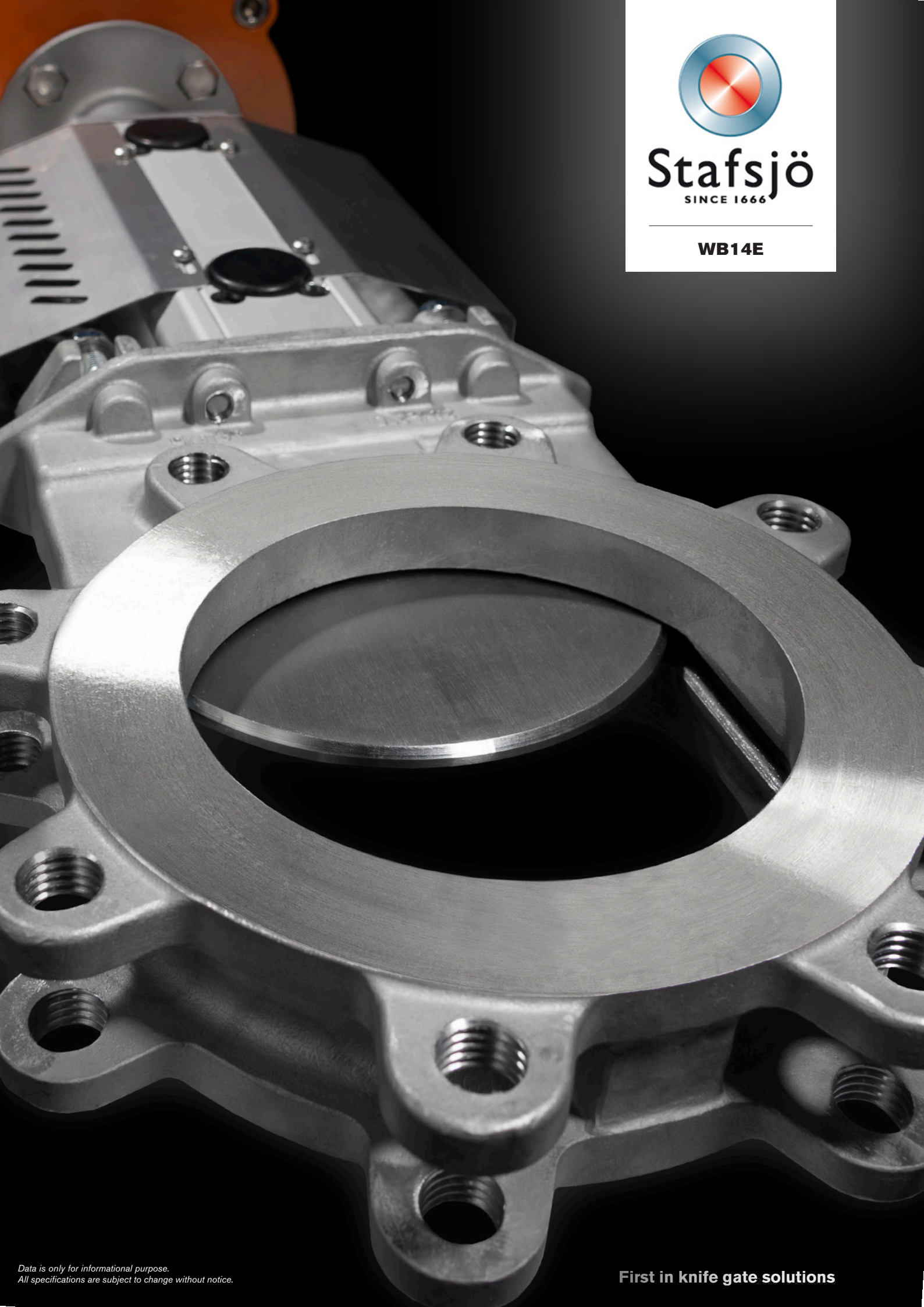


Stafsjö
SINCE 1666

WB14E



*Data is only for informational purpose.
All specifications are subject to change without notice.*

