Allaway Manta – a professional central vacuum cleaning system

THE SOLUTION FOR CLEANER INDOOR AIR.



WHY CHOOSE ALLAWAY? p. 2–3 • MANTA IN HOTELS p. 4–5
MANTA IN SHELTERED HOMES AND DAYCARE CENTRES p. 6–7
MANTA IN PUBLIC SPACES p. 8–9
MANTA DESIGN p. 10–17 • PRODUCT LIST p. 18–23

allaway

Why choose Allaway?

- It improves the quality of your indoor air
- It is a silent, odourless system
- It is energy-efficient, economical and durable
- It improves the comfort of your space
- It is low maintenance
- It is a long-term, ecological solution
- It is ergonomical and easy to use

Allaway for professional cleaning

Thanks to the Manta central vacuum cleaning system, even large buildings in active use can be cleaned efficiently and economically.

CLEANER INDOOR AIR AND INCREASED COMFORT

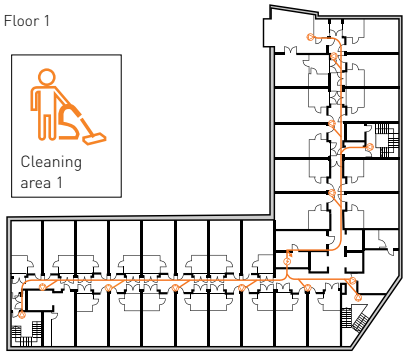
Allaway Manta is efficient in sites in which the cleaned areas are large and the number of usage hours is high.

The Manta system is designed to withstand frequent, long-term use. Thanks to the carefully thought-out, high-quality equipment and accessories, cleaning is quick and easy.

Typical usage areas of the Manta system include hotels, daycare centres, sheltered homes, office buildings, pharmacies, laboratories, hospitals and health centres. The Manta system can be installed in both new buildings and renovation sites effortlessly.

THE ANSWER TO DEMANDING CLEANING REQUIREMENTS

Thanks to the Manta system, indoor air is kept fresh day after day because the exhaust air is not blown back indoors. Personnel working in the building as well as residents and visitors will always be comfortable because it is easy to breathe.



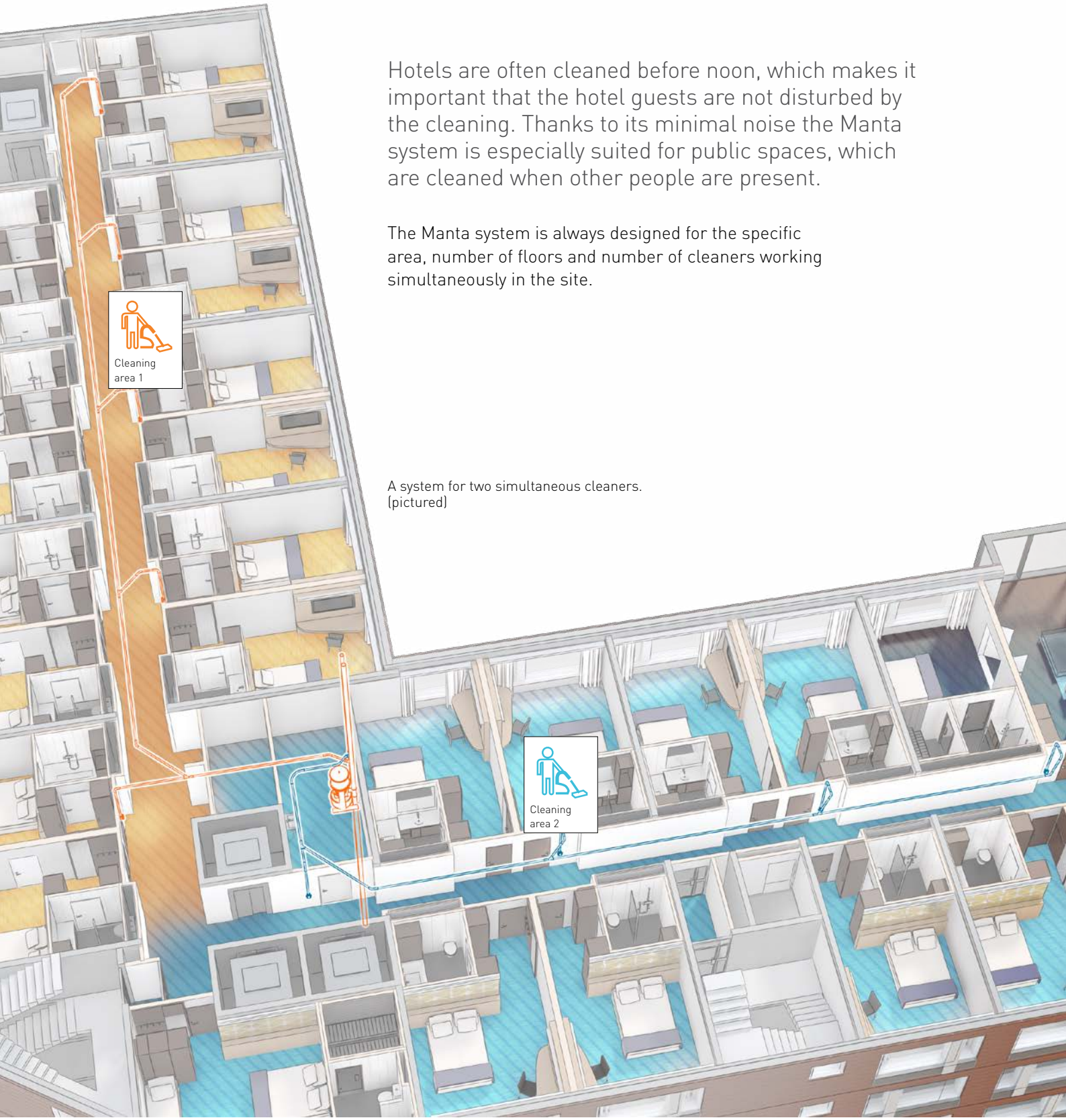




The Manta system in hotels

Hotels are often cleaned before noon, which makes it important that the hotel guests are not disturbed by the cleaning. Thanks to its minimal noise the Manta system is especially suited for public spaces, which are cleaned when other people are present.

The Manta system is always designed for the specific area, number of floors and number of cleaners working simultaneously in the site.



