Dorot
CONTROL VALVES

DAV SERIES

Air Release & Vacuum Break Valves

DAV-MS/03.12.06

DAV-MS

DAV-MS Air Release and Vacuum Break Valves

Operation:

Venting air from a filling pipeline

The standard valve allows discharge of trapped air while the system is being filled with liquid. The valve will remain open, even at very high air flow velocity (A), until the liquid has reached the float and lifted it to its closed position (B).
Available for valve models with suffix “K” and “KA”.

Operation:

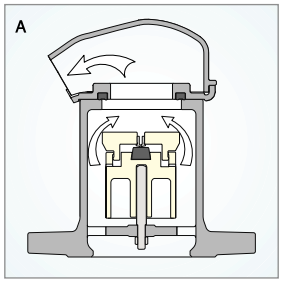
Vacuum Breaking (Air Intake) of a draining pipeline

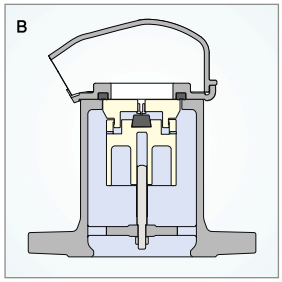
Decrease or the pressure in the system to negative value and the simultaneous drainage of the valve chamber, forces the floats down, allowing the admittance of air into the pipe, thus preventing negative pressure and possible collapse of the pipe (C).
Available for valve models with suffix “K” and “KA”.

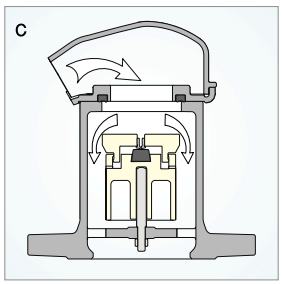
Operation:

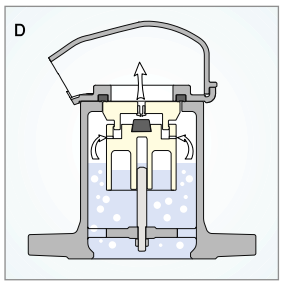
Release of dissolved air from a pressurized pipeline

Air that is being released from the liquid in the pressurized system or being introduced into the system from open sources and pumping vortexes, accumulates in the air release valves located at high places. The accumulated air forces the liquid out of the valve chamber, so the floating force of the bottom float decreases. The bottom float then drops, allowing for the trapped air to be vented through the small nozzle at the center of the top float. Then the liquid level rises, the bottom float is lifted and the nozzle closes (D).
Available for valve models with suffix “KA” only.







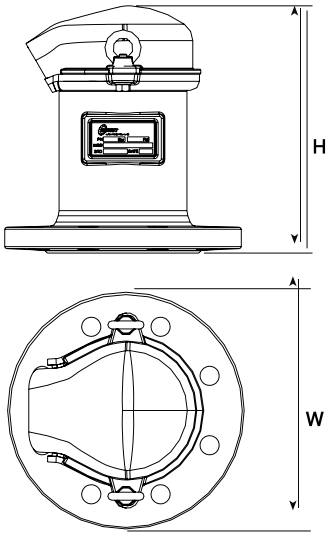


DAV-MS Technical Data

Dimensions

Nom. diameter		Height H		Width W		d-Kinetic orifice area		Approx. shipping Weight	
inch	mm	inch	mm	inch	mm	inch^2	mm^2	kg	lbs
2	50	9.8	250	6.5	165	3.0	1960	7.5	16.5
3	80	9.8	250	7.9	200	3.0	1960	9.0	19.8
4	100	11	280	9.3	235	7.8	5025	14.0	30.9
6	150	15.7	400	11.8	300	12.2	7855	31.0	68.3
8	200	17.3	440	14.2	360	27.4	17670	56.0	125
10	250	19.7	500	16.7	425	48.7	31415	124	273
12	300	26.8	680	19.1	485	76.1	49090	210	467

Connections: ISO, ANSI, BS, JIS flanges, BSP, NPT threads (50mm valves only)

