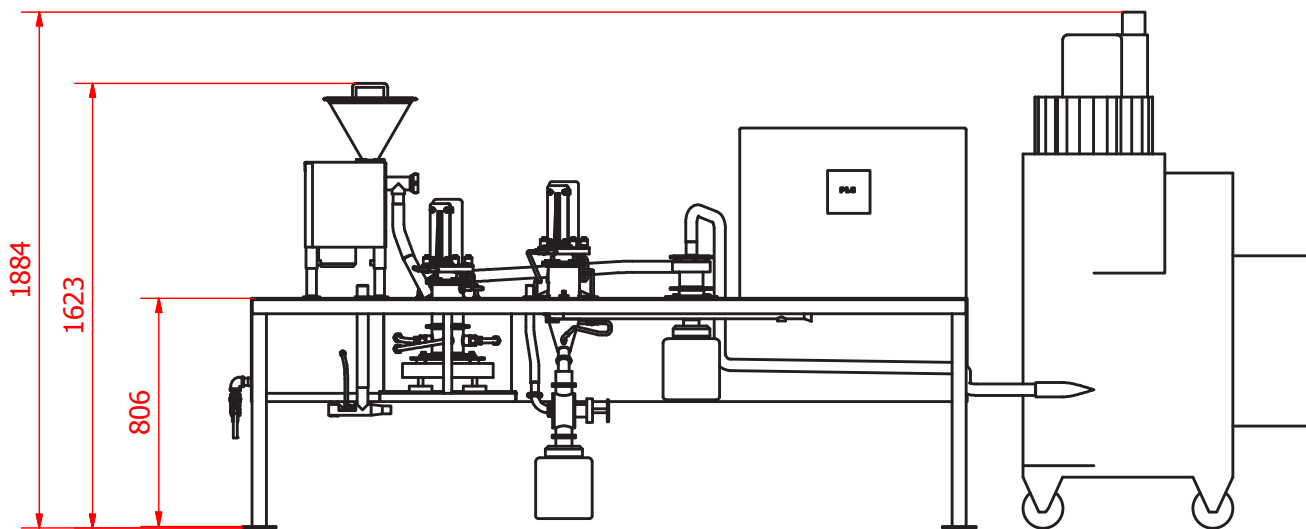
air classifier



Comex AS – Norway has developed a new comminution system employing a jet mill and an air classifier, for a laboratory use. The system can be configured as the JMX50 jet mill alone (with the internal air classifier), the ACX50 air classifier alone, or both JMX-ACX systems. The equipment is very compact, requires small amount of input material and the operating system provides fully automatic test procedures with registration of almost all operating parameters in the control unit. The process capacity is typically in the range of few kg per hour, which provides a significant flexibility regarding test work with small material portions, different settings and operating parameters. The JMX jet mill is placed on the load cells, which allows optimisation work regarding optimal

filling of the mill chamber. It also has a built-in air classifier providing the particle size control. The separate ACX air classifier can be connected to the jet mill to provide dual air classification or it can be used separately, depending on the process requirement. The system can also be used for producing very small material samples for preliminary verification regarding further processing. Finally, the particle size distribution can be measured at the outlet by an on-line analyser providing constant size control of the produced particles. This measurement can be done on all streams in the system like the feed to the classifier or the jet mill, jet mill product, as well as the classifier coarse and fine fractions. All parameters are registered in the system and can be exported to XL after testing.

DIMENSIONS



Main features

jet mill air classifier

System configuration options

- JMX-50 jet mill with the internal air classifier and the auxiliary equipment
- ACX-50 air classifier with the auxiliary equipment
- Both systems together

Feeding

- Feed rate measurement by the “loss of weight” system
- Possibility to add chemicals (grinding aids)
- Mechanical stirring of the hopper to provide efficient flow of the material

Jet mill unit

- Mill chamber diameter 100 mm
- Mill nozzle pressure 5-10 bar
- Mill classifier speed and load control
- Product top size adjustment from 3 to 300 microns

Air classifier

- Rotor diameter 50 mm
- Product top size adjustment from 3 to 300 microns
- Adjustment of all air flow rates
- Coarse and fine fraction outlet with the cut-off valve for sampling

Main features

jet mill air classifier

Cyclone and filter

- Cyclone with the cut-off valve for sampling
- Filter with automatic cleaning cycles

