Diesel LowViscosity Unit Coalescer
LVH-CD

Description

The LVH-CD Diesel LowViscosity Housing Coalescer is mainly used for removing water from diesel. It is primarily used where large quantities of water are present and need to be removed in one single pass.

The Optimicron® coalescer and separator elements used ensure that large quantities of water are separated in a single pass.

Optimum integration of the housing in new system planning or in existing systems is achieved using the different sizes.

The standard filters are designed to comply with Directive 2014/68/EU and are also available in a design that complies with ASME.

Fields of application

- Filtration of large volumes of diesel fuel

Benefits

- Excellent separation efficiency in a single pass
- Low pressure losses thanks to innovative element technology
- Easy to service thanks to intelligent filter element design
- Can be easily expanded with filter housings for removing dirt from diesel fuels

Technical Data

General data			
Sizes	112	120 / 140	240 to 1940
Housing material	Aluminium	Stainless steel or stainless steel/carbon steel	Stainless steel or carbon steel*
Connections inlet/outlet	G 11/2"	M52 / DN 50	DN 50 to 300
Maximum operating pressure (marine model**)	10 bar	10 bar (7 bar)	10 bar
Permitted temperature range	0 to 60 °C	0 to 60 °C	0 to 60 °C
Sealing material	FKM (FPM, Viton®)		
Water separation efficiency	Up to 99%***		
Filter elements			
Filter elements used	Optimicron® Diesel		

* Coating of housing in carbon steel in acc. with ISO 12944 Class C3
** Pressure vessel class III
*** Depends on the actual volume flow

Housing design

Size	Recommended max. flow rate (l/min)	Alignment	Empty weight (kg)	Housing volume (l)
LVH-CD-112	60	Vertical	≈ 9	≈ 6
LVH-CD-120	135	Vertical	≈ 53	≈ 26
LVH-CD-140	270	Vertical	≈ 61	≈ 44
LVH-CD-240	500	Vertical	≈ 240	≈ 200
		Horizontal	*	*
LVH-CD-440	800	Vertical	≈ 400**	≈ 470
		Horizontal	*	*
LVH-CD-640	1200	Vertical	≈ 560**	≈ 670
		Horizontal	*	*
LVH-CD-940	1800	Vertical	≈ 680	≈ 1190
		Horizontal	≈ 880	≈ 1225
LVH-CD-1240	2400	Horizontal	*	*
LVH-CD-1940	3600	Horizontal	*	*

* On request

Standard types (with shorter delivery times)

Size	Part no.	Model code
LVH-CD-120	4644712	LVH-CD-120-EV-BM52-FA
LVH-CD-140	4657396	LVH-CD-140-EV-BM52-FA

Model code

LVH – C D – 4 40 – E V – B V – F A/-ZA

Type
LVH = LowViscosity Housing

Function
C = coalescence

Operating fluid
D = diesel

Size
1 = 1 element combination (particle filtration and dewatering)
2 = 2 coalescer elements + 1 separator element
4 = 4 coalescer elements + 3 separator elements
6 = 6 coalescer elements + 4 separator elements
9 = 9 coalescer elements + 6 separator elements
12 = 12 coalescer elements + 9 separator elements
19 = 19 coalescer elements + 15 separator elements

Filter element length
12 = 12” (only for size 1)
20 = 20” (only for size 1)
40 = 40"

Housing material
A = aluminium (only size 112)
C = carbon steel (only sizes 120 to 1940)
E = stainless steel (not for size 112)

Model
V = vertical (not for size 1240 and 1940)
H = horizontal (only sizes 240 to 1940)

Pressure stage
B = 10 bar (marine model: pressure vessel class III ≤ 7 bar)

Hydraulic connection

		112	120	140	240	440	640	940	1240	1940
F	= G11/2"	●								
M52	= M52 x 2		●	●						
J	= DIN DN 50		●	●	●	●	●	●		
R	= DIN DN 100				●	●	●	●	●	
V	= DIN DN 150					●	●	●	●	●
W	= DIN DN 200					❍	●	●	●	●
Y	= DIN DN 300						❍	❍	❍	●

