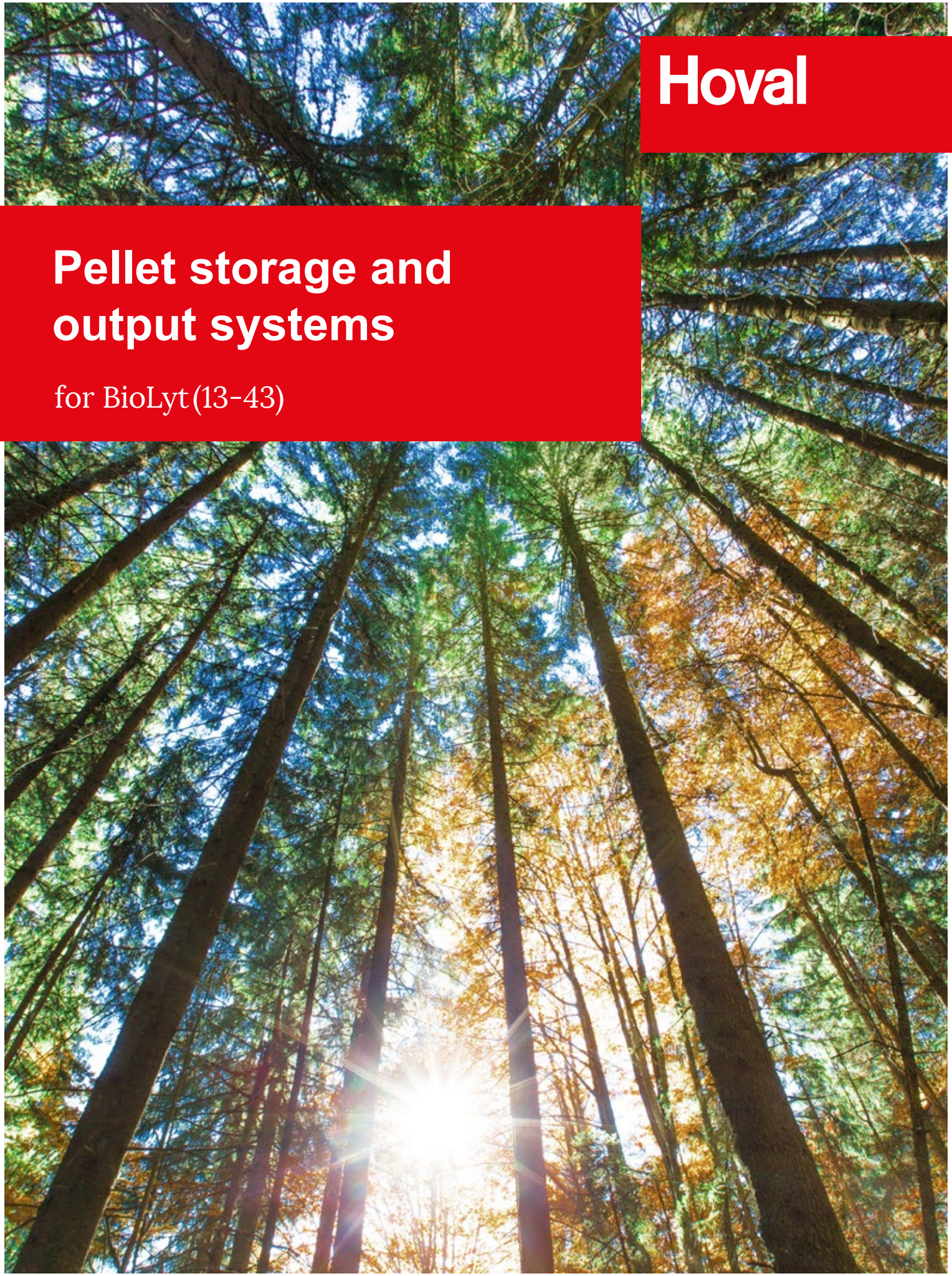
Hoval

Pellet storage and output systems

for BioLyt (13-43)



Pellet storage and output systems
Exactly the right solution.

Anyone choosing a wood-pellet heating system needs somewhere to store pellets. This space is either already available, such as when upgrading an oil-fired heating system, or has to be planned into a new building. In both cases, using the space available effectively is extremely important.