A system for two simultaneous cleaners. (pictured)

OUR REFERENCES

Hotel Sonnmatt Luzern, Switzerland



Hotelli Alba, Jyväskylä



Lapland Hotel Saaga, Ylläs



Hotelli Inari Aurora, Inari



Solo Sokos Hotel Paviljonki, Jyväskylä





Scandic Grand Marina, Helsinki



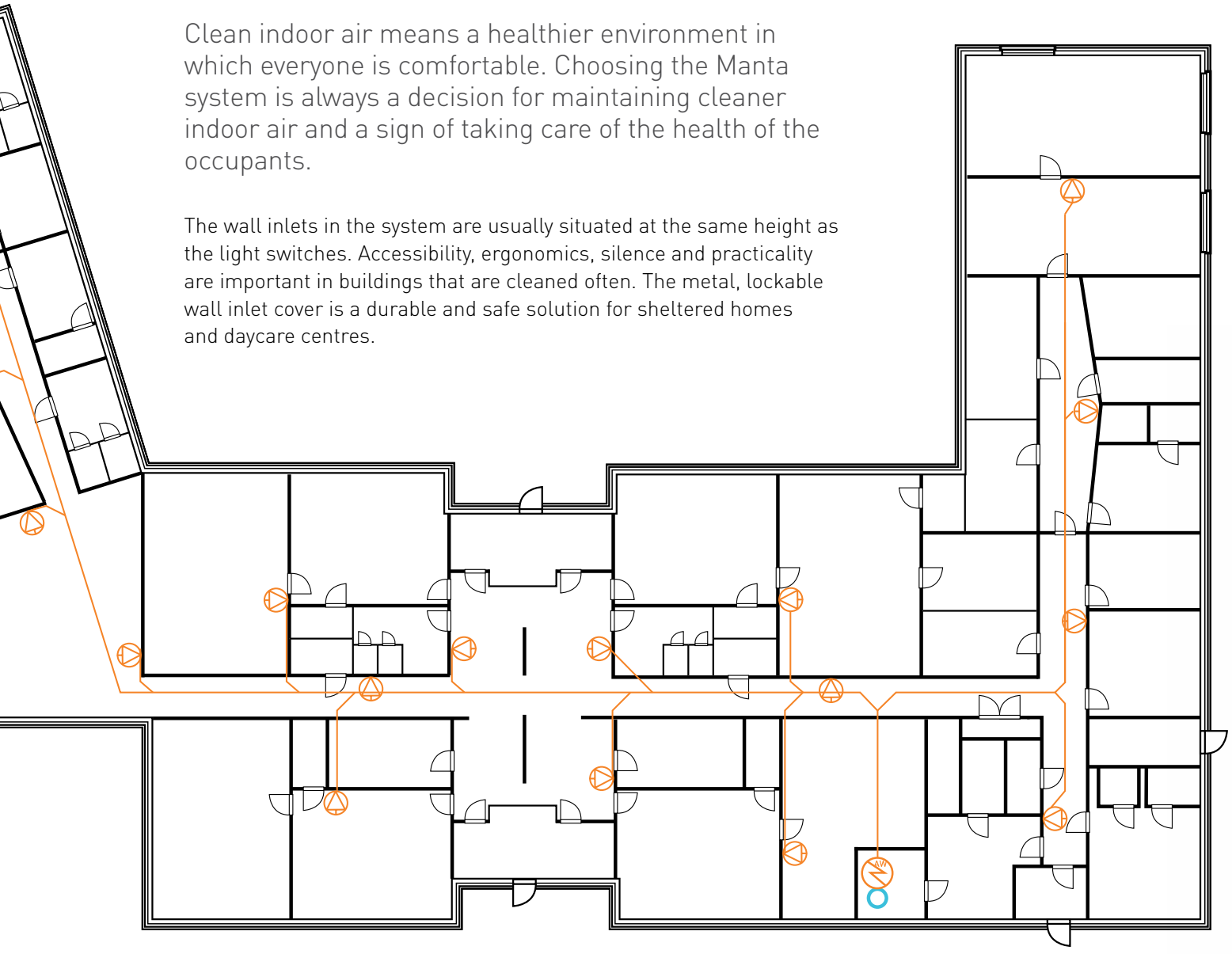
Tryp Hotel Abu Dhabi, United Arab Emirates



The Manta system for sheltered homes and daycare centres

Clean indoor air means a healthier environment in which everyone is comfortable. Choosing the Manta system is always a decision for maintaining cleaner indoor air and a sign of taking care of the health of the occupants.

The wall inlets in the system are usually situated at the same height as the light switches. Accessibility, ergonomics, silence and practicality are important in buildings that are cleaned often. The metal, lockable wall inlet cover is a durable and safe solution for sheltered homes and daycare centres.



EXPLANATION FOR THE MARKINGS

Piping system Ø 44 mm

Wall inlet

The Manta 3000 central unit

Exhaust duct Ø 100 mm

OUR REFERENCES



Palvelukoti Koskikoti, Muurame



Caritas Matriitti Palvelutalo, Oulu



Päiväkoti Metsätähti, Eurajoki



Palvelukoti Tervashovi, Alavus



The Manta system in public spaces

The benefits of the Allaway Manta system are also emphasised in offices, pharmacies, veterinary clinics and cruise and other traffic vessels. These spaces are all used frequently and need clean indoor air.

OFFICES

When cleaning tight, furnished spaces, the ease of use and ergonomics of the vacuum cleaner are crucial. Thanks to the silent system, cleaning can be carried out during the day without disturbing the customers and staff.

