

# End-of-line and in-line air release/vacuum breaker valves

Type SOP 2296-1; SOPF 2296-2; SOPG 2296-3 and SOPM 2296-4

*Air release and vacuum breaker valves*



*Air release/vacuum breaker  
valve type SOP*

Type SOP (including SOPF, SOPG and SOPM) are automatic air release and vacuum breaker valves allowing the passage of air but at the same time preventing liquid from escaping. This kind of equipment is specially designed for liquid transport pipes in off-shore installations. High relief rates may cause jamming by lifting of the float. If the float is too heavy, the liquid will circumvent it and keep it depressed. Consideration in designing the float shadow area, the net free area and the vapor velocity is required before selecting appropriate size and execution. Each type and model is individually tested with air and water to determine capacity. Manufacturing and documentation is in accordance with off-shore rules and regulations.



*Part of the supply for trol olje*

## NOTE

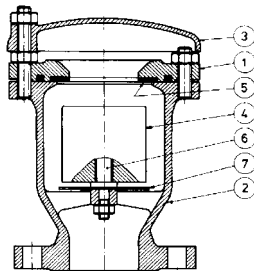
For liquids containing foam,  
special valve designs are  
required.

**Features of type SOP 2296-1, SOPF 2296-2,  
SOPG 2296-3 and SOPM 2296-4:**

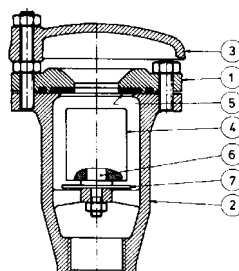
- Automatic mode
- Functions with high vapor velocity and density
- High pressure rating
- High operating pressure
- Replaceable float in various materials
- Available in materials to suit any environment and special off-shore requirement
- Individually water and air tested
- Practically maintenance free

# Air release and vacuum breaker valve

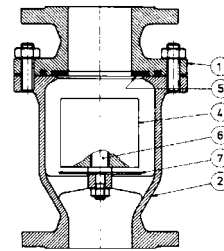
<p><b>Specifications:</b></p> <p><b>Type:</b> SOP 2296-1 (end of line, flanged) SOPF 2296-2 (in-line, flanged) SOPG 2296-3 (end of line, inside thread) SOPM 2296-4 (end of line, inside threaded)</p> <p><b>Dimensions:</b> See drawings</p> <p><b>Capacities:</b> See certified curves</p> <p><b>Ice layer:</b> Not applicable</p> <p><b>Materials:</b> Cast iron, nodular iron, bronze, stainless steel, AISI 316 and high grade stainless steel (6MO etc.)</p> <p><b>Pressure rating:</b> 20 bar (standard)</p> <p><b>Operating pressure:</b> 15 bar (standard)</p>	<p><b>Nominal sizes:</b> ND25 - 250</p>	<p><b>Certification:</b> Fully approved for off-shore installation. Material certificates, work shop test reports and function test reports available according to Norwegian standards. Performance test is done under customer supervision.</p>
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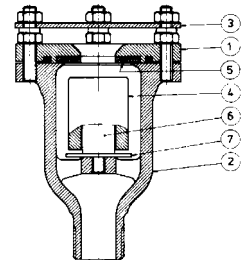
Type SOP



Type SOPM



Type SOPF



Type SOPG

Item	Description
1	Valve body
2	Valve body (lower part)
3	Cover
4	Float
5	Seat
6	Guide pin for float
7	Screen

Available with any connection and in any material requested. Please ask for detail drawing and performance data sheets for any specific model and type.

drwg. no.:	2296-1
date:	drwg.:
910619	HHR
model:	scale:
-	-
drw. rev.:	material:
5	-

