

# LMD 211 series

Maximum working pressure up to 6 MPa (60 bar) - Flow rate up to 200 l/min



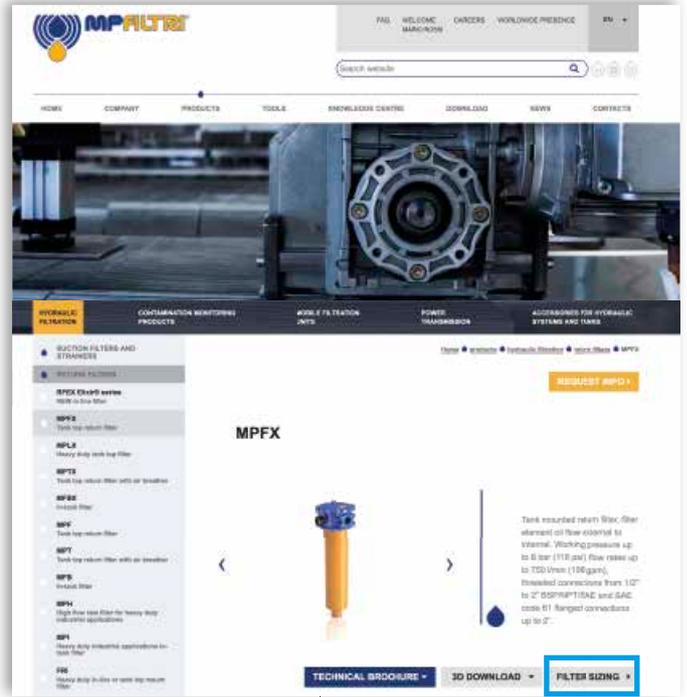
# TYPICAL FILTER SIZING Selection Software

## Step ①

Select "FILTER SIZING SOFTWARE" after login

OR

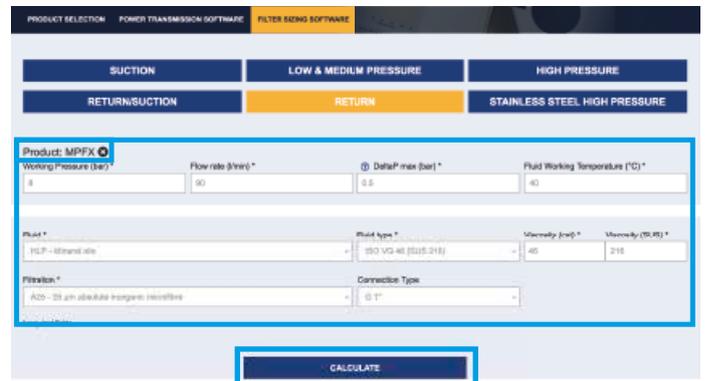
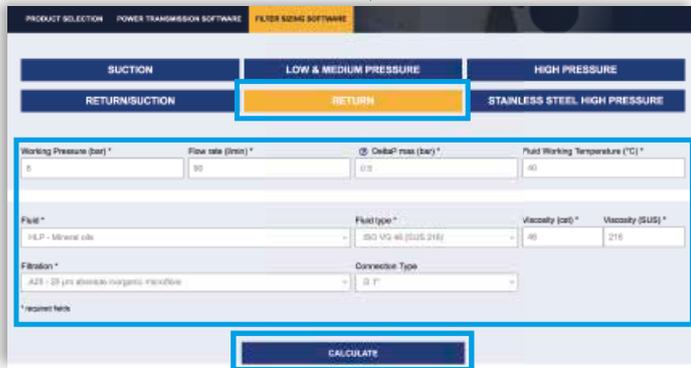
Select "FILTER SIZING" after login from a product page



Choose the type of filter family.  
Enter the main data for sizing the filter  
then push CALCULATE.

## Step ②

Enter the main data for sizing the filter  
then push CALCULATE.



## Step ③

Select the desired options to choose the appropriate filter type for the application.