Control and instrumentation – parameters registered and stored in the system

- Feed rate control in kg/h
- Dosage of chemicals in g/t
- Mill classifier speed in rpm
- Mill motor load in A
- Mill nozzle pressure control in bar
- Air classifier speed in rpm
- Air classifier motor load in A
- Air flow rates: main and secondary in m³/h
- Filter fan speed in rpm
- Specific energy during grinding or classification in kWh/t

Particle size control (optional)

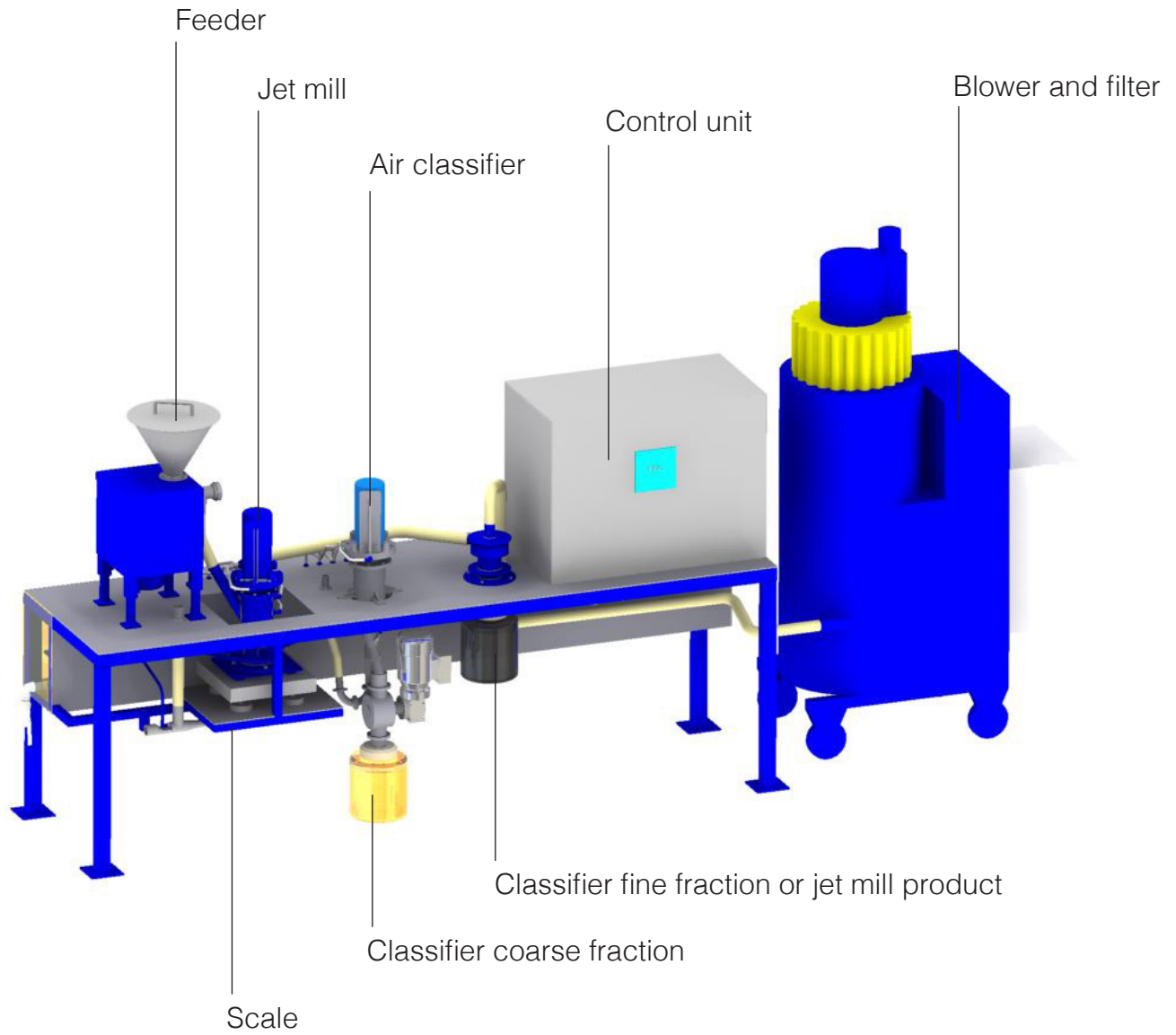
- Continuous particle size measurement of the jet mill product
- Continuous particle size measurement of the classifier feed
- Continuous particle size measurement of the classifier fine fraction
- Continuous particle size measurement of the classifier coarse fraction
- Particle size expressed as a complete curve or fixed point like d97, d80, d50 etc.