Dimensions available on
❍ = request

Model with ANSI flanges*

		112	120	140	240	440	640	940	1240	1940
4	= 3"				●	●	●	●	●	
5	= 4"				●	●	●	●	●	●
7	= 6"					●	●	●	●	●
8	= 8"					❍	●	●	●	●
9	= 10"						❍	❍	❍	●

Dimensions available on
❍ = request

* -150 necessary in supplementary information

Seal material
F = FKM (FPM, Viton®)

Clogging indicator
for housing material A
A = without display, with G1/2" holder for 2 bar differential pressure display
for housing material C and E
A = without display, with G1/2" holder for differential pressure display (0.8 for sizes 240 to 1940; 2 bar for sizes 120 and 140)
D43 = differential pressure gauge, optical
D44 = differential pressure gauge, optical/electrical (not for ZM/ZMA)
Z = without holder for clogging indicator

Supplementary information
Z = Acceptance test certification 3.1 according to EN 10204 (material certificate)
ZA = Acceptance test certification 3.1 according to EN 10204 (material certificate) + ASME calculation
ZM = Ship design without acceptance (only for sizes 120 and 140; brief details of classification society necessary)
ZMA = Marine model with acceptance (only for sizes 120 and 140; brief details of classification society necessary
Classification society:
LR = Lloyds Register, BV = Bureau Veritas, DNV = Det Norske Veritas
150 = 150 lbs (flange pressure rating; for ASME housing design)

Scope of supply

– LVH-CD (without filter elements)
– Installation and maintenance instructions

Filter elements must be ordered separately and installed before initial operation on site.

Accessories

Designation	Part no.
LVH-CD-112	
Automatic water drain	4651720
LVH-CD-120 and 140	
Sight glass (G1”)	6060303
Optical differential pressure indicator	1336897
Automatic water drain (not for marine model)	4734418
Base foot	4770046
Connection kit on LVH-F-115/130:	
for M52 connection	4819136
for DN50 connection	4819137
Water sensor (standard)	4651720
Water sensor (marine model)	4651719
LVH-CD-240 to 1940	
Sight glass (G½”)	6225498
Water level indicator with 3.1 certification	6199678
Automatic water drain	
1. LVH-CD-240/440	4265781
2. LVH-CD-640/940	4266307
3. LVH-CD-1240/1940	4266082

