

**Water Solutions**

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# DuPont™ IntegraTec™ I Series PES In-Out Modules for Horizontal Systems

## **Assembly Instructions**

**Version 5**

**January 2024**



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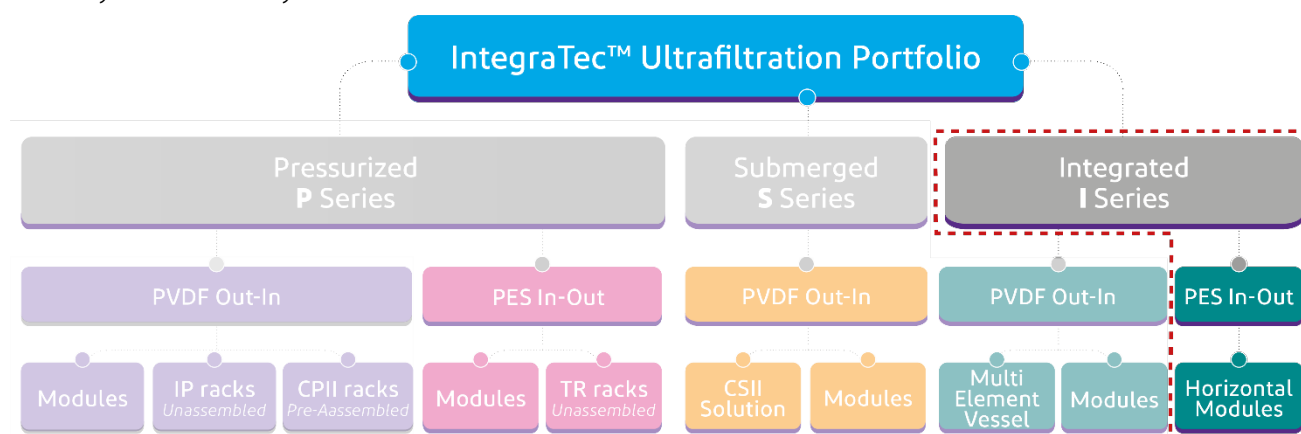
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# 1 Legal Notice

## 1.1 Product

This manual applies to DuPont™ IntegraTec™ Series I PES-UF In-Out Modules, parts and components for installation, assembly and disassembly.



Duplication and archiving in any form whatsoever – including of excerpts – is only permitted with the written consent of the manufacturer.

All brand and company names in this Assembly Instructions are registered trademarks of the corresponding companies.

## 1.2 Change Policy


The manufacturer reserves the right to change this assembly manual or any part thereof at any time in the interest of continuous product improvement.

The company/party responsible for the assembly of the system described in this manual should obtain the current Manual for DuPont™:

- Download at: <https://www.dupont.com/brands/integrattec-ultrafiltration.html>
- By e-mail to [inge@dupont.com](mailto:inge@dupont.com)
- By telephone under +49 8192 997-700




## 2 About these Instructions

<i>NOTE</i>	
	<p><b>READ THE INSTRUCTIONS!</b></p> <p>Read these instructions completely before assembling and disassembling the equipment. The information contained herein will help you perform the work properly.</p> <p>It is important to follow the safety instructions to prevent injury and property damage.</p> <p>Keep these instructions in a readily accessible place close to the horizontal PES-UF modules. If you transfer horizontal PES-UF modules to third parties, be sure to include all of these instructions</p>

### 2.1 Objective of these Instructions

- The instructions enable you to install and disassemble Horizontal PES-UF Modules perfectly, safely and quickly.
- The instructions also contain important information about maintenance of Horizontal PES-UF Modules.
- The order in which these instructions are presented is designed for optimal learning, enabling you to work your way into the subject matter step by step.

### Warranty Policy

<i>NOTE</i>	
	<p><b>ADHERENCE TO ALL INSTRUCTIONS!</b></p> <p>Full and proper compliance with the Assembly Instructions is a prerequisite for making a claim under the warranty.</p> <p>Any translations of this document into languages other than English provided to you by DuPont are not official translations and are intended solely as a convenience for non-English reading recipients. The only DuPont-approved and valid version of this document is the most current English version provided by DuPont at the time of sale.</p> <p>Please contact DuPont™ if you wish to deviate from any of the guidelines or specifications provided in this document and request written approval in advance. Otherwise you risk invalidating any warranty claims that you may make in the future.</p>

The aim of this manual is to help our customers to enjoy the full benefits of our products. If you should notice any mistake or have other suggestions for improvements, please send an email to

→ [inge\\_manuals@dupont.com](mailto:inge_manuals@dupont.com)

## 3 Target Groups

### 3.1.1 Qualified Persons

These instructions are intended for skilled persons with the following qualifications:

- Technical education  
The skilled person must have technical education as a mechanic or mechatronics technician, for example.
- Several years of experience with the installation of industrial systems  
The skilled person must also have several years of experience with the installation of industrial systems.
- Good language skills  
The skilled person must know the language of these instructions well enough to be able to apply the contents of these instructions and to impart these to other persons under his/her supervision.

### 3.1.2 Skilled Persons with a Supervisory Capacity

Skilled persons that meet all requirements in section 1.2.1 are considered to be "skilled persons with a supervisory capacity".

### 3.1.3 Involvement of Other Persons

Other persons may only participate in the assembly or disassembly if continuously supervised and instructed by the skilled persons with a supervisory capacity.

### 3.1.4 Involvement of Multiple Persons

Some tasks need to be performed by two or more persons for worker protection and safety reasons.

In these cases, the number of persons required is specified in the first step of the procedure.

## 3.2 Symbols in this Manual

### 3.2.1 Instructions

Activities are described as numbered steps that are presented in a table.




The headings of the activity descriptions are primarily intended for personnel with extensive experience in the application of these instructions. They make it possible for the personnel to assemble or disassemble the equipment primarily by reading these headings and observing the graphics.

Notwithstanding this, the detailed description is always binding.

Always read the entire description of a step before beginning with the work it describes.

### 3.2.2 Symbols

The following symbols are used in this manual:

<i>SYMBOL</i>	<i>DESCRIPTION (EXAMPLES)</i>
	<b>IMPORTANT NOTE!</b> Failure to follow the instructions in this note may lead to problems with the product.
	<b>INFORMATION!</b> Following this information will make it easier to assemble Horizontal PES-UF modules.
	<b>CROSS REFERENCE!</b> Detailed information on this topic can be found in other documentation.

## 3.3 Storage and Transfer to Another Party

Keep these instructions in a readily accessible place close to horizontal PES-UF modules. If you transfer the horizontal PES-UF modules to third parties, be sure to include all of these instructions.

## 4 Safety

### 4.1 Follow the Instructions!

Horizontal PES-UF module elements can only be installed or disassembled safely if you first read the instructions, understand these and follow them when assembling and disassembling the equipment.

The manufacturer has designed and built the product according to the latest engineering knowledge, thereby ensuring the best possible safety and preventing injury, property damage and/or environmental damage.

A certain residual risk remains, which can only be avoided by following the correct procedures. The correct procedures and all points that need to be followed are described in these instructions.

### 4.2 Intended Use

These instructions describe the requirements and procedures for:

- Installation/assembly of Horizontal PES-UF modules
- Disassembly of Horizontal PES-UF modules

The completely installed horizontal PES-UF modules are intended only for the commercial ultrafiltration of water.

The intended installation and disassembly include adherence to all specifications in these instructions.


Any other method of installation or disassembly is considered to be unintended use. DuPont™ cannot be held liable for damage that results from unintended use.



