

Butterfly valves Sylax Gaz

DN 32 up to 150 mm

sylax[®]

Technical Data Sheet



Description

By concentrating the technologies in the field and by integrating technical solutions of the highest standard, Socla is realising its ambition :

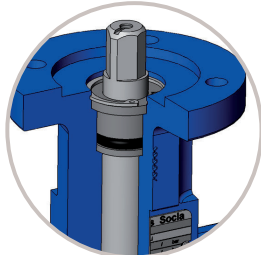
- the competitiveness of a standard range
- the reliability
- and comprehensive approach, offering a multiplicity of solutions



Butterfly valves Sylax Gaz

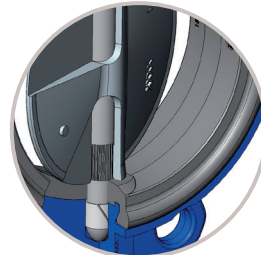
DN 32 up to 150 mm

- Multiple connections : centering lugs, tapped lugs, and ring shaped type body
- Vertical and horizontal operating position
- High power transmission with robust grooved connection between the shaft and the disc
- Easy maintenance by removing the circlips
- Interchangeable disc and liner
- Body in ductile iron EN-GJS-400-15 (5.3106)
- Body epoxy coated 80µm colour blue RAL 5017 (a lot of other coatings on option, please ask our sales department)
- Wide choice of actuations



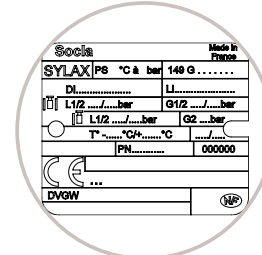
SAFETY

- > Safety anti-ejection circlip keeps shaft in place and allows easy maintenance (FM version only)
- > Safety reinforced by a secondary water tightness
- > Spline driven one piece shaft connected to floating disc : high reliability of tightness and torque transmission in the long term. Better torque values



PROTECTION AND RELIABILITY

- > High power transmission with robust grooved connection between the shaft and the disc.
- > Complete protection of the shaft and valve body from fluids.
- > Reliability of movements with self-lubricating bearings.

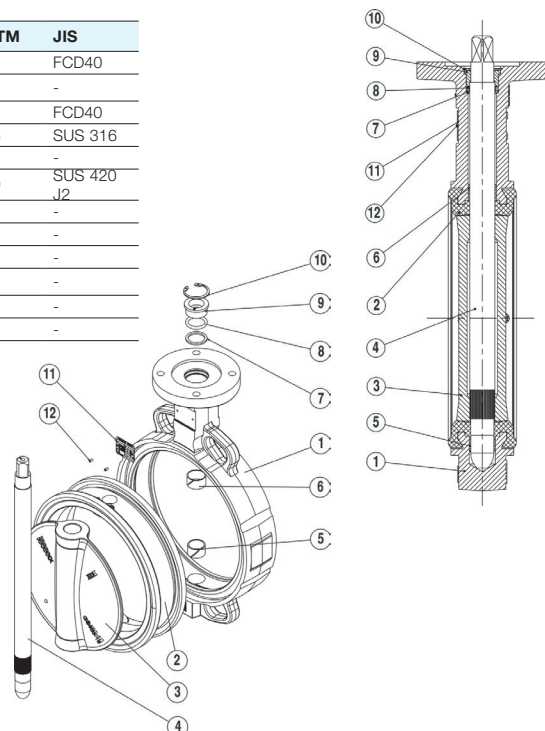


TRACEABILITY

- > Identification and traceability ensured by riveted metal tag (see on page 10)

Spare parts list and materials

N°	Description	Qty	Materials	EN	ASTM	JIS
1	Body	1	Ductile iron	EN GJS 400-15 (JS 1030)	-	FCD40
2	Liner		High content Nitrile	-	-	-
3	Disc	1	Ductile iron	EN GJS 400-15 (5.3106)	-	FCD40
			Stainless steel	GX5 CrNiMo 19-11-2 (1.4408)	316	SUS 316
			Alu-bronze*	CuAl10Fe5Ni5 (CC333G)	-	-
4	Stem		Stainless steel	X30 Cr13 (1.4028)	420	SUS 420 J2
5-6	Anti-friction bearing	1	Zinc coated steel + PTFE	-	-	-
7	Anti-extrusion bush	1	Plastic	IXEF 50FV	-	-
8	O-ring	1	Nitrile	-	-	-
9	Circlips	1	Steel	XC 75	-	-
10	Identification plate	1	Aluminium	EN AW - AL995 (EN AW - 1050A)	-	-
11	Rivet	2	Alu / Stainless steel	-	-	-



Approvals

DESIGN

According to EN 593 and marking according to EN 19

ISO TOP CONNECTION FOR ACTUATIONS

According to EN ISO 5211

FACE TO FACE

According to 558-1 serie 20
ISO 5752 serie 20
API 609 table 2

CONNECTING FLANGES (see on page 8)

According to EN1092-1 and EN1092-2
ASME/ANSI B16.5
BS10-d and BS10-e
JIS B2238 and JIS B2239

TESTS

According to EN12266-1
Resistance and tightness of the body : test P11(1,5 x allowable operating pressure)
Tightness of the seat : test P12 rate A (1,1 x allowable operating pressure)
According to EN12266-2
anti-static device : test F21

EUROPEAN DIRECTIVES

Our butterfly valves are in accordance to the safety requirements of the following directives :

• Directive 2014/68/UE : Equipments under pressure PED (Pressure Equipment Directive)

Applies to the design, manufacturing and the assessment of the conformity of pressure equipment, the maximum allowable pressure of which is 0.5 bar.