First in knife gate solutions

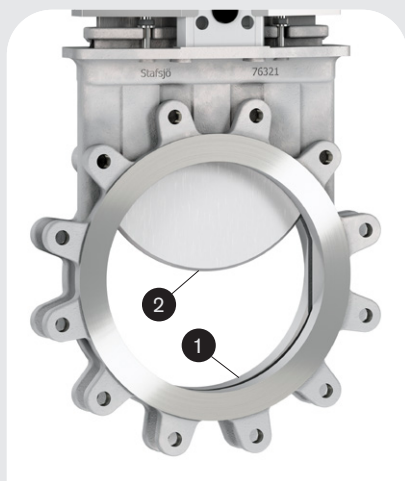
Knife gate valve WB14E

Stafsjö's WB14E knife gate valve is a high performance shut-off valve with superior flow characteristics, offering bi-directional zero leakage shut-off up to 150 psi/10 bar. It is suitable for fluids such as pulp stock, chemicals, sludge, bio mass, light slurries and water. The fully lugged body design is suitable for dead-end services.

The WB14E valve is modular designed and it can easily be customized in materials, with actuators and related automation accessories to different process conditions. The valve is also available with mechanical lock out. As standard the WB14E is supplied with stainless steel wetted parts including the fully lugged valve body, highly polished gate and gland. Up to 12" it has a one piece valve body and from 14" it features a rigid two piece version. The WB14E sealing system assure a first rate sealing.

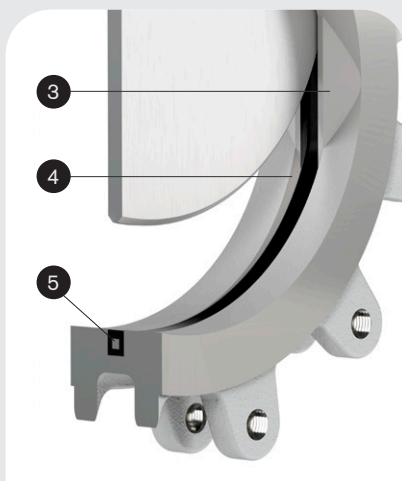


Product features



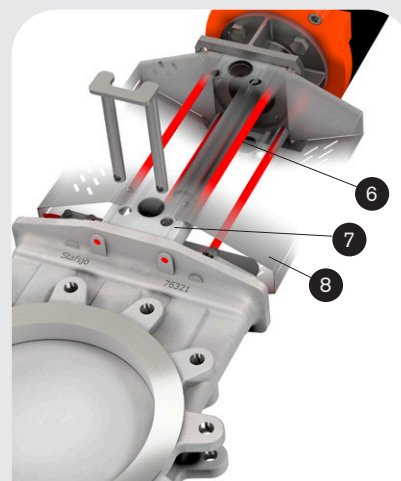
Full bore with superior flow characteristics

The cavity free bore (1) prevent any build up of media during operation. The highly polished gate (2) with the dual bevel edge and reduced gate profile make it easy for the gate to cut through the media. The design also prevents media from wedging between the gate and body as the valve closes.



