

MICRODYN BIO-CEL® 416

Scope of Supply

The MICRODYN BIO-CEL® MBR series is ideal for biological wastewater treatment in industrial and municipal applications. BIO-CEL MBR combines the benefits of traditional hollow fiber and plate and frame configurations without any of their inherent disadvantages. This product specification sheet provides details about the standard scope of supply, available accessories and spare parts of MICRODYN BIO-CEL® 416 modules.

BIO-CEL® 416 modules are shipped on wooden pallets. Details for shipment dimensions and container transport see page 2.

Part numbers in the table below are the standard scope of supply; accessories are required for proper installation and operation of the module. See more details about required accessories on page 3.

Part Number	Remarks
00350176	1 pallet with membrane unit; 1 pallet with base frame

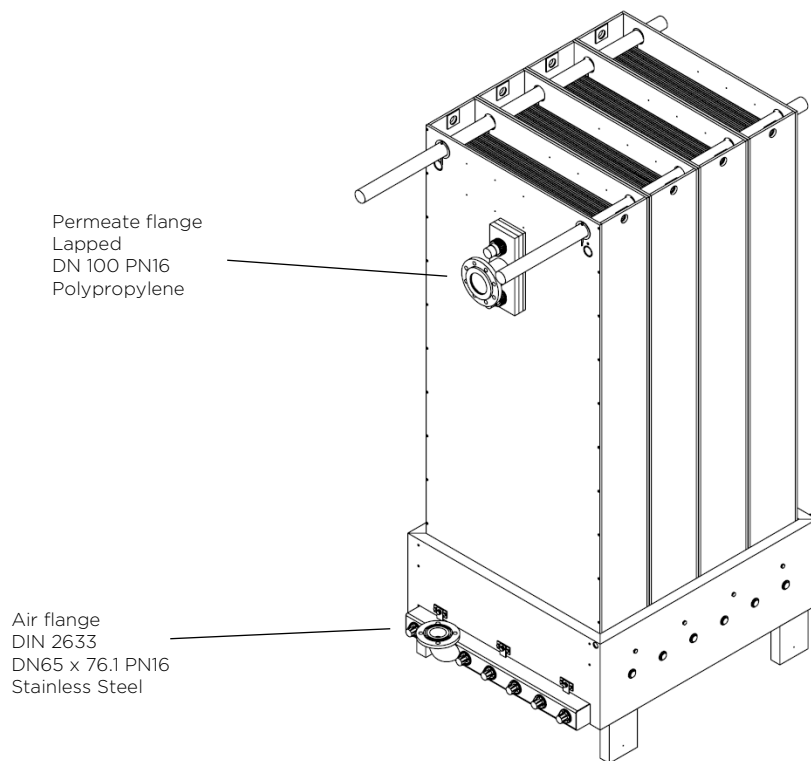


Figure 1. MICRODYN BIO-CEL® 416 scope of supply

Table 1. Wooden pallet shipment dimensions

	length	width	height	weight
BIO-CEL® 416 module	1,810mm (5.9 ft)	1,060mm (3.4 ft)	2,485mm (8.1 ft)	650 kg (1,430 lb)
BIO-CEL® 416 aerator frame	1,600mm (5.2 ft)	1,060mm (3.4 ft)	820mm (2.7 ft)	150 kg (330 lb)

