

Applications

- General circuits: water, fuel, oil, gas.
- O.E.M.
- Flow shut-off or regulation functions in the sectors including water supply, treatment, distribution, sewage, irrigation.

Working conditions

- Temperature: from -10 °C minimum up to +110 °C maximum.
- Allowable pressure (PS):
 - 16 bar: DN 40 to 200 at ambient temperature,
 - 10 bar: DN 250 to 1000 at ambient temperature.
 - 10 bar: BOAX-B Gaz DN 40 to 300.

Materials

See page 2.

Design

- Semi lug type body (Type 2): DN 40 to 600
- Full-lug type body with raised faces (Type 4): DN 40 to 600
- Wafer type body (Type 1): DN 650 to 1000
- Flanged body with flat faces (Type 5): DN 150 to 1000
- Possible downstream dismantling and end of line for bodies Type 2, 4 and 5.
- Elastomer liner: an extra volume of rubber, located at the shaft passages areas, provides by compression between the valve body and the disc edge a perfect leak-tightness at the shaft passages.
- Spherical machined disc ensures perfect upstream/downstream sealing: zero leakage visible to the naked eye.
- Face-to-face dimensions in accordance with: ISO 5752 series 20, EN 558-1 series 20.
- Connection standard defined page 12.
- Heat barrier between the valve and the handle.
- Mounting plate meeting the ISO 5211 standards.
- Marking in accordance with EN 19.
- Design in accordance with EN 593

- Valves perfectly tight shut-off (no visible leakage at the naked eye) in either flow direction, in accordance with the following standards: EN 12266-1 leak level A and ISO 5208 category A.
- Contains no asbestos, CFC, PCB and substances impairing paint wetting.
- Body coated with polyurethane paint, thickness 80 µm, colour light blue ref. RAL 5012 conforming with the water specifications.
- Discs in spheroidal graphite cast iron coated with epoxy paint, colour brown ref. RAL 8012, for drinking water.
- The valves meet the safety requirements of the pressure Equipments Directive 97/23/EC (PED) appendix I for liquids of the group 1 and fluids of the group 2.
- A remote valve can be considered as a partly completed machine in compliance with the requirements of the machinery directive 2006/42/EC.
- The valves comply with the requirements of the REACH regulation 1907/2006 .

Standard variants

- BOAX-B Gaz with CR yellow handle (DN ≤ 300)
- BOAX-B Mat P-da /-sa : Valve with pneumatic actuator (DN ≤ 300)
- BOAX-B Mat E: Valve with electric actuator (DN ≤ 300)
- Pneumatic actuators ACTAIR / DYNACTAIR
- Electric actuator ACTELEC
- Position detection AMTROBOX
- Pneumatic distribution for On-Off function AMTRONIC
- Positioner and control unit SMARTRONIC

Remarks

- Actuator selection 8450.11/-.90
- Operating instructions 8411.801/-.90

Data to be supplied when ordering

- BOAX-B valve in accordance with type leaflet 8409.11/11-10
- Size, connection, actuation
- Working conditions: nature of fluid, pressure, flow, temperature



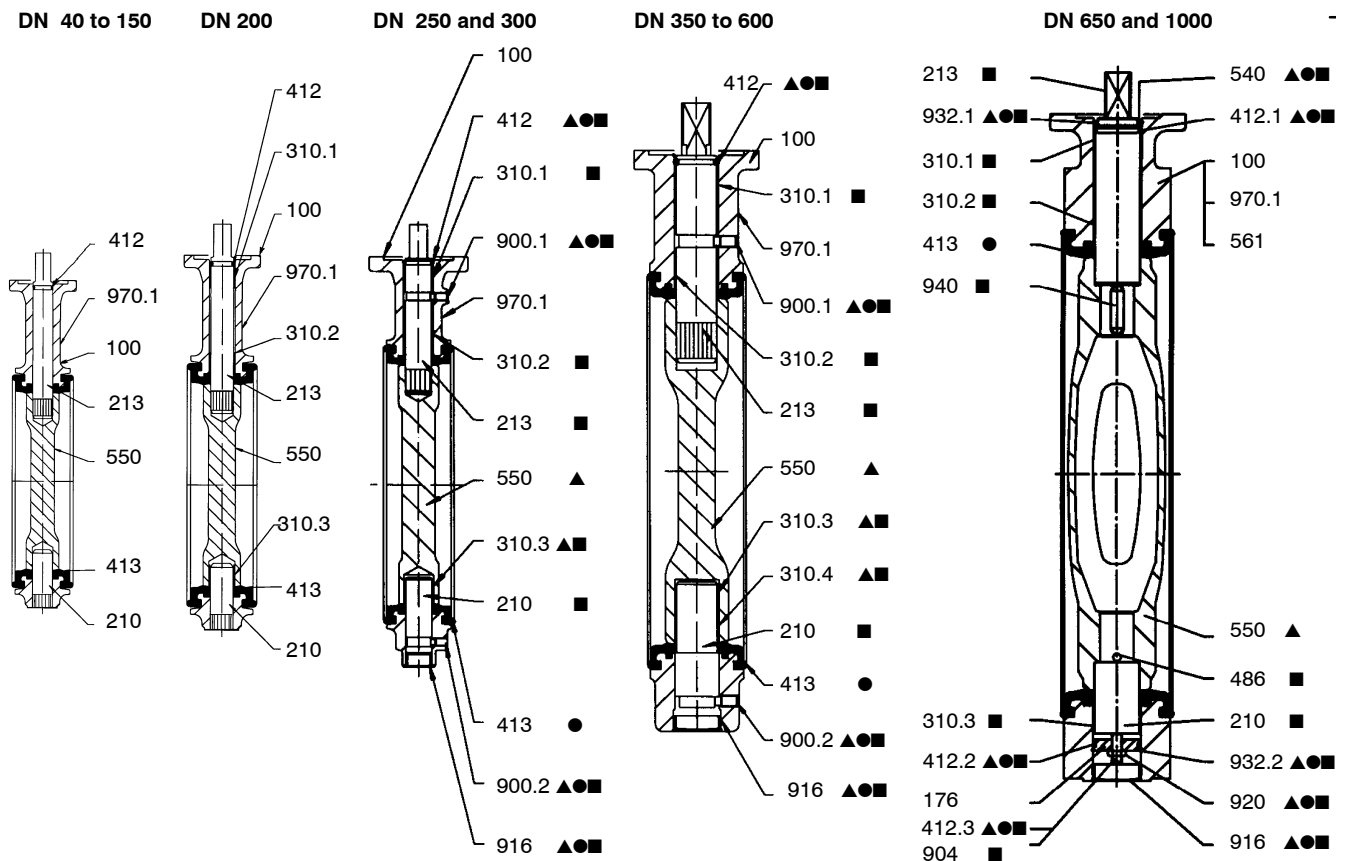
Materials

Body	KSB code
Type 2: Spheroidal graphite cast iron JS 1030 Type 4: Spheroidal graphite cast iron JS 1030 Type 1: Spheroidal graphite cast iron JS 1030 / ASTM A536 gr. 60.40.18 Type 5: Spheroidal graphite cast iron JS 1030 / ASTM A536 gr. 60.40.18	DN 40 to 600 DN 40 to 600 DN 650 to 1000 DN 150 to 1000
	3g 3g 3g 3g
Shafts	KSB code
Stainless steel 1.4029 (13 % Cr)	DN 40 to 1000
	6k
Disc	KSB code
Aluminium-bronze CC333G/C95800 (on request) Spheroidal graphite cast iron JS 1030 Stainless steel 1.4308 / ASTM A351 gr.CF8	DN 40 to 600 DN 40 to 1000 DN 40 to 1000
	2 3g 6g
AMRING® liner	KSB code
E.P.D.M drinking water approved (Temperature: from -10 °C mini up to +110 °C maxi) - ACS (french rules) approved - WRAS (english rules) approved - DVGW (german rules) approved High content nitrile (Temperature: from -5 °C mini up to +90 °C maxi) For gaz application (Temperature: from -20 °C mini up to +60 °C maxi) Epichlorhydrine for gaz application - NF ROB. Gaz Nr ROB. 095 (french rules) approved (Temperature: from -20 °C mini up to +60 °C maxi) - DVGW Gaz (german rules) approved	XC K EG

Vacuum limits

DN	NPS	Minimum pressure (absolute bar)	Maximum temperature
40 to 300	1 ½ to 12	$1,33 \cdot 10^{-5}$ (10^{-2} torr)	90°C
350 to 1000	14 to 40	0,3 bar	90°C

