



LowViscosity Unit Coalescer Diesel LVU-CD-600 ... 8000

Description

The LowViscosity Unit LVU is used for double-stage bypass flow filtration. It removes solid particle contamination and free water from diesel fuels.

Diesel fuel is subject to long dwell times, especially in tanks that are not often used. This can often cause solid contamination and water to settle at the base of the tank, which can damage pumps and sensitive components when the system is switched on. Over time, free water in the tank can also cause diesel bug to develop (micro-organisms such as various species of bacteria, algae, fungus, etc.).

Both can cause the machine filters to become clogged rapidly and components of the injection system to become damaged.

This can cause the combustion engine's pollutant emissions to exceed the permitted limits, resulting in high costs for downtime, spare parts, maintenance and repair.

Using the LVU minimises the contamination in the system and prevents costly system failure. It also prevents premature and expensive disposal of the diesel.

The LVU can be used for transferring diesel from day tanks to engines, for transfers between tanks and in the bypass flow.

Fields of application

- Mobile and stationary emergency power generators, e.g. in hospitals, shopping centres, power stations
- Storage tanks, e.g. in agriculture, in the construction industry, in mines
- Yachts, ships and recreational boats
- Test benches

Benefits

- Increased system availability
- Reduced risk of diesel bug thanks to the removal of free water from diesel fuel
- Conditioning and dewatering possible even when combustion engine is not running
- Optional automatic water drain for more convenience and greater process reliability
- Ship version incl. approval possible

Technical data

Size	600	1200	2000	4000	8000
Nominal flow rate	600 l/h	1200 l/h	2000 l/h	4000 l/h	8000 l/h
Dewatering performance					
Water separation efficiency	>99%				
Achievable water content	<200 ppm free water				
Dewatering rate with 1% water in the diesel	6 l/h	12 l/h	19 l/h	39 l/h	78 l/h
Hydraulic data					
Permitted fluids	Diesel DIN EN 590, biodiesel EN 14214, fuel oil, MGO (DMX, DMA, DMZ), MDO (DMB, DMC)				
Lubricity of fuel	WSD ≤ 520 µm according to ISO 12156				
Limit of application	Max. 10,000 ppm free water at inlet				
Permitted fluid temperature range	5 to 50 °C*				
Operating pressure	Max. 6 bar				
Perm. viscosity	Max. 15 mm²/s				
Perm. pressure at suction port	-0.4 to 1 bar				
Perm. pressure at pressure port	0 to 1 bar				
Perm. pressure at water drain	0 bar				
Port (suction side)	G ¾		G 1	G 1½	
Port (pressure side)	ISO 8434-1-42L (M52x2)				
Electrical data					
Power consumption (50 Hz)	370 W	370 W	750 W	1500 W	2200 W
Connection cable length/connector	Without				
Protection class	IP54				
General data					
Material	Standard: carbon steel; for ship version: stainless steel				
Empty weight	~ 120 kg	~ 120 kg	~ 122 kg	~ 150 kg	~ 175 kg
Perm. ambient temperature range	0 to 40 °C				

* And at least 10 °C below the flashpoint of the fluid used

Model code

LVU-C D - 600 - 1 - G N - 1 1 S - Z - OED - 1/-ZMA-LR

Type

LVU = LowViscosity Unit

Function

C = filtration and coalescence

Operating fluid

D = diesel

Nominal flow rate*

600 = 600 l/h

1200 = 1200 l/h

2000 = 2000 l/h

4000 = 4000 l/h

8000 = 8000 l/h

Version

1 = wall mounted

2 = set up on floor with frame*
Not for ship version

Pump design

G = gear pump

Voltage supply

M = 230 V AC, 50 Hz, 1 ph
(not for ship version)

N = 400 V AC, 50 Hz, 3 ph

G = 440 V AC, 60 Hz, 3 ph

O = 460 V AC, 60 Hz, 3 ph

X = others (on request)

Size

1 = element length 20" (only 600, 1200 and 2000)

2 = element length 40" (only 4000 and 8000)

3 = 2 x element length 20" (only 4000 and 8000;
for installation in container) only for floor set-up

Water drain

1 = manual (only for control type S)

2 = automatic (only for control type P)

Control type

S = standard (see table: control type)