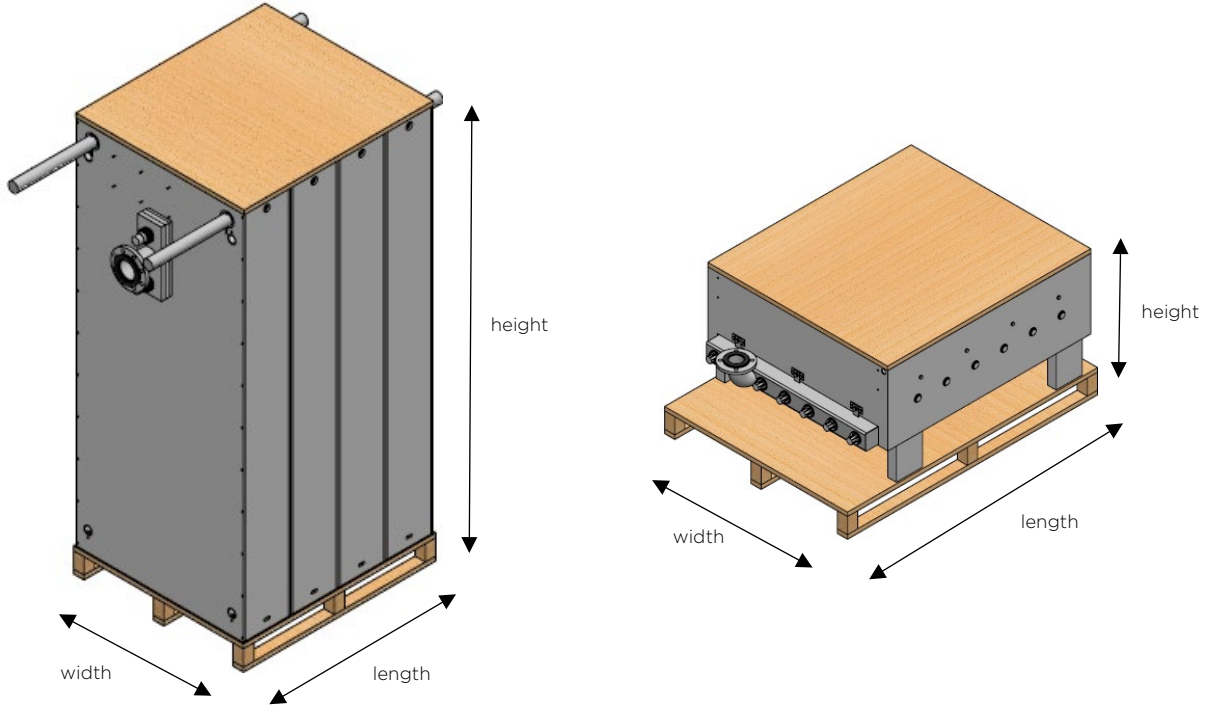


Figure 2. MICRODYN BIO-CEL® 416 in transport packaging

Table 2. high cube container inner dimensions

	length	width	height
20 ft HC container	5,898mm (19.4 ft)	2,350mm (7.7 ft)	2,69 mm (8.8 ft)
40 ft HC container	12,032mm (39.5 ft)	2,350mm (7.7 ft)	2,690mm (8.8 ft)
Door opening	-	2,340mm (7.7 ft)	2,597mm (8.5 ft)

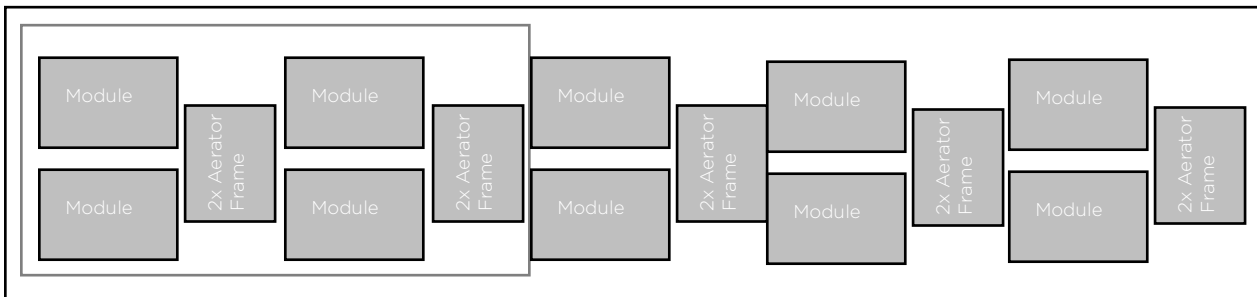


Figure 3. MICRODYN BIO-CEL® 416 arrangement in 20/40 ft HC container (4 / 10 pcs capacity)

MICRODYN BIO-CEL® 416

Accessories

To ensure proper installation and operation of MICRODYN BIO-CEL® MBR modules, certain accessories are necessary. These accessories are listed in the following table. More detailed information can be found in the BIO-CEL MBR OEM Design Guidelines. The following accessories are mandatory for MICRODYN BIO-CEL® 416 membrane modules:

- Set of legs
- Lifting tool

These accessories can be purchased from MICRODYN-NADIR or produced by a third-party supplier. Details of these required accessories are provided in Figures 4-6. Detailed drawings are available on request.