JMX- 50

jet mill

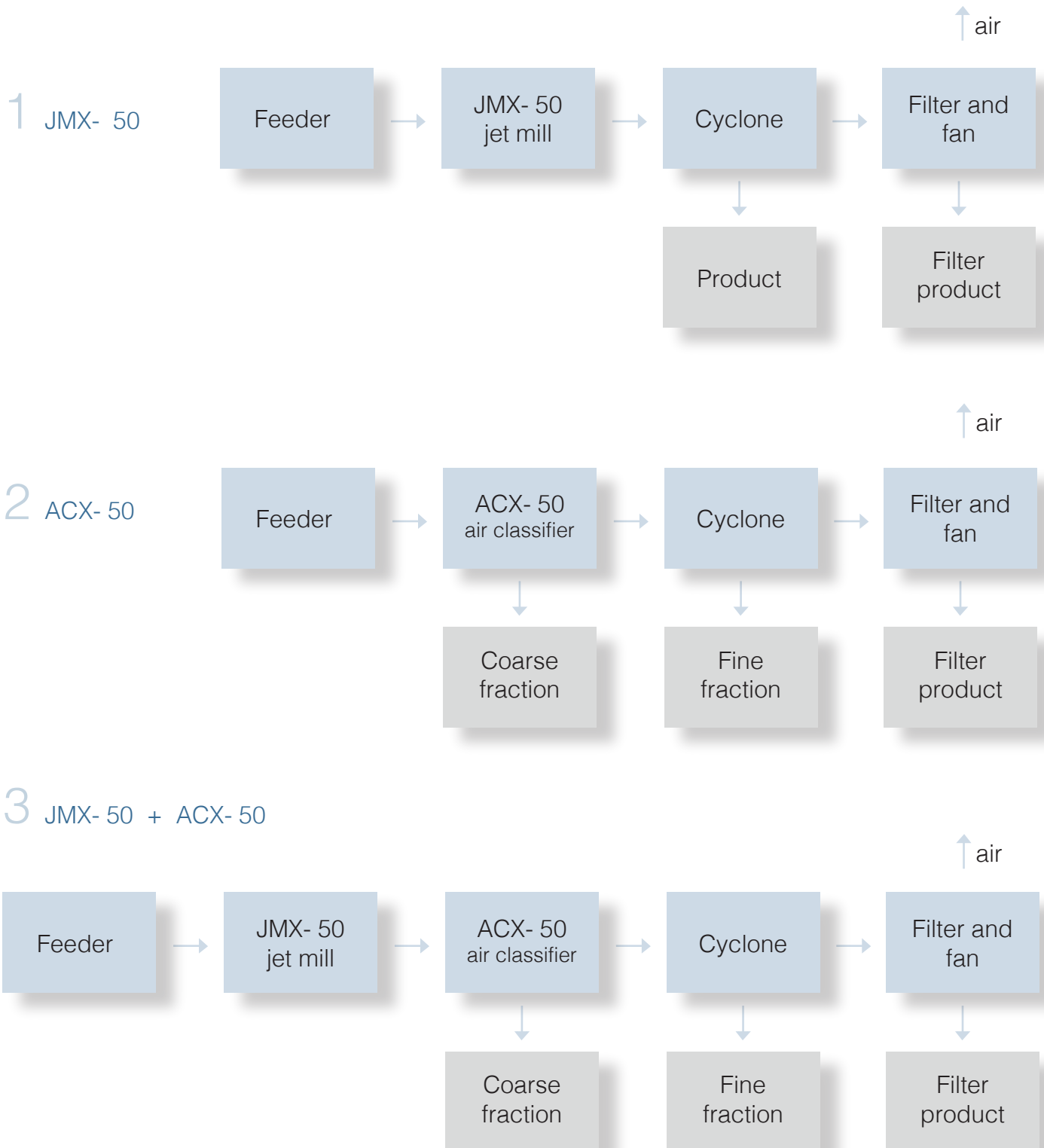
ACX- 50

air classifier



System configuration possibilities

The JMX- 50 and ACX- 50 can be used in different configurations as shown below:





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