



CONNECT AND PROTECT

Hygienic Design Range

Hygienic Design Range | Stainless Steel


nVent

HOFFMAN

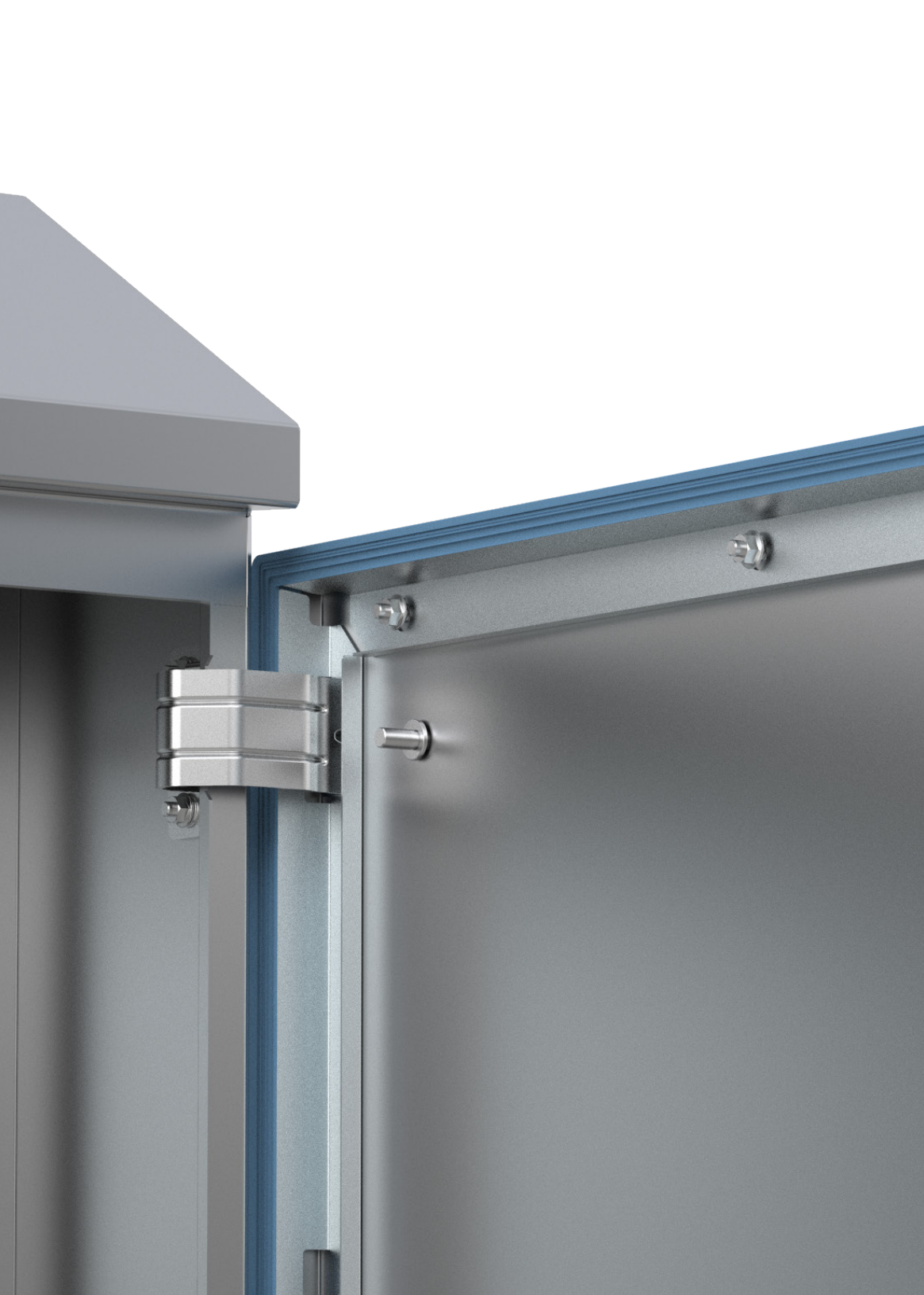




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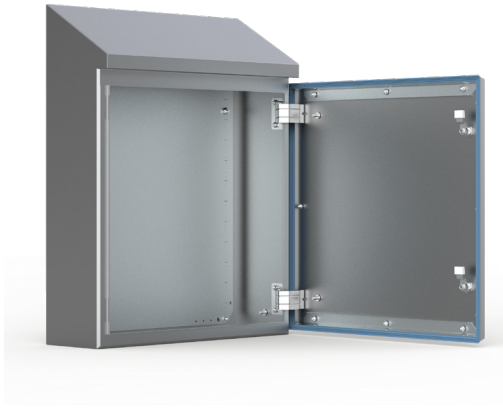
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Product description