P = premium (see table: control type)

Measurement equipment

Z = without

Clogging indicator

OED = differential pressure indicator, visual/electrical, 75% and 100%

Type code

1 = (you always receive the current type)

Supplementary details

Z = approval certificate 3.1 in acc. with EN 10204
(material certificate for pressure parts)

ZM = ship version WITHOUT approval
(code of classification society must be stated)

ZMA = ship version WITH approval
(code of classification society must be stated)

Classification society code:

LR = Lloyd's Register

BV = Bureau Veritas

DNV = Det Norske Veritas

* Approximate flow rate at 1 bar operating pressure, 50 Hz operation and pumping of diesel; operating under other conditions will result in a different flow rate.

Scope of supply

– LVU-CD (without element)

– Operating and maintenance manual

Combination element must be ordered separately and installed on site before initial start-up. The elements are available in the following versions:

1. Dewatering only
(coalescence + separation)
2. Filtration + dewatering
(filtration, coalescence + separation)

Combination elements

Size 1 in 20"

Designation	Part no.
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

Combination elements

Size 2 in 40"

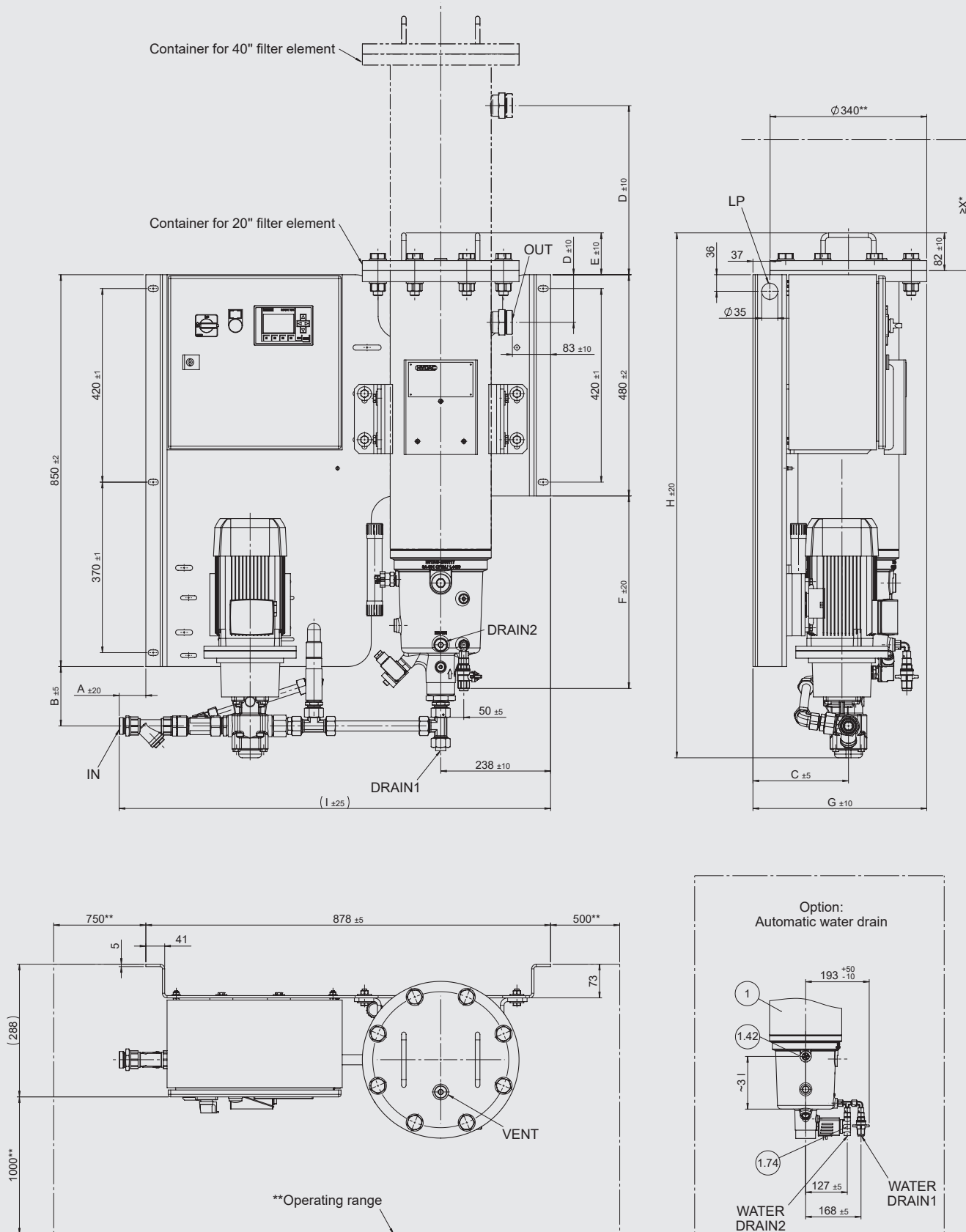
Designation	Part no.
Dewatering only N40ON-DCZ-CD65F	4294900
With filtration 3 µm N40ON-DC003-CD65F	4379223
With filtration 10 µm N40ON-DC010-CD65F	4379224
With filtration 20 µm N40ON-DC020-CD65F	4379415