Position	Part Number	Drawing Numbers	Accessory	Remarks
A1	00350171	-	BIO-CEL® 208/416 Permeate Set	Elbow: PVC DN100, PN16 incl. flat sealing and fastening material (drawings available)
A2	00350001	MN-00700-004-0010	BIO-CEL® 208/416 Feet Ext. Set	200mm PP feet to ensure minimum ground clearance
A3	00200305	MN-00700-010-0000	BIO-CEL® 416 Lifting Tool	Drawings available
-	00200312	121-00-00	BIO-CEL® 416 Guiding and Lifting System	Drawings available

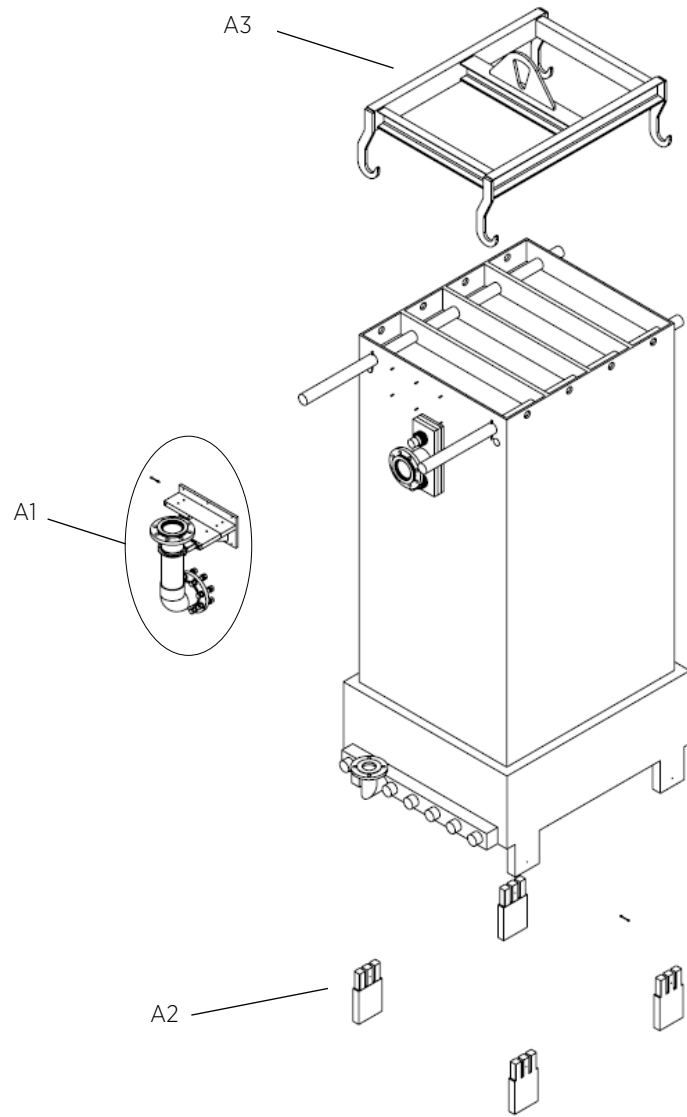


Figure 4. MICRODYN BIO-CEL® 416 exploded drawing of available accessories

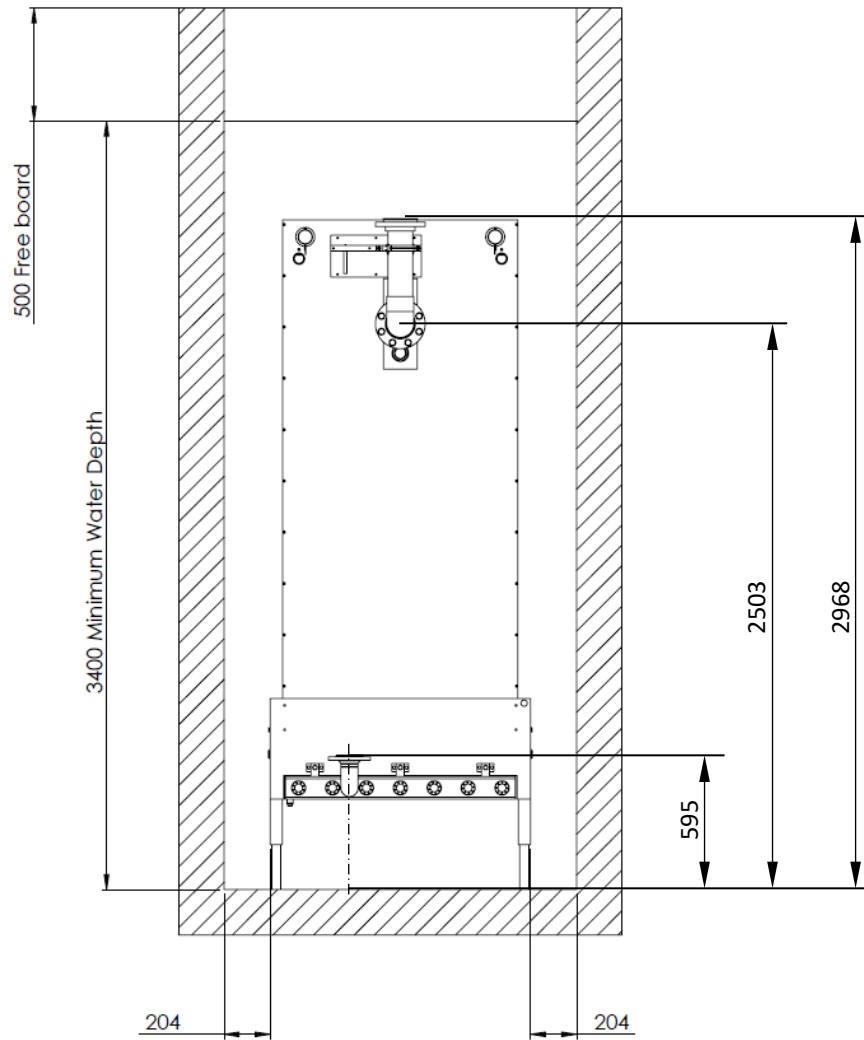


Figure 5. MICRODYN BIO-CEL® 416 with available accessories in standard filtration tank with minimum clearances (connection side view)

