

Automatic coal samplers



Sampling station with soft milling is fully automatic device for regular taking and sample processing from the conveyer belt using the rotary sampler. The design of the sampling device components ensures the sampling and sample processing to fully comply with required standards for solid fuels sampling.

Basic description

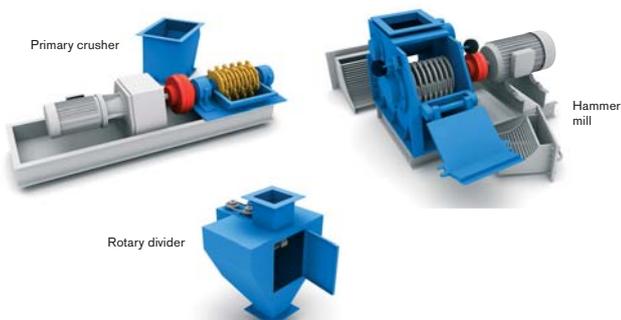
Sampling devices of this generation have been widely applied in the locations of Tušimice coal mine, Northern Czechia mines, Sokolov mines, Dalkia Morava heating station, Burštýn thermal power plant, Ostrava mines, several mines in Ukraine, etc.

Single samples are taken out from the running belt by the rotary sampler. The sampling machinery is installed on the conveyer belt frame. Sampling bucket cuts the coal stream across its whole width with constant speed according to relevant ISO regulations. The bucket turns once for one sample taking. The sampling bucket motion is ensured by the electric drive. The sampling device is protected against getting stuck inside the coal stream and in case of failure, the belt operation is terminated to prevent destroying the technology.

The received sample continues into the bucket transporter and then to the batching conveyer belt feeding the sample into the milling machine to crush the sample. The grain size of crushed sample is from 0 to 3mm. The crushed sample is fed into the rotary separator and then into the 4-bucket carousel with final samples.

In case that the sampler is equipped with Enelex ashmeter, remaining part of the sample from the separator comes into the movable bowls mounted on the fast analysis belt. After the ash content is determined, the coal is being returned to the main conveyer belt.

The sampling is being started on timer. The minimum interval to set the sampling timer is 5 minutes. The timer is set according to the customer requirements.

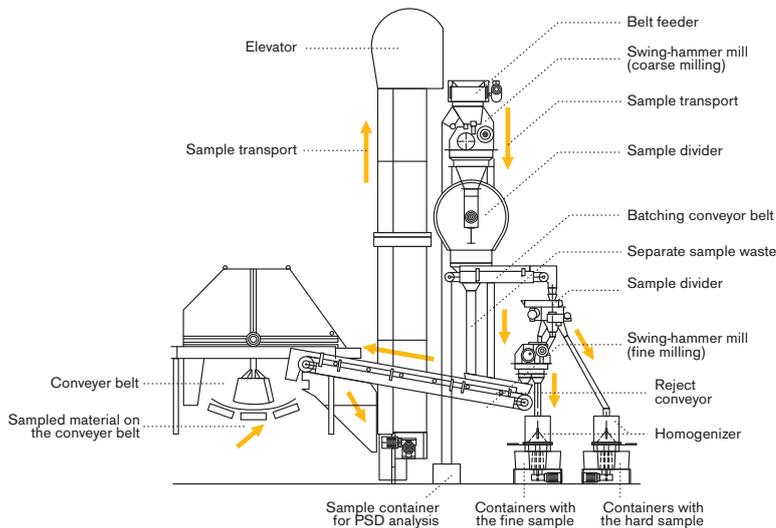


Technical data

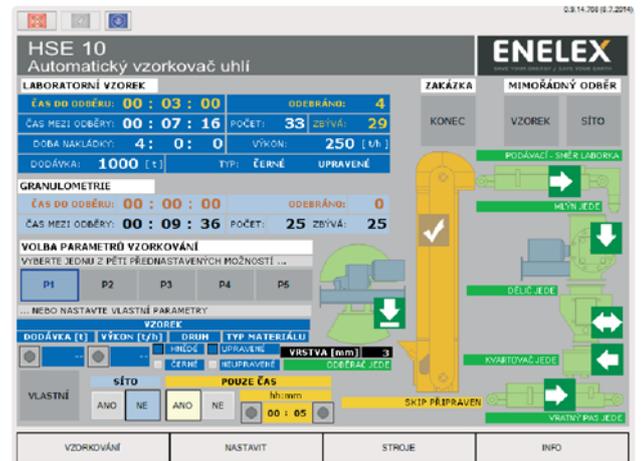
Conveyer belt width	up to 1800 mm
Conveyer belt speed	up to 5 m/sec
Conveyer capacity	up to 5000 tons/hr
Coal type	hard coal, brown coal, coal powder
Coal granularity	from 0 up to 350 mm grain size
Coal sample granularity	according to request, minimum 0 to 3 mm
Sample size (quantity)	on request
Sample homogenization	on request
Power feed	3NPE 400 VAC/50 Hz - TN-S or 3PEN 400 VAC/50 Hz - IT (60Hz versions on request)
Control system	automated operation PLC



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User interface example



Automation and control system

The sampling station is equipped with control box containing power circuits and control logic. The box is installed nearby the sampler, has the IP54 protection level and contains also the circuit-breakers, main power switch and connecting terminals. It also includes the total-stop controlling circuits for case of emergency and the control panel with user interface and operational indicators. The whole sampling station is PLC controlled with an option of supervisory system connection (RS-422/485 serial interface).

Control system cabinet