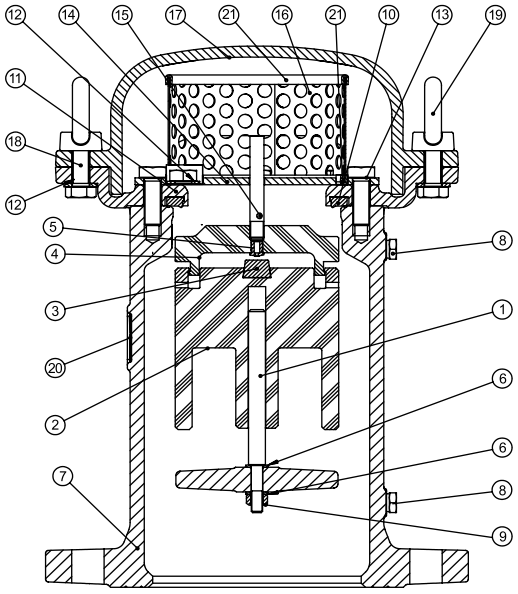


Specifications

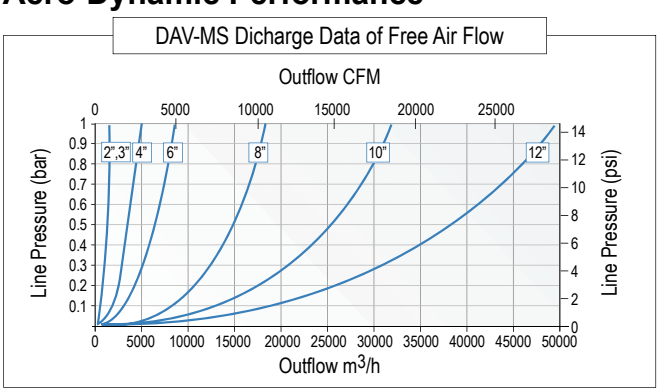
Nominal sizes	2" / 50mm to 12" / 300mm
Pressure rating	PN16 (230 psi) and PN25 (350 psi)
Minimal pressure for drip-tight sealing	0.2 bar
Max. Temperature	65°C (150°F)

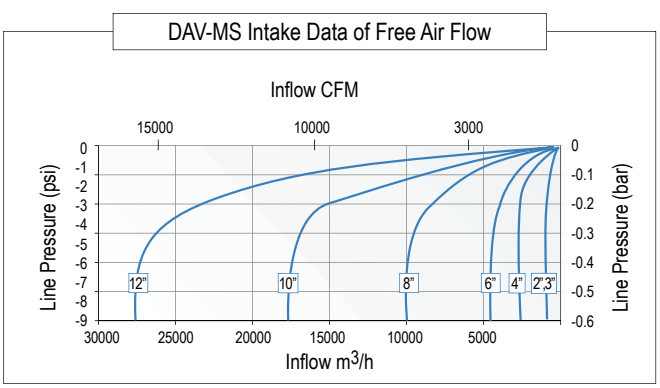
Components

No.	Description	Material	Note
1	Main guiding shaft	SST 304	
2	Main Float	HDPE	
3	Nozzle Seal	EPDM	
4	Top Float	HDPE	
5	Nozzle	SST 334	
6	Washer	SST 334	DIN125-A2
7	Body	D.I. ISO 1083 GR 400-15	
8	Plug	Brass EN 12165 CW617N	
9	Nut	SST 304	DIN934-A2
10	Seal	NR	
11	Seal Flange	D.I. ISO 1083 GR 400-15	
12	Washer	SST 304	DIN125-A2
13	Bolt	SST 304	
14	Top shaft guide	SST 304	
15	Top shaft	SST 304	DIN933-A2
16	Screen	SST 304	
17	Cover	D.I. ISO 1083GR 400-15	
18	Bolt	SST 304	
19	Lifting ring	Cast Steel	
20	I.D. Plate	Aluminum	
21	Screen Stripe	PVC	