Pressure equipment for water supply, distribution, and disposal of water is excluded. Depending on the type of pressure equipment, maximum allowable temperature (PS), DN, physical nature of the fluid (liquid, gas or vapour) and the degree of danger of the fluid (group1/2)*, the directive classifies this same equipment into different categories (article 4.3, I, II, III, IV), required for the assessment of conformity with CE marking. The equipment defined in article 4.3 of the directive must not bear the CE marking.

Important notice : the indicated pressure for the different categories of fluids (L1/L2/G1/G2) is under no condition a guarantee of use. Therefore, it is essential to validate the use of products under given operating conditions. Socla is not responsible for modifications of the products to working conditions not previously specified by the customer.

DIRECTIVE 2014/68/UE EQUIPMENTS UNDER PRESSURE

Products manufactured in conformity with the requirements of the directive, according to pressure, DN and fluid (see on the precedent page).

LINERS	DN mm	Cat.	MONTING	PFA	PS			
					L1	L2	G1	G2
6 bar NITRILE	32 up to 100	I	Flanges	6			6	6
			End of line	4				4
	125 up to 300	II	Flanges	6			6	6
			End of line	4				4
8 bar NITRILE	32 up to 100	I	Flanges	8			8	8
			End of line	6				6
	125 up to 300	II	Flanges	8			8	8
			End of line	6				6

PS : Maximum allowable pressure (in bar) according to Directive 2014/68/UE
PFA : Allowable operating pressure (in bar) for supply, distribution and disposal of water.
NOTE : Butterfly valves of category II used as «end of line», please consult us.

Application



- Designed for domestic or industrial gas networks. NF ROB-GAZ, and DVGW (N° DG-4313BS0449, FGS-version only) approved
- In case of applications for gas with special temperatures, please ask our technical department

Installation

General remarks :

For safety reasons, the installation must take place under the supervision of authorised people taking account of local safety instructions and advice.

The handling of butterfly valves and their controls must be done by staff trained in all technical aspects of their operation.

Before installation the pipes must be depressurised and purged (empty of its fluid) in order to avoid any danger to the operator.

The pipe work must be correctly aligned so that no extra stress is exerted on the valve casing.

Check the compatibility of the connection flanges against the operating pressure : the PN number of the flanges must be greater or equal to the operating pressure.

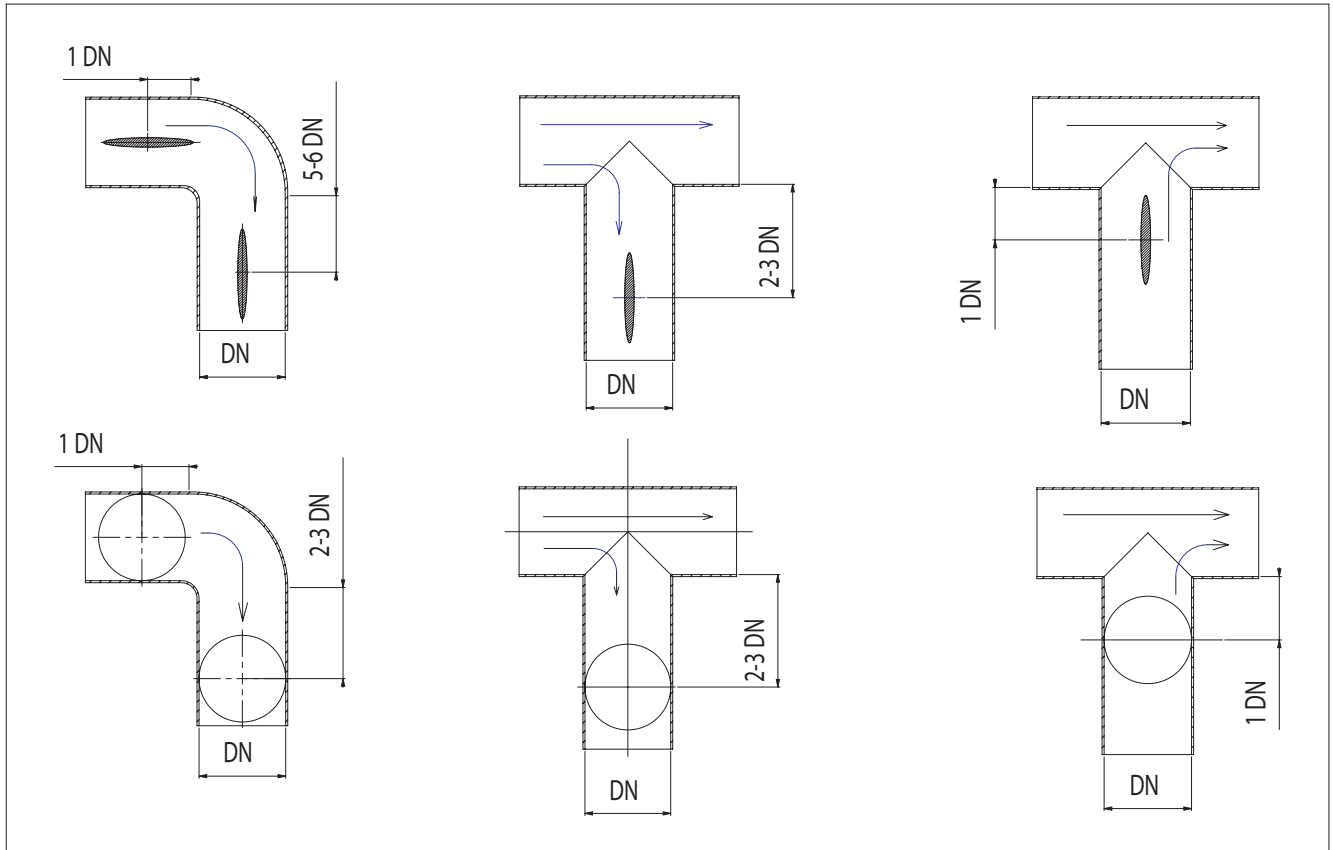
The valve is a machined piece of equipment and must not be used to prise apart the flanges.