WARNING: When mounting on or over a combustible surface, a floor plate of at least 1.43 mm galvanized or 1.6 mm uncoated steel extended at least 150 mm beyond the equipment on all sides must be installed.

WARNING: In order to maintain the environmental integrity of the enclosure, devices with the same environmental ratings shall be used to close openings in customized enclosure.

The HD range is designed and constructed with special materials for highly sanitary operation and ease of thorough cleaning.

Body:

Folded and seam welded.
The body has a special design with a sloping roof at a 30° angle and 30 mm overhang designed to avoid liquids dripping on the door gasket. Stainless steel AISI 304, body thickness: 1.5 mm.

Door:

The doors have all edges bent at 82° angle to prevent accumulation of liquids.
Stainless steel AISI 304, door thickness: 2 mm.

Finish:

400 pre-grained stainless steel, polished to Ra<0.8 µm.

Gasket:

The silicone gasket, FDA 21 CFR 177.2600 compliant, can be easily mounted and removed to simplify scheduled cleaning, in accordance with the rules of hygiene in the food and beverage industry.

Internal hinge:

The door hinge has been especially designed to enable a change from the right side to the left side and to compress the gasket when the door is closing.

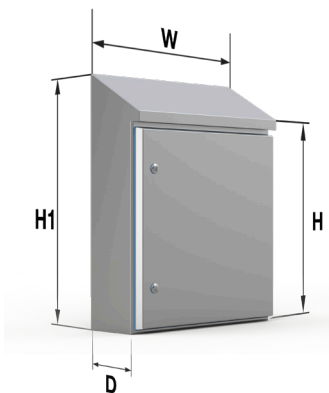
HD lock:

Designed to guarantee hygiene requirements and provide secure access. The lock complies with the standard DIN EN 1672-2:2009.

Mounting plate:

Fixed onto M8 studs. Marked vertically at 10 mm intervals.
Galvanized steel, thickness: 2 mm.

Scope of delivery and important characteristics



The delivery package includes the following items:	
1 x HD enclosure	1 x HD enclosure key
1 x mounting plate	1 x instruction set
1 x mounting kit	
Item	WxH/H1xD
HDW0442215	220 x 350/442 x 155
HDW0553921	390 x 430/552 x 210
HDW0558121	810 x 430/553 x 210
HDW0606130	610 x 430/605 x 300
HDW0675121	510 x 550/672 x 210
HDW0773921	390 x 650/772 x 210
HDW0776121	610 x 650/772 x 210
HDW0828130	810 x 650/825 x 300
HDW1228130	810 x 1050/1225 x 300
HDW1428130	810 x 1250/1425 x 300

Protection level	Standard
IP 66/69/69K	IEC 60529 / ISO 20653
NEMA 4X/12/13	UL 50
IK08	IEC 62262

Item	Body	Door	Heat loss standing	Heat loss on wall
HDW0442215	800 N	240 N	32 W	29 W
HDW0553921	1250 N	250 N	69 W	63 W
HDW0558121	1500 N	250 N	125 W	105 W
HDW0606130	1250 N	250 N	120 W	108 W
HDW0675121	1250 N	250 N	104 W	89 W
HDW0773921	1250 N	260 N	95 W	84 W
HDW0776121	1500 N	260 N	135 W	114 W
HDW0828130	1750 N	300 N	198 W	170 W
HDW1228130	2500 N	380 N	288 W	247 W
HDW1428130	3000 N	400 N	333 W	285 W

Note: heat loss for Delta T= 20 K

Notes for this document

CE label

The HD enclosures have CE label according to IEC 62208.