HOSPITALS, HEALTH CENTRES AND HYGIENIC SPACES

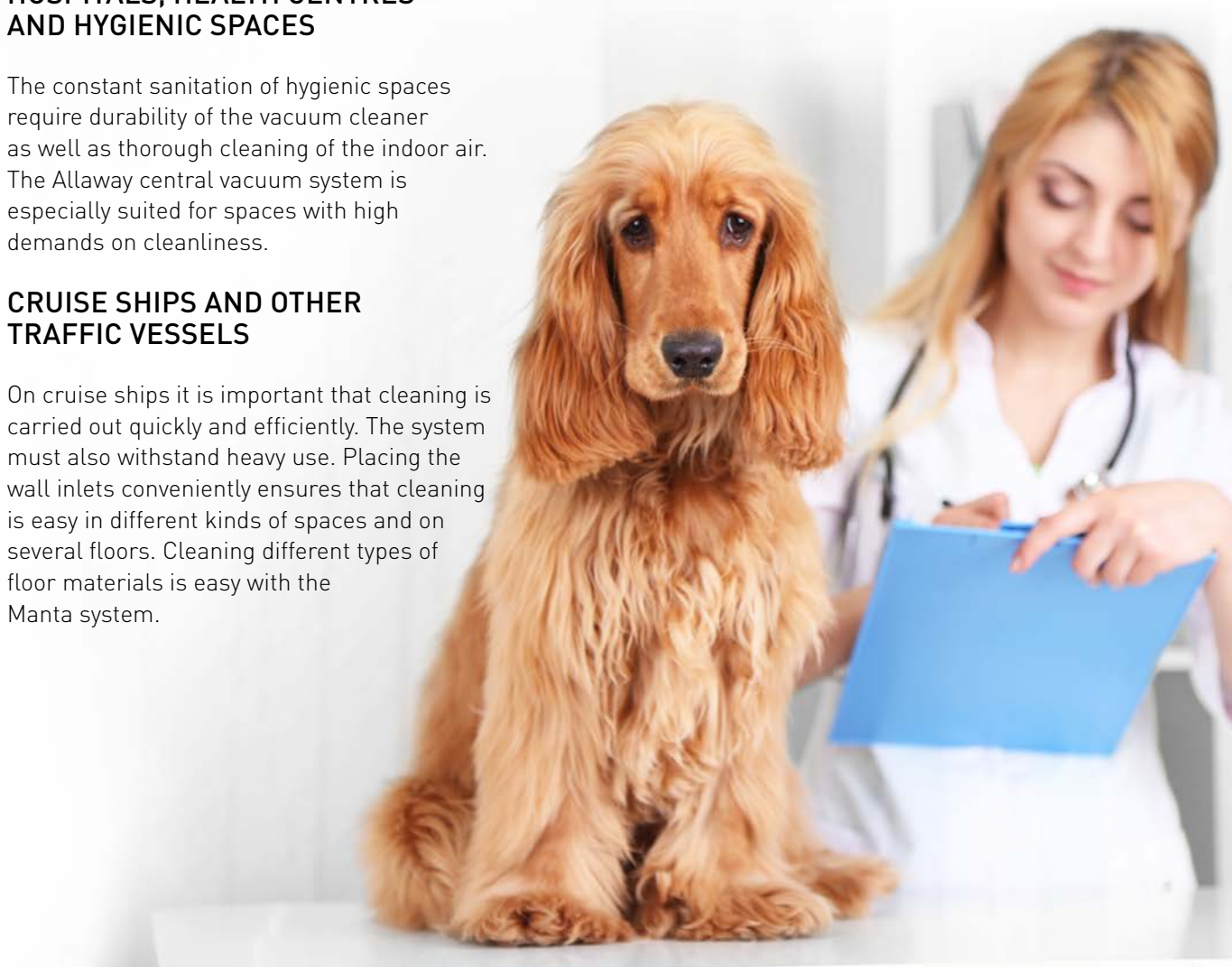
The constant sanitation of hygienic spaces require durability of the vacuum cleaner as well as thorough cleaning of the indoor air. The Allaway central vacuum system is especially suited for spaces with high demands on cleanliness.

CRUISE SHIPS AND OTHER TRAFFIC VESSELS

On cruise ships it is important that cleaning is carried out quickly and efficiently. The system must also withstand heavy use. Placing the wall inlets conveniently ensures that cleaning is easy in different kinds of spaces and on several floors. Cleaning different types of floor materials is easy with the Manta system.

VETERINARY CLINICS

The air in veterinary clinics is constantly full of dust of animal origin. The effective Manta system can achieve significantly cleaner indoor air, which improves the working environment of the staff. The system is so silent that it will neither disturb the staff nor scare the animals.