Controller type

Select one of the following controller types:

	Standard	Premium
E-controller	✓	✓
Water drain	Manual (message when water level is high)	Automatic
Message for contaminated filter	✓	✓
Remote control On / Off	✓	✓
Only for floor set-up		
Water tank with 75% and 100% alarm	X	✓
Tray monitoring	X	✓

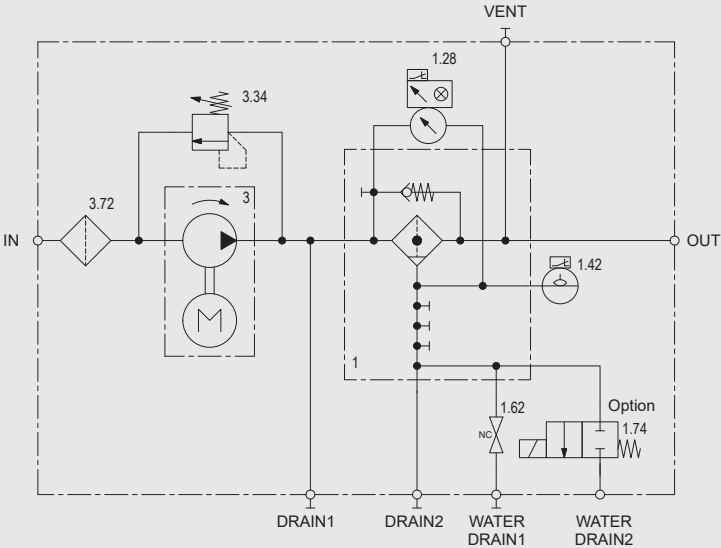
Unit dimensions LVU-CD-600 ... 8000-1...



	A	B	C	D	E	F	G	H	I	X*
LVU-CD-600	3	120	198	94	100	413	376	1124	881	650
LVU-CD-1200	58	129	198	103	91	422	376	1139	936	
LVU-CD-2000	58	129	207	103	91	422	385	1139	936	
LVU-CD-4000	256	226	223	276	470	513	401	1626	1134	1150
LVU-CD-8000	267	226	237	276	470	513	414	1664	1145	

*Element expansion space
All dimensions in mm

Hydraulic diagram LVU-CD-600 ... 8000-1...