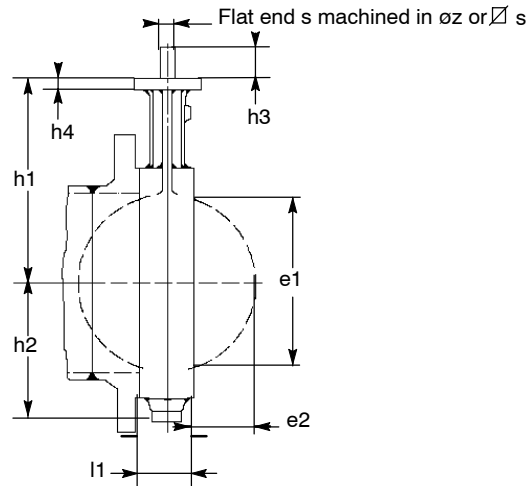
Construction



● Spare parts included in the liner kit ▲ Spare parts included in the disc kit ■ Spare parts in the shaft kit

Item	Designation	DN	Materials
100	Body	40 to 1000	Refer to materials paragraph page 2
176	Bottom	650 to 1000	Steel
210	Shaft	40 to 1000	Stainless steel
213	Operating shaft	40 to 1000	Stainless steel
310.1	Plain bearing	200 to 1000	PTFE filled on steel casing
310.2	Plain bearing	200 to 1000	PTFE filled on steel casing
310.3	Plain bearing	200 to 1000	PTFE filled on steel casing
310.4	Plain bearing	350 to 600	PTFE filled on steel casing
412	O-ring	40 to 600	Nitrile
412.1	O-ring	650 to 1000	Nitrile
412.2	O-ring	650 to 1000	Nitrile
412.3	O-ring	650 to 1000	Nitrile
413	Liner	40 to 1000	Refer to materials paragraph page 2
486	Ball	650 to 1000	Stainless steel
540	Split bush	650 to 1000	Acetal
550	Disc	40 to 1000	Refer to materials paragraph page 2
561	Grooved nail	650 to 1000	Stainless steel
900.1	Anti blow-out screw	250 to 600	Stainless steel
900.2	Anti blow-out screw	250 to 600	Stainless steel
904	Adjusting screw	650 to 1000	Steel
916	Plug	250 to 1000	Polyethylene
920	Nut	650 to 1000	Steel
932.1	Spring retaining ring	650 to 1000	Steel
932.2	Spring retaining ring	650 to 1000	Steel
940	Key	650 to 1000	Steel
970.1	Identity plate	40 to 600 650 to 1000	Polyester + adhesive Stainless steel

To order spare parts in the kit, it is necessary to valve codification mentioned on the identity plate.

Dimensions


mm

DN	NPS	Face to face l1	Mounting plate ISO 5211		Flat shaft end			Square shaft end		Disc clearance			
			h1	h2	n°	h4	s	øz	h3	∅ s	h3	e1	e2
40	1 1/2	33	105	51	F05	10	11	14	24			32	4
50	2	43	109	55	F05	10	11	14	24			33	4
65	2 1/2	46	136	67	F05	10	11	14	24			55	11
80	3	46	142	73	F05	10	11	14	24			71	17
100	4	52	163	92	F05	10	14	18	24			90	23
125	5	56	176	105	F05	10	14	18	30			119	35
150	6	56	194	120	F07	12	14	18	30			144	46
200	8	60	222	150	F07	12	19	25	35			196	69
250	10	68	255	194	F10	15	19	25	35			249	92
300	12	78	282	226	F12	18	22	28	40			297	111
350	14	78	335	269	F12	23				25	45	326	127
400	16	102	380	298	F14	23				36	55	370	140
450	18	114	410	329	F14	23				36	55	422	160
500	20	127	440	359	F14	27				36	55	470	178
600	24	154	495	439	F16	27				50	65	566	215
650	26	165	535	451	F16	26				50	65	620	235
700	28	165	560	482	F16	26				50	65	671	260
750	30	190	590	513	F16	26				50	65	717	273
800	32	190	615	546	F16	26				50	65	769	298
900	36	203	665	588	F25	30				60	80	869	341
1000	40	216	735	646	F25	30				60	80	970	385

Hydraulic characteristics

DN	NPS	Flow coefficient valve in fully open position		Zeta
		Kvo	Cvo	
40	1 ½	65	75	0,97
50	2	130	151	0,59
65	2 ½	275	319	0,38
80	3	500	580	0,26
100	4	750	870	0,28
125	5	1 650	1 914	0,14
150	6	2 600	3 016	0,12
200	8	4 100	4 756	0,15
250	10	6 550	7 598	0,15
300	12	8 550	9 918	0,18
350	14	11 100	12 876	0,19
400	16	14 600	16 936	0,19
450	18	18 200	21 112	0,20
500	20	22 100	25 636	0,20
600	24	30 200	35 032	0,23
650	26	37 700	43 730	0,20
700	28	47 500	55 100	0,17
750	30	51 500	59 740	0,19
800	32	63 500	73 660	0,16
900	36	84 700	98 250	0,15
1000	40	108 500	125 860	0,14

Operating torques*

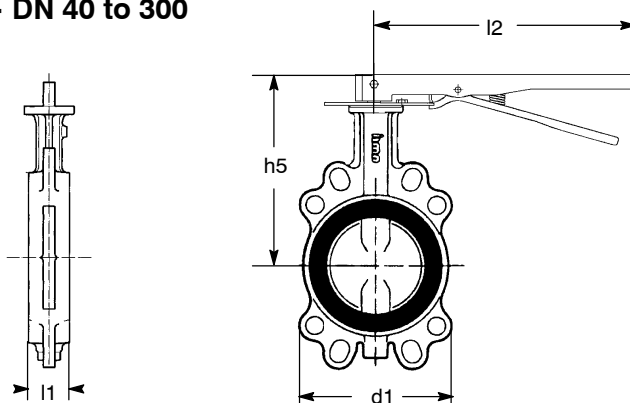
DN	NPS	Operating torques* (in Nm)		
		10 bar (lubricated)	10 bar (non lubricated)	16 bar (lubricated)
40	1 ½	10	20	20
50	2	20	30	30
65	2 ½	30	40	40
80	3	40	50	50
100	4	60	70	70
125	5	80	100	100
150	6	130	140	140
200	8	170	210	210
250	10	220	330	
300	12	380	520	
350	14	500	720	
400	16	650	980	
450	18	800	1 200	
500	20	1 000	1 500	
600	24	1 400	2 100	
650	26	1 700	3 200	
700	28	2 000	3 600	
750	30	2 300	3 900	
800	32	2 600	4 000	
900	36	3 400	5 000	
1000	40	4 100	6 000	

* The safety coefficient to define the adapted actuator is included in the torque value.

Manual control

The actuator selection for lubricated medium proposed in the table below are defined for the maximum fluid velocity mentioned. According to the working conditions and the hydraulic characteristics, upper fluid velocities can be admitted, therefore other actuators selections can be proposed: please consult us.

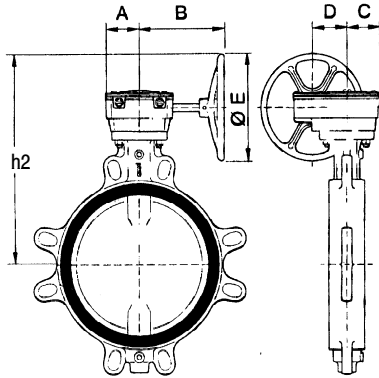
Manual control - CR handle - DN 40 to 300



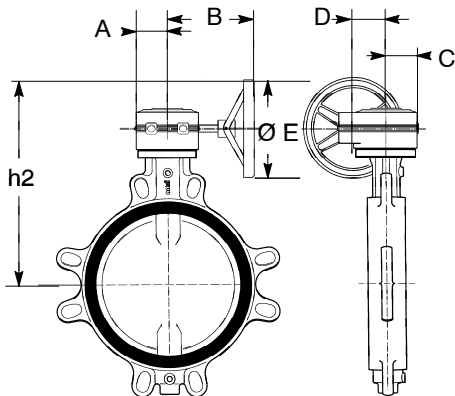
DN		Control by CR handle					
mm	NPS	l1	d1	l2	h5	Weight* (kg)	
						Semi-lug type body (T2)	Full-lug type body (T4)
40	1 ½	33	108	CR 165	157	1,5	2,3
50	2	43	118		162	1,8	2,8
65	2 ½	46	132		188	2,5	3,3
80	3	46	138		194	3,1	4,8
100	4	52	150	CR 230	215	4,7	5,8
125	5	56	234	CR 300	249	6,1	9,5
150	6	56	260		266	8,3	11,5
200	8	60	322	CR 510**	305	13,5	27,0
250	10	68	394		338	19,4	42,0
300	12	78	462		365	33,0	49,0

* The indicated weights are those of the unit valve + handle.