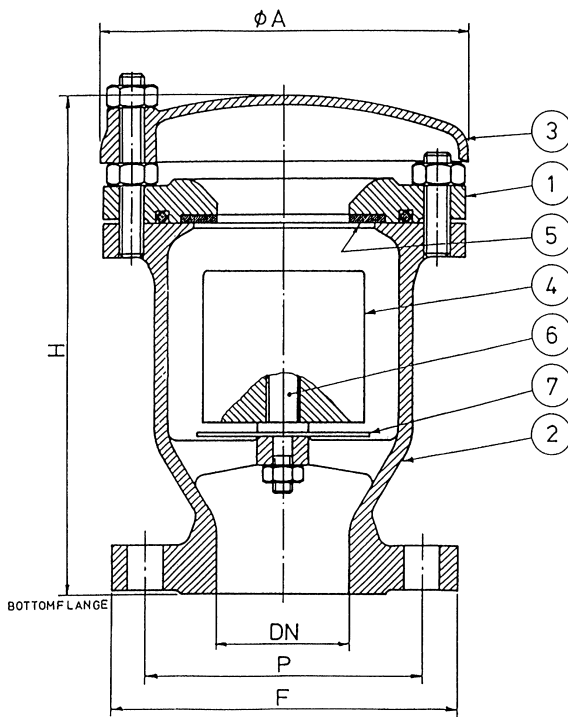
# Type SOP

Air release valve

Other standards available

300	12	800	655	445	40	12xø22
100	4	380	280	220	180	8xø18
80	3	300	225	220	160	8xø18
50	2	230	175	165	125	4xø18
25	1	150	105	115	85	4xø14
<b>DN</b> inch	<b>DN</b> mm	<b>H</b> mm	<b>∅A</b> mm	<b>F</b> mm	<b>P-mm</b> drilling	<b>Holes</b>

This drawing is for guidance only. Other sizes, materials, flange standards, settings, and versions are available. Request a specific quotation or approval drawing before implementing data.



**Parts list** Available in other materials upon request.

Item	Description	Spec. 1	Spec. 2	Spec. 3
1	Valve body	Cast iron	Bronze	Stainless steel
2	Valve body (lower part)	Cast iron	Bronze	Stainless steel
3	Cover	Cast iron	Bronze	Stainless steel
4	Float	Polyethylene PE	Polyethylene PE	Polyethylene PE
5	Seat	Nitrile NBR	Nitrile NBR	Nitrile NBR
6	Guide pin for float	Stainless steel	Stainless steel	Stainless steel
7	Screen	Stainless steel	Stainless steel	Stainless steel

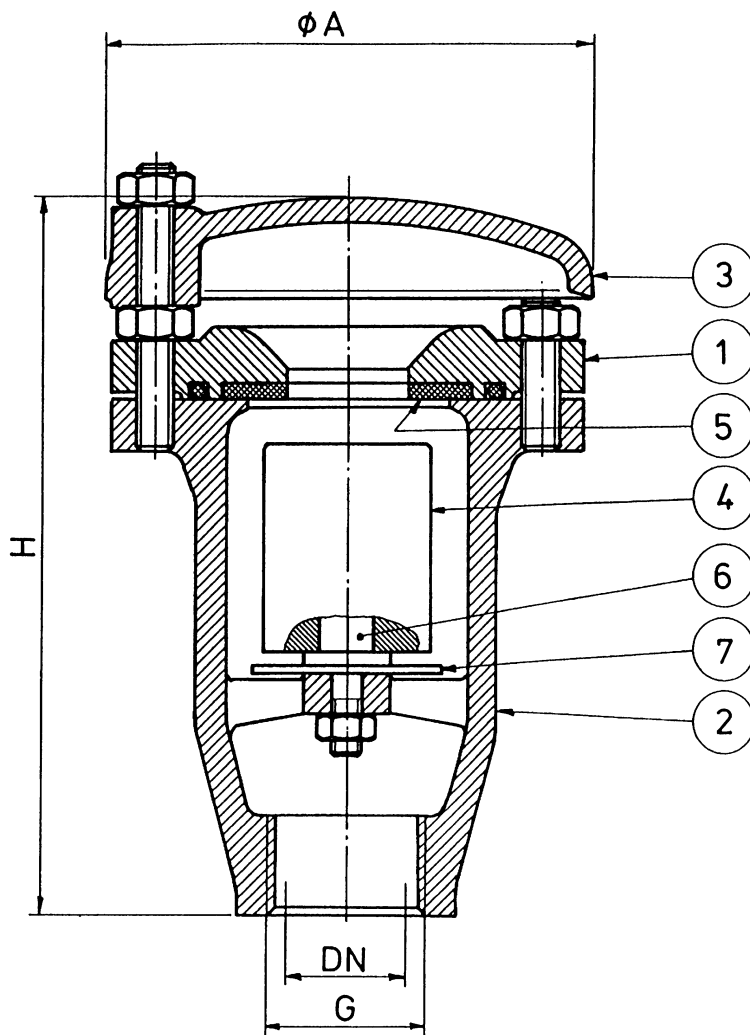
drwg. no.:	2296-4
date:	920203
model:	—
drw. rev.:	0
drwg.:	HHR
scale:	—
material:	—

