



THE ORIGINAL



The world's largest producer of seawater resistant aluminium air pipe heads
with more than 60 years of experience



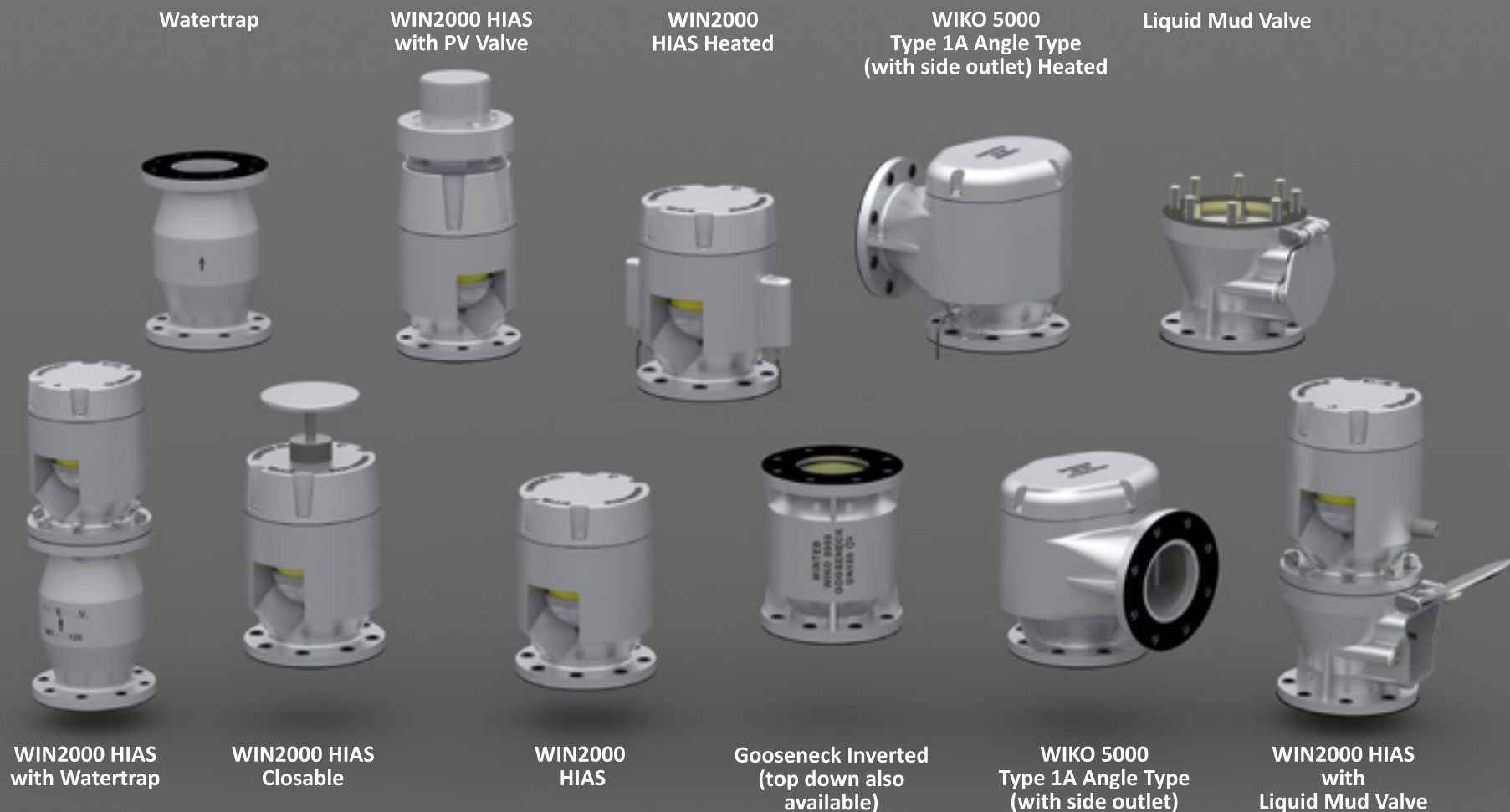
The new standard by



Established in 1952

Made of seawater resistant Aluminium EN1706/DIN1725 | Non corroding | Maintenance free | Smallest design available
No suction blocking | Cost saving | light weight = less fuel = less CO2 emission | Approved by all major classification societies

The world's largest producer of seawater resistant aluminium air pipe heads Innovative and high quality products



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with more than 60 years of experience

THE BEST CAN GET BETTER!

PATENTED HIAS TECHNOLOGY (NR 2010510/US NR 9441751)

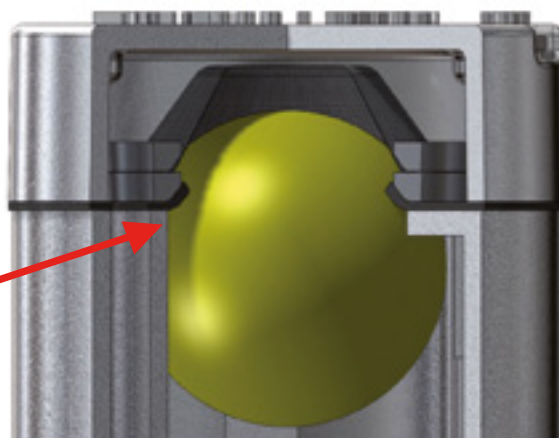
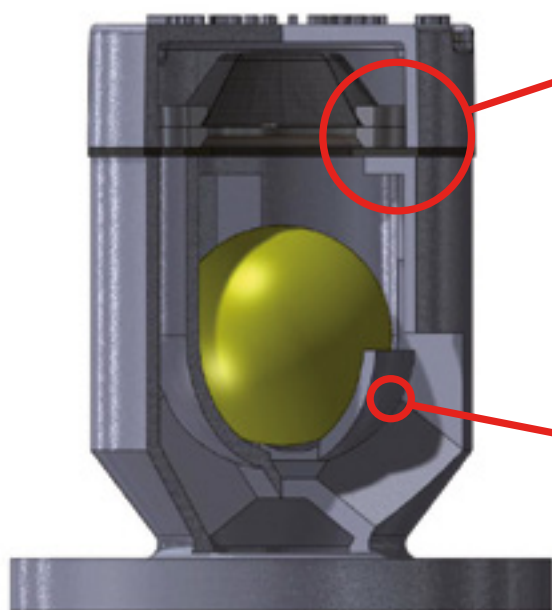
+

IMPROVED LEAKAGE PROTECTION

=

HIAS 2.0

BENEFIT FROM THE BEST:



Traditional O-ring sealing replaced by simplified sealing solution. Resulting in:

1. Less spare parts
2. Saving of costs
3. Even better leakage protection

HIAS TECHNOLOGY

(Patent nr 2010510 / US NR 9441751)

The Ball rests in a 360° Chamber, which results in:

4. Inlet air speeds of 40 m/s and higher!
5. No more suction blocking
6. Anti Splash function
7. Anti Noise function

THE NEW STANDARD BY WINTEB

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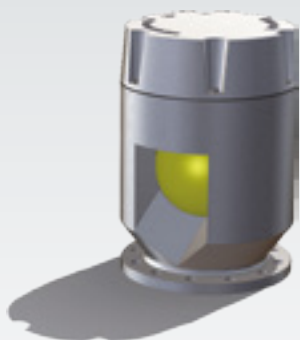
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WINTEB SETS A NEW STANDARD IN AIR VENTING!

PATENTED HIAS TECHNOLOGY

(PATENT NR 2010510/US NR 9441751)

OLD VERSION

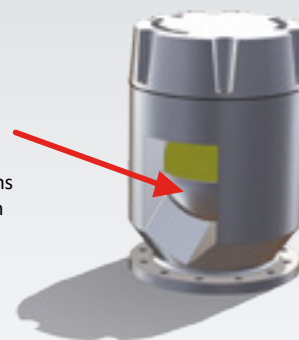


HIGH INLET AIR SPEED EXECUTION

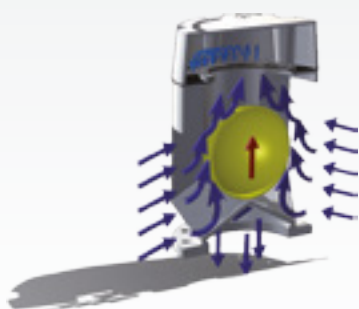
Optimized Ball-Chamber and inlet ports for higher airspeeds:

The Ball rests in a 360° Chamber

Outside- and installation dimensions are the same as the current version



OLD VERSION

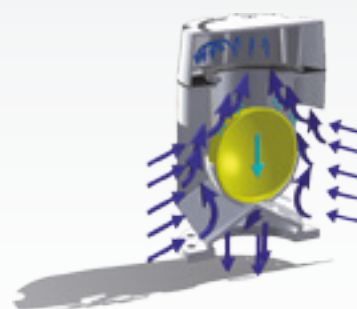


Sectional View

Airflow visualisation

Due to the airflow around almost the entire ball, the lift effect on the ball by the airflow, will be relatively high when used on e.g. stability tanks with excessively high airspeeds. The resulting force of the airflow onto the ball will mainly be directed upwards (red arrow).

HIGH INLET AIR SPEED EXECUTION



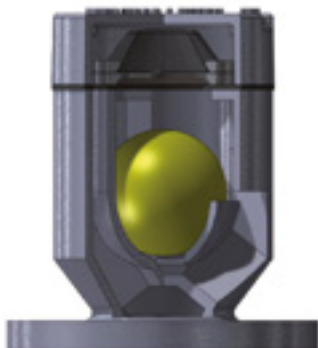
Sectional View

Airflow visualisation

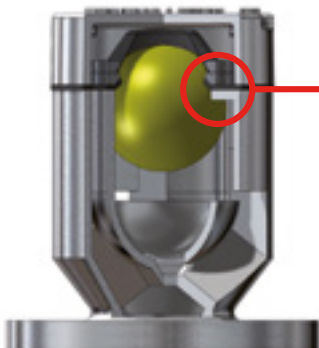
The airflow is deflected from the lower half of the ball: even at high airspeeds, there will be almost no lift effect on the ball by the airflow. The resulting force of the airflow onto the ball will mainly be directed downwards (light blue arrow).

IMPROVED LEAKAGE PROTECTION:

1



2



3



New Sealing

When water hits the ball, the floatball lifts and shuts the valve (1, 2). No leakage will occur (3), because the sealing moves itself around the floatball and prevents water coming into the pipe.

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Investing in Winteb Air Pipe Heads is beneficial in the long term, saving maintenance, replacement and costs.

For more information and a complete overview of our product range, please check www.winteb.com

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Innovative and high quality products

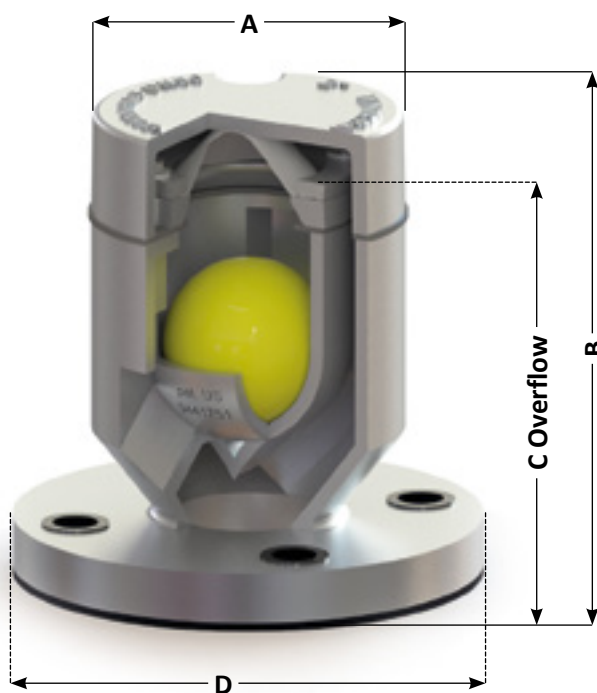


Options:

1. Closing device*
2. Screen*
3. Threaded connection (BSP/NPT) only for aluminium pipes
4. Victaulic connection
5. Small flange connection
6. Powder (epoxy) coating
7. Sounding pipe

* Either option 1 or 2 (Closing device or screen)
- HFO: Winteb strongly advises to use VITON Gaskets for HFO tanks & Bunker stations with temperatures exceeding +60°C
- Winteb advises to not use a screen on Ballast tanks unless required by class
- Please check classification rules if closable type is allowed to be used on tanks containing liquids such as ballast water tanks

WINTEB BV PROUDLY PRESENTS: The **High Inlet Air Speed Execution** **HIAS**



The patented HIAS technology has significantly increased the maximum inlet air speed. Especially designed for stability tanks and anti-heeling tanks.

