



belven®



*Let's move the medium!*

**check valves / gate valves /  
strainers**

# introducing belven

Nearly thirty years ago, Belgium Ventiel was founded as a sales and storage company for HVAC and plumbing valves. Later on it grew and widened its range into valves for industrial use, for water treatment plants and so on. From 1981 onwards, the company started with its own production of high quality valves. As quality is considered top priority for the company, the ISO9000 certificate was obtained in 1996 and the PED 97/23EC certificate in 2003. Producing high quality valves at a correct price is the most important challenge for the company. It surely has achieved its goal as Belgium Ventiel raised quickly to the European top level. Nowadays the company is ready to serve all markets with its quarterturn and multturn valves. Even high demanding applications and corrosive media can be approached thanks to the special coating of the valves.

Our R & D department continuously strives for product upgrades and innovations. The strainers with manometer connection facilitate pressure drop detection in your system. All kinds of check valves and gate valves are tossed and turned to seek for improvement.

In 2008, after 28 years, Belgium Ventiel changed its name into Belven. A little shorter but more dynamic: a new exciting era had started. ***Belven : your partner for valves!***

## Mission

Belven is a family company, specialised in the production and sales of quarterturn valves. Belven wants to put its brand name on the globe by means of geographical expansion.

Belven focuses on active partnership with customers and suppliers and wants to help realise the success of its partners by continuous dialogue and technological innovation.

Belven wants to develop a climate of active partnership with its employees, in which everyone can develop and support in an enthusiastic way to realise its mission.

## Strategy

Belven has an offensive eye on innovation, quality of production and sales. Focused markets are being approached via two sales channels: International Distribution Department (Distribution) and Business Development Department (Project).

As a growing marketing-focused company, Belven aims for maintenance and expansion of the existing sales web. Combined with geographical growth through the above mentioned departments, Belven strengthens its basis and builds up on a durable way and with respect for its environment towards a strong future.

Belven is a privately owned family company which is financially fully self supporting. Partnerships with cooperators, customers and suppliers are part of the long term vision and result in a win/win situation for all parties.

***Being a family company, Belven represents a number of important family values which are being carried out both internally to and by the employees and externally towards customers and agents. Stability, flexibility, trust, loyalty, respect, positivism, keeping an eye on the future. These values are guidelines for the complete conduct and organisation of Belven and are handled with care as in each family.***



Geert Van Mechelen - Managing Director Belven



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# standard codes

## APPLICABLE STANDARDS (NON LIMITATIVE)

ANSI - American National Standards Institute		
ANSI	B16.10	Face-to-face and end-to-end dimensions of valves
ANSI	B16.34	Valves - flanged, threaded and welded ends
API - American Petroleum Institute		
API	598	Valve Inspection and Test
API	6D	Specification for pipeline valves
BS - British Standard		
BS	5146	Specification for pressure testing requirements for general purpose valves
BS	6755	Specification for production pressure testing requirements
DIN - Deutsches Institut für Normung		
DIN	1690	Technical delivery conditions for castings made from metallic materials
DIN	1691	Cast iron
DIN	1693	Nodular iron
DIN	2501	Flanges - connecting dimensions
DIN	3202	Face-to-face and centre-to-face dimensions - Flanged valves
DIN	3840	Valve bodies, strength calculation in respect of internal pressure
ISO - International Organisation for Standardisation		
ISO	2081	Metallic coatings, electroplated coatings of zinc on iron or steel
ISO	5208	Industrial valves - pressure testing for valves
ISO	5752	Metal valves for use in flanged pipe systems. Face-to-face and centre-to-face dimensions
ISO	7005	Metallic flanges
ISO	7268	Pipe components, definition of nominal pressure
EN - European Norm		
EN	19	Industrial valves - Marking of metallic valves
EN	558	Industrial valves - Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems
EN	1092	PN designation, flanges and their joint. Circular flanges for pipes, valves, fittings and accessories
EN	1503	Materials for bodies, bonnets and covers
EN	1561	Founding. Grey cast irons
EN	1759	Class designation, flanges and their joint. Circular flanges for pipes, valves, fittings and accessories
EN	6708	Pipework components - definition and selection of DN (nominal size)
EN	10204	Metallic products - Types of inspection documents

## CHECK VALVES, GATE VALVES & STRAINERS CERTIFIED



ISO 9001:2000 certified (SGS)  
Quality Management System  
Certified since 1996



PED 97/23/EC (TÜV Süd Deutschland - CE0036)  
Pressure Equipment Directive  
According to Module H (full quality assurance)