** Only for lubricated application

MN and MR reducers - 10 bar version


DN	NPS	Maxi. fluid velocity (m/s)	Action-neur	A (mm)	B (mm)	C (mm)	D (mm)	Ø E (mm)	h2 (mm)	Weight MR (kg)	
Lubricated medium											
250	10	3,0	MN 25	64	202	60	50	200	361	2,3	
300	12			MN 40	70	225	60	60	200	422	3,4
350	14			MN 80	90	245	70	75	250	483	5,0
400	16		2,5	MR 100	86	233	88	88	350	598	15,0
450	18									617	
500	20									677	
600	24									743	
650	26		2,0	MR 200	120	270	108	117	350	783	24,0
700	28									808	
750	30									860	
800	32	1,5	MR 400	229	332	115	125	350	885	58,0	
900	36								898		
1000	40								1 005		
Non lubricated medium											
250	10	3,0	MN 40	70	225	60	60	225	393	3,4	
300	12			MN 80	90	245	70	75	225	429	5,0
350	14			MR 100	86	233	88	88	350	483	
400	16		2,5	MR 200	120	270	108	117	350	617	15,0
450	18									658	
500	20									688	
600	24									743	
650	26		2,0	MR 400	229	332	115	125	350	805	58,0
700	28									830	
750	30									860	
800	32	1,5	MR 600	271	511	155	140	600	885	105,0	
900	36								1074		
1000	40								1144		

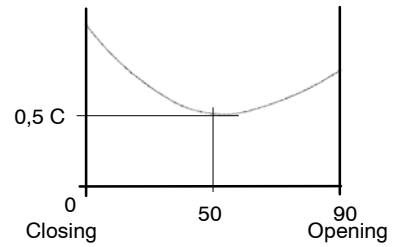
MN reducers - 16 bar version


DN	NPS	Maxi. fluid velocity (m/s)	Actuator	A (mm)	B (mm)	C (mm)	D (mm)	Ø E (mm)	h2 (mm)	Weight MR (kg)								
40	1 ½	3,0	MN 12	49	135	42	40	160	203	1,6								
50	2								208									
65	2 ½								234									
80	3								240									
100	4								261									
125	5								275									
150	6								338		MN 25	64	202	60	50	200	366	2,3
200	8																	

BOAX-B Mat P-da, double acting pneumatic actuated BOAX-B with ACTAIR-B

Air pressure: 3 to 6 bar

Especially designed for the remote operation of BOAX-B valves, this scotch-yoke kinematic actuator develop a variable output torque with point at the valve close position.

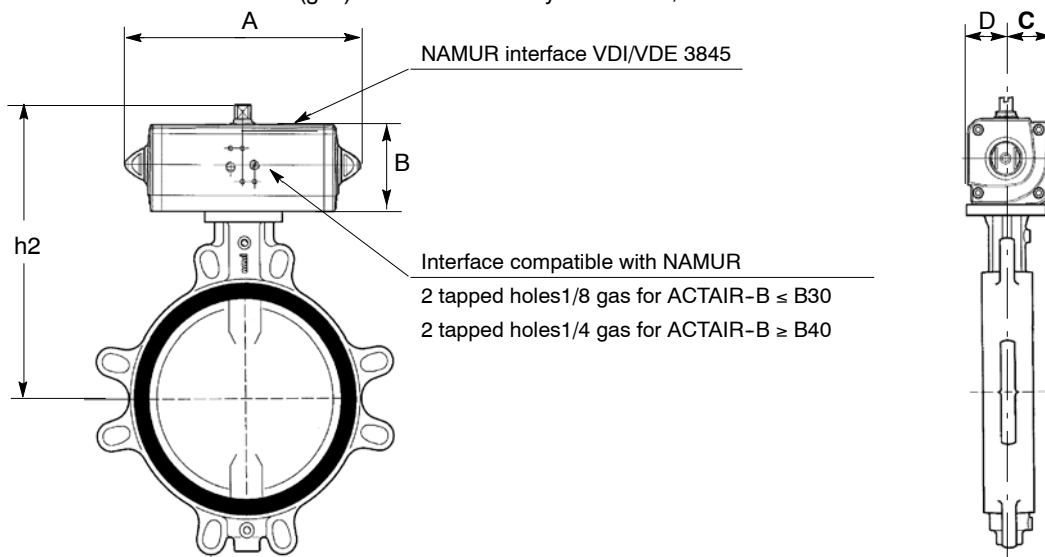


Air or any neutral gas, filtered, dry or lubricated and compressed to a pressure 3, 4, 5 or 6 bar:

- filtration: 50 µm,
- Dew point must be minus 5° C in relation to minimum working temperature, at the maxi working pressure.

- Valves
- 10 bar version: lubricated and no lubricated medium
 - 16 bar version: lubricated medium only

- Valves
- lubricated medium: maximum velocity fluid: 3 m/s,
 - no lubricated medium (gas): maximum velocity fluid: 50 m/s.



h

DN	NPS	PS bar	ACTAIR-B	A (mm)	B (mm)	C (mm)	D (mm)	h2 (mm)	Weight (kg) ACTAIR-B +	
									T2	T4

ON-OFF

Control air pressure 6 bar										
DN	NPS	PS	ACTAIR-B	A	B	C	D	h2	T2	T4
40	1 1/2	10/16	ACTAIR-B2	174,0	59,2	31,5	27,7	196,2	2,7	3,6
50	2							202,2	2,9	4,1
65	3							227,2	3,5	4,6
80	3 1/2		ACTAIR-B5	198,0	70,4	37,7	32,7	244,4	4,1	6,1
100	4							265,4	5,5	7,1
125	5							291,3	6,3	10,6
150	6	10	ACTAIR-B15	289,9	107,5	56,5	51,0	333,5	9,2	13,3
200	8							361,5	12,8	27,3
250	10							398,1	18,7	41,3
300	12	ACTAIR-B20	313,6	111,1	60,1	51,0	398,1	18,7	41,3	
		ACTAIR-B30	339,3	118,0	62,0	56,0	450,0	33,4	49,4	

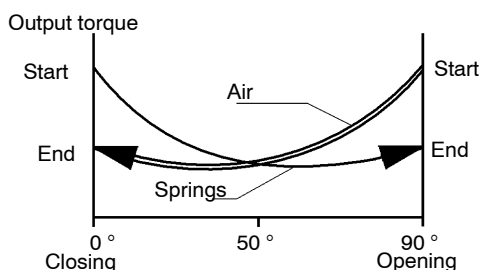
For other pressures, consult document "Actuator selection" reference 8450.11/.-90

BOAX-B Mat P-sa, single acting pneumatic actuated BOAX-B with DYNACTAIR-B
Air pressure: 4 to 6 bar

Especially designed for the remote operation of BOAX-B valves, this scotch-yoke kinematic actuator develop a variable output torque with point at the valve close position.

The control fluid pressure ensures the valve operation and the load of the springs

The safety position is valve closed.

Curve of the yoke kinematics - Closing by lack of control fluid


Air or any neutral gas, filtered, dry or lubricated and compressed to a pressure 4, 5 or 6 bar:

- filtration: 50 µm,

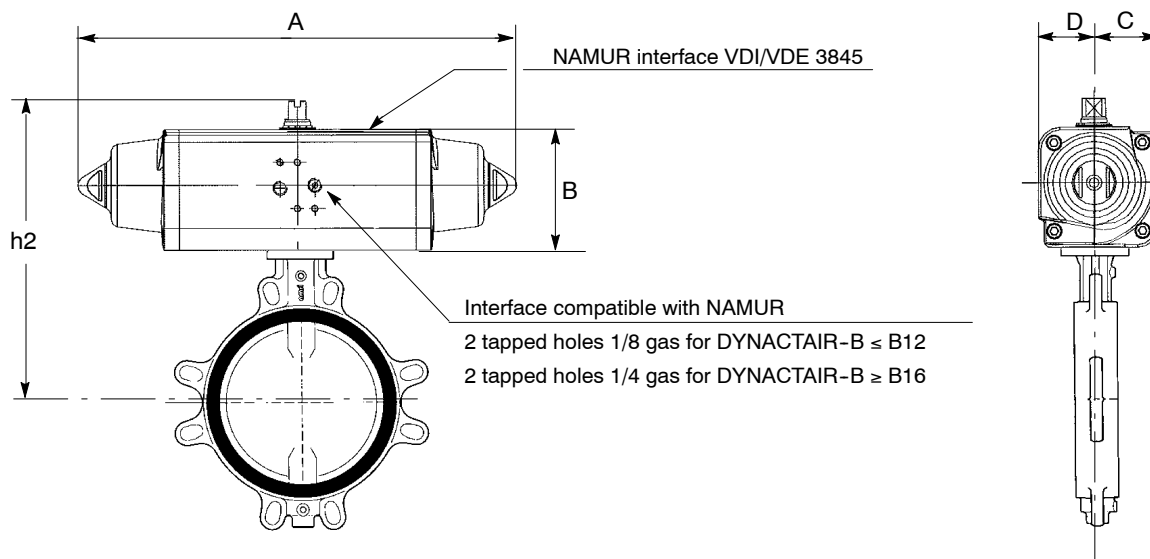
- Dew point must be minus 5°C in relation to minimum working temperature, at the maxi working pressure.