An instruction notice specifying the installation characteristics and the commission of the Sylax Gas DN 32 up to 150 is available on our web site www.socla.com or on request by our sales department.

Installation conditions :

It is recommended that the distances mentioned below be respected in order to prolong the life time of the valve.

Mounting the valve close to pipe work junctions places it in turbulent zones which increase its wear.



Functioning characteristics

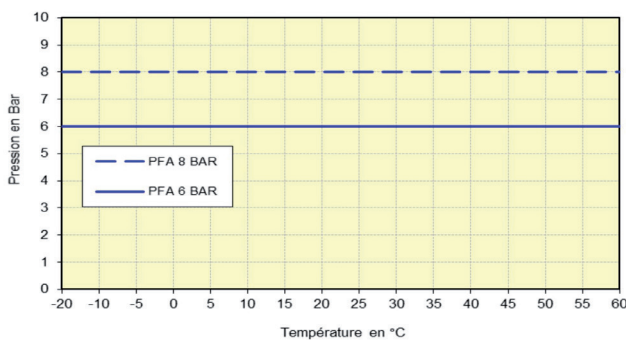
Torques values

Wet torques (Nm) NBR	32	40	50	65	80	100	125	150
PS6	23	23	35	47	75	120	190	240
PS8	23	23	45	63	94	141	210	295

NOTE : One actuation minimum per month.

Pressure/temperature diagram

NITRILE Liner - DN 32 up to DN 150



Flow rate (Kv)

OPENING STAGE Stainless steel Disc									
DN	10°	20°	30°	40°	50°	60°	70°	80°	90°
32/40	-	-	-	5	12	25	40	56	62
50	-	-	1	8	18	33	54	71	79
65	-	-	6	19	41	76	118	158	174
80	-	3	18	43	79	138	211	252	275
100	-	15	38	83	154	253	368	458	496
125	-	20	61	134	249	399	599	792	883
150	5	37	100	200	374	600	863	1109	1212

Kv = volume of water in m³/h through a valve at a preset opening stage and under a head loss of 1 bar.

The butterfly valve is not the best product for regulating Nevertheless, the Sylax gas DN 32-150 butterfly valve can be used to regulate by an opening stage between 30° and 90°.

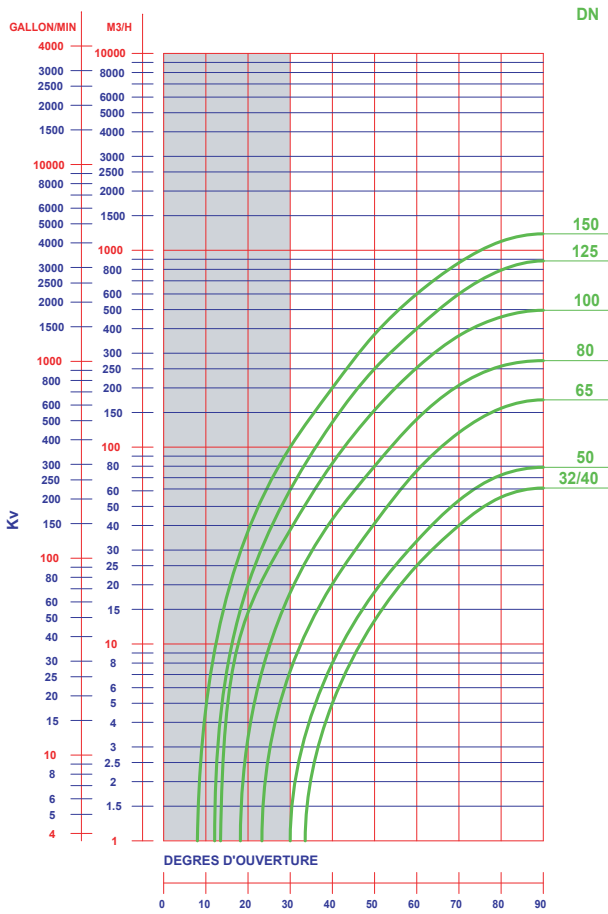
A regulation in the opening stage lower than 30° is not advisable because of over speed, cavitation effect, which could damage prematurely the valve.

