

## ECON Line blind valves Fig. 1578 & Fig. 1579



**Fig.1578**



**Fig.1579**

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### **1. ERIKS operating companies**

ECON line blind valves are being delivered by several ERIKS operating companies on a worldwide basis. In this manual these will be referred to as 'ERIKS', the individual terms of delivery of the ERIKS operating company having executed the order are applicable.

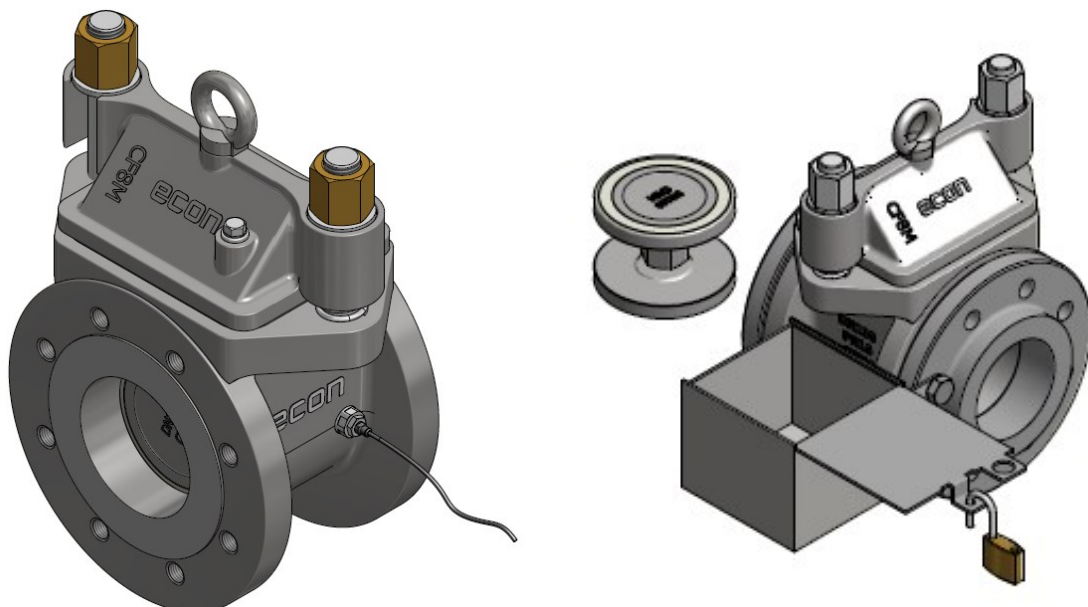
### **2. Product description**

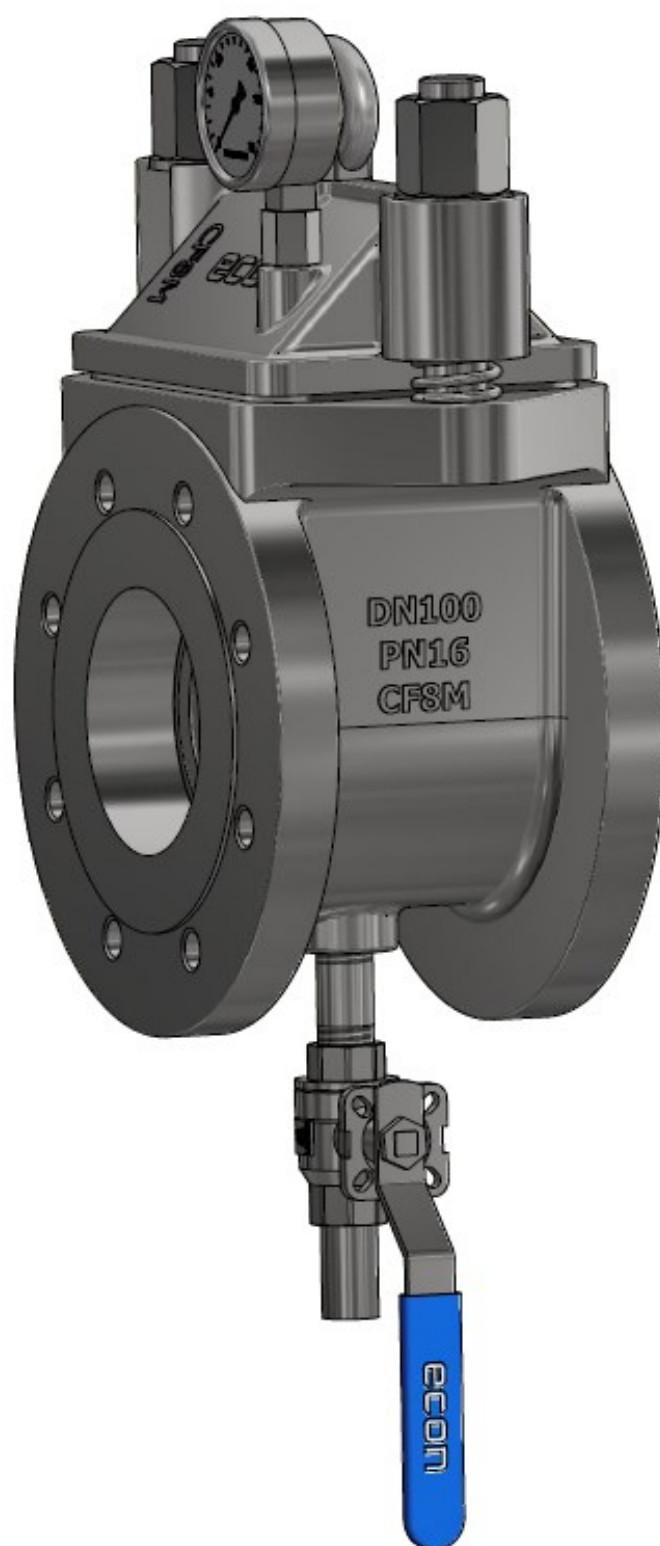
The ECON line blind valves are designed according the information in our latest catalogue or see our website [www.eriks.com](http://www.eriks.com) and should be used in accordance with the applicable pressure-temperature rating as stated on this website. ECON line blind valves are provided with casted markings according to EN 19. The marking makes the identification of the valve easier and contains:

- size (DN)
- pressure rating class
- body material marking
- material charge number
- tag plate with full technical information
- ECON logo

Possible options for line blind valve

- Cover plug
- Aluminum bronze nuts for cover mounting
- Disc sensor
- Disc storage container
- Pressure gauge
- Bleed valve





Line blind valve with possible options as: Pressure gauge and bleed valve

### 3. Requirements for maintenance staff

The staff assigned to assembly, operating and maintenance tasks should be qualified to carry out such jobs and in any circumstance, ensure personal safety

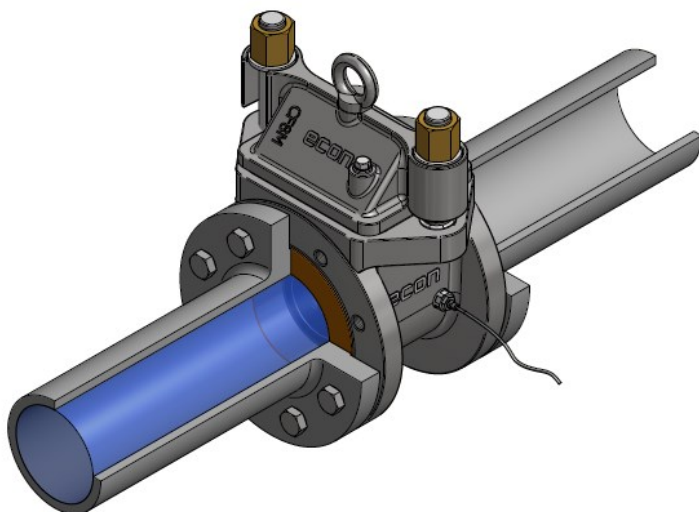
### 4. Transport and storage

Transport and storage should always be carried out with the discs complete closed and the valve should be protected against external forces, influence and destruction of the valve. The valves should be stored in an unpolluted space and should also be protected against all atmospheric circumstances. There should be taken care of the temperature and humidity in the room, in order to prevent condensate formation. Do not remove the protection caps until the valve is ready for installation. This will increase the possibility of damaging the valve in any way.

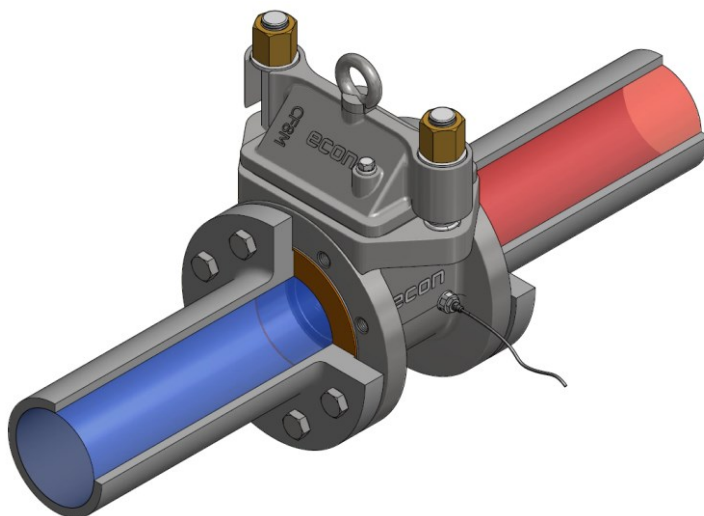
### 5. Function

ECON line blind valves are designed to block a part of the installation, for safety application and to prevent mixing of two different media in a piping system, but when required the blocking can be removed, by taking out the disc.