Valves -10 bar version: lubricated and no lubricated medium

- 16 bar version: lubricated medium only

Valves - lubricated medium: maximum velocity fluid: 3 m/s,

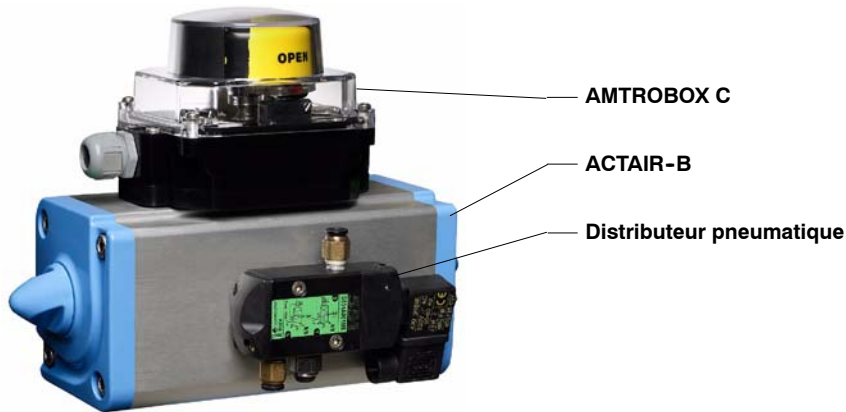
- no lubricated medium (gas): maximum velocity fluid: 50 m/s.



DN	NPS	PS bar	DYNACTAIR-B	A (mm)	B (mm)	C (mm)	D (mm)	h2 (mm)	Weight (kg) DYNACTAIR-B +	
									T2	T4
ON-OFF										
Control air pressure 6 bar										
40	1 1/2	10/16	DYNACTAIR-B2	259,0	70,4	37,7	32,7	207,4	3,8	4,7
50	2		DYNACTAIR-B4	304,5	83,3	44,8	38,5	220,3	5,0	6,2
65	3		DYNACTAIR-B6	393,7	107,5	56,5	51,0	247,3	5,6	6,7
80	3 1/2		DYNACTAIR-B8	409,6	111,1	60,1	51,0	279,5	9,6	11,6
100	4		DYNACTAIR-B12	474,0	118,0	62,0	56,0	304,1	12,0	13,5
125	5		DYNACTAIR-B16	520,5	134,9	72,9	62,0	334,0	15,5	19,8
150	6		DYNACTAIR-B25	613,0	148,0	78,5	69,5	370,9	22,7	26,8
200	8	10	DYNACTAIR-B50	798,0	186,0	101,5	84,5	412,0	31,2	44,7
250	10		DYNACTAIR-B50	798,0	186,0	101,5	84,5	445,0	37,9	60,5
300	12		DYNACTAIR-B50	798,0	186,0	101,5	84,5	510,0	68,2	84,2

For other pressures, consult document "Actuator selection" reference 8450.11/.-90

Accessories for pneumatic actuators double acting ACTAIR-B and single acting DYNACTAIR-B

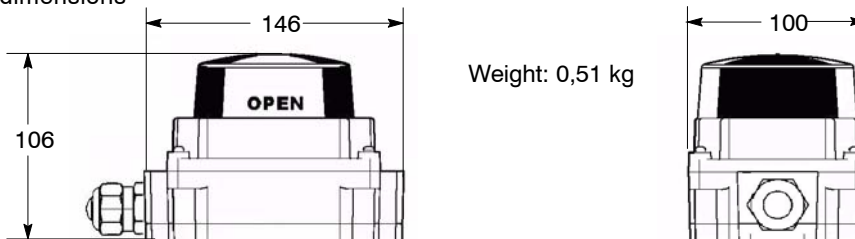


Indication function : AMTROBOX C

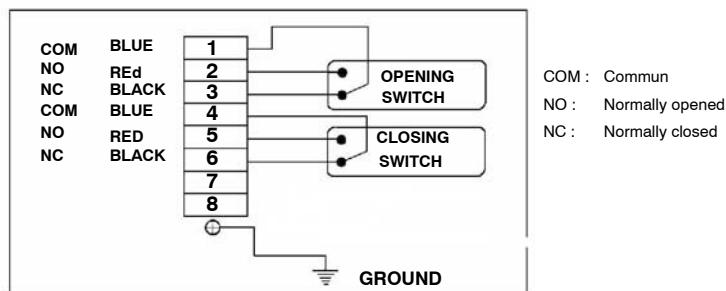
AMTROBOX C (RA01290) is specially designed for ACTAIR-B double acting pneumatic actuators and DYNACTAIR-B single acting pneumatic actuators (see type series booklet reference 8525.178/.-10)

- Open/Close position detection function by:
 - 2 golded mechanical limit switches SPDT - 250V - 10A
 - 2 proximity detectors IFM IS5026 2 wires NO/NC.
- Cams for limit switches position can be set without tools on site in accordance with process and working conditions.
- Electrical connection: 1 packing-gland ISO M20 x1,5 plastic provided, for wire dia. 6 to 12 mm.
- Terminal block, max. section: 1,5 mm².
- Indication of valve position: two-tone visual pointer of big size under transparent cover.
- Protection degree: IP67 according to EN 60529

• Weight and dimensions



• Wiring diagram



Pneumatic supply

Pneumatic valve with electrical control :

- Solenoid valve with Namur interface 5/2 monostable or 5/2 bistable type
- Electrical supply: 230 Vac / 50 Htz or 24 Vcc - Other tensions on request -
- Working temperature: - 20 °C

Electro-pneumatic transmitter

- On request

BOAX-B Mat E, valve with BERNARD 1/4 turn electric actuator

BOAX-B Mat E is a BOAX-B valve motorized with ACTELEC BERNARD LE range, LEA and LEB models for DN 40 to 125 and SD range, models OA, ASP, AS models for DN 150 to 300.

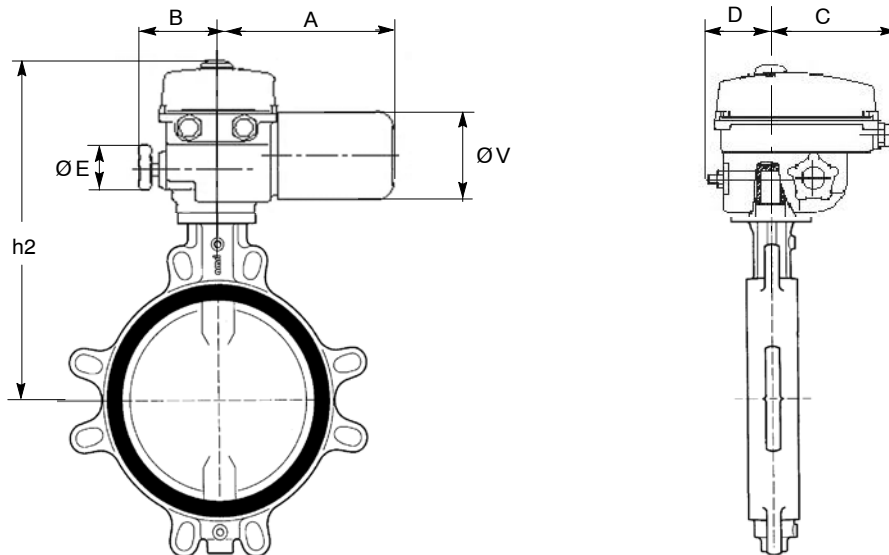
BOAX-B Mat E covers ON-OFF and Positioning functions, intermittent duty S4 - 30%.

Model		LEA-2	LEA-3	LEB-4	LEB-10	OA15	ASP	AS50
Nominal torque (Nm)		25	35	45	100	150	250	600
Operating time in seconds	ON-OFF	20	20	6	35	15	30	30
	Positioning *	-	20	-	35	15	30	30
Opening and closing travel limit switches		1/O et 1/F						
Mechanical adjustable end stops		Standard						
Power supply		- 230 V single phase 50Hz - 60 Hz - 24 VCC						

* Positioning is done with 4-20 mA proportional input and feed back position.

Valves - 10 bar version: lubricated and no lubricated medium
- 16 bar version: lubricated medium only

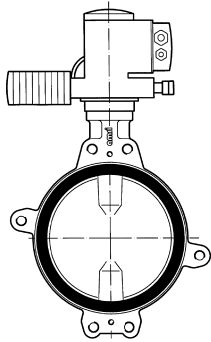
Valves - lubricated medium: maximum velocity fluid: 3 m/s,
- no lubricated medium (gas): maximum velocity fluid: 50 m/s.



