

# Type HS 2293-6

## High Velocity Vent

High velocity pressure/vacuum relief vent type HS actively protects the tank, crew and environment. Tailor-made to suit each application. Type HS can be used in common and individual systems and in IG systems.



Type HS with desiccator



High velocity pressure/vacuum relief vent  
type HS 2293-6

High velocity pressure/vacuum relief vent type HS provides active protection from fire and explosions and automatically controls the tank pressure/vacuum during loading, discharge, voyage and ballasting without any manual operation and provides safe operation regardless of flow volume. It operates in freezing conditions without heating arrangements. Discharge velocity is constantly 125 m/sec, when used on piping not subject to critical resonance. The vent is manufactured and tested in accordance with IMO MSC/Circ. 373/Rev.1 API Standard 2000. The vent is approved by leading classification societies based on tests conducted by the Danish Maritime Administration. Each supply is designed considering physical properties of the cargo including gas evolution, density, viscosity, flammability and fouling. Certain limitations should be observed in regard of long or narrow vent pipe installation. Not allowed by some administrations for new buildings.

### Features of type HS 2293-6:

- Complies with all pre-1995 IMO, VECS and hydrocarbon emission regulations and API Standard 2000
  - Only one moving part in each unit
  - Automatic self-closing checklifts
  - Simple, rigid design and construction
  - Available in materials compatible with any cargo. Employs no soft seals
  - Protects crew from exposure by constant vertical efflux at all times without manual adjustment
  - System design engineering available for IMO MSC/Circ. 731, Master's Loading Chart
  - Over 60,000 vents in service
  - Easy maintenance
  - Spares readily available
  - Fixed set-point providing practically 100% accuracy
  - Available in more than 400 configurations
- Options: See specification*

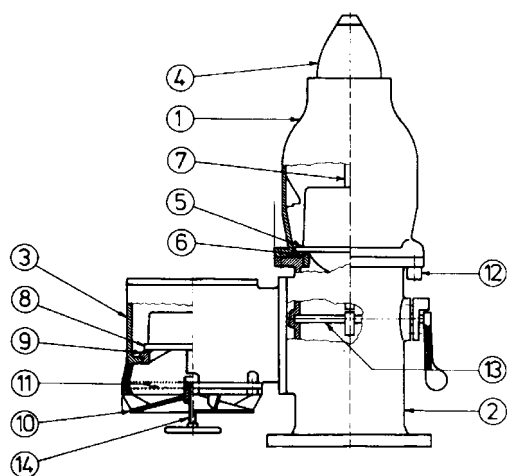
# High velocity pressure/ vacuum relief vent

**Specifications:**  
**Type:** HS 2293-6  
**Dimensions:** See drawing No. 2293-6  
**Settings:** To fit application  
**Accuracy:** ± 2%  
**Ice layer:** 20 mm.  
**Capacities:** Up to 15,000 Nm<sup>3</sup>/hr. See certification for applicable restrictions  
**Efflux velocity:** Minimum 25 m/sec  
**Self-closing checklifts:** Yes (short travel)  
**Pressure drop in excess of set-pressure rise:** None. The pressure drop is less than set-pressure at operational rate.  
**Valve type:** Full lift valve.  
**Materials:** Cast iron, nodular iron, bronze, stainless steel  
**Net clearance:** 2-4 mm

**Nominal sizes:** ND50 - 400\*  
**Options:** Ports for flushing, zero-emission kit, combination with gasfreeing unit GFC/GFB, solid internals, heating jacket, cranking tool, sideways inlet, desiccator, proximity switches, emission control, water retaining device for vacuum unit and drain valve for the vent pipe.

**Certification:** Certified by the Danish Government's Maritime Administration according to IMO MSC/Circ. 373/Rev.1 for gas group II A, II B-1, II B-2 and II B-3. Approved for ADNR vessels and by U.S.C.G. for VECS. Requirements for Californian waters. Installation to be in accordance with IMO MSC/Circ.731 and maximum allowable vent pipe lengths approved by the Danish Maritime Administration. Does not meet European standard.

\*Nominal sizes does not reflect capacity. Ask for specific and certified data.