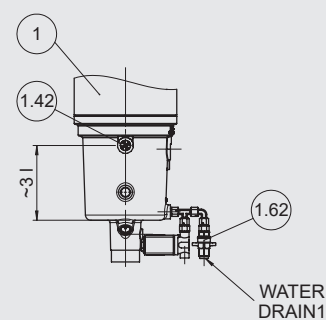
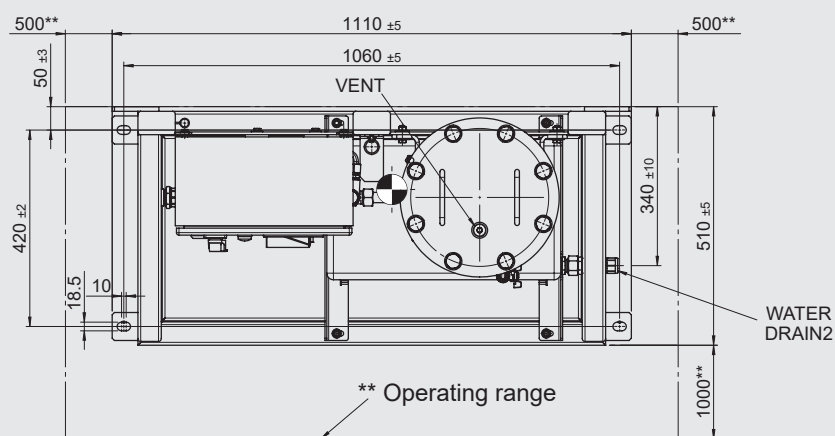
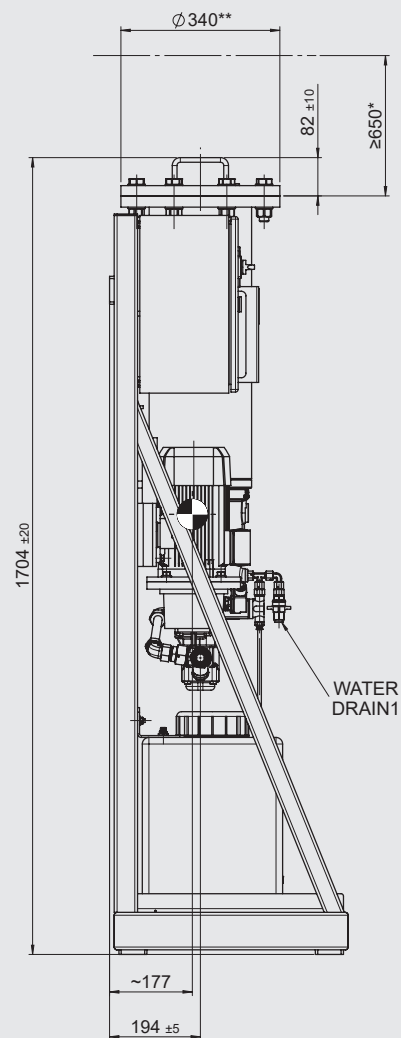
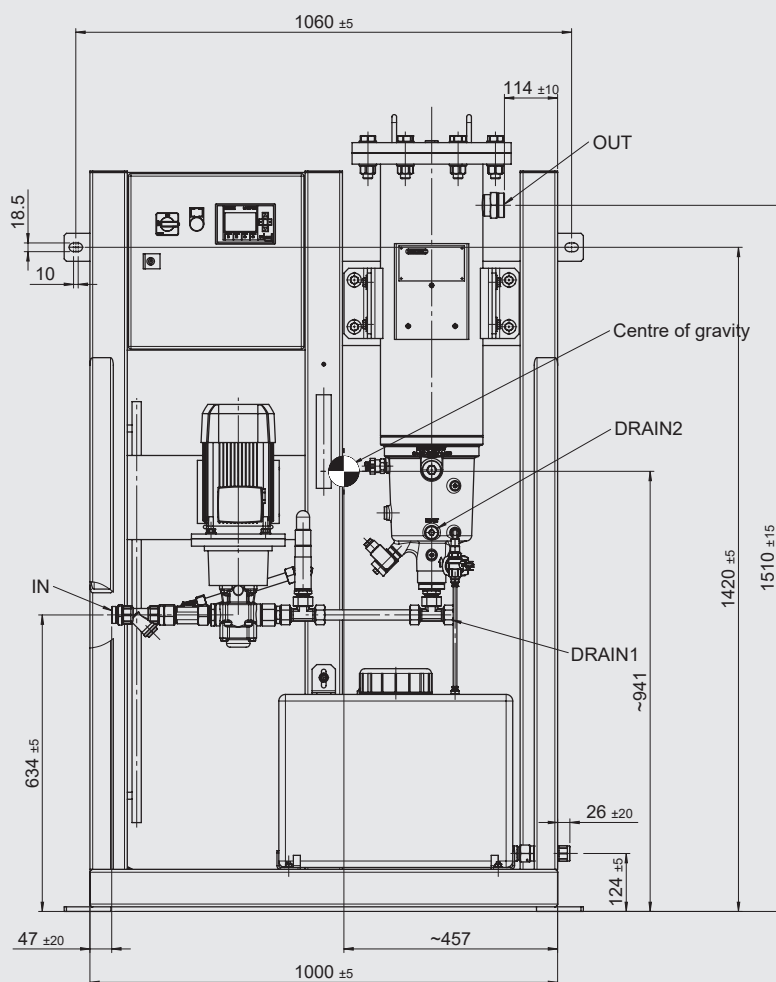


