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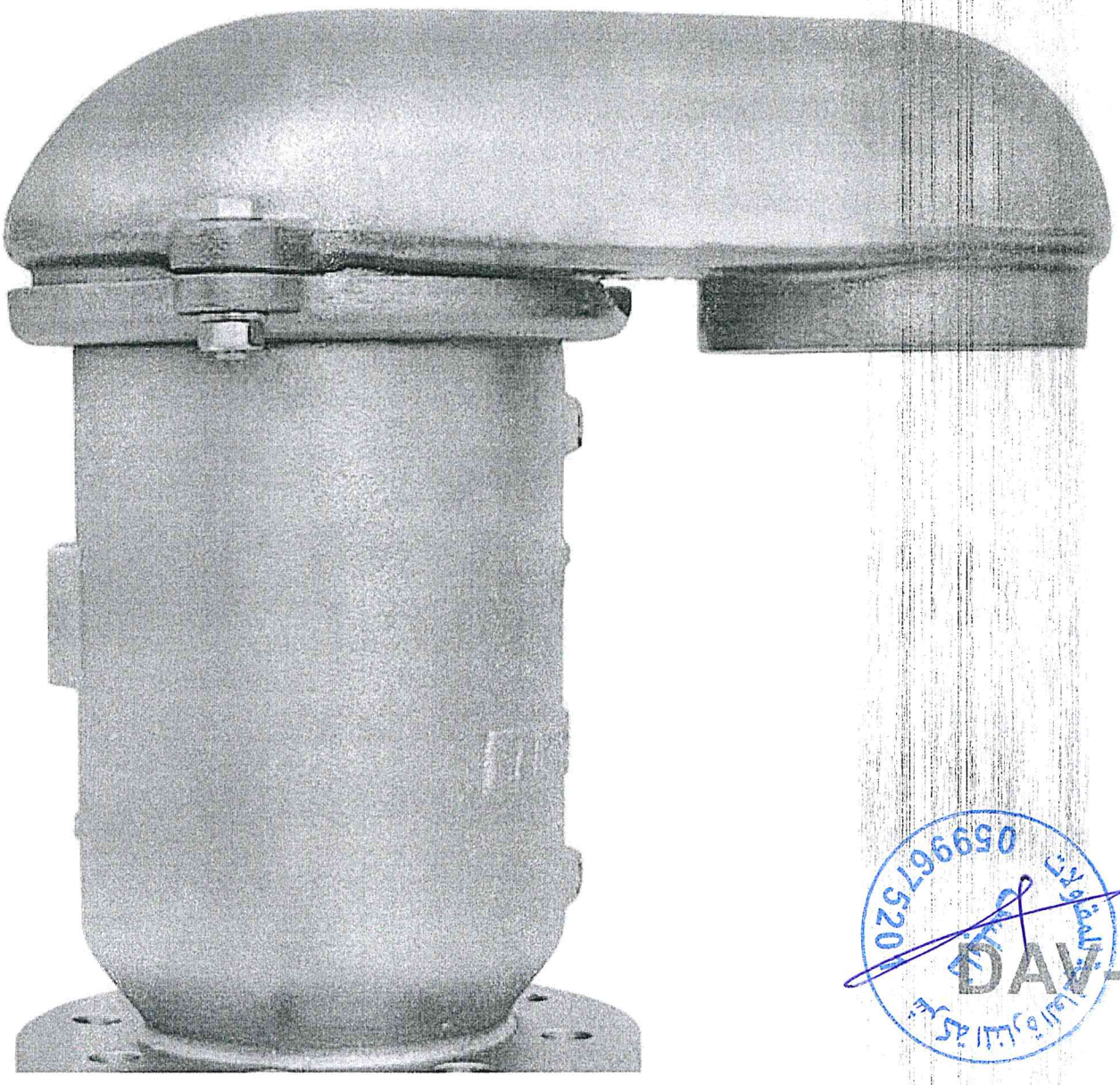
Dorot CONTROL VALVES

A Miya Group company

DAV SERIES

Air Release & Vacuum Break Valves For Corrosive Liquids



DAV-C

DAV-C Air Release & Vacuum Break Valves, for corrosive fluid networks (Sea Water and Mining)

DAV-C valves are made to resist corrosion caused by various liquids in mines, desalinization plants, and the chemical industry. The DAV-C is supplied at PN16 (rated 230psi), PN25 (rated 360psi) and PN40 (rated 580psi).

