

# Type HSE-IMO2 - 2374

(low capacity unit for special applications)

High Velocity Vent



High velocity pressure/vacuum valves  
HSE-IMO2 - 2374 (low capacity unit)

The non-hammering high velocity pressure/vacuum relief vent type HSE-IMO2 is designed specifically for applications calling for frequent operations with reduced loading capacity, for instance in case of loading from small, up-hill storage tanks, rail/road tankers etc. It is a feature of the HSE-IMO2 that insignificant flow rates can be handled for a duration of time without a tank pressure increase and without the loss of system pressure associated with the normal type of guided valves (e.g. magnet or pilot construction) used for such applications. The HSE-IMO2 features a special spherical seat and disc arrangement in order to manage a high efflux velocity at constant low flow rates and a booster unit to enable full lift with increased gas flow. This is possible due to the configuration of the curtain area and huddling chamber. And most importantly, the HSE-IMO2 valve will relieve overpressure in the tank without hammering at the critical, small flow rates.

Type HSE-IMO2 provides protection from fire and explosion and automatically controls the tank pressure and vacuum during loading, discharge, voyage and ballasting without manual operation and provides safe operation regardless of flow volume. It operates under freezing conditions without heating arrangements according to the restrictions listed in the accompanying certification. Discharge velocity is constantly above 30 m/sec. due to the controlled opening and closing phase. The valve is manufactured and tested in accordance with IMO MSC/Circ. 677 and approved by the Danish Maritime Authority, which approval is endorsed by the leading classification societies.

#### Features of type HSE-IMO2 - 2374:

- Complies with IMO regulations as per 1.1.95
- Non-hammering
- Instant small capacity without pressure rise
- Insignificant pressure drop until fully open
- Fixed blow-down value
- Variable setting
- Few moving parts
- Self-closing check-lifts
- Low maintenance costs
- Available in all standard materials
- Self-draining to tank

*Options: See specification*

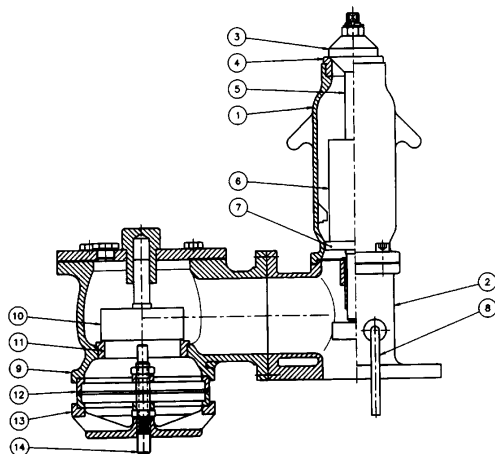
# High velocity pressure/ vacuum valves

<b>Specifications</b>	
<b>Type:</b>	HSE-IMO2
<b>Dimensions:</b>	See drawing No. 2374
<b>Settings:</b>	See certification
<b>Accuracy:</b>	± 2%
<b>Capacities:</b>	Up to 1,000 Nm <sup>3</sup> /h
<b>Installation:</b>	See certification for applicable restrictions
<b>Efflux velocity:</b>	Minimum 30 m/sec
<b>Checklifts:</b>	Self-closing (full travel)
<b>Pressure rise:</b>	None, due to booster plate operation
<b>Valve type:</b>	Modulating until full stroke is reached by means of a sudden full-lift
<b>Materials:</b>	Cast iron, nodular iron, bronze, stainless steel

<b>Nominal sizes:</b>	ND50 - 150
<b>Options:</b>	Proximity switches, dessicator, gas-freeing piping, heating jacket*, anti-water ingress unit, vacuum side, flushing arrangement.

<b>Certification</b>	Certified by the Danish Government's Maritime Authority according to IMO MSC/Circ. 677. Installation to be in accordance with IMO MSC/Circ. 731 and maximum allowable vent pipe configurations approved by the Danish Maritime Administration.
	Approved for gas groups II A, II B-1, II B-2 and II B-3. Approved for ADN R vessels and by U.S.C.G. Meets European standard.

\*With separate approval.



Type: HSE-IMO2

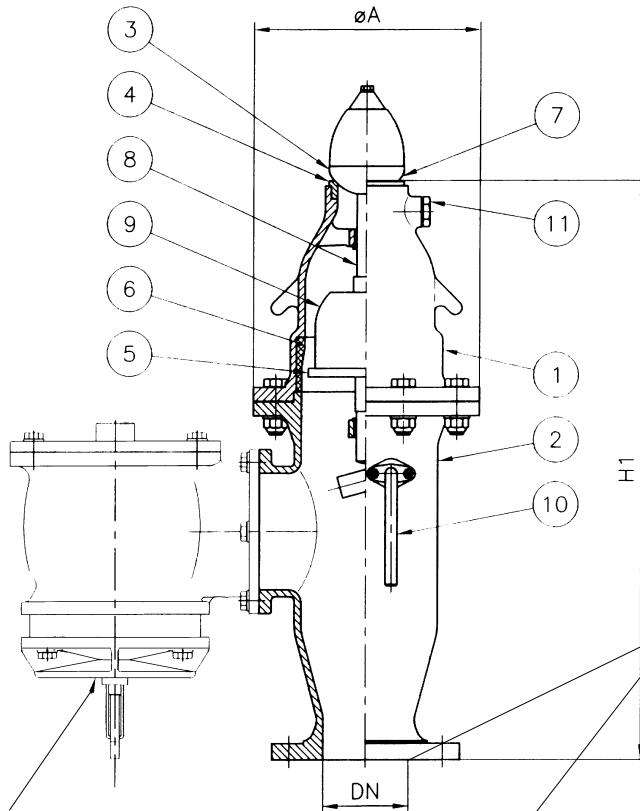
Item	Description
1	House
2	Adapter
3	Pressure disc
4	Pressure Seat
5	Stem
6	Weight loading
7	Booster
8	Check-lift
9	Vacuum House
10	Vacuum disc
11	Vacuum seat
12	Filter elements
13	Venting cover
14	Check-lift