### 4.2.1 Residual Risks

Despite the inherently safe design the following residual risks remain:

- Danger of crushing from falling raised loads
- Danger of crushing by industrial trucks and other equipment at the construction site
- Danger of injury from faulty and incomplete assembly
- Danger of falling when using ladders, scaffolding and other climbing aids
- Danger of crushing and shearing from work in the danger zone
- Cutting and impact injuries from sharp corners and edges
- Danger of tripping and impact from pallets, packages and assembled parts at the construction site
- Danger of injury due to physical strain
- Danger of injury due to constricted space
- Danger of injury due to inadequate room height
- Danger of injury and system damage due to exceeding the maximum permissible floor load
- Danger of injury to bystanders, machines and devices in the work area
- Danger of injury during operation due to the installation and use of damaged parts

<i>NOTE</i>	
	<p>In these instructions, these residual risks are indicated by appropriate safety and warning instructions.</p>

### 4.2.2 Conversions and Modifications

Conversion or modification is only permissible with the written approval from the manufacturer.

### 4.2.3 Repairs

Repairs may only be performed by qualified personnel following consultation with the manufacturer.

### 4.3 Standards and Laws



- Horizontal PES-UF Modules of DuPont™ are subject to the EC pressure equipment directive 2014/68/EU, Article 4, Sector 3.
- The locally applicable normative and/or statutory requirements for the installation and disassembly of Horizontal PES-UF modules must be complied with.
- For tools, equipment, machines and facilities that are not included in the delivery, the conditions and instructions of the respective manufacturer apply.

### 4.4 Obligations of the System Integrator

- Ensure that every skilled person with a supervisory capacity (= target group) has a printed copy of these instructions available for the entire duration of the installation and disassembly.
- The current instructions can be downloaded here:  
<https://www.dupont.com/brands/integratec-ultrafiltration.html>
- On request, we can send you the desired number of printed instructions free of charge.
- You can reach DuPont™ under [inge@dupont.com](mailto:inge@dupont.com) or by telephone +49 8192 997-700.
- Make the necessary personal protective equipment available to all people involved for the duration of the work.
- In case of deficiencies or loss, immediately replace the personal protective equipment.

### 4.5 Obligations of the Operator








- Ensure that all persons working on the modules of Horizontal PES-UF modules use the personal protective equipment (safety shoes and helmet) made available to them for the duration of the work.
- Ensure that you are immediately informed in case of deficiencies or loss of personal protective equipment. Provide a replacement immediately and do not allow work to be performed without complete personal protective equipment.
- Ensure that all persons working on the horizontal PES-UF Modules have read the assembly instructions and follow the safety instructions and procedures described herein.

 <b>WARNING</b>	
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>If you begin work without having read the information on the respective procedural step (including any potential warning instructions), this may lead to accidents.</p> <ul style="list-style-type: none"> <li>• Ensure that the operating personnel has the necessary qualification and is sufficiently trained.</li> <li>• Read the description of a procedural step completely and do not begin implementing the step before having done so.</li> </ul>

## 4.6 General Information on Safety and Warning Instructions











### 4.6.1 Categories and Structure

Depending on the severity of the impending or potential danger, the following types of safety and warning instructions are differentiated:

 <b>DANGER</b>	
	<p><b>DANGER TO LIFE!</b></p> <p>Personal injury due to an imminently hazardous situation. If this situation is not avoided, it will lead to serious injury or death.</p> <ul style="list-style-type: none"> <li>• Actions to avert danger.</li> </ul>
 <b>WARNING</b>	
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Personal injury due to a potentially hazardous situation. If this situation is not avoided, it may lead to serious injury or death.</p> <ul style="list-style-type: none"> <li>• Actions to avert danger.</li> </ul>
 <b>CAUTION</b>	
	<p><b>DANGER OF INJURY!</b></p> <p>Personal injury due to a potentially hazardous situation. If this situation is not avoided, it may lead to minor or moderate injury.</p> <ul style="list-style-type: none"> <li>• Actions to avert danger.</li> </ul>
<b>NOTE</b>	
	<p><b>CAUTION, PROPERTY DAMAGE!</b></p> <p>Property damage due to an improper procedure.</p> <ul style="list-style-type: none"> <li>• Actions to avert danger.</li> </ul>





### 4.6.2 Warning Symbols

The following warning symbols are used in this manual:

<i>WARNING SYMBOL</i>	<i>DESCRIPTION</i>
	<p><b>GENERAL DANGER SIGN</b></p> <p>If the necessary safety instructions are not followed, this may lead to death, serious injury and serious property damage.</p>
	<p><b>SUSPENDED LOADS</b></p> <p>If the necessary safety instructions are not followed, this may lead to death, serious injury and property damage due to falling loads.</p>
	<p><b>HEAVY WEIGHTS</b></p> <p>If the necessary safety instructions are not followed, this may lead to serious back injury due to lifting of heavy loads.</p>
	<p><b>DANGER OF CRUSHING (BODY)</b></p> <p>If the necessary safety instructions are not followed, this may lead to death or serious injury due to pinching/crushing of the body.</p>
	<p><b>DANGER OF CRUSHING (BODY)</b></p> <p>If the necessary safety instructions are not followed, this may lead to death or serious injury due to pinching/crushing of the body.</p>
	<p><b>DANGER OF CRUSHING AND SHEARING (HAND)</b></p> <p>If the necessary safety instructions are not followed, this may lead to serious injury and property damage due to crushing and shearing of the hands and other parts of the body.</p>
	<p><b>DANGER OF FALLING</b></p> <p>If the necessary safety instructions are not followed, this may lead to death or serious injury from falling.</p>
	<p><b>DANGER OF SLIPPING</b></p> <p>If the necessary safety instructions are not followed, this may lead to serious injury from slipping.</p>
	<p><b>DANGER OF TRIPPING</b></p> <p>If the necessary safety instructions are not followed, this may lead to serious injury from tripping.</p>
	<p><b>DANGER OF CUTTING</b></p> <p>If the necessary safety instructions are not followed, this may lead to serious injury from cutting on sharp edges.</p>




### 4.6.3 Signs Giving Instructions






The following signs giving instructions are used in this manual for the required personal protective equipment (PPE):






<i>SIGNS GIVING INSTRUCTIONS</i>	<i>DESCRIPTION</i>
	<p><b>WORKING WITH A HELMET</b></p> <p>Failure to wear a helmet may result in head injuries.</p> <ul style="list-style-type: none"> <li>• Wear a helmet!</li> </ul>
	<p><b>WORKING WITH SAFETY SHOES</b></p> <p>Failure to wear safety shoes may result in foot injuries.</p> <ul style="list-style-type: none"> <li>• Wear safety shoes!</li> </ul>
	<p><b>WORKING WITH SAFETY GLOVES</b></p> <p>Failure to wear safety gloves may result in hand injuries.</p> <ul style="list-style-type: none"> <li>• Wear safety gloves!</li> </ul>
	<p><b>WORKING WITH EYE PROTECTION</b></p> <p>Failure to wear safety goggles may result in eye injuries.</p> <ul style="list-style-type: none"> <li>• Wear safety goggles!</li> </ul>
	<p><b>WORKING WITH A SAFETY HARNESS</b></p> <p>Failure to wear a safety harness may result in injuries due to a fall.</p> <ul style="list-style-type: none"> <li>• When working at great heights, wear a safety harness.</li> </ul>





#### 4.6.4 Safety Instructions





The following safety instructions are used in this manual:





 <b>DANGER</b>		
	<p><b>DANGER TO LIFE!</b></p> <p>Danger of crushing from falling raised loads.</p> <ul style="list-style-type: none"> <li>• Never stand under raised loads!</li> <li>• Keep a sufficient distance when transporting and lifting loads!</li> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 





 <b>DANGER</b>		
 	<p><b>DANGER TO LIFE!</b></p> <p>Danger of crushing by industrial trucks and other equipment at the construction site.</p> <ul style="list-style-type: none"> <li>• Keep a sufficient distance when transporting and lifting loads!</li> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 



 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of injury from faulty and incomplete assembly.</p> <ul style="list-style-type: none"> <li>• Do not take the horizontal PES-UF modules in operation before they have been fully assembled!</li> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> <li>• Wear safety goggles!</li> </ul>	  

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of falling when using ladders, scaffolding and other climbing aids.</p> <ul style="list-style-type: none"> <li>• Only use flawless and approved ladders, scaffoldings and other climbing aids!</li> <li>• Use a secured safety cage or safety harness when you are being raised by a fork lift truck!</li> <li>• Wear a safety helmet!</li> <li>• Use a safety harness if necessary!</li> </ul>	 



 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of crushing and shearing from work in the danger zone.</p> <ul style="list-style-type: none"> <li>• Note the specified number of persons required!</li> <li>• Wear safety gloves!</li> <li>• Wear safety shoes!</li> </ul>	 



 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Cutting and impact injuries from sharp corners and edges.</p> <ul style="list-style-type: none"> <li>• Wear safety gloves!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of tripping and impact from pallets, packages and assembled parts at the construction site.</p> <ul style="list-style-type: none"> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>CAUTION</b>	
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury due to physical strain.</p> <ul style="list-style-type: none"> <li>• Determine the weight of the module in use!</li> <li>• Always note the locally applicable maximum permissible load for personnel!</li> <li>• Note the specified number of persons required!</li> </ul>

 <b>CAUTION</b>	
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury due to constricted space.</p> <ul style="list-style-type: none"> <li>• Provide for sufficient space!</li> </ul>

 <b>CAUTION</b>	
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury to bystanders, machines and devices in the work area.</p> <ul style="list-style-type: none"> <li>• Protect the work area against unauthorized access and against machines and devices that are not involved!</li> </ul>

 <b>CAUTION</b>	
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury during operation due to the installation and use of damaged parts.</p> <ul style="list-style-type: none"> <li>• Only use undamaged parts or parts approved by DuPont™!</li> </ul>

#### 4.6.5 Position of Warnings

- General warnings on activities are found at the beginning of each main section.
- Special warnings on the individual steps are located with the corresponding step.



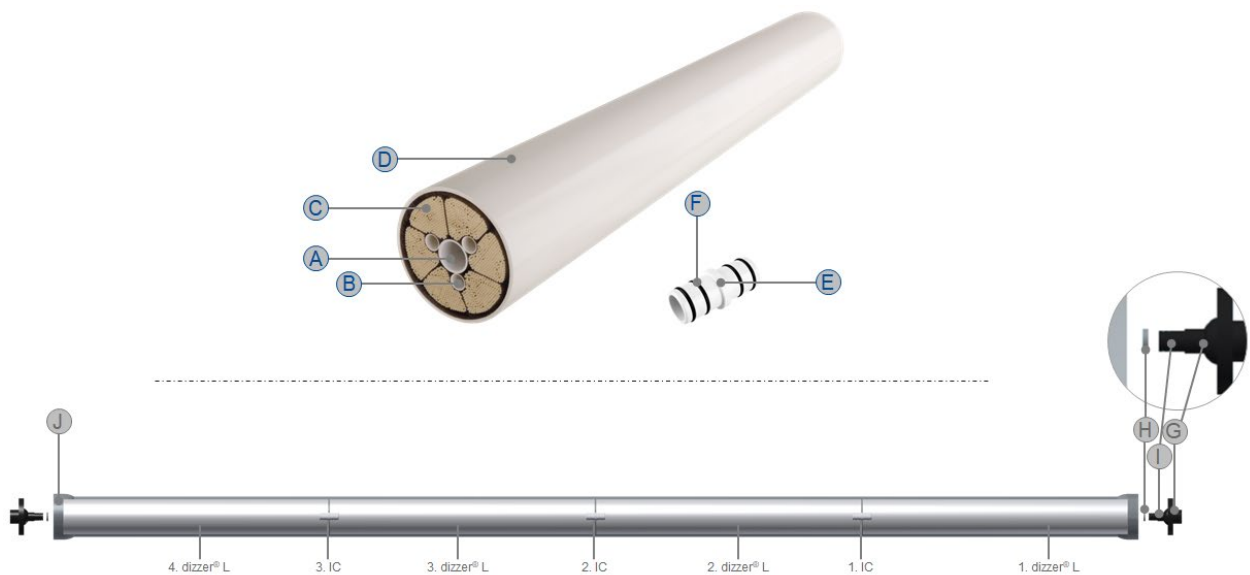
# 5 Device Description

## 5.1 DuPont™ IntegraTec™ MB 40 HB

### 5.1.1 Components

#### 5.1.1.1 Overview Graphic

Components of the DuPont™ IntegraTec™ MB 40 HB



#### 5.1.1.2 Parts List for DuPont™ IntegraTec™ MB 40 HB

Part	Quantity	DuPont™ Scope of supply	Scope of supply of Pressure Vessel supplier
<b>A</b>	1	Filtrate collector tube	
<b>B</b>	3	Feed water bypass tube	
<b>C</b>	*	Multibore™ UF membrane	
<b>D</b>	1	Module body	
<b>E</b>	1	(Hollow) Interconnector	
<b>F</b>	4	O-Rings	
	G	2	End caps
	H	**	Shim (s) ** as necessary
	I	2	End-Connectors
	J	1	UF Element Pressure Vessel

\*according to surface area

### 5.1.2 Functional Description

Part	Description
Filtrate collector tube	Connector for filtrate
Feed water bypass tubes	Bypass tube for distributing feed water into multiple UF modules
Multibore™ UF membrane	A module consists of a large quantity of Multibore™ membranes, potted in epoxy resin
Module body	Cylindrical shell, PVC-U white
PVC-U white Interconnector	For filtrate-sided connection between multiple UF elements in line
O-Rings	EPDM O-Rings

### 5.1.3 Technical Data

The DuPont™ IntegraTec™ MB 40 HB UF elements and corresponding Interconnector sets are designed to streamline one-to-one replacements of existing horizontal UF systems with Multibore™ membranes.