WIN2000 HIAS is certified as watertight, according to IMO3573 regulations

NB: Sizes DN300-DN500 are supplied with lifting eye (not in combination with closing device)



WIN2000 HIAS WITH SCREEN (screen is optional)

	DN50 (2")	DN65 (2 1/2")	DN80 (3")	DN100 (4")	DN125 (5")	DN150 (6")	DN175 (7")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")	DN400 (16")	DN450 (18")	DN500 (20")
A (mm)	Ø110	Ø130	Ø160	Ø195	Ø236	Ø275	Ø275	Ø338	Ø417	Ø560	Ø645	Ø728	Ø740	Ø887
B ±2.5 (mm)	170	200	230	275	319	383	383	480	595	747	876	977	1146	1186
C (with screen) (mm)	147	180	194	238	273	323	323	397	495	620	705	779	960	903
D	Flange connection according to any standard													
Ball diameter (mm)	Ø60	Ø75	Ø90	Ø105	Ø130	Ø155	Ø155	Ø200	Ø250	Ø325	Ø360	Ø400	Ø480	Ø530
Weight (kg)	2	2.75	4	6.5	9	13	14	20	32	63	88	114	134	180
Flow rate at 0.25 bar(m3/h)**	19	28	46	73	114	182	210	325	469	850	1025	1300	1490	2150
Flow rate at 0.25 bar(m3/h) ***	18	25	42	68	101	169	195	279	443	805	925	1175	1375	1925
Max. inlet air speed (m/s)	17	17.5	38	58	59	42	42	27	15	39	36	27	34	29

** Please note that these values correspond with the WIN2000 HIAS **without screen**, flowrate is with water being pumped through the air pipe head.

*** Please note that these values correspond with the WIN2000 HIAS **with screen mesh 18**, flowrate is with water being pumped through the air pipe head.

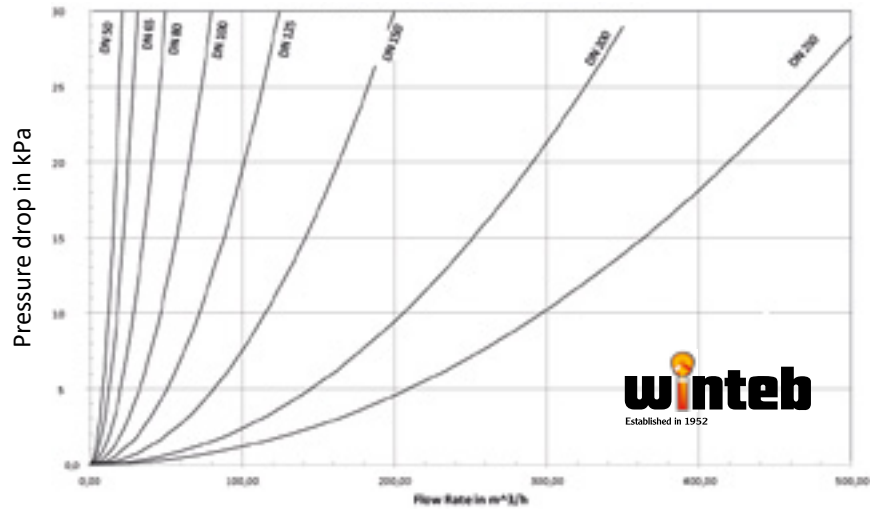
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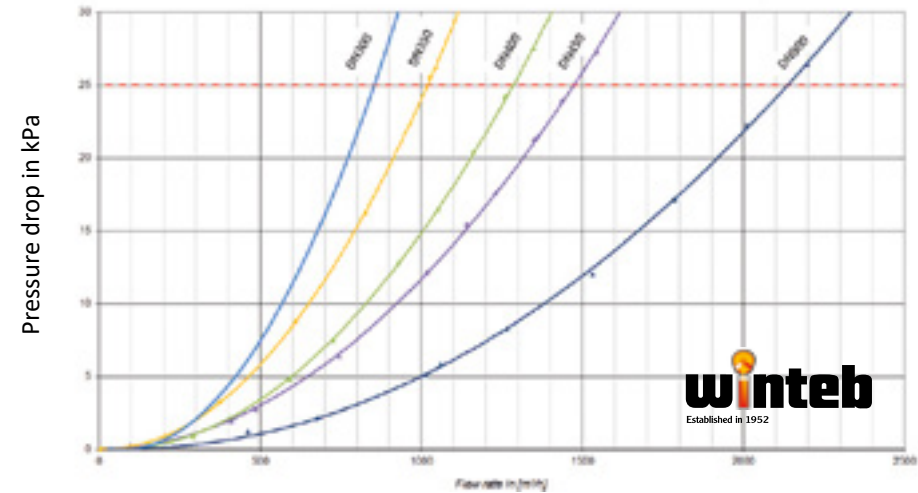
WIN2000 HIAS AIR PIPE HEADS: PRESSURE DROP VS. FLOW RATE CHARACTERISTICS

According to classification societies the air pipe head characteristic curves are to be taken into consideration at the design stage of the ballast system. Flowrate in m³/h

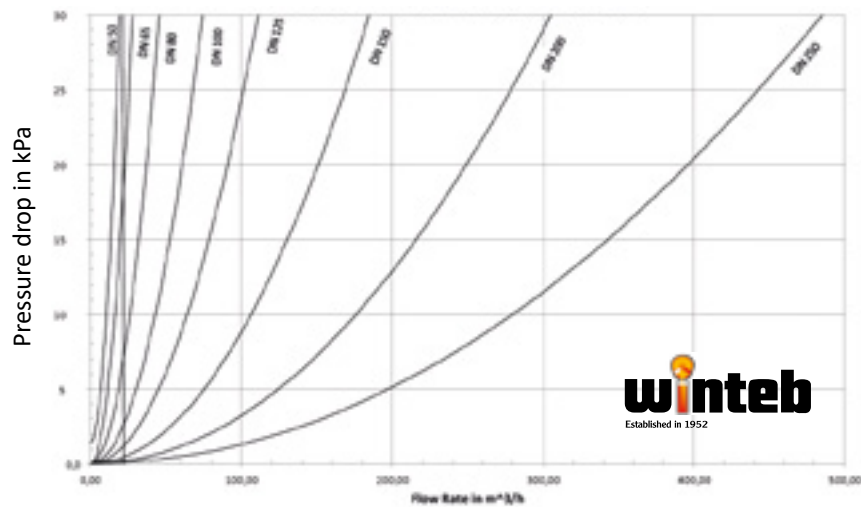
WIN2000 HIAS without screen sizes DN50-250



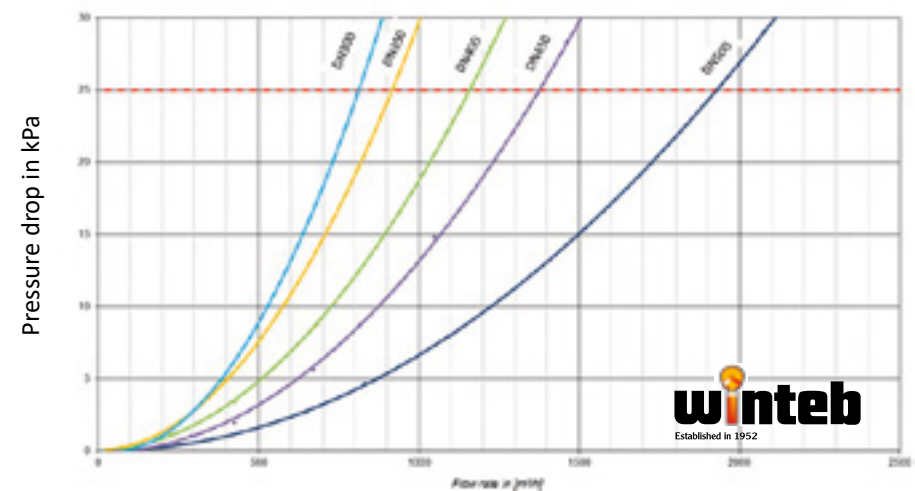
WIN2000 HIAS without screen size DN300-500



WIN2000 HIAS with screen mesh 18 sizes DN50-250



WIN2000 HIAS with screen mesh 18 size DN300-500



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WIN2000 HIAS WITH PROTECTION SHIELD



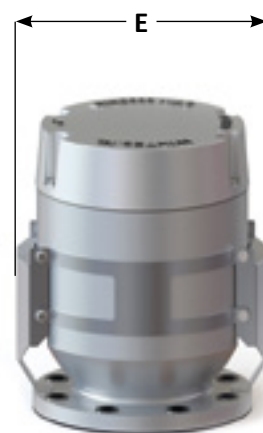
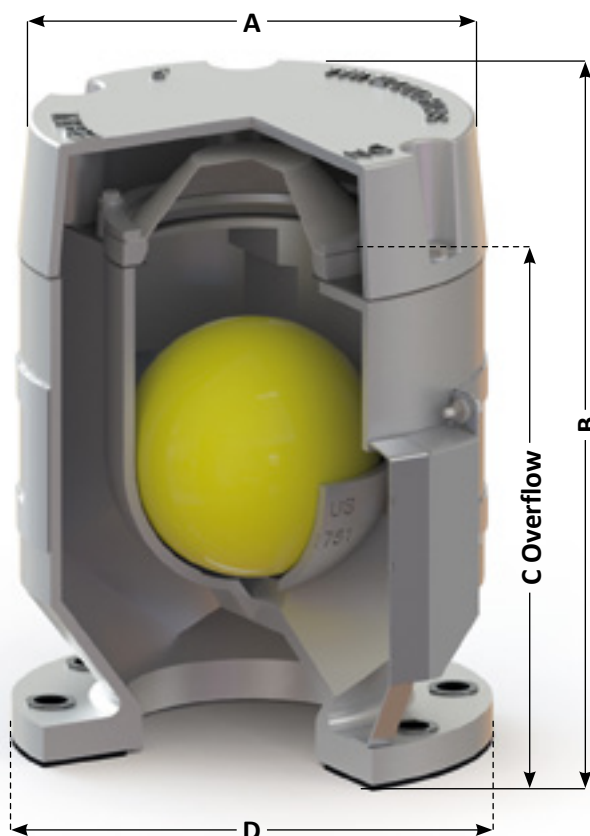
Options:

1. Closing device*
2. Screen
3. Small flange connection
4. Powder (epoxy) coating
5. Sounding pipe*

* Either option 1 or 5

(Closing device or Sounding pipe)

- HFO: Winteb strongly advises to use VITON Gaskets for HFO tanks & Bunker stations with temperatures exceeding +60°C
- Winteb advises to not use a screen on Ballast tanks unless required by class
- Please check classification rules if closable type is allowed to be used on tanks containing liquids such as ballast water tanks



WIN2000 HIAS PROTECTION SHIELD (screen is optional)

	DN50 (2")	DN65 (2 ½")	DN80 (3")	DN100 (4")	DN125 (5")	DN150 (6")	DN175 (7")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")
A (mm)	Ø110	Ø130	Ø160	Ø195	Ø236	Ø275	Ø275	Ø338	Ø417	Ø560	Ø645
B ±2.5 (mm)	170	200	230	275	319	383	383	480	595	747	876
C (with screen) (mm)	147	180	194	238	273	323	323	397	495	620	705
D	Flange connection according to any standard										
E	156	180	203	240	285	328	328	422	504	660	742
Ball diameter (mm)	Ø60	Ø75	Ø90	Ø105	Ø130	Ø155	Ø155	Ø200	Ø250	Ø325	Ø360
Weight (kg)	2.4	3.4	4.5	7	9	14	15	22	34	69	94
Flow rate at 0.25 bar(m3/h)**	19	28	46	73	114	182	210	325	469	850	1025
Flow rate at 0.25 bar(m3/h) ***	18	25	42	68	101	169	195	279	443	805	925
Max. inlet air speed (m/s)	17	17.5	38	58	59	42	42	27	15	39	36

** Please note that these values correspond with the WIN2000 HIAS **without screen**, flowrate is with water being pumped through the air pipe head.