Working Pressure: 8 (bar) | Fluid: HLP | Flow rate: 90 (l/min) | Fluid type: ISO VG 46 (SUS 216) | DP max of the project: 0.5 (bar) | Seal: A - NBR | Working Temperature: 40 (°C) | Optional seals: V - FPM | Filtration: 25 µm absolute inorganic microfibre | Working Temperature with options: -20 + 110 (°C) | Connection Type: G 1" | Viscosity: 46 (cst) - 216 (SUS)

**Filter type:** MPFX: Tank top mounting - (Pmax 1 - B: 1.75 bar (Systems) - Seal: A - NBR

**Option1:** Single or duplex | **DIN Standard:** NOT APPLICABLE | **Indicator:** Visual

Image	Code	Press	Qmax	DP	Housing DP	Element DP	Connection	Seal	Link			
		bar	psi	l/min	bar	psi	bar	psi				
	MPFX-100-3-A-G3-A25-HBP51	8	116	25.74	25.3	0.47	7	0.12	2	G 1"	A	Adjustment Report
	MPFX-150-3-A-G3-A25-HBP51	8	178	66.74	25.3	0.47	7	0.12	2	G 1"	A	Adjustment Report

## Step 4

Choose the most suitable filter from the proposed list.

Image	Code	Peak bar	Qmax gal/min	AP bar	Housing AP bar	Element AP bar	Connection	Seal	Link			
	MPFX-103-3-A-Q3-A25-H-BPFI	8	116	25.74	25.3	0.47	T	0.12 2	0.33 5	G 1"	A	Adjustment Report
	MPFX-104-3-A-Q3-A25-H-BPFI	8	116	25.74	25.3	0.47	T	0.12 2	0.33 5	G 1"	A	Adjustment Report

## Step 5

It is possible to change the filter modifying every parameter.



### A SAVE YOUR FILTER'S REPORT



### B MANUAL EDIT



SAVE IN YOUR ARCHIVE  
typing your reference data and then SAVE AS PDF



A new browser window displays the pdf

see A

Close the report window



By clicking your WELCOME button, the SHOW REPORTS is displayed: select it to see your filters list.

# LMD 211 GENERAL INFORMATION

## Description

## Technical data

### Low & Medium Pressure filters

#### Duplex

**Maximum working pressure up to 6 MPa (60 bar)**

**Flow rate up to 200 l/min**

LMD211 is a range of versatile low pressure duplex filter with integrated changeover function to allow the filter element replacement without the system shut-down.

They are directly connected to the lines of the system through the hydraulic fittings.

#### Available features:

- Female threaded connections up to 1 1/2" and flanged connections up to 1 1/2", for a maximum flow rate of 330 l/min
- Fine filtration rating, to get a good cleanliness level into the system
- Water removal elements, to remove the free water from the hydraulic fluid. For further information, see the Contamination Management document and the dedicate leaflet.
- Balancing valve integrated in the changeover lever, to equalize the housing pressure before the switch
- Bypass valve, to relieve excessive pressure drop across the filter media
- Vent ports, to avoid air trapped into the filter going into the system
- Drain ports, to remove the fluid from the housing prior the maintenance work
- Optional sampling ports, to get samples of fluid or to connect additional instrument to the system
- Visual, electrical and electronic differential clogging indicators

#### Common applications:

- Systems where shut-down causes high costs
- Systems where shut-down causes safety issues

#### Filter housing materials

- Head: Aluminium
- Bowl: Cataphoretic Painted Steel
- Bypass valve: AISI 304 - Nylon

#### Pressure

- Test pressure: 9 MPa (90 bar)
- Burst pressure: 21 MPa (210 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 6 MPa (60 bar)

#### Bypass valve

- Opening pressure 350 kPa (3.5 bar)  $\pm 10\%$
- Other opening pressures on request.

#### $\Delta p$ element type

- Microfibre filter elements - series N: 20 bar
- Fluid flow through the filter element from OUT to IN

#### Seals

- Standard NBR series A
- Optional FPM series V

#### Temperature

From -25° C to +110° C

#### Connections

Inlet/Outlet In-Line

#### Note

LMD 211 filters are provided for vertical mounting



## Weights [kg] and volumes [dm<sup>3</sup>]

Filter series	Weights [kg]				Volumes [dm <sup>3</sup> ]			
	Length	1	2	3	Length	1	2	3
<b>LMD 211</b>		9.5	11.2	12.8		4.1	4.6	5.3

Filter series	Length	Filter element design - N Series										
		A03	A06	A10	A16	A25	M25	M60	M90	M250	P10	P25
LMD 211	1	90	95	140	147	156	191	192	192	193	177	181
	2	113	121	158	162	173	192	192	193	193	181	183
	3	131	146	166	169	177	193	194	194	194	184	187

### Maximum flow rate for a complete low and medium pressure filter with a pressure drop $\Delta p = 0.7$ bar.

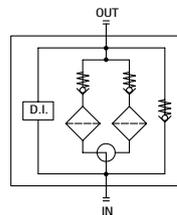
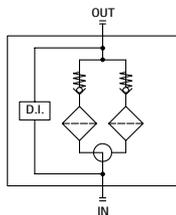
The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://www.mpfiltri.com).