Associated standards

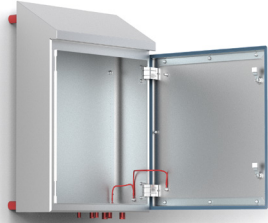
DIN EN ISO 14159	Safety of machinery. Hygiene requirements for the design of machinery.
DIN EN 1672-2	Food processing machinery. Basic concepts. Part 2: Hygiene requirements.
EHEDG regulation, guideline 13	Hygienic design of components and apparatus for open processes.
98/37/EU (2006/42/EU)	Machine regulations.

Cleaning and disinfection notes

The enclosures used in the food & beverage and pharmaceutical industries have to be cleaned matching the corresponding industry requirements.

For further reading see Cleaning Procedure in this manual.

Prior to installation



Checking for absence of faults

After unpacking, make sure to check that the contents are complete and that there are no faults. If there is anything wrong or a part is missing, please contact us immediately. We are unable to accept late complaints.

The delivery package includes the following items:

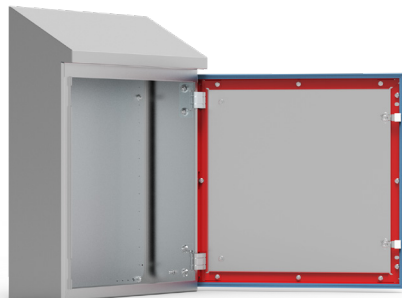
8 x Nuts M8

6 x Mounting Plate Spacer R5

4 x Earthing Labels

Recommended accessories for Hygienic Design:

Description	Packs of	Item No.
Wall mounting brackets, AWHD		
AISI 304 Stainless steel		
Wall separation: 50 mm	1	AWHD050
Wall separation: 300 mm	1	AWHD300
Levelling feet HD, LFHD		
AISI 304 Stainless steel		
Maximum load: 3000 N per foot		
Max height: 140 mm		
Min height: 104 mm Adjust: 36 mm	4	LFHD04
Cable glands HD, CGHD		
AISI 303 stainless steel and sealing in silicone		
Variant:		
M12x1.5	5	CGHD12
M16x1.5	5	CGHD16
M20x1.5	5	CGHD20
M25x1.5	5	CGHD25



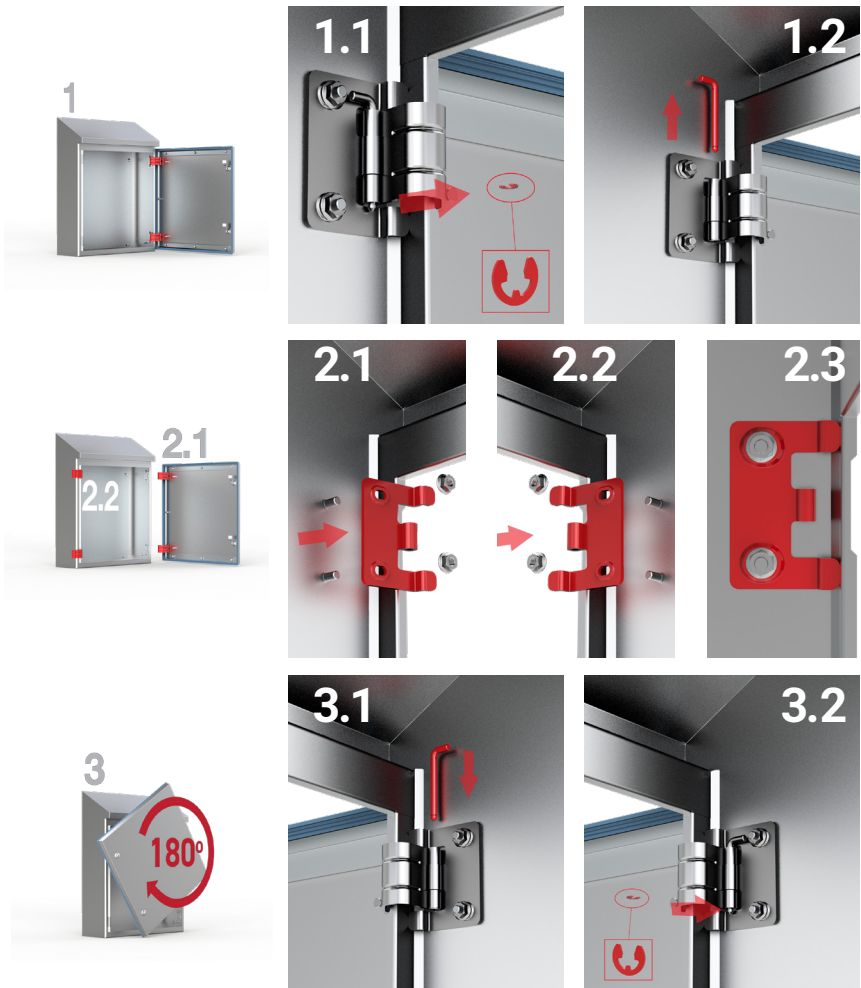
Do not remove, reposition, or perform any modification on the door profiles.