OUR REFERENCES

Silja Line

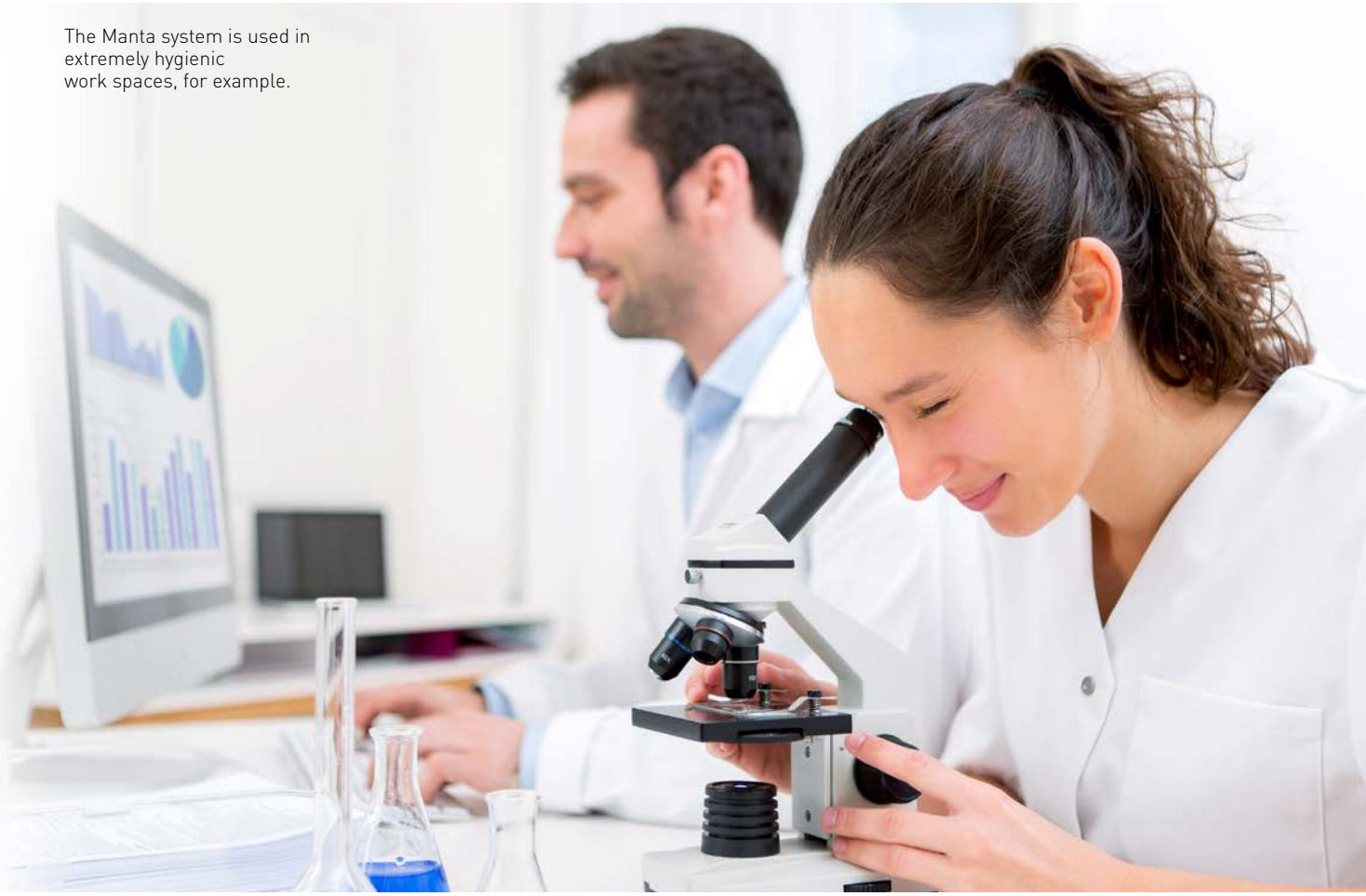


Finnish National Opera, Helsinki



Tanhuvaaran Urheiluopisto, accommodation facilities,





The Manta system is used in extremely hygienic work spaces, for example.

The design of the central vacuum cleaning system

The system for one user is designed the same way as other Allaway systems. The piping is led from the wall inlets to the central unit using the shortest possible route and the wall inlets are branched from one 44 mm-diameter pipe.

In the system for two or more users, the spaces to be cleaned must be divided into cleaning areas. Only one user can work on one cleaning area at any one time. Cleaning areas can include the various parts or floors of the building.

Each cleaning area has its own 44 mm-diameter dust pipe that is led near the central unit. The pipes are attached to a manifold in the central unit or to a vertical 75 mm-diameter collector pipe which is attached to the inlet coupling in the central unit.

Durable metal Optima or stainless steel wall inlets are used in professional systems. These wall inlets are available in lockable or unlockable versions. The wall inlets can be installed in all wall materials. The lockable stainless steel wall inlets installed in floors are sufficiently durable for normal walking.

The proper functioning of the system is always tested in terms of the pipe system air-tightness and wall inlets after installation.

Exhaust duct Ø mm

Number of central units	Manta 3000	Manta 6000	Manta APC3
1	100	100	100
2	100	100	125
3	125	125	160
4	160	160	250
5	250	250	315
6	250	250	315

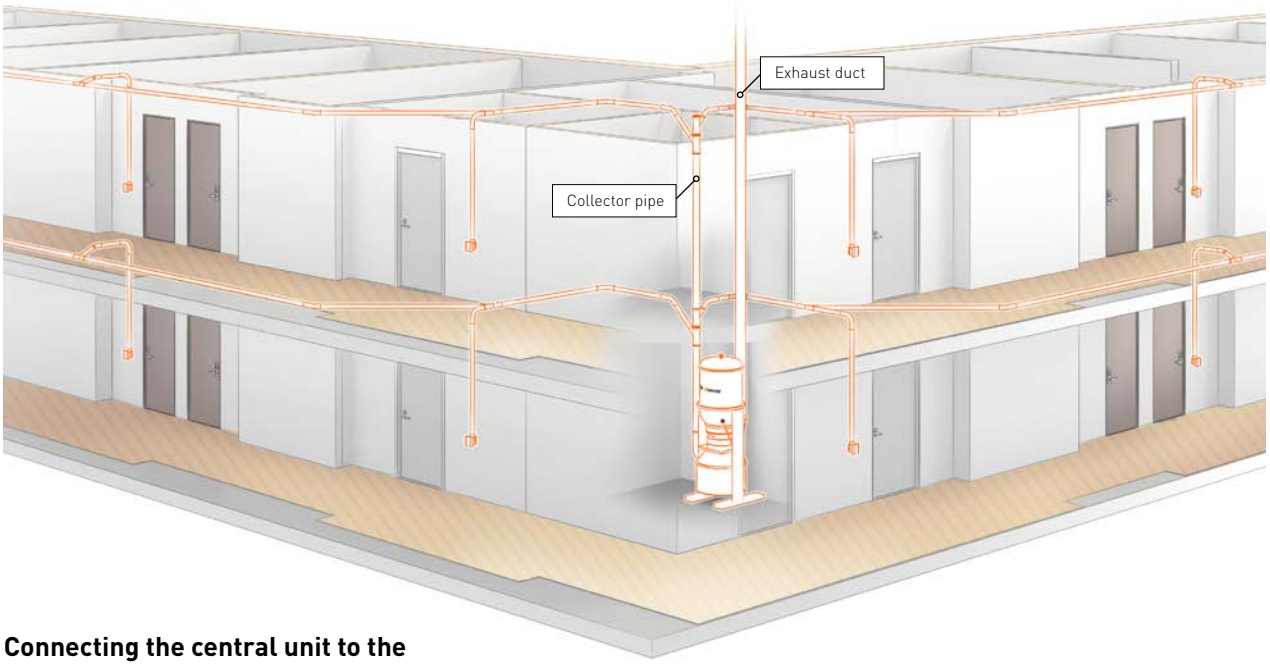
During the design and installation of the suction piping, attention must be paid to current official regulations and the fire compartmentation and materials permitted for use in the installation space. When perforating the wall or floor surfaces with plastic pipes in fire compartments, apply the leadthrough instructions for plastic drains. If necessary, use approved fire barrier products such as firestop collars or masses, for example. When using Allaway steel pipe, type-approved firestop equipment must be used in between various fire compartments.

CHANNELLING EXHAUST AIR

Exhaust air is led out through an exhaust air duct made out of a spiral-weld tube or other metal tube. Thermal insulation and air-tightness of the exhaust air duct must be sufficient. In addition, the integration to any necessary protective appliances, such as fire shutoff valves, must be accounted for in the selection of the exhaust air duct. The locations of the exhaust holes are determined according to the construction regulation set D 2.