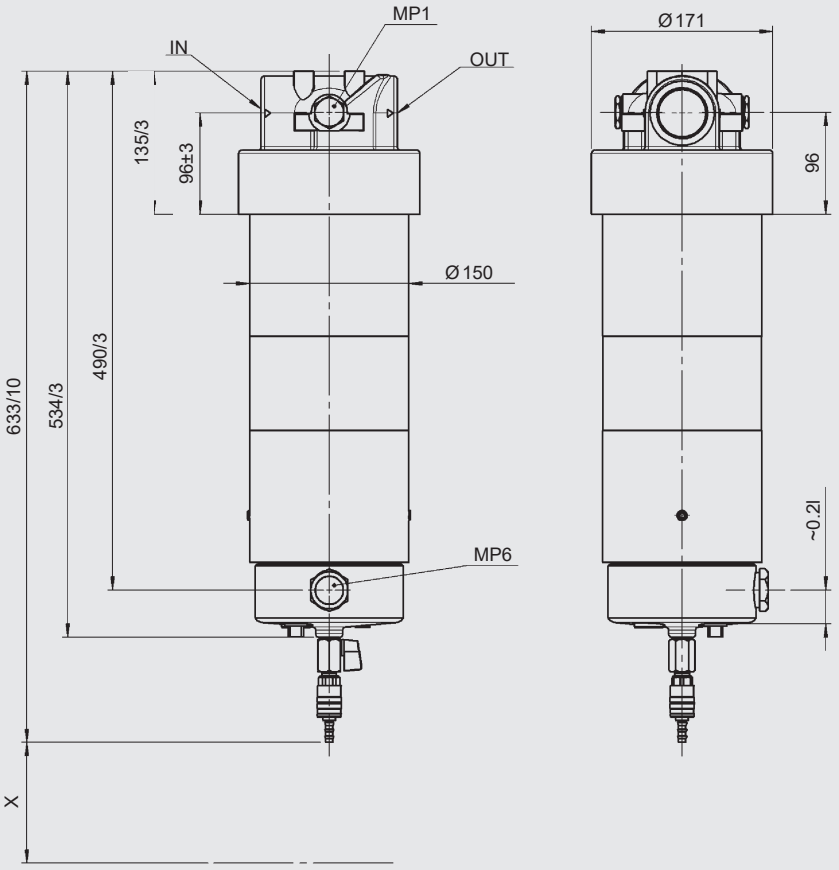
Element combination

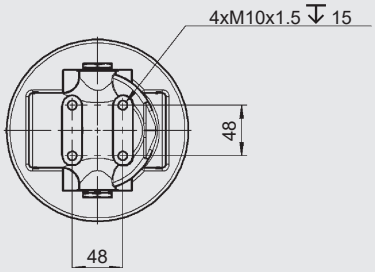
Designation	Part no.
LVH-CD-112	
N12ON-DCZ-CE66F	4880515
LVH-CD-120	
Dewatering only N20ON-DCZ-CD65F	4295019
With filtration 3 µm N20ON-DC003-CD65F	4379416
With filtration 10 µm N20ON-DC010-CD65F	4379417
With filtration 20 µm N20ON-DC020-CD65F	4379418
LVH-CD-140	
Dewatering only N40ON-DCZ-CD65F	4294900
With filtration 3 µm N40ON-DC003-CD65F	4379223
With filtration 10 µm N40ON-DC010-CD65F	4379224
With filtration 20 µm N40ON-DC020-CD65F	4379415

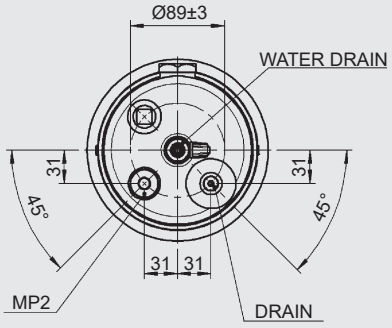
Coalescer element / separator element LVH-CD-240 to LVH-CD-1940

Designation	Part no.
Separator element N32ON-DSZ-SA80F	3910259
Coalescer element N42ON-DCZ-CA60F	3910257