DN	NPS	PS	Model	A		B	C	D	ØE	ØV	h2	Weight		
				230V	24V							with T2	with T4	
ON-OFF														
40	1 1/2	10/16	LEA-2	118		65	77	41	-	-	240	2,7	3,6	
50	2		LEA-3	118		65	77	41	-	-	244	2,9	4,1	
65	2 1/2		LEB-4	148	202	90	140	65	60	106	320	6,9	8,0	
80	3		LEB-10									326	8,0	9,5
100	4			191		245	90	140	65	60	106	347	9,4	11,0
125	5												360	10,2
150	6	10	OA15	260		116	145	65	90	106	418	13,9	29,0	
200	8		ASP	340		187	226	89	160	139	399	28,5	32,0	
250	10										432	34,5	57,0	
300	12		AS50	340		167	226	89	250	139	459	51,0	67,0	
Positioning														
40	1 1/2	10/16	LEA-3	118		65	77	41	-	-	240	2,7	3,6	
50	2										244	2,9	4,1	
65	2 1/2		LEB-10									320	7,4	8,5
80	3			191		245	90	140	65	60	106	326	8,0	9,5
100	4											347	9,4	11,0
125	5										360	10,2	16,0	
150	6	10	OA15	260		116	145	65	90	106	418	13,9	29,0	
200	8		ASP	340		187	226	89	160	139	399	28,5	32,0	
250	10										432	34,5	57,0	
300	12		AS50	340		167	226	89	250	139	459	51,0	67,0	

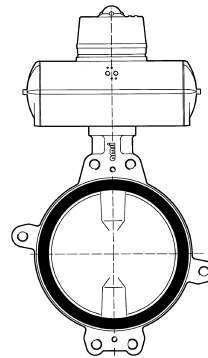
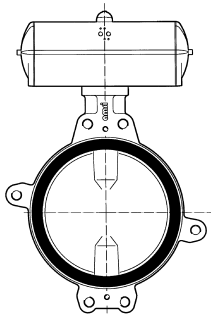
Standard variants

Electric actuator ACTELEC

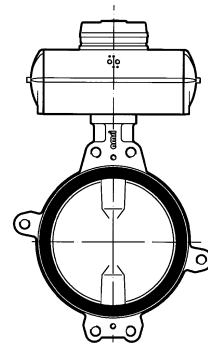


**Pneumatic distribution
for On-OFF function AMTRONIC
Positioner and control unit SMARTRONIC**

Pneumatic actuator ACTAIR / DYNACTAIR



**Detection position
AMTROBOX,
AMTROBOX S,
AMTROBOX R,
AMTROBOX EEx-ed,
AMTROBOX EEx-ia**



Connections

The BOAX®-B valves can be fitted between the connections EN 1092 PN 10, EN 1092 PN 16, ASME B16.5 cl. 150, ASME B16.1 cl. 125 and ASME B16.47 Series A cl. 150 (Others connections on request).

Wafer type body - Type 1 - DN 650 to 1000

DN	NPS	Connection			
		EN 1092		ASME	
		PN 10	PN 16	B16.1 cl. 125	B16.47 Series A cl. 150
650	26				✓●
700	28	✓●	✓●		✓●
750	30			✓●	✓●
800	32	✓●	✓●		✓●
900	36	✓●	✓●	✓●	✓●
1000	40	✓●	✓●		✓●

Fitting allowed
 Flange fitting allowed
 Connection not defined by this standard

Semi-lug type body - Type 2 - DN 40 to 600

DN	NPS	Connection			
		EN 1092		ASME	
		PN 10	PN 16	B16.1 cl. 125	B16.5 cl. 150
40	1 ½	✓	✓	✓	✓
50	2	✓	✓	✓	✓
65	2 ½	✓	✓	✓	✓
80	3	✓	✓	✓	✓
100	4	✓	✓	✓	✓
125	5	✓	✓	✓	✓
150	6	✓	✓	✓	✓
200	8	✓▲	✓	✓▲	✓▲
250	10	✓▲	✓	✓	✓
300	12	✓	✓	✓	✓
350	14	✓	✓	✓	✓
400	16	✓	✓	✓	✓
450	18	✓	✓	✓	✓
500	20	✓	✓	✓	✓
600	24	✓	✓	✓	✓

Fitting allowed
 Insert a washer between the nut and the rib of the valve

Full-lug body with raised faces - Type 4 - DN 40 to 600

DN	NPS	Connection			
		EN 1092		ASME	
		PN 10	PN 16	B16.1 cl. 125	B16.5 cl. 150
40	1 ½	✓	✓	✓	✓
50	2	✓	✓	✓	✓
65	2 ½	✓	✓	✓	✓
80	3	✓	✓	✓	✓
100	4	✓	✓	✓	✓
125	5	✓	✓	✓	✓
150	6	✓	✓	✓	✓
200	8	✓	✓	✓	✓
250	10	✓	✓	✓	✓
300	12	✓	✓	✓	✓
350	14	✓	✓	✓	✓
400	16	✓	✓	✓	✓
450	18	✓	✓	✓	✓
500	20	✓	✓	✓	✓
600	24	✓	✓	✓	✓

Fitting allowed

Flanged body with flat faces - Type 5 - DN 150 to 1000

DN	NPS	Connection				
		EN 1092		ASME		
		PN 10	PN 16	B16.1 cl. 125	B16.47 série A cl. 150	B16.5 cl. 150
150	6	✓	✓	✓		✓
200	8	✓	✓	✓		✓
250	10	✓	✓	✓		✓
300	12	✓	✓	✓		✓
350	14	✓	✓	✓		✓
400	16	✓	✓	✓		✓
450	18	✓	✓	✓		✓
500	20	✓	✓	✓		✓
600	24	✓	✓	✓		✓
650	26				✓●	
700	28	✓●	✓●		✓●	
750	30			✓●	✓●	
800	32	✓●	✓●		✓●	
900	36	✓●	✓●	✓●	✓●	
1000	40	✓●	✓●		✓●	

Fitting allowed
 ● Flange fitting allowed
 Connection not defined by this standard

End of line and downstream dismantling

The BOAX®-B valves type 2, 4 and 5 are fitted between pipe flanges, by tie-rod, without gasket. They are bi-directional and can be mounted in all positions. Use as end of line and downstream dismantling of the standard valves at room temperature for DN and the differential pressure (ΔPS) defined hereafter:

Gas or liquids*		Liquids*	
Hazardous**	Non hazardous**	hazardous**	non hazardous**
All sizes: not authorized	Sizes ≤ 200: ΔPS = 10 bar maxi Sizes 250 to 1000: ΔPS = 7 bar maxi	Sizes ≤ 200: ΔPS = 10 bar maxi Sizes 250 to 1000: ΔPS = 7 bar maxi	Sizes ≤ 200: ΔPS = 10 bar maxi Sizes 250 to 1000: ΔPS = 7 bar maxi

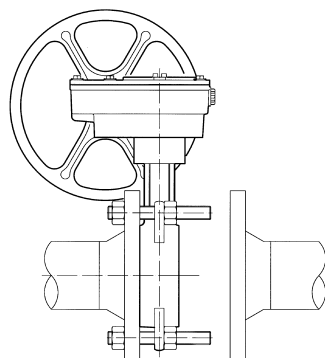
* Liquids having a vapour pressure at the maximum allowable temperature of not more than 0,5 bar above atmospheric pressure 1013 mbar.

** Fluids hazardous and not hazardous according to PED.

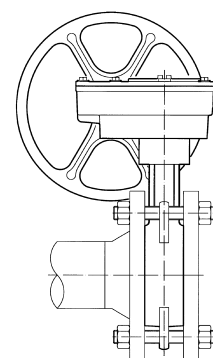
NB: A valve fitted at the end of a pipe with a blind flange downstream is not to be considered as an end of pipe service.

Downstream dismantling

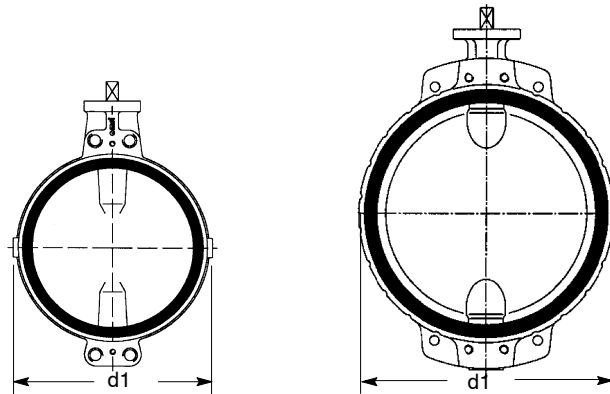
Dismantling phase: working successively on diametrically opposite tie-rods.



