

Lift Check Valve

ECOLINE PTF 150-600

Class 150-600
NPS ½"-2"
Forged Steel
Bolted Cover
Flanged Ends

Type Series Booklet



Legal information/Copyright

Type Series Booklet ECOLINE PTF 150-600

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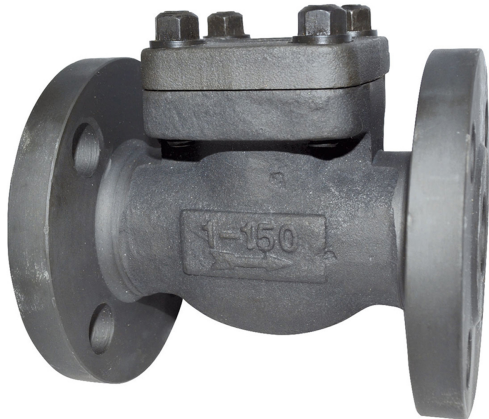
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Check Valves and Strainers

Lift Check Valves to ANSI/ASME

ECOLINE PTF 150-600



Main applications

- Boiler feed applications
- Fossil-fuelled power stations
- Petrochemical industry
- Pipelines and tank farms
- Refineries
- Process engineering

Fluids handled

- Steam
- Fluids containing gas
- Gas
- Hot water
- Volatile fluids
- Feed water

Operating data

Operating properties

Characteristic	Value
Nominal pressure	Class 150 - 600
Nominal size	NPS ½" - 2"
Max. permissible pressure	104 bar / 1480 PSI
Min. permissible temperature	0 °C / 32 °F
Max. permissible temperature	816 °C / 1500 °F

Temperatures < 0 °C on request

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

Body materials

Overview of available materials

Material	Temperature limit
ASTM A 105	Up to 427 °C / 800 °F
ASTM A 182 F11	Up to 593 °C / 1100 °F
ASTM A 182 F22	Up to 593 °C / 1100 °F
ASTM A 182 F304	Up to 816 °C / 1500 °F
ASTM A 182 F316	Up to 816 °C / 1500 °F
ASTM A 182 F304L	Up to 427 °C / 800 °F
ASTM A 182 F316L	Up to 450 °C / 850 °F

Other materials on request.

Design details

Design

- Lift check valve to API 602
- Tested to API 598
- Body made of forged steel
- Bolted cover
- Reduced bore
- Solid check disc
- Integral seat - ST6 (HF)
- Fully confined cover gasket
- Spring ensures reliable shut-off
- The valves satisfy the safety requirements of Annex I of the European Pressure Equipment Directive 97/23/EC (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

- Seal-welded body/cover joint
- Full bore
- Butt weld ends
- Version in compliance with TA-Luft (German Clean Air Act) to VDI 2440 for temperatures up to 400 °C
- NACE standard
- Other flanged end designs or butt weld ends to ASME B16.25
- Other trims

Product benefits

Long service life and high functional reliability

- Hard-faced body seat and solid check disc seat made of wear-resistant and corrosion-proof materials for handling all kinds of corrosive and erosive fluids.

Reliable sealing and longer service life

- Male/female joint between body and bonnet prevents excessive compression of fully confined gasket, resulting in longer gasket life and improved sealing performance.
- Spring reliably seats the check disc on the body seat (when fluid is applied).
- Check disc guided along the inside body wall, for reliable seating of the check disc on the body seat.

Extended maintenance-free service life

- Hard-facing applied to check disc and seat rings by deposit welding provides extra wear allowance and ensures reliable long-term shut-off even with frequent opening/closing cycles.
- Integral seat is highly resistant to wear and easy to repair after long-term operation.