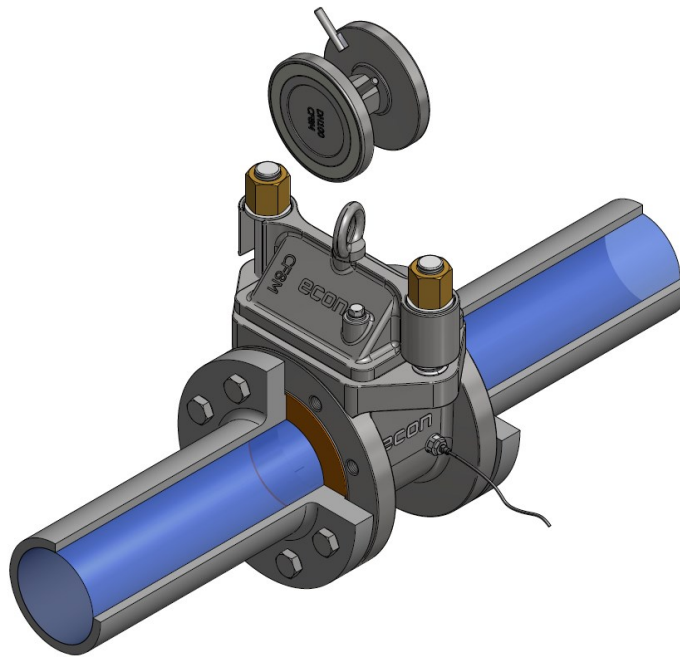
The line blind valves are not designed for throttling and should be kept in the fully open or closed position. See drawings underneath.



**Line blind valve blocks a part of the installation**



**Line blind valve prevents mixing of two different media in the installation**



**Line blind valve in open situation, the disc is taken out of the valve.**

## **6. Application**

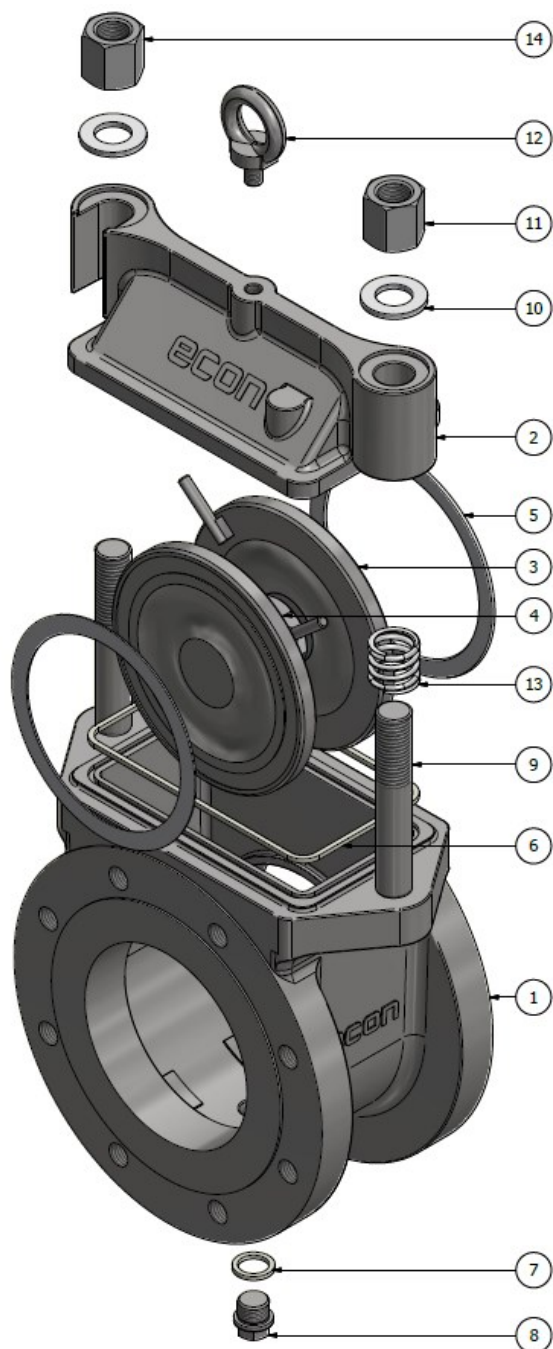
ECON line blind valves are widely used in cargo piping of chemical tankers, separating device of piping of non compatible products and water ballast systems.