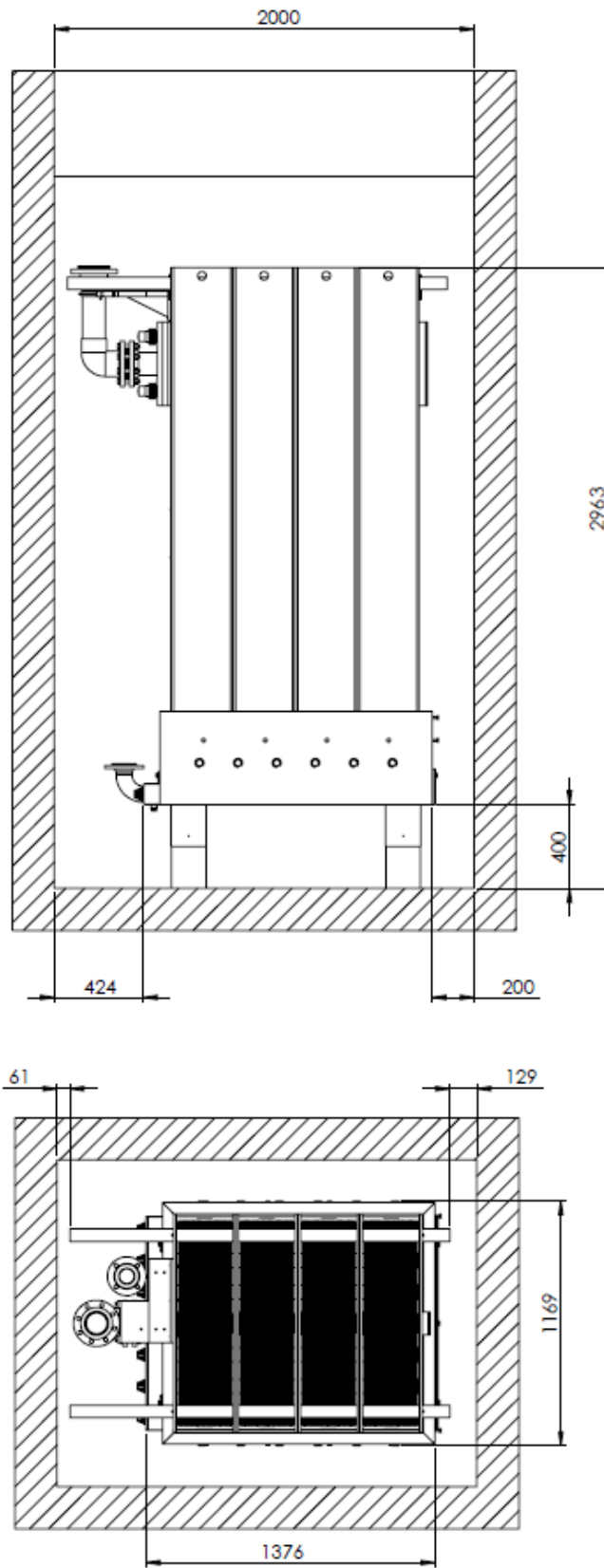


Figure 6. MICRODYN BIO-CEL® 416 with accessories in standard filtration tank with minimum clearances (top and side view)

MICRODYN BIO-CEL® 416

Spare Parts

No spare parts are typically required within the first 5 years of operation. If there is a need for spare parts, MICRODYN-NADIR can supply all necessary parts according to the table below and the drawings in Figure 7. For further information see the MICRODYN BIO-CEL® MBR O&M Manual or contact MICRODYN-NADIR.

Position	Part Number	Spare Part	Remarks
S1	00350177	BIO-CEL® 416 Without Base Unit	Preassembled Cassette Unit 1 wooden pallet; incl. Pos. S5 and Pos. S7
S2	00350005	BIO-CEL® 416 Base Unit	Diffuser set (Pos. S3) included & assembled
S3a	00350093	BIO-CEL® 416 Diffuser Set PUR	7 diffusers + connectors (Polyurethane)
S3b	00350263	BIO-CEL® 416 Diffuser Set SIL	7 diffusers + connectors (Silicone)
-	00350292	BIO-CEL® 416 Diffuser Hose Set PUR	7 diffuser hoses + clamps without support pipe (Polyurethane)
-	00350294	BIO-CEL® 416 Diffuser Hose Set SIL	7 diffuser hoses + clamps without support pipe (Silicone)
-	00350072	BIO-CEL® Diffuser Assembly Tool ^a	Torque wrench with special wrench socket
S4	00350175	BIO-CEL® C104 Cassette	Replacement for BIO-CEL® 208/416
S5	00350032	BIO-CEL® 416 Connection Set	Front and rear part incl. steel parts and O-Ring
S6	00350094	BIO-CEL® 416 Connection Set 2	Rear part with rods; necessary to change cassettes and O-Ring
S7	On request	Lifting Bars	Incl. steel parts
S8	00350171	BIO-CEL® 208/416 Permeate Set	Elbow: PVC DN100, PN16 incl. flat sealing and fastening material (drawings available)
-	00350024	BIO-CEL® 208/416 Gasket Set	9x O-ring EPDM, 2xDN100 flat gasket EPDM, 1xDN65 flat gasket EPDM
-	00350008	BIO-CEL® 208/416 Steel Parts	EN 1.4571/ AISI 316Ti

a A normal torque wrench may be used. Drawings for the special wrench socket are available on request.

