

# MEMBRANE HOUSING

DETAILED OVERVIEW FOR TYPE 'MHCA-4-40'  
MEDIUM PRESSURE - 40 BAR

FOR MF, UF, NF AND RO FILTRATION



In the food and beverage industry membrane housings are often used in systems to reduce or eliminate microbials to make products safe for consumption and to extend their shelf life. We produce membrane housings for membrane filtration in the food industry for liquid-containing products such as juice, beer, soy, whey, milk, milk powder, chocolate etc.



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## Introduction

This overview is for Membrane Housings with Clamp ferrule connections manufactured by Wila A/S under the category "MHCA" hereinafter referred to as "Membrane Housing". A Membrane Housing is a tubular pressure vessel with a single inlet (Feed) on the shell side, an unfiltered outlet (Retentate) on the shell side and a filtered outlet (Permeate) out from one of the end centers.

The membranes and ATD's, that are also required for the filtration process, are not a part of the membrane housing, but Wila's own hygienic, easy to CIP clean, stainless steel ATD's can also be supplied upon request.

The Membrane Housing is made from EN 1.4404 (AISI 316L) stainless steel with a sanitary surface finish in accordance with the 3A sanitary standard. The entire inside surface roughness is  $\leq 0.8 \mu\text{m}$  and the outside surface roughness is  $\leq 1.6 \mu\text{m}$ . **All fluid media in use with the Membrane housing must be compatible with EN 1.4404 (AISI 316L) Stainless steel.**

The Membrane Housing is designed for pressures up to 40 bar and temperatures up to 70°C, but other types, sizes and pressure ratings are also available.

## Regulations and Directives

The membrane housing is designed and manufactured in accordance with

- the European Commission regulation No. 2023/2006 (Good Manufacturing Practices)
- the European Parliament directive No. EN 1935/2004 (Food Contact Materials).
- the European Parliament directive No. EN 1907/2006 (Chemical Restrictions (REACH)).
- PED - Article 4.3 (SEP) in the European Parliament directive No. 2014/68/EU (Pressure Equipment Directive). The membrane housing is only designed for fluid group 2 (non-dangerous fluids).
- 3-A Sanitary Standards 00-01 / 45-03.

## Documentation

1. Customer drawing with description and design data table
2. Declaration of conformity
3. User Manual

As Supplement the following can be provided:

4. 3.1 material certificates according to EN 10204
5. Weld-logs with associated welding certificates according to DS/EN ISO 9601-1.

## Group specifications

Group ordering codes and specifications are as listed below. A more detailed group tables with unit codes and main dimensions can be found on the following pages.

MHCA-4-40bar-X-element – Model \_

|       |                                                                                                                            |                                                      |
|-------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| MHCA  | <b>M</b> embrane <b>H</b> ousing with <b>C</b> lamp ferrule connections for Feed and Retentate with <b>3A</b> certificate. |                                                      |
| 4     | The membrane housing is designed for 3.8" x 38" (3838) membranes.                                                          |                                                      |
| 40bar | The Membrane Housing is designed for pressures up to 40 bar and temperatures up to 70°C                                    |                                                      |
| X     | From 1 to 6 elements                                                                                                       | Indicates the number of elements that can be fitted. |
| _     | Either A or C *                                                                                                            | Indicates Feed and Retentate connection arrangement. |

\*Other connection arrangements are available

## Unit specifications

MHCA-4-40-X-YY-ZZ-\_

|    |                                 |                                                          |
|----|---------------------------------|----------------------------------------------------------|
| X  | From 1 to 6 elements            | Indicates the number of elements that can be fitted.     |
| YY | 51 - 38 - 50 - 40 - 2.0 - 1.5** | Indicates Feed and Retentate clamp ferrules connections. |
| ZZ | 25 - 26 - 1.0**                 | Indicates Permeate end clamp ferrule connection.         |
| _  | Either A or C *                 | Indicates Feed and Retentate connection arrangement.     |