Unit dimensions LVH-CD-112

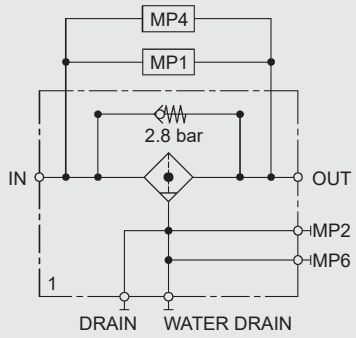






All dimensions in mm

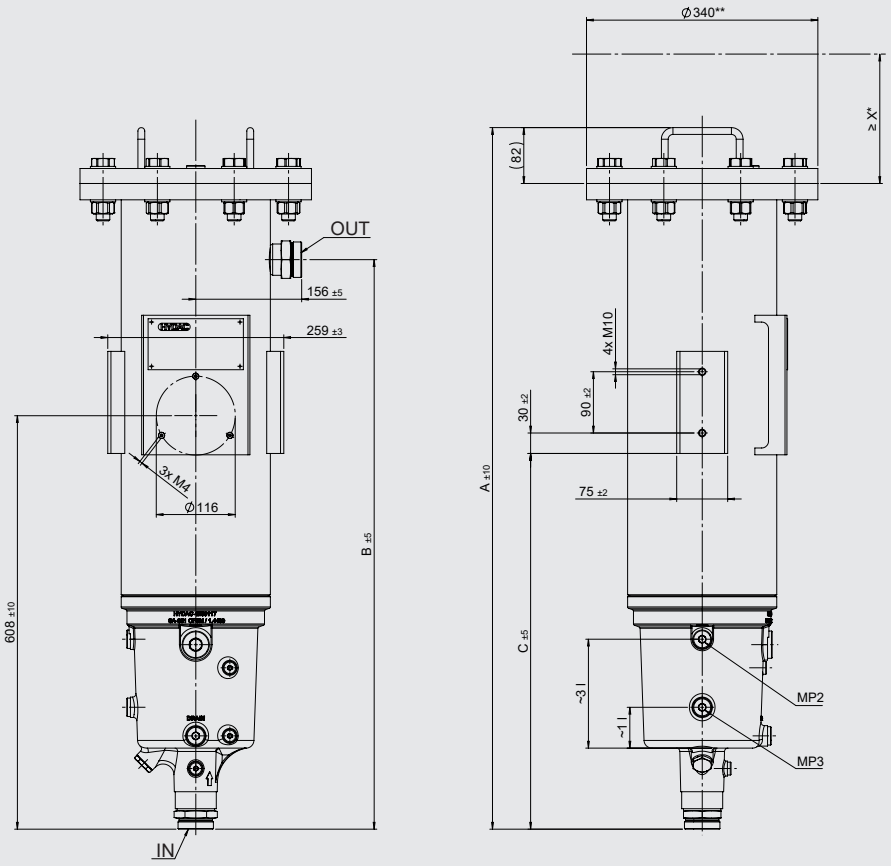
Hydraulic diagram

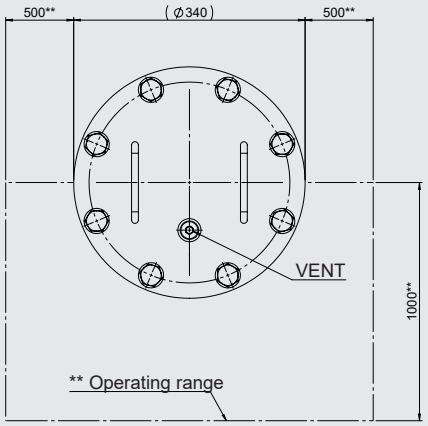


Key

LVH-CD-112-AV	
1	Coalescer housing
IN	Inlet
OUT	Outlet
DRAIN	Drain
WATER DRAIN	Water drain
MP1	Connection for clogging indicator (optional)
MP2	Connection for water sensor
MP4	Alternative connection for clogging indicator
MP6	Connection for sight glass