The maximum flow velocity of the fluid through the valve must not exceed :

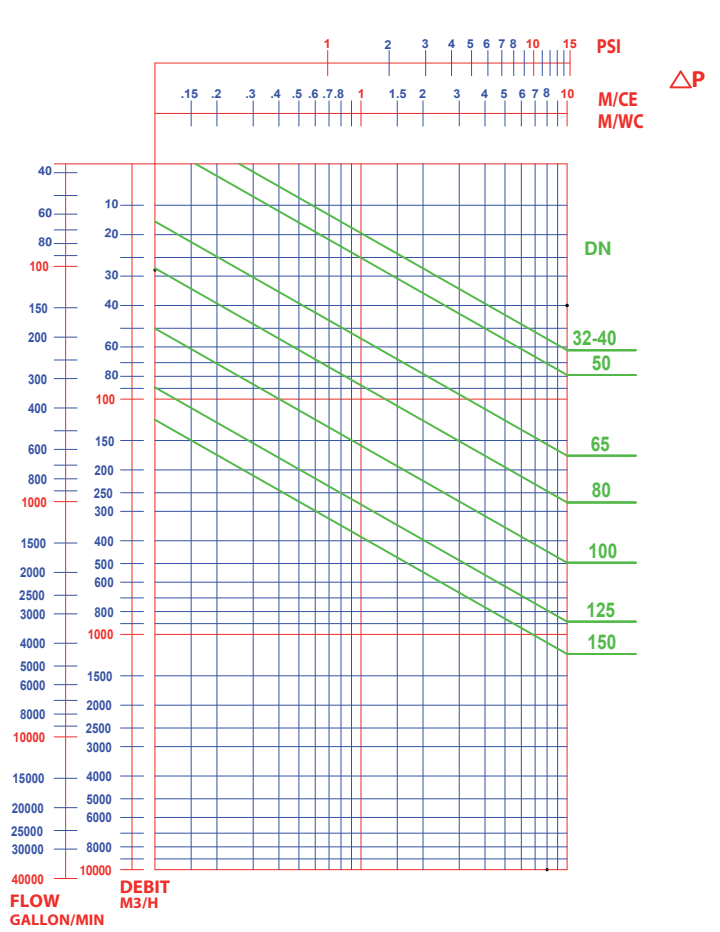
- 3 m/s for liquid fluids. Between 3 and 5m/s, the use of the Sylax Gas DN 32 up to 150 butterfly valve is possible, but the phenomena of cavitation, noise, vibration and water hammering increase.

- 20m/s for gas. Between 20 and 25m/s, the use of the Sylax Gas DN 32 up to 150 butterfly valve is possible, but the phenomena of cavitation, noise, vibration and water hammering increase.

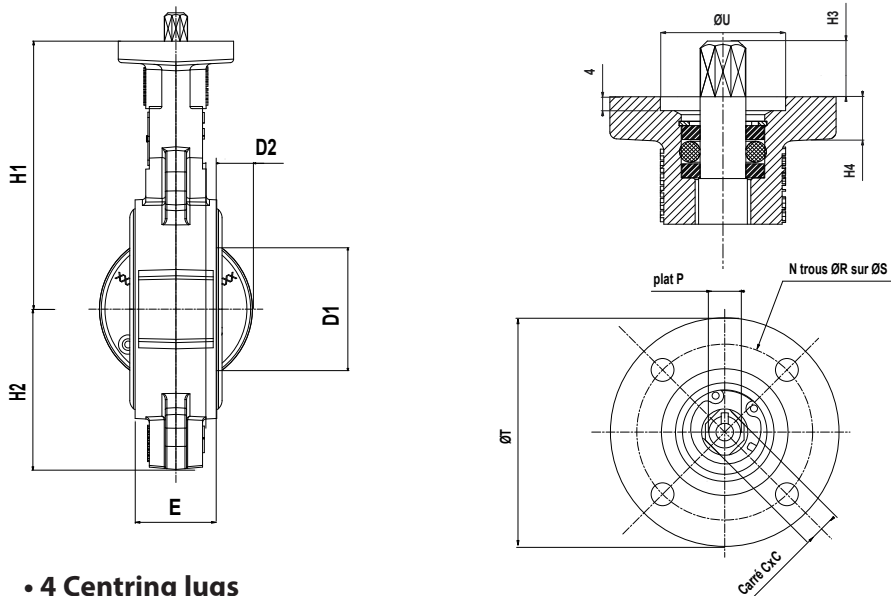
Flow rate (Kv)



Head loss diagram (Δp)



Overall dimensions

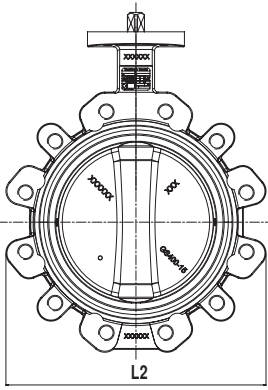


• 4 Centring lugs

Diameter	Face to face	Overall dimensions				ISO top according to EN ISO 5211					Square drive outlet		Travel of the disc		Weight (kg)			
		E	L1	H1	H2	H4	N	øR	øS	øT	øU	N°	□C	H3		Plat P	D1	D2
32/40	1 1/2	32	144	130	57	12	4	6,5	50	65	36	F05	11	16	11	31	6,5	1,9
50	2	43	121	136	62	12	4	6,5	50	65	36	F05	11	16	11	33	6	2,6
65	2 1/2	46	136	145	84	12	4	6,5	50	65	36	F05	11	16	11	55	13	2,9
80	3	46	127	151	89	12	4	6,5	50	65	36	F05	11	16	11	73	20	3,6
100	4	52	149	175	106	10	4	6,5	50	65	36	F05	11	16	11	87	25	4,4
125	5	56	182	190	120	12	4	8,5	70	90	56	F07	14	19	14	113	35	6,2
150	6	56	209	203	131	12	4	8,5	70	90	56	F07	14	19	14	141	48	7,1