Removing the door/changing the door hinge

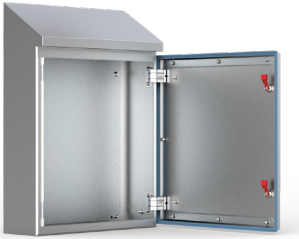


HYGIENE RISK!

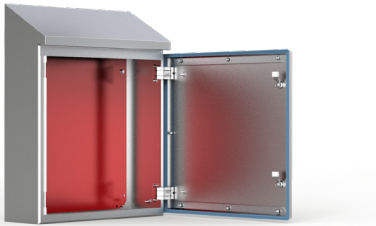
The housing surfaces have peak-to-valley height $< 0.8 \mu\text{m}$. Damage to the surface can encourage growth of micro-organism deposits during operation. Consequently, adopt appropriate measures to protect the housing surfaces from damage during installation.



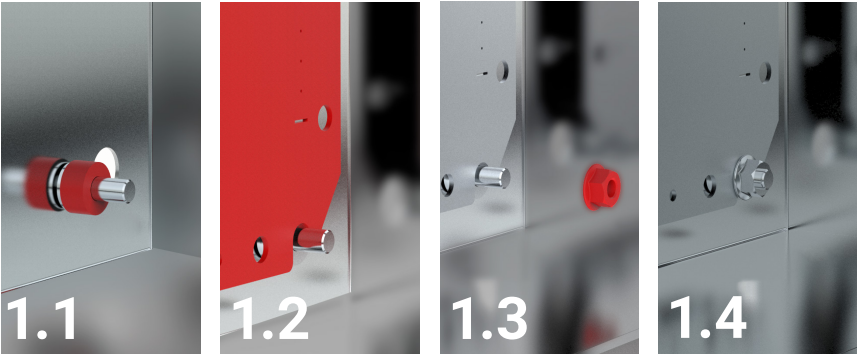
Changing the closing position



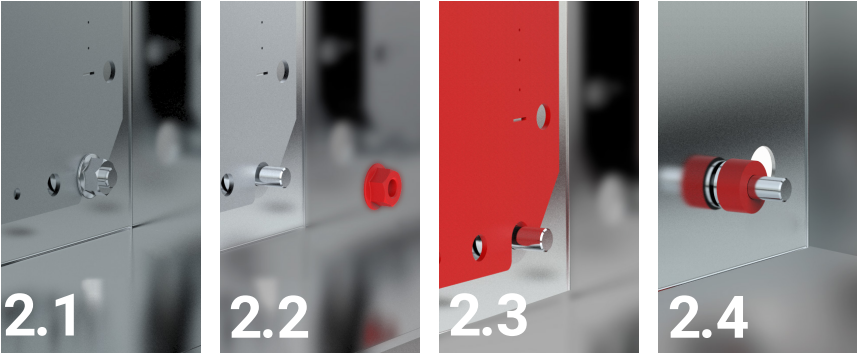
Installing / removing the mounting plate