Conform specification AQUAFIN  
BV41 - BV49 - BV50 - BV51

# overview products

## CHECK VALVES

BV36



BV38



BV39



BV40



BV41



## (KNIFE) GATE VALVES

BV49



BV50



## DISMANTLING JOINTS

BV51

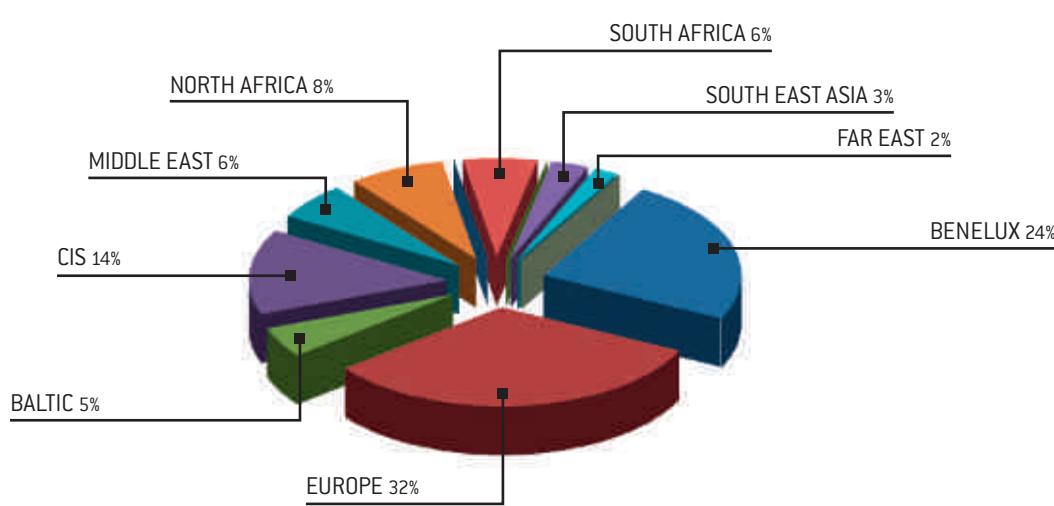
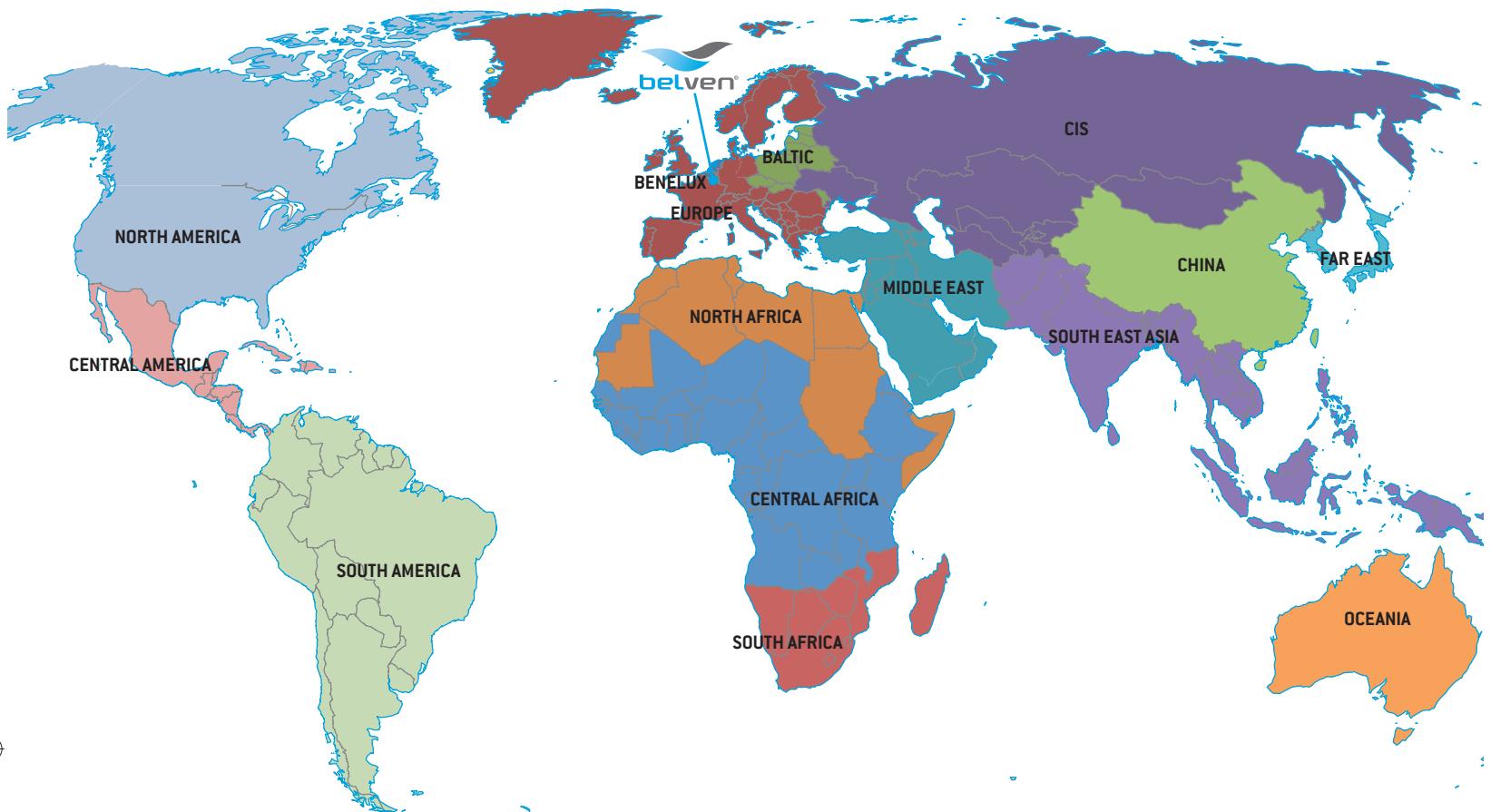