You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure. Please, contact our Sales Department for further additional information.

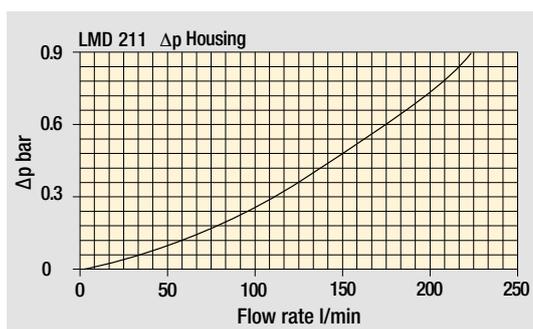
### Hydraulic symbols

Filter series	Style S	Style B
LMD 211	•	•

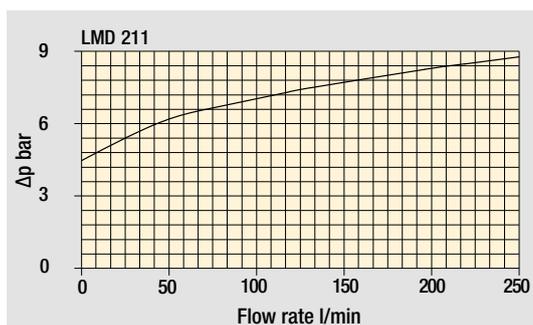


### Pressure drop

Filter housings  $\Delta p$  pressure drop



Bypass valve pressure drop



The curves are plotted using mineral oil with density of 0.86 kg/dm<sup>3</sup> in compliance with ISO 3968.  $\Delta p$  varies proportionally with density.

# LMD 211

## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example: <b>LMD211</b>   <b>3</b>   <b>B</b>   <b>A</b>   <b>C</b>   <b>6</b>   <b>A10</b>   <b>N</b>   <b>P01</b>																			
<b>LMD211</b>																				
<b>Length</b>	1   2   3																			
<b>Bypass valve</b>	S Without bypass   B 3.5 bar																			
<b>Seals and treatments</b>	Filtration rating																			
A NBR	Axx	Mxx	Pxx																	
V FPM	•	•	•																	
W NBR compatible with fluids HFA-HFB-HFC	•	•																		
<b>Connections</b>	C G 1 1/2"																			
F 1 1/2" NPT																				
I SAE 24 - 1 7/8" - 12 UN																				
L 1 1/2" SAE 3000 psi/M + G 1 1/4"																				
M 1 1/2" SAE 3000 psi/UNC + 1 1/4" NPT																				
N 1 1/2" SAE 3000 psi/UNC + SAE 20 - 1 5/8" UN																				
<b>Connection for differential indicator</b>	6 With plugged connection																			
<b>Filtration rating (filter media)</b>	<table border="0"> <tr> <td><b>A03</b> Inorganic microfiber 3 µm</td> <td><b>M25</b> Wire mesh 25 µm</td> </tr> <tr> <td><b>A06</b> Inorganic microfiber 6 µm</td> <td><b>M60</b> Wire mesh 60 µm</td> </tr> <tr> <td><b>A10</b> Inorganic microfiber 10 µm</td> <td><b>M90</b> Wire mesh 90 µm</td> </tr> <tr> <td><b>A16</b> Inorganic microfiber 16 µm</td> <td><b>P10</b> Resin impregnated paper 10 µm</td> </tr> <tr> <td><b>A25</b> Inorganic microfiber 25 µm</td> <td><b>P25</b> Resin impregnated paper 25 µm</td> </tr> </table>										<b>A03</b> Inorganic microfiber 3 µm	<b>M25</b> Wire mesh 25 µm	<b>A06</b> Inorganic microfiber 6 µm	<b>M60</b> Wire mesh 60 µm	<b>A10</b> Inorganic microfiber 10 µm	<b>M90</b> Wire mesh 90 µm	<b>A16</b> Inorganic microfiber 16 µm	<b>P10</b> Resin impregnated paper 10 µm	<b>A25</b> Inorganic microfiber 25 µm	<b>P25</b> Resin impregnated paper 25 µm
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<b>WA025</b> Water absorber inorganic microfiber 25 µm																				
<b>Element Δp</b>	N 20 bar																			
<b>Execution</b>	P01 MP Filtri standard Pxx Customized																			