For detailed information, see

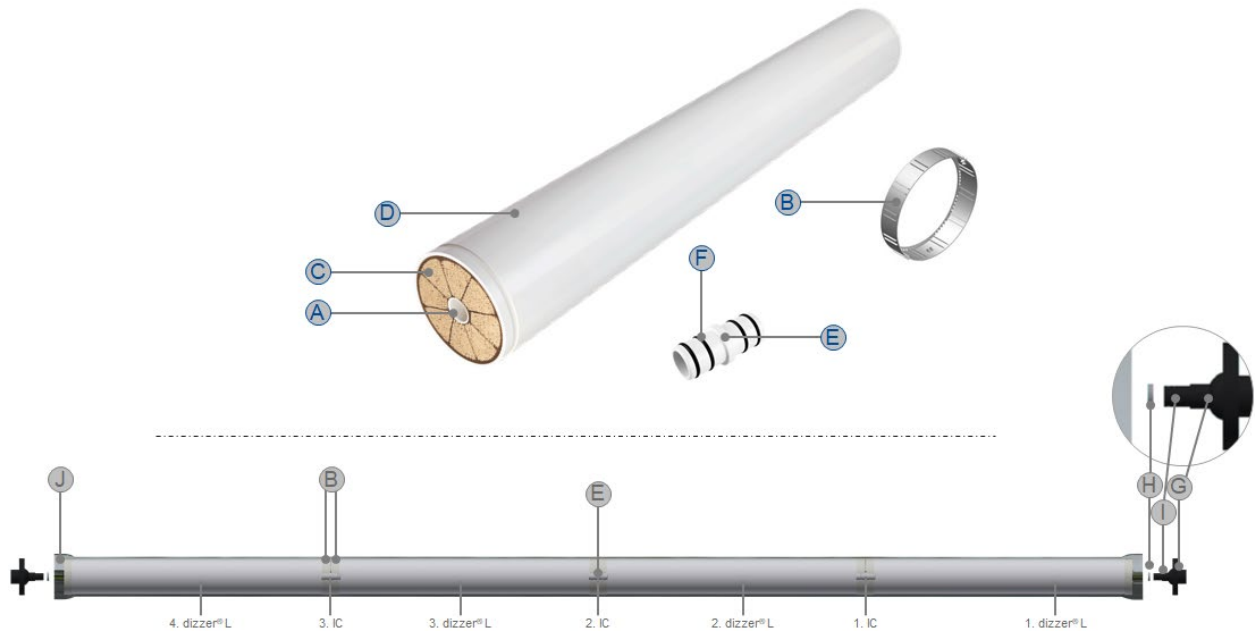
- [DuPont™ IntegraTec™ MB 40 HB PES-UF In-Out Module I-Series for Horizontal Systems Product Data Sheet \(Form No. 45-D02273-en\)](#)

## 5.2 DuPont™ IntegraTec™ MB 55 H

### 5.2.1 Components

#### 5.2.1.1 Overview Graphic

Components of the DuPont™ IntegraTec™ MB 55 H and the corresponding connecting kit:



#### 5.2.1.2 Parts List for DuPont™ IntegraTec™ MB 55 H

Part	Quantity	DuPont™ Scope of supply	Scope of supply of Pressure Vessel supplier
<b>A</b>	1	Filtrate collector tube	
<b>B</b>	2	Spacer Ring	
<b>C</b>	*	Multibore™ UF membrane	
<b>D</b>	1	Module body	
<b>E</b>	1	(Hollow) Interconnector	
<b>F</b>	4	O-Rings	
			G 2 End caps
			H ** Shim (s) ** as necessary
			I 2 End-Connectors
			J 1 UF Element Pressure Vessel

\*according to surface area

### 5.2.2 Functional Description

Part	Description
Filtrate collector tube	Connector for filtrate
Spacer Ring	Spacer ring for distributing feed water into multiple UF modules
Multibore™ UF membrane	A module consists of a large quantity of Multibore™ membranes, potted in epoxy resin
Module body	Cylindrical shell, PVC-U white
PVC-U white Interconnector	For filtrate-sided connection between multiple UF elements in line
O-Rings	EPDM O-Rings

### 5.2.3 Technical Data

The DuPont™ IntegraTec™ MB 55 H UF elements and corresponding Interconnector sets are designed to streamline one-to-one replacements of existing horizontal UF systems with Multibore™ membranes.

For detailed information, see


- [DuPont™ IntegraTec™ MB 55 H PES-UF In-Out Module I-Series for Horizontal Systems Product Data Sheet](#) (Form No. 45-D03453-en)


## 6 Loading, Transport and Storage

### 6.1 General Instructions

Warranty Claim for Transport Damage and Improper Storage

- Modules and components that are irreparably destroyed due to improper loading, transport or storage shall not be covered by DuPont™ IntegraTec™ warranty provisions. Therefore, it is important to always follow the loading, transport and storage instructions provided in these Assembly Instructions.
- Modules that are still contained within their original, sealed packaging may be stored for 12 months from the date they are shipped from the factory. Storing the modules for longer than 12 months shall render the warranty void unless otherwise agreed by DuPont™ in writing.

<i>NOTE</i>	
	<p><b>CAUTION, PROPERTY DAMAGE!</b></p> <p>Property damage caused by mechanical impact.</p> <ul style="list-style-type: none"> <li>• Ensure that the modules are not jarred.</li> </ul>





<i>NOTE</i>	
	<p><b>CAUTION, PROPERTY DAMAGE!</b></p> <p>Property damage caused by impermissible exposure to weather conditions.</p> <ul style="list-style-type: none"> <li>• Adhere to the storage and transport temperatures in a range from -20 °C to 40 °C.</li> <li>• Ensure that the equipment is transported and stored in an enclosed area to keep the components from getting wet and to protect them against excessive heat.</li> <li>• Store all parts and modules under dry, moderately ventilated conditions.</li> </ul>




For detailed packaging description, see:





- [DuPont™ IntegraTec™ MB 55 H PES-UF In-Out Module Packaging Description](#)  
(Form No. 45-D02974-en).
- [DuPont™ IntegraTec™ MB 40 HB PES-UF In-Out Module Packaging Description](#)  
(Form No. 45-D02975-en).





Condition of shipment and box type are subject to modification by DuPont™ without notice.





6.2 Warnings





 <b>DANGER</b>		
	<p><b>DANGER TO LIFE!</b></p> <p>Danger of crushing from falling raised loads.</p> <ul style="list-style-type: none"> <li>• Never stand under raised loads!</li> <li>• Keep a sufficient distance when transporting and lifting loads!</li> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 



 <b>DANGER</b>		
 	<p><b>DANGER TO LIFE!</b></p> <p>Danger of crushing by industrial trucks and other equipment at the construction site.</p> <ul style="list-style-type: none"> <li>• Keep a sufficient distance when transporting and lifting loads!</li> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of falling when using ladders, scaffolding and other climbing aids.</p> <ul style="list-style-type: none"> <li>• Only use flawless and approved ladders, scaffoldings and other climbing aids!</li> <li>• Use a secured safety cage or safety harness when you are being raised by a fork lift truck!</li> <li>• Wear a safety helmet!</li> <li>• Use a safety harness if necessary!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of crushing and shearing from work in the danger zone.</p> <ul style="list-style-type: none"> <li>• Note the specified number of persons required!</li> <li>• Wear safety gloves!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Cutting and impact injuries from sharp corners and edges.</p> <ul style="list-style-type: none"> <li>• Wear safety gloves!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of tripping and impact from pallets, packages and assembled parts at the construction site.</p> <ul style="list-style-type: none"> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>CAUTION</b>		
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury due to physical strain.</p> <ul style="list-style-type: none"> <li>• Determine the weight of the module in use!</li> <li>• Always note the locally applicable maximum permissible load of persons!</li> <li>• Note the specified number of persons required!</li> </ul>	

## 6.3 Loading

### Fork-Lift Truck Requirements

- To lift and transport pallets in a longitudinal direction, only use fork-lift trucks or lift trucks with a fork length of 120 cm or more.
- The use of removable fork extensions or telescope extensions is permissible as long as a fork length of at least 120 cm is ensured when transporting the pallet in the longitudinal direction.

### Stackability

The following maximum stacking heights must be observed:

Module type	Single Unit Packaging (1 UF element per cardboard box)		Multi Unit Packaging (max. 20 per plywood box)	
	Positioning	Stacking Height	Positioning	Stacking Height
DuPont™ IntegraTec™ MB 40 HB	horizontal	4	horizontal	3x
DuPont™ IntegraTec™ MB 55 H	horizontal	4	horizontal	3x

### Weight load

- On the basis of the delivery scope, check the total weight with respect to the permissible weight load of the truck.