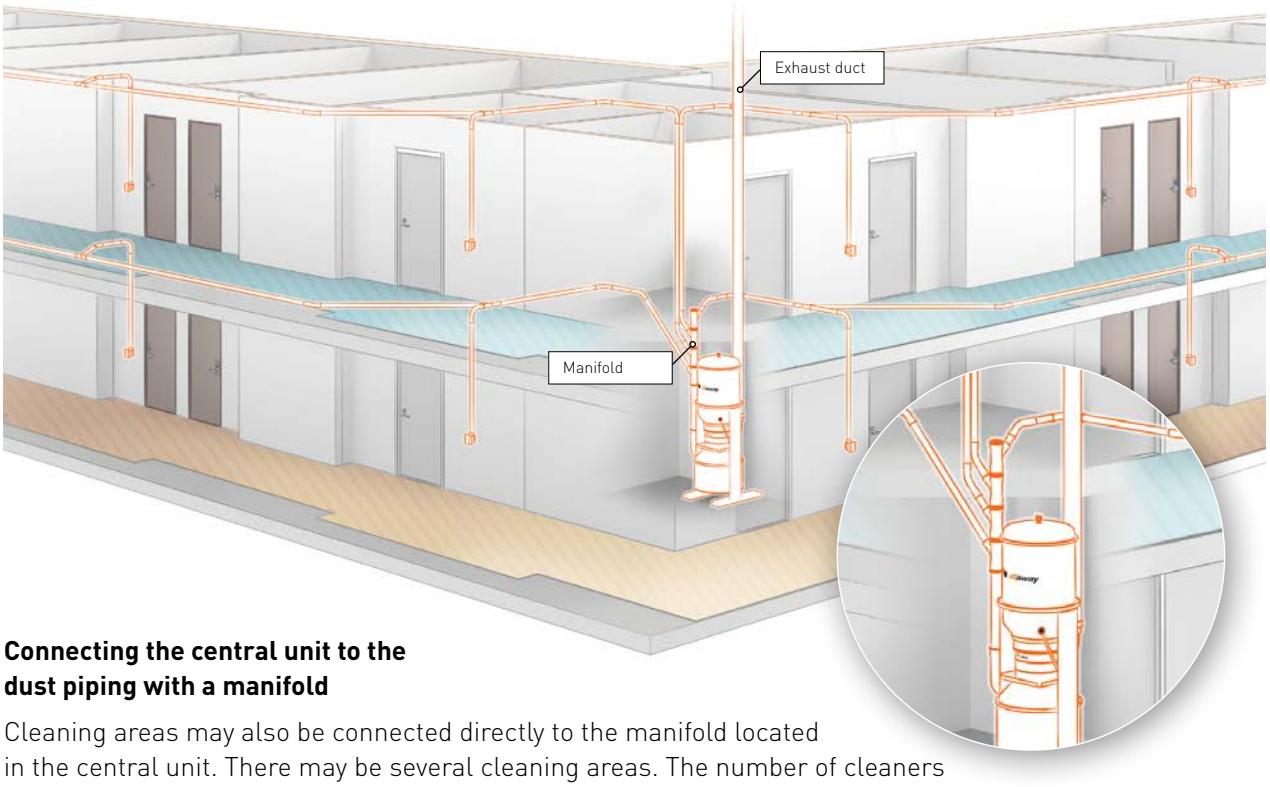
The measurement of the exhaust air duct depends on the types and number of central units attached to it, according to the following table. If the length of the exhaust duct exceeds 10 metres, the exhaust duct should be one size larger. Note the temperature of the exhaust air (55-80°C) when planning the exhaust air duct. Do not lead the exhaust air indoors.

CONNECTING THE CENTRAL UNIT TO THE DUST PIPING



Connecting the central unit to the dust piping with a collector pipe

In buildings with several floors, the 75 mm-diameter collector pipe of the central unit can be led vertically through the floors and the 44 mm-diameter dust pipes from the cleaning areas can be joined to the collector pipe on their respective floors. The central unit must be located directly under the collector pipe. The collector pipe may never be designed to be installed horizontally; the sharpest permitted angle is 45°.



Connecting the central unit to the dust piping with a manifold

Cleaning areas may also be connected directly to the manifold located in the central unit. There may be several cleaning areas. The number of cleaners working simultaneously is determined by the type of the central unit.

The design of the central vacuum system

Manta systems are delivered with Allaway cleaning equipment intended for professional use and are equipped with a steel handle and a telescopic wand as well as a large selection of nozzles. Manta systems are started at the wall inlet. Cleaning equipment can be custom-made according to the requirements of the site.

REQUIREMENTS FOR THE LOCATION OF THE CENTRAL UNIT:

- The largest allowed rise in the Allaway 44 mm suction piping is 6 metres.
- There should be approximately 1 metre of free space in front of each central unit for ease of maintenance.
- Several central units may be placed in the same space next to each other.
- The installation space should have a place for the functional diagram as well as the use and maintenance instructions of the system.
- The central unit is usually located on the ground or basement level, but it can be located on other floors as well. The location should, however, be a maximum of two floors above the areas cleaned.
- The installation space temperature must be +5–+40 degrees Celcius, the thermal stress generated by the central unit must also be taken into account. See: Ventilation in the installation space.
- The noise level of the central unit must be considered when selecting its location. See technical data on page 15.

Thermal stress generated by the central unit	
Manta 3000	500–800 W
Manta 6000	800–1,500 W
Manta APC 3	600–1,400 W

VENTILATION IN THE INSTALLATION SPACE

Part of the engine power of the central unit is transformed into heat.

The amount of air to be extracted depends on the length of the period of use, the size of the installation space and the wall materials. The general guideline is that the need for ventilation in spaces of less than 20 cubic metres is approximately 55–70 l/s per central unit.

You can download the Allaway Manta central vacuum system specifications on our website:
Front page > Support & maintenance > Instructions and warranty terms > Installation equipment > Specifications

MEASUREMENTS AND THE REQUIRED INSTALLATION SPACE FOR THE CENTRAL UNIT



Choosing the right central unit and technical data

The steel-framed, fire-safe and sturdy Manta central vacuum cleaner system is designed for demanding professional use. Thanks to its low noise level, cleaning can be carried out during the day without disturbing others.

The steel dust canister is equipped with an easily exchangeable plastic dust bag. The system does not recycle stuffy, dusty air in the space cleaned, but leads the vacuumed air directly outside.