End of line mounting



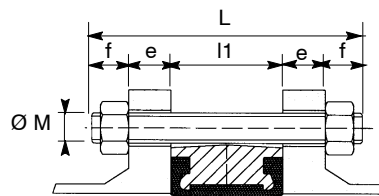
Bolting and weight for wafer type body - Type 1



The drawings are not the correct representation concerning our manufacture (quantities for semi lug and plain holes)

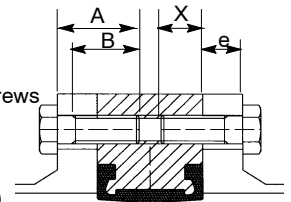
$$L = l1 + 2e + 2f$$

- L : Mini length of tie-rods
- l1 : Face to face of the valve
- e : Flange thickness
(customer specification)
- f : Nut thickness
+ overlength of the tie-rod



$$A = e + X$$

- A : Maxi length of screws
- X : Maxi implantation of screws
- B : Threaded length > A-e
- e : Flange thickness
(customer specification)



NB: We do not supply the bolting

mm

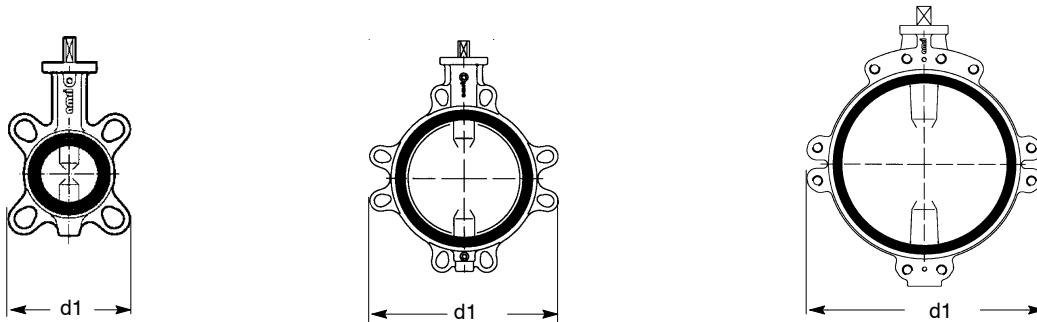
DN	NPS	d1	l1	EN 1092 PN 10				EN 1092 PN 16				ASME B16.1 cl.125 (1) ASME B16.47 Series A cl.150 (1)				Weight kg			
				Tie-rod*		Screw		Tie-rod*		Screw		Tie-rod*		Screw					
				ØM	f	Qty	X	Qty**	ØM	f	Qty	X	Qty**	UNC	f		Qty	X	Qty**
650	26	745	165											1"1/4	38	20	25	4	270
700	28	795	165	M27	32	20	30	4	M33	38	20	25	4	1"1/4	38	24	25	4	315
750	30	853	190											1"1/4	38	24	33	4	380
800	32	903	190	M30	35	20	33	4	M36	42	20	36	4	1"1/2	45	24	29	4	475
900	36	1111	203	M30	35	24	33	4	M36	42	24	36	4	1"1/2	45	28	29	4	545
1000	40	1118	216	M33	38	24	36	4	M39	45	24	29	4	1"1/2	45	32	35	4	670

* Quantity nuts = quantity tie-rods x 2

** Quantity of screws by face*

(1) See page 12 for concerned DN

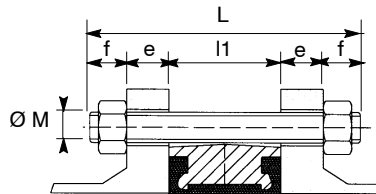
Bolting and weight for semi-lug type body - Type 2



The drawings are not the correct representation concerning our manufacture (quantities for semi lug and plain holes)

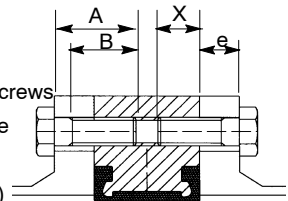
$$L = l1 + 2e + 2f$$

- L : Mini length of tie-rods
- l1 : Face to face of the valve
- e : Flange thickness
(customer specification)
- f : Nut thickness
+ overlength of the tie-rod



$$A = e + X$$

- A : Maxi length of screws
- X : Maxi implantation of screws
- B : Threaded length > A-e
- e : Flange thickness
(customer specification)



NB: We do not supply the bolting

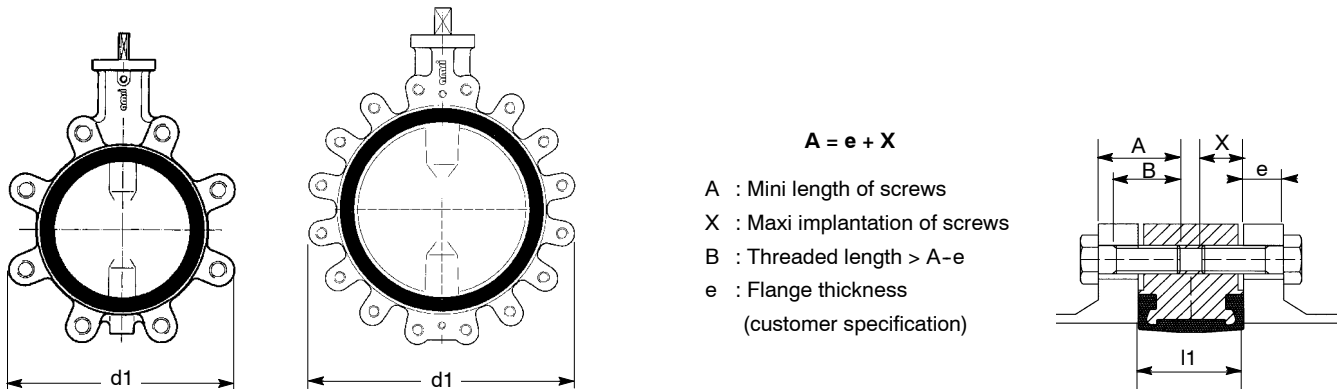
mm

DN	NPS	d1	l1	EN 1092 PN 10				EN 1092 PN 16				ASME B16.5 cl.150 ASME B16.1 cl.125				Weight kg
				Tie-rod*		Screw		Tie-rod*		Screw		Tie-rod*		Screw		
				ØM	f Qty	X Qty**	ØM	f Qty	X Qty**	UNC	f Qty	X Qty**	UNC	f Qty	X Qty**	
40	1 1/2	108	33	M16	20 4		M16	20 4		1/2"	17 4			1,1		
50	2	118	43	M16	20 4		M16	20 4		5/8"	20 4			1,3		
65	2 1/2	132	46	M16	20 4		M16	20 4		5/8"	20 4			1,9		
80	3	138	46	M16	20 8		M16	20 8		5/8"	20 4			2,5		
100	4	150	52	M16	20 8		M16	20 8		5/8"	20 8			3,9		
125	5	234	56	M16	20 8		M16	20 8		3/4"	24 8			4,7		
150	6	260	56	M20	24 8		M20	24 8		3/4"	24 8			6,9		
200	8	322	60	M20	24 8		M20	24 12		3/4"	24 8			10,5		
250	10	394	68	M20	24 12		M24	29 12		7/8"	29 12			16,4		
300	12	462	78	M20	24 12		M24	29 12		7/8"	29 12			30		
350	14	538	78	M20	24 10	20 6	M24	29 10	24 6	1"	32 6	27 6		60		
400	16	604	102	M24	29 10	24 6	M27	32 10	27 6	1"	32 10	27 6		80		
450	18	656	114	M24	29 14	24 6	M27	32 14	27 6	1"1/8	35 10	30 6		110		
500	20	716	127	M24	29 12	24 8	M30	35 12	30 8	1"1/8	35 12	30 8		145		
600	24	836	154	M27	32 10	27 10	M33	38 10	33 10	1"1/4	38 10	32 10		220		

* Quantity nuts = quantity tie-rods x 2

** Quantity of screws by face*

Bolting and weight for lug type body with raised faces type 4



The drawings are not the correct representation concerning our manufacture (quantities of holes)

NB: We do not supply the bolting.

mm

DN	NPS	d1	l1	EN 1092 PN 10				EN 1092 PN 16				ASME B16.5 cl.150 ASME B16.1 cl.125				Weight kg	
				Tie-rod*		Screw		Tie-rod*		Screw		UNC	Tie-rod*		Screw		
				ØM	f Qty	X Qty**	ØM	f Qty	X Qty**	f Qty	X Qty**						
40	1 1/2	108	33	M16		14	4	M16		14	4	1/2"		14	4	2,0	
50	2	120	43	M16		18	4	M16		18	4	5/8"		18	4	2,5	
65	2 1/2	134	46	M16		20	4	M16		20	4	5/8"		20	4	3,0	
80 (1)	3	140	46									5/8"		20	4	4,0	
80 (2)	3	178	46	M16		20	8	M16		20	8					4,5	
100	4	210	52	M16		22	8	M16		22	8	5/8"		22	8	5,5	
125	5	236	56	M16		22	8	M16		22	8	3/4"		23	8	9	
150	6	260	56	M20		26	8	M20		26	8	3/4"		26	8	11	
200 (3)	8	312	60	M20		26	8					3/4"		26	8	24	
200 (4)	8	322	60					M20		26	12					25	
250	10	396	68	M20		26	12	M24		29	12	7/8"		28	12	39	
300	12	466	78	M20		26	12	M24		30	12	7/8"		28	12	46	
350 (1)	14	510	78									1"		30	12	62	
350 (2)	14	530	78	M20		26	16	M24		30	16					70	
400	16	598	102	M24		31	16	M27		34	16	1"		34	16	101	
450 (1)	18	622	114									1 1/8"		37	16	122	
450 (2)	18	654	114	M24		31	20	M27		34	20					139	
500	20	708	127	M24		31	20	M30		37	20	1 1/8"		37	20	179	
600	24	822	154	M27		36	20	M33		42	20	1 1/4"		42	20	256	