The installation designer is responsible for the line blind valve selection, suitable for the working conditions. The valves are unsuitable, without written permission of an ERIKS company, to apply for hazardous media as referred into Regulation (EC) No 1272/2008.

## **7. Installation**

During the assembly of the ECON line blind valves, the following rules should be observed:

- make sure before an assembly that the valves were not damaged during the transport or storage.
- make sure that the applied valves are suitable for the working conditions, medium used in the plant and the right system connections, according to pressure and temperature limits.
- the interior of the valve and pipeline must be free from foreign particles.
- make sure the valve is positioned such that there is sufficient space, so that the top cover can be easily reached and removed.
- line blind valves can be installed in a horizontal pipeline system without regard for the flow direction, unless on request marked with flow direction arrow.
- the valve must be stress free mounted between the flanges, supports must be arranged to prevent any additional stress, caused by the weight of the valve or the pipeline.
- bolted joints on the pipeline must not cause additional stress resulted from excessive tightening, user shall select proper studs, nuts and gaskets according the working temperature, working pressure and medium.
- care should be taken that flanges are strait and parallel. Stud bolts should be evenly tightened in a star pattern. This will ensure a uniform gasket loading.



Exploded view ECON line blind valve

1. Body
2. Cover
3. Disc
4. Disc nut
5. Disc soft seal
6. Cover seal
7. Drain seal ring
8. Drain plug
9. Stud
10. Washer ring
11. Nut
12. Eyebolt
13. Spring
14. Nut



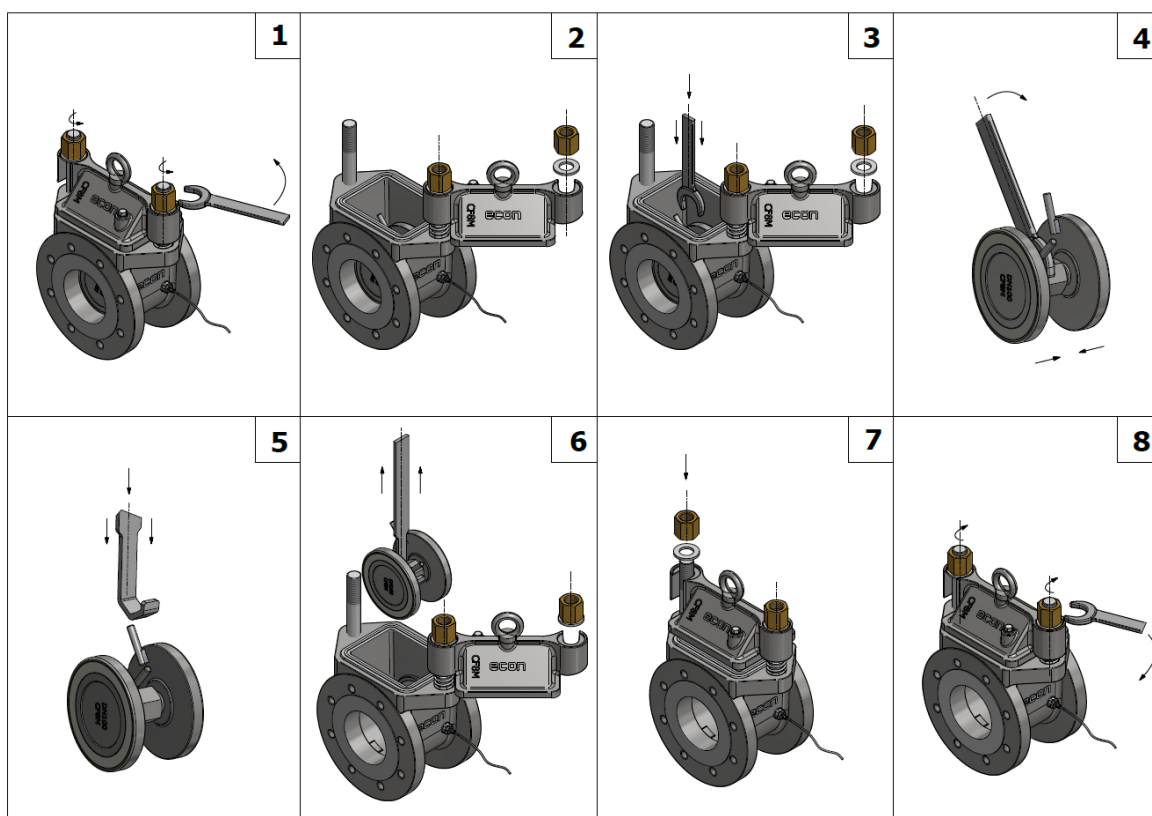
## Dismantling of the disc from the line blind valve. (see steps 1-8 in next drawing)