Unit dimensions LVH-CD-120 to 140



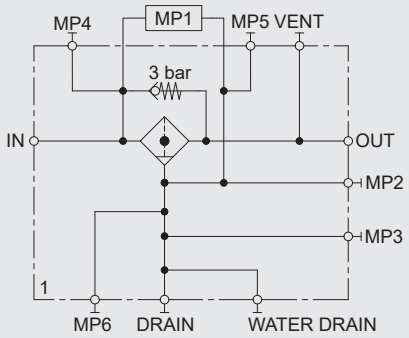


LVH-CD	A	B	C	X*
120	1031	837	552	650
140	1501	1307	746	1150

* Element expansion space

All dimensions in mm

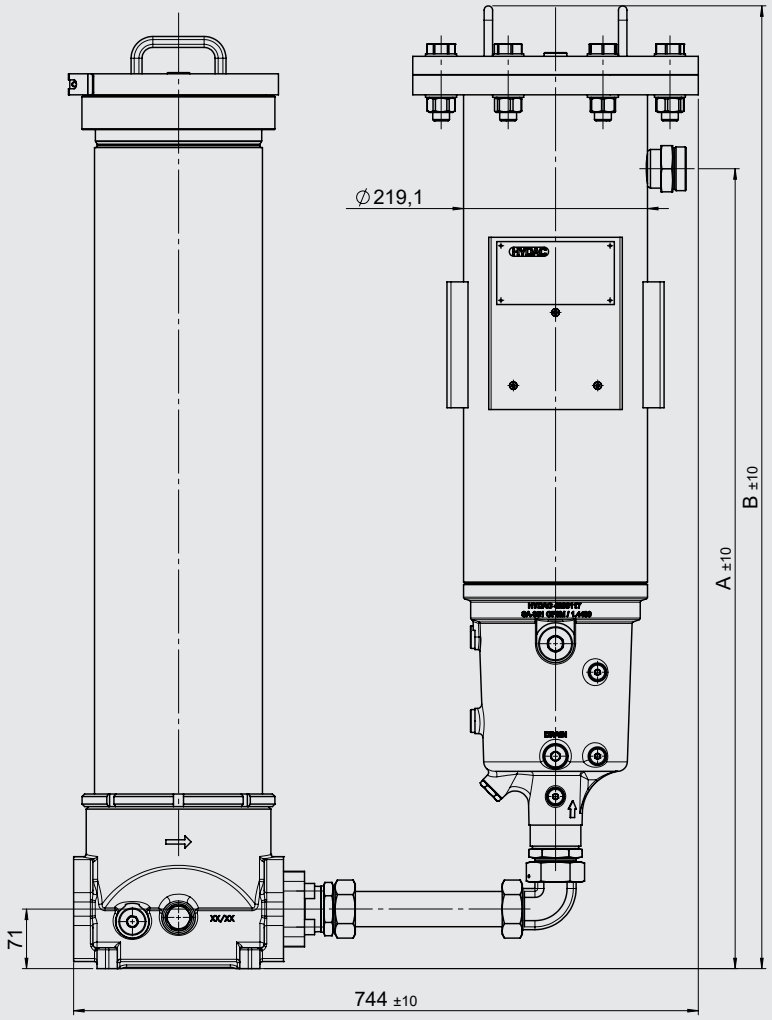
Hydraulic diagram

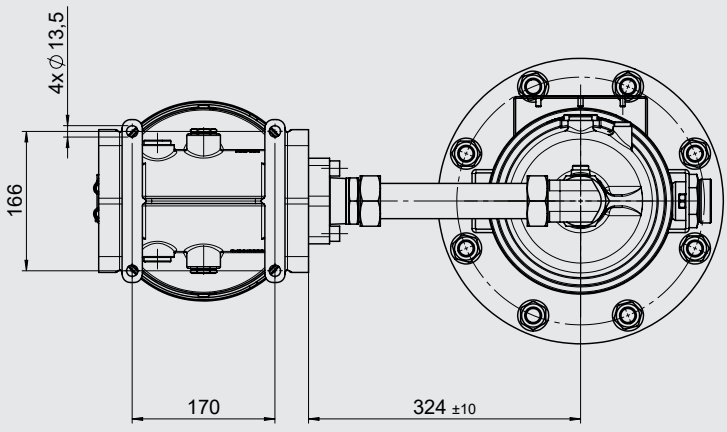


Key

LVH-CD-120 to 140	
1	Filter and coalescer housing
IN	Inlet
OUT	Outlet
VENT	Air vent
DRAIN	Emptying / manual water drain
Water Drain	Automatic water drain
MP1	Connection for clogging indicator
MP2	Connection for water sensor (top)
MP3	Connection for water sensor (bottom)
MP4	Measuring point inlet
MP5	Measuring point water collecting chamber
MP6	Connection for sight glass