* Quantity nuts = quantity tie-rods x 2

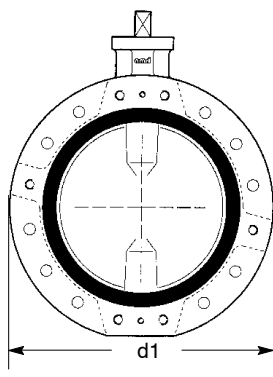
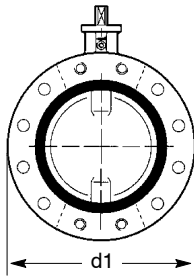
** Quantity of screws by face

- (1) Connection between ASME B16.5 cl.150, ASME B16.1 cl.125 flanges
- (2) Connection between EN 1092 PN 10, PN 16 flanges
- (3) Connection between EN 1092 PN 10, ASME B16.5 cl.150, ASME B16.1 cl.125 flanges
- (4) Connection between EN 1092 PN 16

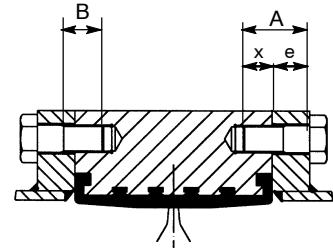
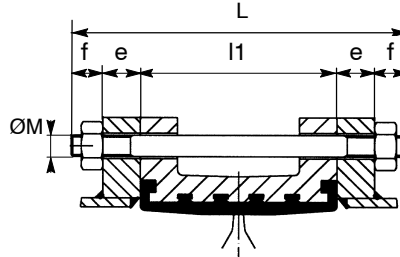
Bolting and weight for flanged body with flat faces - Type 5

DN 150 to 600

Flanged mounting not authorized



Mounting between flanges - DN 200 to 600



$$L = l1 + 2e + 2f$$

- L : Mini length of tie-rods
- l1 : Face to face of the valve
- e : Flange thickness
(customer specification)
- f : Nut thickness
+ overlength of the tie-rod

$$A = e + X$$

- A : Maxi length of screws
- X : Maxi implantation of screws
- B : Threaded length > A-e
- e : Flange thickness
(customer specification)

The drawings are not the correct representation concerning our manufacture (quantities for threaded and plain holes).

NB: We do not supply the bolting

mm

DN	NPS	ød1	l1	EN 1092 PN 10				EN 1092 PN 16				ASME B16.5 cl.150 ASME B16.1 cl.125				Weight kg			
				Tie-rod*		Screw		Tie-rod*		Screw		Tie-rod*		Screw					
				ØM	f	Qty	X	Qty**	ØM	f	Qty	X	Qty**	UNC	f		Qty	X	Qty**
150	6	298	56	M20	24	4	20	4	M20	24	4	16	4	3/4"	24	4	20	4	11
200	8	343	60	M20	24	4	20	4	M20	24	8	16	4	3/4"	24	4	20	4	23
250	10	406	68	M20	24	8	20	4	M24	29	8	24	4	7/8"	29	8	24	4	40
300	12	483	78	M20	24	6	20	6	M24	29	6	24	6	7/8"	29	6	24	6	60
350	14	533	78	M20	24	10	20	6	M24	29	10	24	6	1"	32	6	27	6	80
400	16	597	102	M24	29	10	24	6	M27	32	10	27	6	1"	32	10	27	6	105
450	18	640	114	M24	29	14	24	6	M27	32	14	27	6	1"1/8	35	10	30	6	130
500	20	715	127	M24	29	12	24	8	M30	35	12	30	8	1"1/8	35	12	30	8	180
600	24	840	154	M27	32	10	27	10	M33	38	10	33	10	1"1/4	38	10	32	10	260

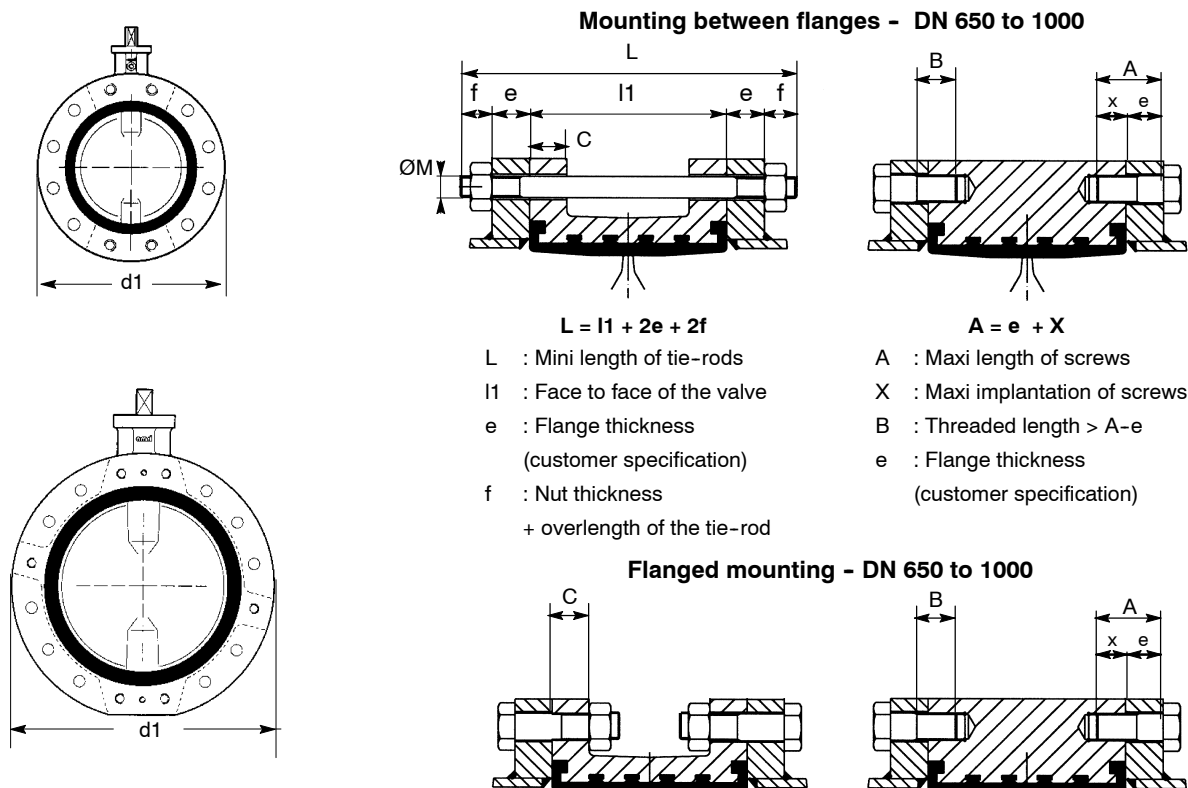
* Quantity nuts = quantity tie-rods x 2

** Quantity of screws by face**

Bolting and weight for flanged body with flat faces - Type 5

DN 650 to 1000

Flanged mounting authorized for the differential maximum pressure for 10 bar



$$L = l1 + 2e + 2f$$

L : Mini length of tie-rods
 l1 : Face to face of the valve
 e : Flange thickness
 (customer specification)
 f : Nut thickness
 + overlength of the tie-rod

$$A = e + X$$

A : Maxi length of screws
 X : Maxi implantation of screws
 B : Threaded length > A-e
 e : Flange thickness
 (customer specification)

Bolting definition: Please, consult us

The drawings are not the correct representation concerning our manufacture (quantities for threaded and plain holes).

NB: We do not supply the bolting

mm

DN	NPS	ød1	l1	C	EN 1092 PN 10					EN 1092 PN 16					ASME B16.1 cl.125 (3) ASME B16.47 Series A cl.150 (3)					Weight kg
					Tie-rod*		Screw			Tie-rod*		Screw			Tie-rod*		Screw			
					ØM	f Qty	X Qty**	ØM	f Qty	X Qty**	UNC	f Qty	X Qty**	UNC	f Qty	X Qty**				
650	26	869 (2)	165	31,0																305
700	28	895 (1)	165	32.5	M27	32	20	27	4											330
700	28	925 (2)	165	32.5						M33	38	20	25	4						350
750	30	985 (2)	190	33.5																350
800	32	1 015 (1)	190	35,0	M30	35	20	30	4											505
800	32	1 075 (2)	190	35,0						M36	42	20	36	4						525
900	36	1 115 (1)	203	37.5	M30	35	24	30	4											590
900	36	1 160 (2)	203	37.5						M36	42	24	36	4						620
1000	40	1 230 (1)	216	40,0	M33	38	24	33	4											740
1000	40	1 275 (2)	216	40,0						M39	45	24	29	4						780

* Quantity nuts = quantity tie-rods x 2

** Quantity of screws by face**

(1) Connection between EN 1092 PN 10 flanges.

