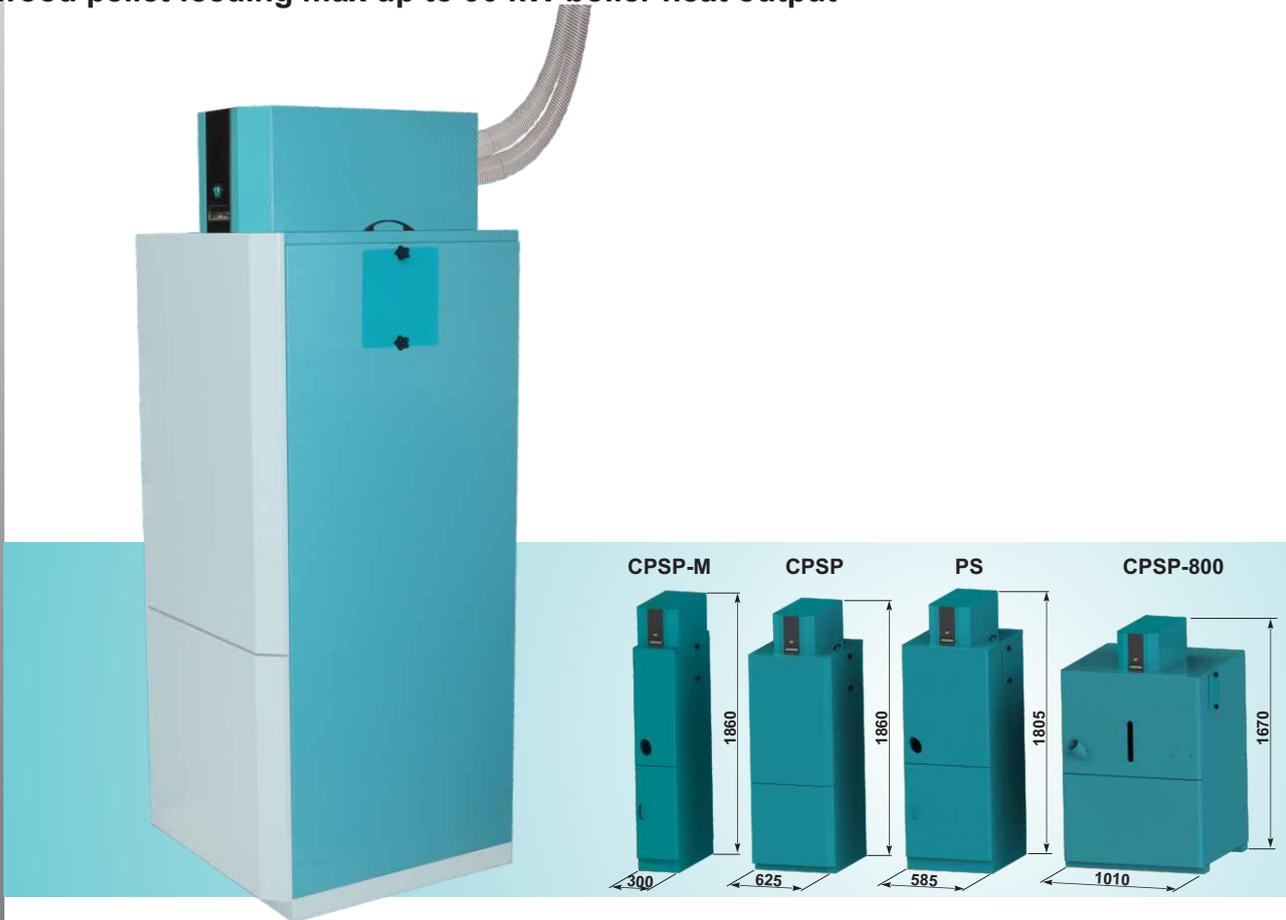


# WOOD PELLET FEEDING SYSTEM

Vacuum wood pellet feeding max up to 90 kW boiler heat output

HEATING TECHNIQUE



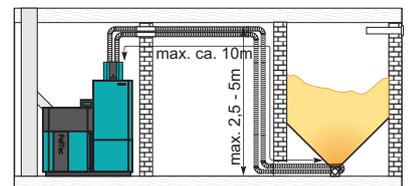
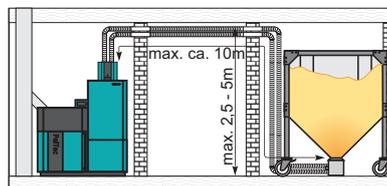
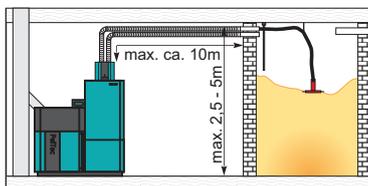
## Vacuum wood pellet feeding

Vacuum wood pellet feeding is designed for wood pellet systems max up to 90 kw heat output where pellet storage is not beside the boiler and it is needed the automatic pellet feeding. With help of flexible tubes, max length up to 10 met in one direction, the wood pellets is transported from the large storage to the tank beside the boiler to be able to ensure the continuous pellet feeding of the boiler.