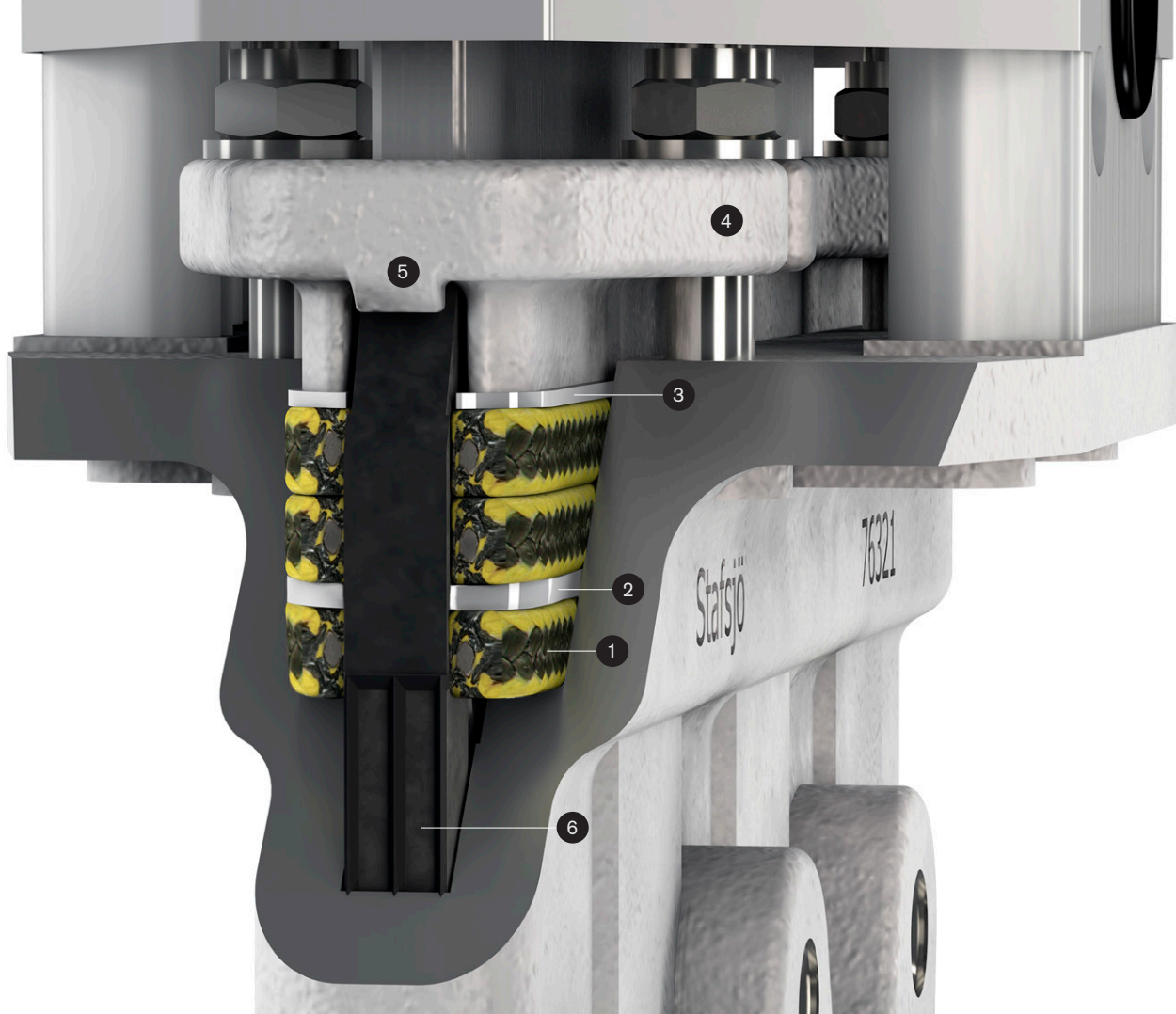
Bi-directional zero leakage shut-off

Gate guides (3) support the gate through the entire range of travel. In bottom of the guides, the relief areas (4) promote a self-cleaning, flushing action as the gate moves into the final stage of closure. The perimeter resilient seat provides tight shut-off in both directions. The seat is also reinforced with a stainless steel core (5) to enhance durability.



High strength top works

Smooth cycling and a tight shut-off independent of valve position is achieved by the high strength top works that provide an essential alignment for the gate. It utilizes stainless steel tie rods (6) encapsulated inside the structural beams (7). Stafsjö assemble stainless steel gate guards (8) as standard on all automated valves.



The WB14E sealing system

The WB14E valve is intended for use in a wide range of applications. A first rate sealing both internal and external is crucial for both plant efficiency and personnel safety. The sealing system consist of several features and components, all working together to perform during long periods of time and to provide a tight shut-off.

Stafsjö's TwinPack braids (1) perform the main external sealing operation in the system and offers high mechanical strength and excellent chemical resistance. It is made up by an elastic silicon rubber core surrounded by interlocked graphite filled PTFE fibres with additional strong interlocked aramide fibre reinforced corners (yellow). The TwinPack braids resist pH 2-13 and temperatures -76 °F up to 500 °F. The additional PTFE scraper (2) in between

the braids and on top (3) further reinforce the packings scraping function.