Key

Item	Designation
1	Filter and coalescing housing
1.28	Clogging indicator
1.42	Water sensor
1.62	Emptying / manual water drain ball valve
1.74	Drain valve / automatic water drain (optional)
3	Motor-pump assembly
3.34	Pressure release valve
3.72	Protective screen
IN	Inlet
OUT	Outlet
VENT	Air vent
DRAIN1	Drain on contaminated side
DRAIN2	Drain on clean side
WATER DRAIN1	Emptying / manual water drain
WATER DRAIN2	Automatic water drain (optional)

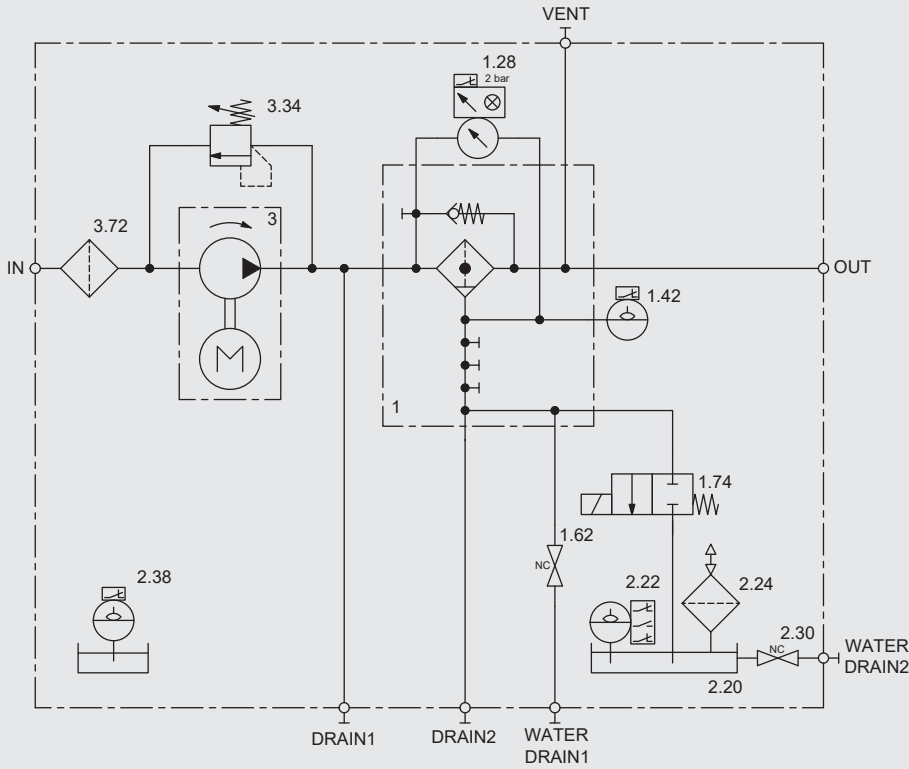
Unit dimensions LVU-CD-2000-2...