\*Other connection arrangements are available

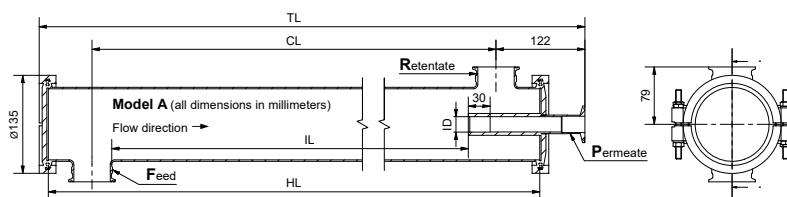
\*\*Clamp ferrule connections sizes - Other types and sizes are available

|                 |                                               |                                |
|-----------------|-----------------------------------------------|--------------------------------|
| 51 - 38 - 25    | translates respectively to Ø51 - Ø38 - Ø25    | in accordance with ISO 2852-2  |
| 50 - 40 - 26    | translates respectively to DN50 - DN40 - DN25 | in accordance with DIN 32676-A |
| 2.0 - 1.5 - 1.0 | translates respectively to 2" - 1.5" - 1"     | in accordance with DIN 32676-C |

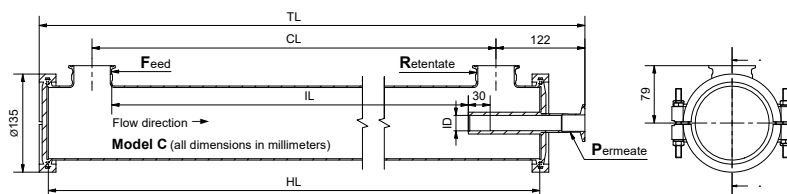
## Connections

Tri-clamp connections for Feed, Retentate and Permeate. For 40 bar pressure rating SH or SSH clamps are recommended, but always follow your fitting supplier guidelines and local legislations. The Membrane Housing should be installed with the Retentate outlet at the highest point for better air venting.

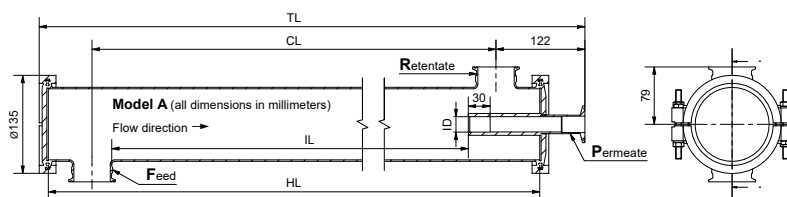
**Temperature and pressure limits must be respected at all times !**



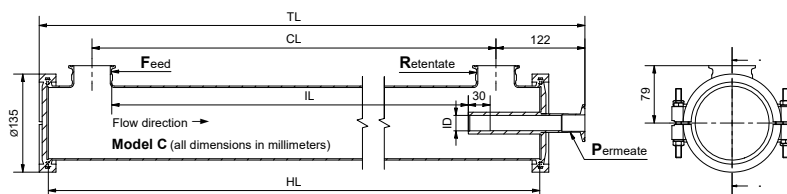
| MHCA-4-40bar-1-element - Model A |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                 |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|-----------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 9 liters |      | Dry weight 10 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL              | HL   | CL               | IL   |
| MHCA-4-40-1-51-25-A              | W-025961       | 1 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 1270            | 1195 | 1075             | 1010 |
| MHCA-4-40-1-38-25-A              | W-025967       | 1 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 1270            | 1195 | 1075             | 1016 |
| MHCA-4-40-1-50-25-A              | W-025973       | 1 x 38"           | Ø21.1    | DN50                                   | Ø25  | 1270            | 1195 | 1075             | 1009 |
| MHCA-4-40-1-40-25-A              | W-025979       | 1 x 38"           | Ø21.1    | DN40                                   | Ø25  | 1270            | 1195 | 1075             | 1015 |
| MHCA-4-40-1-51-26-A              | W-025985       | 1 x 38"           | Ø21.1    | Ø51                                    | DN25 | 1270            | 1195 | 1075             | 1010 |
| MHCA-4-40-1-38-26-A              | W-025991       | 1 x 38"           | Ø21.1    | Ø38                                    | DN25 | 1270            | 1195 | 1075             | 1016 |
| MHCA-4-40-1-50-26-A              | W-025997       | 1 x 38"           | Ø21.1    | DN50                                   | DN25 | 1270            | 1195 | 1075             | 1009 |
| MHCA-4-40-1-40-26-A              | W-026003       | 1 x 38"           | Ø21.1    | DN40                                   | DN25 | 1270            | 1195 | 1075             | 1015 |
| MHCA-4-40-1-2.0-1.0A             | W-028494       | 1 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 1270            | 1195 | 1075             | 1010 |
| MHCA-4-40-1-1.5-1.0A             | W-028500       | 1 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 1270            | 1195 | 1075             | 1016 |