- 1 Remove the cover Nr.2, loosen the nut Nr.11 with the spring Nr.13 first and then loosen and remove the other nut Nr.14 carefully.
- 2 Be careful to have the cover clear of the cover seal Nr.6 before swinging the cover aside.
- 3 The disc nut Nr.4 can be loosen, with the correct spanner.
- 4 The insert Nr.3+4+5 is released by turning the "disc nut" Nr.4 loose.
- 5 Position the hook of the spanner under the disc nut.
- 6 Now you can use the hook on the spanner to lift out the insert.
- 7 Swing the cover above the body and check the exact position above the sealing. Turn the cover nuts Nr.11 and 14 by hand while checking the cover seal is still positioned correctly. It is essential to tighten the top cover evenly to avoid distortion and to take care of the cover seal.
- 8 Starting with even spanner pressure on each nut, tighten each nut, one half turn at a time, until sufficient pressure is reached. Always use a "Molycote" on the thread of studs Nr.9 and nuts to prevent thread galling.

It is essential to tighten the top cover evenly to avoid distortion and to take care of the cover seal.

Similarly, with the discs removed and the top cover tightened down, the disc assemble should be stored in the area of the valve. This prevents any misunderstanding as to whether the valve is "free-flow" or closed.

Always inspect the gasket before re-using.



## 8. Maintenance

Before starting any service jobs, make sure that the medium supply to the pipeline is cut off, pressure was decreased to ambient pressure, the pipeline is completely cleaned and ventilated and the plant is cooled down. Always keep safety instructions in mind and take all personal safety precautions.

During maintenance, the following rules should be observed:

- always keep personal safety precautions in mind and always use appropriate protection e.g. clothing, masks, gloves etc.
- be alert that the temperature still can be very high or low and can cause burns.
- check the valve on all possible leaking possibilities.
- check if all bolts and nuts, are still fastened.
- check if the discs still open and close in a proper manner.
- the thickness of the body must be checked to ensure safety operation at an interval of at least three months.

## 9. Service and repair

All service and repair jobs should be carried out by authorized staff, using suitable tools and user shall use valve gasket, bolt and nut of the same size and material as the original one.

- weld repair and drilling of the valve is forbidden.
- it is forbidden to replace the bolt, nut or gasket when the valve is under pressure.
- mounting new disc seal : insert the O.D of disc seal by hand to fit the disc groove and press the disc seal I.D. of the disc seal to fit into the groove.
- tighten the hexagon nuts evenly crosswise in the there for standard order.
- after replacement of the gasket, bolts or nuts, it is necessary to check the valve operation and tightness of all connections. A tightness test should be carried out.
- after installation, the valve should be checked and maintained periodically at least every 3 months, depending on the medium.

## 10. Troubleshooting

It is essential that the safety regulations are observed when identifying the fault.

Problem	Possible cause	Corrective measures
Problems in operating valve	Bolt nut over wear	Replace bolt nut
	Spring damaged	Replace the spring
	Disc nut over wear	Replace disc nut
Leakage across valve seat	Discs not properly closed	Check discs closing function
	Sealing damaged by foreign particles	Replace the valve sealing
Leakage between body and cover	Internal components are damaged or worn	Inspect internal components and repair or replace as required
	Bolts nuts are loose	Tighten the bolt nuts
	Gasket is damaged	Disassemble and install a new gasket
	Body or cover faces are damaged	Repair and install a new gasket
	Cover is not centre assembled	Adjusted the cover and tighten the bolt nuts

## 11. Removal

All dismantled and rejected valves cannot be disposed with household waste. The valves are made of materials which can be re-used and should be delivered to designated recycling centers.



## General warning:

### General note for products which may be used for seawater:

Although our products can be used in seawater systems it should always be noted that, in case of installation in a piping system made of materials which are frequently used because of their excellent seawater resistance (e.g. CuNiFe), large potential differences may occur possibly causing corrosion which could permanently damage the proper functioning and integrity of our product.

A combination of different materials should always be mentioned prior to the purchase of our products in order for us to give the best possible advise on a safe functioning.