The gland (4) and gland bolts ensure even distribution of the gland force as the nuts are tightened. The linear locks (5) on the gland up to 12" securely hold the steel reinforced seat in position as the gate strokes. From 14" the seat is locked between the valve body halves.

The unique flexible profile (6) on the outside surface of the seat up to 12" energizes sealing, reducing friction and providing longer cycle life while the internal stainless steel reinforcement enhance the durability.

The WB14E valve can be supplied with seat in EPDM, Nitrile and the high temperature and chemical resistant FEPM (Fluoroelastomer) material.

FEPM 14 °F - + 356 °F

Excellent resistance to wide range of aggressive chemicals, both acids and bases, and steam at high continuous service temperatures including short term peaks up to + 225 °C

Unsuitable media and service

Limited resistance to mineral and aromatic oils and low temp.

EPDM -13 °F - + 248 °F

An allround durable chemical resistance rubber suitable for rather high media temperatures.

Unsuitable media and service

Petroleum (gasoline, kerosene, oil and grease) and sulphuric acid.

Nitrile -13 °F - + 212 °F

Alternative to EPDM with excellent resistance to petroleum (gasoline, oil, grease).

Unsuitable media and service

Chlorinated solvents, acetone, sulphuric acid, formic acid.

Pressure class

Max working pressure at 68 °F		Max differential pressure at 68 °F	
Size	psi/bar	Size	psi/bar
3" - 24"	150/10	3" - 12"	150/10
		14" - 18"	90/6 or 150/10
		20" - 24"	60/4 or 150/10

WB14E configurations

Standard version	High pressure 150 psi version
Sizes: 3" - 24" Valve body: Stainless steel EN 1.4408 Gate: Stainless steel EN 1.4404, AISI 316L Box packing: TwinPack with extra PTFE scrapers Top works: Stainless steel tie rods encapsulated in aluminum beams including stainless steel gate guards on automated valves Options and others from below	Sizes: 14" - 24" Valve body: Stainless steel EN 1.4408 Gate: Duplex stainless steel EN 1.4462, S32205 Box packing: TwinPack with extra PTFE scrapers Top works: Stainless steel tie rods encapsulated in aluminum beams including stainless steel gate guards on automated valves Options and others from below

