

Ball Valve

ECOLINE BLC 1000

1000 WOG
DN 8-100 (1/4"-4")

Type Series Booklet



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Type Series Booklet ECOLINE BLC 1000

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Ball Valves

Three-piece Ball Valves

ECOLINE BLC 1000



Main applications

- General industry
- Petrochemical industry
- Chemical industry
- Process engineering
- Manufacturing
- Water supply

Fluids handled

- Service water
- Fluids containing gas
- Gas
- Condensate
- Corrosive fluids
- River water, lake and groundwater
- Fuels
- Cooling water
- Fire-fighting water
- Oils
- Lubricants
- Feed water
- Drinking water
- Wash water
- Other fluids on request.

Operating data

Operating properties

Characteristic	Value
Nominal pressure	1000 WOG
Nominal size	DN 8 - 100 (¼" - 4")
Max. permissible pressure [bar]	84
Max. permissible temperature [°C]	+200

Selection as per pressure/temperature ratings (⇒ Page 5)

Body materials

Overview of available materials

Material	Temperature limit
ASTM A216 WCB	≤ 200 °C
ASTM A 351 CF8M	≤ 200 °C

Other body materials on request

Seat materials

Overview of available materials

Material	Temperature limit
PTFE	≤ 160 °C
RPTFE	≤ 200 °C
PTFE + graphite	≤ 200 °C

Other seat materials on request

Design details

Design

- Designed and tested to ASME B16.34
- Full bore
- Three-piece ball valve
- Soft-seated
- PTFE seat
- PTFE gland packing
- PTFE gasket
- Blowout-proof shaft
- Locking device
- Solid ball
- Anti-static design
- Lever-operated
- Version with socket weld ends
- Threaded ends
- The valves satisfy the safety requirements of Annex I of the European Pressure Equipment Directive 2014/68/EU (PED) for fluids in Groups 1 and 2.
- The valves do not have a potential internal source of ignition and can be used in potentially explosive atmospheres, Group II, category 2 (zones 1+21) and category 3 (zones 2+22) to ATEX 2014/34/EU.

Variants

- Seat made of RPTFE or PTFE + graphite
- Oil and grease-free
- NACE standard
- Other flange designs

- Electric actuators
- Pneumatic actuators

Product benefits

- Blowout-proof shaft design with integral shoulder
- Resilient PTFE seat and smoother ball finish for reliable and tight shut-off
- Solid ball prevents deformation under excessive pressure, resulting in a longer service life.
- Anti-static design prevents static charge build-up during operation.
- Full bore for maximum flow without pressure drop

Purchase order specifications

1. Type
2. Nominal pressure
3. Nominal size
4. Operating pressure
5. Differential pressure
6. Operating temperature
7. Fluid handled
8. Pipe connection
9. Valve materials, i.e. body, seat, ball
10. Variants
11. Reference number

Related documents

Other applicable documentation

Document	Reference number
Type series booklet ECOLINE BLT 150-300	8222.51
Type series booklet ECOLINE EST 150-600	8220.1
Operating manual	8222.81

Pressure/temperature ratings

Permissible operating pressures [bar]

NPS	Material	Seat	[°C]					
			0 to 38	66	93	121	149	160
1/4" - 1"	ASTM A 216 WCB	PTFE (standard)	84,1	65,9	47,0	27,3	7,7	0
1 1/4" - 1 1/2"	ASTM A 351 CF8M		69,0	54,1	38,5	22,4	6,3	0
2" - 4"			50,0	39,2	28,0	16,3	4,6	0

Permissible operating pressures [bar]

NPS	Material	Seat	[°C]						
			0 to 38	66	93	121	149	177	200
1/4" - 1"	ASTM A 216 WCB	RPTFE or PTFE + graphite (variant)	84,1	70,4	56,2	41,5	26,8	11,9	0
1 1/4" - 1 1/2"	ASTM A 351 CF8M		69,0	57,8	46,1	34,1	22,0	9,9	0
2" - 4"			50,0	41,9	33,4	25,0	15,9	7,2	0

Permissible operating pressures [psi]