### FILTER ELEMENT

<b>Element series and size</b>	Configuration example: <b>CU210</b>   <b>3</b>   <b>A10</b>   <b>A</b>   <b>N</b>   <b>P01</b>																
<b>CU210</b>																	
<b>Element length</b>	1   2   3																
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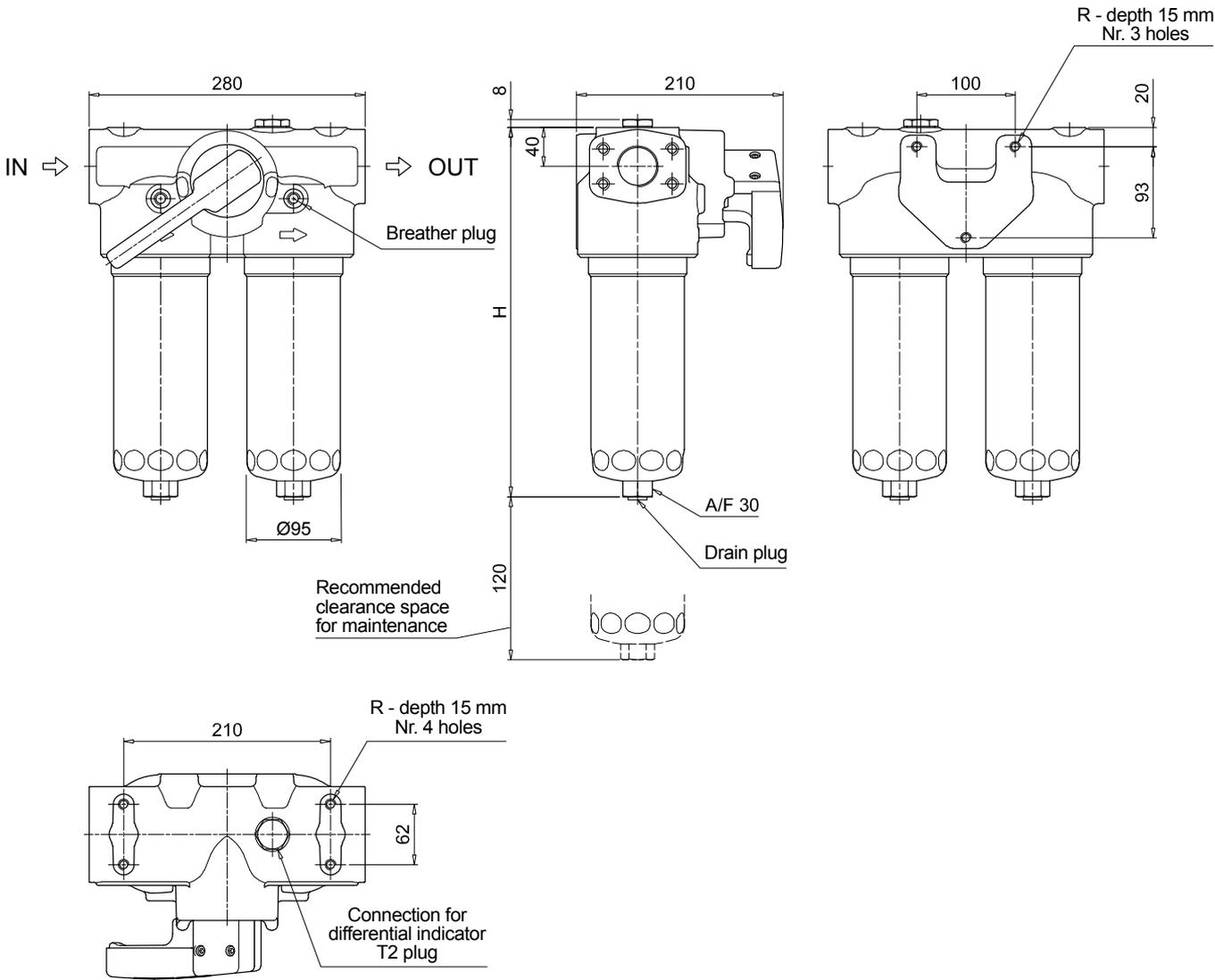
### ACCESSORIES