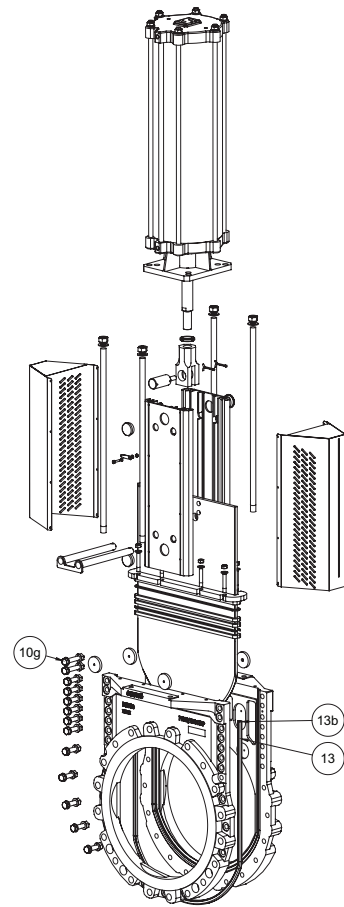
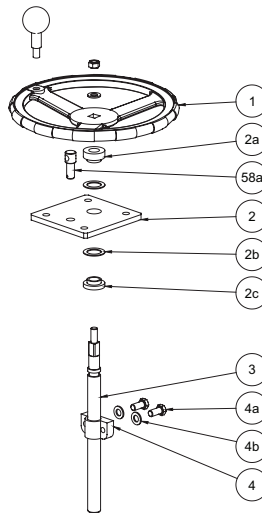
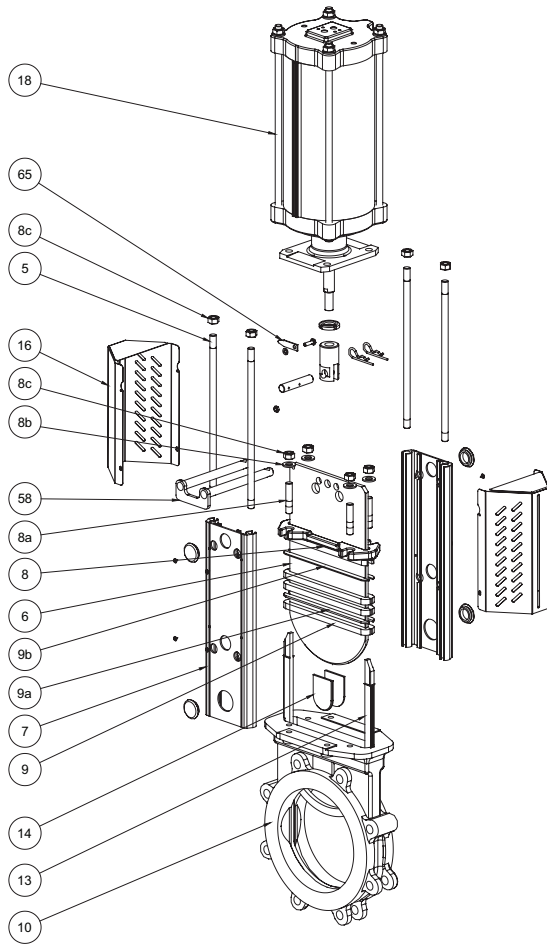
Options	
Valve body Stainless steel EN 1.4408 (Max +752 °F) 14" - 24": Duplex stainless steel EN 1.4470 (Max +482 °F) 14" - 24": 254 SMO Stainless steel (Max +750 °F)	Actuators Hand wheel with non-rising stem Chain wheel Hand lever Ratchet wrench Bevel gear Double-acting pneumatic cylinders Single-acting pneumatic cylinders Electric actuators Hydraulic actuator
Gate material and surface treatments Stainless steel EN 1.4404, AISI 316L Duplex stainless steel EN 1.4462, S32205 254 SMO stainless steel Hard chromed surface Extra polished surface (max Ra 0,8)	Flange drillings EN 1092 PN 10 ASME/ANSI B16.5 Class 150 AS 2129 Table D and E
Valve seat FEPM, EPDM or Nitrile	Accessories Limit switches, solenoid valves, mechanical lockouts, stem extensions etc. See our accessory data sheet for further information.
Box packings TwinPack with extra PTFE scrapers Top scraper in PTFE is optional	
Top works Stainless steel tie rods encapsulated in aluminum beams Stainless steel pillars ¹⁾ or beams	

Design standards	
Face-to-face dimensions According to MSS-SP81.	ATEX designs On request directive 2014/34/EU Group II category: 3 G/D (zone 2 or 22) 2 G/D (zone 1 or 21) 1 D (Zone 20)
Design, manufacturing, inspection and test According to pressure equipment directive 2014/68/EU category I and II module A2. The valves are CE marked when it is applicable. The WB14E meets the requirements of MSS SP-81.	
Stafsjö's valves are subject for pressure tests before delivery in opened and closed position with water at 20 °C according to EN 12266-1:2003 rate A. No visually detectable leakage is allowed for duration of the test.	
On request 2.2 test report and 3.1 inspection certificate according to EN 10204.	

¹⁾ Standard on valves supplied with valve body in Duplex or 254 SMO

One piece valve body: 3" - 12"

Two piece valve body: 14" - 24"



