dvdvalves
"brings life"

"BRINGS LIFE"

From the first day on, Humanity depended on Water initially to survive, and then to develop. Being one of the four basic elements of life on earth, Water has accompanied Humanity since the beginning.

All civilizations rise by water sources, leading Water to be the foundation of modern society we live in today.

Food needs water to grow, Energy needs water to power & cool, transportation needs water to sail on, and Humanity fulfilled these needs by building up marvelous engineering solutions and infrastructures for supply and storage of Water.

In the past Humanity established settlements nearby water sources, rivers or lakes. However throughout time, urbanization pushed society to have settlements away from Water as well and continue its journey where water resources maybe found at great distances or major depths. Water had to be transported from greater distances and kept on providing life to Humankind.

In this historical journey of Water, DVD Valves is glad & proud to gain the confidence of Water Authorities, Municipalities, State Hydraulic Departments in over fifty countries, thanks to its superior Valve Solutions for Water Systems.

Potable Water Systems, Irrigation Systems, Power Generation & Industrial Systems, Pump Stations, Transmission Lines, Waste Water Lines and Treatment Plants & Desalination Plants are only a few of the Water related sectors where DVD Valves operates and offers solutions for.

WATER means LIFE,
"DVD VALVES" BRINGS LIFE

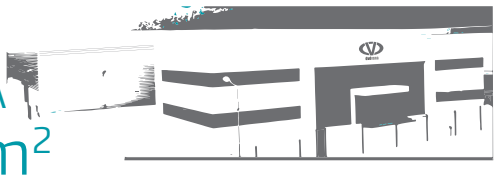
ABOUT US

1988 SINCE 1988
MORE THAN 25 YEARS
EXPERIENCE

A
FAMILY
COMPANY

PRODUCTION FACILITIES

TOTAL AREA
20.000 m²



CLOSED AREA
12.000 m²

%100
TURKISH PRODUCTION

ON AVERAGE
250 TONS / MONTH
VALVE PRODUCTION

BROAD PRODUCT RANGE

GATE VALVES BUTTERFLY VALVES CHECK VALVES AIR VALVES
STRAINERS DISMANTLING PIECES HYDRAULIC CONTROL VALVES
NEEDLE VALVES IRRIGATION HYDRANTS FIRE HYDRANTS WATER METERS

BROAD PRESSURE
RANGE
PN10 - PN63

BROAD SIZE
RANGE
DN40 - DN2500

SOLUTIONS
FOR SPECIAL APPLICATIONS

DUCTILE IRON CARBON STEEL
STAINLESS STEEL NICKEL ALUMINUM BRONZE

MISSION

To satisfy the needs of its customers with its highly qualified manufacturing facility, high-tech, rapidly developing products and experienced staff, and become a remarkable leader in the global market.

VISION

Focus on 2020 for New Horizons!

focus on 2020 "for new horizons"

As a result of the Strategic Planning done in 2013; 2020 Vision of the company has been set. In this 7 year plan; various parameters like Revenue, Earnings, # of Personnel, Product Strategy, Market Strategy, Production Strategy,Organization have been defined, goals are set and are projected for each year. According to these goals, each year has a dedicated Strategy, and different Projects are defined for each year, that are feeding these determined Strategies. DVD Valves daily work is based on Project Management and each Project has a Project Plan, Project Leader & Team, and Project Targets. Monthly Management Evaluation of these Projects is done and Project Plan and KPIs (Key Performance Indicator) are followed. As DVD Valves, we do not leave our future to chance and we follow a pre-determined Strategic Plan.

2013

TRANSFORMATION

Product Range Add - Up
Human Resources
Learning

2014

FINDING OPPORTUNITIES

Lean Production
Support Processes
Cost Control
Human Resources

2015

OPTIMISATION

Efficiency
Planning
New Customers
Support Processes
Product Development

2016

COURAGE

Sales
New Customers
Product Development

2017

UP & FAR AWAY

Exports
New Markets

2018

STANDARDISATION

Cultural Change
Company Value Increase
Improvement

2019

ORGANISATION

Stability
Adaptation to New Scale

2020

NEX GENERATIONS TO COME

New Vision
Sustainability
Consistant Growth

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PRODUCTION

MACHINING SHOP

2 CNC BORVERK CENTER 4 CNC HORIZONTAL MACHINING CENTER
4 CNC VERTICAL LATHE 3 CNC VERTICLE MACHINING CENTER
6 CNC HORIZONTAL LATHE AND MORE...

COATING SHOP

ELECTROSTATIC POWDER EPOXY
AIRLESS COATING APPLICATIONS
TWO PACK EPOXY INTERNAL LINING

ASSEMBLY & TESTING

%100 PRODUCT GUARANTEE
%100 HYDROSTATIC TESTING

LEAN PRODUCTION METHODS

5S SMED TPM

SUPPLY CHAIN MANAGEMENT

MRP

MATERIAL RESOURCE PLANNING

CLOSE RELATIONSHIPS TURKISH FOUNDRIES

FAST DELIVERY FLEXIBILITY

THIRD PARTY TESTING

QUALITY ASSURANCE

QUALITY ASSURANCE

CERTIFICATION

ISO9001 ISO14001 OHSAS18001
WRAS GOST CE
EN CERTIFICATE CONFORMITY

CONTINUOUS IMPROVEMENT

KAIZEN A3 8D

IN-HOUSE TESTING LABORATORIES

LIFE CYCLE TEST BENDING TEST
DYNAMIC FLOW TEST 3D-MEASUREMENT DEVICE
SURGE RESISTANCE TEST PARTICLE RESISTANCE TEST
WATERMETER TEST LAB VARIOUS COATING TESTS

R&D

IN-HOUSE FIXTURE SHOP

FIXTURE DESIGN & PRODUCTION

IN-HOUSE PATTERN SHOP

PATTERN DESIGN & PRODUCTION

QFD

PRODUCTS
THAT ARE DESIGNED ACCORDING TO QFD PROCESS

ADVANCED SOFTWARE

AUTOCAD UNIGRAPHICS SOLID MODELING
CFDESIGN COMPUTATIONAL FLUID DYNAMICS

SALES

EXPORTS
MORE THAN 55 COUNTRIES

EXPORTS
SHARE 40%

PRE-SALES SUPPORT

PROJECT DESIGN ASSISTANCE

AFTER-SALES SUPPORT

TECHNICAL SERVICE AND MAINTENANCE
2 DEDICATED PERSONNEL
COMISSIONING

HUMAN RESOURCES

15 ENGINEER
220 TOTAL PERSONNEL

IN-HOUSE TECHNICAL HIGH SCHOOL

33 STUDENTS

GATE VALVES

- Metal Seated Gate Valves
- Rising Stem Gate Valves
- Resilient Seated Gate Valves
- PE Connection Resilient Seated Gate Valves
- Resilient Seated Gate Valves for Natural Gas

BUTTERFLY VALVES

- Double Eccentric Butterfly Valves
- Check - Butterfly Valves

CHECK VALVES

- Swing Check Valves
- Silent Check Valves
- Foot Valves
- Lift Check Valves
- Tilting Check Valves

AIR VALVES

- Single Chamber / Double Function Air Valves
- Double Chamber / Triple Function Air Valves
- Non-Slam Air Valves
- Air Valves with Isolation Valve
- Vacuum Valves
- 1" Single Chamber / Single Function Air Valves
- Sewage Air Valves
- Underground Air Valves

STRAINERS

- Y Type Strainers
- Basket Type Strainers
- Crepine Type Strainers

DISMANTLING PIECES

- Dismantling Joints

HYDRANTS

- A Type Irrigation Hydrants
- B Type Irrigation Hydrants
- C Type Irrigation Hydrants
- D Type Irrigation Hydrants
- H Type Irrigation Hydrants
- Aboveground Fire Hydrants
- Underground Fire Hydrants

WATERMETERS

- Ultrasonic Watermeters
- Prepaid Ultrasonic Watermeters

NEEDLE (PLUNGER) VALVES

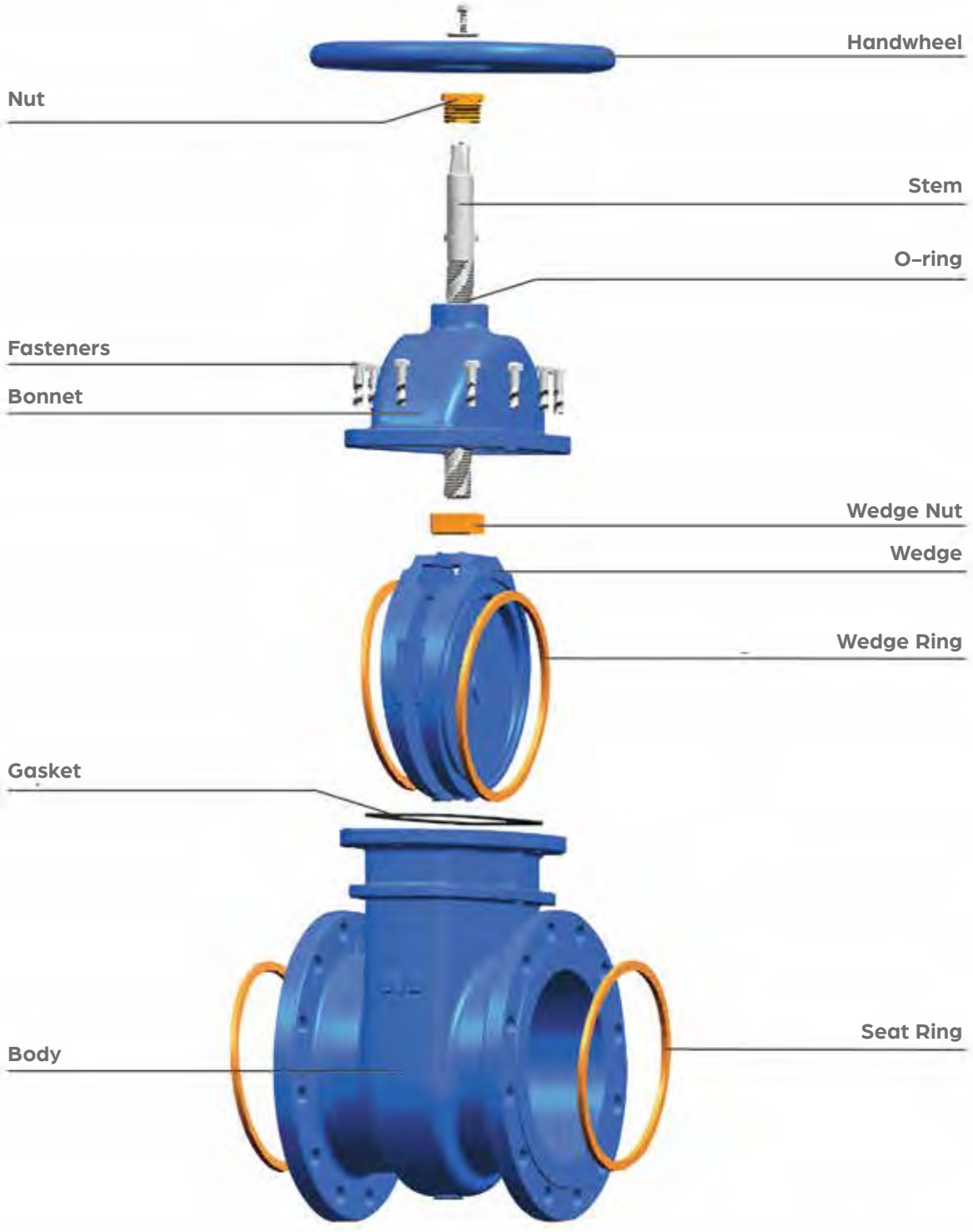
- Isolation w/ Handwheel
- Pressure Regulation w/ Electrical Actuator
- Energy Dissipating w/ Electrical Actuator
- Fast Opening & Closing w/ Hydraulic Actuator
- Pump Control w/ Hydraulic Actuator
- Level Control On/Off Type & Modulating Type
- Flow Control w/ Electrical Actuator

CONTROL VALVES

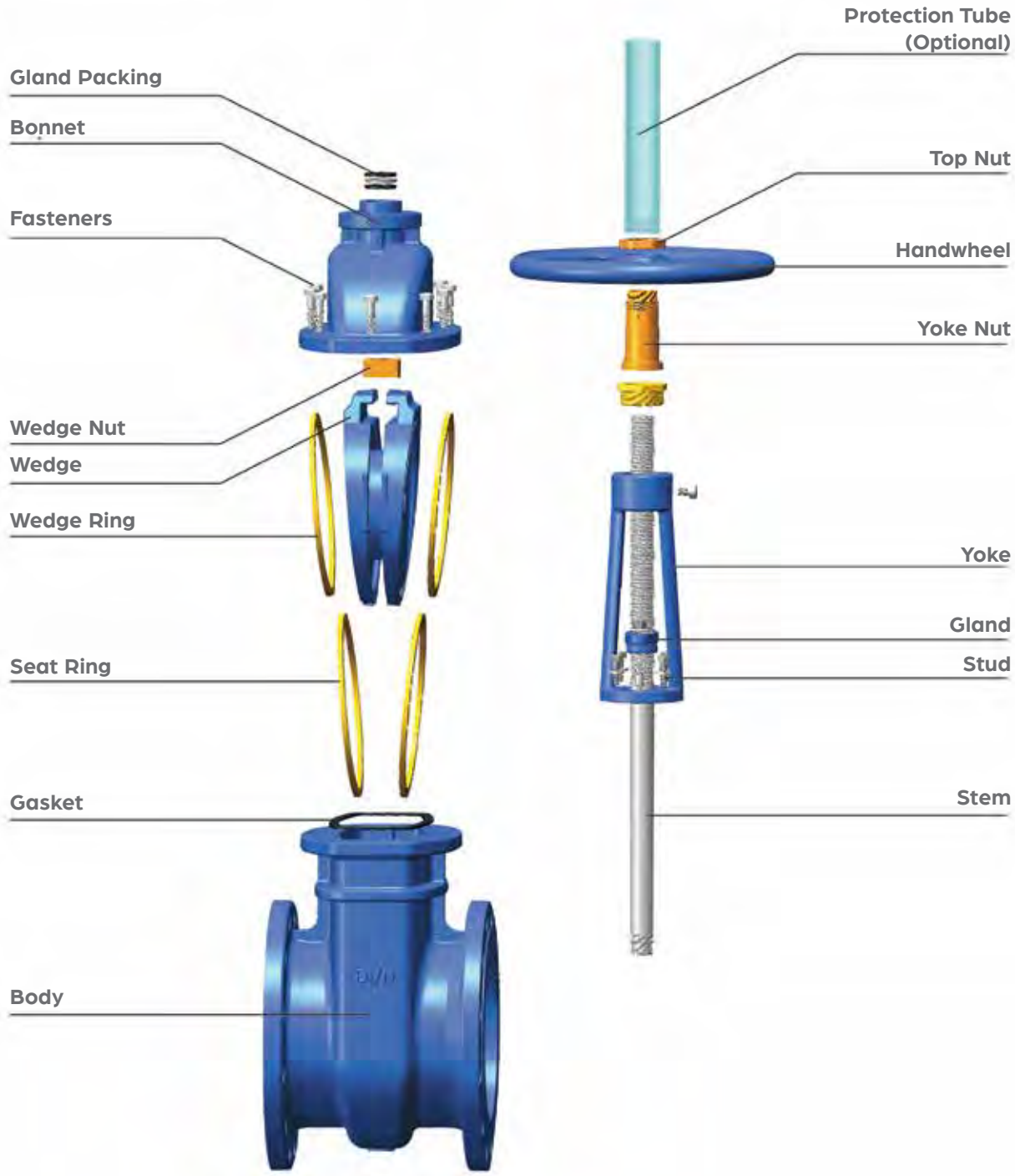
- Solenoid
- Pressure Reducing
- Pressure Relief / Sustaining
- Quick Pressure Relief
- Surge Anticipating
- Booster Pump Control (Active Check Valve)
- Level Control
- Flow Control

MISCELLANEOUS

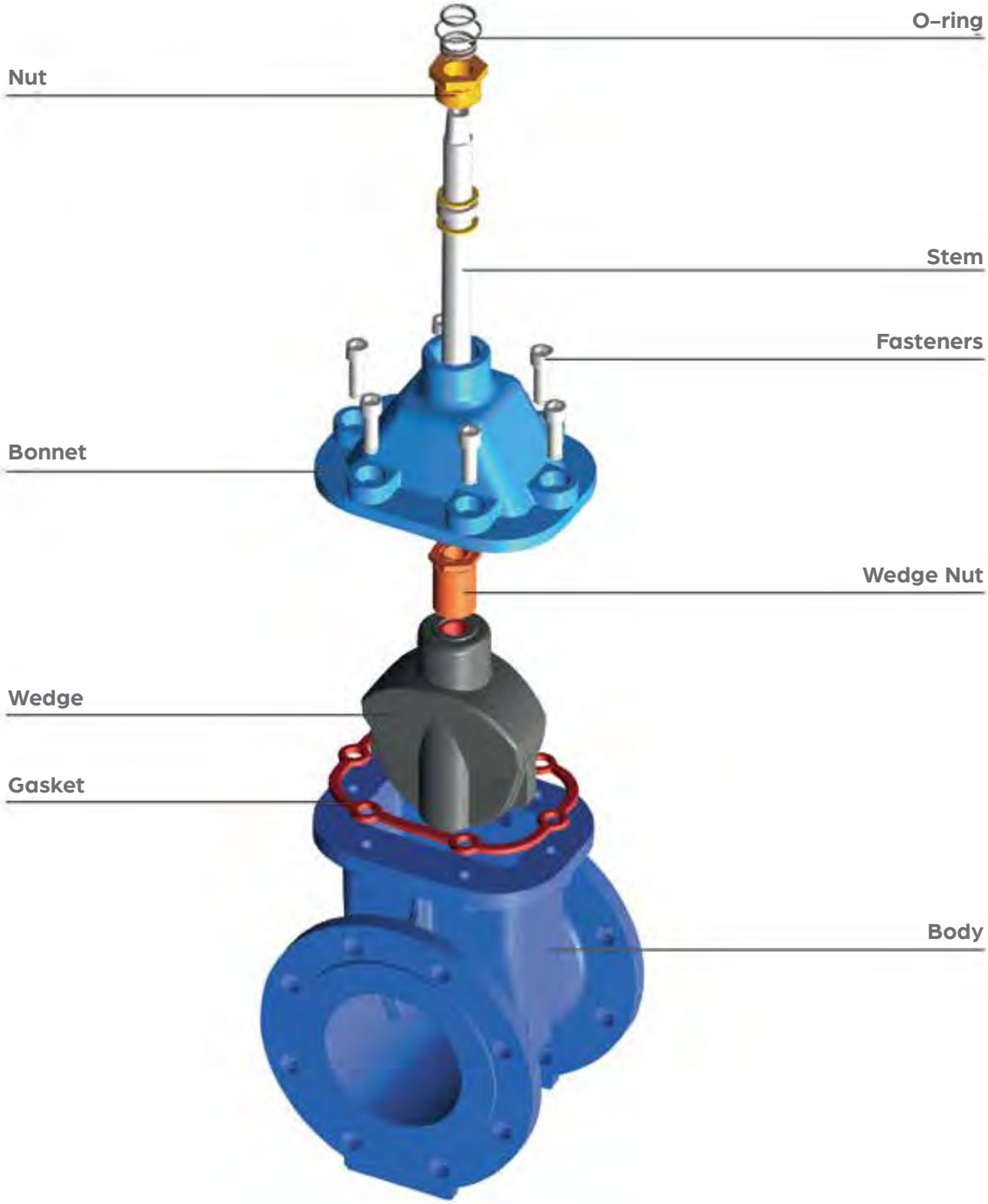
METAL SEATED GATE VALVE



RISING STEM GATE VALVE



RESILIENT SEATED GATE VALVE



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EN 558–1 SERIES 14
(DIN 3202 – F4) METAL SEATED

Available Pressures

PN 10
PN 16

Paint:

DN40-400 -- Electrostatic Fusion Bonded Powder Epoxy Blue

DN450-1000 -- Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Bonnet** **Wedge**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Rings	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

EN 558–1 SERIES 14
(DIN 3202 – F4) METAL SEATED

APPLICATION

DVD Gate Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, they provide undisturbed water flow. DVD Gate Valves are not suitable for regulation purposes.

FEATURES

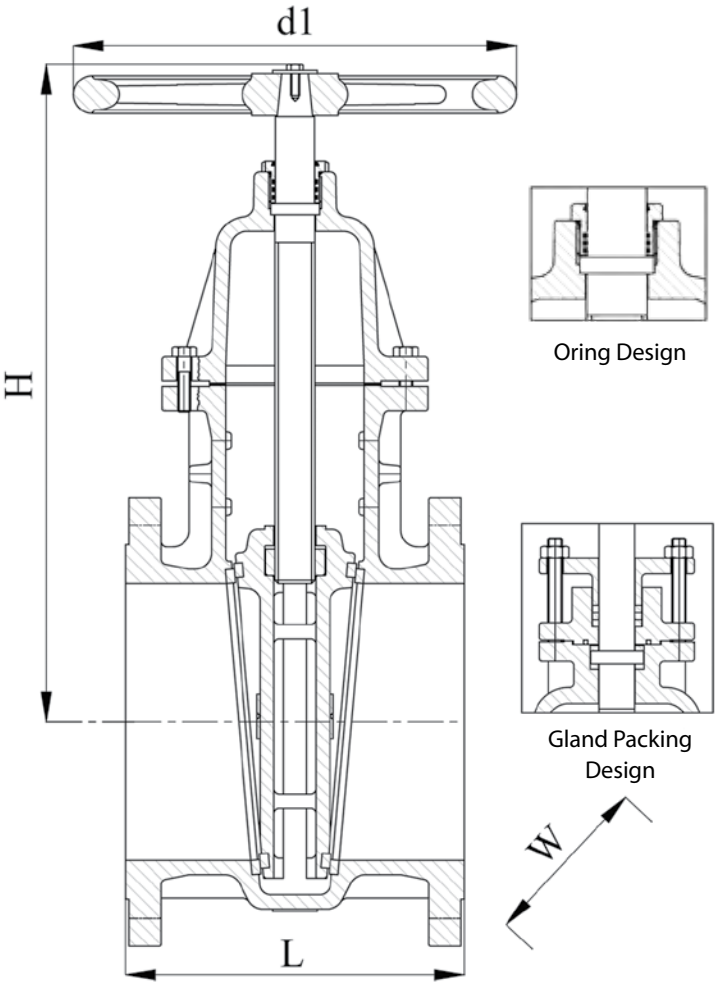
- Rolled stem design provides low operating torque values.
- Pressed in, threaded or welded rings alternatives.
- Gearbox and actuator accessories are available upon request.
- Suitable for above or underground installations with handwheel, chainwheel, fixed and telescopic extension spindle and surface box accessories.
- Optional wedge guide is available upon request for specific sizes.
- Optional jacking screw, wedge stop or drain plug is available upon request for specific sizes.
- Optional bypass valve is available upon request for large sizes.

30 YEARS OF EXPERTISE & KNOW-HOW

DVD Valves started its business by producing Metal Seated Gate Valves. Therefore DVD has proven design, which is tested and used in various potable water distribution systems, shipping industry applications, hvac lines, fire protection lines, industrial cooling lines, seawater intake lines and main transmission lines, all around the world. Metal Seated Gate Valves still proves to be "the choice" of professionals especially for high pressure and large size applications. DVD can go up to PN63 in F5 face to face design and can go up to DN1200 in F5 & BS face to face design. You can always rely on DVD Metal Seated Gate Valves for crucial isolation purposes.

RELYING ON DVD RINGS FOR SEALING

Metal Seated Gate Valves have two body rings and two wedge rings which enable drip tight sealing. When body and wedge rings match with each other, they provide sealing. However, metal to metal sealing needs high expertise and high quality of production. DVD expertise in providing drip tight sealing in Metal Seated Gate Valves depends on the quality of design, material, machining and installation of the Rings to the valve body. Depending on the size, pressure rating and application, DVD can install the rings on the body by press-fitting, threading or welding processes. Furthermore; brass, bronze, nickel aluminum bronze, stainless steel 304, 316 ring material options are available upon request for different needs.



DVD Gate Valves have a revolving, non-rising, rolled, mono-block stem which is transmitting the handwheel rotation to the wedge. Stem revolves inside the bonnet nut and is connected to the wedge by means of the wedge nut. Bonnet nut is threaded to the bonnet and holds the stem firm against axial movement. Wedge is guided in the body in a precast groove and provides undisturbed water flow when the valve is fully open. Body and the wedge have pressed-in/threaded/welded sealing seat to have drip tight sealing when the valve is closed.

DIMENSIONS (mm)															
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
d1	160	160	160	160	200	250	250	315	315	315	400	400	500	500	500
H	250	255	270	280	295	385	430	510	570	655	875	985	1065	1145	1340
W	160	165	185	200	220	250	285	340	416	470	560	616	670	730	850
L	140	150	170	180	190	200	210	230	250	270	290	310	330	350	390
Weight (Kg)	12	12	16	21	24	35	49	83	117	157	250	315	450	455	700

EN 558 SERIES 15
(DIN 3202 – F5) METAL SEATED

Available Pressures
PN 10
PN 16
PN 25
PN 40
PN 63

Paint:
DN40-400 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN450-1200 -- Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Bonnet** **Wedge**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Rings	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

EN 558 SERIES 15
(DIN 3202 – F5) METAL SEATED

APPLICATION

DVD Gate Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, they provide undisturbed water flow. DVD Gate Valves are not suitable for regulation purposes.

FEATURES

- Rolled stem design provides low operating torque values.
- Pressed in, threaded or welded rings alternatives.
- Gearbox and actuator accessories are available upon request.
- Suitable for above or underground installations with handwheel, chainwheel, fixed and telescopic extension spindle and surface box accessories.
- Optional wedge guide is available upon request for specific sizes.
- Optional jacking screw, wedge stop or drain plug is available upon request for specific sizes.
- Optional bypass valve is available upon request for large sizes.

30 YEARS OF EXPERTISE & KNOW-HOW

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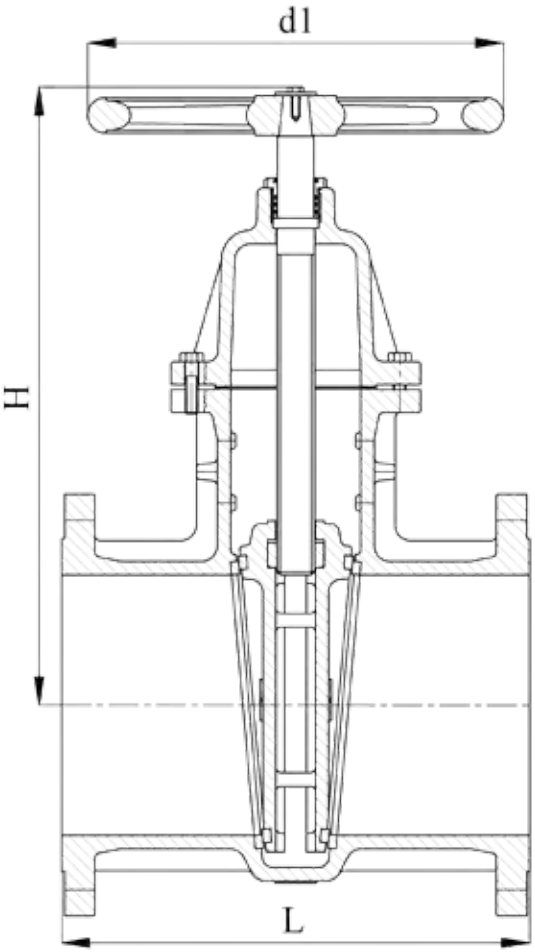
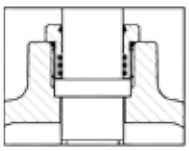
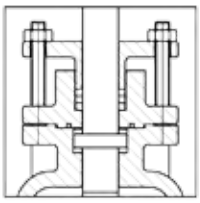
RELYING ON DVD RINGS FOR SEALING

Metal Seated Gate Valves have two body rings and two wedge rings which enable drip tight sealing. When body and wedge rings match with each other, they provide sealing. However, metal to metal sealing needs high expertise and high quality of production. DVD expertise in providing drip tight sealing in Metal Seated Gate Valves depends on the quality of design, material, machining and installation of the Rings to the valve body. Depending on the size, pressure rating and application, DVD can install the rings on the body by press-fitting, threading or welding processes. Furthermore; brass, bronze, nickel aluminum bronze, stainless steel 304, 316 ring material options are available upon request for different needs.





Oring Design



Gland Packing Design

DVD Gate Valves have a revolving, non-rising, rolled, mono-block stem which is transmitting the handwheel rotation to the wedge. Stem revolves inside the bonnet nut and is connected to the wedge by means of the wedge nut. Bonnet nut is threaded to the bonnet and holds the stem firm against axial movement. Wedge is guided in the body in a precast groove and provides undisturbed water flow when the valve is fully open. Body and the wedge have pressed-in/threaded/welded sealing seat to have drip tight sealing when the valve is closed.

DIMENSIONS (mm)																				
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
d1	200	200	250	250	250	315	315	315	400	400	500	500	600	800	800	800	800	800	900	1000
H	235	240	265	290	330	390	430	535	590	700	865	970	1075	1190	1365	1530	1690	1925	2007	2305
W	200	200	250	250	250	315	315	400	410	505	565	640	770	800	895	1050	1126	1500	1255	1485
L	240	250	270	280	300	325	350	400	450	500	550	600	650	700	800	900	1000	1100	1200	1400
Weight (Kg)	15	15	21	27	31	51	62	100	155	221	324	440	575	760	1180	1600	2337	2500	3200	5280

EN 558–1 SERIES 3
(BS 5163) METAL SEATED

Available Pressures
PN 10
PN 16
PN 25

Paint:
DN40-400 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN450-1200 -- Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Bonnet** **Wedge**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Rings	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

EN 558–1 SERIES 3
(BS 5163) METAL SEATED

APPLICATION

DVD Gate Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, they provide undisturbed water flow. DVD Gate Valves are not suitable for regulation purposes.

FEATURES

- Rolled stem design provides low operating torque values.
- Pressed in, threaded or welded rings alternatives.
- Gearbox and actuator accessories are available upon request.
- Suitable for above or underground installations with handwheel, chainwheel, fixed and telescopic extension spindle and surface box accessories.
- Optional wedge guide is available upon request for specific sizes.
- Optional jacking screw, wedge stop or drain plug is available upon request for specific sizes.
- Optional bypass valve is available upon request for large sizes.

30 YEARS OF EXPERTISE & KNOW-HOW

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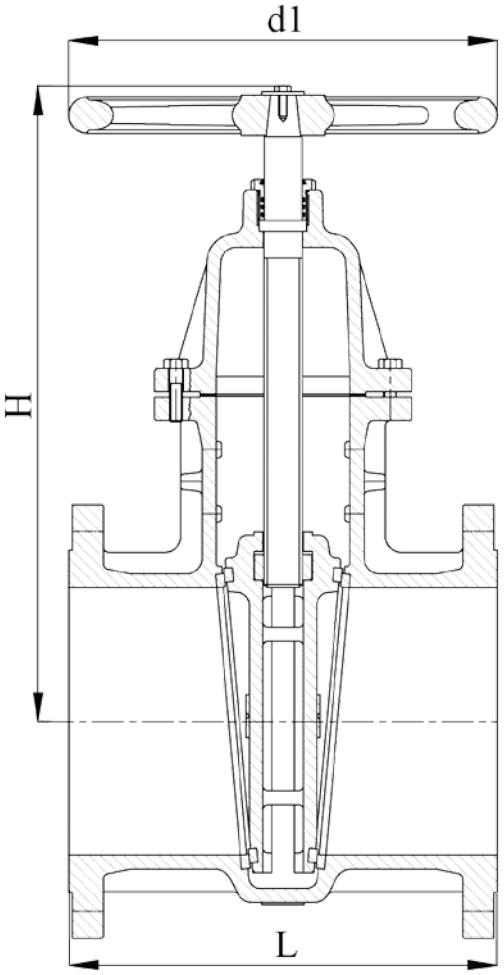
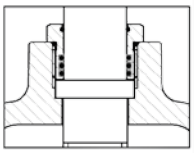
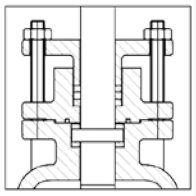
RELYING ON DVD RINGS FOR SEALING

Metal Seated Gate Valves have two body rings and two wedge rings which enable drip tight sealing. When body and wedge rings match with each other, they provide sealing. However, metal to metal sealing needs high expertise and high quality of production. DVD expertise in providing drip tight sealing in Metal Seated Gate Valves depends on the quality of design, material, machining and installation of the Rings to the valve body. Depending on the size, pressure rating and application, DVD can install the rings on the body by press-fitting, threading or welding processes. Furthermore; brass, bronze, nickel aluminum bronze, stainless steel 304, 316 ring material options are available upon request for different needs.





Oring Design



Gland Packing Design

DVD Gate Valves have a revolving, non-rising, rolled, mono-block stem which is transmitting the handwheel rotation to the wedge. Stem revolves inside the bonnet nut and is connected to the wedge by means of the wedge nut. Bonnet nut is threaded to the bonnet and holds the stem firm against axial movement. Wedge is guided in the body in a precast groove and provides undisturbed water flow when the valve is fully open. Body and the wedge have pressed-in/threaded/welded sealing seat to have drip tight sealing when the valve is closed.

DIMENSIONS (mm)																				
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
d1	200	200	250	250	250	315	315	315	400	400	500	600	600	800	800	800	800	800	900	1000
H	235	240	265	290	330	390	430	535	590	700	865	970	1075	1145	1365	1530	1690	1925	2007	2303
W	200	200	250	250	250	315	315	400	500	505	565	640	770	730	895	1050	1126	1500	1255	1485
L	165	178	190	203	229	254	267	292	330	356	381	406	432	457	508	640	660	711	813	838
Weight (Kg)	13	14	21	25	29	45	60	87	137	220	315	460	500	590	1100	1520	2180	2400	2633	4178

EN 558–1 SERIES 14
(DIN 3202 – F4) RISING STEM

Available Pressures

PN 10
PN 16

Paint:
DN50-400 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN450-600 -- Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Bonnet - Yoke** **Wedge**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Rings	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

EN 558–1 SERIES 14
(DIN 3202 – F4) RISING STEM

APPLICATION

DVD Rising Stem Gate Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, they provide undisturbed water flow. Due to its Rising Stem feature, operator can see the wedge position of the valve easily. DVD Gate Valves are not suitable for regulation purposes.

FEATURES

- Rolled stem design provides low operating torque values.
- Pressed in, threaded or welded rings alternatives.
- Gearbox and actuator accessories are available upon request.
- Optional wedge guide is available upon request for specific sizes.
- Optional jacking screw, wedge stop or drain plug is available upon request for specific sizes.
- Optional bypass valve is available upon request for large sizes.

30 YEARS OF EXPERTISE & KNOW-HOW

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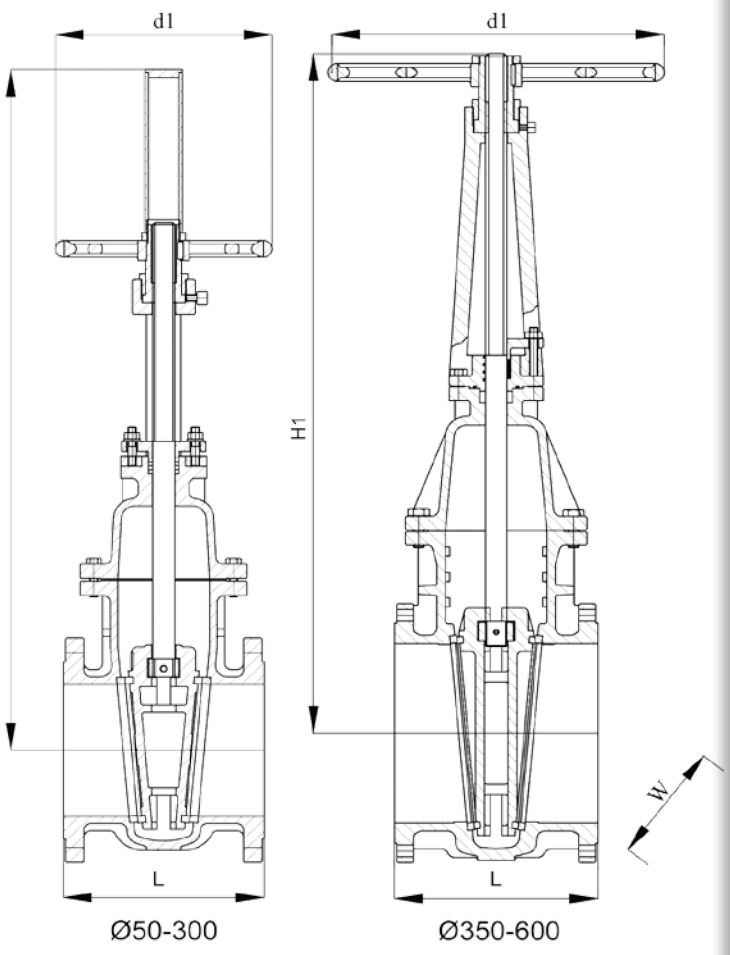
RELYING ON DVD RINGS FOR SEALING

Metal Seated Gate Valves have two body rings and two wedge rings which enable drip tight sealing. When body and wedge rings match with each other, they provide sealing. However, metal to metal sealing needs high expertise and high quality of production. DVD expertise in providing drip tight sealing in Metal Seated Gate Valves depends on the quality of design, material, machining and installation of the rings to the valve body. Depending on the size, pressure rating and application, DVD can install the rings on the body by press-fitting, threading or welding processes. Furthermore; brass, bronze, nickel aluminum bronze, stainless steel 304, 316 ring material options are available upon request for different needs.



DVD Gate Valves have a revolving, rising, rolled, mono-block stem which is transmitting the handwheel rotation to the wedge. Stem revolves inside the yoke nut and is connected to the wedge by means of the wedge nut. Yoke nut is threaded to the bonnet and holds the stem firm against axial movement. Wedge is guided in the body in a precast groove and provides undisturbed water flow when the valve is fully open. Body and the wedge have pressed-in/threaded/welded sealing seat to have drip tight sealing when the valve is closed. Yoke design provides rising feature of the Valve. When the wedge moves, the stem moves accordingly; causing the stem to move up and down, thereby enabling wedge position indication.

	DIMENSIONS (mm)													
DN	**50**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**
d1	200	200	200	200	200	200	315	315	400	500	500	500	600	600
H1	385	390	452	485	605	655	795	925	1100	1300	1450	1600	1775	2250
H2	475	480	565	620	745	840	1025	1195	1425	1615	1900	2150	2375	2850
W	200	200	200	250	250	285	400	410	505	566	640	670	805	850
L	150	170	180	190	200	210	230	250	270	290	310	330	350	390
Weight (Kg)	17	20	27	32	42	55	89	130	173	275	370	500	550	675

dvdvalves

EN 558–1 SERIES 15
(DIN 3202 – F5) RISING STEM

Available Pressures
PN 10
PN 16
PN 25
PN 40
PN 63

Paint:
DN40-400 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN450-1000 -- Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Bonnet - Yoke** **Wedge**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Rings	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

EN 558–1 SERIES 15
(DIN 3202 – F5) RISING STEM

APPLICATION

DVD Rising Stem Gate Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, they provide undisturbed water flow. Due to its Rising Stem feature, operator can see the wedge position of the valve easily. DVD Gate Valves are not suitable for regulation purposes.

FEATURES

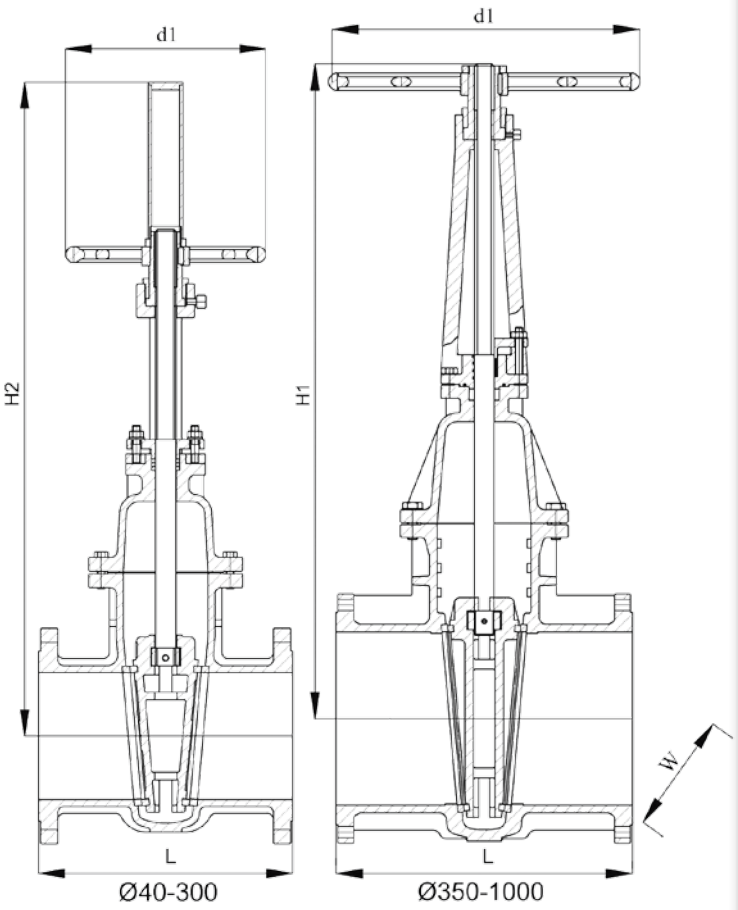
- Rolled stem design provides low operating torque values.
- Pressed in, threaded or welded rings alternatives.
- Gearbox and actuator accessories are available upon request.
- Optional wedge guide is available upon request for specific sizes.
- Optional jacking screw, wedge stop or drain plug is available upon request for specific sizes.
- Optional bypass valve is available upon request for large sizes.

30 YEARS OF EXPERTISE & KNOW-HOW

DVD Valves started its business by producing Metal Seated Gate Valves. Therefore DVD has proven design, which is tested and used in various potable water distribution systems, shipping industry applications, hvac lines, fire protection lines, industrial cooling lines, seawater intake lines and main transmission lines, all around the world. Metal Seated Gate Valves still proves to be "the choice" of professionals especially for high pressure and large size applications. DVD can go up to PN63 in F5 face to face design and can go up to DN1200 in F5 & BS face to face design. You can always rely on DVD Metal Seated Gate Valves for crucial isolation purposes.

RELYING ON DVD RINGS FOR SEALING

Metal Seated Gate Valves have two body rings and two wedge rings which enable drip tight sealing. When body and wedge rings match with each other, they provide sealing. However, metal to metal sealing needs high expertise and high quality of production. DVD expertise in providing drip tight sealing in Metal Seated Gate Valves depends on the quality of design, material, machining and installation of the rings to the valve body. Depending on the size, pressure rating and application, DVD can install the rings on the body by press-fitting, threading or welding processes. Furthermore; brass, bronze, nickel aluminum bronze, stainless steel 304, 316 ring material options are available upon request for different needs.



DVD Gate Valves have a revolving, rising, rolled, mono-block stem which is transmitting the handwheel rotation to the wedge. Stem revolves inside the yoke nut and is connected to the wedge by means of the wedge nut. Yoke nut is threaded to the bonnet and holds the stem firm against axial movement. Wedge is guided in the body in a precast groove and provides undisturbed water flow when the valve is fully open. Body and the wedge have pressed-in/threaded/welded sealing seat to have drip tight sealing when the valve is closed. Yoke design provides rising feature of the Valve. When the wedge moves, the stem moves accordingly; causing the stem to move up and down, thereby enabling wedge position indication.

DIMENSIONS (mm)																			
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000
d1	200	200	200	200	250	250	250	315	315	400	600	600	600	600	600	600	800	800	800
H1	375	375	425	450	495	605	655	800	925	1075	1322	1425	1600	1775	2250	2450	2800	3150	3500
H2	465	465	540	560	626	790	840	1030	1195	1395	1680	1840	2150	2375	2850	3150	3600	4050	4500
W	200	200	200	200	250	250	285	400	410	505	566	640	770	805	895	1030	1100	1200	1400
L	240	250	270	280	300	325	350	400	450	500	550	600	650	700	800	430	470	510	550
Weight (Kg)	15	20	26	32	36	55	65	117	210	245	355	528	640	840	1300	940	1370	1600	1900

dvdvalves

EN 558–1 SERIES 3
(BS 5163) RISING STEM

Available Pressures
PN 10
PN 16
PN 25

Paint:
DN40-400 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN450-600 -- Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Bonnet - Yoke** **Wedge**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Rings	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

EN 558–1 SERIES 3
(BS 5163) RISING STEM

APPLICATION

DVD Rising Stem Gate Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, they provide undisturbed water flow. Due to its Rising Stem feature, operator can see the wedge position of the valve easily. DVD Gate Valves are not suitable for regulation purposes.

FEATURES

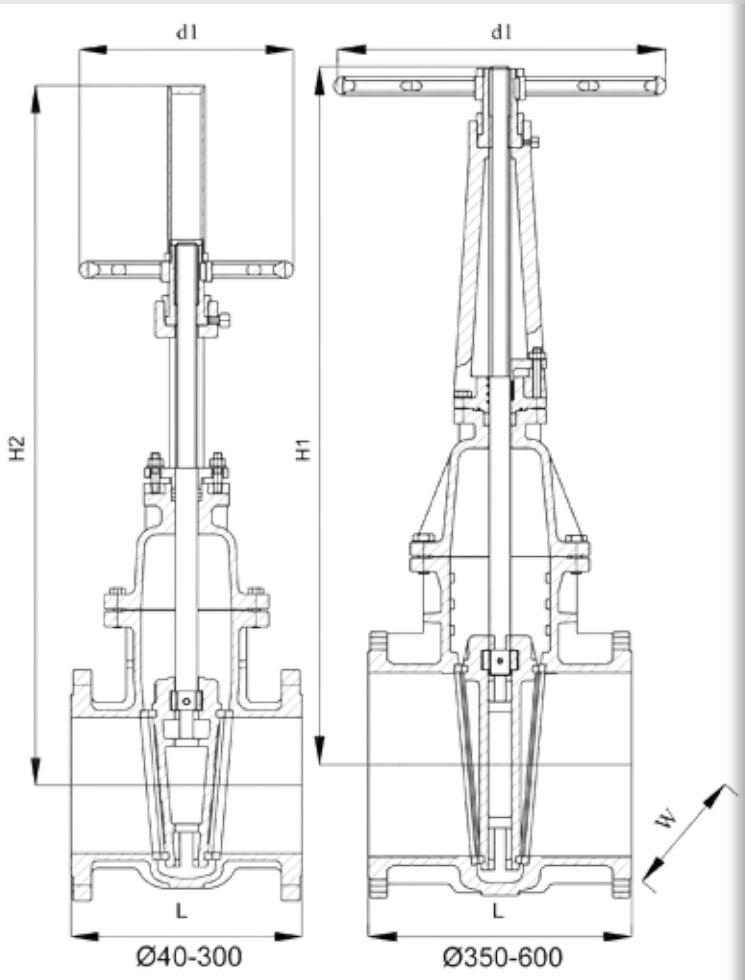
- Rolled stem design provides low operating torque values.
- Pressed in, threaded or welded rings alternatives.
- Gearbox and actuator accessories are available upon request.
- Optional wedge guide is available upon request for specific sizes.
- Optional jacking screw, wedge stop or drain plug is available upon request for specific sizes.
- Optional bypass valve is available upon request for large sizes.

30 YEARS OF EXPERTISE & KNOW-HOW

DVD Valves started its business by producing Metal Seated Gate Valves. Therefore DVD has proven design, which is tested and used in various potable water distribution systems, shipping industry applications, hvac lines, fire protection lines, industrial cooling lines, seawater intake lines and main transmission lines, all around the world. Metal Seated Gate Valves still proves to be "the choice" of professionals especially for high pressure and large size applications. DVD can go up to PN63 in F5 face to face design and can go up to DN1200 in F5 & BS face to face design. You can always rely on DVD Metal Seated Gate Valves for crucial isolation purposes.

RELYING ON DVD RINGS FOR SEALING

Metal Seated Gate Valves have two body rings and two wedge rings which enable drip tight sealing. When body and wedge rings match with each other, they provide sealing. However, metal to metal sealing needs high expertise and high quality of production. DVD expertise in providing drip tight sealing in Metal Seated Gate Valves depends on the quality of design, material, machining and installation of the rings to the valve body. Depending on the size, pressure rating and application, DVD can install the rings on the body by press-fitting, threading or welding processes. Furthermore; brass, bronze, nickel aluminum bronze, stainless steel 304, 316 ring material options are available upon request for different needs.



DVD Gate Valves have a revolving, rising, rolled, mono-block stem which is transmitting the handwheel rotation to the wedge. Stem revolves inside the yoke nut and is connected to the wedge by means of the wedge nut. Yoke nut is threaded to the bonnet and holds the stem firm against axial movement. Wedge is guided in the body in a precast groove and provides undisturbed water flow when the valve is fully open. Body and the wedge have pressed-in/threaded/welded sealing seat to have drip tight sealing when the valve is closed. Yoke design provides rising feature of the Valve. When the wedge moves, the stem moves accordingly; causing the stem to move up and down, thereby enabling wedge position indication.

DIMENSIONS (mm)															
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
d1	200	200	200	200	250	250	250	315	315	400	600	600	600	600	600
H1	375	375	425	450	495	605	655	800	925	1072	1322	1425	1600	1775	2250
H2	465	465	540	560	626	790	840	1030	1195	1395	1680	1840	2150	2375	2850
W	200	200	200	200	250	250	285	400	410	505	566	640	770	730	895
L	165	178	190	203	229	254	267	292	330	356	381	406	432	457	508
Weight (Kg)	14	19	25	31	34	53	61	112	150	240	345	505	525	755	1200

EN 558–1 SERIES 14
(DIN 3202 – F4) RESILIENT SEATED

Available Pressures

PN 10
PN 16

Paint:
DN40-600 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Bonnet**	Ductile Iron	Nickel Aluminium Bronze
Wedge	Ductile Iron + EPDM	Ductile Iron + NBR
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

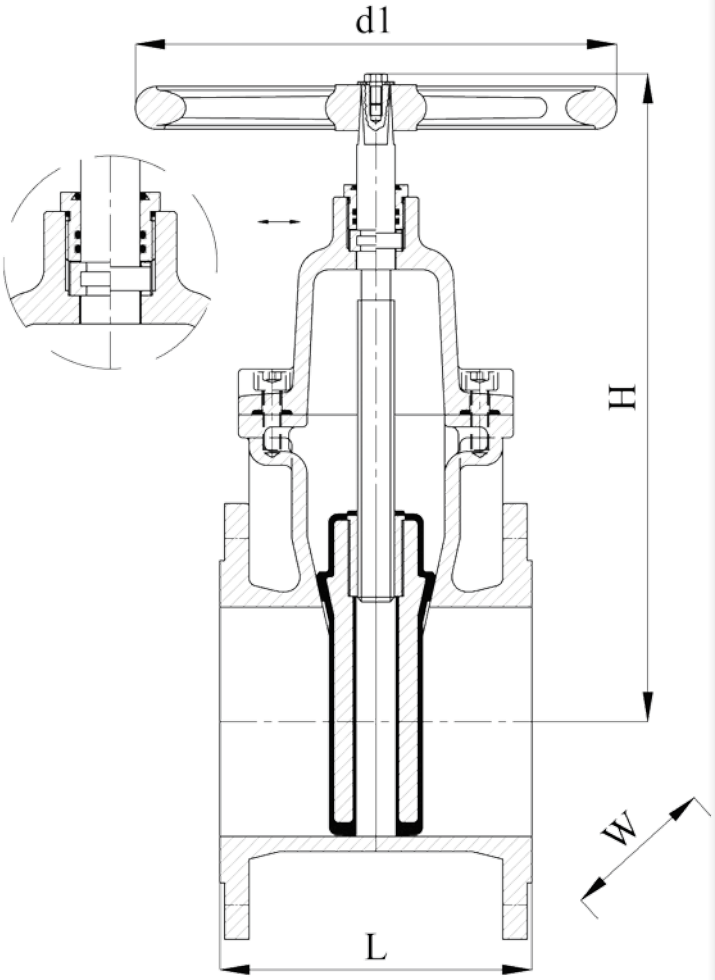
Gate Valves

EN 558–1 SERIES 14
(DIN 3202 – F4) RESILIENT SEATED

dvdvalves

APPLICATION
DVD Gate Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, they provide undisturbed water flow. DVD Gate Valves are not suitable for regulation purposes.

FEATURES
- Rolled stem design provides low operating torque values.
- Gearbox and Actuator accessories are available upon request.
- Suitable for above or underground installations with handwheel, chainwheel, fixed and telescopic extension spindle and surface box accessories.
- Optional wedge guide is available upon request for specific sizes.



A GOOD HARMONY OF THE STEM & WEDGE
DVD Gate Valve Stem is manufactured from single piece stainless steel material. Furthermore, it is roll threaded. Roll threading allows smooth stem threads, thereby providing low torque operation and less wear. The wedge is fully vulcanized with EPDM, and vulcanization is inspected for Compression Set according to EN 681-1 and Bonding Testing. In order to provide lower torque values, the wedge is available with wedge guides upon request. Wedge nut provides the connection of the stem to the wedge, enabling these two crucial items to work in harmony.

ROBUST POWDER COATING
In DVD Valves, both thermoset and thermoplastic coating is available. Not just that, also optional UV protection coating is available upon request. DVD can do coating up to C5-I High (H, more than 15 years) according to EN ISO 12944-1. Coating quality is assured by the coating laboratory, providing sophisticated testing such as Dew Point Measurement, Blast Surface Roughness Measurement, Blast Surface Particle Measurement, Coat Thickness Measurement, Holiday Testing, Impact Testing, Doly Testing, Cross-Cut Testing, Salt Spay Testing and more.

QUALITY ASSURANCE
DVD Resilient Seated Gate Valves are WRAS approved for potable water applications. Furthermore, certificate of conformity to EN 1171 is available. DVD in-house hydraulic laboratory can do all the tests mentioned in EN 1074-2 such as cycle testing, bending testing, torque testing. Customer demonstration is also possible upon request.

DVD Gate Valves have a revolving, non-rising, rolled, mono-block stem which is transmitting the handwheel rotation to the wedge. Stem revolves inside the bonnet nut and is connected to the wedge by means of the wedge nut. Bonnet nut is threaded to the bonnet and holds the stem firm against axial movement. Wedge is guided in the body in a precast groove and provides undisturbed water flow when the valve is fully open. The wedge is fully vulcanized by rubber to have drip tight sealing when the valve is closed.

DIMENSIONS (mm)															
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
d1	200	200	200	200	250	250	315	315	315	500	500	500	500	500	500
H	225	230	255	285	325	375	425	520	590	665	744	980	1115	1190	1340
W	200	200	200	200	250	250	315	315	375	460	520	583	680	756	886
L	140	150	170	180	190	200	210	230	250	270	290	310	330	350	390
Weight (Kg)	9	10	15	17	25	34	45	76	100	135	150	247	350	495	665

dvdvalves

EN 558–1 SERIES 15
(DIN 3202 – F5) RESILIENT SEATED

Available Pressures

PN 10
PN 16
PN 25

Paint:
DN40-600 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Bonnet**	Ductile Iron	Nickel Aluminium Bronze
Wedge	Ductile Iron + EPDM	Ductile Iron + NBR
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

Gate Valves

EN 558–1 SERIES 15
(DIN 3202 – F5) RESILIENT SEATED

dvdvalves

APPLICATION
DVD Gate Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, they provide undisturbed water flow. DVD Gate Valves are not suitable for regulation purposes.