*Element expansion space



All dimensions in mm

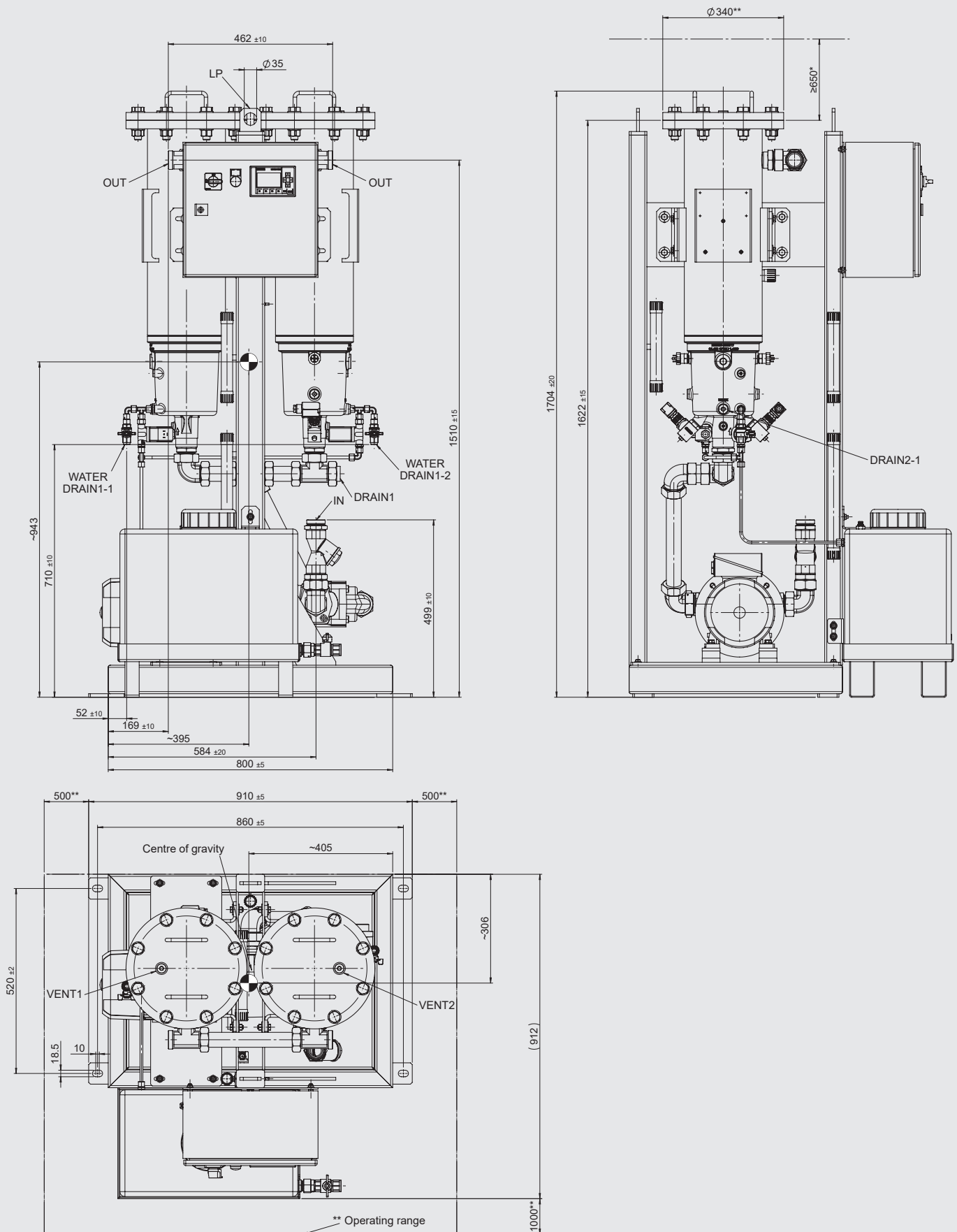
Hydraulic diagram LVU-CD-600 ... 8000-2...