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.:	2374
	page 1 of 6
date:	980219
model:	scale:
drw. rev.:	19
	material:

# Type HS-IM02, HSE-IM02, HSM-IM02

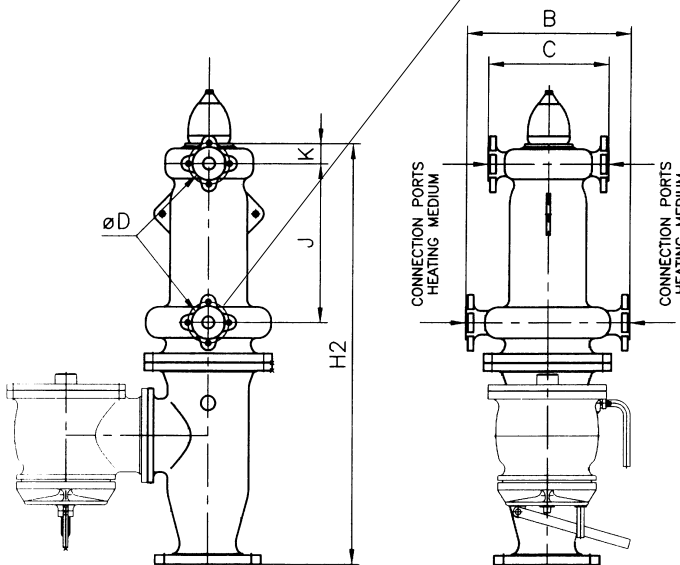
High velocity valve



Approved in accordance with IMO MSC/Circ. 677. Service restrictions must be observed in regards of cargo type, vent pipe length, coefficient of resistance and diameter. Please refer to certified flow curves for each size of each type as per Circ. 677.

• Flange standard according to ISO 2084 PN 10 unless otherwise specified

Vacuum unit  
Drawing only schematic. Refer to separate drawing



Heating arrangement option

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.

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model:	-
drw. rev.:	19
drwg.:	-
scale:	-
material:	-

# Type HS-IM02, HSE-IM02, HSM-IM02 *High velocity valve*

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.

HS-IM02-2374-I-090-82-95-250-150-1455-160	150	6	315	770						
HS-IM02-2374-I-090-68-105-250-150-950-205	150	6	310	750						
HS-IM02-2374-I-090-68-105-250-150-975-135	150	6	310	665						
HS-IM02-2374-N-065-68-105-250-125-945-135	125	5	265	665						
HS-IM02-2374-N-065-68-105-250-125-1070-116	125	5	265	630						
HS-IM02-2374-N-065-68-350-700-100-1300-135	100	4	265	867						
HS-IM02-2374-N-065-68-350-700-100-1300-135	100	4	265	867						
HS-IM02-2374-N-065-68-105-250-100-1050-135	100	4	265	672						
HS-IM02-2374-N-065-68-200-250-100-710-135	100	4	265	672						
HS-IM02-2374-N-065-68-105-250-100-910-116	100	4	310	626						
HS-IM02-2374-N-065-68-105-250-100-910-90	100	4	310	630						
HS-IM02-2374-N-065-60-100-250-100-810-116	100	4	260	600						
HS-IM02-2374-N-065-60-100-250-100-795-90	100	4	260	600						
HS-IM02-2374-N-065-50-100-250-100-590-160	100	4	225	680						
HS-IM02-2374-N-065-50-350-700-100-1015-116	100	4	225	820						
HS-IM02-2374-N-065-50-350-700-100-1020-90	100	4	225	820						
HS-IM02-2374-N-065-50-100-250-100-585-90	100	4	225	575						
HS-IM02-2374-N-065-50-100-250-100-605-0	100	4	225	500						
HS-IM02-2374-N-065-68-105-250-80-1070-116	80	3	265	626						
HS-IM02-2374-N-065-68-100-250-80-925-90	80	3	310	630						
HS-IM02-2374-N-065-60-100-250-80-810-90	80	3	260	600						
HS-IM02-2374-N-065-50-350-700-80-1110-116	80	3	225	827						
HS-IM02-2374-N-065-50-100-250-80-545-116	80	3	225	577						
HS-IM02-2374-N-065-50-350-700-80-1060-90	80	3	225	820						
HS-IM02-2374-N-065-50-100-250-80-600-90	80	3	225	570						
HS-IM02-2374-N-065-35-100-250-80-305-50	80	3	180	392						
HS-IM02-2374-N-065-50-100-250-65-610-90	65	2 1/2	225	570						
HS-IM02-2374-N-065-50-100-250-65-595-90	65	2 1/2	225	570						
HS-IM02-2374-N-065-50-100-250-65-570-50	65	2 1/2	225	440						
HS-IM02-2374-N-065-35-100-250-65-300-50	65	2 1/2	180	385						
HS-IM02-2374-N-065-50-350-700-50-1165-116	50	2	225	827						
HS-IM02-2374-N-065-50-100-250-50-535-116	50	2	225	577						
HS-IM02-2374-N-065-50-350-700-50-1165-90	50	2	225	827						
HS-IM02-2374-N-065-50-100-250-50-495-90	50	2	225	577						
HS-IM02-2374-N-065-50-100-250-50-630-50	50	2	225	450						
HS-IM02-2374-N-065-35-100-250-50-315-50	50	2	180	385						
<b>Code No.</b>	<b>DN</b>	<b>DN</b>	<b>°A</b>	<b>H1</b>	<b>H2</b>	<b>J</b>	<b>K</b>	<b>B</b>	<b>C</b>	<b>°D</b>
	mm	inch	mm	mm	mm	mm	mm	mm	mm	mm

drwg. no.:	2374	drwg.:	-
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date:	980219	scale:	-
model:	-	material:	-
drw. rev.:	19		