FEATURES
- Rolled stem design provides low operating torque values.
- Gearbox and Actuator accessories are available upon request.
- Suitable for above or underground installations with handwheel, chainwheel, fixed and telescopic extension spindle and surface box accessories.
- Optional wedge guide is available upon request for specific sizes.

A GOOD HARMONY OF THE STEM & WEDGE
DVD Gate Valve Stem is manufactured from single piece stainless steel material. Furthermore, it is roll threaded. Roll threading allows smooth stem threads, thereby providing low torque operation and less wear. The wedge is fully vulcanized with EPDM, and vulcanization is inspected for Compression Set according to EN 681-1 and Bonding Testing. In order to provide lower torque values, the wedge is available with wedge guides upon request. Wedge nut provides the connection of the stem to the wedge, enabling these two crucial items to work in harmony.

ROBUST POWDER COATING
In DVD Valves, both thermoset and thermoplastic coating is available. Not just that, also optional UV protection coating is available upon request. DVD can do coating up to C5-I High (H, more than 15 years) according to EN ISO 12944-1. Coating quality is assured by the coating laboratory, providing sophisticated testing such as Dew Point Measurement, Blast Surface Roughness Measurement, Blast Surface Particle Measurement, Coat Thickness Measurement, Holiday Testing, Impact Testing, Doly Testing, Cross-Cut Testing, Salt Spay Testing and more.

QUALITY ASSURANCE
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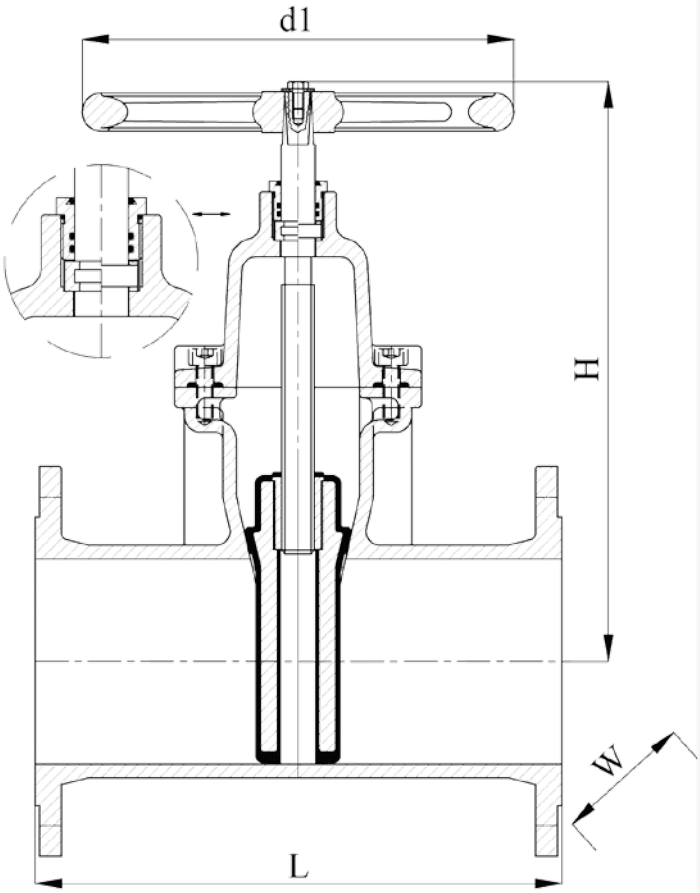

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	DIMENSIONS (mm)														
DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
d1	200	200	200	200	250	250	315	315	315	500	500	500	500	500	500
H	225	230	255	285	325	375	425	520	590	665	744	980	1115	1190	1340
W	200	200	200	200	250	250	315	315	375	460	520	583	680	756	886
L	240	250	270	280	300	325	350	400	450	500	550	600	650	700	800
Weight (Kg)	10	12	15	20	27	35	46	77	115	145	280	300	410	520	735

dvdvalves

EN 558–1 SERIES 3
(BS 5163) RESILIENT SEATED

Available Pressures

PN 10
PN 16
PN 25

Paint:
DN40-600 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Bonnet**	Ductile Iron	Nickel Aluminium Bronze
Wedge	Ductile Iron + EPDM	Ductile Iron + NBR
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

EN 558–1 SERIES 3
(BS 5163) RESILIENT SEATED

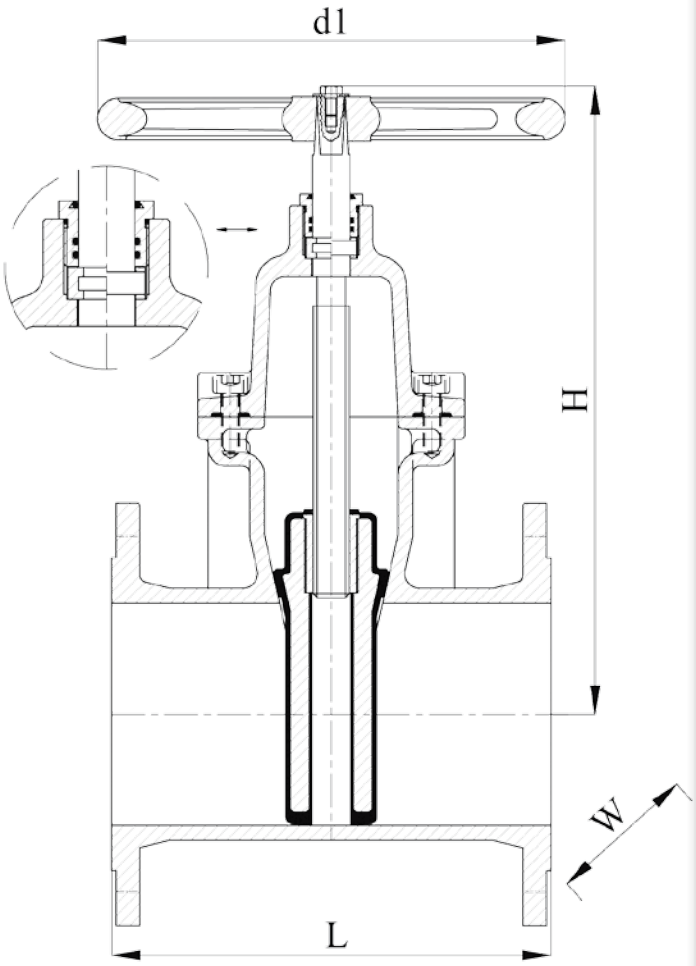
dvdvalves

APPLICATION

DVD Gate Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, they provide undisturbed water flow. DVD Gate Valves are not suitable for regulation purposes.

FEATURES

- Rolled stem design provides low operating torque values.
- Gearbox and Actuator accessories are available upon request.
- Suitable for above or underground installations with handwheel, chainwheel, fixed and telescopic extension spindle and surface box accessories.
- Optional wedge guide is available upon request for specific sizes.



A GOOD HARMONY OF THE STEM & WEDGE

DVD Gate Valve Stem is manufactured from single piece stainless steel material. Furthermore, it is roll threaded. Roll threading allows smooth stem threads, thereby providing low torque operation and less wear. The wedge is fully vulcanized with EPDM, and vulcanization is inspected for Compression Set according to EN 681-1 and Bonding Testing. In order to provide lower torque values, the wedge is available with wedge guides upon request. Wedge nut provides the connection of the stem to the wedge, enabling these two crucial items to work in harmony.

ROBUST POWDER COATING

In DVD Valves, both thermoset and thermoplastic coating is available. Not just that, also optional UV protection coating is available upon request. DVD can do coating up to C5-I High (H, more than 15 years) according to EN ISO 12944-1. Coating quality is assured by the coating laboratory, providing sophisticated testing such as Dew Point Measurement, Blast Surface Roughness Measurement, Blast Surface Particle Measurement, Coat Thickness Measurement, Holiday Testing, Impact Testing, Doly Testing, Cross-Cut Testing, Salt Spay Testing and more.

QUALITY ASSURANCE

DVD Resilient Seated Gate Valves are WRAS approved for potable water applications. Furthermore, certificate of conformity to EN 1171 is available. DVD in-house hydraulic laboratory can do all the tests mentioned in EN 1074-2 such as cycle testing, bending testing, torque testing. Customer demonstration is also possible upon request.

DVD Gate Valves have a revolving, non-rising, rolled, mono-block stem which is transmitting the handwheel rotation to the wedge. Stem revolves inside the bonnet nut and is connected to the wedge by means of the wedge nut. Bonnet nut is threaded to the bonnet and holds the stem firm against axial movement. Wedge is guided in the body in a precast groove and provides undisturbed water flow when the valve is fully open. The wedge is fully vulcanized by rubber to have drip tight sealing when the valve is closed.

DIMENSIONS (mm)														
DN	40	50	65	80	100	150	200	250	300	350	400	450	500	600
d1	200	200	200	200	250	315	315	315	315	400	400	500	500	500
H	225	230	255	285	325	425	520	590	665	744	980	1115	1190	1340
W	200	200	200	200	250	315	315	375	460	520	406	432	457	508
L	165	178	190	203	229	267	292	330	356	381	406	432	457	508
Weight (Kg)	9	10	15	17	25	45	76	100	124	200	260	380	490	705

PE CONNECTION
RESILIENT SEATED

Available Pressures

PN 10
PN 16

Coating:
DN50-100 - Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Bonnet**	Ductile Iron	
Wedge	Ductile Iron + EPDM	Ductile Iron + NBR
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

PE CONNECTION
RESILIENT SEATED

APPLICATION

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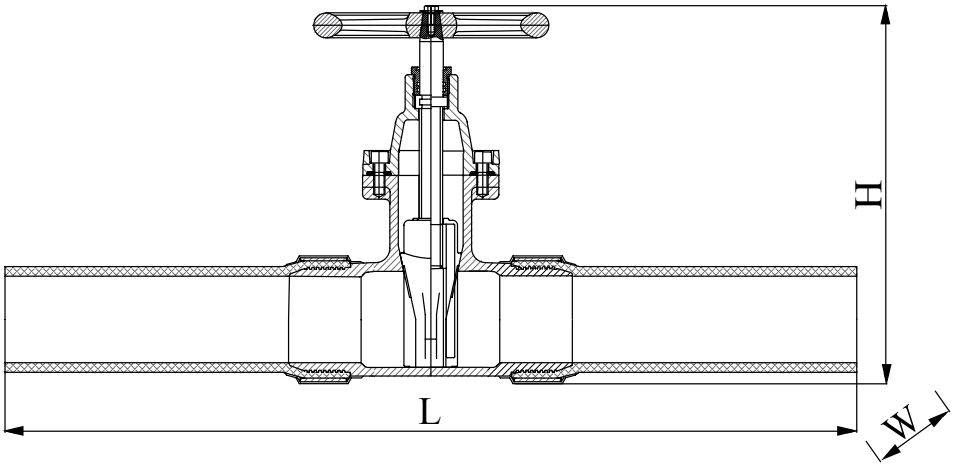

FEATURES

- Rolled stem design provides low operating torque values.
- Suitable for underground installations with fixed and telescopic extension spindle and surface box accessories.

A GOOD HARMONY OF THE STEM & WEDGE

DVD Gate Valve Stem is manufactured from single piece stainless steel material. Furthermore, it is roll threaded. Roll threading allows smooth stem threads, thereby providing low torque operation and less wear. The wedge is fully vulcanized with EPDM, and vulcanization is inspected for Compression Set according to EN 681-1 and Bonding Testing. In order to provide lower torque values, the wedge is available with wedge guides upon request. Wedge nut provides the connection of the stem to the wedge, enabling these two crucial items to work in harmony.

PE CONNECTION - EASE OF INSTALLATION

DVD Resilient Seated Gate Valves with PE Connection enables electrofusion connection to PE pipelines. Ease of installation both saves time and workmanship. Furthermore, since it does not require any counter flanges nor gaskets and bolting, overall installation costs are dropped dramatically, compared to conventional flanged valves. DVD PE Connection design also provides corrosion free and rugged connection, making it the strongest link in the pipeline chain.

ROBUST POWDER COATING

In DVD Valves, both thermoset and thermoplastic coating is available. Not just that, also optional UV protection coating is available upon request. DVD can do coating up to C5-I High (H, more than 15 years) according to EN ISO 12944-1. Coating quality is assured by the coating laboratory, providing sophisticated testing such as Dew Point Measurement, Blast Surface Roughness Measurement, Blast Surface Particle Measurement, Coat Thickness Measurement, Holiday Testing, Impact Testing, Doly Testing, Cross-Cut Testing, Salt Spay Testing and more.

QUALITY ASSURANCE

DVD Resilient Seated Gate Valves are WRAS approved for potable water applications. Furthermore, certificate of conformity to EN 1171 is available. DVD in-house hydraulic laboratory can do all the tests mentioned in EN 1074-2 such as cycle testing, bending testing, torque testing. Customer demonstration is also possible upon request.

DVD Gate Valves have a revolving, non-rising, rolled, mono-block stem which is transmitting the handwheel rotation to the wedge. Stem revolves inside the bonnet nut and is connected to the wedge by means of the wedge nut. Bonnet nut is threaded to the bonnet and holds the stem firm against axial movement. Wedge is guided in the body in a precast groove and provides undisturbed water flow when the valve is fully open. The wedge is fully vulcanized by rubber to have drip tight sealing when the valve is closed.

	DIMENSIONS (mm)			
DN	**50**	**65**	**80**	**100**
H	281	310	350	410
W	200	200	200	250
L	820	880	880	905
Weight (Kg)	9	11	16	22

dvdvalves

RESILIENT SEATED
FOR GAS APPILICATIONS

Available Pressures
PN 10
PN 16

Paint:
DN40-350 – Electrostatic Fusion Bonded Powder Epoxy Yellow

Parts	Main Materials	Optional Materials
Body **Bonnet**	Ductile Iron	
Wedge	Ductile Iron + NBR	
Stem	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Seals	NBR	
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

RESILIENT SEATED
FOR GAS APPILICATIONS

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APPLICATION

DVD Gate Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, they provide undisturbed water flow. DVD Gate Valves are not suitable for regulation purposes.

FEATURES

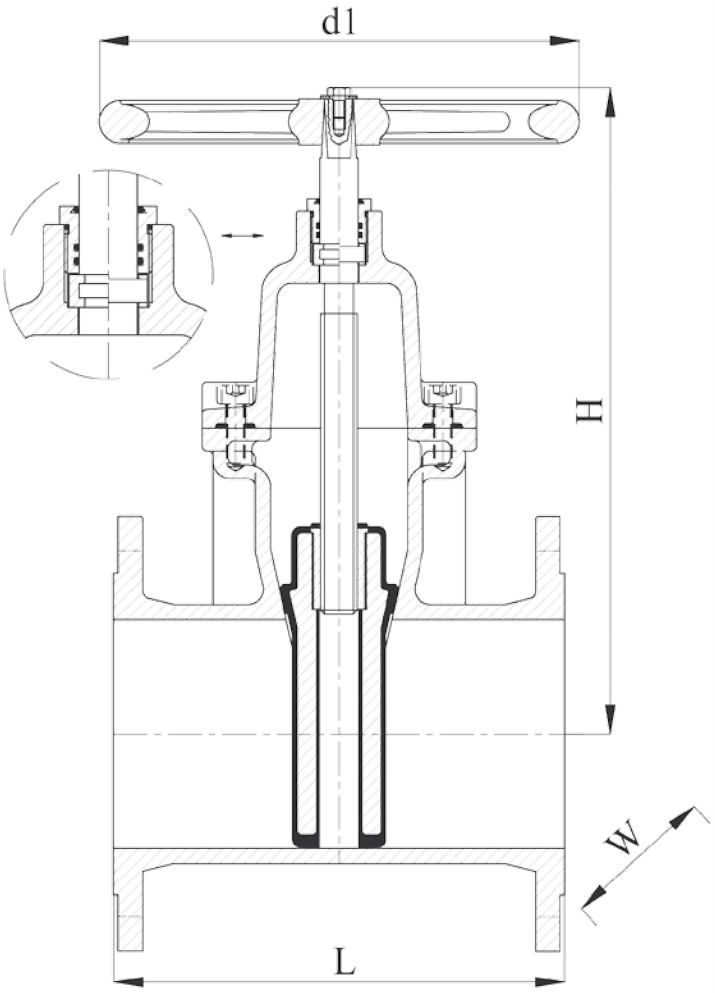
- Rolled stem design provides low operating torque values.
- Suitable for underground installations with fixed and telescopic extension spindle and surface box accessories.

A GOOD HARMONY OF THE STEM & WEDGE

DVD Gate Valve Stem is manufactured from single piece stainless steel material. Furthermore, it is roll threaded. Roll threading allows smooth stem threads, thereby providing low torque operation and less wear. The wedge is fully vulcanized with EPDM, and vulcanization is inspected for Compression Set according to EN 681-1 and Bonding Testing. In order to provide lower torque values, the wedge is available with wedge guides upon request. Wedge nut provides the connection of the stem to the wedge, enabling these two crucial items to work in harmony.

ROBUST POWDER COATING

In DVD Valves, both thermoset and thermoplastic coating is available. Not just that, also optional UV protection coating is available upon request. DVD can do coating up to C5-I High (H, more than 15 years) according to EN ISO 12944-1 and DVD coating personnel is certified to application specialist level 1 according to SSPC. Coating quality is assured by the coating laboratory, providing sophisticated testing such as Dew Point Measurement, Blast Surface Roughness Measurement, Blast Surface Particle Measurement, Coat Thickness Measurement, Holiday Testing, Impact Testing, Doly Testing, Cross-Cut Testing, Salt Spay Testing and more.



DVD Gate Valves have a revolving, non-rising, rolled, mono-block stem which is transmitting the handwheel rotation to the wedge. Stem revolves inside the bonnet nut and is connected to the wedge by means of the wedge nut. Bonnet nut is threaded to the bonnet and holds the stem firm against axial movement. Wedge is guided in the body in a precast groove and provides undisturbed gas flow when the valve is fully open. The wedge is fully vulcanized by rubber to have drip tight sealing when the valve is closed.

DIMENSIONS (mm)										
DN	40	50	65	80	100	150	200	250	300	350
d1	200	200	200	200	250	315	315	315	315	400
H	225	230	255	285	35	425	520	590	665	745
W	200	200	200	200	250	315	315	375	460	520
L	165	178	190	203	229	267	292	330	356	381
Weight (Kg)	10	11	15	18	26	34	46	95	125	250

ACCESSORIES

BEVEL GEAR BOX & ELECTRIC ACTUATOR

All DVD Gate Valve Models, whether it has an extension spindle, rising stem, or metal/resilient seat can be supplied with Electrical Actuators. These Actuators are designed to handle valves with a motor and can be adapted to remote control systems. Furthermore for ease of operation, Bevel Gearboxes can be used to decrease torque values. These Gearboxes are with top flanges to be connected to Actuators if demanded.

WEDGE LIMIT STOP & JACKING SCREW

DVD Metal Seated Gate Valves can be provided with Limit Stop in order to limit the wedge movement mechanically, so that even if high torque is applied on the valve, the wedge does not go down to the wedge housing and get stuck. Jacking Screw is another optional accessory for large sizes valves, and it is designed to simply free the wedge from the wedge housing, if it is stuck.

WEDGE GUIDES & SHOES

Large size DVD Metal Seated Gate Valves can be supplied with LG2 or SS Wedge Guides & Shoes, and DVD Resilient Seated Gate Valves can be supplied with POM Wedge Guides, if requested. These Wedge Guides & Shoes decrease the wedge movement friction, thereby slowing down wearing and decreasing operating torque of the valve.

POSITION INDICATOR

DVD Mechanical Position Indicators can be fitted on Non-Rising Stem Gate Valves, which allow the operator to see the wedge position. It is an economical alternative to Rising Stem Gate Valves which provides all the benefits of a Rising Stem Gate Valve. Position Indicator is mostly preferred in Industrial and Fire Protection Applications, where it is crucial to understand the wedge position.

ACCESSORIES

SURFACE BOX & EXTENTION SPINDLE

Most of the Gate Valves are buried underground, and Extension Spindles are used to operate the Valve from the ground. DVD Extension Spindles can be supplied in three different configurations; Fixed Extension Spindle, Fixed Extension Spindle with PE Protection Sleeve and Telescopic Extension Spindle with PE Protection Sleeve. These Spindles are supplied with CI or DI Surface Box if requested.

CHAIN WHEEL

Chain Wheel allows the operator to control the valves positioned above the surface. Such installations are very common in Industrial Applications where DVD Chain Wheel enables easy operation of the Valve from the ground level. Chain that is used on this accessory can be galvanized steel or SS 304/316, according to customer demand.

BY-PASS

Operation of a large size gate valve can be problematic if the line operating pressure is high. This is due to the high differential pressure acting on the Wedge during the initial opening of the Valve. Differential pressure can push the wedge to the seat, causing high friction and operating torques. In order to prevent such an incident, Gate Valves can be provided with built-in By-pass Valves. With the By-pass Valve, the differential pressure can be reduced first, so that the user needs much lower torque to open the gate valve.

BLOW-OFF PLUG

In Metal Seated Gate Valves, wedge housing can be filled with residuals over time. As a result, in case the operator closes the valve, these particles prevent the wedge to go down, causing a sealing problem. DVD Gate Valves with Blow-off Plug provides an alternative solution to such problems. Based on customer demand, a Plug or a Ball Valve is attached to the wedge housing so that the operator can flush the valve in time intervals. As a result, trouble-free operation can be achieved with a simple solution.

Opening & Closing Torque Values of Metal Seated Gate Valves DIN 3202-F4 - EN 558-1 Serie 14 According to EN 1171 Scheme 6

NOMINAL SIZE	CLOSING TORQUE PN 10	OPENING TORQUE PN 10	STEM TURN
mm	N.m	N.m	#
40	10	8	10
50	15	15	13
65	25	20	16
80	30	25	20
100	30	30	22,5
125	33	32	25
150	36	34	30
200	40	40	39
250	60	50	50
300	75	65	60
350	85	80	58
400	95	90	67
450	100	95	75

Opening & Closing Torque Values of Metal Seated Gate Valves DIN 3202-F5-EN 558-1 Serie 15 & BS 5163-EN 558-1 Serie 3 According to EN 1171 Scheme 6

NOMINAL SIZE	CLOSING TORQUE PN 10	OPENING TORQUE PN 10	CLOSING TORQUE PN 16	OPENING TORQUE PN 16	STEM TURN
mm	N.m	N.m	N.m	N.m	#
40	15	12	15	15	14
50	20	15	20	20	14
65	40	40	40	40	14,5
80	45	40	45	50	17,5
100	50	50	50	50	22,5
125	55	50	55	50	24,5
150	55	50	55	50	30,5
200	120	100	120	100	33,5
250	180	110	200	120	42
300	180	115	200	125	50
350	250	150	265	165	58
400	275	200	285	210	66,5
450	285	205	290	220	75
500	295	210	295	230	84
600	300	210	300	250	85

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TECHNICAL DETAILS

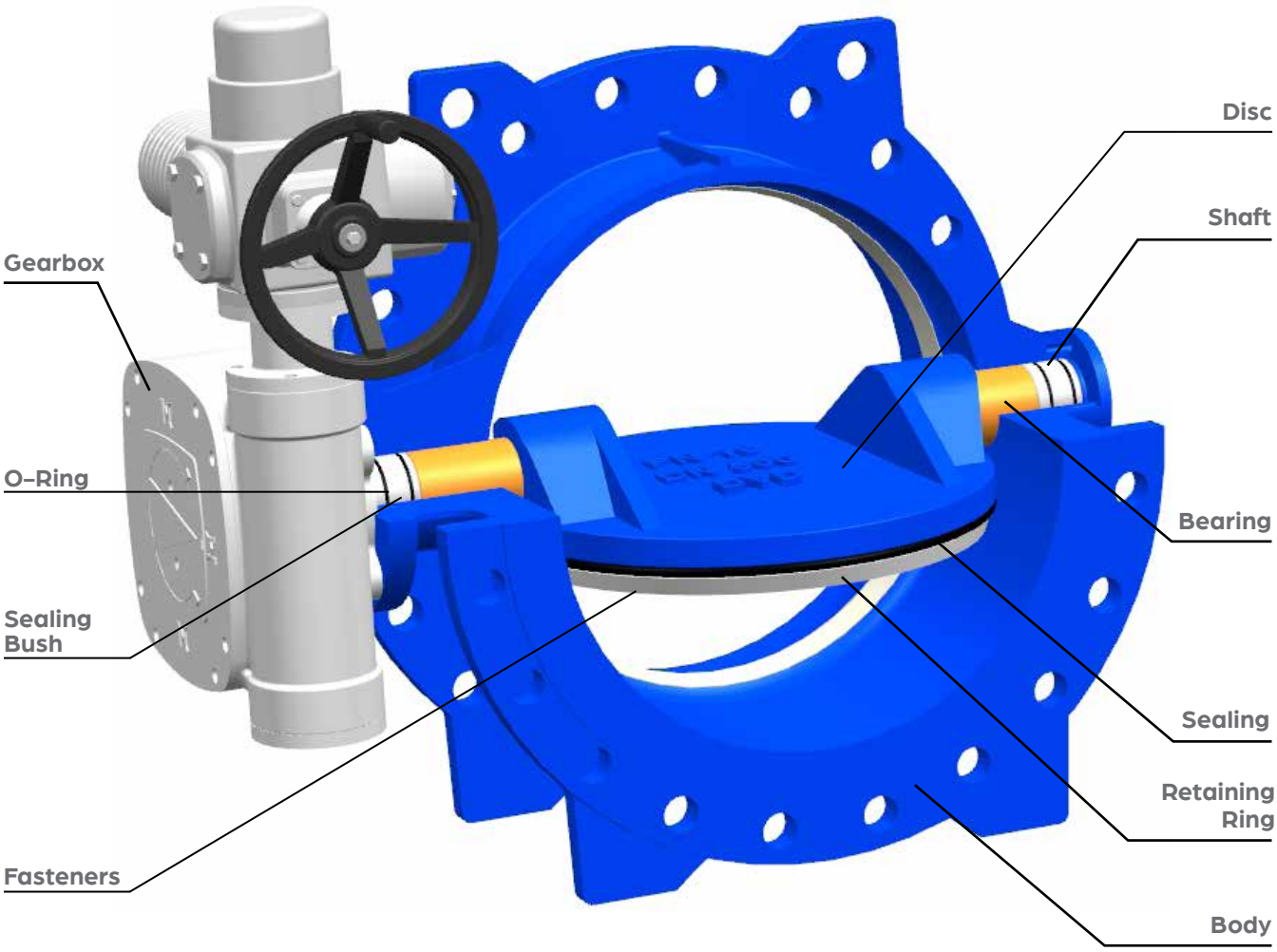
Opening & Closing Torque Values of Resilient Seated Gate Valves DIN 3202-F4- EN 558-1 Serie 14 According to EN 1171 Scheme 6

NOMINAL SIZE	CLOSING TORQUE PN 10	OPENING TORQUE PN 10	CLOSING TORQUE PN 16	OPENING TORQUE PN 16	STEM TURN
mm	N.m	N.m	N.m	N.m	#
40	20	15	20	15	14
50	20	15	20	15	14
65	20	20	20	25	18
80	20	20	25	20	23
100	25	20	25	20	23
125	20	15	30	25	27
150	100	40	100	40	32
200	105	40	110	40	44
250	230	110	240	150	47
300	150	50	180	60	49

Opening & Closing Torque Values of Resilient Seated Gate Valves DIN 3202-F5-EN 558-1 Serie 15 & BS 5163-EN 558-1 Serie 3 According to EN 1171 Scheme 6

NOMINAL SIZE	CLOSING TORQUE PN 10	OPENING TORQUE PN 10	CLOSING TORQUE PN 16	OPENING TORQUE PN 16	STEM TURN
mm	N.m	N.m	N.m	N.m	#
40	20	15	20	15	13,5
50	20	15	20	15	13,5
65	25	20	25	20	18,5
80	25	25	30	25	22,5
100	32	25	35	30	23
125	35	35	40	35	26
150	40	30	40	30	31
200	120	100	140	100	45
250	200	140	260	140	47
300	150	50	180	60	49

BUTTERFLY VALVE



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EN 558 SERIES 14
(DIN 3202 – F4) DOUBLE ECCENTRIC

Available Pressures
PN 10
PN 16
PN 25
PN 40

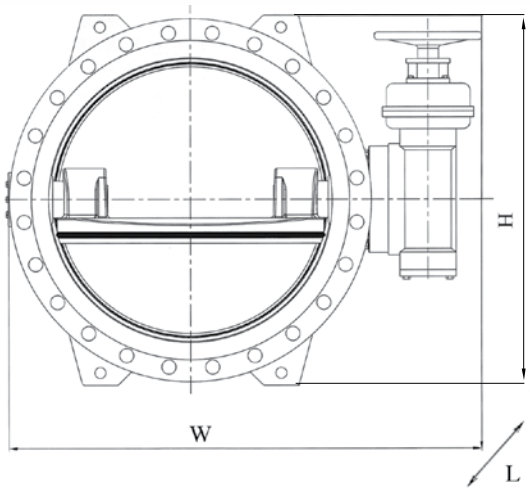
Paint:
DN100-1800 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN2000-2500 -- Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Disc** **Gearbox**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Shaft	X20Cr13	Monel Duplex Stainless Steel
Bearings	Bronze	Brass, SS 304, SS 316, NAB
Bushes	Teflon	PTFE
Retaining Ring	SS 304	SS 316, St 37
Seals	EPDM	NBR
Fasteners	SS 304	SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

EN 558 SERIES 14
(DIN 3202 – F4) DOUBLE ECCENTRIC

APPLICATION

DVD Butterfly Valves are used for isolation purposes and provide drip tight sealing once they are closed. When open, the disc rotates to horizontal position, thereby allowing free flow. DVD Butterfly Valves are not suitable for regulation purposes.



FEATURES

- Closed end disc design & shaft sealing system provides corrosion-free operation.
- High Kv & low head loss thanks to CFD perfected disc design.
- Actuators are available upon request.
- Double eccentric design & robust worm gearbox provide low operating torque values.
- Suitable for above or underground installations with handwheel, fixed or telescopic extension spindle and surface box accessories.
- Optional disc locking mechanism is available upon request, allowing gearbox replacement under pressure.
- A, B, C and D Configurations are available upon request for different gearbox positions and disc opening directions.

DOUBLE ECCENTRIC DESIGN – DURABILITY AND LOW TORQUE VALUES

DVD Butterfly Valves are in Double Eccentric design. The disc is positioned in the body with two eccentricity. First eccentricity moves the disc sealing axis away from the disc/shaft rotating axis. As a result, body sealing surface and disc sealing gasket matches perfectly, providing drip tight sealing. Second eccentricity moves the disc axis away from the body axis. Therefore, even with a small degree of rotation, sealing gasket moves away from the body surface. As a result, during valve opening/closing; friction is very low, preventing deformation of the gasket and enabling low operating torque values.

POLISHED STAINLESS STEEL WELD OVERLAY BODY SEAT – MADE TO OPERATE FOR DECADES

Stainless steel sealing surface of the valve is fitted to the body by weld overlay. Welding is done by special Automated Welding Robot, surface is polished to provide seamless surface and checked by penetration testing. As a result of this process, wear resistance of the seat is maximized, where sealing material cannot be removed from the body. Furthermore corrosion resistance is increased, since there are no uncoated threads on the body.

DIMENSIONS (mm)									
DN	L	W		H		Weight (kg)			
		PN10/16	PN25/40	PN10/16	PN25/40	PN10	PN16	PN25	PN40
100	190	430	438	322	330	30	30	32	32
125	200	456	495	337	347	32	33	-	-
150	210	495	529	355	362	38	38	49	49
200	230	416	606	354	392	54	54	65	75
250	250	549	811	420	494	74	74	128	128
300	270	606	839	477,4	625	112	115	130	155
350	290	671	926	537	660	132	132	-	-
400	310	742	1005	598	740	191	167	230	305
450	330	797	1067	664	765	228	228	-	-
500	350	845	1130	705	859	258	258	405	408
600	390	984	1253	867	917	389	389	550	679
700	430	1110	1382	944	1009	500	570	-	-
800	470	1252	1522	1071	1072	710	725	1010	-
900	510	1386	1772	1173	1228	926	945	1378	-
1000	550	1501	1904	1305	1295	1130	1151	1710	-
1100	590	1717	-	1207	-	1500	1500	-	-
1200	630	1939	2106	1363	1390	1775	1285	2425	-
1300	670	2120	-	1428	-	2537	2537	-	-
1400	710	2143	2343	1473	1656	2530	2631	-	-
1500	750	2288	-	1688	-	2944	2944	-	-
1600	790	2478	2619	1736	1904	3120	3740	-	-
1800	870	2825	-	1843	-	5140	5340	-	-
2000	950	3074	-	1951	-	6945	-	9500	-
2200	1030	3248	-	2194	-	-	-	-	-
2400	1110	3683	-	2388	-	-	-	-	-
2500	1150	3797	-	2438	-	-	-	-	-

DVD Butterfly Valves have divided two-piece shaft that is guiding the disc. One of these shafts transfers the gearbox rotation force to the disc. In case of an operation of the gearbox, the shaft rotates in its axis and moves the attached disc to open or close the valve. The second shaft is used to guide the disc to the body of the valve. Friction of guiding is lowered by the bronze bearings on the body. DVD Butterfly Valves have Closed End Disc Design, and shaft bearing system is isolated from the medium by o-rings. As a result, high corrosion resistance and durability is achieved.

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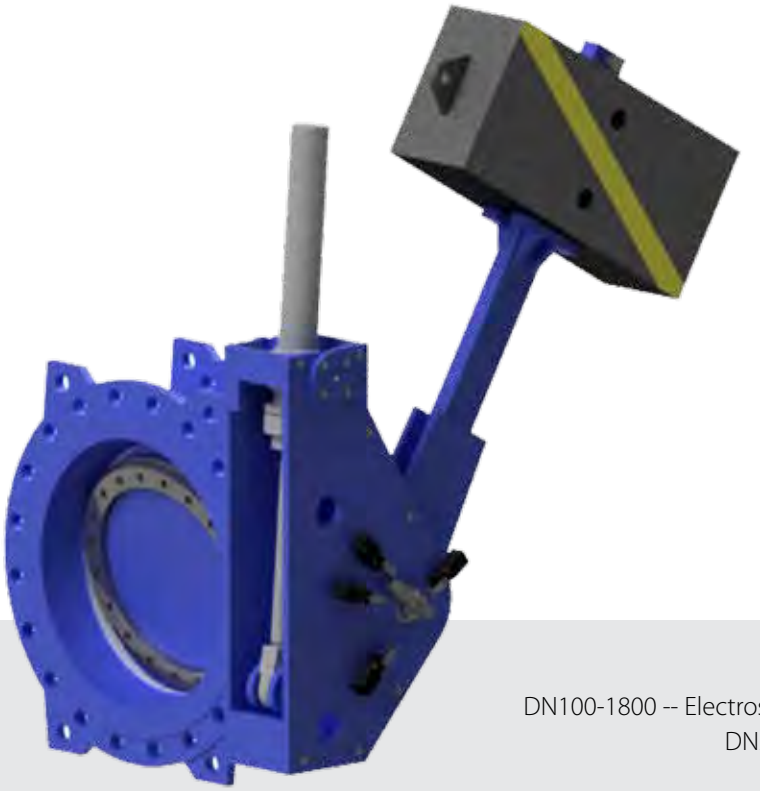
EN 558 SERIES 14
(DIN 3202 – F4)
HYDRAULIC ACTUATED



Available Pressures
PN 10
PN 16
PN 25
PN 40

Paint:
DN100-1800 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN2000-2500 – Two Pack Liquid Epoxy Blue

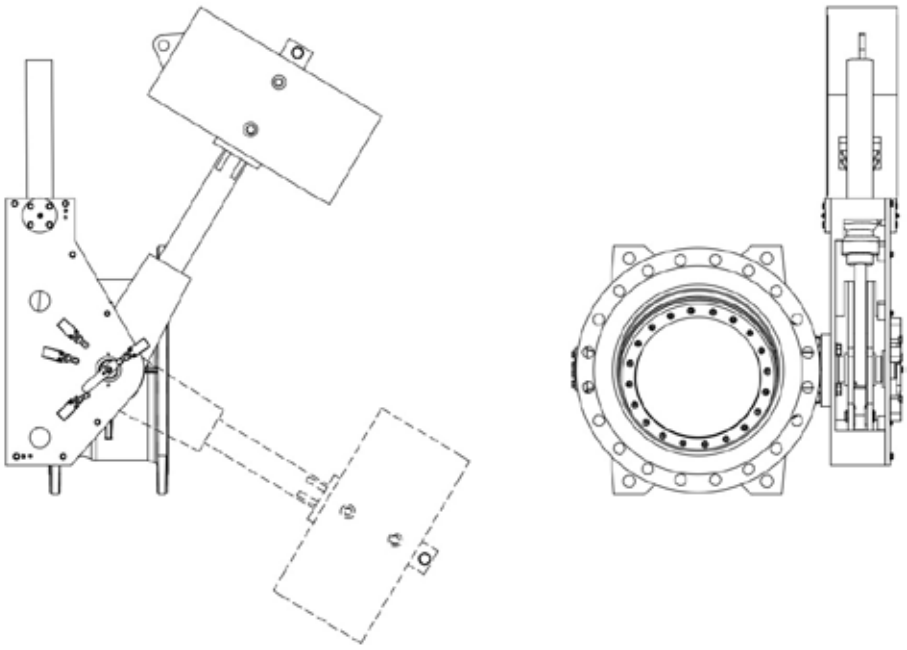
Parts	Main Materials	Optional Materials
Body **Disc**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Shaft	X20Cr13	Monel Duplex Stainless Steel
Bearings	Bronze	Brass, SS 304, SS 316, NAB
Retaining Ring	SS 304	SS 316, St 37
Hydraulic Actuator Body	St.37	
Counter Weight Lever	St.37	
Counter Weight	Cast Iron	Ductile Iron
Seals	EPDM	NBR
Fasteners	SS 304	SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

EN 558 SERIES 14
(DIN 3202 – F4)
HYDRAULIC ACTUATED

DVD Hydraulic Actuated Butterfly Valves are used for fast open – close applications or for pump check-butterfly valve applications. They provide drip tight sealing once they are closed. When open, the disc rotates to horizontal position, thereby allowing free flow. Hydraulic Actuator allows fast opening or fast closing, and allows opening-closing speed control. DVD Butterfly Valves are not suitable for regulation purposes.

FEATURES

- Hydraulic lever & counterweight actuation.
- Quick, adjustable opening and closing speed.
- Closed end disc design & shaft sealing system provides corrosion-free operation.
- High Kv & low head loss thanks to CFD perfected disc design.
- Optional disc locking mechanism is available upon request, allowing hydraulic actuator replacement under pressure.
- A, B, C and D Configurations are available upon request for different hydraulic actuator and disc opening directions.



CHECK-BUTTERFLY VALVE

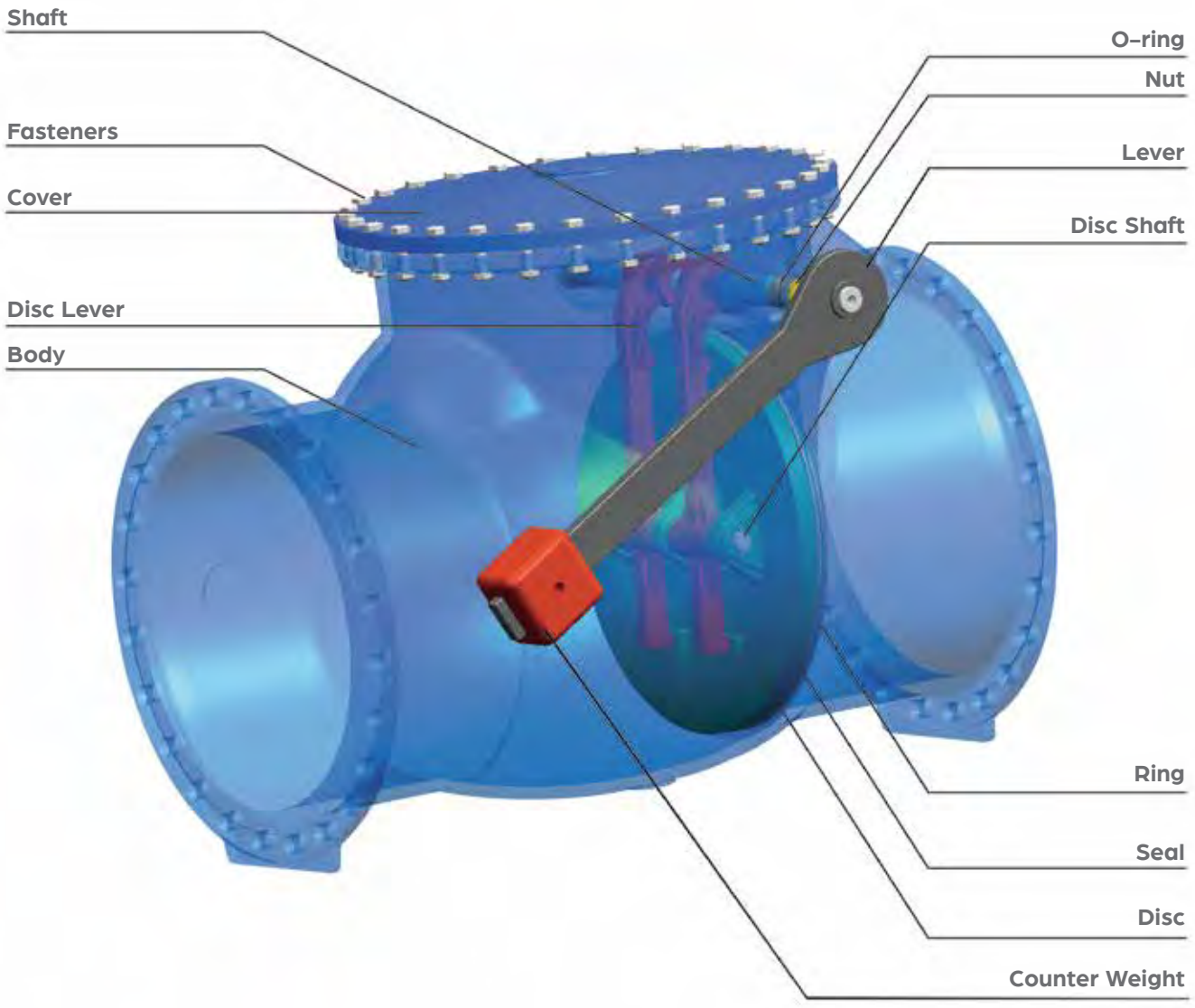
DVD Check-Butterfly Valves are installed in the downstream of pumps and are operated with an Electronic Control Unit, Hydraulic Pack and Lever & Counterweight. The valve operates in coordination with the pump and in case of sudden pump start & stop, it opens-closes according to the set-speed, preventing the slamming effect of the pump. In case of an electricity failure, the counterweight drops, causing the valve to act like a damper check valve.

POLISHED STAINLESS STEEL WELD OVERLAY BODY SEAT – MADE TO OPERATE FOR DECADES

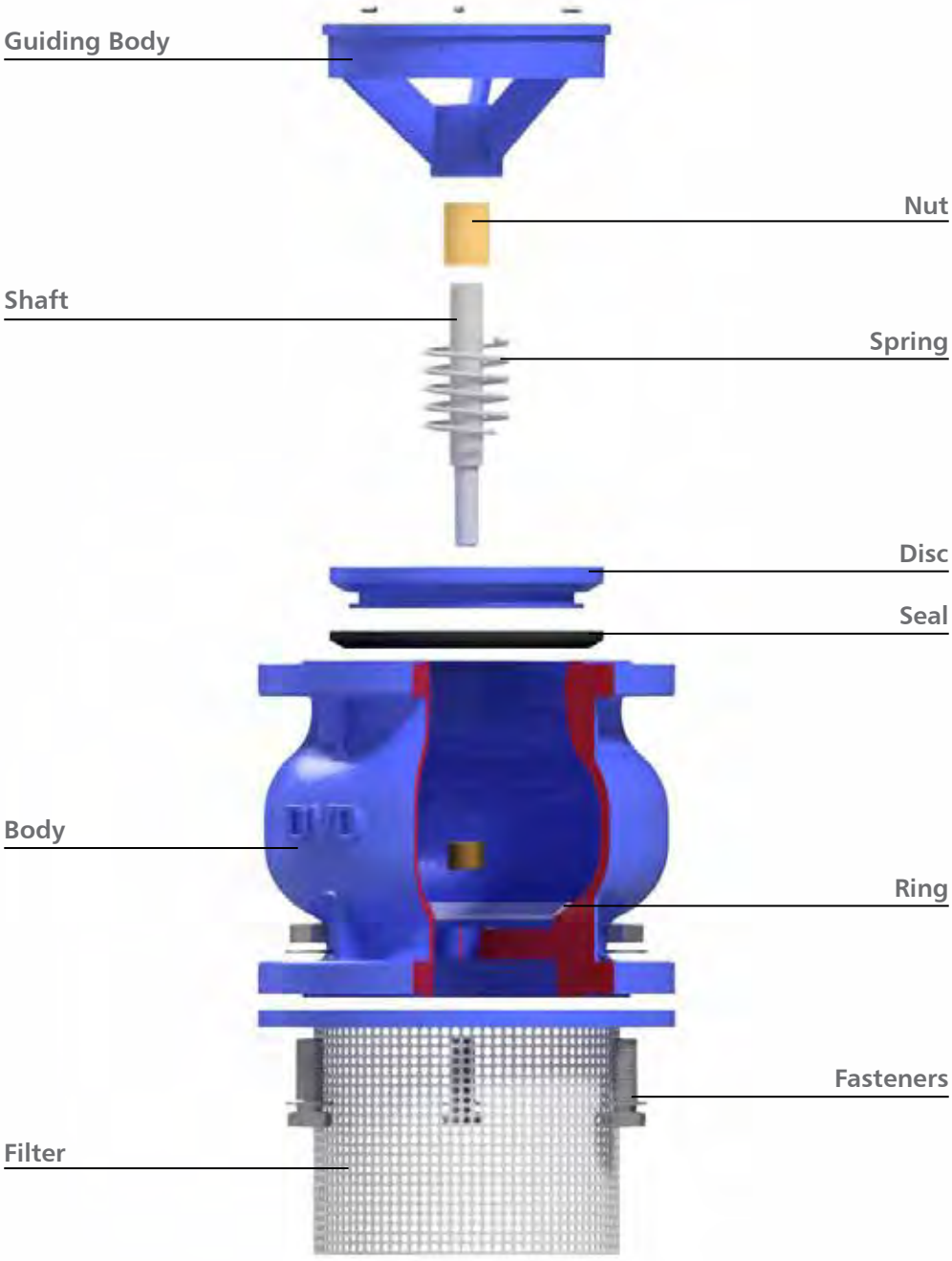
Stainless steel sealing surface of the valve is fitted to the body by weld overlay. Welding is done by special Automated Welding Robot, surface is polished to provide seamless surface and checked by penetration testing. As a result of this process, wear resistance of the seat is maximized, where sealing material cannot be removed from the body. Furthermore corrosion resistance is increased, since there are no uncoated threads on the body.

DVD Butterfly Valves with Hydraulic Actuator have divided two-piece shaft that is guiding the disc. One of these shafts transfers the actuator rotation force to the disc. In case of an operation of the actuator, the shaft rotates in its axis and moves the attached disc to open or close the valve. The second shaft is used to guide the disc to the body of the valve. Friction of guiding is lowered by the bronze bearings on the body. DVD Butterfly Valves have Closed End Disc Design, and shaft bearing system is isolated from the medium by o-rings. As a result, high corrosion resistance and durability is achieved. Hydraulic Actuator allows fast opening or closing of the valve where opening-closing speed can be adjusted by the operator.

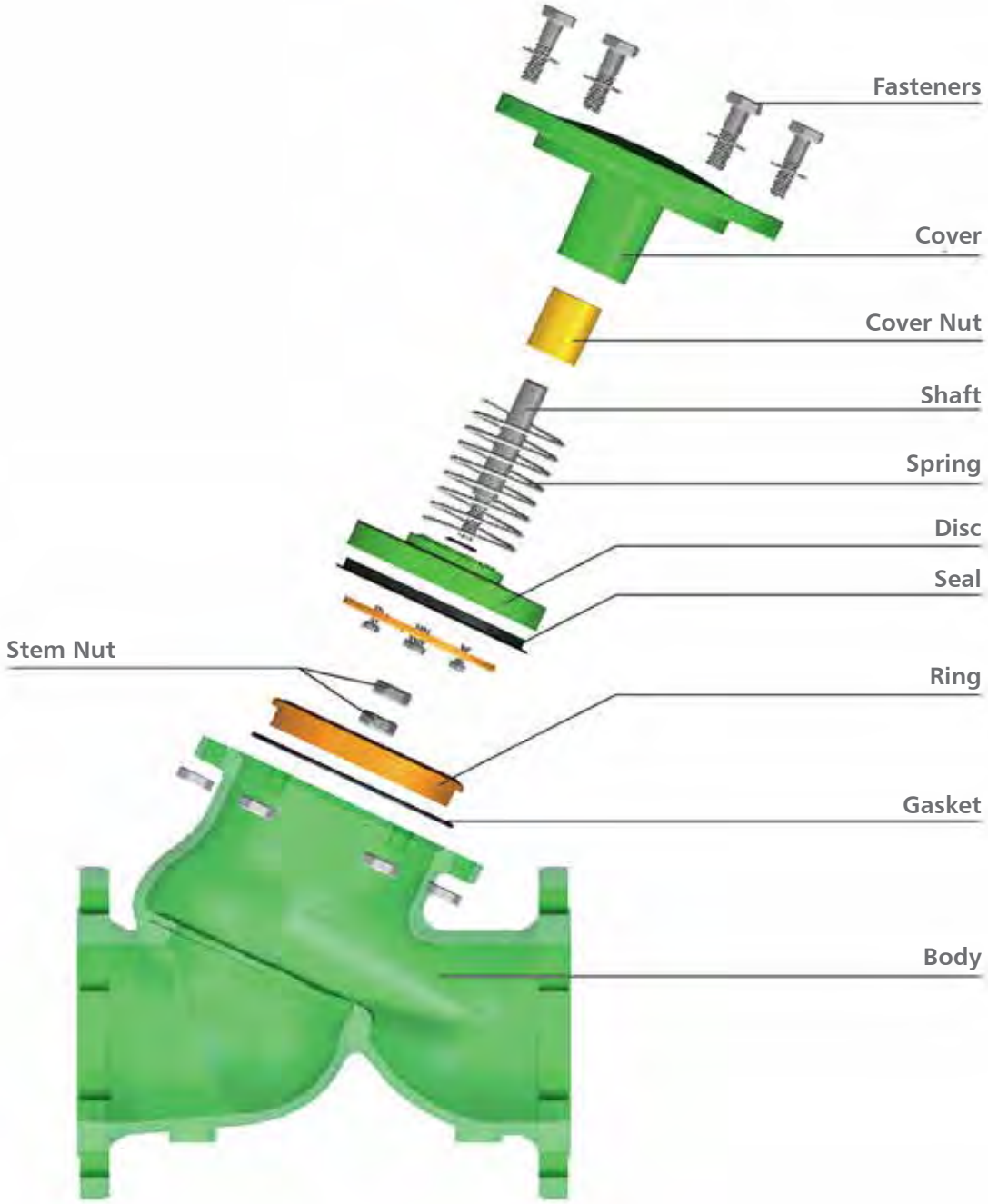
SWING TYPE CHECK VALVE



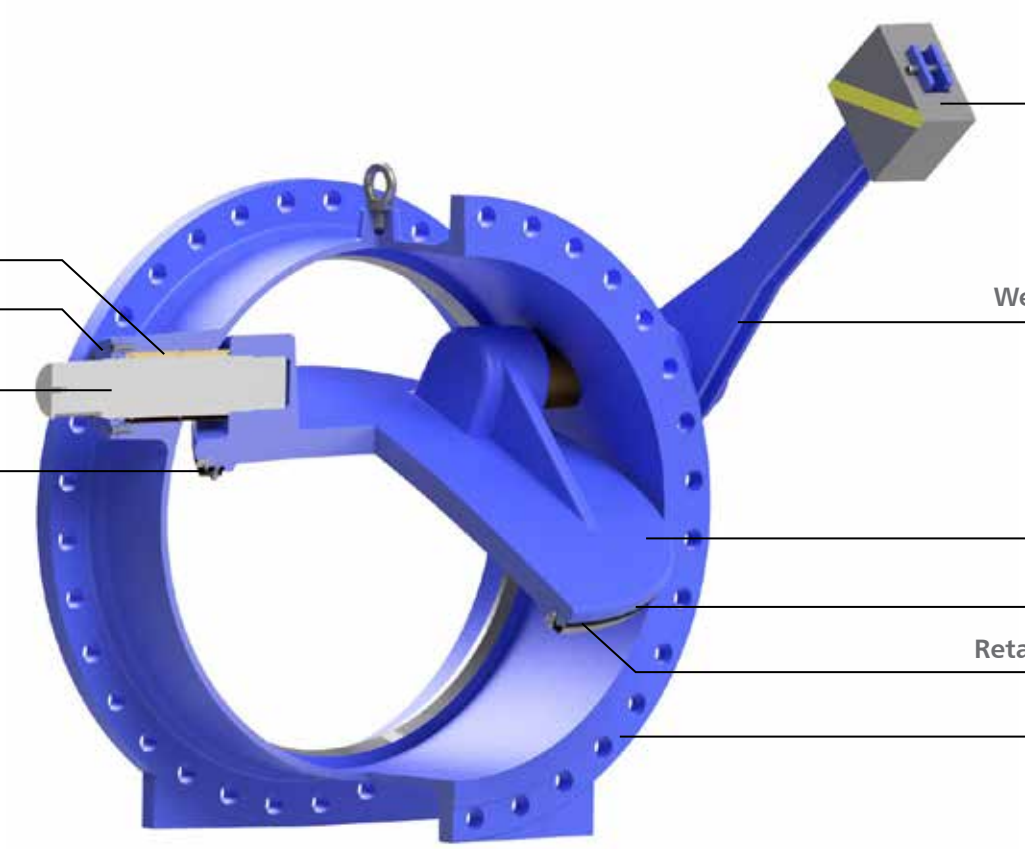
FOOT VALVE



LIFT CHECK VALVE



TILTING CHECK VALVE



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EN 558–1 SERIES 48
(DIN 3202 – F6) SWING TYPE

Available Pressures
PN 10
PN 16
PN 25
PN 40
PN 63

Paint:
DN40-400 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN450-1000 -- Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover** **Lever**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Disc	Steel + EPDM (Ø 40-400) Ductile Iron (Ø 450-1000)	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Shaft	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Rings	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

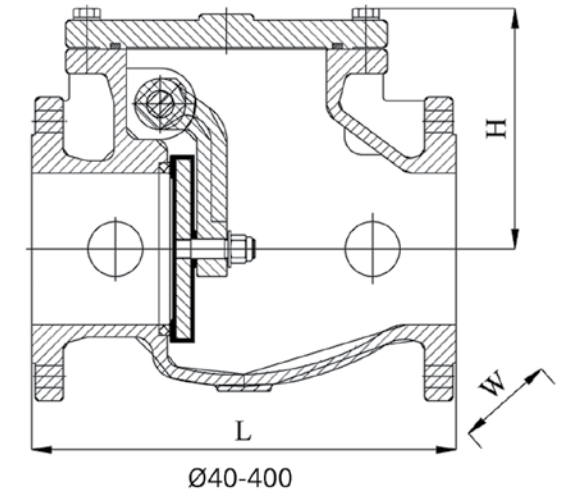
EN 558–1 SERIES 48
(DIN 3202 – F6) SWING TYPE

APPLICATION

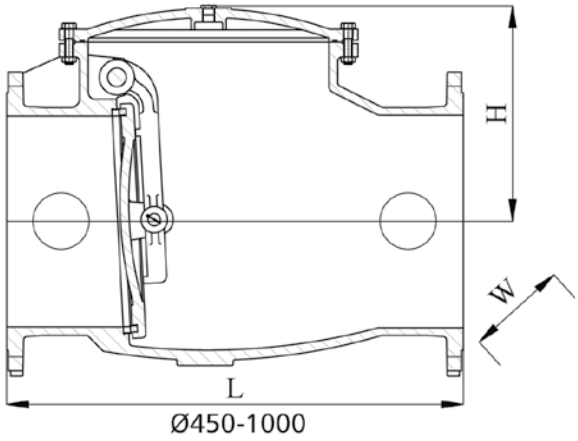
DVD Swing Type Check Valves are designed to have minimum head loss in normal operation and to have drip tight sealing in case of backflow. These check valves are commonly used in the downstream of pump stations, protecting crucial devices.

