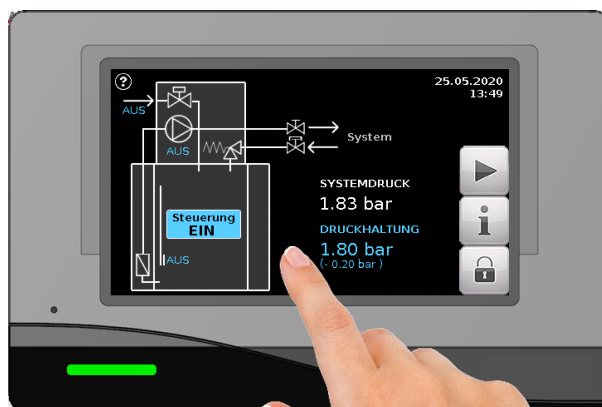




# PRESSURE MAINTENANCE UNITS

Pressure Maintenance | Expansion | Degassing | Resupply



## Price list 2023

English | valid from 01.01.2023

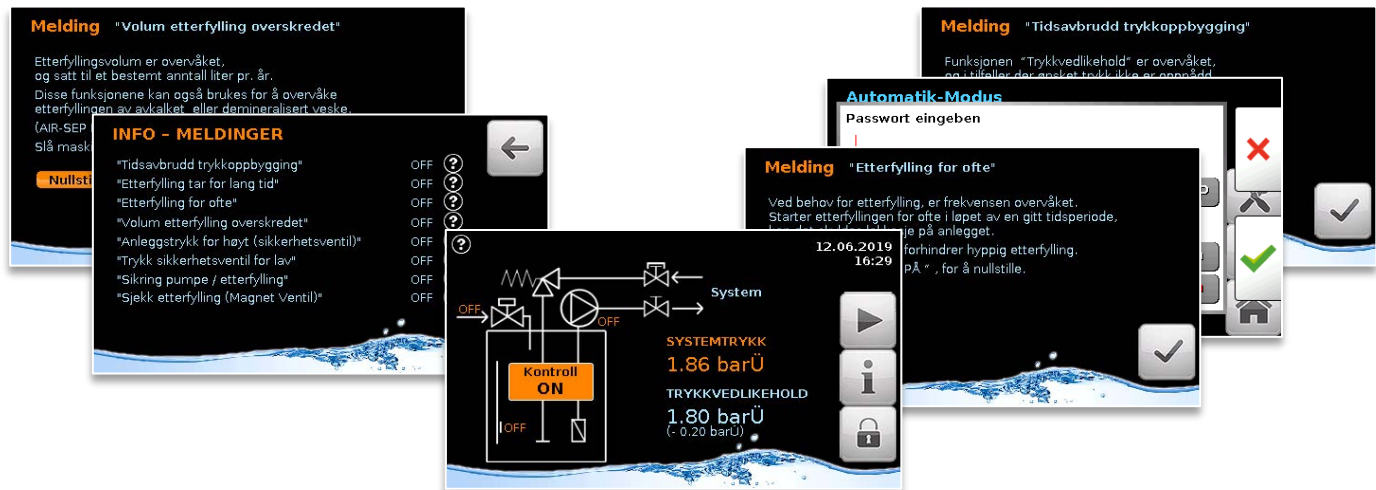
Made in Germany



## AIR-SEP® 4.0 - Pressure maintenance units with AIR-SEP® SmartControl

### New and intuitive operating concept with touch screen colour display

AIR-SEP® SmartControl is a new, fully integrated and freely programmable microprocessor control. It automatically and independently controls and monitors PRESSURE MAINTENANCE, EXPANSION, DEGASSING and RESUPPLY. The touch screen colour display is operated just by a touch of the fingertip.



### AIR-SEP® SmartControl overview:

- TFT touch screen colour display with digital pressure indication
- Fully integrated and freely programmable microprocessor control
- Multifunctional control with fully automatic regulation and monitoring of pressure maintenance, expansion, degassing and resupply
- Automatic and independent operation of AIR-SEP® ION (softening) or AIR-SEP® VE (complete desalination) devices with residual capacity indication
- Graphic menu, real time clock, SD card slot, error memory, potential-free collective error message as well as the recording and monitoring of the resupply accurate to the litre and much more
- Optional MODBUS/TCP interface (via AIR-SEP® SmartControl Interface)

Completely new and intuitive operating concept with touch screen colour display.