Operation:

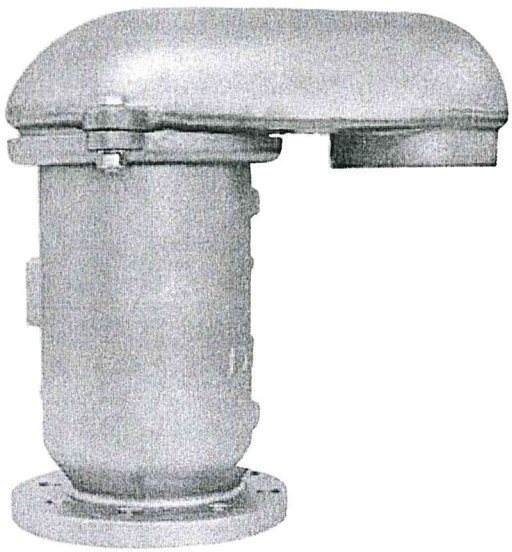
Venting Air from a Filling Pipeline

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

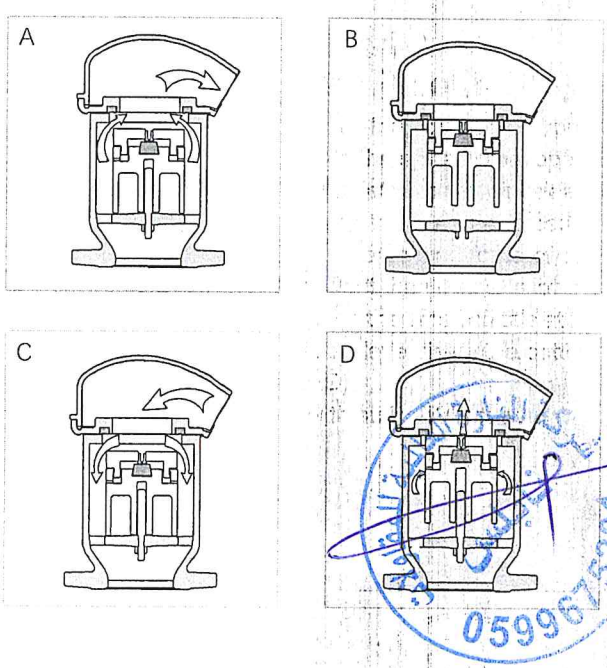
Decrease of the pressure in the system to negative value and the simultaneous drainage of the valve chamber, forces the floats down, allowing the admittance of air into the pipe, thus preventing negative pressure and possible collapse of the pipe (C).
Available for valve models with suffix "K" and "KA".



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.

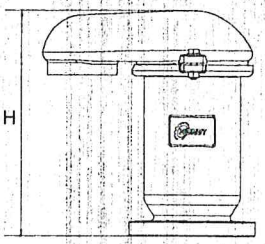


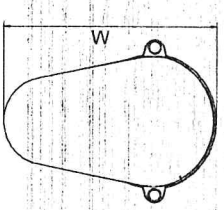
DAV-C Technical Data

Dimensions & Weights

Nominal Diameter		Height H		Width W		Kinetic orifice area		Weight	
inch	mm	inch	mm	inch	mm	inch²	mm²	kg	lbs
2	50	11.1	282	10.0	253	3.0	1960	7.5	16.5
3	80	13.9	354	13.3	339	7.7	5000	10	22
4	100	15.5	394	15.7	400	12.2	7855	18	39.6
6	150	19.1	486	24.5	621	27.4	17670	25	55