Part list

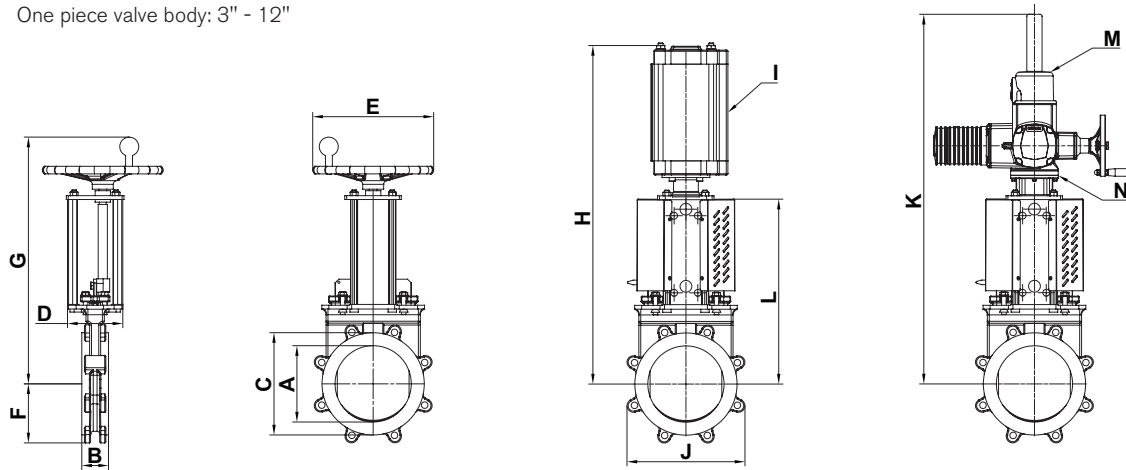
Pos.	Part	Material (Name)
1	Hand wheel	Coated cast iron Ø 8" - Ø 12" EN-JL1040, GG25, ≥ Ø 16" EN-JL1030, GG20
2	Yoke	Stainless steel EN 1.4301
2a	Bearing	Brass
2b	Slide washer	POM
2c	Bearing	Brass
3	Stem	Stainless steel EN 1.4016
4	Stem nut	Brass
4a	Washer	Stainless steel A2
4b	Bolt	Stainless steel A2
5	Tie rod	Stainless steel EN 1.4301
6	Gate	See options on page 4
7	Beam	Anodized aluminum
8	Gland	Stainless steel EN 1.4408
8a	Stud bolt	Stainless steel A2

Pos.	Part	Material (Name)
8b	Washer	Stainless steel A2
8c	Nut	Stainless steel A2
9 ¹⁾	Box packing	See options on page 4
9a ¹⁾	Box scraper	See options on page 4
9b ^{1, 2)}	Box top scraper	See options on page 4
10	Valve body	See options on page 4
10g	Valve body boltings	Stainless steel A2
13 ¹⁾	Seat	See options on page 4
13b ¹⁾	Pin short	Stainless steel EN 1.4301
14	Guiding pads	POM for max 248 °F, PTFE on request.
16	Gate guard	Stainless steel EN 1.4301
18	Pneumatic cylinder	See separate datasheet
58/a ²⁾	Locking pin	Stainless steel EN 1.4301
65 ²⁾	Gate indicator	Stainless steel EN 1.4301, Nylon 12