The suction supply system available as standard in all Hoval BioLyt pellet boilers (up to 43 kW, in 3-unit cascade up to approx. 130 kW) is a huge advantage. It works with a whole host of output systems, therefore offering planning flexibility and the option to replace your heating system with ease.

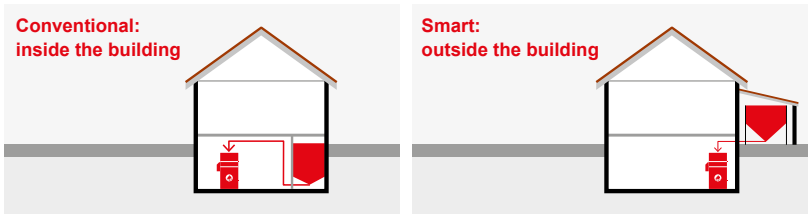
Whether using a suction supply system or flexible screw conveyors, transporting pellets over height differences of several stories or distances of up to 25 metres is no problem. So you will be able to find the best possible combination of storage and output system for any building or space situation.

	Pellet output system (from page 6)				
	Suction probes with switching unit	**Suction system with screw**	**Classic mole**	**E3 mole**	**Flexible screw**
Typical boiler output					
BioLyt (13-23)	■	■	■		
BioLyt (25-43)	■	■	■	■	■
Storage system (from page 4)					
Storage room	■	■	■	■	■
Fabric silo	■	■			■
Underground tank		■	■	■	
Storage room details					
Footprint – geometry	oblong/rectangular	oblong	rectangular/square	any	oblong/rectangular
Dimensions of the footprint	max. length: 4 m	max. length: 7 m	max. 4 × 4 m	max. area: 40 m²	max. length: 12 m
Sloping floor required	if footprint larger than 1.7 × 1.7 m	yes	if footprint larger than 2.5 × 2.5 m	no	yes

Pellet storage facility
Location and size.

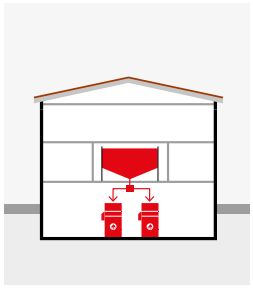
Flexible location of the pellet storage facility

In upgrade projects in particular, the pellet storage facility often has to be adapted to the existing space available. The combination of a suction system and flexible tubes enables pellet storage systems to be used that are precisely matched to your local conditions and output demand.



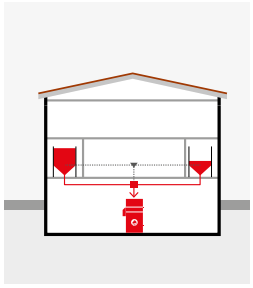
Even more flexibility: the Hoval double switching unit

The special Hoval switching unit enables multiple boilers and/or pellet storage spaces to be connected to one another. This allows for the following combinations:



1 pellet storage space for 2 boilers

- If only 1 storage space is available for pellets
- For double boiler systems in combination with an E3 mole, a maxi fabric silo or underground tank
- Automatic switchover between the 2 boilers



1 boiler with 2 storage spaces or 2 output systems

- If only 2 smaller storage spaces (e.g. standard fabric silos) are available for larger boiler output
- Increased operational safety due to redundant filling from 2 storage spaces
- Automatic switchover between the two storage spaces

EXPERT TIP: Space required and size of the pellet storage facility

The size of the pellet storage facility is based on annual demand; however, local conditions and delivery logistics also play a role. The following rules of thumb help to make an initial estimate:

1. Determination of demand

Depending on the data available, the annual amount of pellets required can be estimated easily using 2 methods:

- **Based on previous consumption:**
  1000 l heating oil or 1000 m³ natural gas equate to approx. 2 t of pellets
- **Based on heat demand:** (e.g. from building energy certificate)
  The annual amount of pellets required is **approx. 1 t pellets per 4000 kWh heat demand.**

2. Pellet volume

1 tonne of pellets has a dispensing volume of approx. 1.5 m³.
Taking empty spaces (e.g. due to sloping floors) into account, results in the following calculation: **Storage volume: 2 m³ per 1 t pellets**

3. Storage room size

The actual size can also depend on the delivery conditions (particularly in larger systems).