# Price list 2023

valid from 01.01.2023



## AIR-SEP® Pressure maintenance, degassing, expansion and resupply with touch screen colour display – ALL IN ONE UNIT

- ▶ Type AS-T 20/2, AS-T 20/4 und AS-T 20/6
- ▶ Type AS-T 48/4 und AS-T 48/6

- pressure maintenance units with control system AIR-SEP® SmartControl (operation via touch screen colour display)
- fully integrated and freely programmable microprocessor control
- fully automatic operation of AIR-SEP® ION (softening) and AIR-SEP® VE (complete desalination) devices with residual capacity indication
- **tank made of stainless steel** for the storage of expansion water, up to a maximum of 95°C (except Type -K, maximum of 55°C)
- unpressurised tank, sealed to the atmosphere
- optionally available with cover, see accessories
- overflow valve, pressure holding pump, quiet in operation
- electrical connection: 230VAC/50Hz



Type	item no.	stat. height max. mWS	pressure maintenance max. bar	dimensions W x D in mm	height in mm	weight kg	catalogue price kr
AS-T 20/2-K	T202K	11	1,6	445 x 495	750	36	29 870
AS-T 20/4-K	T204K	25	3,0	445 x 495	750	37	34 125
AS-T 20/6-K	T206K	40	4,5	445 x 495	750	39	37 425
AS-T 20/2	T202	11	1,6	445 x 495	750	39	46 523
AS-T 20/4	T204	25	3,0	445 x 495	750	40	49 530
AS-T 20/6	T206	40	4,5	445 x 495	750	41	53 011
AS-T 48/4	T484	25	3,0	445 x 495	1260	44	74 106
AS-T 48/6	T486	40	4,5	445 x 495	1260	45	80 320

Choice of type acc. to the enclosed dimensioning table, see page 12

T = Touch-Screen operating unit | Tank made of stainless steel for accepting the cleaning opening (Z4) | K = made of PE

### ▶ Accessories / Options



Accessory 1  
fresh water connection



Accessory 2  
connection system DN 15



Accessory 4  
cleaning opening



AS-MF  
Magnetite filter

	item no.	item description	catalogue price kr
<b>Z1, Z1E, Z2 and Z4 is included when ordering Air-Sep, following prices are for retail.</b>			
Accessory 1	Z1	Fresh water connection in line with DIN 1988 and DIN EN 1717 including DVGW approved system separator type BA and water volume meter	8 952
Accessory 1E	Z1E	Fresh water connection with stainless steel non-return valve and water volume meter (with an existing system separation or without respective legal system requirements)	3 654
Accessory 2	Z2	Connection system DN15 (2 flex. tubes, ball valve, cap ball valve)	1 820
Accessory 4	Z4	Cleaning opening for AS-T 20/.. and AS-T 48/..	2 100
Magnetitefilter	AS-MF	Magnetite filter for mounting on the bottom of the tank	4 400



## AIR-SEP® Pressure maintenance, degassing, expansion and resupply with touch screen colour display – ALL IN ONE UNIT

### ► Type AS-T 100/x bis AS-T 2400/x (up to 6,5bar)

- pressure maintenance units with control system AIR-SEP® SmartControl (operation via touch screen colour display)
- fully integrated and freely programmable microprocessor control (graphic menu, real-time clock, SD card slot, error memory, potential-free collective error message as well as the monitoring of the resupply accurate to within a litre and much more)
- fully automatic operation of AIR-SEP® ION (softening) and AIR-SEP® VE (complete desalination) devices with residual capacity indication
- tank made of stainless steel for the storage of the expansion water, suitable up to a maximum of 95°C
- unpressurised tank, sealed to the atmosphere
- cavity cover for heat insulation
- overflow valve, pressure holding pump, quiet in operation
- electrical connection: 230VAC/50Hz