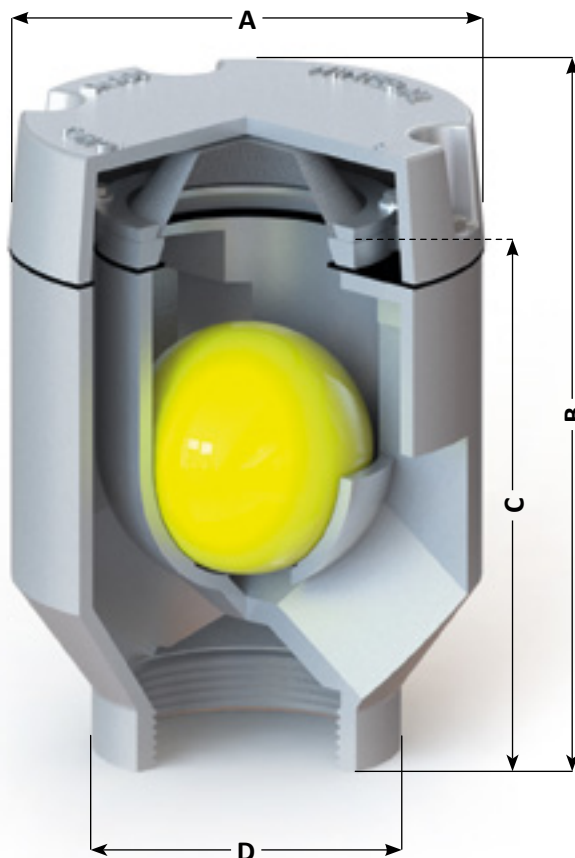
*** Please note that these values correspond with the WIN2000 HIAS **with screen mesh 18**, flowrate is with water being pumped through the air pipe head.

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Innovative and high quality products

WIN2000 HIAS WITH THREADED CONNECTION BSP AND SCREEN



Options:

1. Closing device*
2. Screen*
3. Powder (epoxy) coating
4. Sounding pipe

* Either option 1 or 2 (Closing device or screen)

- HFO: Winteb strongly advises to use VITON Gaskets for HFO tanks & Bunker stations with temperatures exceeding +60°C
- Winteb advises to not use a screen on Ballast tanks unless required by class

	DN32 (1 ¼")	DN40 (1 ½")	DN50 (2")	DN65 (2 ½")	DN80 (3")	DN100 (4")	DN125 (5")
A (mm)	Ø110	Ø110	Ø110	Ø130	Ø160	Ø195	Ø233
B ±2.5 (mm)	164	164	164	203	230	280	318
C Overflow (with screen) (mm)	144	144	144	173	198	241	270
D (mm)	Ø 67.3	Ø67.3	Ø74	Ø85	Ø110	Ø128	Ø160
Weight (kg)	1.3	1.3	1.3	2	3.1	5.2	7.7
Ball diameter (mm)	Ø60	Ø60	Ø60	Ø75	Ø90	Ø105	Ø130
Flow rate at 0.25 bar (m3/h)*	19	19	19	28	46	73	114
Flow rate at 0.25 bar (m3/h)**	18	18	18	25	42	68	101
Max. inlet air speed (m/s)	17	17	17	17.5	38	58	59
Inlet air flow rate at max. inlet air speed (m3/h)	135	135	135	209	612	1620	2590

* Please note that these values correspond with the WIN2000 Type 1 **without screen**, flowrate is with water being pumped through the air pipe head.

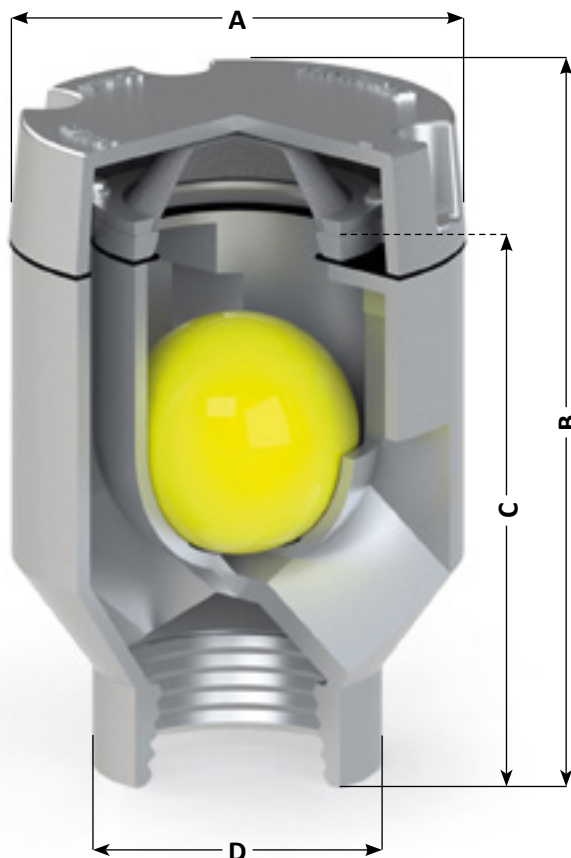
** Please note that these values correspond with the WIN2000 Type 1 **with screen mesh 18**, flowrate is with water being pumped through the air pipe head.

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WIN2000 HIAS WITH THREADED CONNECTION NPT AND SCREEN



Options:

1. Closing device*
2. Screen*
3. Powder (epoxy) coating
4. Sounding pipe

* Either option 1 or 2 (Closing device or screen)

- HFO: Winteb strongly advises to use VITON Gaskets for HFO tanks & Bunker stations with temperatures exceeding +60°C

- Winteb advises to not use a screen on Ballast tanks unless required by class

	DN32 (1 ¼")	DN40 (1 ½")	DN50 (2")	DN65 (2 ½")	DN80 (3")	DN100 (4")	DN125 (5")
A (mm)	Ø110	Ø110	Ø110	Ø130	Ø160	Ø195	Ø233
B ±2.5 (mm)	174	174	174	208	240	290	328
C Overflow (with screen) (mm)	154	154	154	183	208	251	280
D (mm)	Ø 67.3	Ø67.3	Ø74	Ø85	Ø110	Ø128	Ø160
Weight (kg)	1.3	1.3	1.3	2.1	3.25	5.4	8.1
Ball diameter (mm)	Ø60	Ø60	Ø60	Ø75	Ø90	Ø105	Ø130
Flow rate at 0.25 bar (m3/h)*	19	19	19	28	46	73	114
Flow rate at 0.25 bar (m3/h)**	18	18	18	25	42	68	101
Max. inlet air speed (m/s)	17	17	17	17.5	38	58	59
Inlet air flow rate at max. inlet air speed (m3/h)	135	135	135	209	612	1620	2590

* Please note that these values correspond with the WIN2000 Type 1 **without screen**, flowrate is with water being pumped through the air pipe head.

** Please note that these values correspond with the WIN2000 Type 1 **with screen mesh 18**, flowrate is with water being pumped through the air pipe head.

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WIN2000 HIAS AIR PIPE HEADS WITH SMALL FLANGE CONNECTION

Options

1. Closing device*
2. Screen*
3. Powder (epoxy) coating
5. Sounding pipe

* Either option 1 or 2 (Closing device or screen)

- HFO: Winteb strongly advises to use VITON Gaskets for HFO tanks & Bunker stations with temperatures exceeding +60°C
- Winteb advises to not use a screen on Ballast tanks unless required by class
- Please check classification rules if closable type is allowed to be used on tanks containing liquids such as ballast water tanks

Table 1: WIN2000 HIAS Air Pipe Head DN50-DN125 dimensions

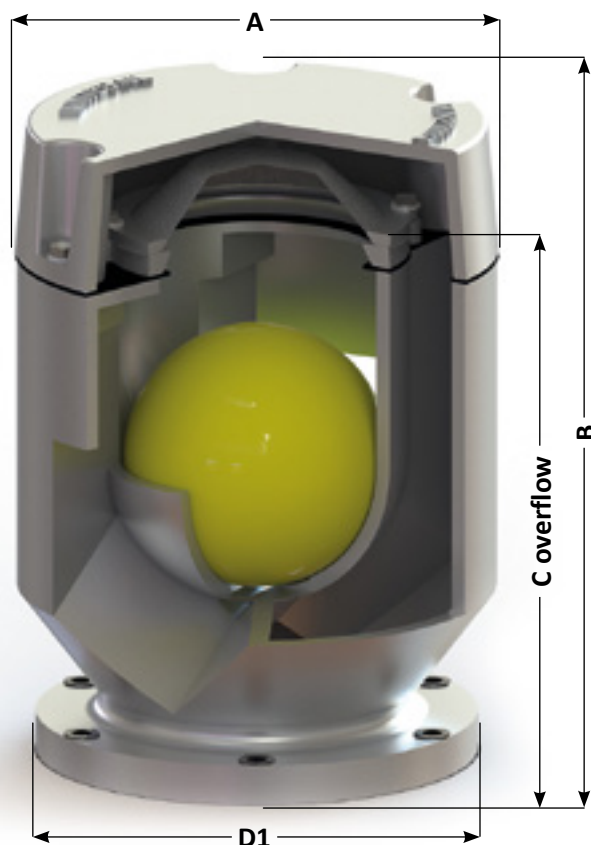
	DN50 (2")	DN65 (2 ½")	DN80 (3")	DN100 (4")	DN125 (5")
A (mm)	Ø110	Ø130	Ø160	Ø195	Ø236
B ±2.5 (mm)	165	200	230	270	319
C Overflow (with screen) (mm)	147	180	194	238	270
D1	Small flange connection: see Table 2 below				
Ball diameter (mm)	Ø60	Ø75	Ø90	Ø105	Ø130
Weight (kg)	2	2.75	4	6.5	9
Flow rate at 0.25 bar (m3/h)**	19	28	46	73	114
Flow rate at 0.25 bar (m3/h) ***	18	25	42	68	101
Max. inlet air speed (m/s)	17	17.5	38	58	59

** Please note that these values correspond with the WIN2000 HIAS without screen, flowrate is with water being pumped through the air pipe head.

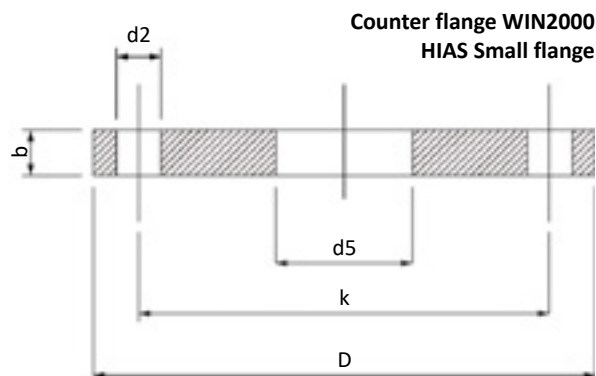
*** Please note that these values correspond with the WIN2000 HIAS with screen mesh 18, flowrate is with water being pumped through the air pipe head.