Examples

- **Single-family home (4 t pellets / year)**
  Storage volume: approx. 8 m³ / **Storage size (W×L×H): 2 × 2 × 2 m**
- **Multi-dwelling (9 t pellets / year)**
  Storage volume: approx. 18 m³ / **Storage size (W×L×H): 3 × 3 × 2 m**
- **School building (40 t pellets / year)**
  The minimum size of the storage space is calculated from the transport capacity of the delivery truck (approx. 15 t) + a buffer (5 t), amounting to 20 t in total, for example.
  Recommended storage volume: min. 40 m³

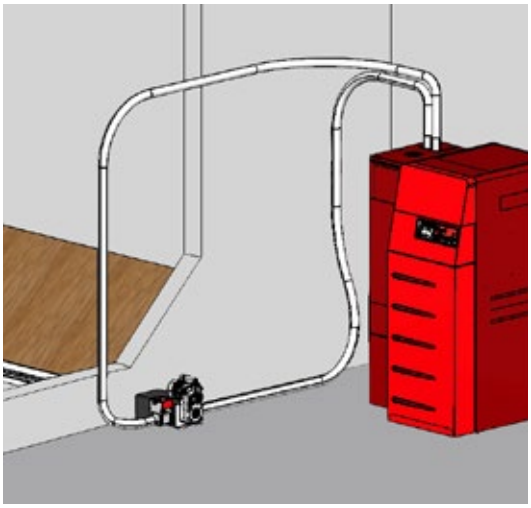
Pellet storage facility

A solution for every space situation.

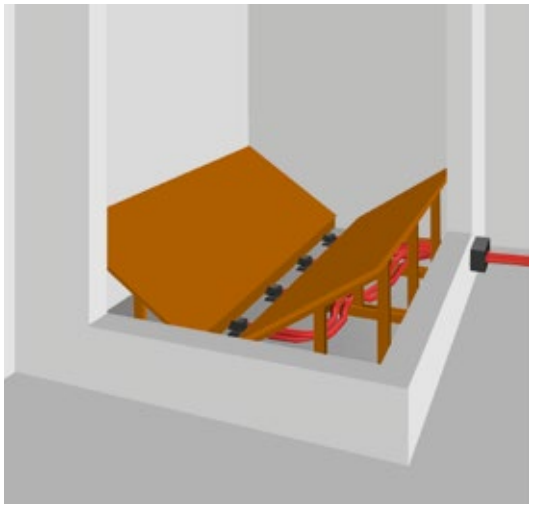
Storage room – the conventional option

The conventional place to store pellets is in a dry room in the building. It must have sturdy walls and be leakproof. As the pellets can be transported to the boiler over large distances if necessary, they do not need to be stored right next to the boiler. They can be kept on a different floor, in another room or in another building, such as a garage. Distances up to 25 m can be covered by Hoval pellet output systems.

Different output systems can be used to extract the pellets depending on the type and size of the storage room (see table on page 2).



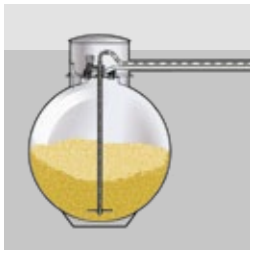
Storage room with screw and head piece with suction tube



Storage room with suction probes and switching unit

Underground tank – when space is limited

Underground tanks provide an alternative when there is no room to store pellets in the building or in an annex. Subject to requirements, they can be made from plastic or concrete with space for up to 40 t pellets. If necessary and upon consultation, existing heating oil underground tanks can also be converted to pellet tanks.



Plastic pellet tank with suction lance

Concrete pellet tank with mole output system

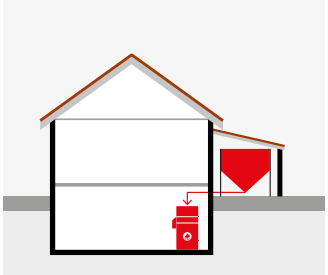
Fabric silo – almost anything is possible

The free-standing fabric silos require much less planning and installation work compared with a DIY storage construction. They consist of a sturdy steel frame and a tearproof, electrostatically conductive fabric. The fabric is dustproof but permeable to air, which means that there is no need for air extraction when filling Hoval fabric silos. The filling connector, impact protection mat and extraction equipment come included.