Dimensions LVH-F-115/130
with connection kit on LVH-CD-120/140



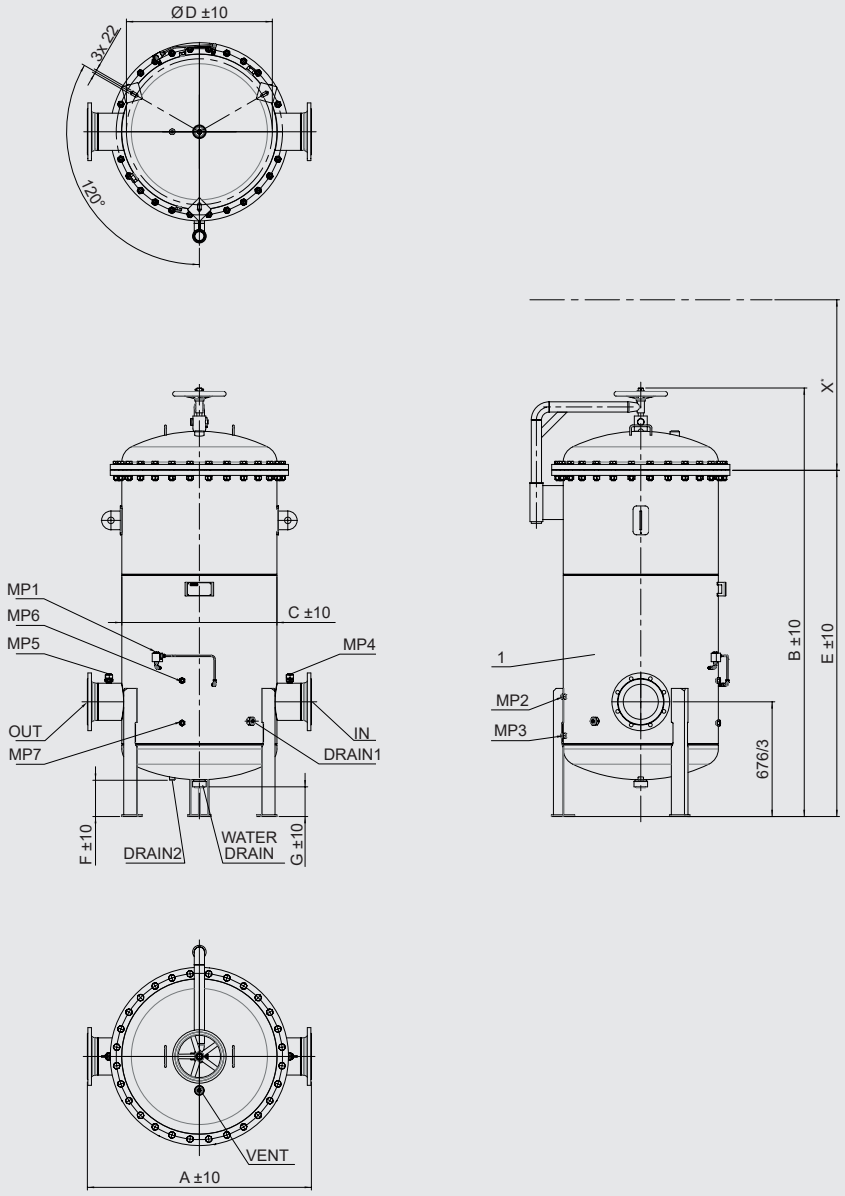


	LVH-CD	A	B
M52	120	953	1147
	140	1423	1617
J (DN 50)	120	978	1172
	140	1448	1642

* Element expansion space

All dimensions in mm

Unit dimensions LVH-CD-240 to 940 vertical



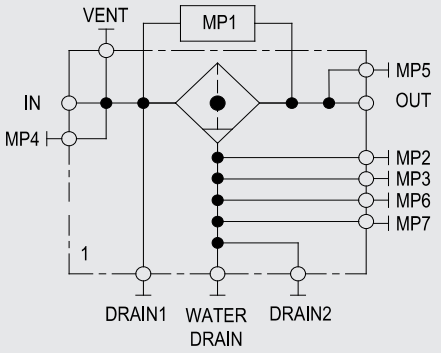
Dimensions in mm

LVH-CD	A	B	C	D	E	F	G	X*
240	740	2290	Ø406	Ø352	2020	325	285	1000
440	1010	2290	Ø610	Ø560	2020	285	235	
640	1120	2320	Ø711	Ø662	2040	260	215	
940	1320	2525	Ø914	Ø867	2045	220	175	