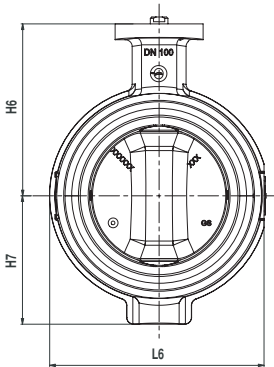
Body Ductile iron (EN GJS 400-15), Disc Ductile iron (EN GJS 400-15), Liner Nitrile

• Tapped lugs



Diameter		Face to face	Overall dimensions				ISO top according to EN ISO 5211					Square drive outlet			Travel of the disc		Weight (kg)	
DN	NPS	E	L1	H1	H2	H4	N	øR	øS	øT	øU	N°	□C	H3	PlatP	D1		D2
32/40	1 1/2	32	146	130	57	12	4	6,5	50	65	36	F05	11	16	11	31	6,5	1,9
50	2	43	121	136	62	12	4	6,5	50	65	36	F05	11	16	11	33	6	3
65	2 1/2	46	135	145	70	12	4	6,5	50	65	36	F05	11	16	11	55	13	3,3
80	3	46	179	151	89	12	4	6,5	50	65	36	F05	11	16	11	73	20	4,2
100	4	52	206	175	103	10	4	6,5	50	65	36	F05	11	16	11	87	25	6
125	5	56	238	190	119	12	4	8,5	70	90	56	F07	14	19	14	113	35	6,2
150	6	56	265	203	133	12	4	8,5	70	90	56	F07	14	19	14	141	48	7,1

Body Ductile iron (EN GJS 400-15), Disc Ductile iron (EN GJS 400-15), Liner Nitrile



• Ring shaped body

Diameter		Face to face	Overall dimensions				ISO top according to EN ISO 5211					Square drive outlet			Travel of the disc		Weight (kg)	
DN	NPS	E	L6	H6	H7	H4	N	øR	øS	øT	øU	N°	□C	H3	PlatP	D1		D2
50	2	43	104	99	66	12	4	6,5	50	65	36	F05	11	16	11	29	4,5	1,9
65	2 1/2	46	124	109	75	12	4	6,5	50	65	36	F05	11	16	11	48	10	2,4
80	3	46	140	115	82	12	4	6,5	50	65	36	F05	11	16	11	67	18	2,8
100	4	52	160	127	95	12	4	6,5	70	90	56	F07	14	19	14	88	25	4

Connecting kits for actuation

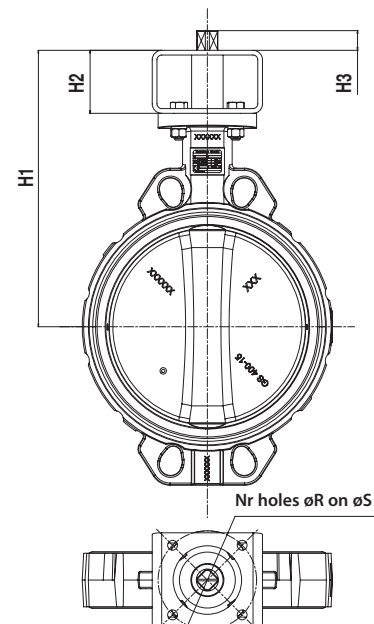
We recommend direct mounting of the actuation, otherwise see table below.

DN	NPS	ISO top of the valve	Iso top of the actuation												N°	N	øR	øS								
			F03		F04		F05		F07		F10		F12						F14		F16					
			H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2								
32	1 1/4	F05/□11	190	60	190	60	190	60	190	80													F03	4	5,5	36
40	1 1/2		190		190		190		190		190	210	F04	4	5,5	42										
50	2		199		199		199		199		219	F05	4	6,5	50											
65	2 1/2		205		205		205		205		225	F07	4	8,5	70											
80	3		210		210		210		210		230	F10	4	10,5	102											
100	4	235	235	235	235	255	F12	4	12,5	125								F14	4	17	140					
125	5	F07/□14	249	60	249	60	249	60	269													F16	4	22	165	
150	6		262		262		262		262	282																

DN	NPS	ISO top of the valve	Kit	Exceeding length of the shaft H3									
				□9	□11	□14	□17	□22	□27	□36	□46		
32	1 1/4	F05/□11	F03										
40	1 1/2		F04										
50	2		F05	7	9	12	15	20	25				
65	2 1/2		F07										
80	3		F10										
100	4	F07/□14	F04										
125	5		F05										
150	6		F07	9	12	15	20	25	34				
			F10										
		F12											
		F14											

Reminder of the iso top dimensions EN ISO 5211 (see also the overall dimensions)

Other special executions on request subjected to technical feasibility.



Connecting flanges

The valve type Sylax GAS can be mounted with the following connections (other types on request) :

- ✓ : possible mounting
- : possible mounting with re-machining
- : possible mounting but special reference
- : impossible mounting

• 4 Centring lugs

Diameter		EN1092-1 & EN1092-2					ASME/ANSI B16.1 Class 125	ASME/ANSI B16.5 Class 150	ASME/ANSI B16.5 Class 300	BS10		JIS B2238 & JIS B2239		
DN	NPS	PN6	PN10	PN16	PN25	PN40				Table D	Table E	5K	10k	16k
32	1 1/4	✓	✓	✓	✓	✓	●	●	✓	●	●	●	✓	●
40	1 1/2	✓	✓	✓	✓	✓	✓	✓	●	✓	✓	●	✓	●
50	2	✓	✓	✓	✓	✓	✓	✓	●	✓	✓	●	●	●
65	2 1/2	✓	✓	✓	✓	✓	✓	✓	●	●	●	✓	✓	●
80	3	✓	✓	✓	✓	✓	✓	✓	●	✓	✓	✓	●	●
100	4	✓	✓	✓	✓	✓	✓	✓	●	✓	✓	●	●	✓
125	5	✓	✓	✓	●	●	✓	✓	●	✓	✓	✓	✓	●
150	6	✓	✓	✓	●	●	✓	✓	●	✓	✓	✓	✓	●