Related documents

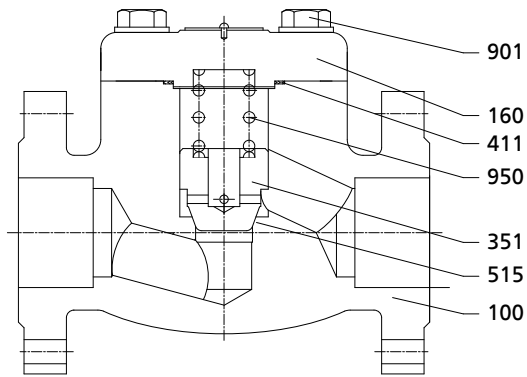
- Lift check valve, type ECOLINE PTF 800, see type series booklet 7361.18
- Operating manual 7361.81

On all enquiries/orders please specify

- Type

- Class
- Nominal size
- Pressure rating
- Temperature rating
- Differential pressure
- Fluid handled
- Material
- Trim material (API trim number)
- Line connection
- Reduced or full bore
- Variants
- Number of type series booklet

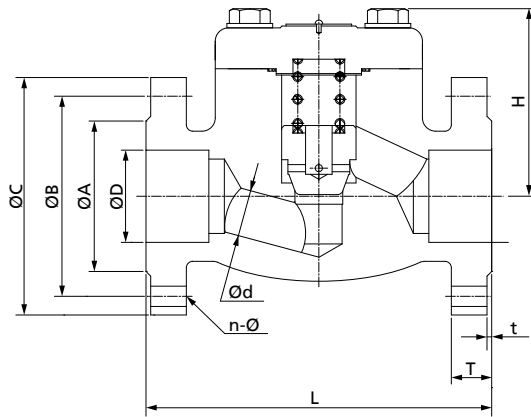
Materials



Parts list

Part No.	Description	Material				
		A 105 Trim 8	A 182 F11 Trim 5	A 182 F22 Trim 5	A 182 F304 Trim 2	A 182 F316 Trim 10
100	Body	A 105	A 182 F11	A 182 F22	A 182 F304	A 182 F316
160	Cover	A 105	A 182 F11	A 182 F22	A 182 F304	A 182 F316
351	Check disc	A 182 F6a	A 182 F6a + STL6	A 182 F6a + STL6	A 182 F304	A 182 F316
411	Joint ring	304 + graphite	304 + graphite	304 + graphite	304 + graphite	316 + graphite
515	Seat ring	STL6 (integral)	STL6 (integral)	STL6 (integral)	304 (integral)	316 (integral)
901	Bolt	A 193 B7	A 193 B16	A 193 B16	A 193 B8	A 193 B8M
950	Spring	SS304	SS304	SS304	SS304	SS316

Dimensions



Dimensions in mm

Class	NPS	L	T	t	n-Ø	Ød	ØD	ØA	ØB	ØC	H	[kg]
150	1/2"	108	11,5	1,6	4-16	9,5	15	35	60,5	89	52	2,11
	3/4"	117	13,0	1,6	4-16	12,7	20	43	70,0	98	57	2,53
	1"	127	14,5	1,6	4-16	17,5	25	51	79,5	108	66	3,88
	1 1/2"	165	17,5	1,6	4-16	28,6	40	73	98,5	127	80	6,23
	2"	178	19,5	1,6	4-19	36,5	50	92	120,5	152	100	10,50
300	1/2"	152	14,5	1,6	4-16	9,5	15	35	66,5	95	52	2,37
	3/4"	178	16,0	1,6	4-19	12,7	20	43	82,5	117	57	3,76
	1"	203	17,5	1,6	4-19	17,5	25	51	89,0	124	66	5,13
	1 1/2"	229	21,0	1,6	4-22	28,6	40	73	114,5	156	80	9,90
	2"	267	22,5	1,6	8-19	36,5	50	92	127,0	165	100	14,22
600	1/2"	165	20,7	6,4	4-16	9,5	15	35	66,5	95	52	2,46
	3/4"	190	22,3	6,4	4-19	12,7	20	43	82,5	117	57	4,00
	1"	216	23,9	6,4	4-19	17,5	25	51	89,0	124	66	5,53
	1 1/2"	241	28,7	6,4	4-22	28,6	40	73	114,5	156	80	10,75
	2"	292	31,8	6,4	8-19	36,5	50	92	127,0	165	100	15,90

Mating dimensions - Standards

Face-to-face ASME B16.10
lengths:
Flanges: ASME B16.5

Notes on installation

The valve bodies are marked with an arrow indicating the flow direction.

Lift check valves must be installed in horizontal pipes only. Installation in vertical pipes is not allowed as the check disc could jam inside the body.



KSB Aktiengesellschaft

67225 Frankenthal • Johann-Klein-Str. 9 • 67227 Frankenthal (Germany)

Tel. +49 6233 86-0 • Fax +49 6233 86-3401

www.ksb.com

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