* Element expansion space

All dimensions in mm

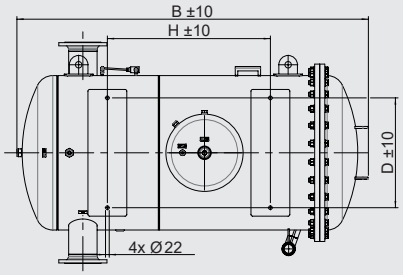
Hydraulic diagram

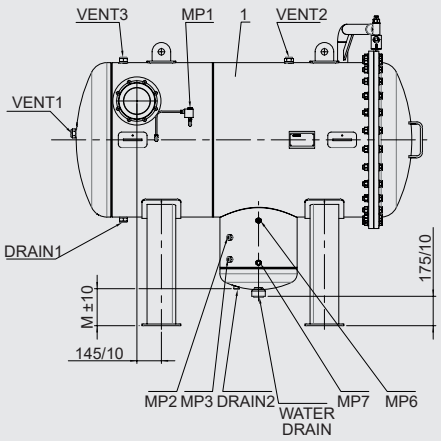


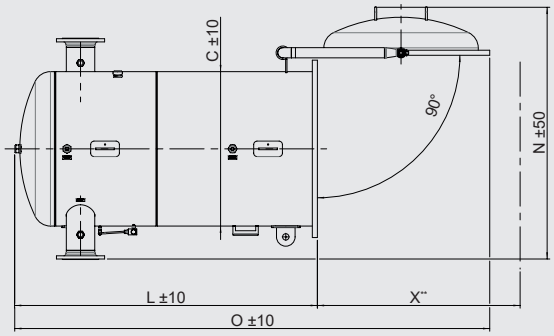
Key

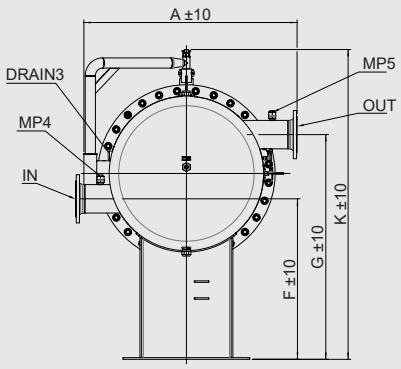
LVH-CD-240 to 940 vertical	
1	Coalescer housing
IN	Inlet
OUT	Outlet
VENT	Air vent
WATER DRAIN	Water drain
DRAIN1	Drain
DRAIN2	Drain
MP1	Connection for clogging indicator (optional)
MP2	Connection for water sensor, top
MP3	Connection for water sensor, bottom
MP4	Inlet measuring point
MP5	Outlet measuring point
MP6	Connection for top sight glass (accessory)
MP7	Connection for bottom sight glass (accessory)

Unit dimensions LVH-CD-240 to 1940 horizontal









Dimensions in mm

LVH-CD	A	B	C	F	G	D
240	660	1780	Ø406	700	850	320
440	*	*	Ø610	*		*
640	1000	1870	Ø711	865	1185	600
940	1310	2070	Ø914	950	1330	650
1240	*	*	*		*	*
1940	*	*	*	*	*	*

* On request
** Element expansion space

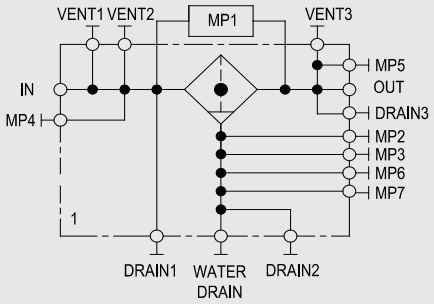
Dimensions in mm

LVH-CD	H	K	L	M	N	O	X**
240	965	1185	1680	205	740	2150	1200
440	*	*	*	*		*	
640	965	1610	1750	225	1010	2480	
940	965	1835	1795	215	1490	2810	
1240	*	*	*	*	*	*	
1940	*	*	*	*	*	*	

* On request
** Element expansion space

All dimensions in mm

Hydraulic diagram



Key

LVH-CD-240 to 940 horizontal	
1	Coalescer housing
IN	Inlet
OUT	Outlet
VENT1	Air vent
VENT2	Air vent
VENT3	Air vent
Water Drain	Water drain
DRAIN1	Drain
DRAIN2	Drain
DRAIN3	Drain
MP1	Connection for clogging indicator (optional)
MP2	Connection for water sensor, top
MP3	Connection for water sensor, bottom
MP4	Inlet measuring point
MP5	Outlet measuring point
MP6	Connection for top sight glass (accessory)
MP7	Connection for bottom sight glass (accessory)

Note

The information in this brochure relates to the operating conditions and applications described.

For applications and/or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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