# Type HS-IM02, HSE-IM02, HSM-IM02

## High velocity valve

HS-IM02-2374-I-090-225-105-175-350-8900-0	350	14	670	1350						
HS-IM02-2374-I-090-200-100-175-350-7000-250	350	14	600	1170						
HS-IM02-2374-I-090-164-100-200-250-7575-250	250	10	475	870						
HS-IM02-2374-I-090-150-100-200-250-5250-250	250	10	475	870						
HS-IM02-2374-I-090-150-100-200-250-5220-205	250	10	475	870						
HS-IM02-2374-I-090-150-100-200-250-5300-160	250	10	475	870						
HS-IM02-2374-I-090-150-100-200-200-6360-205	200	8	475	870						
HS-IM02-2374-I-090-150-100-200-200-4050-205	200	8	475	870						
HS-IM02-2374-I-090-150-100-200-200-4220-160	200	8	475	870						
HS-IM02-2374-I-090-100-105-250-200-2260-205	200	8	355	840						
HS-IM02-2374-I-090-100-105-250-200-2300-116	200	8	355	755						
HS-IM02-2374-I-090-125-105-250-175-3580-180	175	7	420	875						
<b>Code No.</b>	<b>DN</b>	<b>DN</b>	<b>°A</b>	<b>H1</b>	<b>H2</b>	<b>J</b>	<b>K</b>	<b>B</b>	<b>C</b>	<b>°D</b>
	mm	inch	mm	mm	mm	mm	mm	mm	mm	mm

### Parts list

Item	Description	Spec. 1	Spec. 2	Spec. 3
1	House	Stainless steel	Cast iron	Cast iron
2	Adapter	Stainless steel	Cast iron	Cast iron
3	Pressure disc	Stainless steel	Stainless steel	Bronze
4	Pressure seat	Stainless steel	Stainless steel	Bronze
5	Variable booster	Stainless steel	Stainless steel	Stainless steel
6	Variable sleeve *	Stainless steel	Stainless steel	Bronze
7	Variable outlet	Stainless steel	Stainless steel	Bronze
8	Stem	Stainless steel	Stainless steel	Stainless steel
9	Weight loading	Stainless steel	Stainless steel	Stainless steel
10	Check lift, self-closing	Stainless steel	Stainless steel	Stainless steel
11	Flushing port, optional	Stainless steel	Stainless steel	Stainless steel

\*Optional: Bronze or stainless steel sleeve along booster plate stroke line

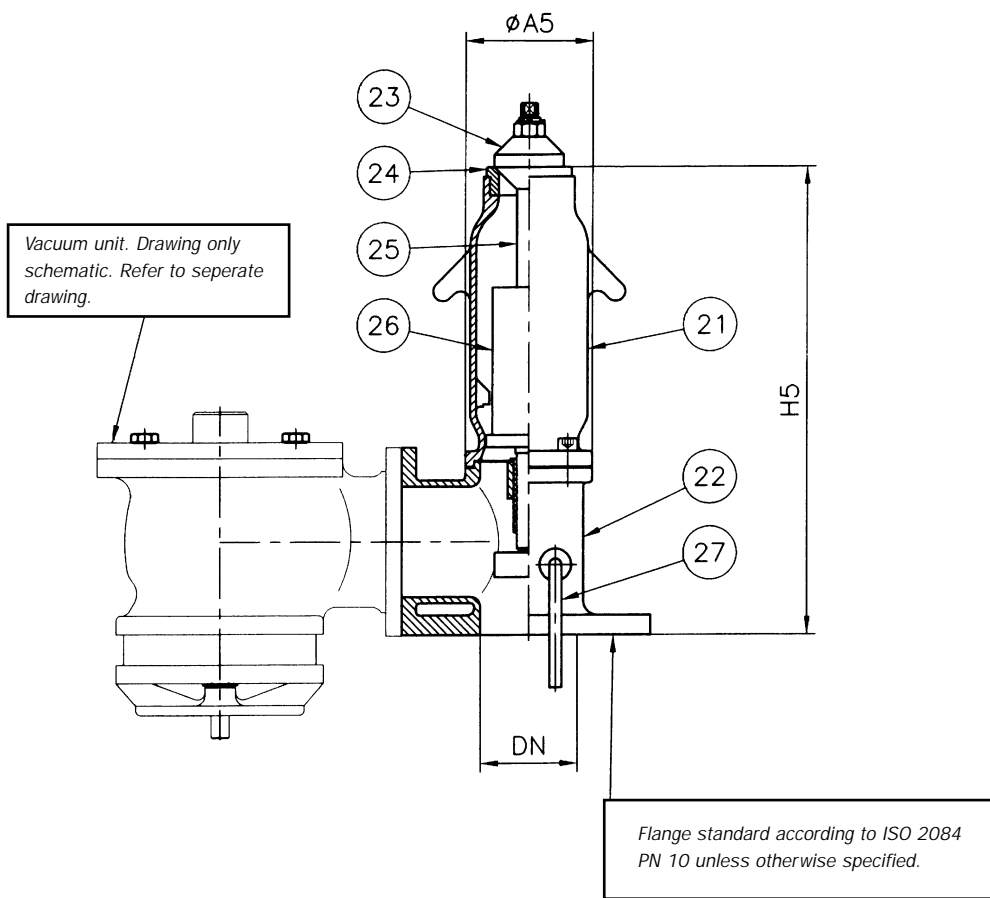
This drawing is for guidance only. Other sizes, materials, flange standards, settings, and versions are available. Request a specific quotation or approval drawing before implementing data.