BV56

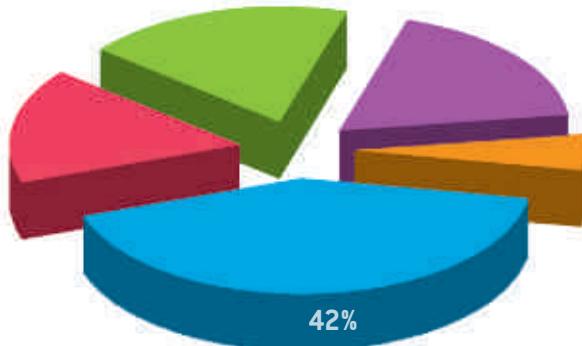


## STRAINERS



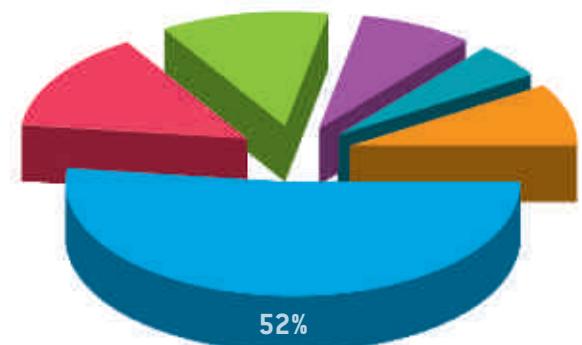


check valves / gate valves / strainers

**MARKETS**

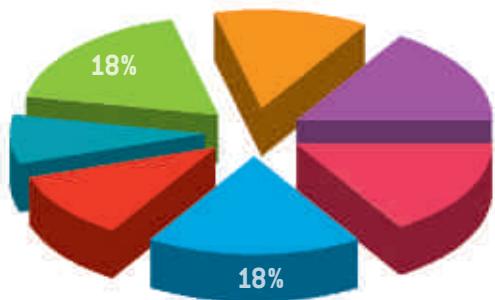
- CONSTRUCTION & BUILDINGS 42%
- DISTRICT ENERGY 19%
- WATER TREATMENT 18%
- PROCESS INDUSTRY 16%
- TANK STORAGE 5%

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**PRODUCTS / MEDIUM**

- WATER & AIR 52%
- CHEMICALS 14%
- MINERALS 12%
- GRANULATES 9%
- POWDER 8%
- OIL & GAS 5%

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**OUR CUSTOMERS / CLIENTS**

- INDUSTRIAL ENDUSERS 18%
- OEM 18%
- CONTRACTORS & MAINTENANCE 16%
- PRINCIPALS 16%
- GOVERNMENT, AUTHORITY & AGENCIES 13%
- ENGINEERING COMPANIES 11%
- CONSULTANTS 8%

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# BV 36

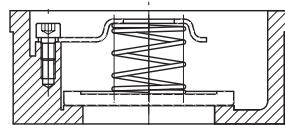
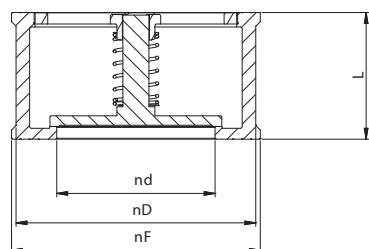


## MATERIAL

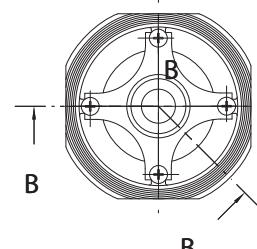
BV36 - XX XX X

Body		
Cast steel	45	A216 WCB, Zn plated
Stainless steel	66	CF8M
Disc		
Cast steel	45	A216 WCB, Zn plated
Stainless steel	66	CF8M
Seat		
EPDM	E	
NBR	B	
FKM/FPM	V	
PTFE	T	
METAL	M	

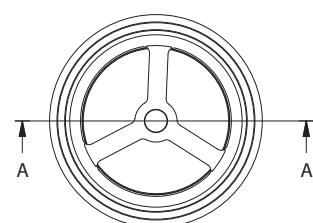
## DIMENSIONS



DN 15 - DN 100



DN 125 - DN 300



DN	NPS	PN40			
		D	d	F	L
15	1/2	43	15	53	16
20	3/4	53	20	63	19
25	1	63	25	73	22
32	1 1/4	75	30	84	28
40	1 1/2	86	38	94	32
50	2	95	47	107	40
65	2 1/2	115	62	126	46
80	3	131	77	145	50
100	4	150	96	164	60
125	5	180	119	190	90
150	6	209	141	219	106
200	8	272	190	282	140
250	10	317	225	317	145
300	12	369	280	380	160
	mm   inches				Dimensions in mm

all dimensions are subject to revision without prior notice

# BV 38

## DESIGN

Belven has developed 2 designs : one in cast iron with 4 centre holes and one in cast steel or stainless steel with a center eye, equal to design of BV39 (= springloaded)



## MATERIAL

BV38 - XX XX X

Body		
Alu-Bronze	13	ASTM B148 C95400
Bronze	14	CuSn12
Cast iron	23	GG25 Epoxy coated
Cast steel	45	A216 WCB Zn plated
Stainless steel	66	CF8M

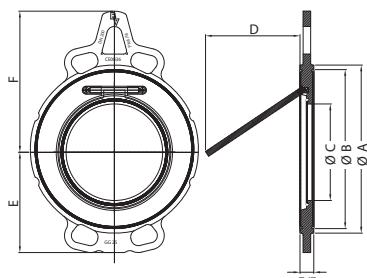
  

Disc		
Alu-Bronze	13	ASTM B148 C95400
Bronze	14	CuSn12
Cast steel	45	A216 WCB Zn plated
Stainless steel	66	CF8M

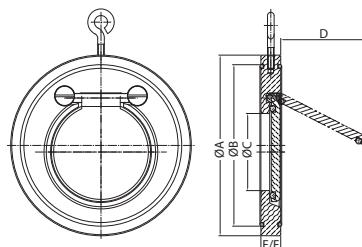
Seat		
EPDM	E	
NBR	B	
FKM/FPM	V	
PTFE	T	
METAL	M	

## DIMENSIONS



DN	NPS	Cast Iron					
		A	B	C	D	E	F
50	2	99	87	32	44	65	130
65	2 1/2	118	107	40	52	72	140
80	3	132	119	54	62	94	150
100	4	158	147	70	78	108	162
125	5	184	173	92	95	120	175
150	6	215	198	112	114	135	188
200	8	265	254	154	153	165	220
250	10	319	308	200	195	202	250
300	12	370	350	240	229	235	288

Dimensions in mm



DN	NPS	Cast Steel or Stainless Steel						F/F
		PN 10	PN 16	A	A	B	C	
32	1 1/4			85	59	18	22	15
40	1 1/2			95	72	22	25	16
50	2			109	86	32	37	14
65	2 1/2			129	109	40	50	14
80	3			144	119	54	61	14
100	4			164	146	70	77	18
125	5			195	173	92	98	18
150	6			220	197	112	120	20
200	8			275	255	154	160	22
250	10			330	312	192	190	26
300	12			380	386	227	220	32
350	14			440	446	216	266	38
400	16			491	499	467	310	44
450	18			541	558	520	350	52
500	20			596	621	550	400	58
600	24			698	738	660	486	62