Table 2: Small flange dimensions

	DN50 (2")	DN65 (2 ½")	DN80 (3")	DN100 (4")	DN125 (5")
D (mm)	126	141	158	183	217
b (mm)	15	15	15	20	20
k (mm)	108	123	140	164	198
d5 (mm)	61.1	77.1	90.3	115.9	141.6
d2 (mm)	11	11	11	11	11
OD pipe (mm)	60	70	90	110	140
Weight of flange (kg)	1.11	1.31	1.55	2.47	3.33
Bolts nxM	4xM10	4xM10	4xM10	6xM10	6xM10



WIN2000 HIAS with screen and small flange connection
(screen is optional)



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WIN2000 HIAS AIR PIPE HEADS WITH CLOSING DEVICE

Options:

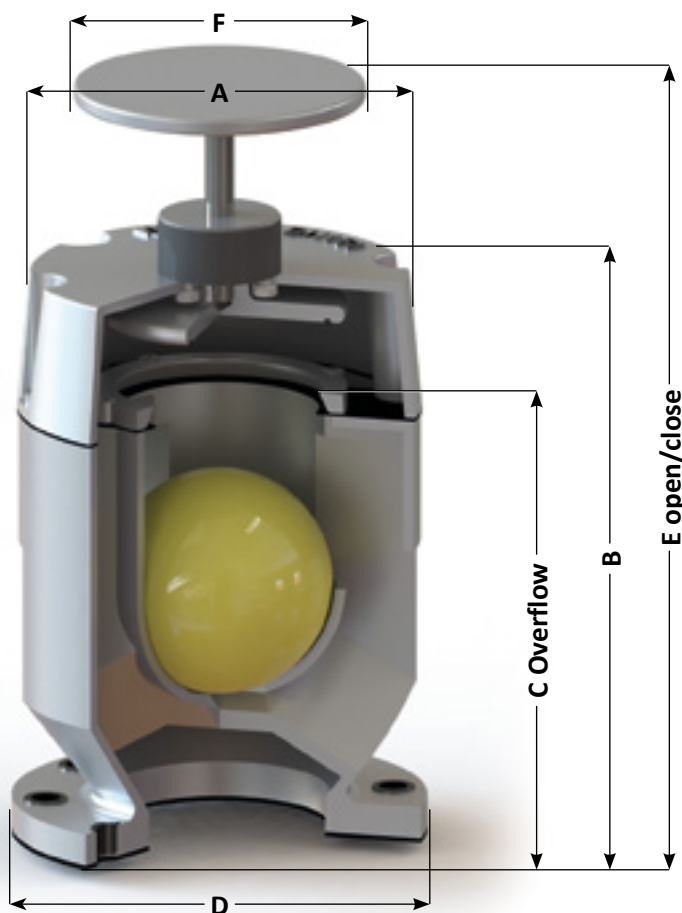
1. Screen
3. Threaded connection, only for aluminium pipes.
4. Powder (epoxy) coating
5. Victaulic connection
6. Small flange connection

- Option 1 not in combination with option 2 or 5 and 6

- HFO: Winteb strongly advises to use VITON Gaskets for HFO tanks & Bunker stations with temperatures exceeding +60°C

- Winteb advises to not use a screen on Ballast tanks unless required by class

- Please check classification rules if closable type is allowed to be used on tanks containing liquids such as ballast water tanks



	DN50 (2")	DN65 (2 ½")	DN80 (3")	DN100 (4")	DN125 (5")	DN150 (6")	DN175 (7")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")	DN400 (16")	DN450 (18")
A (mm)	Ø110	Ø130	Ø160	Ø195	Ø236	Ø275	Ø275	Ø343	Ø417	Ø570	Ø640	Ø728	Ø740
B ±2.5 (mm)	185	230	251	293	345	401	401	480	595	747	876	977	1146
C (Overflow) (mm)	143	172	190	229	268	316	316	390	478	600	695	760	925
D	Flange connection according to any standard												
E (Open/close) (mm)	248/ 233	300/ 270	327/ 300	390/ 355	452/ 405	529/ 485	529/ 485	649/ 584	756/ 680	932/ 838	1041/ 943	1189/ 1046	1317/ 1222
F (mm)	Ø100	Ø100	Ø100	Ø120	Ø120	Ø200	Ø200	Ø200	Ø300	Ø300	Ø300	Ø300	Ø300
Ball diameter (mm)	Ø60	Ø75	Ø90	Ø105	Ø130	Ø155	Ø155	Ø200	Ø250	Ø325	Ø360	Ø400	Ø480
Weight incl. closing device (kg)	2.5	3.5	4.75	7.5	10	14	15	21.5	34	65	90	117	138
Flow rate ar 0.25 bar (m3/h)**	19	28	46	73	114	182	210	325	469	850	1023	1300	1490
Flow rate ar 0.25 bar (m3/h)***	18	25	42	68	101	169	195	279	443	805	925	1175	1375
Max. inlet air speed (m/s)	17	17.5	38	58	59	42	42	27	15	39	36	27	34

** Please note that these values correspond with the WIN3000 **without screen**, flowrate is with water being pumped through the air pipe head.

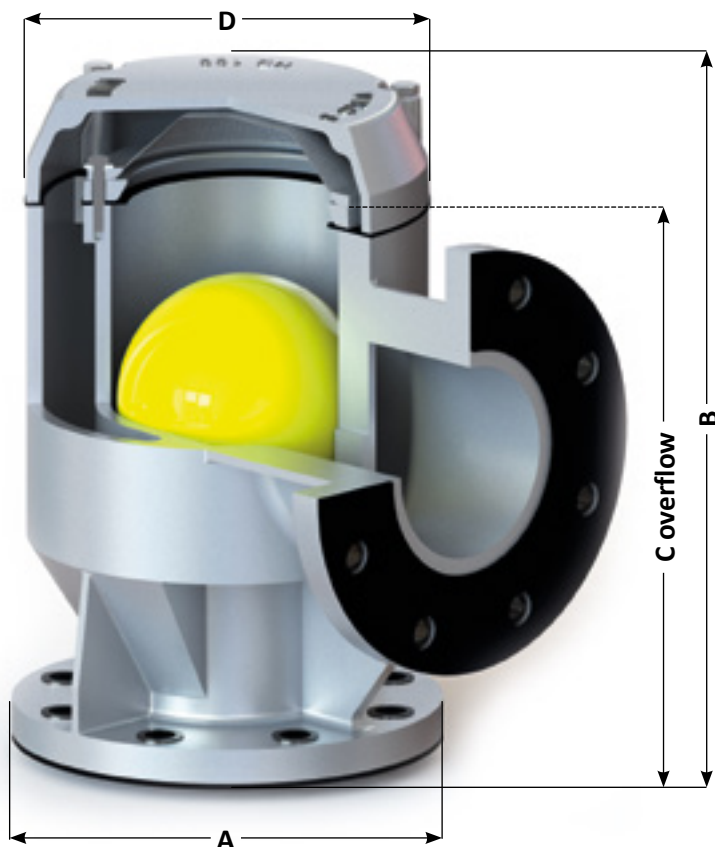
*** Please note that these values correspond with the WIN3000 **with screen mesh 18**, flowrate is with water being pumped through the air pipe head.

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WIKO5000 TYPE1-A AIR PIPE HEADS DN50-DN125



Options:

1. Closing device*
2. Screen*
3. Flexible Coupling
4. Victaulic connection
5. Small flange connection
6. Powder (epoxy) coating – mandatory size DN300-400**
7. Sounding pipe

* Either option 1 or 2 (Closing device or screen)

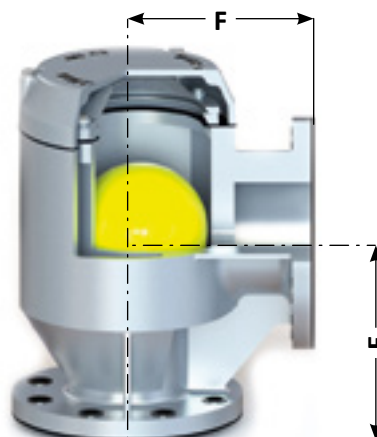
** WIKO5000 type 1A has to be powdercoated because of warranty reasons

- HFO: Winteb strongly advises to use VITON Gaskets for HFO

tanks & Bunker stations with temperatures exceeding +60°C

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- Please check classification rules if closable type is allowed to be used on tanks containing liquids such as ballast water tanks



WIKO5000 type 1A is certified as watertight,
according to IMO3573 regulations

WIKO5000 Type 1A Air Pipe Head

Also available with de-icing system

Picture below shows a WIKO5000 Type 1A DN50 with de-icing system



	DN50 (2")	DN65 (2 1/2")	DN80 (3")	DN100 (4")	DN125 (5")
A	Flange connection according to any standard				
B ±2.5 (mm)	258	258	258	342	342
C Overflow (mm)	210	210	210	290	290
D (mm)	Ø156	Ø156	Ø156	Ø205	Ø205
E (mm)	105	112.5	122.5	170	170
F (mm)	130	130	130	175	175
Ball diameter (mm)	Ø90	Ø90	Ø90	Ø130	Ø130
Weight (kg)	4.5	5	6	10	12
Flow rate at 0.25 bar (m3/h)***	28.7	31.4	35.7	72.6	76.9
Max. inlet air speed (m/s)	16.5	10	7	10	8.5

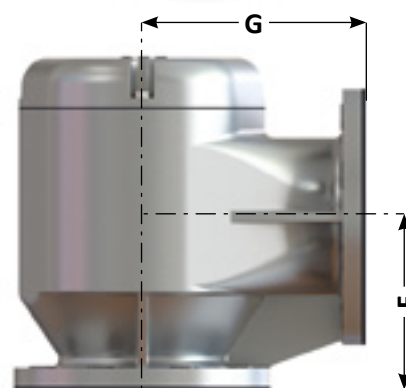
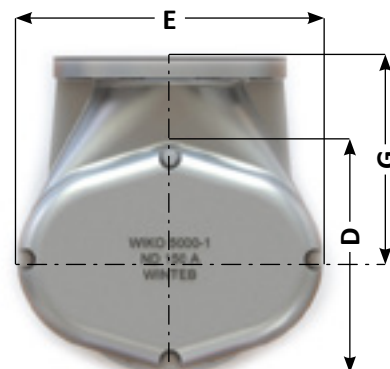
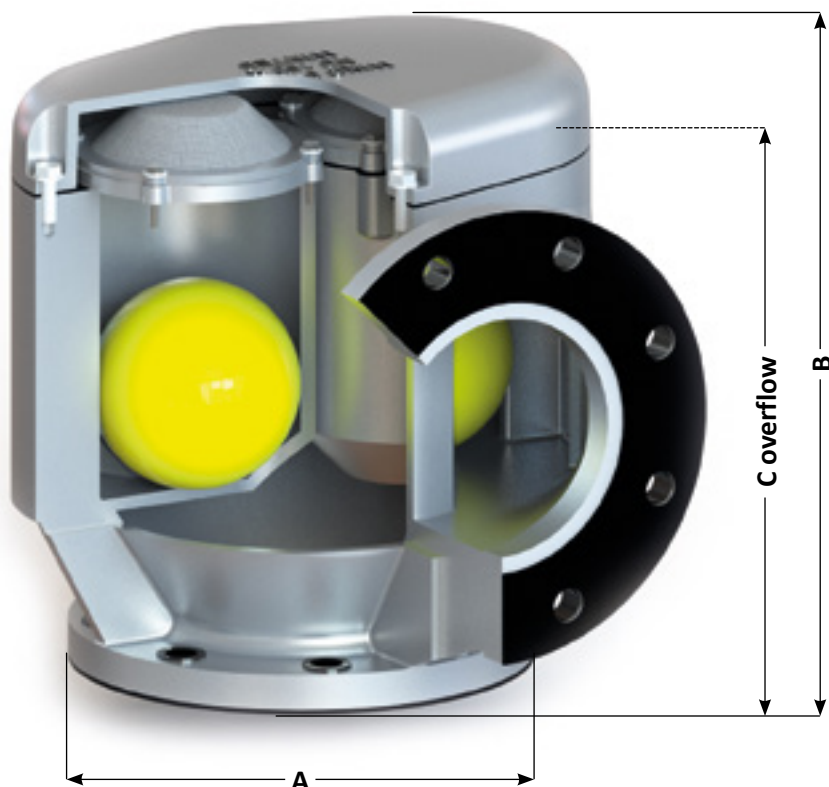
*** Please note that these values correspond with the WIKO5000 Type 1A with screen mesh 18, flowrate is with water being pumped through the air pipe head.