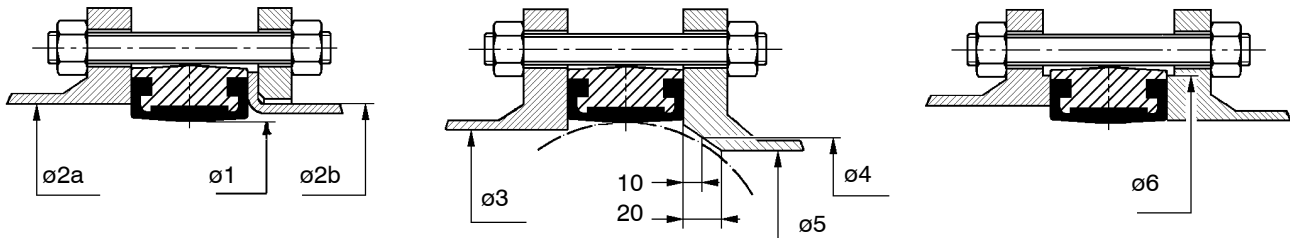
(2) Connection between EN 1092 PN 16, ASME B16.1 cl.125, ASME B16.47 Series A cl. 150 flanges.

(3) See page 13 for concerned DN

Flanging dimensions

BOAX® -B valves are designed for assembly between any type of flanges and connection standards currently used. The liner allows directly the tightness concerning the flanges. It is necessary to verify the general compatibility of the connection by checking against the dimensions shown in the table below.

The flanging dimensions mentioned in this table are the same for all types body.



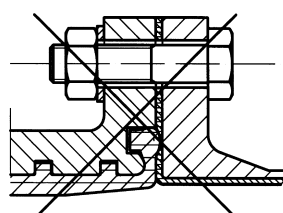
- $\varnothing 2a$ and $\varnothing 3$: diameter on the supporting area of the flange face.
- $\varnothing 2b$: external diameter of the butt-weld ends with lapped pipe end according to standards DIN 2642 and NFE 29-251.

mm

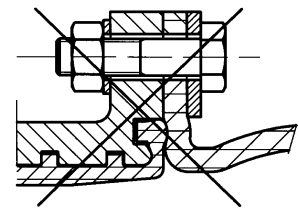
DN	NPS	Optimum dia.	Max. dia tolerated		Min. dia. tolerated face of flange	Min. dia. 10 mm from face of flange	Min. dia. 20 mm from face of flange	Min. dia. tolerated of shoulder of raised face flange
		$\varnothing 1$	$\varnothing 2a$	$\varnothing 2b$	$\varnothing 3$	$\varnothing 4$	$\varnothing 5$	$\varnothing 6$
40	1 1/2	40	54	49	32	---	---	77
50	2	49	63	61	33	---	---	86
65	2 1/2	65	80	77	55	13	---	107
80	3	77	93	89	71	50	---	121
100	4	96	116	115	90	74	40	141
125	5	123	141,5	140	119	107	87	171
150	6	146	170,5 *	169	144	134	120	196
200	8	196	222 *	220	196	189	178	250
250	10	249	276,5 *	273	249	243	234	306
300	12	298	327,5 *	324	297	291	283	358
350	14	330	361	356	326	321	314	399
400	16	380	412	407	370	366	358	452
450	18	430	463	457	422	416	409	505
500	20	480	515	508	470	464	457	558
600	24	580	617	610	566	560	554	664
650	26	630	668		620	614	608	723
700	28	680	718		671	666	660	773
750	30	680	718		671	666	660	773
800	32	780	820		769	764	758	880
900	36	880	924		869	864	859	987
1000	40	980	1 027		970	965	960	1 094

* Please check the body is well centred between the tie-rods.

NB:
Direct fitting on rubber coated flange and with dilatation joint is not authorized.
Please, consult us.

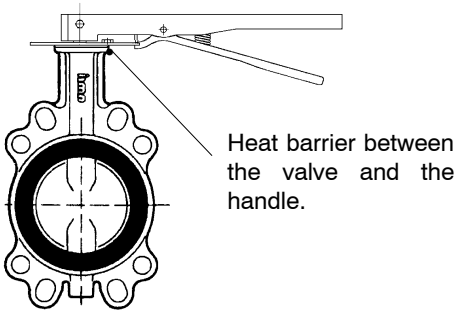


Rubber coated flange

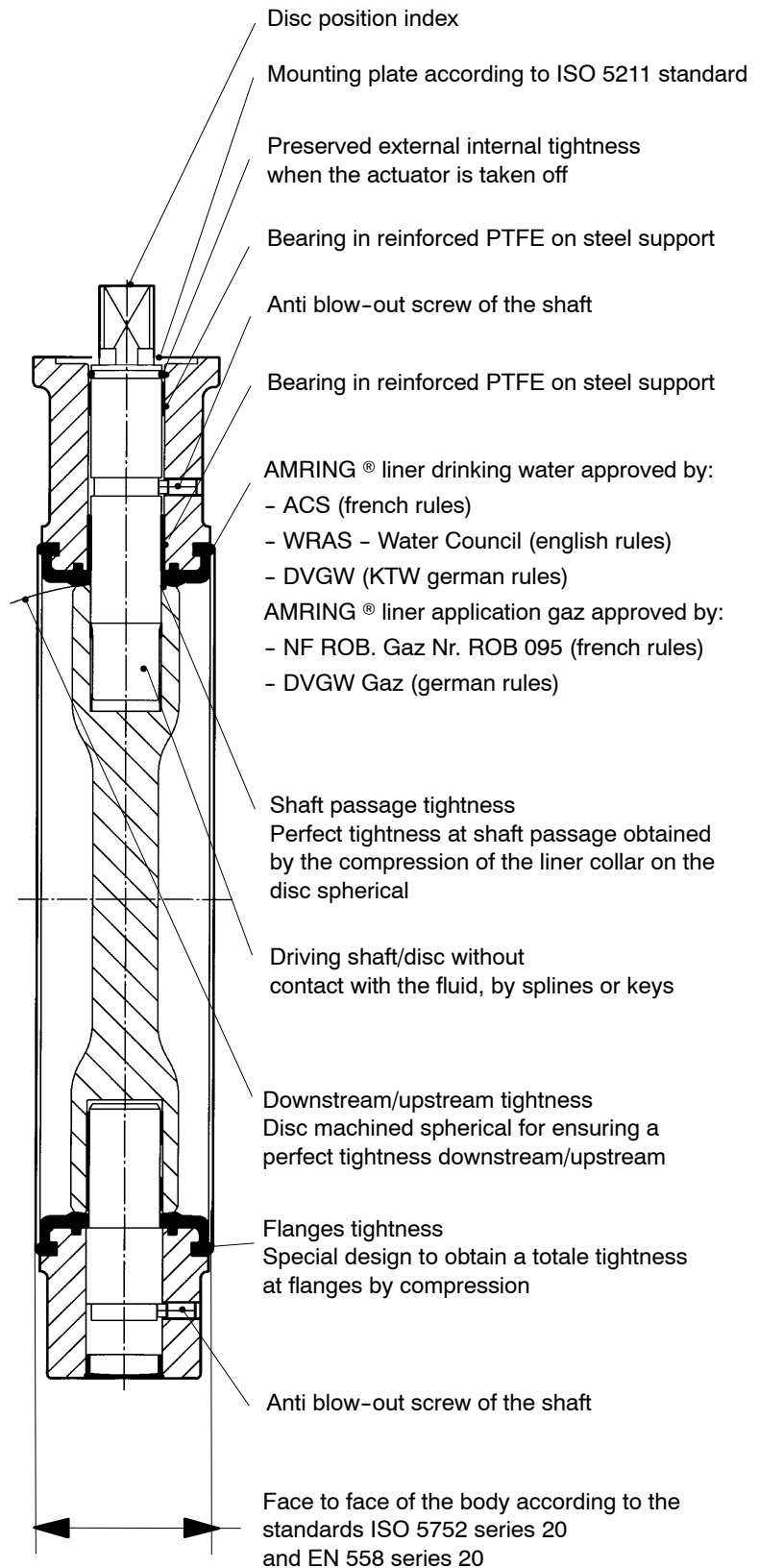


Dilatation joint

Product features - to our customers' benefit



BOAX-B Mat P-da



This leaflet is not contractual and may be amended without notice.

06.07.2011

8409; 11/12-10