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



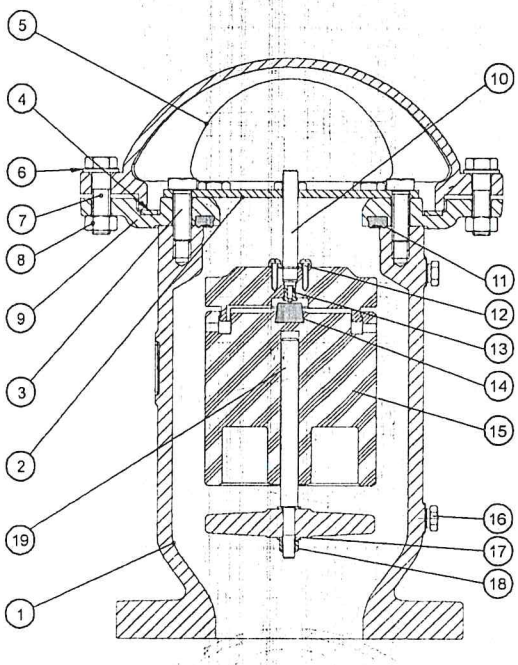


Specifications

Nominal sizes	2" / 50mm to 6" / 150mm
Pressure rating	PN16 (230psi), PN25 (350psi), PN40 (580psi)
Minimal pressure for drip-tight sealing	0.2 bar (3psi)
Max. Temperature	65°C (150°F)

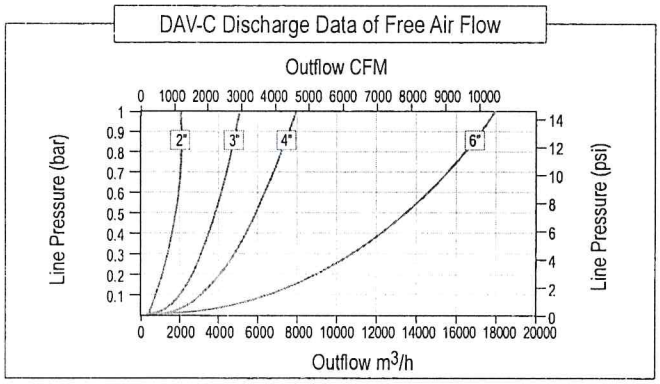
Components

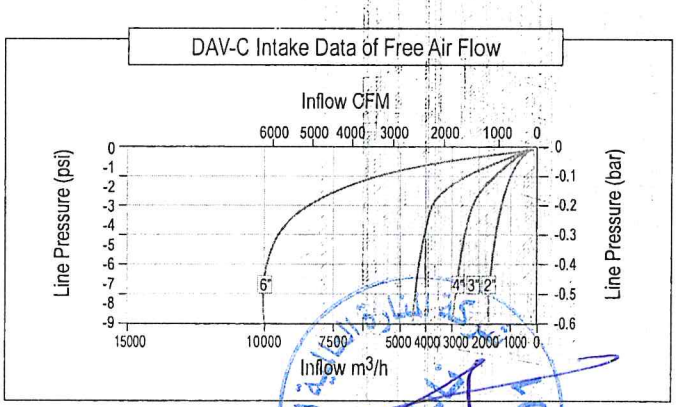
No.	Description	Material
1	Body	CF8M
2	Top guide	SST316
3	Bolt	SST316
4	Cover seal	EPDM
5	Cover	CF8M
6	Washer	SST316
7	Bolt	SST316
8	Nut	SST316
9	Seal plate	CF8M
10	Top Guide shaft	SST316
11	Main Seal	NR
12	Bolt	SST316
13	Nozzle	SST316
14	Nozzle Seal	EPDM
15	Float	HDPE
16	Plug (optional)	SST316
17	Washer	SST316
18	Nut	SST316
19	Guide shaft	SST316



*** Other structure materials: Nickel-Aluminum Bronze, Marine Bronze, SMO, Monel, Duplex, LG2 Bronze, Viton seals - on request**