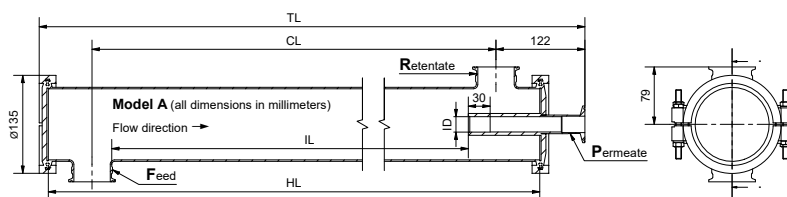
| MHCA-4-40bar-1-element - Model C |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                 |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|-----------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 9 liters |      | Dry weight 10 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL              | HL   | CL               | IL   |
| MHCA-4-40-1-51-25-C              | W-026009       | 1 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 1270            | 1195 | 1075             | 1010 |
| MHCA-4-40-1-38-25-C              | W-026015       | 1 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 1270            | 1195 | 1075             | 1016 |
| MHCA-4-40-1-50-25-C              | W-026021       | 1 x 38"           | Ø21.1    | DN50                                   | Ø25  | 1270            | 1195 | 1075             | 1009 |
| MHCA-4-40-1-40-25-C              | W-026027       | 1 x 38"           | Ø21.1    | DN40                                   | Ø25  | 1270            | 1195 | 1075             | 1015 |
| MHCA-4-40-1-51-26-C              | W-026033       | 1 x 38"           | Ø21.1    | Ø51                                    | DN25 | 1270            | 1195 | 1075             | 1010 |
| MHCA-4-40-1-38-26-C              | W-026039       | 1 x 38"           | Ø21.1    | Ø38                                    | DN25 | 1270            | 1195 | 1075             | 1016 |
| MHCA-4-40-1-50-26-C              | W-026045       | 1 x 38"           | Ø21.1    | DN50                                   | DN25 | 1270            | 1195 | 1075             | 1009 |
| MHCA-4-40-1-40-26-C              | W-026051       | 1 x 38"           | Ø21.1    | DN40                                   | DN25 | 1270            | 1195 | 1075             | 1015 |
| MHCA-4-40-1-2.0-1.0C             | W-028506       | 1 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 1270            | 1195 | 1075             | 1010 |
| MHCA-4-40-1-1.5-1.0C             | W-028512       | 1 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 1270            | 1195 | 1075             | 1016 |



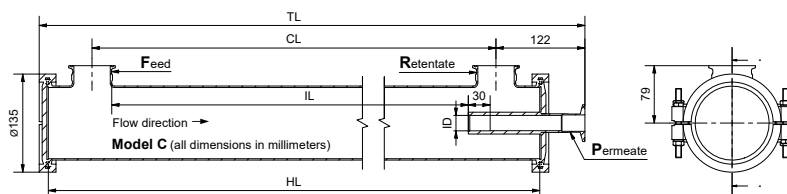
| MHCA-4-40bar-2-element - Model A |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                    |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|--------------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 16.5 liters |      | Dry weight 15 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL                 | HL   | CL               | IL   |
| MHCA-4-40-2-51-25-A              | W-025962       | 2 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 2255               | 2180 | 2060             | 1995 |
| MHCA-4-40-2-38-25-A              | W-025968       | 2 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 2255               | 2180 | 2060             | 2001 |
| MHCA-4-40-2-50-25-A              | W-025974       | 2 x 38"           | Ø21.1    | DN50                                   | Ø25  | 2255               | 2180 | 2060             | 1994 |
| MHCA-4-40-2-40-25-A              | W-025980       | 2 x 38"           | Ø21.1    | DN40                                   | Ø25  | 2255               | 2180 | 2060             | 2000 |
| MHCA-4-40-2-51-26-A              | W-025986       | 2 x 38"           | Ø21.1    | Ø51                                    | DN25 | 2255               | 2180 | 2060             | 1995 |
| MHCA-4-40-2-38-26-A              | W-025992       | 2 x 38"           | Ø21.1    | Ø38                                    | DN25 | 2255               | 2180 | 2060             | 2001 |
| MHCA-4-40-2-50-26-A              | W-025998       | 2 x 38"           | Ø21.1    | DN50                                   | DN25 | 2255               | 2180 | 2060             | 1994 |
| MHCA-4-40-2-40-26-A              | W-026004       | 2 x 38"           | Ø21.1    | DN40                                   | DN25 | 2255               | 2180 | 2060             | 2000 |
| MHCA-4-40-2-2.0-1.0A             | W-028495       | 2 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 2255               | 2180 | 2060             | 1995 |
| MHCA-4-40-2-1.5-1.0A             | W-028501       | 2 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 2255               | 2180 | 2060             | 2001 |