Type	item no.	stat. height max. mWS	pressure maintenance max. bar	dimensions W x D in mm	Height in mm	weight kg	catalogue price kr
AS-T 100/4	T1004	25	3,0	560 x 560	1170	81	106 960
/6	T1006	40	4,5	"	"	82	113 158
/8	T1008	60	6,5	"	"	85	119 840
AS-T 150/4	T1504	25	3,0	560 x 560	1460	92	121 471
/6	T1506	40	4,5	"	"	93	127 668
/8	T1508	60	6,5	"	"	96	135 121
AS-T 200/4	T2004	25	3,0	560 x 560	1760	103	133 783
/6	T2006	40	4,5	"	"	104	139 892
/8	T2008	60	6,5	"	"	107	145 989
AS-T 400/4	T4004	19	2,4	790 x 790	1590	148	143 865
/6	T4006	40	4,5	"	"	149	150 062
/8	T4008	60	6,5	"	"	152	157 954
AS-T 600/4	T6004	19	2,4	1020 x 1020	1440	210	179 281
/6	T6006	40	4,5	"	"	211	185 479
/8	T6008	60	6,5	"	"	214	191 102
AS-T 1200/4	T12004	19	2,4	1020 x 1020	1880	239	215 607
/6	T12006	40	4,5	"	"	240	228 357
/8	T12008	60	6,5	"	"	243	241 582
AS-T 1600/6   /8	T1600x	40   60	4,5   6,5	1020 x 1020	2380	272   275	on request
AS-T 2400/6   /8 ***	T2400x	40   60	4,5   6,5	1350 x 1350	2400	536   539	on request

For the necessary accessories see page 8, „Accessories/Options“, in case of higher static heights see page 6

Choice of types according to the enclosed dimensioning table, see page 12

T = Touch-Screen operating unit | 100/4 = amount of expansion water [litres] / performance level | \*\*\* delivery time approx. 6-8 weeks



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### AIR-SEP® with 2 pressure holding pumps

**Pressure maintenance, degassing, expansion and resupply  
with touch screen colour display - ALL IN ONE UNIT**

#### ► Type AS-T 100/x-2 bis AS-T 2400/x-2 (up to 6,5bar)

- as before, but with **2 pressure holding pumps, quiet in operation**
- alternating operation (12/12h)
- pressure holding pumps can be shut off individually
- two separate suction lines with one stainless steel non-return valve (foot valve) each
- exchange of a pump in the running system possible
- as an option, parallel operation is possible in case the pressure falls below the minimum pressure
- 2<sup>nd</sup> pressure holding pump mounted beside the control unit
- electrical connection: 230VAC/50Hz



AIR-SEP®  
SmartControl



1x overflow valve



2x pressure holding pump

Type	item no.	stat. height max. mWS	pressure maintenance max. bar	dimensions W x D in mm	height in mm	weight kg	catalogue price kr
<b>AS-T 100/4-2</b>	T1004-2	25	3,0	810 x 560	1170	103	137 100
/6-2	T1006-2	40	4,5	"	"	105	143 300
/8-2	T1008-2	60	6,5	"	"	110	163 100
<b>AS-T 150/4-2</b>	T1504-2	25	3,0	810 x 560	1460	114	151 600
/6-2	T1506-2	40	4,5	"	"	116	157 800
/8-2	T1508-2	60	6,5	"	"	123	177 560
<b>AS-T 200/4-2</b>	T2004-2	25	3,0	810 x 560	1760	125	163 900
/6-2	T2006-2	40	4,5	"	"	127	170 100
/8-2	T2008-2	60	6,5	"	"	134	189 900
<b>AS-T 400/4-2</b>	T4004-2	19	2,4	1040 x 790	1590	170	174 000
/6-2	T4006-2	40	4,5	"	"	172	180 200
/8-2	T4008-2	60	6,5	"	"	179	199 900
<b>AS-T 600/4-2</b>	T6004-2	19	2,4	1020 x 1020	1440	226	209 500
/6-2	T6006-2	40	4,5	"	"	228	215 600
/8-2	T6008-2	60	6,5	"	"	233	234 400
<b>AS-T 1200/4-2</b>	T12004-2	19	2,4	1020 x 1020	1880	255	245 700
/6-2	T12006-2	40	4,5	"	"	257	252 000
/8-2	T12008-2	60	6,5	"	"	262	271 600
<b>AS-T 1600/6-2   8-2</b>	T1600x-2	40   60	4,5   6,5	1020 x 1020	2380	288   295	on request
<b>AS-T 2400/6-2   8-2</b>	T2400x-2	40   60	4,5   6,5	1350 x 1350	2400	552   557	on request

For the necessary accessories see page 8, „Accessories/Options“, in case of higher static heights see page 6

Choice of types according to the enclosed dimensioning table, see page 12

T = Touch-Screen operating unit | 100/4 = amount of expansion water [litres] / performance level | -2 = unit with 2 pressure holding pumps