FEATURES

- Suitable for horizontal and vertical installations.
- Potable water and sewage applications.
- Lever & counterweight or spring accessories are available upon request.
- Single or double sided lever & counterweight options.
- Protection cover accessory is available upon request, in order to protect the lever movement.
- Limit switch accessory is available upon request for scada comms & alarms.
- Dashpot accessory is available upon request for non-slam operation.
- Optional bypass valve is available upon request for large sizes.



Ø40-400



Ø450-1000

FULLY VULCANISED DISC

DVD Swing Check Valves provide a fully vulcanized one-piece disc design (450>). The benefits are; ease of cleaning and maintenance, high corrosion resistance and superior sealing. Vulcanized disc can provide sealing even in low back-pressure (2mwc) without a lever & counterweight. Furthermore, vulcanized disc ensures long term operation since no metal part gets corroded and compression test enables non-deformation of rubber.

RELYING ON DVD RINGS FOR SEALING

Swing Check Valves have a body ring and a disc ring (DN400<) which enable drip tight sealing. When body and disc rings match with each other, they provide sealing. However, metal to metal sealing needs high expertise and high quality of production. DVD expertise in providing drip tight sealing in Metal-Metal Swing Check Valves depends on the quality of design, material, machining and installation of the Rings to the valve body. Depending on the size, pressure rating and application, DVD can install the rings by press-fitting, threading or welding processes. Furthermore, brass, bronze, nickel aluminum bronze, stainless steel 304, 316 material options are available upon request for different needs.

DVD Swing Type Check Valves are designed as a non-return valve. The disc opens in normal flow direction, providing undisturbed flow. In case of backflow, the disc acts and closes the valve. The disc is guided by the shaft supported on two bearings. These bearings can be closed-end or open-end for accessory connections such as lever, spring or limit switch. The disc matches with the body ring to provide sealing. Both metal-rubber and metal-metal sealing designs are available upon request depending on the valve size.

DIMENSIONS (mm)																					
DN		40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000
H		100	110	120	140	140	200	215	265	285	370	375	550	515	660	610	765	810	910	975
W	PN10	150	165	185	200	220	250	285	340	395	445	505	595	615	670	780	895	1015	1115	1230
	PN16	150	165	185	200	220	250	285	340	405	460	520	580	640	715	840	910	1025	1125	1255
	PN25	150	165	185	200	235	270	300	360	425	485	555	620	670	730	845	960	1085	1185	1320
	PN40	150	165	185	200	235	270	300	375	450	515	580	660	685	755	890	995	1140	1250	1360
L		180	200	240	260	300	350	400	500	600	700	800	900	1000	1100	1300	1500	1700	1900	2100
Weight (Kg)	PN10/16	9	12	19	20	23	35	47	135	165	287	393	500	660	800	1102	1700	2200	2900	3650
	PN25	10	13	21	22	25	40	52	149	182	316	432	550	670	880	1102	1800	2250	3000	-----
	PN40	11	14	23	24	28	43	56	162	198	344	472	600	755	960	1200	-----	-----	-----	-----

dvdvalves

EN 558–1 SERIES 10
(BS 5153) SWING TYPE

Available Pressures

Available Pressures
PN 10
PN 16
PN 25
PN 40
PN 63

Paint:
DN40-400 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover** **Lever**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Disc	Steel + EPDM (Ø 40-400) Ductile Iron (Ø 450-1000)	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Shaft	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Rings	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

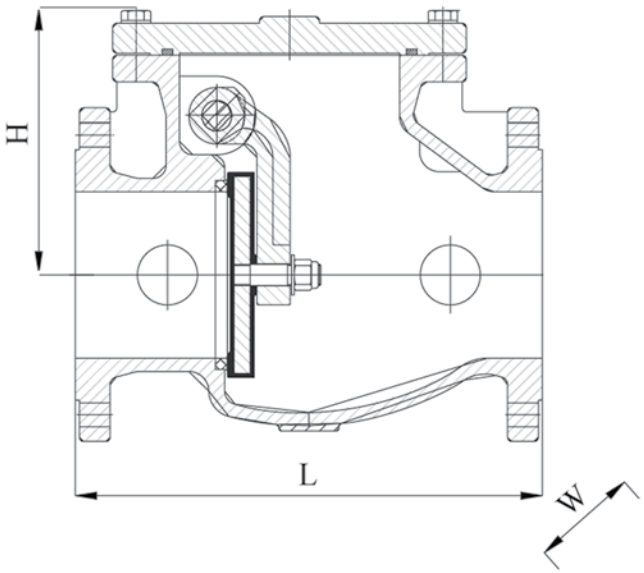
EN 558–1 SERIES 10
(BS 5153) SWING TYPE

APPLICATION

DVD Swing Type Check Valves are designed to have minimum head loss in normal operation and to have drip tight sealing in case of backflow. These check valves are commonly used in the downstream of pump stations, protecting crucial devices.

FEATURES

- Suitable for horizontal and vertical installations.
- Potable water and sewage applications.
- Lever & counterweight or spring accessories are available upon request.
- Single or double sided lever & counterweight options.
- Protection cover accessory is available upon request, in order to protect the lever movement.
- Limit switch accessory is available upon request for scada comms & alarms.
- Dashpot accessory is available upon request for non-slam operation.
- Optional bypass valve is available upon request for large sizes.



FULLY VULCANISED DISC

DVD Swing Check Valves provide a fully vulcanized one-piece disc design (450>). The benefits are; ease of cleaning and maintenance, high corrosion resistance and superior sealing. Vulcanized disc can provide sealing even in low back-pressure (2mwc) without a lever & counterweight. Furthermore, vulcanized disc ensures long term operation since no metal part gets corroded and compression test enables non-deformation of rubber.

RELYING ON DVD RINGS FOR SEALING

Swing Check Valves have a body ring and a disc ring (DN400<) which enable drip tight sealing. When body and disc rings match with each other, they provide sealing. However, metal to metal sealing needs high expertise and high quality of production. DVD expertise in providing drip tight sealing in Metal-Metal Swing Check Valves depends on the quality of design, material, machining and installation of the Rings to the valve body. Depending on the size, pressure rating and application, DVD can install the rings by press-fitting, threading or welding processes. Furthermore, brass, bronze, nickel aluminum bronze, stainless steel 304, 316 material options are available upon request for different needs.

DVD Swing Type Check Valves are designed as a non-return valve. The disc opens in normal flow direction, providing undisturbed flow. In case of backflow, the disc acts and closes the valve. The disc is guided by the shaft supported on two bearings. These bearings can be closed-end or open-end for accessory connections such as lever, spring or limit switch. The disc matches with the body ring to provide sealing. Both metal-rubber and metal-metal sealing designs are available upon request depending on the valve size.

DIMENSIONS (mm)												
DN		**40**	**50**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**400**
H		100	110	120	140	140	200	215	265	285	370	550
W	**PN 10**	150	165	185	200	220	250	285	340	395	445	595
	PN 16	150	165	185	200	220	250	285	340	405	460	580
	PN 25	150	165	185	250	235	270	300	360	425	485	620
	PN 40	150	165	185	250	235	270	300	375	450	515	-----
L		165	203	216	241	292	330	356	495	622	698	915
Weight (Kg)	**PN 10/16**	9	13	20	19	23	34	46	134	170	287	560
	PN 25/40	9	13	20	19	25	38,5	50	148	185	315	610

dvdvalves

SILENT TYPE

Available Pressures

Available Pressures
PN 10
PN 16
PN 25
PN 40

Paint:
DN50-1000 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Guiding Body** **Disc**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Shaft	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Ring	SS Weld Overlay	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Spring	SS 304	SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

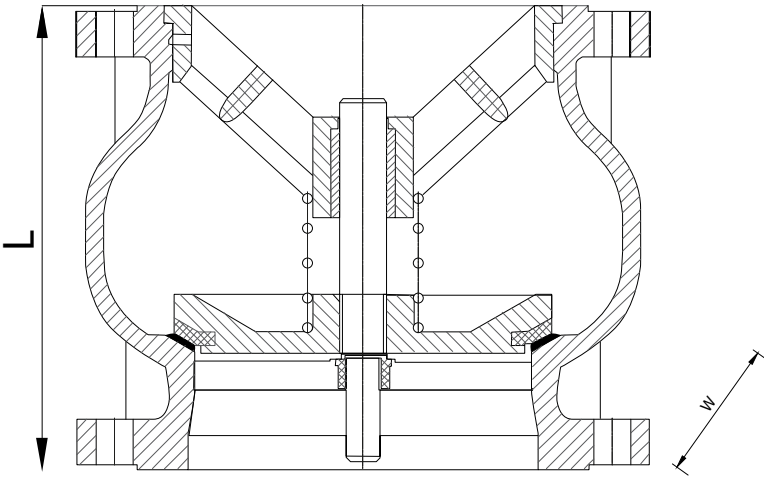
SILENT TYPE

APPLICATION

DVD Silent Type Check Valves are designed to have minimum head loss in normal operation and to have drip tight sealing in case of backflow. These check valves are commonly used in the downstream of pump stations, protecting crucial devices.

FEATURES

- Suitable for horizontal and vertical installations.
- Compact globe type body design.
- Robust construction with double bearing design.
- Spring driven mechanism allows fast closure.



POLISHED STAINLESS STEEL WELD OVERLAY BODY SEAT – MADE TO OPERATE FOR DECADES

Stainless steel sealing surface of the valve is fitted to the body by weld overlay. Welding is done by special Automated Welding Robot, surface is polished to provide seamless surface and checked by penetration testing. As a result of this process, wear resistance of the seat is maximized, where sealing material cannot be removed from the body. Furthermore corrosion resistance is increased, since there are no uncoated threads on the body.

"SILENT" OPERATION

Silent Check Valves consist of a spring driven disc mechanism which allows fast reaction of the disc. Furthermore, disc stoke is minimal so that the travel distance of the disc is short. These two benefits result in the non-slam operation of the valve. The shaft mechanism is supported by two bearings so that robust construction is achieved. These bearings are separate from the sealing seat so that no decrease on the sealing quality occurs overtime.

DVD Silent Type Check Valves are designed as a non-return valve. The disc opens in normal flow direction, providing undisturbed flow. In case of backflow, the disc acts and closes the valve. The disc is spring driven which allows fast closure of the disc, resulting in non-slam closure. The disc is guided by the shaft supported on two bearings. It matches with the body weld overlay seat to provide sealing. Due to compact globe type body design it can fit into small pump rooms, and circular design of the body allows low head loss.

DIMENSIONS (mm)																
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600	800	1000
L	125	145	155	175	200	225	275	325	375	425	475	500	587	710	700	1100
W	165	185	200	220	250	285	340	405	460	520	580	650	715	840	1160	1255
Weight (Kg)	6	8	12	17	23	35	60	95	130	180	240	264	380	590	830	-

dvdvalves

FOOT VALVE

Available Pressures
PN 10
PN 16
PN 25
PN 40

Paint:
DN50-800 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Guiding Body** **Disc**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Shaft	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Rings	SS Weld Overlay	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Filter	Galvanized Steel	SS 304, SS 316, SS 316 L
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

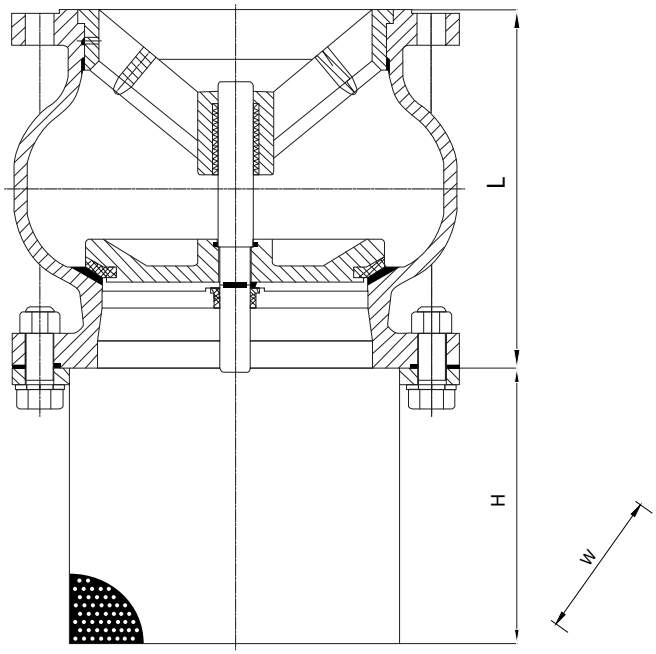
FOOT VALVE

APPLICATION

DVD Foot Valves are designed to have minimum head loss in normal operation and to have drip tight sealing in case of backflow. These check valves are commonly used in the suction pipes of pump stations, preventing priming and protecting the pumps from residuals.

FEATURES

- Suitable for vertical installations.
- Compact globe type body design.
- Robust construction with double bearing design.
- Various filter material and mesh options.



POLISHED STAINLESS STEEL WELD OVERLAY BODY SEAT – MADE TO OPERATE FOR DECADES

Stainless steel sealing surface of the valve is fitted to the body by weld overlay. Welding is done by special Automated Welding Robot, surface is polished to provide seamless surface and checked by penetration testing. As a result of this process, wear resistance of the seat is maximized, where sealing material cannot be removed from the body. Furthermore corrosion resistance is increased, since there are no uncoated threads on the body.

"SILENT" OPERATION

The Foot Valve is made of Silent Check Valve design, consisting of a gravity and flow driven disc mechanism which allows fast reaction of the disc. Furthermore, disc stoke is minimal so that the travel distance of the disc is short. These two benefits result in the non-slam operation of the valve. The shaft mechanism is supported by two bearings so that robust construction is achieved. These bearings are separate from the sealing seat so that no decrease on the sealing quality occurs overtime.

DVD Foot Valves are designed as a non-return valve. The disc opens in normal flow direction, providing undisturbed flow. In case of backflow, the disc acts and closes the valve. The disc is gravity and flow driven which allows fast closure of the disc, resulting in non-slam closure. The disc is guided by the shaft supported on two bearings. The disc matches with the body weld overlay seat to provide sealing. Due circular design it has very low head loss.

DIMENSIONS (mm)															
DN	**50**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**	**800**
L	125	145	155	175	200	225	275	325	375	425	475	500	587	710	700
h	60	90	90	100	125	150	200	250	300	350	430	600	550	700	800
W	165	185	200	220	250	285	340	395	445	505	565	650	670	780	1160
Weight (Kg)	7	9	13	19	25	38	65	105	140	200	260	290	400	625	890

dvdvalves

LIFT TYPE

Available Pressures

Available Pressures

PN 10
PN 16
PN 25

Paint:
DN50-500 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover** **Disc**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Shaft	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Rings	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Spring	SS 304	SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

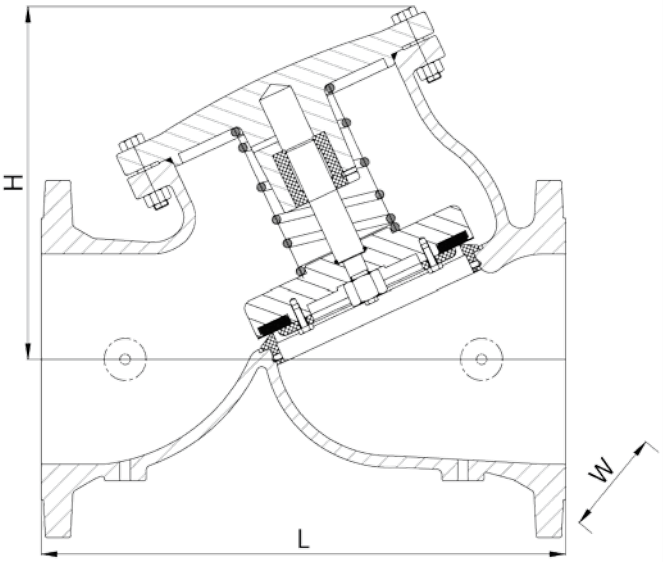
LIFT TYPE

APPLICATION

DVD Lift Type Check Valves are designed to have minimum head loss in normal operation and to have drip tight sealing in case of backflow. These check valves are commonly used in the downstream of pump stations, protecting crucial devices.

FEATURES

- Suitable for horizontal installations.
- Spring driven mechanism allows fast closure.
- Easy maintenance with the top flange design.
- Limit switch accessory is available upon request for scada comms & alarms.
- Optional bypass valve is available upon request for large sizes.



NON-SLAM OPERATION

Lift Type Check Valves consist of a spring driven disc mechanism which allows fast reaction of the disc. Furthermore, disc stoke is minimal so that the travel distance of the disc is short. These two benefits result in the non-slam operation of the valve.

EASE OF MAINTANANCE

Lift Type Check Valves provide a top flange assembly that holds all the components of the valve including the sealing disc, spring and the stem. Therefore the operator can easily take out the top flange as a whole by unscrewing the bolts. As a result, all internal parts can be reached for cleaning or replacement without taking the body from the line.

DVD Lift Type Check Valves are designed as a non-return valve. The disc opens in normal flow direction, providing undisturbed flow. In case of backflow, the disc acts and closes the valve. The disc is spring driven which allows fast closure of the disc, resulting in non-slam closure. The disc is guided by the shaft supported on a long cover bearing. It matches with the body seat to provide sealing. Y type body design of the body allows low head loss.

DIMENSIONS (mm)														
DN		50	65	80	100	125	150	200	250	300	350	400	450	500
H		125	124	170	210	210	280	340	410	475	475	630	630	630
L	PN 10/16	210	222	250	320	335	415	500	605	725	733	1000	1000	1100
	PN 25	217	222	264	335	335	433	524	637	762	769	1025	1045	1140
Weight (Kg)	PN 10/16	8	11	18	30	34	52	85	147	254	265	575	610	690
	PN 25	10	14	21	36	40	62	106	175	295	348	630	675	750

dvdvalves

TILTING TYPE

Available Pressures

PN 10
PN 16
PN 25

Paint:
DN100-1200 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover** **Disc**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Shaft	X20Cr13	SS 304, SS 316, NAB
Bearings	Bronze	Brass, SS 304, SS 316, NAB
Retaining Ring	SS 304	SS 316, St 37
Seals	EPDM	NBR
Fasteners	SS 304	SS 316
Counter Weight Lever	St 37	
Counter Weight	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

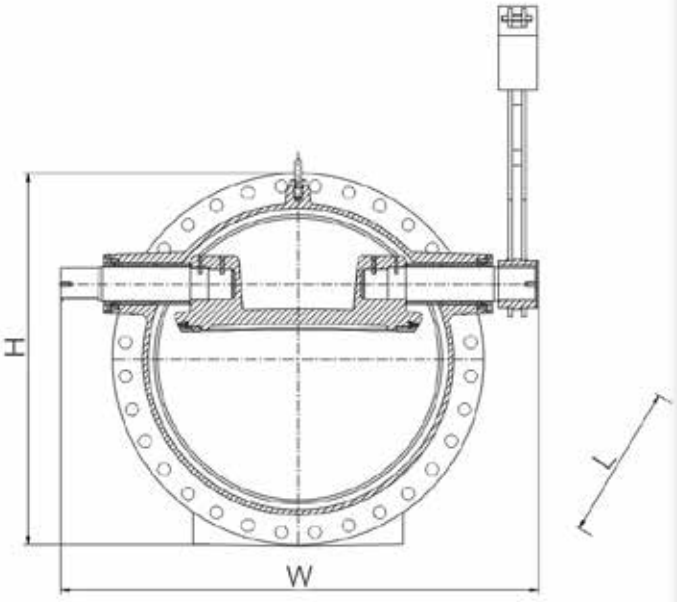
TILTING TYPE

APPLICATION

DVD Tilting Type Check Valves are designed to have low head loss in normal operation and to have drip tight sealing in case of backflow. These check valves are commonly used in the downstream of pump stations, protecting crucial devices.

FEATURES

- Suitable for horizontal and vertical installations.
- Potable water applications.
- Lever & counterweight design.
- Single or double sided lever & counterweight options.
- Protection cover accessory is available upon request, in order to protect the lever movement.
- Limit switch accessory is available upon request for scada comms & alarms.
- Hydraulic Damper (Dashpot) accessory is available upon request for non-slam operation.



FAST REACTION AND DAMPENING

DVD Tilting Type Check Valves provide flow driven double eccentric disc design. Due to this feature, the disc can respond very fast and can open even in very low flows. Moreover, if used with the hydraulic damper accessory, opening and closing speed of the check valve can be set by the operator. As a result, cushioning can be achieved to prevent slamming.

POLISHED STAINLESS STEEL WELD OVERLAY BODY SEAT – MADE TO OPERATE FOR DECADES

Stainless steel sealing surface of the valve is fitted to the body by weld overlay. Welding is done by special Automated Welding Robot, surface is polished to provide seamless surface and checked by penetration testing. As a result of this process, wear resistance of the seat is maximized, where sealing material cannot be removed from the body. Furthermore corrosion resistance is increased, since there are no uncoated threads on the body.

DVD Tilting Type Check Valves are designed as a non-return valve. The disc opens in normal flow direction, providing undisturbed flow. In case of backflow, the disc acts and closes the valve. The disc is guided by the shaft supported on two bearings. These bearings are open-ended for accessory connections such as lever, hydraulic dashpot or limit switch. The disc matches with the stainless steel body weld overlay seat to provide sealing.

DIMENSIONS (mm)																
DN	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200
L	190	200	210	230	250	270	290	310	330	350	390	430	470	510	550	630
W	380	415	465	515	630	650	795	840	910	1000	1150	1350	1440	1580	1730	1912
H	225	255	290	345	410	465	525	585	645	720	845	915	1030	1130	1260	1490
Weight (Kg)	19	25	30	39	63	79	118	148	203	252	367	484	757	1027	1196	1800

LEVER & COUNTER WEIGHT

In order to prevent slamming, check valves should be closed either very fast or very slowly. In case of a closure with the backflow, it can cause surge. In order to solve this problem, DVD offers swing check valves with lever & counter weight that enable fast closure. The disc is connected to a lever which carries weight that forces the door to close. When the normal flow drops, the counter weight overcomes the flow force and closes the door even before the backflow occurs. Therefore, when the backflow reaches to the check valve, the door is already sealed, preventing flow beyond the valve and preventing surge. One needs to indicate the working position of the valve for level and weight adjustment purposes.

SPRING

Swing Check Valves with lever & counter weight are used in projects where backflow can occur suddenly and can slam shut the disc. Lever & weight enables fast closing of the valve. However, lever & counter weight is not the only solution for such a case. DVD offers an alternative: Swing check valves with spring. The spring acts a force on the sealing disc in the direction of backflow. When the normal flow drops, spring overcomes the flow force and closes the door even before the backflow occurs. Therefore, when the backflow reaches to the check valve, the disc is already sealed, preventing flow beyond the valve, and preventing surge.

PROTECTION COVER

During the operation of a swing check valve with a lever & counter weight, the lever moves up and down. This can cause problem since the lever is connected outside of the valve without any protection. The lever should be able to move freely all the time for an undisturbed operation and there should be no obstacle that is on the way of the lever. In order to prevent such a risk and to guarantee correct installation, DVD offers its check valves with lever & counter weight with a protection cover. The cover protects the lever mechanism at all times and guarantees the free movement of the lever. Moreover in some cases, the lever can act in a very fast way due to a sudden backflow. In this situation, in case a person is near the check valve, the lever can harm the person. Protection cover also prevents such an accident.

ACCESSORIES

BY-PASS

DVD Check Valves guarantee the prevention of backflow. However, this prevention can cause another issue. In some cases, when a pump is shut down and the check valve seals tight, there can be no water left in the suction pipe for the pump to start again. This can be a very problematic situation since it is really hard to fill the suction pipe from the reservoir, or by opening the door of the check valve. DVD purposes a solution for such a situation; bypass. DVD Check Valves can be supplied with a bypass and when the user faces such a problem, he can simply open the bypass, let sufficient water to flow to the suction pipe enough for the pump to start and close the bypass for the system to restart.

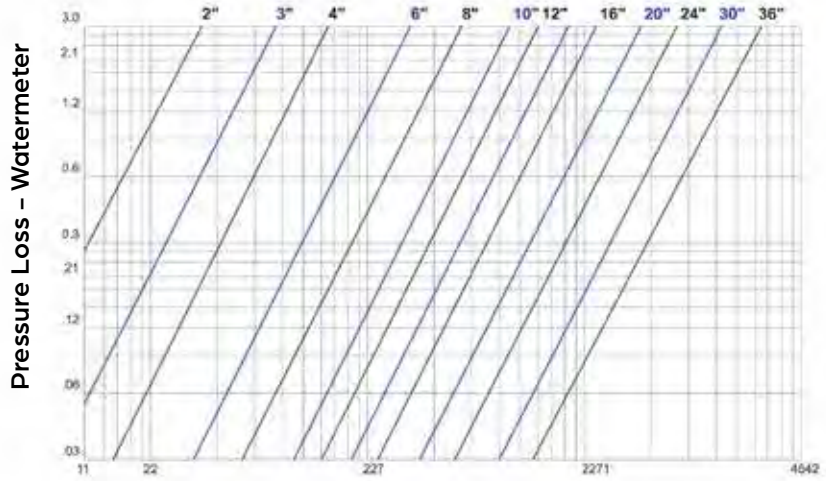
HYDRAULIC DASHPOT

In order to prevent slamming, check valves should be closed either very fast or very slowly. In case of a closure with the backflow, it can cause surge. In order to solve this problem, DVD offers swing check valves with hydraulic dashpot mechanism that enable slow closure. In this model, the dashpot makes the disc of the valve to close very fast until some critical point, leaving a small gap for some water to pass through the valve, and then seals the door tight, slowly. It can be said that dashpot acts like a cushion for the disc to shut down suddenly.

LIMIT SWITCH

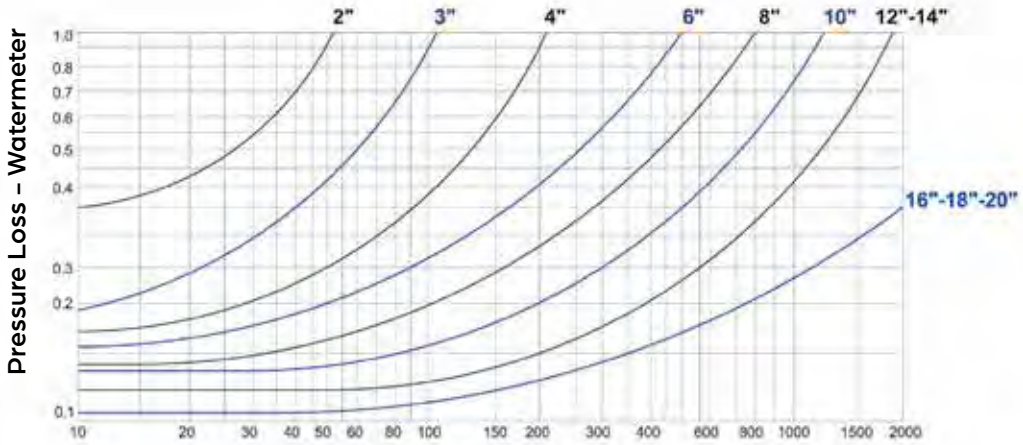
DVD Check Valves can be equipped with a limit switch that is used to communicate with a main computer. It informs the user whether the check valve is in open or closed position and it can cause an alarm or send a signal to the control room when the valve is closed. In some projects, it is very critical to inform the user in case of a backflow, for the user to take necessary actions. And Limit Switch is the equipment that sends signals regarding the position of the valve immediately.

SWING TYPE CHECK VALVES HEAD LOSS DIAGRAM



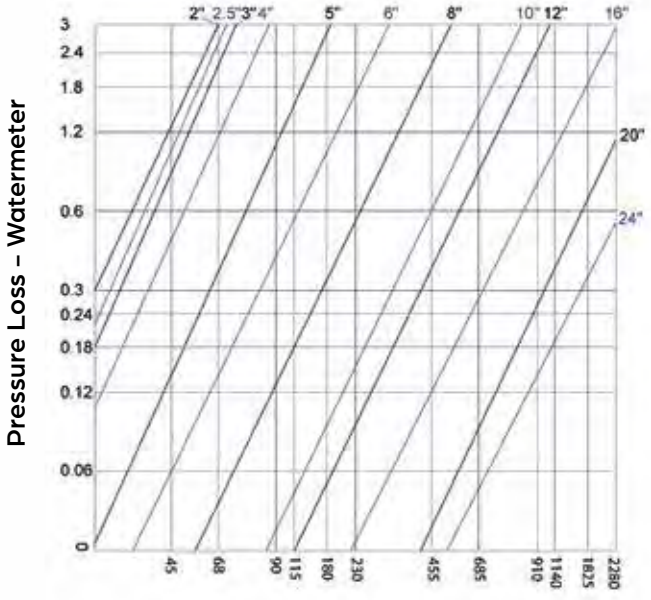
Flow Rate – m³/h

LIFT TYPE CHECK VALVES HEAD LOSS DIAGRAM



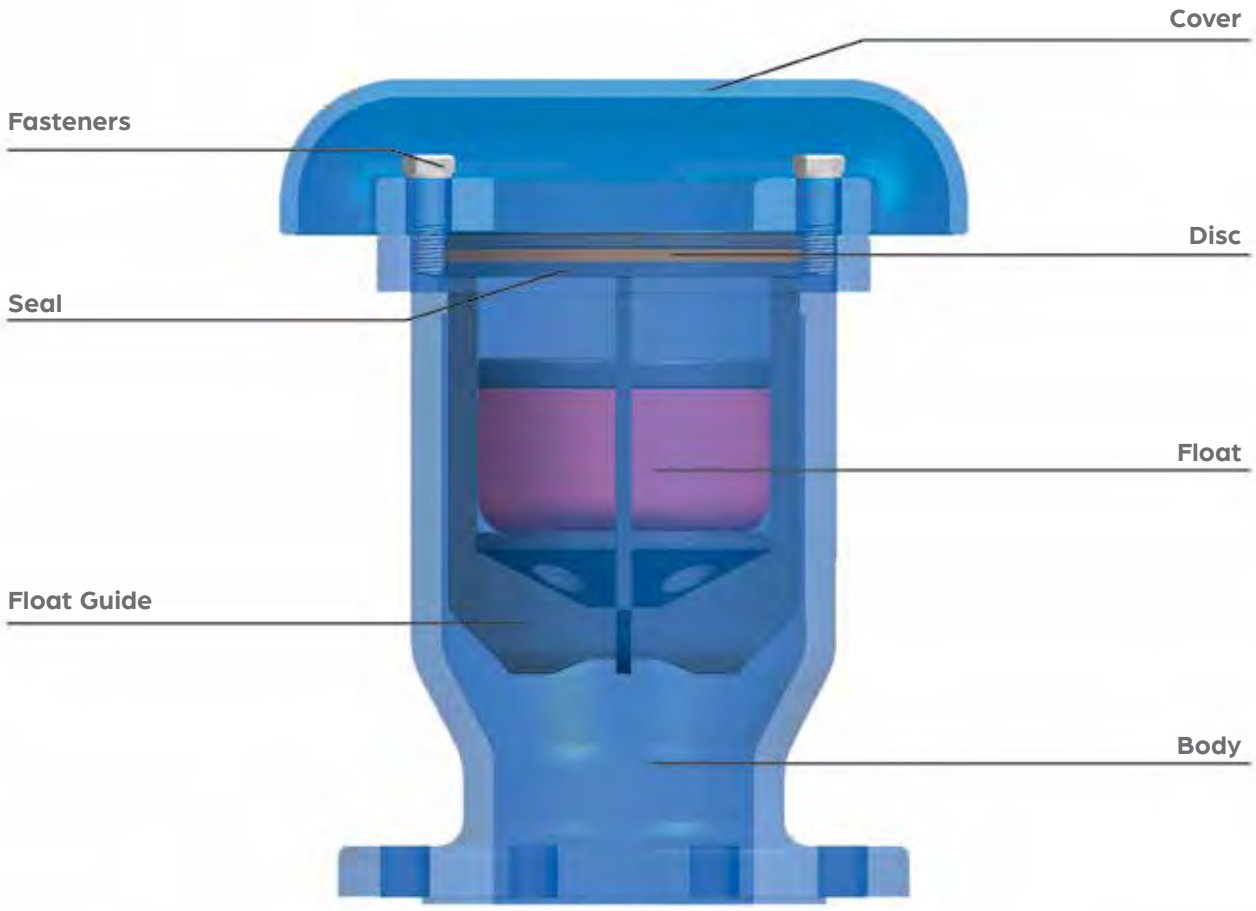
Flow Rate – m³/h

SILENT TYPE CHECK VALVES HEAD LOSS DIAGRAM

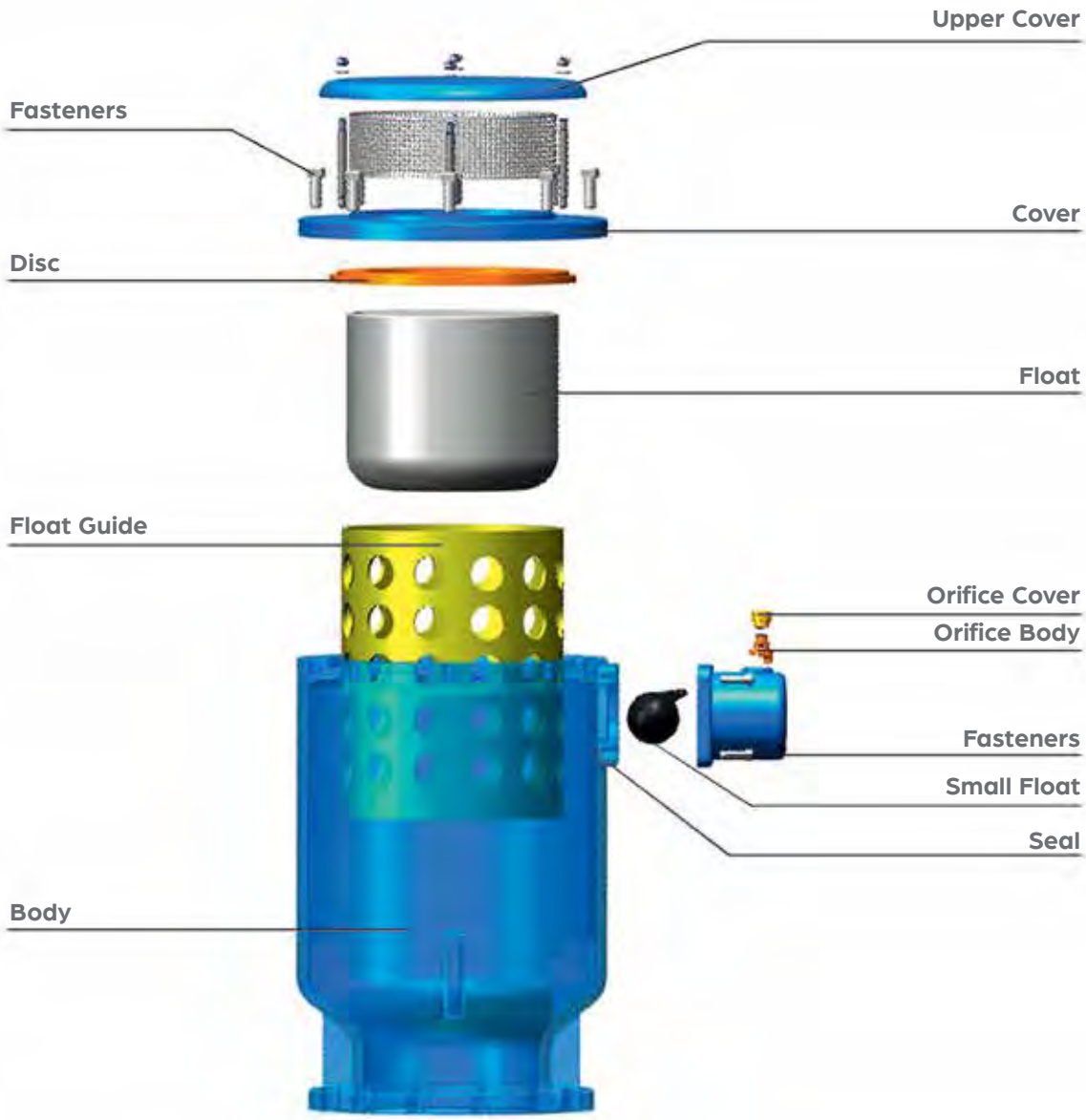


Flow Rate – m³/h

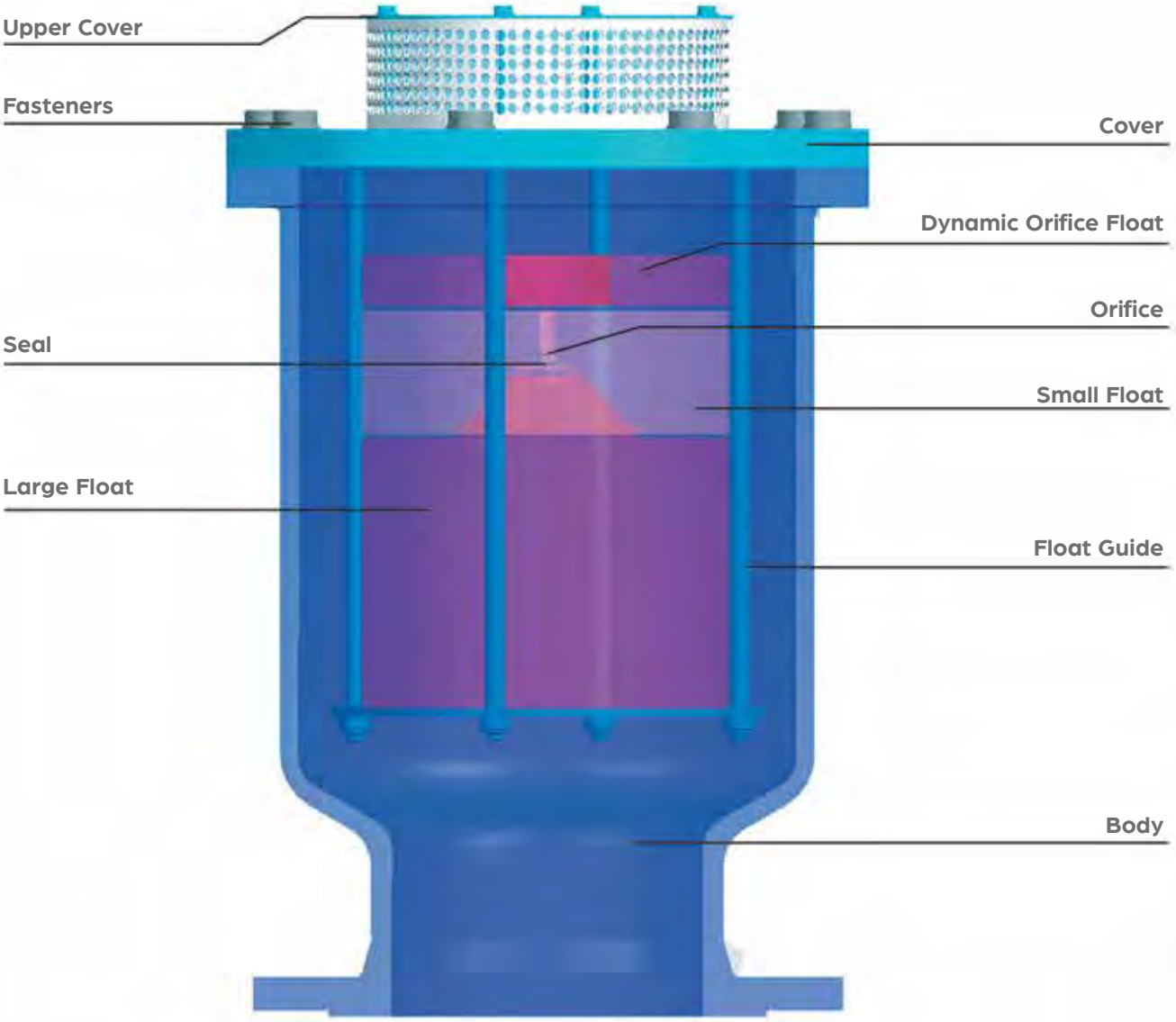
SINGLE CHAMBER / DOUBLE FUNCTION AIR VALVE



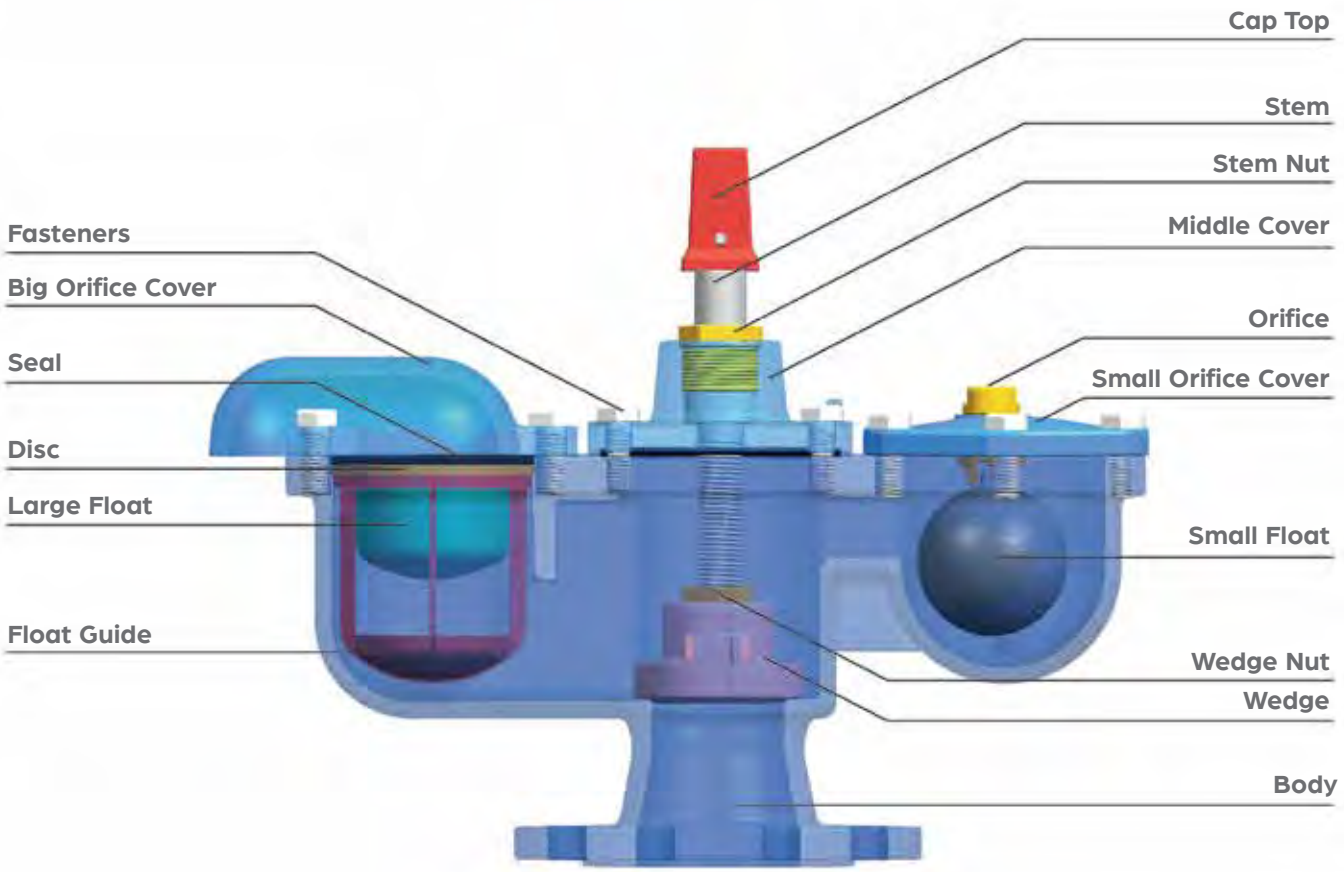
DOUBLE CHAMBER / TRIPLE FUNCTION AIR VALVE



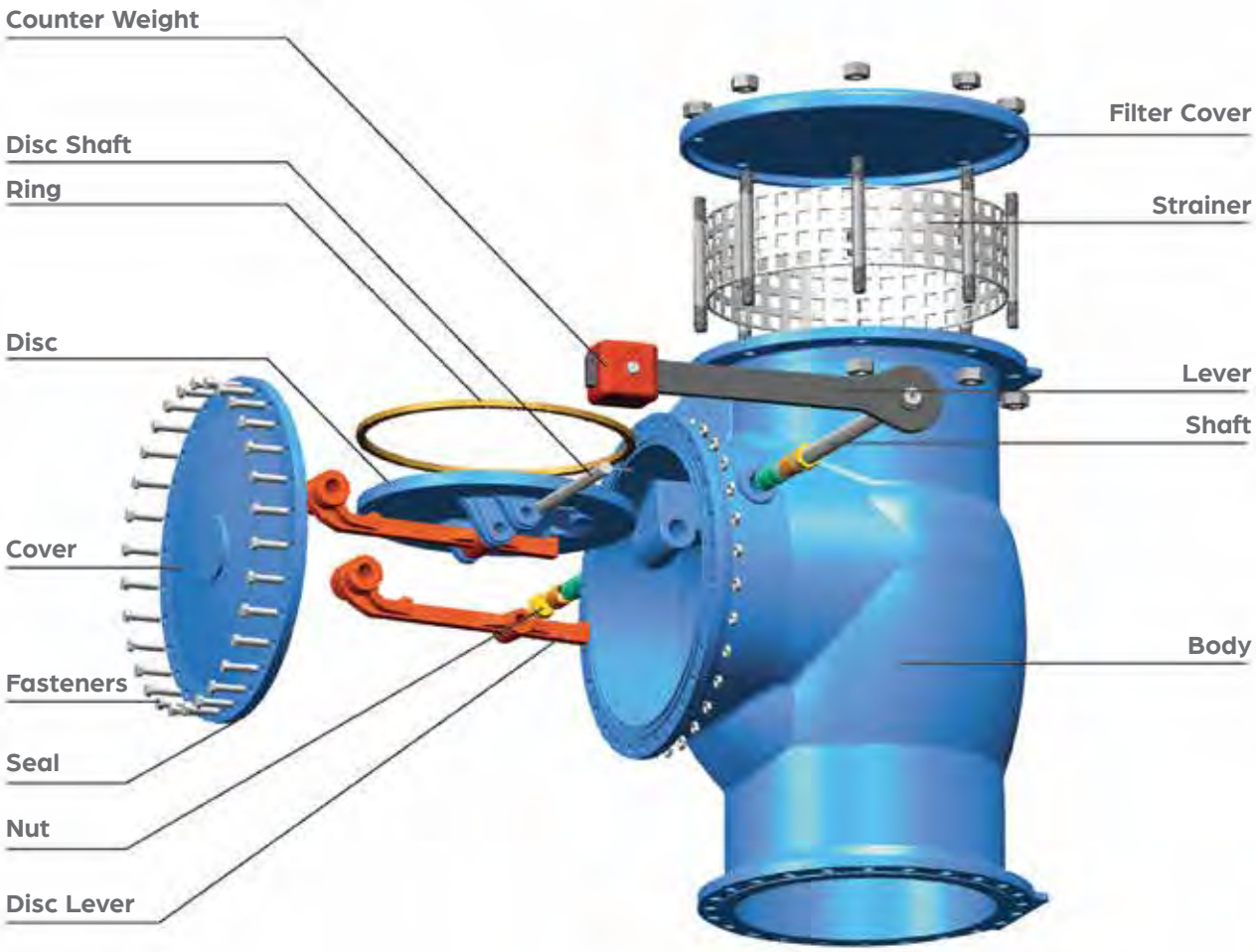
SINGLE CHAMBER / FOUR FUNCTION
NON–SLAM AIR VALVE



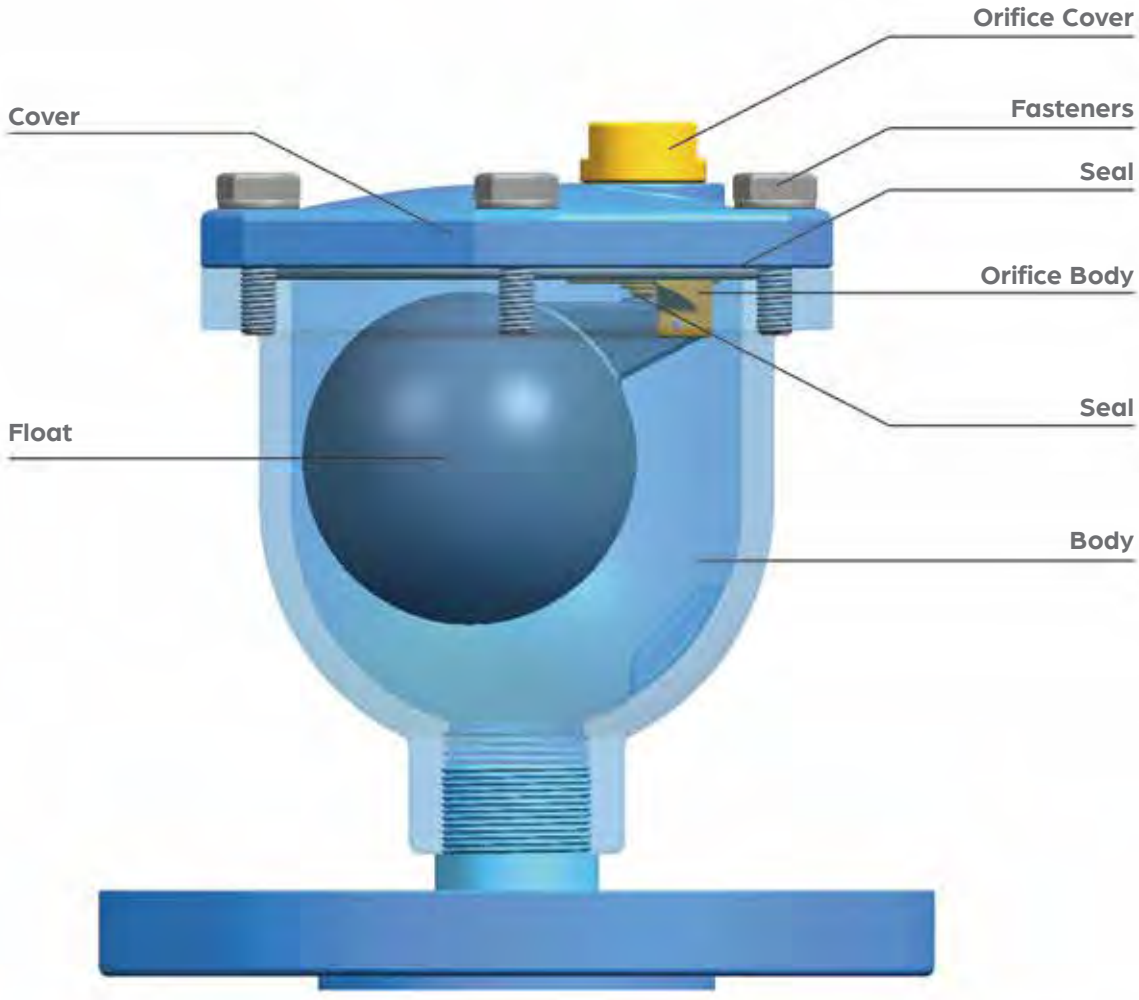
DOUBLE CHAMBER / TRIPLE FUNCTION AIR VALVE WITH ISOLATION VALVE



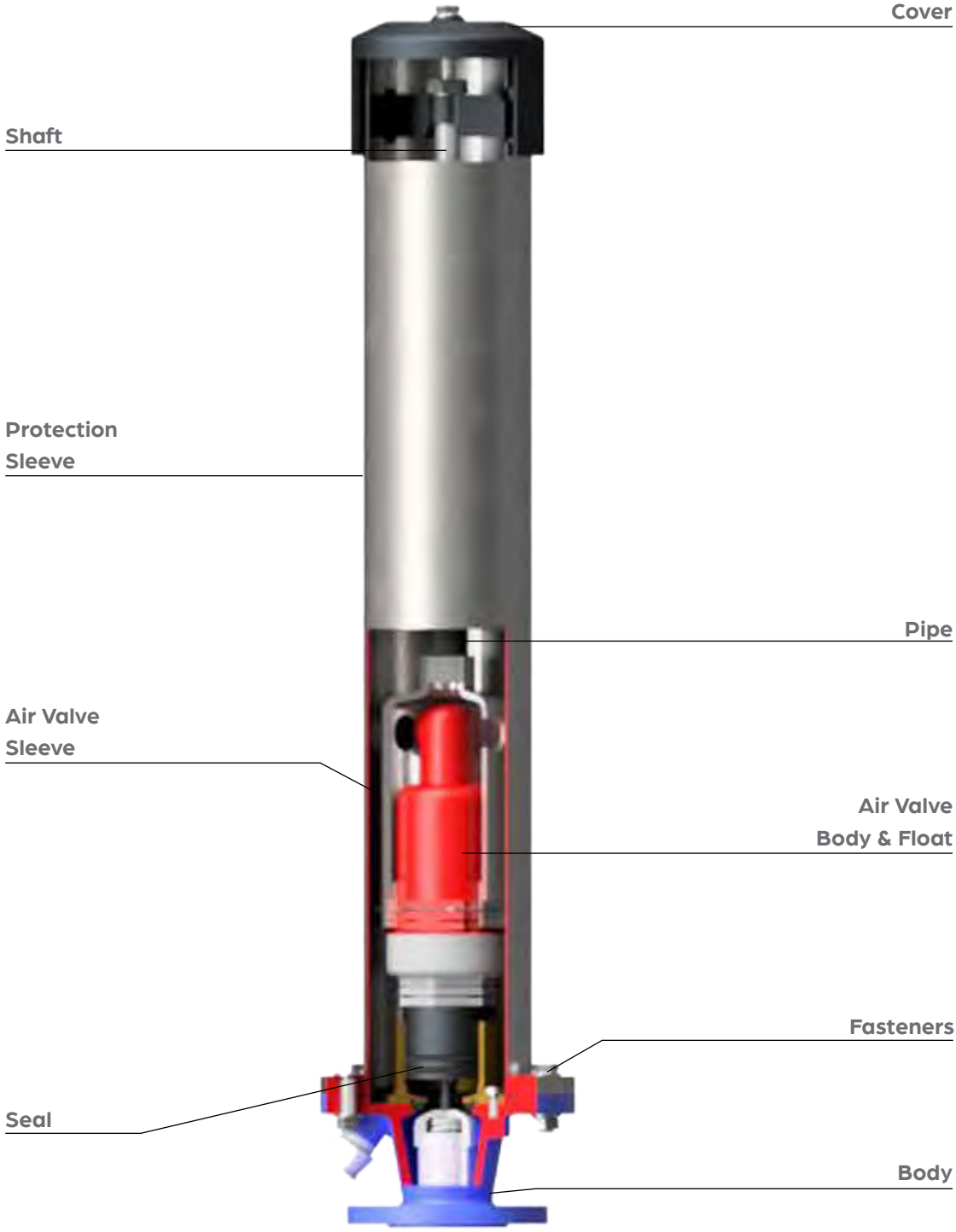
VACUUM VALVE



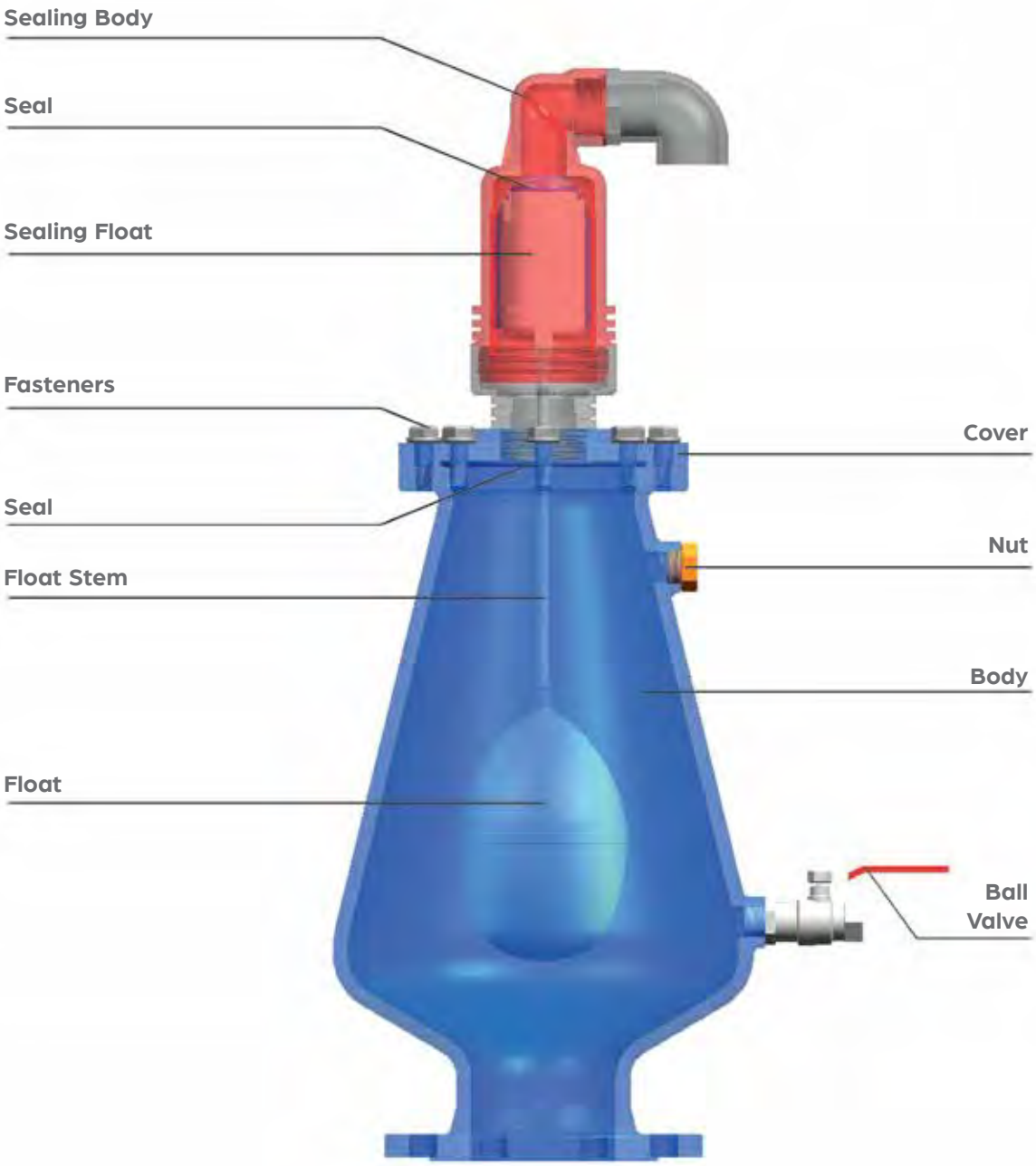
1" SINGLE CHAMBER / SINGLE FUNCTION AIR VALVE



TRIPLE FUNCTION UNDERGROUND AIR VALVE



TRIPLE FUNCTION SEWAGE AIR VALVE



dvdvalves

SINGLE CHAMBER/DOUBLE FUNCTION

Available Pressures

Available Pressures
PN 10
PN 16
PN 25
PN 40
PN 63

Paint:

DN40-500 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Float	Foamed Polypropylene (DN40-150) Polyethylene (DN200-500) (Full Material, Not Hollow Inside)	SS 304 SS 316 NAB
Float Guide	PVC	Nylon (Polyamide), SS 304, SS 316
Disc	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

SINGLE CHAMBER/DOUBLE FUNCTION

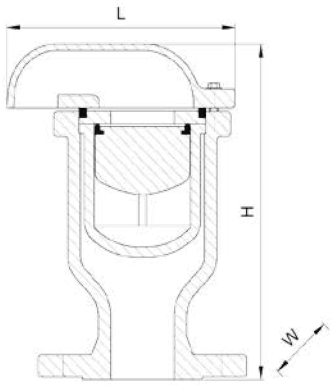
APPLICATION

DVD Single Chamber Air Valves are designed to perform two functions:
1. Venting of air on the start-up of the system, while pipelines are filled.
2. Intake of air on shut-off of the system, while pipelines are drained.