# Type SOPM

Air release valve

Other standards available

25	1	150	105	1" BSP
DN inch	DN mm	H mm	°A mm	G mm



**Parts list** Available in other materials upon request.

Item	Description	Spec. 1	Spec. 2	Spec. 3
1	Valve body	Cast iron	Bronze	Stainless steel
2	Valve body (lower part)	Cast iron	Bronze	Stainless steel
3	Cover	Cast iron	Bronze	Stainless steel
4	Float	Polyethylene PE	Polyethylene PE	Polyethylene PE
5	Seat	Nitrile NBR	Nitrile NBR	Nitrile NBR
6	Guide pin for float	Stainless steel	Stainless steel	Stainless steel
7	Screen	Stainless steel	Stainless steel	Stainless steel

This drawing is for guidance only. Other sizes, materials, flange standards, settings, and versions are available. Request a specific quotation or approval drawing before implementing data.

9.15  
REV.1

drwg. no.: 2296-2	
date: 930701	drwg.: HHR
model: -	scale: -
drw. rev.: 3	material: -

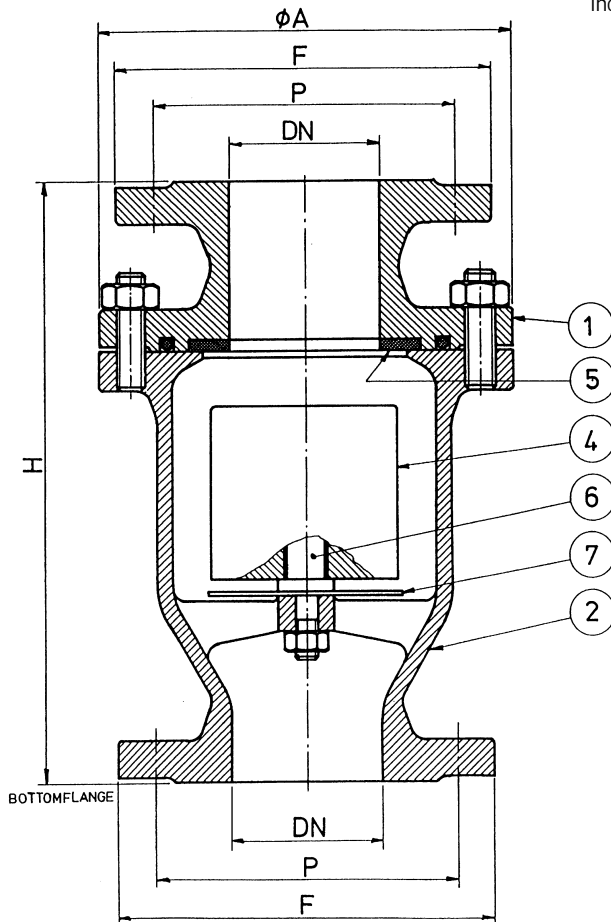
# Type SOPF

Air release valve

Other standards available

200	8	650	460	340	295	8x°22
100	4	390	270	220	180	8x°18
80	3	315	220	200	160	8x°18
50	2	240	170	165	125	4x°18
25	1	170	98	115	85	4x°14

DN inch	DN mm	H mm	°A mm	F mm	P-mm	Holes drilling
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**Parts list** Available in other materials upon request.