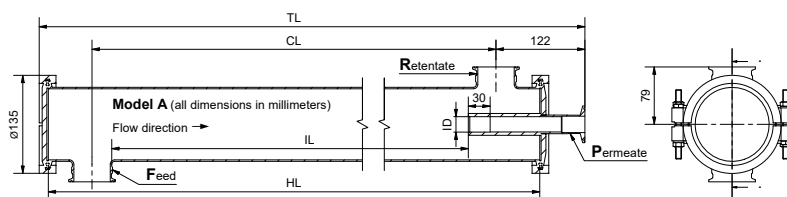
| MHCA-4-40bar-2-element - Model C |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                    |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|--------------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 16.5 liters |      | Dry weight 15 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL                 | HL   | CL               | IL   |
| MHCA-4-40-2-51-25-C              | W-026010       | 2 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 2255               | 2180 | 2060             | 1995 |
| MHCA-4-40-2-38-25-C              | W-026016       | 2 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 2255               | 2180 | 2060             | 2001 |
| MHCA-4-40-2-50-25-C              | W-026022       | 2 x 38"           | Ø21.1    | DN50                                   | Ø25  | 2255               | 2180 | 2060             | 1994 |
| MHCA-4-40-2-40-25-C              | W-026028       | 2 x 38"           | Ø21.1    | DN40                                   | Ø25  | 2255               | 2180 | 2060             | 2000 |
| MHCA-4-40-2-51-26-C              | W-026034       | 2 x 38"           | Ø21.1    | Ø51                                    | DN25 | 2255               | 2180 | 2060             | 1995 |
| MHCA-4-40-2-38-26-C              | W-026040       | 2 x 38"           | Ø21.1    | Ø38                                    | DN25 | 2255               | 2180 | 2060             | 2001 |
| MHCA-4-40-2-50-26-C              | W-026046       | 2 x 38"           | Ø21.1    | DN50                                   | DN25 | 2255               | 2180 | 2060             | 1994 |
| MHCA-4-40-2-40-26-C              | W-026052       | 2 x 38"           | Ø21.1    | DN40                                   | DN25 | 2255               | 2180 | 2060             | 2000 |
| MHCA-4-40-X-2.0-1.0C             | W-028507       | 2 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 2255               | 2180 | 2060             | 1995 |
| MHCA-4-40-X-1.5-1.0C             | W-028513       | 2 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 2255               | 2180 | 2060             | 2001 |