drwg. no.:	2374	drwg.:	-
	page 4 of 6		
date:	980219	scale:	-
model:	-	material:	-
drw. rev.:	19		

# Type HS-IM02, HSE-IM02, HSM-IM02

## High velocity valve

HSE-IM02-2374-N-065-50-100-200-80-770-90	80	3	140	375
HSE-IM02-2374-N-065-35-350-600-80-725-90	80	3	140	475
<b>Code No.</b>	<b>DN</b>	<b>DN</b>	<b>°A5</b>	<b>H5</b>
	mm	inch	mm	mm



### Parts list

Item	Description	Spec. 1
21	House	Stainless steel
22	Adapter	Stainless steel
23	Pressure disc	Stainless steel
24	Pressure seat	Stainless steel
25	Stem	Stainless steel
26	Weight loading	Stainless steel
27	Check lift	Stainless steel

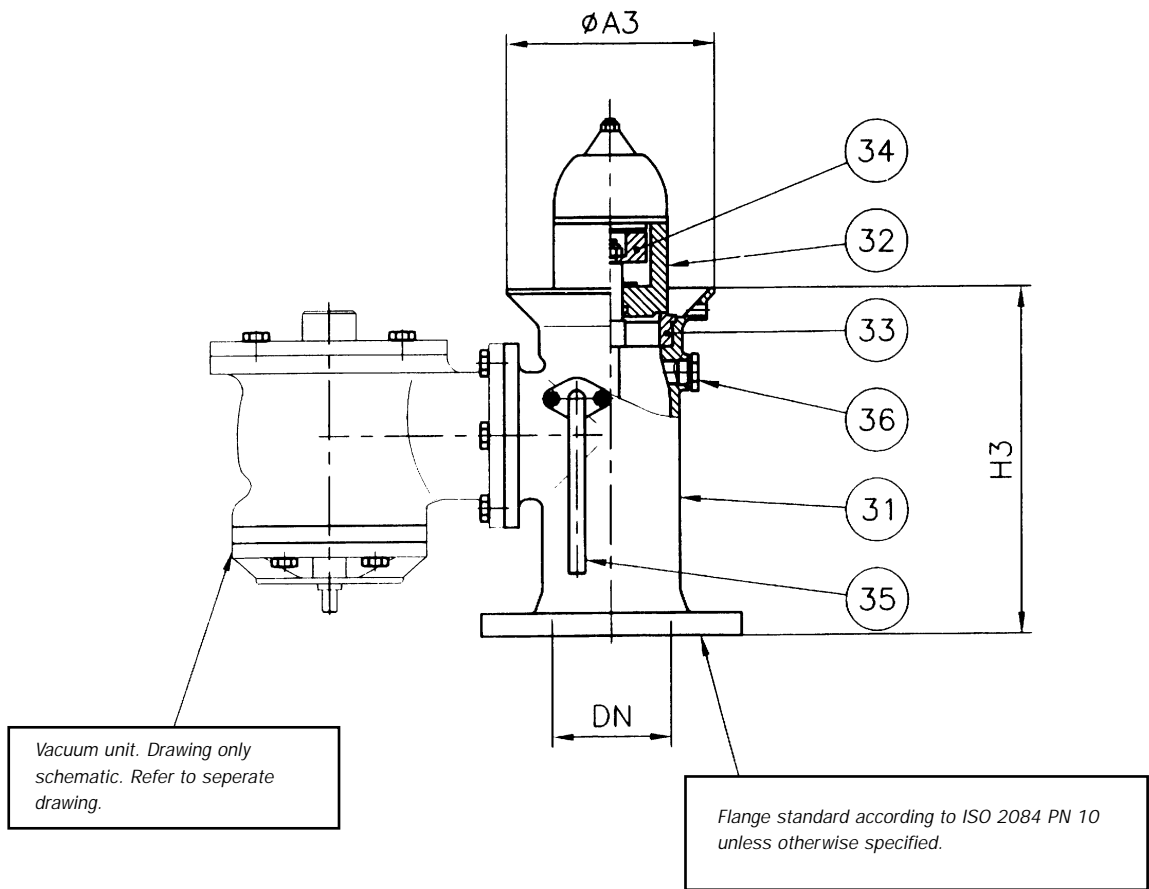
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drwg. no.:	2374	drwg.:	-
	page 5 of 6	date:	980219
model:	-	scale:	-
drw. rev.:	19	material:	-

# Type HS-IM02, HSE-IM02, HSM-IM02

High velocity valve

HSM-IM02-2374-N-065-80-100-250-100-2145-90	100	4	175	290
Code No.	DN	DN	°A3	H3
		mm	inch	mm



**Parts list**

Item	Description	Spec. 1	Spec. 2
31	House	Stainless steel	Cast iron
32	Pressure disc/weight loading	Stainless steel	Stainless steel
33	Pressure seat	Stainless steel	Stainless steel
34	Blowdown control magnet	PTFE encapsulated	PTFE encapsulated
35	Check lift, self-closing	Stainless steel	Stainless steel
36	Flushing port, optional	Stainless steel	Stainless steel