Note: This valve is not suitable for discharging pressurized air pockets while the system is operating. Please refer to other DVD Air Valve models for such a feature.

FEATURES

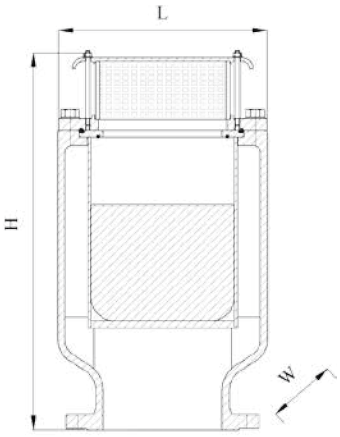
- Aerodynamic float design prevents immature closing.
- Full bore & reduced bore options are available upon request.
- Isolation valves are available upon request.
- Manifolds are available upon request for parallel installation.
- Testing cocks are available upon request for inspection and control.
- Threaded versions available upon request for <DN65.



Ø 40-200

FULL MATERIAL FLOATS

Floats shut to the float disc when water arrives; therefore they must be robust to stand such forces. At the same time, they must be light enough to be able to swim on water. DVD Air Valves consist of full material floats that are not hollow inside. As a result, no cracking or deformation occurs on the floats even after years of operation; and they are light enough to guarantee superior sealing.



Ø 250-500

LOW PRESSURE SEALING FEATURE

DVD Air Valves have superior float design that has advance sealing performance. Reliability of the sealing performance is tested for high pressure as well as low pressure. These valves can provide drip tight sealing even in 2mwc pressure, therefore you can always rely on DVD Air Valves in low pressure networks.

DVD Single Chamber Air Valves are used to prevent pipeline bursts, as a result of air intake/discharge failure in the start-up and shut-off of the system. These valves consist of a body which holds a float that is positioned at a predetermined height. Float is guided by a ribbed cage when there is a change in the elevation of water. As a result of the aerodynamic design of the valve, float remains completely stable under air intake/discharge, preventing immature closing. Only when there is a rise in water level, float rises and closes the valve; and when water level drops, the float drops, enabling intake of large volumes of air to the system.

DIMENSIONS (mm)															
DN		**40**	**50**	**60**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**500**
H		255	260	260	260	260	320	320	320	450	700	812	1065	1065	1455
W	**PN 10/16**	150	165	175	185	200	220	250	285	340	395/405	525	615	700	880
	PN 25/40	150	165	175	185	200	235	270	300	360/375	425/450	525	615	700	880
L		180	180	180	180	180	265	265	265	345	530	580	615	625	860t
Weight (Kg)	**PN 10/16**	11	11	11	12	12	24	26	30	54	175	192	417	835	1035
	PN 25/40	11	11	12	12	15	24	27	32	56	183	203	430	-----	-----

dvdvalves

DOUBLE CHAMBER/TRIPLE FUNCTION

Available Pressures
PN 10
PN 16
PN 25
PN 40
PN 63

Paint:

DN40-500 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover** **Upper Cover**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Floats	Foamed Polypropylene (DN40-150) Polyethylene (DN200-500) (Full Material, Not Hollow Inside)	SS 304 SS 316 NAB
Float Guide	PVC	Nylon (Polyamide), SS 304, SS 316
Disc	Bronze	Brass, SS 304, SS 316, NAB
Orifice	SS 304	Bronze, SS 316
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

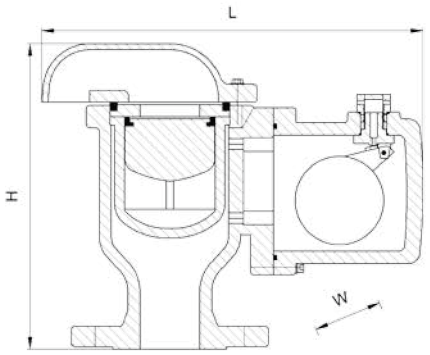
DOUBLE CHAMBER/TRIPLE FUNCTION

APPLICATION

DVD Double Chamber Air Valves are designed to perform three functions:
1. Venting of air on the start-up of the system, while pipelines are filled.
2. Intake of air on shut-off of the system, while pipelines are drained.
3. Discharge of pressurized air pockets during the operation of the system.

FEATURES

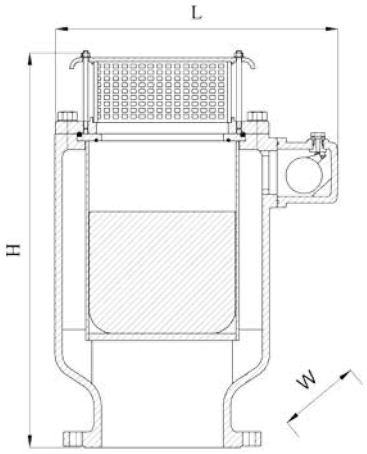
- Aerodynamic float design prevents immature closing.
- Full bore & reduced bore options are available upon request.
- Isolation valves are available upon request.
- Manifolds are available upon request for parallel installation.
- Testing cocks are available upon request for inspection and control.
- Threaded versions available upon request for <DN65.



Ø 40-200

FULL MATERIAL FLOATS

Floats shut to the float disc when water arrives; therefore they must be robust to stand such forces. At the same time, they must be light enough to be able to swim on water. DVD Air Valves consist of full material floats that are not hollow inside. As a result, no cracking or deformation occurs on the floats even after years of operation; and they are light enough to guarantee superior sealing.



Ø 250-500

LOW PRESSURE SEALING FEATURE

DVD Air Valves have superior float design that has advance sealing performance. Reliability of the sealing performance is tested for high pressure as well as low pressure. These valves can provide drip tight sealing even in 2mwc pressure, therefore you can always rely on DVD Air Valves in low pressure networks.

DVD Double Chamber Air Valves are used to prevent pipeline bursts, as a result of air intake/discharge failure in the start-up and shut-off of the system; and during the operation. These valves consist of a body which holds two floats in different chambers that are positioned at a predetermined height. The main float is guided by a ribbed cage and moves when there is a change in the elevation of water. As a result of the aerodynamic design of the valve, the float remains completely stable under air intake/discharge, preventing immature closing. Only when there is a rise in water level, float rises and closes the valve; and when water level drops, float drops, enabling intake of large volumes of air to the system. The second float is attached by a pin for fast reaction. Therefore, it can let out the air while the system is operating.

DIMENSIONS (mm)															
DN		**40**	**50**	**60**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**500**
H		255	260	260	260	260	320	320	320	450	700	812	1065	1065	1455
W	**PN 10/16**	150	165	175	185	200	220	250	285	340	395/405	525	615	700	880
	PN 25/40	150	165	175	185	200	235	270	300	360/375	425/450	525	615	700	880
L		325	325	325	325	325	370	370	370	370	633	685	880	880	1060
Weight (Kg)	**PN 10/16**	17	17	19	20	21	31	32	34	64	181	197	422	840	1040
	PN 25/40	17	17	20	21	22	34	35	37	69	187	207	435	-----	-----

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SINGLE CHAMBER/TRIPLE FUNCTION NON-SLAM

Available Pressures
PN 10
PN 16
PN 25
PN 40
PN 63

Paint:
DN25-500 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Upper Cover	SS 304	SS 316
Floats	Polyethylene (Full Material, Not Hollow Inside)	
Float Guide	SS 304	SS 316
Cover	SS 304	Ductile Iron, SS 316, NAB
Orifice	SS 304	SS 316
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

SINGLE CHAMBER/TRIPLE FUNCTION NON-SLAM

APPLICATION

DVD Non-Slam Air Valves are designed to perform three functions:
1. Venting of air on the start-up of the system, while pipelines are filled.
2. Intake of air on shut-off of the system, while pipelines are drained.
3. Discharge of pressurized air pockets during the operation of the system.

FEATURES

- Aerodynamic float design prevents immature closing.
- Full bore design allows high air capacity.
- Isolation valves are available upon request.
- Manifolds are available upon request for parallel installation.
- Testing cocks are available upon request for inspection and control.
- Threaded versions available upon request for <DN50.

NON-SLAM FEATURE

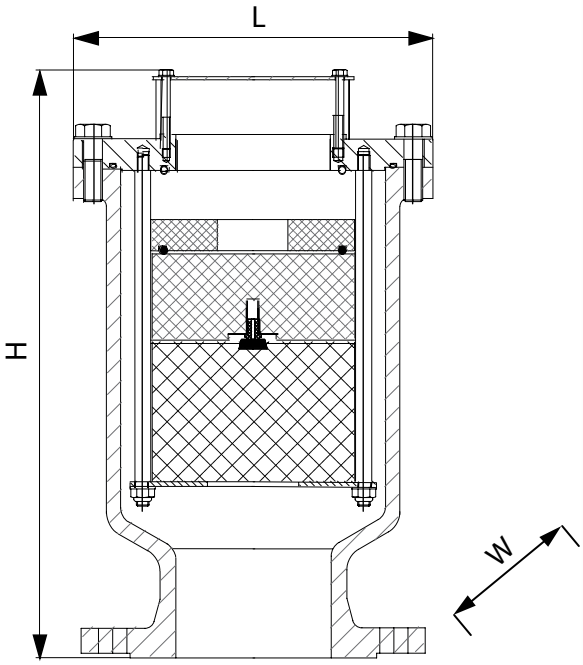
DVD Non-Slam Air Valves consist of three different floats in a single chamber. The top non-slam float is designed to prevent the slamming of the valve especially during high velocity discharge of air. When the air discharge goes beyond a predetermined velocity, non-slam float goes up to decrease the air discharge cross-sectional area. As a result, air discharge velocity is slowed down, causing the water column to reach to the valve slowly. Therefore, no slamming occurs on the valve that can cause a system damage.

FULL MATERIAL FLOATS

Floats shut to the float disc when water arrives; therefore they must be robust to stand such forces. At the same time, they must be light enough to be able to swim on water. DVD Air Valves consist of full material floats that are not hollow inside. As a result, no cracking or deformation occurs on the floats even after years of operation; and they are light enough to guarantee superior sealing.

LOW PRESSURE SEALING FEATURE

DVD Air Valves have superior float design that has advance sealing performance. Reliability of the sealing performance is tested for high pressure as well as low pressure. These valves can provide drip tight sealing even in 2mwc pressure, therefore you can always rely on DVD Air Valves in low pressure networks.



DVD Non-Slam Air Valves are used to prevent pipeline bursts, as a result of air intake/discharge failure in the start-up and shut-off of the system; and during the operation. These valves consist of a body which holds three floats in a single chamber that are positioned at a predetermined height. These floats are guided by studs and moves when there is a change in the elevation of water. As a result of the aerodynamic design of the valve, the large and small floats remain completely stable under air intake/discharge, preventing immature closing. Only when there is a rise in water level, these two floats rise and close the valve; and when water level drops, these floats drop, enabling intake of large volumes of air to the system. The large float is regulating the small air discharge orifice on the small float, letting out air while the system is operating. The non-slam float acts like a cushioning device and decreases the air discharge cross-sectional area in order to slow down the high air discharge velocity that can cause slamming of the valve.

DIMENSIONS (mm)												
DN		25	50	80	100	150	200	250	300	350	400	500
H		205	280	330	380	490	580	700	812	1065	1065	1455
W	PN 10/16	115	165	200	220	285	340	395/405	445/460	615	700	880
	PN 25/40	115	165	200	235	300	360/375	425/450	485/515	615	700	880
L		105	155	200	230	310	420	530	580	625	625	860
Weight (Kg)	PN 10/16	8	11	19	25	40	90	185	200	417	835	1035
	PN 25/40	8	11	37	40	43	96	190	210	430	-	-

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DOUBLE CHAMBER / TRIPLE FUNCTION WITH ISOLATION VALVE

Available Pressures
PN 10
PN 16
PN 25
PN 40

Paint:
DN50-150 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Covers** **Cap Top**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Floats	Foamed Polypropylene (Full Material, Not Hollow Inside)	SS 304 SS 316 NAB
Float Guide	PVC	Nylon (Polyamide), SS 304, SS 316
Disc	Bronze	Brass, SS 304, SS 316, NAB
Orifice	SS 304	Bronze, SS 316
Stem	X20C13	SS 304, SS 316
Nuts	Bronze	Brass, SS 304, SS 316
Wedge	Ductile Iron + Vulcanized EPDM	Ductile Iron + NBR
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

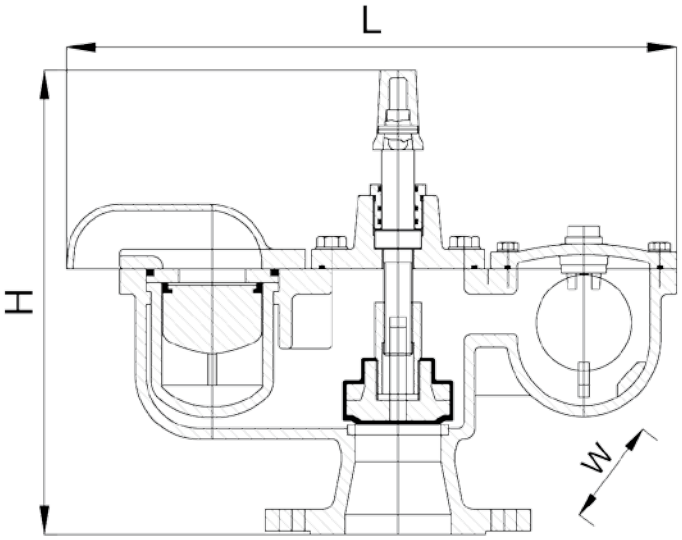
DOUBLE CHAMBER / TRIPLE FUNCTION WITH ISOLATION VALVE

APPLICATION

DVD Double Chamber Air Valves are designed to perform three functions:
1. Venting of air on the start-up of the system, while pipelines are filled.
2. Intake of air on shut-off of the system, while pipelines are drained.
3. Discharge of pressurized air pockets during the operation of the system.

FEATURES

• Integral isolation valve feature provides ease of maintenance and cleaning.
• Aerodynamic float design prevents immature closing.
• Manifolds are available upon request for parallel installation.
• Testing cocks are available upon request for inspection and control.



INTEGRAL ISOLATION VALVE

Integral isolation valve feature is an add-on benefit to standard Double Chamber Air Valves. Isolation valve can be shut-off drip tight so that all internal parts of the valve can be accessed without removing the body from the line. Orifice, floats and guides can be replaced or cleaned from residuals easily without the need of an external isolation valve.

FULL MATERIAL FLOATS

Floats shut to the float disc when water arrives; therefore they must be robust to stand such forces. At the same time, they must be light enough to be able to swim on water. DVD Air Valves consist of full material floats that are not hollow inside. As a result, no cracking or deformation occurs on the floats even after years of operation; and they are light enough to guarantee superior sealing.

LOW PRESSURE SEALING FEATURE

DVD Air Valves have superior float design that has advance sealing performance. Reliability of the sealing performance is tested for high pressure as well as low pressure. These valves can provide drip tight sealing even in 2mwc pressure, therefore you can always rely on DVD Air Valves in low pressure networks.

DVD Double Chamber Air Valves are used to prevent pipeline bursts, as a result of air intake/discharge failure in the start-up and shut-off of the system; and during the operation. These valves consist of a body which holds two floats in different chambers that are positioned at a predetermined height. The main float is guided by a ribbed cage and moves when there is a change in the elevation of water. As a result of the aerodynamic design of the valve, the float remains completely stable under air intake/discharge, preventing immature closing. Only when there is a rise in water level, float rises and closes the valve; and when water level drops, float drops, enabling intake of large volumes of air to the system. The second float is attached by a pin for fast reaction. Therefore, it can let out the air while the system is operating. This model has an additional integral isolation valve feature which is used to isolate the internal parts of the valve for easy cleaning or maintenance.

DIMENSIONS (mm)						
DN	**50**	**65**	**80**	**100**	**125**	**150**
H	350	350	350	415	415	415
W	200	200	200	250	250	250
L	460	460	460	530	530	530
Weight (Kg)	27	28	29	52	53	56

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VACUUM VALVE

Available Pressures
PN 10
PN 16
PN 25
PN 40

Paint:
DN40-400 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN450-500 -- Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover** **Lever**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Disc	Steel + EPDM (Ø 40-400) Ductile Iron (Ø 450-500)	NAB
Shaft	X20Cr13	SS 304, SS 316, NAB
Nuts	Bronze	Brass, SS 304, SS 316, NAB
Ring	Bronze	Brass, SS 304, SS 316, NAB
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Strainer	SS 304	SS 316
NOTES:	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

VACUUM VALVE

APPLICATION

DVD Vacuum Valves are designed to perform one main function:
Intake of large quantities air of in short time

- on shut-off of the system, while pipelines are drained.
- on column separation due to pipeline burst or flow fluctuation.

FEATURES

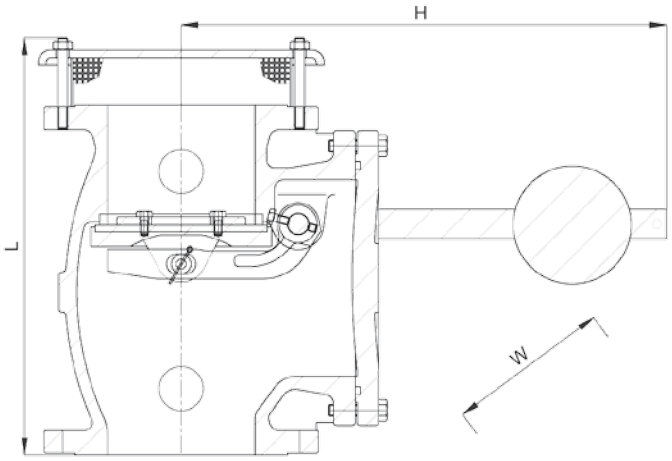
- Potable water and sewage applications.
- Isolation valves are available upon request.
- Integral Air Release Valve installation is available upon request.
- Single or double sided lever & counterweight options.
- Protection cover accessory is available upon request, in order to protect the lever movement.
- Limit switch accessory is available upon request for scada comms & alarms.
- Manifolds are available upon request for parallel installation.

THE "VACUUM BREAKER"

In general, air intake capacity need of a transmission line is much more than the air discharge capacity need. Vacuum Valves with large air intake capacities go together with smaller air release valves, making it the ideal solution to satisfy the different air intake-discharge capacity need of a pipeline. Moreover, float-less construction is designed to fast react to vacuum conditions. As a result, they are installed in crucial points where column separation can occur due to either sudden pump stop, sudden valve closure (emergency valve) or pipeline burst.

INTERNAL SPRING DRIVEN OR LEVER & COUNTER WEIGHT CONSTRUCTION OPTIONS

DVD provides two alternative valve designs for Vacuum Valves. These options are the lever & counterweight, and the internal spring driven options. Lever & Counterweight design allows indication and alarm output possibilities, whereas internal spring driven design allows more compact and protected design. Please get in contact with a DVD representative to receive further information regarding the internal spring driven design.



Note: This valve as standard configuration is not suitable for discharging air. Please refer to other DVD Air Valve models for such a feature or select integral air discharge valve accessory.

INTEGRAL AIR RELEASE VALVE OPTION

Vacuum Valves are designed only to intake large quantities of air. They are not suitable to release air. However, if requested, air release valves can be factory-installed directly on the Vacuum Valve. As a result, one single unit can provide a large intake capacity and relatively smaller air discharge capacity. Isolation Valves can also be installed in the upstream of the integral air release valves. Please get in contact with a DVD representative to receive further information regarding such a design option.

DVD Vacuum Valves are designed to prevent pipeline collapse as a result of vacuum conditions due to column separation, pipeline burst or pipeline draining. These valves consist of a body which holds a disc that is attached to a lever & weight. The disc and lever & weight are balanced so that the disc can move freely. This allows the valve to act very fast to a pressure change in the system. In case of a vacuum situation the disc moves down, allowing huge amounts of air to the system. When the critical conditions pass and water flows inside the valve, due to rising pressure, the disc closes drip tight.

DIMENSIONS (mm)															
DN		40	50	65	80	100	125	150	200	250	300	350	400	450	500
H		120	150	200	225	300	375	500	660	825	990	1150	1320	1485	1650
W	PN10	150	165	185	200	220	250	285	340	395	445	505	565	615	670
	PN16	150	165	185	200	220	250	285	340	405	460	520	580	640	715
	PN25	150	165	185	200	235	270	300	360	425	485	555	620	670	730
	PN40	150	165	185	200	235	270	300	375	450	515	580	660	685	755
L		200	230	275	295	370	420	485	650	750	800	1000	1050	1150	1235
Weight (Kg)	PN10/16	14	20	24	27	33	45	60	115	140	185	415	600	660	900
	PN25	14	20	24	27	36	50	65	122	149	200	435	633	695	920
	PN40	14	20	24	27	36	50	65	128	161	218	452	670	700	960

dvdvalves

1" SINGLE CHAMBER / SINGLE FUNCTION

Available Pressures

PN 10
PN 16
PN 25
PN 40
PN 63

Paint:
Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Float	Foamed Polypropylene (Full Material, Not Hollow Inside)	SS 304, SS 316
Orifice	SS 304	Bronze, SS 316
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

1" SINGLE CHAMBER / SINGLE FUNCTION

APPLICATION

DVD 1" Single Chamber Air Valves are designed to perform one main function:
Discharge of pressurized air pockets during the operation of the system.

FEATURES

- Isolation valves are available upon request.
- Flange connections to be installed on T-fittings are available upon request.
- Manifolds are available upon request for parallel installation.

AIR POCKETS & PUMPING COSTS

Although all air is discharged from the pipeline while filling it, air can re-occur due to pressure changes in the pipeline. If not released, air collects in peak locations of the pipeline, in elbows or in orifices; forming air pockets. These air pockets decrease the cross-sectional area of water flow, effecting pumping costs. Furthermore, they speed up the corrosion of metal pipelines. 1" Air Valves are designed to release such air pockets so that no restriction on water flow occurs and pumping costs are not affected by it.

LEVER & PIN DESIGN FLOAT

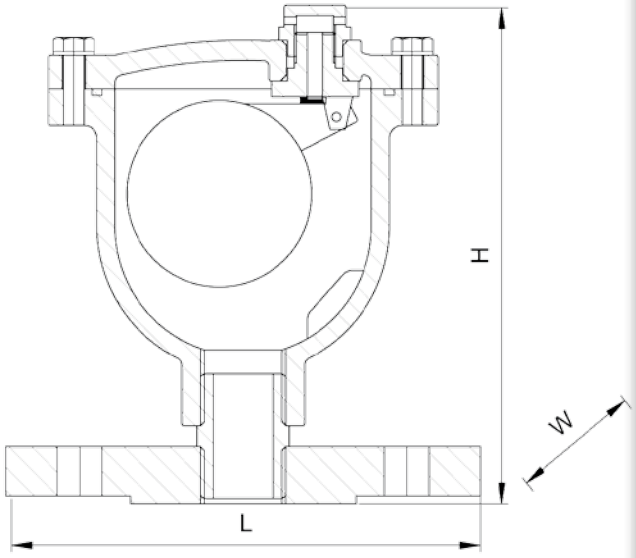
1" Air Valves are designed to release small pressurized air pockets while the system is already filled with water. As a result, they must be sensitive to small air pockets to be able to open and release air, and then provide drip tight sealing. DVD 1" float is connected to an orifice with a lever and pin design. Therefore, even a small elevation change of the float opens the orifice to release the pressurized air pocket.

FULL MATERIAL FLOATS

Floats must be robust to stand high pipeline pressures. At the same time, they must be light enough to be able to swim on water. DVD Air Valves consist of full material floats that are not hollow inside. As a result, no cracking or deformation occurs on the floats even after years of operation; and they are light enough to guarantee superior sealing.

LOW PRESSURE SEALING FEATURE

DVD Air Valves have superior float design that has advance sealing performance. Reliability of the sealing performance is tested for high pressure as well as low pressure. These valves can provide drip tight sealing even in 2mwc pressure, therefore you can always rely on DVD Air Valves in low pressure networks.



Note: This model is not suitable for intake of air or for releasing large quantities of air during pipeline filling. Please refer to other DVD Air Valve models for such features.

DVD 1" Air Release Valves are used to prevent pipeline bursts and decrease energy consumption as a result of removing pressurized air pockets that are occuring during the operation. Small air pockets that are collected in a critical point can resist to water flow and increase the need of energy to pump the water. DVD 1" Air Release Valves that are placed in these critical points prevent such a scenario and enable energy saving. These valves consist of a body which holds one float that is positioned at a predetermined height. The float is guided by a pin for acting quickly to sudden water level changes, which allows the valve to operate in kinetic circumtances. As a result of the aerokinetic desing of the valve, the float remains completely stable under air intake/discharge, preventing unmature closing of the valve. Only when there is a rise in the water level, float rises and closes the valve. DVD 1" Air Release Valve is designed to be used in the pump discharge points. Because of its unique design, DVD Air Valves have intake/discharge capacities greater than its alikes, suppressing competition.

DIMENSIONS (mm)							
DN		40	50	65	80	100	150
H		195	195	195	195	195	195
L	PN 10/16	150	165	185	200	220	285
	PN 25/40	150	165	185	200	235	300
Weight (Kg)	with flanges	7	7,5	8	9	10	13

dvdvalves

TRIPLE FUNCTION UNDERGROUND

Available Pressures
PN 10
PN 16

Paint:
DN50-80 -- Electrostatic Fusion Bonded Epoxy Blue

Parts	Main Materials	Optional Materials
Body	Ductile Iron	
Air Valve Body **Air Valve Float**	POM	
Air Valve Sleeve	Aluminium	
Protection Sleeve	SS304	SS316, PE
Cover	Ductile Iron	
Shaft	X20Cr13	SS304, SS316
Pipe	Galvanized Pipe	SS304, SS316
Sealings	EPDM	NBR
Fasteners	SS304	SS316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

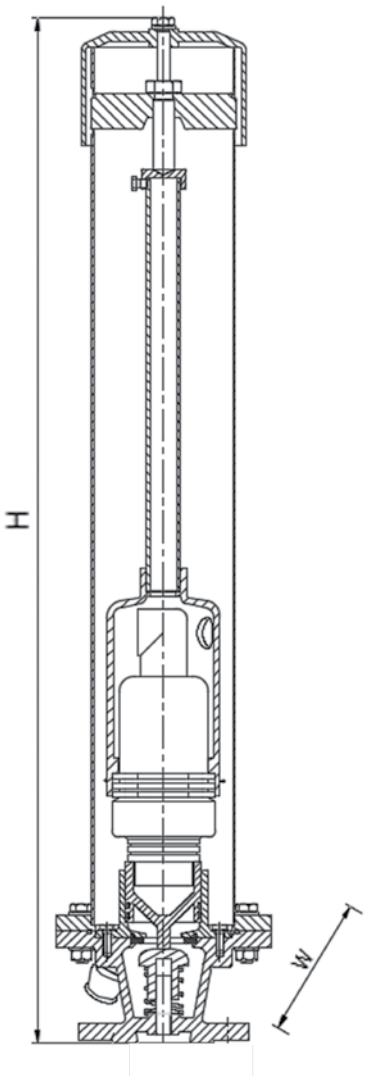
TRIPLE FUNCTION UNDERGROUND

APPLICATION

DVD Underground Air Valves are designed to perform three functions:
1. Venting of air on the start-up of the system, while pipelines are filled.
2. Intake of air on shut-off of the system, while pipelines are drained.
3. Discharge of pressurized air pockets during the operation of the system.

FEATURES

- Three different length options.
- No isolation valve need with the integral check mechanism.
- Integral water drain plug.
- Surface box is available upon request.



NO VALVE CHAMBER

In city networks, standard air valves are protected in a concrete valve chamber. However, these valve chambers need expensive construction work and need space. Underground Air Valves are designed to be buried underground without the need of a chamber. The Protection Sleeve protects the Air Valve from the soil and allows enough gap for air intake/discharge. Furthermore, drain plug on the body allows draining of possible water fill inside the sleeve.

ISOLATION MECHANISM PROVIDES EASE OF MAINTANANCE

Unground Air Valves come with an integral check-isolation mechanism positioned at the bottom of the Air Valve. For maintenance or cleaning, the operator simply can remove the Cover and pull the Air Valve assembly out of the Sleeve. As a result, the check-isolation mechanism closes automatically so that no water goes out of the pipeline. After replacing the Air Valve, the new one can be installed back to the body easily, de-activating the check-isolation mechanism. Therefore there is no need for an external isolation valve installation.

DVD Underground Air Valves are used to prevent pipeline bursts, as a result of air intake/discharge failure in the start-up and shut-off of the system; and during the operation. These valves consist of a POM body which holds a float positioned at a predetermined height. The float is guided by the ribbed body and moves when there is a change in the elevation of water. As a result of the aerodynamic design of the valve, the float remains completely stable under air intake/discharge, preventing immature closing. Only when there is a rise in water level, float rises and closes the valve; and when water level drops, the float drops, enabling intake of large volumes of air to the system. Float sealing design allows the float to operate in dynamic conditions as well, discharging small pressurized air pockets. The protection sleeve of the valve covers the air valve body and forms a chamber for the air valve itself. Therefore no valve chamber is needed. Furthermore, the check-isolation mechanism acts in case the valve mechanism is pulled out from the sleeve, preventing water outflow.

DIMENSIONS (mm)																	
DN		**50**	**50**	**50**	**50**	**65**	**65**	**65**	**65**	**80**	**80**	**80**	**80**	**100**	**100**	**100**	**100**
H	**PN 10/16**	755	1055	1355	1555	755	1055	1355	1555	755	1055	1355	1555	755	1055	1355	1555
W	**PN 10/16**	210	210	210	210	210	210	210	210	210	210	210	210	220	220	220	220
Weight (Kg)	**PN 10/16**	21	25	27	29	21	25	27	29	22	26	28	30	23	27	29	31

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TRIPLE FUNCTION SEWAGE

Available Pressures
PN 10
PN 16
PN 25

Paint:
Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover**	Ductile Iron	SS 304, SS 316
Float	SS 316	Polyethylene
Float Stem	X20C13	SS 304, SS 316
Sealing Body **Sealing Float**	POM	Ductile Iron PE
Nut	Bronze	SS 304, SS 316
Seals	NBR	
Fasteners	SS 304	SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

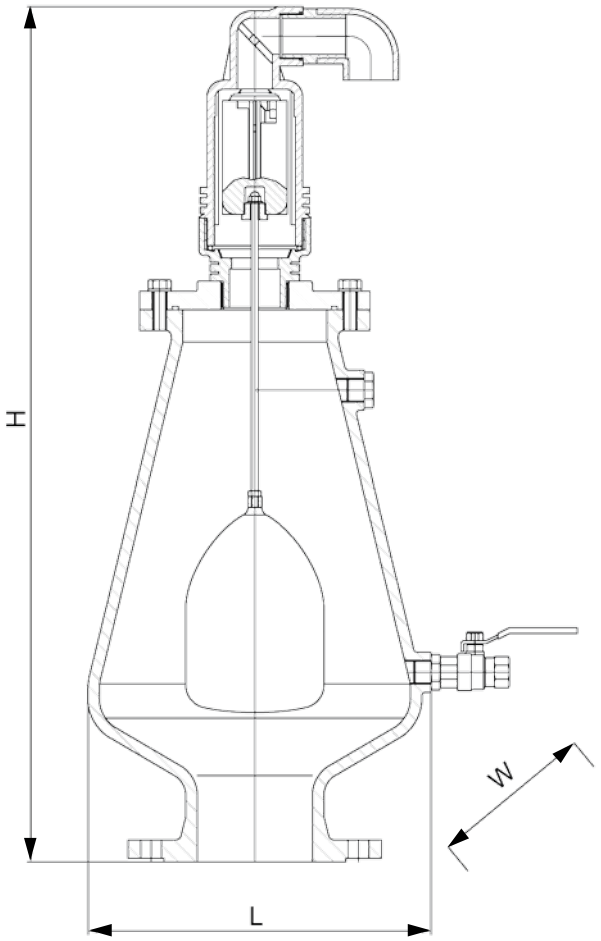
TRIPLE FUNCTION SEWAGE

APPLICATION

DVD Sewage Air Valves are designed to perform three functions:
1. Venting of air on the start-up of the system, while pipelines are filled.
2. Intake of air on shut-off of the system, while pipelines are drained.
3. Discharge of pressurized air pockets during the operation of the system.

FEATURES

- Standard flushing ball valve.
- Funnel shape body design prevents clogging.
- POM or Ductile Iron Sealing Body options.
- Non-Slam option is available upon request.
- Manifolds are available upon request for parallel installation.



THE "SEWAGE" VALVE

Standard air valves for potable water applications cannot be used in sewage lines, since they face clogging problems. DVD Sewage Air Valve is designed especially for such applications. Sealing mechanism is completely free from the sewage, where two-float mechanism prevents sewage to rise up to the sealing area. Therefore, no clogging occurs in the sealing orifices. Moreover, funnel shape design allows residuals to be carried back to the pipeline. Furthermore, flushing ball valve can be used to flush and clean the body if needed.

NON-SLAM OPTION

DVD Sewage Air Valves come with a POM sealing valve body and float, which has triple function capability. As for high pressure applications (PN16<), ductile iron material sealing valve body is used. Furthermore, non-slam feature can be provided on any pressure rating upon request. Therefore slamming effect of the float can be prevented if filling velocity of pipeline is very high.

DVD Air Valves for Sewage incorporate triple functions in a single valve body. Its function in the sewage system is to exhaust air/gas and to intake air into wastewater lines. The design of the air valve guarantees complete separation of sewage from the sealing mechanism, by forming an air chamber gap. Therefore, optimum distance is provided between the sealing mechanism and sewage. DVD bottom-funnel design allows residual sewage to sink at the bottom of the valve so that it can be carried back to the main line and prevent plugging. The operator can also flush the air valve using the ball valve that is stationed at the bottom of the valve. For all internal metal parts, stainless steel material is used which diminishes the corrosive effects of sewage.

DIMENSIONS (mm)					
DN	50	80	100	150	200
H	733	733	733	733	733
W	165	200	220	285	340
L	366	366	366	366	366
Weight (Kg)	36	37	38	40	43

THREADED AND FLANGE CONNECTION ALTERNATIVES

DVD 1" Single Chamber Single Function Air Valves come with threaded ends. However, in order to have ease of installation on T-fittings, 1" Air Valves can be provided with different size of flanges. These flanges can be in DN40-150 sizes upon request. Likewise, DVD Double Function Air Valves come with flange ends. However, if requested these valves can be provided with threaded ends in small sizes (<DN50).

ISOLATION VALVE

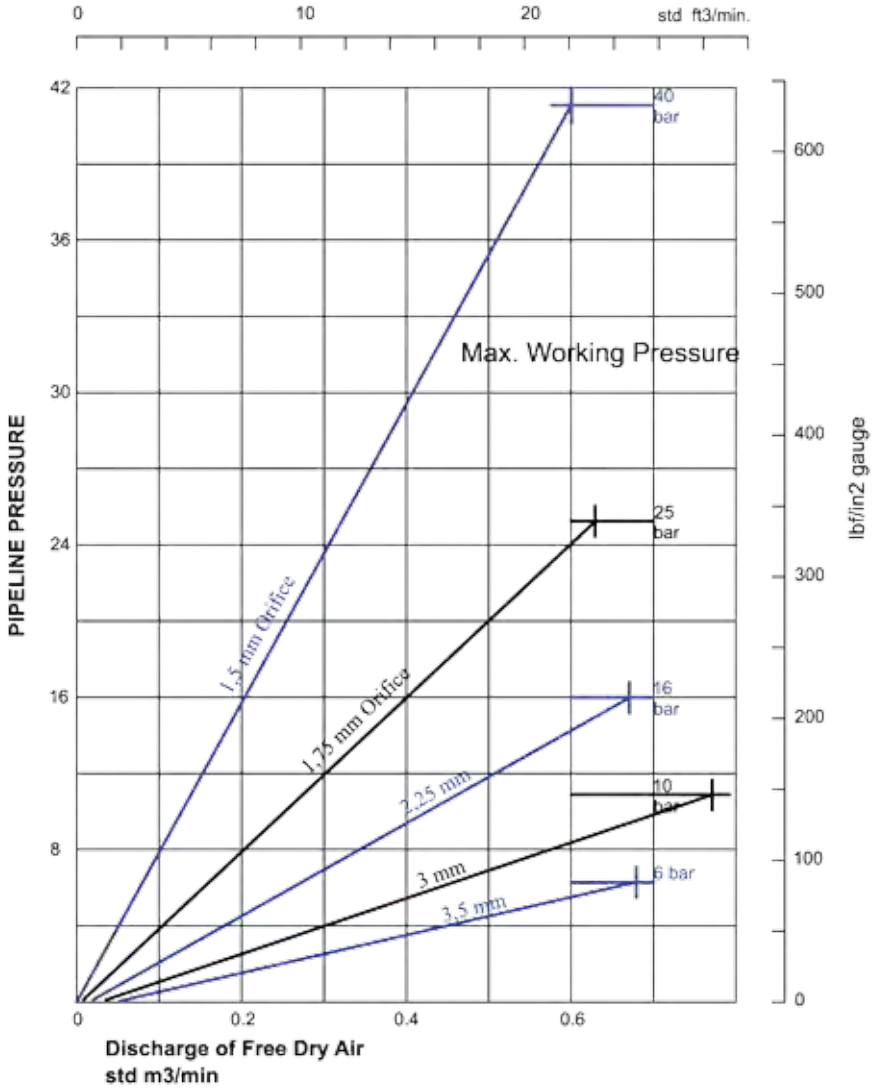
Air Valves need to be isolated from the pipeline with Isolation Valves for future maintenance purposes. DVD can provide isolation valves for all its air valve range either as separate or as factory-installed to the air valve. DVD recommends Gate Valves or Ball Valves to be used as isolation valves since they do not affect air flow capacity. However Butterfly Valves are also an option for large sizes upon customer demand.

MANIFOLD

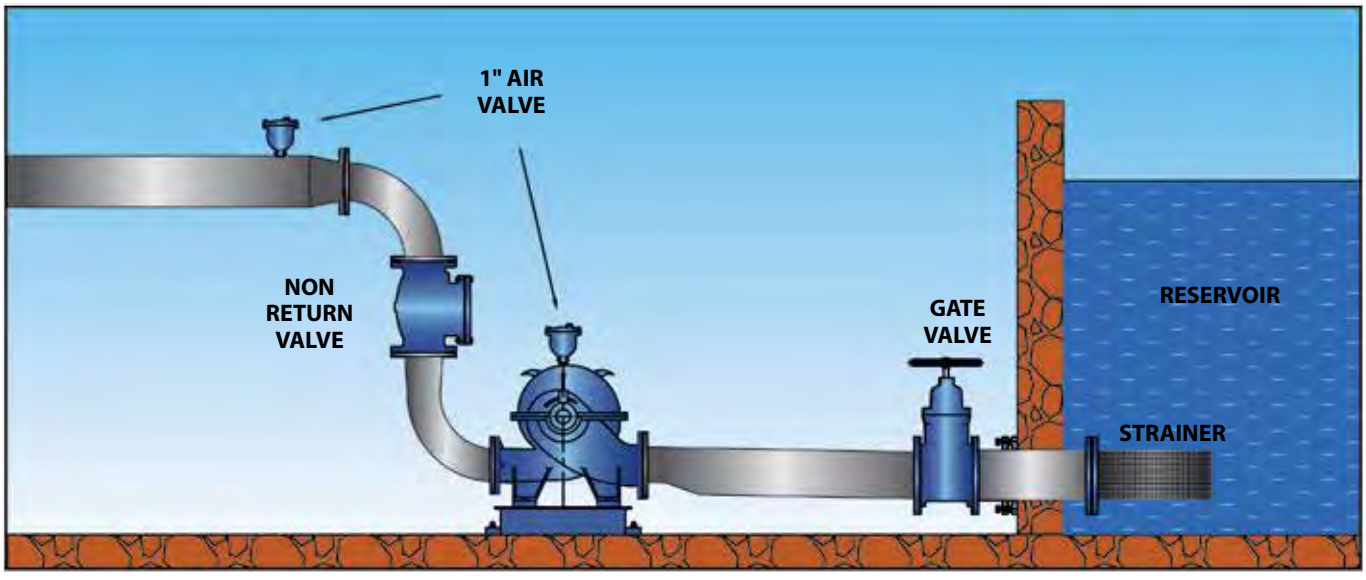
DVD Valves can produce Air Valves up to DN500 in full bore. Therefore enough air intake and discharge capacity can be provided for big size transmission lines. However, smaller size parallel valve installations are also possible with Manifold connection. Therefore the risk can be dispersed to more than one valve. Manifolds can be produced from casted DI material or by steel construction.