Type HS 2293-6

Item	Description
1	House
2	Adapter
3	Vacuum house
4	Valve top
5	Pressure disc
6	Pressure seat
7	Stem
8	Vacuum disc
9	Vacuum seat
10	Venting cover
11	Flame screen
12	Drain
13	Checklift (pressure unit)
14	Checklift (vacuum unit)

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

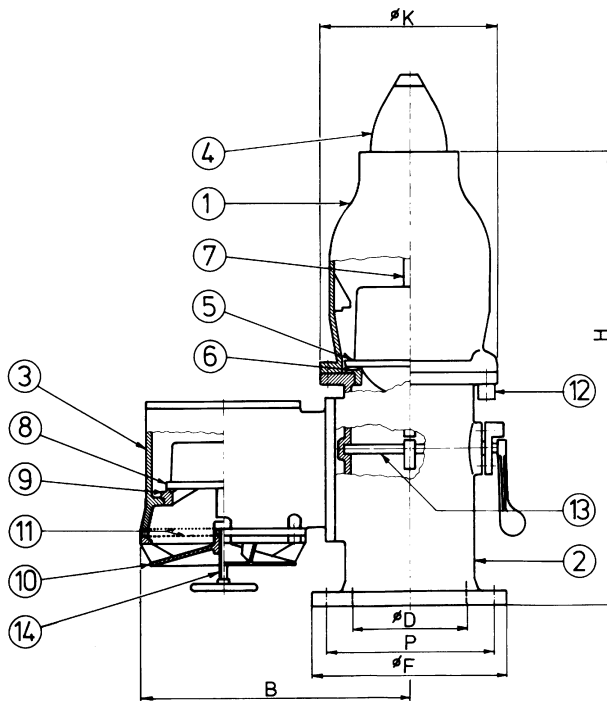
drwg. no.: 2293-6	
date: 850409	drwg.: AP
model: C	scale: -
drw. rev.: 0	material: -

Rev. 7, 8, 9, 10, 11 incl.

# Type HS

Pressure/vacuum valve consisting of a combined high velocity valve and a vacuum valve

IMO type test approved as per IMO-MS-Circ. 373/rev. 1.



32	10	16	400	495	920	695	565	515	16xø22
31	10	12	300	495	920	670	445	400	12xø22
30	10	10	250	495	920	670	395	350	12xø22
29	8	16	400	450	850	565	565	515	16xø22
28	8	12	300	450	850	565	445	400	12xø22
27	8	10	250	450	850	565	395	350	12xø22
26	8	8	200	450	850	565	340	295	8xø22
25	7	16	400	450	905	620	565	515	16xø25
24	7	12	300	450	905	615	445	400	12xø22
23	7	10	250	450	905	615	395	350	12xø22
22	7	7	175	450	905	610	315	270	8xø22
21	6	12	300	380	875	580	445	400	12xø22
20	6	10	250	380	875	555	395	350	12xø22
19	6	9	225	380	875	555	370	325	8xø22
18	6	8	200	380	875	555	340	295	8xø22
17	6	6	150	380	875	555	285	240	8xø22
16	5	8	200	310	780	500	340	295	8xø22
15	5	6	150	310	780	500	285	240	8xø22
14	5	5	125	310	780	500	250	210	8xø18
13	6M	8	200	310	660	450	340	295	8xø22
12	6M	6	150	310	660	440	285	240	8xø22
11	4	6	150	250	620	385	285	240	8xø22
10	4	5	125	250	620	375	250	210	8xø18
9	4	4	100	250	620	375	220	180	8xø18
8	3	6	150	220	550	355	285	240	8xø22
7	3	5	125	220	550	340	250	210	8xø18
6	3	4	100	220	550	325	220	180	8xø18
5	3	3	80	220	550	320	200	160	4xø18
4	2	4	100	190	500	290	220	180	8xø18
3	2	3	80	190	500	280	200	160	4xø18
2	2	2½	70	190	465	220	185	145	4xø18
1	2	2	50	190	465	220	165	125	4xø18

Code HS °D °D °K H B °F P-mm Holes  
No. Valve inch mm mm mm mm mm mm drilling

**Parts list**

Item	Description	Spec. 1	Spec. 2	Spec. 3	Spec. 4	Spec. 5
1	Housing	Cast iron	Cast iron	Stainless steel	Bronze	Cast iron
2	Adapter	Cast iron	Cast iron	Stainless steel	Bronze	Cast iron
3	Vacuum house	Cast iron	Cast iron	Stainless steel	Bronze	Cast iron
4	Valve top	Stainless steel	Stainless steel	Stainless steel	Bronze	Bronze
5	Pressure disc	Stainless steel	Stainless steel	Stainless steel	Bronze	Bronze
6	Pressure seat	Stainless steel	Stainless steel	Stainless steel	Bronze	Bronze
7	Stem	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
8	Vacuum disc	Bronze	Stainless steel	Stainless steel	Bronze	Bronze
9	Vacuum seat	Bronze	Stainless steel	Nitrile NBR	Bronze	Bronze
10	Venting cover	Bronze	Stainless steel	Nitrile NBR	Bronze	Bronze
11	Flame screen	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
12	Drain	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
13	Checklift	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
14	Checklift	Stainless steel	Stainless steel	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.