## General Dimensions

DN	INCH	L	H	ØA
50	2"	154	201	165
65	2 1/2"	154	211	185
80	3"	154	218	200
100	4"	162	252	235
125	5"	162	269	270
150	6"	162	292	285
200	8"	162	331	350
250	10"	200	355	405
300	12"	200	415	480

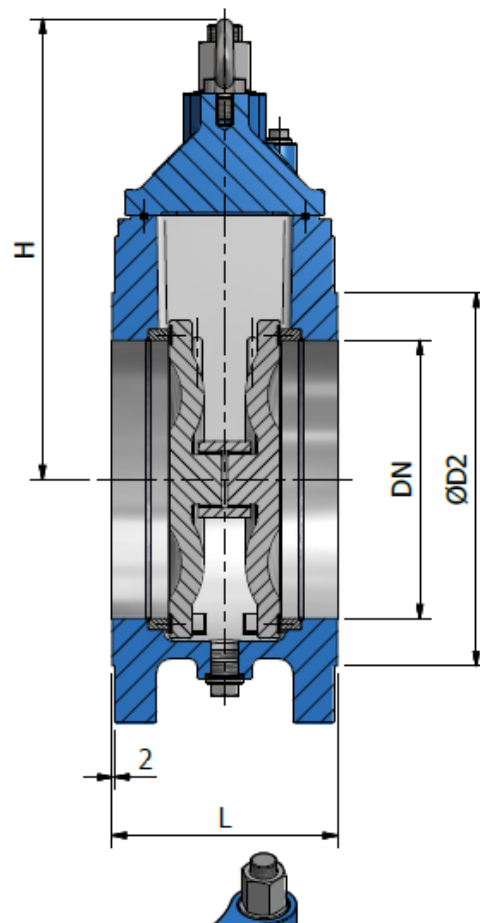
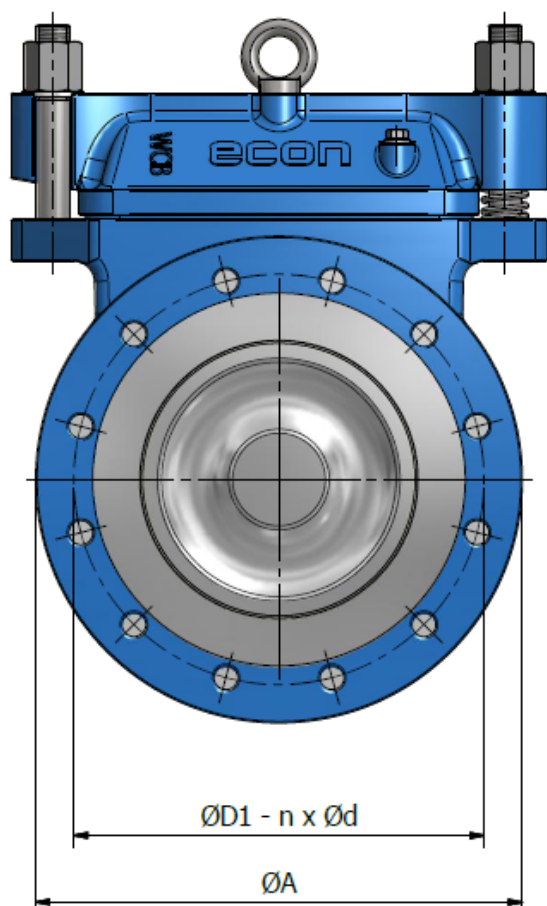


Table thread pattern and dimensions.

DN	EN 1092-1 PN10				EN 1092-1 PN16				EN 1092-1 PN25			
	ØD1	n x Ød	ØD2	T	ØD1	n x Ød	ØD2	T	ØD1	n x Ød	ØD2	T
50	125	4xM16	102	18	125	4xM16	102	18	125	4xM16	102	18
65	145	4xM16*	122	18	145	4xM16*	122	18	145	8xM16	122	18
80	160	8xM16	138	18	160	8xM16	138	18	160	8xM16	138	18
100	180	8xM16	158	18	180	8xM16	158	18	190	8xM20	162	21
125	210	8xM16	188	18	210	8xM16	188	18	220	8xM24	188	24
150	240	8xM20	212	21	240	8xM20	212	21	-	-	-	-
200	295	8xM20	268	21	295	12xM20	268	21	-	-	-	-
250	350	12xM20	320	21	355	12xM24	320	24	-	-	-	-
300	400	12xM20	370	21	410	12xM24	378	24	-	-	-	-