TECHNICAL DETAILS

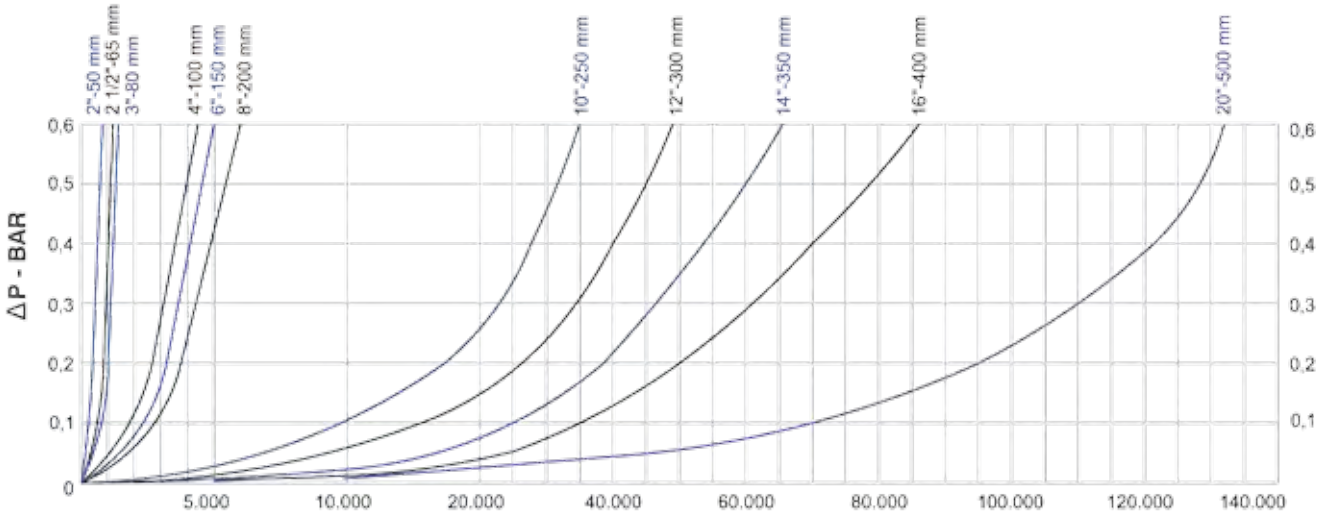
1" AIR RELEASE VALVE DISCHARGE CAPACITIES



TYPICAL 1" AIR RELEASE VALVE INSTALLATION

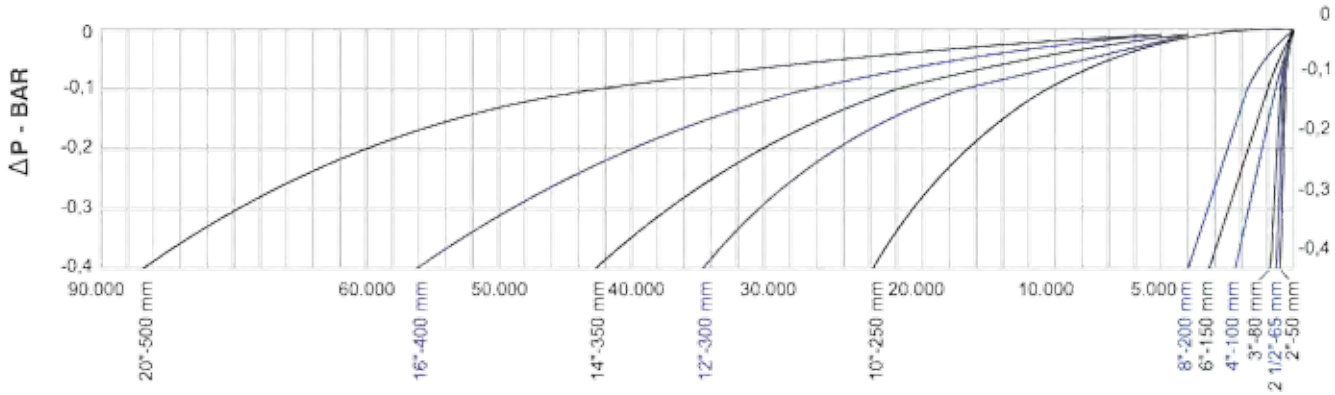


SINGLE / DOUBLE CHAMBER AIR VALVE NOMINAL AIR FLOW CHART - OUTFLOW



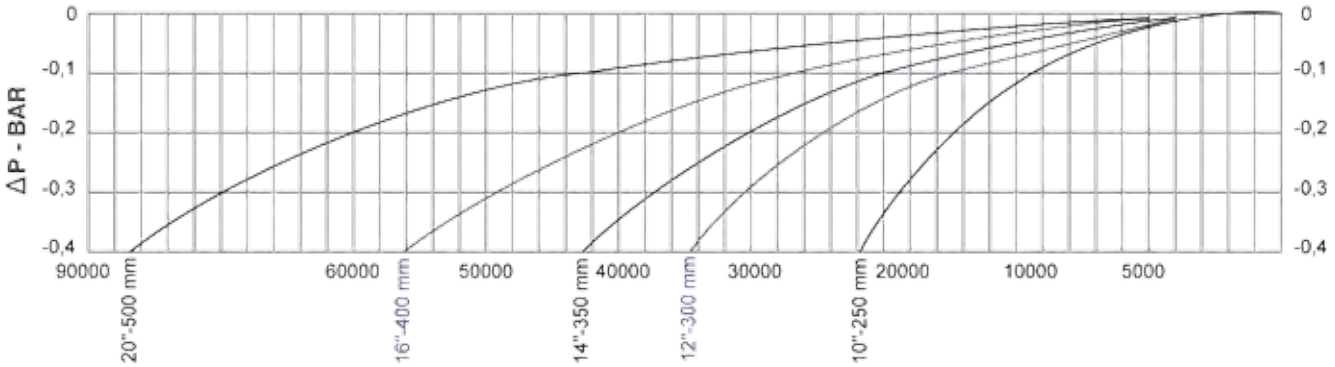
Flow Rate - m3/h

SINGLE / DOUBLE CHAMBER AIR VALVE NOMINAL AIR FLOW CHART - INFLOW



Flow Rate - m3/h

VACUUM VALVE NOMINAL AIR FLOW CHART



Flow Rate - m3/h

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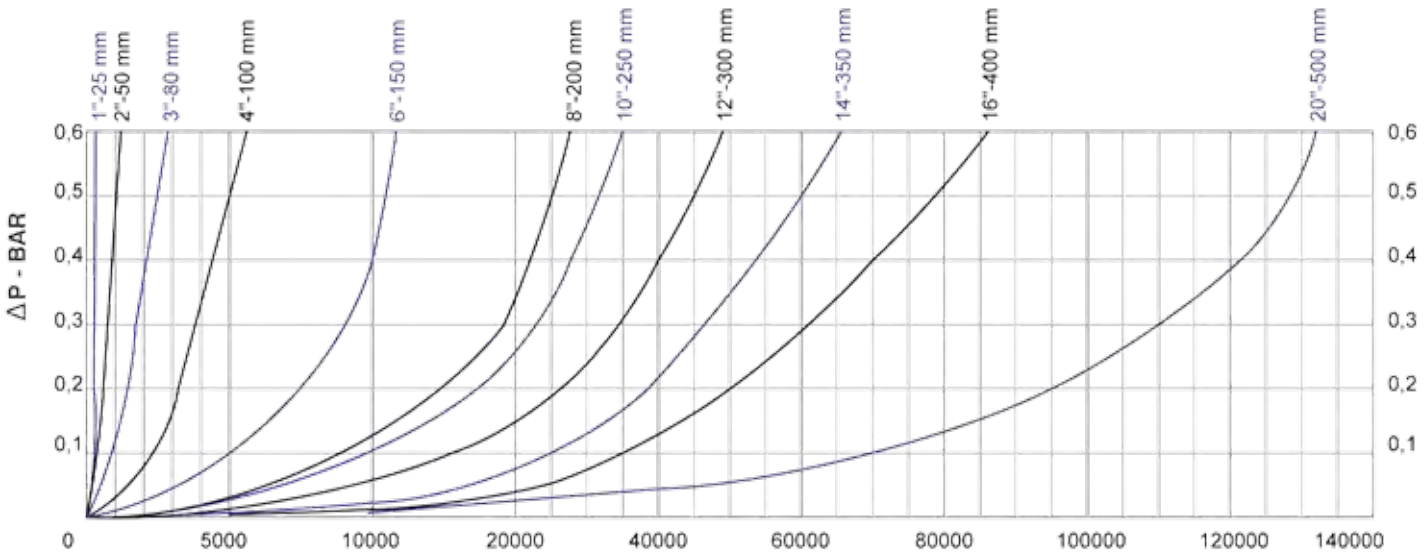
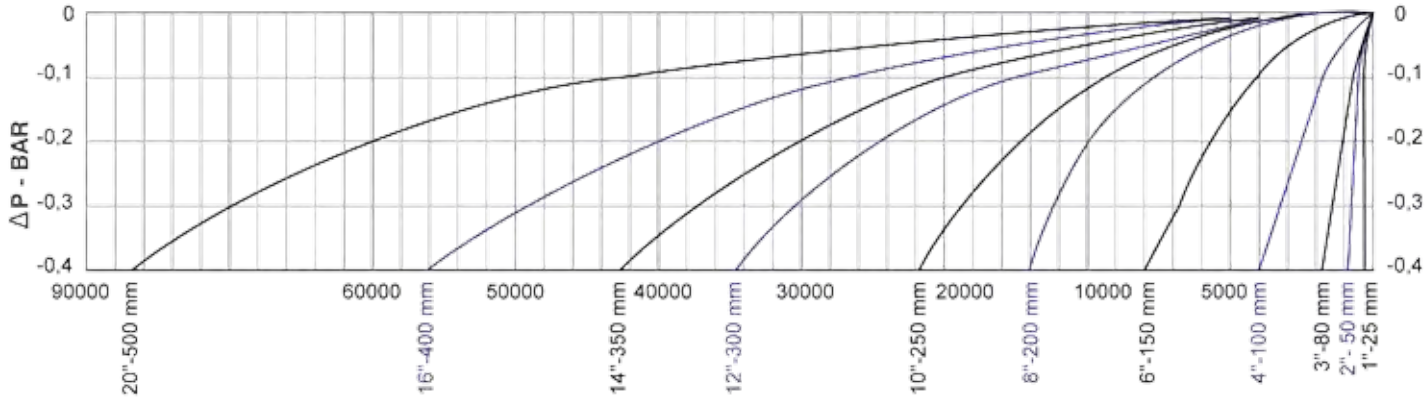
TECHNICAL DETAILS

SINGLE CHAMBER / FOUR FUNCTION NON-SLAM AIR VALVE
NOMINAL AIR FLOW CHART - OUTFLOW



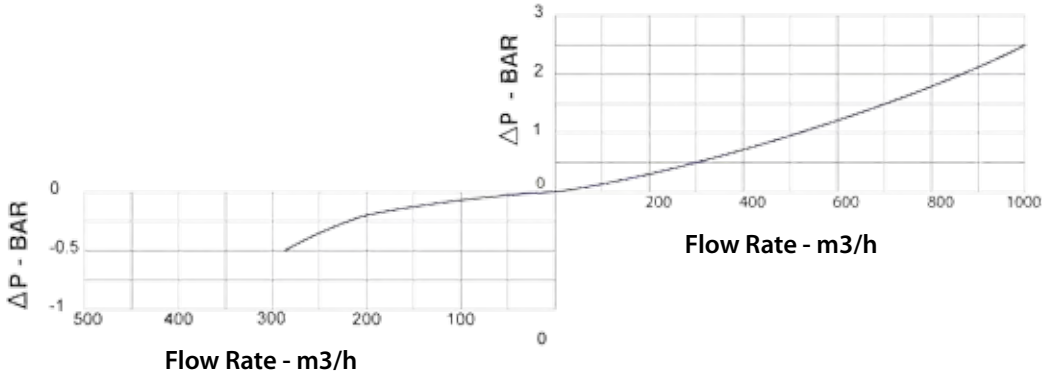
Flow Rate - m3/h

SINGLE CHAMBER / FOUR FUNCTION NON-SLAM AIR VALVE
NOMINAL AIR FLOW CHART - INFLOW



Flow Rate - m3/h

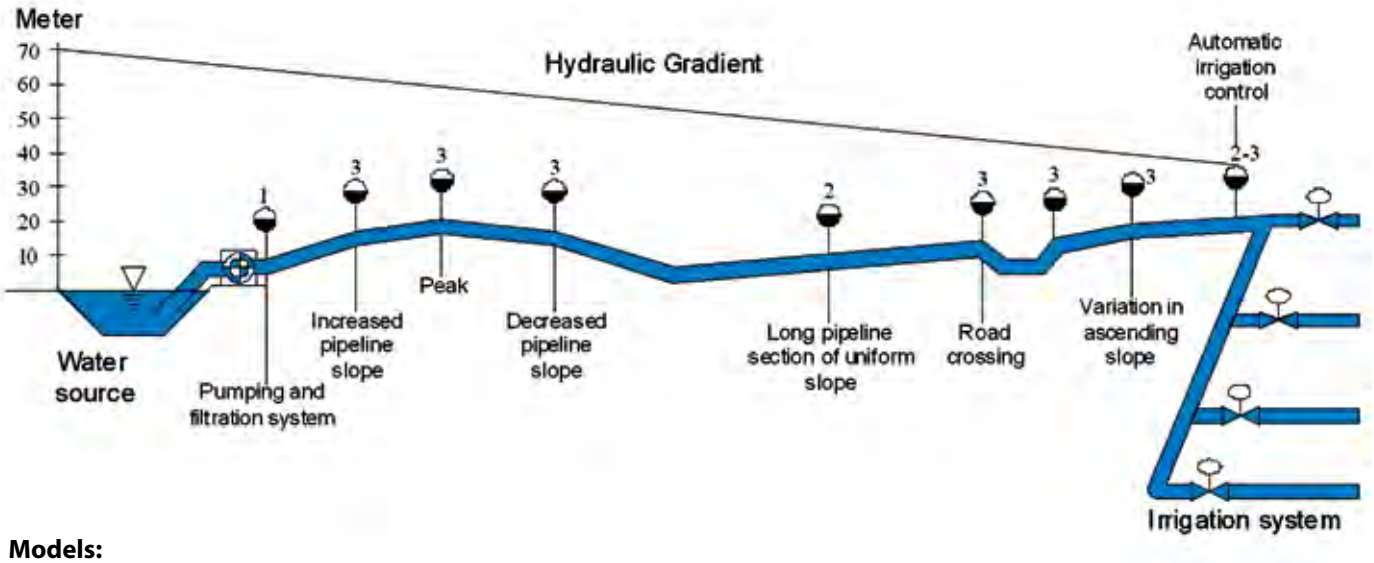
TRIPLE FUNCTION SEWAGE AIR VALVE
NOMINAL AIR FLOW CHART



Flow Rate - m3/h

Flow Rate - m3/h

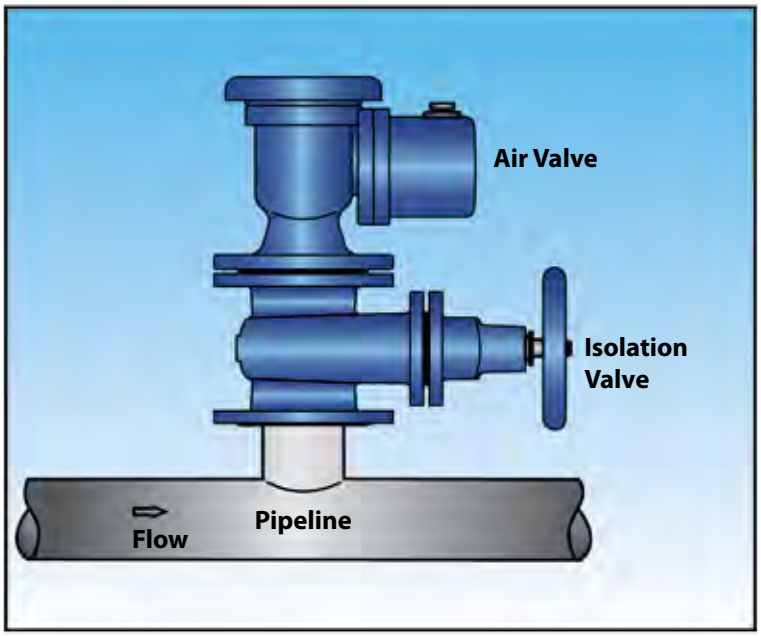
TYPICAL AIR VALVE INSTALLATION



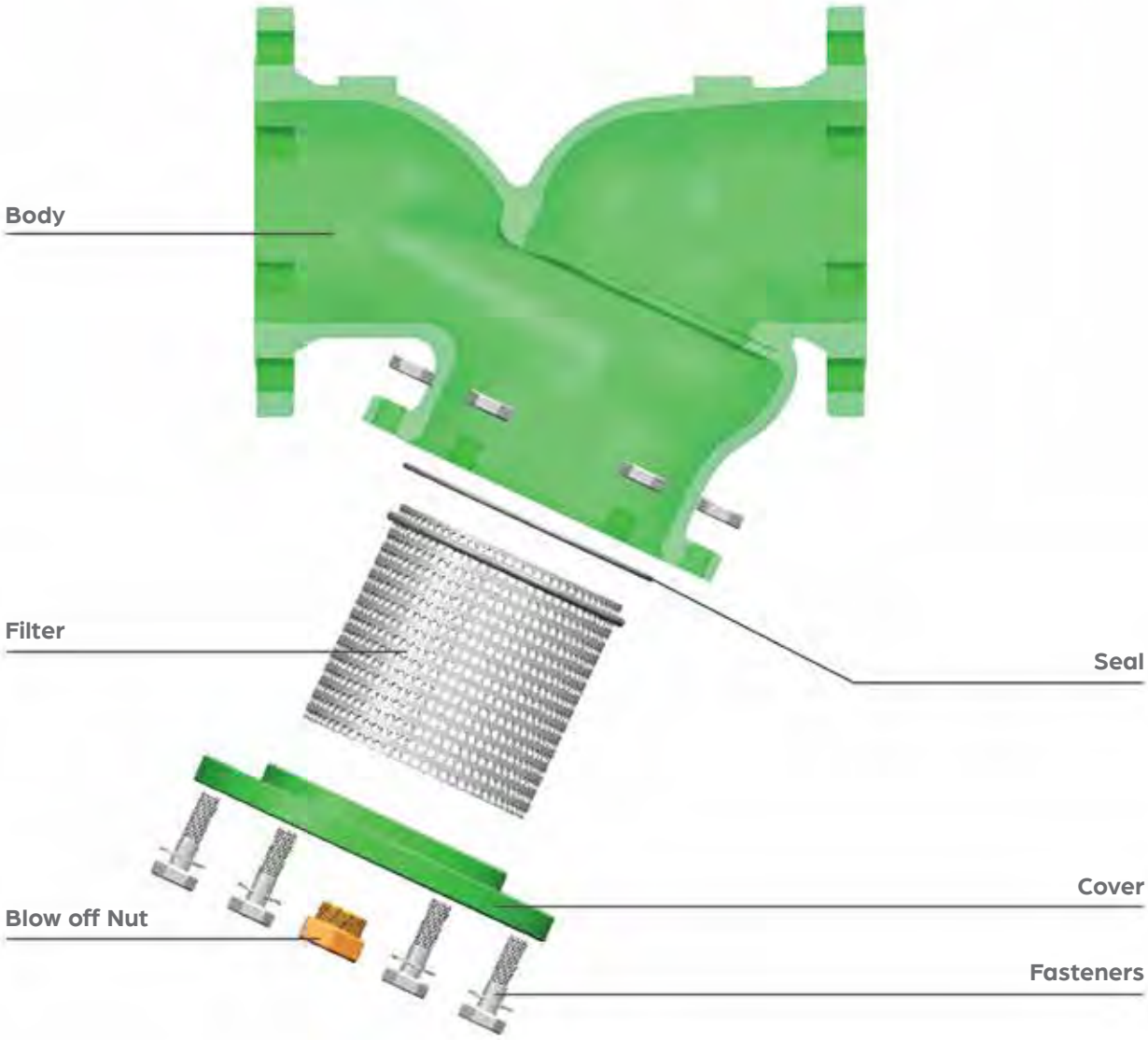
Models:

1. Single Chamber/Single Function Air Valves
2. Single Chamber/Double Function Air Valves
3. Double Chamber/Triple Function Air Valves

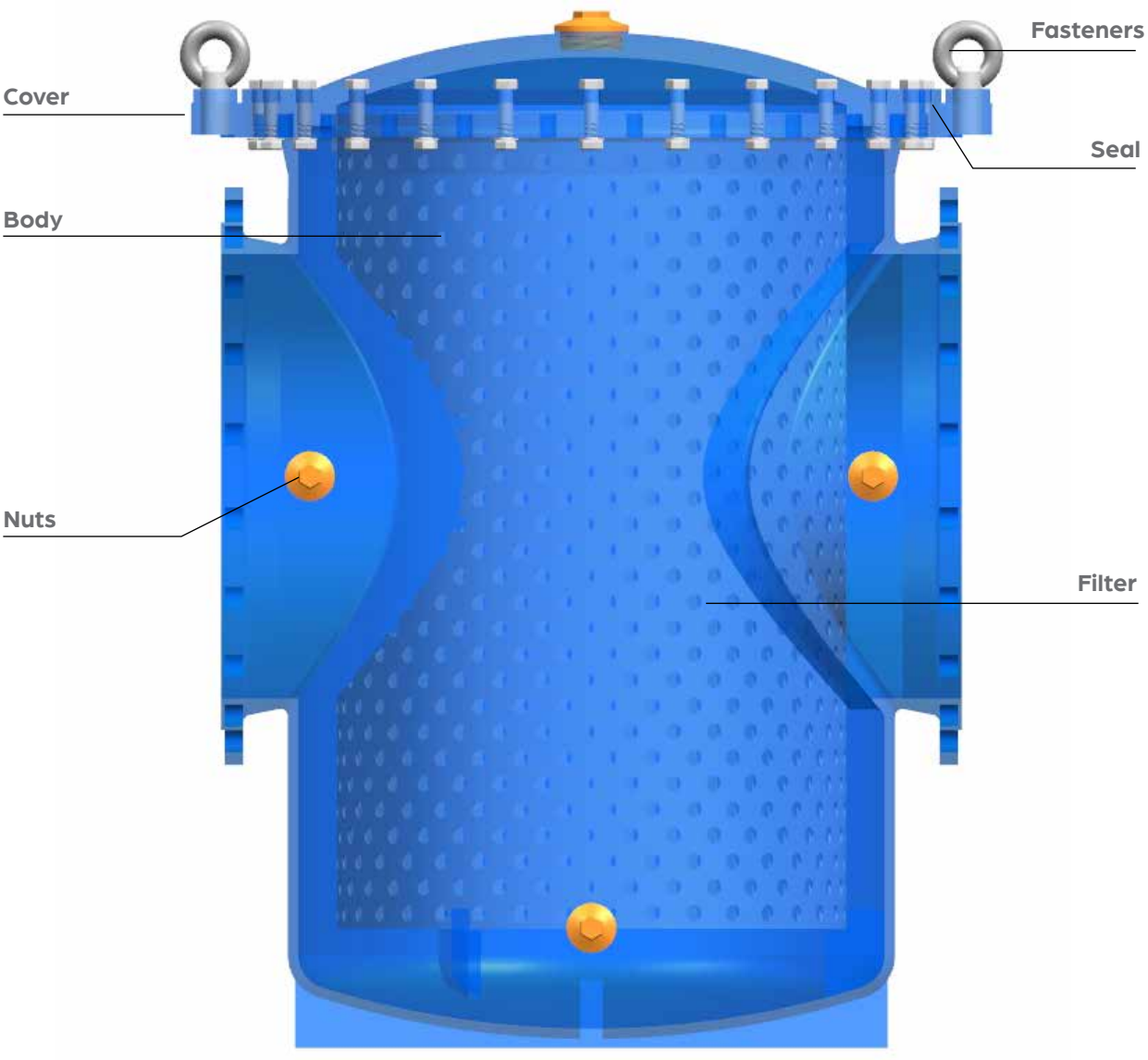
TYPICAL AIR VALVE INSTALLATION



Y TYPE STRAINER



BASKET TYPE STRAINER



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Y TYPE

Available Pressures

Available Pressures
PN 10
PN 16
PN 25
PN 40

Paint:
DN40-700 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Filter	SS304	SS304L, SS316, SS316 L
Nuts	Bronze	Brass, SS304, SS316
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

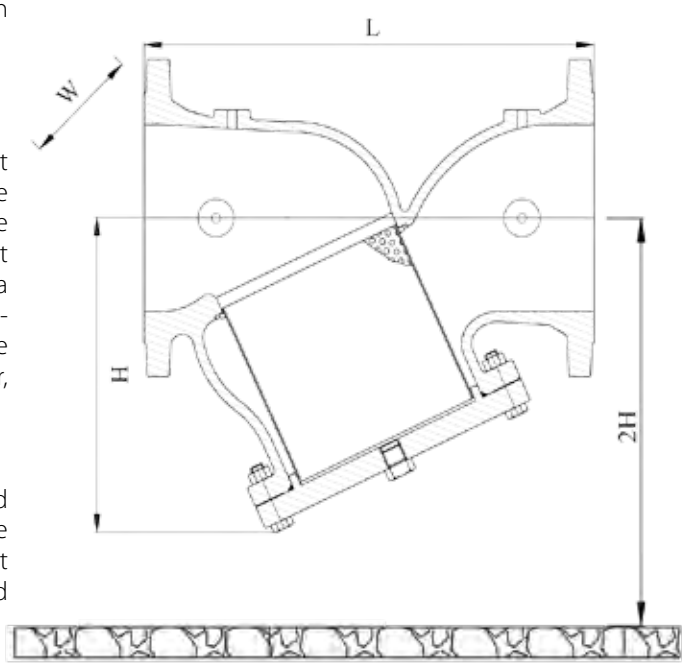
Y TYPE

APPLICATION

DVD Strainers are used to collect residuals from the system. They are installed in the upstream of crucial devices such as regulation valves, watermeters, flow meters etc. to protect them from residuals.

FEATURES

- Top flange assembly allows easy cleaning.
- Blow-off plug is used for flushing the filter.
- Different filter material options such as SS304, SS316, SS304L, SS316L.
- Different filter mesh size options provide different filtration capacity.
- Optional monometer connections upon request.



EASE OF CLEANING

In time, residuals and debris are collected in the filter. Therefore it should be randomly cleaned to take out debris that increases the head loss of the strainer. Blow-off plug makes it possible for the operator to flush the filter without removing the cover. Different blow-off plug sizes are available upon request. Furthermore, a ball valve can be installed on the plug upon request for hassle-free flushing. For larger residuals that cannot be cleaned by the blow-off plug, the top flange assembly is used to take out the filter, without removing the body itself from the pipeline.

DIFFERENT TRAP CAPACITY

DVD Filters that are used in Y Type Strainer are made of perforated SS304 as standard. However, different material options are available such as SS316, SS304L or SS316L. Furthermore, different mesh sizes can be ordered to satisfy different trap capacity need of each project.

KNOW WHEN TO CLEAN

DVD Y Type Strainer has two monometer connections in the inlet and outlet of the body. These are manometer connections to sense the pressure differential of the filter. By checking the head loss, the operator can easily understand if the filter is clean or not. Optional monometers can be factory-installed on the strainer upon request.

DVD Y Type Strainers are installed to protect system appliances such as pumps, watermeters, control valves or any other regulation devices. The main function is to collect and remove residuals or debris in the pipelines. If not collected, these residuals can harm crucial appliances in the system. When the head loss of the strainer is high, the filter can easily be cleaned either from the blow-off plug or by taking the top flange out. Y type strainers are installed upside down, top flange looking below. As a result, residuals are collected near the top flange, minimizing the head loss caused by the residuals. Installation should be done so that there is enough space to take the filter out of the body.

DIMENSIONS (mm)																	
DN		**40**	**50**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**	**700**
H		123	125	125	170	210	210	280	340	410	475	475	630	630	630	954	1157
W	**PN 10/16**	150	155	178	200	220	250	320	390	480	550	550	700	700	720	840	958
	PN 25/40	40	50	65	80	100	125	150	200	250	300	350	400	450	500	------	------
L	**PN 10/16**	205	210	222	250	320	335	415	500	605	725	733	1000	1000	1100	1300	1500
	PN 25	150	165	185	200	235	270	320	390	480	550	550	700	700	730	------	------
	PN 40	150	165	185	200	235	270	320	390	480	550	550	700	700	755	------	------
Blow-off Nut Size		20	20	20	32	32	32	50	50	50	50	50	50	50	50	50	50
Filter Mesh Size		1,5	1,5	1,5	3	3	3	5	5	5	5	5	5	5	5	5	5
Weight (Kg)	**PN 10/16**	7,5	8	10	17	28	32	48	75	125	225	235	535	670	700	675	967
	PN 25/40	9	10	12	20	34	36	58	95	153	266	288	590	735	800	-----	-----

dvdvalves

BASKET TYPE

Available Pressures
PN 10
PN 16
PN 25
PN 40

Paint:
DN100-600 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN700-1600 -- Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Cover**	Ductile Iron	Carbon Steel Stainless Steel Nickel Aluminium Bronze
Filter	SS304	SS304L, SS316, SS316L
Nuts	Bronze	Brass, SS304, SS316
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

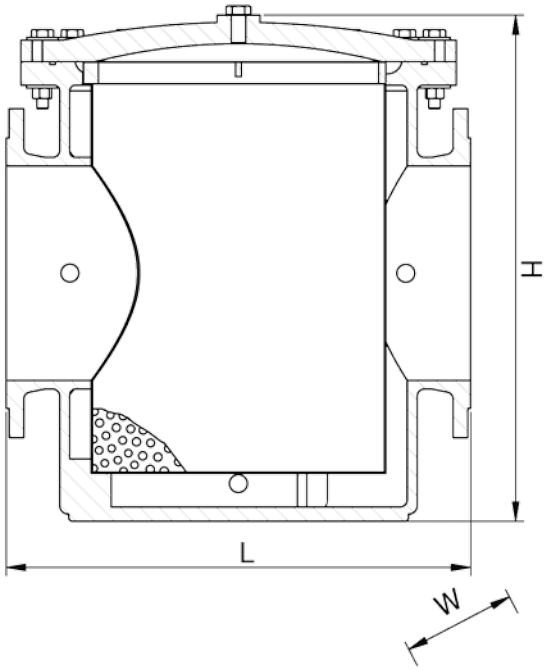
BASKET TYPE

APPLICATION

DVD Strainers are used to collect residuals from the system. They are installed in the upstream of crucial devices such as regulation valves, watermeters, flow meters etc. to protect them from residuals.

FEATURES

- Cover assembly allows easy cleaning.
- Pivot Arm accessory is available upon request for hassle-free cover movement.
- Blow-off plug is used for flushing the filter.
- Different filter material options such as SS304, SS316, SS304L, SS316L.
- Different filter mesh size options provide different filtration capacity.
- Optional monometer connections upon request.



EASE OF CLEANING

In time, residuals and debris are collected in the filter. Therefore it should be randomly cleaned to take out debris that increases the head loss of the strainer. Basket Type Strainers are designed so that residuals sink at the bottom of the basket filter which is out of the water flow path, minimizing the head loss effect of the residuals. Due to its design, Basket Type Filter is top-entry so that no space is needed at the bottom of the strainer. These residuals can be easily cleaned by removing the cover and taking the basket strainer out, without removing the body itself from the pipeline.

DIFFERENT TRAP CAPACITY

DVD Filters that are used in Basket Type Strainer are made of perforated SS304 as standard. However, different material options are available such as SS316, SS304L or SS316L. Furthermore, different mesh sizes can be ordered to satisfy different trap capacity need of each project.

KNOW WHEN TO CLEAN

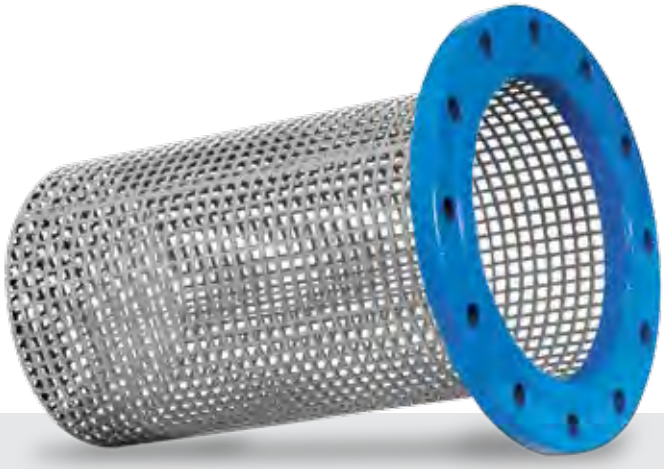
DVD Basket Type Strainer has two monometer connections in the inlet and outlet of the body. These are manometer connections to sense the pressure differential of the filter. By checking the head loss, the operator can easily understand if the filter is clean or not. Optional monometers can be factory-installed on the strainer upon request.

DVD Basket Type Strainers are installed to protect system appliances such as pumps, watermeters, control valves or any other regulation devices. The main function is to collect and remove residuals or debris in the pipelines. If not collected, these residuals can harm crucial appliances in the system. When the head loss of the strainer is high, the filter can easily be cleaned by taking the top flange out. Residuals sink at the bottom of the strainer, minimizing the head loss caused by the residuals. Basket type strainers are top-entry, so that there is no need to allow space at the bottom of the strainer body.

DIMENSIONS (mm)																
DN	100	125	150	200	250	300	350	400	450	500	600	700	800	1000	1200	1600
H	368	421	473	581	701	728	825	921	1042	1127	1388	1583	1755	2579	2930	3560
W	280	323	365	435	529	607	641	675	742	820	945	1088	1230	1490	1750	2300
L	330	360	390	460	530	630	690	750	810	880	1000	1130	1250	1500	1800	2400
Blow-off Nut Size	32	32	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Filter Mesh Size	3	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Weight (Kg)	42	56	73	122	179	264	305	335	390	569	962	1460	1896	2040	2690	5380

CREPINE TYPE

Available Pressures
PN 10
PN 16
PN 25
PN 40



Paint:
DN40-800 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body	St37 Steel	SS304, SS316
Filter	SS304	SS304L, SS316, SS316L
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

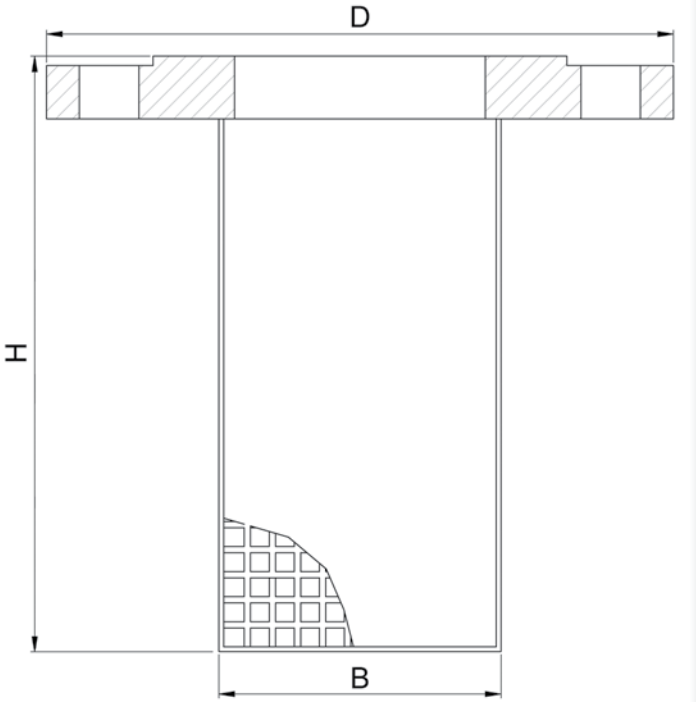
CREPINE TYPE

APPLICATION

DVD Strainers are used to prevent residuals from entering the system. Crepine Strainers are installed in the suction pipes of the pumps or in open channel intake lines of pipelines.

FEATURES

- Different flange standards are available upon request.
- Different filter material options such as SS304, SS316, SS304L, SS316L.
- Different filter mesh size options provide different filtration capacity.



DIFFERENT TRAP CAPACITY

DVD Filters that are used in Crepine Type Strainer are made of perforated SS304 as standard. However, different material options are available such as SS316, SS304L or SS316L. Furthermore, different mesh sizes can be ordered to satisfy different trap capacity need of each project.

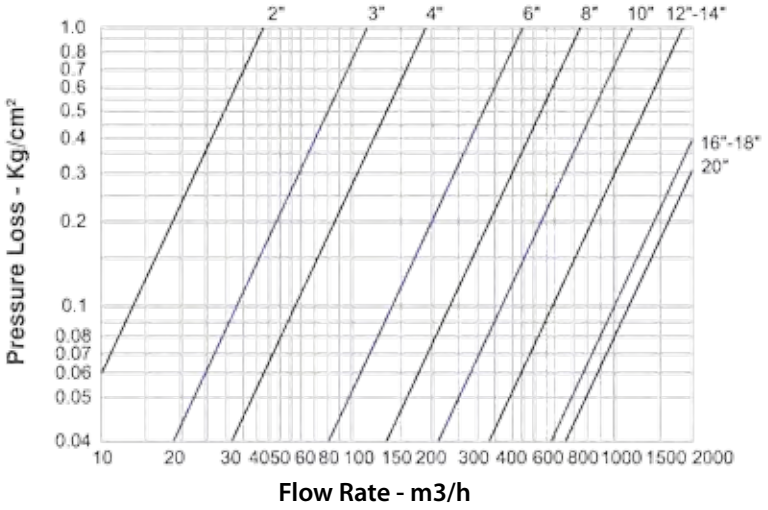
DIFFERENT FLANGE STANDARD & MATERIAL OPTIONS

DVD Crepine Type Strainers consist of a filter and a flange body. The flange body can be manufactured from St37 Steel, SS304 or SS316 upon request. Furthermore, different flange standard options are available upon request such as EN, BS or ANSI.

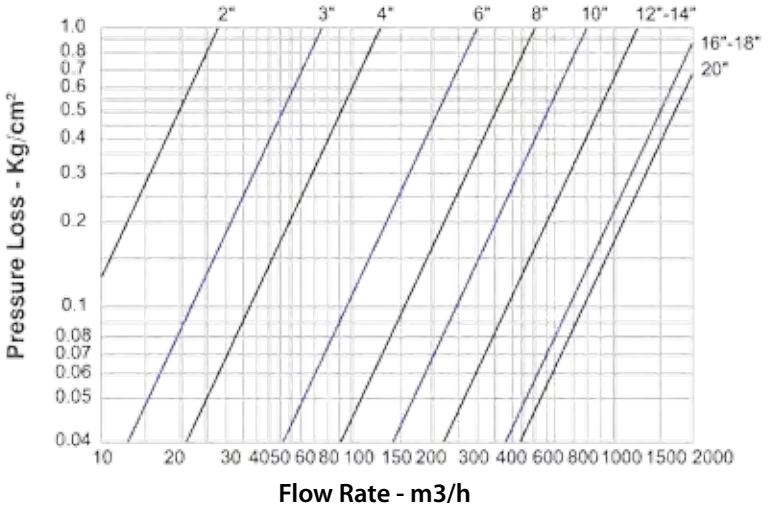
DVD Crepine Type Strainers are installed to protect system appliances such as pumps, watermeters, control valves or any other regulation devices. The main function is to prevent residuals or debris from entering to pipelines. If not prevented, these residuals can harm crucial appliances in the system.

DIMENSIONS (mm)																	
DN	**40**	**50**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**	**700**	**800**
H	80	90	130	130	160	200	225	300	350	425	450	525	550	650	750	850	1000
D	150	165	185	200	220	250	285	340	395	445	505	585	615	670	785	895	1015
B	60	60	80	90	110	140	165	220	276	327	359	411	462	513	616	715	817
Weight (Kg)	2,5	3,5	4,5	5,5	6	9	11	15	18	22	28	32	36	42	60	85	120

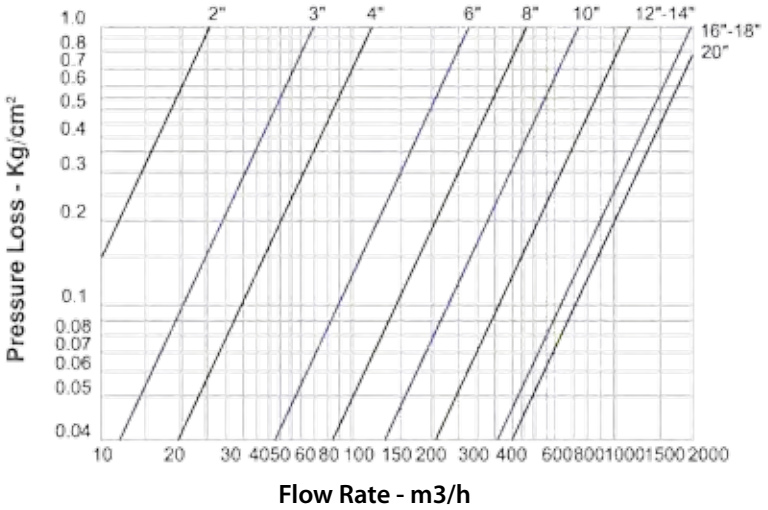
Y TYPE STRAINER FLOW CHART (for 5 mm hole dia.)



Y TYPE STRAINER FLOW CHART (for 3 mm hole dia.)

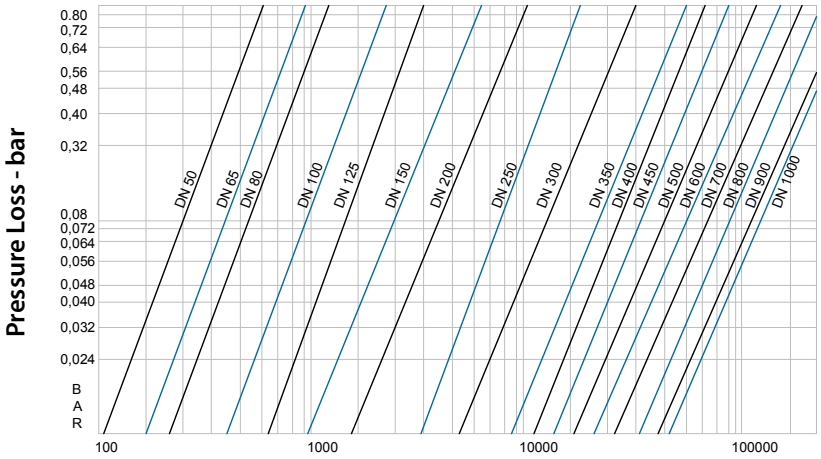


Y TYPE STRAINER FLOW CHART (for 1.5 mm hole dia.)

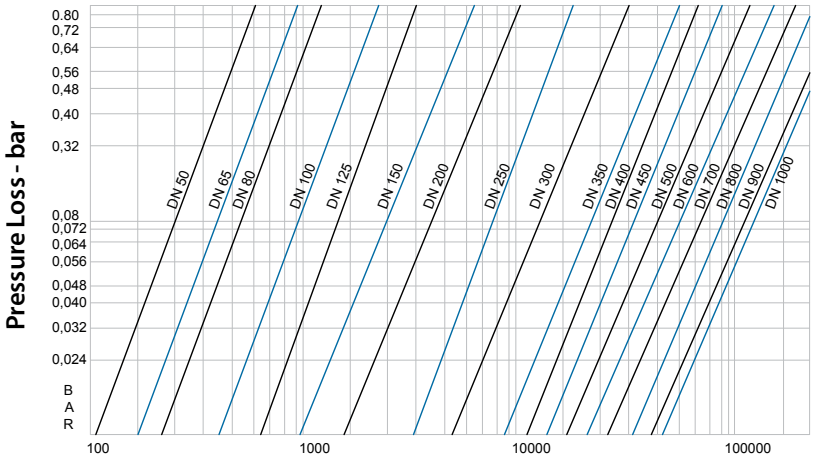


TECHNICAL DETAILS

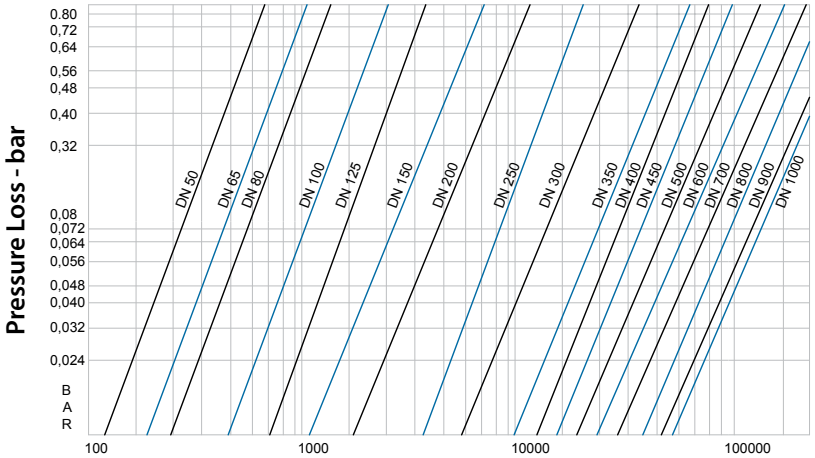
BASKET TYPE STRAINER FLOW CHART (for 1,5-2 mm hole dia.)



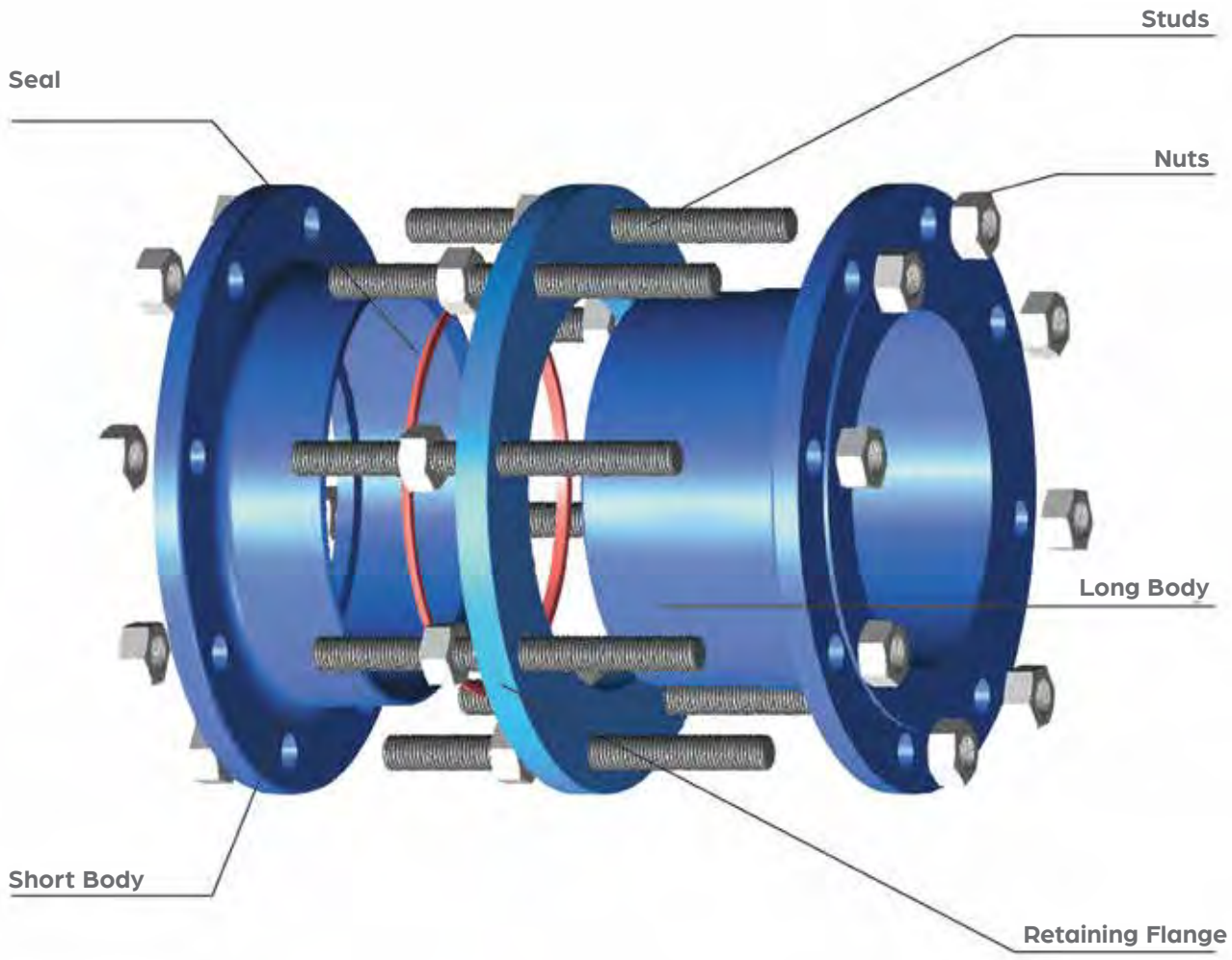
BASKET TYPE STRAINER FLOW CHART (for 3 mm hole dia.)



BASKET TYPE STRAINER FLOW CHART (for 5 mm hole dia.)



DISMANTLING JOINT



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DISMANTLING JOINT

Available Pressures

Available Pressures
PN 10
PN 16
PN 25
PN 40
PN 63

Paint:
DN 80-2200 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Long Body **Short Body** **Retaining Flange**	Ductile Iron	ST37, SS304, SS316, NAB
Seals	EPDM	Nitril
Studs **Nuts**	8:8 (Galv.)	SS 304, SS 316,X20Cr13
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

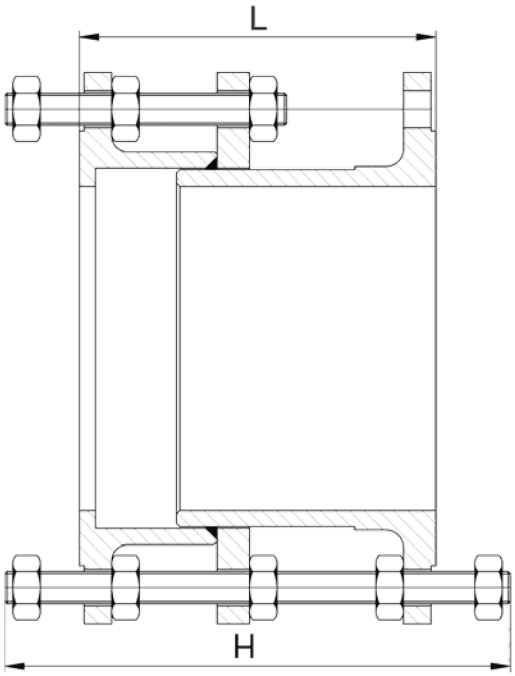
DISMANTLING JOINT

APPLICATION

DVD Dismantling Joints allow easy installation and removal of valves from the pipeline, in case of maintenance or replacement of the valve. By the help of studs and nuts, face to face dimension of the Dismantling Joint can be adjusted so that enough gap is created for valve installation or removal.

FEATURES

- Half stud or full stud options are available upon request.
- 50 mm face to face adjustment possibility.
- Different stud and nut material options such as 8:8, SS304, SS316, X20Cr13.



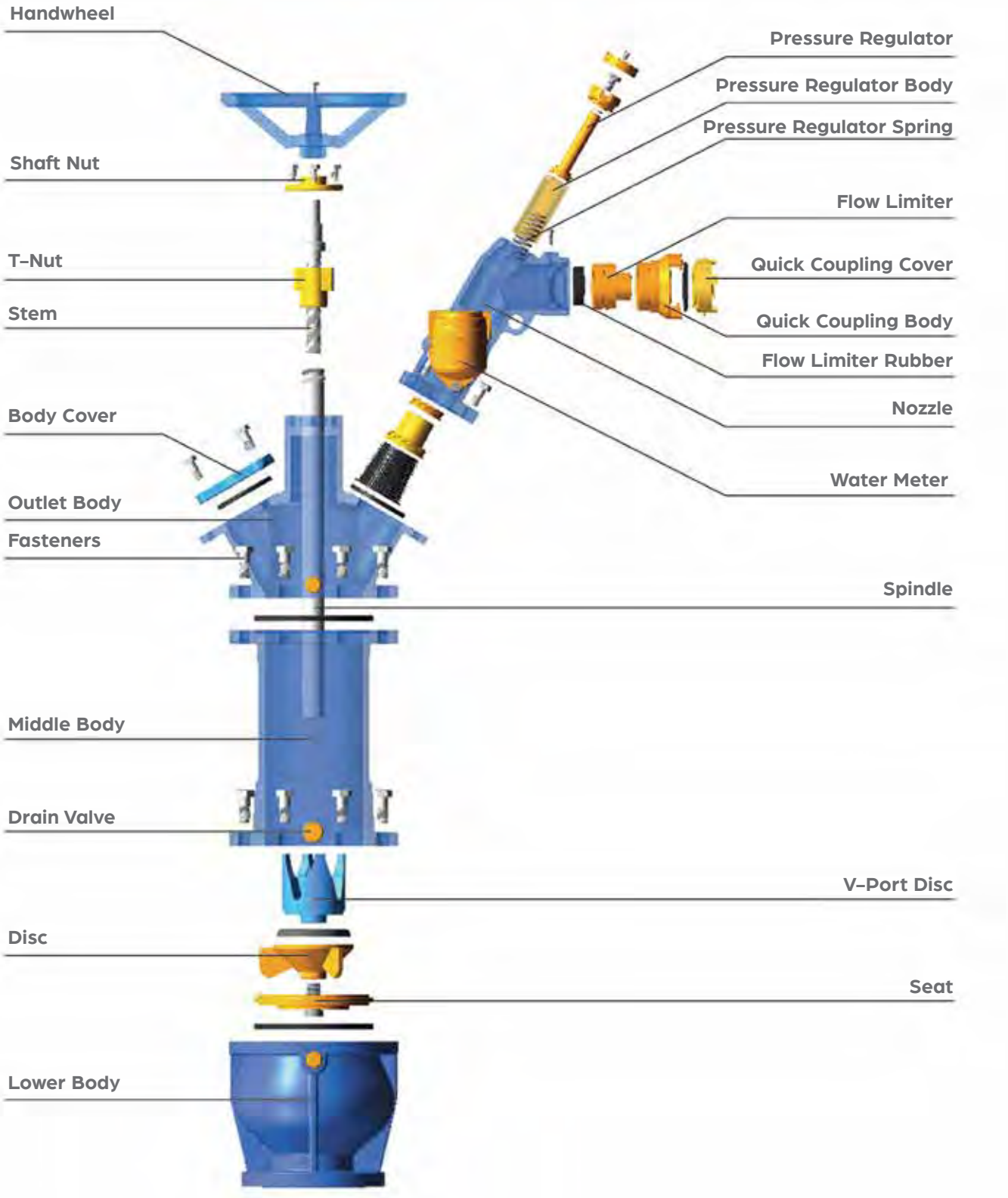
FACE TO FACE DIMENSION ADJUSTMENT

DVD Dismantling Joints can be adjusted in longitudinal axis for the desired length. Due to its design, up to 50 mm face to face dimension adjustment is possible, so that enough gap is created in the upstream of the valve. This gap can be used for easy flange connection of the valve; and for easy removal of the valve from the pipeline.

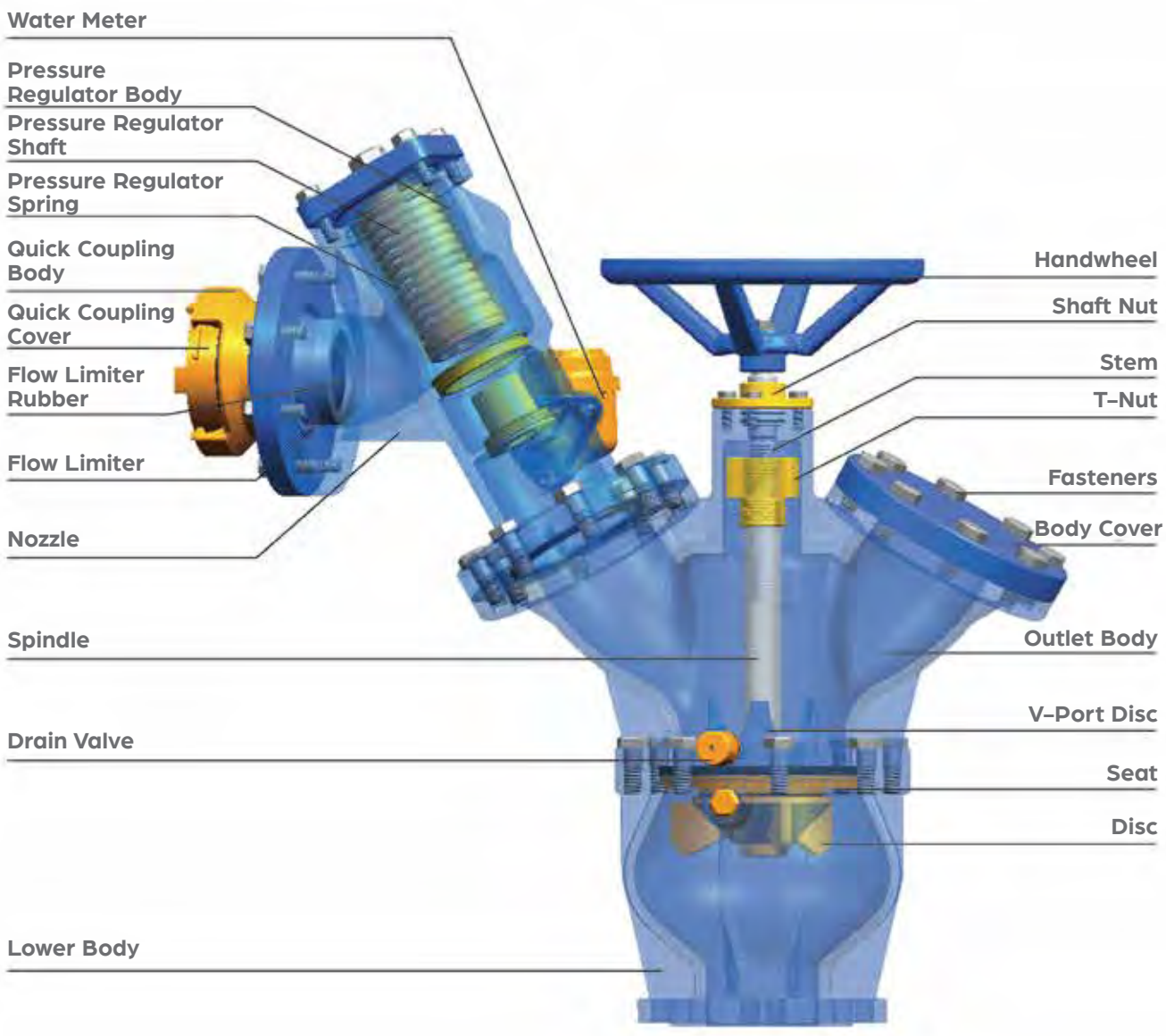
Maintenance is one of the crucial elements to preserve an efficiently working valve. However, maintenance can be very costly due to long installation/removal time. Therefore, it is recommended to install Dismantling Joints together with valves. If not used, in order to remove the valve from the line, the pipeline should be cut or whole piping should be dismantled. By the help of studs and nuts on the Dismantling Joint, face to face dimension of the Dismantling Joint can be shortened so that enough gap is created for valve installation or removal.