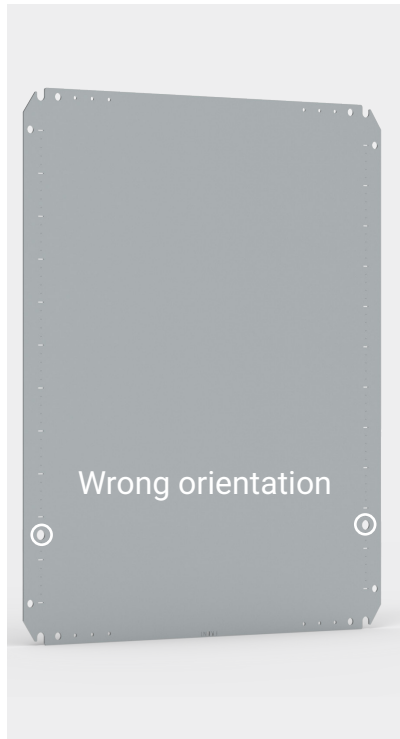
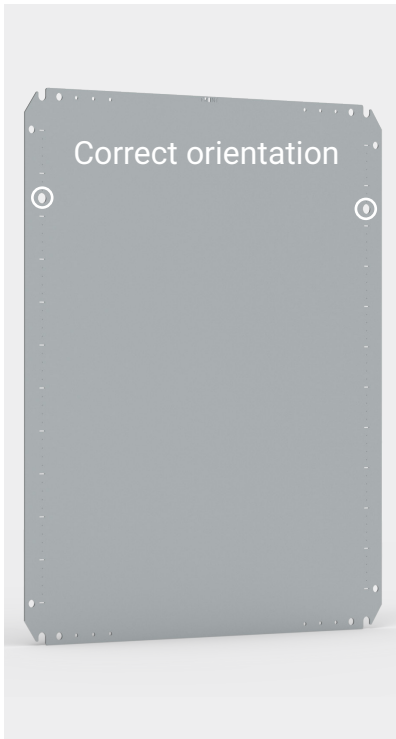
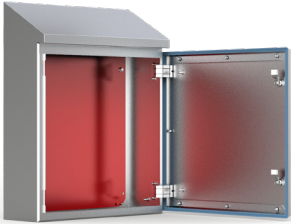
Installing the mounting plate



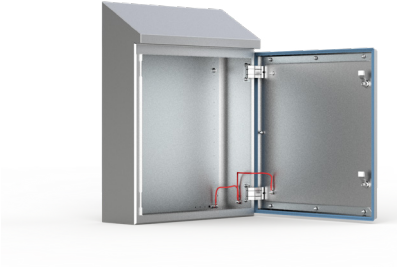
Removing the mounting plate



Mounting plate correct orientation



Earthing and potential equalization

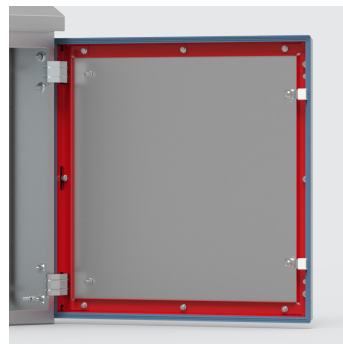
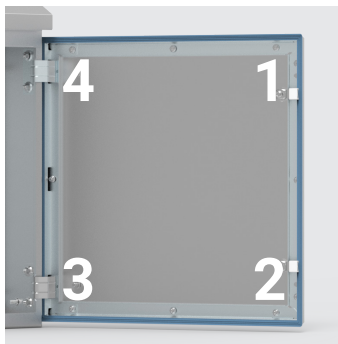
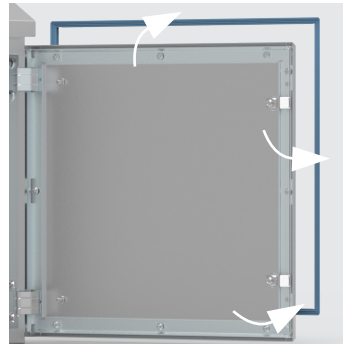
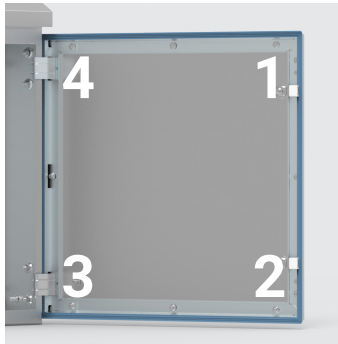
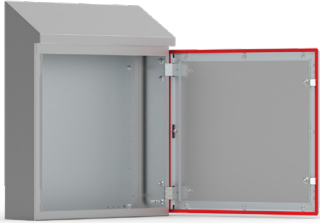


Note: The earthing cable is not included.

For earthing and potential compensation between enclosure parts.