Dimensions in mm

all dimensions are subject to revision without prior notice

# BV 39 springloaded



## MATERIAL

BV39 - XX XX X

Body		
Alu-Bronze	13	ASTM B148 C95400
Bronze	14	CuSn12
Cast steel	45	A216 WCB Zn plated
Stainless steel	66	CF8M

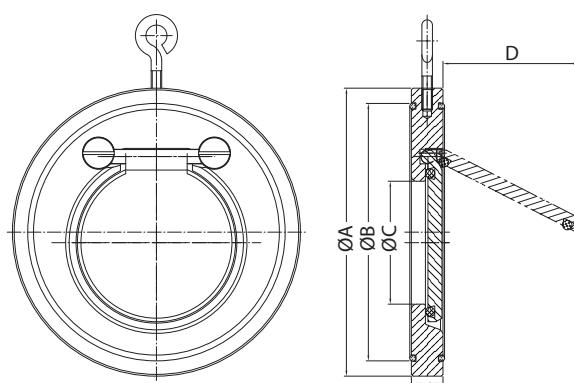
  

Disc		
Alu-Bronze	13	ASTM B148 C95400
Bronze	14	CuSn12
Cast steel	45	A216 WCB Zn plated
Stainless steel	66	CF8M

Seat		
EPDM	E	
NBR	B	
FKM/FPM	V	
PTFE	T	
METAL	M	

## DIMENSIONS



DN	NPS	PN 10		PN 16		F/F
		A	A	B	C	
32	1 1/4		85	59	18	22
40	1 1/2		95	72	22	25
50	2		109	86	32	37
65	2 1/2		129	109	40	50
80	3		144	119	54	61
100	4		164	146	70	77
125	5		195	173	92	98
150	6		220	197	112	120
200	8		275	255	154	160
250	10	330	331	312	192	190
300	12	380	386	363	227	220
350	14	440	446	416	266	250
400	16	491	499	467	310	290
450	18	541	558	520	350	340
500	20	596	621	550	400	390
600	24	698	738	660	486	470
		mm	inches	Dimensions in mm ; U/R = Upon Request		

all dimensions are subject to revision without prior notice

# BV 40

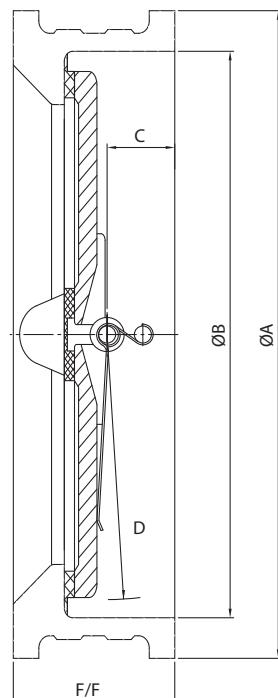
## MATERIAL

BV40 - XX XX X

Body		
Alu-Bronze	13	ASTM B148 C95400
Ductile iron	24	GGG40 Epoxy coated
Stainless steel	66	CF8M
Plate		
Alu-Bronze	13	ASTM B148 C95400
Ductile iron	25	GGG40 Nickel plated
Stainless steel	66	CF8M
Seat		
EPDM	E	
NBR	B	
FKM/FPM	V	
METAL	M	



## DIMENSIONS



DN	NPS	PN 10		PN 16		F/F
		A	A	B	C	
50	2		107	65	19	29
65	2 1/2		127	80	20	36
80	3		142	94	28	43
100	4		162	117	27	53
125	5		192	145	30	66
150	6		218	170	31	79
200	8		273	224	33	104
250	10		328	265	50	127
300	12	378	383	310	43	148
350	14	438	444	360	45	172
400	16	489	495	410	52	197
450	18	539	555	450	58	218
500	20	594	617	505	58	241
600	24	695	734	624	73	295
		mm	inches	Dimensions in mm		

all dimensions are subject to revision without prior notice

# BV 41



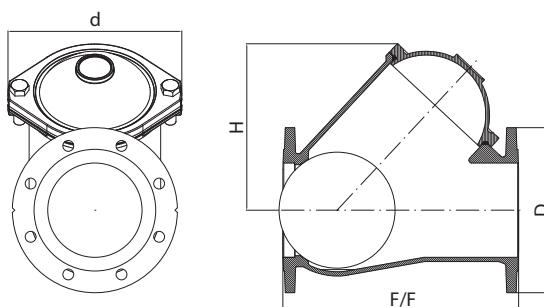
## MATERIAL

BV41 - XX XX X

Body (*)		
Cast iron	28	GG25 Epoxy coated
Ductile iron	28	GGG40 Epoxy coated
Ball (*)		
Phenolic resin	10	Phenolic resin
Aluminium / nitrile	10	ALU + NBR coated
Ductile iron / nitrile	10	GGG40 + NBR coated
Polyurethane	10	PU
Seat		
NBR	B	

(\*) different materials depending size

## DIMENSIONS



DN	NPS	PN 10 PN 16 A 150				
		H	D	D	d	F/F
40	1 1/2	90		150	120	180
50	2	115		165	140	200
65	2 1/2	135		185	155	240
80	3	160		200	185	260
100	4	190		226	220	300
125	5	222		253	255	350
150	6	268		285	290	400
200	8	335		342	370	500
250	10	420		403	380	600
300	12	495	445	455	483	445
350	14	580	505	520	533	520
400	16	730	565	580	620	712
500	20	900	670	715	699	772
<b>mm</b>		<b>inches</b>				