Key

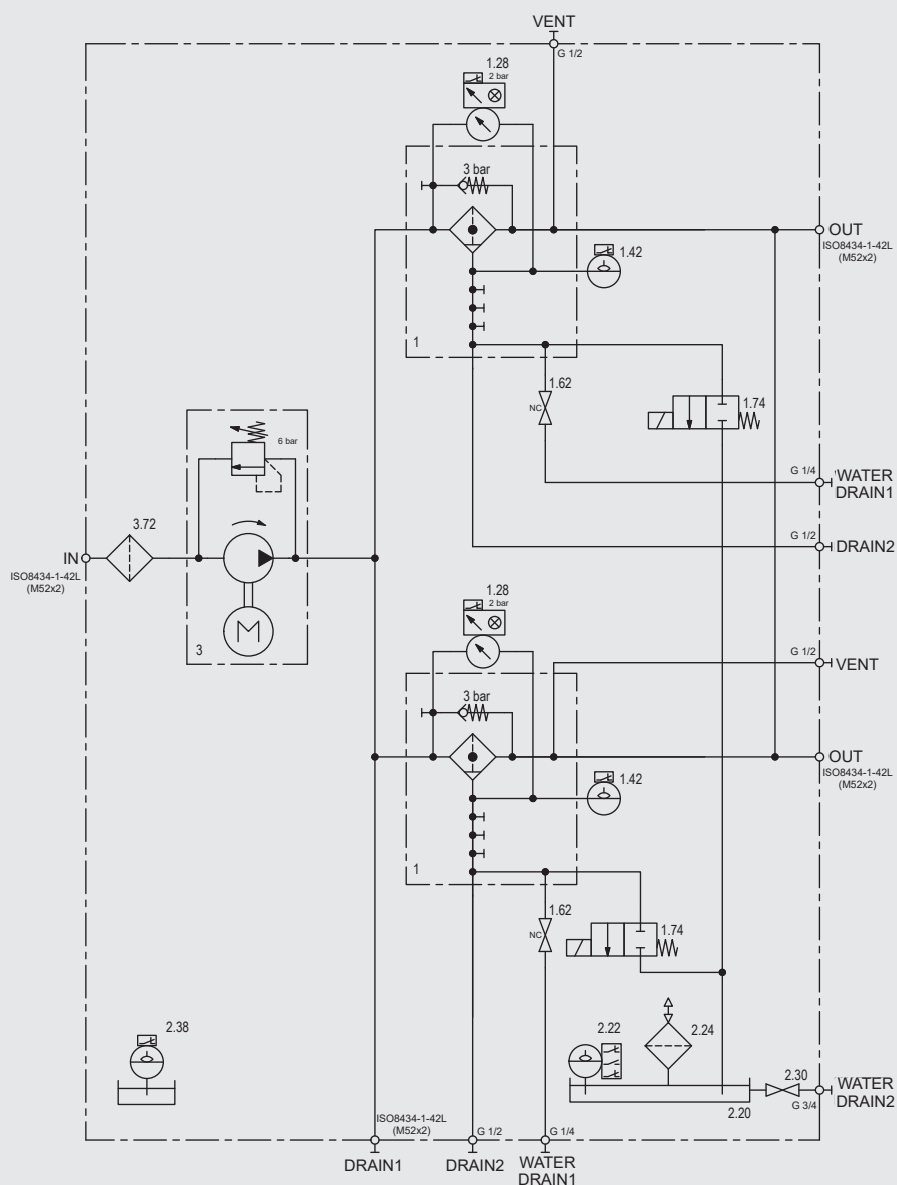
Item	Designation
1	Filter and coalescing housing
1.28	Clogging indicator
1.42	Water sensor
1.62	Emptying / manual water drain ball valve
1.74	Drain valve / automatic water drain
2.20	Water tank
2.22	Level switch (water tank)
2.24	Breather filter
2.30	Ball valve (water tank)
2.38	Float switch
3	Motor/pump group
3.34	Pressure release valve
3.72	Protective screen
IN	Inlet
OUT	Outlet
VENT	Air vent
DRAIN1	Drain on contaminated side
DRAIN2	Drain on clean side
WATER DRAIN1	Emptying / manual water drain
WATER DRAIN2	Emptying water tank

Unit dimensions LVU-CD-8000-3...



All dimensions in mm

Hydraulic diagram LVU-CD-4000 ... 8000-3...



Key

Item	Designation
1	Filter and coalescing housing
1.28	Clogging indicator
1.42	Water sensor
1.62	Emptying / manual water drain ball valve
1.74	Drain valve / automatic water drain
2.20	Water tank
2.22	Level switch (water tank)
2.24	Breather filter
2.30	Ball valve (water tank)
2.38	Float switch
3	Motor/pump group
3.72	Protective screen
IN	Inlet
OUT	Outlet
VENT	Air vent
DRAIN1	Drain on contaminated side
DRAIN2	Drain on clean side
WATER DRAIN1	Emptying / manual water drain
WATER DRAIN2	Emptying water tank

Note

The information in this brochure relates to the operating conditions and fields of application described.

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

Subject to technical modifications.

HYDAC FILTER SYSTEMS GMBH

Industriegebiet

66280 Sulzbach / Saar, Germany

Phone: 49 6897 509-01

E-mail: filtersystems@hydac.com

www.hydac.com