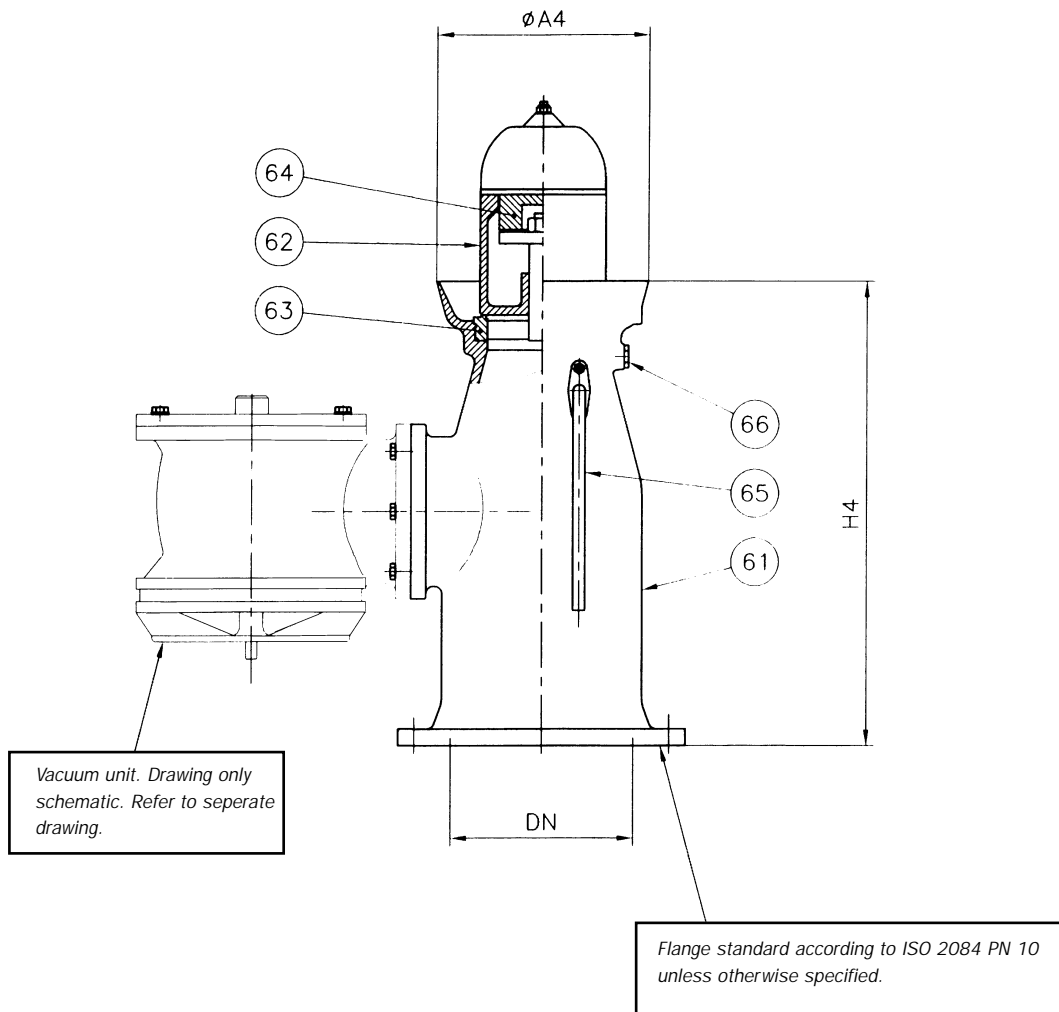
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drwg. no.:	2374	drwg.:	-
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date:	980219	scale:	-
model:	-	material:	-
drw. rev.:	19		

# Type HS-IM02, HSE-IM02, HSM-IM02

High velocity valve

HSM-IM02-2374-I-090-155-100-200-200-6565-180	200	8	295	660
Code No.	DN	DN	°A4	H4
	mm	inch	mm	mm



Parts list

Item	Description	Spec. 1	Spec. 2
61	House	Stainless steel	Cast iron
62	Pressure disc/weight loading	Stainless steel	Stainless steel
63	Pressure seat	Stainless steel	Stainless steel
64	Blowdown control magnet		
65	Check lift, self-closing	Stainless steel	Stainless steel
66	Flushing port, optional	Stainless steel	Stainless steel