Dimensions in mm

all dimensions are subject to revision without prior notice

# BV 49

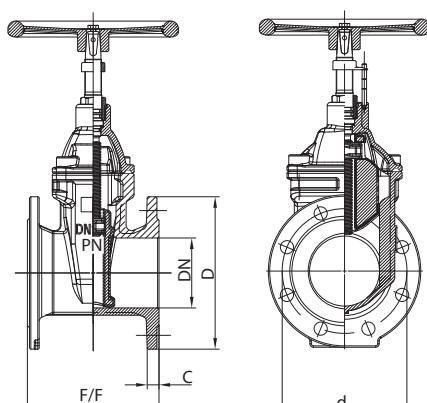
## MATERIAL

BV49 - XX XX X

Body		
Ductile iron	34	GGG50 Epoxy coated
Gate		
Ductile iron	34	GGG50 Epoxy coated
Gate bonded with		
EPDM	E	
NBR	B	



## DIMENSIONS



DN	NPS	PN10		PN16		PN10		PN16		F4		F5	
		D	d	D	d	C	C	F/F	F/F				
40	1 1/2		150		110		19		140		240		
50	2		165		125		19		150		250		
65	2 1/2		185		145		19		170		270		
80	3		200		160		19		180		280		
100	4		220		180		19		190		300		
125	5		250		210		19		200		325		
150	6		285		240		19		210		350		
200	8		340		295		20		230		400		
250	10	395	405	350	355		22		250		450		
300	12	445	460	400	410		24		270		500		
350	14	505	520	460	470	24	26		290		550		
400	16	565	580	515	525	24	28		310		600		
450	18	615	640	565	585	25	30		330		650		
500	20	670	715	620	650	26	31		350		700		
600	24	780	840	725	770	30	36		390		800		
	mm	inches											Dimensions in mm

all dimensions are subject to revision without prior notice

# BV 50

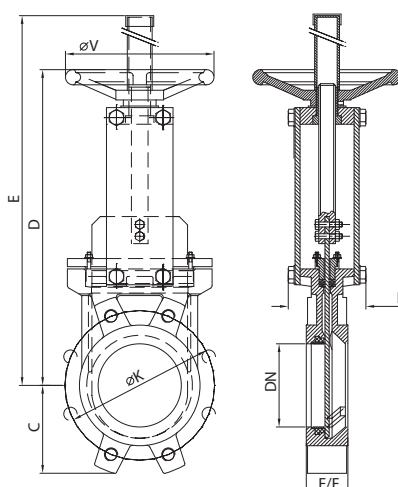
## MATERIAL

BV50 - XX XX X

Body		
Cast iron	23	GG25 Epoxy coated
Stainless steel	66	CF8M
Knife		
Stainless steel	63	CF8
Stainless steel	66	CF8M
Seat		
EPDM	E	
NBR	B	
FKM/FPM	V	
PTFE	T	
VMQ	S	
METAL	M	



## DIMENSIONS



DN	NPS	with rising stem								
		PN10 A150		K	K	B	C	D	V	E
50	2	125	121	92	63	295	200	417	40	
65	2 1/2	145	140	92	70	320	200	442	40	
80	3	160	152	92	92	346	200	469	50	
100	4	180	191	92	105	386	200	509	50	
125	5	210	216	102	120	420	250	593	50	
150	6	240	241	102	130	471	250	644	60	
200	8	295	298	119	160	582	300	825	60	
250	10	350	362	119	198	683	300	1026	70	
300	12	400	432	119	234	790	300	1126	70	
350	14	460	476	194	256	907	400	1357	96	
400	16	515	540	194	292	1014	400	1463	100	
450	18	565	577	290	308	1106	500	1651	106	
500	20	620	635	290	340	1211	500	1756	110	
600	24	725	749	290	400	1417	500	2062	110	
700	28	840	U/R	300	452	1675	600	2440	110	
800	32	950	U/R	300	505	1887	600	2665	110	
900	36	1050	U/R	350	555	other operating options available				110
1000	40	1160	U/R	350	610					110
1200	48	1380	U/R	400	725					150
	mm      inches	Dimensions in mm ; U/R = Upon Request								

all dimensions are subject to revision without prior notice

# BV 51

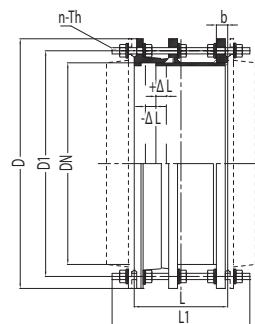
## MATERIAL

BV51 - XX XX X

Body		
Ductile iron	24	GGG40 Epoxy coated
Stud bolts		
Stainless steel	63	AISI 304
Sealing ring		
EPDM	E	
NBR	B	



## DIMENSIONS



DN	NPS	PN10/16				PN10				PN16				
		L1	L	±ΔL	D	D1	b	n-th	L	±ΔL	D	D1	b	n-th
50	2	390	200	20	165	125	20	4-M16	200	20	165	125	20	4-M16
65	2 1/2	430	200	20	185	145	20	4-M16	200	20	185	145	20	4-M16
80	3	430	200	20	200	160	20	8-M16	200	20	200	160	20	8-M16
100	4	430	200	20	220	180	22	8-M16	200	20	220	180	22	8-M16
125	5	430	200	20	250	210	22	8-M16	200	20	250	210	22	8-M16
150	6	430	200	20	285	240	24	8-M20	200	20	285	240	24	8-M20
200	8	430	200	20	340	295	24	8-M20	200	20	340	295	24	12-M20
250	10	430	200	20	400	350	26	12-M20	200	20	400	355	26	12-M24
300	12	470	220	25	445	400	26	12-M20	220	15	455	410	28	12-M24
350	14	470	220	25	505	460	26	16-M20	220	15	520	470	30	16-M24
400	16	470	220	25	565	515	26	16-M24	245	15	580	525	38	16-M27
450	18	470	220	25	615	565	28	20-M24	260	15	640	585	42	20-M27
500	20	470	220	25	670	620	28	20-M24	275	15	715	650	45	20-M30
600	24	500	240	25	780	725	30	20-M27	275	15	840	770	50	20-M33
700	28	500	240	25	895	840	30	24-M27	275	15	910	840	50	24-M33
800	32	640	350	30	1015	950	32	24-M30	350	30	1025	950	52	24-M36
900	36	640	350	30	1115	1050	34	28-M30	350	30	1125	1050	54	28-M36
1000	40	640	350	30	1230	1160	34	28-M33	350	30	1255	1170	56	28-M39
1200	48	680	370	30	1455	1380	38	32-M36	370	30	1485	1390	58	32-M45
1400	56	680	370	30	1675	1590	42	36-M39	370	30	1685	1590	60	36-M45
1500	60	680	370	30	1785	1700	42	36-M39	370	30	1820	1710	60	36-M52
1600	64	700	380	30	1915	1820	46	40-M45	380	30	1930	1820	60	40-M52
1800	72	700	380	30	2115	2020	50	44-M45	380	30	2130	2020	62	44-M52
	mm	inches												Dimensions in mm