• Tapped lugs

Diameter		EN1092-1 & EN1092-2					ASME/ANSI B16.1 Class 125	ASME/ANSI B16.5 Class 150	ASME/ANSI B16.5 Class 300	BS10		JIS B2238 & JIS B2239		
DN	NPS	PN6	PN10	PN16	PN25	PN40				Table D	Table E	5K	10k	16k
32	1 1/4	○	✓	✓	✓	✓	○	○	○	○	○	○	○	○
40	1 1/2	○	✓	✓	✓	✓	○	○	○	○	○	○	○	○
50	2	○	✓	✓	✓	✓	○	○	■	○	○	■	○	○
65	2 1/2	○	✓	✓	○	○	○	○	■	○	○	○	○	○
80	3	○	✓	✓	✓	✓	○	○	■	○	○	○	○	○
100	4	■	✓	✓	○	○	○	○	■	O(5)	○	○	○	○
125	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
150	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

DN65 PN10/16 4 holes

(5) Can be installed if the valve is tilted 22.5°

Attention : the lug type body is not a multi-connection body (connection to many flanges of different sizes). Generally, every connection relates to a different reference of finished products.

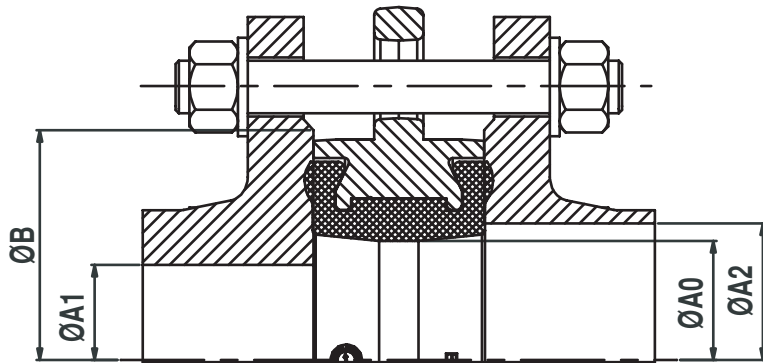
• Ring shaped body

Diameter		EN1092-1 & EN1092-2					ASME/ANSI B16.1 Class 125	ASME/ANSI B16.5 Class 150	ASME/ANSI B16.5 Class 300	BS10		JIS B2238 & JIS B2239		
DN	NPS	PN6	PN10	PN16	PN25	PN40				Table D	Table E	5K	10k	16k
50	2	●	✓	✓	✓	✓	●	●	✓	●	●	■	●	●
65	2 1/2	●	✓	✓	●	●	●	●	✓	■	■	●	●	●
80	3	●	✓	✓	✓	✓	●	●	✓	●	●	●	●	●
100	4	■	✓	✓	✓	✓	✓	✓	✓	●	●	■	●	✓

NB : end of line mounting : Impossible with this type of valve

Type of flange

The Sylax Gas DN 32 up to 150 butterfly valve has been designed to be mounted on standard flanges. Only standard flanges type 11, 21 and 34 according to EN 1092 are quite compatible. For other types of flanges, refer to the table below. Non appropriate connections will cancel our guarantee.

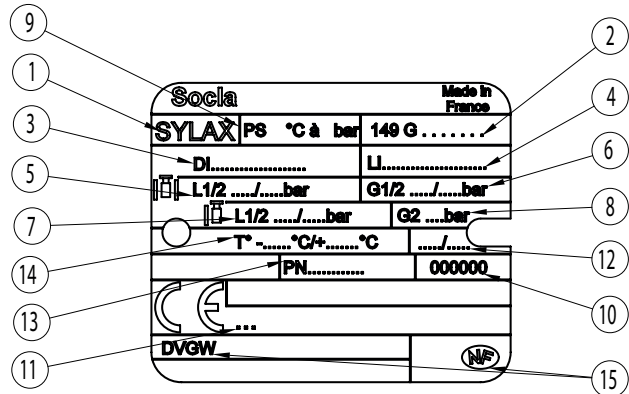


DN		Ø A0	Ø A1 mini	Ø A2 maxi	Ø B mini
32	1 1/4	43	33	51	80
40	1 1/2	43	33	51	80
50	2	54	40	60	90
65	2 1/2	70	59	74	110
80	3	85	78	91	128
100	4	100	97	108	148
125	5	125	119	143	178
150	6	150	146	166	202

NOTE : The use of compensation joints, as well as flanges elastomer coated, between flange and valve are strictly forbidden.

