

IonFree  
Ion exchange filter  
for fuel cells



- ✓ Modular
- ✓ Easy service
- ✓ Universal

# MANN+HUMMEL IonFree

## Ion exchange filter for fuel cells

### Functional description

- **Protection against electrical shorts in the stack:** IonFree keeps the conductivity of cooling liquid in fuel cells low through ion exchange technology
- **Optimum protection:** high quality ion exchange resin regarding capacity and purity
- **Easy to adapt:** different sizes, mounting positions, stud angles and stud types allow easy fit in almost every installation space
- **Clean and easy service:** no loss of high quality coolant as only the cartridge needs to be replaced

Large variety of possibilities for you to configure our modular kit to fit your specific application.

### Over 12 years experience with ion exchange filters



**Open the website for more information about products for electrified powertrains from MANN+HUMMEL.**



**Watch the video of the ion exchange filter for fuel cell systems.**



**Visit our E-Mobility Onlineshop to check our offerings and buy directly.**

MANN+HUMMEL memberships and partnerships in e-mobility and fuel cells:

Hydrogen Council

elektromobilität  
süd-west

EUROPEAN  
BATTERY  
ALLIANCE | EBA250

brennstoffzelle  
BW

VDMA  
Arbeitsgemeinschaft  
Brennstoffzellen  
(Fuel Cell Working Group)

European Clean  
Hydrogen Alliance



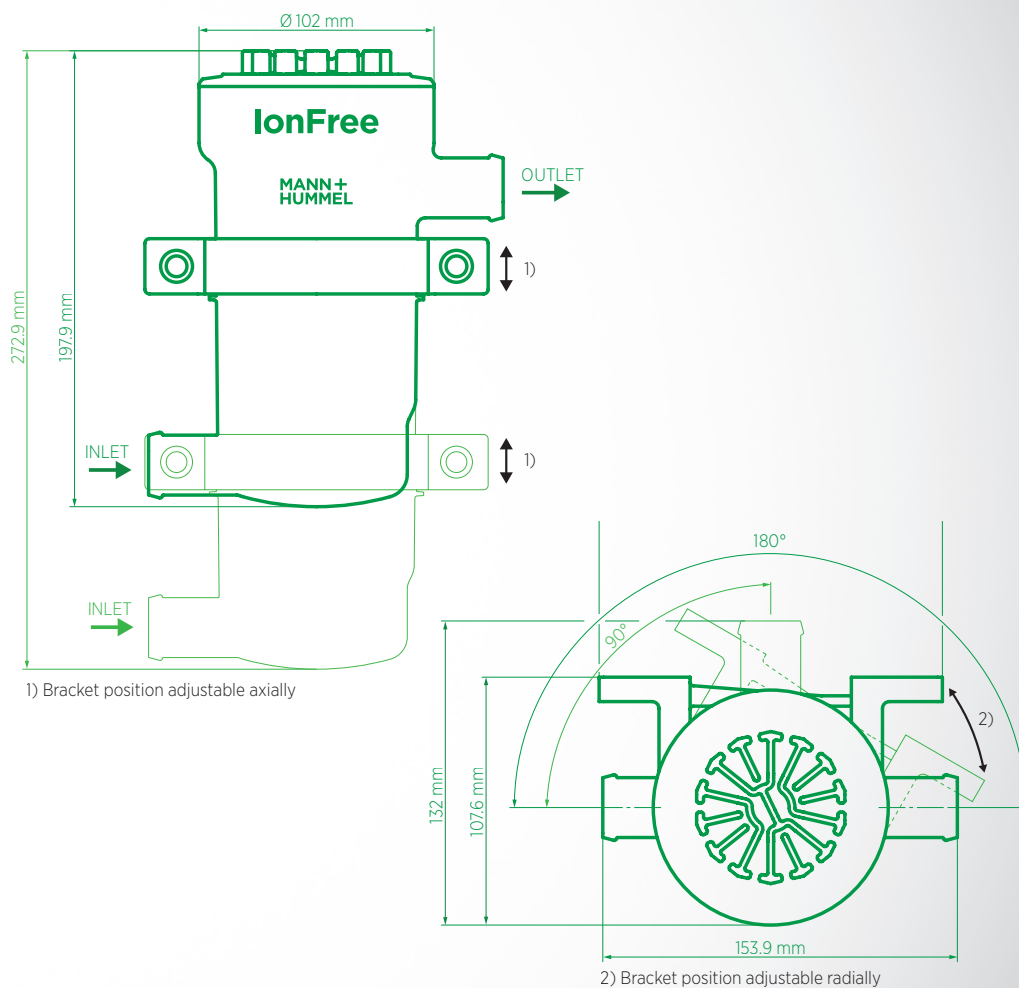
# MANN+HUMMEL IonFree

## Ion exchange filter for fuel cells

### Technical specification

	Medium capacity	High capacity
Capacity (cation + anion)	820 meq	1,190 meq
Amount of brackets	1	2
Flow direction	Bottom up	
Mounting orientation	Vertical	
Connector	DIN 3021-A 26 or VDA coupling DN 20	
Ion exchange resin	1:1 mixed bed of anion and cation resin in OH <sup>-</sup> / H <sup>+</sup> form	
Max. pressure (absolute)	3.5 bar	
Operating temperature	-40 °C to +90 °C	
Electrical conductivity	< 5 µS/cm	
Pressure loss (@ 10 l/min, 90 °C)	< 230 mbar	< 310 mbar
Optional feature	Different inlet nozzles to adjust the flow rate through the IonFree	
Cartridge spare part order number	ION 7001	ION 7002
		
Replaceable with a 64 mm 14 flutes wrench		
		

### Dimensions



# MANN+HUMMEL IonFree

## Ion exchange filter for fuel cells

### Capacity

	Passenger car	Heavy duty
Medium	820 meq	-
High	-	1,190 meq

### Stud type

	Passenger car	Heavy duty
DIN 3021-A 26	✓	✓
VDA DN 20	✓	✓

### Stud angle

	Passenger car	Heavy duty
180 degree	✓	✓
90 degree	✓	✓

### Your IonFree matrix code

Example: Ion exchange filter for heavy duty applications with high capacity, VDA DN 20 stud and 180 degree angle.

Your IonFree matrix code	IF	2	2	1
--------------------------	----	---	---	---

### Matrix codes

Capacity
1
2

Stud type
1
2

Stud angle
1
2



Medium capacity – Passenger car applications



High capacity – Heavy duty applications



Hose clamp studs according to DIN 3021-A 26



VDA coupling DN 20



180 degree angle



90 degree angle



## MANN+HUMMEL Contact

### **Sales**

Sina Lamparter  
Sales Manager New Products  
[sina.lamparter@mann-hummel.com](mailto:sina.lamparter@mann-hummel.com)  
Phone: +49 7141 98-3484

### **Engineering**

Dr. Simon Leininger  
Development Ion Exchange Filter  
[simon.leininger@mann-hummel.com](mailto:simon.leininger@mann-hummel.com)  
Phone: +49 7141 98-2635