Aero-Dynamic Performance

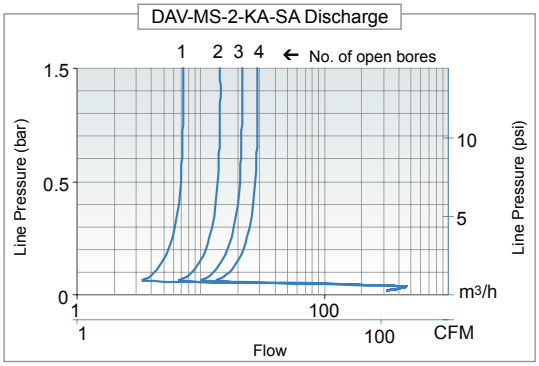




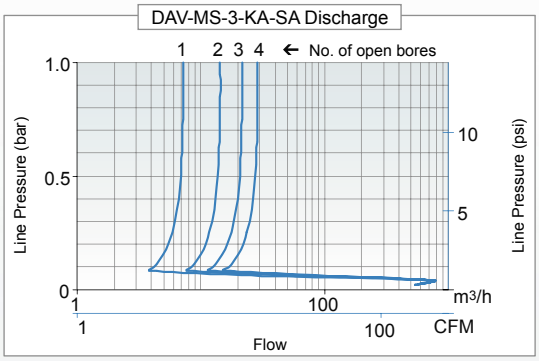
DAV-MS-SA Technical Data

Aero Dynamic Performance > Free air outflow

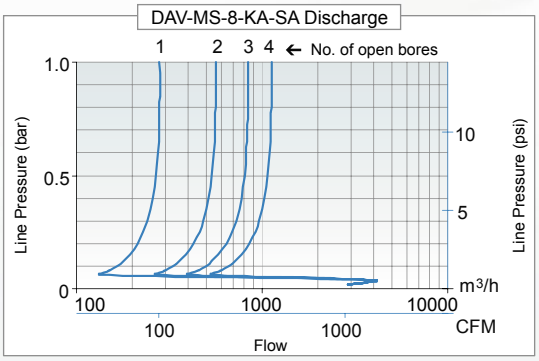
DAV-MS-2-KA-SA Discharge



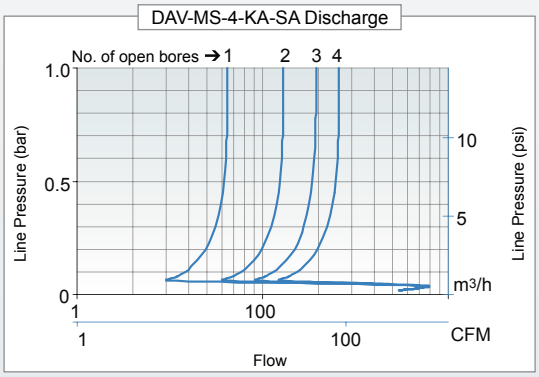
DAV-MS-3-KA-SA Discharge



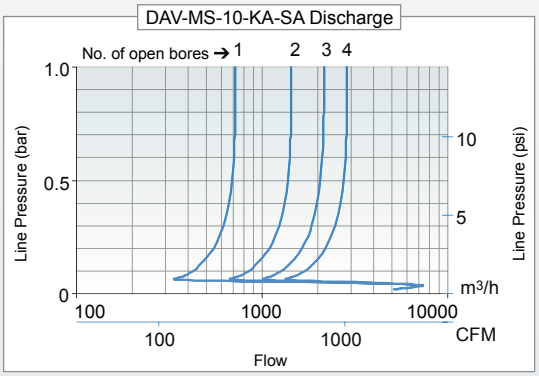
DAV-MS-8-KA-SA Discharge



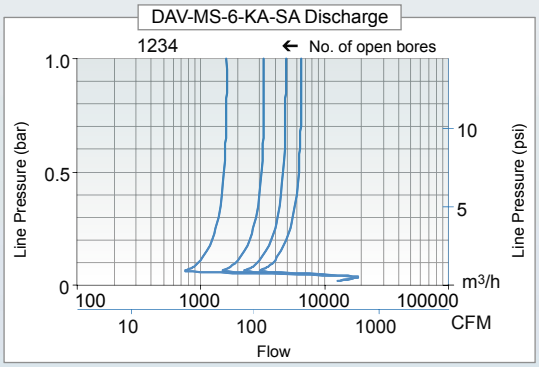
DAV-MS-4-KA-SA Discharge



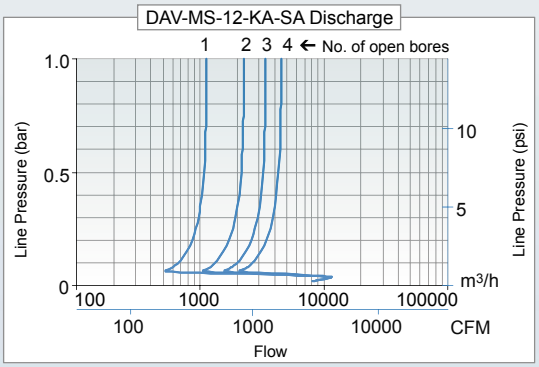
DAV-MS-10-KA-SA Discharge



DAV-MS-6-KA-SA Discharge



DAV-MS-12-KA-SA Discharge

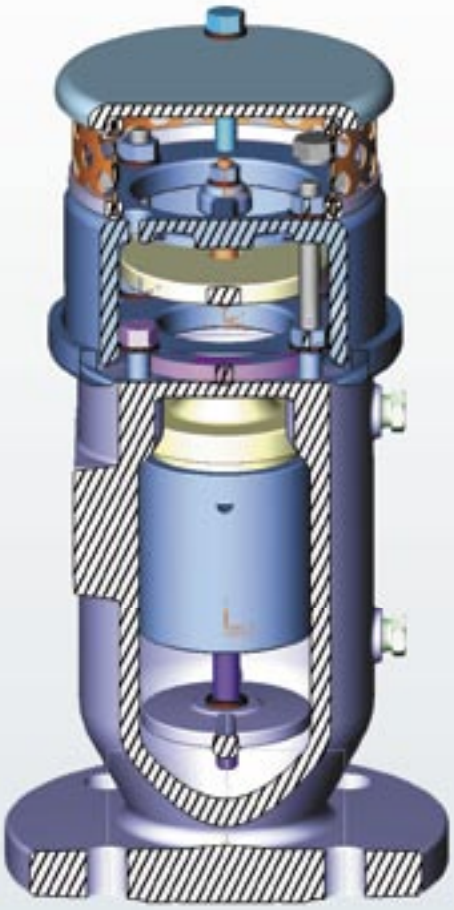


DAV-MS-SA

Surge Arresting Device for DAV valves

Features

- **Surge Arresting** – Automatically prevents water hammer pressure surges associated with air release valves operation.
- **Optimum performance** – Air outlet can be adjusted according to surge analysis results, on site to a required aero-dynamic performance. The SA addition is assembled on user selected valves only (at local high elevated points). The flow through other valves remains unrestricted.
- **Simplicity** – Can be easily assembled on any of Dorot's DAV-M series air valves.
- **Reliability** – Simple, durable mechanism, fabricated from high grade materials. Can be serviced without having to put the air valve out of service.



Function

When air is admitted into the pipe, an in "Air Pocket" is created in the local high points where the Air / Vacuum valve is located. The returning flow re-fills the "pocket".
Too-high velocity of the approaching water column may generate a pressure surge when it reaches the valve.

Operation of the SA addition

Air venting
The Surge Arrestor addition of "DAV-M" valves limits the air outflow, when the escaping air velocity exceeds a threshold value. This optional addition creates a temporary, slow closing "Air Cushion" that decelerates the water velocity, preventing water hammer effect.
Adjustment of the air outflow can be done by plugging or un-plugging a set of bores in the SA adjustment plate (see pictures right side).