all dimensions are subject to revision without prior notice

# BV 56

## MATERIAL

BV50 - XX XX

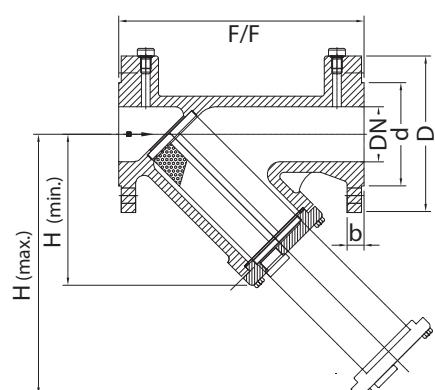
Body		
Cast iron	24	GG25 Epoxy coated
Stainless steel	63	CF8
Stainless steel	66	CF8M

Screen		
Stainless steel	63	AISI 304
Stainless steel	60/66	AISI 316



## DIMENSIONS



DN	NPS	PN10		PN16		b	H min	H max	F/F
		D	d	D	d				
15	1/2	95	45	14	57	105	130		
20	3/4	105	58	16	76	135	150		
25	1	115	68	16	80	150	160		
32	1 1/4	140	78	18	96	177	180		
40	1 1/2	150	88	18	116	215	200		
50	2	165	102	20	130	220	230		
65	2 1/2	185	122	20	177	310	290		
80	3	200	138	22	197	345	310		
100	4	220	158	24	228	395	350		
125	5	250	188	26	271	450	400		
150	6	285	212	26	327	580	480		
200	8	340	268	30	390	650	600		
250	10	395	405	320	541	910	730		
300	12	445	460	378	641	1040	850		
350	14	505	520	430	438	740	1210	980	
400	16	565	580	482	490	845	1380	1100	
450	18	615	640	532	550	840	1330	1200	
500	20	670	715	585	610	908	1440	1250	
600	24	780	840	685	725	1078	1742	1450	
		mm	inches						Dimensions in mm

all dimensions are subject to revision without prior notice

# minimum opening pressure for check valves

		opening pressure mbar															
DN	NPS	BV36			BV38 CAST IRON		BV38/39 CAST STEEL - STAINLESS STEEL				BV40			BV41			
		↔	↓	↑	↔	↑	↔	↔	↑	↑	↔	↓	↑	↔	↑	↔	↑
15	1/2	25	20	30													
20	3/4	25	20	30													
25	1	25	20	30													
32	1 1/4	25	20	30			2	15	10	25							
40	1 1/2	25	20	30			2	15	10	25					*	1,56	
50	2	25	20	30	2	10	2	15	10	25	15	10	20	*	2,05		
65	2 1/2	25	20	30	2	10	2	15	10	25	15	10	20	*	2,18		
80	3	25	20	30	2	10	2	15	10	25	15	10	20	*	6,57		
100	4	25	20	30	2	10	2	15	10	25	15	10	20	*	8,53		
125	5	22	10	30	2	10	2	15	10	25	15	10	20	*	9,11		
150	6	22	10	30	2	10	2	15	10	25	15	10	20	*	12,1		
200	8	22	10	30	4	14	4	17	14	27	15	10	20	*	14,4		
250	10	22	10	30	4	14	4	17	14	27	15	10	20	*	11,6		
300	12	22	10	30	4	14	4	17	14	27	15	10	20	*	15,2		
350	14						6	U/R	18	U/R	15	10	20	*	16,5		
400	16						6	U/R	18	U/R	15	10	30	*	18,2		
450	18						6	U/R	18	U/R	15	10	30	U/R	U/R		
500	20						6	U/R	24	U/R	15	10	30	*	4,84		
600	24						6	U/R	26	U/R	15	10	30				
mm	inches	Dimensions in mm ; U/R = Upon Request * opening pressure horizontal position 0 mbar															

BV36 no backpressure required to keep checkvalve tight due to spring

BV38/39 minimum backpressure required to keep check valve tight = 0,3 bar

all dimensions are subject to revision without prior notice

# operating options

Belven can supply a wide range of valves for various applications . As multiturn valves are found in all kind of fields, the material varies from cast iron with special coatings for usage with water to stainless steel for usage with corrosive media. These valves are mainly equiped with a standard handwheel, but are extremely suitable to serve as control valves in an installation. Upon customer's request the valves can be supplied with actuated OPEN/CLOSE or full position control, both supplied with the necessary accessories. Herewith we give you a brief overview of the possibilities

## MANUAL



- Standard equiped with HANDWHEEL available in all kind of materials.
- QUICK ACTION LEVER for immediate opening or closure of the valve
- GEARBOX in different materials such as cast iron or aluminium, standard/ lockable/with chainwheel, with visual open/close indication