<b>Differential indicators</b>	page		page
<b>DEA</b> Electrical differential indicator	445	<b>DTA</b> Electronic differential indicator	448
<b>DEM</b> Electrical differential indicator	445-446	<b>DVA</b> Visual differential indicator	448
<b>DLA</b> Electrical / visual differential indicator	446-447	<b>DVM</b> Visual differential indicator	448
<b>DLE</b> Electrical / visual differential indicator	447		
<b>Additional features</b>	page		
<b>T2</b> Plug	449		

# LMD 211

## Dimensions

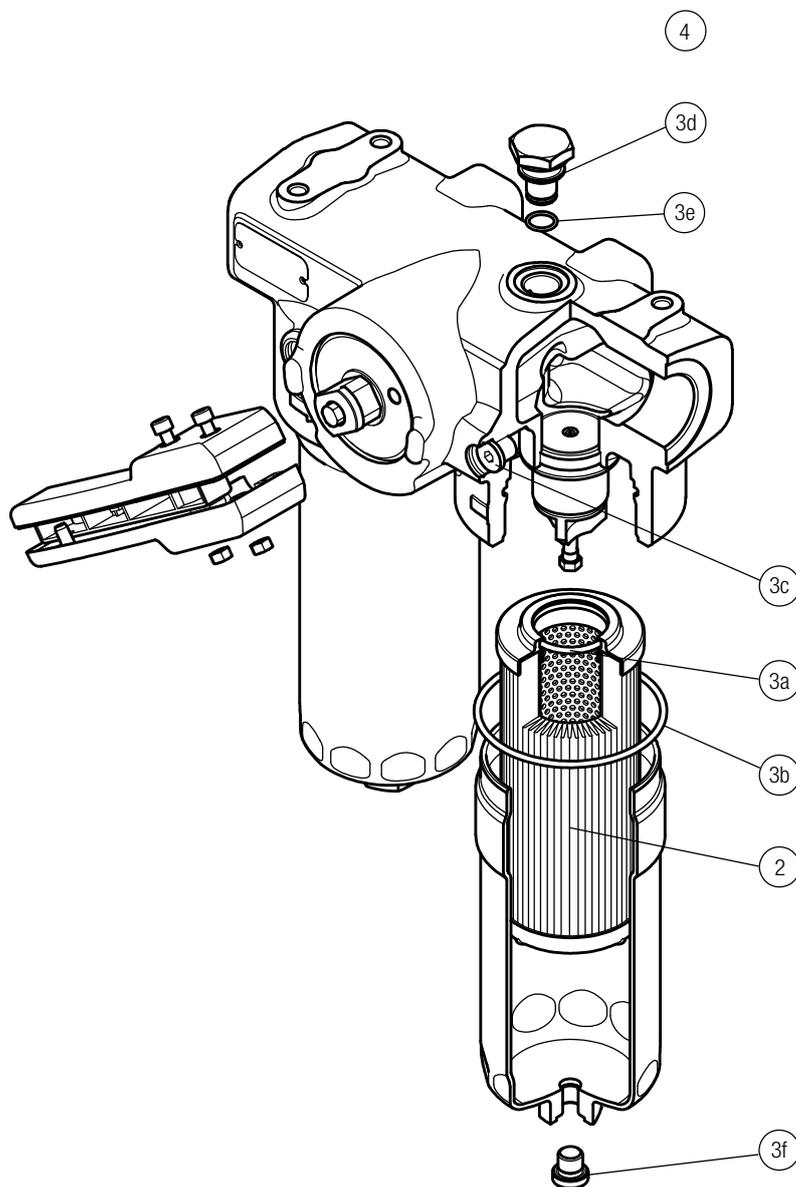
LMD211	
Filter length	H [mm]
<b>1</b>	383
<b>2</b>	513
<b>3</b>	651
Connections	R
<b>C</b>	M10
<b>F - I</b>	3/8" UNC
<b>L</b>	M10
<b>M - N</b>	3/8" UNC



# LMD 211 SPARE PARTS

Order number for spare parts

LMD 211



Item:	Q.ty: 1 pc.		Q.ty: 1 pc.		Q.ty: 2 pcs.	
Filter series	Filter element	Seal Kit code number	Seal Kit code number	Indicator connection plug	Indicator connection plug	
		NBR	FPM	NBR	FPM	
<b>LDD</b>	See order table	02050671	02050672	T2H	T2V	