MANTA 3000

The Manta 3000 central unit is designed for one user with the maximum distance of 70 metres between a wall inlet and central unit.

The system for one user is designed the same way as other Allaway systems. The piping is led from the wall inlets to the central unit using the shortest possible route and the wall inlets are branched from one 44 mm-diameter pipe.

MANTA 6000

The Manta 6000 central unit is designed for two simultaneous users with the maximum distance of 60 metres between a wall inlet and the central unit. It is intended for one user per cleaning area.

The system for two simultaneous users also requires the piping to be divided into at least two separate cleaning areas with separate 44-mm diameter piping systems to the manifold or collector pipe of the central unit. If used for one user only, the maximum distance between a wall inlet and the central unit is 100 metres.

MANTA APC 3

The power of the Manta APC 3 central unit can be adjusted. It is intended for 1–3 simultaneous users. When operated by one cleaner, the maximum suction distance is 80 metres, when operated by two cleaners simultaneously, the maximum suction distance is 70 metres, and when operated by three cleaners simultaneously the maximum suction distance is 60 metres.

The Automatic Power Control (APC) considers the number of users in the system and ensures sufficient suction power, while saving energy if only one or two users are using the system.



Manta system's cleaning equipment set.

HOW TO SELECT THE RIGHT CENTRAL UNIT?

- The floor area to be cleaned is 5,800 m^2.
- Time used for vacuuming is 8 hours - 6 simultaneous users are needed.

SOLUTIONS:

2 Manta APC 3
central units, if the structure of the building and the location of the central unit are such that the maximum distance between the furthest wall inlet and the central unit is 60 metres, and that there can be three simultaneous users per central unit.

3 Manta 6000
central units, if the maximum distance from the furthest wall inlet
is 60 metres. The central units
can be located on different sides of the building.
Two users per central unit.

6 Manta 3000
central units, if the maximum distance from the furthest wall inlet is 70 metres.

TECHNICAL DATA

Central units	Manta 3000	Manta 6000	Manta APC
electrical power kW*	4.0	5.5	4.0-7.5
Electrical connection	32 A 3-phase coupler plug installation 25 A front fuses	32 A 3-phase coupler plug installation/ 25 A front fuses	16 A 3-phase coupler plug installation/ 16 A front fuses
Casing class	IP34	IP34	IP34
Low pressure max kPa*	approx. 32	approx. 40	33
Air volume l/s	108 (390 m^3)	108 (390 m^3)	178 (640 m^3)
Noise level Lp dB(A)+/-2dB**	approx. 70	approx. 69	approx. 75
Dust canister litres	34	34	34
Suction pipe length (diameter 32 mm)	8m or 10 m	8m or 10 m	8m or 10 m
Width mm	600	600	800
Height mm	1965	1965	1965
Depth mm	650	650	650
Weight kg	149	153	155
Maximum suction distance m (the collector pipe is not taken into account)			Autom.
- 1 cleaner	70	100	80
- 2 cleaners	-	60	70
- 3 cleaners	-	-	60

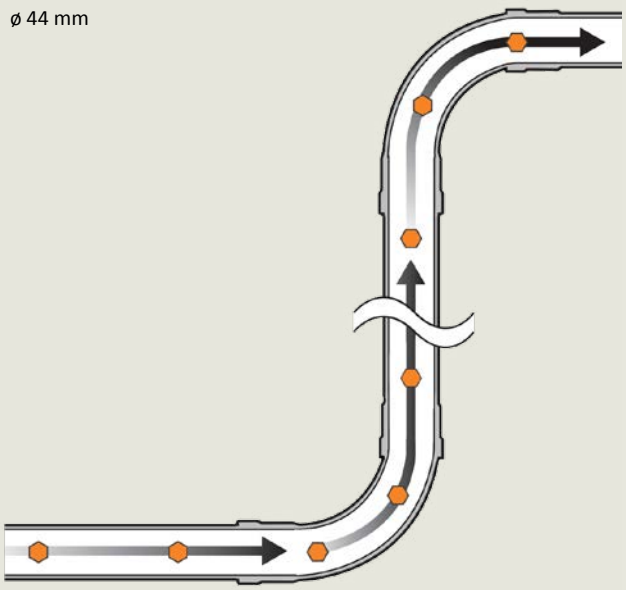
* measured from the turbine ** measured according to IEC 60704 standards

The Allaway piping

Allaway central vacuum systems use special piping specifically designed for transporting dirt and dust. The outer diameter of the Allaway dust piping is 44 mm and the inner diameter is 40 mm. The piping is available in both plastic and steel.

The optimal pipe diameter achieves the airflow of 25 m/s necessary for transporting debris efficiently. According to studies, the piping is optimal in terms of airflow. Flow technically optimally designed and dimensioned elbow pieces, smooth and durable pipes' inner surfaces, optimal pipe diameter and tight connections ensure the best possible flow qualities and blockage-free dust piping.

ALLAWAY CENTRAL VACUUM CLEANER



44 mm-diameter piping guarantees optimal flow properties.

The pipes have markings on them that indicate where the pipe is sealed to the bottom of the sleeve. The pipe is sufficiently extended when the point of connection of the pipes is over the white marking line.



Wall inlet
parallel connection.





The inner surface of Allaway pipes is extremely smooth and durable.



Optimally dimensioned elbow pieces guarantee that rubbish and dust flow freely in the piping. All elbows are rounded and locations that are exposed to wear are strengthened.



Tight seals guarantee that the pipes fit together seamlessly. There are several options for different types of installation projects.

Wall inlets

The wall inlets in the system are usually situated at the same height as light switches. By using a mounting bracket, you can install the wall inlet cover so that it opens in the desired direction.





Metal Optima cover assemblies.
Four colour choices: white, black anthracite, brushed silver, satin. The metal covers are available with or without locks. Metal Optima cover assemblies are compatible with the Optima mounting bracket.



The sharpest elbow in the entire piping system is located directly behind the wall inlet. It prevents long items such as pencils from entering the piping system.

WHAT TO CONSIDER WHEN PLACING WALL INLETS

Accessible
An accessible location, not too close to furniture or fixtures.

Aesthetic
Various cover options (colour, material) to match other interior surfaces.

Ergonomic
The wall inlet is at the right height so the user does not need to bend down and it is also suitable for wheelchair users. It is a good idea to install covers which open upwards at the same level as light switches, and covers which open downwards lower down.