Tag and traceability

N°	Description
1	Name of the valve
2	Reference
3	Material of the disc
4	Material of the liner
5	Pressure PS between flanges L1/L2 (liquid)
6	Pressure PS between flanges G1/G2 (gas)
7	Pressure PS end flange L1/L2 (liquid)
8	Pressure PS end flange for Gas G2
9	Pressure PFA water 20°C
10	Number of manufacturing order
11	Notified Body for the Directive PED 2014/68/UE
12	Manufacturing date
13	Connecting flanges
14	Limit of use
15	Approvals



Bolts and nuts

NOTE : Bolts and nuts are not part of our standard supply

DN	NPS	a	e	EN 1092 PN6			EN 1092 PN10			EN 1092 PN16			EN 1092 PN25			ASME / ANSI B16.5 Class 150			
				*Nb rods or Nb screw	ØV	c	*Nb rods or Nb screw	ØV	c	*Nb rods or Nb screw	ØV	c	*Nb rods or Nb screw	ØV	c	*Nb rods or Nb screw	ØV Metric	ØV UNC**	c
32/40	1 1/2	32	14	4	M12	18	4	M16	24	4	M16	24	4	M16	24	4	M14	1/2"	18
50	2	43	18	4	M12	18	4	M16	24	4	M16	24	4	M16	24	4	M16	5/8"	24
65*	2 1/2	46	20	4	M12	18	8*	M16	24	8*	M16	24	8	M16	24	4	M16	5/8"	24
80	3	46	20	4	M16	24	8	M16	24	8	M16	24	8	M16	24	4	M16	5/8"	24
100	4	52	24	4	M16	24	8	M16	24	8	M16	24	8	M20	26	8	M16	5/8"	24
125	5	56	26	8	M16	24	8	M16	24	8	M16	24	8	M24	32	8	M20	3/4"	26
150	6	56	26	8	M16	24	8	M20	26	8	M20	26	8	M24	32	8	M20	3/4"	26

* For flanges in cast or ductile iron 4 holes M16 and for flanges in steel 8 holes M16 on the same drilling circle.

DN	NPS	a	e	BS10-d			BS10-e			JIS2238 & JIS2239 5K			JIS2238 & JIS2239 10K			JIS2238 & JIS2239 16K		
				*Nb rods or Nb screw	ØV UNC	c	*Nb rods or Nb screw	ØV UNC	c	*Nb rods or Nb screw	ØV	c	*Nb rods or Nb screw	ØV	c	*Nb rods or Nb screw	ØV	c
32/40	1 1/2	32	14	4	1/2"	18	4	1/2"	18	4	M12	18	4	M16	24	4	M16	24
50	2	43	18	4	5/8"	24	4	5/8"	24	4	M12	18	4	M16	24	8	M16	24
65	2 1/2	46	20	4	5/8"	24	4	5/8"	24	4	M12	18	4	M16	24	8	M16	24
80	3	46	20	4	5/8"	24	4	5/8"	24	4	M16	24	8	M16	24	8	M20	26
100	4	52	24	4	5/8"	24	8	5/8"	24	8	M16	24	8	M16	24	8	M20	26
125	5	56	26	8	5/8"	24	8	5/8"	24	8	M16	24	8	M20	26	8	M22	26
150	6	56	26	8	5/8"	24	8	3/4"	26	8	M16	24	8	M20	26	12	M22	26

*** WAFER TYPE BODY :**

Assembly by rods :Number of nuts and washer = 2 x Number of rods (above)

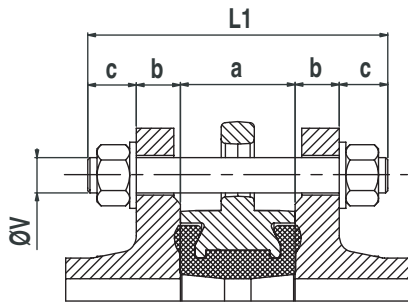
Assembly by bolts :Number of nuts = Number of screws (above) and number of washer = 2 x Number of nuts

*** LUG TYPE BODY :**

Assembly by screws :Number of screw per face (above) and number of washer is the same

**** ASME / ANSI B16.5 Class 150 : ØV UNC threading in inch ; for metric threading, please consult us.**

Bolts and nuts



For wafer type body ; assembly by rods :

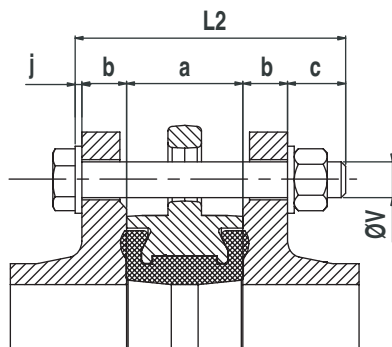
$$L1 = a + 2(b+c)$$

L1 = minimum length of rods

a = width of the butterfly valve (face to face dimension)

b = thickness of the flange (customer)

c = thickness of washer + thickness of nut + exceeding length of the rod.



For wafer type body ; assembly by bolts :

$$L2 = a + 2b + c + j$$

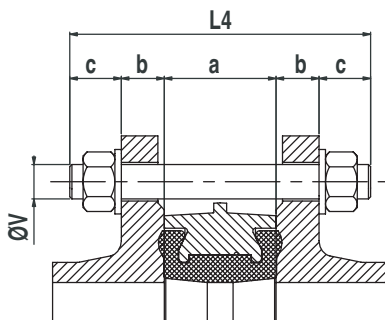
L2 = minimum length under head of screw

a = width of the butterfly valve

b = thickness of the flange (customer)

c = thickness of washer + thickness of nut + exceeding length of the rod

j = thickness of washer at the head of the screw.