## AIR-SEP® vertical pressure holding pumps

Pressure maintenance, degassing, expansion and resupply  
with touch screen colour display - ALL IN ONE UNIT

### ► Type AS-T 100/xx bis AS-T 2400/xx (up to 13,5bar)

- pressure maintenance units with control system AIR-SEP® SmartControl (operation via touch screen colour display)
- as before, but application area of a pressure maintenance > 6.5 bar to max. 13.5 bar
- vertical pressure holding pump, adjacent on an expanded base
- optionally available with 2<sup>nd</sup> floor-mounted pressure holding pump for alternate operation and/or parallel operation in case the pressure falls below the minimum pressure
- With power contactor and motor protection relay
- electrical connection: 380-415VAC/50Hz



Type	item no.	stat. height max. mWS	pressure maintenance max. bar	dimensions W x D in mm	height in mm	weight kg	catalogue price kr
AS-T 100/10	T10010	90	10,0	1060 x 560	1230	134	190 400
/13	T10013	125	13,5	"	"	149	217 000
AS-T 150/10	T15010	90	10,0	"	1510	145	204 900
/13	T15013	125	13,5	"	"	160	231 500
AS-T 200/10	T20010	90	10,0	"	1810	156	217 200
/13	T20013	125	13,5	"	"	171	243 800
AS-T 400/10	T40010	90	10,0	1290 x 790	1640	217	227 300
/13	T40013	125	13,5	"	"	232	254 000
AS-T 600/10	T60010	90	10,0	1520 x 1020	1490	306	262 700
/13	T60013	125	13,5	"	"	321	289 300
AS-T 1200/10	T120010	90	10,0	"	1900	335	299 100
/13	T120013	125	13,5	"	"	350	325 600
AS-T 1600/10   /13	T1600xx	90   125	10,0   13,5	"	2380	368   381	on request
AS-T 2400/10   /13	T2400xx	90   125	10,0   13,5	1850 x 1350	2400	590   605	on request
<b>Additional price to / .. -2</b>							<b>additional price</b>
2 <sup>nd</sup> vertical floor-mounted pressure holding pump for alternate operation (12/12h), mounted on an expanded base							kr
AS-T .... /10-2	T .... 10-2	90	10,0	B +300mm			on request
AS-T .... /13-2	T .... 13-2	125	13,5	B +300mm			on request

For the necessary accessories see page 8, „Accessories/Options“

Choice of types according to the enclosed dimensioning table, see page 12

T = Touch-Screen operating unit | 100/4 = amount of expansion water [litres] / performance level | -2 = unit with 2 pressure holding pumps

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Currency: Nkr

### AIR-SEP® Pressure maintenance, degassing, expansion and resupply with touch screen colour display – ALL IN ONE UNIT

#### ► Individual control versions

- as before, but a combination of two AIR-SEP® pressure maintenance units of the same type
- 100% safety due to redundancy (1 overflow valve each, 1 pressure holding pump each and 1 control system AIR-SEP SmartControl each with serial interface to the internal communication)
- alternate operating mode (12/12h)
- the expansion volume can be split or also doubled by means of the 2<sup>nd</sup> unit
- the expansion volume can be further increased by means of the optionally available EB (expansion) tank
- parallel operation possible in case the pressure falls below the minimum pressure
- the pressure maintenance units + EB tanks have to stand next to each other and on the same level
- connection with each other on site
- electrical connection: 2x 230VAC/50Hz (ideally 2 separate phases)



#### Example:

A pressure maintenance with 100% redundancy is required, pressure maintenance: 2.5bar, calculated expansion amount: 360 litres

You choose: 2x AIR-SEP® Type AS-T 400/6 + communication (master/slave) + connection accessories  
(2 pressure holding pumps, 2 overflow valves, 2 AIR-SEP® controls, 2x expansion volume á 400 litres)

We plan your individual concept for pressure maintenance, expansion, degassing and resupply together with you.  
Please contact us!