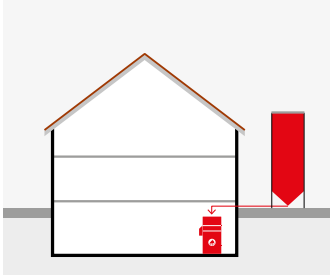
Fabric silos can be placed in (damp) cellar rooms, as well under carports or in sheltered sheds. Depending on regional regulations, they may also be set up directly in the boiler room.

The fabric silos are available in standard sizes for 2 to 9 t of pellets, and as a maxi version for up to 30 t. Custom designs can be provided to cater to special requirements (e.g. silos with 2 removal screws for double boilers) – including interconnected cascades made up of multiple silos for large systems. Trough, flat-bottom or spring silos are ideal when it comes to making the best possible use of the space available. In addition, silos with robust weatherproof tarpaulins for outdoor installation can also be supplied.

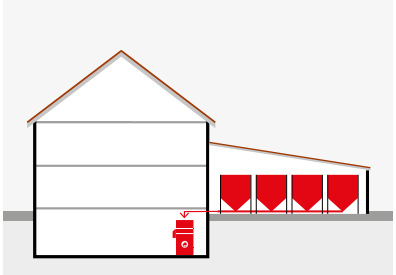
Pellet fabric silos



Fabric silo located in carport.



Outdoor silo with weatherproof tarpaulin.



Fabric silo cascade for large systems.

Standard silo
Capacity
up to 9 t

Spring silo
Capacity
up to 6 t

Optimised use of space

Flat-bottom silo
Capacity
up to 10 t

Trough silo
Capacity
up to 12 t

Maxi version
Capacity
up to 30 t

Outdoor silo
Capacity
up to 25 t

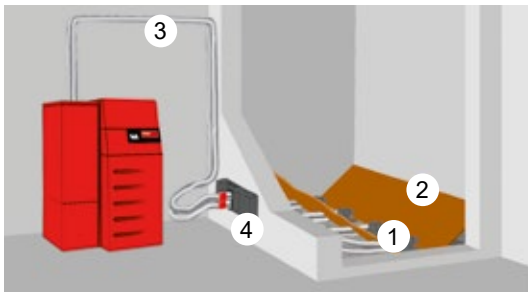
Output systems

A solution for every space situation.

Suction system with suction probes

With up to 4 suction probes and automatic switching unit:

- Suitable for Hoval BioLyt (13-43)
- Cost-effective output system
- Suitable for smaller storage rooms up to approx. 4 m in length
- Automatic switchover to the suction probe required
- With or without sloping floor depending on footprint

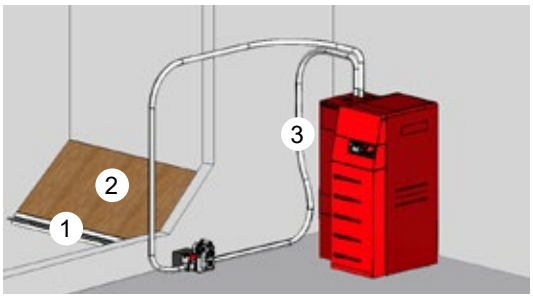


Suction system with suction probes
1: Suction probes for pellet output
2: Sloping floor
3: Suction tube to boiler
4: Automatic switching unit

Suction system with screw output

Robust screw conveyor in the storage room, flexible tubes to the boiler:

- Suitable for Hoval BioLyt (13-43)
- Suitable for rectangular, oblong storage rooms up to approx. 7 m in length
- Excellent emptying of the storage room
- Storage room with sloping floor

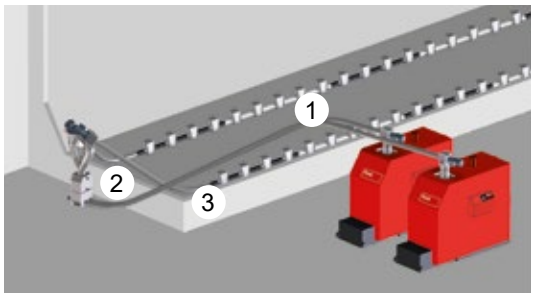


Suction system with screw output
1: Screw for pellet output
2: Sloping floor
3: Suction tube to boiler