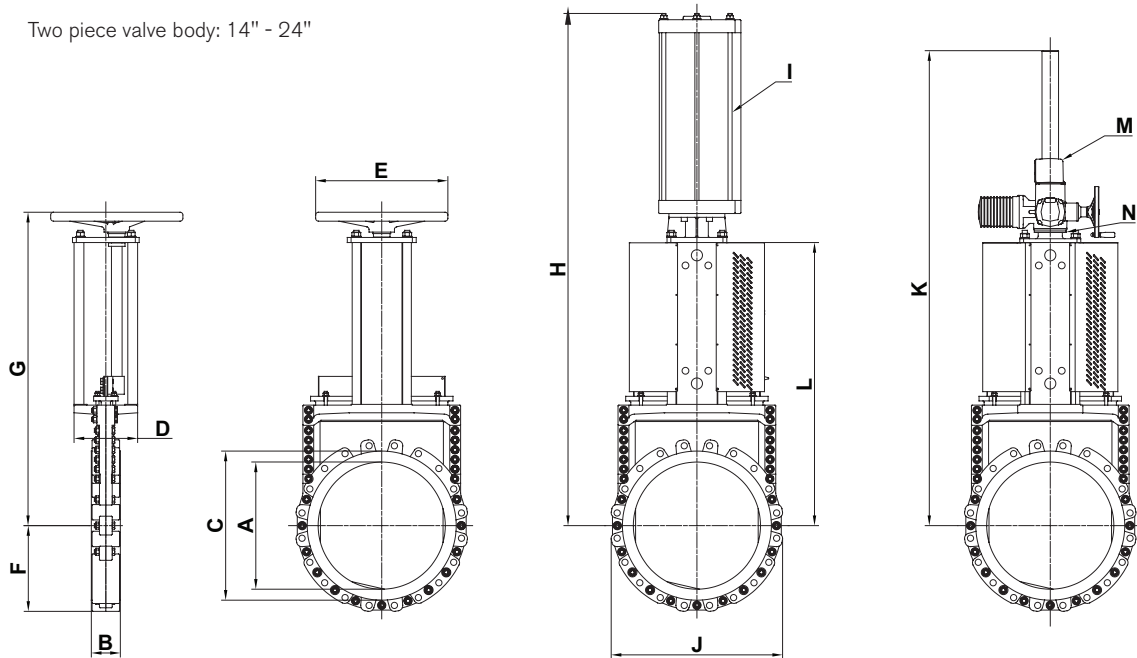
¹⁾ Recommended spare parts

²⁾ Accessories

One piece valve body: 3" - 12"



Two piece valve body: 14" - 24"



Main dimensions (inch)

Size	A	B	C	D	E	F	G	H ¹⁾	H ²⁾	I ³⁾	I ⁴⁾	J	K	L	M ⁵⁾	N ⁶⁾	lbs ⁷⁾
3	3.15	2.01	5.00	3.15	9.84	2.72	13.62	-	22.60	SC4.00	-	5.39	26.65	10.83	SA07.2	F10/A	26
4	3.94	2.05	6.02	3.15	9.84	4.02	15.00	-	27.64	SC5.00	-	8.03	28.03	12.20	SA07.2	F10/A	33
5	4.92	2.20	6.65	3.39	9.84	4.41	16.57	-	29.21	SC5.00	-	9.29	29.61	13.78	SA07.2	F10/A	40
6	5.91	2.20	8.35	3.15	9.84	5.04	18.27	-	30.87	SC5.00	-	10.08	31.26	15.43	SA07.6	F10/A	49
8	7.87	2.76	10.55	5.71	12.40	6.10	22.09	-	37.80	SC6.30	-	12.20	32.20	19.25	SA07.6	F10/A	82
10	9.84	2.72	12.60	5.71	12.40	7.64	25.87	-	45.47	SC6.30	-	15.28	35.98	22.80	SA07.6	F10/A	121
12	11.81	3.07	14.65	5.83	12.40	9.09	29.65	-	49.25	SC6.30	-	18.19	41.69	26.57	SA10.2	F10/A	157
14	13.78	3.07	16.93	7.09	15.75	9.88	34.65	60.75	60.75	SC8.00	SC8.00	19.72	48.35	30.83	SA10.2	F10/A	254
16	15.75	3.50	18.98	7.09	15.75	11.22	38.46	64.57	64.57	SC8.00	SC10.00	22.44	54.13	34.65	SA10.2	F10/A	342
18	17.72	3.50	20.94	9.84	20.47	12.13	45.39	74.65	74.65	SC8.00	SC10.00	24.21	64.41	40.71	SA10.2	F10/A	507
20	19.69	4.49	23.07	9.84	20.47	13.31	48.23	82.80	82.80	SC10.00	SC10.00	26.57	73.82	43.82	SA14.2	F14/A	595
24	23.62	4.49	27.01	9.84	20.47	15.75	56.54	90.83	94.61	SC10.00	SC12.60	31.50	85.83	51.85	SA14.2	F14/A	882

1) Dimensions standard version. Dimensions WB14E 14" - 18" 90/6 psi/bar version and 20" - 24" 60/4 psi/bar version.

2) Dimensions 150/10 psi/bar version 14" - 24".

3) Standard version: Recommended sizing of double-acting pneumatic cylinder type SC at normal operation with 75/5 psi/bar air pressure. For other operating conditions, contact Stafsjö for advice.