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Made of seawater resistant Aluminium EN1706/DIN1725 | Non corroding | Maintenance free | Smallest design available
No suction blocking | Cost saving | light weight = less fuel = less CO2 emission | Approved by all major classification societies

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WIKO5000 TYPE1-A AIR PIPE HEADS DN150-DN400



WIKO5000 type 1A is certified as watertight, according to IMO3573 regulations

WIKO5000 Type 1A Air Pipe Head
Also available in de-icing system
Picture below shows a WIKO5000 Type 1A DN150 with de-icing system



	DN150 (6")	DN175 (7")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")	DN400 (16")
A	Flange connection according to any standard						
B ±2.5 (mm)	375	375	437	437	565	565	565
C Overflow (mm)	320	320	375	375	465	465	465
D (mm)	270	270	270	270	450	450	450
E (mm)	375	375	440	440	610	610	610
F (mm)	190	202.5	215	230	270	295	270
G (mm)	245	245	245	245	350	350	350
Ball diameter (mm)	Ø130	Ø130	Ø130	Ø130	Ø240	Ø240	Ø240
Weight (kg)	22	25	30	32	55	57	60
Flow rate at 0.25 bar (m3/h)***	151.8	151.8	257.7	265.6	510.5	506.3	514.3
Max. inlet air speed (m/s)	14	14	14	11	15	9.5	10

** WIKO5000 type 1A has to be powdercoated because of warranty reasons

***Please note that these values correspond with the WIKO5000 Type 1A with screen mesh 18, flowrate is with water being pumped through the air pipe head

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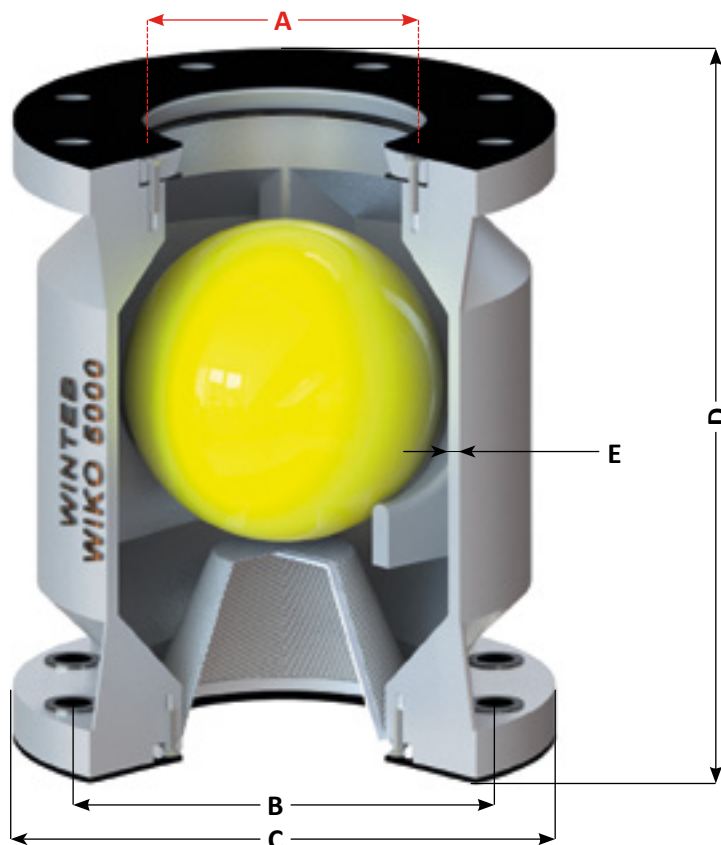
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with more than 60 years of experience

WIKO5000 GOOSENECK TYPE 1B WITH SCREEN

Options:

1. Screen
2. Powder coating

- HFO: Winteb strongly advises to use VITON Gaskets for HFO tanks & Bunker stations with temperatures exceeding +60°C
- Winteb advises to not use a screen on Ballast tanks unless required by class



	DN50 (2")	DN65 (2 1/2")	DN80 (3")	DN100 (4")	DN125 (5")	DN150 (6")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")	DN400 (16")
A (mm)	Ø50	Ø65	Ø80	Ø100	Ø125	Ø150	Ø200	Ø250	Ø300	Ø350	Ø400
B	Flange connections according to international standards										
C											
D (mm)	170	200	225	255	290	330	405	490	560	625	700
E (mm)	6.5	6.5	6.5	7.5	7.5	8.0	8.5	8.5	10.0	10.0	10.0
Ball diameter (mm)	Ø60	Ø90	Ø90	Ø120	Ø145	Ø170	Ø227	Ø280	Ø325	Ø360	Ø400
Weight (kg)	4	4	7	7	8	13	22	31	47	64	83
Flow rate at 0.25 bar (m3/h)*	27	44	74	114	166	271	444	605	935	1250	1760
Max. inlet air speed (m/s)	16	17	22	22.5	22.5	22.5	14	22.5	20	24	22.5
Inlet air flow rate at max. inlet air speed (m3/h)	117	198	396	630	990	1440	1530	3960	5040	8100	9900

* Please note that these values correspond with the WIKO5000 Gooseneck type 1B with screen mesh 18, flowrate is with water being pumped through the air pipe head

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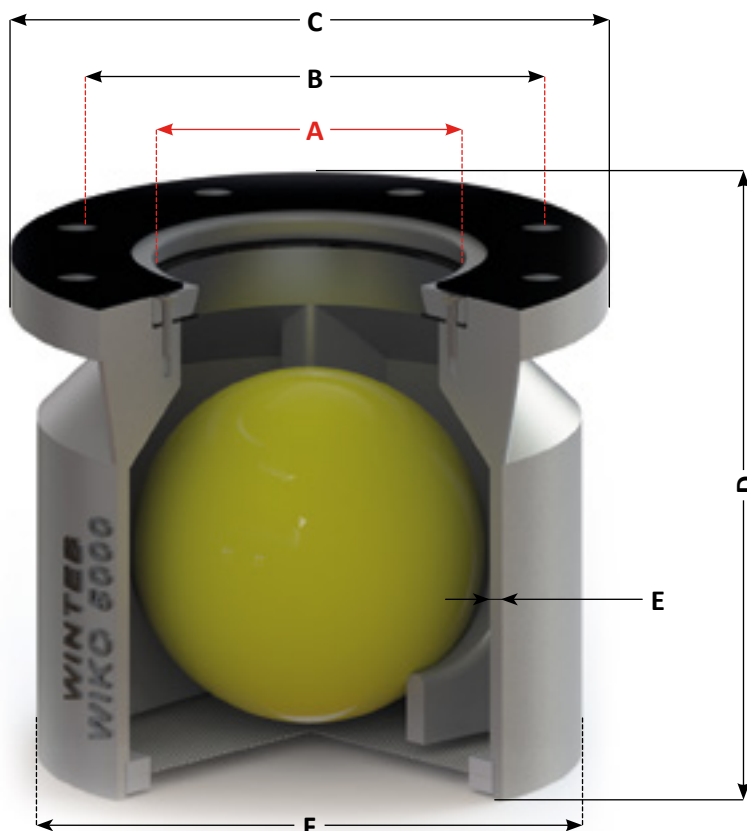
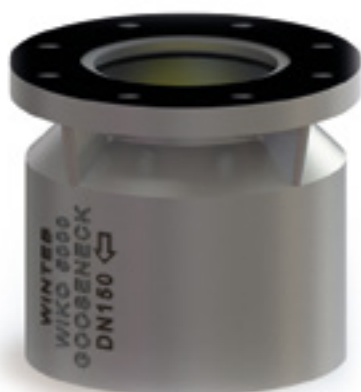
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WIKO5000 GOOSENECK TYPE 1 WITH SCREEN

Options:

1. Screen
2. Powder coating

- HFO: Winteb strongly advises to use VITON Gaskets for HFO tanks & Bunker stations with temperatures exceeding +60°C
- Winteb advises to not use a screen on Ballast tanks unless required by class



	DN50 (2")	DN65 (2 1/2")	DN80 (3")	DN100 (4")	DN125 (5")	DN150 (6")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")	DN400 (16")
A (mm)	Ø50	Ø65	Ø80	Ø100	Ø125	Ø150	Ø200	Ø250	Ø300	Ø350	Ø400
B	Flange connections according to international standards										
C											
D (mm)	115	140	160	185	215	245	310	375	430	485	540
E (mm)	6.5	6.5	6.5	7.5	7.5	8.0	8.5	8.5	10.0	10.0	10.0
F (mm)	110	135	160	190	225	260	335	415	495	555	630
Ball diameter (mm)	Ø60	Ø90	Ø90	Ø120	Ø145	Ø170	Ø227	Ø280	Ø325	Ø360	Ø400
Weight (kg)	2	2	3	4	5	7	16	23	36	53	66
Flow rate at 0.25 bar (m3/h)*	27	43	101	143	211	292	749	1280	1860	1510	2300
Max. inlet air speed (m/s)	16	17	22	22.5	22.5	22.5	14	22.5	20	24	22.5
Inlet air flow rate at max. inlet air speed (m3/h)	117	198	396	630	990	1440	1530	3960	5040	8100	9900

* Please note that these values correspond with the WIKO5000 Gooseneck type 1 with screen mesh 18, flowrate is with water being pumped through the air pipe head

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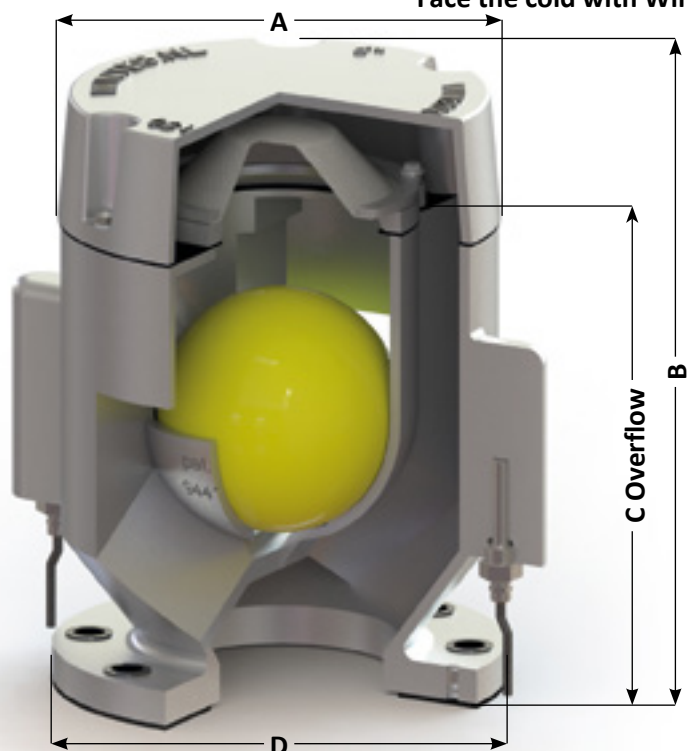
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WIN2000 HIAS HEATED AIR PIPE HEAD

Face the cold with Winteb's heated Air Pipe Heads



Options:

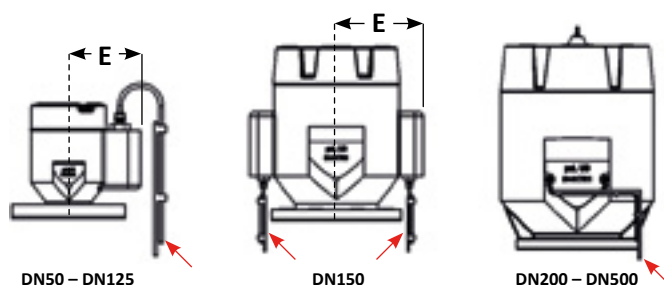
1. Closing device*
2. Screen*
3. Threaded connection (BSP/NPT)
only for aluminium pipes
4. Victaulic connection
5. Small flange connection
6. Powder (epoxy) coating
7. Sounding pipe

Also available in an Ex-Proof version

* Either option 1 or 2 (Closing device or screen)

- HFO: Winteb strongly advises to use VITON Gaskets for HFO tanks & Bunker stations with temperatures exceeding +60°C
- Winteb advises to not use a screen on Ballast tanks unless required by class
- Please check classification rules if closable type is allowed to be used on tanks containing liquids such as ballast water tanks

- Electrical grounding has to be ensured by assembly.
- Avoid any tensile loads on the cables for this type of application
- Support of the cables is advised.
- **IMPORTANT;** Winteb strongly advises to use a central temperature sensor, which is set to activate the power supply (on/off switch) at an outside temperature approx. 0° C to the heated air pipe heads.



	DN50 (2")	DN65 (2 1/2")	DN80 (3")	DN100 (4")	DN125 (5")	DN150 (6")	DN175 (7")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")	DN400 (16")	DN450 (18")	DN500 (20")
A (mm)	Ø110	Ø130	Ø160	Ø195	Ø236	Ø275	Ø275	Ø340	Ø417	Ø562	Ø642	Ø722	Ø740	Ø887
B ±2.5 (mm)	170	200	230	275	319	383	383	480	595	747	876	977	1146	1186
C (with screen) (mm)	147	180	194	238	273	323	323	397	495	620	705	779	960	903
D	Flange connection according to any standard													
E (mm)	105	115	130	150	173	190	190	-	-	-	-	-	-	-
Ball diameter (mm)	Ø60	Ø75	Ø90	Ø105	Ø130	Ø155	Ø155	Ø200	Ø250	Ø325	Ø360	Ø400	Ø480	Ø530
Weight (kg)	2.75	3.5	4.5	8	10	15	16	22	34	69	91	116	138	183
Power (w)	97	97	97	97	97	194	194	194	388	388	388	388	388	388
Flow rate at 0.25 bar (m3/h)*	19	28	46	73	114	182	210	325	469	850	1025	1300	1490	2150
Flow rate at 0.25 bar (m3/h)**	18	25	42	68	101	169	195	279	443	805	925	1175	1375	1925
Max. inlet air speed (m/s)	17	17.5	38	58	59	42	42	27	15	39	36	27	34	29

* Please note that these values correspond with the WIN2000 HIAS without screen, flowrate is with water being pumped through the air pipe head.