Practical
Install a sufficient number of wall inlets in suitable places to ensure easy vacuuming. We recommend that the number of wall inlets be increased instead of extending the hose (an 8–10-meter hose is easy to use).



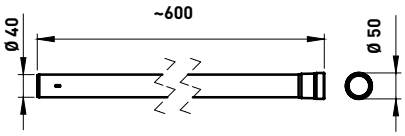


The stylish and durable stainless steel inlets can be surface mounted using separate surface mounting equipment. Mounting is also possible at the floor level.

Product list

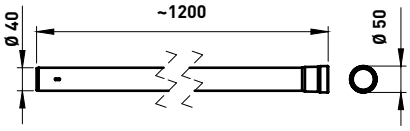
Plastic pipes





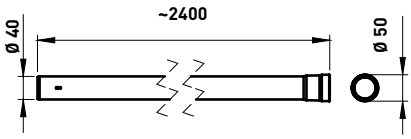
Pipe 0.6 m
HPAC code 6901136. Product code 80542.
Inner diameter Ø 40.8 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.





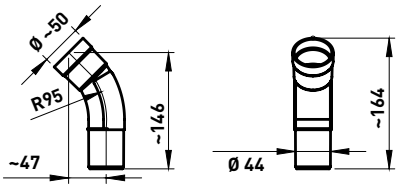
Pipe 1.2 m
HPAC code 6901138. Product code 80541.
Inner diameter Ø 40.8 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.





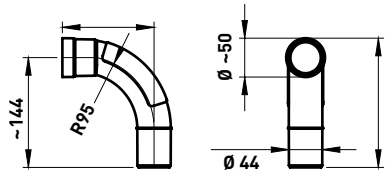
Pipe 2.4 m
HPAC code 6901140. Product code 80540.
Inner diameter Ø 40.8 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.





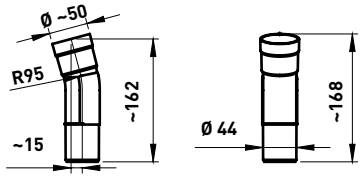
Angle 45°
HPAC code 6901152. Product code 80525.
Inner diameter Ø 40.8 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.





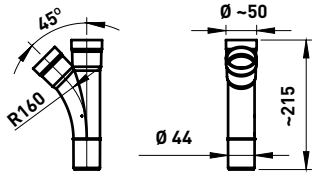
Angle 90°
HPAC code 6901154. Product code 80526.
Inner diameter Ø 40.8 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.





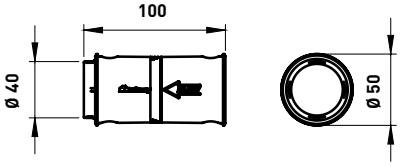
Angle 15°
HPAC code 6901148. Product code 80528.
Inner diameter Ø 40.8 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.





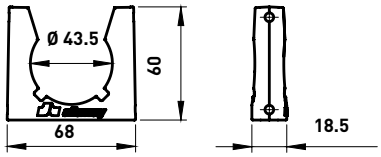
Branch 45°
HPAC code 6901150. Product code 80527.
Inner diameter Ø 40.8 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.





Connector
HPAC code 6901151.
Product code 80295.



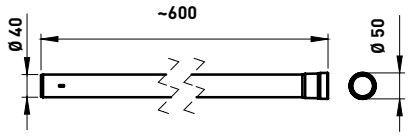


Pipe clamp x 25
HPAC code 6901161. Product code 80294.
Pipe clamp x 3
HPAC code 6901163. Product code 80293.

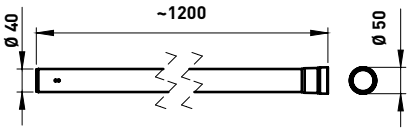


Firestop collar
HPAC code 6901544. Product code 81015.

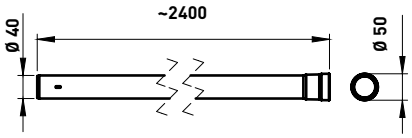
Steel piping



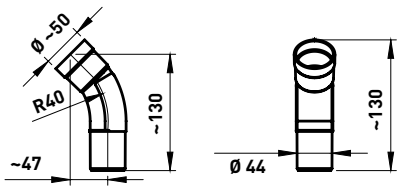
STEEL PIPE 44x600
HPAC code 6901306. Product code 11306.
Inner diameter Ø 41 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.



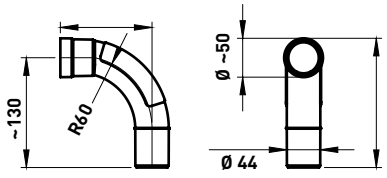
STEEL PIPE 44x1200
HPAC code 6901307. Product code 11307.
Inner diameter Ø 41 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.



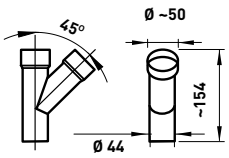
STEEL PIPE 44x2400
HPAC code 6901308. Product code 11308.
Inner diameter Ø 41 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.



STEEL ANGLE 45° 44x45 AST
HPAC code 6901314. Product code 11304.
Inner diameter Ø 41 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.



STEEL ANGLE 90° 44x45 AST
HPAC code 6901313. Product code 11303.
Inner diameter Ø 41 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.

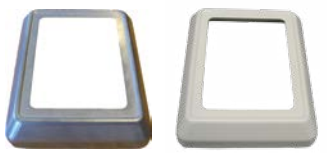


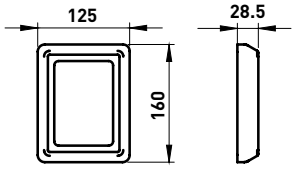
STEEL BRANCH 45° 44x45 AST
HPAC code 6901312. Product code 11302.
Inner diameter Ø 41 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.

SHRINK SOCK WITH GLUE
HPAC code 6901399. Product code 11299.
COMPATIBLE WITH THE ALLAWAY 44-MM
STEEL PIPING, length 50 mm
Inner diameter Ø 41 mm.
Outer diameter Ø 44 mm.
Sleeve outer diameter Ø 50 mm.