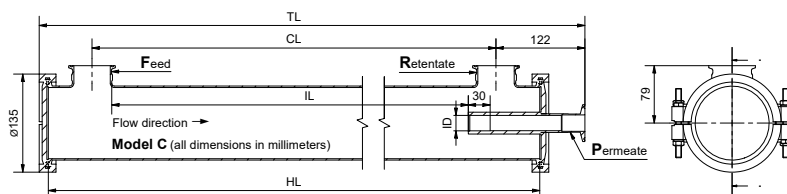
| MHCA-4-40bar-3-element - Model A |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                  |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|------------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 24 liters |      | Dry weight 20 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL               | HL   | CL               | IL   |
| MHCA-4-40-3-51-25-A              | W-025963       | 3 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 3235             | 3160 | 3040             | 2975 |
| MHCA-4-40-3-38-25-A              | W-025969       | 3 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 3235             | 3160 | 3040             | 2981 |
| MHCA-4-40-3-50-25-A              | W-025975       | 3 x 38"           | Ø21.1    | DN50                                   | Ø25  | 3235             | 3160 | 3040             | 2974 |
| MHCA-4-40-3-40-25-A              | W-025981       | 3 x 38"           | Ø21.1    | DN40                                   | Ø25  | 3235             | 3160 | 3040             | 2980 |
| MHCA-4-40-3-51-26-A              | W-025987       | 3 x 38"           | Ø21.1    | Ø51                                    | DN25 | 3235             | 3160 | 3040             | 2975 |
| MHCA-4-40-3-38-26-A              | W-025993       | 3 x 38"           | Ø21.1    | Ø38                                    | DN25 | 3235             | 3160 | 3040             | 2981 |
| MHCA-4-40-3-50-26-A              | W-025999       | 3 x 38"           | Ø21.1    | DN50                                   | DN25 | 3235             | 3160 | 3040             | 2974 |
| MHCA-4-40-3-40-26-A              | W-026005       | 3 x 38"           | Ø21.1    | DN40                                   | DN25 | 3235             | 3160 | 3040             | 2980 |
| MHCA-4-40-3-2.0-1.0A             | W-028496       | 3 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 3235             | 3160 | 3040             | 2975 |
| MHCA-4-40-3-1.5-1.0A             | W-028502       | 3 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 3235             | 3160 | 3040             | 2981 |



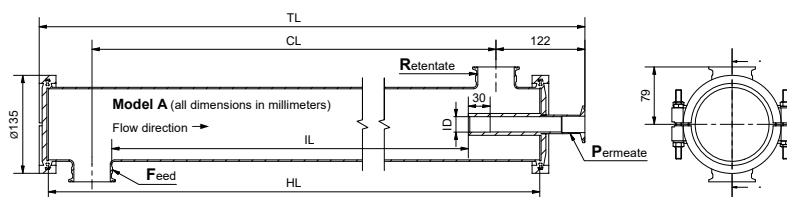
| MHCA-4-40bar-3-element - Model C |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                  |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|------------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 24 liters |      | Dry weight 20 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL               | HL   | CL               | IL   |
| MHCA-4-40-3-51-25-C              | W-026011       | 3 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 3235             | 3160 | 3040             | 2975 |
| MHCA-4-40-3-38-25-C              | W-026017       | 3 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 3235             | 3160 | 3040             | 2981 |
| MHCA-4-40-3-50-25-C              | W-026023       | 3 x 38"           | Ø21.1    | DN50                                   | Ø25  | 3235             | 3160 | 3040             | 2974 |
| MHCA-4-40-3-40-25-C              | W-026029       | 3 x 38"           | Ø21.1    | DN40                                   | Ø25  | 3235             | 3160 | 3040             | 2980 |
| MHCA-4-40-3-51-26-C              | W-026035       | 3 x 38"           | Ø21.1    | Ø51                                    | DN25 | 3235             | 3160 | 3040             | 2975 |
| MHCA-4-40-3-38-26-C              | W-026041       | 3 x 38"           | Ø21.1    | Ø38                                    | DN25 | 3235             | 3160 | 3040             | 2981 |
| MHCA-4-40-3-50-26-C              | W-026047       | 3 x 38"           | Ø21.1    | DN50                                   | DN25 | 3235             | 3160 | 3040             | 2974 |
| MHCA-4-40-3-40-26-C              | W-026053       | 3 x 38"           | Ø21.1    | DN40                                   | DN25 | 3235             | 3160 | 3040             | 2980 |
| MHCA-4-40-3-2.0-1.0C             | W-028508       | 3 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 3235             | 3160 | 3040             | 2975 |
| MHCA-4-40-3-1.5-1.0C             | W-028514       | 3 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 3235             | 3160 | 3040             | 2981 |