### Transport Protection

- Ensure that the equipment is transported safely by securing it properly in the truck.

### Load Distribution

- When loading, fill the loading surface without gaps to prevent the transported equipment from tipping, slipping, etc.
- Low packages over which other, higher packages could tip in case of emergency braking must not be positioned at the bulkhead.



## 6.4 Transport

### 6.4.1 Transport Conditions

- During transport, adhere to a temperature range of -20°C to 40°C.
- Ensure that the equipment is transported and stored in an enclosed area to keep the components from getting wet and to protect them against excessive heat and direct sunlight.

### 6.4.2 Checking the Freight

Check on IPPC Pallets

- Check that the freight has been mounted on heat-treated IPPC pallets only.
- Freight that is not positioned on IPPC pallets must be remounted on IPPC pallets.

## 6.5 Storage

### 6.5.1 Suitability of the Location

- Adhere to the storage and transport temperatures in a range from -20 °C to 40 °C.
- Ensure that the equipment is transported and stored in an enclosed area to keep the components from getting wet and to protect them against excessive heat and direct sunlight.
- Store all parts and modules under dry, moderately ventilated conditions.

### 6.5.2 Stackability

→ [See section 5.3 Loading](#)




### 6.5.3 Checking the Available Space





Check the maximum floor load of the planned warehouse storage area.





The details on the weights can be found in the delivery papers.





# 7 Loading / Assembly





## 7.1 Warnings

 <b>DANGER</b>		
	<p><b>DANGER TO LIFE!</b></p> <p>Danger of crushing from falling raised loads.</p> <ul style="list-style-type: none"> <li>• Never stand under raised loads!</li> <li>• Keep a sufficient distance when transporting and lifting loads!</li> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of falling when using ladders, scaffolding and other climbing aids.</p> <ul style="list-style-type: none"> <li>• Only use flawless and approved ladders, scaffoldings and other climbing aids!</li> <li>• Use a secured safety cage or safety harness when you are being raised by a fork lift truck!</li> <li>• Wear a safety helmet!</li> <li>• Use a safety harness if necessary!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of crushing and shearing from work in the danger zone.</p> <ul style="list-style-type: none"> <li>• Note the specified number of persons required!</li> <li>• Wear safety gloves!</li> <li>• Wear safety shoes!</li> </ul>	 



 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Cutting and impact injuries from sharp corners and edges.</p> <ul style="list-style-type: none"> <li>• Wear safety gloves!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of tripping and impact from pallets, packages and assembled parts at the construction site.</p> <ul style="list-style-type: none"> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 

## 7.2 General Specifications

### 7.2.1 Calculation of Personnel Requirements

Personnel Requirements for Mounting a Module without a Crane

 <b>CAUTION</b>	
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury due to physical strain.</p> <ul style="list-style-type: none"> <li>• Determine the weight of the module in use!</li> <li>• Always note the locally applicable maximum permissible load of persons!</li> <li>• Note the specified number of persons required!</li> </ul>

To mount the module without a crane, calculate the number of persons required as follows.

1. Determine the transport weight of a module you are using from the
  - [4.1.3 Technical Data \[DuPont™ IntegraTec™ MB 40 HB\]](#)
  - [4.2.3 Technical Data \[DuPont™ IntegraTec™ MB 55 H\]](#)
2. Determine the maximum permissible load on a person from the locally applicable laws and safety regulations.

Calculate the required number of persons required to lift a module by dividing the module transport weight by the maximum permissible load per person.

Always use the calculated number of persons when a module needs to be lifted.

For proper installation of Horizontal PES-UF Modules in pressure vessels at least 2 people are required.

#### Personnel Requirements for Other Tasks

Unless otherwise specified, all other tasks require one person.

### 7.2.2 Tools and Consumables


The following tools and devices are approved for the installation of the horizontal PES-UF module:

- Glycerin (>97%)

Further required tools depend on the design of the existing pressure vessel and must be determined by the pressure vessel supplier.

## 7.3 Preparing for Assembly

### 7.3.1 Checking the Available Space

<i>NOTE</i>	
	<p><b>CAUTION, PROPERTY DAMAGE!</b></p> <p>Potential damage due to exposure to the weather or impermissible temperatures.</p>


#### Weather and Temperature Protection

At the location where you are planning to assembly horizontal PES-UF modules, ensure the following:

- Permanent protection against the weather is provided
- The temperatures are always within the permissible temperature range from 1°C to +40°C.

#### Space Conditions

- Check the space conditions around the assembly area.
- Ensure that there is enough space to allow horizontal PES-UF modules to be installed, disassembled and operated safely.

 <b>CAUTION</b>	
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury due to constricted space.</p> <ul style="list-style-type: none"> <li>• Provide for sufficient space!</li> </ul>

### 7.3.2 Protecting the Work Area

#### Structure of the Work Area

The work area consists of the following areas:



- The single parts of the horizontal PES-UF modules that are in storage, have been unpacked, are being tested and/or are being processed
- The currently processed horizontal PES-UF modules
- The final location of the horizontal PES-UF modules

and additionally on all routes:

- All required access routes to the areas specified above
- All required walking and driving distance between the areas specified above
- All escape routes from one of the area or routes specified above

#### Protecting the Work Area

- Protect the defined work area against access by persons who are not involved in the procedures for installing the horizontal PES-UF modules
- Protect the defined work area against all machines or devices that are not required for the procedures for installing the horizontal PES-UF modules

 <b>CAUTION</b>	
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury to bystanders, machines and devices in the work area.</p> <ul style="list-style-type: none"> <li>• Protect the work area against unauthorized access and against machines and devices that are not involved!</li> </ul>

## 7.4 Checking the Delivery

### 7.4.1 Moving the Packages to the Work Area

Move all packages of the components being mounted to the vicinity of the work area using suitable transport equipment.

### 7.4.2 Checking for Damage



Step	Activity
<b>1</b>	<p><b>Checking Packages and Parts</b></p> <ul style="list-style-type: none"> <li>a) Check all packages of the delivery for damage.</li> <li>b) Open all damaged packages.</li> <li>c) Check all models and/or parts it contains for damage.</li> </ul>
<b>2</b>	<p><b>Procedure for Damaged Modules or Parts</b></p> <ul style="list-style-type: none"> <li>a) Photograph the damage and the associated package label.</li> <li>b) Document all damage and the respective associated package numbers in writing.</li> <li>c) Inform your contact at DuPont™ promptly about the damage. Damaged parts of a delivery are not permitted to be installed until a decision has been made by DuPont™.</li> <li>d) The decision regarding whether the damaged module or part must be returned or if it can be used is made by your contact at DuPont™. → Please see 7.3 Returning Modules</li> </ul>

#### Further Use of Parts

You are only permitted to continue to use and install the following modules and parts:

- All modules and parts without damage
- Damaged modules and parts with written approval from DuPont™ with a specific reference to the damaged module or part


DuPont™ decides on the procedure (approval or block) for all damaged modules or parts that have not been approved.

 <b>CAUTION</b>	
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury during operation due to the installation and use of damaged parts.</p> <ul style="list-style-type: none"> <li>• Only use undamaged parts or parts approved by DuPont™!</li> </ul>

### 7.4.3 Checking the Delivery for Completeness

Step	Activity
1	Check the completeness of the delivery against the packing list. All packages on the packing list must be present.
2	Promptly inform your contact at DuPont™ if the number of pieces differs between the packing list and the existing packages.