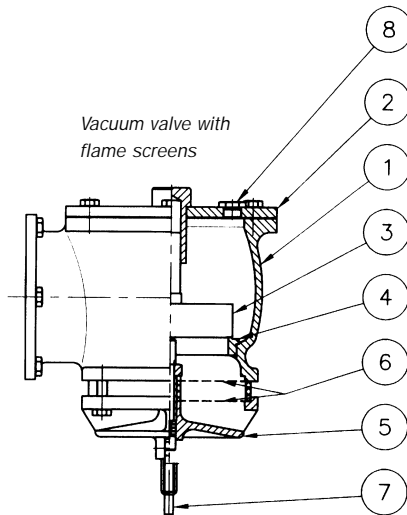
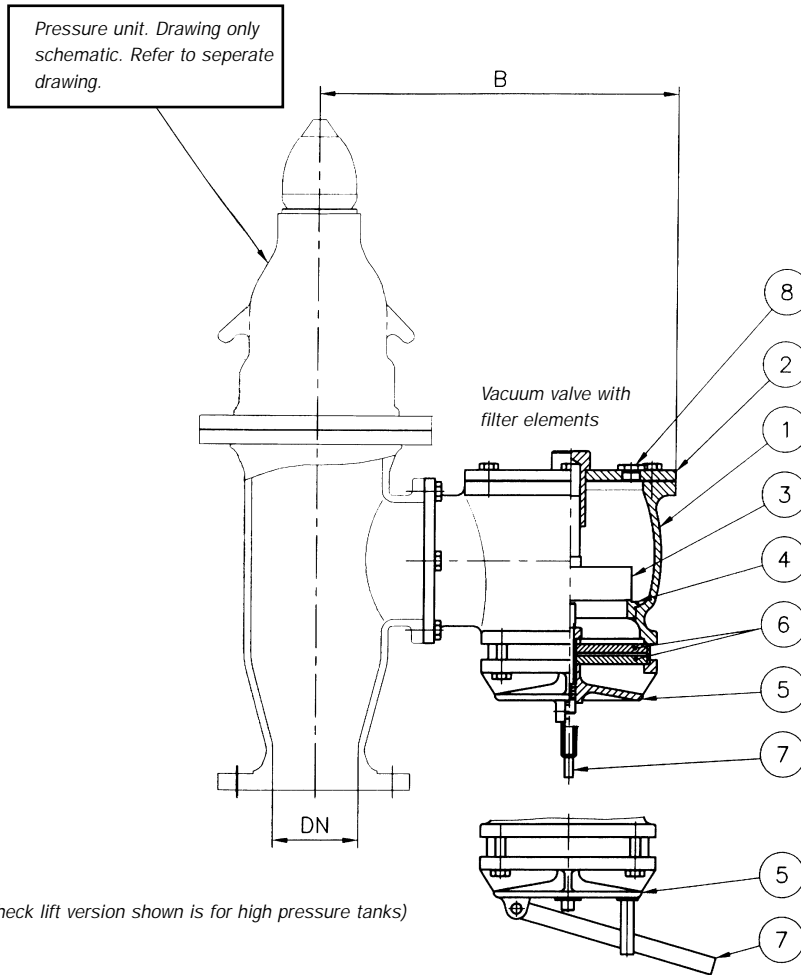
This drawing is for guidance only. Other sizes, materials, flange standards, settings, and versions are available. Request a specific quotation or approval drawing before implementing data.

drwg. no.:	2376
	page 1 of 6
date:	981209
model:	-
drw. rev.:	12
material:	-

# Type IMO2-VAC

## Vacuum valve

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.



Approved in accordance with IMO MSC/Circ. 677. Please refer to certified flow curves for each size of each type as per Circ. 677.

drwg. no.:	<b>2376</b> page 2 of 6
date:	981209
model:	-
drw. rev.:	12
drwg.:	-
scale:	-
material:	-

# Type IM02-VAC

Vacuum valve

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.

IMO2-VAC-2376-090-250-25-35-350-5700-200	350	14	780
IMO2-VAC-2376-090-250-25-35-250-5175-164	250	10	885
IMO2-VAC-2376-090-250-25-35-250-5175-150	250	10	885
IMO2-VAC-2376-090-205-35-35-250-3630-150	250	10	660
IMO2-VAC-2376-090-160-20-35-250-2795-150	250	10	565
IMO2-VAC-2376-090-205-35-35-200-3970-150	200	8	660
IMO2-VAC-2376-090-205-35-35-200-4000-100	200	8	605
IMO2-VAC-2376-090-160-20-35-200-2835-150	200	8	565
IMO2-VAC-2-2376-090-116-35-35-200-1025-100	200	8	425
IMO2-VAC-2376-090-180-35-35-175-2875-125	175	7	595
IMO2-VAC-2376-090-205-35-35-150-3090-68	150	6	570
IMO2-VAC-2376-090-160-20-35-150-2730-82	150	6	485
IMO2-VAC-2376-090-135-35-35-150-1160-68	150	6	425
IMO2-VAC-2376-090-135-35-35-125-1220-68	125	5	425
IMO2-VAC-2376-065-135-35-35-125-980-68	125	5	425
IMO2-VAC-2376-065-116-35-35-125-785-68	125	5	400
IMO2-VAC-2376-090-160-35-35-100-1670-50	100	4	455
IMO2-VAC-2376-090-135-35-35-100-1100-68	100	4	420
IMO2-VAC-2376-065-135-35-35-100-1000-68	100	4	420
IMO2-VAC-2376-090-116-35-35-100-1020-68	100	4	420
IMO2-VAC-2376-065-116-35-35-100-745-60	100	4	420
IMO2-VAC-2376-065-116-35-35-100-740-50	100	4	385
IMO2-VAC-2376-090-90-35-35-125-725-68	125	5	375
IMO2-VAC-2376-090-90-35-35-100-660-68	100	4	400
IMO2-VAC-2376-065-90-35-35-100-495-60	100	4	370
IMO2-VAC-2376-065-90-35-35-100-465-50	100	4	360
IMO2-VAC-2376-065-116-35-35-80-650-68	80	3	400
IMO2-VAC-2376-065-116-35-35-80-650-50	80	3	385
IMO2-VAC-2376-090-90-35-35-80-580-68	80	3	395
IMO2-VAC-2376-090-90-35-35-80-595-60	80	3	370
IMO2-VAC-2376-090-90-35-35-80-600-50	80	3	360
IMO2-VAC-2376-065-90-35-35-80-485-50	80	3	360
IMO2-VAC-2376-090-50-35-35-80-200-35	80	3	265
IMO2-VAC-2376-090-50-35-35-80-200-35	80	3	265
IMO2-VAC-2376-090-90-35-35-65-495-50	65	2 1/2	360
IMO2-VAC-2376-065-90-35-35-65-455-50	65	2 1/2	360
IMO2-VAC-2376-090-50-35-35-65-195-50	65	2 1/2	280
IMO2-VAC-2376-090-50-35-35-65-200-35	65	2 1/2	265
IMO2-VAC-2376-065-50-35-35-65-165-35	65	2 1/2	265
IMO2-VAC-2376-065-116-35-35-50-410-50	50	2	385
IMO2-VAC-2376-065-90-35-35-50-335-50	50	2	360
IMO2-VAC-2376-090-50-35-35-50-200-50	50	2	280
IMO2-VAC-2376-090-50-35-35-50-190-35	50	2	265
IMO2-VAC-2376-065-50-35-35-50-150-35	50	2	265