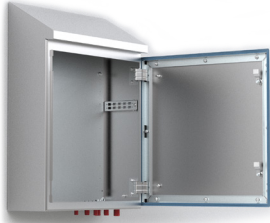
Item no.	Description	Length	Connection size
ECFA300	Earthing cable M8/M8	300 mm	M8/M8

Servicing the door gasket



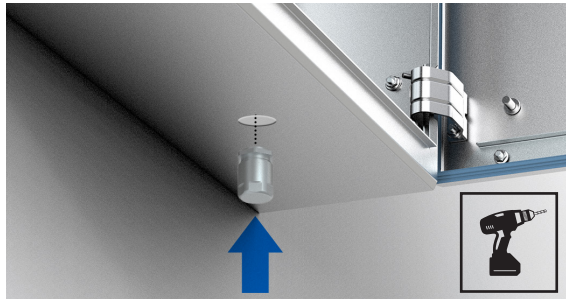
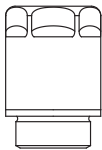
Note: Do not remove, reposition, or perform any modification on the door profiles.

Instructions for HD cable glands



HYGIENE RISK!

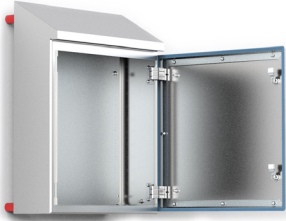
The use of standard cable glands increases the hygiene risk due to the presence of external threads, dead spaces, and gaps. Always use hygiene-conform cable glands on the HD compact enclosure. Introducing cables from the side and from above favor the accumulation of dirt and so the propagation of hygiene-critical micro-organisms. Consequently, if possible, introduce cables at the housing lower side.



To place cable inside the HDW enclosures please use the special cable glands, which are designed to meet strict hygiene demands.

To mount these cable glands, it is necessary to follow the mounting instructions provided inside the package.

Instructions for HD wall mounting brackets



The HDW enclosures can be provided (on request), with wall mounting brackets AWHD050 (having 50 mm length) or AWHD300 (having 300 mm length).

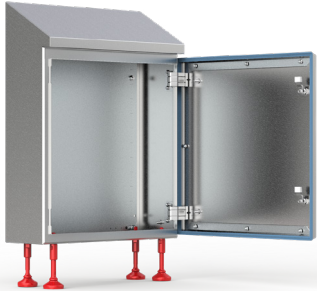
To mount these brackets, the HDW has to be drilled according to AWHD050/300 mounting instruction.

The AWHD050/300 wall mounting brackets are made according to hygienic design requirements EN 1672-2:2009.

The material of blue silicone washers is FDA 21 CFR 177.2600 compliant.



Instructions for HD levelling feet

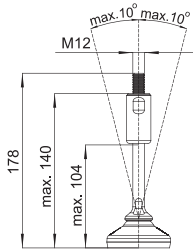


The HDW enclosures can also be mounted a floor by using hygienic design levelling feet.

The HD levelling foot is certified according to the 3A hygienic standard: "88-00" and certified according to the EHEDG hygienic standard TYPE EL - CLASS 1.

The HD levelling foot admits slopes up to 10° of floors and equipment. The HD levelling foot is marked with the 3A and EHEDG logo.

To mount the levelling feet, the HDW has to be drilled according to the LFHD04 mounting instructions provided inside the package.



Protective Fan Cover HD, ECHD



Designed for the food & beverage industry with special materials for harsh sanitary operations, this cover helps protect filter fans in wash down environments against water ingress. With the shroud fitted in place, EF filter fans increase in rating from IP 54 to IP 56. The cover can be easily removed for maintenance operations and gasket replacement, and also can be opened to a 35° angle for easy filter cleaning. The sloped-top cover prevents liquids and other debris from pooling. Folded and seam welded (machining is required).

Description	Pack qty.	Item No.
Protective cover HD, 230x150x57	1	ECHD10
Protective cover HD, 260x176x57	1	ECHD20
Protective cover HD, 330x233x57	1	ECHD22
Protective cover HD, 390x282x95	1	ECHD30
Protective cover HD, 480x350x110	1	ECHD50
Protective cover HD, 480x350x160	1	ECHD70



Hygienic cleaning information



In general, a cleaning procedure for surfaces in a food plant will include at least a detergent application phase and a sanitization phase.

DETERGENT APPLICATION

A detergent's function is to remove soils, which is unwanted matter on the surfaces to be cleaned. The main source of this matter is foodstuffs being processed at the plant.