Flexible screw conveyors

Direct supply to the boiler even without suction system:

- Suitable for Hoval BioLyt (13-43)
- A wide range of applications and individual solutions possible
- Very quiet output system (pellet supply without suction turbine possible)
- Storage room with sloping floor

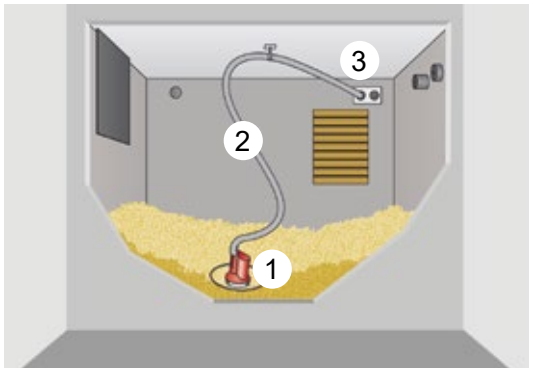


(conceptual drawing)

Flexible screw conveyors
1: Screws for pellet output
2: Intermediate hopper
3: Flexible screw conveyors to boiler
(suction tube possible as an alternative)

Suction system with mole

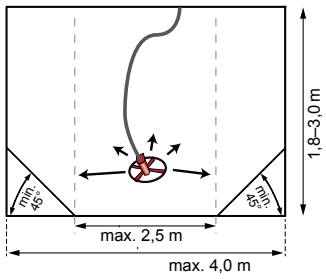
- For optimum use of the storage room available
- Sloping floor generally not required
- Very gentle removal from above; as a result, pellets and fine particles are hardly segregated, thus avoiding disturbances in the feed system



1: Mole for pellet output
2: Special feeder tube
3: Connection to suction tube to boiler

Suction system with Classic mole

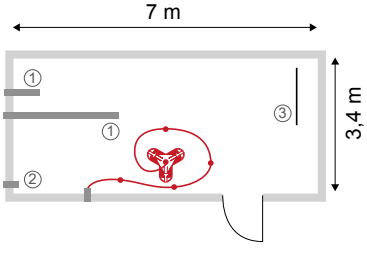
- Suitable for Hoval BioLyt (13-43)
- For rectangular or square storage rooms
  Footprint: max. 4×4 m
  Room height: 1.8–3 m
- Usable space:
  max. 2.5×2.5 m (implement with sloping floor if necessary)

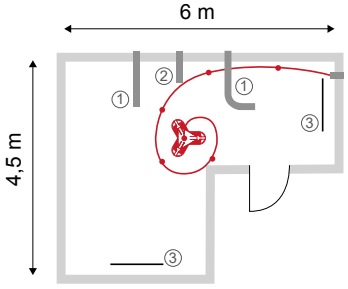


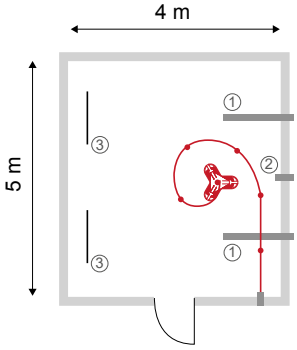
Suction system with E3 mole

- Suitable for Hoval BioLyt (13-43)
- For different footprints
  (circular, square, rectangular or asymmetrical)
  up to max. 40 m² for room height up to 2.5 m
  35 m² for room height up to 3.0 m
  25 m² for room height up to 3.5 m
- Storage room almost completely emptied

Examples of possible storage room geometries with the E3 mole:







1: Filling connector
2: Suction connector
3. Impact protection mat

Hoval quality.
You can count on us.

Hoval

As a specialist in heating and climate technology, Hoval is your experienced partner for system solutions. For example, you can heat water with the sun's energy and your rooms with oil, gas, wood or a heat pump. Hoval ties together the various technologies and also integrates room ventilation into the system. So you can save energy while looking after the environment and your costs – and still enjoy the same level of comfort.

Hoval is one of the leading international companies for indoor climate solutions. More than 75 years of experience continuously motivate us to design innovative system solutions. We manufacture complete systems for heating, cooling and ventilation to more than 50 countries.

We take our responsibility for the environment seriously. Energy efficiency is at the heart of the heating and ventilation systems we design and develop.

Responsibility for energy and environment

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