4) 150/10 psi/bar version 14" - 24": Recommended sizing of double-acting pneumatic cylinder type SC at normal operation with 75/5 psi/bar air pressure. For other operating conditions, contact Stafsjö for advice.

5) Recommended sizing of Auma SA electric motors at normal operation. For other operating conditions, contact Stafsjö or your local representative for advice.

6) Valve and Auma SA interface. The electric motors are mounted as standard according to ISO 5210 connection A (rising stem).

7) Weight in lbs for valve equipped with hand wheel.

Main dimensions are only for information. Contact Stafsjö for certified drawings.

Flange drilling according to ASME/ANSI B 16.5 Class 150

DN	3	4	5	6	8	10	12	14	16	18	20	24
Bolt circle diameter (mm)	6.00	7.50	8.50	9.50	11.75	14.25	17.00	18.75	21.25	22.75	25.00	29.50
Number of throughgoing bolts	-	-	-	-	-	-	-	-	-	-	-	-
Number of tapped holes/side	4	8	8	8	8	12	12	12	16	16	20	20
Bolt size (UNC)	5/8-11	5/8-11	3/4-10	3/4-10	3/4-10	7/8-9	7/8-9	1-8	1-8	1 1/8-7	1 1/8-7	1 1/4-7
Bolt lengths ¹⁾ (mm)	0.55	0.59	0.59	0.59	0.91	0.79	0.83	0.83	1.06	1.06	1.26	1.26

Flange drilling according to EN 1092 PN10

DN	3	4	5	6	8	10	12	14	16	18	20	24
Bolt circle diameter (mm)	6.30	7.09	8.27	9.45	11.61	13.78	15.75	17.72	20.28	22.24	24.41	28.54
Number of throughgoing bolts	-	-	-	-	-	-	-	-	-	-	-	-
Number of tapped holes/side	8	8	8	8	8	12	12	16	16	20	20	20
Bolt size	M16	M16	M16	M20	M20	M20	M20	M20	M24	M24	M24	M27
Bolt lengths ¹⁾ (mm)	0.43	0.59	0.59	0.59	0.71	0.79	0.83	0.75	1.06	1.14	1.26	1.26

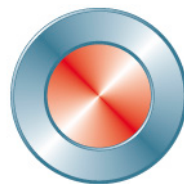
Flange drilling according to AS 2129 Table D

DN	3	4	5	6	8	10	12	14	16	18	20	24
Bolt circle diameter (mm)	5.75	7.01	8.27	9.25	11.50	14.02	15.98	18.50	20.51	22.99	25.24	29.76
Number of throughgoing bolts	-	-	-	-	-	-	-	-	-	-	-	-
Number of tapped holes/side	4	4	8	8	8	8	12	12	12	12	16	16
Bolt size	M16	M16	M16	M16	M16	M20	M20	M24	M24	M24	M24	M27
Bolt lengths ¹⁾ (mm)	0.43	0.59	0.59	0.59	0.71	0.79	0.83	0.83	1.06	1.06	1.26	1.26

Flange drilling according to AS 2129 Table E

DN	3	4	5	6	8	10	12	14	16	18	20	24
Bolt circle diameter (mm)	5.75	7.01	8.27	9.25	11.50	14.02	15.98	18.50	20.51	22.99	25.24	29.76
Number of throughgoing bolts	-	-	-	-	-	-	-	-	-	-	-	-
Number of tapped holes/side	4	8	8	8	8	12	12	12	12	16	16	16
Bolt size	M16	M16	M16	M20	M20	M20	M24	M24	M24	M24	M24	M30
Bolt lengths ¹⁾ (mm)	0.43	0.59	0.59	0.59	0.71	0.79	0.83	0.83	1.06	1.06	1.26	1.26

¹⁾ Add the values with the thickness of flanges, washers and gaskets.



Stafsjö
SINCE 1666

www.stafsjo.com

STAFSJÖ

50005E

Stafsjö Valves AB
SE-618 95 Stavsjö, Sweden

+46 11 39 31 00 | info@stafsjo.se
www.stafsjo.com