SANITIZATION

Sanitization refers to the reduction of micro-organisms to levels considered safe from a public health viewpoint. General types of sanitization include the following:

Thermal sanitization

Hot water or steam at a specified temperature and contact time are used.

Using hot water

Hot-water sanitization is relatively inexpensive, easy to apply, and readily available, generally effective over a broad range of microorganisms, and relatively non-corrosive.

Steam

The use of steam as a sanitizing process has limited uses. It is generally expensive compared to the hot water alternative and it is difficult to regulate and monitor contact temperature and time. Further, the byproducts of steam condensation can make cleaning more complicated.

Chemical sanitization

Involves the use of an approved chemical sanitizer at a specified concentration and contact time. The ideal chemical sanitizer should:

- Be approved for food contact surface application;
- Be possible to use widely;
- Destroy microorganisms rapidly;
- Be stable in many conditions;
- Be tolerant to a broad range of environmental conditions;
- Be readily solubilized and should have detergent attributes;
- Be low in toxicity and corrosivity;
- Be inexpensive.



Examples of Typical Cleaning and Disinfecting Substances:

Acid Cleaning Agent	Neutral Cleaning Agent	Alkaline Cleaning Agent	Disinfecting Agent
Phosphoric acid	Phosphate	Surfactant	Peroxide
Acetic acid	Surfactant	Caustic soda / caustic potash	Quaternary Ammonium compounds (QAC)
Nitric acid	Peroxide	Sodium carbonate	
Solubilizer		Peroxide	
	Quaternary Ammonium compounds (QAC)	Hypochlorite	
Surfactant		Quaternary ammonium compounds (QAC)	

CLEANING METHODS

The enclosures used in the food industry have to be cleaned matching the requirements of the food and beverage industries. Depending on the possibility to clean the element assembled or disassembled it can be distinguished between the following methods:

Mechanical Cleaning	Often referred to as clean-in-place (CIP)
Clean-out-of-place (COP)	Can be partial disassembled and cleaned in specialized cop (for example the silicone gasket)
Manual Cleaning	Requires total disassembly for cleaning and inspection

Cleaning frequency must be clearly defined for each process line (i.e. daily, after production runs, or more often if necessary)

ENVIRONMENTAL CONSIDERATIONS

Detergents can be significant contributors to the waste discharge (effluent). Of primary concern is pH.

Many publicly owned treatment works limit effluent pH to the range of 5 to 8.5.

In applications where highly alkaline cleaners are used, it is recommended, that the effluent is mixed with rinse water (or some other method be used) to reduce the pH level.

Cleaning procedure



The HDW range is designed with carefully selected materials for highly sanitary operations and ease of thorough cleaning. The cleaning procedure for surfaces in a food plant is, in general: Gross clean, pre-rinse, detergent application, post-rinse, sanitization, and final rinse. The procedure has to be monitored for adequacy.

The HDW enclosures are certified for ingress protection IP 69 K, thus making it possible to use a high pressure hot water jet, at a flow rate of 15 l/min with a temperature of 80°C at 80 bar and a minimum distance of 100 mm.

The enclosure can be disinfected using a certified disinfectant agent permitted for use on machinery handling food.

The gasket can be cleaned and disinfected independently by removing it from the door edge. The door edge must be carefully cleaned outside and inside using a washcloth soaked in disinfectant. The silicone gasket and door edge must be clean and dry before the gasket is mounted on the door edge. No gap is permitted between the silicone gasket and door.

Notes:

- If a gap does appear over time, the gasket will need to be replaced by a new one.
- If mechanical cleaning is necessary, it must be executed by a soft brush or soft plastic scraper. Metallic sharp tools are prohibited for cleaning, since the steel surfaces might be scratched or the silicone sealings damaged. Necessary equipment for cleaning must be handled and stored in a clean, sanitary manner.

Transport instruction



The HDW enclosures have the surface roughness $Ra < 0.8 \mu\text{m}$. Damaging these surfaces can cause micro-organism deposits.

The enclosures have to be handled carefully by using appropriate measures to protect surfaces during transport. Please use the original cardboard packaging.

Since the roof of the enclosure is sloped, one or more boxes should not be placed on top of each other.

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A series of 25 horizontal dotted lines spanning the width of the page, intended for writing or data entry.

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