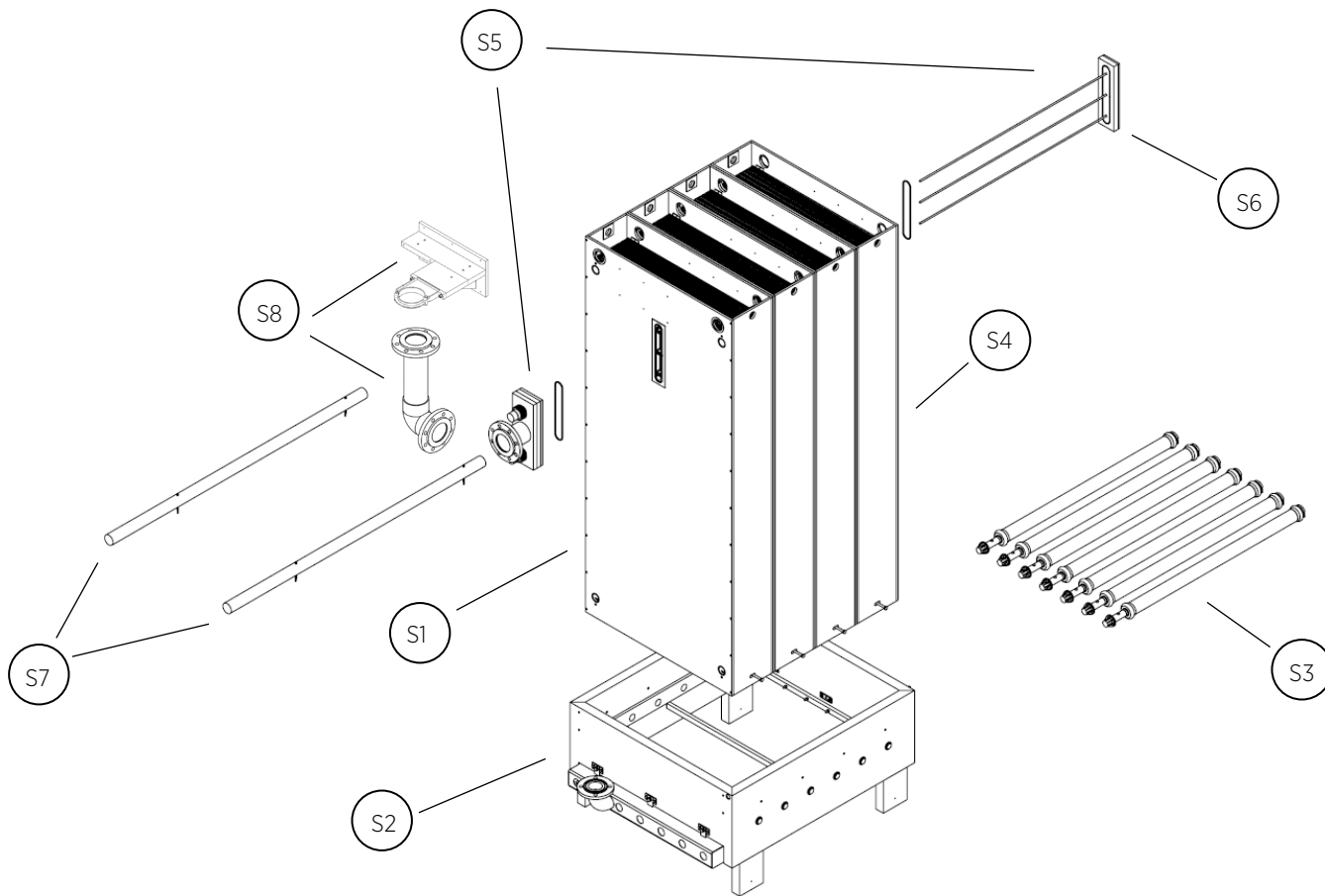


Figure 7. MICRODYN BIO-CEL® 416 exploded drawing showing available spare parts

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