DIMENSIONS (mm)												
DN	L				H				Weight (Kg)			
	PN10	PN16	PN25	PN40	PN10	PN16	PN25	PN40	PN10	PN16	PN25	PN40
80	160	160	160	160	270	270	270	270	15	15	15	15
100	175	175	180	180	290	290	290	290	18	18	23	23
125	180	180	195	195	300	300	340	340	22	22	34	34
150	180	180	180	195	300	300	320	340	29	29	35	41
200	200	200	200	210	340	340	340	370	40	42	50	65
250	210	210	210	230	360	360	360	410	54	61	74	110
300	220	220	220	250	360	360	370	440	65	75	100	153
350	230	230	230	260	360	380	410	460	85	98	135	202
400	240	240	240	280	400	430	430	500	105	125	168	288
450	240	240	245	290	400	430	430	510	124	152	202	300
500	250	250	255	300	400	440	440	530	142	198	230	380
600	270	270	280	340	440	480	480	600	195	280	315	576
700	270	280	290	-	440	480	500	-	250	308	425	-
800	300	300	320	390	490	520	550	700	358	412	590	1020
900	300	300	320	-	490	520	550	-	420	485	690	-
1000	340	340	360	-	560	560	625	-	555	655	975	-
1100	340	340	-	-	560	560	-	-	638	685	-	-
1200	360	360	-	-	600	600	-	-	745	955	-	-
1300	370	370	-	-	630	630	-	-	965	1032	-	-
1400	380	380	-	-	630	630	-	-	1090	1165	-	-
1600	400	400	470	-	700	700	800	-	1510	1610	2700	-
1800	450	450	-	-	750	750	-	-	1800	2145	-	-
2000	450	450	520	-	750	800	920	-	2100	3000	4400	-
2200	450	-	-	-	750	-	-	-	2850	-	-	-

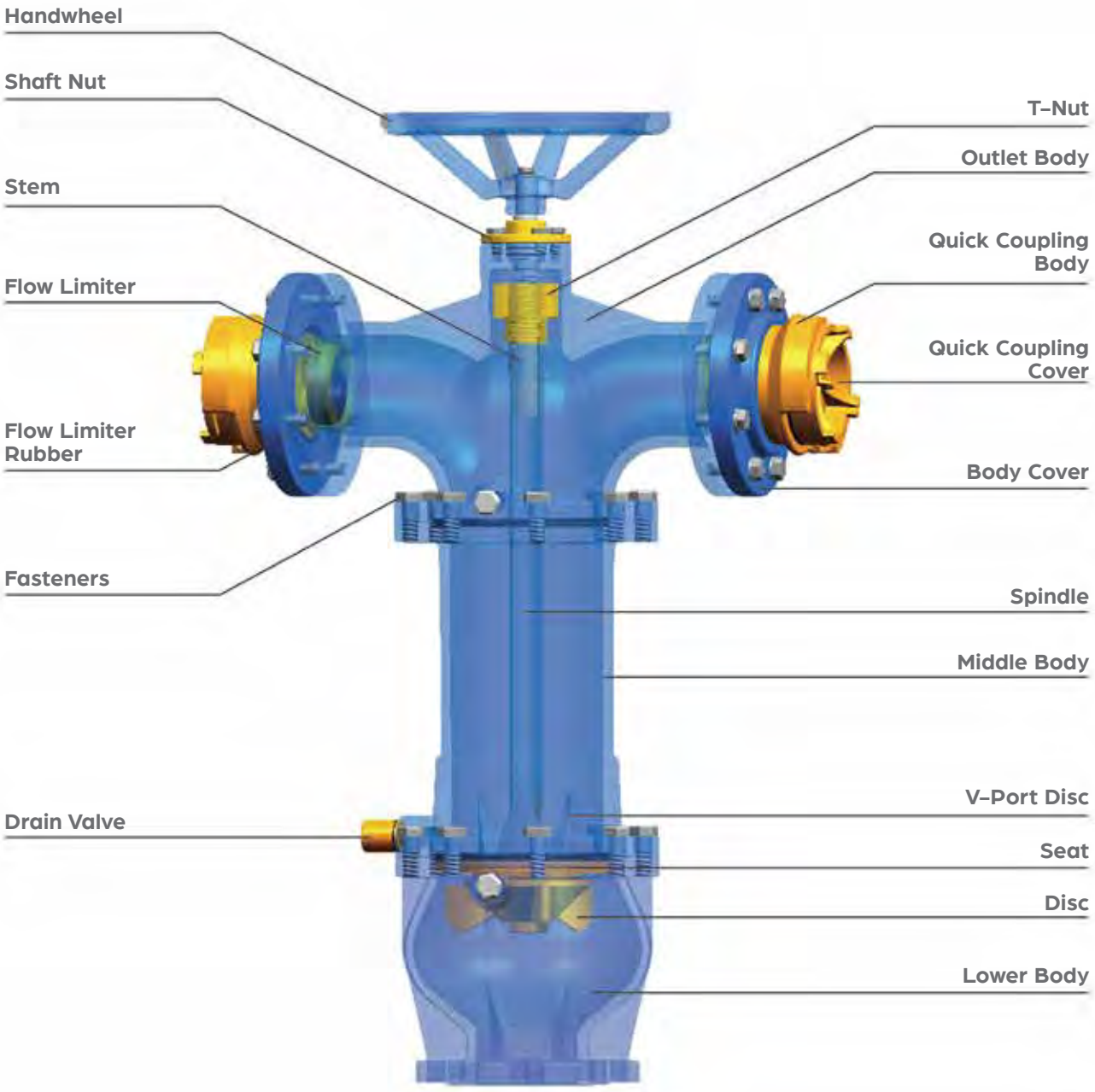
A TYPE IRRIGATION HYDRANT



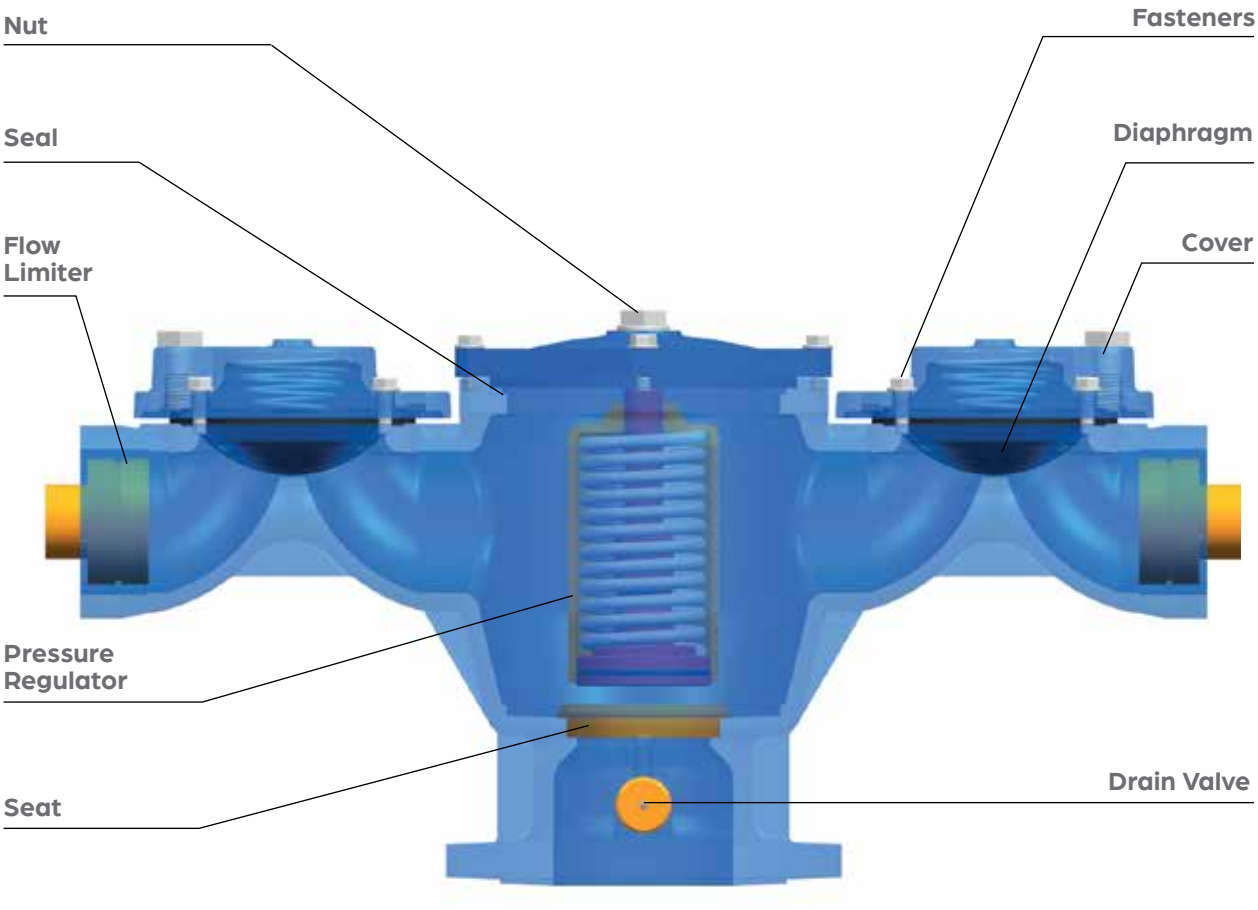
C TYPE IRRIGATION HYDRANT



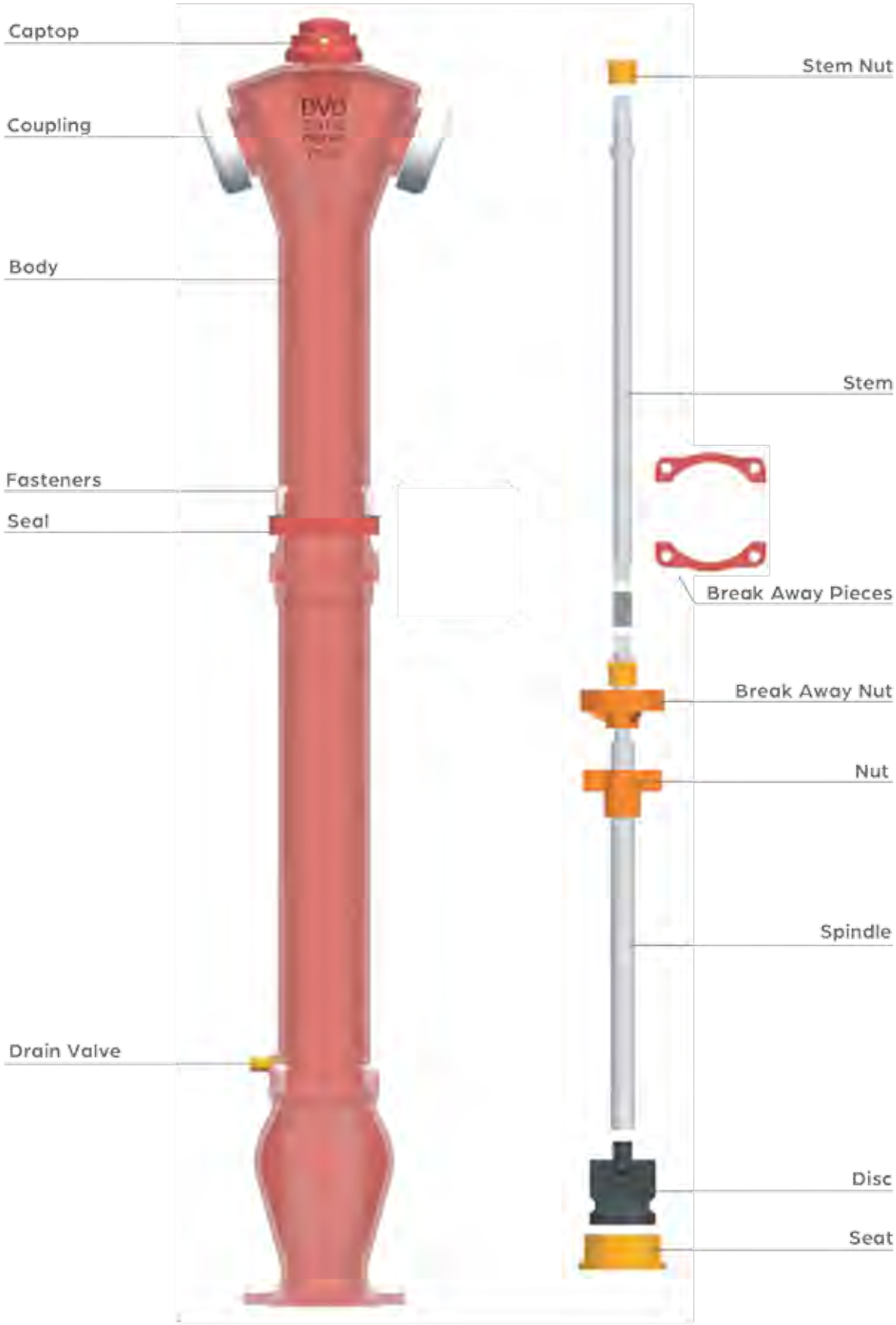
D TYPE IRRIGATION HYDRANT



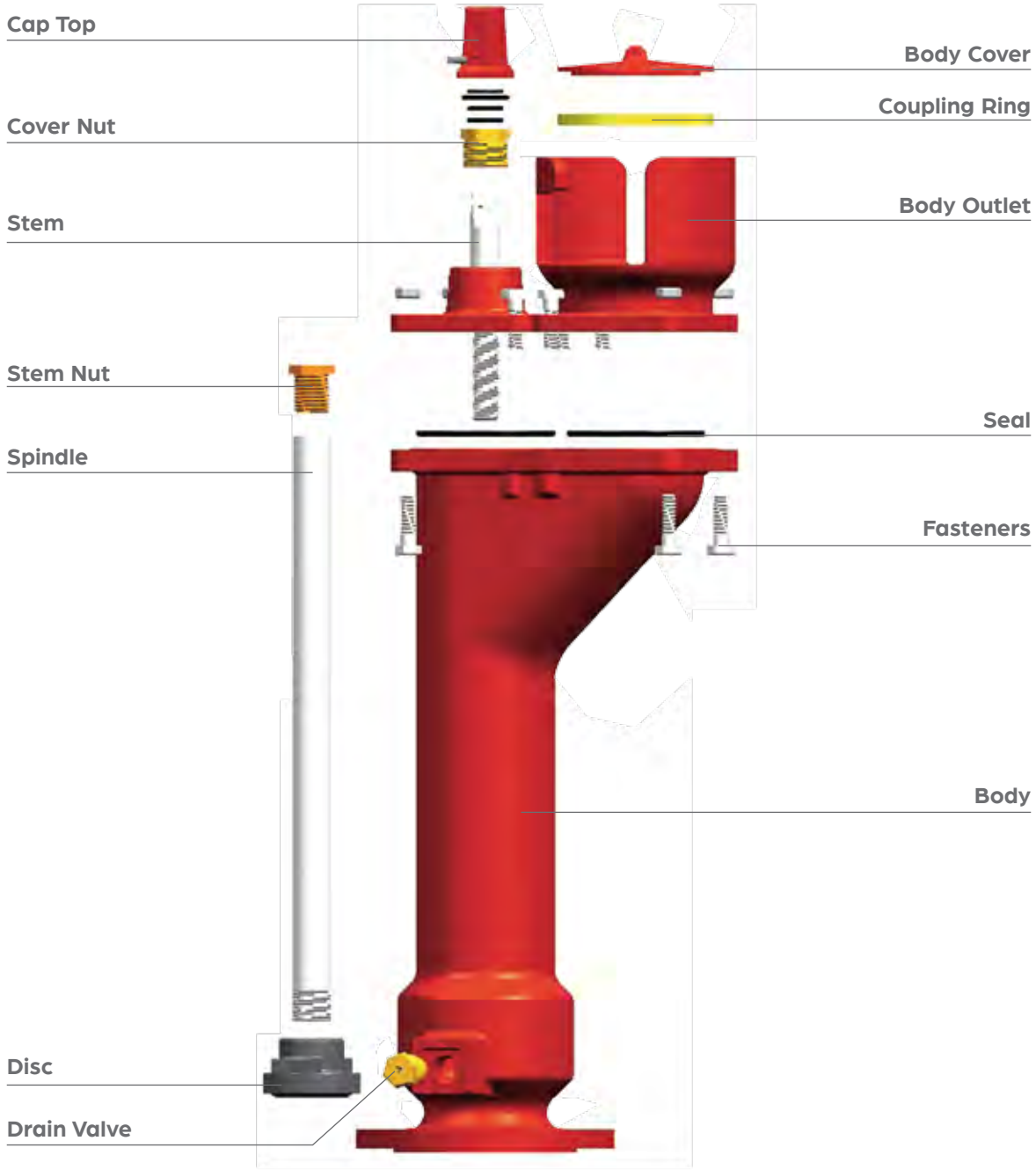
H TYPE IRRIGATION HYDRANT



ABOVE GROUND FIRE HYDRANT
BREAK AWAY TYPE



UNDER GROUND FIRE HYDRANT



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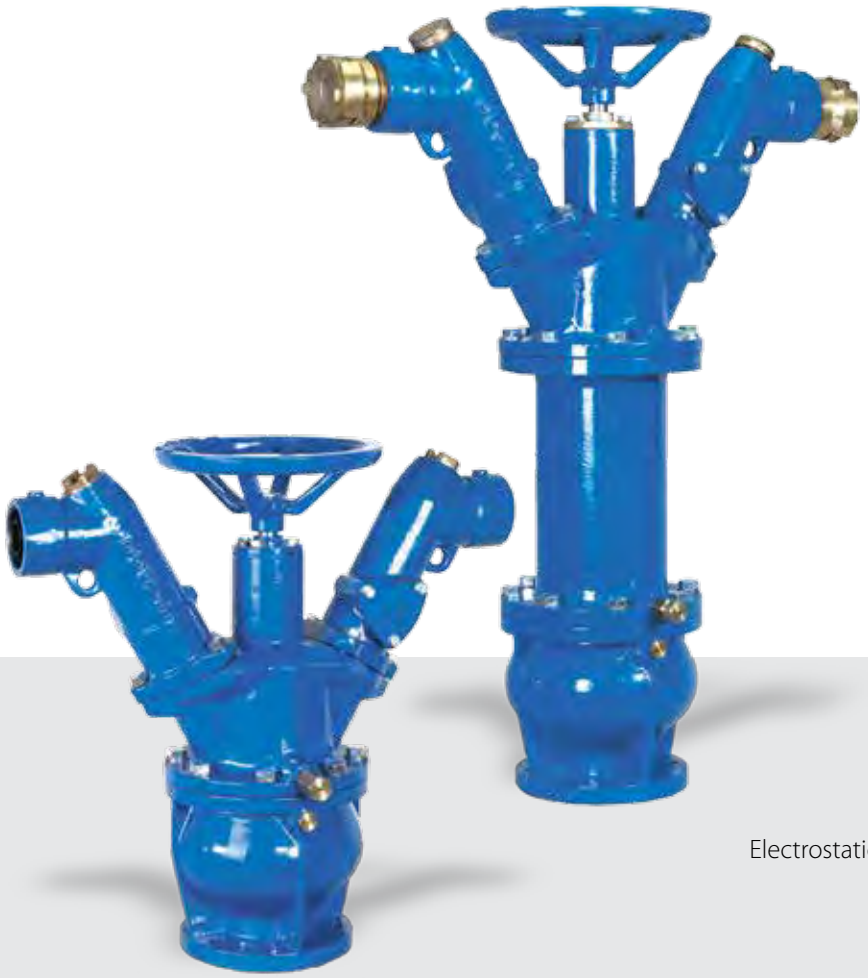
A TYPE IRRIGATION HYDRANTS
1 - 4 OUTLETS



Available Pressures

PN 10
PN 16

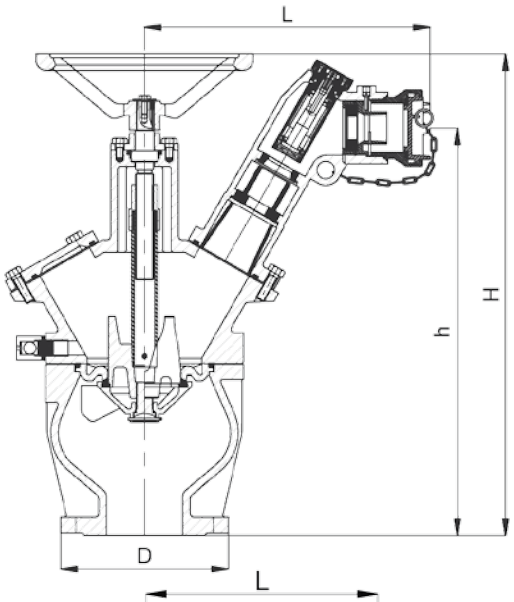
Paint:
Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Nozzle**	Ductile Iron	
Stem	X20Cr13	
Spindle	Galvanized Pipe	X20Cr13, SS304 Pipe
Disc	Brass	Ductile Iron
Seat	Brass	
Pressure Regulator	Brass	
Flow Limiter	Brass	ABS
Drain Valve	Brass	
Quick Coupling	Brass	Aluminium
Nuts	Brass	
Seals	EPDM	Nitril
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

A TYPE IRRIGATION HYDRANTS
1 - 4 OUTLETS

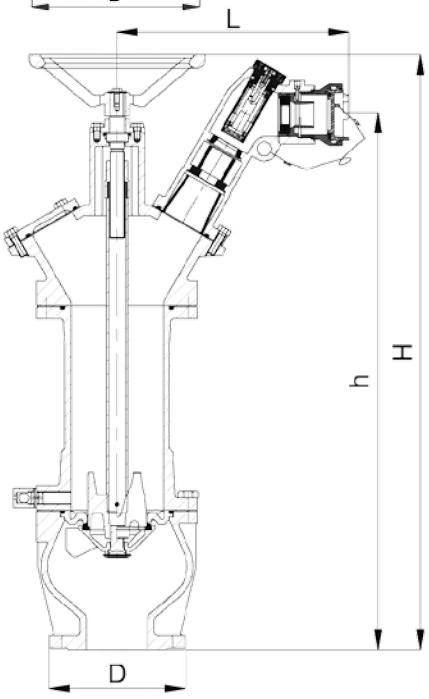
APPLICATION
DVD A Type Irrigation Hydrants are designed to perform 5 main functions;
- Connection to the irrigation network & water distribution
- Regulation of pressure
- Control of water flow
- Metering water consumption
- Open/Close function

NOZZLE
DVD A Type Irrigation Hydrants have 1 to 4 nozzles on the body that serve as farmer connections. These DN65 or DN80 elbow shaped nozzles can be provided as threaded or with quick coupling end connections upon customer request. These nozzles include a proportional or ultrasonic watermeter, a factory-set mechanical flow limiter and a factory-set cartridge type pressure regulator. These devices can be taken out if requested.



PRESSURE REGULATOR
DVD Pressure Regulator is a factory-set cartridge type regulator. It protects the farmer irrigation piping from high pressure and provides a pre-determined, stable outlet. These pressure regulators can be calibrated in factory to 3, 3.5, 4, 4.5, 5, 6, 7.5 or 9.5 bars with 20% tolerance. Pressure Regulator is hidden inside the nozzle and the settings cannot be played around by the farmers.

FLOW LIMITER
DVD Flow Limiter is made of a factory-set rubber washer that is decreasing the cross-sectional area of flow in case of high demand. As a result, maximum flow rate of each farmer is limited, preventing excessive use of water by some farmers. DVD provides Standard Flow Limiters for below 5 bar operating pressure, and High Pressure Flow Limiters for above 5 bar operating pressure. DVD Flow Limiters can be factory-set to 2 - 10 lt/sec, with 0-30% tolerance for nominal flows under 3 lt/sec, and 0-20% tolerance for nominal flows of 3 lt/sec and above. High pressure flow limiters must be used with pressure regulators of 6, 7.5, or 9.5 bars.



WATER METER
DVD Watermeter is a proportional type of watermeter suitable for irrigation water. It is made of Ductile Iron material that is rugged against UV-light & heat, and is protected against damages by a thick glass lens & padlocked cover. Proportional watermeters have a precision of +-5% tolerance. As an option, Ultrasonic Watermeters can be used at the outlet of the nozzles for even better precision.

Irrigation hydrants are used to connect farmer piping (drip or sprinkler) to pressurized irrigation water network. These hydrants perform pressure regulation, flow control and metering functions on a single body. DVD Hydrant closing mechanism enables gradual flow increase/decrease when the handwheel is turned, preventing slam closure of the hydrant. These hydrants are available with two body length options, and have an optional automatic drain valve to bleed the body when the hydrant is closed to prevent frost damages.

DIMENSIONS(mm)	D	H	h	L
A1 Short Type	220	633	535	375
A2 Long Type	220	962	865	375

	Weight (Kg)			
# of Nozzles	1	2	3	4
A1 Short Type	61	72	82	92.5
A2 Long Type	87	97	108	118

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B TYPE IRRIGATION HYDRANT
1 – 2 OUTLETS

Available Pressures

PN 10
PN 16

Paint:
Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Nozzle**	Ductile Iron	
Stem	X20Cr13	
Spindle	Galvanized Pipe	X20Cr13, SS304 Pipe
Disc	Brass	Ductile Iron
Seat	Brass	
Pressure Regulator	Brass	
Flow Limiter	Brass	ABS
Drain Valve	Brass	
Quick Coupling	Brass	Aluminium
Nuts	Brass	Ductile Iron
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

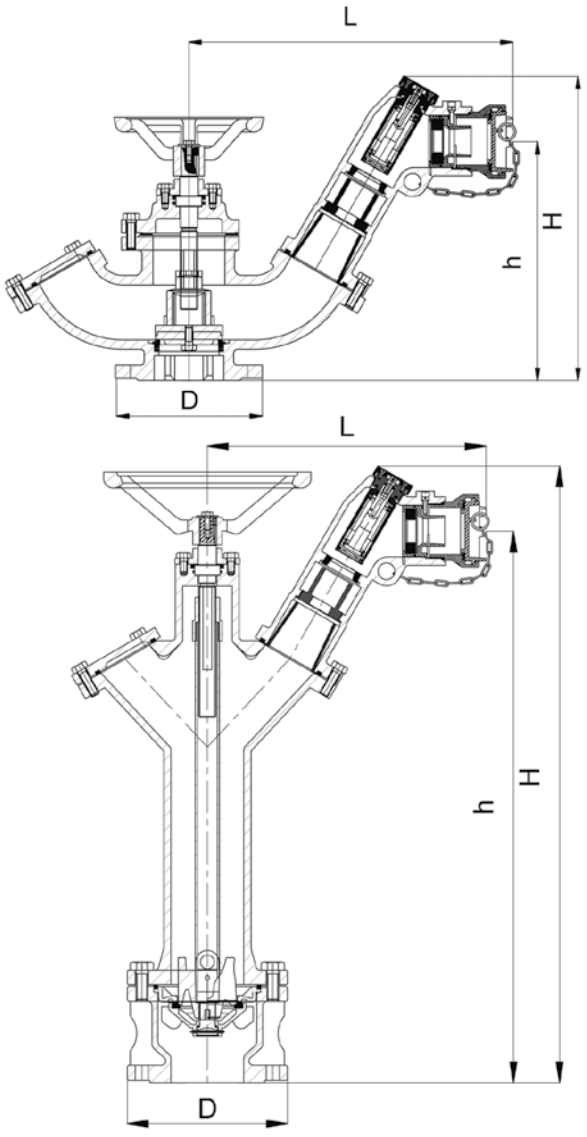
B TYPE IRRIGATION HYDRANT
1 – 2 OUTLETS

APPLICATION

DVD B Type Irrigation Hydrants are designed to perform 5 main functions;
- Connection to the irrigation network & water distribution
- Regulation of pressure
- Control of water flow
- Metering water consumption
- Open/Close function

NOZZLE

DVD B Type Irrigation Hydrants have 1 or 2 nozzles on the body that serve as farmer connections. These DN65 or DN80 elbow shaped nozzles can be provided as threaded or with quick coupling end connections upon customer request. These nozzles include a proportional or ultrasonic watermeter, a factory-set mechanical flow limiter and a factory-set cartridge type pressure regulator. These devices can be taken out if requested.



PRESSURE REGULATOR

DVD Pressure Regulator is a factory-set cartridge type regulator. It protects the farmer irrigation piping from high pressure and provides a pre-determined, stable outlet. These pressure regulators can be calibrated in factory to 3, 3.5, 4, 4.5, 5, 6, 7.5 or 9.5 bars with 20% tolerance. Pressure Regulator is hidden inside the nozzle and the settings cannot be played around by the farmers.

FLOW LIMITER

DVD Flow Limiter is made of a factory-set rubber washer that is decreasing the cross-sectional area of flow in case of high demand. As a result, maximum flow rate of each farmer is limited, preventing excessive use of water by some farmers. DVD provides Standard Flow Limiters for below 5 bar operating pressure, and High Pressure Flow Limiters for above 5 bar operating pressure. DVD Flow Limiters can be factory-set to 2 - 10 lt/sec, with 0-30% tolerance for nominal flows under 3 lt/sec, and 0-20% tolerance for nominal flows of 3 lt/sec and above. High pressure flow limiters must be used with pressure regulators of 6, 7.5, or 9.5 bars.

WATER METER

DVD Watermeter is a proportional type of watermeter suitable for irrigation water. It is made of Ductile Iron material that is rugged against UV-light & heat, and is protected against damages by a thick glass lens & padlocked cover. Proportional watermeters have a precision of +-5% tolerance. As an option, Ultrasonic Watermeters can be used at the outlet of the nozzles for even better precision.

Irrigation hydrants are used to connect farmer piping (drip or sprinkler) to pressurized irrigation water network. These hydrants perform pressure regulation, flow control and metering functions on a single body. DVD Hydrant closing mechanism enables gradual flow increase/decrease when the handwheel is turned, preventing slam closure of the hydrant. These hydrants are available with two body length options, and have an optional automatic drain valve to bleed the body when the hydrant is closed to prevent frost damages.

DIMENSIONS (mm)						
	DN	Outlet	D	H	h	L
B1 Short Type	80	65/80	200	400	325	440
B2 Long Type	80	65/80	220	840	760	385

	Weight (Kg)		
# of Nozzles	1	2	1
B1 Short Type	40	50.5	36
B2 Long Type	58	67.5	-

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C TYPE IRRIGATION HYDRANT
1 – 4 OUTLETS

Available Pressures

PN 10
PN 16

Paint:
Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Nozzle**	Ductile Iron	
Stem	X20Cr13	
Spindle	Galvanized Pipe	X20Cr13, SS304 Pipe
Disc	Brass	Ductile Iron
Seat	Brass	
Pressure Regulator	Brass	
Flow Limiter	Brass	ABS
Drain Valve	Brass	
Quick Coupling	Brass	Aluminium
Nuts	Brass	Ductile Iron
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

C TYPE IRRIGATION HYDRANT
1 – 4 OUTLETS

APPLICATION

DVD C Type Irrigation Hydrants are designed to perform 5 main functions;

- Connection to the irrigation network & water distribution
- Regulation of pressure
- Control of water flow
- Metering water consumption
- Open/Close function

NOZZLE

DVD C Type Irrigation Hydrants have 1 to 4 nozzles on the body that serve as farmer connections. These DN65, DN80 or DN100 elbow shaped nozzles can be provided as threaded or with quick coupling end connections upon customer request. These nozzles include a proportional or ultrasonic watermeter, a factory-set mechanical flow limiter and a factory-set cartridge type pressure regulator. These devices can be taken out if requested.

PRESSURE REGULATOR

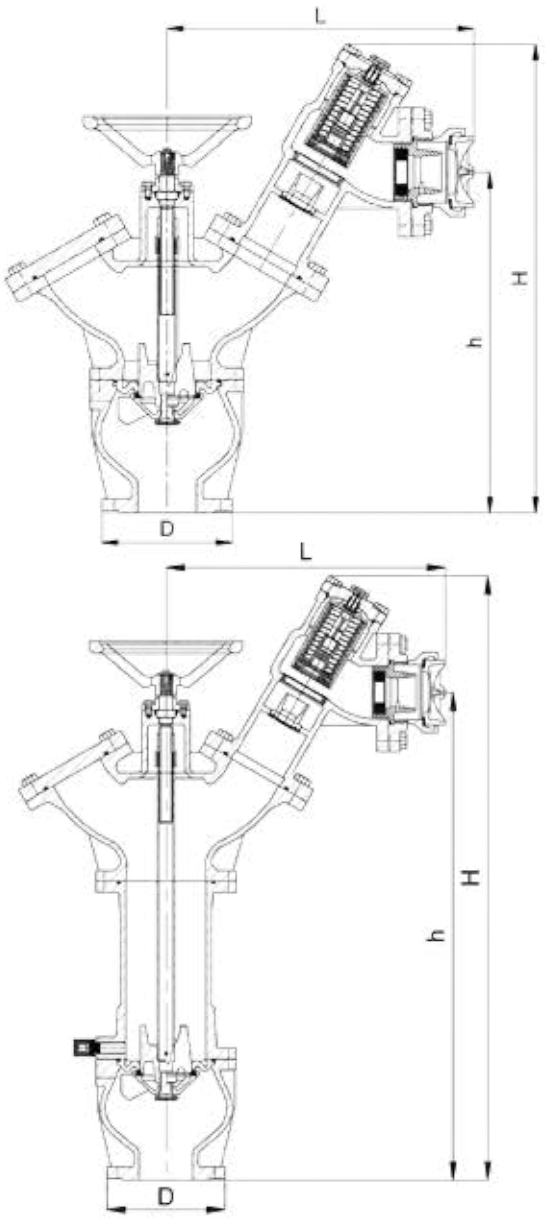
DVD Pressure Regulator is a factory-set cartridge type regulator. It protects the farmer irrigation piping from high pressure and provides a pre-determined, stable outlet. These pressure regulators can be calibrated in factory to 3, 3.5, 4, 4.5, 5, 6, 7.5 or 9.5 bars with 20% tolerance. Pressure Regulator is hidden inside the nozzle and the settings cannot be played around by the farmers.

FLOW LIMITER

DVD Flow Limiter is made of a factory-set rubber washer that is decreasing the cross-sectional area of flow in case of high demand. As a result, maximum flow rate of each farmer is limited, preventing excessive use of water by some farmers. DVD DN100 Nozzle Flow Limiters can be factory-set to 10, 12, 15, 18 and 20 lt/sec with 20% tolerance.

WATER METER

DVD Watermeter is a proportional type of watermeter suitable for irrigation water. It is made of Ductile Iron material that is rugged against UV-light & heat, and is protected against damages by a thick glass lens & padlocked cover. Proportional watermeters have a precision of +-5% tolerance. As an option, Ultrasonic Watermeters can be used at the outlet of the nozzles for even better precision.



Irrigation hydrants are used to connect farmer piping (drip or sprinkler) to pressurized irrigation water network. These hydrants perform pressure regulation, flow control and metering functions on a single body. DVD Hydrant closing mechanism enables gradual flow increase/decrease when the handwheel is turned, preventing slam closure of the hydrant. These hydrants are available with two body length options, and have an optional automatic drain valve to bleed the body when the hydrant is closed to prevent frost damages.

DIMENSIONS (mm)						
	DN	Outlet	D	H	h	L
C1 Short Type	100/150	100	220/285	750	585	525
C2 Long Type	100/150	100	220/285	1080	915	525

	Weight (Kg)	
# of Nozzles	1	2
C1 Short Type	88	110
C2 Long Type	113.5	135.5

dvdvalves

D TYPE IRRIGATION HYDRANT
1 – 2 OUTLETS

Available Pressures

PN 10
PN 16

Paint:
Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body	Ductile Iron	
Stem	X20Cr13	
Spindle	Galvanized Pipe	X20Cr13, SS304 Pipe
Disc	Brass	Ductile Iron
Seat	Brass	
Flow Limiter	Brass	ABS
Drain Valve	Brass	
Quick Coupling	Brass	Aluminium
Nuts	Brass	Ductile Iron
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
Handwheel	Cast Iron	Ductile Iron
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

D TYPE IRRIGATION HYDRANT
1 – 2 OUTLETS

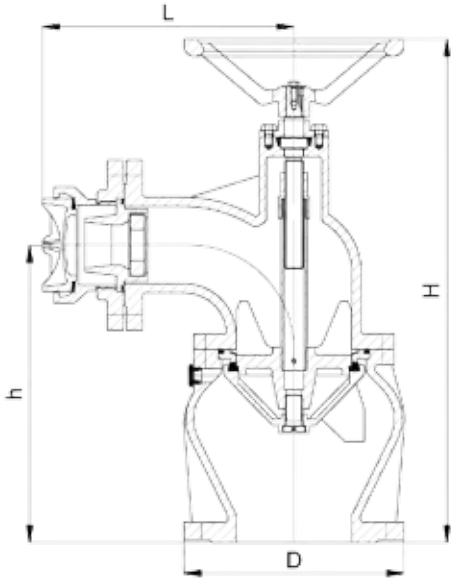
APPLICATION

DVD B Type Irrigation Hydrants are designed to perform 3 main functions;

- Connection to the irrigation network & water distribution
- Control of water flow
- Open/Close function

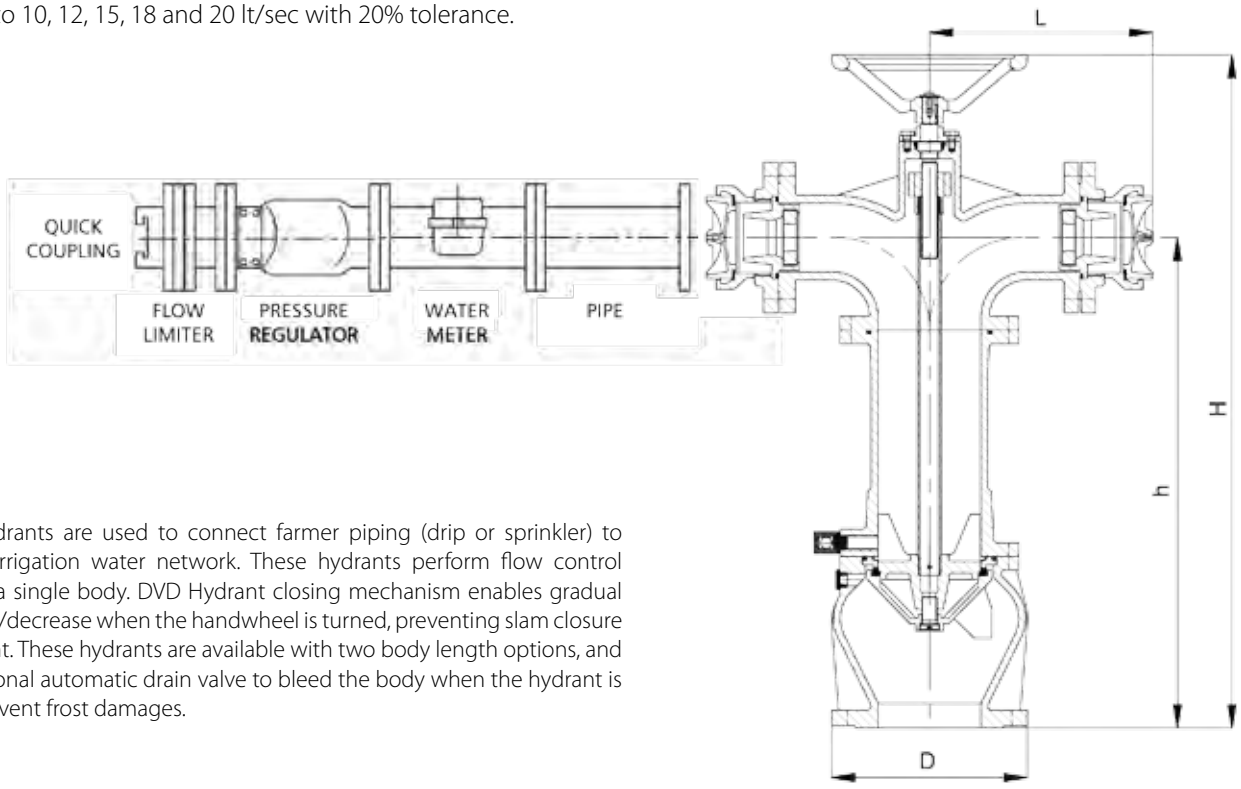
EXTERNAL PRESSURE REGULATOR & WATER METER

DVD D Type Irrigation Hydrants have 1 or 2 outlets on the body that serve as farmer connections. These DN100 or DN150 outlets can be provided as threaded or with quick coupling end connections upon customer request. These outlets include a factory-set mechanical flow limiter. If requested, external proportional or ultrasonic watermeter and an external factory-set cartridge type pressure regulator can be provided for these outlets upon request.



FLOW LIMITER

DVD Flow Limiter is made of a factory-set rubber washer that is decreasing the cross-sectional area of flow in case of high demand. As a result, maximum flow rate of each farmer is limited, preventing excessive use of water by some farmers. These Flow Limiters can be factory-set to 10, 12, 15, 18 and 20 lt/sec with 20% tolerance.



Irrigation hydrants are used to connect farmer piping (drip or sprinkler) to pressurized irrigation water network. These hydrants perform flow control function on a single body. DVD Hydrant closing mechanism enables gradual flow increase/decrease when the handwheel is turned, preventing slam closure of the hydrant. These hydrants are available with two body length options, and have an optional automatic drain valve to bleed the body when the hydrant is closed to prevent frost damages.

DIMENSIONS (mm)						
	DN	Outlet	D	H	h	L
D1 Short Type	100/150	100/150	220/285	650	385	325
D2 Long Type	100/150	100/150	220/085	980	715	325

	Weight (Kg)	
# of Nozzles	1	2
D1 Short Type	70.8	87
D2 Long Type	96.8	113.6

dvdvalves

H TYPE IRRIGATION HYDRANT
1 – 2 OUTLETS

PATENTED • PATENTED

Available Pressures
PN 10
PN 16

Paint:
Electrostatic Fusion Bonded Powder Epoxy Blue

Parts	Main Materials	Optional Materials
Body **Covers**	Ductile Iron	
Filter	SS304	SS 316
Diaphragm	EPDM	
Seat	Brass	Aluminium
Pressure Regulator	Brass	Aluminium
Flow Limiter	Brass	Aluminium
Drain Valve	Brass	
Nuts	Brass	
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

H TYPE IRRIGATION HYDRANT
1 – 2 OUTLETS

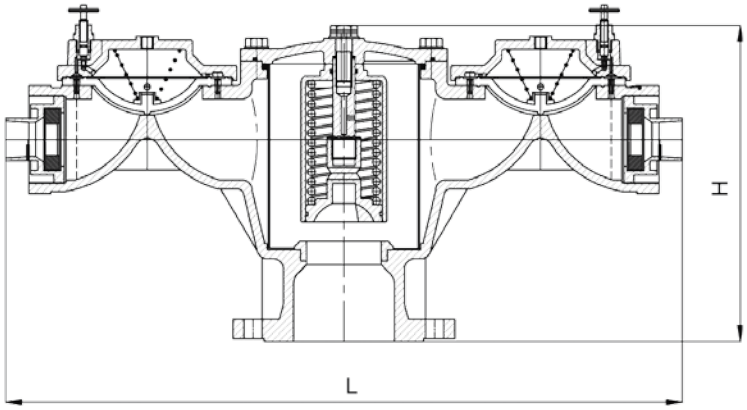
APPLICATION

DVD H Type Irrigation Hydrants are designed to perform 5 main functions;

- Connection to the irrigation network & water distribution
- Regulation of pressure
- Control of water flow
- Metering water consumption
- Open/Close function

THE BODY

DVD H Type Irrigation Hydrants have 1 or 2 outlets on the body that serve as farmer connections. These DN80 outlets can be provided as threaded or with quick coupling end connections upon customer request. These outlets include a factory-set mechanical flow limiter. Furthermore, a factory-set cartridge type pressure regulator is integrated on the main body, serving all outlets. If requested, external tangential or ultrasonic watermeter can be provided for these outlets upon request.



PRESSURE REGULATOR

DVD Pressure Regulator is a factory-set cartridge type regulator. It protects the farmer irrigation piping from high pressure and provides a pre-determined, stable outlet. These pressure regulators can be calibrated in factory to 3, 3.5, 4, 4.5, 5, 6, 7.5 or 9.5 bars with 20% tolerance. Pressure Regulator is hidden inside the body and the settings cannot be played around by the farmers.

FLOW LIMITER

DVD Flow Limiter is made of a factory-set rubber washer that is decreasing the cross-sectional area of flow in case of high demand. As a result, maximum flow rate of each farmer is limited, preventing excessive use of water by some farmers. DVD provides Standard Flow Limiters for below 5 bar operating pressure, and High Pressure Flow Limiters for above 5 bar operating pressure. DVD Flow Limiters can be factory-set to 2 - 10 lt/sec, with 0-30% tolerance for nominal flows under 3 lt/sec, and 0-20% tolerance for nominal flows of 3 lt/sec and above. High pressure flow limiters must be used with pressure regulators of 6, 7.5, or 9.5 bars.

WATER METER & PRE-PAID APPLICATIONS

DVD H type hydrants can be provided with external ultrasonic or tangential watermeters suitable for irrigation water. Furthermore, these meters can be connected to the hydrant through a pre-paid controller, allowing use of water by credit upload on an RFID card. GPRS comms is also available for remote opening-closing of the valve and for metering the consumption via central computer.

Irrigation hydrants are used to connect farmer piping (drip or sprinkler) to pressurized irrigation water network. These hydrants perform pressure regulation and flow control functions on a single body. DVD H type hydrant closing mechanism is a diaphragm type hydraulic control valve that enables non-slam closure. These hydrants have an optional automatic drain valve to bleed the body when the hydrant is closed to prevent frost damages.

DIMENSIONS (mm)						
DN	Outlet	No Of Outlets	H	W	L	Weight (kg)
100	80	1	340	230	436	33
100	80	2	340	230	670	38

dvdvalves

ABOVE GROUND FIRE HYDRANT
BREAK AWAY TYPE

Available Pressures
PN 10
PN 16

Paint:
Electrostatic Fusion Bonded Polyester Epoxy Red

Parts	Main Materials	Optional Materials
Body **Cap Top**	Ductile Iron	
Coupling	Aluminum	Brass
Stem	X20Cr13	SS 304, SS 316
Spindle	Galvanized Pipe	X20Cr13, SS304 Pipe
Disc	Ductile Iron + EPDM	
Seat	Bronze	Brass
Drain Valve	Bronze	Brass
Nuts	Bronze	Brass
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

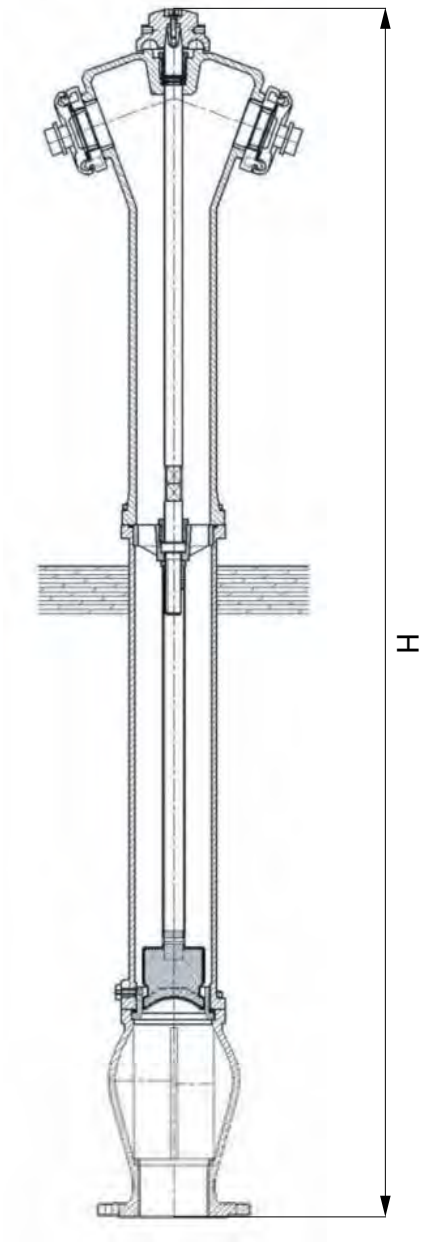
ABOVE GROUND FIRE HYDRANT
BREAK AWAY TYPE

APPLICATION

DVD Fire Hydrants are used in city water distribution networks to enable water supply to firefighters. When open, they provide high capacity water flow and when closed they provide drip tight sealing.

FEATURES

- Fully EPDM vulcanized solid disc.
- Break-away design.
- Rotatable, mono-block upper barrel.
- 21/2" & 3" quick coupling connection alternatives.
- Theft-proof quick coupling available upon request.
- Three different body length options.
- Anti-frost drain valve protection.
- Drain sleeve is available upon request.
- Duck foot bend is available upon request.



BREAK AWAY DESIGN

DVD Above Ground Fire Hydrants are manufactured in break away design, where the upper barrel and lower barrel are connected with loose flange. In case of an outside impact to the hydrant, upper barrel comes loose from the loose flange and the stem is uncoupled from the shaft. As a result, the valve mechanism stays closed and is never pushed out by water, causing no water spillage. The hydrant can then be assembled back to as it is by just changing the loose flange mechanism. Loose flange feature also enables the user to rotate the upper barrel of the hydrant in 360° after the installation, positioning the outlets in a more suitable position to get water from the hydrant.

VULCANISED VALVE DISC

DVD Valve Disc is fully vulcanized with EPDM where no metal part of the disc is in contact with water. As a result, reliable operation is guaranteed. The disc operates inside a bronze seat enabling low friction and drip tight closure. Furthermore, the disc has two wings allowing gradual closure of the hydrant, preventing slamming effect.

DVD Break Away Type Above Ground Fire Hydrants are made of ductile iron body, independent valve mechanism, and a spindle that controls the sealing. When the captop of the hydrant is turned counter clockwise, spindle moves down and valve mechanism opens gradually. In case the reverse action is applied, hydrant shuts-off drip tight.

DIMENSIONS (mm)		
DN	Outlet	H
80	60/80	1435/1750/2150
100	65/80	1435/1750/2150

dvdvalves

UNDER GROUND FIRE HYDRANT

Available Pressures

PN 10
PN 16

Paint:
Electrostatic Fusion Bonded Powder Epoxy Red

Parts	Main Materials	Optional Materials
Body **Cap Top**	Ductile Iron	
Coupling	Ductile Iron	Aluminium
Coupling Ring	Bronze	Brass
Stem	X20Cr13	
Spindle	Galvanized Pipe	X20Cr13, SS 304 Pipe
Disc	Ductile Iron + EPDM Vulcanized	
Nuts	Bronze	Brass
Seals	EPDM	NBR
Fasteners	8:8 (Galv.)	SS 304, SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10^{0}C to +80^{0}C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

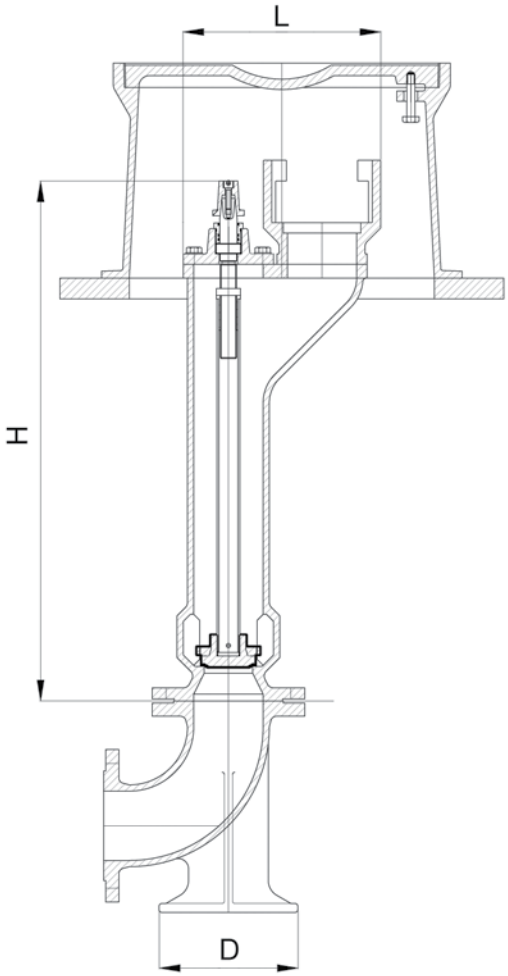
UNDER GROUND FIRE HYDRANT

APPLICATION

DVD Fire Hydrants are used in city water distribution networks to enable water supply to firefighters. When open, they provide high capacity water flow and when closed they provide drip tight sealing.

FEATURES

- Fully EPDM vulcanized solid disc.
- Long type body design.
- Anti-frost drain valve protection.
- Drain sleeve is available upon request.
- Duck foot bend is available upon request.
- Surface Box is available upon request.



UNDERGROUND INSTALLATION

Underground fire hydrants have protection advantage compared to aboveground hydrants. Since they are buried underground, hydrant is protected from possible vandalism, theft or impacts. Optional surface box is provided for accessibility to the hydrant.

VULCANISED VALVE DISC

DVD Valve Disc is fully vulcanized with EPDM where no metal part of the disc is in contact with water. As a result, reliable operation is guaranteed and corrosion resistance of the disc is increased. The disc is connected to the stem mechanism through a spindle connection and controls the opening-closing of the hydrant.

ROBUST POWDER COATING

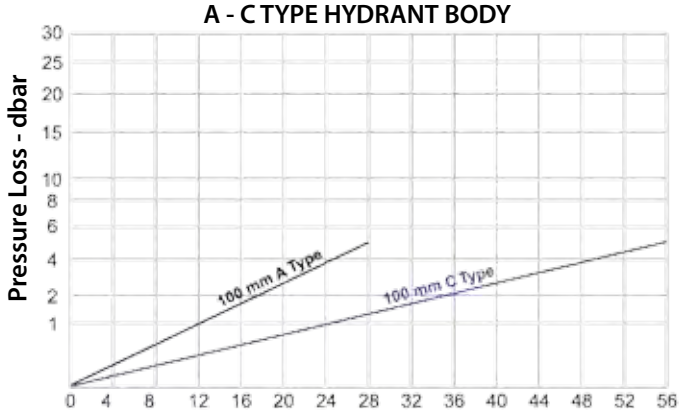
In DVD Valves, both thermoset and thermoplastic coating is available. Not just that, also optional UV protection coating is available upon request. DVD can do coating up to C5-I High (H, more than 15 years) according to EN ISO 12944-1. Coating quality is assured by the coating laboratory, providing sophisticated testing such as Dew Point Measurement, Blast Surface Roughness Measurement, Blast Surface Particle Measurement, Coat Thickness Measurement, Holiday Testing, Impact Testing, Doly Testing, Cross-Cut Testing, Salt Spay Testing etc.

DVD Underground Fire Hydrants are made of ductile iron body, valve mechanism, and a spindle that controls the sealing. When the captop of the hydrant is turned counter clockwise, spindle moves down and valve mechanism opens gradually. In case the reverse action is applied, hydrant shuts-off drip tight.