### 7.4.4 Unpacking the Parts

<i>NOTE</i>	
	<p><b>CAUTION, PROPERTY DAMAGE!</b></p> <p>In case of abrupt temperature changes.</p> <ul style="list-style-type: none"><li>• Store the modules for at least two days at temperatures above freezing before opening the packaging carton.</li></ul>


Remove the packaging and labeling.






## 7.5 Loading of DuPont™ IntegraTec™ MB 40 HB in a Pressure Vessel

<i>NOTE</i>	
	For proper loading of the PES-UF modules in pressure vessels at least 2 people are required.


### 7.5.1 Preparation before Module Loading


Step	Activity	Figure
<b>1</b>	<p><b>Prepare the module</b></p> <p>Position the module vertically. Carefully remove the tape and the yellow protecting cap from the top module end. Avoid the use of any sharp instrument that might cause damage of the module.</p>	
<b>2</b>	<p><b>Drain module from possible excess preservative solution</b></p> <ol style="list-style-type: none"> <li>a) Turn the module around and place the open end in a clean drain tray / tub and carefully remove the tape and the yellow protecting cap from the upper module end. Take care to avoid contact of the UF element's front ends with contaminated surfaces</li> <li>b) Some excess preservative solution can drain from the module, and should be collected in the drain tray / tub</li> <li>c) Let the module empty for some minutes (typically 5 min.)</li> <li>d) Store the modules horizontally on a clean surface</li> </ol>	

Step	Activity	Figures
3	<p><b>Lubrication of Interconnectors</b></p> <p>Lightly lubricate the EPDM O-Rings of each end-cap connector as well as interconnector with glycerin (purity as specified in Chapter 'Tools').</p>	
4	<p><b>End-cap interconnectors</b></p> <p>a) Check all inter-connectors and end-cap-interconnectors for damage</p> <p>b) Dependent on the make and model of the pressure vessel, shims have to be inserted on the end-cap-interconnectors, in order to compensate for any length differences and prevent modules from moving during operation.</p> <p>These shims are not part of DuPont™ scope of supply.</p>	
5	<p><b>Cleaning of pressure vessels</b></p> <p>The inside of the pressure vessel must be cleaned thoroughly before inserting the UF elements.</p> <p>Start with the top pressure vessel.</p>	


<b>NOTE</b>	
	<p>Due to the differences in thermal expansion coefficients between the PVC material of the modules and the material of the pressure vessels, it is important to know the temperature during installation and the minimum and maximum temperatures during operation. When placing the shims, the expansion of the materials must be taken into account in order to avoid stresses and tensions on the modules due to rising temperatures.</p> <p>Damage to the horizontal PES-UF Modules due to thermal expansion may occur and is not covered by the warranty.</p>

7.5.2 Module installation

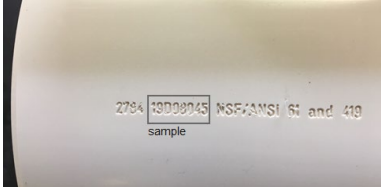


<i>NOTE</i>	
	Prior to installation, the reference (serial number) of each module has to be recorded as well as its position in the respective pressure vessel and loading date.

<i>NOTE</i>	
	Loading of modules into one pressure vessel must be performed on the same day.

<i>NOTE</i>	
	New / unused DuPont™ Interconnector Sets need to be applied for installation.

<i>NOTE</i>	
	The bypass pipes (PB) do not need to be aligned between modules.

The following procedure is exemplary for a 4 module pressure vessel.

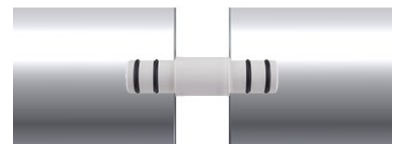
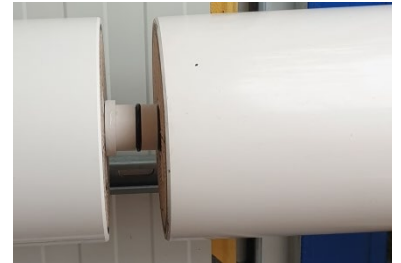
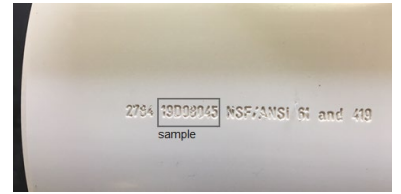
Step	Activity	Figure
<b>1</b>	<p><b>1<sup>st</sup> DuPont™ IntegraTec™ MB 40 HB</b></p> <p>a) Note 1<sup>st</sup> DuPont™ IntegraTec™ MB 40 HB serial number to the loading logbook</p>	
	<p>b) Insert 1<sup>st</sup> module into pressure vessel (30-50 cm should remain outside).</p>	
	<p>c) Hold the module and insert a DuPont™ interconnector into the 1<sup>st</sup> module.</p>	

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**2 2<sup>nd</sup> DuPont™ IntegraTec™ MB 40 HB**

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- a) Note 2<sup>nd</sup> DuPont™ IntegraTec™ MB 40 HB serial number to the loading logbook
- b) Put the 2<sup>nd</sup> module on the DuPont™ interconnector of the 1<sup>st</sup> module and push the package carefully into the pressure vessel (30-50 cm should remain outside)
- c) Hold the module and insert an DuPont™ interconnector into the 2<sup>nd</sup> module.
- d) A spacer can be used to compensate length differences. Spacers are not part of the DuPont™ scope of supply

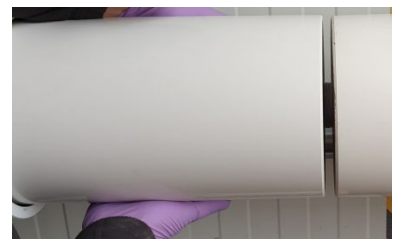
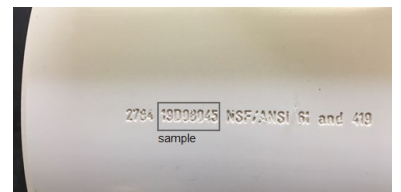



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**3 3<sup>rd</sup> DuPont™ IntegraTec™ MB 40 HB**

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- a) Note 3<sup>rd</sup> DuPont™ IntegraTec™ MB 40 HB serial number to the loading logbook
- b) Put the 3<sup>rd</sup> module on the interconnector of the 2<sup>nd</sup> module and push the package carefully into the pressure vessel (30-50 cm should remain outside)

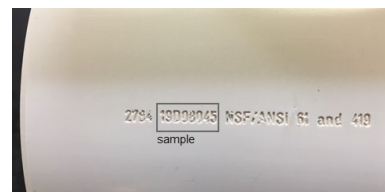


- c) Insert a DuPont™ interconnector into the 3<sup>rd</sup> module



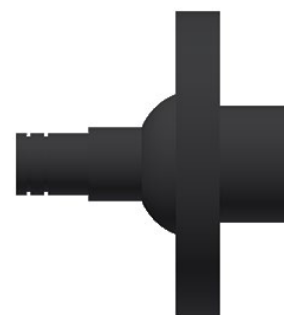
**4 4<sup>th</sup> DuPont™ IntegraTec™ MB 40 HB**

- a) Note 4<sup>th</sup> DuPont™ IntegraTec™ MB 40 HB serial number to the loading logbook
- b) Put the 4<sup>th</sup> module on the interconnector of the 3<sup>rd</sup> module and push the package carefully into the pressure vessel




**5 End-caps**


- a) Re-install end-connectors following instructions of the pressure vessel manufacturer or those specified in the Operation Manual of the plant.
- b) Shims have to be inserted on the end-cap- interconnector(s) on both sides – as needed – in order to compensate any length differences and prevent module movement during operation.