<b>Code No.</b>	<b>DN</b>	<b>DN</b>	<b>B</b>
	mm	inch	mm

**Parts list**

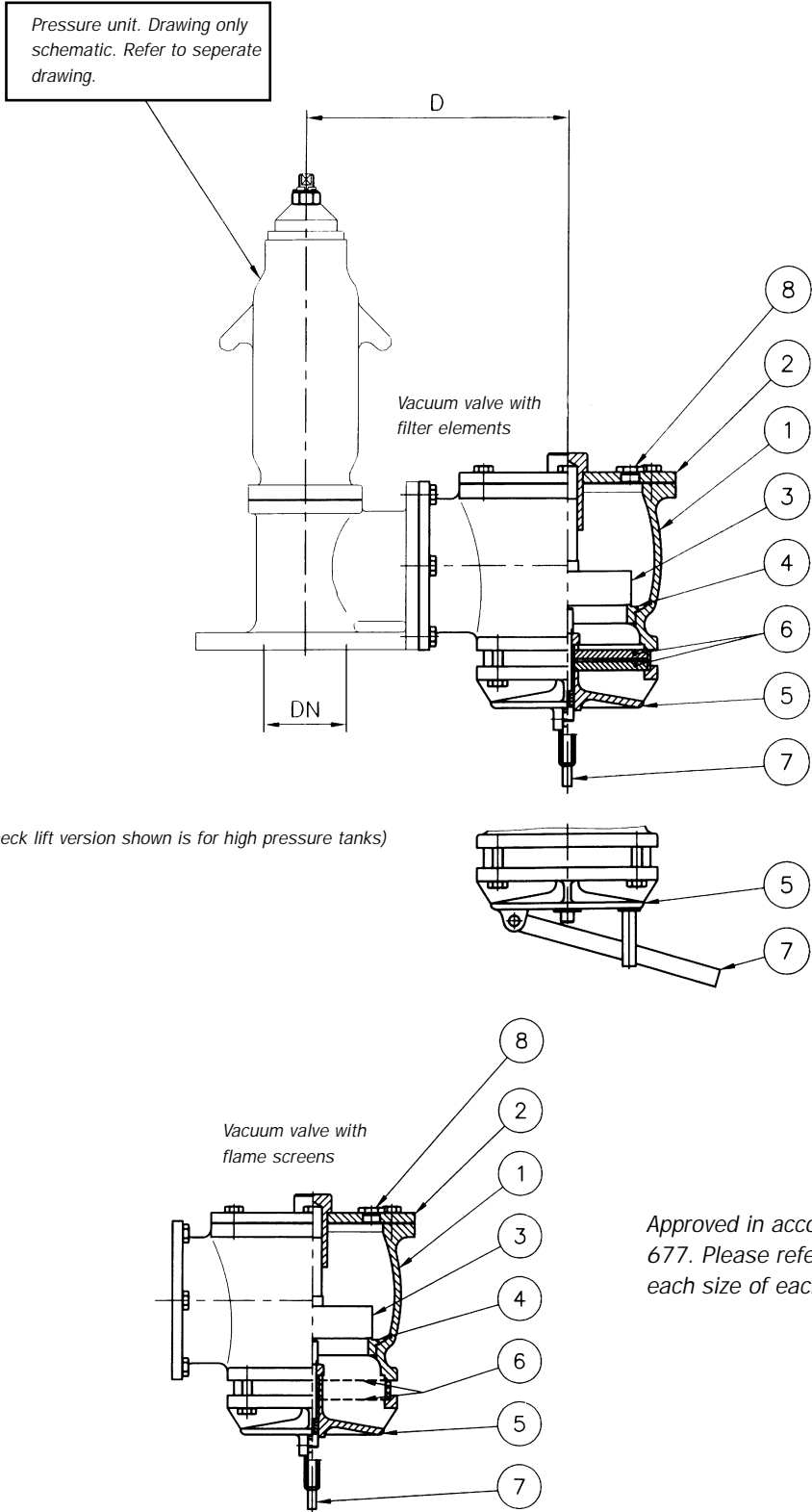
Item	Description	Spec. 1	Spec. 2	Spec. 3
1	House	Stainless steel	Cast iron	Cast iron
2	Cover	Stainless steel	Steel	Steel
3	Vacuum disc	Stainless steel	Stainless steel	Bronze
4	Vacuum seat	Stainless steel	Stainless steel	Bronze
5	Net cover	Stainless steel	Stainless steel	Bronze
6	Filter element/ flame screen	Stainless steel	Stainless steel	Stainless steel
7	Check lift, self-closing	Stainless steel	Stainless steel	Stainless steel
8	Flushing port, optional	Stainless steel	Stainless steel	Stainless steel

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date:	981209
model:	-
drw. rev.:	12
material:	-

# Type IMO2-VAC

Vacuum valve

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.:	<b>2376</b> page 4 of 6
date:	981209
model:	-
drw. rev.:	12

# Type IM02-VAC

Vacuum valve

IM02-VAC-2376-090-90-35-35-80-500-50E	80	3	355
IM02-VAC-2376-065-90-35-35-80-420-50E	80	3	355
IM02-VAC-2376-090-90-35-35-80-495-36E	80	3	355
IM02-VAC-2376-065-90-35-35-80-425-36E	80	3	355
<b>Code No.</b>	<b>DN</b> mm	<b>DN</b> inch	<b>D</b> mm