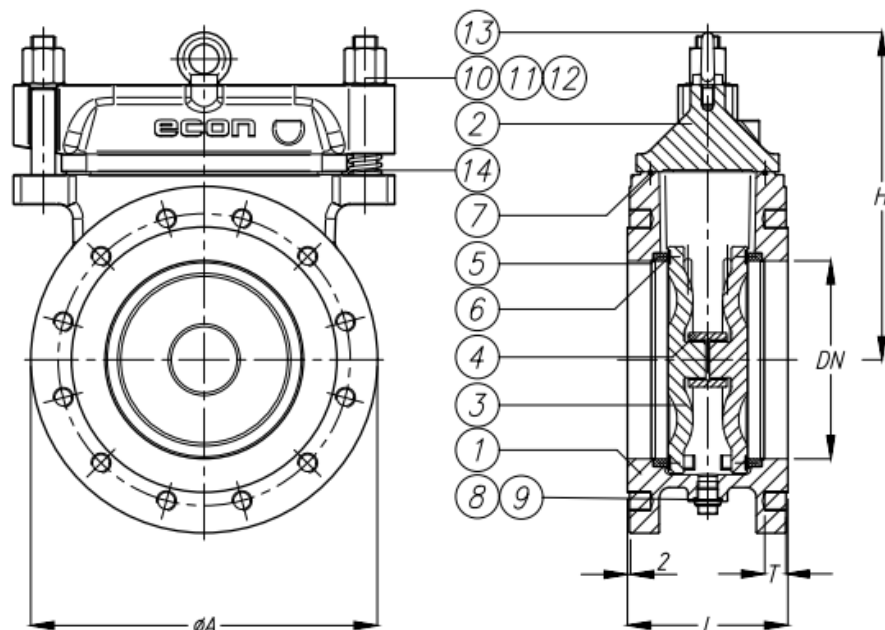
\*) DN65-PN10/PN16 will be standard supplied with 4 threaded holes acc. to DIN2633; 8 holes acc. to EN 1092-1 on request

ANSI B16.5 Class 150LBS				
DN	ØD1	n x Ød	ØD2	T
50	120,7	4x5/8"	92,1	16
65	139,7	4x5/8"	104,8	16
80	152,4	4x5/8"	127	16
100	190,5	8x5/8"	157,2	16
125	215,9	8x3/4"	185,7	19
150	241,3	8x3/4"	215,9	19
200	298,5	8x3/4"	269,9	19
250	361,9	12x7/8"	323,8	23
300	431,8	12x7/8"	381	23

DN	JIS B2220 10K				JIS B2220 16K				JIS B2220 20K			
	ØD1	n x Ød	ØD2	T	ØD1	n x Ød	ØD2	T	ØD1	n x Ød	ØD2	T
50	120	4xM16	100	18	120	8xM16	100	18	120	8xM16	120	18
65	140	4xM16	120	18	140	8xM16	120	18	140	8xM16	135	18
80	150	8xM16	130	18	160	8xM20	135	21	160	8xM20	145	21
100	175	8xM16	155	18	185	8xM20	160	21	185	8xM20	165	21
125	210	8xM20	185	21	225	8xM22	195	22	225	8xM22	195	22
150	240	8xM20	215	21	260	12xM22	230	22	260	12xM22	230	22
200	290	12xM20	265	21	305	12xM22	275	22	305	12xM22	275	22
250	355	12xM22	325	22	380	12xM24	345	24	380	12xM24	345	24
300	400	12xM22	370	22	430	12xM24	395	24	430	12xM24	395	24

*LINE BLIND VALVE OF CAST STEEL, ECON FIG. 1578*

FLANGES CAN BE DRILLED ACC. TO PN10, PN16, PN25,  
ANSI 150LBS, JIS5K, JIS10K OR JIS16K



POS	NAME	MATERIAL	QTY
1	BODY	ASTM A216 WCB	1
2	COVER	ASTM A216 WCB	1
3	DISC	ASTM A351 CF8 (SS-304)	2
4	DISC NUT	ASTM A351 CF8 (SS-304)	1
5	SEAT RING	ASTM A351 CF3 (WELDED IN)	2
6	DISK SOFT SEAL	PTFE (VIRGIN)	2
7	COVER SEAL	TFM-1600	1
8	DRAIN SEAL RING	TFM-1600	1
9	BLIND PLUG (DRAIN)	A2 (SS-304)	1
10	STUD	A2-70 (SS-304)	2
11	WASHER RING	A2 (SS-304)	2
12	COVER NUT	A2 (SS-304)	2
13	LIFTING EYEBOLT	STEEL GALV.	1
14	SPRING	STAINLESS STEEL 304	1

DN	INCH	L	H	ØA	PN16	DISC NUT	WEIGHT
					T	HEX	KG
50	2"	154	201	165	18	30	20
65*	2 1/2"	154	211	185	18	32	22
80	3"	154	218	200	18	36	26
100	4"	162	252	235	18	36	34
125	5"	162	269	270	18	50	44
150	6"	162	292	285	21	50	47
200	8"	162	331	350	22	55	74
250	10"	200	355	405	24	70	116
300	12"	200	415	480	24	70	150