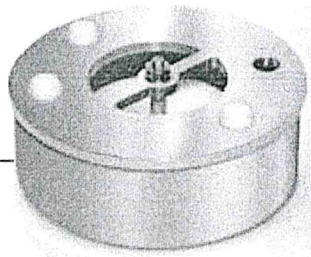
Aero-Dynamic Performance

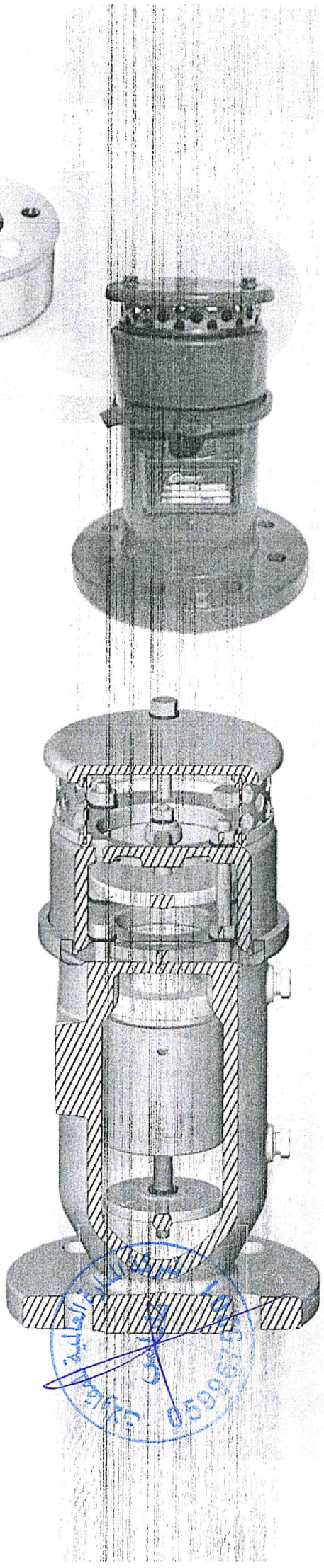




DAV-C-SA

Surge Arresting Device for DAV valves





Features

- **Surge Arresting** – Automatically prevents water hammer associated with operation of air release valves.
- **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 "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

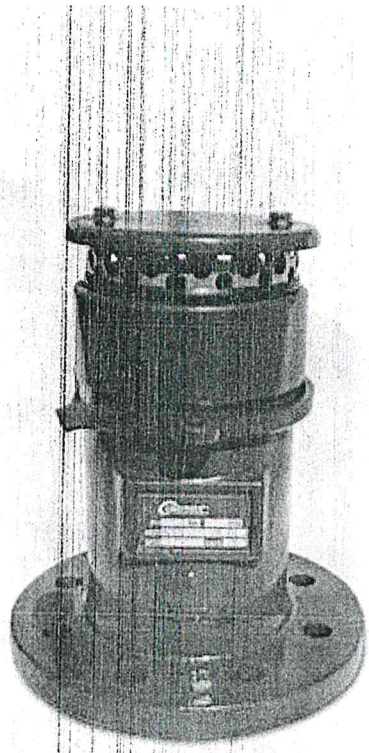
The Surge Arrestor addition of "DAV-M" valves limits the air outflow, when the escaping air velocity exceeds a threshold value.
This optional addition creates a temporary, slow closing "Air Cushion" that decelerates the water velocity, preventing water hammer effect.
Adjustment of the air outflow can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

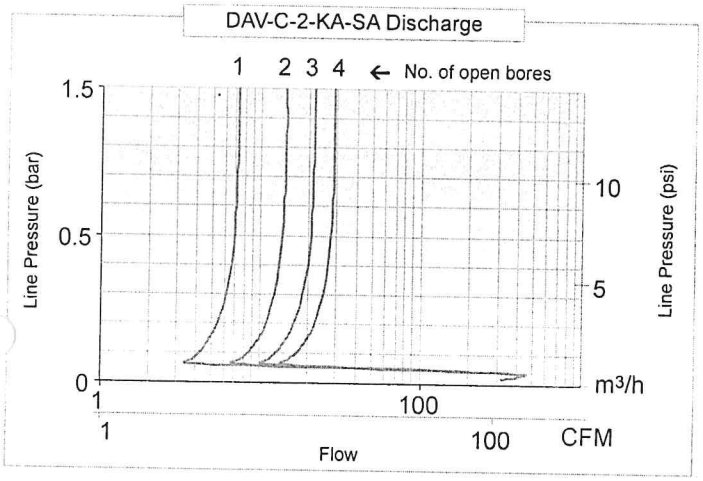
Vacuum Breaking (Air Intake)