** Please note that these values correspond with the WIN2000 HIAS with screen mesh 18, flowrate is with water being pumped through the air pipe head.

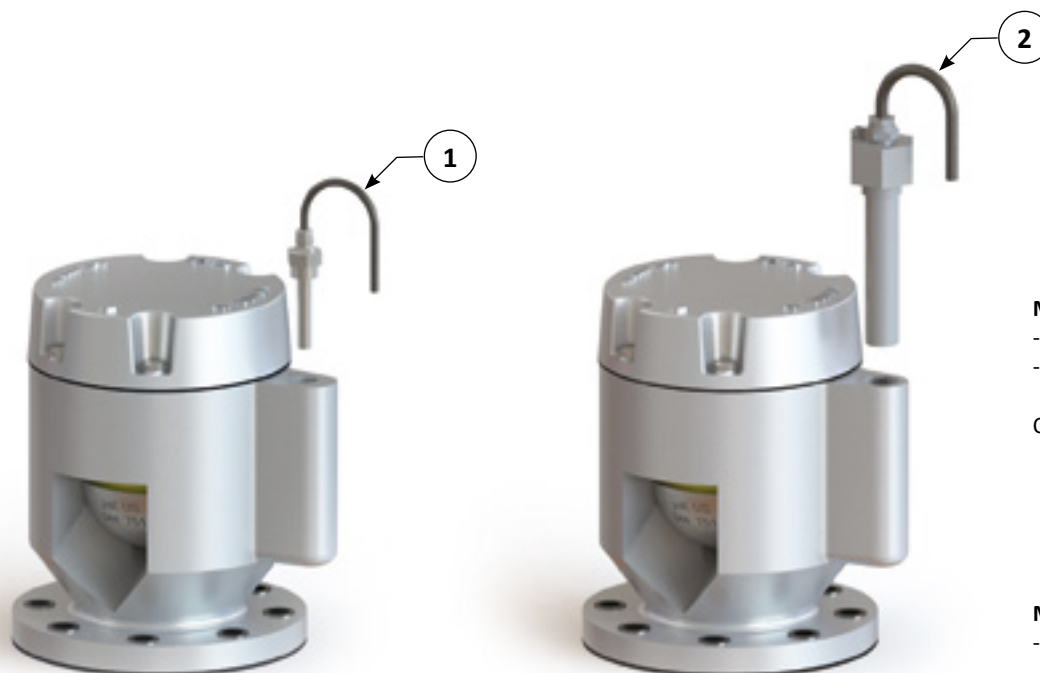
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WIN2000 HIAS HEATED AIR PIPE HEAD

Face the cold with Winteb's heated Air Pipe Heads



WIN2000 HIAS Heated

WIN2000 HIAS EX-proof Heated

Marking Heating element:

- II 2G Ex db IIC T3
- II 2D Ex tb IIIC T200°C

Other T-class options available

Marking Housing:

- II 2G Ex h IIB T6 Gb

Pos.	Description	Material	DN50 (2")	DN65 (2 1/2")	DN80 (3")	DN100 (4")	DN125 (5")	DN150 (6")	DN175 (7")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")	DN400 (16")	DN450 (18")	DN500 (20")
1	Standard heating elements	Stainless Steel	H.11-75-97 (1x)	H.11-75-97 (1x)	H.11-75-97 (1x)	H.11-75-97 (1x)	H.11-75-97 (1x)	H.11-75-97 (2x)	H.11-75-97 (2x)	H.11-75-97 (2x)	H.11-75-97 (4x)	H.11-75-97 (4x)	H.11-75-97 (4x)	H.11-75-97 (4x)	H.11-75-97 (4x)	H.11-75-97 (4x)
2	EX-proof heating elements	Seawater Res. Al	H.EX-25-105-80 (1x)	H.EX-25-105-80 (1x)	H.EX-25-105-80 (1x)	H.EX-25-155-120(1x)	H.EX-25-155-120(1x)	H.EX-25-155-120(2x)	H.EX-25-155-120(2x)	H.EX-25-105-80 (2x)	H.EX-25-105-80 (2x)	H.EX-25-155-120(2x)	H.EX-25-155-120(2x)	H.EX-25-155-120(2x)	H.EX-25-155-120(2x)	H.EX-25-225-150(2x)

Information heating elements see:

- Winteb Heating Cartridges for Winteb Heated Air vent Heads.
- Winteb EX_Proof Heating Element H1760378_SL CylTherm D.A
- Operating instructions Winteb EX-proof heating element H1760378_SL Cyltherm D.A series
- Electrical grounding has to be ensured by assembly.
- Avoid any tensile loads on the cables for this type of application
- Support of the cable is advised
- IMPORTANT; Winteb strongly advises to use a central temperature sensor, which is set to activate the power supply (on/off switch) at an outside temperature approx. 0° C to the heated air pipe heads.

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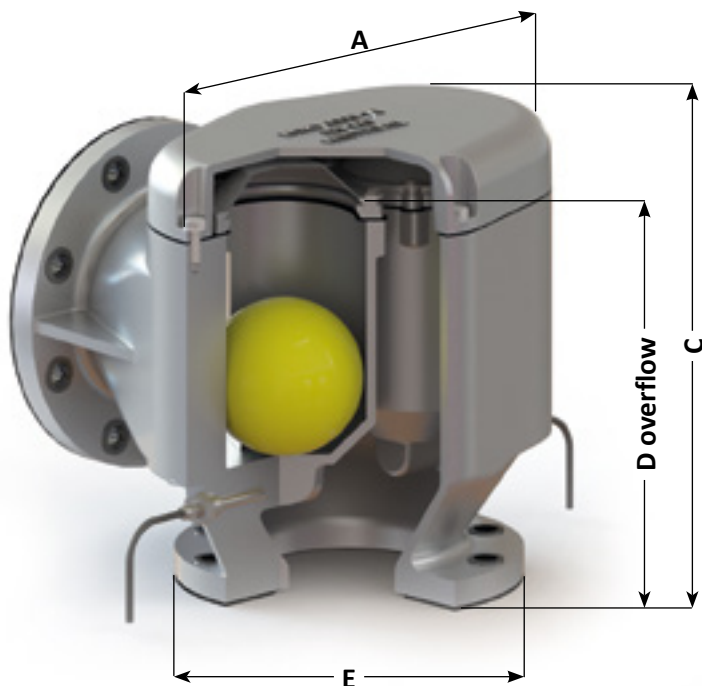
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WIKO5000 HEATED AIR PIPE HEADS

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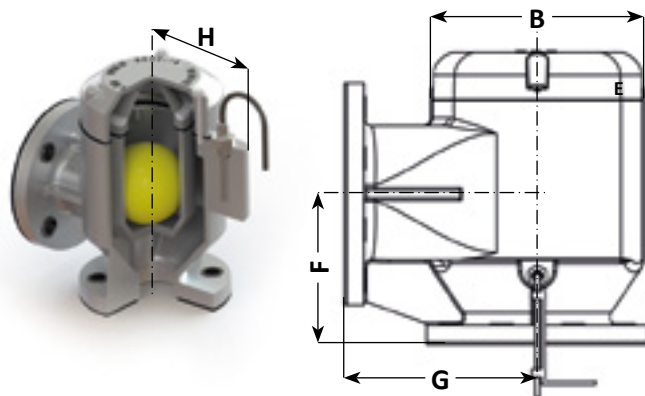
Options:

1. Closing device*
2. Screen*
3. Threaded connection (BSP/NPT) only for aluminium pipes
4. Victaulic connection
5. Small flange connection
6. Powder (epoxy) coating - mandatory size DN300-400**
7. Sounding pipe

* Either option 1 or 2 (Closing device or screen)

** WIKO5000 type 1A has to be powdercoated because of warranty reasons

- HFO: Winteb strongly advises to use VITON Gaskets for HFO tanks & Bunker stations with temperatures exceeding +60°C
- Winteb advises to not use a screen on Ballast tanks unless required by class
- Please check classification rules if closable type is allowed to be used on tanks containing liquids such as ballast water tanks



- Electrical grounding has to be ensured by assembly.
- Avoid any tensile loads on the cables for this type of application
- Support of the cables is advised.
- **IMPORTANT;** Winteb strongly advises to use a central temperature sensor, which is set to activate the power supply (on/off switch) at an outside temperature approx. 0° C to the heated air pipe heads.

	DN50 (2")	DN65 (2 1/2")	DN80 (3")	DN100 (4")	DN125 (5")	DN150 (6")	DN175 (7")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")	DN400 (16")
A (mm)	Ø156	Ø156	Ø156	Ø205	Ø205	Ø375	Ø375	Ø440	Ø440	Ø610	Ø610	Ø610
B (mm)						Ø270	Ø270	Ø270	Ø270	Ø450	Ø450	Ø450
C ±2.5 (mm)	258	258	258	342	342	375	375	437	437	565	565	565
D (with screen) (mm)	210	210	210	280	280	320	320	375	375	465	465	465
E	Flange connection according to any standard											
F (mm)	105	112.5	122.5	170	170	190	202.5	215	230	270	295	270
G (mm)	130	130	130	175	175	245	245	245	245	350	350	350
H (mm)	130	130	130	155	155							
Ball diameter (mm)	Ø90	Ø90	Ø90	Ø130	Ø130	Ø130	Ø130	Ø130	Ø130	Ø240	Ø240	Ø240
Weight (kg)	6	6.5	6.5	11	13	23	26	29	30	57	59	62
Power (w)	97	97	97	97	97	194	194	194	194	194	194	194
Flow rate at 0.25 bar(m3/h)***	28.7	31.4	35.7	72.6	76.9	151.8	151.8	257.7	265.6	510.5	506.3	514.3
Max. inlet air speed (m/s)	16.5	10	7	10	8.5	14	14	14	11	15	9.5	10

*** Please note that these values correspond with the WIKO5000 Type 1A with screen mesh 18, flowrate is with water being pumped through the air pipe head.

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WIKO5000 HEATED AIR PIPE HEADS

Face the cold with Winteb's heated Air Pipe Heads



WIKO5000 1A HEATED



WIKO5000 1A EX-proof HEATED

Marking Heating element:

- II 2G Ex db IIC T3
- II 2D Ex tb IIIC T200°C

Marking Housing:

- II 2G Ex h IIB T6 Gb

Other T-class options available

Pos.	Description	Material	DN50 (2")	DN65 (2 1/2")	DN80 (3")	DN100 (4")	DN125 (5")	DN150 (6")	DN175 (7")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")	DN400 (16")
1	Standard heating elements	Stainless Steel	H.11-75-97 (1x)	H.11-75-97 (1x)	H.11-75-97 (1x)	H.11-75-97 (1x)	H.11-75-97 (1x)	H.11-75-97 (2x)	H.11-75-97 (2x)	H.11-75-97 (2x)	H.11-75-97 (2x)	H.11-75-97 (2x)	H.11-75-97 (2x)	H.11-75-97 (2x)
2	EX-proof heating elements	Seawater Res. Al	H.EX-25-105-80 (1x)	H.EX-25-105-80 (1x)	H.EX-25-105-80 (1x)	H.EX-25-155-120 (1x)	H.EX-25-155-120 (1x)	H.EX-25-155-120 (2x)	H.EX-25-155-120 (2x)	H.EX-25-155-120 (2x)	H.EX-25-155-120 (2x)	H.EX-25-155-120 (2x)	H.EX-25-155-120 (2x)	H.EX-25-155-120 (2x)

Information heating elements see:

- Winteb Heating Cartridges for Winteb Heated Air vent Heads.
- Winteb EX_Proof Heating Element H1760378_SL CylTherm D.A
- Operating instructions Winteb EX-proof heating element H1760378_SL Cyltherm D.A series
- Electrical grounding has to be ensured by assembly.
- Avoid any tensile loads on the cables for this type of application
- Support of the cable is advised
- IMPORTANT; Winteb strongly advises to use a central temperature sensor, which is set to activate the power supply (on/off switch) at an outside temperature approx. 0° C to the heated air pipe heads.

