

Planning and design

5.10 dBlue high-rise design

5.10.1 Working principle

The dBlue Stack-aerator eliminates the requirement of a vent stack by keeping the air pressure in a single stack system within acceptable limits.

- + Eliminating the vent stack creates more usable room in the building and extra space for other installations. Furthermore the dBlue Stack-aerator increases the overall flow capacity of the stack, has less installation costs and allows multiple connection per floor.



Illustration 5.16

The air pressure inside a single stack system is kept within acceptable limits by preventing the formation of hydraulic plugs. The fitting prevents hydraulic plugs by breaking the fall on each floor and reducing the speed of the soil & waste flow. Its unique shape smoothly converges the flow of each floor whilst maintaining free movement of air within the downpipe.

The dBlue Stack-aerator is available in DN110 mm and DN160 mm.

5.10.2 Relevant standard

The Stack-aerator system should be designed according to EN12056 and further local regulations.

The Stack-aerator system design information includes (but is not limited to):

- Do not reduce in size
- Maximum 5 x DN100 combined vents
- Use relief lines when offsetting the stack

This manual covers basic design information. Detailed design and calculation information is available in separate documentation.

5.10.3 Stack-aerator system design

System elements

The Stack-aerator system is installed without an additional vent pipe. The system consist of the following elements:

- Stack-aerator on every floor
- Stack-aerator wrapped in sound-insulating material
- Downpipe of dBlue pipe and fittings
- A vent pipe into the atmosphere without reduction in diameter
- A vent pipe at the ground floor transition to the collector pipe

Maximum distance between aerators

The maximum vertical distance between two Stack-aerators is 5 m. Use an additional Stack-aerator if this distance is exceeded.

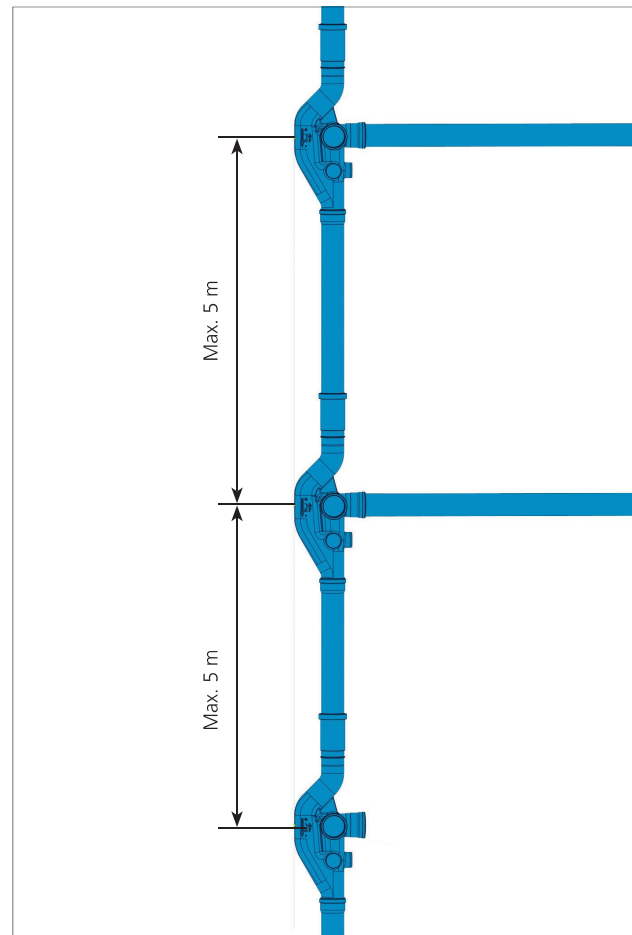


Illustration 5.17