Item	Description	Spec. 1	Spec. 2	Spec. 3
1	Valve body	Cast iron	Bronze	Stainless steel
2	Valve body (lower part)	Cast iron	Bronze	Stainless steel
4	Float	Polyethylene PE	Polyethylene PE	Polyethylene PE
5	Seat	Nitrile NBR	Nitrile NBR	Nitrile NBR
6	Guide pin for float	Stainless steel	Stainless steel	Stainless steel
7	Screen	Stainless steel	Stainless steel	Stainless steel

This drawing is for guidance only. Other sizes, materials, flange standards, settings, and versions are available. Request a specific quotation or approval drawing before implementing data.

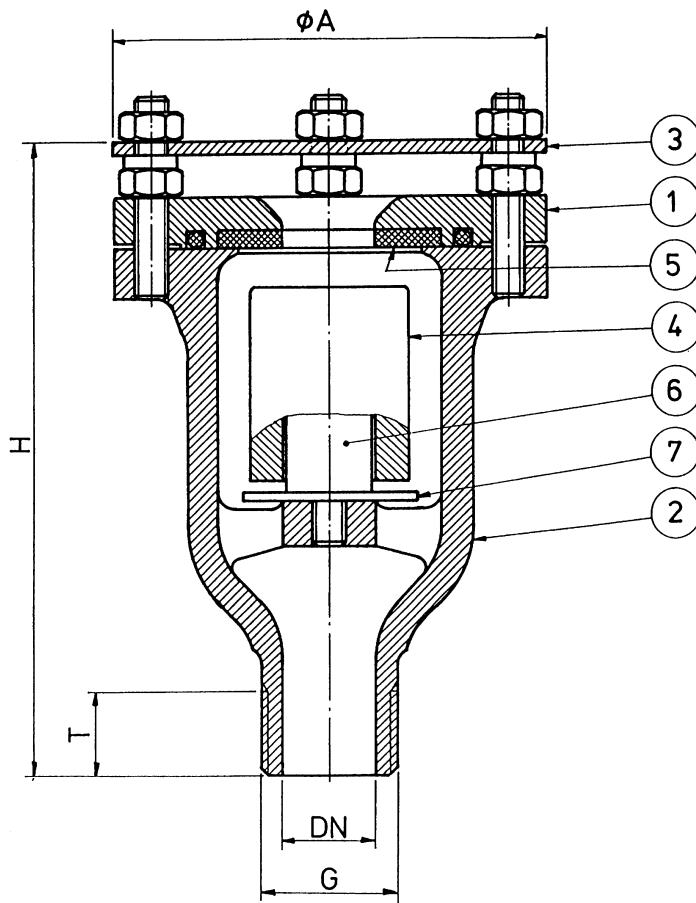
drwg. no.: 2296-3	
date: 890315	drwg.: HHR
model: -	scale: -
drwg. rev.: 0	material: -

# Type SOPG

Air release valve

Other standards available

25	1	140	100	24	1" BSP
15	1/2	105	70	18	1/2" BSP
DN inch	DN mm	H mm	°A mm	T mm	G mm



**Parts list** Available in other materials upon request.

Item	Description	Spec. 1	Spec. 2
1	Valve body	Bronze	Bronze
2	Valve body (lower part)	Bronze	Bronze
3	Cover	Bronze	Bronze
4	Float	Polyethylene PE	Polyethylene PE
5	Seat	Nitrile NBR	Nitrile NBR
6	Guide pin for float	Stainless steel	Stainless steel
7	Screen	Stainless steel	Stainless steel

This drawing is for guidance only. Other sizes, materials, flange standards, settings, and versions are available. Request a specific quotation or approval drawing before implementing data.