## PNEUMATIC

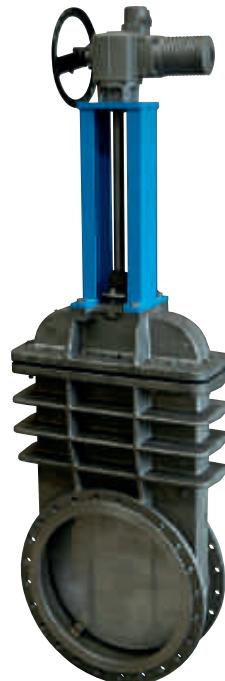
Double acting pneumatic/cylinder - DA  
Single acting pneumatic/cylinder - SA

- Suitable for high duty cycles
- Fast opening and closing times
- Few moving parts : increases operational safety
- Namur design possible for easy mounting of accessories, as limit switches, (NAMUR) solenoid valves and bus communication systems



# operating options

## ELECTRIC



When it comes to the automation of valves for water applications or other processes in the industrial and construction sector, Belven uses the newest electronic components combined with precise mechanics. This enables high performance and long-term reliability of the product.

- Wide range of voltage options
- Self-locking reduction gear
- The electronic circuit adjusts automatically the motor speed depending on the mechanical charge variations in order to drive the cycle always in the same time.
- All actuators are provided with torque limiter.
- Thermal protection
- Usual required options, like extra limit switches, visual open/close indication, heater and even an emergency handwheel operator are (often) standard integrated in the actuator
- open / close and modulating duty
- Different protection classes

For more information related to our standardisation on electric actuators and brands, kindly contact our sales department.

## ELECTRIC HYDRAULIC

- High operational safety
- Modular design for easy mounting of accessories, like limit switches or visual open/close indication
- Suitable for submerged purposes (IP68) as option
- Different oil pressures possible



## ACCESSORIES

- Stem extension in steel or stainless steel
- Visual indicators
- Solenoid valves, available in different voltages /currents and available in different ATEX protection classes
- Limit switches (mechanical, inductive, capacitive, ...)



# belven. your partner for valves

## DESIGN

Check valves, gate valves and strainers can be found in many different designs. Every Belven valve offers a specific solution for a customers demand. When defining your requested valve, next to body construction, the material is also an important issue to tackle. The Belven valve range offers you different materials such as brass, bronze, cast iron, ductile iron, metal alloys, steels and stainless steel. Within these different materials and body constructions, Belven has optimised its range by offering standard product codes.



## RESEARCH & DEVELOPMENT

All valves are produced with preliminary thorough research and testing. Traceability of the product is a key factor for Belven, it can furnish you with the necessary certificates on pressure and materials. Belven continuously strives for innovation through product development and expanding its experience by daily testing its own quality system. Belven is ISO 9001 certified and has all relevant product certificates.

## SALES SUPPORT

Belven's partners are located worldwide and they can offer you the necessary support in your local market. Besides these local service points, the head offices has plenty of experienced people on each market to support you in finding the correct valve you require for.



## FOLLOW UP

At order placement, the Belven sales and logistic team follow your order carefully to ensure your goods are handled as quickly as possible. This way, you will be notified in due course when your goods can be expected your way.



# belven. your partner for valves

## DELIVERY

The central warehouse in Belgium carries a large stock of standard product types. Deliveries ex works, transport by road, cargo or air, express deliveries; all is possible through Belven's well organised logistic department. Belven supervises the transport through its contacts and will gladly organise all relevant export documentation you might require.



## REFERENCES

Belven is well organized in daily sales but has even more experience in handling large projects. If you have any questions related towards its experience in this field you are kindly requested to contact the sales departments.



**Reference List**

**CHECK VALVES**

- Industrial projects
- Water treatment projects
- HVAC projects
- Export Projects



**Reference List**

**(KNIFE) GATE VALVES**

- Industrial projects
- Water treatment projects
- Export Projects



**Reference List**

**STRAINERS**

- Industrial projects
- Water treatment projects
- HVAC projects
- Export Projects

For updated information related towards projects, contact our sales departments and request our reference lists.

For updated references in interviews and publications, check the Belven website : [www.belven.com](http://www.belven.com).

# cv-Kv values

The flow coefficient is the valve sizing factor that permits the selection of the appropriate valve to meet the flow requirements in the development of a given fluid system.

## KV VALUE ( $\text{m}^3/\text{h}$ )

The Kv for a valve defines the flow of water in  $\text{m}^3/\text{h}$  at room temperature which flows through a fully open valve with a pressure of 1 bar.

DN	NPS	Flow in $\text{m}^3/\text{h}$ @ $\Delta p$ 1 bar					
		BV36	cast iron BV38	cast/stainless steel BV38-39	BV40	BV41	BV56
15	1/2	2					6
20	3/4	7					10
25	1	13					18
32	1 1/4	17		16			30
40	1 1/2	23		22		60	40
50	2	48	54	54	55	81	60
65	2 1/2	55	75	75	85	130	90
80	3	83	112	112	145	255	140
100	4	127	172	172	290	400	200
125	5	183	342	342	460	645	300
150	6	258	490	490	800	970	400
200	8	410	1128	1128	1550	2000	800
250	10	698	1500	1500	2880	3050	1100
300	12	732	2290	2290	4100	4150	1600
350	14			2890	5350	5100	2500
400	16			3700	8250	6600	3400
450	18			5000	10550	U/R	4200
500	20			6550	14500	9700	5300
600	24			9500	24000	U/R	7500
<b>mm</b>		<b>inches</b>					

Dimensions in mm ; U/R = Upon Request

## CV VALUE (gpm)

The Cv values, which are still used in the USA, define the flow of water in US gallons /minute flowing through an open valve with a pressure drop of 1 psi across the valve.