Vacuum Breaking (Air Intake)
Decrease or the pressure in the system to negative value and the simultaneous drainage of the valve chamber, forces the floats down, allowing the admittance of air into the pipe. The SA disc is in its low position, allowing unrestricted air flow into the system.

Ordering guide:

DAV	MS	4	ISO PN16	KA	SA	PN16

Options:

DAV	Model	Diameter	Connections	Type	Optional Addition	Pressure rating
	MS Standard MST Threaded (2" only)	2"/50mm to 12"/300mm	ISO PN16 ANSI 150 BSP NPT BSTD BSTE ISO PN25 ANSI 300 JIS	KA Combination valve K Kinetic	SA Surge Arrestor	PN16/230PSI PN25/360PSI

DOROT AUTOMATIC CONTROL VALVES

Founded in 1946, DOROT is a leading developer, manufacturer, and marketer of a wide range of superior quality automatic control valves. DOROT's experienced Research & Development Dept. has a long tradition of generating innovative solutions for the application of water control systems. These include, waterworks distribution networks, sewage and effluent disposal, fire protection, mining, and irrigation systems.

DOROT's commitment to excellence begins with using the highest quality materials. The company's engineering experts are constantly working to provide customers with a broad range of valve patterns and sizes in a wide variety of metals and grades including: Cast Iron, Ductile Iron, Cast Steel, SST, Bronze, Marine Bronze, Polyamide, and P.V.C.

The experts at DOROT custom-design each valve application according to specific control requirements. Most of the production process, which includes, machining, and coating, takes place in modern in-house facilities. Before leaving the factory, each product is hydraulically tested. An advanced testing laboratory simulates the anticipated field conditions.

With distribution in more than 70 countries world-wide, a key component of the DOROT difference is its outstanding customer service. This includes field assistance, technical advice, training programs, and follow-up consultations.

It is all of these factors that make DOROT a leader in fluid control technology and customer satisfaction.