### AIR-SEP® Expansion vessel to adapt to a larger expansion volume

#### ► Extension: expansion tank AS-EB

- additional expansion tank (EB)** to extend the pressure maintenance units AS-T 200/xx up to AS-T 2400/xx
- tank made of stainless steel for the storage of the expansion water, suitable up to 95°C
- unpressurised tank, sealed to the atmosphere
- one cleaning opening (Z4) per tank is required**
- the pressure maintenance units + EB tanks have to stand next to each other and on the same level

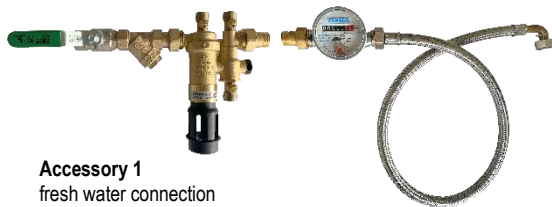


Type	item no.	Additional expansion volume (l)	dimensions W x D in mm	height in mm	weight kg	catalogue price kr
AS-EB 200	EB200	200	560 x 560	1475	75	37 900
AS-EB 400	EB400	400	790 x 790	1305	120	65 700
AS-EB 600	EB600	600	1020 x 1020	1185	182	90 600
AS-EB 1200	EB1200	1.200	1020 x 1020	1595	211	99 800
AS-EB 1600	EB1600	1.600	1020 x 1020	2115	244	on request
AS-EB 2400	EB2400	2.400	1350 x 1350	2130	508	on request

+++ NEW +++ Z5 – Insulation EB-tank; Type EB 200 – EB 2400 16% of catalogue price +++

## AIR-SEP® Accessories and options

### ► Accessories / Options



Accessory 1  
fresh water connection



Accessory 2  
connection system DN 15



Accessory 4  
cleaning opening



AS-MF  
Magnetite filter

	item no.	item description	catalogue price kr
Accessory 1	Z1	Fresh water connection in line with DIN 1988 and DIN EN 1717 including DVGW approved system separator type BA and water volume meter	6 511
Accessory 1E	Z1E	Fresh water connection with stainless steel non-return valve and water volume meter (with an existing system separation or without respective legal system requirements)	2 800
Accessory 3	Z3	Connection system DN25 (2 flex. tubes, ball valve, cap ball valve)	3 685
Accessory 4	Z4	Cleaning opening for AS-T 20/..., AS-T 48/... as well as AS-T 100/... to 2400/...	2 100
Magnetitefilter	AS-MF	Magnetite filter for mounting on the bottom of the tank	4 200
Option	Z23	additional price: <b>Master/Slave</b> - Communication of two pressure maintenance units with one pressure holding pump each for alternate operation	5 834
Option	Z40	additional price: <b>Upper Level Monitoring</b> for the water storage, per pressure maintenance unit	6 300
Option	Z41	additional price: <b>Minimum Pressure</b> in multi pump systems, for the start-up of all pressure holding pumps for a quicker pressure maintenance per AIR-SEP unit	5 700
Option	AS-SCI	<b>AIR-SEP® SmartControl-Interface</b> interface to the control system AIR-SEP® SmartControl <ul style="list-style-type: none"> <li>▪ remote access to AIR-SEP® pressure maintenance units (type AS-T)</li> <li>▪ visualising (PC/smartphone/tablet)</li> <li>▪ sending of error messages via email</li> <li>▪ connection facilities to MODBUS/TCP</li> </ul> interfaces: CAN-Bus, DL-Bus, SD card slot as well as ethernet (RJ45)	9 900
Option	AS-MBRTU	<b>AIR-SEP® Modbus RTU interface (RS 485)</b> serial interface for AIR-SEP AS-T units	10 300





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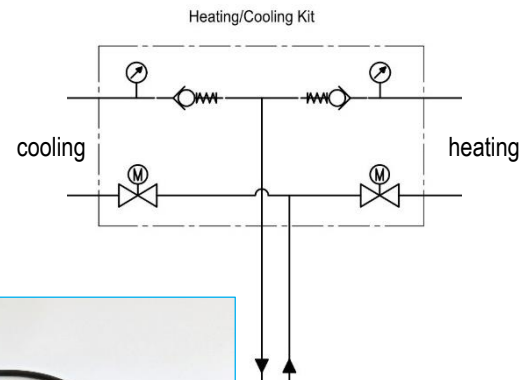
### AIR-SEP® Extension KIT: Heating/Cooling

#### ► Heating / Cooling KIT

The AIR-SEP Heating/Cooling KIT is used in systems with heating and cooling functions (change over / 4-pipe system).