DRAIN CONNECTION:

DN50-DN200 : G1/2"  
DN250-DN300 : G1"

COVER STUD/NUT:

DN50-DN80 : M20-NUT, HEX. 30  
DN100-DN250 : M24-NUT, HEX. 36  
DN300 : M30-NUT, HEX. 46

\* DN65-PN10/PN16 STANDARD SUPPLIED WITH 4 THREADED HOLES; 8 HOLES ACC. TO EN 1092-1 ON REQUEST

DATE:  
07-10-2014

REV. DATE:  
23-06-2015

**econ**<sup>®</sup>

DRAWN:  
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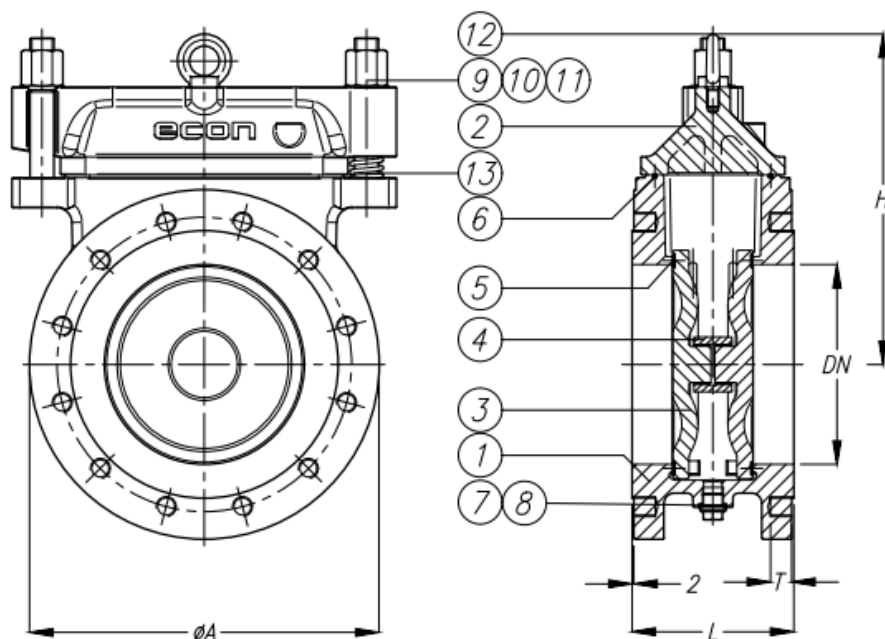
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## LINE BLIND VALVE OF STAINLESS STEEL, ECON FIG. 1579

FLANGES CAN BE DRILLED ACC. TO PN10, PN16, PN25

ANSI 150LBS, JIS5K, JIS10K AND JIS16K



POS	NAME	MATERIAL	QTY
1	BODY	ASTM A351 CF8M	1
2	COVER	ASTM A351 CF8M	1
3	DISC	ASTM A351 CF8M	2
4	DISC NUT	ASTM A351 CF8M	1
5	DISK SOFT SEAL	PTFE (VIRGIN)	2
6	COVER SEAL	TFM-1600	1
7	DRAIN SEAL RING	TFM-1600	1
8	BLIND PLUG (DRAIN)	A4 (SS-316)	1
9	STUD	A2-70 (SS-304)	2
10	WASHER RING	A2 (SS-304)	2
11	COVER NUT	A2 (SS-304)	2
12	LIFTING EYEBOLT	A2 (SS-304)	1
13	SPRING	STAINLESS STEEL 304	1

DN	INCH	L	H	ØA	T	HEX	KG
50	2"	154	201	165	18	30	20
65*	2 1/2"	154	211	185	18	32	22
80	3"	154	218	200	18	36	26
100	4"	162	252	235	18	36	34
125	5"	162	269	270	18	50	44
150	6"	162	292	285	21	50	47
200	8"	162	331	350	22	55	74
250	10"	200	355	405	24	70	116
300	12"	200	415	480	24	70	150

DRAIN CONNECTION:      COVER STUD/NUT:  
 DN50-DN200 : G1/2"      DN50-DN80 : M20-NUT, HEX. 30  
 DN250-DN300 : G1"      DN100-DN250 : M24-NUT, HEX. 36  
    DN300 : M30-NUT, HEX. 46

\* DN65-PN10/PN16 STANDARD SUPPLIED WITH 4 THREADED HOLES; 8 HOLES ACC. TO EN 1092-1 ON REQUEST

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07-10-2014REV. DATE:  
02-04-2015

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