## 7.6 Loading a DuPont™ IntegraTec™ MB 55 H Module in a Pressure Vessel

<i>NOTE</i>	
	<p>For proper loading of the horizontal PES-UF Modules in pressure vessels at least 2 people are required.</p>

### 7.6.1 Preparation before Module Loading


Step	Activity	Figure
<b>1</b>	<p><b>Prepare the module</b></p> <p>Position the module vertically. Carefully remove the tape and the yellow protecting cap from the top module end. Avoid the use of any sharp instrument that might cause damage of the module.</p>	
<b>2</b>	<p><b>Drain module from possible excess preservative solution</b></p> <ul style="list-style-type: none"> <li>a) Turn the module around and place the open end in a clean drain tray / tub and carefully remove the tape and the yellow protecting cap from the upper module end. Take care to avoid contact of the UF element's front ends with contaminated surfaces</li> <li>b) Some excess preservative solution can drain from the module, and should be collected in the drain tray / tub</li> <li>c) Let the module empty for some minutes (typically 5 min.)</li> <li>d) Store the modules horizontally on a clean surface</li> </ul>	


Step	Activity	Figures
3	<p><b>Lubrication of Interconnectors</b></p> <p>Lightly lubricate the EPDM O-Rings of each end-cap connector as well as inter-connector with glycerin (purity as specified in Chapter 'Tools').</p>	
4	<p><b>End-cap interconnectors</b></p> <p>a) Check all inter-connectors and end-cap-interconnectors for damage</p> <p>b) Dependent on the make and model of the pressure vessel, shims have to be inserted on the end-cap-interconnectors, in order to compensate for any length differences and prevent modules from moving during operation.</p> <p>These shims are not part of DuPont™ scope of supply.</p>	
5	<p><b>Cleaning of pressure vessels</b></p> <p>The inside of the pressure vessel must be cleaned thoroughly before inserting the UF elements.</p> <p>Start with the top pressure vessel.</p>	



<b>NOTE</b>	
	<p>Due to the differences in thermal expansion coefficients between the PVC material of the modules and the material of the pressure vessels, it is important to know the temperature during installation and the minimum and maximum temperatures during operation. When placing the shims, the expansion of the materials must be taken into account in order to avoid stresses and tensions on the modules due to rising temperatures.</p> <p>Damage to the horizontal PES-UF modules due to thermal expansion may occur and is not covered by the warranty.</p>



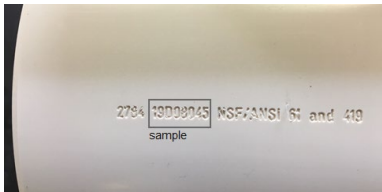



7.6.2 Module installation


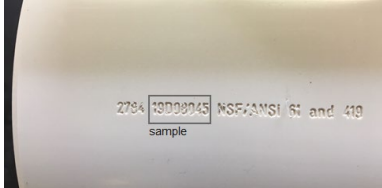


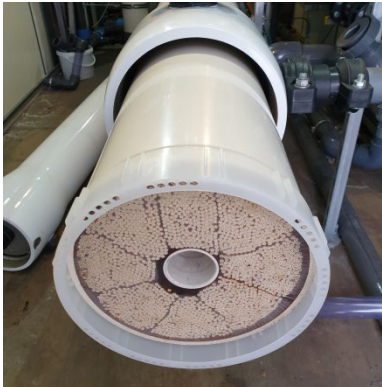
<i>NOTE</i>	
	<p>Prior to installation, the reference (serial number) of each module has to be recorded as well as its position in the respective pressure vessel and loading date.</p>


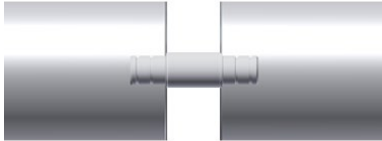
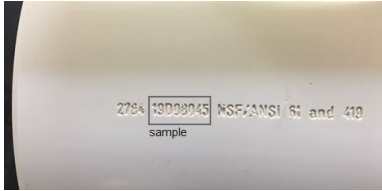


<i>NOTE</i>	
	<p>Loading of modules into one pressure vessel must be performed on the same day.</p>



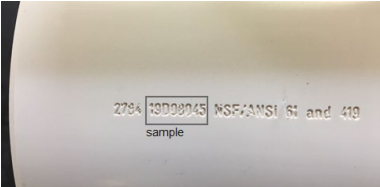


<i>NOTE</i>	
	<p>New / unused DuPont™ Horizontal Connecting Kits need to be applied for installation.</p> <div style="text-align: center;">  <p style="font-size: small; color: blue;">inge® Horizontal Connecting Kit</p> <p style="font-size: x-small; color: blue;">Spacer Rings</p> <p style="font-size: x-small; color: blue;">Interconnector Set</p> </div>



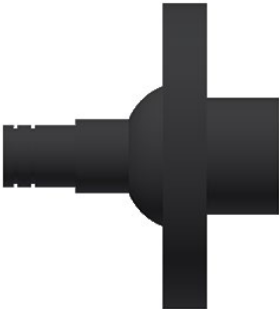
The following procedure is exemplary for a 4 module pressure vessel.

Step	Activity	Figure
<b>1</b>	<b>1<sup>st</sup> DuPont™ IntegraTec™ MB 55 H</b>	
	a) Note 1 <sup>st</sup> DuPont™ IntegraTec™ MB 55 H serial number to the loading logbook	
	b) Attach the first spacer ring over one end of the DuPont™ IntegraTec™ MB 55 H module	
	c) Insert 1 <sup>st</sup> module into pressure vessel (30-50 cm should remain outside).	
	d) Hold the module and attach the second spacer ring over the protruding end of the module	

Step	Activity	Figure
	<p>e) Hold the module and insert an DuPont™ interconnector into the 1<sup>st</sup> module.</p>	
<p><b>2</b></p>	<p><b>2<sup>nd</sup> DuPont™ IntegraTec™ MB 55 H</b></p> <p>a) Note 2<sup>nd</sup> DuPont™ IntegraTec™ MB 55 H serial number to the loading logbook</p> <p>b) Attach a spacer ring over one end of the DuPont™ IntegraTec™ MB 55 H module</p> <p>c) Put the 2<sup>nd</sup> module on the DuPont™ interconnector of the 1<sup>st</sup> module and push the package carefully into the pressure vessel (30-50 cm should remain outside)</p>	  
	<p>d) Hold the module and attach the second spacer ring over the protruding end of the module</p>	





Step	Activity	Figure
e)	Hold the module and insert an DuPont™ interconnector into the 2 <sup>nd</sup> module.	
f)	A spacer can be used to compensate length differences. Spacers are not part of the DuPont™ scope of supply	
<b>3 3<sup>rd</sup> DuPont™ IntegraTec™ MB 55 H</b>		
a)	Note 3 <sup>rd</sup> 55 serial number to the loading logbook	
b)	Attach a spacer ring over one end of the DuPont™ IntegraTec™ MB 40 HB module	
c)	Put the 3 <sup>rd</sup> module on the interconnector of the 2 <sup>nd</sup> module and push the package carefully into the pressure vessel (30-50cm should remain outside)	