Vacuum wood pellet feeding consists of the turbine which is mounted on the pellet tank beside the boiler, filling level sensor in the pellet tank beside the boiler (PELTEC has already sensor installed) flexible feeding tube with earth leading wire, up to max length of 10 met in one direction and up to max difference in height from 2,5 to 5 met, depending of total length of the tube and larger pellet tank. Control unit steer with vacuum wood pellet feeding, which according to the sensor in the pellet tank and the turbine and set operation times steers with operation of the vacuum wood pellet feeding.

Wood pellet feeding system could be connected on the three different type of pellet storage: pellet storage with mole, large pellet tank CentroPellet Box and pellet tank with the feeder screw ( transporter ).

System has been tested for supplying wood pellets 6mm diameter made according to DINplus or ENplus, with dust maximum share of < 0,7%.



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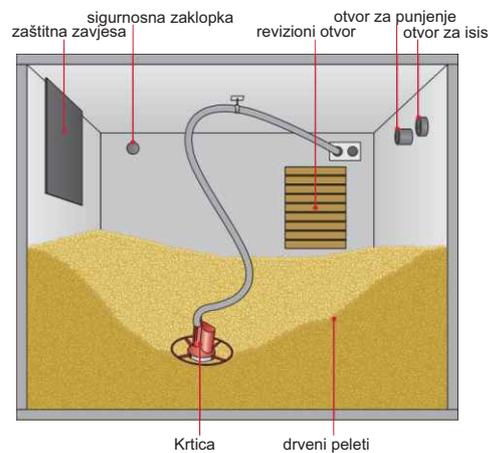
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## Vacuum wood pellet feeding characteristic:s

- Maximum length of tube for pellets feeding is 20met + 5 met in the storage (the distance from the storage to the boiler is approximately 10met of the feeding tube length), the maximum difference in height of the tube (H) for feeding depends on the length of the tube (L) (flow and return):  $L = 15\text{m}$ ,  $H = 5\text{m}$  ; or  $L = 20\text{m}$ ,  $H = 2.5\text{m}$ .
- Difference in height of the feeding tube larger than 3 meters must be terminated with a minimum of 1 meter horizontally laid tube.
- The tube must be laid with the maximum possible arcs. Bending radius must be minimum 30 cm.
- System has been tested for supplying wood pellets 6mm diameter made according to **DINplus** or **ENplus**, with dust maximum share of  $< 0,7\%$ .
- Storage must be air-tight, to restore the dust from the turbine. If storage is not air-tight, the backflow tube must be fitted to the dust bag.

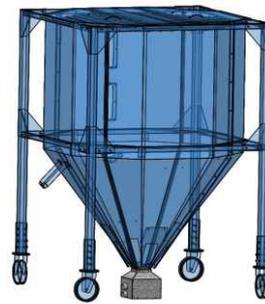
## Vacuum wood pellet feeding with mole from the storage/room

Mole is an innovative technique feeding of pellets from the pellet storage/room to daily tank. Standard systems for feeding of the wood pellets feeds pellets from the bottom of the tank (pellets moving downward) while the mole takes pellet always on the top side of the storage (pellet standstill, mole is moving). In standard systems of feeding storage for wood pellets must have slope sides that take away valuable space for storage, and the mole is used almost the entire volume of storage (residue max 10 %). Mole is intended for storage footprint dimensions up to max. 2.5 x 2.5 meters, in height storage 1.8 to 2.5 met. In these dimensions storage can be circular or rectangular in shape. For larger footprint dimensions of the storage is necessarily with slope sides at an angle of 45 ° adjust the room surface up to the maximum allowed. Storage of pellets may be filled to the max. 30 cm below a ceiling. Recommendation is to fulfill the storage with truck for delivering the pellets, which will fulfill storage evenly, with the lowest percentage of dust (it is needed to install Set of the tubes for filling the room with wood pellets and rubber impact protection blind).



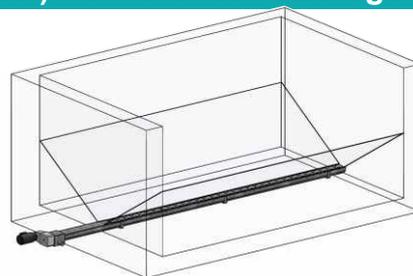
## Vacuum pellet feeding from the large pellet tank

In the central heating system fired with wood pellets by the boiler it is obligatory to have a tank for the wood pellets. Depending of the heat output and wished operation autonomy, pellet tank sometimes need to be bigger dimensions, which require larger boiler rooms. To resolve the problem of the small boiler room i.e. shortage of the storage space for wood pellets beside the boiler and also to enlarge the comfort with wood pellet firing with help of vacuum feeder screw from the larger tank to the daily tank placed closed to the boiler the wood pellet can be transported up to 10 met of the length of the flexible tube. Tanks can be various volumes CentroPelet box 1,5 m<sup>3</sup>, 2,7 m<sup>3</sup>, 3,4 m<sup>3</sup> and 4m<sup>3</sup>, with inbuilt box for vacuum pellet feeding. CentroPelet box tank distance from the boiler can be maximum 10 met of the length of the flexible tube for wood pellet feeding.



## Vacuum pellet feeding with the feeder screw (transporter) from the room/storage

Length of the feeder screw for the feeding of pellets from the room can be 2 m, 3 m, 4 m and 5 and according to this must be set the slope within the room, the inclination 45°. Room distance from the boiler can be maximum 10 met of the length of the flexible tube for wood pellet feeding.



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