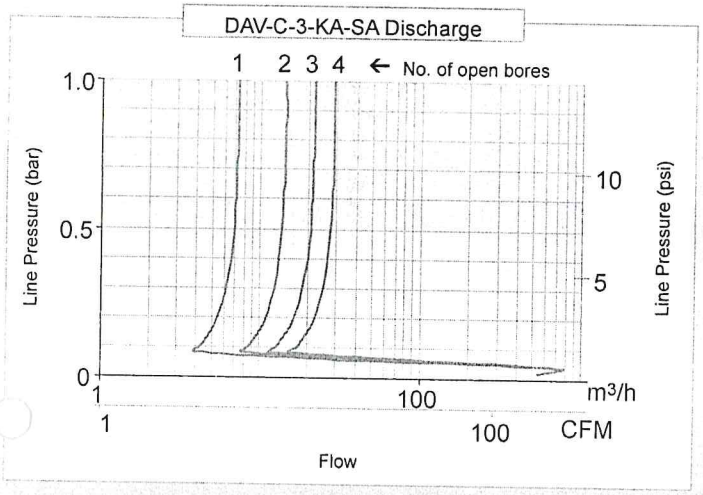
Decrease of the pressure in the system to negative value and simultaneous drainage of the valve chamber - forces the floats down, allowing the admittance of air into the pipe. The SA disc is in its low position, allowing unrestricted air flow into the system.

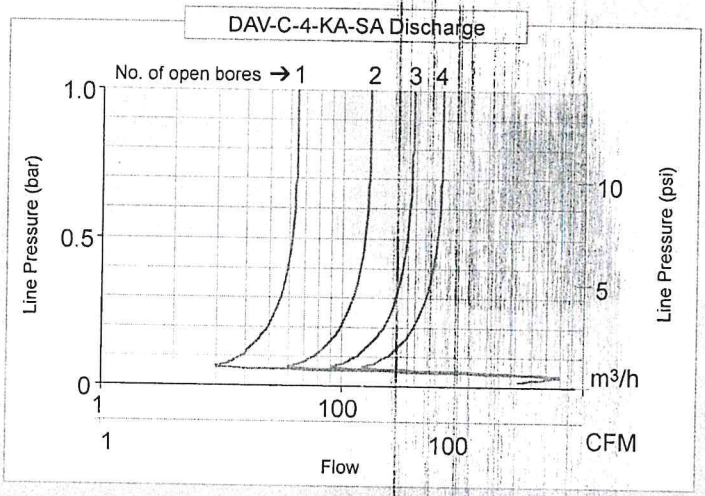
DAV-C-SA Technical Data

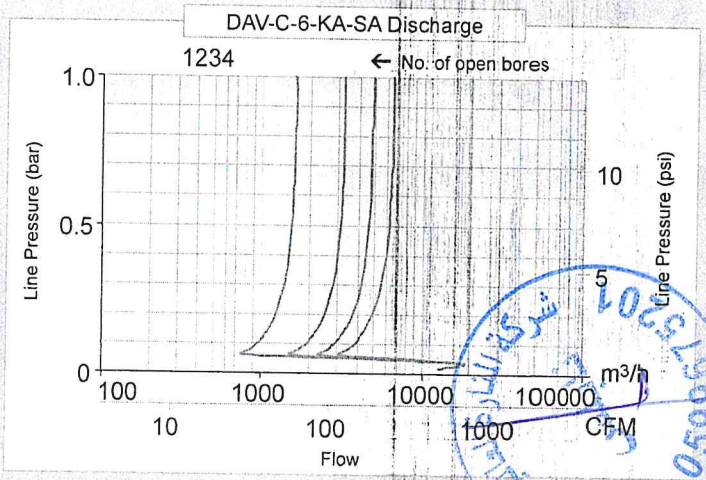
Aero Dynamic Performance > Free air outflow











Ordering Guide (Example):

DAV	C	4	ISO PN16	KA	SA	PN16

Options:

DAV	Model	Diameter	Connections	Type	Optional Addition	Pressure rating
	C Standard CT Threaded (2" only)	2"/50mm to 6"/150mm	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 PN40/580psi

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.