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LIQUID MUD VALVE



NEW: LIQUID MUD VALVE (LMV) WITH DE-ICING SYSTEM

Face the cold with Winteb's heated Air Pipe Heads.



Photo 1: Heated LMV

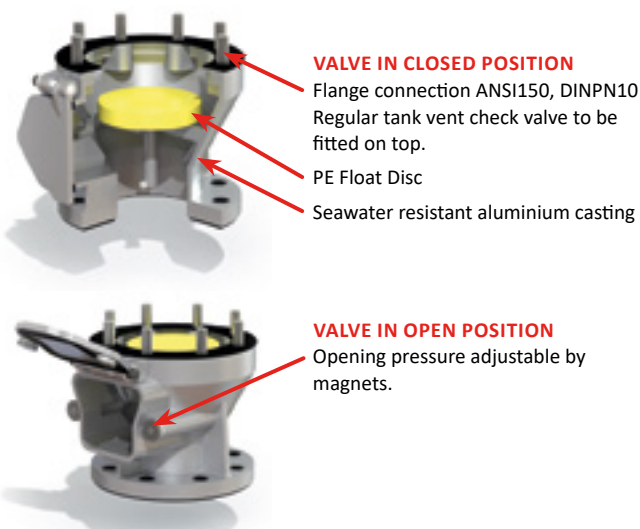
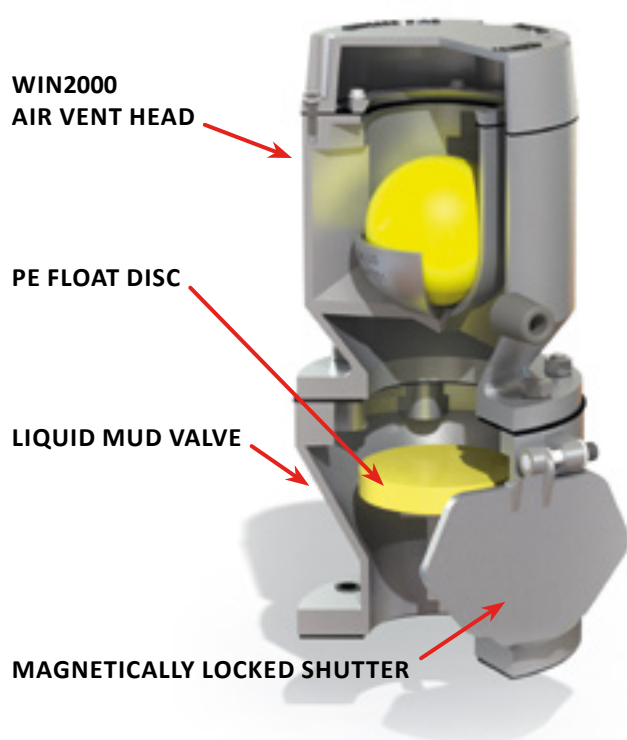


Photo 2: Heated LMV Valve in closed position

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LMV	Surface Area Front Cover (mm2)	Tensile Force (kg)	Pressure (bar)
DN125	12342.60	11	0.1
DN150	17871.98	32	0.2
DN200	32310.48	34	0.1
DN250	50430.48	38	0.1

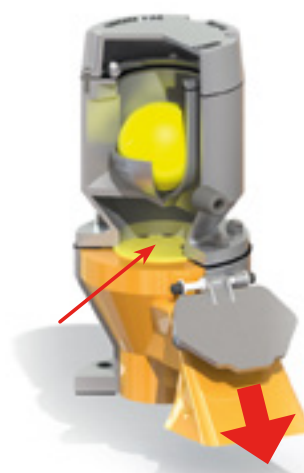
On request, the opening pressure of the LMV can be adjusted conform client's requirements.



mud builds up in the lower chamber (lmv-valve) until it is almost completely filled...



...the floater shuts off the air vent from the lmv. the pressure of the mud will open the magnetically locked shutter

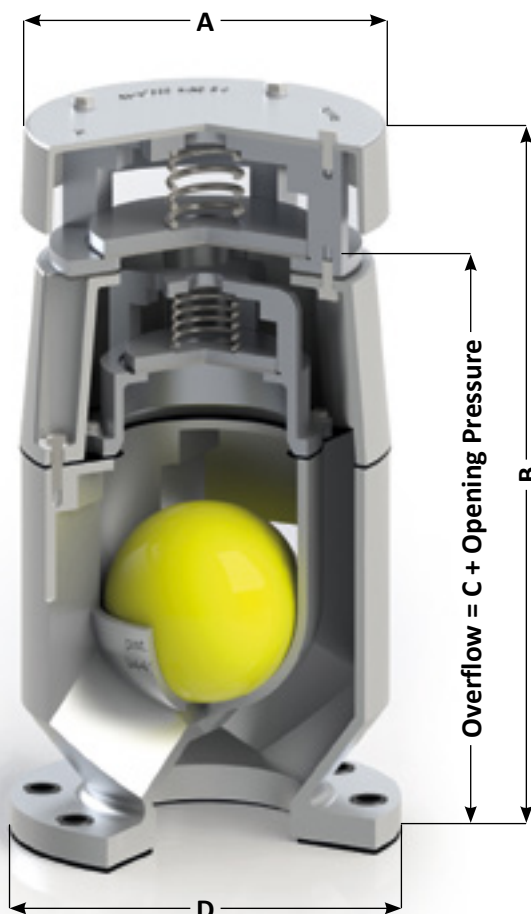


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WINTEB BV PROUDLY PRESENTS:
THE WIN2000 HIAS **P**RESSURE **V**ACUUM VALVE
(WIN2000 HIAS PV VALVE)



The patented HIAS technology has significantly increased the maximum inlet air speed. Especially designed for stability tanks and anti-heeling tanks.

Opening pressure set to clients requirements:
Overpressure 0.07 – 0.2 Bar
Vacuum pressure 0.03 – 0.07 bar

Options:

1. Threaded connection (BSP/NPT) only for aluminium pipes
2. Powder (epoxy) coating
3. Screen

	DN50 (2")	DN65 (2 ½")	DN80 (3")	DN100 (4")	DN125 (5")	DN150 (6")	DN175 (7")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")
A (mm)	Ø120	Ø135	Ø165	Ø195	Ø237	Ø275	Ø275	Ø340	Ø417	Ø560	Ø645
B ±2.5 (mm)	260	318	352	417	473	572	572	747	848	1165	1318
C (mm)	208	253	287	338	389	457	457	568	703	853	986
D	Flange connection according to any standard										
Ball diameter (mm)	Ø60	Ø75	Ø90	Ø105	Ø130	Ø155	Ø155	Ø200	Ø250	Ø325	Ø360
Weight (kg)	3.1	5	8	10	15	20	21	36	51	107	143
Max. inlet air speed (m/s)	69	44	29	36	29	22	22	18	19	26	26

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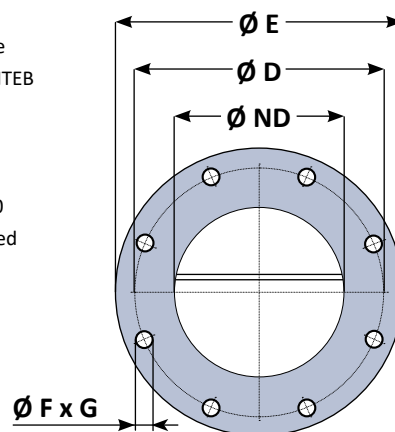
WINTEB WATERTRAP

The WINTEB watertrap has been designed to avoid the exit of water from stability tanks and therefore preventing the decrease of stability of the ship. In severe weather conditions, which will cause a lot of rolling and pitching of the ship and thus a high level of filling for the stability tanks, the WINTEB watertrap will prevent the accidental discharge of water through the Air Pipe Heads. A WINTEB watertrap is placed underneath the (WINTEB) Air Pipe Heads. This construction can also be used for ballast water tanks or tanks where similar situations could occur.

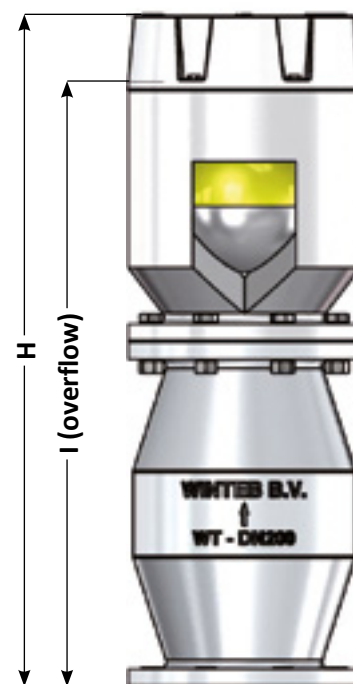
Another very positive side effect is that when the WINTEB watertrap is combined with our WIN2000 HIAS Air Pipe Head (with the patented HIAS technology), extremely High Inlet Air Speeds can be faced and so called 'suction blocking', e.g. vacuuming of the ball, will no longer occur.



Picture 1: WINTEB WATERTRAP



Picture 2: Top view WINTEB WATERTRAP



Picture 3: WIN2000 AIR PIPE HEAD PLACED ON TOP OF WINTEB WATERTRAP

	A (mm)	B (mm)	C (mm)	D	E	F	G	H (mm)	I (mm)	Weight (kg)
DN100	290	176	20	HOLE PATTERN/ FLANGE CONNECTION DRILLED ACCORDING TO ANY INTERNATIONAL STANDARD				566	520	7
DN125	344	212	22					668	614	10
DN150	393	250	22					776	710	14
DN200	505	326	25					988	897	23
DN250	675	411	30					1272	1158	40
DN300	560	495	32					1307	1180	50

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Winteb Seawater resistant Aluminium Air Pipe Heads IMO 3573 Certified Air Pipe Heads (watertight)

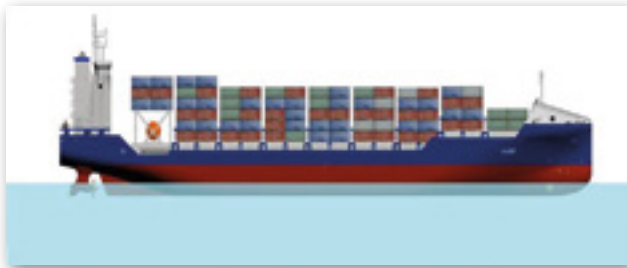
In the course of 2016, Winteb obtained type approval. 5249/2016 & 9747/2016 – ILENT

In the course of 2017, Winteb obtained type approval. 8286/2017 & 8287/2017 – ILENT

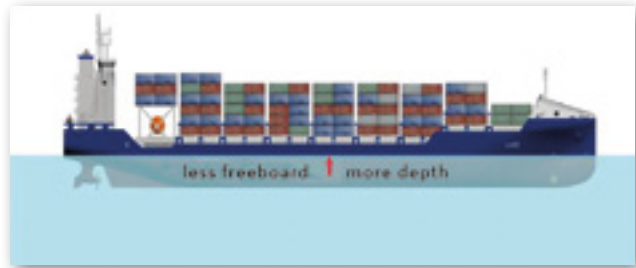
In the course of 2018, Winteb obtained type approval. 12036/2018 – ILENT

These type approvals state that our Winteb Air Pipe Heads WIN2000 HIAS DN50-DN400, WIN2000 Type 1 DN50-DN400 and WIKO5000 Type 1-A sizes DN50-DN400 can be considered as “watertight” (APF: Automatic closing devices Preventing progressive Flooding in probabilistic damage stability calculations), according to the new IMO regulations, described in IMO circular letter 3573.

It will have a very positive influence on stability calculations, which could lead to an increased occupancy rate of the ship's cargo, see pictures below:



Picture 1: ship without IMO3573 certified Air pipe Heads



Picture 2: ship with Winteb IMO3573 certified Air pipe Heads: less freeboard -> more depth possible -> more cargo -> better occupancy rate

Since the end user (ship owner) can only benefit from this positive effect, when Winteb Air Pipe Heads are used in the design of the ship, it is important that design bureaus are aware of this new development. The stability calculations are done in the design stage of the ship, after all. To facilitate this, we can always send 3D drawings of our product range, so they can be aligned to/copied in your design programs.

ONLY PRODUCER IN THE WORLD

Please take special note that Winteb is the only producer in the world since 2016, that applies to these new IMO3573 regulations!