**For this application, only 1 AIR-SEP Pressure Maintenance unit is required!**

Both circuits are monitored individually (while maintaining all function such as pressure maintenance, expansion, degassing und make-up).



consisting of:

- 2x 2-way motor valve
- 2x check valve, stainless steel
- 2x pressure meter (1x from AIR-SEP unit)
- 1x electrical box with connectors
- 1x special program



	item no.	weight kg	catalogue price kr
Heating/Cooling KIT DN15 (for AS-T 20/x and AS-T 48/x)	KIT04	2,5	24 300
Heating/Cooling KIT DN25 (for AS-T 100/x up to AS-T 2400/x)	KIT03	3,5	27 814
Heating/Cooling-KIT DN15 with Fail-Safe-Kit for AIR-SEP Typ AS-T 20/48 ( 4 motor valves with fail safe )	KIT14	6,0	42 180
Heating/Cooling-KIT DN25 with Fail-Safe-Kit for AIR-SEP Typ AS-T 100-2400 (4 motor valves with fail safe)	KIT13	10,5	54 141

For explanations of the "Fail-Safe-Kit" see below.

#### ► Resilience / Fail-Safe-Kit´s

The AIR-SEP Fail-Safe-KIT is used in systems with high security requirements, f.e. in systems without a connection to the wastewater. In case of an accident or failure, the pressure maintenance is completely decoupled from the system.

Thus, f.e. a defective drinking water heat exchanger cannot overflow of the AIR-SEP device and flooding the technical room.



	item no.	item description	catalogue price kr
Kit 12	KIT12	Fail-Safe-Kit DN15 for AIR-SEP type AS-T 20/48 2x 2-way motor valves 1/2" with fail-safe, 1x special program	16 200
Kit 11	KIT11	Fail-Safe-Kit DN25 for AIR-SEP type AS-T 100 up to 2400 2x 2-way motor valves 1" with fail-safe, 1x special program	20 600

Also available with the "Heating/Cooling-KIT" (see above).

## ► Accessories / Options \*\*\* for cooling and refrigerating plants

- AIR-SEP® pressure maintenance units can be used in cold water circuits as well as in circulating systems with glycol/water mixtures
- in case of media temperatures below +14°C we recommend our insulation with vapour seal (accessory 5....)
- PE storage tanks with glycol lifting pump store glycol/water mixtures for a fully automatic resupply, actuated via the AIR-SEP® unit



	item no.	item description	catalogue price kr
Accessory 5	Z5....	Insulation with vapour seal (base price), necessary in case of media temperatures from +14°C up to +6°C	
	Z520	for AIR-SEP type AS-T 20/2 up to /6	7 453
	Z548	for AIR-SEP type AS-T 48/4 up to /6	11 866
	Z5100	for AIR-SEP type AS-T 100/4 up to /8	17 121
	Z5150	for AIR-SEP type AS-T 150/4 up to /8	19 451
	Z5200	for AIR-SEP type AS-T 200/4 up to /8	21 400
	Z5400	for AIR-SEP type AS-T 400/4 up to /8	23 021
	Z5600	for AIR-SEP type AS-T 600/4 up to /8	28 700
	Z51200	for AIR-SEP type AS-T 1200/4 up to /8	34 507
	Z5xxxx	for AIR-SEP type AS-T 1600/6 up to /8 or 2400/6 up to /8 (16% from the device price)	on request
	Z5210	<b>additional price:</b> Insulation with vapour seal for 2nd pressure holding pump (/x-2) or for vertical pressure holding pump (/10 bis /13)	+3 560
	Z5102	<b>additional price:</b> Insulation with vapour seal for 2nd vertical pressure holding pump (/xx-2)	+3 560
Zubehör 51	Z51	<b>additional price:</b> Insulation with vapour seal in special version (additional price), necessary in case of media temperatures between +5°C and -10°C, from type AS-T 100/4 (< -10°C an additional insulation on site is necessary )	+ 5 200
Zubehör 5A	Z5A	Heating sleeve for overflow valve from type AS-T100/4, necessary in case of media temperatures < +2°C	8 677
PE-Behälter	Z13	PE storage tanks for the storage of glycol/water mixture, 200 litres with glycol lifting pump (made of stainless steel)	23 980
PE-Behälter	Z14	as before, but 1,000 litres with glycol lifting pump (made of stainless steel)	31 813
PE-Behälter	Z15	as before, but 2,000 litres with glycol lifting pump (made of stainless steel)	63 280

View at the technical level:  
Insulation with vapor barrier  
and heating jacket (Z5A)



AIR-SEP device with 2nd  
pressure maintenance  
pump (/ x-2)  
including insulation with  
vapor seal