Step	Activity	Figure
d)	Hold the module and attach the second spacer ring over the protruding end of the module	
e)	Insert a DuPont™ interconnector into the 3 <sup>rd</sup> module	
<b>4</b>	<b>4th DuPont™ IntegraTec™ MB 55 H</b>	
a)	Note 4 <sup>th</sup> DuPont™ IntegraTec™ MB 55 H serial number to the loading logbook	
b)	Attach a spacer ring over one end of the DuPont™ IntegraTec™ MB 55 H module	
c)	Put the 4 <sup>th</sup> module on the interconnector of the 3 <sup>rd</sup> module and push the package carefully into the pressure vessel (30-50 cm should remain outside)	





Step	Activity	Figure
d)	Hold the module and attach the second spacer ring over the protruding end of the module and insert the last DuPont™ interconnector into the 4 <sup>th</sup> module	
e)	Insert the complete package into the pressure vessel	
<b>5</b>	<b>End-caps</b>	
a)	Re-install end-connectors following instructions of the pressure vessel manufacturer or those specified in the Operation Manual of the plant.	
b)	Shims have to be inserted on the end-cap-interconnector(s) on both sides – as needed – in order to compensate any length differences and prevent module movement during operation.	





# 8 Service and Maintenance





## 8.1 Warnings



 <b>DANGER</b>		
	<p><b>DANGER TO LIFE!</b></p> <p>Danger of crushing from falling raised loads.</p> <ul style="list-style-type: none"> <li>• Never stand under raised loads!</li> <li>• Keep a sufficient distance when transporting and lifting loads!</li> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of falling when using ladders, scaffolding and other climbing aids.</p> <ul style="list-style-type: none"> <li>• Only use flawless and approved ladders, scaffoldings and other climbing aids!</li> <li>• Use a secured safety cage or safety harness when you are being raised by a fork lift truck!</li> <li>• Wear a safety helmet!</li> <li>• Use a safety harness if necessary!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of crushing and shearing from work in the danger zone.</p> <ul style="list-style-type: none"> <li>• Note the specified number of people required!</li> <li>• Wear safety gloves!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Cutting and impact injuries from sharp corners and edges.</p> <ul style="list-style-type: none"> <li>• Wear safety gloves!</li> <li>• Wear safety shoes!</li> </ul>	 


 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of tripping and impact from pallets, packages and assembled parts at the construction site.</p> <ul style="list-style-type: none"> <li>• Wear safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>CAUTION</b>	
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury due to physical strain.</p> <ul style="list-style-type: none"> <li>• Determine the weight of the module in use!</li> <li>• Always note the locally applicable maximum permissible load of persons!</li> <li>• Note the specified number of persons required!</li> </ul>



## 8.2 Checks during Operation

### Checking for Leak Tightness

<i>NOTE</i>	
	<p><b>CAUTION, PROPERTY DAMAGE!</b></p> <p>Fluid leakage – especially where corrosive agents are involved – may cause corrosion to appear on the components concerned. Effective measures should be taken to avoid corrosion before it occurs.</p> <ul style="list-style-type: none"> <li>• In the event of fluid escaping due to a leak, the affected area should be properly rinsed down with salt-free or low-salt water and rubbed dry.</li> </ul>

### 8.2.1 Eliminating Leaks

Eliminate leaks by exchanging the corresponding O-rings or other components. When doing so, note the warnings and instructions provided in section 5 Loading / Assembly, as applicable.

### 8.2.2 Exchanging Parts


When exchanging parts, only genuine parts from DuPont™ are permitted to be used.

## 8.3 Returning Modules

Returns shall only be accepted if this has been agreed in advance with DuPont™ and authorized in writing.





Returns that have been previously agreed and approved by DuPont™ are subject to the following mandatory requirements:





- All components must be rinsed and cleaned before being returned.
- Modules must be preserved during storage and transport.





<i>NOTE</i>	
	<p><b>FAILURE TO COMPLY WITH THE ABOVE INSTRUCTIONS!</b></p> <p>Failure to comply with any of the requirements stated above will result in DuPont™ refusing to accept the return of the modules; DuPont™ reserves the right to invoice the sender for any transportation or removal costs that may be incurred in this case.</p>





# 9 Disassembly and Disposal



## 9.1 Warnings



 <b>DANGER</b>		
	<p><b>DANGER TO LIFE!</b></p> <p>Danger of crushing from falling raised loads.</p> <ul style="list-style-type: none"> <li>• Never stand under raised loads!</li> <li>• Keep a sufficient distance when transporting and lifting loads!</li> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of falling when using ladders, scaffolding and other climbing aids.</p> <ul style="list-style-type: none"> <li>• Only use flawless and approved ladders, scaffoldings and other climbing aids!</li> <li>• Use a secured safety cage or safety harness when you are being raised by a fork lift truck!</li> <li>• Wear a safety helmet!</li> <li>• Use a safety harness if necessary!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of crushing and shearing from work in the danger zone.</p> <ul style="list-style-type: none"> <li>• Note the specified number of persons required!</li> <li>• Wear safety gloves!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Cutting and impact injuries from sharp corners and edges.</p> <ul style="list-style-type: none"> <li>• Wear safety gloves!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>WARNING</b>		
	<p><b>CONSIDERABLE DANGER OF INJURY!</b></p> <p>Danger of tripping and impact from pallets, packages and assembled parts at the construction site.</p> <ul style="list-style-type: none"> <li>• Wear a safety helmet!</li> <li>• Wear safety shoes!</li> </ul>	 

 <b>CAUTION</b>		
	<p><b>DANGER OF INJURY!</b></p> <p>Danger of injury due to physical strain.</p> <ul style="list-style-type: none"> <li>• Determine the weight of the module in use!</li> <li>• Always note the locally applicable maximum permissible load of persons!</li> <li>• Note the specified number of persons required!</li> </ul>	

## 9.2 Disassembly

Disassembly work may only be performed by trained and qualified personnel or by a suitable specialist company.

Adequate clear space for movement must be provided to perform the work. The danger area should, if necessary, be marked for third parties and/or cordoned off.

The disassembly is performed in reverse order to the assembly. A special tool could be useful for the removal of the modules. If any information on the procedure is required, please contact DuPont™.

→ [For details, see section 6 Loading / Assembly](#)

## 9.3 Disposal

During disposal of Horizontal PES-UF modules, note the following specifications:

- Adhere to the applicable local disposal regulations.
- Adhere to the legal regulations regarding environmental protection.

# 10 Customer Service

## 10.1 Service Hotline

Contact us if you have problems with DuPont™ IntegraTec™ horizontal PES-UF modules and to order spare parts:

E-Mail: [inge@dupont.com](mailto:inge@dupont.com)

[www.dupontwatersolutions.com/contact-us](http://www.dupontwatersolutions.com/contact-us)

## 10.2 Ordering Spare Parts

### Order Details

The following details are required to place an order:

- Parts designation
- Article number

### *NOTE*



A detailed list of the individual components can be found in the spare parts lists.  
The spare parts lists will be made available to you by DuPont™ on request.

# 11 Technical Documentation

## 11.1 Other Applicable Documents

The following other applicable documents are available:

- [DuPont™ IntegraTec™ PES-UF In-Out I Series Process Requirements for Horizontal Modules](#)  
(Form No. 45-D02233-en)
- Spare parts lists (project specific)

As a component supplier, DuPont™ refers to the system supplier for further documents (for example ,System Operating Instructions').



## Appendix - Membrane Loading Logbook







Have a question? Contact us at:

[www.dupont.com/water/contact-us](http://www.dupont.com/water/contact-us)

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