DN	NPS	Flow in gpm @ $\Delta p$ 1 psi					
		BV36	cast iron BV38	cast/stainless steel BV38-39	BV40	BV41	BV56
15	1/2	2					7
20	3/4	8					11
25	1	15					20
32	1 1/4	19		18			34
40	1 1/2	26		25		69	46
50	2	55	62	62	63	94	69
65	2 1/2	63	87	87	98	150	104
80	3	96	129	129	168	295	162
100	4	147	199	199	336	464	232
125	5	212	396	396	533	748	348
150	6	299	568	568	928	1125	464
200	8	475	1308	1308	1798	2320	928
250	10	809	1740	1740	3340	3538	1276
300	12	849	2656	2656	4756	4814	1856
350	14			3352	6206	5916	2900
400	16			4292	9570	7656	3944
450	18			5800	12238	U/R	4872
500	20			7598	16820	11252	6148
600	24			11020	27840	U/R	8700
<b>mm</b>		<b>inches</b>					

Dimensions in mm ; U/R = Upon Request

Flow gpm  
Pressure drop  $\Delta p$  = 1 psi

$$Cv = Kv \times 1,16$$

## FORMULAS

Liquid flow  
Pressure drop  
Minimum coefficient of flow

$$Q = Kv \times \sqrt{\Delta p / \delta}$$

$$\Delta p = \delta \times (Q^2 / Kv^2)$$

$$Kv = Q \times \sqrt{\delta / \Delta p}$$

$Q$  flow [ $\text{m}^3/\text{h}$ ]  
 $\Delta p$  pressure drop [1 bar]  
 $\delta$  density [ $\text{kg}/\text{dm}^3$ ], water = 1

We keep the right to change the mentioned values and text in this leaflet at any time without prior notice.

## OUR FIELD APPLICATIONS



WATER  
TREATMENT



DISTRICT  
ENERGY



TANK  
STORAGE



CONSTRUCTION  
& BUILDINGS



PROCESS  
INDUSTRY

## WE APPROACH YOU THROUGH

DISTRIBUTION

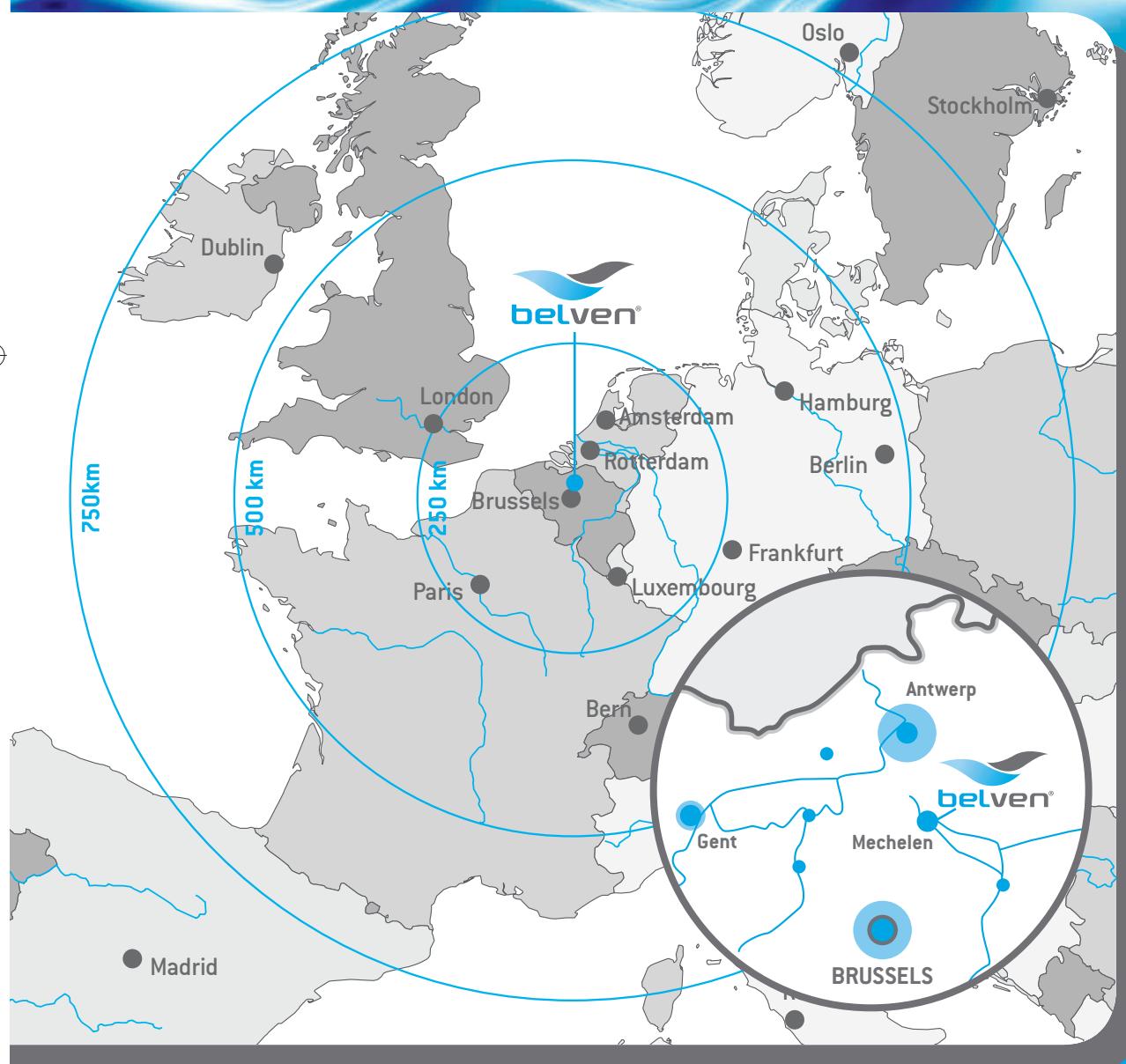
CONTRACTING & MAINTENANCE

ENGINEERING

PROJECT DEVELOPMENT



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