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### AIR-SEP® ION - compact softening device according to VDI<sup>1</sup> 2035 page 1

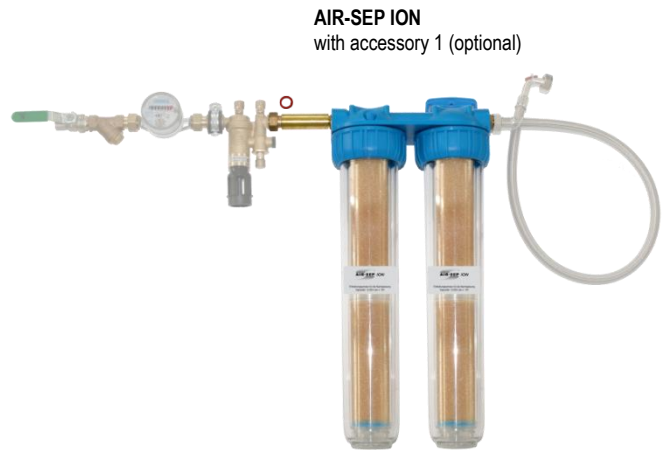
#### ► AIR-SEP® ION

Water softening device for the treatment of make-up water in closed heating or cooling systems. Protection from calcification in heat generators and hot-water heating systems according to VDI 2035 page 1. The water softening is affected through the ion exchange technique using cation exchange resin of highest quality.

consisting of:

- 2x PP case with transparent filter bowl
- 2x softening resin cartridge
- 1x wall bracket

soft water capacity: 12,000 l x °dH  
 throughput max.: 400 l/h  
 operating gauge pressure permissible: 2-8 bar  
 operating temperature permissible: 5-40 °C  
 connections: DN20



AIR-SEP ION  
with accessory 1 (optional)

### AIR-SEP® VE - compact complete desalination device according to DIN EN12828

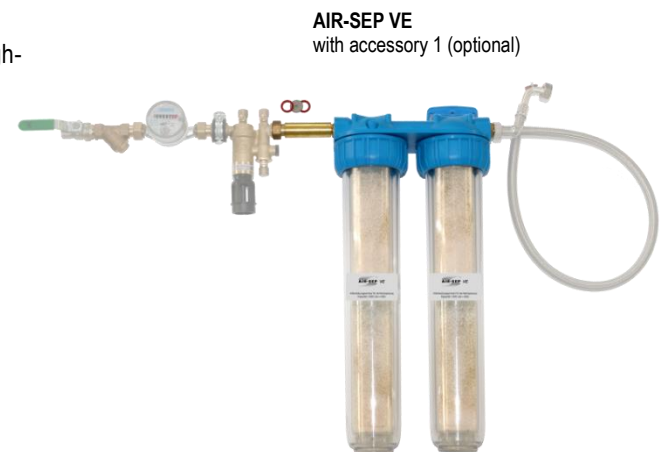
#### ► AIR-SEP® VE

Complete desalination device for the treatment of additional water in closed heating and cooling systems according to the manufacturer's specifications or to DIN EN 12828 respectively. Desalination is affected through the ion exchange technique using high-performance mixed bed exchange resin of highest quality.

consisting of:

- 2x PP cases with transparent filter bowl
- 2x desalination resin cartridge
- 1x wall bracket

desalination capacity: 3,600 l x TSC<sup>2</sup>  
 desalination level up to: 10 µS/cm  
 total hardness: 0.11 °dH  
 throughput max.: 240 l/h  
 operating gauge pressure permissible: 2-8 bar  
 operating temperature permissible: 5-40 °C  
 connections: DN20



AIR-SEP VE  
with accessory 1 (optional)

Type	item no.	dimensions W x D in mm	height in mm	weight kg	catalogue price kr
AIR-SEP ION softening fitting	ION	310 x 600	600	6,5	6 700
Replacement cartridge ION (2 pcs.)	IONEK	2x 75 x 75	510	3,0	2 065
AIR-SEP VE desalination device	VE	310 x 600	600	6,5	7 850
Replacement cartridge VE (2 pcs.)	VEEK	2x 75 x 75	510	3,0	3 380

The system separation required by DIN EN 1717 / DIN 1988 is included in the optional „Accessory 1 – freshwater connection“ (see page 8).

<sup>1</sup> VDI = Verein Deutscher Ingenieure = Association of German Engineers;

<sup>2</sup> TSC = total salt content