NEW USP

Giving the current market situation, cost saving solutions are key nowadays and this new USP definitely aligns with this.

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WIN2000 HIAS

(HIGH INLET AIR SPEED)

World's Best Air Vent Head



- **Well established and reliable product**
- **In depth knowledge, because of 60 years of experience**
- **World's smallest and lightest design**
- **Superior Sea Water Resistant Aluminium alloy (German EN1706)**
- **100% Corrosion free product**
- **Highest Inlet Air Speed (patented HIAS technology)**
- **Best leakage protection**
- **Longest warranty period: 10 years!**
- **Shortest delivery time, due to in-house foundry and production facilities**
- **High service level and customer based solutions**
- **Quick response to market demands resulting into innovative products**
- **Best Cost Saving solution there is**

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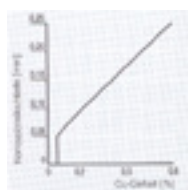
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ANALYSES OF THE SEAWATER RESISTANT ALUMINIUM USED FOR THE WINTEB AIR PIPE HEADS.

The seawater resistant aluminium used for Winteb Air Pipe Heads is AlMgSi7.

This alloy is according to EN1706 standard. This standard is comparable, but more accurate, to the US standards 6061, AA A356 and ASTM SG70. All these standards except for 6061 are primary aluminium foundry alloy standards. Comparison is also made to the aluminium alloy used by Chinese manufacturers of aluminium Air Vent Heads and shows that **the aluminium used by the Chinese manufacturers is not seawater resistant at all.**



With regard to the seawater (corrosion) resistance, the amount of Cu (copper) and Fe (iron) in the alloy is critical, especially Cu, which has a bad influence on the seawater (corrosion) resistance of the alloy.

In general; "The less Cu in the aluminium alloy the better the seawater (corrosion) resistance".

Curve 1 shows the relation between possible corrosion hole depth and the amount of Cu in the aluminium alloy. As you can see more Cu means deeper corrosion holes and therefore less seawater (corrosion) resistance.

This is the main reason why Winteb uses aluminium alloy according to EN1706 standard. It guarantees the lowest possible Cu amount in the alloy. By using the EN1706 alloy for their Air Pipe Heads Winteb achieves the best possible seawater resistance available.

Curve 1; the relation between the corrosion hole depth and the amount of Cu in the aluminium alloy.

You can see in the table below the aluminium alloy according to the EN1706 standard has the lowest Cu and Fe additions and therefore the best seawater (corrosion) resistance compared to the AA356, 6061/6082 standards and the Chinese competitors.

The amount of Cu, which is the negative factor in the seawater (corrosion) resistance, allowed in the EN1706 (used by Winteb) is 75% less than A356 and 86% less than 6061.

Chemical analyses of the most common used aluminium alloys used in the shipbuilding industry								
	in % of mass							
	Main alloy components				Max. allowed additions			
Standard	Si	Mg	Ti	Al	Cu	Fe	Mn	Zn
EN1706	6.5 -7.5	0.25-0.45	0.001-0.2	Rest %	0.05	0.18	0.1	0.07
A356	6.5 -7.5	0.2	0.2	Rest %	0.2	0.2	0.1	0.1
6061	0.4-0.8	1.2	0.15	Rest %	0.35	0.7	0.15	0.25
6082	0.7-1.3	0.6-1.2	0.10	Rest %	0.1	0.5	0.40-1.0	0.2
*Nantong Ruida Navigation Machinery produced Air Vent Heads				Rest %	1.54	0.0		
**ZL 101 properties of Taixing Haixing produced Air Vent Heads				Rest %	0.2	0.5-0.9	0.35	0.3

* As you can see in the analysis of the aluminium used by Nantong Ruida Navigation Machinery Co., LTD., the mass% Cu (Copper), which has a very negative influence on the corrosion resistance of aluminium, is 1.54 mass% which is **3080% more than the maximum allowed % according to EN1706.**

This shows that the aluminium used by Nantong Ruida Navigation Machinery Co., LTD. for their copies of the Winteb vent heads is absolutely non seawater resistant aluminium and may not be sold and promoted as such.

** As you can also see in the description of the ZL 101 alloy as used by our competitor, the mass% Cu (Copper), which has a very negative influence on the corrosion resistance of aluminium, is 0.2 mass% which is **400% more than the maximum allowed % according to EN1706. Furthermore, all other max. allowed chemical substances are exceeding their limits. Iron (Fe) is at least 277% more than allowed according to EN1706.**

This shows that the ZL 101 aluminium used by our competitor is absolutely not seawater resistant aluminium and may not be sold and promoted as such.

Conclusion; Winteb uses the best possible aluminium alloy (EN1706) available to guarantee our customers the best seawater resistance of the aluminium Air Pipe Heads.

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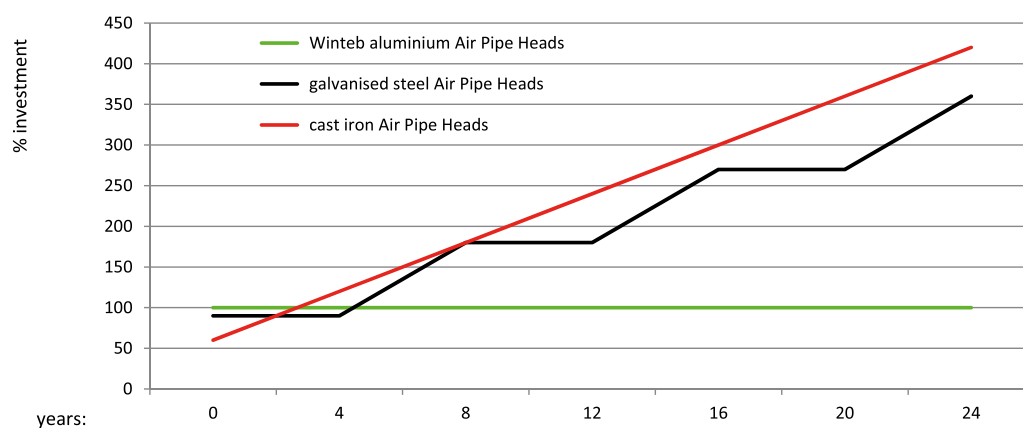
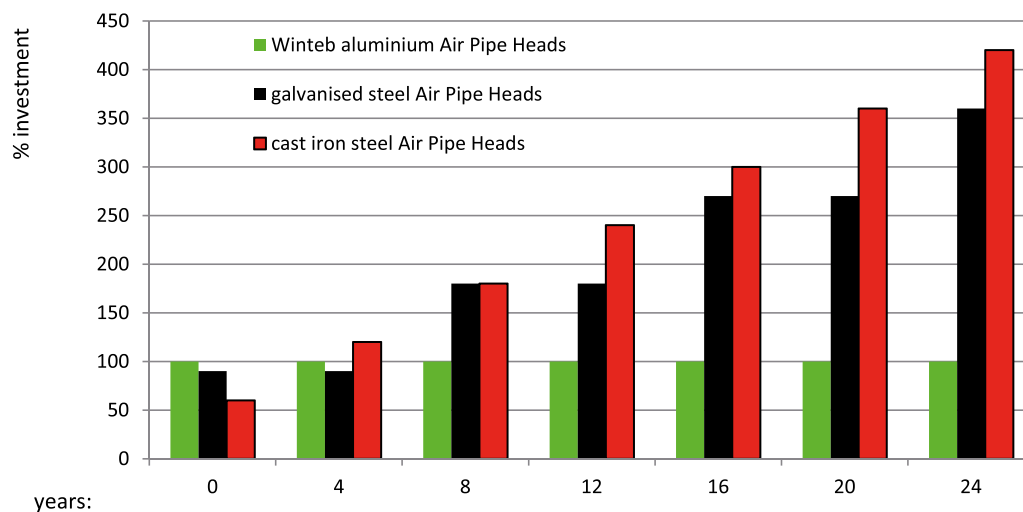
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WINTEB SEAWATER RESISTANT ALUMINIUM AIR PIPE HEADS: COST SAVING LONG TERM INVESTMENT

Comparison of investment over a period of 25 years

Winteb non corroding aluminium Air Pipe Heads versus cast iron & galvanised steel Air Pipe Heads

Years	Replacement			Total investment		
	cast iron	galvanised steel	Winteb	cast iron	galvanised steel	Winteb
start				60%	90%	100%
4	YES	spare parts	NO	120%	90%	remains at 100%
8	YES	YES	NO	180%	180%	remains at 100%
12	YES	spare parts	NO	240%	180%	remains at 100%
16	YES	YES	NO	300%	270%	remains at 100%
20	YES	spare parts	NO	360%	270%	remains at 100%
24	YES	YES	NO	420%	360%	remains at 100%



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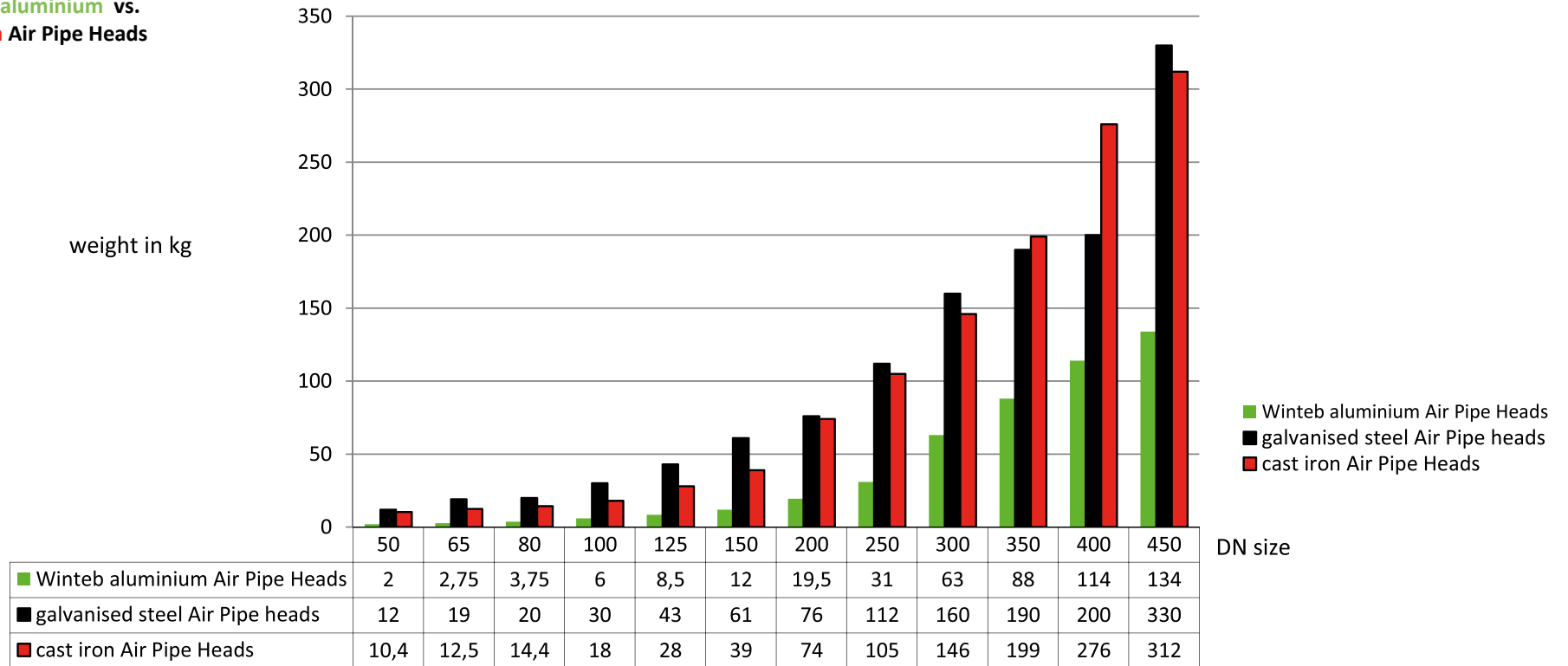
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LESS WEIGHT=LESS FUEL

WHY CARRY MORE THAN NECESSARY?

Weight comparison **Winteb aluminium** vs.
galvanised steel vs. **cast iron** Air Pipe Heads



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Investing in Winteb Air Pipe Heads is beneficial in the long term, saving maintenance, replacement and costs.

For more information and a complete overview of our product range, please check www.winteb.com



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