Product list

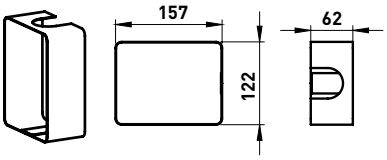
Wall inlets and accessories





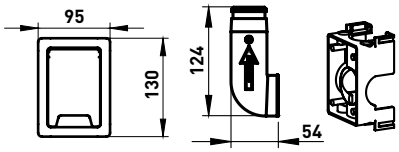
Stainless steel trim plate
HPAC code 6901197. Product code 80277.
Stainless steel trim plate, white
HPAC code 6901299. Product code 80278.





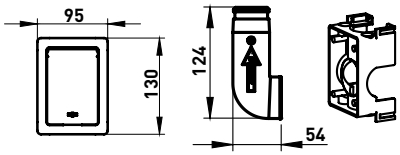
Stainless steel surface housing
HPAC code 6901298. Product code 80218.
Stainless steel surface housing, white
HPAC code 6901297. Product code 80220.





Stainless steel wall inlet, without lock
HPAC code 6901195.
Product code 80259.
Also available in a white
cover assembly.



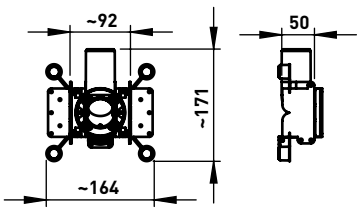


Stainless steel wall inlet, with lock
HPAC code 6901194.
Product code 80258.
Also available in a white
cover assembly. Keys to the lockable
cover assemblies are included in the
cleaning equipment series.



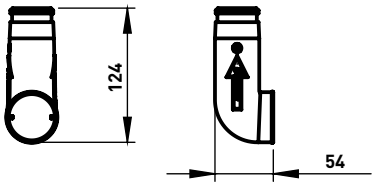
The Manta cleaning equipment series
Several choices.





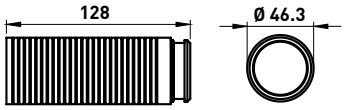
Optima mounting bracket
HPAC code 6901198.
Product code 80223.
The Optima mounting bracket is quick
and easy to install in all wall materials.





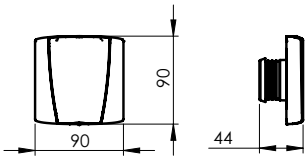
Wall inlet elbow coupling
HPAC code 6901205. Product code 80122
Can be used with surface installation casing, for example**.**





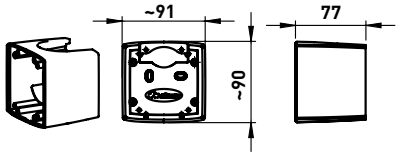
Extension
HPAC code 6901203
Product code 80214
When the coupling muff of the cover assembly does not reach the elbow coupling, an extension is used. The length of the extension is 13 cm.





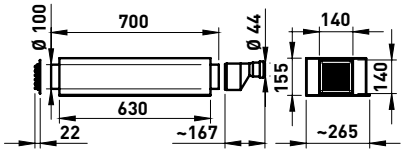
Optima plastic cover assembly, white
HPAC code 6901531.
Product code 80177.





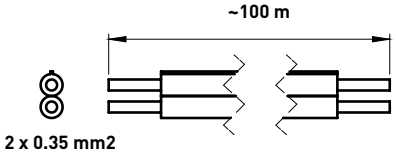
Optima plastic surface installation casing
HPAC code 690119.
Product code 80222.





Turbo silencer
HPAC code 6901273.
Product code 80791.

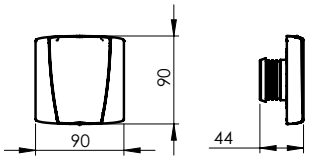
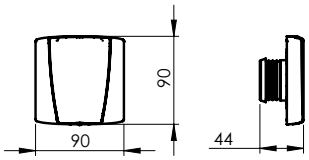
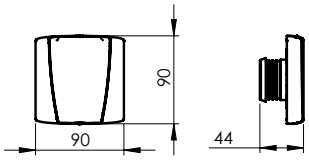
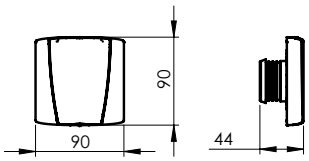


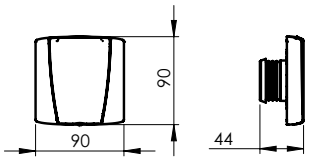
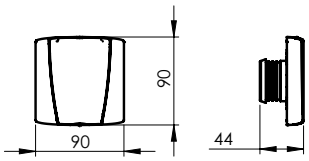
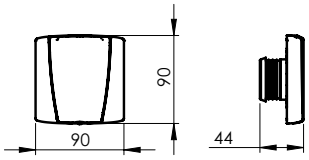
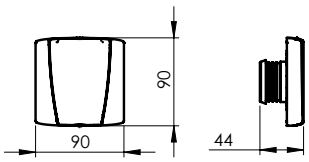
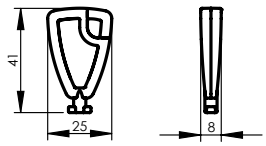


Low voltage wiring 100 m
HPAC code 6901954.
Product code 80954.

Product list

Optima metals

		**Optima metal cover assembly, without lock, white** HPAC code 6901536. Product code 80230.
		**Optima metal cover assembly, without lock, brushed silver** HPAC code 6901537. Product code 80231.
		**Optima metal cover assembly, without lock, black anthracite** HPAC code 6901538. Product code 80232.
		**Optima metal cover assembly, without lock, satin** HPAC code 6901539. Product code 80233.

		**Optima metal cover assembly, with lock, white** HPAC code 6901540. Product code 80234. The key is not included in the lockable cover assemblies.
		**Optima metal cover assembly, with lock, satin** HPAC code 6901545. Product code 80235. The key is not included in the lockable cover assemblies.
		**Optima metal cover assembly, with lock, brushed silver** HPAC code 6901548. Product code 80236. The key is not included in the lockable cover assemblies.
		**Optima metal cover assembly, with lock, black anthracite** HPAC code 6901549. Product code 80237. The key is not included in the lockable cover assemblies.
		**Key** HPAC code 6901550. Product code 80290. Compatible with Optima lockable cover assemblies



Allaway Oy
PL 3
Kangasvuorentie 32
40351 Jyväskylä
info@allaway.fi
tel. +358 (0)20 7210 600

www.allaway.fi

We reserve the rights to make changes.

13300 MA0076FI Rev01 06.2015