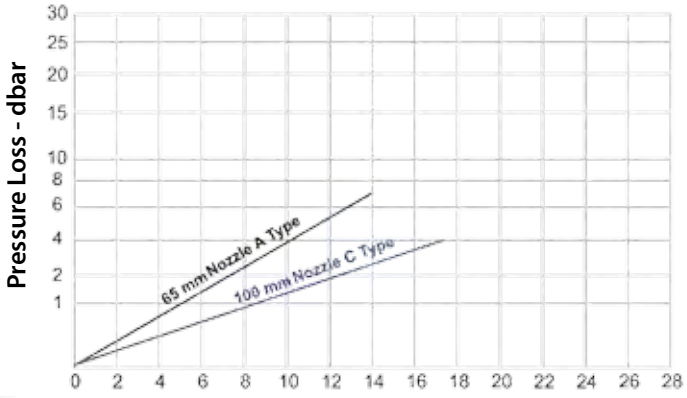
DIMENSIONS (mm)					
DN	Outlet	D	H	L	Weight (Kg)
80	100	220	750	100	36
100	100	220	750	100	39

A-C TYPE IRRIGATION HYDRANT HEAD LOSS DIAGRAMS

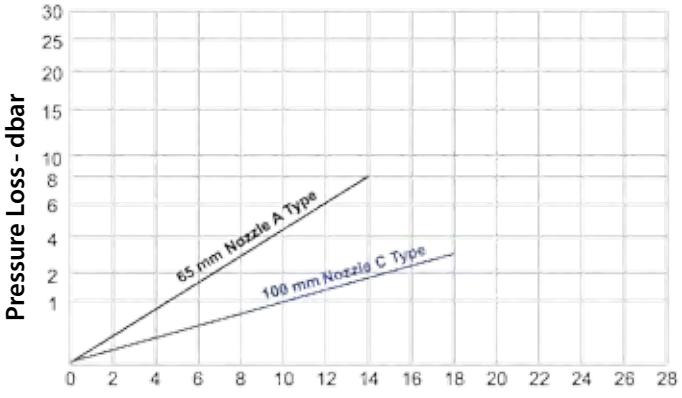
A - C TYPE HYDRANT BODY



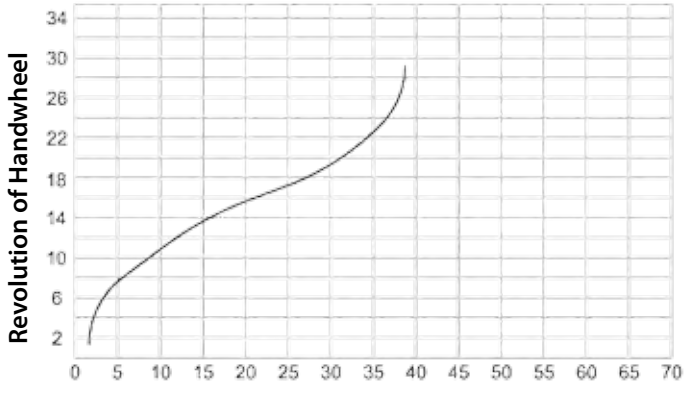
A - C TYPE HYDRANT PRESSURE REGULATOR (Open Position)



A - C TYPE HYDRANT NOZZLE with METER

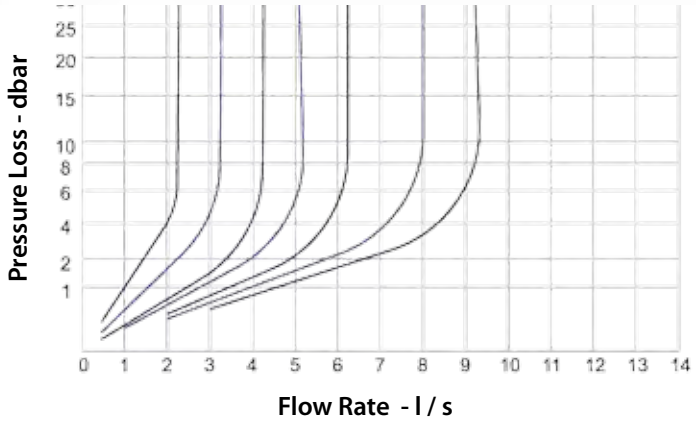


A - C TYPE HYDRANT FLOW ACCORDING TO VALVE OPENING UPSTREAM PRESSURE = 3.5 BAR



TECHNICAL DETAILS

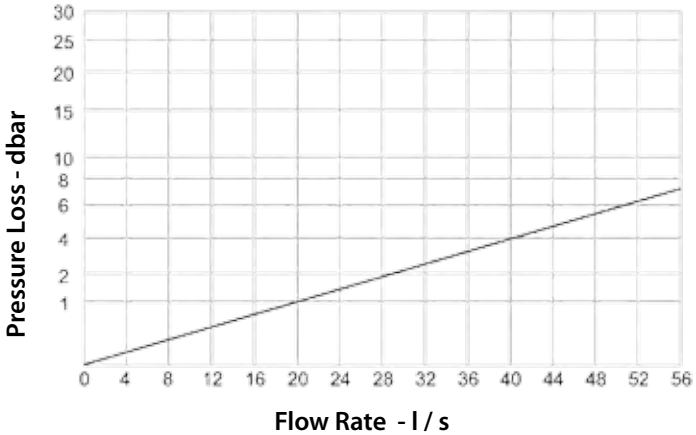
A TYPE HYDRANT FLOW LIMITER



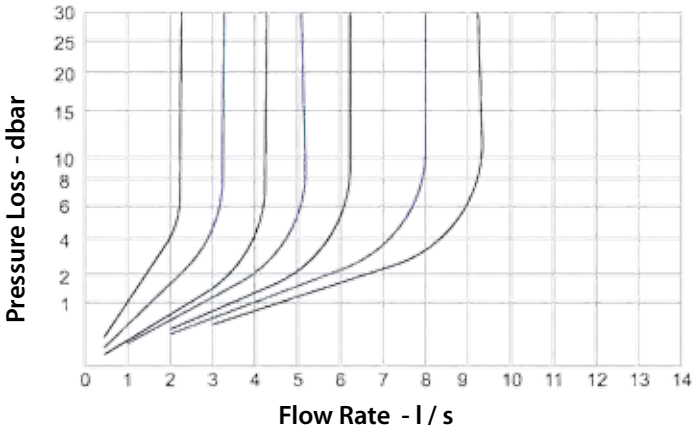
C TYPE HYDRANT FLOW LIMITER

B TYPE IRRIGATION HYDRANT HEAD LOSS DIAGRAMS

B TYPE HYDRANT BODY

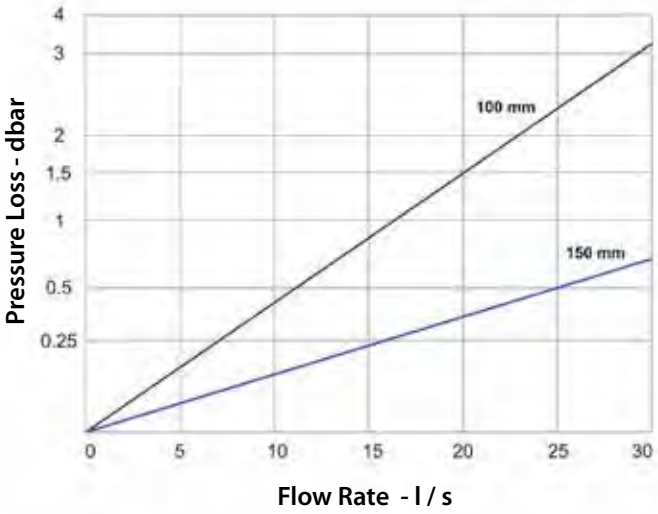


B TYPE HYDRANT FLOW LIMITER

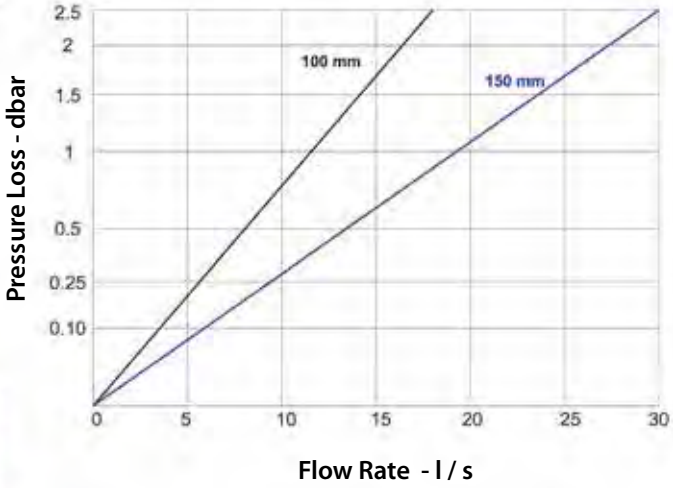


D TYPE IRRIGATION HYDRANT HEAD LOSS DIAGRAMS

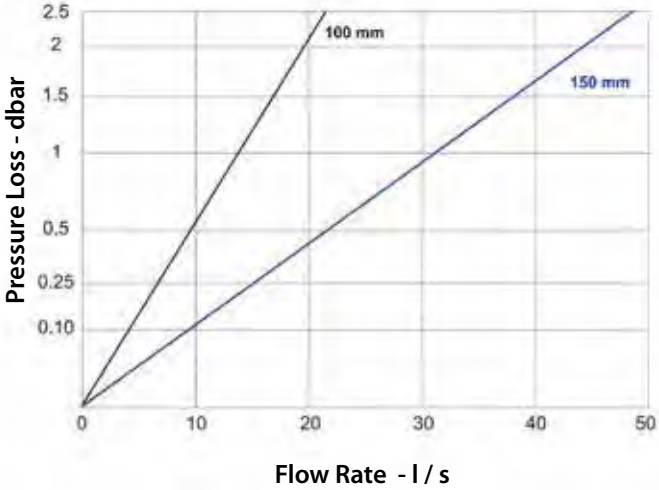
D TYPE HYDRANT BODY (Single Outlet)



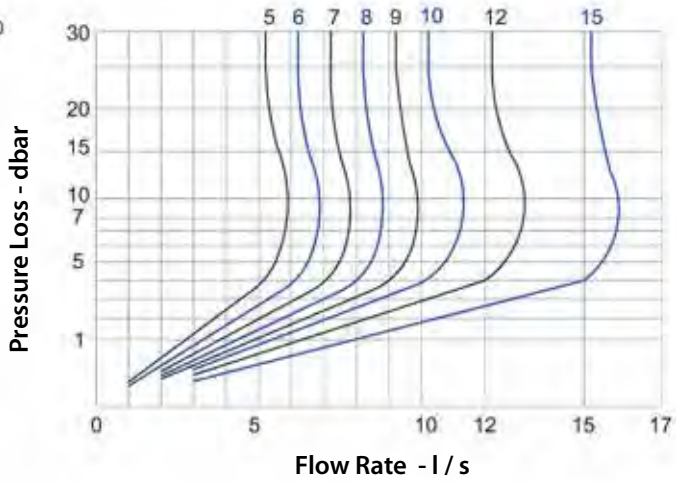
D TYPE HYDRANT PRESSURE REGULATOR



D TYPE HYDRANT PROPORTIONAL METER



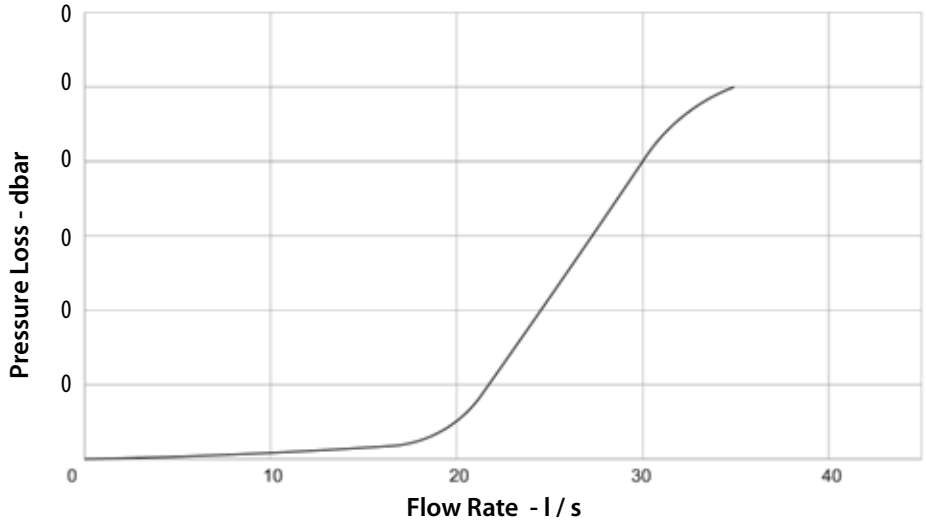
D TYPE HYDRANT 100 MM LIMITING DEVICE



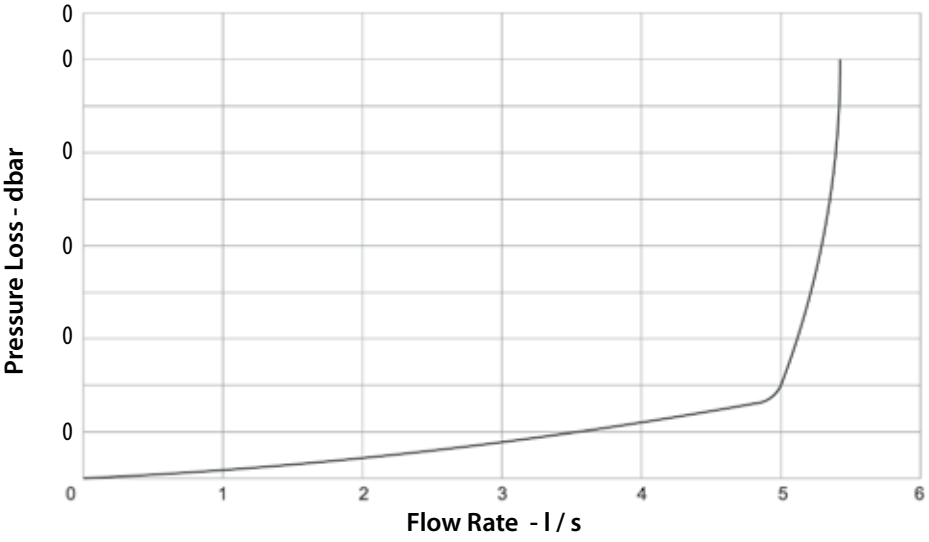
TECHNICAL DETAILS

H TYPE IRRIGATION HYDRANT HEAD LOSS DIAGRAMS

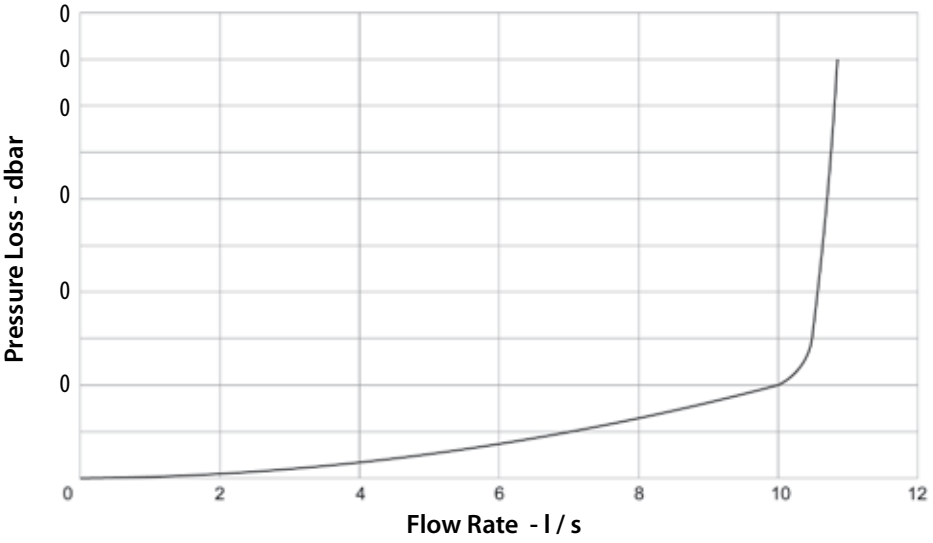
100 - 80 mm H TYPE HYDRANT BODY



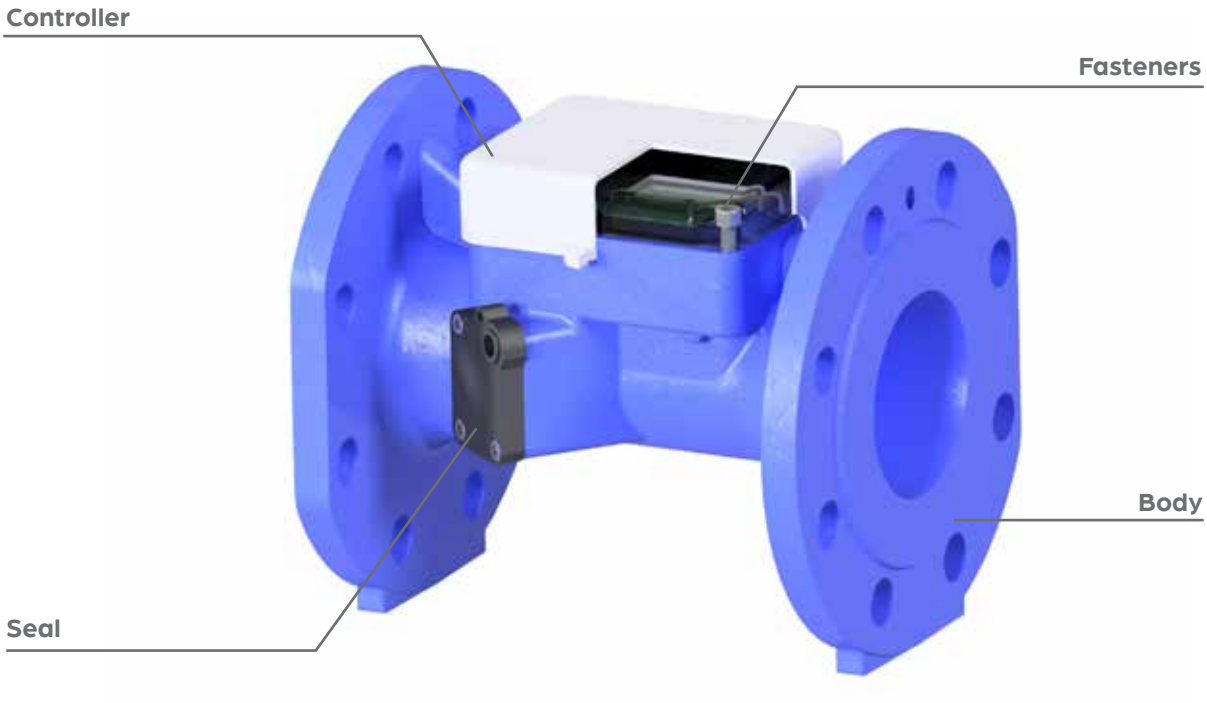
100 - 80 mm H TYPE HYDRANT BODY WITH 5 lt/sec FLOW LIMITER



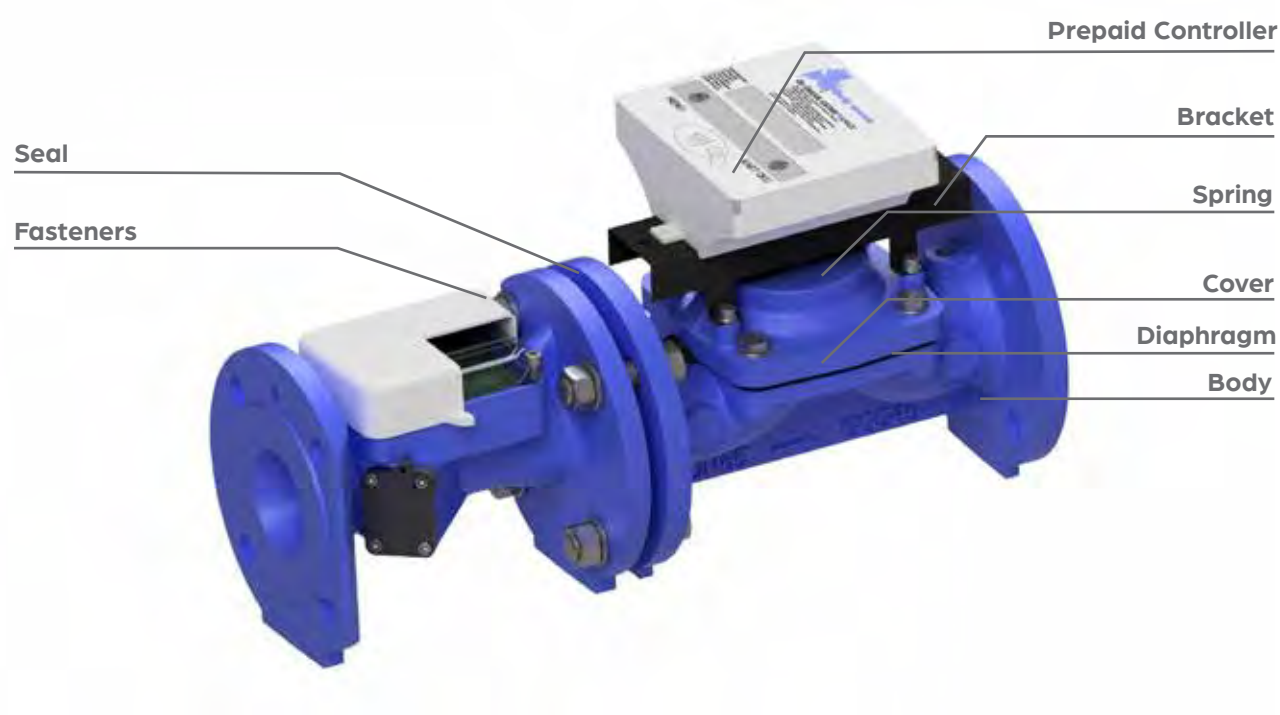
100 - 80 mm H TYPE HYDRANT BODY WITH 10 lt/sec FLOW LIMITER



ULTRASONIC WATERMETER



PRE–PAID ULTRASONIC WATERMETER



ULTRASONIC

Available Pressures
PN 10
PN 16

Paint:
Electrostatic Fusion Bonded Pounder Epoxy Blue

Parts	Main Meterials	Optional Materials
Body	Ductile Iron	
Controller	POM	
Seals	EPDM	
Fasteners	8:8 (Galv.)	SS304, SS316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is T30 & T50 All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

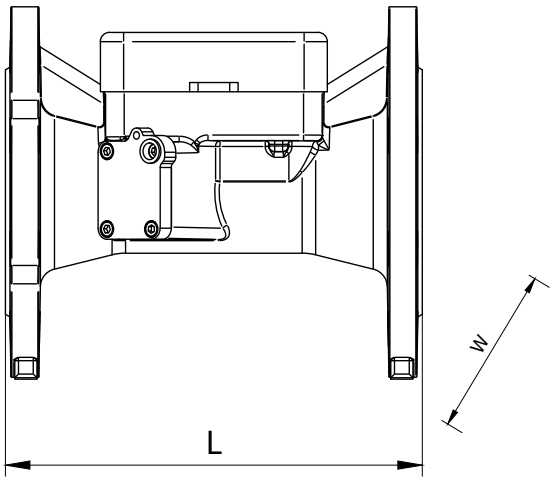
ULTRASONIC

APPLICATION

DVD Ultrasonic Watermeters are used to meter and record water consumption of consumers in defined working conditions. Battery powered ultrasonic design allows precise metering and suitability to both potable and irrigation water.

FEATURES

- 2014/32/AB MID certified
- According to EN ISO 4064 & OIML R49
- IP68 protection class
- Up to 10 years of battery power
- Ratio: R400
- Accuracy Class: 2
- Pressure Class: MAP16
- Temperature Class: T30 & T50
- U0/D0



ULTRASONIC METERING

Ultrasonic technology consists of two facing transducers communicating with each other. Traveling speed of ultrasonic waves through these transducers is then correlated with flow data and metering is done. The technology does not meter air and can do R400 metering. Therefore very accurate metering is possible. Furthermore, back-flows are also recorded on the meter.

HIGH PARTICLE RESISTANCE & LOW HEADLOSS

Ultrasonic technology does not have any moving parts on water passage. Therefore head loss is minimum and particle resistance is very high. Since no clogging occurs, this feature allows the meter to be used in irrigation water where there can be small residuals.

DVD Ultrasonic Watermeters contain a lithium battery operated, IP68 controller with lighted LED screen. On the screen, current flow rate and consumption data can be seen. The meter has Mbus and optic interface as standard and pulse and RF interface as optional comms.

DIMENSIONS (mm)				
DN	50	65	80	100
L	200	200	225	250
W	165	185	200	220
Weight (Kg)	7.5	9	10	12.5

FLOW RATE m3/h				
DN	50	65	80	100
Q1	0,06	0,10	0,16	0,25
Q2	0,10	0,16	0,25	0,40
Q3	25	40	63	100
Q4	31	50	79	125

PRE–PAID ULTRASONIC

Available Pressures
PN 10
PN 16

Paint:
Electrostatic Fusion Bonded Pounder Epoxy Blue

Parts	Main Meterials	Optional Materials
Body & Cover	Ductile Iron	
Pre-Paid Controller	POM	
Bracket	St 37	SS304, SS316
Diaphragm	NBR	
Spring	SS 304	SS316
Seal	EPDM	
Fasteners	8:8 (Galv.)	SS304, SS316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is T30 & T50 All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

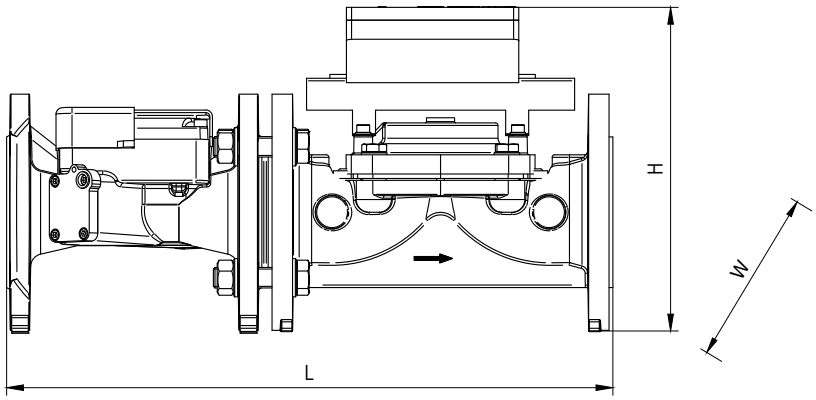
PRE–PAID ULTRASONIC

APPLICATION

DVD Pre-paid Ultrasonic Watermeters are used to meter and record water consumption of consumers in defined working conditions & to shut-off the system in case the credit is finished. Battery powered ultrasonic design allows precise metering and suitability to both potable and irrigation water.

FEATURES

- 2014/32/AB MID certified watermeter
- According to EN ISO 4064 & OIML R49
- IP68 protection class
- Up to 10 years of battery power
- Ratio: R400
- Accuracy Class: 2
- Pressure Class: MAP16
- Temperature Class: T30 & T50
- U0/D0
- Credit uploading by RFID Card
- Optional GPRS comms available upon request



PRE-PAID SYSTEM

DVD Pre-paid Watermeter consists of the Ultrasonic Watermeter, Hydraulic Control Valve and the Pre-paid Controller. Ultrasonic Watermeter records consumption data and communicates it to the Pre-paid Controller. Pre-paid Controller received credit upload from an RFID Card and the operator opens-closes the Hydraulic Control Valve through this Controller. In case the credit is finished, the Controller shuts-off the Hydraulic Controller so that consumption does not pass the uploaded credit.

ULTRASONIC METERING

Ultrasonic technology consists of two facing transducers communicating with each other. Traveling speed of ultrasonic waves through these transducers is then correlated with flow data and metering is done. The technology does not meter air and can to R400 metering. Therefore much more accurate metering is possible. Furthermore, back-flows are also recorded on the meter.

HIGH PARTICLE RESISTANCE & LOW HEADLOSS

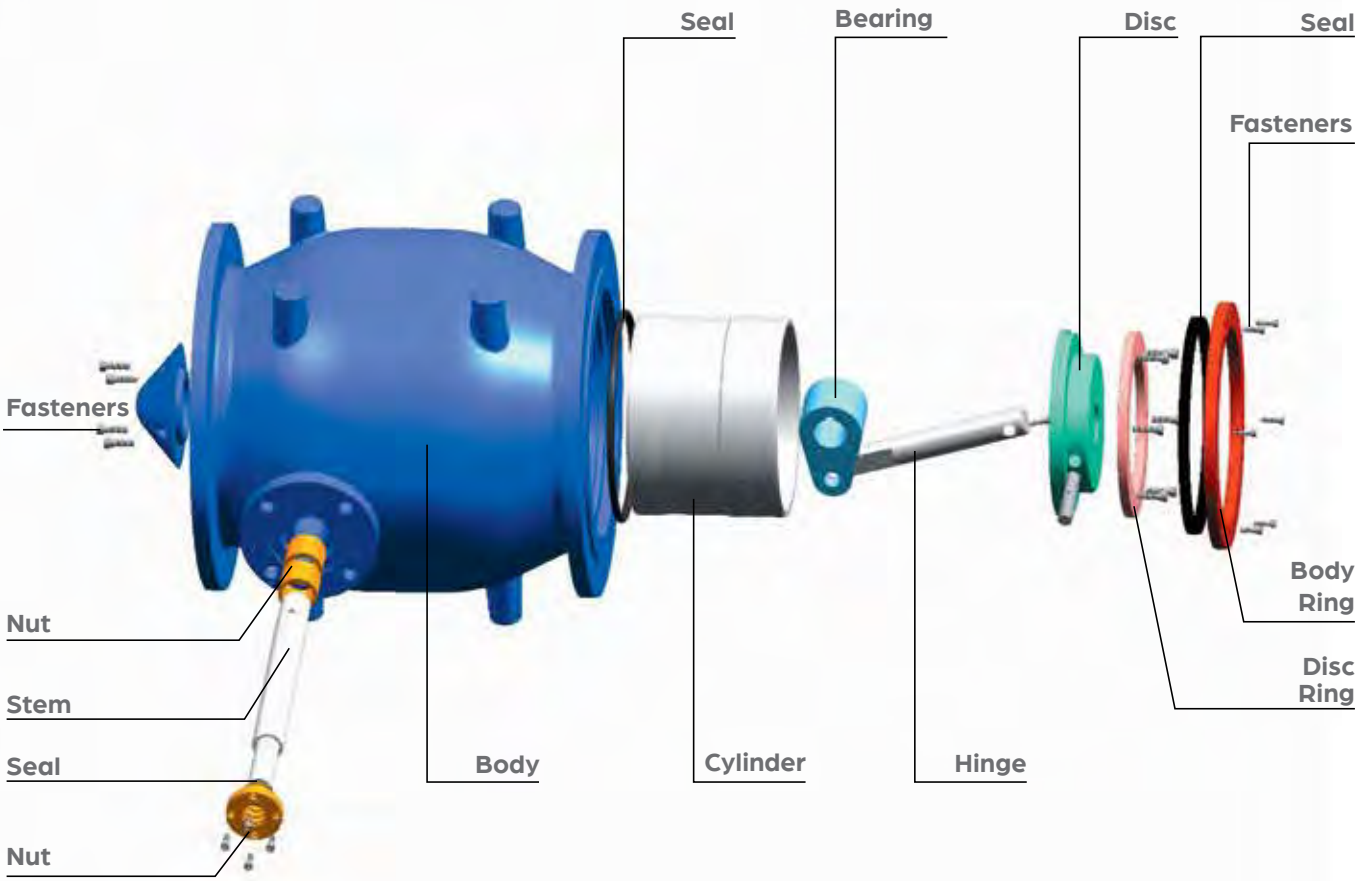
Ultrasonic technology does not have any moving parts on water passage. Therefore head loss is minimum and particle resistance is very high. Since no clogging occurs, this feature allows the meter to be used in irrigation water where there can be small residuals.

DVD Ultrasonic Watermeters contain a lithium battery operated, IP68 controller with lighted LED screen. On the screen, current flow rate and consumption data can be seen. The meter has Mbus and optic interface as standard and pulse and RF interface as optional comms. The hydraulic control valve provides open & shut-off function and operates with hydraulic principles. Hydraulic signal loop is protected with inline filters against particles and is hidden under the controller bracket against vandalism.

DIMENSIONS (mm)				
DN	50	65	80	100
L	450	470	500	550
H	240	255	285	295
W	165	185	200	220
Weight (Kg)	22	28	32	40

FLOW RATE m3/h				
DN	50	65	80	100
Q1	0,06	0,10	0,16	0,25
Q2	0,10	0,16	0,25	0,40
Q3	25	40	63	100
Q4	31	50	79	125

NEEDLE (PLUNGER) VALVE



dvdvalves

ISOLATION W/ HANDWHEEL

APPLICATION

- Isolation capability under high differential pressure.
- Possibility of operation in semi-open conditions.

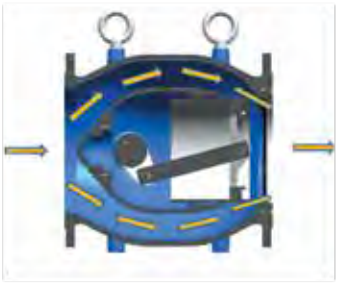
FEATURES

- Precise opening adjustment with small disc movement capability.
- Low torque values due to pressure-independent disc design.
- Longer life cycle compared to standard isolation valves with the replaceable sealing positioned at a hydraulically non-critical location.
- Mono-block body design.
- Linear body design allows straight flow and low head loss.

OPERATION

Fully Open

DVD Needle Valves open and close by the axial movement of the disc that is connected to a crank and shaft mechanism which the gearbox commands. When the valve is in fully open position, due to its aerodynamic design, it causes very low head loss and maximum flow capacity.



Modulation

The disc is guided by circular disc guides deposit welded to the main body, which causes minimum friction loss and stable movement. Stem, rotated by the gearbox, commands the crank mechanism which moves the disc axially to change the opening area of the valve.

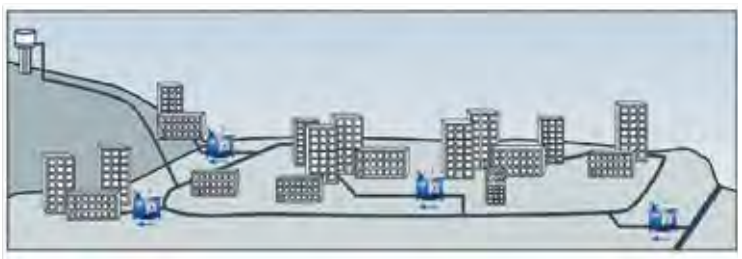
Fully Closed

When the valve is in fully closed position, due to special sealing mechanism, drip tight sealing is achieved. Due to pressure-independent disc operation and special gearbox, torque values needed even in large sizes are minimum.

CASE

Isolation Valve Suitable for High Differential Pressure

Especially in applications where high differential pressure is acting on an isolation valve, gate valves and butterfly valves can face severe damage. The main reason is that the disc faces a very high force acting on its surface during the opening/closing cycle of the valve. Furthermore, this force is causing the torque value to increase dramatically. On the other hand in Needle Valves, since the piston is in a cylindrical design, force caused by pressure acting on the piston is equivalent on every direction, thereby cancelling each other. As a result, the disc moves in a pressure-independent condition in every single position. Therefore even if the Needle Valve is operated at a very high differential pressure, operating torque is very low. Furthermore, since the piston is acting in the direction of water flow, pressure does not damage the sealing mechanism and the design guarantees trouble-free operation.



PRESSURE REGULATION W/ ELECTRICAL ACTUATOR

APPLICATION

- Pressure reduction/sustaining capability independent of demand or pressure variations.
- Prioritizing of pressure zones.
- Protection of the network from excessive pressures.
- Pressure management & reduction of water leakage.

FEATURES

- Robust gearbox & electrical actuator.
- High cavitation resistance due to circular outlet at all disc positions
- Low vibration and noise.
- High pressure reduction ratio.
- Stable and precise regulation capability even under low flows.
- High residual resistance.
- Long life cycle with the replaceable sealing positioned at a hydraulically non-critical location.
- Mono-block body design.
- Linear body design allows straight flow and low head loss.

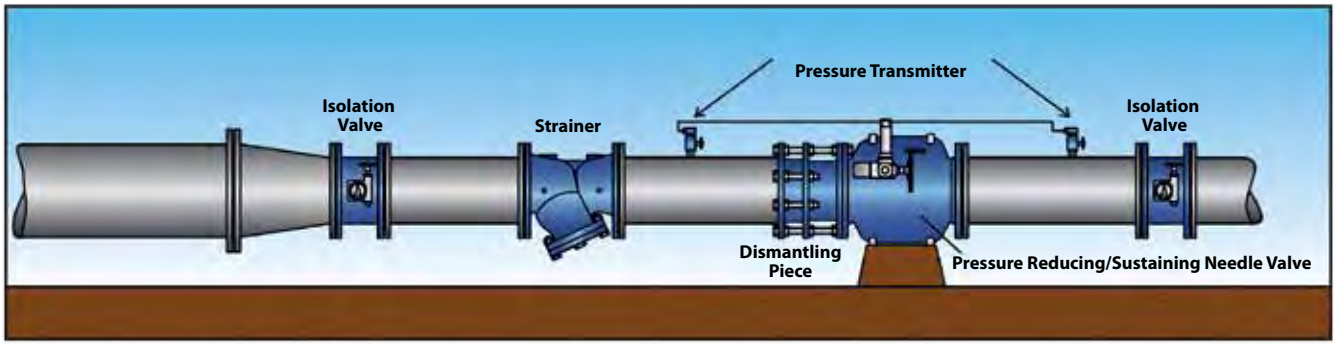
CASE

Pressure Reducing Valve

DVD Pressure Reducing Needle Valves regulate a varying high upstream pressure to a constant downstream pressure, providing circular outlet at all disc positions. Therefore they have very high cavitation resistance. Due to the special design of the valve, cavitation phenomena occur in the center of the pipeline, not damaging the valve material. Furthermore, all internal parts are made from stainless steel material, making it more durable to regulation effects. It causes very low vibration and low noise. Pressure Reducing Needle Valves enable a very high pressure reduction ratio compared to other standard pressure reducing valves. Disc positioning can be done precisely with the electrical actuator, so that exact regulation is possible. These valves are commonly used in pressure reducing stations in water networks and for pressure management to reduce leakage in the system.

Pressure Sustaining Valve

DVD Pressure Sustaining Needle Valves regulate according to the signal they receive from the pressure transmitter. Needle Valves sense upstream pressure and hold it at a constant pre-set value, independent of downstream pressure and flow rate. In case the upstream pressure is higher than the set point, the valve regulates to open, thereby discharging high pressure to a secondary network. In case the upstream pressure is lower than the set point, the valve regulates to close, sustaining the pre-set value. Typical application for Pressure Sustaining Valves is to protect users from not having enough pressure in the pipeline, to prevent the pipeline from emptying, or to protect pumps from having excessive operation or from operation in low flows.



ENERGY DISSIPATING W/ ELECTRICAL ACTUATOR

APPLICATION

• Energy dissipation in dams or reservoirs.

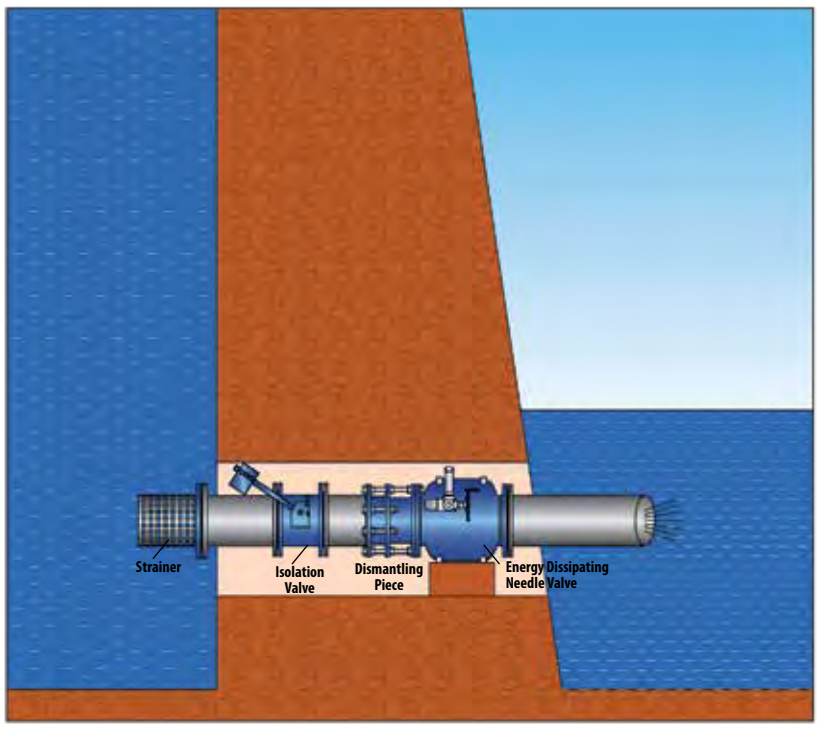
FEATURES

• Robust gearbox & electrical actuator.
• Minimum galvanic corrosion due to mono-block ductile iron body.
• Easy installation inside a valve chamber for maintenance and protection.
• Submerged discharge possibility by outlet connecting flange.
• High cavitation resistance due to circular outlet at all disc positions.
• Low vibration and noise.
• High pressure reduction ratio.
• High residual resistance.
• Long life cycle with the replaceable sealing positioned at a hydraulically non-critical location.

CASE

Energy Dissipating Valve

DVD Energy Dissipating Needle Valves with Electrical Actuator are used to dissipate energy while discharging the reservoir. Needle Valves are the perfect choice for such high differential pressure applications due to high cavitation resistance of the valve. Needle Valves have integral flange connections both in the upstream and downstream of the valve, therefore they can be connected to the pipeline from both ways. Therefore, water can be discharged submersed to the water, dropping the differential pressure acting on the valve. In case standard disc configuration cannot cope with the application needs, special discs such as cavitation cage or slotted cylinder increases the cavitation resistance of the valve. Furthermore, aeration can be implemented in the downstream of the valve. All these alternatives should be taken into consideration by the consultancy of DVD Valves. These valves can be protected inside a valve chamber with a crane, for easy maintenance in the future and protection against environmental conditions. Needle Valves are manufactured fully in Ductile Iron material, which is far more robust to welded steel construction valves.



FAST OPENING & CLOSING W/ HYDRAULIC ACTUATOR

APPLICATION

- Prevention of sudden pressure peaks.
- Warning of malfunction on the pipeline.
- Reduction of maintenance expenses of the system.
- Automatic shut-off in case of a pipeline burst to prevent pipeline emptying.
- Relief of excessive pressure in the pipeline.

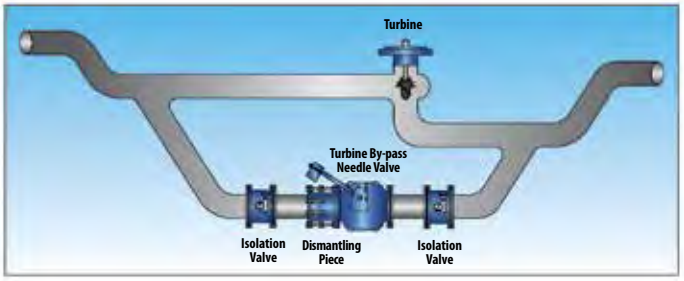
FEATURES

- Hydraulic lever & counterweight actuation.
- Quick, adjustable opening and closing speed.
- High cavitation resistance due to circular outlet at all disc positions.
- Low vibration and noise.
- High residual resistance.
- Mono-block body design.
- Linear body design allows straight flow and low head loss.
- Long life cycle with the replaceable sealing positioned at a hydraulically non-critical location.

CASE

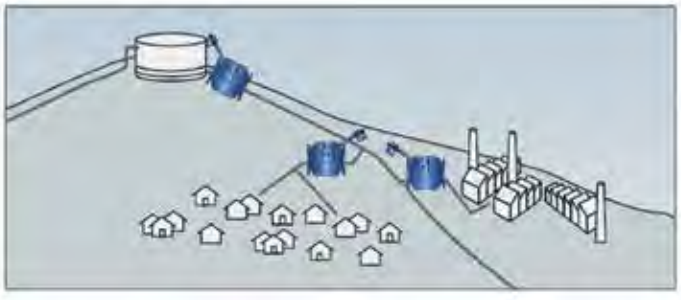
Quick Relief Valve & Turbine By-pass Valve

DVD Quick Relief Needle Valves are commonly used in water transmission lines to protect the pipeline from excessive pressures; or in hydro-electrical power plants as a Turbine By-pass Valve. In case of a sudden turbine or turbine inlet valve shut-down, pressure in the upstream of the turbine rises suddenly, damaging the system. Turbine By-pass Valves are used with a sensor or an automation system that is activating a solenoid valve on the control loop of the valve. As a result, the valve senses the sudden pressure rise and counter-weight of the valve drops, fully opening the valve to discharge the pressure wave. Valve opening and closing speed can be adjusted on the control loop and alarm signal can be received from the limit switch on the counter-weight. In order to close the valve back to normal, a signal should be received from the automation system that causes the small pump on the control loop to lift the counter-weight. In order to react to emergency conditions, manual closing hand pump can be found on the valve itself.



Burst Control Valve

DVD Burst Control Needle Valves are used with a hydraulic actuator including a lever and counter-weight design. In case of a pipeline burst, signal that is received from a sensor or an automation system actives the solenoid on the control loop, dropping the counter-weight on the valve. As a result, the valve closes drip tight, preventing flooding and pipeline emptying. Furthermore, in case the valve is installed in the outlet of a reservoir, it prevents emptying of the reservoir. Needle Valves have a very low headloss, therefore in fully open condition they do not create a big head loss. In order to open the valve again, a signal is sent to the small pump on the control loop and the valve opens slowly. In case of emergency conditions, one can set the valve to open condition by using the manual hand-pump on the control loop.



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PUMP CONTROL W/ HYDRAULIC ACTUATOR

APPLICATION

- Active check valve.
- Preventing slamming effect of sudden pump start or stop.

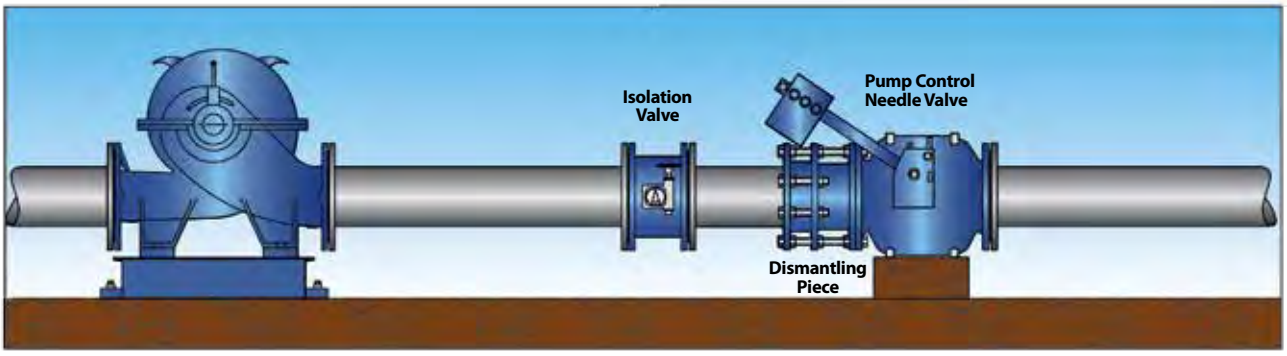
FEATURES

- Hydraulic lever & counterweight actuation.
- Quick, adjustable opening and closing speed.
- High cavitation resistance due to circular outlet at all disc positions.
- Low vibration and noise.
- High residual resistance.
- Mono-block body design.
- Linear body design allows straight flow and low head loss.
- Long life cycle with the replaceable sealing positioned at a hydraulically non-critical location.

CASE

Pump Control Valve

DVD Pump Control Needle Valves are installed in the downstream of pumps and are operated with an Electronic Control Unit, Hydraulic Pack and Lever & Counterweight. The valve operates in coordination with the pump and in case of sudden pump start & stop, it dampens, preventing the slamming effect of the pump. In case of an electricity failure, the counterweight drops, causing the valve to act like a damper check valve.



Electronic Control Unit

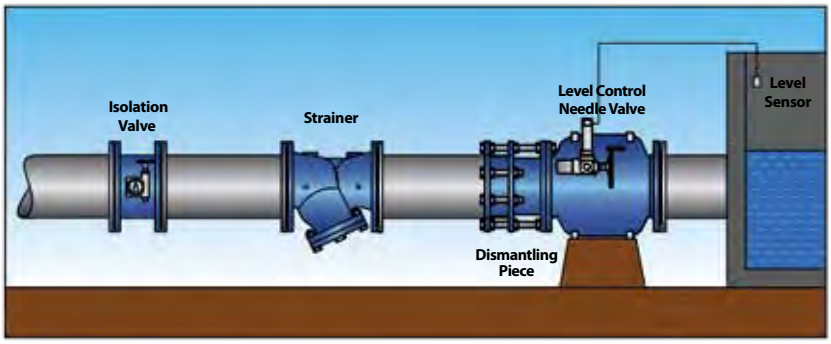
Electronic Control Unit makes the coordination of all system equipment in order to prevent slamming. The device communicates the interaction between the pump and the valve, thereby providing water to the network and stopping the water feed, in a controlled manner. As a result, no slamming occurs due to sudden pump start or stop.

LEVEL CONTROL
ON/OFF TYPE & MODULATING TYPE

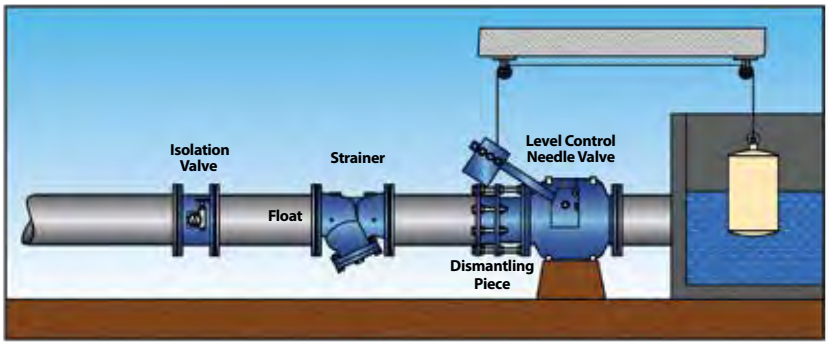
APPLICATION
• Reservoir filling.
• Reservoir discharge.

FEATURES
• Robust gearbox & electrical actuator or pulley system option.
• Adjustable regulation speed.
• High cavitation resistance due to circular outlet at all disc positions.
• Stable and precise level regulation capability.
• Low vibration and noise.
• High residual resistance.
• Mono-block body design.
• Linear body design allows straight flow and low head loss.
• Long life cycle with the replaceable sealing positioned at a hydraulically non-critical location.

CASE
Electrical Actuated Level Control Needle Valve
DVD Electrical Actuated Level Control Needle Valves are operating with an electronic level sensor and an actuator. The needle valve regulates open according to the level signal received from the sensor. The valve can be used for one set level modulating purpose or can be used for two (minimum & maximum threshold) set level on/off purpose. Especially in applications where the upstream pressure is high, needle valves are the perfect choice due to high cavitation resistance. Furthermore, they have more silent and less vibration regulation characteristics.



Level Control Needle Valve w/ Float Mechanism
In case power mains are not available on the site, Needle Valves can be used with a float mechanism that requires no electricity. The piston is connected to a lever & counterweight mechanism that is operating in coordination with the float mechanism. In case water level in the reservoir drops, float drops, causing the valve to regulate open. Likewise, as the water level rises, the valve regulates to close. According to the water level in the reservoir drops low, the needle valve piston opens further, causing faster filling of an empty reservoir. When the water level approaches to the set high threshold, the valve piston closes slowly, thereby slowing the filling speed and enabling non-slam closure.



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FLOW CONTROL
W/ ELECTRICAL ACTUATOR

APPLICATION

- Securing design parameters & flow rate distribution.
- Preventing pipeline emptying.
- Limiting excessive consumption.
- Protection from pump overload.

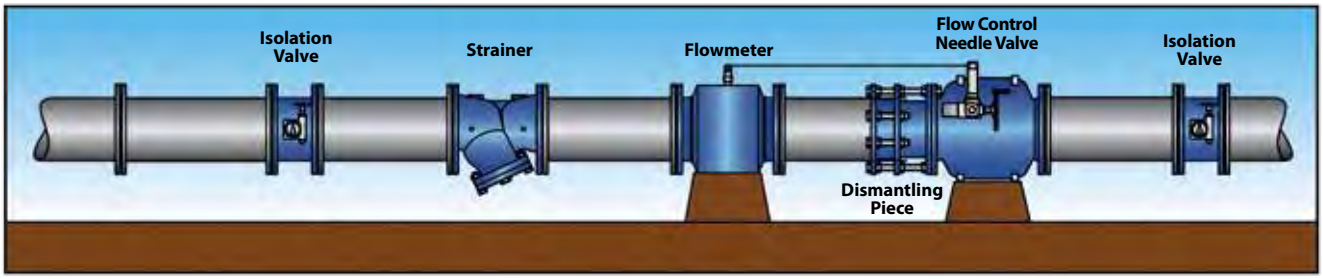
FEATURES

- Robust gearbox & electrical actuator.
- High cavitation resistance due to circular outlet at all disc positions.
- Stable and precise flowrate regulation capability.
- Low vibration and noise.
- High residual resistance.
- Mono-block body design.
- Linear body design allows straight flow and low head loss.
- Long life cycle with the replaceable sealing positioned at a hydraulically non-critical location.

CASE

Regulating Consumption in a Water Distribution Network

In case there is excessive consumption in a lateral line, flow rate on the main line can drop dramatically, causing other consumers to suffer from low flow. In order to prevent such a scenario, flow should be regulated in critical branches. DVD Electrical Actuated Flow Control Needle Valves are used to regulate the flow rate according to the flow data received from a flowmeter. Especially in large size valves, Needle Valves have higher kv values and lower head loss, making it the ideal choice for flow regulation.



ACCESSORIES

SLOTTED CYLINDER

Needle Valve sizing and disc selection should be done by DVD engineers for each project. Please consult DVD for proper Needle Valve selection. If excessive regulation conditions are present, standard disc can no longer be suitable for the application. For such applications, slotted cylinders are used to increase the cavitation resistance of the valve. Cavitation is formed due to sudden energy dissipation, and it can erode the valve body. For such conditions, stainless steel slotted cylinder is installed to the standard disc. Flow coming out of this cylinder dissipates in high velocities, causing micro-jets. These jets are guided by the cylinder to the center of the pipeline and are collided. Since this phenomenon occurs in the center of the pipeline, it does not make any damage to the body and these micro-jets come back to normal flow as a result of collision. One of the advantages of slotted cylinder is that it has larger orifices than cavitation cage. Therefore, they are more suitable to water with large residuals. Sizes and numbers of slots on the cylinder are determined by DVD engineers based on project data.

CAVITATION CAGE

Needle Valve sizing and disc selection should be done by DVD engineers for each project. Please consult DVD for proper Needle Valve selection. If excessive regulation conditions are present, standard disc can no longer be suitable for the application. For such applications, cavitation cages are used to increase the cavitation resistance of the valve. Cavitation is formed due to sudden energy dissipation and it can erode the valve body. For such conditions, stainless steel cavitation cage is installed to the standard disc. Flow coming out of this cage dissipates in high velocities, causing micro-jets. These jets are guided by the cylinder to the center of the pipeline and are collided. Since this phenomenon occurs in the center of the pipeline, it does not make any damage to the body and these micro-jets come back to normal flow as a result of collision. Sizes and numbers of holes on the cage are determined by DVD engineers based on project data.