NPS	Material	Seat	[°F]					
			32 to 100	150	200	250	300	320
1/4" - 1"	ASTM A 216 WCB	PTFE (standard)	1220	956	681	396	112	0
1 1/4" - 1 1/2"	ASTM A 351 CF8M		1000	784	559	325	92	0
2" - 4"			725	568	406	236	67	0

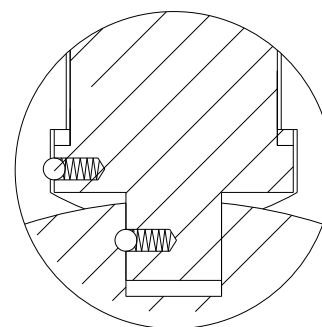
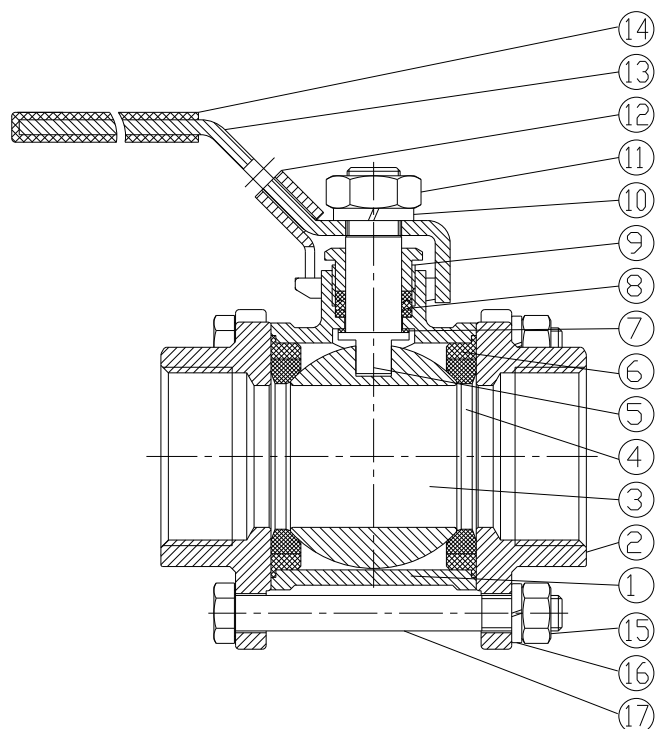
Permissible operating pressures [psi]

NPS	Material	Seat	[°F]						
			0 to 38	66	93	121	149	177	200
1/4" - 1"	ASTM A 216 WCB	RPTFE or PTFE + graphite (variant)	1220	1022	816	602	389	173	0
1 1/4" - 1 1/2"	ASTM A 351 CF8M		1000	838	669	494	319	144	0
2" - 4"			725	608	485	363	231	105	0

Test pressures

Test	Test medium	1000 WOG	
		[bar]	[psi]
Shell	Water	105	1500
Leak test (seat)		77	1100
Leak test (seat)	Air	6	85