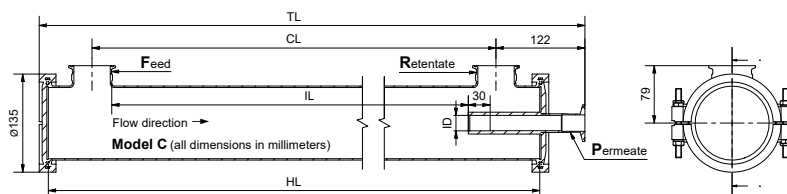
| MHCA-4-40bar-4-element - Model A |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                  |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|------------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 31 liters |      | Dry weight 25 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL               | HL   | CL               | IL   |
| MHCA-4-40-4-51-25-A              | W-025964       | 4 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 4215             | 4140 | 4020             | 3955 |
| MHCA-4-40-4-38-25-A              | W-025970       | 4 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 4215             | 4140 | 4020             | 3961 |
| MHCA-4-40-4-50-25-A              | W-025976       | 4 x 38"           | Ø21.1    | DN50                                   | Ø25  | 4215             | 4140 | 4020             | 3954 |
| MHCA-4-40-4-40-25-A              | W-025982       | 4 x 38"           | Ø21.1    | DN40                                   | Ø25  | 4215             | 4140 | 4020             | 3960 |
| MHCA-4-40-4-51-26-A              | W-025988       | 4 x 38"           | Ø21.1    | Ø51                                    | DN25 | 4215             | 4140 | 4020             | 3955 |
| MHCA-4-40-4-38-26-A              | W-025994       | 4 x 38"           | Ø21.1    | Ø38                                    | DN25 | 4215             | 4140 | 4020             | 3961 |
| MHCA-4-40-4-50-26-A              | W-026000       | 4 x 38"           | Ø21.1    | DN50                                   | DN25 | 4215             | 4140 | 4020             | 3954 |
| MHCA-4-40-4-40-26-A              | W-026006       | 4 x 38"           | Ø21.1    | DN40                                   | DN25 | 4215             | 4140 | 4020             | 3960 |
| MHCA-4-40-4-2.0-1.0A             | W-028497       | 4 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 4215             | 4140 | 4020             | 3955 |
| MHCA-4-40-4-1.5-1.0A             | W-028503       | 4 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 4215             | 4140 | 4020             | 3961 |



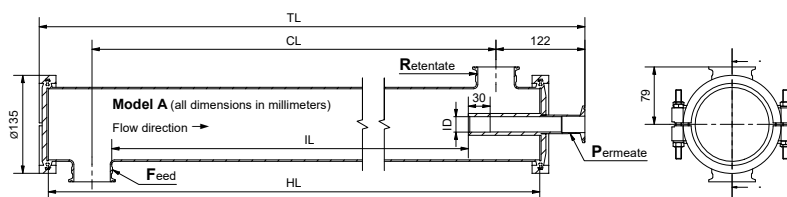
| MHCA-4-40bar-4-element - Model C |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                  |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|------------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 31 liters |      | Dry weight 25 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL               | HL   | CL               | IL   |
| MHCA-4-40-4-51-25-C              | W-026012       | 4 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 4215             | 4140 | 4020             | 3955 |
| MHCA-4-40-4-38-25-C              | W-026018       | 4 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 4215             | 4140 | 4020             | 3961 |
| MHCA-4-40-4-50-25-C              | W-026024       | 4 x 38"           | Ø21.1    | DN50                                   | Ø25  | 4215             | 4140 | 4020             | 3954 |
| MHCA-4-40-4-40-25-C              | W-026030       | 4 x 38"           | Ø21.1    | DN40                                   | Ø25  | 4215             | 4140 | 4020             | 3960 |
| MHCA-4-40-4-51-26-C              | W-026036       | 4 x 38"           | Ø21.1    | Ø51                                    | DN25 | 4215             | 4140 | 4020             | 3955 |
| MHCA-4-40-4-38-26-C              | W-026042       | 4 x 38"           | Ø21.1    | Ø38                                    | DN25 | 4215             | 4140 | 4020             | 3961 |
| MHCA-4-40-4-50-26-C              | W-026048       | 4 x 38"           | Ø21.1    | DN50                                   | DN25 | 4215             | 4140 | 4020             | 3954 |
| MHCA-4-40-4-40-26-C              | W-026054       | 4 x 38"           | Ø21.1    | DN40                                   | DN25 | 4215             | 4140 | 4020             | 3960 |
| MHCA-4-40-4-2.0-1.0C             | W-028509       | 4 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 4215             | 4140 | 4020             | 3955 |
| MHCA-4-40-4-1.5-1.0C             | W-028515       | 4 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 4215             | 4140 | 4020             | 3961 |