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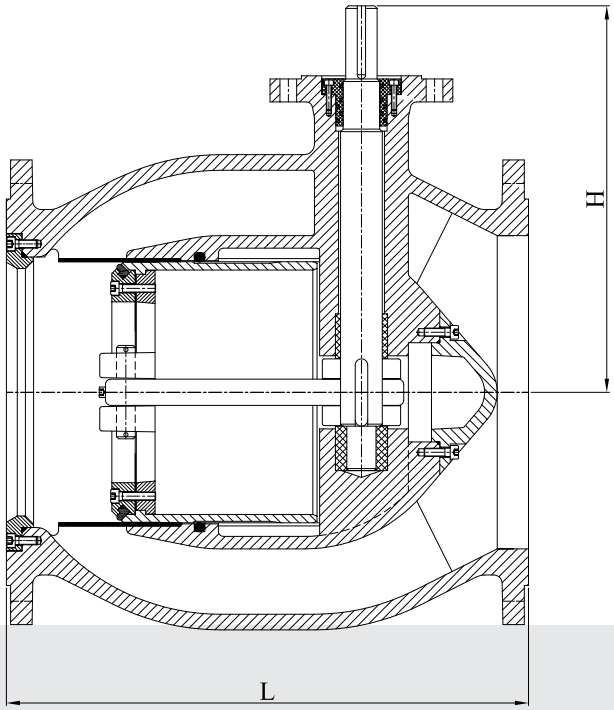
TECHNICAL DETAILS



Available Pressures
PN 10
PN 16
PN 25
PN 40
PN 63

Paint:
DN65 – 600 – Electrostatic Fusion Bonded Powder Epoxy Blue
DN700 - 1200 – Two Pack Liquid Epoxy Blue

Parts	Main Materials	Optional Materials
Body	Ductile Iron	Carbon Steel
Disc	SS304	SS316
Bearing	SS304	SS316
Hinge	SS304	SS316
Cylinder	SS304	SS316
Rings	SS304	SS316
Stem	X20Cr13	SS304, SS316
Nuts	Bronze	Brass, SS 304, SS 316
Seals	EPDM	NBR
Fasteners	SS304	SS 316
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

DIMENSIONS (mm)																			
DN	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**500**	**600**	**700**	**750**	**800**	**900**	**1000**	**1200**
H	140	140	155	155	193	228	260	300	330	400	475	503	580	610	650	715	780	985
L	280	280	300	300	350	400	450	500	550	600	750	900	1050	1125	1200	1350	1500	1800
Weight (Kg)	23	23	34	34	56	84	128	178	262	312	580	980	1480	1700	2040	2500	3200	5200

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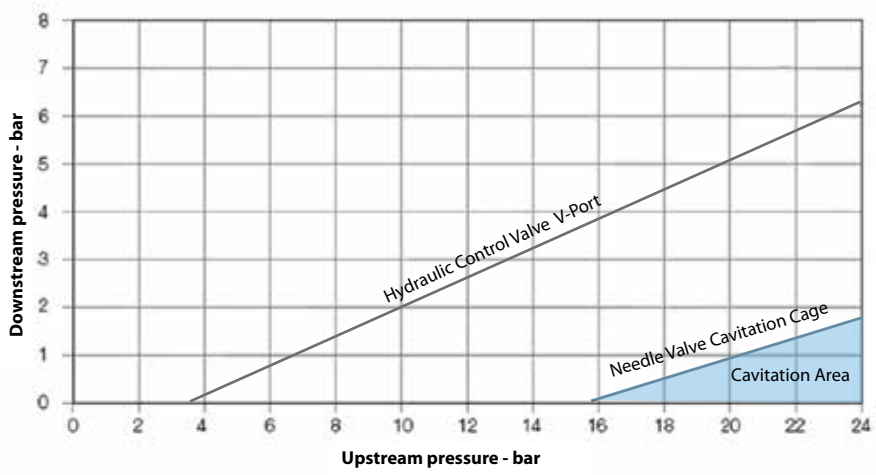
TECHNICAL DETAILS

CAVITATION GUIDE



FLOW CAPACITY (KV)

Opening	65	80	100	125	150	200	250	300	350	400	500	600	700	800	900	1000	1200
20%	13	15	20	25	50	95	180	250	310	375	1350	1775	2123	2450	2615	2750	3800
40%	33	36	50	56	155	290	425	650	750	850	2900	3440	4780	6100	6675	7225	10180
60%	65	70	105	122	275	600	770	1300	1520	1740	4285	5050	7085	9100	10165	11200	16225
80%	89	94	160	184	410	795	1090	1525	2060	2600	5210	6200	9360	12500	13800	15078	22600
Kv	110	114	210	250	500	950	1289	2076	2800	3495	5925	8060	11040	14000	16065	18100	30000

Valve flow coefficient, Kv or Cv $\quad Kv(Cv) = Q\sqrt{\frac{Gf}{\Delta P}}$

Where:

Kv = Valve flow coefficient (flow in m^3/h at 1bar Diff. Press.)
Cv = Valve flow coefficient (flow in gpm at Diff. Press. 1psi)
Q = Flow rate (m3/h ; gpm)
ΔP = Differential pressure (bar; psi)
Gf = Liquid specific gravity (Water=1.0)

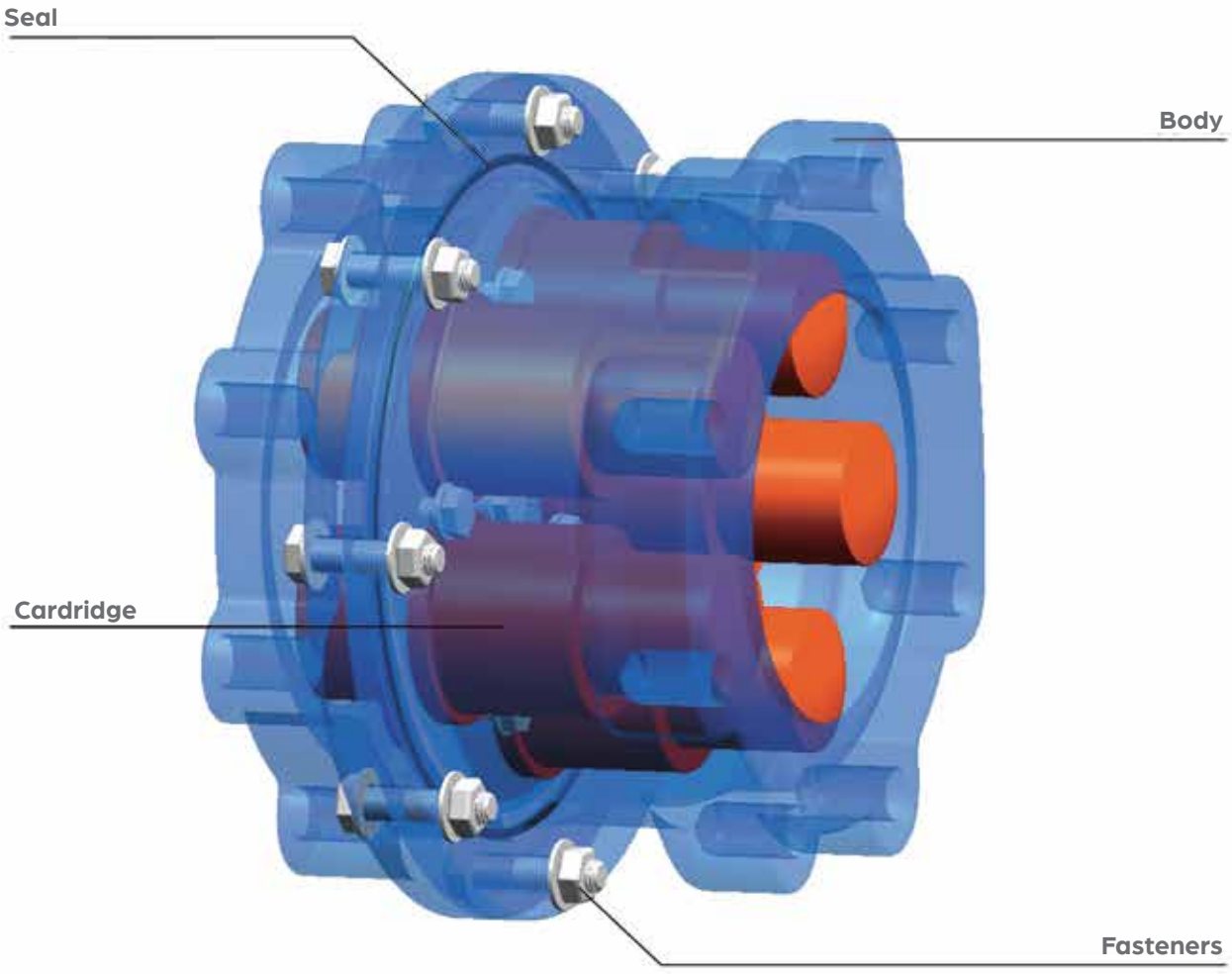
Cv = 1.155 Kv

Flow resistance or Head loss coefficient, $\quad K = \Delta H\sqrt{\frac{2g}{V^2}}$

Where:

K = Flow resistance or Head loss coefficient (dimensionless)
ΔH = Head loss (m ; feet)
V = Nominal size flow velocity (m /sec ; feet /sec.)
g = Acceleration of gravity (9.81 m/sec^2 ; 32.18 $feet/sec^2$)

DYNAMIC BALANCING VALVE



dvdvalves

DYNAMIC TYPE

Available Pressures
PN 16
PN 25

Paint:
DN50-250 -- Electrostatic Fusion Bonded Powder Epoxy Blue

Part	Main Materials	Optional Materials
Body	Ductile Iron	
Seal	EPDM	NBR
Fasteners (Ø50, 150, 200)	8:8 (Galv.)	SS304, SS316
Cartridge Body	POM (Poly Oxy Metheylene)	
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. Thermoset and Thermoplastic Coatings are available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

DIMENSIONS	50	65	80	100	125	150	200	250
CONNECTIONS	Threaded	Wafer						
CARTRIDGE QTY	2-M	1-B	1-B	3-B	3-B	5-B	9-B	11-B

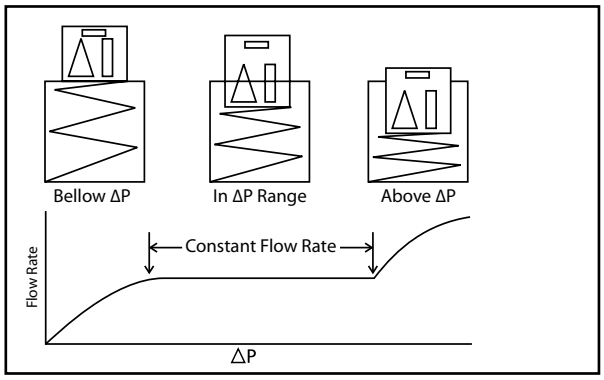
DYNAMIC TYPE

APPLICATION

Balancing is a very important aspect in HVAC systems. If the balancing of the system is not done correctly, distribution of flow to terminals becomes uneven. As a result, heating/cooling can not be achieved evenly in every terminal. To solve this issue, balancing valves are used. DVD Dynamic Balancing Valves provide constant flow in a determined differential pressure range in HVAC systems.

OPERATION

1. Differential pressure value drops below control range:
   a. The cartridge inside the valve opens fully due to the spring inside and obtains maximum orifice size. Therefore, cartridge affects flow as low as possible.
2. Differential pressure value is inside the control range:
   a. Pressure on the system pushes the spring.
   b. The head of the cartridge which has varying orifice goes inside the cartridge body and regulates the outlet size.
   c. Flow becomes stable in the specified value.
   d. When the pressure fluctuates in the control range, spring and cartridge head moves, changing orifice size and and kv value, causing flow to be stable.
3. Differential pressure value rises above the control range:
   a. Pressure pushes the spring fully, causing cartridge head to go inside the body.
   b. Due to the orifice size getting smaller, cartridge tries to decrease flow as much as possible.



PRESSURE FLUCTUATIONS

Static balancing valves are calibrated manually with a handwheel in a determined differential pressure. Therefore, in case of a demand change in the system, all system pressure is affected. As a result, static balancing valve hich is set in a constant differential pressure can not provide the demanded flow rate. On the other hand, dynamic balancing valves operate in a differential pressure range and always keep the flow constant in this range. Therefore, even if there is a change in system pressure, if it is inside the control range, valve orifice moves and keeps flow constant at all times.

LESS VALVES AND LOWER PRESSURE LOSS

In static system, a static balancing valve should be placed in every main header, riser, branch and terminal units. However in dynamic system, only one dynamic balancing valve is needed for each terminal. As a result, less valves are used in the system. Furthermore, energy saving from dynamic balancing valves is dramatic since less valves mean lower pressure loss.

EASY COMMISSIONING AND LOWER TOLERANCE

The commissioning stage of static balancing valves is a very hard and long taking process. Every valve should be commissioned manualy one by one, results should be checked and re-commissioning should be done if needed so. On the other hand, when dynamic balancing valves are installed on the system, they provide the necessary flow. They do not require any commissioning. Moreover, even if static balancing valves are commissioned correctly, they provide 20-25% accuracy on flow. However, in dynamic balancing valves accuracy is 5-10%.

PROJECT EXPANSIONS DO NOT REQUIRE EXTRA COMMISSIONING

In static system, stage by stage commissioning of projects with large number of terminal units will cause imbalance of the previously commissioned phases and rebalancing of the system is required on each stage. However, in dynamic system, stage by stage commissioning does not affect the previously started stages as the differential pressure variations will be taken care of each dynamic balancing valve.

DVD Dynamic Balancing Valves is designed from a ductile iron body and cartridges which are installed inside the body. The body is manufactured from optimum dimensions and weights in different sizes for easy installation. The cartridge is manufactured from POM body and SS316 stainless steel spring and varying orifice. In case differential pressure fluctuates, cartridge length changes, changing the orifice size and kv value. Therefore, the valve always provides constant flow in the differential pressure control range.

DYNAMIC BALANCING VALVE FLOW CARTRIDGES (MEDIUM)

FLOW			WHITE	BLUE	RED		BLACK	
l/h	l/s	GPM	15-85 kPa	20-380 kPa	55-380 kPa		55-480 kPa	
690	0.192	3.04	W 100					
790	0.219	3.48	W 105					
940	0.261	4.14		B 100				
1020	0.283	4.49	W 110					
1050	0.292	4.62			R 100			
1145	0.318	5.04		B 105				
1205	0.335	5.31	W115					
1260	0.350	5.55				O 100		
1320	0.367	5.81		B 110				
1350	0.375	5.94			R 105			
1400	0.389	6.16					A 100	
1442	0.401	6.35				O 105		
1543	0.429	6.79						G 100
1580	0.439	6.96	W 120					
1600	0.444	7.05					A 105	
1620	0.450	7.13		B 115				
1650	0.458	7.27	W 125					
1716	0.477	7.56						G 105
1770	0.492	7.79			R 110			
1825	0.507	8.04				O 110		
1875	0.521	8.26	W 130					
1935	0.538	8.52	W 135					
2020	0.561	8.89		B 120				
2080	0.578	9.16					A 110	
2100	0.583	9.25			R 115			
2145	0.596	9.45	W 140					
2180	0.606	9.60				O 115		
2230	0.619	9.82		B 125				
2280	0.633	10.04						G 110
2355	0.654	10.37	W 150					
2430	0.675	10.70			R 120			
2470	0.686	10.88					A 115	
2580	0.706	11.23		B 130				
2565	0.713	11.29	W 155					
2635	0.732	11.60			R 125			
2660	0.739	11.71		B 135				
2695	0.749	11.87						G115
2775	0.771	12.22		B 140				
2865	0.796	12.62	W160					
2900	0.807	12.79				O120		
2985	0.829	13.14				O125		
3015	0.838	13.28			R 130			
3173	0.881	13.97					A 120	
3240	0.900	14.27	W 170					
3270	0.908	14.40			R 135			
3300	0.917	14.53		B150				
3380	0.933	14.80					A 125	
3400	0.944	14.97				O130		
3470	0.964	15.28	W 175					
3480	0.967	15.32		B155				
3530	0.981	15.54				O135		G120
3570	0.992	15.72						
3640	1.011	16.03	W 180					
3700	1.028	16.29						G 125
3720	1.033	16.38		B 160				
3770	1.047	16.60			R 140			
3802	1.056	16.74					A 130	
3840	1.088	16.91	W 185					
3916	1.087	17.24				O140		
3950	1.097	17.39					A 135	
3985	1.107	17.55	W 190					
4080	1.133	17.97			R 150			
4180	1.161	18.41	W 195					
4193	1.165	18.46						G130
4210	1.169	18.54			R 155			
4247	1.180	18.70					A 140	
4280	1.189	18.85				O150		
4320	1.200	19.02						G135
4355	1.210	19.18	W 200					
4410	1.225	19.42		B 170				
4490	1.247	19.77			R 160			
4525	1.257	19.93				O 155		
4600	1.278	20.28		B 175				G 140
4670	1.297	20.56					A 150	
4700	1.306	20.70	W 205					
4800	1.333	21.14	W 210					
4910	1.364	21.62					A 155	
4950	1.375	21.80				O 160		
4980	1.383	21.93			R 170			
5040	1.400	22.19		B 180				
5090	1.414	22.41						G 150
5160	1.433	22.72		B 185				
5180	1.439	22.81			R 175			
5280	1.467	23.25	W 215					
5380	1.494	23.69		B 190				
5450	1.514	24.00						G 155
5525	1.535	24.33					A 160	
5590	1.553	24.61				O 170		
5620	1.561	24.75			R 180			
5660	1.572	24.92		B 195				
5760	1.600	25.36			R 185			
5875	1.632	25.87		B 200				
5925	1.646	26.09				O 175		
5975	1.660	26.31			R 193			
6025	1.674	26.53						G 160
6105	1.696	26.88				O 180		
6190	1.719	27.26					A 170	
6270	1.742	27.61			R 195			
6302	1.751	27.75				O 185		
6345	1.763	27.94		B 205				
6480	1.800	28.53		B 210				
6532	1.814	28.76			R 200			
6660	1.822	28.89				O 190		
6690	1.831	29.02					A 175	
6660	1.847	29.26					A 180	
6730	1.869	29.63						G 170
6850	1.903	30.16				O 195		
6950	1.931	30.60						
6990	1.942	30.78						G 175
7050	1.958	31.04			R 205		A 185	
7280	2.022	32.06						G 180

dvdvalves

TECHNICAL DETAILS

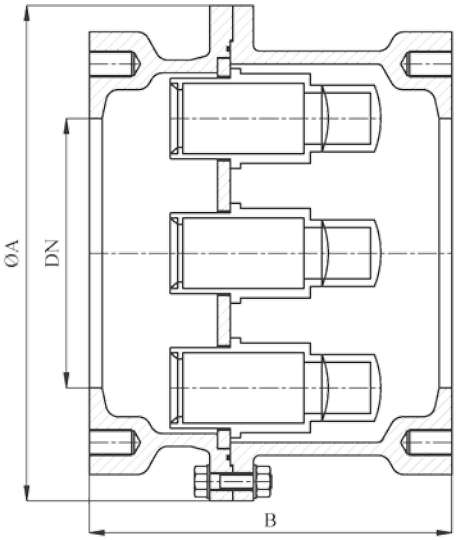
DYNAMIC BALANCING VALVE FLOW CARTRIDGES (BIG)

FLOW			WHITE	BLUE	RED
l/h	l/s	GPM	15-95 kPa	22-210 kPa	40-390 kPa
3200	0.89	14.09	W 1010		
3600	1.00	15.85	W 1020		
3925	1.09	17.28		B 1010	
4100	1.14	18.05	W 1030		
4500	1.25	19.82	W 1040	B 1020	
5000	1.39	22.02	W 1050		
5150	1.43	22.68		B 1030	
5300	1.47	23.34			R 1010
5450	1.51	24.00	W 1060		
5680	1.58	25.01		B 1040	
5910	1.64	26.02	W 1070		
6075	1.69	26.75			R 1020
6250	1.74	27.52		B 1050	
6350	1.76	27.96	W 1080		
6800	1.89	29.94	W 1090	B 1060	R 1030
7250	2.01	31.92	W 1100		
7400	2.06	32.58		B 1070	
7575	2.10	33.36			R 1 040
7750	2.15	34.13	W 1110		
7950	2.21	35.01		B 1080	
8200	2.28	36.11	W 1120		
8325	2.31	36.66			R 1050
8525	2.37	37.54		B 1090	
8650	2.40	38.09	W 1130		
9000	2.50	39.63	W 1140	B 1100	R 1060
9500	2.64	41.83	W 1150		
9650	2.68	42.49		B 1110	
9850	2.74	43.37			
10000	2.78	44.03	W 1160		
10250	2.85	45.13		B 1120	
10500	2.92	46.24	W 1170		
10650	2.96	46.90			R 1070
10800	3.00	47.56		B 1130	
10900	3.03	48.00	W 1180		
11250	3.13	49.54	W 1190	B 1140	R 1080
11800	3.28	51.96	W 1200		
11950	3.32	52.62		B 1150	
12150	3.38	53.50			R 1090
12300	3.42	54.16	W 1210		
12500	3.47	55.04		B 1160	
12750	3.54	56.14	W 1220		
12900	3.58	56.80			R 1100
13100	3.64	57.68		B 1170	
13300	3.69	58.56	W 1230		
13800	3.78	59.89	W 1240	B 1180	
14200	3.94	62.53		B 1190	
14400	4.00	63.41			R 1110
14800	4.11	65.17		B 1200	
15100	4.19	66.49			R 1120
15400	4.28	67.81		B 1210	
15900	4.42	70.01		B 1220	R 1130
16400	4.56	72.21		B 1230	
16850	4.63	73.32			R 1140
17000	4.72	74.86		B 1240	
17400	4.83	76.62			R 1150
18100	5.03	79.70			R 1160
18900	5.25	83.22			R 1170
19300	5.36	84.98			R 1180
19700	5.47	86.75			R 1190
20500	5.69	90.27			R 1200
21200	5.89	93.35			R 1210
21500	5.97	94.67			R 1220
21970	6.10	96.74			R 1230
22500	6.25	99.08			R 1240

DYNAMIC BALANCING VALVE FLOW CARTRIDGES (HIGH FLOW)

FLOW			WHITE	BLUE	RED
l/h	l/s	GPM	30-135 kPa	22-210 kPa	40-390 kPa
20450	5,6806	90,05	W 2010		
25000	6,9444	110,08	W 2020	B 2010	
29545	8,2069	130,10	W 2030		
30682	8,5228	135,10		B 2020	
36500	10,1389	160,72			
38000	10,5556	167,33			

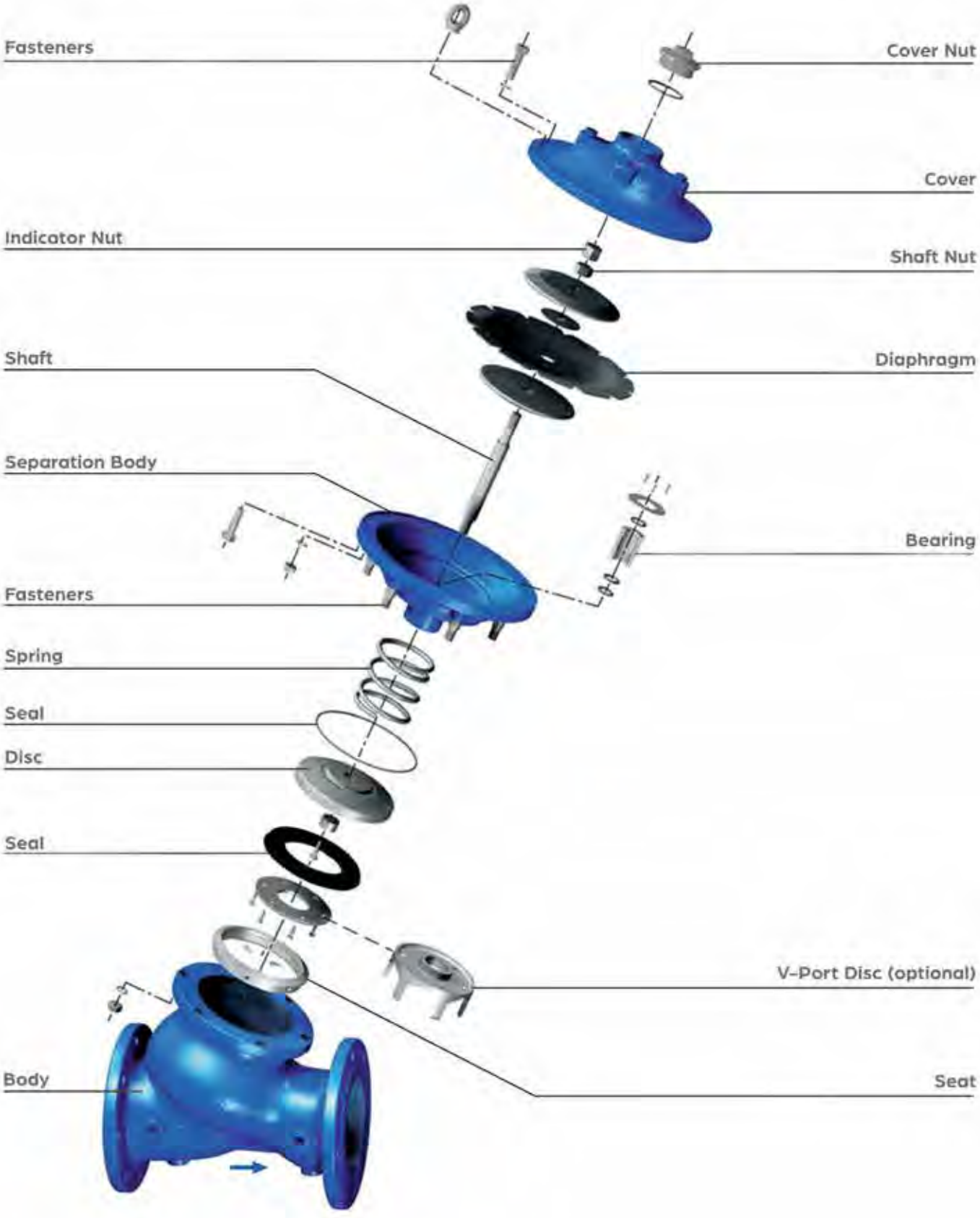
FLOW			WHITE	BLUE	RED
l/h	l/s	GPM	50-135 kPa		
28500	7,9167	125,50	W2025		
35000	9,7222	154,12	W2040		
42000	11,6667	184,94	W2050		



DIMENSIONS (mm)								
DN	50	65	80	100	125	150	200	250
A	161	118	118	223	186	285	345	337
B	190	170	170	210	210	195	283	205
Weight (Kg)	4.6	4.5	4.5	16	13	35	65	100

dvdvalves

HYDRAULIC CONTROL VALVE



dvdvalves

SOLENOID

APPLICATION
- Network management optimizing
- Pressure-zone isolating
- Burst excess-flow shut-off
- Reservoir overflow safety back-up
- Switching between "on-duty" valves
- Automatic refreshing of reservoirs

FEATURES
- Hydraulic operation requires no motor.
- Solenoid control allows low power consumption.
- Actuator assembly provides ease of maintenance.
- Built-in double chamber design provides moderate valve reaction & protected diaphragm.
- Y-type body design allows low head-loss & high Kv value.

DVD Solenoid Control Valves are electrically activated on/off valves that can be of critical importance in controlling flow in water systems. Electrical signal used to activate the solenoid can be sent from timers, relays, clocks, pressure, level or flow transmitters, etc.

PRESSURE REDUCING

APPLICATION
- Flow and leakage reduction
- Cavitation damage protection
- Throttling noise reduction
- Burst protection
- System maintenance savings

FEATURES
- Hydraulic operation requires no mains power.
- Actuator assembly provides ease of maintenance.
- Built-in double chamber design provides moderate valve reaction & protected diaphragm.
- Y-type body design allows low head-loss & high Kv value.
- Stable regulation capability with V-port disc.

Maintaining hydraulic balance in water transmission and distribution systems is crucial to system efficiency. DVD Pressure Reducing Valves help accomplish this by reducing high inlet pressure to a lower constant predetermined delivery pressure.

PRESSURE RELIEF / SUSTAINING

APPLICATION
- Prioritizing pressure zones
- Ensuring controlled pipeline fill-up
- Preventing pipeline emptying
- Pump overload & cavitation protection
- Safeguarding pump minimum flow
- Excessive line-pressure protection

FEATURES
- Hydraulic operation requires no mains power.
- Actuator assembly provides ease of maintenance.
- Built-in double chamber design provides moderate valve reaction & protected diaphragm.
- Y-type body design allows low head-loss & high Kv value.
- Stable regulation capability with V-port disc.

DVD Pressure Relief/Sustaining Valves protect pumps and water distribution systems from two extreme situations:
- When installed off-line, they relieve damaging excessive pressure.
- When installed in-line, they sustain minimum back-pressure thus prioritizing pressure zones, preventing line emptying & pump overload.

QUICK PRESSURE RELIEF

APPLICATION
- Eliminating momentary pressure peaks
- Visual indication of system failure
- Filtration system burst protection
- Thermal expansion over-pressure relief
- System maintenance savings

FEATURES
- Hydraulic operation requires no mains power.
- Actuator assembly provides ease of maintenance.
- Built-in double chamber design provides moderate valve reaction & protected diaphragm.
- Y-type body design allows low head-loss & high Kv value.
- Long term setting stability & minimal hysteresis.
- High relief capacity due to balanced seal disc.
- Manual testing capability without changing the settings.

DVD Quick Pressure Relief Valves protect pumps and water distribution systems from extreme situations by relieving the excessive pressure immediately. It opens fully in case of a sudden pressure peak and closes drip tight when the pressure level does not exceed the pre-set pressure level.

dvdvalves

SURGE ANTICIPATING

APPLICATION

- Eliminates surge for all pumping systems:
  - Booster & deep well, single & variable speed
- Eliminates surge for all distribution networks:
  - Municipal, hi-rise buildings, sewage, HVAC, irrigation
  - Difficult to maintain, remote locations, older systems

FEATURES

- Reliable & simple compared to surge air vessels.
- Hydraulic operation requires no mains power.
- Actuator assembly provides ease of maintenance.
- Built-in double chamber design provides moderate valve reaction & protected diaphragm.
- Y-type body design allows low head-loss & high Kv value.
- Long term setting stability & minimal hysteresis.
- High relief capacity due to balanced seal disc.
- Manual testing capability without changing the settings.

Abrupt pump stopping is followed by a pressure drop as the water column continues traveling along the line. The returning column hits the closed pump check valve, creating a high pressure surge wave, which travels at up to 4 Mach. Eliminating such surge requires anticipation and pre-action. DVD Surge Anticipating Valves react to the pressure drop, accepting the returning column while already open, thus eliminating the surge.

BOOSTER PUMP CONTROL (ACTIVE CHECK VALVE)

APPLICATION

- Isolation of pump start and stop effects from system, for:
  - Solitary single speed pumps
  - Battery of single speed pumps (add & switch)
  - Battery of variable speed pumps (add)

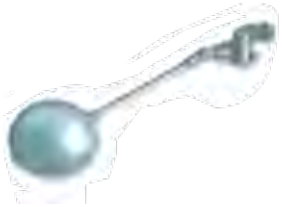
FEATURES

- Hydraulic operation requires no motor.
- Solenoid control allows low power consumption.
- Active spring loaded check valve.
- Actuator assembly provides ease of maintenance.
- Built-in double chamber design provides moderate valve reaction & protected diaphragm.
- Y-type body design allows low head-loss & high Kv value.

DVD Pump Control Valves protect pumps, pipelines, and other system components by isolating the pipeline from the sudden velocity changes associated with pump starting and stopping. The "Active Check Valve" logic of operation, is the method of pumping system control that prevents surges rather than eliminating them.

LEVEL CONTROL

APPLICATION
- Reservoir filling
- Low volume reservoirs
- Large surface area reservoirs



FEATURES
- Hydraulic operation requires no mains power.
- Modulating or on-off hydraulic float options.
- Easy access and maintenance possibility on floats.
- Small float design even in big size valves guarantees long term operation.
- Flexible hose connection from float to valve allows ease of installation.
- Actuator assembly provides ease of maintenance.
- Built-in double chamber design provides moderate valve reaction & protected diaphragm.
- Y-type body design allows low head-loss & high Kv value.

Float controlled valves combine the advantages of excellent hydraulic control valves with the simplicity of mechanical floats. The ability to separate the main valve from the float enables eliminating most of the installation and maintanance problems associated with mechanical float valves. DVD Level Control Valve with Modulating Horizontal Float is used to control reservoir filling to maintain constant water level regardless of fluctuating demand.

FLOW CONTROL

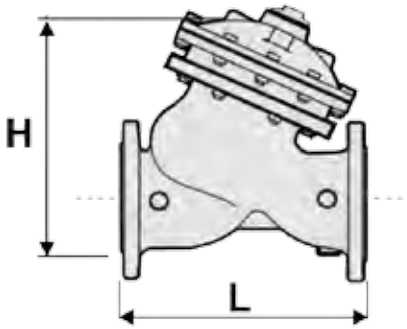
APPLICATION
- Securing design specifications
- Prioritizing main system over sub-system
- Limiting consumers' over-demand
- Controlling pipeline fill-rate
- Pump overload & cavitation protection

FEATURES
- Hydraulic operation requires no mains power.
- Actuator assembly provides ease of maintenance.
- Built-in double chamber design provides moderate valve reaction & protected diaphragm.
- Y-type body design allows low head-loss & high Kv value.
- Stable regulation capability with V-port disc.

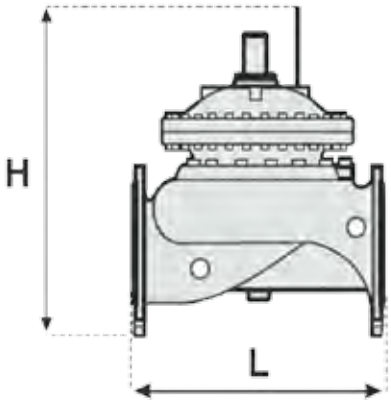
To ensure that meters, filters, pumps and other distribution equipment do not experience flows that exceed their operating capacity, many distribution systems employ modulating Flow Control Valves that maintain a pre-set maximum flow rate regardless of variations in demand or upstream/downstream pressure.

dvdvalves

TECHNICAL DETAILS



Ø40-500



Ø500-900

Available Pressures
PN 10
PN 16
PN 25
PN 40

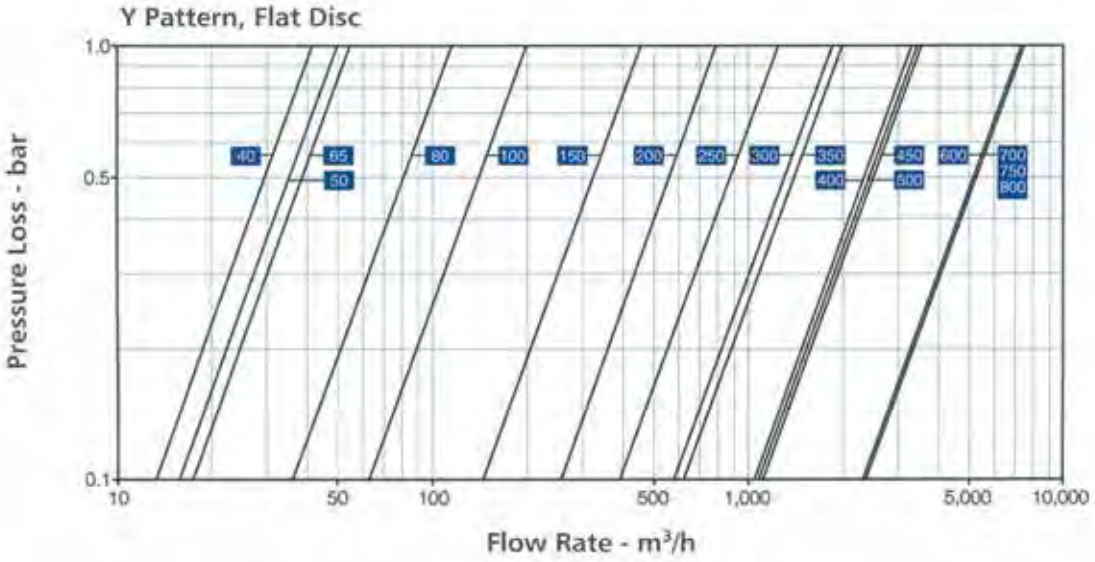
Paint:
DN 40-400 -- Electrostatic Fusion Bonded Powder Epoxy Blue
DN 450- 900 -- Two Pack Liquid Epoxy Blue

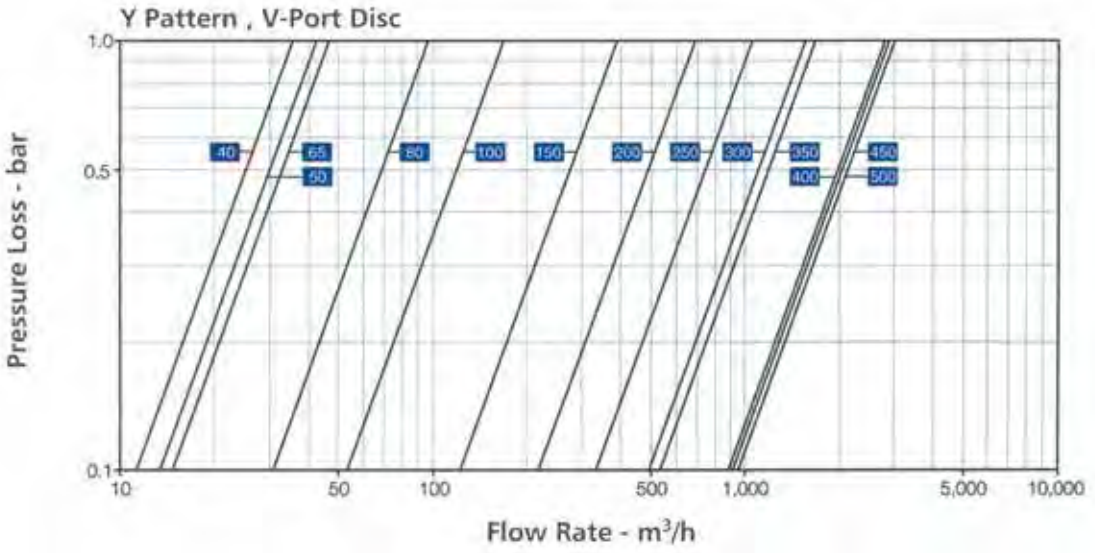
Parts	Main Materials	Optional Materials
Body Cover	Ductile Iron	NAB
Diaphragm	NBR	
Shaft	SS 303	
Nuts	Bronze	SS 304, SS 316
Bearings	Bronze	SS 304, SS 316
Seat	SS 304	Bronze, SS 316
Seals	EPDM	NBR
Fasteners	8.8 (gal.)	SS 304, SS 316
Spring	SS 302	
NOTES	Different Flange Drillings are available such as ISO, EN, ANSI etc. Standard Operating Temperature is -10°C to +80°C. All RAL Colors are available. Potable Water Certified Coating is available. DVD welcomes you for any other options and designs. All DVD products are MADE IN TURKEY.	

DIMENSIONS (mm)																			
DN		**40**	**50**	**65**	**80**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**	**700**	**750**	**800**	**900**
L	**PN 10/16**	205	210	222	250	320	415	500	605	725	733	990	1000	1100	1450	1650	1750	1850	1850
	PN 25	205	210	222	264	335	433	524	637	762	767	1024	1030	1136	1500	1650	1750	1850	1850
H	**PN 10/16**	239	244	257	305	366	492	584	724	840	866	1108	1127	1167	1965	1985	2015	2048	2095
	PN 25	239	244	257	314	378	508	602	742	859	893	1133	1165	1197					
Weight (Kg)	**PN 10/16**	9,1	10,6	13	22	37	75	125	217	370	381	846	945	962	3250	3700	3900	4100	4250
	PN 25	10	12,2	15	25	43	85	146	245	410	434	900	967	986	3500	3700	3900	4100	4250

TECHNICAL DETAILS

HEAD LOSS DIAGRAMS





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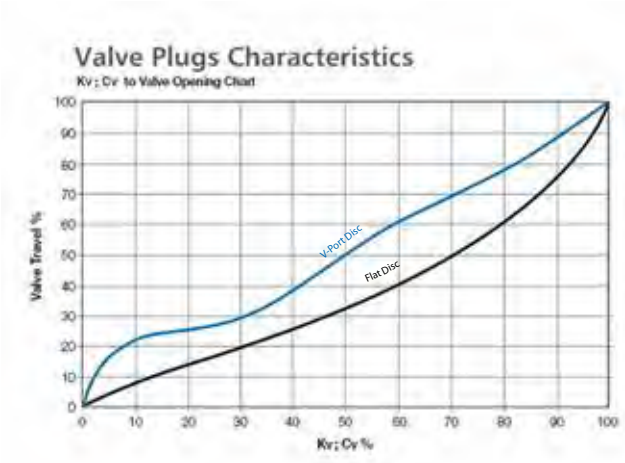
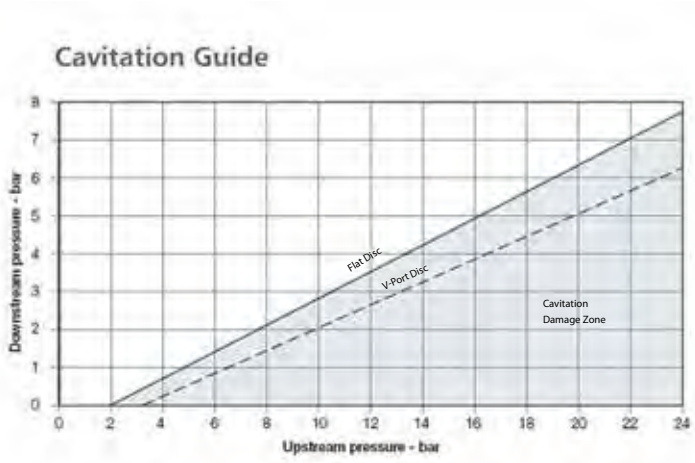
TECHNICAL DETAILS





Flow Capacity (Kv)

Y Type Flat Disc 	**mm**	**40**	**50**	**65**	**80**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**
	Kv	42	50	55	115	200	460	815	1250	1850	1990	3310	3430	3550
	K	2,3	3,9	9,2	4,9	3,9	3,7	3,8	3,9	3,7	5,9	3,7	5,5	7,8
	Leq-m	4,3	10,3	33,4	21,6	23	37,5	53,9	70	85,6	159,9	112,7	204,8	323,8
Y Type V-Port 	**mm**	**40**	**50**	**65**	**80**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**
	Kv	36	43	47	98	170	391	693	1063	1573	1692	3310	3430	3550
	K	3,1	5,4	12,8	6,7	5,4	5,2	5,2	5,4	5,1	8,2	5,1	7,6	10,8
	Leq-m	6	14,3	46,2	29,9	31,9	51,9	74,6	70	118,4	221,3	155,9	283,5	448,1
G Type Flat Disc 	**mm**	**600**	**700**	**750**	**800**	**900**								
	Kv	7375	7500	7500	7500	7500								
	K	3,8	6,7	8,8	11,4	17,1								
	Leq-m	188	390,1	550,9	760,7	1261								

Valve flow coefficient, Kv or Cv $Kv(Cv) = Q\sqrt{\frac{Gf}{\Delta P}}$

Where:

Kv = Valve flow coefficient (flow in m^3/h at 1bar Diff. Press.)

Cv = Valve flow coefficient (flow in gpm at Diff. Press. 1psi)

Q = Flow rate (m3/h ; gpm)

ΔP = Differential pressure (bar; psi)

Gf = Liquid specific gravity (Water=1.0)

Cv = 1.155 Kv

Flow resistance or Head loss coefficient, $K = \Delta H\sqrt{\frac{2g}{V^2}}$

Where:

K = Flow resistance or Head loss coefficient (dimensionless)

ΔH = Head loss (m ; feet)

V = Nominal size flow velocity (m /sec ; feet /sec.)

g = Acceleration of gravity (9.81 m/sec^2 ; 32.18 $feet/sec^2$)

Equivalent Pipe Length, Leq $Leq = Lk \cdot D$

Where:

Leq = Equivalent nominal pipe length (m ; feet)

Lk = Equivalent length coefficient for turbulent flow in clean commercial steel pipe (SCH 40)

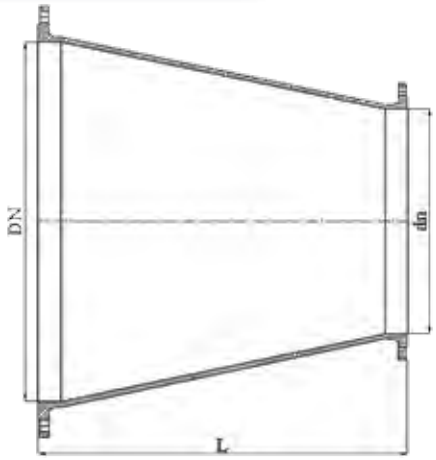
D = Nominal pipe diameter (m ; feet)

Note:

The leq values given are for general consideration only. Actual Leq may vary somewhat with each of the valve sizes.

dvdvalves

FLANGE REDUCER



FLANGED REDUCER					
NOMINAL DIAMETER		L LENGHT	WEIGHT (Kg)		
DN	dn	L	PN 10	PN 16	PN 25
900	500	1000	338	370	443
900	600	800	318	360	436
900	700	600	321	352	444
900	800	600	308	352	462
1000	600	1000	422	490	583
1000	700	800	396	442	551
1000	800	600	399	448	575
1000	900	600	376	438	577
1200	700	1260	711	777	908
1200	800	1070	688	758	908
1200	900	880	652	726	887
1200	1000	790	586	692	879
1200	1100	600	566	655	850
1400	800	1590	1034	1105	1308
1400	900	1405	998	1074	1288
1400	1000	1220	961	1052	1236
1400	1100	1035	914	1005	1253
1400	1200	850	817	947	1199
1600	1000	1650	1424	1547	1802
1600	1100	1460	1377	1502	1774
1600	1200	1280	1324	1468	1745
1600	1400	910	1103	1273	1602
1600	1500	725	1073	1250	1594
1800	1100	1895	1910	2057	2392
1800	1200	1710	1858	2024	1363
1800	1400	1340	1701	1870	2263
1800	1500	1155	1610	1810	2216
1800	1600	970	1436	1664	2081
2000	1200	2140	2512	2705	3068
2000	1400	1770	2358	2553	3059
2000	1500	1585	2268	2494	3014
2000	1600	1400	2176	2404	2934
2000	1800	1030	1800	2079	2671

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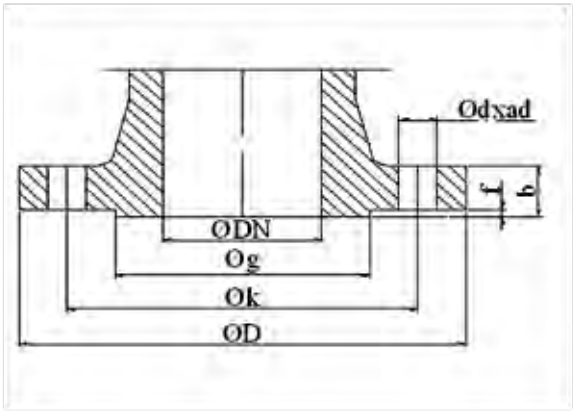
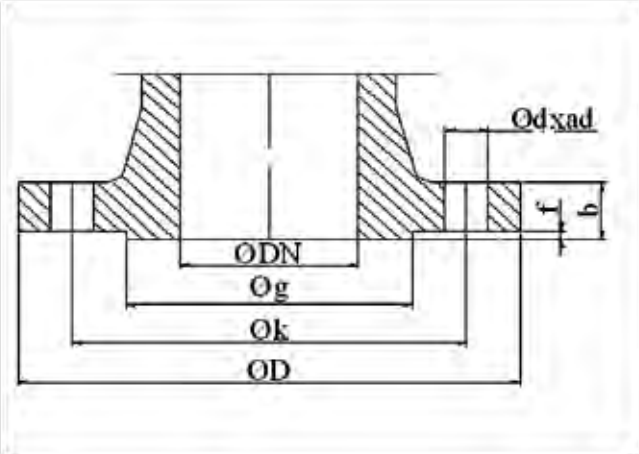
EN 1092/2
FLANGE STANDARD



FLANGE STANDARD EN 1092/2																				
DN		40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000
ISO PN 10	D	150	165	185	200	220	250	285	340	395	445	505	565	615	670	780	895	1015	1115	1230
	k	110	125	145	160	180	210	240	295	350	400	460	515	565	620	725	840	950	1050	1160
	g	84	99	118	132	156	184	211	266	319	370	429	480	530	582	682	794	901	1001	1112
	b	19	19	19	19	19	19	19	20	22	25	25	25	26	27	30	33	35	37.5	40
	f	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5
	dxad	19x4	19x4	19x4	19x8	19x8	19x8	23x8	23x8	23x12	23x12	23x16	28x16	28x20	28x20	31x20	31x24	34x24	34x28	37x28
ISO PN 16	D	150	165	185	200	220	250	285	340	405	460	520	580	640	715	840	910	1025	1125	1255
	k	110	125	145	160	180	210	240	295	355	410	470	525	585	650	770	840	950	1050	1170
	g	84	99	118	132	156	184	211	266	319	370	429	480	548	609	720	794	901	1001	1112
	b	19	19	19	19	19	19	19	20	22	25.0	27.0	28	30	32.0	36	40.0	43	47	50
	f	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5
	dxad	19x4	19x4	19x4	19x8	19x8	19x8	23x8	23x12	28x12	28x12	28x16	31x16	31x20	34x20	37x20	37x24	41x24	41x28	44x28
ISO PN 25	D	150	165	185	200	235	270	300	360	425	485	555	620	670	730	845	960	1085	1185	1320
	k	110	125	145	160	190	220	250	310	370	430	490	550	600	660	770	875	990	1090	1210
	g	84	99	118	132	156	184	211	274	330	389	448	503	548	609	720	820	928	1028	1140
	b	19	19	19	19	19	19	20	22	25.0	28.0	30	32	35.0	37.0	42	47.0	51	56	60
	f	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5
	dxad	19x4	19x4	19x8	19x8	23x8	28x8	28x8	28x12	31x12	31x16	34x16	37x16	37x20	37x20	41x20	44x24	50x24	50x28	57x28
ISO PN 40	D	150	165	185	200	235	270	300	375	450	515	580	660	685	755	890	-----	-----	-----	-----
	k	110	125	145	160	190	220	250	320	385	450	510	585	610	670	795	-----	-----	-----	-----
	g	84	99	118	132	156	184	211	284	345	409	465	535	560	615	735	-----	-----	-----	-----
	b	19	19	19	19	19	24.0	26	30	35.0	40.0	44	48	49	52	58	-----	-----	-----	-----
	f	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	-----	-----	-----	-----
	dxad	19x4	19x4	19x8	19x8	23x8	28x8	28x8	31x12	34x12	34x16	37x16	41x16	41x20	44x20	50x20	-----	-----	-----	-----

dvdvalves

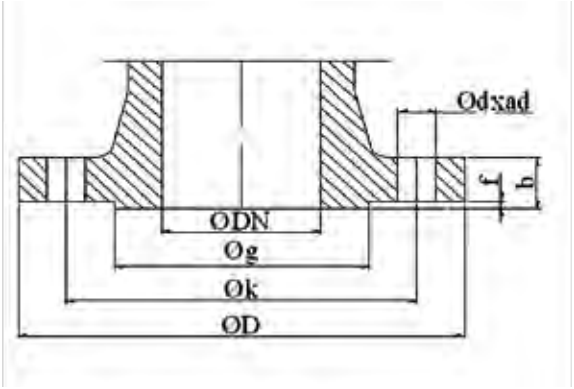
ISO 7005/2
FLANGE STANDARD



		FLANGE STANDARD ISO 7005/2																			
DN		40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000
ISO PN 10	D	150	165	185	200	220	250	285	340	395	445	505	565	615	670	780	895	1015	1115	1230
	k	110	125	145	160	180	210	240	295	350	400	460	515	565	620	725	840	950	1050	1160
	g	84	99	118	132	156	184	211	266	319	370	429	480	530	582	682	794	901	1001	1112
	b	19	19	19	19	19	19	19	20	22	25	25	25	26	27	30	33	35	38	40
	f	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5
	dxad	19x4	19x4	19x4	19x8	19x8	19x8	23x8	23x8	23x12	23x12	23x16	28x16	28x20	28x20	31x20	31x24	34x24	34x28	37x28
ISO PN 16	D	150	165	185	200	220	250	285	340	405	460	520	580	640	715	840	910	1025	1125	1255
	k	110	125	145	160	180	210	240	295	355	410	470	525	585	650	770	840	950	1050	1170
	g	84	99	118	132	156	184	211	266	319	370	429	480	548	609	720	794	901	1001	1112
	b	19	19	19	19	19	19	19	20	22	25	27	28	30	32	36	40	43	47	50
	f	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5
	dxad	19x4	19x4	19x4	19x8	19x8	19x8	23x8	23x12	28x12	28x12	28x16	31x16	31x20	34x20	37x20	37x24	40x24	40x28	43x28
ISO PN 25	D	150	165	185	200	235	270	300	360	425	485	555	620	670	730	845	960	1085	1185	1320
	k	110	125	145	160	190	220	250	310	370	430	490	550	600	660	770	875	990	1090	1210
	g	84	99	118	132	156	184	211	274	330	389	448	503	548	609	720	820	928	1028	1140
	b	19	19	19	19	19	19	20	22	25	28	30	32	35	37	42	47	51	56	60
	f	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5
	dxad	19x4	19x4	19x8	19x8	23x8	28x8	28x8	28x12	31x12	31x16	34x16	37x16	37x20	37x20	40x20	43x24	49x24	49x28	56x28
ISO PN 40	D	150	165	185	200	235	270	300	375	450	515	580	660	685	755	890	-----	-----	-----	-----
	k	110	125	145	160	190	220	250	320	385	450	510	585	610	670	795	-----	-----	-----	-----
	g	84	99	118	132	156	184	211	284	345	409	465	535	560	615	735	-----	-----	-----	-----
	b	19	19	19	19	19	24	26	30	35	40	44	48	49	52	58	-----	-----	-----	-----
	f	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	-----	-----	-----	-----
	dxad	19x4	19x4	19x8	19x8	23x8	28x8	28x8	31x12	34x12	34x16	37x16	40x16	40x20	43x20	49x20	-----	-----	-----	-----

dvdvalves

BS 10–E ANSI150 ANSI300 FLANGE STANDARD



FLANGE STANDARD BS 10-E																				
DN	40	50	65	80	100	125	150	175	200	250	300	350	400	450	500	600	700	800	900	1000
D	150	165	185	200	220	250	285	16	340	395	455	527	578	641	705	826	908	997	1175	1257
k	98	114	127	146	178	210	235	260	356	356	408	470	521	584	641	755	845	927	1092	1175
g	75	85	100	120	150	185	205	230	320	32	370	435	485	550	605	710	800	885	1050	1120
b	18	20	20	22	24	26	26	26	28	28	28	30	32	32	34	36	40	44	46	50
f	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5	5	5	5	5
dxad	14X4	18X4	18X4	18X4	18X8	18X8	22X8	22X8	22X12	22x12	26x12	26x12	26x12	26x16	26x16	33x16	33x20	33x20	33x24	39x24

FLANGE STANDARD ANSI CLASS 150														
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
D	152	178	191	229	254	279	343	406	483	533	597	635	699	813
k	121	140	152	191	216	241	298	362	432	476	540	578	635	749
g	92	105	127	157	186	216	270	324	381	413	470	533	584	692
b	19	23	24	24	24	25	28	30	32	35	36	40	43	48
f	2	2	2	2	2	2	2	2	2	2	2	2	2	2
dxad	19X4	19X4	19X4	22X8	22X8	22X8	22X8	25X12	25X12	29X12	29X16	32X16	32X20	35X20

FLANGE STANDARD ANSI CLASS 300														
DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
D	165	191	210	254	279	318	381	445	521	584	648	711	775	914
k	127	149	168	200	235	270	330	387	451	514	572	629	686	813
g	92	105	127	157	186	216	270	324	381	413	470	533	584	692
b	19	23	24	24	24	25	28	30	32	35	36	40	43	48
f	2	2	2	2	2	2	2	2	2	2	2	2	2	2
dxad	19x8	22x8	22x8	22x8	22x8	22x12	22x12	29x16	32x16	32x20	35x20	35x24	35x24	41x24

dvdvalves

STANDARD COMPARISON TABLE

DESCRIPTION	DIN / BS STANDARD	TS STANDARD	EN STANDARD	ACRONYM
Cast Iron	GG 25	TS 552 EN 1561	EN 1561	EN-GJL-250
Ductile Iron	GGG 40	TS 526 EN 1563	EN 1563	EN-GJS-400
Brass	MS 58	TS EN 12164	EN 12164	CuZn39Pb3 (Ms 58)
Bronze	Rg5	TS EN 1982	EN 1982	CuSn5ZnPb (Rg 5)
Stainles Steel	X 20 Cr 13	TS EN 100088-3	EN 100088-3	X 20 Cr 13
Stainles Steel	SS 304	TS EN 100088-3	EN 100088-3	X 5 Cr Ni 18-10
Stainles Steel	SS 316	TS EN 100088-3	EN 100088-3	X 5 Cr Ni Mo 17-12-2
Rubber		TS 2355		
Valve Flanges		TS EN 1092-2	EN 1092-2 ISO 7005-2 BS 4504	
Valve L Length	DIN 3202-F4	TS EN 558-1	EN 558-1	Basic Series= 14
	DIN 3202-F5	TS EN 558-1	EN 558-1	Basic Series = 15
	DIN 3202-F6	TS EN 558-1	EN 558-1	Basic Series= 48
	BS 5163	TS EN 558-1	EN 558-1	Basic Series= 3
	BS 5153	TS EN 558-1	EN 558-1	Basic Series= 10
Valve Tests		TS EN 12266-1	EN 12266-1	
Additional Tests		TS EN 12266-2	EN 12266-2	
Valve Markings		TS EN 19	EN 19	
Gate Valve Standards		TS EN 1171	EN 1171	
Fire Hydrant Standards		TS EN 14384 & TS EN 14339	EN 1384 & EN 14339	
Irrigation Hydrant Standards		TS EN 14267	EN 14267	