For annular type ; assembly by rods :

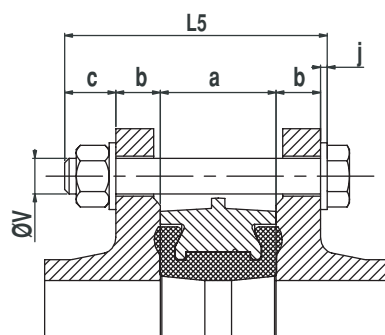
$$L4 = a + 2(b+c)$$

L4 = minimum length of rods

a = width of the butterfly valve (face to face dimension)

b = thickness of the flange (customer)

c = thickness of washer + thickness of nut + exceeding length of the rod.



For annular type ; assembly by bolts :

$$L5 = a + 2b + c + j$$

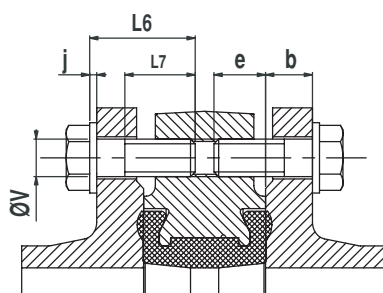
L5 = minimum length under head of screw

a = width of the butterfly valve

b = thickness of the flange (customer)

c = thickness of washer + thickness of nut + exceeding length of the rod

j = thickness of washer at the head of the screw.



For lug type body ; assembly by screws :

$$L6 \leq b + e + j \text{ with } L7 \geq L6 - (b + j)$$

L6 = maximum length under head of screw

L7 = minimum length of the threading of the screw

a = width of the butterfly valve (face to face dimension)

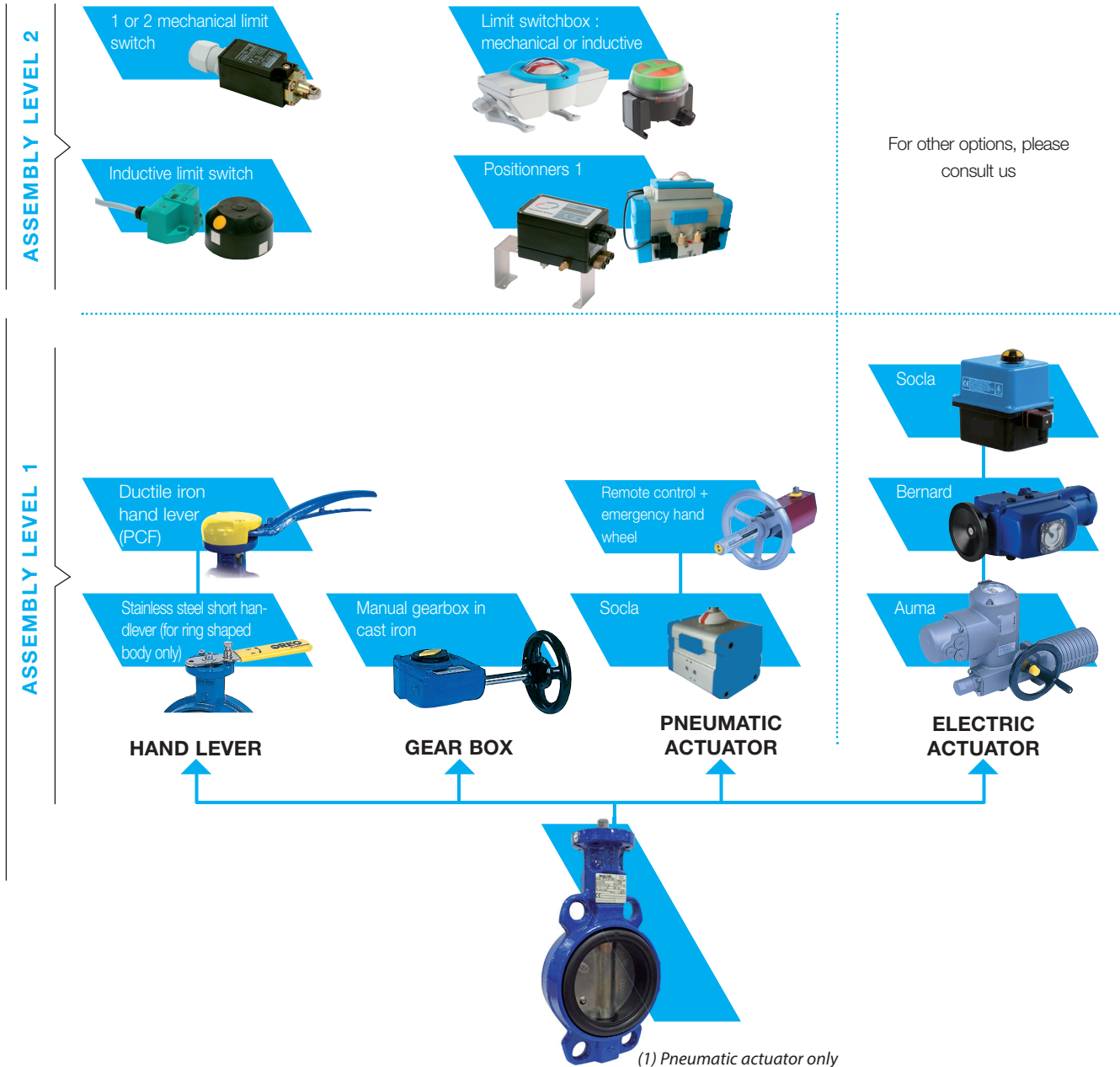
b = thickness of the flange (customer)

e = maxi depth of screw

j = thickness of washer

Actuations

Find below the different standard assembly combinations.
For any other information, please ask our technical Department.



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