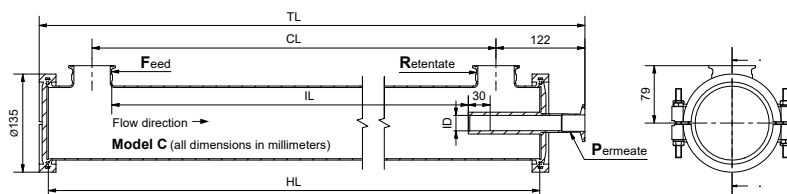
| MHCA-4-40bar-5-element - Model A |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                    |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|--------------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 38.5 liters |      | Dry weight 29 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL                 | HL   | CL               | IL   |
| MHCA-4-40-5-51-25-A              | W-025965       | 5 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 5195               | 5120 | 5000             | 4935 |
| MHCA-4-40-5-38-25-A              | W-025971       | 5 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 5195               | 5120 | 5000             | 4941 |
| MHCA-4-40-5-50-25-A              | W-025977       | 5 x 38"           | Ø21.1    | DN50                                   | Ø25  | 5195               | 5120 | 5000             | 4934 |
| MHCA-4-40-5-40-25-A              | W-025983       | 5 x 38"           | Ø21.1    | DN40                                   | Ø25  | 5195               | 5120 | 5000             | 4940 |
| MHCA-4-40-5-51-26-A              | W-025989       | 5 x 38"           | Ø21.1    | Ø51                                    | DN25 | 5195               | 5120 | 5000             | 4935 |
| MHCA-4-40-5-38-26-A              | W-025995       | 5 x 38"           | Ø21.1    | Ø38                                    | DN25 | 5195               | 5120 | 5000             | 4941 |
| MHCA-4-40-5-50-26-A              | W-026001       | 5 x 38"           | Ø21.1    | DN50                                   | DN25 | 5195               | 5120 | 5000             | 4934 |
| MHCA-4-40-5-40-26-A              | W-026007       | 5 x 38"           | Ø21.1    | DN40                                   | DN25 | 5195               | 5120 | 5000             | 4940 |
| MHCA-4-40-5-2.0-1.0A             | W-028498       | 5 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 5195               | 5120 | 5000             | 4935 |
| MHCA-4-40-5-1.5-1.0A             | W-028504       | 5 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 5195               | 5120 | 5000             | 4941 |



| MHCA-4-40bar-5-element - Model C |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                    |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|--------------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 38.5 liters |      | Dry weight 29 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL                 | HL   | CL               | IL   |
| MHCA-4-40-5-51-25-C              | W-026013       | 5 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 5195               | 5120 | 5000             | 4935 |
| MHCA-4-40-5-38-25-C              | W-026019       | 5 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 5195               | 5120 | 5000             | 4941 |
| MHCA-4-40-5-50-25-C              | W-026025       | 5 x 38"           | Ø21.1    | DN50                                   | Ø25  | 5195               | 5120 | 5000             | 4934 |
| MHCA-4-40-5-40-25-C              | W-026031       | 5 x 38"           | Ø21.1    | DN40                                   | Ø25  | 5195               | 5120 | 5000             | 4940 |
| MHCA-4-40-5-51-26-C              | W-026037       | 5 x 38"           | Ø21.1    | Ø51                                    | DN25 | 5195               | 5120 | 5000             | 4935 |
| MHCA-4-40-5-38-26-C              | W-026043       | 5 x 38"           | Ø21.1    | Ø38                                    | DN25 | 5195               | 5120 | 5000             | 4941 |
| MHCA-4-40-5-50-26-C              | W-026049       | 5 x 38"           | Ø21.1    | DN50                                   | DN25 | 5195               | 5120 | 5000             | 4934 |
| MHCA-4-40-5-40-26-C              | W-026055       | 5 x 38"           | Ø21.1    | DN40                                   | DN25 | 5195               | 5120 | 5000             | 4940 |
| MHCA-4-40-5-2.0-1.0C             | W-028510       | 5 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 5195               | 5120 | 5000             | 4935 |
| MHCA-4-40-5-1.5-1.0C             | W-028516       | 5 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 5195               | 5120 | 5000             | 4941 |