Materials



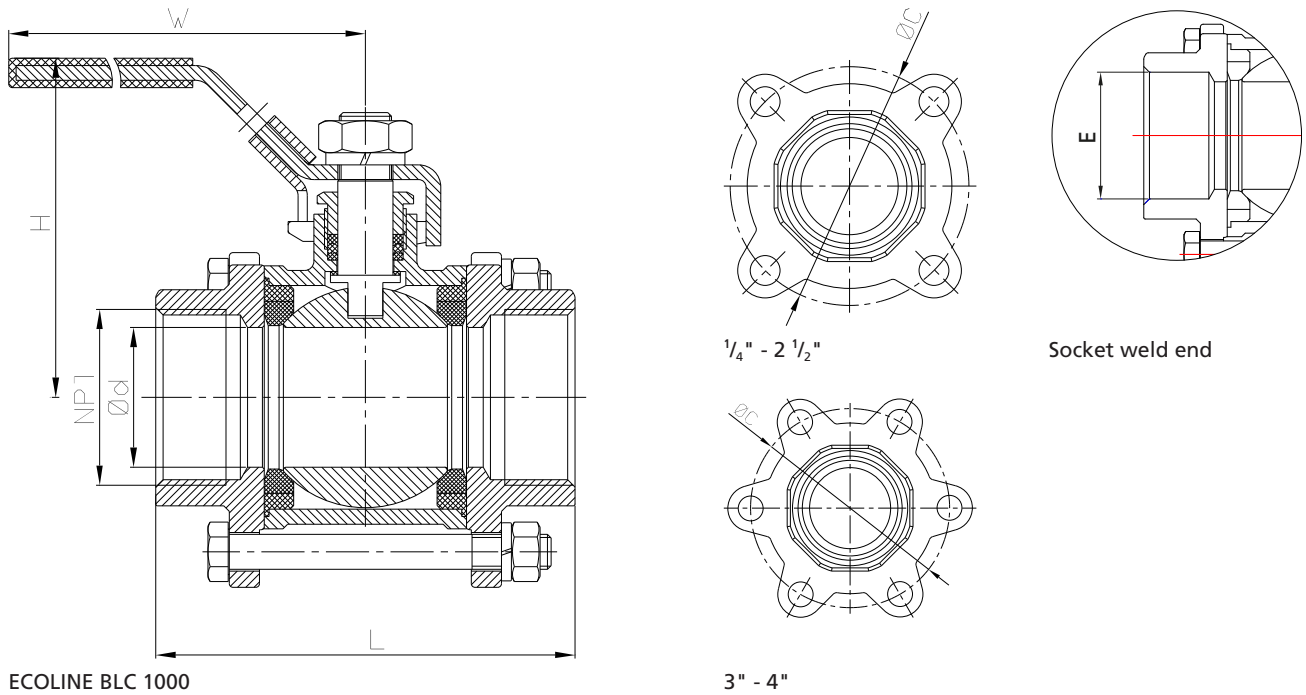
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Anti-static design

Parts list

Part No.	Description	Material
1	Body	A216 WCB A351 CF8M
2	End cap	A216 WCB A351 CF8M
3	Ball	A351 CF8 A351 CF8M
4	Seat	PTFE
5	Shaft	316 SS
6	Hexagon nut	304 SS
7	Thrust washer	PTFE
8	Gland packing	PTFE
9	Gland follower	304 SS
10	Spring washer	304 SS
11	Shaft nut	304 SS
12	Locking device	304 SS
13	Lever	304 SS
14	Plastic cover	Plastic
15	Washer	304 SS
16	Bolt	304 SS
17	Anti-static ball	Stainless steel
18	Anti-static spring	Stainless steel

Dimensions and weights



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Dimensions [mm] and weights [kg]

NPS	DN	L	H	W	Ød	E	C	[kg]
1/4	8	58	56	102	11,6	14,1	40,5	0,37
3/8	10	58	56	102	12,7	17,6	40,5	0,34
1/2	15	63	65	123	15	21,7	47	0,51
3/4	20	73	67	123	20	27,1	53,5	0,66
1	25	85	79	153	25	33,8	59,6	0,96
1 1/4	32	96	84	153	32	42,6	74,2	1,5
1 1/2	40	114	92	183	38	48,7	84	2,2
2	50	134	99	183	50	61,1	101	3,3
2 1/2	65	180	136	246	65	76,9	132	7,2
3	80	200	146	246	80	89,8	161,5	12,6
4	100	228	168	350	100	115,5	191	19,6

Mating dimensions as per standard

Face-to-face lengths: Acc. to manufacturer
 Socket weld ends: ASME B16.11
 Threaded ends (NPT): ASME B1.20.1

Hydraulic characteristics and torques

NPS	DN	Flow coefficient		Torque ¹⁾	
		Cv [US gallons/min.]	Kv [m³/h]	[ft.lb.]	[Nm]
1/4	8	6	5,16	4,4	6
3/8	10	7	6,02	5,9	8
1/2	15	10	8,6	8,1	11
3/4	20	25	21,5	10,3	14
1	25	35	30,1	13,3	18
1 1/4	32	46	39,56	20,7	28
1 1/2	40	80	68,8	33,2	45
2	50	110	94,6	38,4	52
2 1/2	65	310	266,6	49,4	67
3	80	360	309,6	70	95
4	100	820	705,2	92,2	125

A safety factor of 1.3 is recommended for actuator selection.

1) Max. breakaway torque



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