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

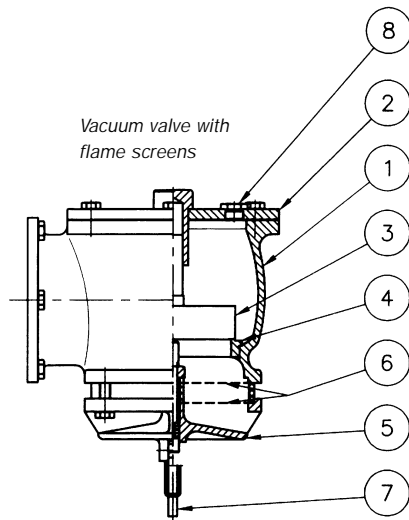
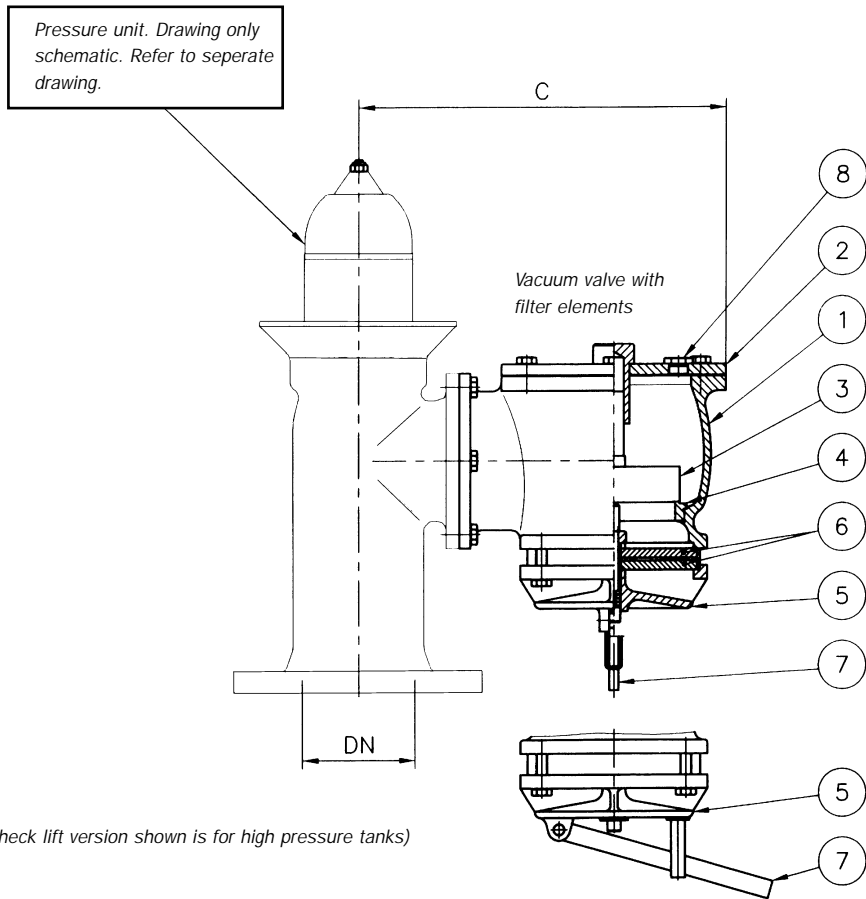
Item	Description	Spec. 1	Spec. 2	Spec. 3
1	House	Stainless steel	Cast iron	Cast iron
2	Cover	Stainless steel	Steel	Steel
3	Vacuum disc	Stainless steel	Stainless steel	Bronze
4	Pressure seat	Stainless steel	Stainless steel	Bronze
5	Net cover	Stainless steel	Stainless steel	Bronze
6	Filter element/ flame screen	Stainless steel	Stainless steel	Stainless steel
7	Check lift, self-closing	Stainless steel	Stainless steel	Stainless steel
8	Flushing port, optional	Stainless steel	Stainless steel	Stainless steel

drwg. no.:	2376
	page 5 of 6
date:	981209
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drw. rev.:	material:
12	-

# Type IMO2-VAC

## Vacuum valve

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Approved in accordance with IMO MSC/Circ. 677. Please refer to certified flow curves for each size of each type as per Circ. 677.

drwg. no.:	<b>2376</b> page 6 of 6
date:	981209
model:	-
drw. rev.:	12
drwg.:	-
scale:	-
material:	-

# Type IM02-VAC

Vacuum valve

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.

IM02-VAC-2376-090-180-35-35-200-2900-155	200	8	560
IM02-VAC-2376-090-116-35-35-150-1210-106	150	6	400
IM02-VAC-2376-090-90-35-35-100-685-80	100	4	340
IM02-VAC-2376-065-90-35-35-100-480-80	100	4	340
<b>Code No.</b>	<b>DN</b> mm	<b>DN</b> inch	<b>C</b> mm

## Parts list

Item	Description	Spec. 1	Spec. 2	Spec. 3
1	House	Stainless steel	Cast iron	Cast iron
2	Cover	Stainless steel	Steel	Steel
3	Vacuum disc	Stainless steel	Stainless steel	Bronze
4	Vacuum seat	Stainless steel	Stainless steel	Bronze
5	Net cover	Stainless steel	Stainless steel	Bronze
6	Filter element/ flame screen	Stainless steel	Stainless steel	Stainless steel
7	Check lift, self-closing	Stainless steel	Stainless steel	Stainless steel
8	Flushing port, optional	Stainless steel	Stainless steel	Stainless steel