| MHCA-4-40bar-6-element - Model A |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                  |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|------------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 46 liters |      | Dry weight 34 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL               | HL   | CL               | IL   |
| MHCA-4-40-6-51-25-A              | W-025966       | 6 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 6175             | 6100 | 5980             | 5915 |
| MHCA-4-40-6-38-25-A              | W-025972       | 6 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 6175             | 6100 | 5980             | 5921 |
| MHCA-4-40-6-50-25-A              | W-025978       | 6 x 38"           | Ø21.1    | DN50                                   | Ø25  | 6175             | 6100 | 5980             | 5914 |
| MHCA-4-40-6-40-25-A              | W-025984       | 6 x 38"           | Ø21.1    | DN40                                   | Ø25  | 6175             | 6100 | 5980             | 5920 |
| MHCA-4-40-6-51-26-A              | W-025990       | 6 x 38"           | Ø21.1    | Ø51                                    | DN25 | 6175             | 6100 | 5980             | 5915 |
| MHCA-4-40-6-38-26-A              | W-025996       | 6 x 38"           | Ø21.1    | Ø38                                    | DN25 | 6175             | 6100 | 5980             | 5921 |
| MHCA-4-40-6-50-26-A              | W-026002       | 6 x 38"           | Ø21.1    | DN50                                   | DN25 | 6175             | 6100 | 5980             | 5914 |
| MHCA-4-40-6-40-26-A              | W-026008       | 6 x 38"           | Ø21.1    | DN40                                   | DN25 | 6175             | 6100 | 5980             | 5920 |
| MHCA-4-40-6-2.0-1.0A             | W-028499       | 6 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 6175             | 6100 | 5980             | 5915 |
| MHCA-4-40-6-1.5-1.0A             | W-028505       | 6 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 6175             | 6100 | 5980             | 5921 |



| MHCA-4-40bar-6-element - Model C |                | Element type 3838 |          | Maximum pressure / Maximum temperature |      |                  |      |                  |      |
|----------------------------------|----------------|-------------------|----------|----------------------------------------|------|------------------|------|------------------|------|
|                                  |                | Quantity          | Permeate | 40 barg / 70°C                         |      | Volume 46 liters |      | Dry weight 34 kg |      |
| Stock number                     | Drawing number | 3.8" dia.         | ID       | F&R                                    | P    | TL               | HL   | CL               | IL   |
| MHCA-4-40-6-51-25-C              | W-026014       | 6 x 38"           | Ø21.1    | Ø51                                    | Ø25  | 6175             | 6100 | 5980             | 5915 |
| MHCA-4-40-6-38-25-C              | W-026020       | 6 x 38"           | Ø21.1    | Ø38                                    | Ø25  | 6175             | 6100 | 5980             | 5921 |
| MHCA-4-40-6-50-25-C              | W-026026       | 6 x 38"           | Ø21.1    | DN50                                   | Ø25  | 6175             | 6100 | 5980             | 5914 |
| MHCA-4-40-6-40-25-C              | W-026032       | 6 x 38"           | Ø21.1    | DN40                                   | Ø25  | 6175             | 6100 | 5980             | 5920 |
| MHCA-4-40-6-51-26-C              | W-026038       | 6 x 38"           | Ø21.1    | Ø51                                    | DN25 | 6175             | 6100 | 5980             | 5915 |
| MHCA-4-40-6-38-26-C              | W-026044       | 6 x 38"           | Ø21.1    | Ø38                                    | DN25 | 6175             | 6100 | 5980             | 5921 |
| MHCA-4-40-6-50-26-C              | W-026050       | 6 x 38"           | Ø21.1    | DN50                                   | DN25 | 6175             | 6100 | 5980             | 5914 |
| MHCA-4-40-6-40-26-C              | W-026056       | 6 x 38"           | Ø21.1    | DN40                                   | DN25 | 6175             | 6100 | 5980             | 5920 |
| MHCA-4-40-6-2.0-1.0C             | W-028511       | 6 x 38"           | Ø21.1    | 2.0"                                   | 1.0" | 6175             | 6100 | 5980             | 5915 |
| MHCA-4-40-6-1.5-1.0C             | W-028517       | 6 x 38"           | Ø21.1    | 1.5"                                   | 1.0" | 6175             | 6100 | 5980             | 5921 |